



Ahsay Cloud Backup Suite v8

Administrator's Guide

Ahsay Systems Corporation Limited

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Revision History

Date	Descriptions	Type of modification
25 January 2021	Updated system architecture diagram in Ch. 1.2; Added 2FA steps in Ch. 3.1; Updated screenshots in Ch. 3.1, 4.2, 4.3, 5, and 6.1.2; Updated 2FA in Ch. 5.1.6; Updated Authentication in Ch. 5.1.4 and 6.2.1; Added 2FA in Ch. 6.2.3; Added Office 365 in Ch. 10.7; Added Ahsay Mobile Branding in Ch. 10.8; Added Appendix R	New / Modification
29 January 2021	Added VDDK API changes in Ch. 1.10; Added mobile app icon in Appendix E	New
5 February 2021	Updated TLS version and added FreeBSD in Ch. 4.1; Updated Mobile Authentication setup in Ch. 5.1.6	New / Modification
11 February 2021	Updated diagram in Ch. 1.2; Removed AhsayMOB in Ch. 1.4.1, 3.2, 4.3, 9.3.1 and 9.3.2; Updated screenshots in Ch. 5.1.4, 10.6 and Appendix D; Updated ACB uninstall icon in Appendix E	Modification
25 February 2021	Removed AhsayOBM in Ch. 5.1.6; Updated storage statistics in Ch. 6.2.1;	Modification
25 March 2021	Added TOTP only setup in Ch. 3.1; Added a requirement for 2FA in Ch. 5.1.6; Added items included/excluded for storage statistic calculation in Ch. 6.2.1	Modification

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1 Overview

1.1 What is this software?

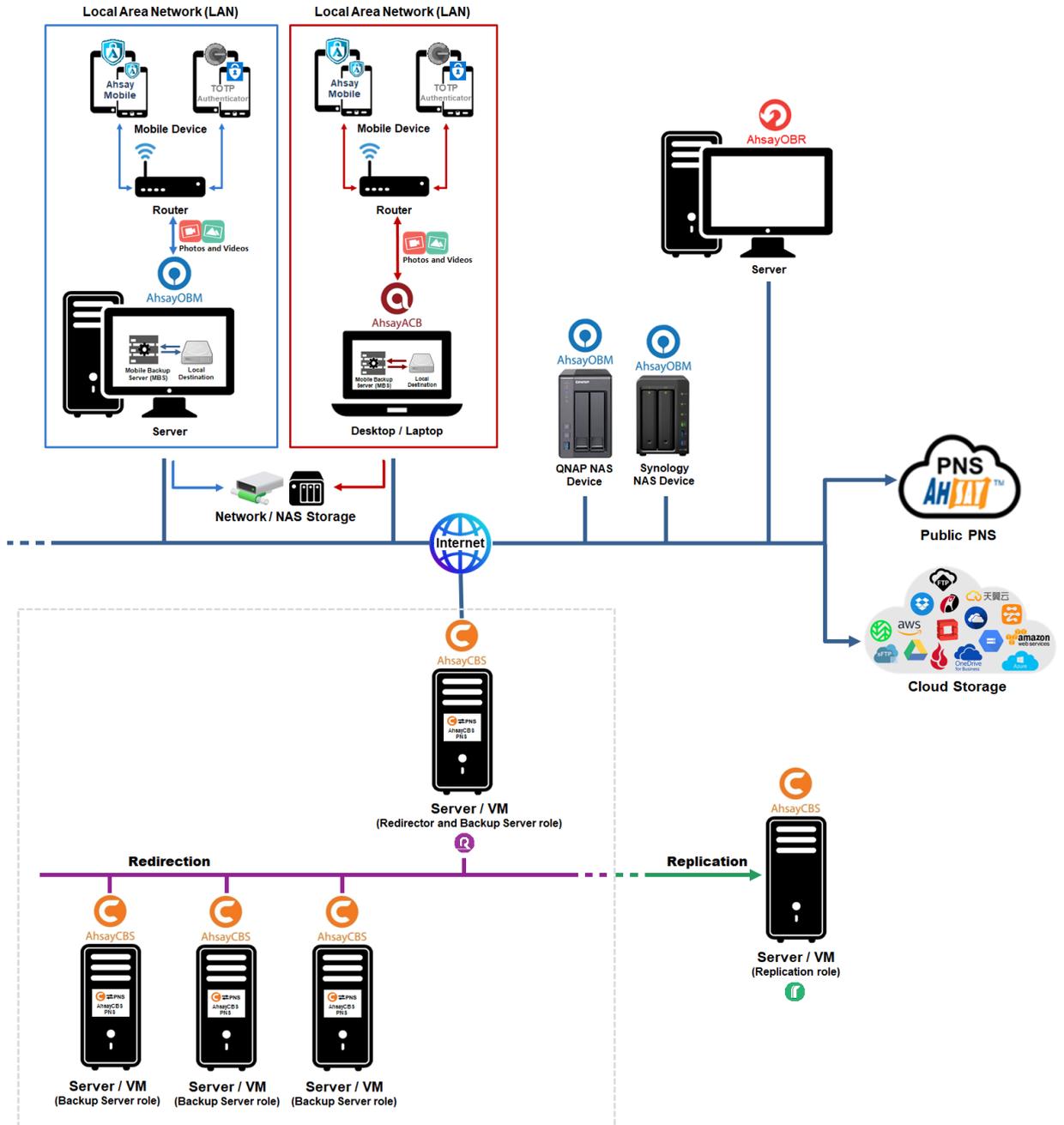
AhsayCBS is a web-based centralized management console for backup service administrators or users to manage backup and restore, and to monitor backup, restore, replication and redirection activities. Administrators can create backup user accounts, manage group policies, and keep track of system performance and health.

Administrators can create sub-admin or reseller accounts so that they can manage the backup users by themselves. In addition, non-admin operator accounts with read only permission can be created to help backup service administrator to monitor daily backup and restore jobs, as well as system activities.

To further safeguard the data hosted on the Backup Server, AhsayCBS comes with replication feature to replicate the backup data offsite to a Replication Server hosted in another site or to commercial cloud storages such as network storage, FTP/SFTP and common cloud storages (Google Drive, Dropbox, OneDrive, Amazon S3, Wasabi etc.)

1.2 System Architecture

Below is a diagram illustrating the relationship among the AhsayCBS, client components and server components.



1.3 Recommendation on Antivirus Exclusion

To optimize performance of AhsayCBS on Windows, and to avoid conflict with your antivirus software, refer to the following article the list of processes and directory paths that should be added to all antivirus software white-list / exclusion list:

https://wiki.ahsay.com/doku.php?id=public:8014_suggestion_on_antivirus_exclusions

NOTE

For AhsayCBS version 8.1.0.0 or above, the cbssvcX64.exe or cbssvcX86.exe processes are automatically added to Windows Defender exclusion list for Windows 10, 2016 and 2019, during installation / upgrade via installer.

1.4 AhsayCBS System Components

1.4.1 Client Components

Below is a brief introduction of the **four** client backup agents.



AhsayOBM is a versatile backup application that backup databases, applications and virtual machines to local and offsite destinations, e.g. local storage, on premise Backup Server or Backup Server located in datacenters, and common cloud storages (Google Drive, Dropbox, OneDrive, Amazon Drive, Box, etc.)

All the backup data are compressed and encrypted before uploading to the Backup Server, while the restore process would require downloading the compressed and encrypted data onto the client computer for decryption and un-compression.

AhsayOBM allows the creation of multiple backup sets, and backup file, databases and virtual machines such as **VMware, Hyper-V, Microsoft Exchange Database Availability Group (DAG), Microsoft Exchange Database, Microsoft Exchange Mailbox, Microsoft SQL Server, Oracle Database, Lotus Domino/Notes, MySQL, MariaDB, Office365, Cloud File, and Windows Bare Metal** with our dedicated backup modules.

Refer to the URL below to obtain the Quick Start Guide of AhsayOBM for instructions on installing the software, running a backup job and restoring backed up data.

Windows	Click to obtain the v8 Quick Start Guide
Mac	Click to obtain the v8 Quick Start Guide
Linux (CLI)	Click to obtain the v8 Quick Start Guide
Linux (GUI)	Click to obtain the v8 Quick Start Guide
Synology	Click to obtain the v8 Quick Start Guide
QNAP	Click to obtain the v8 Quick Start Guide
FreeBSD	Click to obtain the v8 Quick Start Guide



AhsayACB is an advanced yet easy-to-use desktop and laptop backup software for backing up files, Cloud files, Windows System backup, IBM Lotus Notes and Office 365 backup to local and offsite destinations, e.g. local storage, on premise Backup Servers or Backup Servers located in datacenters, and common cloud storages (Google Drive, Dropbox, OneDrive, Amazon Drive, Box, etc.)

All the backup data are compressed and encrypted before uploading to the Backup Server, while the restore process would require downloading the compressed and encrypted data onto the client computer for encryption and un-compression.

Refer to the URL below to obtain the Quick Start Guide of AhsayACB for instructions on installing the software, running a backup job and restoring backed up data.

Windows	Click to obtain the v8 Quick Start Guide
Mac	Click to obtain the v8 Quick Start Guide



Ahsay Mobile is an easy to use backup and restore solution for Android and iOS mobile devices that backup photos and videos to the local destination of AhsayOBM/AhsayACB, e.g. hard drive, flash drive and/or network drive. It is capable of backing up photos and videos that are stored in the mobile device's internal memory and SD card.

All the backup data are saved in their original unencrypted format, so they can be viewed directly on the AhsayOBM/AhsayACB machine.

It uses the Mobile Backup Server (MBS) which is a component of the AhsayOBM/AhsayACB machine that manages the backup and restore of Ahsay Mobile. It is activated automatically when a mobile device with Ahsay Mobile is successfully registered for mobile backup with AhsayOBM/AhsayACB. Once activated, it will be automatically restarted whenever the AhsayOBM/AhsayACB services is restarted or when the AhsayOBM/AhsayACB machine is rebooted or powered on. The MBS will be deactivated when all mobile devices have deregistered from the mobile backup setting and the AhsayOBM/AhsayACB services is restarted.

The MBS will use the following port ranges:

- AhsayOBM
 - TCP Port: 54000 to 54099
 - UDP Port: 54200 to 54299
- AhsaysayACB
 - TCP Port: 55000 to 55099
 - UDP Port: 55200 to 55299

The default TCP and UDP ports for AhsayOBM are 54000 and 54200, while for AhsayACB are 55000 and 55200. If these ports are already in use by other applications or services, then the MBS will automatically acquire another port.

The supported OS versions are the following:

- Android v8 or above
- iOS v12.0.0 or above

Below is a table showing the supported Backup Data Type on both platforms.

Supported Backup Data Types		
		
 Photos	✓	✓
 Videos	✓	✓

Refer to the URL below to obtain the User Guide of Ahsay Mobile for instructions on installing the application, running a backup job and restoring backed up data.

[Click to obtain the User Guide](#)

Below is a brief introduction of the client restore agents.



AhsayOBR supports the restore of multiple backup sets; file, databases and virtual machines, such as **VMware, Hyper-V, Microsoft Exchange Database Availability Group (DAG), Microsoft Exchange Database, Microsoft Exchange Mailbox, Microsoft SQL Server, Oracle Database, Lotus Domino/Notes, MySQL, MariaDB, Windows System, Windows System State, ShadowProtect, Synology NAS Devices, Office365, Cloud File** with our dedicated restore modules.

While you can still download Client Backup Agent (AhsayOBM/ AhsayACB) to restore data on computer, AhsayOBR gives a quick, direct and secure solution just for the data restore purposes. Below is a table comparing some major features of both tools, and the pros and cons of using them.

Feature	Tool	Pros	Cons
Installation	AhsayOBR	<ul style="list-style-type: none"> • No installation required • Faster to launch 	Required to launch every time when you use
	Client Backup Agent	One-time installation	Larger installer size hence longer installation time
Run Direct Restore	AhsayOBR	N/A	Run Direct restore for VMware and Hyper V

			servers is NOT supported. Since AhsayOBR is not a Client Backup Agent and therefore NFS is not bundled along with the software. NFS is a mandatory item for performing Run Direct restore for VMware and Hyper-V servers.
	Client Backup Agent	Support Run Direct restore for both VMware and Hyper-V servers.	N/A
OpenDirect Restore	AhsayOBR	OpenDirect restore allows you to view and download individual files from a compressed or image file, without having to restore compressed file or image file first. OpenDirect restore gives you the flexibility to restore selective file(s) quickly, so it saves you time and effort to achieve your restore goal.	To ensure optimal restore performance, the backup of the files in an OpenDirect file backup set will NOT be encrypted and compressed, therefore, you may have to take these factors in consideration when selecting this restore option.
	Client Backup Agent		
Granular Restore	AhsayOBR	In some cases, you may only need to restore a few individual file(s) from the guest VM, therefore, granular restore gives you a fast, convenient, and flexible tool to restore selected file(s) from a guest VM quickly.	To make ensure optimal restore performance, the backup of the guest VM will NOT be encrypted and compressed, therefore, you may have to take this factor in consideration when using this restore method.
	Client Backup Agent		
Cross platform usage	AhsayOBR	Although both tools are available for use on various platforms, e.g. Windows, Mac, Linux, etc., cross platform restore is NOT recommended. For example, files backed up on Windows are not recommended to restore on a Mac/Linux machine.	
	Client Backup Agent		
Compatibility	AhsayOBR	Support restore of backup set created on either AhsayACB / AhsayOBM	N/A
	Client Backup Agent	N/A	Support restore of backup set created by the same type of Client Backup Agent only. E.g. backup set created on AhsayOBM

			can only be restored by AhsayOBM.
--	--	--	-----------------------------------

Refer to the URL below to obtain the User Guide of AhsayOBR for instructions on installing the software, running a backup job and restoring backed up data.

Windows	Click to obtain the v8 User Guide
Mac	Click to obtain the v8 User Guide
Linux (GUI)	Click to obtain the v8 User Guide

1.4.2 Server Components

There are **three** server components: Backup Server, Replication Server, and Redirector. You can manage these components by logging to AhsayCBS with an admin role account. The following screen shows the AhsayCBS server components.

Backup Server

The Backup Server is a platform for backup clients to perform backup to its local hard disk, network storage, FTP/SFTP and common cloud storages such as Google Drive, Dropbox, OneDrive, Amazon S3, MS Azure, Google Cloud Storage etc.

All the backup jobs, with the exception of File, VMware, and Hyper-V backup sets with either Run Direct and or Open Direct / Granular feature enabled, are compressed and encrypted before uploading to the Backup Server, while the restore process would require downloading the compressed and encrypted data onto the client computer for decryption and un-compression.

Replication Server

Replication Server offers close to real time replication of the Backup Server (backup server configuration files, user profiles & backup set settings, and backup data hosted on the backup server). So that when your production Backup Server is out of service, you can switch the Replication Server into Backup Server within a short period to reduce potential downtime of your backup service.

Redirector

With the use of Redirector in conjunction with multiple Backup Server machines, it forms a cloud backup architecture for servicing as many backup customers as needed with a single public URL. All backup users will use the single URL as the initial contact server, even though they reside on different Backup Servers under different URLs. Thus, an online backup provider can add new Backup Server machines to serve new customers or relocate existing backup accounts from one Backup Server to another easily without the need for the existing users to reconfigure the backup server address in AhsayOBM or AhsayACB.

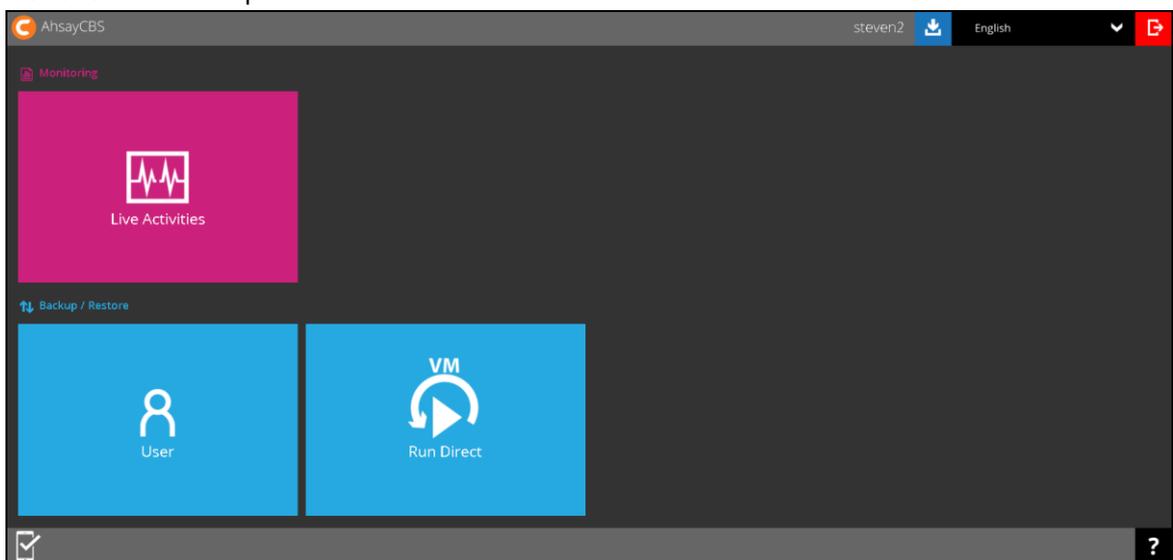
1.5 Agentless Backup / Restore

The AhsayCBS agentless backup and restore for Cloud File and Office 365 backup sets does not require any AhsayOBM/AhsayACB backup agents to be installed on the client machine. Instead agentless backup and restore jobs are performed by the AhsayCBS server itself.

The following are the functions that can be done using the agentless feature:

- ▶ Backup of Cloud File and Office 365 backup sets with its own separate Java process with its own Java memory setting. The Java memory is set at 1GB by default which can be configured by the system administrator. For more information please refer to this article: https://wiki.ahsay.com/doku.php?id=public:8096_faq:how_to_change_heap_for_o365_run_on_server_backup
- ▶ Capability to support a large number of concurrent agentless Cloud File and Office 365 backup jobs.
- ▶ Restore of Cloud File and Office 365 backup sets.
- ▶ Restore of VMware ESXi/vCenter backup sets that has been backed up to AhsayCBS. Both Run Direct and Non Run Direct restore are supported.
- ▶ Data integrity check, space freeing up and deleting of backup data for Cloud File and Office 365 are also supported.

Below is the main user interface of the AhsayCBS (user role), also known as AhsayCBS User Web Console, where your clients will login to manage their backup sets, perform the agentless backup/restore (Office 365 and Cloud File backup sets), and Run Direct restore for VMware ESXi/vCenter backup sets.



There are three backup sets that support agentless backup and restore in AhsayCBS v8.3.0.0 or above:

• **Cloud File Backup and Restore**

You can now back up your data stored on Cloud storage (Google Drive, OneDrive, Dropbox, MS Azure, Google Cloud Storage, Amazon S3 etc) to the AhsayCBS or other cloud backup destination.

• **Office 365 Backup and Restore**

You can now back up mail objects, OneDrive and SharePoint files from your Office 365 account, and then restore them to your original account or another user under the same Office 365 account, all on the AhsayCBS without having to install a client backup agent first.

NOTE

To determine the amount of RAM needed for the AhsayCBS server to run efficiently, it would depend on the operating system and number of agentless backup jobs that will be processed by the AhsayCBS Server. A Java heap size of 4GB for the AhsayCBS server would be sufficient. So to compute for the total amount of RAM needed, for example, if the AhsayCBS server is hosting 20 agentless Office 365 backup job each with 1GB of memory; the AhsayCBS server will need 28GB of RAM. That is 20GB (for the 20 agentless Office 365 backup jobs) + 4GB (for the Operating System) + 4 GB (for AhsayCBS service) = 28GB of RAM.

Although based on the estimated 28GB RAM usage, a server with 32GB RAM is sufficient. For an on-premises server, it is recommended to provision additional RAM to meet unexpected on-going requirements and future business growth.

Also the Java heap size to be configured should not exceed two-thirds of RAM available to allow sufficient resources for the operating system. Your server should have RAM to satisfy both AhsayCBS, your Operating System (~4GB+) and any applications installed on the same server.

• **Run Direct of VMware vCenter/ESXi VM from AhsayCBS server**

You can now perform a Run Direct restore of the VMware vCenter/ESXi VM directly using the AhsayCBS without the presence of a client backup agent (AhsayOBM/AhsayACB/ AhsayOBR), if VMware vCenter/ESXi guest VMs are backed up to AhsayCBS backup destination and Run Direct is enabled.

All agentless Office 365 and Cloud File backup sets use a temporary directory location on the user home for backup and restore.

Each agentless Cloud File backup job requires at least 100 MB of free space for the temporary files generated during the backup job.

For each agentless Office 365 backup job, the required free space for the temporary files generated during the backup job depends on two factors:

- the number of Office 365 users selected in each backup set, the required free space is calculated as 300 MB per Office 365 user.
- the number of concurrent Office 365 backup jobs running on the AhsayCBS server.

Example:

- If an AhsayCBS server has only one backup set with 500 Office 365 users, it will require 150 GB (500 x 300 MB) disk space on the user home drive for the temporary files generated during the backup job.
- If there are multiple Office 365 backup sets running concurrently on AhsayCBS, then the free space required will be the sum of all the Office 365 users. If they are located on the same user home drive then the temporary folder on that drive will require 540 GB of free space for the temporary files generated during the backup job.

Backup set 1 with 200 Office 365 users (200 x 300 MB) = 60 GB

Backup set 2 with 100 Office 365 users (100 x 300 MB) = 30 GB

Backup set 3 with 500 Office 365 users (500 x 300 MB) = 150 GB

Backup set 4 with 1000 Office 365 users (1000 x 300 MB) = 300 GB

The following are the default temporary directory locations for the different operating systems:

- in Windows – C:\Program Files\AhsayCBS\user\%username%\temp (the default path of the user home)
- in Linux/FreeBSD – /usr/local/cbs/user/%username%/temp
- in AhsayUBS – /ubs/mnt/esfmfw/obsr/system/obsr/user/%username%/temp

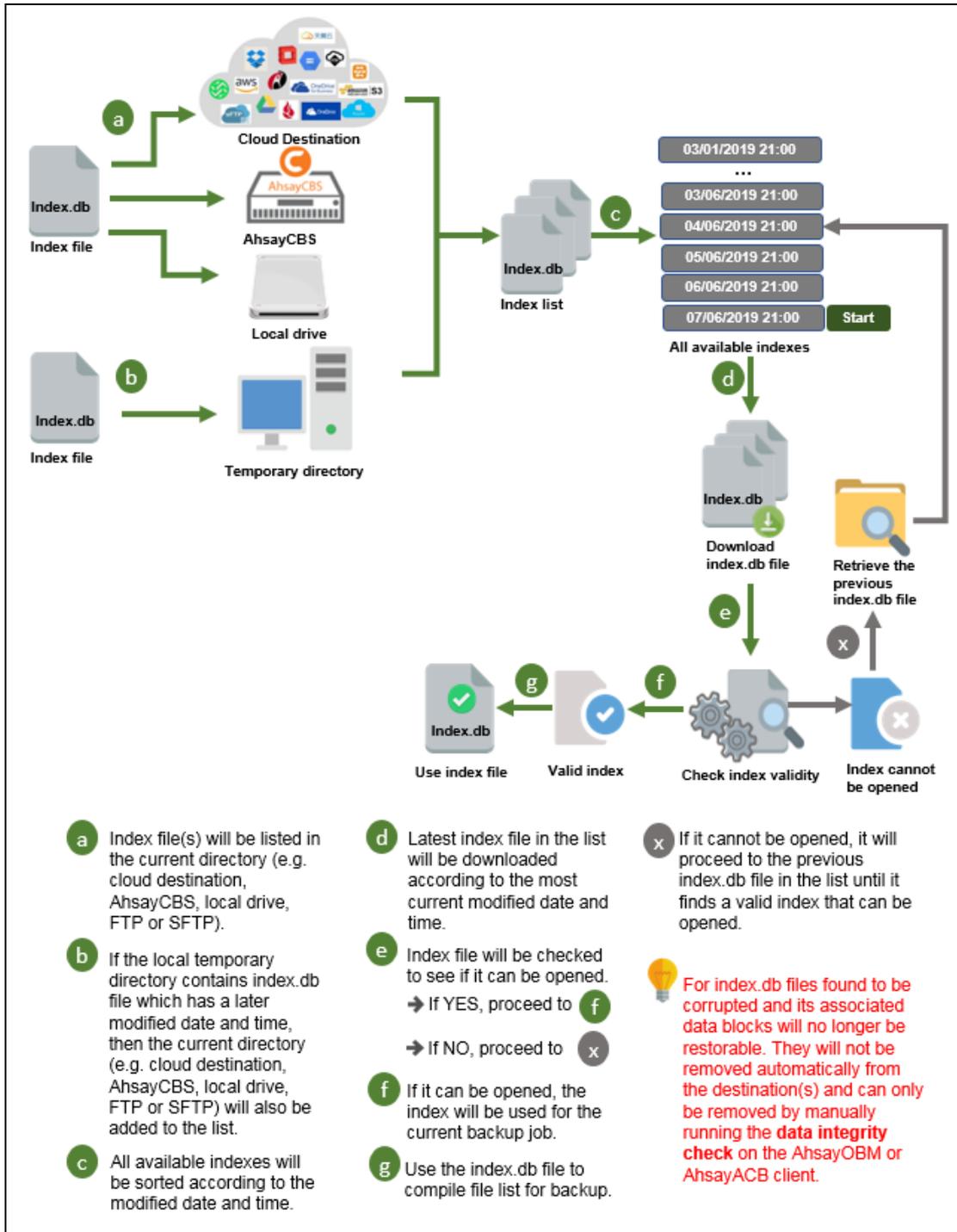
Ensure that the drive where the temporary directory is located has a lot of free space to accommodate all the agentless Office 365 and Cloud File backup jobs, especially if they will be running concurrently.

Starting with AhsayCBS v8.3.6.0 and above, the default port 8081 is used by AhsayCBS agentless Office 365 and Cloud File backups on local IP address 127.0.0.1. If the default port is occupied, then AhsayCBS will automatically acquire the next available free port from 8081 to 9080. This is automatically setup upon installation, so no additional setup is needed to be done. It is not visible from System Settings > Basic > General > Connectors but can be checked from the server.xml file which is in the conf folder located in \$APPLICATION_HOME\conf.

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<Server port="60024" shutdown="SHUTDOWN">
  <Listener className="org.apache.catalina.core.AprLifecycleListener" SSLEngine="on" />
  <Listener className="org.apache.catalina.core.JreMemoryLeakPreventionListener" />
  <Listener className="org.apache.catalina.mbeans.GlobalResourcesLifecycleListener" />
  <Listener className="org.apache.catalina.core.ThreadLocalLeakPreventionListener" />
  <Service name="Catalina">
    <Executor minSpareThreads="1" namePrefix="tomcatThreadPool-http-0.0.0.0-80-"
name="tomcatThreadPool-http-0.0.0.0-80" maxThreads="200" />
    <Executor minSpareThreads="1" namePrefix="tomcatThreadPool-https-0.0.0.0-443-"
name="tomcatThreadPool-https-0.0.0.0-443" maxThreads="200" />
    <Executor minSpareThreads="1" namePrefix="runOnServerBackup-http-127.0.0.1-8081-"
name="runOnServerBackup-http-127.0.0.1-8081" maxThreads="200" />
    <Engine name="Catalina" defaultHost="localhost">
```

1.6 Backup Set Index Handling Process

A new index system is introduced in AhsayCBS v8.3.0.0 or above to provide better backup performance and robustness. Below is a flowchart showing the index handling process for backup jobs.

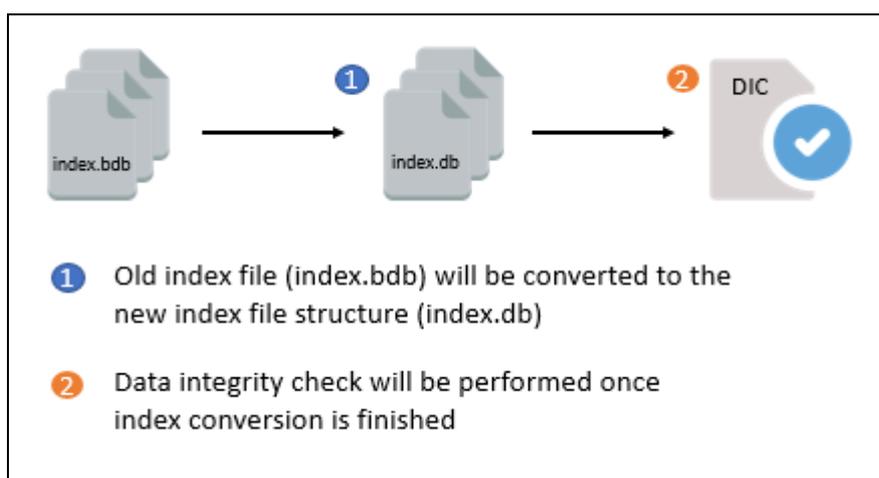


The new index handling process will first list all available index files (index.db) for download from the current directory, temporary directory and backup job folder which will be arranged by modified time from latest to oldest. The latest index file will be verified if it is valid and can be opened. If it can be opened, then it will be used to compile file list for backup. If not, then proceed to the next index file until a valid one can be found that can be compiled. If there is no valid index file that can be opened, then DIC job will complete with error.

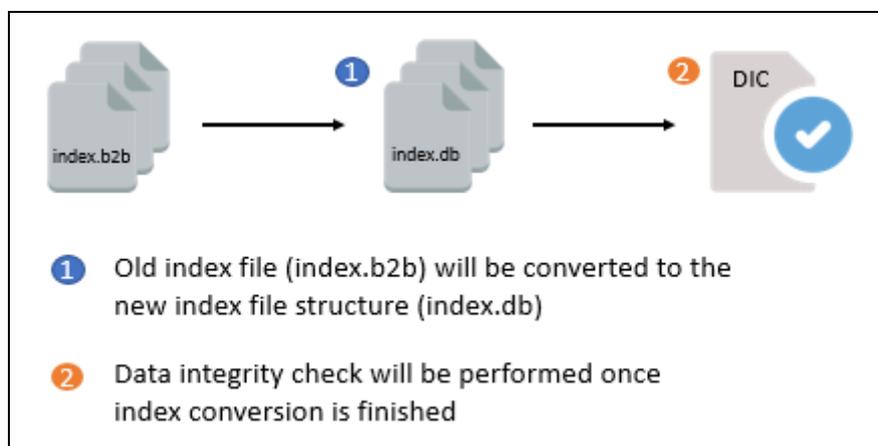
1.7 Backup Set Index Conversion

For all v7 and pre-v8.3 AhsayOBM/AhsayACB backup sets that were upgraded to v8.3.0.0 or above, a backup set index conversion process will be performed on the backup set on the first backup job immediately after the upgrade. Backup set index conversion cannot be disabled. The old v7 and pre-v8.3 files: index.b2b*, index.xml* and index-s0* will be converted to the new index file structure: index.db* and backupInfo.db*. Temporary space needed for index conversion is 200% of the uncompressed index file. You will need 100% for the old index file and another 100% for the new index file. After the index conversion, for large data index the new index will be smaller since duplicated information will be grouped. But for small data index, the new index might be larger since additional information may be included to the new index.

For v6



For v7 and pre-v8.3.0.0



Please note that:

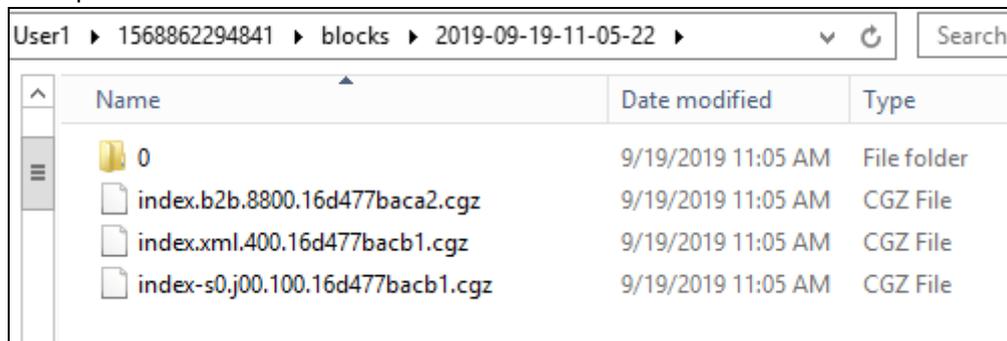
- You cannot disable the index conversion.
- Index conversion process will automatically start during the first backup job after upgrading AhsayOBM/AhsayACB to v8.3.0.0 or above.
- After index conversion the size of the index will be different. For large data index, the new index will become smaller since duplicate information will be grouped. While for small data index, the new index may be bigger since additional information may be included in the new index.

1.7.1 Index Conversion requirement for client versions (AhsayOBM/AhsayACB)

Client Version	Index Conversion Needed	Data Migration Needed
v6	✓	✓
v7	✓	X
Earlier than v8.3.0.0	✓	X
v8.3.0.0 or above	X	X

1.7.2 Index format comparison

Example of the old index format:

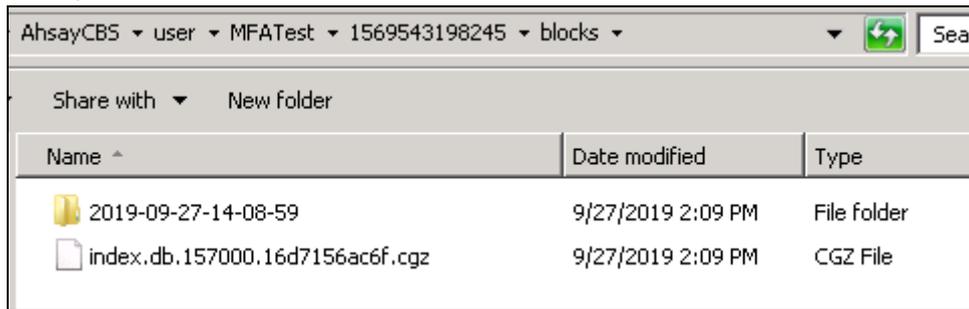


Name	Date modified	Type
0	9/19/2019 11:05 AM	File folder
index.b2b.8800.16d477baca2.cgz	9/19/2019 11:05 AM	CGZ File
index.xml.400.16d477bacb1.cgz	9/19/2019 11:05 AM	CGZ File
index-s0.j00.100.16d477bacb1.cgz	9/19/2019 11:05 AM	CGZ File

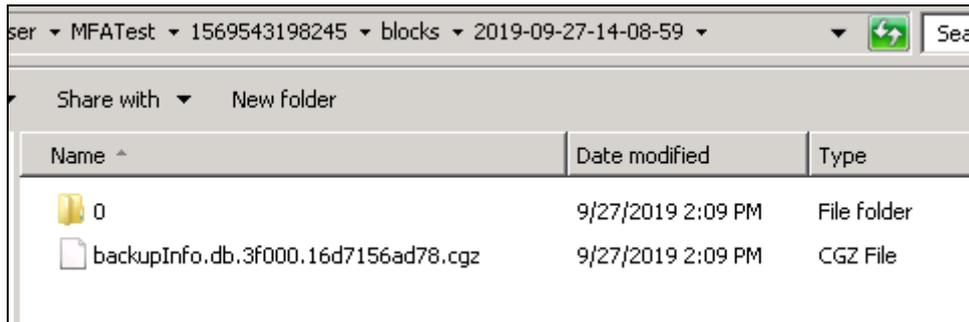
The files can be located in %userhome%\%user%\%backupsetid%\blocks%\%timestampfolder%. It will contain these three (3) files:

- index.b2b.{size}.{timestamp}.cgz
- index.xml.{size}.{timestamp}.cgz
- index-s0.{size}.{timestamp}.cgz

Example of the new v8.3 index format:



Name ^	Date modified	Type
2019-09-27-14-08-59	9/27/2019 2:09 PM	File folder
index.db.157000.16d7156ac6f.cgz	9/27/2019 2:09 PM	CGZ File



Name ^	Date modified	Type
0	9/27/2019 2:09 PM	File folder
backupInfo.db.3f000.16d7156ad78.cgz	9/27/2019 2:09 PM	CGZ File

The files can be located in %userhome%/user%/backupsetid%/blocks

- index.db.{size}.{timestamp}.cgz

and %userhome%/user%/backupsetid%/blocks/{timestamp}folder%

- backupInfo.db.{size}.{timestamp}.cgz

The size and timestamp are hashed values. To convert to readable date, first convert from hexadecimal to decimal number. Then to convert the decimal number to a readable date, a timestamp conversion tool is needed. An example of which is the [Epoch Converter](#).

The v8.3 index conversion process may only take a few minutes for backup sets with a small number of files. For example: MS SQL Server, MySQL server, MS Exchange database, Oracle database, VMware, Hyper-V, Windows System State, Windows System backup, Lotus Domino etc.

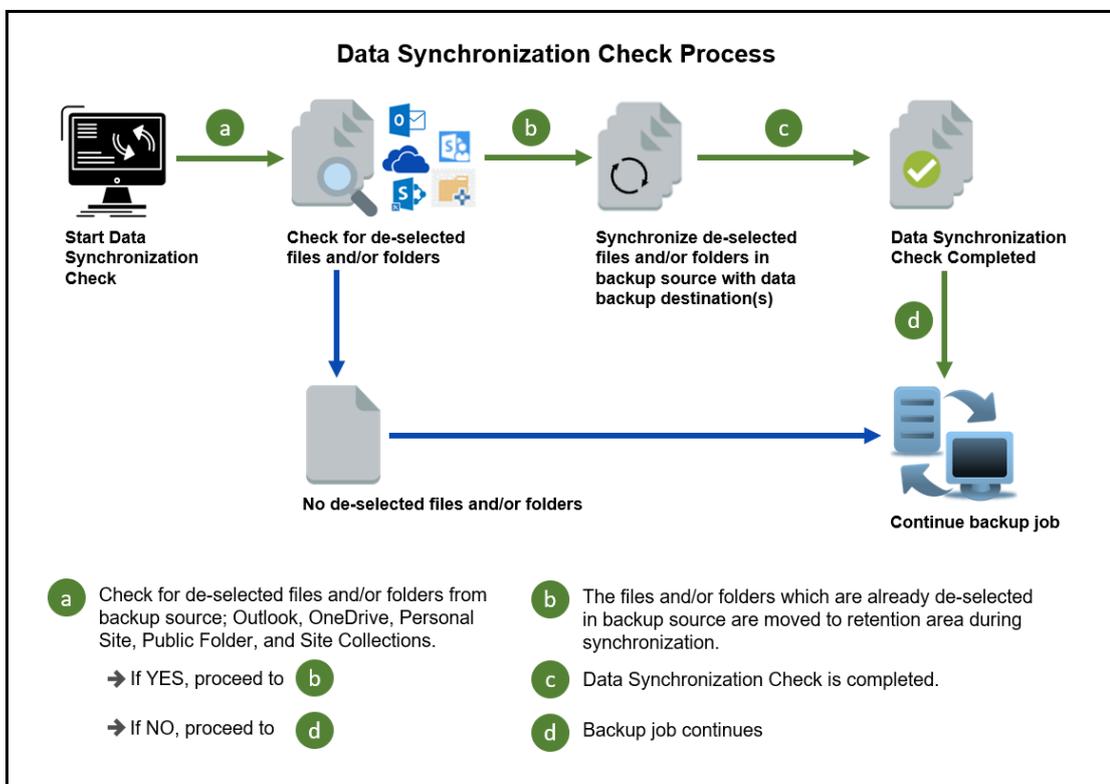
NOTE

Please kindly note that for backup sets which could contain large number of files and folders, the v8.3 index conversion process could take several hours to complete. For example: File, Cloud File, MS Exchange mail level and Office 365 backup sets. In some cases, backup sets containing several millions of files/folders could take days to complete the v8.3 index conversion process. Please take this into consideration when planning your AhsayOBM/AhsayACB client upgrade to v8.3.0.0 or above.

1.8 Data Synchronization Check (DSC)

The Data Synchronization Check (DSC) is only applicable to Office 365 backup, for both agent based and agentless setup for Office 365 backup sets. To compensate for the significant increase in backup performance, there is a trade off made by the Change Key API, which skips the checking of de-selected files in the backup source. Over time, this can result in discrepancy between the items or files/folders selected in the backup source and those in the backup destination(s). However, the Change Key API will continue to check for de-selected Office 365 user accounts or Site Collections detected during a backup job and will be automatically moved to retention area.

To avoid this, it is necessary in some cases to run a Data Synchronization Check (DSC) periodically, so that it will synchronize the data in the backup source and backup destination(s) to avoid data build-up and the freeing up of storage quota. The DSC is similar to a regular Office 365 Change Key API backup job but with the additional checking and handling of de-selected files and/or folders in the backup source.



Here are the pros and cons of performing the data synchronization check:

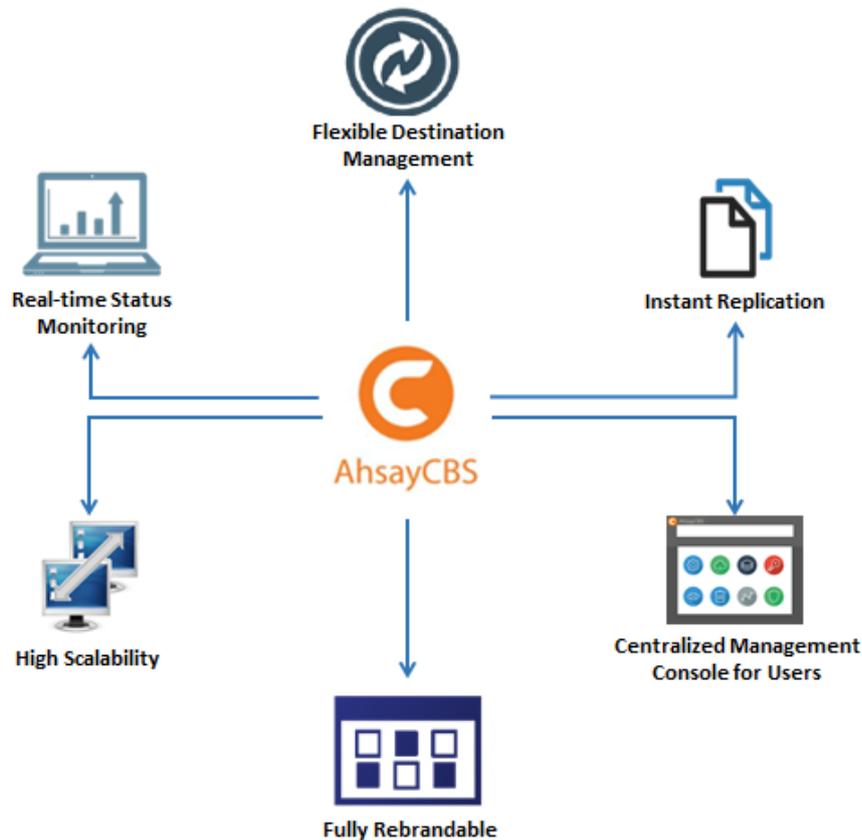
	Enabled	Disabled
Backup time	<p>Since data synchronization check is enabled, it will only run on the set interval.</p> <p>For example, the default number of interval is 60 days.</p> <p>The backup time for the data</p>	<p>As data synchronization check is disabled, the backup time will not be affected.</p>

	synchronization job will take longer than the usual backup as it is checking the de-selected files and/or folders in the backup source and data in the backup destination(s).	
Storage	Management of storage quota will be more efficient as it will detect items that are de-selected and move it to the retention and will be removed after it exceeds the retention policy freeing up the storage quota.	Management of storage quota will be less efficient even though files and/or folders are already de-selected from the backup source, these files will remain in the data area of the backup destination(s).

NOTE

To setup the Data Synchronization Check (DSC), please refer to [Appendix P Setting the Data Synchronization Check](#).

1.9 Why should I use AhsayCBS to manage my backup users and system?





Real-time Status Monitoring

Monitor System Health and Backup/Restore Status, Anytime Anywhere – the AhsayCBS user interface (UI) has been designed to provide you with a user-friendly and informative view of various kinds of information you need. Highlighted features including:

- A dashboard to view the system usage and performance
- Live Activities panel to view real-time status of backup, restore, replication, redirection, etc.
- Panels to view all log files of backup, restore, replication and redirection



Flexible Destination Management

Wide range of backup destination options – to offer you with the greatest flexibility of backup destination, AhsayCBS now supports local drive, mapped network drive, FTP / SFTP server, and public cloud object storage as the backup destination for storing the backup data.

Below is a full list of the supported cloud storage:

Aliyun (阿里云) *		Google Drive		Amazon S3		Wasabi	
Google Cloud Storage		CTYun (中国电信天翼云) *		AWS S3 Compatible Cloud Storage		Microsoft OneDrive for Business	
Rackspace		OpenStack		Microsoft Azure		Dropbox	
FTP		SFTP		Microsoft OneDrive		Backblaze	

* Available on computers with China or Hong Kong local settings

Cloud backup gives you **two major advantages**:

- **Multi-destination Backup for Extra Protection** – you can now back up your database, files or data to both local drive and cloud destination. While local destination backup gives you the convenience of faster backup and restore as a result of the local infrastructure, you can take a further step to utilize the cloud backup to give you an extra layer of protection in the event of a local drive corruption, where you will still be able to retrieve data from the cloud destination.
- **Eliminate Hardware Investment** – with the increasingly affordable cloud storage cost, you can deploy on cloud platform and utilize cloud storage as your centralized data repository, or simply expand your cloud storage as a backup destination without having to invest on hardware.



Instant Replication

Extra layer of data protection – the replication server provides an additional layer of data protection by providing an offsite backup store for backing up data from either a single or multiple AhsayCBS servers. The Ahsay replication process is close to real-time and hence this will reduce the probability of significant data loss in the event of an AhsayCBS outage. The synchronization process does not require stopping or interrupting any backup operations. As the replication module will be replicating the backup data using four modes, pending, resync, replay, and sleep mode.

Furthermore, you have flexibility to select specific user's backup set from the backup server to replicate instead of replicating all users and backup sets. The replication speed has been enhanced by utilizing the multiple thread replication technology.

Refer to the [Replication](#) section for further details.



High Scalability

Easy system expansion for your business growth – as your business continues to grow, you need greater storage and backup capabilities to keep all your data safe and protected. With AhsayCBS, you can always scale up your backup service. With the program's built-in redirection module, you can redirect the extra user traffic to other AhsayCBS servers to manage your growing volume of data easily.

We understand that expanding backup service could be a difficult situation when you have to deal with multiple domain servers, a high scalable backup system should make this kind of transition as seamless as possible to users. Our Redirector is designed to facilitate easy expansion of your backup service.

Refer to the [Configuring Redirector](#) section for further details.



Fully Rebrandable

Rebrand and customize to best cater your clients' needs – All graphics and wordings in AhsayCBS are rebrandable and customizable for MSPs. Thus, you can use a rebranded AhsayCBS to build your branded backup appliance for customers who preferred on-site backup solution.



Centralized Management Console for Users

Monitor and Manage Backup without Client Backup Agent – our enriched features on the centralized web console offers users a one-stop location for running and configuring backup jobs, monitoring backup and restoring activities, and initiating a Run Direct restore.

For further instructions on using the User Web Console, refer to the [AhsayCBS User Guide](#).

1.10 VDDK API Changes for pre-v8.5.0.0 upgrade

VMware ESXi/vCenter v6, v6.5, v6.7 and v7 backup sets running in VDDK mode may encounter issues during backup and restore due to the latest VMware VDDK 7 API implemented in AhsayOBM v8.3.4.0 to v8.3.6.x. For more details please refer to this [link](#).

- Affected existing AhsayOBM version with VDDK 7 API: AhsayOBM v8.3.4.0 to v8.3.6.x
- Affected VMware versions: VMware ESXi/vCenter v6, v6.5, v6.7, and v7 backup sets running in VDDK backup mode

It is highly recommended to immediately upgrade to AhsayOBM 8.5.0.0 or above to fix this issue. Once AhsayOBM is upgraded to v8.5.0.0 or above, the existing VMware ESXi/vCenter v6, v6.5, v6.7 and v7 backup jobs will resume running without any further configuration or intervention needed.

Starting from AhsayOBM v8.5.0.0, Ahsay has decided to **temporarily revert to using VDDK 6 API** until the VDDK 7 API bug is addressed by VMware.

Until further notice, VDDK 6 API will be used for:

- All new installation of AhsayOBM v8.5.0.0 or above
- AhsayOBM upgrades from v6, v7 or pre-v8.5.0.0 to v8.5.0.0 or above

2 About this Document

2.1 What is the purpose of this document?

This document aims at providing all necessary information for you to work with the AhsayCBS server at the administrator level to manage backup and restore jobs.

2.2 What should I expect from this document?

After reading through this documentation, you can expect to have sufficient knowledge to perform all administrative tasks and manage your AhsayCBS server effectively.

2.3 Who should read this document?

This documentation is intended for IT professionals who need to work with AhsayCBS server at the administrator level.

Where can I get information about System Requirements and Settings for installing the AhsayCBS?

Before you read through this Administrator's Guide for information on managing all administrative tasks on AhsayCBS, you should have the AhsayCBS installed first. Refer to the [Ahsay Cloud Backup Suite Quick Start Guide](#) for instructions on software installation, system requirements, network, and firewall settings.

3 Log in to AhsayCBS Server

3.1 Log in to AhsayCBS Web Management Console

1. Enter the IP address or domain name on a web browser.
https://<IP_Address:port_number/>
2. Enter the system **login name** and **password**. The default login credential are:

Login Name: system

Password: system

3. Click the green **Login** button to login.

Forgot your Password?

If you have forgotten your system or administrator password, please refer to the following article for instructions. [FAQ: How to recover AhsayCBS system account password?](#)

NOTE

Please kindly note that to comply with the new [General Data Protection Regulation \(GDPR\)](#) requirements, a banner will be displayed stating the organizations cookie policy when processing to login AhsayCBS server. This will also apply to the AhsayCBS web console. To know more about this please refer to the [Cookie Banner Notification](#) section.

4. Only for first time login, starting with v8.3.4.0 and onwards, the user will be asked to change the password before they can proceed. Enter the new password and confirm password. Click the **Save** button.

Password

Password must be changed for default system user for security

New Password

Confirm Password

5. If Two-Factor Authentication is enabled, the following screen will appear. If not, skip to [Step 6](#).

- i. For first time log in this will be the screen displayed. Click  to proceed with setting up 2FA.

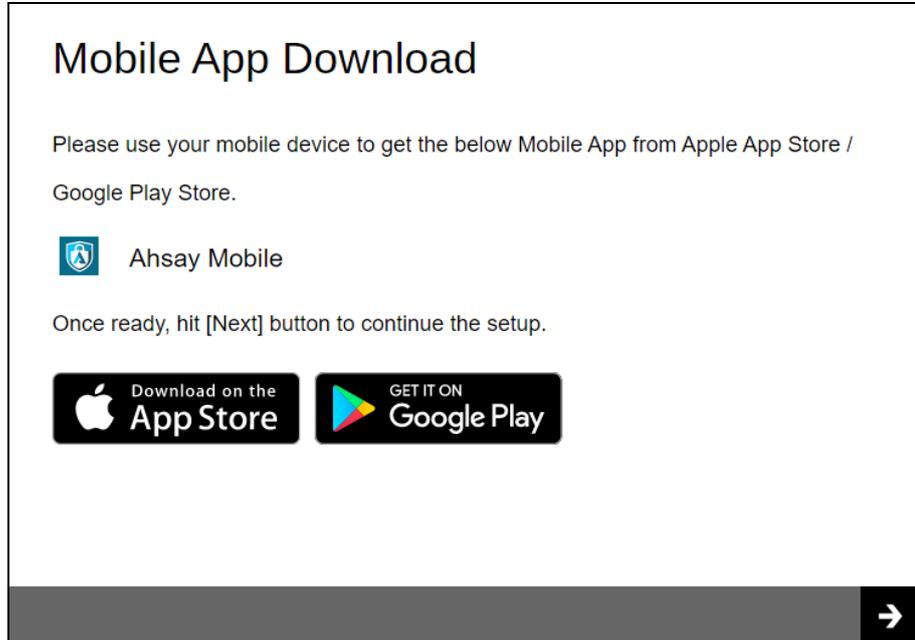
New Ahsay Mobile App, Free of Charge!

Keep Hackers Off
All hackers delete backup data after compromising a machine. Use Two-Factor Authentication (2FA) to keep hackers off your backup data and turn ransomware harmless.

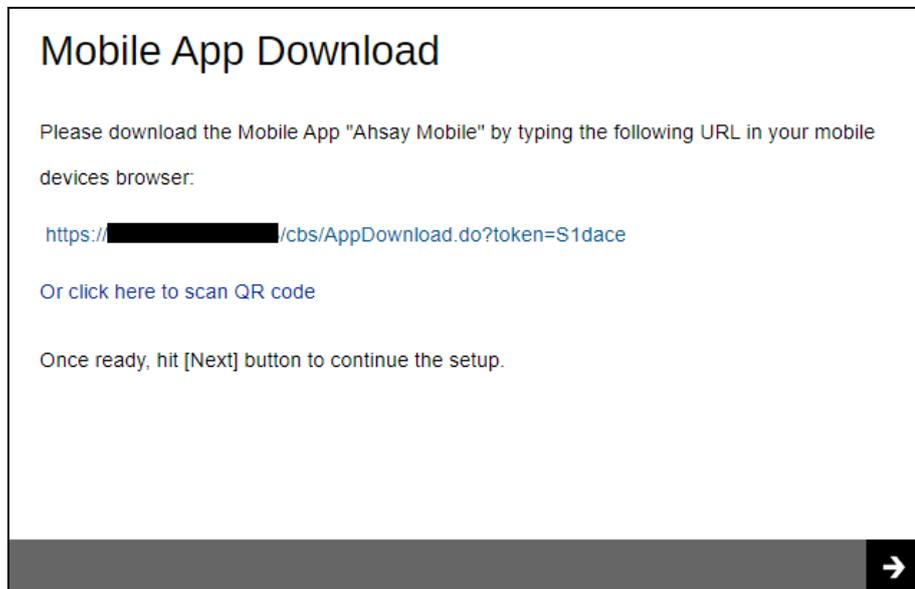


The next screen that will be displayed will depend on the App Download Page Settings:

- This is the default screen that will be displayed, with instructions to download the Ahsay Mobile from the App Store / Google Play Store.



- While this is the screen that will be displayed for branded application, with instructions to download the mobile app by entering the URL provided in your device's browser or you can also scan the QR code by clicking [Or click here to scan QR code](#) link.



Click  to proceed.

Select the country code and enter your phone number. Click

[Send SMS Verification code](#)

Two-Factor Authentication Feature Setup Wizard

For first time activation of Two-Factor Authentication feature, mobile device needs to pair with a verified phone number for account recovery.

Phone number

Philippines (+63)

*This phone number will be used for account security and recovery only. Please be reminded that standard SMS charge will be applied.

[Send SMS Verification code](#)

[Click here to download Mobile App "Ahsay Mobile"](#)

Enter the verification code and click 

 Verification Code: QXCH134425

Verification code

QXCH - (00:04:39)

[Resend SMS Verification code](#)

Pair the device with the user account. There are two ways to do this:

- ① [Using Ahsay Mobile](#)
- ② [Using a third-party TOTP Authenticator App](#)
 - ③ Ahsay Mobile can be configured to support two 2FA modes:
 - [Push Notification and TOTP](#) (default mode)
 - [TOTP only](#)

For Push Notification and TOTP, scan the QR code.

Two-Factor Authentication Feature Setup Wizard

Please scan the QR code to register your mobile device with your backup account for following feature:

 Two-Factor Authentication



[Using other TOTP Authenticator App \(e.g. Authy, Duo, Google\)?](#)

This is a sample of the Ahsay Mobile app installed on a mobile device named "Galaxy A70".



After successful registration this will be the message displayed.



For TOTP only, click

[Using other TOTP Authenticator App \(e.g. Authy, Duo, Google\)?](#) link.

Scan the QR code. After doing so, the one-time password will be generated in the Ahsay Mobile. Enter a name and the one-time password code generated in Ahsay Mobile here and click .

This is a sample of the one-time password code generated in Ahsay Mobile.



Two-Factor Authentication Setup

Please scan the QR code or input Secret Key to register your mobile device with your backup account for following feature:

 Two-Factor Authentication



Secret Key: TTA3 44CR KY2U 3Q5F

Enter a display name for user profile.

system

Enter the one-time password generated by Authenticator App.

190678 (00:00:07)

Using Ahsay Mobile



After successful registration, this will be the message displayed.

Two-Factor Authentication Feature Setup Wizard

You have registered "system" for the following feature:



Two-Factor Authentication

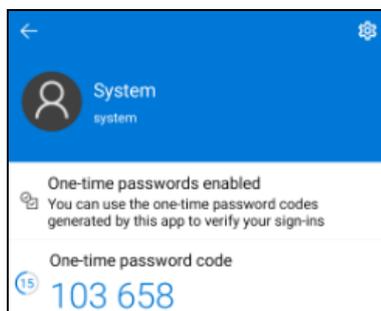
Or

By using a third-party TOTP Authenticator App, click

[Using other TOTP Authenticator App \(e.g. Authy, Duo, Google\)?](#) link.

Either scan the QR code using the third-party authenticator app or enter the Secret Key in the third-party authenticator app. After doing so, the one-time password will be generated in the authenticator app. Enter a name and the one-time password code generated in the third-party authenticator app here and click .

This is a sample of the one-time password code generated using Microsoft Authenticator.



Two-Factor Authentication Feature Setup Wizard

Please scan the QR code or input Secret Key to register your mobile device with your backup account for following feature:

Two-Factor Authentication

Secret Key: TTA5 JW5J OQB3 RAVM

Enter a display name for user profile:

Enter the one-time password generated by Authenticator App.

 (00:00:15)

Using Ahsay Mobile? ➔

Click to finish setup.

ii. For subsequent log ins, There are two authentication method to choose from it is possible to use both methods on the same AhsayOBM/AhsayACB user account:

- ▶ [Ahsay Mobile app](#)
 - Supports two types of authentication:
 - Push Notification
 - TOTP
 - Can be configured to support two 2FA modes:
 - Push Notification and TOTP (default mode) or,
 - TOTP only
- ▶ [Third-party TOTP Authenticator App](#)
(e.g. Authy, Duo, Google)

If **Ahsay Mobile app** will be used as authenticator, there are two 2FA modes that can be selected:

▶ **Push Notification and TOTP (default mode)**

Example of the 2FA alert screen on AhsayCBS after login with correct username and password.

Two-Factor Authentication

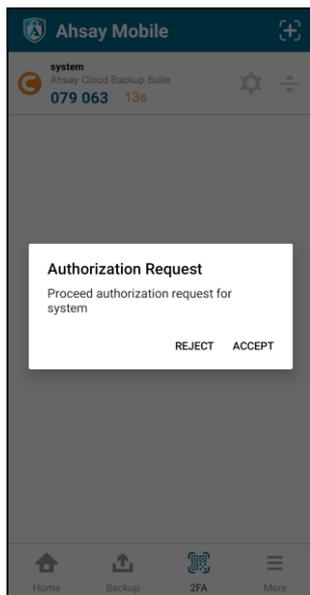
Please approve the notification request in Authenticator App on "Redmi Note 8".

Waiting for response (00:04:37)

Authenticate with one-time password

Push notification is the default 2FA mode. Accept the login request on Ahsay Mobile to complete the login.

Example of the login request sent to the Ahsay Mobile app.



However, if push notification is not working or you prefer to use one-time password, click the “Authenticate with one-time password” link, then input the one-time password generated from Ahsay Mobile to complete the login.

Two-Factor Authentication

Please input the one-time password generated in Authenticator App from "Redmi Note 8".

(00:00:18)

Unable to login

TOTP only

Example of the 2FA alert screen on AhsayCBS after login with correct username and password.

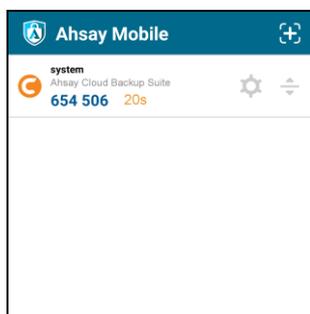
Two-Factor Authentication

Please input the one-time password generated in Authenticator App from "Redmi Note 8".

(00:00:18)

Unable to login

Example of the one-time password generated from Ahsay Mobile to complete the login.



If a third-party **TOTP Authenticator App** will be used instead, follow the steps below to login.

- i. Enter the one-time password that is generated by the authenticator app and click **Next**.

Two-Factor Authentication

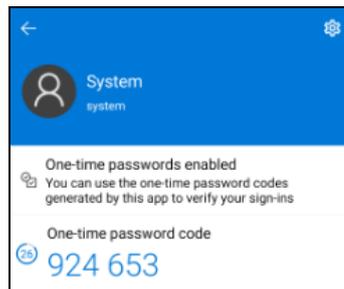
Please input the one-time password generated in Authenticator App from "system".

924653

 (00:00:26)

Unable to login

- ii. Example of the one-time password generated in the third-party Authenticator App Microsoft Authenticator.



In the following example, both Ahsay Mobile and a third-party TOTP Authenticator App has been setup for 2FA, select your preferred 2FA method from the options available to complete the login.

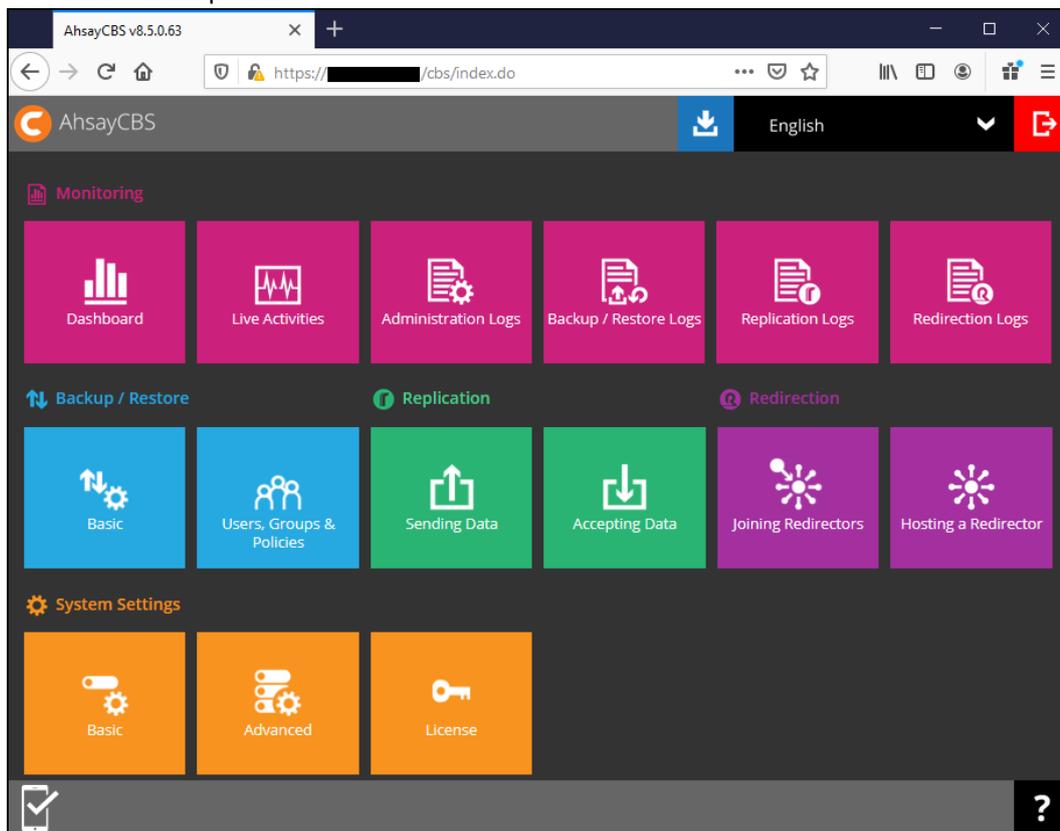
Two-Factor Authentication

Please select one Two-Factor Authentication method to continue.

- Approve request in Authenticator App from "Galaxy A70"
- Input one-time password generated in Authenticator App from "system"

Unable to login/Do not have any Authenticator App(s)

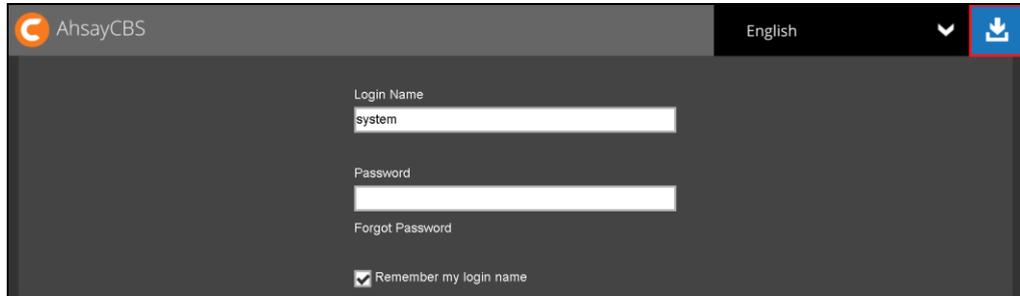
6. The following screen appears with five sections: **Monitoring**, **Backup / Restore**, **Replication**, **Redirection**, and **System Settings**. Each of these sections are described in detail in later chapters.



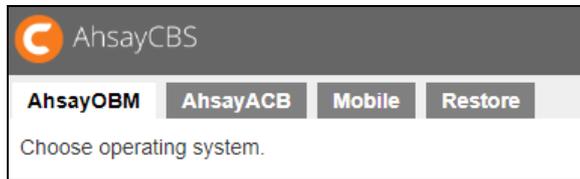
3.2 Download Client Backup Agents

You can choose the client software you wish to download as follows.

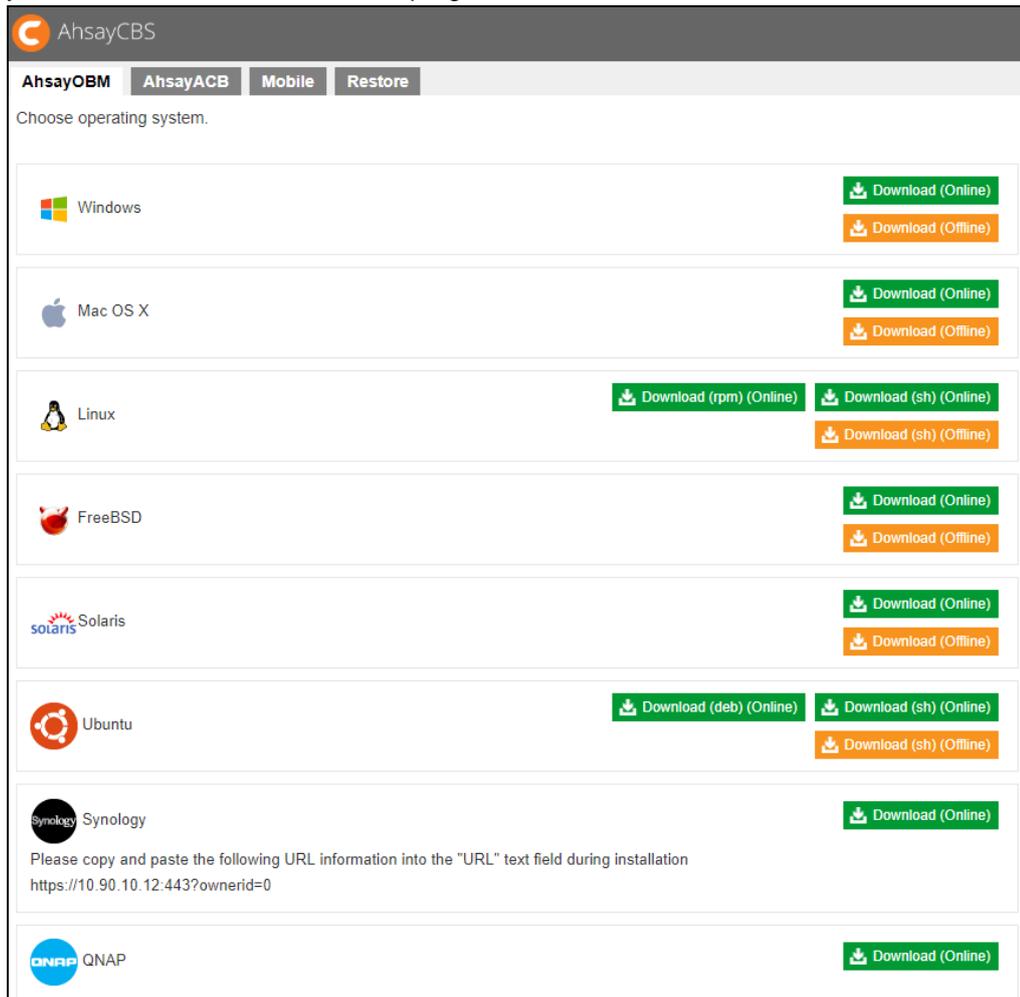
1. On the AhsayCBS Logon page, click the download arrow on the top right hand corner.



2. Click on the tab with the name of the client backup agent you wish to download.

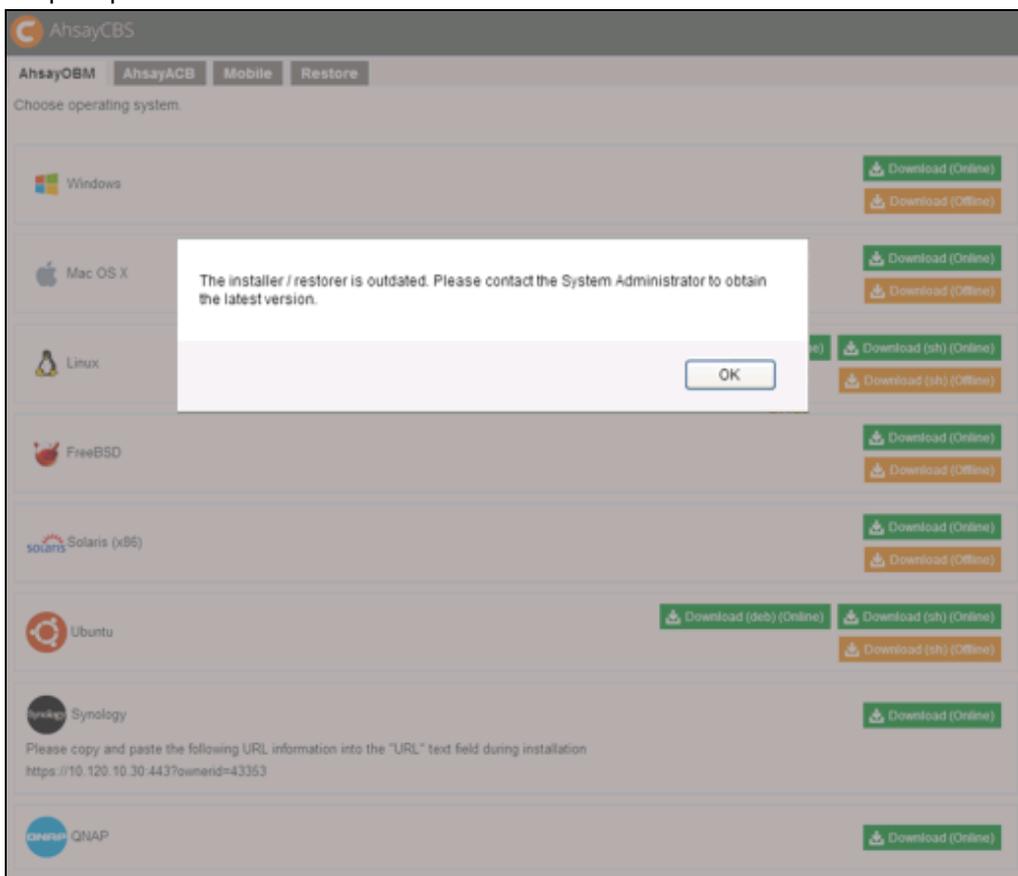


3. Click on the **Download (Online)** or **Download (Offline)** button of the platform on which you wish to install the client backup agent.





Please kindly note that each time after upgrading AhsayCBS version, it is required to rebuild the installers. Otherwise, you cannot download the installer and following warning will prompt.



AhsayCBS support two installation modes, online and offline installation (except for Linux (rpm), Ubuntu (deb), Synology, QNAP and Ahsay Mobile which supports online installation only). User can download and run either one of the installers.

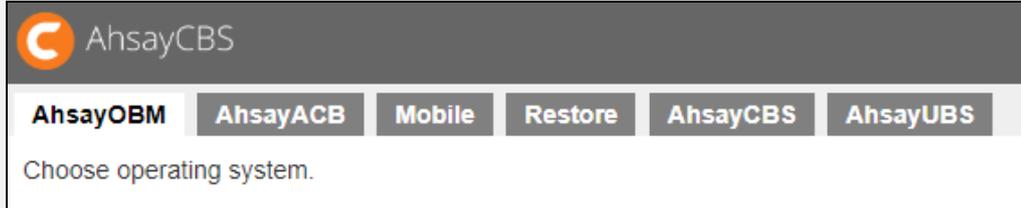
Below is the table of comparison between online installation and offline installation.

	Online Installation	Offline Installation
Internet	<ul style="list-style-type: none"> ➤ It cannot be started without an internet connection. ➤ Clients need to have an internet connection each time an installation is run. ➤ If the client internet connection is interrupted or is not stable the installation may be unsuccessful. ➤ Online installer size is 6KB to 3.5MB depending on operating system as it contains only the initial installation package files. 	<ul style="list-style-type: none"> ➤ Once the offline installer is downloaded, the client does not require an internet connection each time an installation is run. ➤ The offline installer size is 80MB to 140MB depending on operating system as it contains all the necessary binary and component files
Backup Server Availability	The online installer requires the backup server to be online in order to run and complete the installation.	An offline installation can be performed independently of the backup server availability.
Installation Time	<ul style="list-style-type: none"> ➤ Takes more time as it needs to download the binary and component files (80MB to 140MB depending on operating system) each time the installation is run. ➤ A slow internet connection on the client machine will also result in longer installation time. 	Takes less time as all the necessary binary and component files are already available in the offline installer.
Version Control	Online installation ensures the latest version of the product is installed.	May need to update the product version after installation if an older offline installer is used.
Administrative Support	Need more time on the support for the installation as network factor might lead to unsuccessful installation.	Need less time as independent of network factor influence.
Deployments	<ul style="list-style-type: none"> ➤ Suitable for single or small amount of device installations. ➤ Suitable for client sites with fast and stable internet connection. 	<ul style="list-style-type: none"> ➤ Suitable for multiple or mass device installations. ➤ Suitable for client sites with metered internet connections.

For instructions regarding installation of the client backup agent, refer to the [Client Components](#) section for the URL to obtain the Quick Start Guide.

NOTE

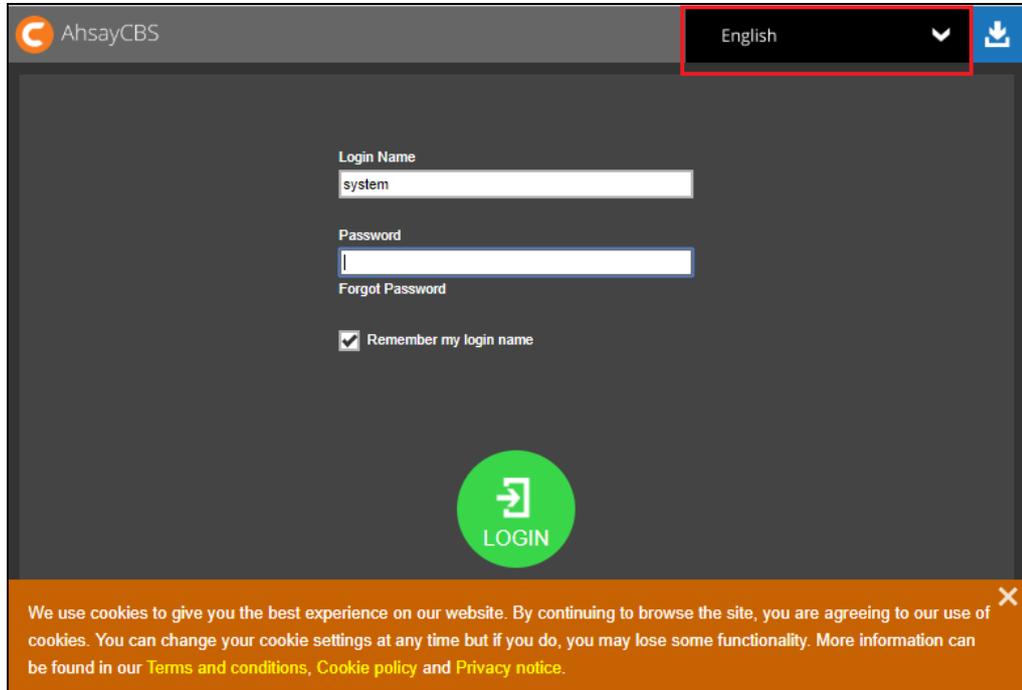
There will be 2 additional client backup agent tabs visible once you log in using an administrator account, AhsayCBS and AhsayUBS. The installers will only be available once it is built in AhsayCBS in System Settings > Basic > Administrative Access tab > %username% > Rebrand Web Console > Build Installers > Building Targets. To learn more about this, refer to the [Branding for AhsayCBS Interface](#) section.



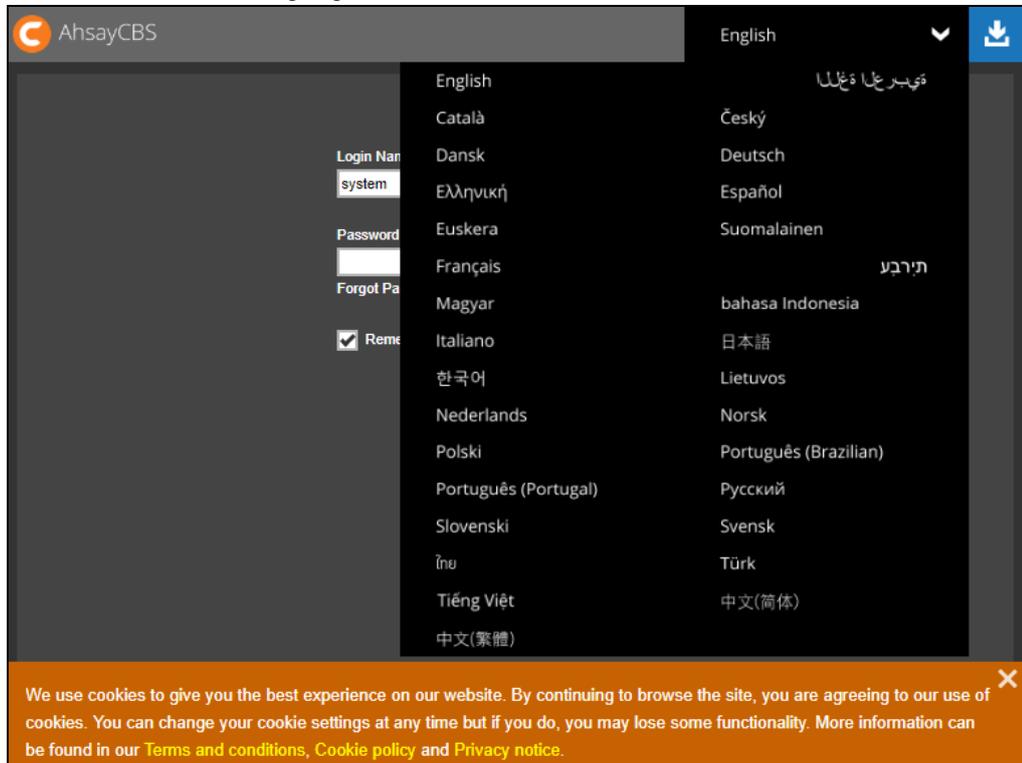
3.3 Change the Language

You can change the language shown on AhsayCBS web console

1. To change the display language, click on the dropdown box on the top right of the screen to select another display language.



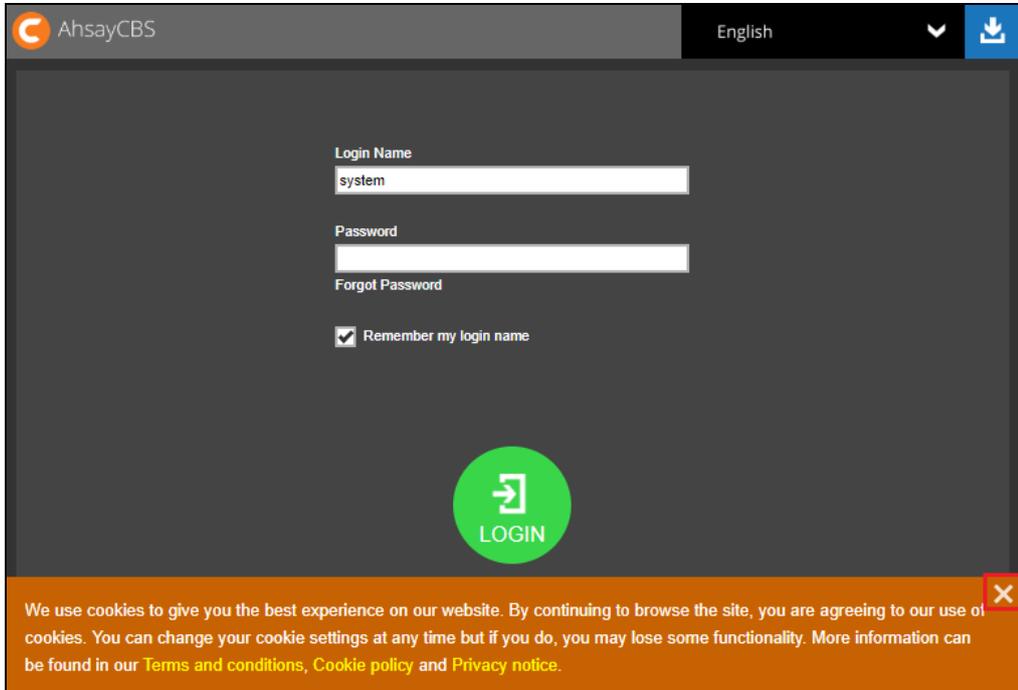
2. Click on the desired language from the list.



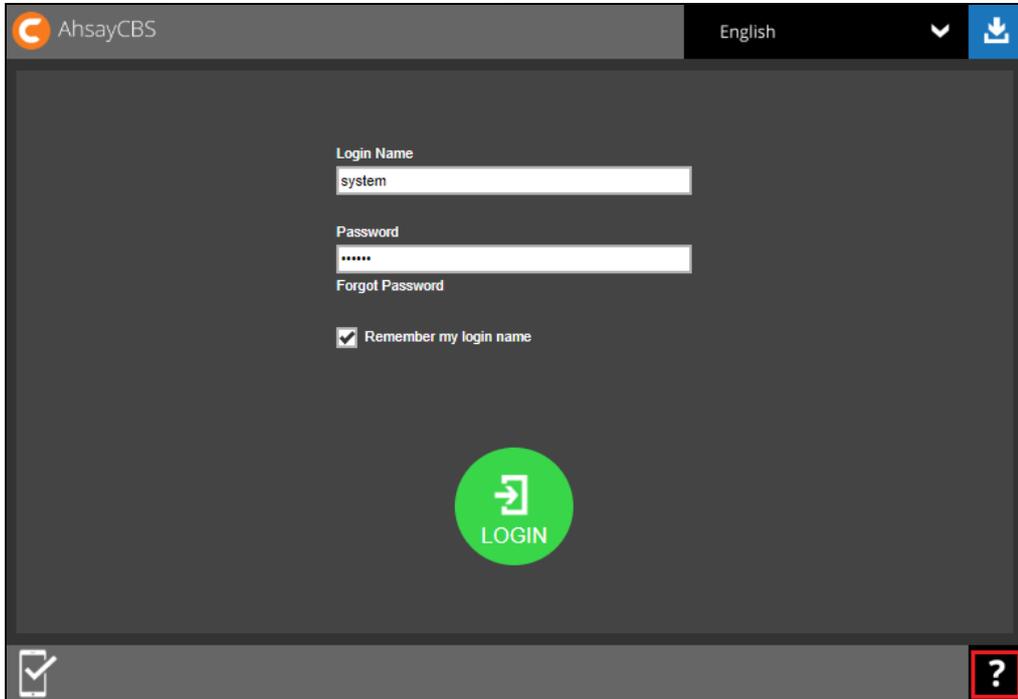
3.4 Invoke Online Help

You can invoke the online help on most of the pages while navigating the AhsayCBS. The online help aims at providing instructions on operation on the corresponding page.

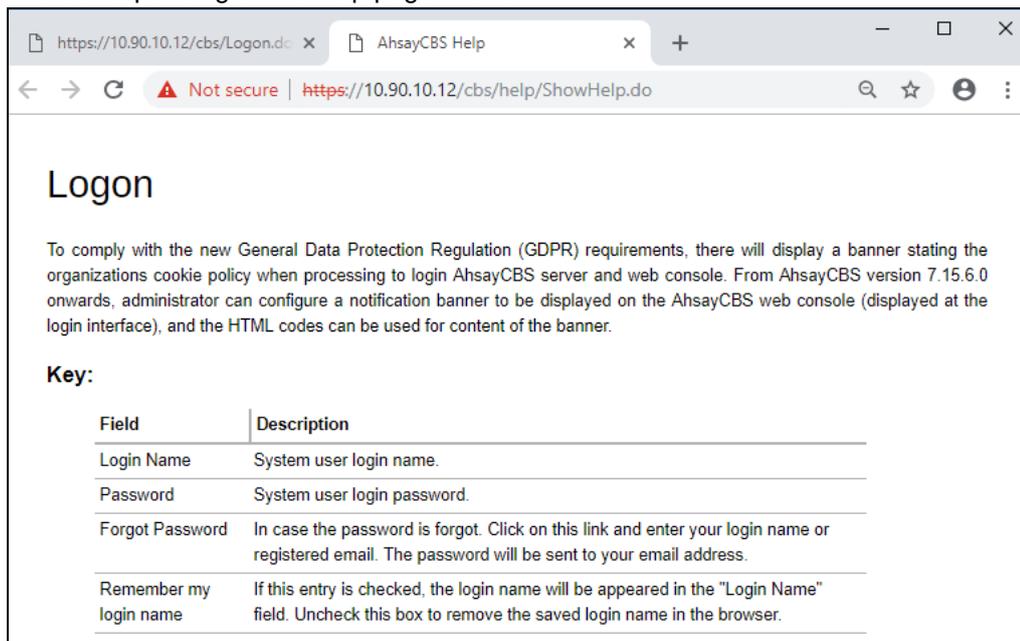
1. Click **X** to shut down the banner.



2. Click on the question mark at the bottom right corner.



3. The corresponding online help page shows.



4. You can print the online help by clicking the print button at the bottom right corner. To exit, click **X**.

4 Managing License

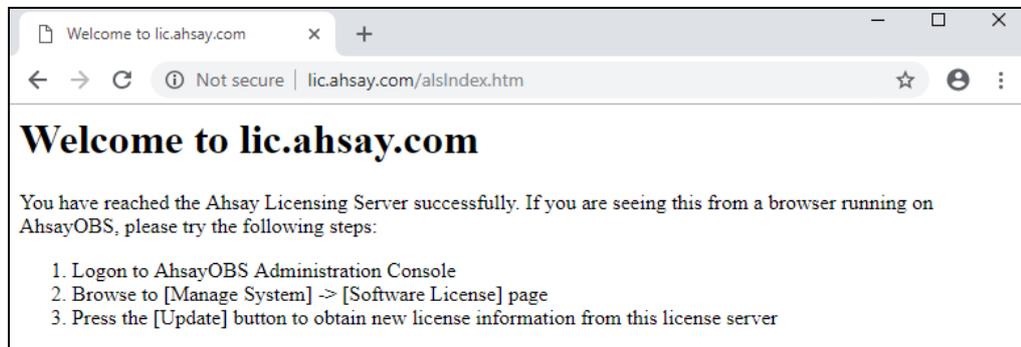
4.1 Verify License Connectivity

The AhsayCBS server is required to access the Internet and to connect to the Ahsay License Server (lic.ahsay.com) using https protocol for license activation, daily license checks, and license CAL updates. Make sure your firewall settings are configured to allow outbound connections to lic.ahsay.com via port 443 using TLSv1.2. For more information please refer to the [AhsayCBS Quick Start Guide](#).

To verify Ahsay license connectivity you can:

Windows

Open a web browser on your AhsayCBS and enter the following URL <https://lic.ahsay.com> the following message is displayed when the connection is successful.



Linux

Use the **telnet** command to check the connection on your AhsayCBS server. If the connection is successful, you will see the following message.

```
# telnet lic.ahsay.com 443
Trying 203.186.85.237...
Connected to lic.ahsay.com.
Escape character is '^]'.
```

Use the **openssl s_client** command to check whether TLSv1.2 is enabled. The following output is for illustration purposes only.

```
# openssl s_client -connect lic.ahsay.com:443 -tls1_2
CONNECTED(00000003)
depth=3 C = US, O = "The Go Daddy Group, Inc.", OU = Go Daddy
Class 2 Certification Authority
verify return:1
depth=2 C = US, ST = Arizona, L = Scottsdale, O = "GoDaddy.com,
Inc.", CN = Go Daddy Root Certificate Authority - G2
verify return:1
depth=1 C = US, ST = Arizona, L = Scottsdale, O = "GoDaddy.com,
Inc.", OU = http://certs.godaddy.com/repository/, CN = Go Daddy
Secure Certificate Authority - G2
verify return:1
depth=0 1.3.6.1.4.1.311.60.2.1.3 = HK, businessCategory =
Private Organization, serialNumber = 0498825, C = HK, L = Lai
Chi Kok, O = Ahsay Systems Corporation Limited, CN = ahsay.com
```

```
verify return:1
---
Certificate chain
 0 s:/1.3.6.1.4.1.311.60.2.1.3=HK/businessCategory=Private
Organization/serialNumber=0498825/C=HK/L=Lai Chi Kok/O=Ahsay
Systems Corporation Limited/CN=ahsay.com
  i:/C=US/ST=Arizona/L=Scottsdale/O=GoDaddy.com,
Inc./OU=http://certs.godaddy.com/repository//CN=Go Daddy Secure
Certificate Authority - G2
 1 s:/C=US/ST=Arizona/L=Scottsdale/O=GoDaddy.com,
Inc./OU=http://certs.godaddy.com/repository//CN=Go Daddy Secure
Certificate Authority - G2
  i:/C=US/ST=Arizona/L=Scottsdale/O=GoDaddy.com, Inc./CN=Go
Daddy Root Certificate Authority - G2
 2 s:/C=US/ST=Arizona/L=Scottsdale/O=GoDaddy.com, Inc./CN=Go
Daddy Root Certificate Authority - G2
  i:/C=US/O=The Go Daddy Group, Inc./OU=Go Daddy Class 2
Certification Authority
 3 s:/C=US/O=The Go Daddy Group, Inc./OU=Go Daddy Class 2
Certification Authority
  i:/C=US/O=The Go Daddy Group, Inc./OU=Go Daddy Class 2
Certification Authority
---
Server certificate
-----BEGIN CERTIFICATE-----
MIIH8DCCBtigAwIBAgIJANK9EdRBepEyMA0GCSqGSIb3DQEBCwUAMIG0MQswCQY
D
VQQGEwJVUzEQMA4GA1UECBMHQXJpem9uYTETMBEGA1UEBxMKU2NvdHRzZGFsZTE
a
MBGGA1UEChMRR29EYW5kb2sIEluYy4xLTArBgNVBAsTJGh0dHA6Ly9jZXJ0
cy5nb2RhZGR5LmNvbS9yZXBvc2l0b3J5LzEzLjY5LzEzLjY5LzEzLjY5LzEzLjY5
j
dXJlIENlcnRpdjYXRlIEF1dGhvcml0eSAtIEcyMB4XDTEwMDIyODAxMjI1NFo
X
DTIyMDQxNDUzMDUwMjEwMDUwMjEwMDUwMjEwMDUwMjEwMDUwMjEwMDUwMjEw
T
FFByaXZhdGUgT3JnYW5pemF0aW9uMRAwDgYDVQQFEwcnNDk4ODI1MQswCQYDVQQ
G
EwJISzEUMBIGA1UEBxMLTGFpIENoaSBLb2sxKjAoBgNVBAoTIEUfoc2F5IFN5c3R
l
bXMQ29ycG9yYXRpb24gTGltaxRlZDESMBAGA1UEAxMJYWhzYXk0Y29tMIIBIjA
N
BgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAzVy+OD4alpafXwiOYEKQikNFbMv
u
2hysHv6t6g3rX2dBOrtboCWwP9RZOV2g4x5DIRZj7duR2wjhAY0HaE3DN3fr6Tn
L
FJPwg+7IYTt4sd7ovtHJDE1PcEuijyL2k6XRxcoRajTzAMXDTLZsyJNuRNMSus
a
TVWpHyhgpxk+D1FgOg2DaPojuYLPW/TkolbFMvj08BBOYqYrcrfV6y+SyZ0/PeZ
+
Gb9+kkVB+FP4pJMDxv/vlFtbakJDipbtr01VfgjLHqh0gMMBTnrxsBXRlvhv2GH
i
3Lr7TNJb7Hf4JAs9cR3w0kkK1cCK1vvyokQ2QNLEYwexbi+4QmpfpQXd/wIDAQA
B
o4IEDDCCBAGwDAYDVR0TAQH/BAIwADAdBgNVHSUEFjAUBggrBgEFBQcDAQYIKwY
B
BQUHAWIwDgYDVDR0PAQH/BAQDAgWgMDYGA1UdHwQvMC0wK6ApoCeGJWh0dHA6Ly9
j
```

cmwuZ29kYWRkeS5jb20vZ2RpZzJzMy0xNS5jcmwwXAYDVR0gBFUwUzBIBgtghkg
B
hv1tAQcXAzA5MDcGCCsGAQUFBwIBFitodHRwOi8vY2VydGlmawNhdGVzLmdvZGF
k
ZHkuY29tL3JlcG9zaXRvcnkMacGBWeBDAEBMHYGCCsGAQUFBwEBBGowaDAkBggr
r
BgEFBQcwAYYYaHR0cDovL29jc3AuZ29kYWRkeS5jb20vMEAGCCsGAQUFBzACHjR
o
dHRwOi8vY2VydGlmawNhdGVzLmdvZGFkZHkuY29tL3JlcG9zaXRvcnkVZ2RpZzI
u
Y3J0MB8GA1UdIwQYMBaAFEDCvSeOzDSDMKIz1/tss/C0LIDOMIH5BgNVHREEgFE
w
ge6CCWFoc2F5LmNvbYIND3d3LmFoc2F5LmNvbYIPZm9ydW0uYWhzYXkuY29tgg1
s
aWMuYWhzYXkuY29tghB3d3cudWsuYWhzYXkuY29tghVwYXJ0bmVycy11cy5haHN
h
eS5jb22CDnNob3AuYWhzYXkuY29tgg1pZHAuYWhzYXkuY29tgg1wY3AuYWhzYXk
u
Y29tghB3d3cuYWhzYXkuY29tLmNugg1sbXAuYWhzYXkuY29tghVwYXJ0bmVycy1
l
ay5haHNheS5jb22CFXBhcnRuZXJzLmFoc2F5LmNvbS5jboIMA2IuYWhzYXkuY29
t
MBOGA1UdDgQWBWBBQU/GniKbSMjgEmaqndKdtzS0DqLDCCAX0GCisGAQQB1nkCBAI
E
ggFtBIIBaQFnAHUApLkJKLQYWSHuxOizGdwCjw1mAT5G9+443fNDsgN3BAAAAF
w
iWO3kgAABAMARjBEAiA+hEdDmd5DpqSzX43y7ri9ByGIyN3cuzzZG+bUbxMeZQI
g
PhPHCCuSpHmdZPdiqzd9dkoFFT1a7mBZgA5X/Qn8sXIAdwDuS723dc5guuFCaR+
r
4Z5mow9+X7By2IMAxHuJeqj9ywAAAXCJY7tKAAAEAwBIMEYCIQDyF8exjOGxWWq
n
WjJsCIMdmhNa5TQP4P7S0eILTzXTQQIhAISb+1B1r2xKnxyf0/5Gjzozgf71RNd
2
y5j52nS3fjQ5AHUAVhQGmi/XwuzT9eG9RLI+x0Z2ubyZEVza75SYVdaJ0N0AAAF
w
iWO9ogaAABAMARjBEAiBoPXKsSdksi3BlFRpz01zcyW6o+GOGbNKM+3JAFBoFrwI
g
TNKIG8+hkzknLcbhJIJRj8ivOSZxYhYt0wtnfSxKXsIwdQYJKoZIHvCNAQELBQA
D
ggEBAHtl3dePp2Plp8VLRr8xhpHM76K8u1HBBxF/Joucv68vmelCN+1mY7Z7slo
I
0lz4tGBh51DK8gerVKUrSgxFk4W/E5PVc0QMpoK6rr8DpwOGbShjSyfGvkaAOwe
m
tv8L7rEtVIldWS1n+oeDPlLOB92RBxWUhiXt8QE9GpV4pPcKrMgNACkoWQZxDKY
W
JNNhwsTomktzu0sL00yJFhGGmq1htV/RCx7LJ6gZl7/fLcFtzVrd27elaA+iQhE
b
oCmwZgnijIT49EE6pY0octFYRtEm2GCcq79rAqzVPJnWWaOdbzSwJaurtliCyyZ
+
/7/2hEy9EtpStmAf9KVeUglC76c=
-----END CERTIFICATE-----
subject=/1.3.6.1.4.1.311.60.2.1.3=HK/businessCategory=Private
Organization/serialNumber=0498825/C=HK/L=Lai Chi Kok/O=Ahsay
Systems Corporation Limited/CN=ahsay.com
issuer=/C=US/ST=Arizona/L=Scottsdale/O=GoDaddy.com,
Inc./OU=http://certs.godaddy.com/repository//CN=Go Daddy Secure
Certificate Authority - G2

No client certificate CA names sent

```

Server Temp Key: ECDH, prime256v1, 256 bits
---
SSL handshake has read 6137 bytes and written 373 bytes
---
New, TLSv1/SSLv3, Cipher is ECDHE-RSA-AES256-GCM-SHA384
Server public key is 2048 bit
Secure Renegotiation IS supported
Compression: NONE
Expansion: NONE
SSL-Session:
    Protocol   : TLSv1.2
    Cipher     : ECDHE-RSA-AES256-GCM-SHA384
    Session-ID:
6C1B0AEEE18BC2A83599A8058564E766063AA3AC87CBA6797EDED5BC77F900F
5
    Session-ID-ctx:
    Master-Key:
3F2E8F3E9F0F5AA3719F07B91B91D0685878D1C9E7A4D2B79F53ED640350C36
24D4ED338A6A2397C095E2F1186BF6C5C
    Key-Arg    : None
    Krb5 Principal: None
    PSK identity: None
    PSK identity hint: None
    TLS session ticket lifetime hint: 300 (seconds)
    TLS session ticket:
0000 - 1b ed e6 48 ab 80 f9 a7-f8 0b f1 1d bc 93 70
ab   ...H.....p.
0010 - 94 8b dc ab da 60 57 90-5d ea 10 14 66 c5 80
62   .....`W.]...f..b
0020 - b2 f1 ba e0 49 fc 48 b6-4b 11 46 bb b9 e7 dd
d8   ....I.H.K.F.....
0030 - 12 28 36 85 3d 2c bf 1a-61 e9 76 1a 10 d1 d2
f1   .(6.=,..a.v.....
0040 - e1 28 74 5e 1a 1a 0b 73-d2 c8 4f de 6e e1 d2
6f   .(t^...s..O.n..o
0050 - ee 6b 63 e7 ad dd d4 9c-b7 c4 08 19 9e 2c fd
d7   .kc.....,..
0060 - c1 7e 65 dc 29 f1 26 d7-48 7b 29 d1 88 17 f5
e6   .~e.)&.H().....
0070 - 49 2c 50 bf 4c 90 25 ac-34 c1 be 40 00 33 0c 65
I,P.L.%.4..@.3.e
0080 - cf f9 13 a8 c2 d7 82 cf-b2 bc d6 ff 7b 15 9b
6e   .....{..n
0090 - d9 ce 58 77 a2 c2 e2 c9-e4 2d a5 a0 e4 29 fd
a6   ..Xw.....-....)..
00a0 - 2c 21 af bf da 3e 75 38-71 45 e4 0f 4f 36 6a
58   ,!...>u8qE..06jX

    Start Time: 1612168629
    Timeout    : 7200 (sec)
    Verify return code: 0 (ok)
---
closed

```

FreeBSD

Use the **fetch** command to check the connection to the Ahsay license server. If the connection is successful, you will see the following message.

```
# fetch https://lic.ahsay.com/alsIndex.htm
alsIndex.htm                100% of 782 B
3336 kBps 00m00s
```

You also need to open the alsIndex.htm to verify the contents. You can open it by using a text editor like vi.

```
# vi alsIndex.htm
<html>^M
<head>^M
<meta http-equiv="Content-Type" content="text/html;
charset=windows-1252">^M
<meta http-equiv="Content-Language" content="en-us">^M
<meta name="GENERATOR" content="Microsoft FrontPage 4.0">^M
<meta name="ProgId" content="FrontPage.Editor.Document">^M
<title>Welcome to lic.ahsay.com</title>^M
</head>^M
<body>^M
<h1>Welcome to lic.ahsay.com</h1>^M
<p>You have reached the Ahsay Licensing Server successfully.
If you are seeing this from a browser running on AhsayOBS,
please try the following steps: </p>^M
<ol>^M
  <li>Logon to AhsayOBS Administration Console</li>^M
  <li>Browse to [Manage System] -&gt; [Software License]
page</li>^M
  <li>Press the [Update] button to obtain new license
information from this license server</li>^M
</ol>^M
^M
</body>^M
</html>^M
```

NOTE

A single license key can only be used on one machine once it has been activated. If you use the same license key to activate another installation of AhsayCBS, you will get an error message. You would be able to run this copy of AhsayCBS for another 14 days. After the 14-day grace period has expired, the AhsayCBS service will stop working completely. Please contact [Ahsay Support](#) for further assistance.

4.2 Manage License Key

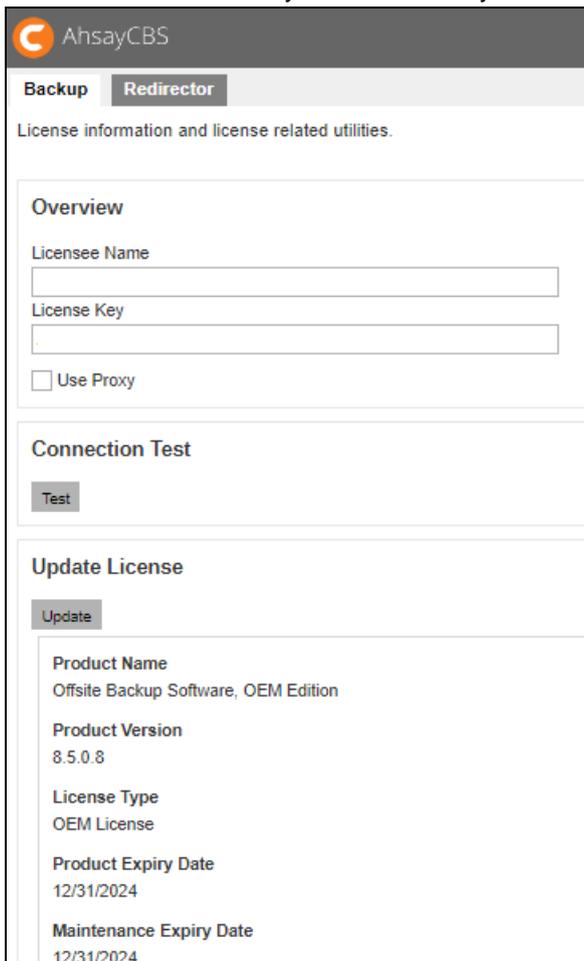
To manage your AhsayCBS backup server and redirector license keys, do the following:

1. Click the **License** icon under **System Settings** from your AhsayCBS web management console.



2. There are two tabs on the license page. The **Backup** tab is for backup server license, while the **Redirector** tab is for redirector license. You can activate the software on these tabs.

Please make sure that the AhsayCBS license key is applied on the **Backup** tab. If you have purchased a Redirector license key, you need to enter the key in the **Redirector** tab. Do NOT enter the AhsayCBS license key on the **Redirector** tab or vice versa.



AhsayCBS

Backup Redirector

License information and license related utilities.

Overview

Licensee Name

License Key

Use Proxy

Connection Test

Test

Update License

Update

Product Name
Offsite Backup Software, OEM Edition

Product Version
8.5.0.8

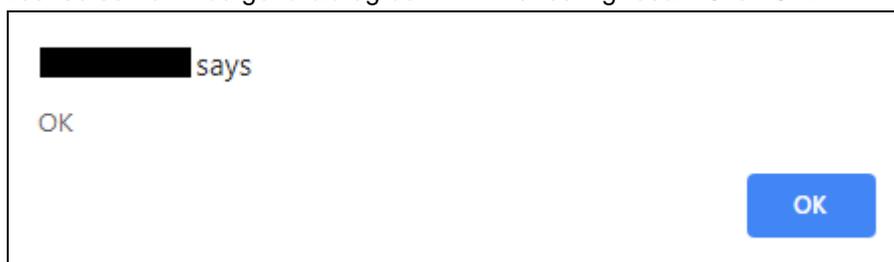
License Type
OEM License

Product Expiry Date
12/31/2024

Maintenance Expiry Date
12/31/2024

3. Enter your **Licensee Name** and **License Key** on the Backup server license page. Both fields are case sensitive. Please enter them exactly as stated in your software receipt.

- If you are using the evaluation license, you will be able to evaluate the AhsayCBS for 60 days. Just accept the default **Licensee Name** and **License Key** on the page to activate the license.
 - If you have already purchased a license, copy and paste the licensee name and license key into the relevant fields to activate the license.
4. If a proxy server is required to access the Internet from AhsayCBS, check the **Use Proxy** checkbox. Refer to the [Proxy Tab](#) section for information on how to set up the proxy server.
 5. Press the **Test** button under **Connection Test** section to test the connection with the license server. You get a dialog box with the testing result. Click **OK**.

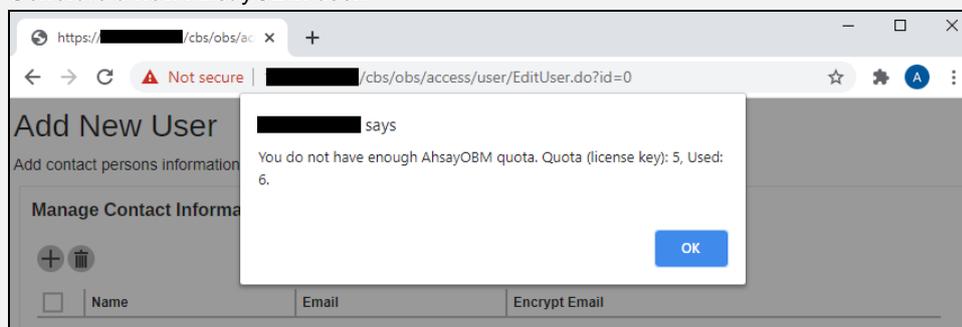


NOTE

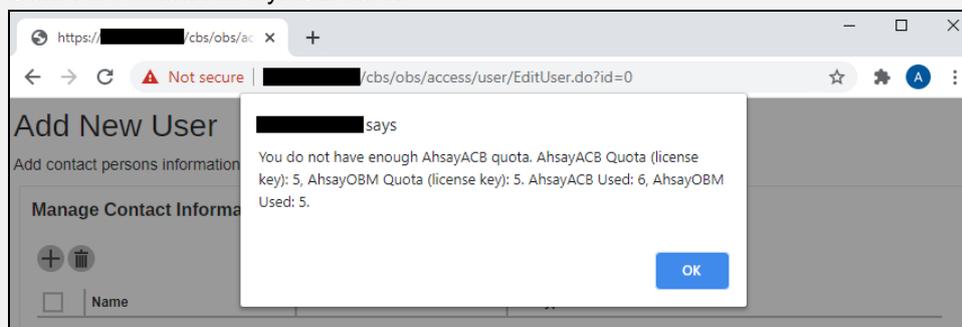
After upgrading AhsayCBS to v8.1.0.0. and above, any actions that may lead to quota exceeded will be blocked, i.e. generate a new backup user, creating a new backup set from AhsayCBS or v6/ v7 AhsayOBM/ AhsayACB, importing users in AhsayCBS, updating license in AhsayCBS, update user, and so on. If there is any license error, there will be email to alert about the license error.

Below screenshot shows about blocked actions:

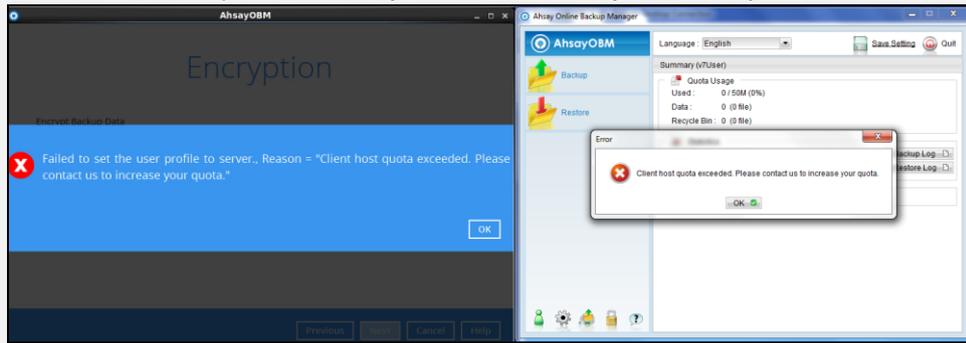
- Generate a new AhsayOBM user.



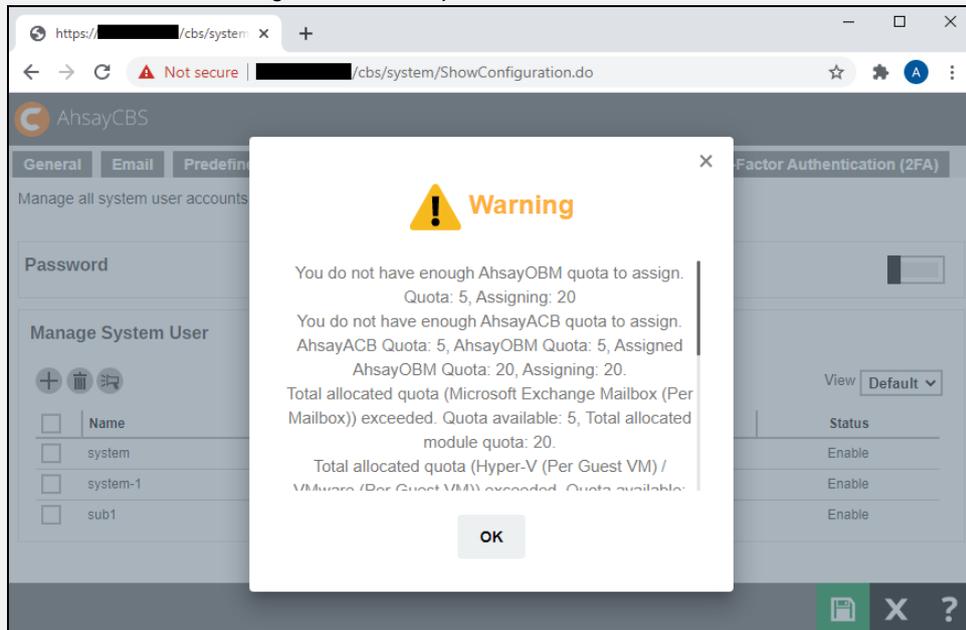
- Generate a new AhsayACB user.



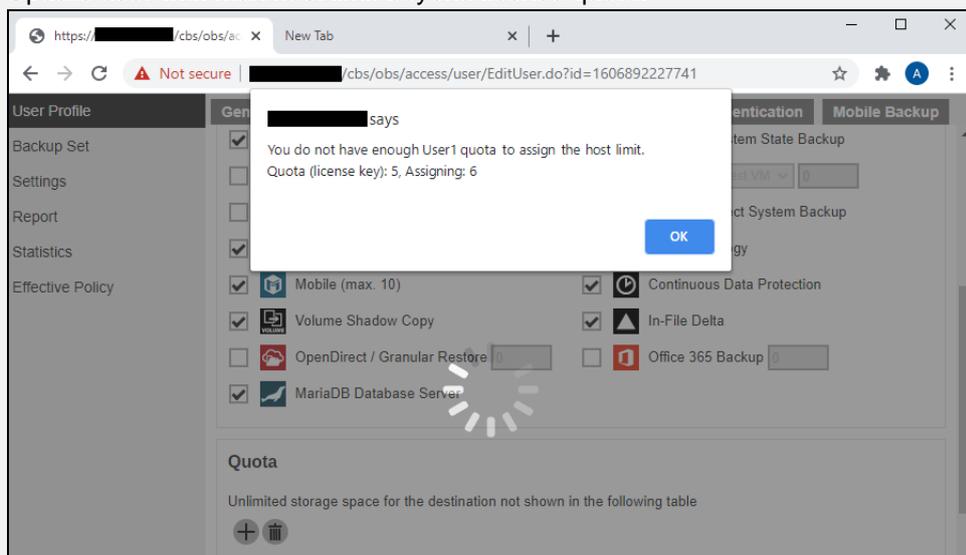
- Create a new backup set from AhsayCBS or v6/ v7 AhsayOBM/ AhsayACB.



- AhsayCBS license quota assigned for each sub admin user beyond the range between sub admin user's current usage and license quota limit.



- Update user with max host limit beyond license quota.



➤ Update user with module quota exceeded.

➤ Below screenshot shows about email alert:

4.3 License Summary and Requirements

The **License Details** section on the Backup Server license page shows a summary of the quota used and licenses available for each of the modules you have subscribed.

License Details				
Client Software	Quota	Used	Available	
AhsayOBM	5	1	4	
AhsayACB	5	0	5	
Client Add-on Modules				
	Quota	Used	Available	
Microsoft Exchange Mailbox (Per Mailbox)	5	0	5	
Hyper-V / VMware (Per Guest VM)	10	0	10	
Hyper-V / VMware (Per Socket)	10	0	10	
NAS - Synology / NAS - QNAP	10	0	10	
Mobile	Unlimited	0	Unlimited	
Office 365	10	0	10	
OpenDirect / Granular Restore	5	0	5	
Server Add-on Modules				
	Quota	Used	Available	
AhsayOBM Replication Module	5	0	5	

Client Software	License quota and availability for client backup agents (AhsayOBM & AhsayACB)
Client Add-on Modules	License quota and availability for add-on modules for AhsayOBM & AhsayACB Click here to view a list of all available add-on modules
Server Add-on Modules	License quota and availability for server add-on modules, e.g. Replication module, AhsayUBS, AhsayCBS, etc.
Support Languages	Supported languages for UI display. The availability of support languages is subject to your license key. For license related inquiries, please contact the Sales team at Ahsay by email at sales-kb@ahsay.com or call our International Sales Hotline +852 3580 8091.

4.3.1 Upgrade from v6 to v8

If you are upgrading from v6, you need to purchase one extra AhsayCBS license module for each of your existing v6 backup server license. Make sure you have valid maintenance before you perform the upgrade/migration.

NOTE

If you upgraded AhsayCBS from v6 to v8 without purchasing AhsayCBS module and the quota exceeded, then there will be a grace period of 60 days to allow sufficient time to resolve the license related problems.

If you upgraded AhsayCBS from v6 to v8 with purchasing AhsayCBS module and the quota exceeded, then there will be a grace period of 12 hours for you to manage the quota usage. If quota usage issue was not solved within the grace period, the server will be stopped after the grace period. After login to AhsayCBS system console, the web console will redirect to [To Do] page and the license error will be shown on the top.

The screenshot shows the AhsayCBS system monitoring interface. At the top, there are navigation tabs for 'To Dos', 'Overview', 'CPU', 'Memory', 'Storage', and 'Live Threads'. Two prominent error messages are displayed in a light green box:

- Backup Server License Error:** License quota usage exceeded at Wed Jul 18 16:20:55 CST 2018. Please manage your quota usage or contact us to update your license within 12 hours, or your CBS server will be stopped at Thu Jul 19 04:20:55 CST 2018. A link to 'Please update license in License page' is provided.
- AhsayCBS Redirection Module License Error:** Internal Error 1012. Please press the [Update] button in license page to correct this problem. If the problem persists, please contact our technical support team to resolve this problem. Not in Grace Period. Redirector is stopped. A link to 'Please update license in License page' is provided.

Below the errors is a section titled 'Errors and Warnings' with a 'Yesterday' filter. It contains six summary cards:

- Missed Backups: 0
- Failed Backups: 0
- System Errors: 193
- Replication Errors: 0
- API Errors: 76
- Email Errors: 63

At the bottom, there is a table of error messages:

Timestamp	Login Name	Owner	Message
07/17/2018 23:45:24	exchange	--	[BackupJob.record.list] Unable to list pending email, error = [UserCacheManager.NoSuchUserExpt] User 'exchange' not found. [NoSuchUserExpt] [UserCacheManager.NoSuchUserExpt] User 'exchange' not found.
07/17/2018	exchange	--	[BackupJob.record.list] Unable to list pending email, error = [UserCacheManager.NoSuchUserExpt] User 'exchange' not found.

If there is any license error, there will be email to alert about the license error.

The screenshot shows an email alert with the following content:

License Error Tue Jul 17 17:32:26 CST 2018

from Dan to Dan <[redacted]@gmail.com> + 1 more 07/17/2018 05:32 PM

License quota usage exceeded at: Tue Jul 17 17:32:26 CST 2018 .Please manage your quota usage or contact your service provider to update your license within 12 hours, or your CBS server will be stopped at: Wed Jul 18 05:32:26 CST 2018
 IP: 192.168.22.41
 Host: DAISY

The server stop counter will start in the last hour of grace period. There will be log showing the process of server stop.

- Server stop counter starts.

localhost:10880/cbs/monitor/cbs/Index.do

AhsayCBS

SNMP Log Message History Activities Log Audit Trails

09/05/2018 18:11:00	MigrateV6DataInfo	[Job][MigrateV6File] End: migrate v6 data.
09/05/2018 18:11:00	MigrateV6DataInfo	[Job][MigrateV6File] End: migrate v6 data.
09/05/2018 18:11:00	MigrateV6DataInfo	[Job][MigrateV6File] End: migrate v6 data.
09/05/2018 18:11:32	RoutineJobInfo	[Job][Logger] Starting to log system status
09/05/2018 18:11:32	RoutineJobInfo	[Job][Logger] Start: logging system status
09/05/2018 18:11:32	RoutineJobInfo	[Job][Logger] End: logging system status
09/05/2018 18:12:00	MigrateV6DataInfo	[Job][MigrateV6File]Start: migrate v6 data
09/05/2018 18:12:00	MigrateV6DataInfo	[Job][MigrateV6File] End: migrate v6 data.
09/05/2018 18:18:29	RoutineJobInfo	[Job][Logger] Starting to log system status
09/05/2018 18:18:29	RoutineJobInfo	[Job][Logger] Start: logging system status
09/05/2018 18:18:31	RoutineJobInfo	[ServerStopCounter] Started. Server will be stopped soon.
09/05/2018 18:18:31	RemoveMigratedV6DataInfo	[Job][HourlyJob]Start: Remove migrated v6 data
09/05/2018 18:18:31	RoutineJobInfo	[ServerStopCounter] Sleeping for 1 minute.
09/05/2018 18:18:31	RemoveMigratedV6DataInfo	[Job][HourlyJob] End: Remove migrated v6 data.
09/05/2018 18:18:36	RoutineJobInfo	[Job][Logger] End: logging system status

➤ Quota usage issue solved and the server stop counter stopped.

09/05/2018 18:26:19	RoutineJobInfo	[ServerStopCounter] Sleeping for 1 minute.
09/05/2018 18:26:19	RemoveMigratedV6DataInfo	[Job][HourlyJob] End: Remove migrated v6 data.
09/05/2018 18:26:23	RoutineJobInfo	[Job][Logger] End: logging system status
09/05/2018 18:26:41	SystemAuthOK	ADMIN "system" logged on to client software successfully from IP address 127.0.0.1
09/05/2018 18:27:00	MigrateV6DataInfo	[Job][MigrateV6File]Start: migrate v6 data
09/05/2018 18:27:00	MigrateV6DataInfo	[Job][MigrateV6File] End: migrate v6 data.
09/05/2018 18:27:19	RoutineJobInfo	[ServerStopCounter] License violation is resolved.
09/05/2018 18:27:32	RoutineJobInfo	[Job][Logger] Starting to log system status
09/05/2018 18:27:32	RoutineJobInfo	[Job][Logger] Start: logging system status
09/05/2018 18:27:32	RoutineJobInfo	[Job][Logger] End: logging system status
09/05/2018 18:28:00	MigrateV6DataInfo	[Job][MigrateV6File]Start: migrate v6 data
09/05/2018 18:28:00	MigrateV6DataInfo	[Job][MigrateV6File] End: migrate v6 data.

➤ Quota issue not solved within grace period and server stopped.

09/05/2018 18:22:31	RoutineJobInfo	[ServerStopCounter] Sleeping for 1 minute.
09/05/2018 18:22:44	RoutineJobInfo	[Job][Logger] Starting to log system status
09/05/2018 18:22:44	RoutineJobInfo	[Job][Logger] Start: logging system status
09/05/2018 18:22:44	RoutineJobInfo	[Job][Logger] End: logging system status
09/05/2018 18:23:00	MigrateV6DataInfo	[Job][MigrateV6File]Start: migrate v6 data
09/05/2018 18:23:00	MigrateV6DataInfo	[Job][MigrateV6File] End: migrate v6 data.
09/05/2018 18:23:31	RoutineJobInfo	[ServerStopCounter] Server stopped. Grace period is ended.

If you utilize only one AhsayOBM across multiple physical/virtual devices in previous v6 version, you will need to purchase supplement AhsayOBM when you upgrade to v8.

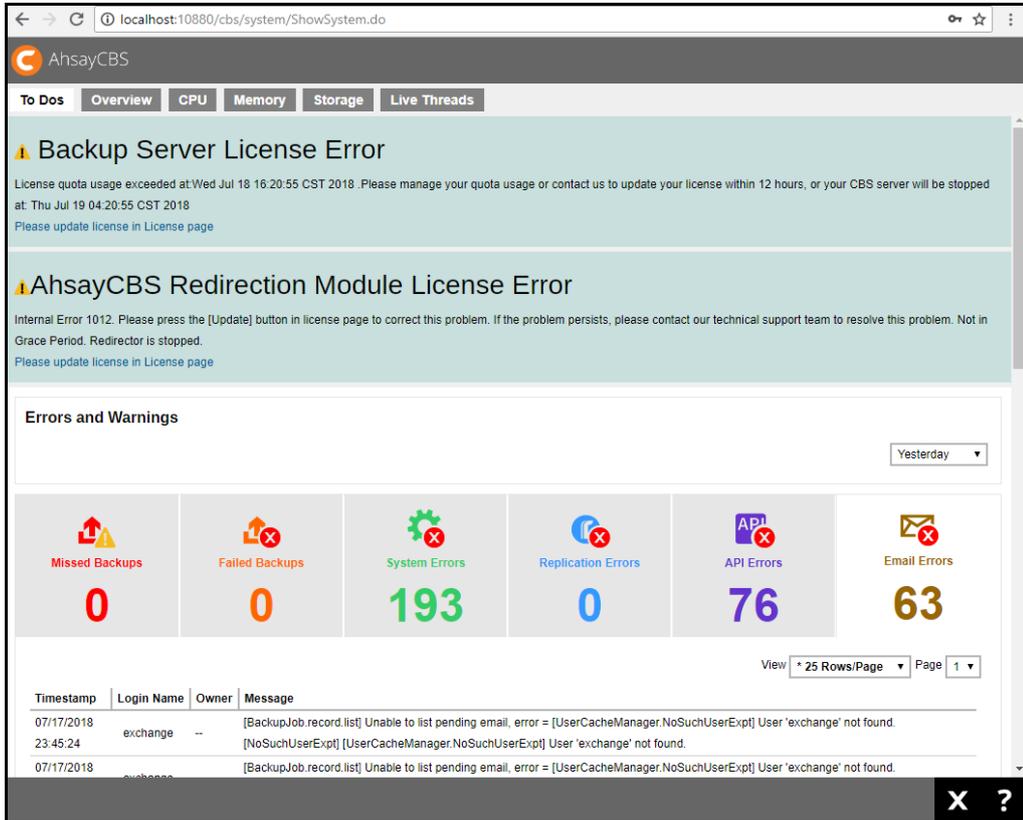
In v8 **VMware** and **Hyper-V** license modules are based on a per guest VM or per CPU socket basis. For existing v6 or v7 **VMware** and **Hyper-V** backup sets using per guest VM licenses, upgrading to v8 will not be affected.

NOTE

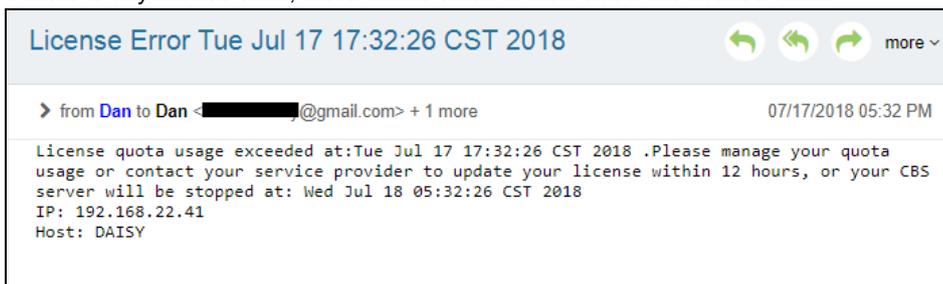
For license to charge by socket, the AhsayOBM has to be in v7.7 or above to work.

4.3.2 Upgrade from AhsayOBS v6 or AhsayCBS v7 to v8.1.0.0 and above

If you upgrade AhsayOBS v6 or AhsayCBS v7 to v8.1.0.0 and above with purchasing AhsayCBS module and the quota exceeded, then there will be a grace period of 12 hours for you to manage the quota usage. If quota usage issue was not solved within grace period, the server will be stopped after the grace period. After login to AhsayCBS system console, the web console will redirect to [To Do] page and the license error will be shown on the top.



If there is any license error, there will be email to alert about the license error.



4.3.3 Extra License for Replication Server

If you are going to replicate the Backup Server to another Replication Server, you need to purchase additional AhsayCBS license module for the replication server. Please refer to the [AhsayCBS v8 Quick Start Guide](#) for further information.

4.3.4 License for Standalone Redirector

Since the AhsayCBS Redirector license does not come with an AhsayCBS module, for a standalone AhsayCBS Redirector, you will need to purchase one extra AhsayCBS license

module with a Backup Server license. Please refer to the [AhsayCBS v8 Quick Start Guide](#) for further information.

4.3.5 License Requirements for Software and Modules

Software	
AhsayCBS	Per running instance
AhsayOBM	Per device to back up
Ahsay Mobile	Per AhsayOBM/AhsayACB account that needs to back up mobile device. Ahsay Mobile licenses are free of charge and each license key has unlimited quota.
AhsayACB	Per device to back up
AhsayUBS	Per installation
Module	
VMware Backup Module	Per Guest VM to back up & Per CPU socket
Hyper-V Backup Module	Per Guest VM to back up & Per CPU socket
Office 365 Backup Module	Per account to back up
MS Exchange Individual Mailbox Backup Module	Per mailbox to back up
OpenDirect / Granular Restore	Per backup set
NAS – Synology/NAS - QNAP Backup Module	Per AhsayOBM account that needs to back up Synology/QNAP NAS device
Replication Module for AhsayOBM	Per device to replicate
Replication Module for AhsayACB	Per device to replicate
Redirection module	Per device to redirect
For more information about License pricing or license requirements for different software and modules, refer to the Pricing Details page. To purchase license directly, visit the Ahsay Shopping Centre site.	

4.4 Automatic License Renewal

If the AhsayCBS is under a monthly leasing plan (meter key), the license key will have an expiry date of 30 days from the current date, the license key is renewed automatically.

In the event of any problems during the license renewal process, i.e. AhsayCBS is not able to connect to the Ahsay License server, the expired license key will have a grace period of 14 days. AhsayCBS can still function normally using the expired license for an extra 14 days before the service is automatically shut down. The 14-day grace period is to allow sufficient time to resolve any license related problems.

For meter key inquiries please contact the Sales team at Ahsay by email at sales-kb@ahsay.com or call our International Sales Hotline +852 3580 8091.

4.5 License Evaluation Expiry

After the evaluation period expires (60 days after activation), the AhsayCBS service will automatically stop working. Although the service is still active, the AhsayOBM and AhsayACB clients will not be able to connect to perform any backups or restores.

If you would like to continue to use AhsayCBS, please contact the Sales team at Ahsay by email at sales-kb@ahsay.com or call our International Sales Hotline +852 3580 8091.

4.6 Offline License Activation

Offline License Activation is used to activate the license keys on AhsayCBS servers that do not have an Internet connection.

Offline license activation is only applicable for OEM license type. Meter, Active Pool and Evaluation keys do not support offline activation.

1. Open the License page of AhsayCBS. The two relevant sections are: **Offline License Request** and **Import License**.

The screenshot shows the AhsayCBS License page. The 'Off-line License Request' section is highlighted with a red box and contains a 'Generate' button. The 'Import License' section contains a 'Choose File' button, a text field showing 'No file chosen', and an 'Off-line Update' button. Below these sections is the 'License Details' section, which contains two tables.

Client Software	Quota	Used	Available
AhsayOBM	100	1	99
AhsayACB	0	0	0

Client Add-on Modules	Quota	Used	Available
Microsoft Exchange Mailbox (Per Mailbox)	1	0	1
Hyper-V / VMware (Per Guest VM)	1	0	1
Hyper-V / VMware (Per Socket)	1	0	1

2. Click the **Generate** button to generate an offline license request file, **req.olr**.
3. The **req.olr** file is an encrypted file that contains all the information required for the activation process, for example, MAC address and local IP address. The system will prompt for the location to save the offline license request file.
4. When the offline license request file is ready, please send it to Ahsay Support team. An offline license file, **license.olr**, will be generated and sent back to you. This file is used to activate offline the license key of your AhsayCBS server.
5. After you have received the offline license file, you would need to import it to the AhsayCBS server to complete the offline activation process.

- Click the **Choose File** button under the **Import License** section to select the offline license file (**license.oir**) from AhsayCBS system home. Click the Off-line Update button to complete the license activation process.

4.7 License Management Portal

The [Ahsay License Management Portal](#) is for partners to:

- Consolidate purchased Backup Server licenses into License Pool(s).
- Flexibly generate and update Backup Server license(s) as requirements change.
- Improve efficiency on use of Backup Server licenses by sharing CALs (Client Access License) in license pool among multiple Backup Server instances.

Pooled License Quota Usage :

License Type	AhsayOBM (Used / Total)	AhsayACB (Used / Total)
SP OEM	54 / 54	37 / 52
SP Standard	0 / 4	0 / 6
Business	0 / 21	0 / 200

License Pools

Name	License Type	Ho. of Pool Key(s)	AhsayOBM	AhsayACB
csv	OEM	3	0	15
NTT	OEM	1	23	1
sss	OEM	0	0	0
sm	SMB	0	0	0
saa	Standard	0	0	0
NewCompany1-Pool	OEM	2	20	20
NewCompany2-Pool	OEM	0	0	0
Rhonia	OEM	0	3	0
RPS-KEY	OEM	1	0	0
Servo-Lic-Pool	OEM	1	0	1

Poolable Licenses

Licensee Name	Product Key	License Type	Free Upgrade Until (yyyy-MM-dd)	AhsayOBM	AhsayACB
---------------	-------------	--------------	---------------------------------	----------	----------

Benefits

- Split / Merge purchased AhsayOBS licenses yourself easily
- Save money by making more efficient use of your existing AhsayOBS licenses by sharing all purchased licenses among different instances of AhsayOBS.
- Sub-license your purchased AhsayOBS licenses to your customers easily
- Manage your license more easily. You are no longer required to re-distribute your licenses between different license keys every now and then because as long as the total licenses used by all AhsayOBS instances don't exceed the total licenses available in a license pool, all AhsayOBS instances won't be considered to have their licenses violated.

Features

- Consolidate purchased AhsayOBS licenses into license pools and use AhsayOBS licenses more efficiently
- Share licenses among different AhsayOBS instances using license pools
- Setup different license pools with different license quota limits to control the use of AhsayOBS licenses under different user requirements

With the Ahsay License Management Portal, partners can place purchased Backup Server licenses (Poolable License) into a pool to be shared among multiple Backup Server instances. This process is called converting Poolable License into Pooled License.

Example:

If you have the following 2 licenses:

- LICENSE001 - 50 ACB and 80 OBM
- LICENSE002 - 20 ACB and 30 OBM

You can put these 2 licenses into a single license pool so that you can generate a new license with a maximum of 70 ACB and 110 OBM license CALs or any number of new licenses within these available license CALs.

For more information about the Ahsay License Management Portal, please refer to the following forum articles and video:

- FAQ: [Ahsay License Management Portal Overview](#)
- FAQ: [How to create a Pool Key from a License Pool](#)
- Video: [How to provision a Pool Key for AhsayCBS backup server](#)

If you would like to continue to use AhsayCBS, please contact the Sales team at Ahsay by email at sales-kb@ahsay.com or call our International Sales Hotline +852 3580 8091.

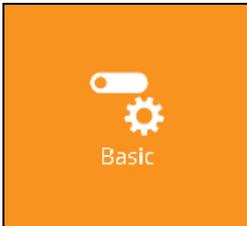
4.8 Active Pool Key

After you applied a pool key on your AhsayCBS server, please make sure your AhsayCBS server has an Internet connection and is able to connect to the Ahsay License Server at (<https://lic.ahsay.com>). **If AhsayCBS service cannot connect to the Ahsay License Server after 14 days, the license key will be deactivated and the AhsayCBS service will be automatically stopped.**

5 System Settings

5.1 Basic Backup Server Configuration

To manage your AhsayCBS basic backup server configurations, simply click the **Basic** icon under **System Settings** from your AhsayCBS environment.



You can perform the following basic configurations on your Backup Server:

- Manage general setup for AhsayCBS
- Manage email settings and general email reports
- Define destinations to store backup or replication data
- Manage Administrator accounts for the MSPs (Managed Service Providers)
- Customize languages available to users on AhsayCBS and User Web Console
- Configure two-factor authentication

There are 6 tabs under basic server configurations, each of which is described below.

5.1.1 General

The following shows the **General** tab under **System Settings > Basic**. It is used for general setup of AhsayCBS. There are several groups of settings under the **General** tab, and they are described below.

A screenshot of the AhsayCBS web interface showing the 'General' tab under 'System Settings > Basic'. The page has a dark header with the AhsayCBS logo and navigation tabs: 'General', 'Email', 'Predefined Destinations', 'Administrative Access', 'Languages', and 'Two-Factor Authentication (2FA)'. The main content area is titled 'Configure the basic settings for this server below.' and contains several sections: 'Host' with a 'Host Name' field; 'System Home' with a 'System home directory' field containing 'C:\Program Files\AhsayCBS\system'; 'Connectors' with a table of settings; and 'SSL Certificate' at the bottom.

<input type="checkbox"/>	IP	Port	Protocol	Max Threads	Max Connection	Connection Timeout	Connection Upload Timeout	Max Keep Alive Request	Socket Receive Buf
<input type="checkbox"/>	0.0.0.0	80	HTTP - NIO	200	10000	30000	900000	9999	25188
<input type="checkbox"/>	0.0.0.0	443	HTTPS - NIO	200	10000	30000	900000	9999	25188

Host

Host ?

Host Name

This is the host name of your AhsayCBS. You can enter the domain name of your AhsayCBS in the format:

<www.mybackup.com:port_number>

-OR-

<IP:port_number>

IMPORTANT

- The "port_number" is only needed for non-conventional ports and can be omitted for the usual ports, such as 80 and 443.
- The host name will be the access link for your users to get access to the AhsayCBS. Since the host name will be used in various locations, such as inside welcome email as a reference point for the users to access the AhsayCBS, inside email as a reference link for the users to recover password, users applying Run Direct restore feature, it is important that you ensure the host name is accessible by users from external network environment.

System Home

This is the system home location of your AhsayCBS. This path is set to your installation home by default.

Example: System Home for Windows

System Home ?

System home directory

Example: System Home for Linux / FreeBSD

System Home ?

System home directory

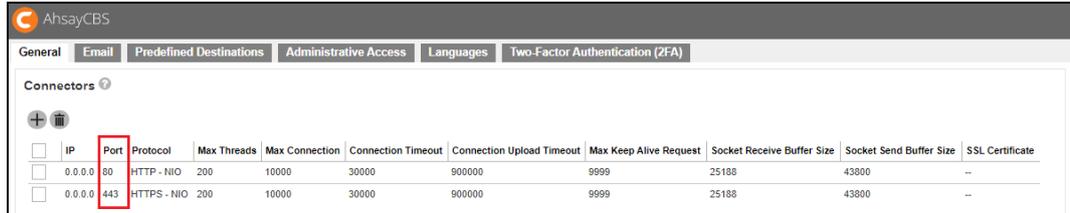
Example: System Home for AhsayUBS

System Home ?

System home directory

Listening to non-standard TCP/IP Port

If you like to run your own web server, or some other services using port 80 and 443. On your AhsayCBS server, you can change the listening TCP/IP port of AhsayCBS from port 80 and 443 to some other port numbers such as port 8080 and 8443, you can modify the connector settings from the AhsayCBS management console -> **System Settings** -> **Basic** -> **General** -> **Connectors**, and modify your new port in the connector settings. If you do this, it can affect how your clients connect to AhsayCBS. You will also may need to open appropriate firewall to allow the connection.



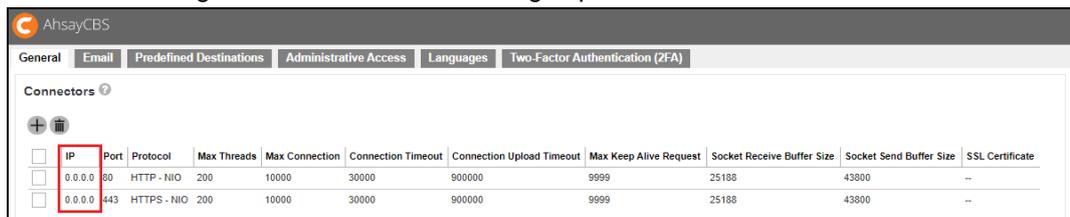
IP	Port	Protocol	Max Threads	Max Connection	Connection Timeout	Connection Upload Timeout	Max Keep Alive Request	Socket Receive Buffer Size	Socket Send Buffer Size	SSL Certificate	
<input type="checkbox"/>	0.0.0.0	80	HTTP - NIO	200	10000	30000	900000	9999	25188	43800	--
<input type="checkbox"/>	0.0.0.0	443	HTTPS - NIO	200	10000	30000	900000	9999	25188	43800	--

NOTE

Starting with AhsayCBS v8.5.0.0 or above, the port range 8081 to 9080 can be used by the connector dedicated for agentless Office 365 and Cloud File backup. For more information on this, please refer to [Chapter 1.5](#).

Listening to a single IP address

If the backup server has more than one network interface installed or has more than one IP address bind to a single network interface, you can configure AhsayCBS to use only a single IP address for backup services (by default the TCP port of all IP addresses available within the system are used and open). This has the benefits of sparing other IP addresses for other applications, e.g. Apache Web Server or Microsoft Internet Information Server (IIS). You can modify the connector setting from the AhsayCBS management console -> **System Settings** -> **Basic** -> **General** -> **Connectors**, and modify the IP address in the connector settings. This is the default settings upon fresh installation of v8.3 or above.



IP	Port	Protocol	Max Threads	Max Connection	Connection Timeout	Connection Upload Timeout	Max Keep Alive Request	Socket Receive Buffer Size	Socket Send Buffer Size	SSL Certificate	
<input type="checkbox"/>	0.0.0.0	80	HTTP - NIO	200	10000	30000	900000	9999	25188	43800	--
<input type="checkbox"/>	0.0.0.0	443	HTTPS - NIO	200	10000	30000	900000	9999	25188	43800	--

Starting from AhsayCBS v8.1 and above, a new protocol has been added which is AJP – APR. AJP is an optimized binary version of HTTP that is used to allow Tomcat to communicate with an Apache web server. It maintains permanent connection between servers to reduce the time it takes to establish a connection. It is dedicated to a particular request and then maintained for the next request to be tunneled down, rather than each session causing a session to be created and broken. While the HTTP – NIO/HTTPS – NIO

are used to support a higher number of concurrent connections to the AhsayCBS server.

Edit Web Server Setting

Edit web server settings below for your users to access this server.

Web Server

IP

Port

Protocol

Connection Timeout

Max Keep Alive Request

WARNING

Do not remove the last HTTPS connector in the AhsayCBS. If you remove the last HTTPS connector, you will not be able to login to AhsayCBS again.

It is advisable to create another connector to be used to access the AhsayCBS web console to avoid a slow connection. To create another connector:

1. Click on the  button.

Connectors 											
<input type="checkbox"/>	IP	Port	Protocol	Max Threads	Max Connection	Connection Timeout	Connection Upload Timeout	Max Keep Alive Request	Socket Receive Buffer Size	Socket Send Buffer Size	SSL Certificate
<input type="checkbox"/>	0.0.0.0	80	HTTP - NIO	200	10000	30000	900000	9999	25188	43800	--
<input type="checkbox"/>	0.0.0.0	443	HTTPS - NIO	200	10000	30000	900000	9999	25188	43800	--

2. Enter the IP and Port.

Add New Web Server Setting

Add a new set of web server settings below for your users to access this server.

Web Server

IP

Port

Protocol

Max Threads

Max Connection

Connection Timeout

Connection Upload Timeout

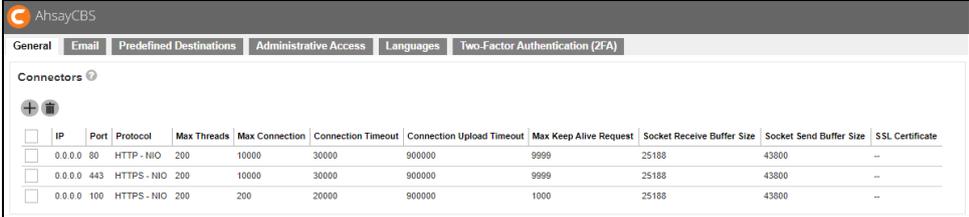
Max Keep Alive Request

Socket Receive Buffer Size

Socket Send Buffer Size

3. Select the Protocol.
4. Change the following if needed:
 - Max Threads, default value is 200
 - Max Connection, default value is 10000
 - Connection Timeout, default value is 30000
 - Connection Upload Timeout, default value is 900000
 - Max Keep Alive Request, default value is 1000
 - Socket Receive Buffer Size, default value is 25188
 - Socket Send Buffer Size, default value is 43800

- Click **OK** once done.
- Click  at the bottom right corner to save the settings.



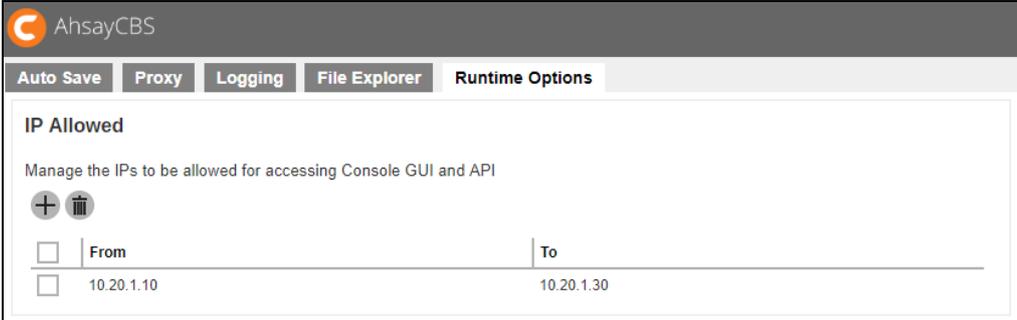
<input type="checkbox"/>	IP	Port	Protocol	Max Threads	Max Connection	Connection Timeout	Connection Upload Timeout	Max Keep Alive Request	Socket Receive Buffer Size	Socket Send Buffer Size	SSL Certificate
<input type="checkbox"/>	0.0.0.0	80	HTTP - NIO	200	10000	30000	900000	9999	25188	43800	--
<input type="checkbox"/>	0.0.0.0	443	HTTPS - NIO	200	10000	30000	900000	9999	25188	43800	--
<input type="checkbox"/>	0.0.0.0	100	HTTPS - NIO	200	20000	20000	900000	1000	25188	43800	--

NOTE

It may be advisable to increase the Max Connection to ensure that concurrent connections will be supported if your backup server runs a lot of concurrent backups daily, however setting a high value may increase the load on the server and result in performance issues.

Restricting access to system page by IP address

For better security, you can restrict access to the AhsayCBS management console by IP addresses. To do so, please add IP restriction in your AhsayCBS management console -> **System Settings -> Advanced -> Runtime Options -> IP Allowed**. You can enter a range of IPs or a specific IP in the IP Allowed settings.



<input type="checkbox"/>	From	To
<input type="checkbox"/>	10.20.1.10	10.20.1.30

Installing a trusted SSL certificate

Default installation of AhsayCBS enables SSL (Secure Socket Layer) support using a dummy certificate. For your own security, you are advised to replace the pre-installed dummy SSL certificate with a secure SSL certificate from a trusted CA (Certificate Authority). For details please refer to the following article [FAQ: Trusted Certificate Authority \(CA\) List for version 8.x](#).

Furthermore, to use Two-Factor Authentication with https protocol, a valid SSL certificate from a trusted CA must be installed on AhsayCBS. Otherwise, you will have to use http instead which means all AhsayOBM/AhsayACB users with Two-Factor Authentication enabled will need to connect using http as well.

Please note that only **RSA SSL certificate** is supported. To replace the non-secure dummy SSL certificate with a secure SSL certificate, you need to generate a CSR (Certificate Signing Request) and submit the CSR to your CA. Please perform the following in your AhsayCBS.

SSL Certificate Installation Service

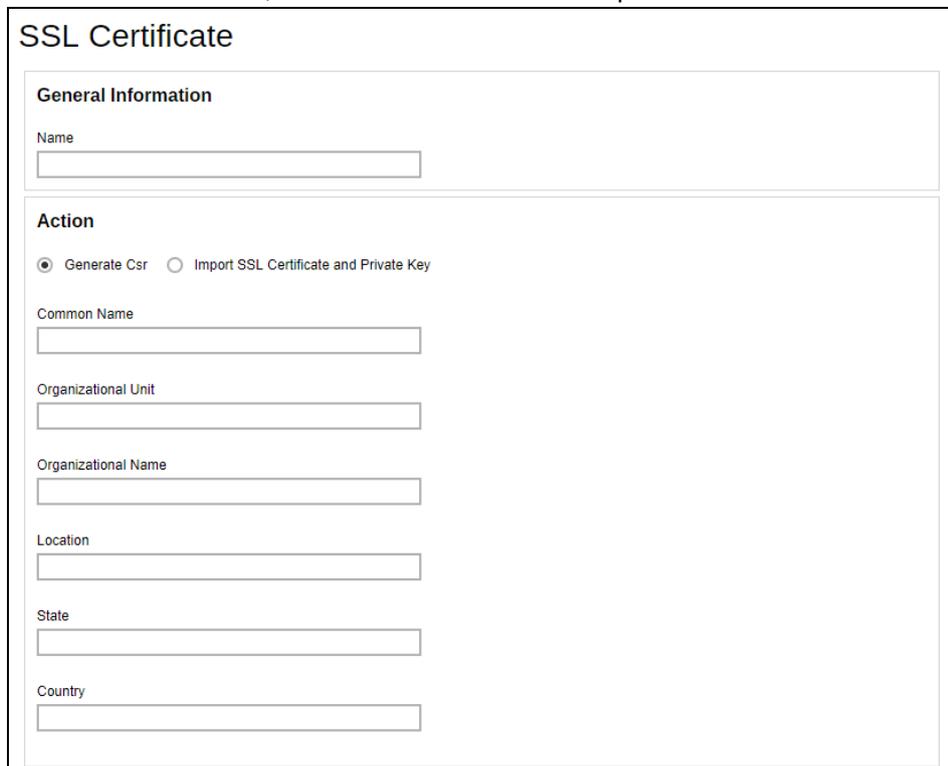
Let our professional customer service team help you with the SSL certificate purchase and installation. Click [here](#) to visit the Ahsay Shopping Centre for subscription.

1. Navigate to **System Settings -> Basic -> General -> SSL certificate**, click on .



The screenshot shows the AhsayCBS System Settings interface. The top navigation bar includes 'General', 'Email', 'Predefined Destinations', 'Administrative Access', 'Languages', and 'Two-Factor Authentication (2FA)'. The 'General' tab is selected, and the 'SSL Certificate' section is active. Below the tab, there are '+', '-', and 'x' icons. A table with columns for Name, Common Name, Organization Unit, Organization Name, Location, State, Country, Expiry Date, and Status is visible.

2. Enter the CSR details, then click the Next button to proceed.



The screenshot shows the 'SSL Certificate' configuration form. It is divided into two main sections: 'General Information' and 'Action'. The 'General Information' section contains a 'Name' field. The 'Action' section contains two radio buttons: 'Generate Csr' (selected) and 'Import SSL Certificate and Private Key'. Below the radio buttons are several text input fields: 'Common Name', 'Organizational Unit', 'Organizational Name', 'Location', 'State', and 'Country'.

3. Generate a CSR to apply the SSL certificate from your trusted CA.

If the ssl and ca certificate are not ready yet, please click "ok" button. At this time, the record will be marked as pending. The certificates will be imported once the certificates are ready.

General Information

Name

CSR ?

```
-----BEGIN CERTIFICATE REQUEST-----
MIICkzCCAXsCAQAwTjELMAkGA1UEAwYwYXNz
AmFhMQswCQYDVQQK
DAJhYXNzCAQAwTjELMAkGA1UEAwYwYXNz
YDVQQGEwJhYXNz
DQYJKoZIhvcNAQEBBQADggEPADCCAQoCggEB
EWEINQyR9aPCBH
5AUxjDqKguZSBcH20T.xmp9UDA5RrcT9ITTz
mY.JOCr4p17Ylp/tr30q
S6glzsUuH
GheGDylJXcPu1B/XDF6Ws3RfC1gPZFGxP
Gn8V+hHDeBabaCvc/Pw
nCKd/hslIVCs
9lvGyXqCvsDrlKJpGrbU8epoa1DTwqqc
svIG8JvTh+kjsL8nbOFYFfWw/
Q/xAC2
fux44H120nj5CHyGwR6B+YhFTmxmTn
QKIV4khrDiyK+L5Ai05SRJ
```

SSL Certificate ?

CA Certificate ?

Subject	Issuer	Valid From	Valid Until

4. You will see a **Pending** status in the SSL Certificate page.

AhsayCBS

General | Email | Predefined Destinations | Administrative Access | Languages | Two-Factor Authentication (2FA)

SSL Certificate ?

<input type="checkbox"/>	Name	Common Name	Organization Unit	Organization Name	Location	State	Country	Expiry Date	Status
<input type="checkbox"/>	newSSL	newSSL	Information System Department	Ahsay System Corporation Limited		CN	CN	--	Pending

5. When the SSL certificate is ready, click into the certificate entry and import the SSL certificate and CA certificate.

SSL Certificate ?

CA Certificate ?

Subject	Issuer	Valid From	Valid Until

6. You will be able to see the status of the certificate as **Ready** and a valid **Expiry Date**.

AhsayCBS

General | Email | Predefined Destinations | Administrative Access | Languages | Two-Factor Authentication (2FA)

SSL Certificate ?

<input type="checkbox"/>	Name	Common Name	Organization Unit	Organization Name	Location	State	Country	Expiry Date	Status
<input type="checkbox"/>	newSSL	newSSL	Information System Department	Ahsay System Corporation Limited		CN	CN	01/03/2024	Ready

7. To apply the SSL certificate to your connector, click into the HTTPS entry.

AhsayCBS

General | Email | Predefined Destinations | Administrative Access | Languages | Two-Factor Authentication (2FA)

Connectors ?

<input type="checkbox"/>	IP	Port	Protocol	Max Threads	Max Connection	Connection Timeout	Connection Upload Timeout	Max Keep Alive Request	Socket Receive Buffer Size	Socket Send Buffer Size	SSL Certificate
<input type="checkbox"/>	0.0.0.0	80	HTTP - NIO	200	10000	30000	900000	9999	25188	43800	--
<input checked="" type="checkbox"/>	0.0.0.0	443	HTTPS - NIO	200	10000	30000	900000	9999	25188	43800	--

SSL Certificate ?

<input type="checkbox"/>	Name	Common Name	Organization Unit	Organization Name	Location	State	Country	Expiry Date	Status
<input type="checkbox"/>	newSSL	newSSL	Information System Department	Ahsay System Corporation Limited		CN	CN	01/03/2024	Ready

8. Add the **SSL certificate** to this connector as shown below.

Edit Web Server Setting

Edit web server settings below for your users to access this server.

Web Server

IP
0.0.0.0

Port
443

Protocol
HTTPS - NIO

Max Threads
200

Max Connection
10000

Connection Timeout
30000

Connection Upload Timeout
900000

Max Keep Alive Request
9999

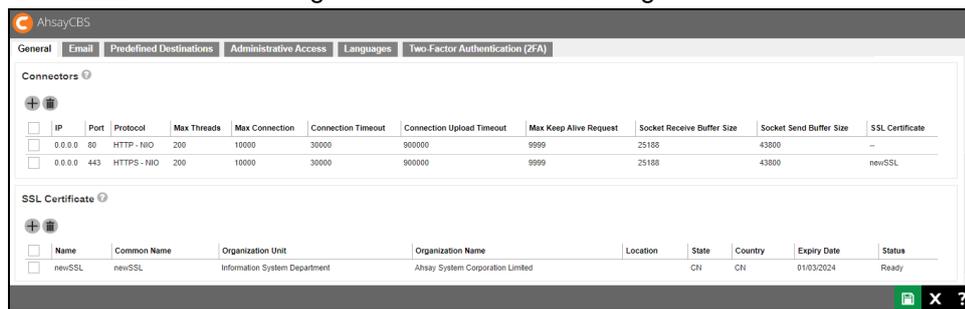
Socket Receive Buffer Size
25188

Socket Send Buffer Size
43800

SSL Certificate
newSSL

Default SSL Certificate
newSSL

- Click  at the bottom right corner to save the settings.



Renew a trusted SSL certificate

When your SSL certificate is due to expire, you can renew your SSL cert via your CA's website. Your CA may ask you to use the existing CSR that you submitted previously or submit a new CSR.

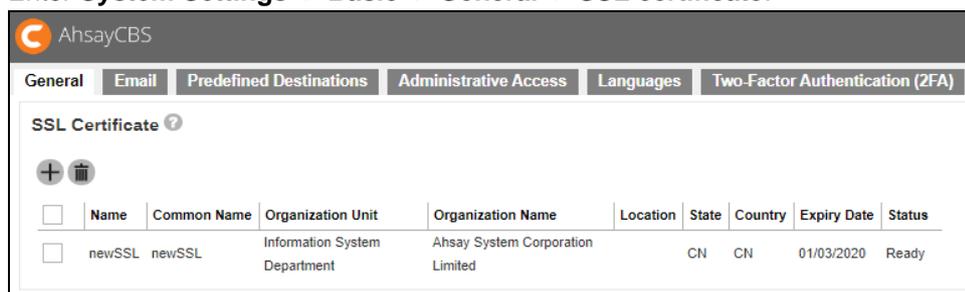
- If you decided to use a new CSR, most likely the information on the old CSR is not up-to-date. Most CA will not consider this as a renew process and you need to start from the beginning of a certificate process described in previous section.
- If you purchase a renew SSL certificate with the existing CSR, wait for your CA to sign the renew SSL certificate.

NOTE

The renewal process may be different for different CA. You need to follow your CA's instruction on the renewal process.

The import step of a renewed SSL certificate is similar to the installation of a SSL certificate. Please perform the following in your AhsayCBS.

- Enter **System Settings -> Basic -> General -> SSL certificate**.



- Click into the certificate entry.

3. Import the SSL certificate and CA certificate.

SSL Certificate ?

Upload

Subject	Issuer	Valid From	Valid Until
C=CN,ST=Hong Kong SAR,O=Ahsay System Corporation Limited,OU=Information System Department,CN=Not Secure,E=ca@ahsay.com	C=CN,ST=Hong Kong (SAR),L=Hong Kong,O=Ahsay System Corporation Limited,OU=Information System Department,CN=Ahsay System Corporation Limited,E=ca@ahsay.com	09/27/2017	01/03/2020

CA Certificate ?

Upload

Subject	Issuer	Valid From	Valid Until
C=CN,ST=Hong Kong (SAR),L=Hong Kong,O=Ahsay System Corporation Limited,OU=Information System Department,CN=Ahsay System Corporation Limited,E=ca@ahsay.com	C=CN,ST=Hong Kong (SAR),L=Hong Kong,O=Ahsay System Corporation Limited,OU=Information System Department,CN=Ahsay System Corporation Limited,E=ca@ahsay.com	04/04/2014	04/01/2024

4. You will see the date of "Expiry Date" is extended.

C AhsayCBS

General
Email
Predefined Destinations
Administrative Access
Languages
Two-Factor Authentication (2FA)

SSL Certificate ?

+
-

<input type="checkbox"/>	Name	Common Name	Organization Unit	Organization Name	Location	State	Country	Expiry Date	Status
<input type="checkbox"/>	newSSL	newSSL	Information System Department	Ahsay System Corporation Limited			CN CN	01/03/2024	Ready

Wild card SSL certificate with redirector setup

In the Redirector with a number of Backup Servers setup scenario, you need to apply a wild card certificate for all your AhsayCBS servers. The application of the wild card certificate is the same as a normal certificate except the common name needs to enter *.backup.com instead. To apply a wild card certificate for all your AhsayCBS servers, please perform the following:

1. In the AhsayCBS with the Redirector role, enter **System Settings -> Basic -> General -> SSL certificate**.
2. Generate a CSR with the common name set to, for example ***.mybackup.com**, and apply the SSL certificate from your trusted CA.

SSL Certificate

General Information

Name

Action

Generate Csr
 Import SSL Certificate and Private Key

Common Name

- When the SSL certificate is ready, import the SSL certificate.
- Copy the SSL certificate, private key and the CA certificate file from your AhsayCBS_HOME/conf/cert folder and transfer to your AhsayCBS with Backup Server role. They are named similar as the following:

E.g.:

1449049185371.crt
 1449049185371.key
 1449049185371.ca

- Import these 3 certificate files in one of your AhsayCBS (Backup Server role) in the **System Settings -> Basic -> General -> SSL certificate**, click on the + button.
- Select the **Import SSL Certificate and Private Key** radio button. Select the **Type** and then import the SSL Private Key, SSL certificate and the CA certificate.

- To apply the SSL certificate to your connector, click into the HTTPS entry.

IP	Port	Protocol	Max Threads	Max Connection	Connection Timeout	Connection Upload Timeout	Max Keep Alive Request	Socket Receive Buffer Size	Socket Send Buffer Size	SSL Certificate
0.0.0.0	80	HTTP-NIO	200	10000	30000	900000	9999	25168	43800	--
0.0.0.0	443	HTTPS-NIO	200	10000	30000	900000	9999	25168	43800	--

Name	Common Name	Organization Unit	Organization Name	Location	State	Country	Expiry Date	Status
*mybackup.com	*mybackup.com	Information System Department	Ahsay System Corporation Limited			CN	01/03/2024	Ready

- Add the SSL certificate to this connector.

Edit Web Server Setting

Edit web server settings below for your users to access this server.

Web Server

IP
0.0.0.0

Port
443

Protocol
HTTPS - NIO

Max Threads
200

Max Connection
10000

Connection Timeout
30000

Connection Upload Timeout
900000

Max Keep Alive Request
9999

Socket Receive Buffer Size
25188

Socket Send Buffer Size
43800

SSL Certificate
*mybackup.com
Default SSL Certificate
*mybackup.com

✓ X ?

- Click  at the bottom right corner to save the settings.

AhsayCBS

General | Email | Predefined Destinations | Administrative Access | Languages | Two-Factor Authentication (2FA)

Connectors

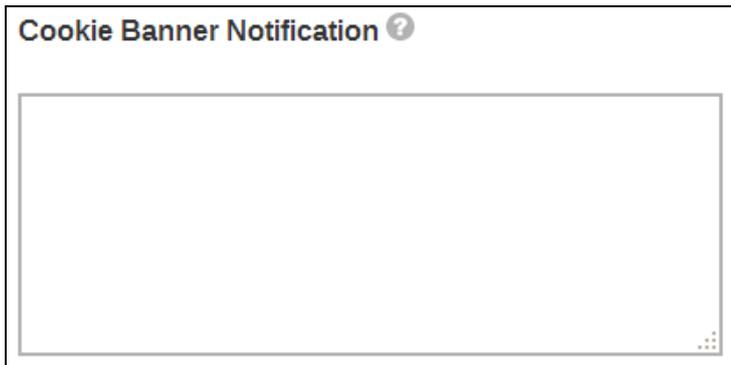
<input type="checkbox"/>	IP	Port	Protocol	Max Threads	Max Connection	Connection Timeout	Connection Upload Timeout	Max Keep Alive Request	Socket Receive Buffer Size	Socket Send Buffer Size	SSL Certificate
<input type="checkbox"/>	0.0.0.0	80	HTTP - NIO	200	10000	30000	900000	9999	25188	43800	--
<input type="checkbox"/>	0.0.0.0	443	HTTPS - NIO	200	10000	30000	900000	9999	25188	43800	*mybackup.com

SSL Certificate

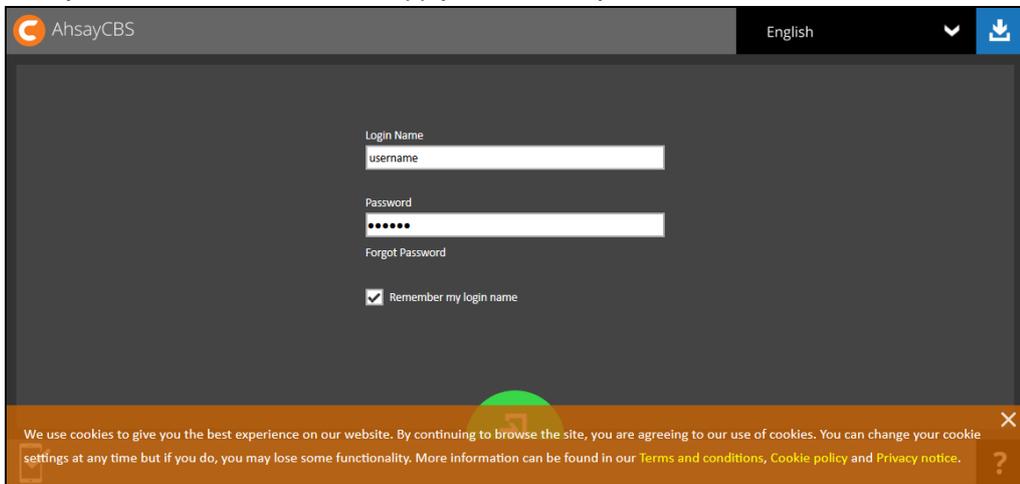
<input type="checkbox"/>	Name	Common Name	Organization Unit	Organization Name	Location	State	Country	Expiry Date	Status
<input type="checkbox"/>	*mybackup.com	*mybackup.com	Information System Department	Ahsay System Corporation Limited			CN	01/03/2024	Ready

Save X ?

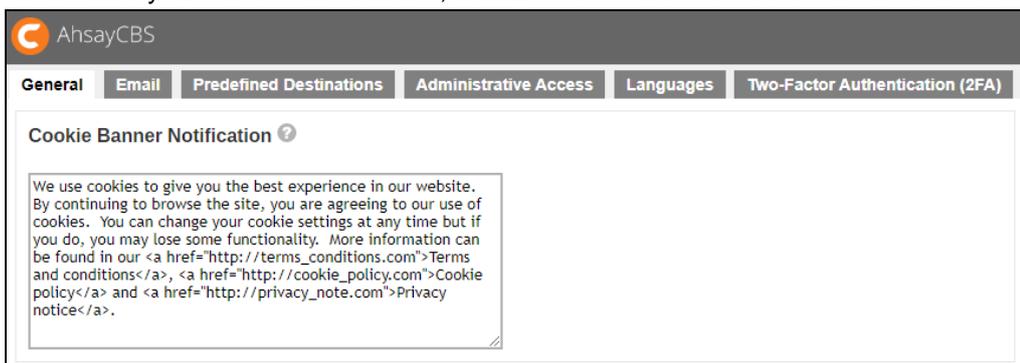
Cookie Banner Notification



To comply with the new [General Data Protection Regulation \(GDPR\)](#) requirements, there will display a banner stating the organizations cookie policy when processing to login AhsayCBS server. This will also apply to the AhsayCBS web console.



Administrator can configure a notification banner to be displayed on the AhsayCBS web console (displayed at the login interface), and the contents of the banner can be configured on the AhsayCBS web console. Also, HTML codes can be used for content of the banner.



5.1.2 Email

The following shows the **Email** tab under **System Settings > Basic**. This is used for defining the various email settings that AhsayCBS uses to generate email reports to backup system administrator and backup users.

There are several groups of settings under the **Email** tab, and they are listed below.

Section	Description
SMTP Server	<p>Multiple SMTP servers can be setup for AhsayCBS. If the first SMTP server is unavailable, the next SMTP server will be used. To avoid your report emails being filtered by the SMTP server or mail client, you need to enter a valid report sender in the email settings.</p> <p>Note: If you don't have an SMTP server, you can consider using a free SMTP such as Gmail. AhsayCBS supports SMTP servers which use either TLS v1.0, v1.1 or v1.2.</p>
Administrator Contact	<p>This entry defines the administrative contact of AhsayCBS. AhsayCBS will send usage, error and all critical system alerts to all email addresses defined here.</p>
Report Settings	<p>This setting allows the AhsayCBS administrator to define the threshold for email reminder / alert low disk space on AhsayCBS and backup destinations. The default settings are 80% and 90% respectively:</p> <ul style="list-style-type: none"> ➤ Low Disk Space Reminder / Alert Report for AhsayCBS user home and system home drives:

	<p>Send Low Disk Space Reminder when total used space is over 80%. Send Low Disk Space Alert Report when total used space is over 90%.</p> <p>A Low Disk Space Reminder email is sent to the administrator 15 minutes after the disk usage has exceeded the preset threshold.</p> <p>A Low Disk Space Alert email is sent to the administrator every 15 minutes when the disk usage has exceeded the preset threshold.</p> <p>➤ Low Destination Space Reminder / Alert Report for OneDrive and Google Drive destinations only.</p> <p>Send Low Destination Space Reminder when total destination space is over 80% Send Low Destination Alert Report when total destination space is over 90%</p> <p>A Low Destination Space Reminder email is sent to the administrator at 6:00 AM daily when the destination disk usage has exceeded the preset threshold.</p> <p>A Low Destination Alert email is sent to the administrator at 6:00 AM daily when the destination disk usage has exceeded the preset threshold.</p> <p>➤ Consolidated Report</p> <p>A Consolidated Report email is sent to the administrator at 6:00 AM daily.</p>
--	--

5.1.3 Predefined Destinations Tab

The following shows the **Predefined Destinations** tab under **System Settings > Basic**. Predefined destination defines a list of local destinations, FTP or cloud storages in which the AhsayCBS server, users and sub admin can use to store backup data. Predefined destination makes it easy to add extra cloud storage for current or new client and also makes the backup destination redundancy in cloud storage to double the stability. Predefined Destination can also be used to customize frequently used backup destination as visible optional destination choice for backup sets.

Predefined destination can also be used to replicate the AhsayCBS database and backup data to cloud destination which ensures single failure of AhsayCBS database won't

influence the subsequent backup and restore jobs.



You can set predefined destination on the following destination storage:

- ▶ Local / Mapped Drive / Network Drive / Removable Drive
- ▶ CTYun
- ▶ AWS S3 Compatible Cloud Storage
- ▶ Backblaze
- ▶ Google Drive
- ▶ OneDrive
- ▶ Rackspace
- ▶ Dropbox
- ▶ SFTP
- ▶ AhsayCBS Receiver
- ▶ 阿里云
- ▶ Amazon S3
- ▶ Wasabi
- ▶ Google Cloud Storage
- ▶ Microsoft Azure
- ▶ OneDrive for Business
- ▶ Open Stack
- ▶ FTP
- ▶ AhsayCBS

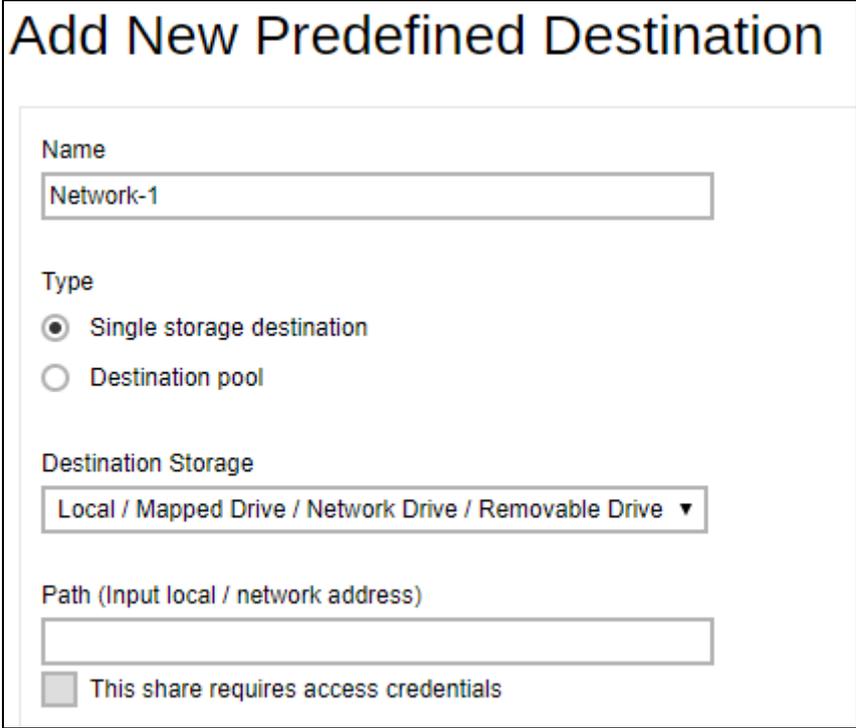
NOTE

Admin user can determine the predefined destination available to each Sub Admin type user. You can refer to the section on Manage System User ([System Settings > Basic > Administrative Access > %system user%> Backup User Settings > Destination](#)) for details.

Set up predefined destination on Local / Mapped Drive / Network Drive / Removable Drive

AhsayCBS allows setting a backup destination on local hard drive, mapped drive, network drive and removable drive. The setup method is similar for the different drives. In the following example, we show you how to set up a predefined destination for **Network Drive**. The steps for other destination storages are similar.

1. Click  to add a predefined destination. The following screen appears:

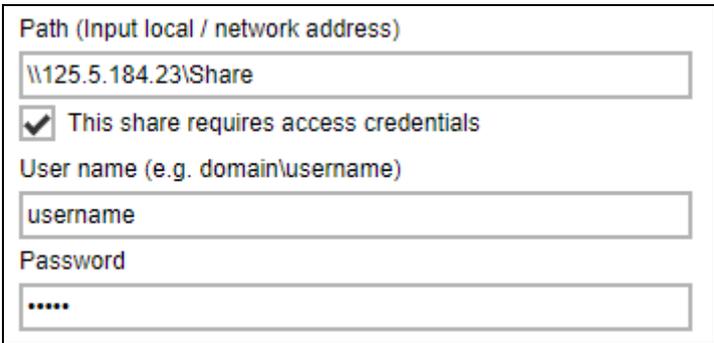


2. Enter the name of the backup destination. In our example, the name is **Network-1**.
3. Select **Single storage destination** as the type of predefined destination.

NOTE

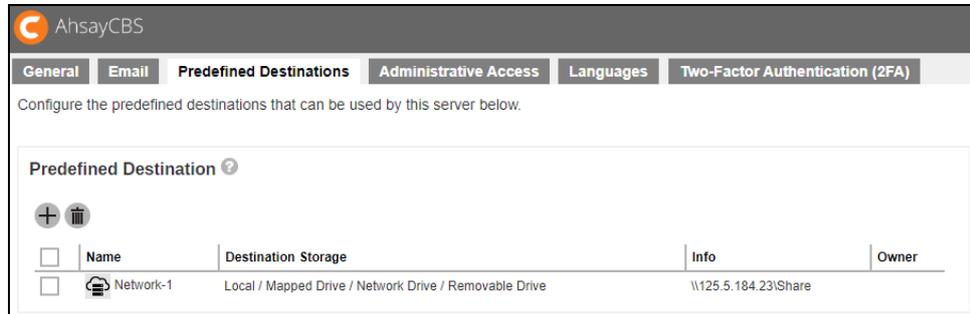
The option Destination pool is defined from a number of single storage destination.

4. Select **Local / Mapped Drive / Network Drive / Removable Drive** from the **Destination Storage** dropdown box.
5. Enter the path of the drive.



6. The **This share requires access credentials** check box will be enabled once a network address is detected. Check the box if access credentials are required to connect to the network drive.
7. Enter the **User name** and **Password**.

- Click  to continue.
- You can see the newly created predefined storage **Network-1** appears under the **Predefined Destination** page.



- Click  to confirm. When you create a backup set for a user, you will be able to see the new predefined destination.

Set up predefined destination on cloud storage

AhsayCBS allows setting a backup destination on some common cloud storage, local hard disk and FTP servers. The setup method is similar on different cloud storage. In the following example, we show you how to set up a predefined destination for **Google Drive**. The steps for other destination storages are similar.

- Click  to add a predefined destination. The following screen appears:

The screenshot shows the 'Add New Predefined Destination' form. The fields are filled as follows:

- Name:** GoogleDrive-1
- Type:** Single storage destination, Destination pool
- Destination Storage:** Google Drive (selected from a dropdown menu)
- Test:** A button is present below the dropdown.
- Link:** A blue link 'Sign up for Google Drive' is at the bottom.

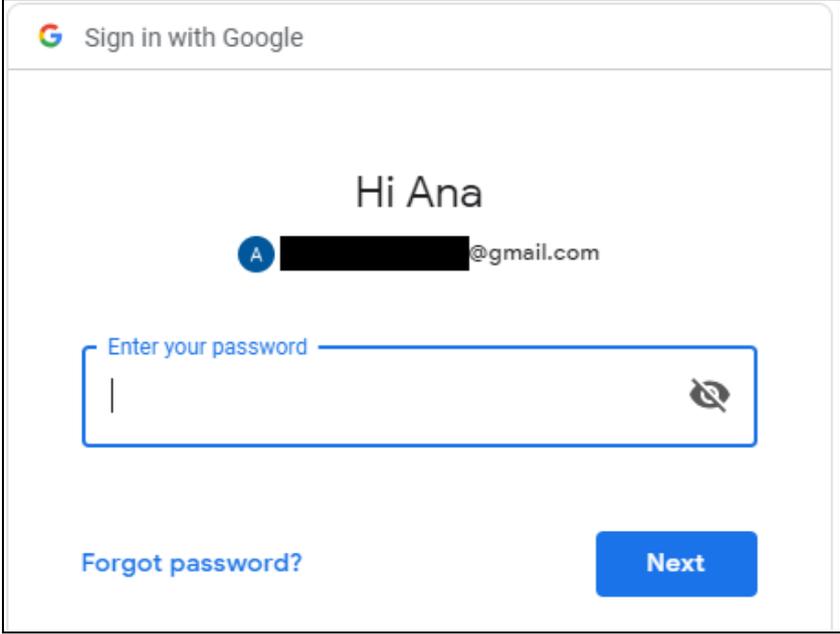
- Enter the name of the backup destination. In our example, the name is **GoogleDrive-1**.

3. Select **Single storage destination** as the type of predefined destination.

NOTE

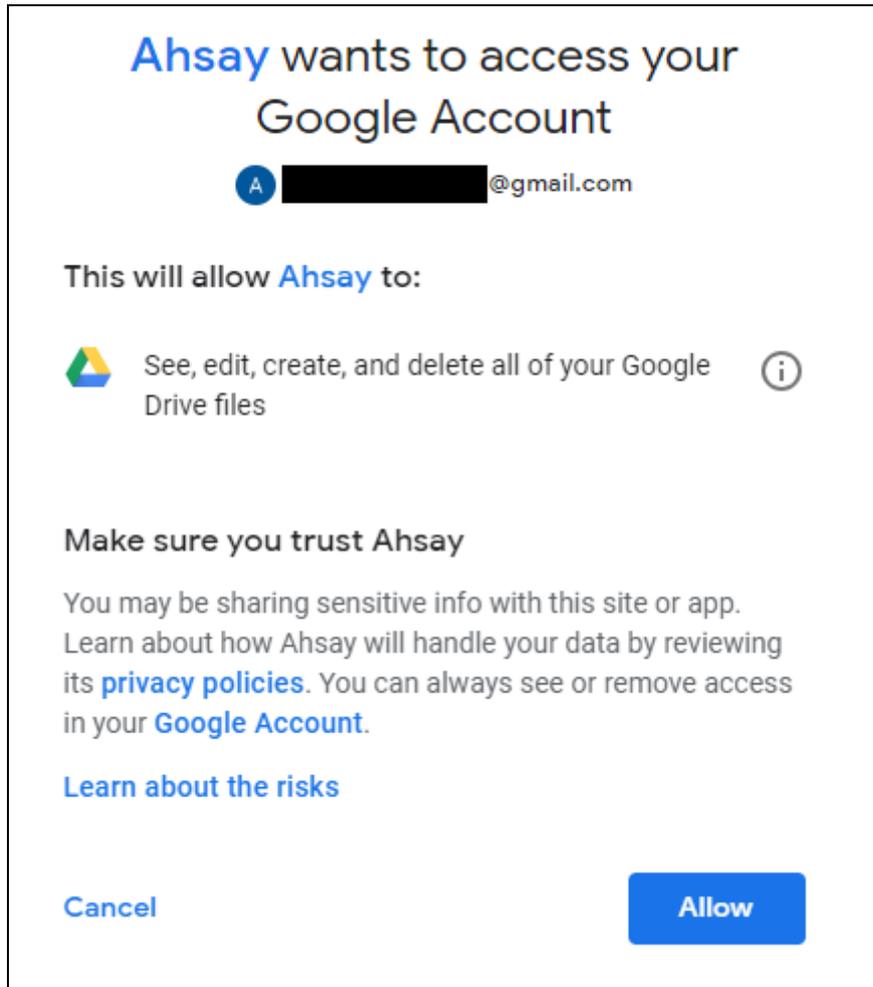
The option Destination pool is defined from a number of single storage destination.

4. Select **Google Drive** from the **Destination Storage** dropdown box.
5. If you do not have Google Drive, please click the link **Sign up for Google Drive** to create a Google account.
6. Click “Test” to continue. AhsayCBS will forward to Google Drive page.
7. Enter your login credential for Google Drive.

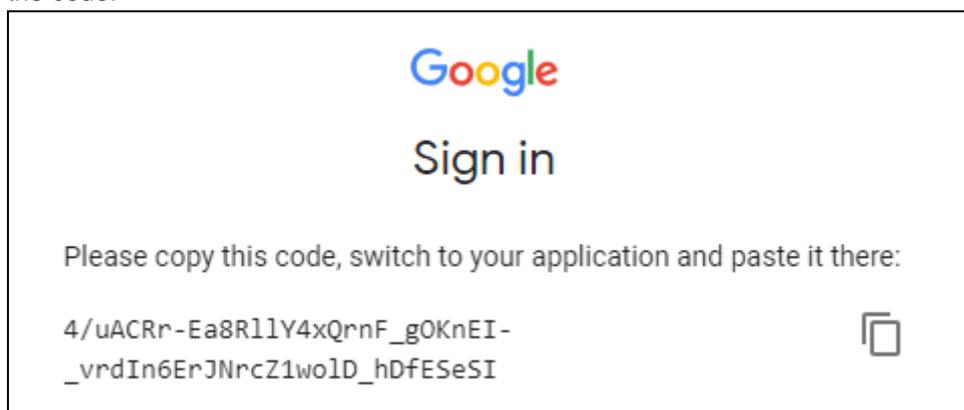


The screenshot shows a Google sign-in interface. At the top, it says "Sign in with Google". Below that, it greets the user with "Hi Ana" and shows a profile picture placeholder with the letter 'A' and an email address ending in "@gmail.com". There is a password input field with the placeholder text "Enter your password" and a toggle icon for visibility. At the bottom, there is a link for "Forgot password?" and a blue "Next" button.

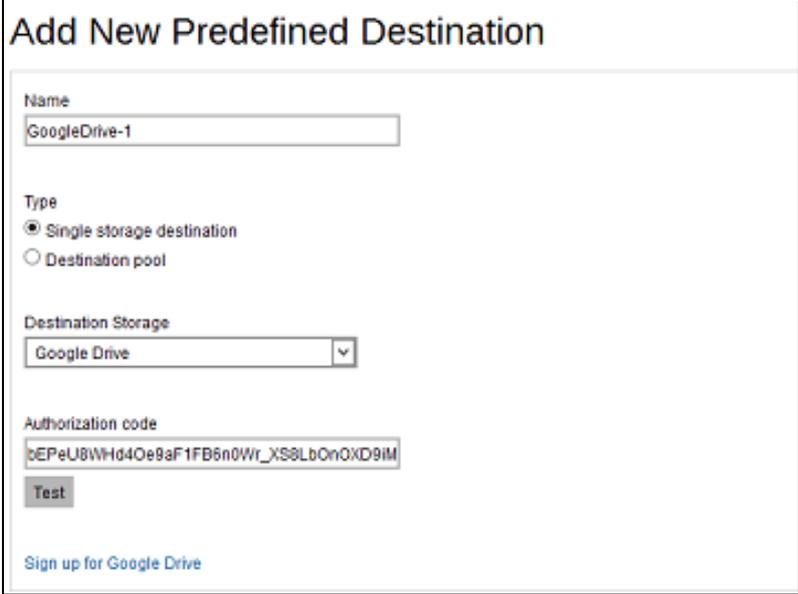
8. A browser pops up and Google asks for your permission to access the storage. Click **Allow**.



9. On the browser, a code is displayed. Copy this code, then switch to AhsayCBS to paste the code.



10. Paste the code to the **Authorization code** field on the **Add New Predefined Destination** page in AhsayCBS. Click  to continue.



Add New Predefined Destination

Name
GoogleDrive-1

Type
 Single storage destination
 Destination pool

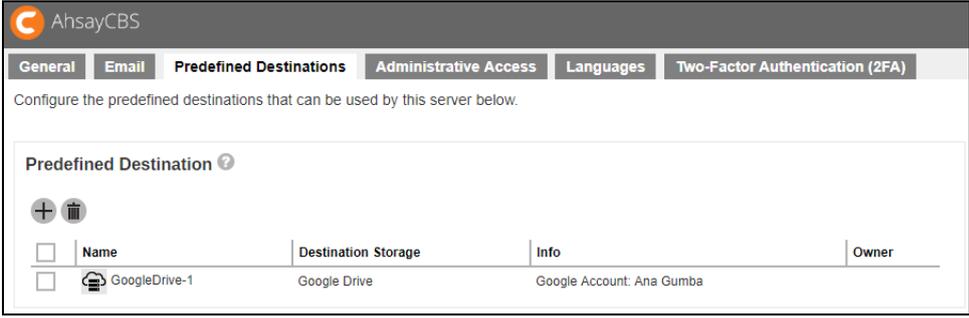
Destination Storage
Google Drive

Authorization code
bEPeU8WHd4Oe9aF1FB6n0Wr_XS8LbOnOXD9IM

Test

[Sign up for Google Drive](#)

11. You can see the newly created predefined storage **GoogleDrive-1** appears under the **Predefined Destination** page.



AhsayCBS

General | Email | **Predefined Destinations** | Administrative Access | Languages | Two-Factor Authentication (2FA)

Configure the predefined destinations that can be used by this server below.

Predefined Destination ?

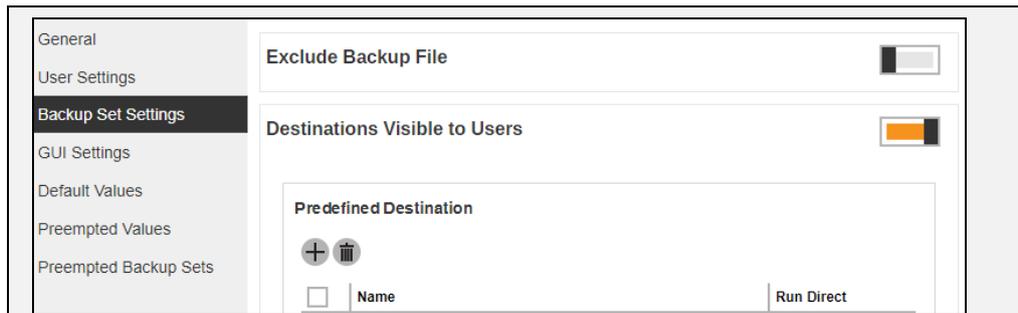
+ -

<input type="checkbox"/>	Name	Destination Storage	Info	Owner
<input type="checkbox"/>	 GoogleDrive-1	Google Drive	Google Account: Ana Gumba	

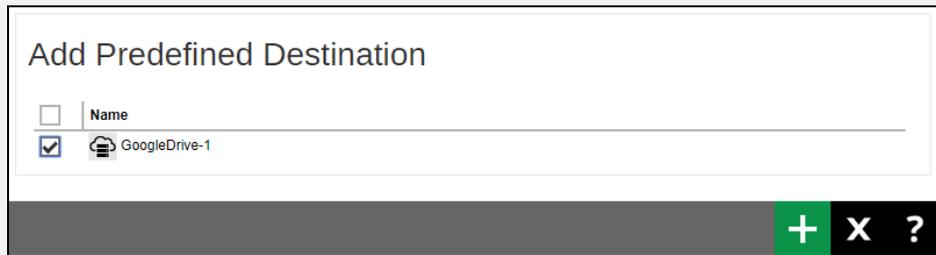
12. Click  to confirm. When you create a backup set for a user, you will be able to see the new predefined destination.

NOTE

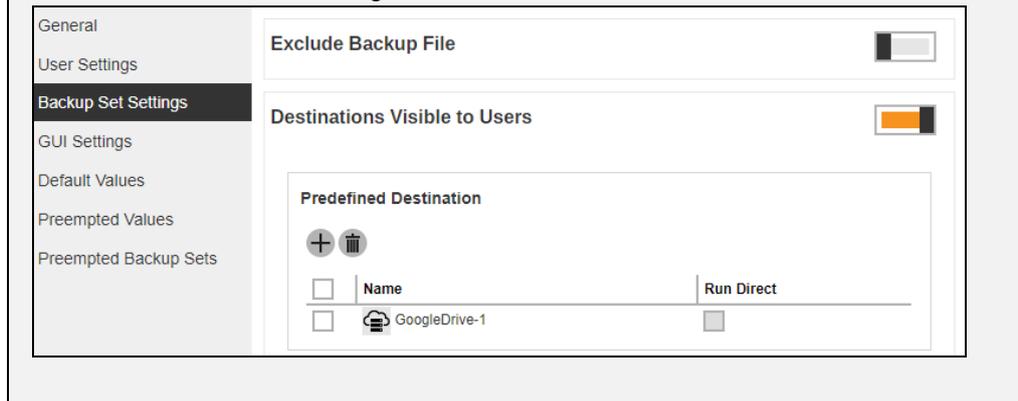
You need to make the destination you created visible in the list of predefined destination before this can be made available when creating a backup set for a user. You can do this by going to **Users, Groups & Policies > Policy Group** tab. Click **Default settings** and go to **Backup Set Settings**. In **Destinations Visible to Users**, click the Add button under Predefined Destination.



Check the box beside the predefined destination you just created. Click Add to continue.



Click Save to save the settings.

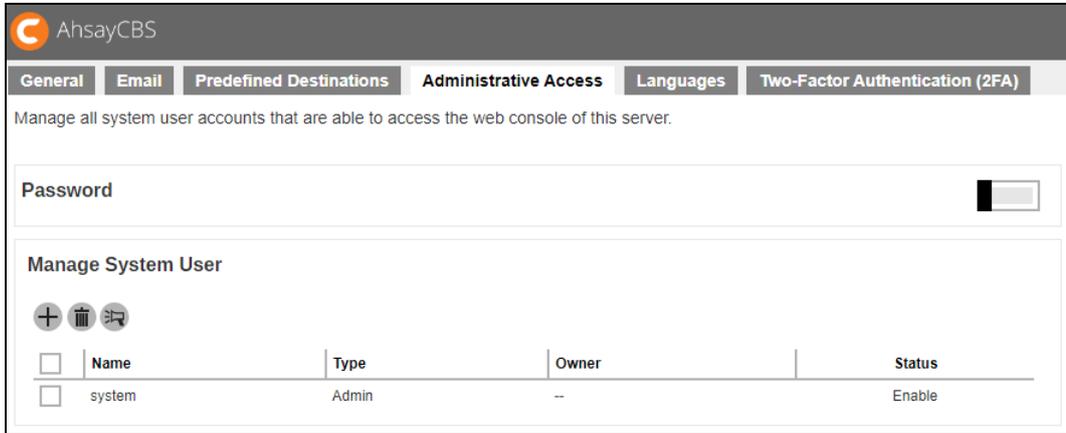


For more examples on setting up other cloud storages, refer to [Appendix D Setting up Cloud Storage](#).

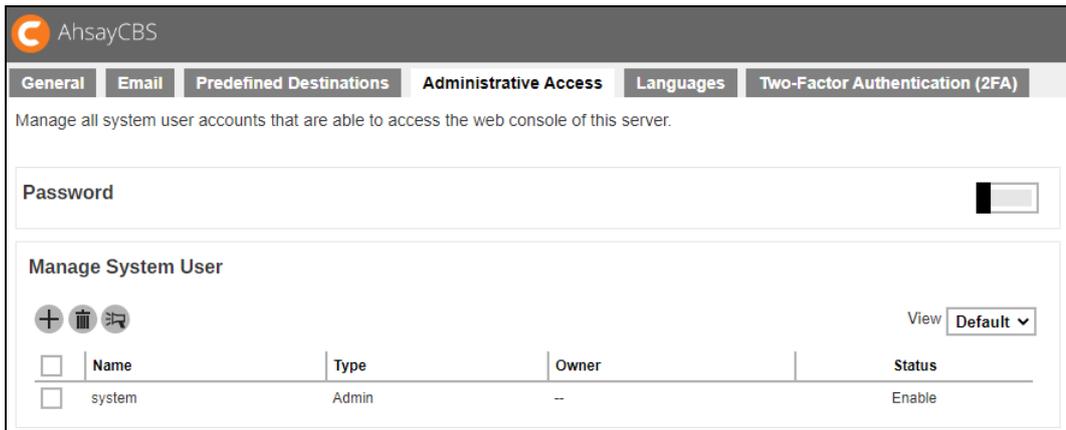
5.1.4 Administrative Access Tab

The following screen shot shows the **Administrative Access** tab under **System Settings > Basic**. You can manage your system user accounts on this page. There will be two views available in this tab, Default and 2FA, if Two-Factor Authentication has been enabled and setup in System Settings > Basic > Two-Factor Authentication (2FA) tab.

The view filter will only be available if 2FA is enabled, otherwise see screenshot below:



This is the Default view where it shows the Name, Type, Owner and Status when 2FA is enabled.



While the 2FA view shows the Name, Type, Owner, Two-Factor Authentication and Status. The Enable / Disable Two-Factor Authentication button will only be displayed in this view.

AhsayCBS

General | Email | Predefined Destinations | Administrative Access | Languages | Two-Factor Authentication (2FA)

Manage all system user accounts that are able to access the web console of this server.

Password

Manage System User

View **2FA** ▾

<input type="checkbox"/>	Name	Type	Owner	Two-Factor Authentication	Status
<input type="checkbox"/>	Sub Admin User 1	Sub Admin	--	Disabled	Enable
<input type="checkbox"/>	System User 1	Read-only Admin	--	Disabled	Enable
<input type="checkbox"/>	system	Admin	--	Disabled	Enable

Field	Description
Name	Name of the system user.
Type	Role type of system user. There are four types: Admin, Read-only Admin, API and Sub Admin.
Owner	Ownership of the system user.
Two-Factor Authentication	2FA status of the system user. There are two statuses: Enabled and Disabled.
Status	Account status of the system user. There are three statuses: Enable, Suspended and Locked.

NOTE

Please note that the two views will only be available if Two-Factor Authentication is set up. For more details please read the discussion regarding [Two-Factor Authentication](#).

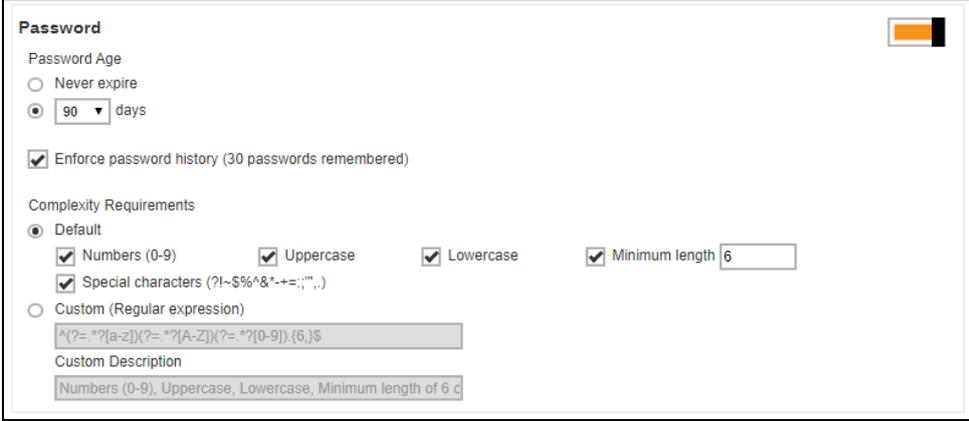
Starting with AhsayCBS v8.3.4.0 and onwards, system users upon initial login will be required to change their password for security. To set up the password complexity that the user has to follow, you can configure this in System Settings > Basic > Administrative Access.

Here are the following conditions wherein the user needs to change the password:

- User logs in as default system user for the first time
- Password of default system user was changed back to "system"
- System user password has expired

Set up password complexity requirement of system user

1. Switch on **Password**, by default it is switched off. The following screen appears:



Password

Password Age

Never expire

90 days

Enforce password history (30 passwords remembered)

Complexity Requirements

Default

Numbers (0-9) Uppercase Lowercase Minimum length 6

Special characters (?!-\$%&^*+~:;".,)

Custom (Regular expression)

Custom Description

2. Select the **Password Age**, this defines the period of time when the login password of a system user expires. By default, it is set to expire every 90 days. Once it expires, system user is required to change their password before they can continue using AhsayCBS.
3. Also configure **Enforce password history**. By default it is set to remember the last 30 login passwords used by each system user which they cannot use again as a new password.
4. Select the **Complexity Requirements**. There are 2 choices:
 - Default – this is selected by default. You can further customize this by specifying here what type of characters will be accepted for the new password. If the password will require numbers, uppercase letters, lowercase letters, the minimum length of the password and special characters that can be used.
 - Custom – you can specify the regular expression and/or custom description that can be used for the new password.

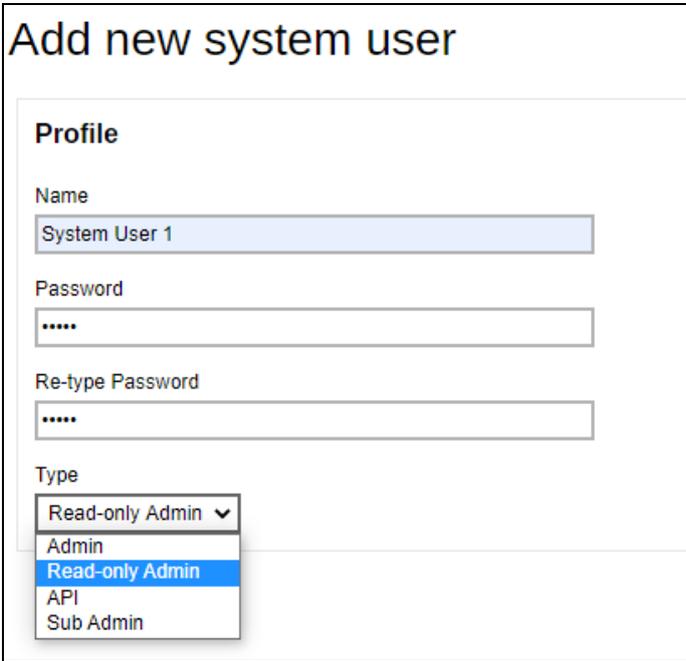
If the criteria set are not met, then the system will not accept the new password.

5. Click  once done setting the password complexity requirement.

On daily operation, you may need to assign your operators or administrators to work on your AhsayCBS. You may have programmers to write API for your applications with the AhsayCBS. You may also want to hire some resellers so that you can expand your business. You will need to setup different system users with different role/privileges to work on the AhsayCBS.

Add a new system user

1. Click  in the middle of the page to add a new system user. The following screen appears:



Add new system user

Profile

Name
System User 1

Password
.....

Re-type Password
.....

Type
Read-only Admin ▾
Admin
Read-only Admin
API
Sub Admin

2. Enter the **Name** of the system user.
3. Enter the **Password** of the system user. Enter the same password again at the **Re-type Password** field.
4. Select the system user type from the **Type** dropdown Box. There are four types of system users:
 - ⦿ **Admin**
The Admin role has the same privilege as the built-in **system** account. For example, you can assign this account for your administrator(s) to configure or administer the AhsayCBS for you.

AhsayCBS allow Admin role user account to independently disable or enable Sub Admin user account access right to the branding pages.

Add new system user

Profile

Name
Sub admin

Password
...

Re-type Password
...

Type
Sub Admin

Email me Consolidated Report

Show the rebranding pages

- ◉ **Read-only Admin**

The Read-only Admin role shares similar accessibility as its creator with Admin role, except with read permission only.

- ◉ **API**

The API role has full access right to the system; it has the same privilege as the built-in **system** account. This account is created for external application developers who can use this for API login authentication purposes.

- ◉ **Sub Admin**

The Sub Admin (reseller) role has the full access right:

- ▶ to create AhsayOBM/AhsayACB backup users
- ▶ to manage the backup and restore jobs or activities of AhsayOBM/AhsayACB backup users it has created
- ▶ to create and manage sub admin, read-only sub admin and User Management Sub Admin account.

Add new system user

Profile

Name

Password

Re-type Password

Type

Email me Consolidated Report

Show the rebranding pages

Allow to offer free trial

By default the following are enabled:

- Email me Consolidated Report – this option would email the consolidated report to the Sub Admin.
- Show the rebranding pages – this option would allow the Sub Admin to access the rebranding pages.
- Allow to offer free trial – this option would allow the Sub Admin to offer free trial to backup users. Even if the “Enable Free Trial Registration” is unchecked in Backup / Restore > Basic > Free Trial Options, Sub Admin can still offer Free Trial for their backup users once they enable it after logging in.

Select the **Owner**. If the Sub Admin was created by the Admin then the Owner is “—”, if a system user was created by a Sub Admin then the Owner will be the Sub Admin.

Owner

Host Name

Connector

Enter the **Host Name** that will be used by the Sub Admin.

NOTE

AhsayCBS Sub Admin can share the same hostname as the Admin or MSP. In our

example, the host name for system admin is “www.mybackup.com”, and so is for Sub Admin users “sub1” and “sub2”.

The screenshot shows the AhsayCBS configuration interface. At the top, there are tabs for General, Email, Predefined Destinations, Administrative Access, Languages, and Two-Factor Authentication (2FA). The 'General' tab is selected. Below the tabs, there is a section for 'Host' configuration with a text input field containing 'www.mybackup.com'. Below this, there are two identical 'Add new system user' forms. Each form has a 'Profile' section with fields for Name (sub1 and sub2), Password, Re-type Password, Type (Sub Admin), and Owner. There are also checkboxes for 'Email me Consolidated Report', 'Show the rebranding pages', and 'Allow to offer free trial'. The Host Name field in both forms contains 'www.mybackup.com'.

Select the **Connector**.

Click  to add a **User Home**. Select the user home then click  to continue.

Select User Home

<input type="checkbox"/>	Directory	Current QPS Ratio	Maximum QPS Ratio
<input type="checkbox"/>	D:\AhsayCBS user	1,497.7% (950.24G / 63.45G)	Unlimited
<input checked="" type="checkbox"/>	E:\userhome1	0% (0 / 63.45G)	Unlimited
<input type="checkbox"/>	F:\userhome2	0% (0 / 63.45G)	Unlimited
<input type="checkbox"/>	G:\userhome3	0% (0 / 63.45G)	300
<input type="checkbox"/>	H:\userhome4	0% (0 / 63.45G)	250
<input type="checkbox"/>	I:\userhome5	0% (0 / 63.45G)	200

NOTE

For best practice, each sub admin should have their own dedicated user home; each user home should be placed on separate drives or volumes.

This will ensure easier disk usage management for each sub admin, as well as safeguard the security and privacy of data since this would not be accessible to other sub admins.

Select the **destinations** that will be available for the Sub Admin to manage. By default all destinations are included.

Enable the destinations for this Sub Admin. This feature will not modify any existing destination settings, e.g. policy and predefined destination.

<input type="checkbox"/>	Name
<input type="checkbox"/>	Local / Mapped Drive / Network Drive / Removable Drive
<input type="checkbox"/>	Amazon S3
<input type="checkbox"/>	AWS S3 Compatible Cloud Storage
<input type="checkbox"/>	Wasabi
<input type="checkbox"/>	Backblaze
<input type="checkbox"/>	Google Cloud Storage
<input type="checkbox"/>	Google Drive
<input type="checkbox"/>	Microsoft Azure
<input type="checkbox"/>	OneDrive
<input type="checkbox"/>	OneDrive for Business
<input type="checkbox"/>	Rackspace
<input type="checkbox"/>	OpenStack
<input type="checkbox"/>	Dropbox
<input type="checkbox"/>	FTP
<input type="checkbox"/>	SFTP
<input type="checkbox"/>	CTYun
<input type="checkbox"/>	阿里云

NOTE

If each Sub Admin is assigned a mandatory predefined destination which their customers must use for storing data, then it is recommended to remove all destinations from the list. This is to prevent the Sub Admin from creating alternative destination for their customers.

The Destination setting is overridden by the setting under “Backup / Restore > Users, Groups & Policies > Policy Group > Default Settings > Backup Set Settings > Destinations Visible to Users”.

For example, OneDrive is not enabled for a user group (Group-1). Even if it is enabled for sub admin (sub1), backup users under that sub admin (sub1) and user group (Group-1) will not be able to use OneDrive as a backup destination.

These are the destinations enabled for Group-1

<ul style="list-style-type: none"> General User Settings Backup Set Settings GUI Settings Default Values Preempted Values Preempted Backup Sets 	<p>Destinations Visible to Users <input checked="" type="checkbox"/></p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> <p>Predefined Destination</p> <p><input type="checkbox"/> <input type="checkbox"/></p> <table border="1"> <thead> <tr> <th><input type="checkbox"/></th> <th>Name</th> <th>Run Direct</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td>Local-1</td> <td><input type="checkbox"/></td> </tr> </tbody> </table> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <p>Standard Destination</p> <p><input type="checkbox"/> Customize application name</p> <p><input type="checkbox"/> <input type="checkbox"/></p> <table border="1"> <thead> <tr> <th><input type="checkbox"/></th> <th>Name</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td>AhsayCBS</td> </tr> </tbody> </table> </div>	<input type="checkbox"/>	Name	Run Direct	<input type="checkbox"/>	Local-1	<input type="checkbox"/>	<input type="checkbox"/>	Name	<input type="checkbox"/>	AhsayCBS
<input type="checkbox"/>	Name	Run Direct									
<input type="checkbox"/>	Local-1	<input type="checkbox"/>									
<input type="checkbox"/>	Name										
<input type="checkbox"/>	AhsayCBS										

These are the destinations enabled for sub1

When the backup user creates a backup set, OneDrive will not be available as a backup destination. Only the destinations enabled in Group-1 will be available.

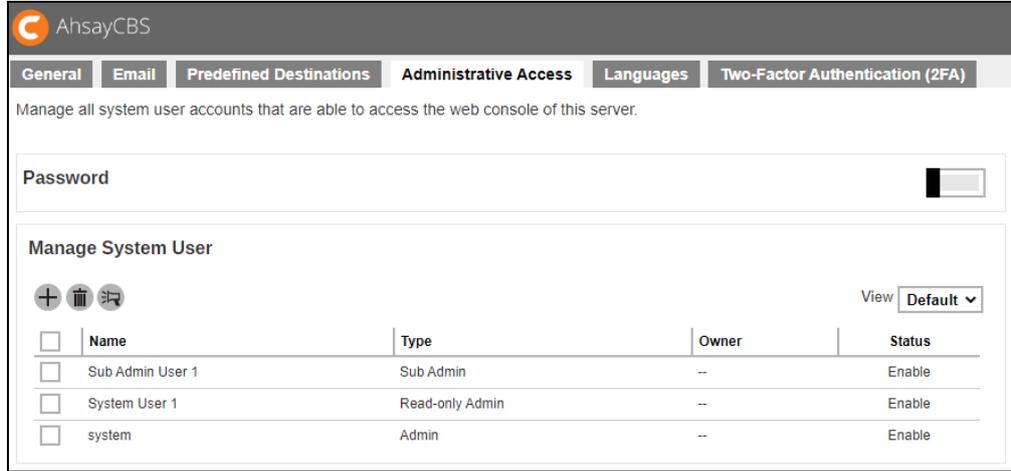
The following table provides a summary of the permissions of different system users in AhsayCBS.

Permission	Admin	Read-only Admin	API	Sub Admin
Read permission	✓	✓	✓*	✓
Write permission	✓	x	✓*	✓
Login AhsayCBS	✓	✓	x	✓
Create new system users	✓	x	✓*	✓
Profile page	✓	✓	x	✓
Backup User Settings page	✓	x	x	✓**
Rebrand Web Console page	✓	x	x	✓
Rebrand Client page	✓	x	x	✓
Export/Import profile	✓	x	x	✓

* API role has full access to the AhsayCBS which is similar as the Admin role through the API call, except login to the AhsayCBS interface.

** Sub Admin role has full access to the settings (except the Backup User Settings page) and users under this sub admin user only.

- Click  to add. The newly-created system user, **System User 1**, appears on the page.



The screenshot shows the AhsayCBS interface with the 'Administrative Access' tab selected. Below the navigation tabs, there is a 'Password' field and a 'Manage System User' section. The 'Manage System User' section includes a table with columns for Name, Type, Owner, and Status. The table lists three users: Sub Admin User 1, System User 1, and system. System User 1 is highlighted in blue.

<input type="checkbox"/>	Name	Type	Owner	Status
<input type="checkbox"/>	Sub Admin User 1	Sub Admin	--	Enable
<input type="checkbox"/>	System User 1	Read-only Admin	--	Enable
<input type="checkbox"/>	system	Admin	--	Enable

- Click  to confirm.

Managing System User

You can modify the setting of your system user by clicking the system user's name. You will see 4 tabs:

Profile	Backup User Settings
Rebrand Web Console	Rebrand Clients

Each of these 4 tabs are described in detail below.

Profile Tab

The Profile page is available to all Admin, Read-Only Admin, and Sub Admin users after they login.

In the Profile page of our example, **System User 1**, the type of user is **Admin**. You can change the **Type** and **Status** of the user on this page.

Profile

Backup User Settings

Rebrand Web Console

Rebrand Clients

Profile Authentication

Profile

Name

System User 1

Type

Admin

Status

Enable

Suspended

Locked

For **Sub Admin** users, the Profile page contains more settings.

Profile

Backup User Settings

Rebrand Web Console

Rebrand Clients

Profile Authentication

Profile

Name

Sub Admin User 1

Type

Sub Admin

Email me Consolidated Report

Show the rebranding pages

Allow to offer free trial

Delegate setting and user management to Sub Admin

+ -

Name

Host Name

www.mybackup.com

Connector

0.0.0.0:80 (HTTP - NIO)

Status

Enable

Suspended

Locked

In the **Sub Admin Profile** page, the following can be modified:

- ▶ Email me Consolidated Report – this may be disabled by unchecking the box to stop receiving the consolidated report email.
- ▶ Show the rebranding pages – this may be disabled by unchecking the box to restrict access to the rebranding pages.
- ▶ Allow to offer free trial – this may be disabled by unchecking the box to stop free trial offers to backup users. Even if the “Enable Free Trial Registration” is unchecked in Backup / Restore > Basic > Free Trial Options, Sub Admin can still offer Free Trial for their backup users once they enable it after logging in.

- ▶ Delegate setting and user management to Sub Admin – another sub admin can be added here to be delegated for the sub admin user role. Once delegated they will be granted management access of the account.

One situation in which this would be useful is when one company takes over or merges with another company. It would be easier to delegate the sub admin role so that they can manage all the backup users.

The delegated sub admin will have management access to the following:

- Monitoring

They can monitor the activities like backup and restore status in the Live Activities page.

Backup Status | Restore Status

Backup jobs that are currently running or finished within 1 hour.

Backup Status

Filter: Client Type | User | Registration Date | User Group

Login Name (Alias)	Owner	Backup Set	Destination	Progress	Estimated Time Left	Current File
user3 ()	sub1	backup-set-1	AhsayCBS	100 %	0 sec	C:\Users\Administrator\Documents\versio

Audit trails is available in the Administration Logs.

Audit Trails

View the activity logs of all users on this server.

Audit Trails

User: user1 (Sub Admin User 1) | Filter: Type | View: Today

Timestamp	Type	Message
06/19/2020 01:47:00	UserAuthOK	Logon to client software successfully from IP address 125.5.184.164, server host name = http://www.mybackup.com:80
06/19/2020 01:47:12	UserAuthOK	Logon to client software successfully from IP address 125.5.184.164, server host name = http://www.mybackup.com:80
06/19/2020 01:54:54	UserAuthOK	Logon to client software successfully from IP address 125.5.184.164, server host name = http://www.mybackup.com:80
06/19/2020 01:54:58	UserAuthOK	Logon to client software successfully from IP address 125.5.184.164, server host name = http://www.mybackup.com:80

Backup and restore logs can also be downloaded from the Backup / Restore Logs page.

Backup Jobs | Restored Jobs | Backup Errors | Backup Set Log | Activities Log

View all the backup jobs by all backup users below.

List of Backup Jobs

Filter: Backup Job | Job Status | Run on | User Group | View: This Week

Login Name	Owner	Backup Set	Destination	Start Time	End Time	Version	Upload Size	Job Status	Report
user4	Sub Admin User 1	default-backup-set-name-1 (1592239190911)	AhsayCBS	06/16/2020 12:41 AM	06/16/2020 12:42 AM	OBM 8.3.3.20	59K	OK	Download
user1	Sub Admin User 1	default-backup-set-name-2 (1592243431885)	AhsayCBS	06/16/2020 01:53 AM	06/16/2020 01:53 AM	OBM 8.3.3.20	43K	OK	Download
user3	sub1	backup-set-1 (1592561782698)	AhsayCBS	06/19/2020 07:09 PM	06/19/2020 07:10 PM	OBM 8.3.3.20	169K	OK	Download

- Backup / Restore

Settings for free trial options may be modified.

Free Trial Options

Free Trial Registration

Enable Free Trial Registration

Settings for existing free trial users

User will be suspended after days

Remove User days after registration

WARNING

The “Remove User <xx> days after registration” setting will also apply to AhsayOBM/AhsayACB user accounts whose status is changed from PAID to TRIAL. These user accounts will be automatically removed by AhsayCBS if the account creation date exceeds the set number of days.

Manage backup user settings, user group and policy group. The backup user profile settings and subscribed modules may be modified. They are allowed to create backup sets. They can also view backup/restore reports as well as usage statistics. They can configure the auto update agent, send broadcast message to other sub admins, export usage to a csv file and enable multi-factor authentication.

Backup User | **User Group** | **Policy Group**

Manage your backup users in this section.

Manage Backup User ?

Filter:

<input type="checkbox"/>	Login Name (Alias)	Owner	Client Version						
<input type="checkbox"/>	user1 ()	Sub Admin User 1	--						Lotus, Lot
<input type="checkbox"/>	user2 ()	Sub Admin User 1	--						Lotus, Lot
<input type="checkbox"/>	user3 ()	sub1	8.3.3.20						Lotus, Lot
<input type="checkbox"/>	user4 ()	Sub Admin User 1	8.3.3.20						Lotus, Lot
<input type="checkbox"/>	user5 ()	sub1	--						Lotus, Lot

- System Settings

SMTP server and administrator contact may be configured.

The screenshot shows the 'Administrative Access' tab with two main sections: 'SMTP Server' and 'Administrator Contact'. Each section has a '+' icon to add and a trash icon to delete. Below each section is a table of configuration options.

SMTP Server	Host Name	Port	Require SMTP Authentication	Login Name	Use secure protocol	Sender Name	Sender Email	Sign all outgoing
<input type="checkbox"/>								

Administrator Contact	Name	Email	Encrypt Email	Owner
<input type="checkbox"/>				

Predefined destinations may be added.

The screenshot shows the 'Predefined Destinations' tab with a table of predefined destinations. It includes a '+' icon to add and a trash icon to delete.

Predefined Destination	Name	Destination Storage	Info	Owner
<input type="checkbox"/>	Local-1	Local / Mapped Drive / Network Drive / Removable Drive	d:\	sub1

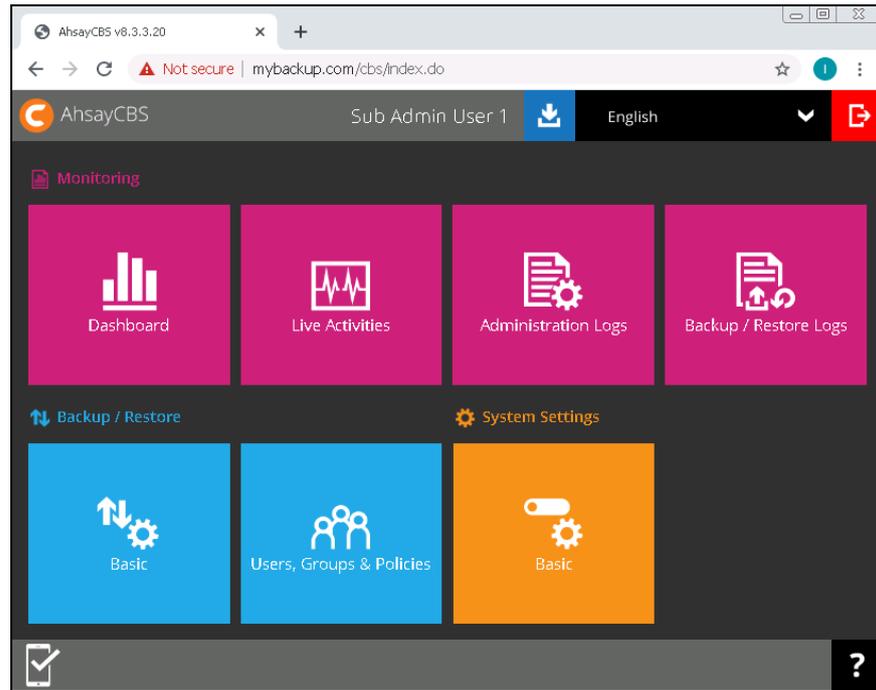
Allowed to create a sub admin. The following are the sub admin type that can be created: Sub Admin, User Management Sub-Admin and Read-only Sub Admin. For more information on these types please refer to [Types of Sub Admin](#).

The screenshot shows the 'Administrative Access' tab with a table of system users. It includes a '+' icon to add, a trash icon to delete, and a refresh icon to update the list.

Manage System User	Name	Type	Owner	Status
<input type="checkbox"/>	sub1	Sub Admin	--	Enable
<input type="checkbox"/>	sub3	Read-only Sub Admin	sub1	Enable

- ▶ Host Name – this is important as AhsayCBS uses connecting hostname to determine which branding should be applied on the interface.
- ▶ Connector – a different connector can be applied for the sub admin. The sub admin has fewer privileges as the admin user. In our example, the Sub Admin User 1 account shows a subset of the functions available when the sub admin logs onto AhsayCBS and even within each subset a sub admin has only access

to certain functions:



- Status – the status may be changed to “Suspended”.

Types of Sub Admin

There are three (3) types of Sub Admin:

- Sub Admin – has fewer privileges than the Admin, see table below for functions that can be accessed by the Sub Admin.
- User Management Sub Admin – can access the same functions as the Sub Admin but only allowed to create backup sets and download reports. Does not have permission to create or modify any settings.
- Read-only Sub Admin – can access the same functions as the Sub Admin but have read-only permission. Only allowed to download reports.

Available functions for Sub Admin users.

Monitoring	
Dashboard	<ul style="list-style-type: none"> ➤ To Dos ➤ CPU ➤ Memory ➤ Storage
Live Activities	<ul style="list-style-type: none"> ➤ Backup Status ➤ Restore Status
Administration Logs	<ul style="list-style-type: none"> ➤ Audit Trails

Backup / Restore Logs	<ul style="list-style-type: none"> ➤ Backup Jobs ➤ Restored Jobs ➤ Backup Errors ➤ Backup Set Log ➤ Activities Log
Backup / Restore	
Basic (will only be available if “Allow to provide Free Trial offer” is enabled)	<ul style="list-style-type: none"> ➤ Free Trial Options
Users, Groups, & Policies	<ul style="list-style-type: none"> ➤ Backup User ➤ User Group ➤ Policy Group
System Settings	
Basic	<ul style="list-style-type: none"> ➤ Email ➤ Predefined Destinations ➤ Administrative Access

The **Authentication** page is available to all types of users. Password of users may be reset here, and details of last successful login may be viewed here. However, Two-Factor Authentication of system users can be set up here only for Admin, Sub Admin and Read-only Admin users. By default it is not enabled, to switch it on slide the switch to the right.

To reset the password:

1. Click [Reset Password](#) to reset the password.

2. Enter the new password and confirm the password.

Password

New Password

Confirm Password

3. Click  to save.

To add a device:

1. Click  to add a device.

Two-Factor Authentication

Registered Mobile Device(s)

<input type="checkbox"/>	Device Name	Verified	Last Verified Time
--------------------------	-------------	----------	--------------------

2. Download the Ahsay Mobile app by typing the given URL in your mobile device's browser or by clicking [Or click here to scan QR code](#) link to scan the QR code. Click  if mobile app has already been downloaded and to proceed.

Mobile App Download

Please download the Mobile App "AhsayMOB" by typing the following URL in your mobile devices browser:

[https://\[redacted\]:443/cbs/AppDownload.do?token=S228da](https://[redacted]:443/cbs/AppDownload.do?token=S228da)

[Or click here to scan QR code](#)

Once ready, hit [Next] button to continue the setup.



3. Select the country code and enter the phone number. Click

[Send Verification code to SMS](#)

Two-Factor Authentication Feature Setup Wizard

For first time activation of Two-Factor Authentication feature, mobile device needs to pair with a verified phone number for account recovery.

Phone number

Philippines (+63)

*This phone number will be used for account security and recovery only. Please be reminded that standard SMS charge will be applied.

[Send SMS Verification code](#)

[Click here to download Mobile App "AhsayMOB"](#)

4. Enter the verification code sent to your mobile device. Click  to proceed.

Verification code

QRHL - (00:04:31)

[Resend SMS Verification code](#)

5. Pair the device with the backup account. There are two ways to do this:
Use the Ahsay Mobile app, scan the QR code to pair the device.

Two-Factor Authentication Feature Setup Wizard

Please scan the QR code to register your mobile device with your backup account for following feature:

 Two-Factor Authentication



[Using other TOTP Authenticator App \(e.g. Authy, Duo, Google\)?](#)

Or

Use a third-party TOTP Authenticator App (e.g. Authy, Duo, Google), click [Using other TOTP Authenticator App \(e.g. Authy, Duo, Google\)?](#) link. Scan the QR code or enter the Secret Key in the third-party TOTP Authenticator. Enter the display name and one-time password generated by the Authenticator

App and click .

Two-Factor Authentication Feature Setup Wizard

Please scan the QR code or input Secret Key to register your mobile device with your backup account for following feature:

 Two-Factor Authentication



Secret Key: WVIK FXA2 ROXG RV53

Enter a display name for user profile.

Enter the one-time password generated by Authenticator App.

(00:00:08)

[Using AhsayMOB?](#)

6. Click  to continue.

Two-Factor Authentication Feature Setup Wizard

You have registered "System User 1" for the following feature:

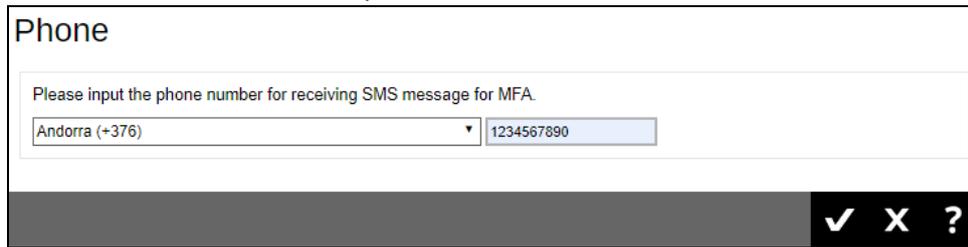
 Mobile Authentication

After doing the modifications, click  then  to save the changes.

For old system user accounts created prior to AhsayCBS v8.5.0.0 with Twilio Credentials Verification enabled, this will be the screen displayed. By default the Security Settings is not enabled, to switch it on slide the switch to the right.

Profile	Profile	Authentication
Backup User Settings Rebrand Web Console Rebrand Clients	Password Password <input type="text" value="ungWv48Bz+pBQUDeXa4iI7ADYaOWF3qclBD/YtIAFa0="/> Reset Password	Security Settings <input type="checkbox"/>
	Last Successful Login No login record	

Click  to add a phone number. Select the country code and enter the phone number of the user where the passcode will be sent and click .



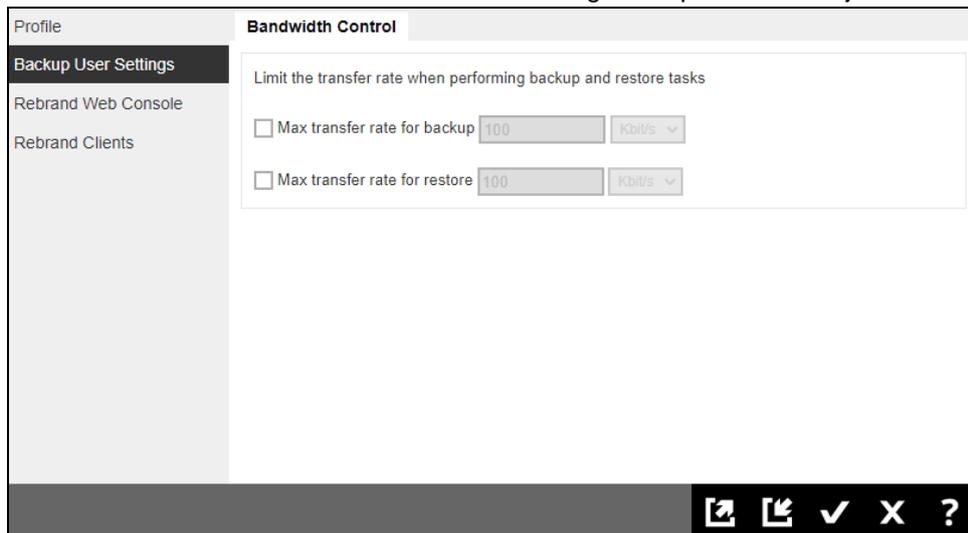
The screenshot shows a 'Phone' configuration form. At the top, it says 'Please input the phone number for receiving SMS message for MFA.' Below this, there is a dropdown menu for the country code, currently set to 'Andorra (+376)', and a text input field for the phone number, containing '1234567890'. At the bottom right of the form, there are three icons: a checkmark, an 'X', and a question mark.

After doing the modifications, click  then  to save the changes.

Backup User Settings Tab

The Backup User Settings tab is available to admin and sub admin users after they login, although for sub admin user they have read-only access.

For admin users, only the **Bandwidth Control** page is available. The admin can limit the maximum transfer rate that will be used during backup and restore jobs.



The screenshot shows the 'Bandwidth Control' settings page. On the left, there is a sidebar with 'Backup User Settings' selected. The main content area has a heading 'Bandwidth Control' and a sub-heading 'Limit the transfer rate when performing backup and restore tasks'. Below this, there are two checkboxes. The first is 'Max transfer rate for backup' with a value of '100' and a unit dropdown set to 'Kbit/s'. The second is 'Max transfer rate for restore' with a value of '100' and a unit dropdown set to 'Kbit/s'. At the bottom right, there are five icons: a refresh icon, a copy icon, a checkmark, an 'X', and a question mark.

-  To limit the maximum transfer rate during backup, click the box in front of Max transfer rate for backup. Enter the value and select the unit of measurement either Kbit/s, Mbit/s or Gbit/s.
-  To limit the maximum transfer rate during restore, click the box in front of Max transfer rate for backup. Enter the value and select the unit of measurement either Kbit/s, Mbit/s or Gbit/s

For sub admin users, there are more pages available. In the **License** page, the system administrator can assign the number of AhsayOBM/AhsayACB CALs and add-on modules for each sub admin.

Module	Assigned Value	Used
<input checked="" type="checkbox"/> AhsayOBM User	50	(Used: 0)
<input checked="" type="checkbox"/> AhsayACB User	25	(Used: 0)
<input checked="" type="checkbox"/> VMware Guest VM	10	(Used: 0)
<input checked="" type="checkbox"/> Hyper-V Guest VM	10	(Used: 0)
<input type="checkbox"/> VMware Socket	0	(Used: 0) (this feature requires AhsayOBM v7.7 or above)
<input type="checkbox"/> Hyper-V Socket	0	(Used: 0) (this feature requires AhsayOBM v7.7 or above)
<input checked="" type="checkbox"/> Microsoft Exchange Mailbox	10	(Used: 0)
<input type="checkbox"/> NAS - Synology	0	(Used: 0)
<input type="checkbox"/> Mobile	0	(Used: 0)
<input type="checkbox"/> NAS - QNAP	0	(Used: 0)
<input checked="" type="checkbox"/> AhsayACB Office 365 Backup	10	(Used: 0)
<input checked="" type="checkbox"/> Office 365 Backup	10	(Used: 0)
<input checked="" type="checkbox"/> OpenDirect / Granular Restore	20	(Used: 0)

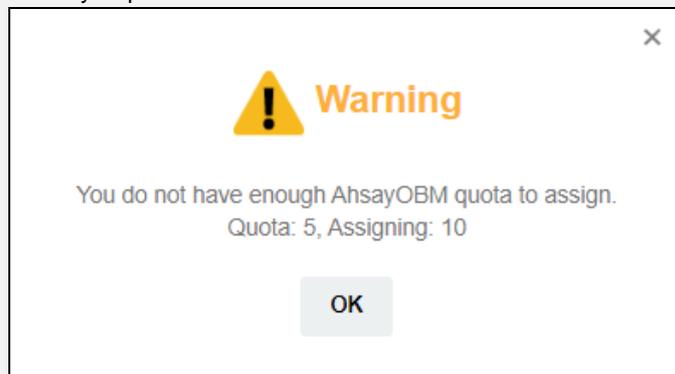
NOTE

- If the box is unchecked, there is no limit placed on the license quota usage of the Sub Admin.

For easier license management on the AhsayCBS server, it is recommended to have clearly defined license quotas for each Sub Admin user.

The number of license quota assigned should not be more than the number of license available. For example, if the AhsayCBS license key has 2000 Microsoft Exchange Mailboxes and 1500 have already been (assigned) used, then you can only assign up to 500 for the Sub Admin.

- If the box is checked and the assigned value for the license is more than the quota, there will be an error message displayed saying that there is not enough license to assign. For example, the AhsayOBM User box is checked and 10 license is assigned, but only 5 quota is available.



The administrator can assign the number of AhsayOBM/ AhsayACB CALs and add-on modules to each sub admin user.

Field	Description
AhsayOBM User	License quota for AhsayOBM users.
AhsayACB User	License quota for AhsayACB users.
VMware Guest VM	License quota for backing up VMware Guest VMs.
Hyper-V Guest VM	License quota for backing up Hyper-V Guest VMs.
VMware Socket (this feature requires AhsayOBM v7.7 or above)	License quota for VMware Socket.
Hyper-V Socket (this feature requires AhsayOBM v7.7 or above)	License quota for Hyper-V Socket.
Microsoft Exchange Mailbox	License quota for backing up Microsoft Exchange Mailboxes.
Mobile	License quota for backing up Mobile devices.
NAS - Synology	License quota for backing up Synology NAS devices.
NAS - QNAP	License quota for backing up QNAP NAS devices.
AhsayACB Office 365 Backup	License quota for backing up AhsayACB Office 365 user mailboxes, OneDrive and SharePoint files.
Office 365 Backup	License quota for backing up Office 365 user mailboxes, OneDrive and SharePoint files.
OpenDirect / Granular Restore	License quota for file-level restore from guest VM or compressed/image files. Applicable only to File / Hyper-V / VMware backup sets on Windows platform.

In the **User Home** page, the administrator can add or delete the user home that the sub admin will use.



- ▶ To add a user home, click then select the user home and click to add.
- ▶ To delete a user home, check the box in front of the user home to be deleted and click . In the confirmation message, click OK to delete.

NOTE

- It is advisable to assign the user home of each sub admin on separate drives if possible for easy disk usage management. For example:

Sub Admin 1

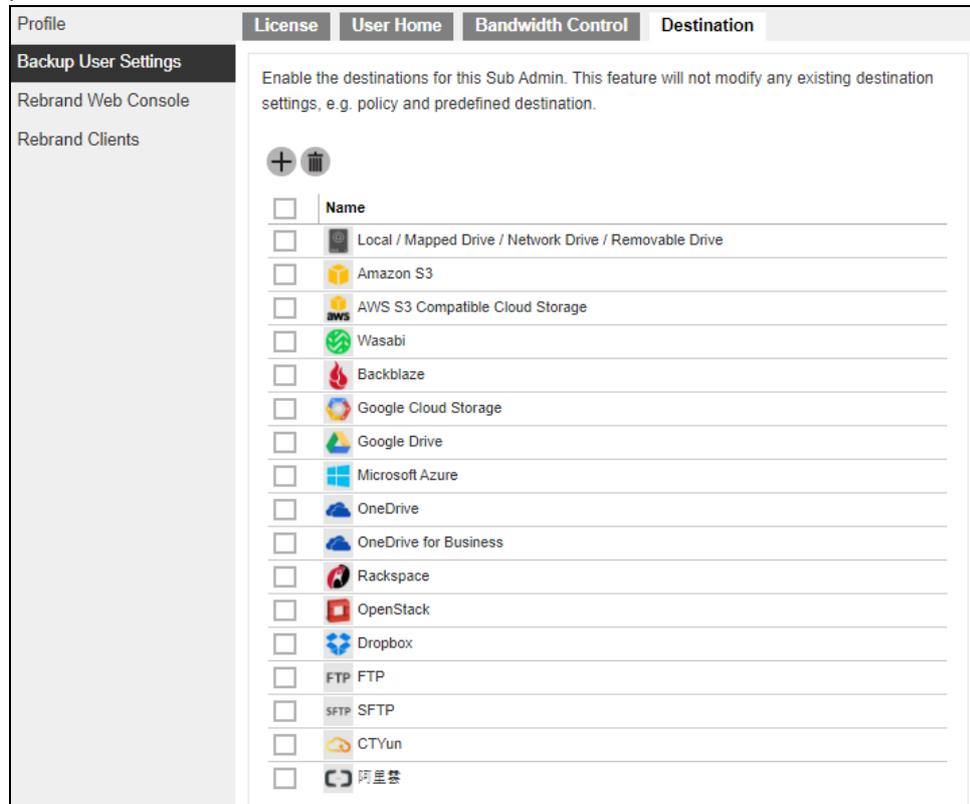


Sub Admin 2



- A user home cannot be deleted once it has been used by a backup user. To delete a user home all backup users must be deleted from the user home first.

In the **Destination** page, the administrator can determine the destination (both predefined and standard destination) that will be available for the sub admin. This configuration will not modify any existing destination settings, example: policy and predefined destination.



- ▶ To add a destination, click  then select the destination and click  to add.
- ▶ To delete a destination, check the box in front of the destination to be deleted and click . In the confirmation message, click OK to delete.

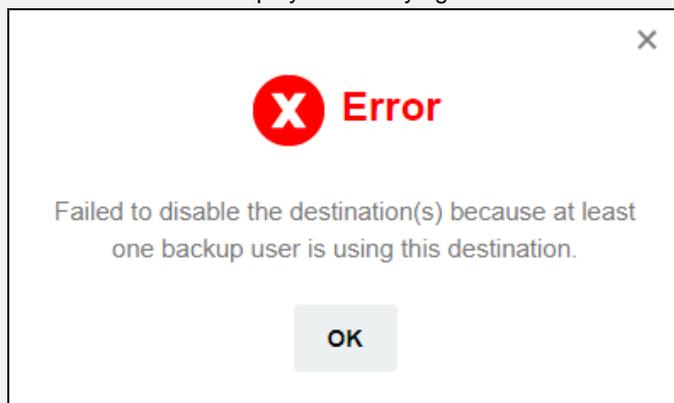
After doing the modifications, click  then  to save the changes.

NOTE

- ▶ The Sub admin has NO authority to modify the Destination option, and the Destination page is hidden in System Settings > Basic > Administrative Access > %System User% > Backup User Settings after logging in AhsayCBS using sub admin user account.

- ▶ If sub admin has created a backup user using the existing allowed destination, the

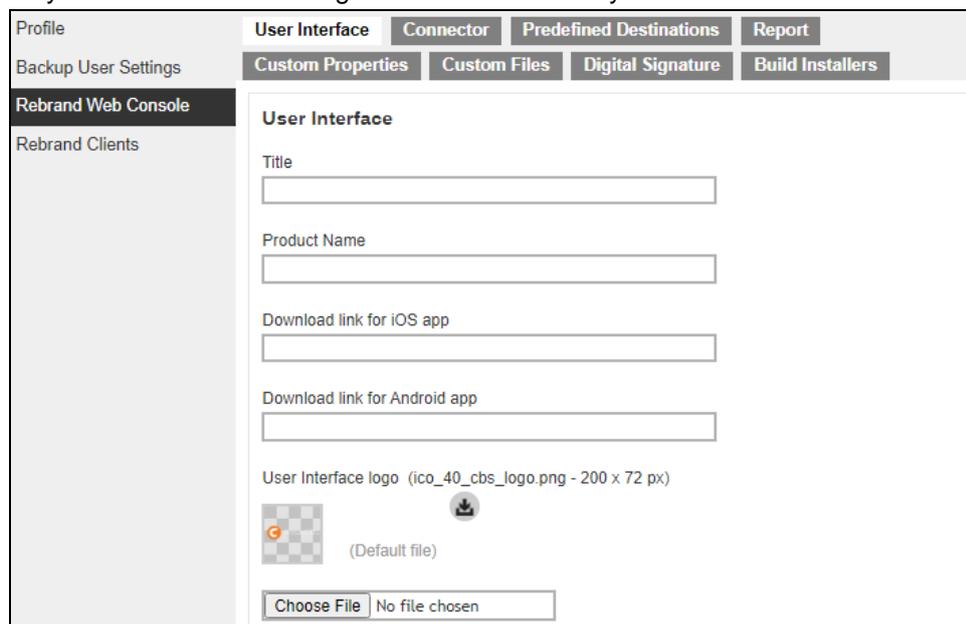
according destination cannot be disabled afterwards. The following screen shot shows the error that will be displayed after trying to delete the destination.



⦿ **Rebrand Web Console Tab**

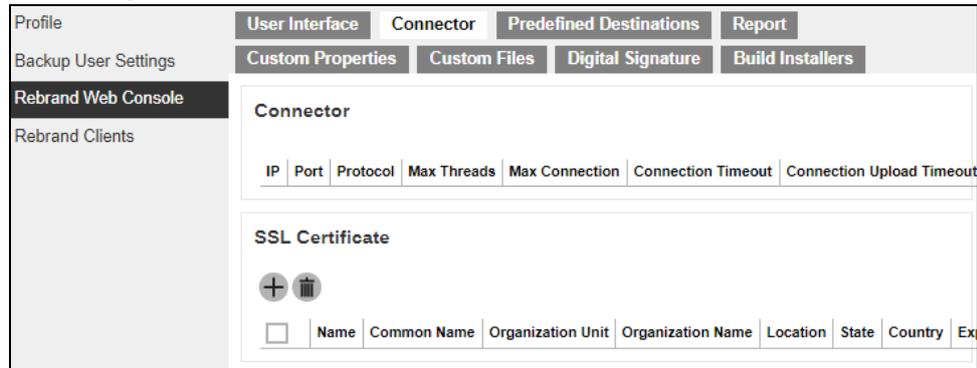
The Rebrand Web Console tab is available to admin and sub admin users after they login. Both admin and sub admin user can use this feature to rebrand the images on the AhsayCBS web console when accessed by the sub admins hostname.

In the **User Interface** page, the product name, logo and cascade style sheet (CSS) may be customized to change the look of the AhsayCBS web console.



To customize the logo/CSS, click  and modify the logo/css file. Once done, click **Choose File** to upload the new logo/css file. Click  then  to save the changes.

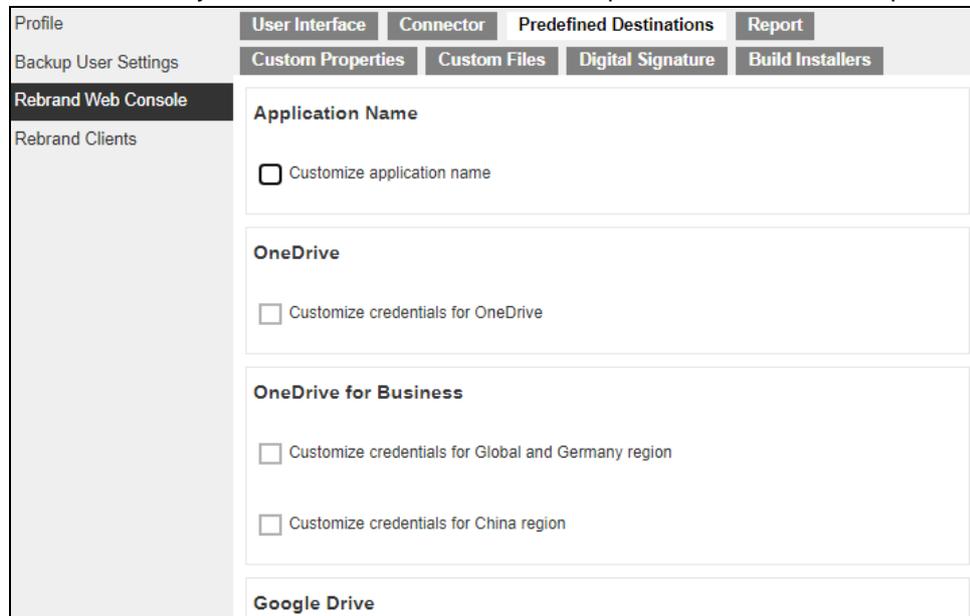
In the **Connector** page, the existing web server connector may be modified and SSL Certificates may be added or deleted which would be included in the installer that would be generated.



- ▶ To modify an existing connector, click on the connector and modify the values
- ▶ To add SSL certificate, click  then select the SSL certificate.
- ▶ To delete a SSL certificate, check the box in front of the SSL certificate to be deleted and click . In the confirmation message, click OK to delete.

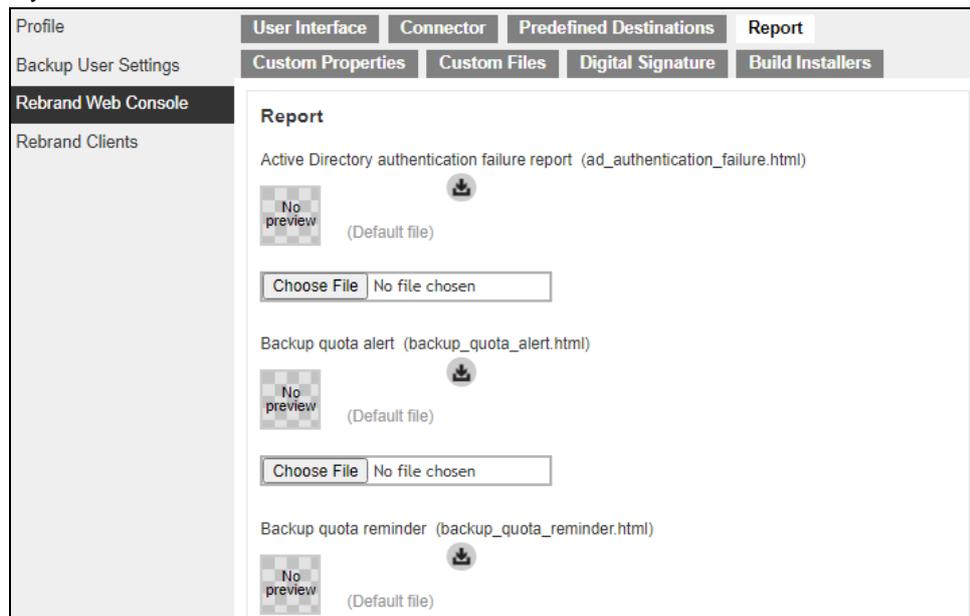
After doing the modifications, click  then  to save the changes.

In the **Predefined Destinations** page, the application name and select cloud storage destinations may be customized to serve as backup destinations for backup users.



Check the box beside the destination that will be customized. Configure the required values. Click  then  to save the changes.

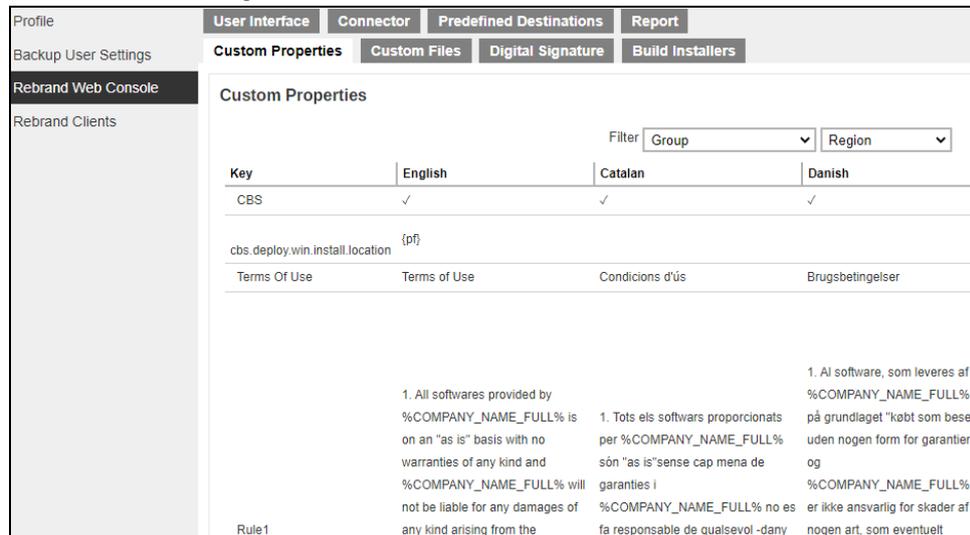
In the **Report** page, the report template html files may be customized to change the layout of the email that the sub admin will receive.



To customize the email layout, click  and modify the report template html file.

Once done, click **Choose File** to upload the new report template html file. Click  then  to save the changes.

In the **Custom Properties** page, the product or branding properties may be customized to change details of the installer.



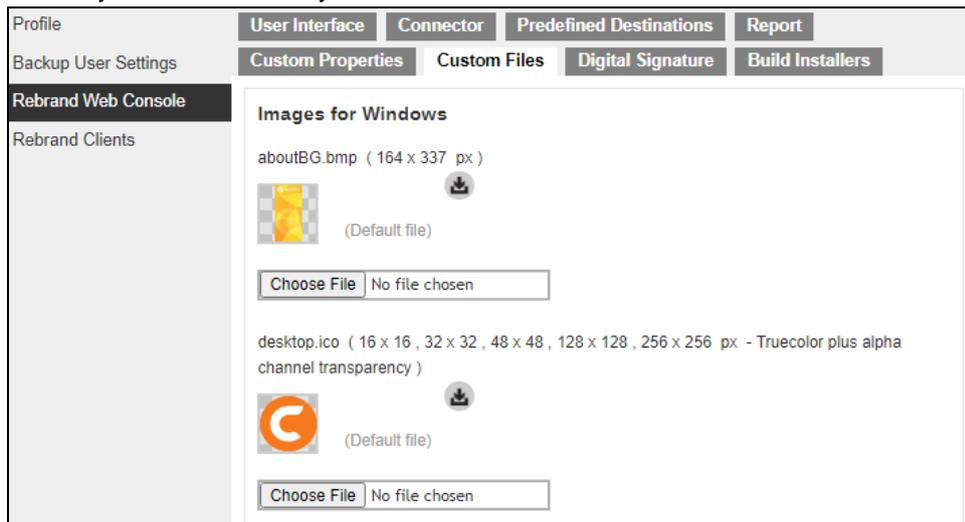
Filters are available to make searching for a particular property to customize easier. It may filtered by:

- Group, this is to segregate the properties of the installer. There are two (2) options: Installer – Configuration and Installer – Terms of Use.

- Region, this is to segregate by country. There are six (6) options: Western Europe, Northern Europe, Eastern Europe, Middle East, America and Asia Pacific.

To customize the branding property, click the property cell to be changed and modify the value. Click  then  to save the changes.

In the **Custom Files** page, the icon and image may be customized to change the look of AhsayCBS and/or AhsayUBS.



To customize the icon/image, click  and modify the icon/image file. Once done, click **Choose File** to upload the new icon/image file. Click  then  to save the changes.

In the **Digital Signature** page, it will use the digital certificate that is uploaded in Rebrand Clients > Digital Signature. If a Windows installer with digital signature is needed to be generated, please refer to the instructions in Rebrand Clients > Digital Signature.



In the **Build Installers** page, this is where branded installers for AhsayCBS or image files for AhsayUBS will be generated.

The screenshot shows the 'Build Installers' configuration page. On the left sidebar, 'Rebrand Web Console' is selected. The main area has several tabs, with 'Build Installers' being the active one. Under 'Building Targets', the 'Windows (cbs-win.exe)' and 'Unix (cbs-nix.tar.gz)' options are checked. The 'Rebrand Control' section has a checkbox for 'Disable branding feature on customized web management console' which is currently unchecked. A warning message is displayed, advising to save settings before clicking the 'Build Branded Server' button. The last update time is noted as 2020-06-09 01:41:26.

Before building the branded installer, ensure that you have done the following:

- Modified the branding in the **Rebrand Clients** section.
- Generated the AhsayOBM/AhsayACB installers for testing.
- Modified the title and product name, uploaded cascade style sheet and new logos in the **User Interface** page.
- Modified the connector and SSL certificate in the **Connector** page.
- Modified the report template files in the **Report** page.
- Modified the branding properties in the **Custom Properties** page.
- Uploaded new logos for AhsayCBS and AhsayUBS installer in the **Custom Files** page.
- Selected the build installer option with digital certificate in the **Rebrand Clients > Digital Signature** page.

By default both Windows (cbs-win.exe) and Unix (cbs-nix.tar.gz) options are selected, if an installer is required for only one operating system it is recommended to unselect one of the options. As this will speed up the installer build process as each individual installer will take around 10-15 minutes to build. The following files/images are available for selection:

- Windows (cbs-win.exe) – Windows version of AhsayCBS installer
- Unix (cbs-nix.tar.gz) – Unix version of AhsayCBS installer
- ISO (cbs-ubs.iso) – ISO format of AhsayUBS installation file for VMware only
- IMG (cbs-ubs.img) – IMG format of AhsayUBS installation file to make the USB flash drive

There is also an option to **Disable branding feature on customized web management console**. This will disable the Rebrand Web Console and Rebrand Clients tabs in the installer to be generated. If you rebranded the AhsayCBS using your own branding, the resellers will not know that the software is from a third party software vendor if this is checked.

Click **Build Branded Server** to generate new installer/image file.

Each installer/image file to be generated will take around 10-15 minutes to build. When the installers are built successfully, go to the download section to download the new installer.

Before generating a new image file for AhsayUBS, test the AhsayCBS installer generated first. This can save some generation and download time.

Rebrand Clients Tab

The Rebrand Clients tab is available to admin and sub admin users after they login.

In the **Custom Properties** page, the product or branding properties may be customized to change details of the software.

Key	English	Catalan	Danish
%THIS_YEAR%	2020	2020	2020
%COMPANY_NAME_FULL%	Ahsay Systems Corporation	Ahsay Systems Corporation	Ahsay Systems Corporation
%COMPANY_NAME_SHORT%	Ahsay	Ahsay	Ahsay
%COMPANY_NAME_SYSTEM%	Ahsay Systems Corporation		
%COMPANY_URL%	www.ahsay.com	www.ahsay.com	www.ahsay.com
%COMPANY_COPYRIGHT%	1999-%THIS_YEAR% (C) %COMPANY_NAME_SYSTEM% All rights reserved.	1999-%THIS_YEAR% (C) %COMPANY_NAME_SYSTEM% All rights reserved.	1999-%THIS_YEAR% (C) %COMPANY_NAME_SYSTEM% All rights reserved.
%SUPPORT_EMAIL%	support-kb@ahsay.com	support-kb@ahsay.com	support-kb@ahsay.com
%SUPPORT_URL%	http://kb.ahsay.com	http://kb.ahsay.com	http://kb.ahsay.com

Filters are available to make searching for a particular property to customize easier. It may filtered by:

- ▶ Group, this is to segregate the properties of the installer. There are three (3) options: Branding Information, Installer – Configuration and Installer – Terms of Use.
- ▶ Region, this is to segregate by country. There are six (6) options: Western Europe, Northern Europe, Eastern Europe, Middle East, America and Asia Pacific.

To customize the branding property, click the property cell to be changed and modify the value. Click  then  to save the changes.

In the **Application Settings - AhsayOBM** page, the backup server, language settings and GUI related feature for AhsayOBM may be configured.

The screenshot shows the 'Application Settings - AhsayOBM' page. The sidebar on the left includes 'Profile', 'Backup User Settings', 'Rebrand Web Console', and 'Rebrand Clients'. The main content area is titled 'Backup Server Setting' and contains the following fields:

- Backup Server**: A text input field.
- Backup Protocol**: Radio buttons for 'http' (selected) and 'https'.
- Backup Port**: Radio buttons for '80' (selected), '443', and 'Others' (with a text input).
- Language**: A section titled 'Support Languages' with checkboxes for 'Arabic', 'Catalan', and 'Czech'.

- ▶ To configure the backup server setting, enter the backup server IP address or hostname. Select the backup protocol and backup port.
- ▶ Select the languages that will be available to the backup user.
- ▶ Select the GUI feature that will be available, show select language drop down list and/or show backup server URL.

Click  then  to save the changes.

In the **Application Settings - AhsayACB** page, the backup server, language settings and GUI related feature for AhsayACB may be configured.

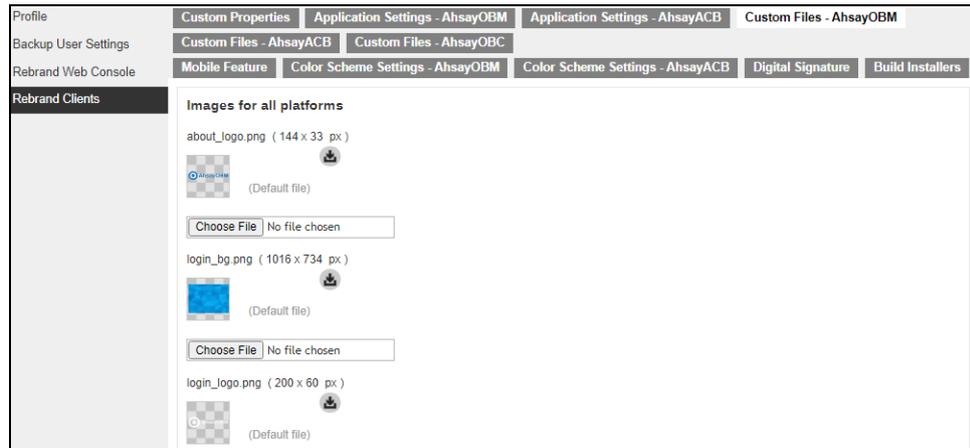
The screenshot shows the 'Application Settings - AhsayACB' page. The sidebar on the left includes 'Profile', 'Backup User Settings', 'Rebrand Web Console', and 'Rebrand Clients'. The main content area is titled 'Backup Server Setting' and contains the following fields:

- Backup Server**: A text input field.
- Backup Protocol**: Radio buttons for 'http' (selected) and 'https'.
- Backup Port**: Radio buttons for '80' (selected), '443', and 'Others' (with a text input).
- Language**: A section titled 'Support Languages' with checkboxes for 'Arabic', 'Catalan', and 'Czech'.

- ▶ To configure the backup server setting, enter the backup server IP address or hostname. Select the backup protocol and backup port.
- ▶ Select the languages that will be available to the backup user.
- ▶ Select the GUI feature that will be available, show select language drop down list and/or show backup server URL.

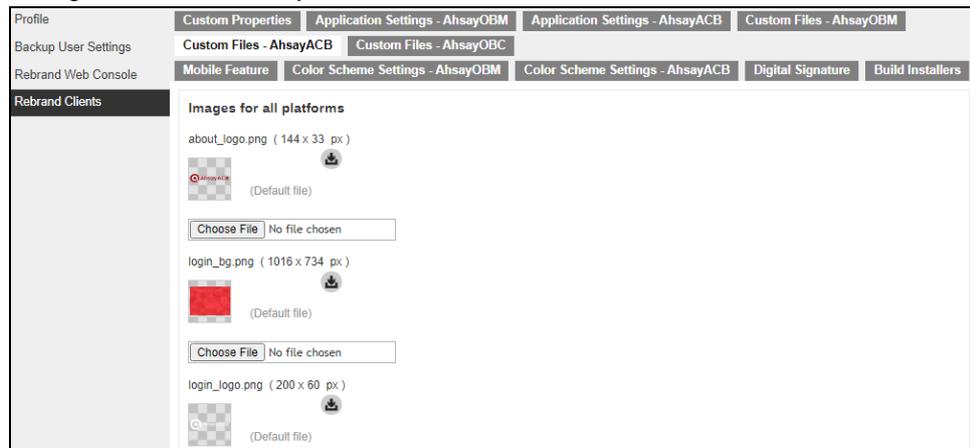
Click  then  to save the changes.

In the **Custom Files - AhsayOBM** page, the icon and image may be customized to change the look of AhsayOBM.



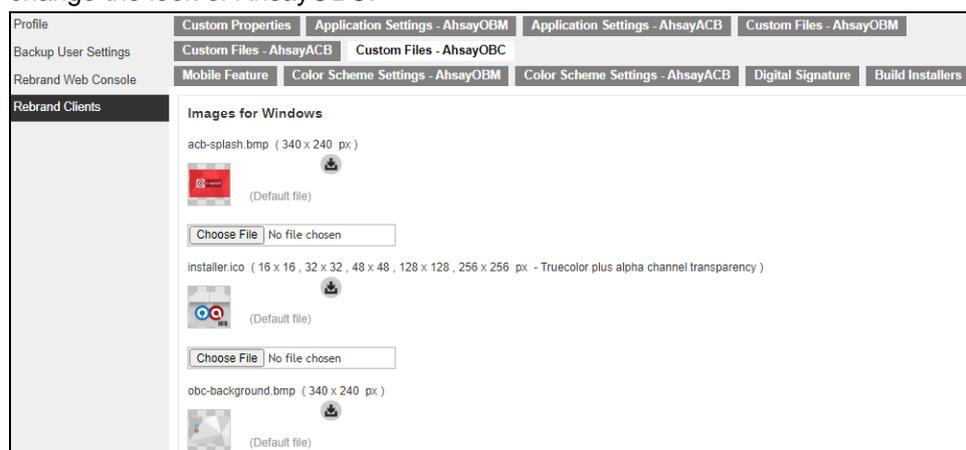
To customize the icon/image, click  and modify the icon/image file. Once done, click **Choose File** to upload the new icon/image file. Click  then  to save the changes.

In the **Custom Files - AhsayACB** page, the icon and image may be customized to change the look of AhsayACB.



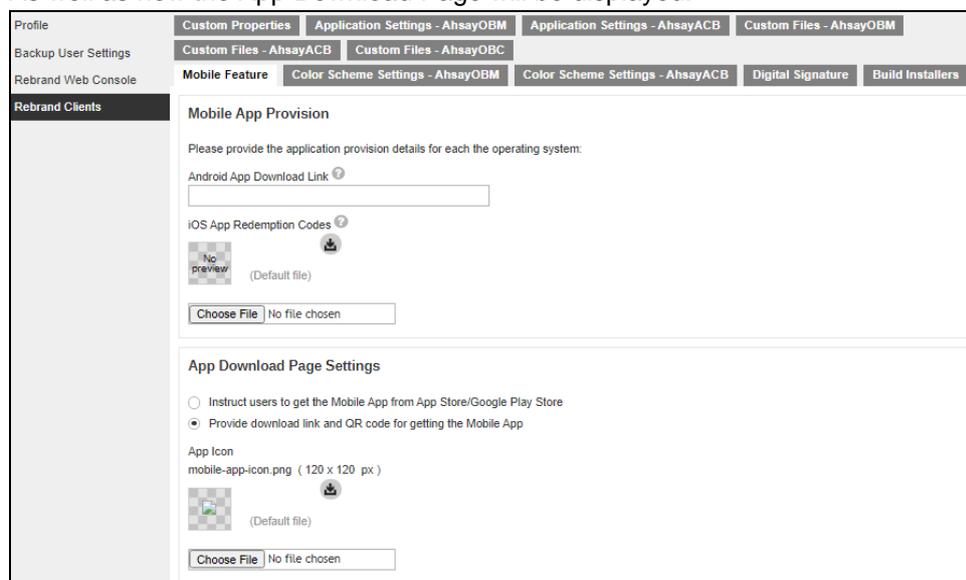
To customize the icon/image, click  and modify the icon/image file. Once done, click **Choose File** to upload the new icon/image file. Click  then  to save the changes.

In the **Custom Files - AhsayOBC** page, the icon and image may be customized to change the look of AhsayOBC.



To customize the icon/image, click  and modify the icon/image file. Once done, click **Choose File** to upload the new icon/image file. Click  then  to save the changes.

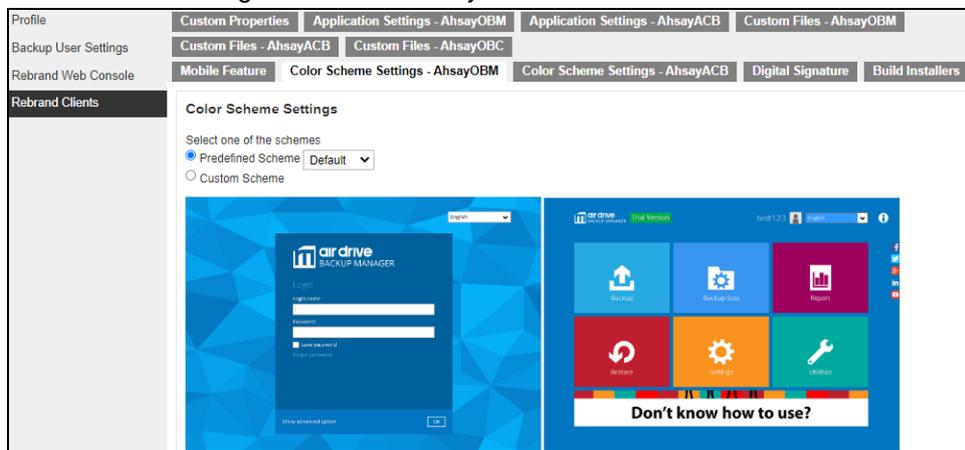
In the **Mobile Feature** page, the download link for the mobile app for Android and iOS device that can be accessed from the Play Store or App Store should be setup here. As well as how the App Download Page will be displayed.



1. For android device, enter the URL of the download link for the Play Store.
2. For iOS device, click  and modify the excel file. Once done, click **Choose File** to upload the modified excel file.
3. Select the app download page setting.
4. Customize the app icon, click  and modify the png file. Once done, click **Choose File** to upload the modified png file.

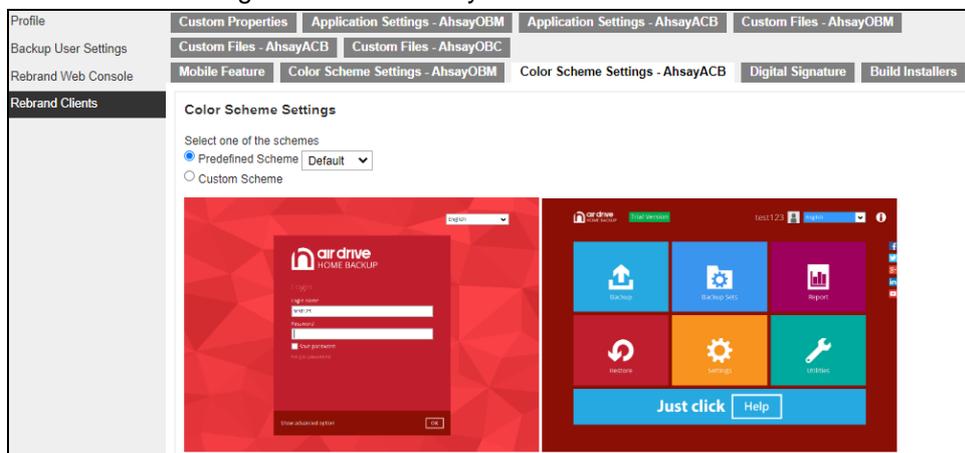
5. Click  then  to save the changes.

In the **Color Scheme Settings - AhsayOBM** page, the color scheme may be customized to change the look of AhsayOBM.



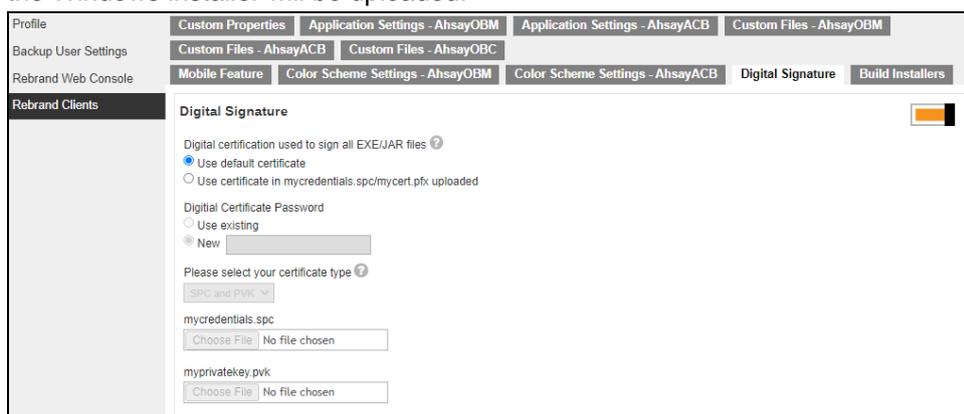
To customize the color scheme, select either a Predefined Scheme (choose from Default, Emerald, Rainbow or Ruby) or a Custom Scheme (select a color using the palette or input the hex color code for each section). Click  then  to save the changes.

In the **Color Scheme Settings - AhsayACB** page, the color scheme may be customized to change the look of AhsayACB.



To customize the color scheme, select either a Predefined Scheme (choose from Default, Emerald, Rainbow or Ruby) or a Custom Scheme (select a color using the palette or input the hex color code for each section). Click  then  to save the changes.

In the **Digital Signature** page, this is where the digital certificate that will be used for the Windows installer will be uploaded.



The screenshot shows the 'Digital Signature' configuration page. At the top, there are tabs for 'Custom Properties', 'Application Settings - AhsayOBM', 'Application Settings - AhsayACB', and 'Custom Files - AhsayOBM'. Below these are sub-tabs for 'Custom Files - AhsayACB', 'Custom Files - AhsayOBC', 'Mobile Feature', 'Color Scheme Settings - AhsayODM', 'Color Scheme Settings - AhsayACB', 'Digital Signature', and 'Build Installers'. The 'Digital Signature' tab is active. On the left, there is a sidebar with 'Rebrand Clients' selected. The main content area has a toggle switch for 'Digital Signature' which is turned on. Below the toggle, there are radio buttons for 'Use default certificate' (selected) and 'Use certificate in mycredentials.spc/mycert.pfx uploaded'. There is a 'Digital Certificate Password' section with radio buttons for 'Use existing' and 'New'. Below that is a 'Please select your certificate type' dropdown menu with 'SPC and PVK' selected. There are two file upload sections: 'mycredentials.spc' and 'myprivatekey.pvk', each with a 'Choose File' button and 'No file chosen' text.

1. Slide the switch to the right to turn on Digital Signature.
2. Select the digital certification to be used to sign all EXE/JAR files. There are two (2) choices:
 - Use default certificate – digital certificate of Ahsay will be used to generate the new installer.
 - Use certificate in mycredentials.spc/mycert.pfx uploaded – this will use your own digital certificate

Specify the digital certificate password.

Select the certificate type. If “SPC and PVK” is selected, click **Choose File** to upload the “mycredentials.spc” and “myprivatekey.pvk” certificate files. If “PFX” is selected, click **Choose File** to upload the “mycert.pfx” certificate file.

3. Click  then  to save the changes.

NOTE

You must send us the correct password to decrypt your private key file (myprivatekey.pvk) to build a Windows installer with your digital signature. For security reasons, the password to decrypt your private key file is not stored on this server. You must supply the password each time using the Digital Signature feature to build an installer with your digital signature.

The digital signature certificate file (mycredentials.spc) and private key file (myprivatekey.pvk) can be obtained from public certificate authorities by ordering either a “Microsoft Authenticode (Multi-Purpose) Certificate” from Thawte or a “Microsoft Authenticode Digital ID” from Verisign.

We support digital certificate in “PFX” format. Please rename your pfx file as “mycert.pfx” before uploading it.

In the **Build Installers** page, this is where branded installers for AhsayCBS or image files for AhsayUBS will be generated.



Before building the branded installer, ensure that you have done the following:

- Uploaded new logos for the web console in the Rebrand Web Console.
- Modified the custom properties in the **Custom Properties** page.
- Modified the application settings for AhsayOBM in the **Application Settings - AhsayOBM** page.
- Modified the application settings for AhsayACB in the **Application Settings - AhsayACB** page
- Uploaded new logos for AhsayOBM in the **Custom Files - AhsayOBM** page.
- Uploaded new logos for AhsayACB in the **Custom Files - AhsayACB** page.
- Uploaded new logos for AhsayOBC in the **Custom Files - AhsayOBC** page.
- Selected the build installer option with digital certificate in the **Digital Signature** page.

Click **Build Branded Client** to generate new installer.

Each installer file to be generated will take around 5-10 minutes to build. When the installers are built successfully, go to the download section to download the new installer.

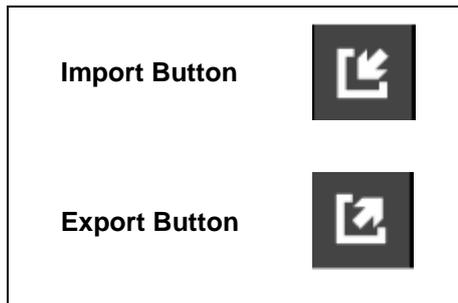
NOTE

Every time the AhsayCBS version is upgraded, it is required to rebuild the installers.

Export/Import System Users

The export function can export the branded images, and branded properties that is set in the **Rebrand Web Console** and **Rebrand Clients** into a JSON format file. If you need to apply the branding to other sub admin users, you may import the branded JSON file back to the user.

The **Import** and **Export** buttons are available to Admin and Sub Admin users only. They are found at the bottom right corner of the screen.



Delete a system user

1. Check the box in front of the system user to be deleted.

Manage System User				
<input type="checkbox"/>	Name	Type	Owner	Status
<input type="checkbox"/>	Sub Admin User 1	Sub Admin	--	Enable
<input type="checkbox"/>	sub1	Sub Admin	--	Enable
<input type="checkbox"/>	sub2	User Management Sub Admin	Sub Admin User 1	Enable
<input type="checkbox"/>	sub3	Read-only Sub Admin	sub1	Enable
<input checked="" type="checkbox"/>	sub4	Sub Admin	--	Enable
<input type="checkbox"/>	system	Admin	--	Enable

2. Click , in the message prompt that will appear click  to delete the system user.
3. Click  to save.

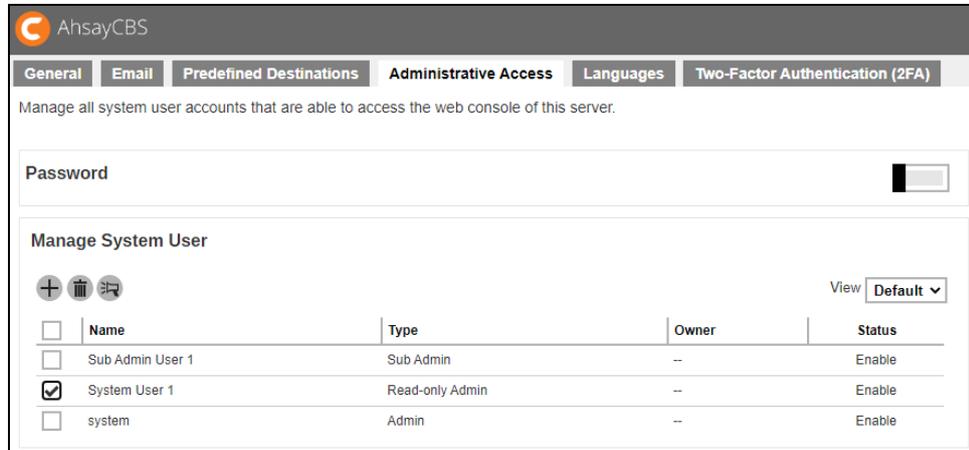
NOTE

Do not forget to click  to save the settings, otherwise the account will not be deleted.

Sending a broadcast message

If you want to send broadcast message to other Sub Admin or Read-only Admin, do the following:

1. Select the system users to whom you need to send the broadcast message. In our example, **System User 1** is selected.



AhsayCBS

General | Email | Predefined Destinations | **Administrative Access** | Languages | Two-Factor Authentication (2FA)

Manage all system user accounts that are able to access the web console of this server.

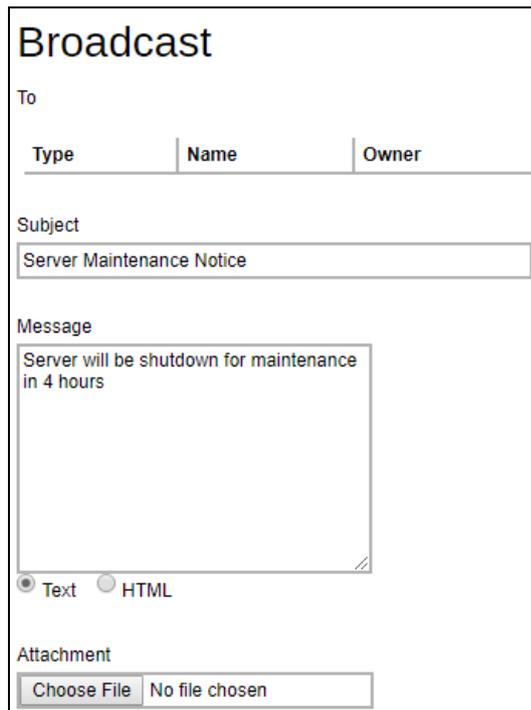
Password

Manage System User

View **Default** ▾

<input type="checkbox"/>	Name	Type	Owner	Status
<input type="checkbox"/>	Sub Admin User 1	Sub Admin	--	Enable
<input checked="" type="checkbox"/>	System User 1	Read-only Admin	--	Enable
<input type="checkbox"/>	system	Admin	--	Enable

2. Click the **Broadcast** icon in the middle of the page. The following appears:



Broadcast

To

Type	Name	Owner

Subject

Message

Text HTML

Attachment
 No file chosen

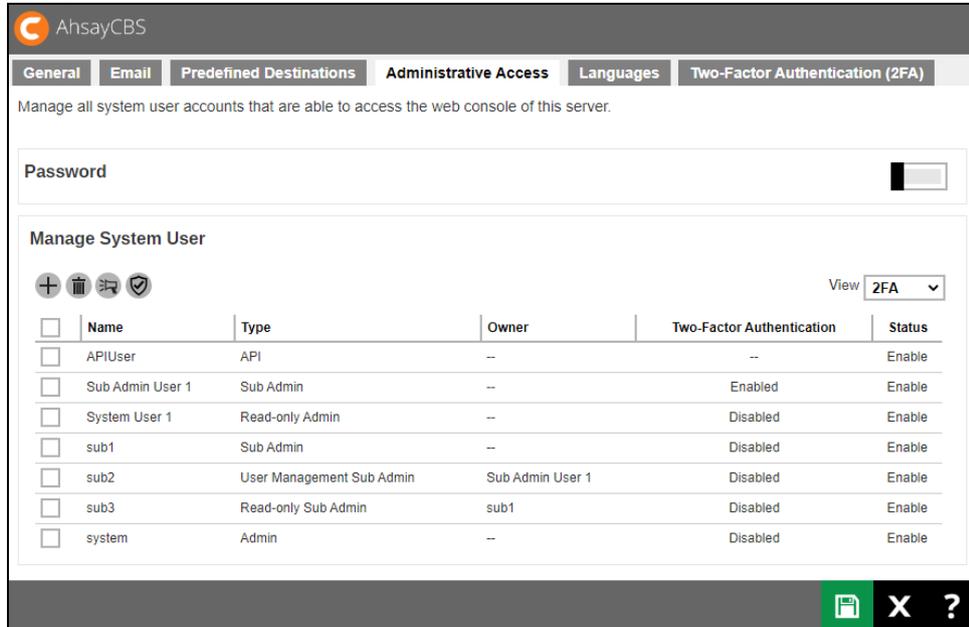
3. Enter the **Subject** and **Message** for the broadcast message.
 - You can select **Text** or **HTML** for the message body.
 - If you want to include an attachment, click **Choose File** and browse to the desired location to select the file you want.

Click the  button at the bottom right hand corner of the page to send the broadcast message. Click  to exit.

Enabling two-factor authentication

If you want to enable the two-factor authentication of several system users, do the following:

1. Select **2FA** in the View filter. This option is only available if Two-Factor Authentication has been enabled and setup in System Settings > Basic > Two-Factor Authentication (2FA) tab.



The screenshot shows the AhsayCBS web console interface. The 'Two-Factor Authentication (2FA)' tab is selected. Below the navigation tabs, there is a 'Manage System User' section with a 'View' dropdown menu set to '2FA'. A table lists system users with columns for Name, Type, Owner, Two-Factor Authentication, and Status.

<input type="checkbox"/>	Name	Type	Owner	Two-Factor Authentication	Status
<input type="checkbox"/>	APIUser	API	--	--	Enable
<input type="checkbox"/>	Sub Admin User 1	Sub Admin	--	Enabled	Enable
<input type="checkbox"/>	System User 1	Read-only Admin	--	Disabled	Enable
<input type="checkbox"/>	sub1	Sub Admin	--	Disabled	Enable
<input type="checkbox"/>	sub2	User Management Sub Admin	Sub Admin User 1	Disabled	Enable
<input type="checkbox"/>	sub3	Read-only Sub Admin	sub1	Disabled	Enable
<input type="checkbox"/>	system	Admin	--	Disabled	Enable

2. Select the system user you want to enable 2FA.



This screenshot shows the same 'Manage System User' interface as above, but with the 'System User 1' and 'sub1' rows selected. The checkboxes in the first column of these rows are checked.

<input type="checkbox"/>	Name	Type	Owner	Two-Factor Authentication	Status
<input type="checkbox"/>	APIUser	API	--	--	Enable
<input type="checkbox"/>	Sub Admin User 1	Sub Admin	--	Enabled	Enable
<input checked="" type="checkbox"/>	System User 1	Read-only Admin	--	Disabled	Enable
<input checked="" type="checkbox"/>	sub1	Sub Admin	--	Disabled	Enable
<input type="checkbox"/>	sub2	User Management Sub Admin	Sub Admin User 1	Disabled	Enable
<input type="checkbox"/>	sub3	Read-only Sub Admin	sub1	Disabled	Enable
<input type="checkbox"/>	system	Admin	--	Disabled	Enable

3. Click the  button in the middle of the page. The following appears:

×



Two-Factor Authentication

Apply the following SMS authentication option to the selected 2 user(s)

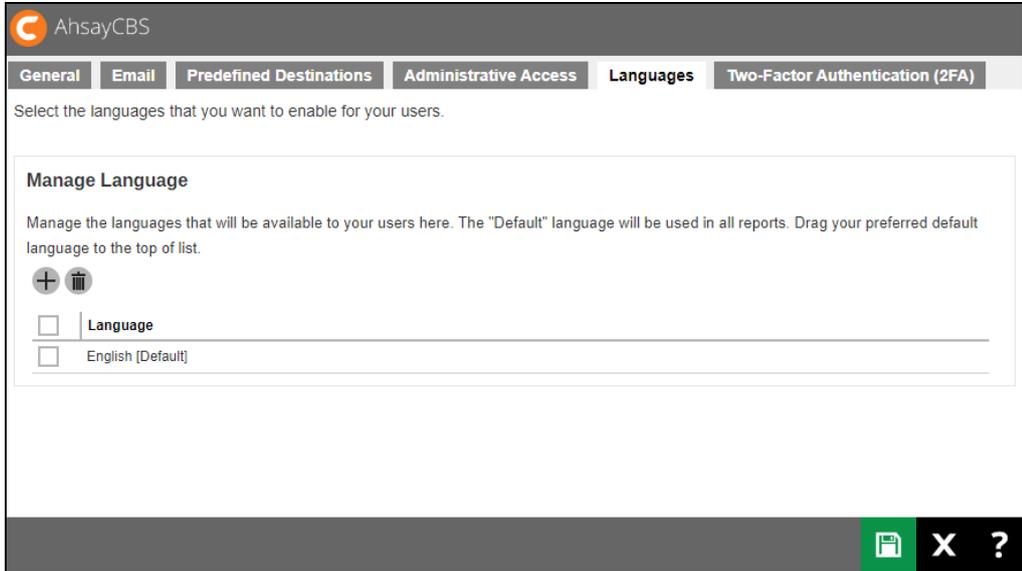
Name	Type
System User 1	Read-only Admin
sub1	Sub Admin

EnableDisableCancel

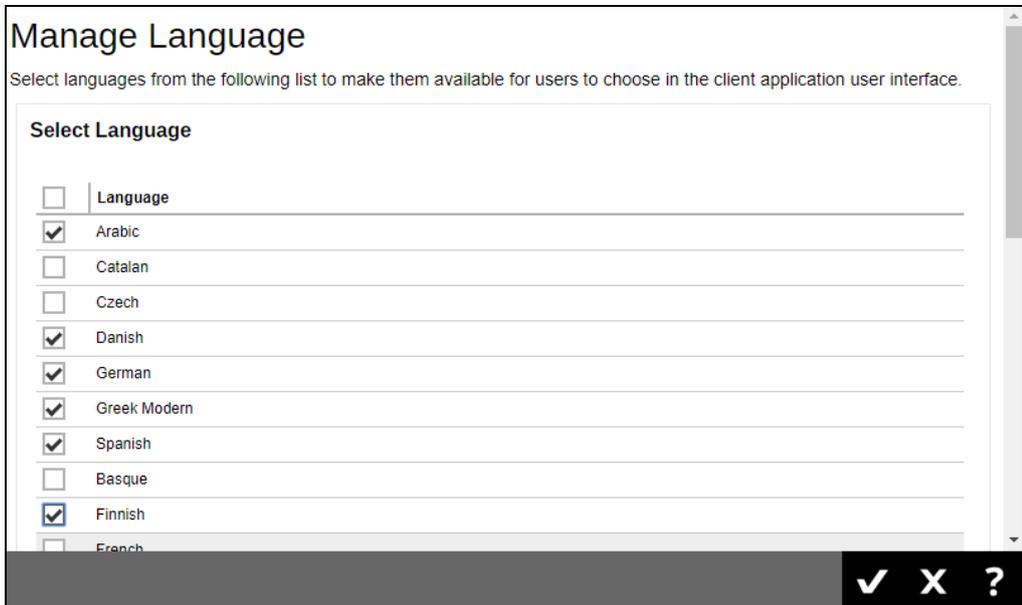
4. Click the Enable button then the  button at the bottom right hand corner of the page to save the settings. Click  to exit.

5.1.5 Languages

The following shows the **Languages** tab under **System Settings > Basic**. You can select the language(s) available to your users.



To select the language you want to make available to your users, simply click the  button then check the box next to the language and click . Click the  button once done.



The available languages are:

- ▶ English (default)
- ▶ Czech
- ▶ Greek Modern
- ▶ Finnish
- ▶ Hungarian
- ▶ Japanese
- ▶ Dutch
- ▶ Portuguese (Brazil)
- ▶ Slovenian
- ▶ Turkish
- ▶ Chinese (Traditional)
- ▶ Arabic
- ▶ Danish
- ▶ Spanish
- ▶ French
- ▶ Indonesian
- ▶ Korean
- ▶ Norwegian
- ▶ Portuguese (Portugal)
- ▶ Swedish
- ▶ Vietnamese
- ▶ Catalan
- ▶ German
- ▶ Basque
- ▶ Hebrew
- ▶ Italian
- ▶ Lithuanian
- ▶ Polish
- ▶ Russian
- ▶ Thai (Western digits)
- ▶ Chinese (Simplified)

NOTE

To change the default language settings for the AhsayCBS web console, simply drag your preferred default language to the top of the list.

Manage Language

Manage the languages that will be available to your users here. The "Default" language will be used in all reports. Drag your preferred default language to the top of list.

+ -

<input type="checkbox"/>	Language
<input type="checkbox"/>	English [Default]
<input type="checkbox"/>	Danish
<input type="checkbox"/>	German
<input type="checkbox"/>	Greek Modern
<input type="checkbox"/>	Spanish
<input type="checkbox"/>	Finnish
<input type="checkbox"/>	Arabic

For newly installed AhsayCBS v8.1, the only language available is English. You need to manually add the languages that will be made available to your users. See instructions on how to add languages [above](#).

Manage Language

Select languages from the following list to make them available for users to choose in the client application user interface.

Select Language

<input type="checkbox"/>	Language
<input type="checkbox"/>	Arabic
<input type="checkbox"/>	Catalan
<input type="checkbox"/>	Czech
<input type="checkbox"/>	Danish
<input type="checkbox"/>	German

✓ ✕ ?

5.1.6 Two-Factor Authentication

For AhsayCBS v8.5.0.0 and onwards, there will be two options available for two-factor authentication which are the following:

• [Mobile Authentication](#)

Mobile Authentication feature is introduced to provide two-factor authentication during login for added security. During login, aside from providing the normal Ahsay password, an additional step will need to be completed to finish the login steps.

Users have two options once this feature is enabled to complete the login:

- Accept the notification request sent to the Ahsay Mobile app or use a time-based one-time password code.
- Provide the time-based one-time password code generated by a third-party authenticator app. Examples of these apps are Google Authenticator, Microsoft Authenticator, LastPass Authenticator etc.

• [Twilio Credentials Verification](#)

This option will only be available to legacy clients who are currently using Twilio Credentials Verification on AhsayCBS v8.3.0.30 to 8.3.6.x and have upgraded to AhsayCBS v8.5.0.0 or above. Users of Twilio Credentials Verification may continue using this on AhsayCBS v8.5.0.0 or above. After the upgrade, settings of Twilio Credentials Verification will be automatically migrated.

As Twilio Credentials Verification has been replaced with Mobile Authentication starting from AhsayCBS v8.5.0.0, for users who have not setup Twilio Credentials Verification in pre-AhsayCBS v8.5.0.0 versions, this option will not be available once you upgrade to AhsayCBS v8.5.0.0 or above.

For legacy Twilio clients, only one of the options for two-factor authentication may be enabled. It is not possible to enable both Mobile Authentication and Twilio Credentials Verification at the same time. Either continue using Twilio Credentials Verification or switch to Mobile Authentication.

Once the two-factor authentication switch to Mobile Authentication is confirmed, the Twilio Credentials Verification will be permanently deleted from AhsayCBS and you will no longer be able to re-enable this feature.

If the “Require Two-Factor Authentication for user logon” is enabled, on the next login on all AhayOBM/AhsayACB v8.5.0.0 or above clients or AhsayCBS web console, the user will be required to register a mobile device for the new Mobile Authentication 2FA, otherwise they will not be allowed to proceed with the login.

NOTE

To enhance security, the recovery email feature for Twilio users has been removed for AhsayCBS v8.5.0.0 or above.



Login Name
 Password
 Forgot Password

AhsayCBS/AhsayOBM/AhsayACB Login

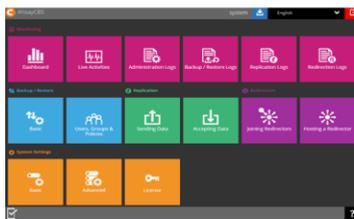
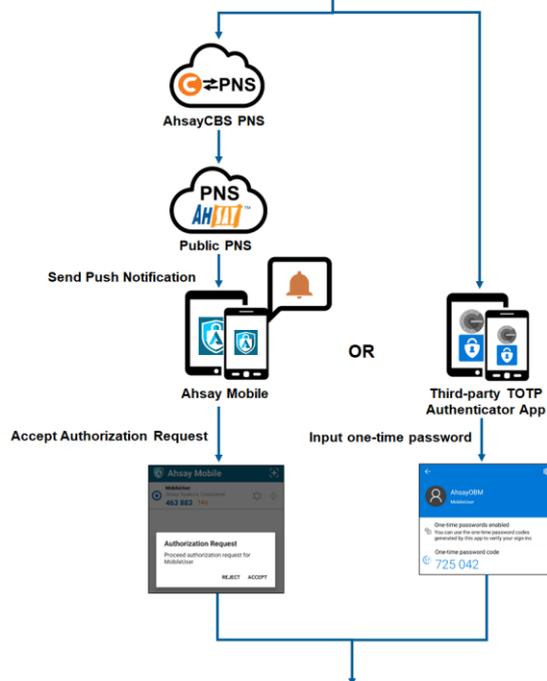
Two-Factor Authentication

Please select one Two-Factor Authentication method to continue.

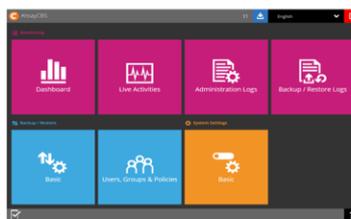
- Approve request in Authenticator App from "Galaxy A70"
- Input one-time password generated in Authenticator App from "system"

Unable to login/Do not have any Authenticator Apps?

AhsayCBS/AhsayOBM/AhsayACB – Two-Factor Authentication (2FA)



AhsayCBS Web Console for System/Admin/Read-only Admin Accounts



AhsayCBS Web Console for Sub Admin Accounts



Don't know how to use?

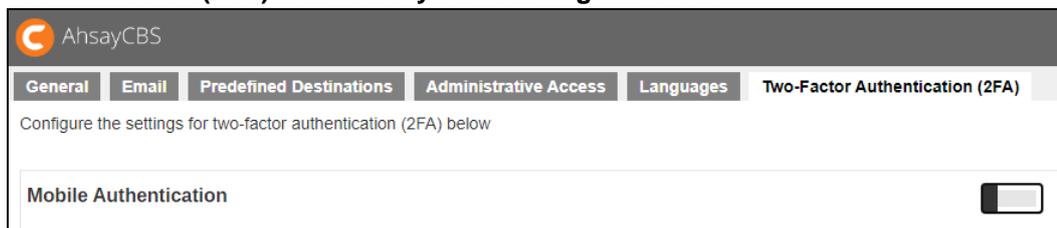


AhsayCBS Web Console for AhsayOBM/AhsayACB User Accounts



Just click Help

For newly installed AhsayCBS v8.5.0.0 and onwards, the Two-Factor Authentication that will be available will be the Mobile Authentication. The following shows the **Two-Factor Authentication (2FA)** tab under **System Settings > Basic**.



To set up, switch on **Mobile Authentication**. By default it is switched off.

Requirements for 2FA AhsayCBS:

- ▶ AhsayCBS v8.5.0.0 or onwards must be installed.
- ▶ To use Two-Factor Authentication with https protocol, a valid SSL certificate from a trusted CA must be installed on AhsayCBS. Otherwise, you will have to use http instead which means all AhsayOBM/AhsayACB users with Two-Factor Authentication enabled will need to connect using http as well.
- ▶ The firewall on the AhsayCBS machine must be configured to allow outbound connections to `pns.ahsay.com` via port 80 and 443. Failure to do so will prevent you from signing in to AhsayCBS, AhsayOBM and AhsayACB using Push Notification feature.
- ▶ The AhsayCBS public IP address or domain must be resolvable locally on the AhsayCBS server, i.e. **ping your-cbs-server.com** on the AhsayCBS server itself must be successful.

Requirements for Ahsay Mobile app:

- ▶ A mobile device with the latest version of Ahsay Mobile app and/or a TOTP Authenticator App such as Google or Microsoft Authenticator installed is available for the Two-Factor Authentication.

NOTE

Although only one authenticator app is needed for Two-Factor Authentication, several authenticator apps may be used. For example, AhsayOBM/AhsayACB can register and use both Ahsay Mobile app and Google Authenticator.

- ▶ Ahsay Mobile app must be installed on a supported Android or iOS mobile device.
 - ◉ For android device, android version must be Android 8 or above.
 - ◉ For apple device, iOS version must be 12.0 or above.
- ▶ Ensure that Ahsay Mobile app is connected to the same local WIFI network as the AhsayOBM/AhsayACB machine. Failure to do so will prevent the Ahsay Mobile app from performing mobile backup/restore.

- The Ahsay Mobile app or third-party authenticator app must be registered with AhsayOBM and AhsayACB.
- AhsayOBM and AhsayACB must be connected to the internet.
- The mobile device must have a valid mobile service and be able to receive SMS notifications.
- The mobile device must have a functioning camera for scanning QR code to register 2FA.
- To use push notification for Two-Factor Authentication with the Ahsay Mobile app, the mobile device must have an internet connection.
- Ensure to Allow Notification on the Ahsay Mobile app for your mobile devices.

Limitations:

- Not supported for AhsayCBS API type accounts.
- For Replication, both sending and receiving are not covered.
- For Redirector, both hosting and joining are not covered,
- 2FA will not work in AhsayOBM and AhsayACB earlier than v8.5.0.0.
- Not supported in AhsayOBM running on Synology and QNAP NAS.
- Not supported in Linux CLI and FreeBSD CLI.

Supported Applications / Modules	
AhsayCBS	✓
➤ Replication (Accepting Data and Sending Data)	✗
➤ Redirection (Joining Redirectors and Hosting a Redirector)	✗
AhsayOBM	✓
AhsayACB	✓

Supported System Users	
Admin	✓
Sub-Admin	✓
Read-only Admin	✓
API	✗

Supported Backup Users

AhsayOBM/AhsayACB User (Paid)	✓
AhsayOBM/AhsayACB User (Trial)	✓

Supported Operating System

Windows	✓
Mac	✓
Linux GUI	✓
Linux CLI	✗
FreeBSD CLI	✗
Synology DSM	✗
QNAP QTS	✗

Set up Mobile Authentication:

Switching on Mobile Authentication two-factor authentication support for AhsayCBS involves:

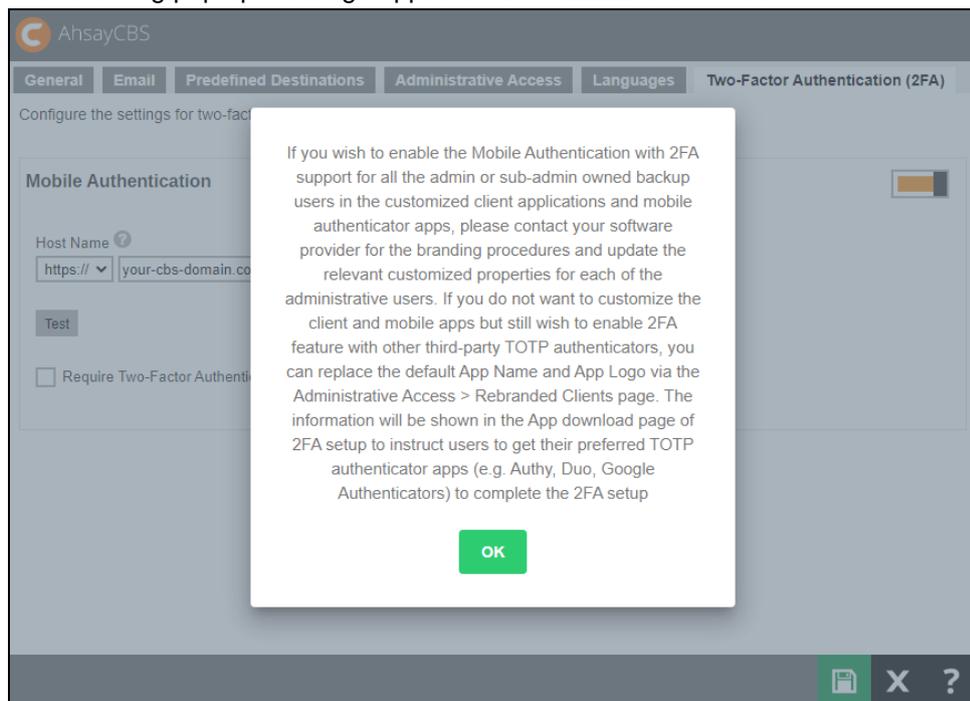
- 1st: [Enabling Mobile Authentication in System Settings > Basic > Two-Factor Authentication \(2FA\)](#)
- 2nd: [Enabling Two-Factor Authentication of AhsayOBM/AhsayACB user accounts.](#)

Enable Mobile Authentication in AhsayCBS:

1. Switch on **Mobile Authentication**, by default it is switched off.



2. The following pop up message appears. Click **OK** to continue.



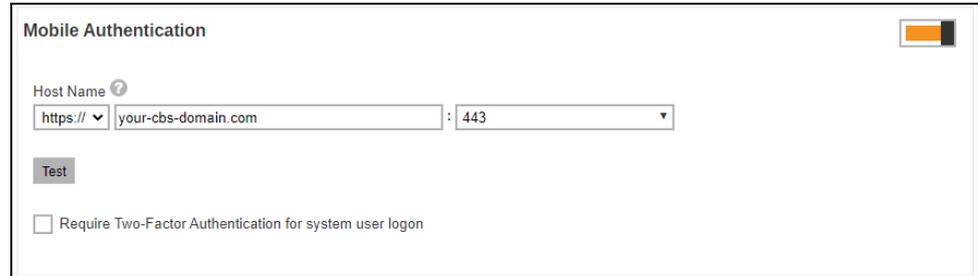
3. Register AhsayCBS Host Name details for 2FA:
 - i. Select the type of protocol, whether http or https.
 - ii. Enter the **Host Name or external IP address of your AhsayCBS server.**

NOTE

The host name must be a FQDN (Fully Qualified Domain Name) which consists of the host name and domain name or an external IP address.

- iii. Select the port used by AhsayCBS, for example 80 for http or 443 for https.

Example: <https://your-cbs-domain.com>

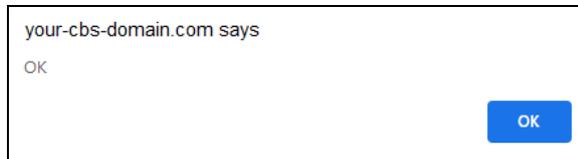


The screenshot shows a 'Mobile Authentication' configuration window. It features a 'Host Name' field with a dropdown menu set to 'https://' and a text input containing 'your-cbs-domain.com'. To the right of the text input is a port dropdown menu set to '443'. Below the host name field is a 'Test' button. At the bottom, there is a checkbox labeled 'Require Two-Factor Authentication for system user logon' which is currently unchecked.

NOTE

To use Two-Factor Authentication with https protocol, a valid SSL certificate from a trusted CA must be installed on AhsayCBS. Otherwise, you will have to use http instead which means all AhsayOBM/AhsayACB users with Two-Factor Authentication enabled will need to connect using http as well.

4. Click on **Test** to verify. A confirmation message will be displayed once the verification is done.



The screenshot shows a small dialog box with the text 'your-cbs-domain.com says' and 'OK' below it. A blue 'OK' button is located at the bottom right of the dialog.

5. **Optional:** Check the box if it is mandatory for system users to login using two-factor authentication.



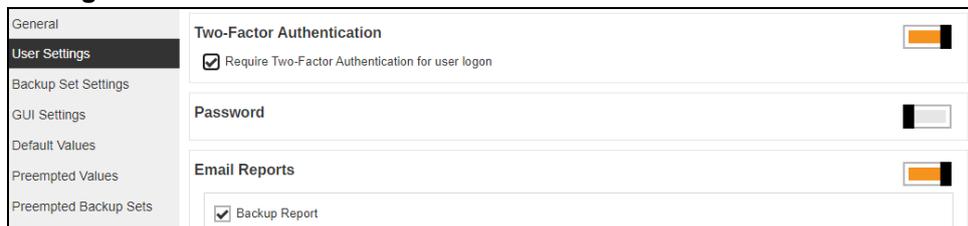
The screenshot shows a checkbox that is checked, followed by the text 'Require Two-Factor Authentication for system user logon'.

6. Click  to save.

Enable Two-Factor Authentication of AhsayOBM/AhsayACB user accounts:

There are three ways to enable two-factor authentication of AhsayOBM/AhsayACB users:

- The two-factor authentication can be enabled per individual AhsayOBM/AhsayACB user account. To do this please refer to [Managing Backup User > User Profile](#) for instructions.
- It can also be enabled for several AhsayOBM/AhsayACB user accounts at once, please refer to [Manage Backup User > Enable / Disable Two-Factor Authentication](#) for instructions.
- Or be enabled for all AhsayOBM/AhsayACB user accounts which can be done by enabling **Require Two-Factor Authentication for user logon** setting in **Backup / Restore > Users, Groups & Policies > Policy Group > %policy name% > User Settings > Two-Factor Authentication**.

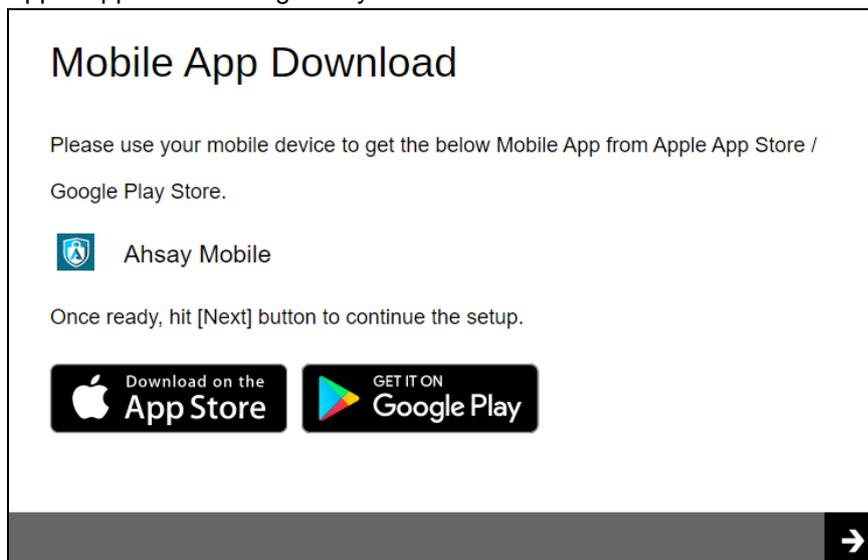


Once enabled, on the next login for all AhsayOBM/AhsayACB v8.5.0.0 or above clients which support Mobile Authentication 2FA or AhsayCBS web console user login, will be required to register a mobile device for the new Mobile Authentication 2FA. Otherwise, they will not be allowed to proceed with the login.

Here are examples of the next login in AhsayCBS web console after Require Two-Factor Authentication for user logon has been enabled.

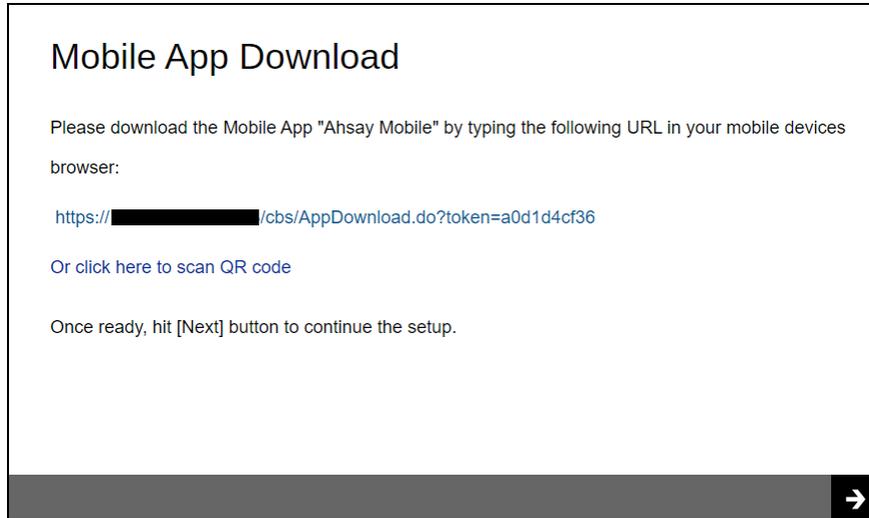
Depending on the App Download Page Settings, the screen that will be displayed may be either of the two:

This is the default screen which has instructions to download Ahsay Mobile from the Apple App Store / Google Play Store.



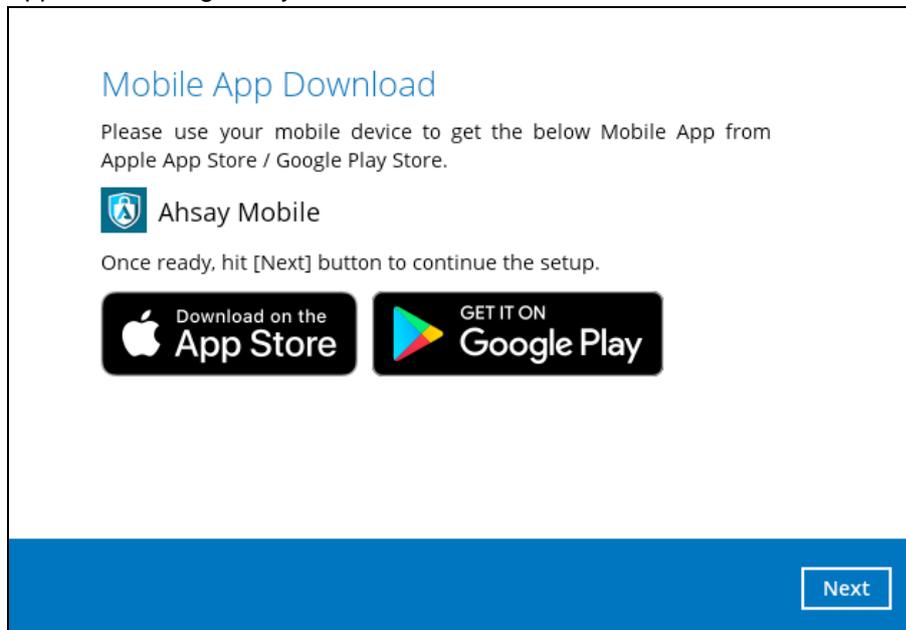
Or

For branded application, this will be the screen, which has instructions to download the mobile app by entering the URL provided in your device's browser or you can also scan the QR code by clicking [Or click here to scan QR code](#) link.



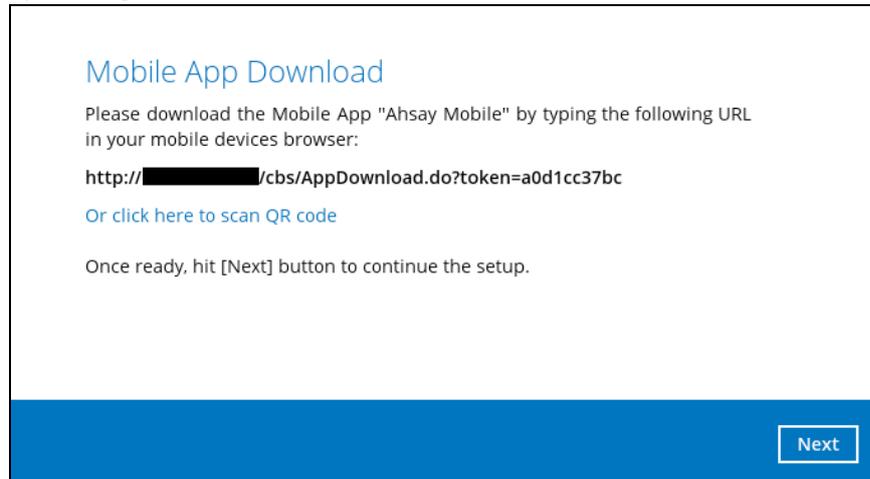
While these are the examples for AhsayOBM/AhsayACB:

The default screen which has instructions to download Ahsay Mobile from the Apple App Store / Google Play Store.



Or

The branded application screen, which has instructions to download the mobile app by entering the URL provided in your device's browser or you can also scan the QR code by clicking [Or click here to scan QR code](#) link.



NOTE

Although the 2FA setting have been setup on the AhsayCBS server, you have to enable 2FA for each AhsayOBM/AhsayACB user account before they can use it. For more information please refer to [Managing Backup User > User Profile](#). To enable it for several AhsayOBM/AhsayACB user accounts at once please refer to [Manage Backup User > Enable / Disable Two-Factor Authentication](#) for instructions. To enable it for all AhsayOBM/ACB user accounts please refer to [step 6](#) above for details. For instructions on how to enable 2FA for AhsayCBS system user please refer to [Enabling two-factor authentication](#).

Migrate Users from Twilio to Mobile Authentication:

WARNING

Once you have enabled Mobile Authentication the Twilio Credentials Verification will automatically be deleted from the system and it will not be possible to re-enable it at a later date.

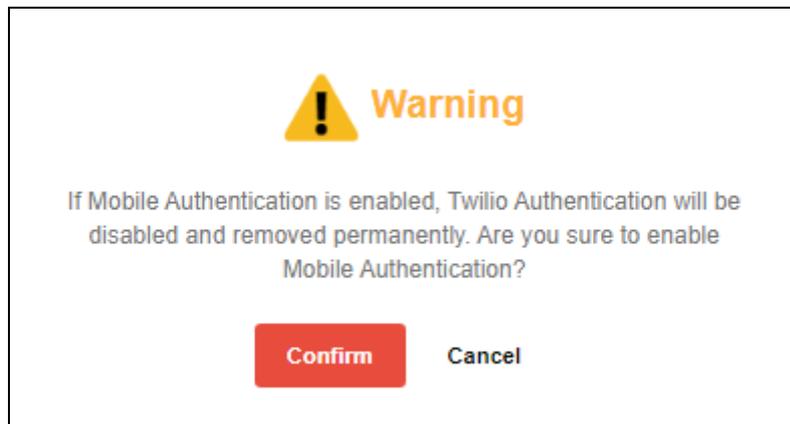
To migrate users using Twilio to Mobile Authentication follow the steps below:

1. Switch on Mobile Authentication.



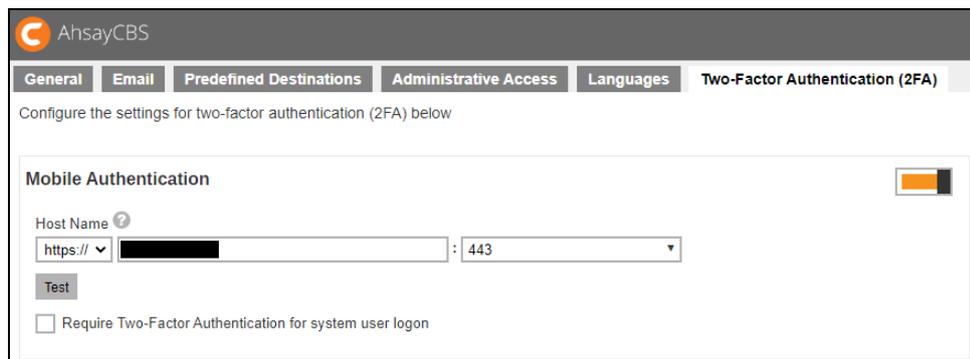
A screenshot of the AhsayCBS web interface showing the 'Two-Factor Authentication (2FA)' settings page. The page has a navigation bar with tabs for 'General', 'Email', 'Predefined Destinations', 'Administrative Access', 'Languages', and 'Two-Factor Authentication (2FA)'. Below the navigation bar, there is a heading 'Configure the settings for two-factor authentication (2FA) below'. Underneath, there is a section titled 'Mobile Authentication' with a toggle switch that is currently turned on (indicated by a grey bar on the right).

2. Click **Confirm**.



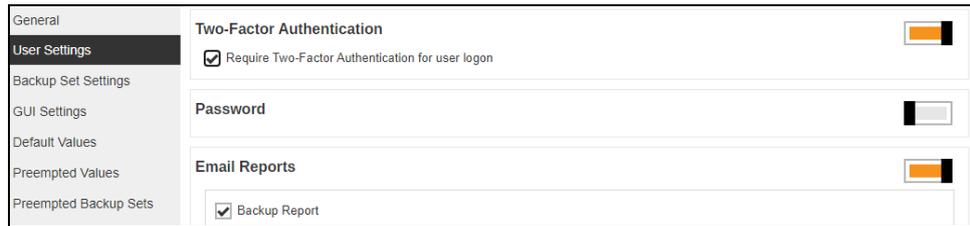
A warning dialog box with a yellow triangle icon containing an exclamation mark. The text reads: 'Warning. If Mobile Authentication is enabled, Twilio Authentication will be disabled and removed permanently. Are you sure to enable Mobile Authentication?'. At the bottom, there are two buttons: 'Confirm' (in a red box) and 'Cancel'.

3. Twilio Credentials Verification is now deleted. Set up two-factor authentication and click  to save.



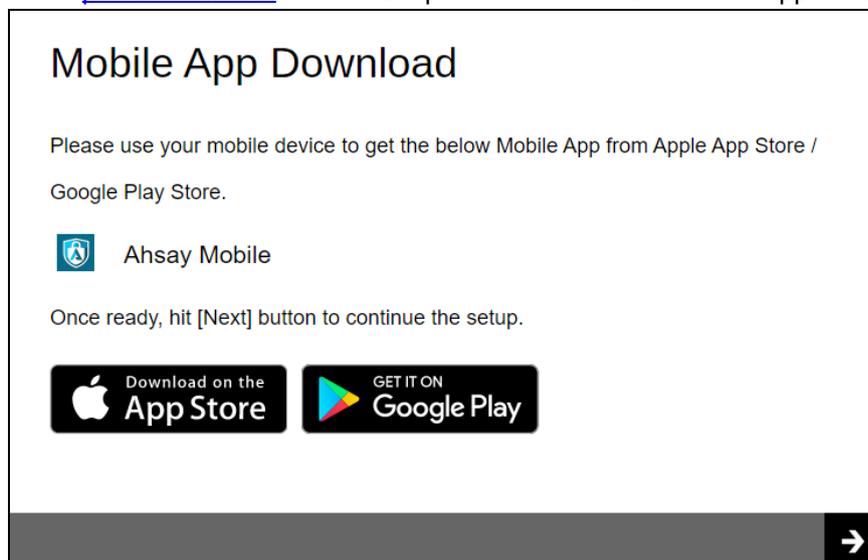
A screenshot of the AhsayCBS web interface showing the 'Two-Factor Authentication (2FA)' settings page. The 'Mobile Authentication' toggle switch is now turned on (indicated by an orange bar on the right). Below the toggle, there is a 'Host Name' field with a dropdown menu showing 'https://' and a text input field containing a redacted address. To the right of the text input is a dropdown menu showing '443'. Below the host name field is a 'Test' button. At the bottom, there is a checkbox labeled 'Require Two-Factor Authentication for system user logon' which is currently unchecked.

4. Enable for your users by enabling the **Require Two-Factor Authentication for user logon** setting.

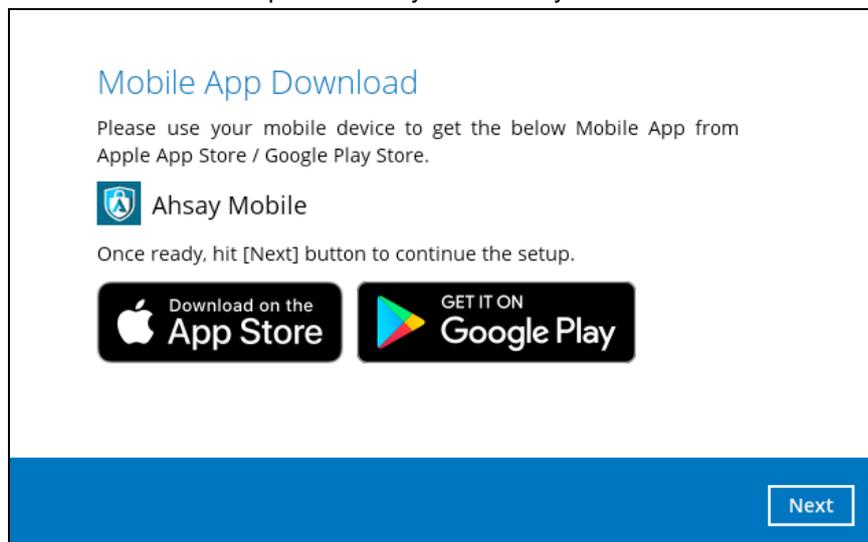


Once enabled, on the next login for all AhsayOBM/AhsayACB v8.5.0.0 or above clients which support Mobile Authentication 2FA or AhsayCBS web console user login, will be required to register a mobile device for the new Mobile Authentication 2FA. Otherwise, they will not be allowed to proceed with the login.

Here is an example of the default screen during next login in AhsayCBS web console after Require Two-Factor Authentication for user logon has been enabled. Please refer to the [previous section](#) for an example of the screen in branded applications.



While this is the example for AhsayOBM/AhsayACB.



Twilio Credentials Verification

For users on AhsayCBS v8.3.0.30 until v8.3.6.x using Twilio, after upgrading to the latest AhsayCBS v8.5.0.0 or above, the existing Twilio Credentials setup will be migrated to the new version. So existing users can still continue using Twilio for two-factor authentication.

However, if Twilio has not been setup in the previous AhsayCBS version, setup of Twilio is desupported in AhsayCBS v8.5.0.0. Only modification of existing Twilio setting is allowed.



Modify Twilio Credentials

1. Update the **Account SID**, **Auth Token** and **Sender** details, if needed.
2. Click on **Test** to verify.
3. Update the following: **Passcode length**, **Resend cooldown time**, **Expiry time**, **Consecutive invalid passcode attempts allowed** and **Consecutive resend allowed**,

if needed.

Passcode length	<input type="text" value="6"/>
Resend cooldown time	<input type="text" value="1"/> Minutes
Expiry time	<input type="text" value="5"/> Minutes
Consecutive invalid passcode attempts allowed	<input type="text" value="5"/> Times
Consecutive resend allowed	<input type="text" value="5"/> Times

4. Check the box if you will allow legacy clients to skip SMS authentication. Legacy clients are AhsayOBM users who has an old version of AhsayOBM installed who upgraded to the latest version but has not run any backup yet. If this box is not checked, the user will be directed to the 2FA page.

<input checked="" type="checkbox"/> Allow legacy client to skip SMS authentication
--

5. Click  to save.

NOTE

Although the 2FA setting have been setup on the AhsayCBS server, you have to enable 2FA for each AhsayOBM/AhsayACB user account before they can use it. For more information please refer to [Managing Backup User > User Profile](#).

WARNING

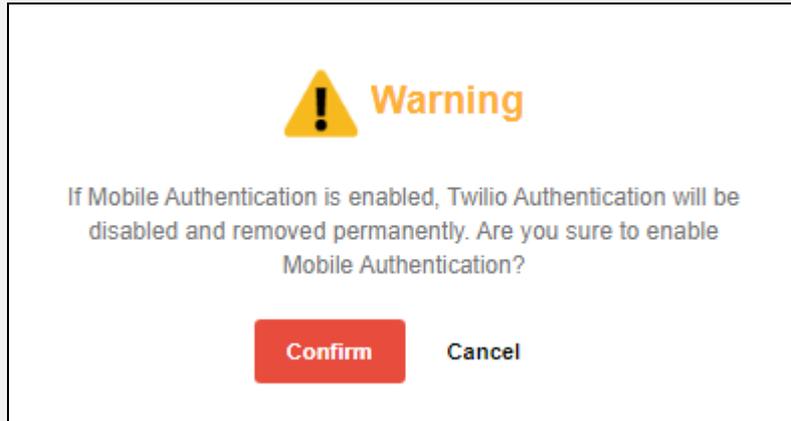
The **Allow legacy client to skip SMS authentication** box must be checked if you are using AhsayOBM/AhsayACB version older than 8.3.0.30 or else you will not be able to log in and your scheduled and continuous backups will not run. All functions requiring access and authentication to AhsayCBS will also not work. Like starting a manual backup from the System Tray in AhsayOBM/AhsayACB in Windows. Running AhsayOBM/AhsayACB batch files in Windows. Running AhsayOBM scripts in Linux/FreeBSD. Running AhsayOBM/AhsayACB scripts in MacOS. AhsayCBS server initiated backups on AhsayOBM/AhsayACB. And Auto Upgrade (AUA) on AhsayOBM/AhsayACB. For more details please refer to Appendix C of the [AhsayOBM Quick Start Guide for Windows](#) and Appendix J of the [AhsayOBM Quick Start Guide for Linux \(CLI\)](#).

WARNING

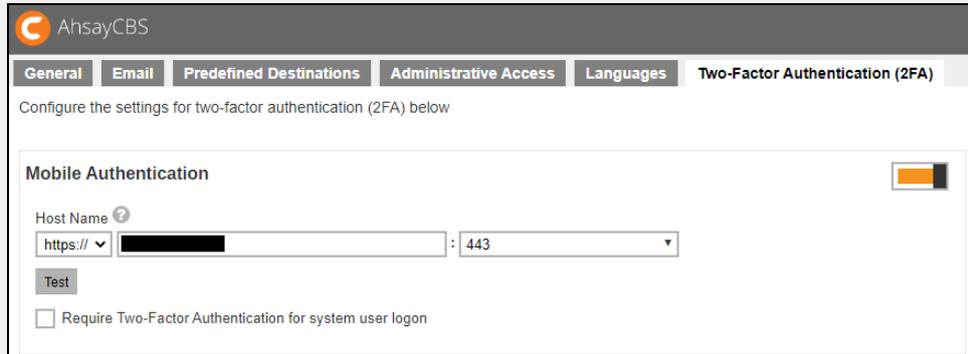
If you **switch on Mobile Authentication** or **switch off Twilio Credentials Verification**, Twilio Credentials Verification will be deleted from AhsayCBS permanently. It will not be possible to re-enable Twilio Credentials Verification at a later date.

Here are the warning messages you will receive:

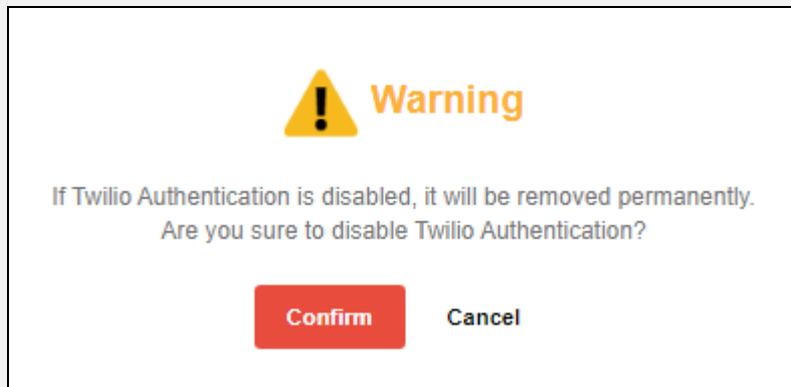
➤ Switch on Mobile Authentication



You will be left with Mobile Authentication only.



➤ Switch off Twilio Credentials Verification



Only a switched off Mobile Authentication will be left.

Configure the settings for two-factor authentication (2FA) below

Mobile Authentication

5.2 Advanced Backup Server Configuration

To manage your AhsayCBS advanced backup server configurations, simply click the **Advanced** icon under **System Settings** from your AhsayCBS environment.



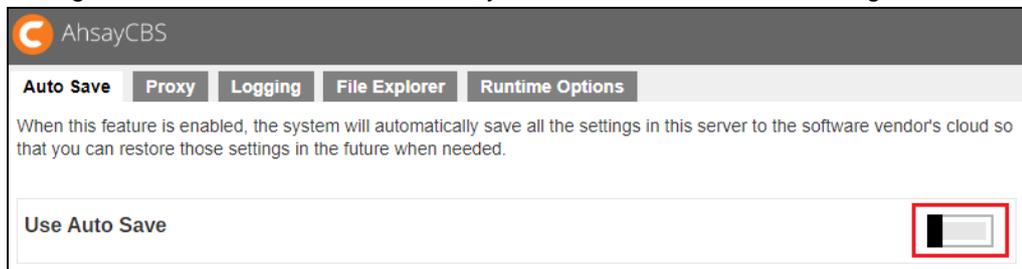
You can perform the following advanced configurations on your Backup Server:

- Restore data that has been automatically saved to Ahsay License Server.
- Configure settings for proxy connection
- Publish system and error messages to third party monitoring tools
- Retrieve system files for troubleshooting
- Configure run time options such as Java heap size, thread stack, etc.

There are 5 tabs under the **Advanced** system settings section, each of which is described below.

5.2.1 Auto Save

The following shows the **Auto Save** tab under **System Settings > Advanced**. Default setting of Auto Save feature is disabled, you can slide the switch to the right to enable it.



When this feature is enabled, the system will automatically save all the settings in this server to the Ahsay License Server daily at 6:00AM, so you can restore those settings in the future when needed.

NOTE

Please kindly note that:

- The Auto Save feature is **NOT** supported for either Evaluation license keys or the expired license keys. If the license is expired, neither backup nor restore will be supported, and there will be "**LicenseError**" in "Monitoring > Backup / Restore Logs > Activities Log" showing "[disableConfArchival] License maintenance and support period has expired".
- Maximum of 30 snapshots will be created and saved in the Ahsay License Server. When over 30, the 31st snapshot will overwrite the 1st one. The size limit for each snapshot uploaded to Ahsay License Server is 50MB, there will be "**RoutineJobError**" of "The size of

“filename” is larger than 50MB.” when the snapshot exceeds the size limit.

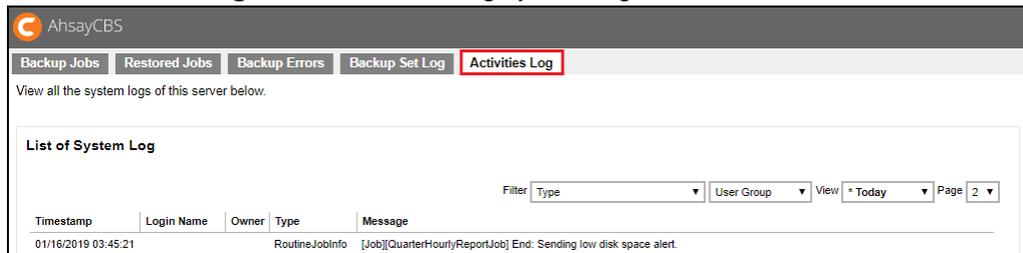
- The created snapshot will also be stored in the local drive with directory of “%AhsayCBS_INSTALL%\AhsayCBS\conf\Backup\dr-YYYY-MM-DD.zip”. Maximum of 25 snapshots can be saved in the local drive, so when over 25, the 26th snapshot will overwrite the 1st one. You can check whether there is an automatic delete process by searching the logs for “[ConfigurationArchival.removeLocalBkp] Removed configuration backup file(s) [filename.zip] locally.” in the AhsayCBS web console > Monitoring > Backup/Restore Logs > Activities Log.

You can check the Auto Save daily job status by the following steps:

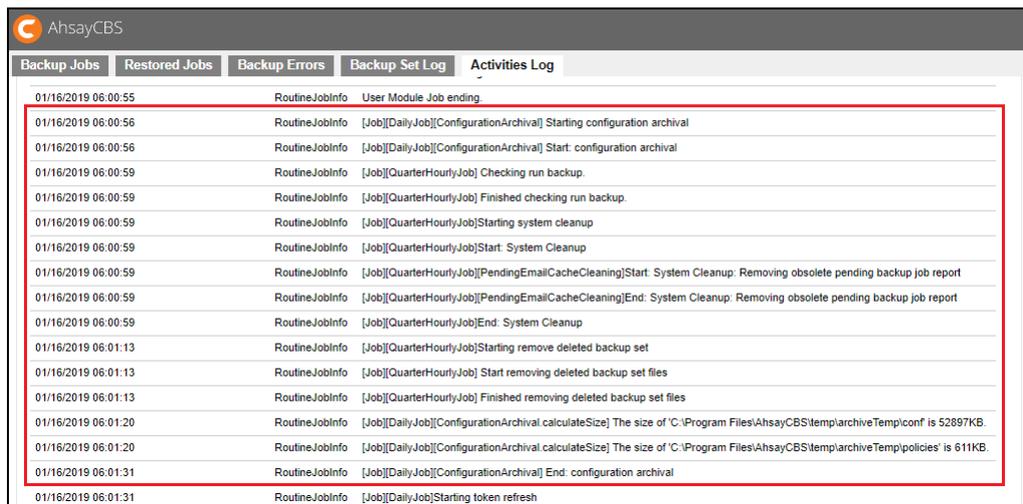
1. Click the **Backup/ Restore Logs** under **Monitoring** from your AhsayCBS environment.



2. Click **Activities Log** to find the according system log.



3. Search for the log message “[Job][DailyJob] Starting configuration archival” and “[Job][DailyJob] Finished configuration archival” with timestamp being around 06:00:00.



4. If the job is finished with no “**RoutineJobError**”, the Auto Save job has finished successfully.

The following system configuration files will be saved on the cloud daily by the auto save system job.

Server Configuration	
Description	Path
Connector setting file	/conf/server.xml
CBS option files	/conf/afc.opt /conf/cbs.opt
Runtime setting file	/conf/cbssvc.ini
Default certificate files	/conf/ca.crt /conf/ssl.crt /conf/ssl.key
CBS setting files	/conf/cbs.json
Redirector configuration files	/conf/lfsConfig.xml
OBS Configuration	
Description	Path
Backup Server setting files	/conf/obs.json
License files	/conf/lic.json /conf/license.xml
CBS/OBS option files	/conf/cbs.opt
Autoupdate index	/conf/autoUpdate.bdb
Replication configuration files	/conf/rpsSend.xml
RPS Configuration	
Description	Path
Replication configuration files	/conf/rps.xml /conf/rpsRecv.xml /conf/rps-recv.json
RDR Configuration	
Description	Path
Redirector configuration files	/conf/rdr.xml /conf/rdr.json
License files	/conf/rdr-lic.json /conf/rdr-license.xml
OBS User Profile	
Description	Path
Users' profile	/conf/users.xml
Others	
Description	Path
Branding directory	/conf/Branding/*.*
User group definition	/system/obs/policies/userGroup.xml
Policy group definition	/system/obs/policies/policyList.xml

Please note that there are no options to restore the **Others** category, however it will be restored automatically every time when you need to restore the auto save files.

Date
02/20/2018 (MM/dd/yyyy)

Server configuration (server.xml)

Backup Server Configuration

Replication Module Configuration

Redirector Configuration

Backup Server User Profile

The restore process is as follows:

1. Click on the **[Restore]** button.

AhsayCBS

Auto Save Proxy Logging File Explorer Runtime Options

When this feature is enabled, the system will automatically save all the settings in this server to the software vendor's cloud so that you can restore those settings in the future when needed.

Use Auto Save

Use Proxy

Last Uploaded: --

Restore

2. Select the date of the system settings backup from the drop down list.

Date
02/20/2018 (MM/dd/yyyy)

Server configuration (server.xml)

Backup Server Configuration

Replication Module Configuration

Redirector Configuration

Backup Server User Profile

Date

02/20/2018 (MM/dd/yyyy)

01/29/2018

02/03/2018

02/04/2018

02/05/2018

02/06/2018

02/07/2018

02/08/2018

02/09/2018

02/10/2018

02/11/2018

02/12/2018

02/13/2018

02/14/2018

02/15/2018

02/16/2018

02/17/2018

02/18/2018

02/19/2018

02/20/2018

02/21/2018

3. Select the type of configuration that you want to restore.

Date
02/10/2018 (MM/dd/yyyy)

Server configuration (server.xml)

Backup Server Configuration

Replication Module Configuration

Redirector Configuration

Backup Server User Profile

Click on  to continue.

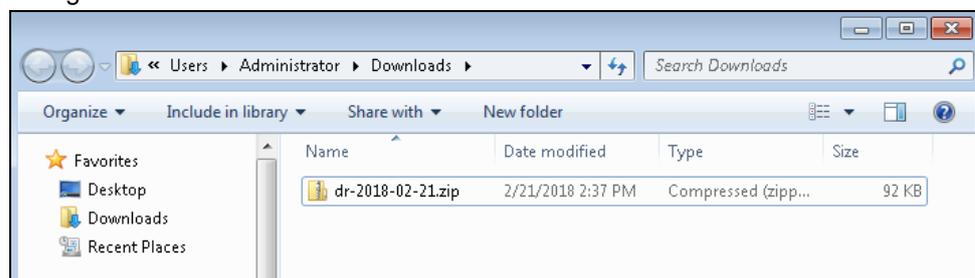
4. Choose which operation you want to make.

Download configuration files

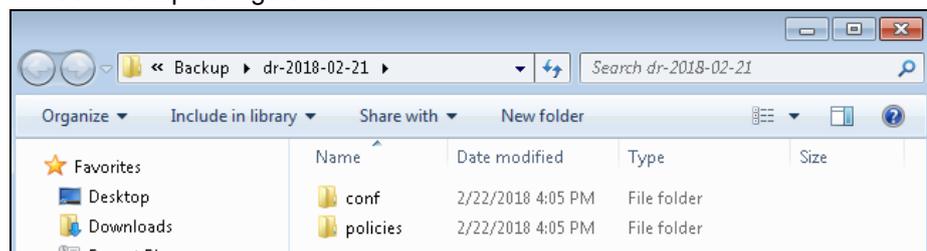
Overwrite existing configuration files

Click  to start restore.

- i. If click on “**Download configuration files**”, the according configuration file “dr-YYYY-MM-DD.zip” will be downloaded and you can manually restore the configuration file.



- Extract the .zip configuration file.



- Copy the contents of “conf” folder to “%AhsayCBS_INSTALL%\AhsayCBS\conf”.
- Copy the contents of “policies” folder to “%AhsayCBS_INSTALL%\AhsayCBS\system\obs\policies”.
- Restart the AhsayCBS service.

Refer to the KB article [FAQ: How to recover my users.xml file from a previous backup on AhsayCBS v7.9.0.0 or above? \(5198\)](#) for further details on this feature.

- ii. If click on “**Overwrite existing configuration files**”, the backed up configuration file will overwrite the existing configuration file.

WARNING

Please kindly note that if **Overwrite existing configuration files** option is chosen, the backed up configuration file will automatically overwrite the existing configuration file and the process cannot be canceled.

- After restore process, the interface will skip back to the previous page. Click  and  to save and exit.
- Click **Administration Logs** under **Monitoring**.



- Click **Activities Log** to find the according system log.
- Search for the log message “**Starting configuration recovery**” and “**Finished configuration recovery**” with timestamp being starting restore operation time, which means the restore process is finished successfully.

02/21/2018 14:12:11	AutoSaveConfigInfo	Starting configuration recovery
02/21/2018 14:12:11	AutoSaveConfigInfo	Finished configuration recovery

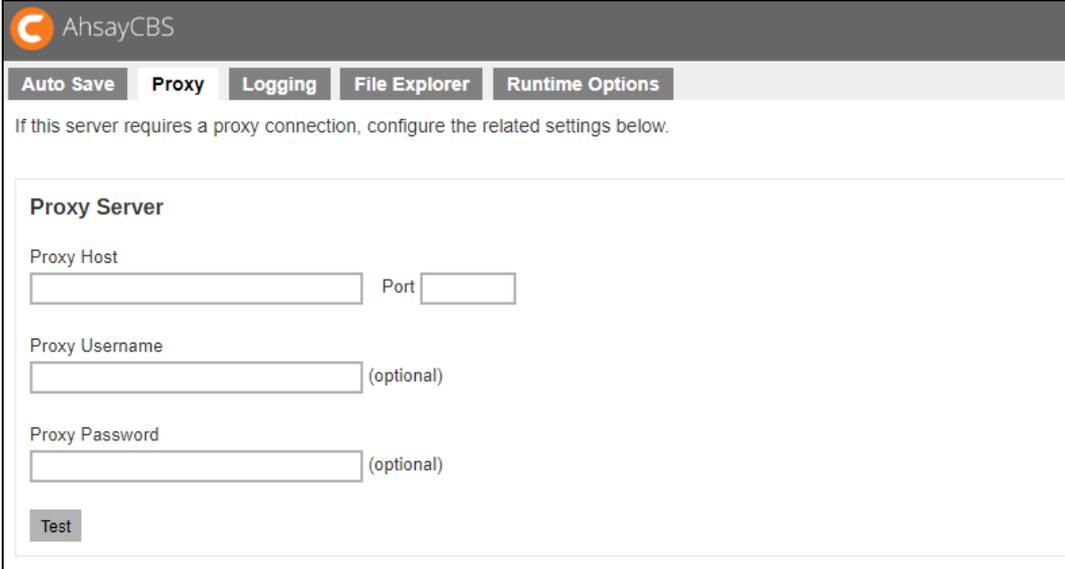
- Restart the AhsayCBS service.

5.2.2 Proxy

The following shows the **Proxy** tab under **System Settings > Advanced**. It is used for defining whether AhsayCBS should use a proxy to gain access to the Internet.

Two types of proxy, **HTTP/HTTPS** and **SOCKS 4/5**, are supported. You can use the **Proxy Host** and **Port** entries to define the location of your proxy server.

If the proxy server you are using requires user authentication, please use the **Proxy Username** and **Proxy Password** entries to set the username/password for your proxy server.



The screenshot shows the AhsayCBS web interface. At the top left is the AhsayCBS logo. Below it is a navigation bar with tabs: Auto Save, Proxy (selected), Logging, File Explorer, and Runtime Options. The main content area has a heading "Proxy Server" and a sub-heading "If this server requires a proxy connection, configure the related settings below." Below this are four input fields: "Proxy Host" (text input), "Port" (text input), "Proxy Username" (text input with "(optional)" label), and "Proxy Password" (text input with "(optional)" label). At the bottom left of the form is a "Test" button.

NOTE

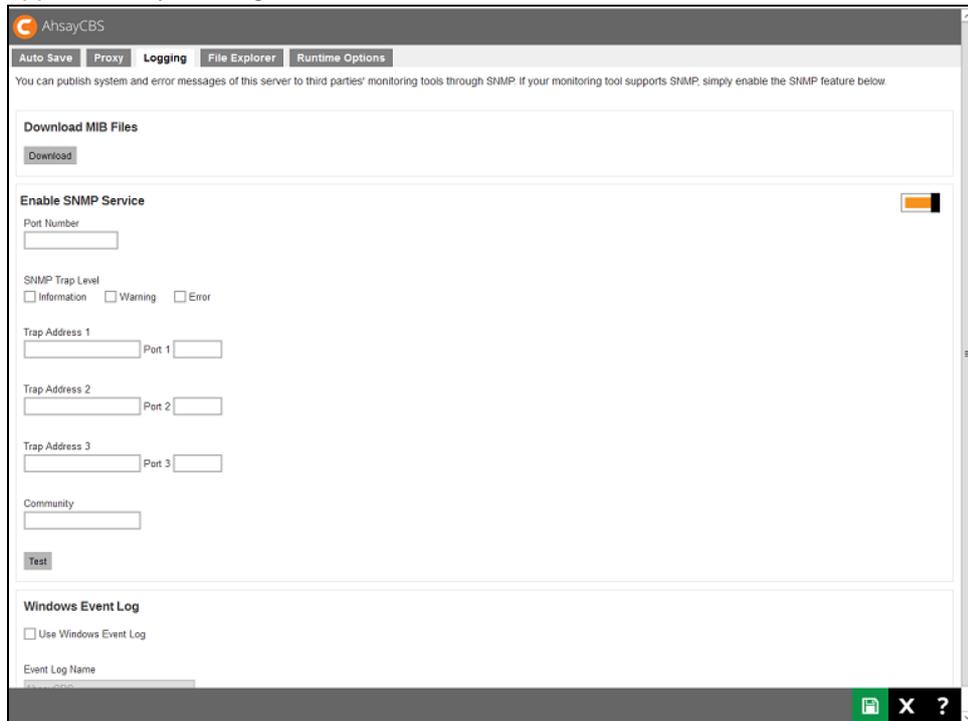
Please make sure there are no traffic restrictions on the proxy server, which could affect backup/restore performance.

5.2.3 Logging

The following shows the **Logging** tab under **System Settings > Advanced**. There are two types of third party monitoring support, SNMP and Windows Event Log.

SNMP

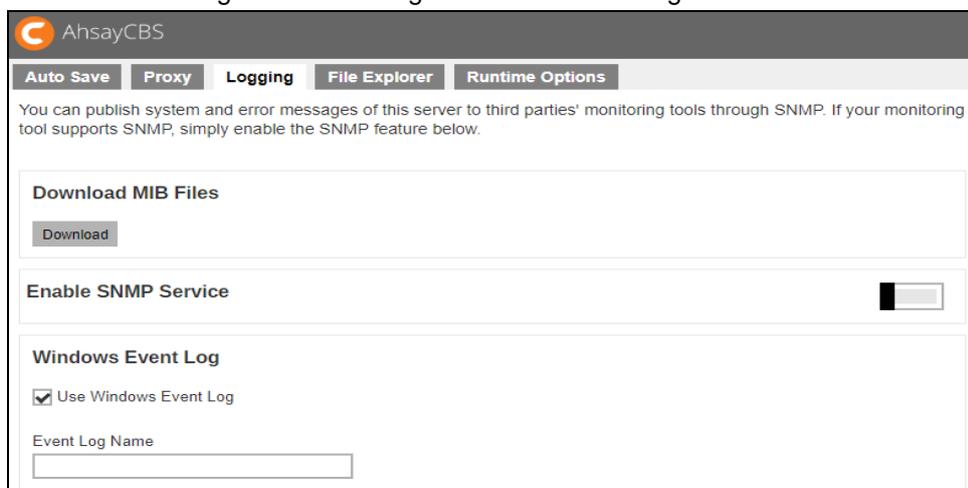
For the SNMP, you can download the MIB definition file and import to your SNMP application by clicking the **Download** button under **Download MIB Files**.



The screenshot shows the AhsayCBS web interface with the 'Logging' tab selected. The page title is 'AhsayCBS' and the navigation menu includes 'Auto Save', 'Proxy', 'Logging', 'File Explorer', and 'Runtime Options'. Below the navigation, there is a sub-header 'Download MIB Files' with a 'Download' button. The main section is titled 'Enable SNMP Service' and features a toggle switch that is currently turned on. Below this, there are several input fields: 'Port Number', 'SNMP Trap Level' (with radio buttons for Information, Warning, and Error), 'Trap Address 1' with a 'Port 1' dropdown, 'Trap Address 2' with a 'Port 2' dropdown, and 'Trap Address 3' with a 'Port 3' dropdown. There is also a 'Community' input field and a 'Test' button. At the bottom, there is a section for 'Windows Event Log' with a checkbox for 'Use Windows Event Log' and an 'Event Log Name' input field.

Windows Event Log

This feature is supported for AhsayCBS installations on Microsoft Windows platforms with the **Windows Event Log** service enabled. All AhsayCBS system log information such as errors, warnings, and information message types will also be written to the Windows event logs. The event log name is limited to eight characters.



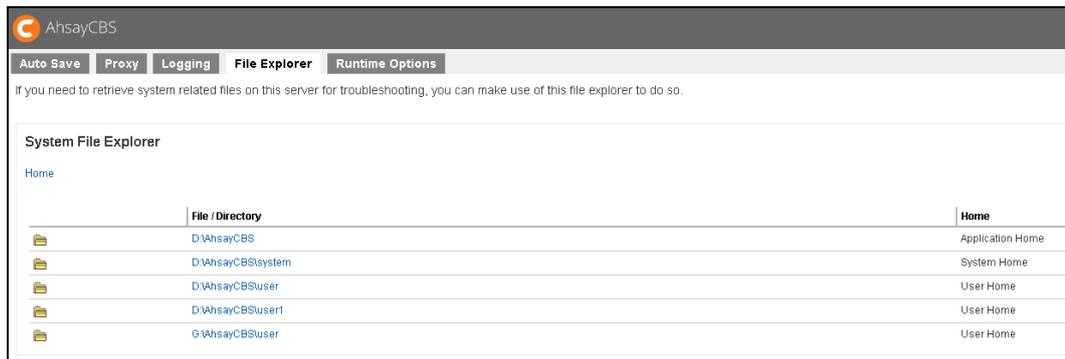
This screenshot is similar to the one above, showing the 'Logging' tab in the AhsayCBS interface. In this view, the 'Enable SNMP Service' toggle switch is turned off. The 'Windows Event Log' section is now the primary focus, with the 'Use Windows Event Log' checkbox checked. The 'Event Log Name' input field is visible below the checkbox. The rest of the page structure, including the navigation menu and the 'Download MIB Files' section, remains the same.

5.2.4 File Explorer

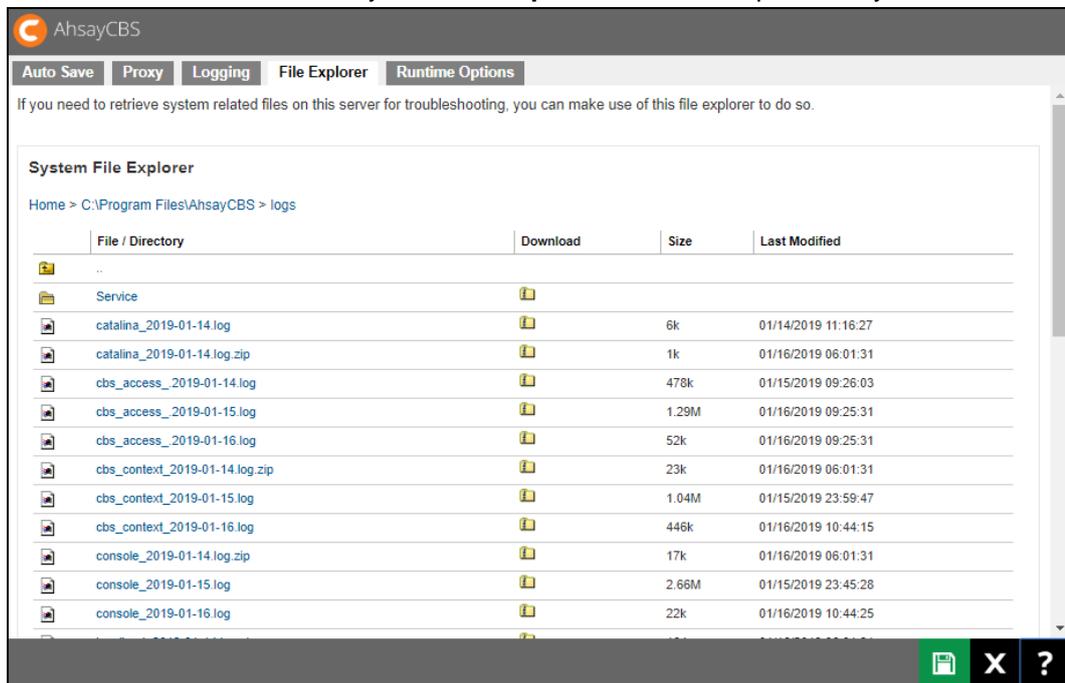
The following shows the **File Explorer** tab under **System Settings > Advanced**. If administrator or support staff needs to retrieve system related files on the AhsayCBS server for troubleshooting, they can make use of the **File Explorer** feature to download log or configuration files from the server without having to login remotely using RDP or SSH.

The **File Explorer** feature is limited to access files/folder related to AhsayCBS:

- ▶ AhsayCBS Application Home.
- ▶ AhsayCBS System Home.
- ▶ AhsayCBS User Home(s).



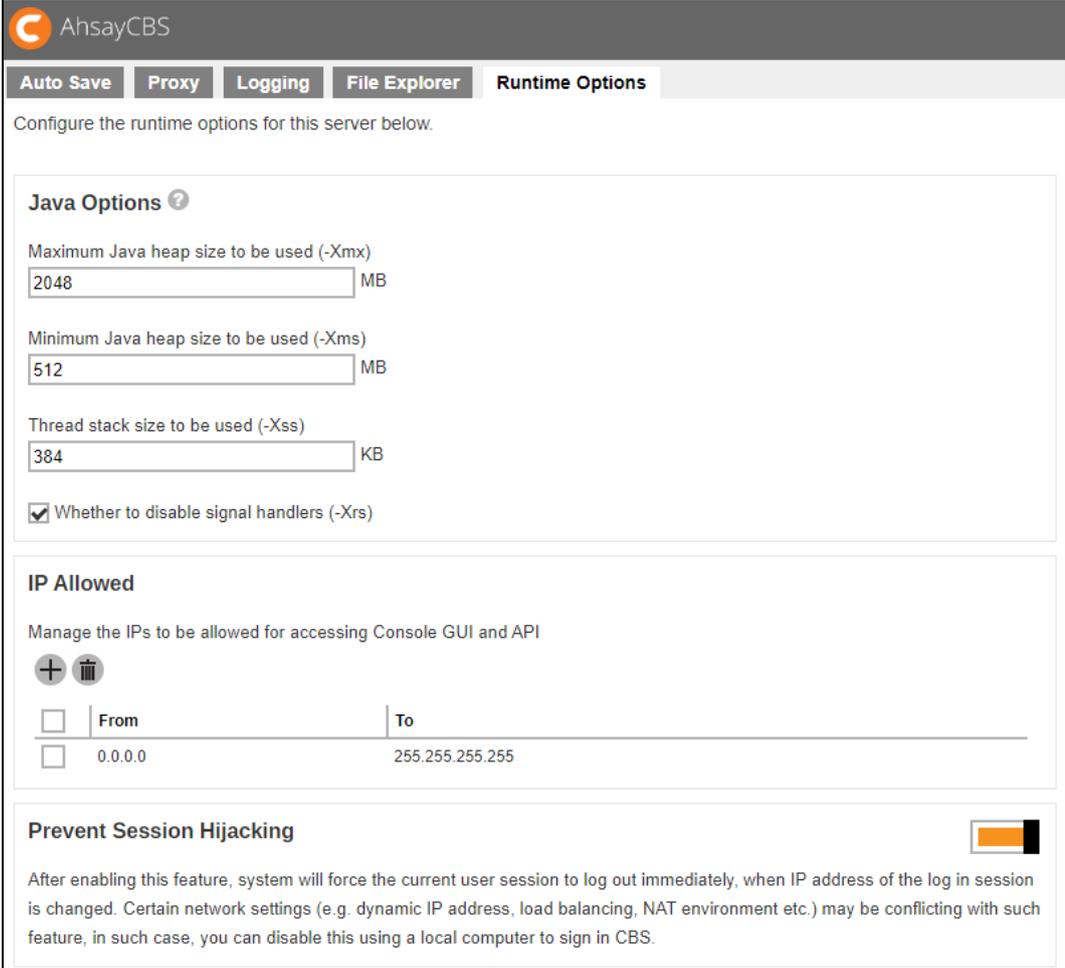
All files download via the AhsayCBS **File Explorer** tab are compressed by default.



5.2.5 Runtime Options

The following shows the **Runtime Options** tab under **System Settings > Advanced**. It allows administrators to modify Java options such as Java heap size (maximum and minimum), thread stack size and IP allowed to access the AhsayCBS management console. It also has a feature to prevent session hijacking, if enabled, will force the current user session to be logged out immediately if it detects that the IP address used in the session has changed from the original IP address used upon log in.

By default the maximum Java heap size is 2048MB, there are no restrictions on IP address access to AhsayCBS web console and the prevent session hijacking is enabled.



The screenshot shows the AhsayCBS management console interface. At the top, there is a navigation bar with tabs for 'Auto Save', 'Proxy', 'Logging', 'File Explorer', and 'Runtime Options'. Below the navigation bar, the page title is 'AhsayCBS' and the subtitle is 'Configure the runtime options for this server below.' The main content area is divided into three sections: 'Java Options', 'IP Allowed', and 'Prevent Session Hijacking'. The 'Java Options' section includes input fields for 'Maximum Java heap size to be used (-Xmx)' (2048 MB), 'Minimum Java heap size to be used (-Xms)' (512 MB), and 'Thread stack size to be used (-Xss)' (384 KB). There is also a checked checkbox for 'Whether to disable signal handlers (-Xrs)'. The 'IP Allowed' section has a heading 'Manage the IPs to be allowed for accessing Console GUI and API' and a table with columns 'From' and 'To'. The table contains one entry with 'From' as '0.0.0.0' and 'To' as '255.255.255.255'. The 'Prevent Session Hijacking' section has a heading and a checked checkbox. Below the checkbox, there is a paragraph of text explaining the feature and its potential conflicts with certain network settings.

Although for a Windows machine, you can disable this using a local computer to sign in to AhsayCBS. For Linux/FreeBSD/AhsayUBS machines, follow instructions below on how to disable prevent session hijacking.

The following are the installation path of AhsayCBS:

- In Linux/FreeBSD the path is `/usr/local/cbs`.
- In AhsayUBS the path is `/ubs/mnt/eslsfw/obsr`.

1. Stop the AhsayCBS service.

```
# cd /usr/local/cbs/bin
# sh shutdown.sh
```

2. In your %Application Home%/conf folder, locate the cbs.json file and open it using a text editor. Change the value of "PreventSessionHijackingEnabled" to false.

```
# vi /usr/local/cbs/conf/cbs.json
{"MidButtons": [], "Xmx": "2048", "PasswordBean": {"MinLength": 6, "RegexDescription": "Numbers (0-9), Uppercase, Lowercase, Minimum length of 6 characters.", "AgeOption": "DAYS", "History": true, "IncludeMinLength": true, "Type": "DEFAULT", "Regex": "^ (?=.*?[a-z]) (?=.*?[A-Z]) (?=.*?[0-9]).{6,}$", "IncludeNumbers": true, "Enable": false, "IncludeLowercase": true, "IncludeUppercase": true, "Class": "com.ahsay.cbs.obs.policy.userSettings.EditUserSettingsBean$PasswordBean", "Age": 90, "IncludeSpecChars": true}, "SnmptTrapWarn": false, "SysUsersCol": [], "Destinations": [], "LastAnnouncement": 0, "Classname": "com.ahsay.cbs.system.config.EditConfigBean", "UseEventLog": false, "SslCertificatesCol": [], "LastAlert": 0, "ArchivalDatesCol": [], "ConfigRecoveryMode": "auto", "SnmptStartIp": "", "ReportSettingsBean": {"SendLowDiskSpaceReminderAlertReport": true, "SendLowDestinationSpaceReminderAlertReport": true, "LowDestinationSpaceAlertThreshold": 90, "LowDestinationSpaceReminderThreshold": 80, "Class": "com.ahsay.cbs.system.config.EditConfigBean$ReportSettingsBean", "LowDiskSpaceAlertThreshold": 90, "SendAdministratorConsolidatedReport": true, "LowDiskSpaceReminderThreshold": 80, "ThresholdList": []}, "ConfigRecoveryPath": "/usr/local/cbs/system/obs/dr", "EnableConfigRecovery": true, "WebServersCol": [{"FormattedProtocol": "HTTP - NIO", "Ip": "0.0.0.0", "SslCertificateId": "", "Port": "80", "MaxThreads": "200", "EnableProtocolList": true, "MaxConn": "10000", "MaxKeepAliveReq": "9999", "RxBufSize": "25188", "ConnUploadTimeout": "900000", "ConnTimeout": "10000", "DisplayName": "0.0.0.0:80", "TxBufSize": "43800", "Class": "com.ahsay.cbs.system.config.EditConfigBean$WebServerBean", "Id": 0, "Protocol": "http"}, {"FormattedProtocol": "HTTPS - NIO", "Ip": "0.0.0.0", "SslCertificateId": "${catalina.base}/conf/ssl.key", "Port": "443", "MaxThreads": "200", "EnableProtocolList": true, "MaxConn": "10000", "MaxKeepAliveReq": "9999", "RxBufSize": "25188", "ConnUploadTimeout": "900000", "ConnTimeout": "10000", "DisplayName": "0.0.0.0:443", "TxBufSize": "43800", "Id": 1, "Protocol": "https"}], "Xrs": true, "WebServers": [{"FormattedProtocol": "HTTP - NIO", "Ip": "0.0.0.0", "SslCertificateId": "", "Port": "80", "MaxThreads": "200", "EnableProtocolList": true, "MaxConn": "10000", "MaxKeepAliveReq": "9999", "RxBufSize": "25188", "ConnUploadTimeout": "900000", "ConnTimeout": "10000", "DisplayName": "0.0.0.0:80", "TxBufSize": "43800", "Class": "com.ahsay.cbs.system.config.EditConfigBean$WebServerBean", "Id": 0, "Protocol": "http"}, {"FormattedProtocol": "HTTPS - NIO", "Ip": "0.0.0.0", "SslCertificateId": "${catalina.base}/conf/ssl.key", "Port": "443", "MaxThreads": "200", "EnableProtocolList": true, "MaxConn": "10000", "MaxKeepAliveReq": "9999", "RxBufSize": "25188", "ConnUploadTimeout": "900000", "ConnTimeout": "10000", "DisplayName": "0.0.0.0:443", "TxBufSize": "43800", "Id": 1, "Protocol": "https"}], "PreventSessionHijackingEnabled": false, "ProxyHost": "", "LeftButtons": [], "Gdpr": "", "SmtpProtocols": [], "RecoveryDate": "", "Rebrand": false, "NewSnmptTrapRecv": {"TrapPort": "", "Enable": false, "Host": "", "Class": "com.ahsay.cbs.system.config.EditConfigBean$SnmptTrapRecvBean"}, "SystemReportLanguage": "en", "Hostname": "", "EnableSnmpt": false, "SslCertificates": [], "SmtpServersCol": [], "SysUsers": [], "ProxyExcludeHostsCol": [], "LastAnnouncementPubDate": 0, "SnmptEndIp": ""
```

```

"NewSntpServer":{"SntpTestConnResult":"","SecureProtocol":false,"Port":
":"","Auth":false,"AuthPwd":"","AuthUser":"","SntpTestConnTime":
"-1", "Class":"com.ahsay.cbs.system.config.EditConfigBean$Server
Bean","Protocol":"","Url":"","FomattedSntpTestConnTime":""}, "SntpTr
apInfo":false,"ProxyExcludeHosts":[],"SoftwareUpdateUsername":"","S
ntpTrapRecv3":{"TrapPort":"","Enable":false,"Host":"","Class":"com.
ahsay.cbs.system.config.EditConfigBean$SntpTrapRecvBean"},"Xss":"38
4","LastArchivalDate":"","Tabs":[],"QnapAvailable":true,"AdminConta
cts":[],"SntpTrapRecv1":{"TrapPort":"","Enable":false,"Host":"","Cl
ass":"com.ahsay.cbs.system.config.EditConfigBean$SntpTrapRecvBean"}
,"ProxyType":"HTTP","SntpTrapRecv2":{"TrapPort":"","Enable":false,"
Host":"","Class":"com.ahsay.cbs.system.config.EditConfigBean$SntpTr
apRecvBean"},"LastAnnounceBrandedPubDate":0,"AccessibilityListLastM
odified":1593773063342,"SntpTrapErr":false,"SntpPort":"161","Allowe
dIPOnServerOptions":[{"Class":"com.ahsay.cbs.system.config.EditConf
igBean$AllowedIPOnServerBean","To":"255.255.255.255","From":"0.0.0.
0"}],"ProxyUsername":"","LangOrderedListCol":[{"Value":"en","Class"
:"java.lang.String"}],"ProxySettings":{"ReadOnly":false,"Priority":
-1,"Port":"","Enabled":false,"Host":"","KeyName":"com.ahsay.obx.
cxp.cloud.ProxySettings","Type":"HTTP","Username":"","AllowMultiple
":false,"Content":"","Class":"com.ahsay.obx.cxp.cloud.ProxySettings
","ID":"","InheritParentAttribs":false,"Password":""},"Mfa":{"Class
":"com.ahsay.cbs.system.config.EditConfigBean$MFA","SmsVerification
":{"TwilioSettings":{"Sender":{"Type":"PHONE","Value":"","Class":"c
om.ahsay.cbs.system.config.EditConfigBean$MFA$Sender"},"AuthToken":
":"","Class":"com.ahsay.cbs.system.config.EditConfigBean$MFA$TwilioSe
ttings","AccountSid":""},"ResendCooldownTime":1,"SendAllowed":5,"In
validPasscodeAllowed":5,"Enable":false,"ExpiryTime":5,"PasscodeLeng
th":6,"Class":"com.ahsay.cbs.system.config.EditConfigBean$MFA$SmsVe
rification","AllowLegacyClientToSkip":true},"AllowedIPOnServerOpti
onsCol":[{"Class":"com.ahsay.cbs.system.config.EditConfigBean$Allow
edIPOnServerBean","To":"255.255.255.255","From":"0.0.0.0"}],"DebugO
ptions":[],"SystemHome":"/usr/local/cbs/system","AdminList":[{"Mobi
leQuota":-1,"Owner":"","BandwidthControlSettings":
{"SysPwd":"ggeRilmrAu37jPPCb6q6sRyBRLz/VxUgHbso6jqZu0I=", "SysUser":
"system","TsUpload":{"Class":"com.ahsay.afc.io.V"},"Upload":{"MaxTr
ansferUnitList":[],"MaxTransferUnit":"K","Enable":false,"Class":"co
m.ahsay.cbs.system.config.accounts.backupUser.EditBandwidthControlS
ettingsBean$BandwidthControlBean"},"MaxTransfer":100},"TsDownload":{
"Class":"com.ahsay.afc.io.V"},"Download":{"MaxTransferUnitList":[],
"MaxTransferUnit":"K","Enable":false,"Class":"com.ahsay.cbs.system.
config.accounts.backupUser.EditBandwidthControlSettingsBean$Bandwid
thControlBean"},"MaxTransfer":100},"FormReq":"Y"},"IsQnapAvailable":
true,"SecuritySettings":{"SysPwd":"ggeRilmrAu37jPPCb6q6sRyBRLz/VxUg
Hbso6jqZu0I=", "UserLockSettings":{"Class":"com.ahsay.obx.cxp.obs.Us
erLockSettings","LockedTime":-1,"LastFailureTime":-
1,"LoginFailureCount":0},"SysUser":"system","PhoneList":[],"Enable"
:false,"SendLimitSettings":{"LastSendTime":-1,"SendCount":0,
"Class":"com.ahsay.obx.cxp.obs.SendLimitSettings"},"RecoverySetting
s":{"Token":"","ExpiryTime":-
1,"Class":"com.ahsay.obx.cxp.obs.RecoverySettings"},"FormReq":"Y"},
"PasswordHistory":{"KeyName":"com.ahsay.obx.cxp.cloud.PasswordHisto
ry","ReadOnly":false,"SysPwd":"ggeRilmrAu37jPPCb6q6sRyBRLz/VxUgHbso
6jqZu0I=", "HistoryList":[{"KeyName":"com.ahsay.obx.cxp.cloud.Histor
yBean","ReadOnly":false,"AllowMultiple":true,"Priority":-
1,"Content":"","Class":"com.ahsay.obx.cxp.cloud.HistoryBean","Pwd":
":"","InheritParentAttribs":false,"LastDisabledTime":-
1,"Password":"zczJ/8ee3cPzxoec30fo+tiNzYvN7bmDkK++6pC/na6Cqb+i+KWhi

```

```
6fjneg="}, {"KeyName": "com.ahsay.obx.cxp.cloud.HistoryBean", "ReadOnly": false, "AllowMultiple": true, "Priority": -1, "Content": "", "Pwd": "", "InheritParentAttribs": false, "LastDisabledTime": 1593783275176, "Password": "35P0wPfk9fbKx87shfCL69LQ6vDyh7WruruA8pKe/bG6rLWZ+LmS4uqbmeg="}], "SysUser": "/usr/local/cbs/conf/cbs.json" [noeol] 1L, 19677C
```

3. Start the AhsayCBS service.

```
# cd /usr/local/cbs/bin  
# sh startup.sh
```

IMPORTANT

When editing the maximum heap size for AhsayCBS, ensure that there is sufficient memory reserved for the operating system.

It is not recommended to set excessively high values for the maximum Java heap size, as this could result in AhsayCBS performance issues during internal Java VM garbage collection or memory recycling routines.

For changes in Java heap size setting the AhsayCBS service needs to be restarted before it becomes effective.

6 Managing Backup/Restore

6.1 Backup / Restore Basic Configuration

To manage your AhsayCBS backup/restore basic configurations, simply click the **Basic** icon under **Backup / Restore** from your AhsayCBS environment.



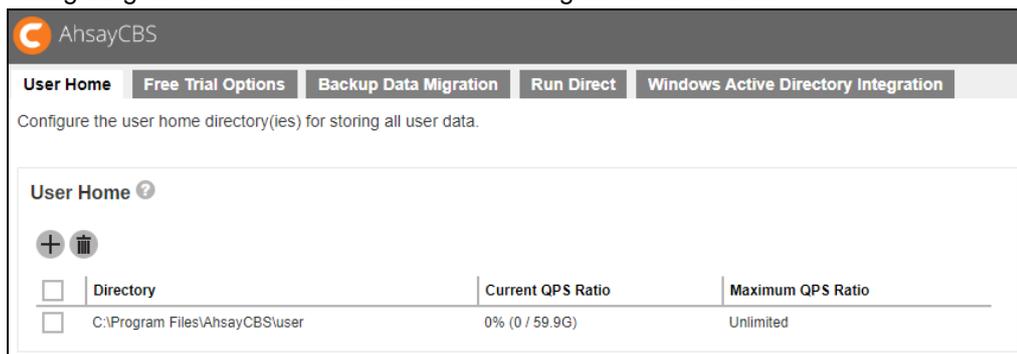
You can perform the following configurations for Backup/Restore:

- ▶ Configure user home directories.
- ▶ Configure free trial settings.
- ▶ Configure backup data migration settings.
- ▶ Define maximum number of concurrent VMs permitted to be started using Run Direct on AhsayCBS.
- ▶ Configure Windows active directory integration settings.

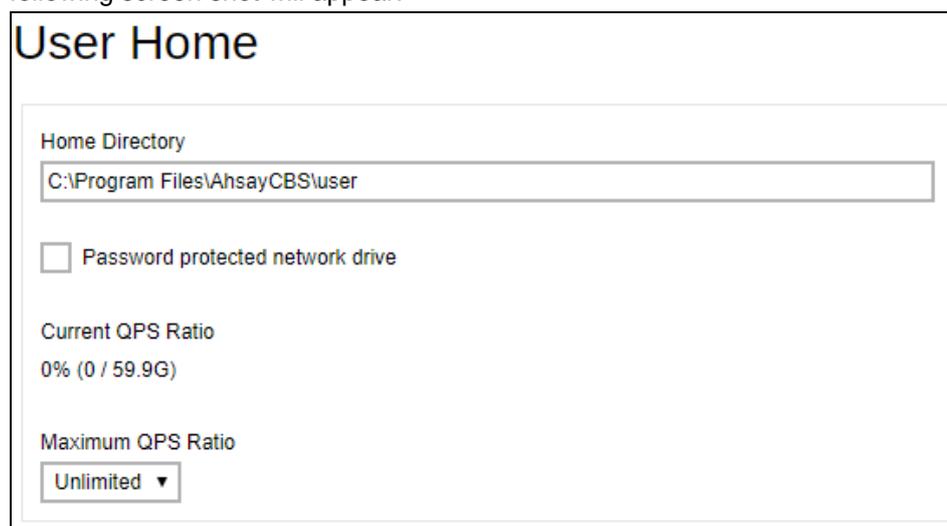
There are 5 tabs under basic backup/restore configurations, each of which is described below.

6.1.1 User Home

The following shows the **User Home** tab under **Backup / Restore > Basic**. It is used for configuring the user home directories for storing all the user data.



If you want to modify the existing user home, click on the user home directory and the following screen shot will appear:



User Home

Home Directory
C:\Program Files\AhsayCBS\user

Password protected network drive

Current QPS Ratio
0% (0 / 59.9G)

Maximum QPS Ratio
Unlimited ▼

Enter the **Home Directory** path and check the box next to **Password protected network drive** if your user home drive is on a network drive.

QPS Ratio (Quota - Partition Size Ratio) is the ratio (in percentage) of the sum of all user quotas within a user home divided by the total size of the partition of the user home. You can see the Current QPS Ratio displayed in the form of a percentage. You can select the Maximum QPS Ratio from the dropdown list.

If the QPS ratio of a user home exceeds the Maximum QPS ratio after adding a user, the user will be added to the next available user home. **Unlimited** means that the QPS ratio is not checked and new users can be added to that user home. **Not Used** means that new users are never added to that user home.

After you have modified the desired information, click  to exit the Home Directory details page. Then click  at the user home page to save your changes.

6.1.2 Free Trial Options

The following shows the **Free Trial Options** tab under **Backup / Restore > Basic**. It defines various free trial settings available in AhsayCBS.

The screenshot shows the AhsayCBS interface with the 'Free Trial Options' tab selected. The page is titled 'Free Trial Registration' and contains the following settings:

- Enable Free Trial Registration
- Quota**
 - Destination: AhsayCBS
 - Quota: 50.0 Mbytes
- Add-on Modules**
 - Microsoft Exchange Server
 - MySQL Database Server
 - Lotus Domino
 - Windows System Backup
 - VMware (Guest VM: 10)
 - Microsoft Exchange Mailbox (10)
 - Continuous Data Protection
 - Mobile (max. 10)
 - Volume Shadow Copy
 - OpenDirect / Granular Restore (10)
 - MariaDB Database Server
 - Microsoft SQL Server
 - Oracle Database Server
 - Lotus Notes
 - Windows System State Backup
 - Hyper-V (Guest VM: 10)
 - ShadowProtect System Backup
 - NAS - Synology
 - NAS - QNAP
 - In-File Delta
 - Office 365 Backup (10)

Trial users do not count towards the maximum number of users allowed within AhsayCBS under the paid software license, therefore it is possible to have an unlimited number of trial users within AhsayCBS. However, each trial user is limited to the quota storage settings for a period of maximum 90 days.

- To allow users to create a trial backup account from AhsayOBM or AhsayACB, please enable the **Enable Free Trial Registration** option at the top of the page. If this feature is unchecked, the option to register for a trial account will not be available to end users.
- The **Destination** and **Quota** defines the backup destination and maximum backup storage quota for per destination of trial backup accounts upon registration. Destination includes predefined and standard destination, and the quota settings for free trial user account is independent of the quota settings in Group Policy. For the backup destinations which are not listed under Quota tab, the quota storage assigned for the destination is unlimited.
- The **Add-on Modules** option defines whether you want to allow trial users to have different add-on modules.

- The **User will be suspended after <xx> days** option under **Settings for existing free trial users** defines the number of days after which the trial users will be suspended. In our example, the period is **30** days, and the maximum value is **90** days.

Settings for existing free trial users

User will be suspended after days

Remove User days after registration

- The **Remove User <xx> days after registration** option under **Settings for existing free trial users** defines whether you want to remove trial backup users for certain number of days after registration. In our example, you can use this option to tell AhsayCBS to remove trial backup users from the system automatically after backup users have registered for **60** days, and the maximum value is **180** days.

WARNING

If a PAID AhsayOBM/AhsayACB user account is changed to TRIAL this could also be automatically removed by AhsayCBS if the account creation date exceeds the value set in "Remove User <xx> days after registration".

6.1.3 Backup Data Migration

The data migration is designed to migrate backup sets that were created in v6 backup server to v8 backup set blocks format to take advantage of the backup/restore performance enhancement delivered by the new file storage format. For more information please refer to [Best Practice for Upgrade from AhsayOBS to AhsayCBS and Data Migration Conversion](#).

In v6 backup set, all the backup files are stored as individual files in the user home, whereas in v8 files will be handled in the following ways.

Small files (16MB or smaller)	Merge into one 16MB data block
Large files (32MB or above)	Split into multiple 32MB data blocks
NAS server	Merge/split into 8MB data block(s)
Mobile device	Remain in native format

The data migration process converts the v6 backup files into v8 backup set format, it will read small files that were stored in v6 backup set, and write a number of small files into a new data blocks. For larger files, the process will read a fixed amount of data which equals to a data block size from the selected large files, and rewrite the data block into a new 32MB data block file. The process will continue until the large file has completed to write the data into multiple new data blocks.

IMPORTANT

As the data migration process is **NOT** reversible. If you downgrade your backup server to v6, the migrated data in v8 will not be usable. All historical backup are lost and you need to start over the backup again in v6. Please communicate with your clients and check if they are comfortable with the upgrade and data migration.

Suggestion and Requirement

The data migration process will perform the backup set migration one by one. To avoid heavy I/O on the disk/CPU utilization on your backup server, we suggest you to perform the data migration in a small batch of users to test the performance on your environment. This would minimize any possible impact on the I/O usage or affect your current backup operation.

The data migration will be carried out if the following criteria are met:

1. Both AhsayCBS and AhsayOBM/AhsayACB are upgraded to v8.1 or later version.
2. More than 100GB of free space in each user home on your backup server is available.
3. For large backup sets that are more than 100GB of total size, please reserve more than 150% of the free space on the user home for the data migration. This is because the migration process will read the v6 backup data and write the v8 format to new location. After the migration, the reserved space will be recovered.

Free Space = Largest v6 backup set on the user home X 150%

For example: If your largest backup set is 150GB backup set, please reserve at least 225GB of free space for the migration.

If these requirements are not met, the data migration will not be started. You may find the following entry in the [Activities Log] available in your AhsayCBS, [Monitoring] -> [Administration Logs]

E.g. MigrateV6DataError [Thread][Job][MigrateV6File]Error Migrating v6 data of user ... is too big to be migrated to ...

By selecting the filter "MigrateV6DataError" from the filter drop down box, you can collect the errors related to the data migration.

REMINDERS

1. If data replication has been turned on, after the v6 data migrated to the v8 format, the replication will start to replicate new v8 format backup set to the replication server or to a predefined destination
2. You may notice that the storage of that user will be doubled for a short period of time. For example: the replicated v6 backup set is 10GB, after the data migration, another 10GB will be used for replicating the new v8 format backup set. After the synchronization is completed, there is a mechanism to clean up the old migrated v6 data automatically.

How to Perform the Data Migration

IMPORTANT

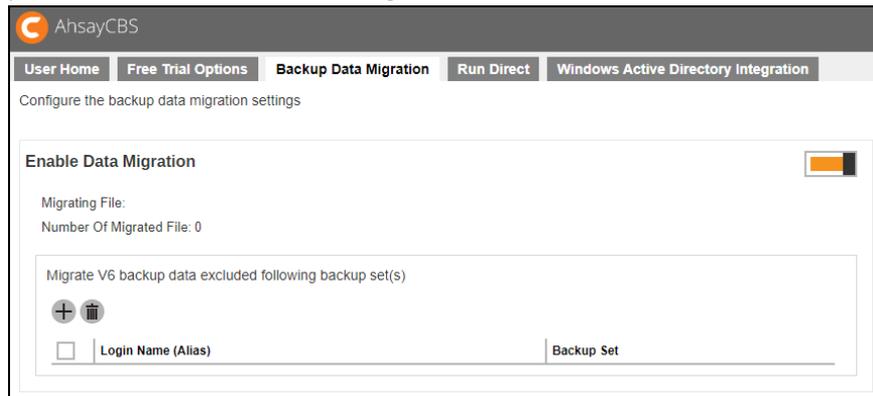
While a backup set is undergoing the data migration process, the following activities pertaining to that particular backup set **CANNOT** be performed.

Data Integrity Check	Space Freeing Up
Delete Data	Delete Backup Set

That being the case, update of the backup set, such as backup schedule, backup source, destination, etc., is still possible during the data migration process.

1. Upgrade both AhsayCBS and AhsayOBM/AhsayACB to version 8.1 or above.
2. Administrator needs to check if any backup set should be excluded in this data migration operation. For example, when we need to limit the number of migration in a small batch of backup sets, we can exclude some of the backup sets from the interface. Click the "+" icon under the Enable Data Migration section to add the user(s)

you wish to exclude from the migration.



3. Click  at the bottom right corner to start the migration when you are ready.
4. Once the backup runs on the client machine, the index migration starts on the client machine. When the index migration finished, the AhsayCBS will arrange the data migration on the backend.
5. Administrator can check the migration activity through the **Monitoring > Administration Logs > Activities Log**.

By selecting the filter "MigrateV6DataInfo" or "MigrateV6DataError" from the filter drop down box, you can collect the logs related to the data migration.

6. When the data migration completed on a client's backup set. You will see the following in the activities log.

```
MigrateV6DataInfo [Thread][Job][MigrateV6File] End: migrate v6 data.
```

7. On the next backup, that client will use the new index and new migrated data for the backup operation. This will also trigger the backup server to remove old v6 backup data.

NOTE

In case the index migration stops for any reason, on the next backup, the index migration can resume from the last recorded progress.

For backup sets such as Exchange DAG, when one of the node triggered the index migration when backup runs, all other nodes will wait for the first node to complete the index migration, and all other nodes will reload the new index file.

During the old v6 backup data removal, the performance on the user home which stores the v6 backup data could slow down.

To add the exclusion of a v6 backup set from the data migration:

1. Click on  under the **Migrating File** section.
2. Select the login name and backup set that you wish to exclude from the data migration.
3. Click  to continue.

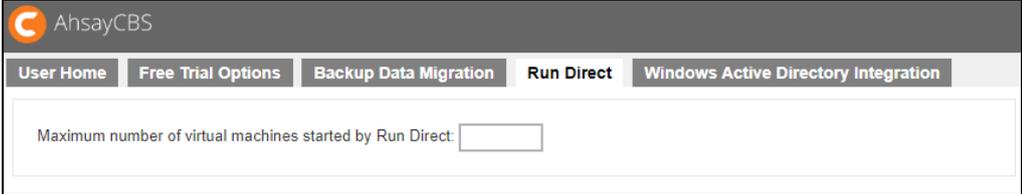
To delete an existing exclusion of a v6 backup set:

1. Click on the check box next to the entries you wish to delete.
2. Click on the  icon in this section.
3. Click  to confirm.
4. Click  at the bottom right corner to confirm again.

6.1.4 Run Direct

The following shows the **Run Direct** tab under **Backup / Restore > Basic**. It defines the maximum number of virtual machines started by Run Direct on AhsayCBS. Simply enter the number of virtual machine and click  to save your changes.

For more information on Run Direct on AhsayCBS, please refer to the [Ahsay Cloud Backup Suite v8 User's Guide](#).



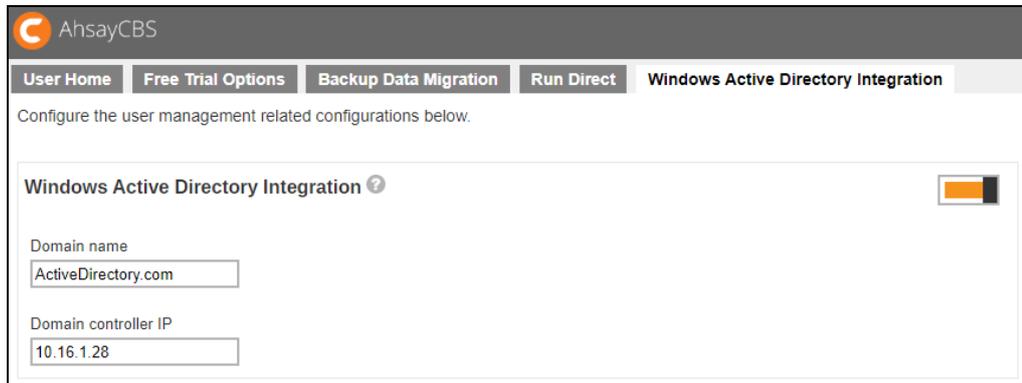
AhsayCBS

User Home Free Trial Options Backup Data Migration **Run Direct** Windows Active Directory Integration

Maximum number of virtual machines started by Run Direct:

6.1.5 Windows Active Directory Integration

The following shows the **Windows Active Directory Integration** tab under **Backup / Restore > Basic**.



AhsayCBS

User Home Free Trial Options Backup Data Migration Run Direct Windows Active Directory Integration

Configure the user management related configurations below.

Windows Active Directory Integration ?

Domain name
ActiveDirectory.com

Domain controller IP
10.16.1.28

When this feature is enabled, this means that if an AD is present in the local network, it is only required to create a user account once in the Windows Active Directory. The same user account will be used on the AhsayCBS server. This is because AhsayCBS will create this user account automatically after authenticating this logon using AD.

The user account created will be:

- of the type **Paid**
- of backup client **AhsayACB** (unless the user logon uses AhsayOBM)

If AhsayCBS fails to authenticate a user logon using its own records, a user authentication will be dispatched to Windows Active Directory automatically.

To enable Windows Active Directory Integration

1. Click the  switch on the right to turn on this feature.
2. Enter the Domain name and Domain controller IP of the machine where the active directory is hosted.
3. Click the  button at the bottom of the page to confirm.

NOTE

Please note the following:

1. This is for first time account creation only.
2. Password changes in AD are not reflected to existing AhsayCBS user accounts. Even if the password was changed in AD, the password to be used in AhsayCBS is the original password that was set when created, not unless password was reset from AhsayCBS.
3. Users will also not be deleted in AhsayCBS even if it was deleted from AD, not unless user was deleted from AhsayCBS.

6.2 Manage Users, Groups & Policies Backup Users

To manage your AhsayCBS users, groups, and policies, simply click the **Users, Groups & Policies** icon under **Backup / Restore** from your AhsayCBS environment.

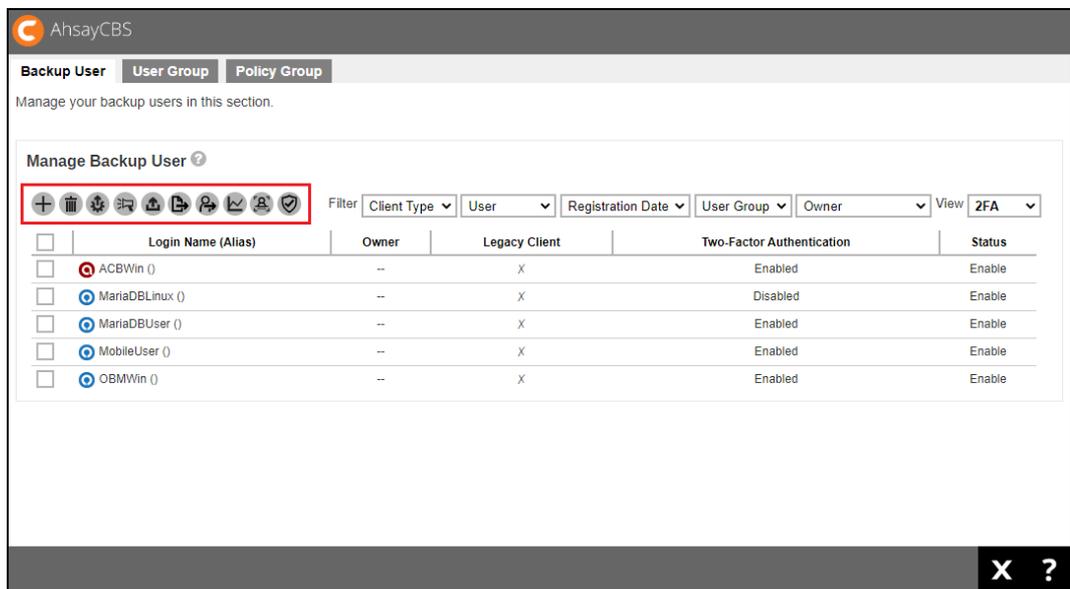


There are 3 tabs under managing users, groups, and policies, each of which is described below.

6.2.1 Manage Backup User

A backup account contains user's account information, client type, backup modules and backup set settings, etc. A backup user account can be created by administrator or registered via the backup client application by the end user as a trial account (if this option is enabled).

The following screen shows the **Backup User** tab under **Backup / Restore > Users, Groups & Policies**. There are ten (10) functions available here which is discussed further in their respective chapters:

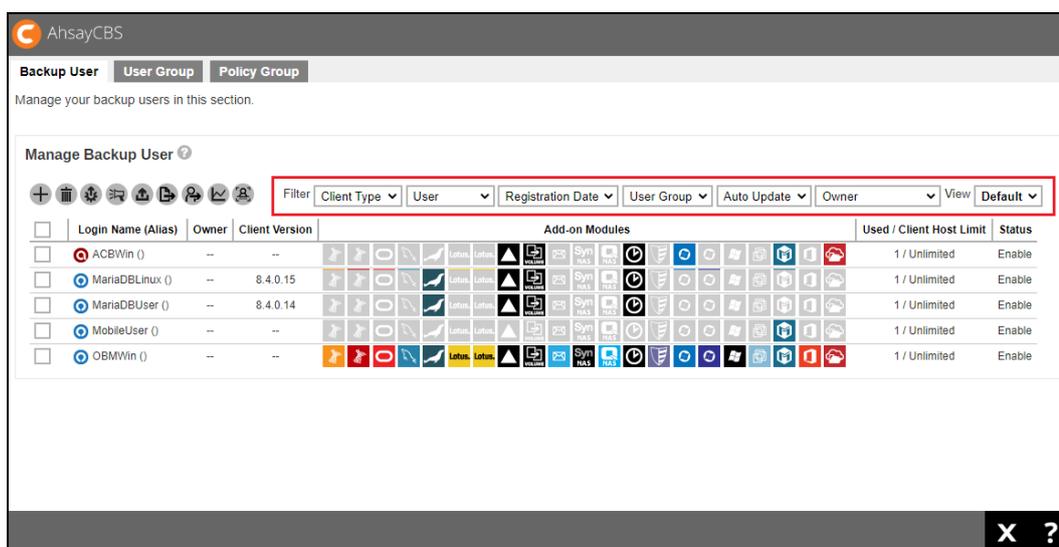
The screenshot shows the AhsayCBS interface for managing backup users. At the top, there are tabs for "Backup User", "User Group", and "Policy Group". Below the tabs, there is a "Manage Backup User" section with a toolbar containing ten icons: a plus sign, a trash can, a gear, a megaphone, an upload arrow, a document with an arrow, a person with an arrow, a line graph, a person with a checkmark, and a shield with a checkmark. The main area contains a table with columns for "Login Name (Alias)", "Owner", "Legacy Client", "Two-Factor Authentication", and "Status". The table lists five users: ACBWin (), MariaDBLinux (), MariaDBUser (), MobileUser (), and OBMWin ().

	Login Name (Alias)	Owner	Legacy Client	Two-Factor Authentication	Status
<input type="checkbox"/>	ACBWin ()	--	X	Enabled	Enable
<input type="checkbox"/>	MariaDBLinux ()	--	X	Disabled	Enable
<input type="checkbox"/>	MariaDBUser ()	--	X	Enabled	Enable
<input type="checkbox"/>	MobileUser ()	--	X	Enabled	Enable
<input type="checkbox"/>	OBMWin ()	--	X	Enabled	Enable



-  [Create](#) – this is used to create a new AhsayOBM/AhsayACB backup user account.
-  [Delete](#) – this is used to delete an existing backup user account.
-  [Auto Update](#) – this is used to configure the automatic upgrade for AhsayOBM/AhsayACB client to the latest version.
-  [Broadcast](#) – this is used to send messages to AhsayOBM/AhsayACB user account. Message will be sent to the email address that was provided in the contacts for each user account. This is very useful when there is an announcement that must be sent to users, i.e. backup server system maintenance.
-  [Backup User](#) – this allows for backup jobs to be started remotely without accessing the client machine.
-  [Export Users' Usage Statistic to CSV](#) – this is used to export details of usage of a user to a csv file.
-  [Move / Import / Export Users](#) – this is used to migrate backup users from one AhsayCBS server to another or from one user home to another. It can also be used to import or export a backup user to a zip file.
-  [Rebuild Storage Statistics](#) – this is only applicable for backup sets created in version 6 which have not been migrated to version 8 block storage format. This is used to enhance the accuracy of its storage statistics.
-  [Rescan all user home directories](#) – this is used to ensure the status of all user home is updated. This will only list backup sets of available user home which helps to guarantee that backup and restore job will run properly.
-  [Enable / Disable Two-Factor Authentication](#) – this is used to enable or disable the 2FA feature for several users all at once. Only visible if Two-Factor Authentication has been enabled and setup in System Settings > Basic > Two-Factor Authentication (2FA) tab and 2FA view is selected.

While there are seven (7) filters that can be used to narrow down the results and change the displayed information of the backup user:



- ▶ Client Type – backup users can be filtered based on type, either AhsayOBM or AhsayACB client. By default, it displays backup users belonging to all client types.
- ▶ User – backup users can also be filtered based on the first letter of its login name. It can also be based on subscription type which is Paid or Trial. It can also be based on status which is Suspended or Locked. Additional criteria are Others and Inactive. By default, the backup users are displayed alphabetically.
- ▶ Registration Date – backup users can be filtered based on the date they were registered. The choices are Today, Last 7 days, Last 30 days and Last 100 days. By default, it displays all backup users created.
- ▶ User Group – backup users can be filtered based on the user group it belongs to. By default, it displays all backup users belonging to all user groups.
- ▶ Auto Update – backup users can be filtered based on the status of its auto update, if it is Enabled or Disabled. By default, all backup users are displayed. This is only available in Default view.
- ▶ Owner – backup users can be filtered based on the owner of the user account. By default, all backup users are displayed.
- ▶ View – the information displayed regarding the backup user may be changed by changing the view. There are three (3) views available which are Default, Quota and 2FA. The 2FA view is only visible if Two-Factor Authentication has been enabled and setup in System Settings > Basic > Two-Factor Authentication (2FA) tab. By default, the Default view is displayed.

If AhsayCBS is deployed for internal use, as a system administrator, you need to determine the following when you create a backup account:

- ▶ Backup client type, whether it is AhsayOBM or AhsayACB
- ▶ Backup destination

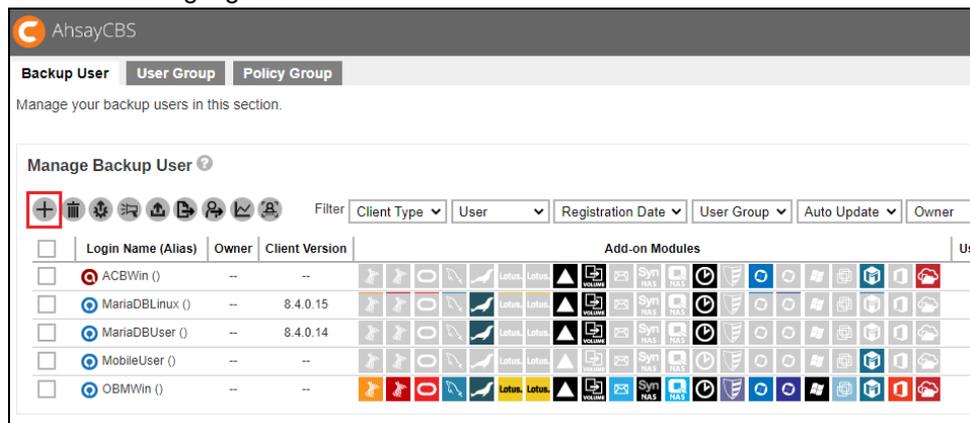
If you are a Managed Service Provider (MSP) or reseller you may require to take into consideration the following items when you create a backup user account:

- ▶ Types of users, whether it is Paid or Trial
- ▶ Backup client type, whether it is AhsayOBM or AhsayACB. Also the modules subscribed by the client
- ▶ The backup destination and the subscribed quota

Create a New Backup User

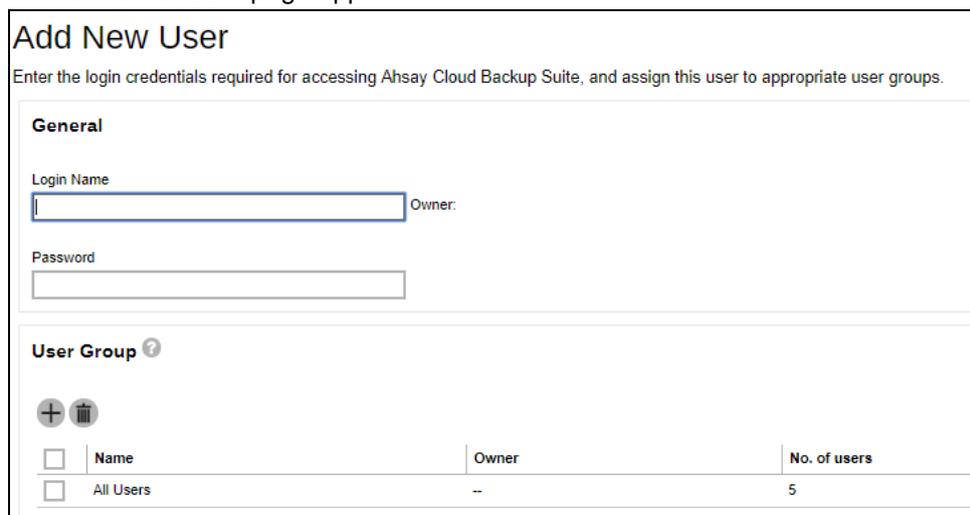
To create a new backup user, do the following:

1. Click  as highlighted below.



The screenshot shows the AhsayCBS interface for managing backup users. At the top, there are tabs for 'Backup User', 'User Group', and 'Policy Group'. Below the tabs, there is a section titled 'Manage Backup User' with a plus icon highlighted in a red box. The interface includes a table with columns for 'Login Name (Alias)', 'Owner', 'Client Version', and 'Add-on Modules'. The table lists several users, including ACBWin (), MariaDBLinux (), MariaDBUser (), MobileUser (), and OBMWin ().

2. The **Add New User** page appears.



The 'Add New User' form is displayed. It has a title 'Add New User' and a subtitle 'Enter the login credentials required for accessing Ahsay Cloud Backup Suite, and assign this user to appropriate user groups.' The form is divided into two main sections: 'General' and 'User Group'.

General

Login Name: Owner:

Password:

User Group

<input type="checkbox"/>	Name	Owner	No. of users
<input type="checkbox"/>	All Users	--	5

3. Enter the **Login Name**, **Password**, and select the **User Group** by checking the desired user group. Click  to proceed.

Add New User

Enter the login credentials required for accessing Ahsay Cloud Backup Suite, and assign this user to appropriate user groups.

General

Login Name
 Owner:

Password

User Group ?

+ -

	Name	Owner	No. of users
<input type="checkbox"/>	All Users	--	5

4. Enter the following information that appears on this page.

Field	Description
Alias	Another name of the backup user.
Home Directory	You can select Auto assigned or Manually assigned user home path. The user backup data will be stored here.
Subscription Type	There are 2 subscription types: Trial User and Paid User . Trial users are subject to automatic removal as defined by the Free Trial Options tab under Backup / Restore > Basic . The automatic removal option can be disabled.
Suspend At	A scheduled date to suspend this user. For trial users, the suspension date is based on the settings in the Free Trial Options tab under Backup / Restore > Basic .
Status	There are 3 types of status for a user account: Enable , Suspended , and Locked . Under normal circumstances, administrator may change the Enable or Suspended status of a user. The Locked status is referring to account lockout rules that are set inside the policy group, refer to the Managing Policy Groups section for more details. For example, if a user has 3 consecutive unsuccessful login attempts in 10 minutes, the user account will be locked out. This is the default setting.
Upload Encryption Key	Once you enabled the encryption recovery option, the encryption key file is uploaded to the backup server. In case the user forgot the encryption key, the encryption key can be recovered using this step Recovering Encryption Key via AhsayCBS Web Console . The recovered encryption key will be sent directly to the email address registered on the user account. Refer to the Encryption key section for further details.

Language	Preferred language for all email reports of the backup user.
Timezone	Time zone of the backup user. Timezone information will be automatically updated when user login client backup agent, such as AhsayOBM and AhsayACB, or perform backup job to avoid the false alarm of missed backup job.
Notes	A field to add notes for the backup user.

Click  to proceed when you are done with the settings.

5. Enter the following information that appears on this page.

Field	Description
Backup Client	If the backup client machine requires to backup files only, such as a desktop computer or a notebook, then you can simply create an AhsayACB backup account. Otherwise, you will need to setup AhsayOBM , because it comes with backup modules to perform Windows system backup, database backup and virtual machine backup. By default AhsayACB backup account is selected.
Add-on Modules	You can select which add-on module to enable for the backup user. Some add-on modules has a text field after its name. For example, the number after Microsoft Exchange Mailbox defines the number of Exchange mailboxes that are allowed to be backed up under this user account.
Quota	Backup Quota of each destination for the user account.

	Refer to the User Settings Tab section for details.
Client host limit	This is to limit the maximum number of hosts allowed in a client's backup account, i.e. the number of devices that they can install AhsayOBM/AhsayACB on. Refer to the User Settings Tab section for details.
Run Direct (For AhsayOBM only)	Set the maximum number of VMs for VM Run Direct restore on AhsayCBS for this user. Refer to the Run Direct section for details.

AhsayACB User Account

Add New User

Select the backup client software, usable add-on modules and the available quota for this user.

Backup Client

AhsayOBM User AhsayACB User

Add-on Modules

<input type="checkbox"/> Windows System Backup	<input type="checkbox"/> Lotus Notes
<input type="checkbox"/> Mobile (max. 10)	<input type="checkbox"/> Continuous Data Protection
<input type="checkbox"/> Volume Shadow Copy	<input type="checkbox"/> In-File Delta
<input type="checkbox"/> OpenDirect / Granular Restore <input type="text" value="0"/>	<input type="checkbox"/> Office 365 Backup <input type="text" value="0"/>

Quota

Unlimited storage space for the destination not shown in the following table

Destination	Quota	
<input type="checkbox"/> AhsayCBS	<input type="text" value="5.0"/>	Gbytes <input type="text" value="v"/>

(If preempted mode is enabled in policy settings, the quota settings are disabled)

Client host limit

Maximum number of host

← → X ?

AhsayOBM User Account

Add New User

Select the backup client software, usable add-on modules and the available quota for this user.

Backup Client
 AhsayOBM User AhsayACB User

Add-on Modules

<input type="checkbox"/> Microsoft Exchange Server	<input type="checkbox"/> Microsoft SQL Server
<input type="checkbox"/> MySQL Database Server	<input type="checkbox"/> Oracle Database Server
<input type="checkbox"/> Lotus Domino	<input type="checkbox"/> Lotus Notes
<input type="checkbox"/> Windows System Backup	<input type="checkbox"/> Windows System State Backup
<input type="checkbox"/> VMware <input type="text" value="Guest VM"/> <input type="text" value="0"/>	<input type="checkbox"/> Hyper-V <input type="text" value="Guest VM"/> <input type="text" value="0"/>
<input type="checkbox"/> Microsoft Exchange Mailbox <input type="text" value="0"/>	<input type="checkbox"/> ShadowProtect System Backup
<input type="checkbox"/> NAS - QNAP	<input type="checkbox"/> NAS - Synology
<input type="checkbox"/> Mobile (max. 10)	<input type="checkbox"/> Continuous Data Protection
<input type="checkbox"/> Volume Shadow Copy	<input type="checkbox"/> In-File Delta
<input type="checkbox"/> OpenDirect / Granular Restore <input type="text" value="0"/>	<input type="checkbox"/> Office 365 Backup <input type="text" value="0"/>
<input type="checkbox"/> MariaDB Database Server	

Quota

Unlimited storage space for the destination not shown in the following table

<input type="checkbox"/>	Destination	Quota	
<input type="checkbox"/>	AhsayCBS	<input type="text" value="5.0"/>	Gbytes

(If preempted mode is enabled in policy settings, the quota settings are disabled)

Client host limit

Maximum number of host

Run Direct

Maximum number of VM

Click  at the bottom of the page to proceed when you are done with the settings.

- This page allows you to add contact person information for this user. Click  to add new contact information.

Add New User

Add contact persons information for this user.

Manage Contact Information 

<input type="checkbox"/>	Name	Email
--------------------------	------	-------

7. Enter the contact information such as **Name**, **Email**, **Address**, etc. In our example, the name of the contact is **john**.

Contact

Name

Email

Encrypt Email

Address

Company

Website

Phone 1

Phone 2

Click  at the bottom right hand corner of the page to proceed when you are done with the settings.

8. A new contact called **john** is added.

Add New User

Add contact persons information for this user.

Manage Contact Information

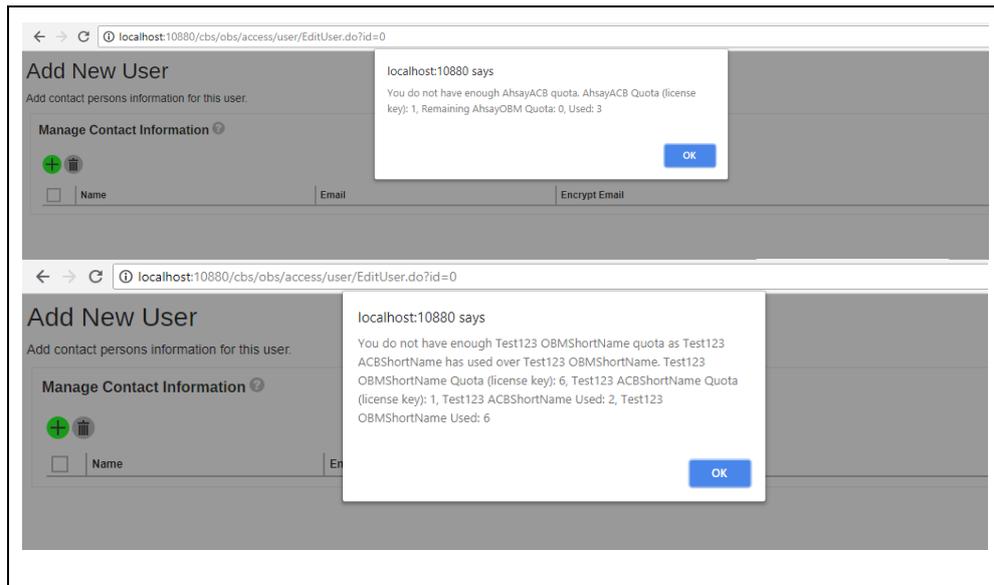
 

<input type="checkbox"/>	Name	Email	Encrypt Email
<input type="checkbox"/>	john	john_backupservices@gmail.com	No

9. Click  at the bottom right corner of the page to confirm. The newly added user appears on the **Backup User** tab.

NOTE

If the license quota for backup user (AhsayOBM/ AhsayACB) has already been fully used, adding another new backup user will be blocked.

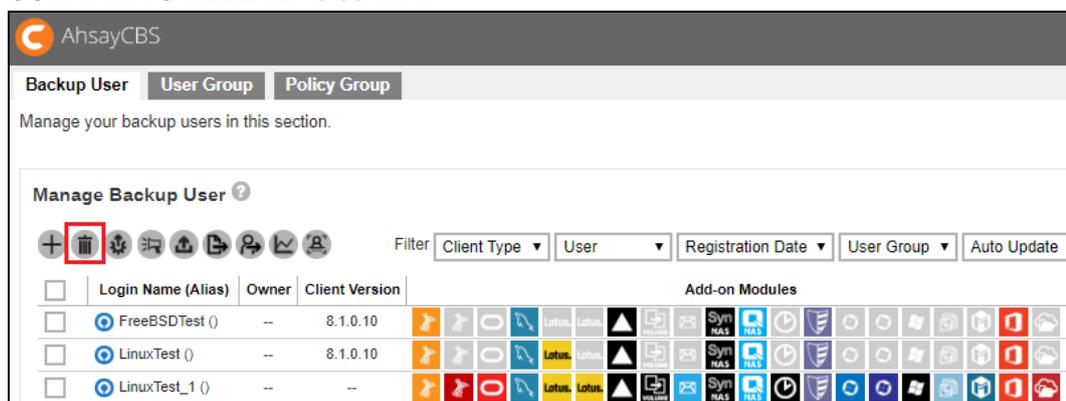


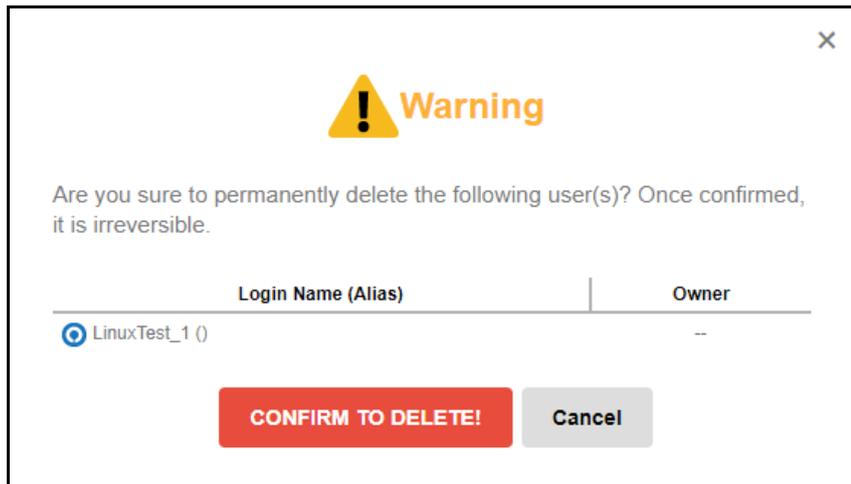
Delete Backup User

NOTE

Remind clients to uninstall the software (AhsayOBM/AhsayACB) from their device to avoid receiving failed login reports for deleted accounts. You can use the [Broadcast](#) feature before the account is deleted to inform the client.

To delete an existing user, select the user you want to delete, then click the **Delete** button as shown below. You will be prompted to confirm deleting the selected user, click **CONFIRM TO DELETE!** to confirm.





WARNING

When you remove a backup user account, all the backup sets and backup data on AhsayCBS or predefined destinations, as well as the backup user profile on the AhsayCBS will be removed.

For the backup data residing on local destinations on the AhsayOBM/AhsayACB machine or on customers personal cloud storage accounts, SFTP/FTP servers will not be deleted.

Auto Update

The automatic upgrading of AhsayOBM/ AhsayACB clients to the latest version is performed using the Auto Update function. To perform a successful auto upgrade of the AhsayOBM/ AhsayACB clients need to connect to the AhsayCBS backup server.

The AhsayOBM/ AhsayACB client backup machine:

- Must be powered on.
- Must be connected to the internet.
- The AhsayOBM/ AhsayACB scheduler services must be running.
- The AhsayOBM/ AhsayACB user account status must be Enable. (Auto Update will not work if the user account is suspended or locked).
- The AhsayOBM/ AhsayACB application GUI must be closed.
- Antivirus or firewall must allow the binaries to complete the download.
- Network connection between AhsayOBM/ AhsayACB client backup machine and AhsayCBS server must be stable.
- AhsayACB is must not run on Server OS.

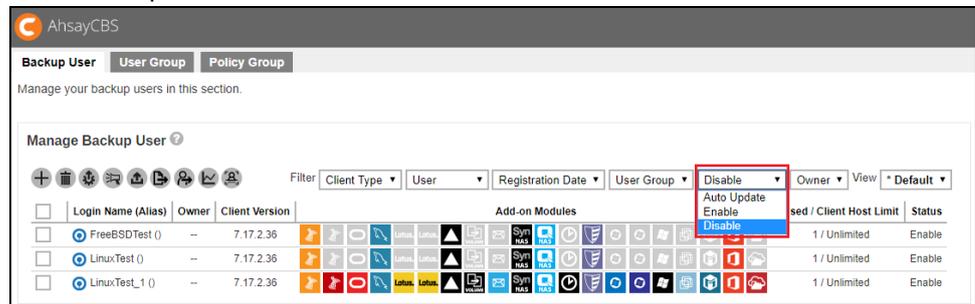
- For Linux/FreeBSD machines, the GNU C or GLIBC library must be installed, version must at least be 2.14.
- For FreeBSD machines, OpenJDK 8 must be installed.
- For Linux/FreeBSD machines, the 'psmisc' package which contains the 'fuser' components must be installed for Auto Update to work properly.

For every 720 minutes or whenever the backup client service restarts (v8) or the auto update agent service restarts (v6), AhsayOBM/ AhsayACB will check with your AhsayCBS for any available updates when a scheduled backup job runs. If any auto update instructions were found on the AhsayCBS, the update progress will be started.

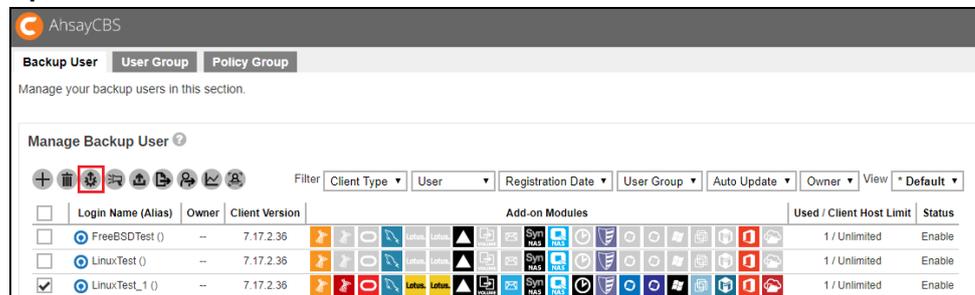
NOTE

AhsayOBM on Synology and QNAP NAS does not support the Auto Update feature. These devices will need to be manually updated to the latest AhsayOBM version by downloading the latest AhsayOBM installer from the AhsayCBS web console and running an installation.

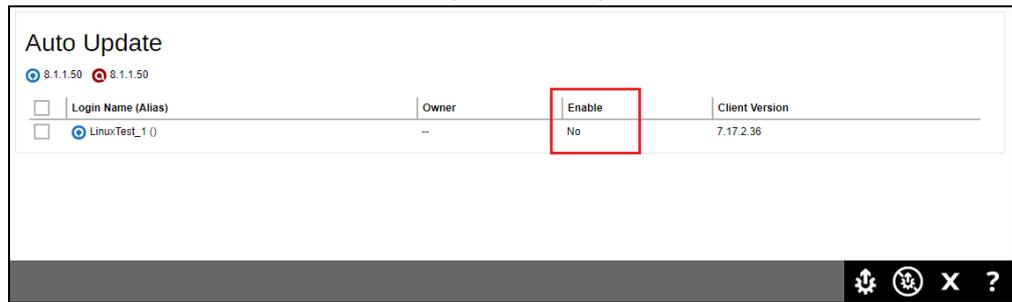
- To determine if a backup user account has Auto Update enabled, there are two (2) ways to view this:
 - One is by using the filter, in the Auto Update filter you can choose between **Enable** or **Disable**. The backup user account will be listed according to the selected filter criterion. In the example below, the listed backup user accounts have auto update **Disabled**.



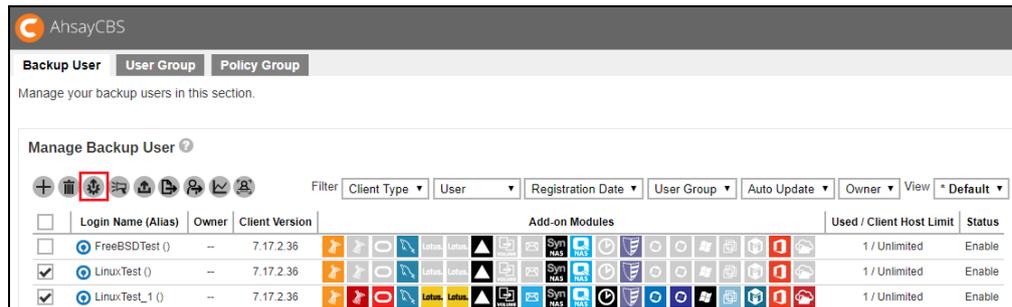
- By selecting a specific account. Select a specific account then click the **Auto Update** button.



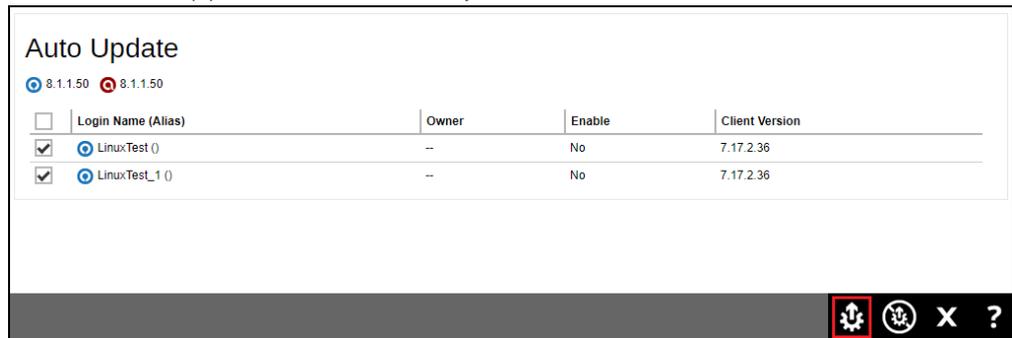
You will see under Enable that auto update is not yet enabled.



- If you want to enable auto update, select the desired user(s) then click **Auto Update** as shown below.



- Select the user(s) then click the AutoUpdate button to start.



- To check if auto update was successful, you can check it through:

- The latest backup report

Full Backup report

Backup Job Summary

User	LinuxTest_1
Backup Set	b2 (1566189448335)
Destination	AhsayCBS (AhsayCBS)
Data Size	305k
Retention Size	0
Backup Quota	50G
Remaining Quota	50G
Backup Job	2019-08-19-14-26-11
Job Status	OK (no files backed up)
Start - End	08/19/2019 14:26:11 - 08/19/2019 14:26:25
IP Address	10.16.10.14 (w2k8r2-std)
New Files *	0 (0)
New Directories	0
New Links	0
Updated Files *	0 (0)
Attributes Changed Files *	0 (0)
Deleted Files *	0 (0)
Deleted Directories	0
Deleted Links	0
Moved Files *	0 (0)

* No. of files (size)

Backup Set Settings

Field	Value
Backup Source	[C:\Users\Administrator\Documents]
Filter	[Enabled: No]
Backup Schedule	[Computer Name:][Daily: [Name: Backup Schedule, Time: 20: 0, Type: . Duration: -1, Retention Policy: Yes][Weekly:][Monthly:][Custom:]
Continuous Data Protection	[Enabled: No]
In-File Delta	[Enabled: Yes, Default Type: 1, Block Size: -1, Minimum Size = 2621400, Maximum No. of Delta = 100, Delta Ratio = 50, Weekly: [, Monthly: [, Da y: 0, Criteria: Friday, Day of selected months in yearly variations: First]
Retention Policy	[Type: Simple, Period: 7, Unit: Day(s)]
Command Line Tool	
Reminder	[Logout Backup Reminder: w2k8r2-std], [OFF-line Backup Reminder: . OFF-line Notification Day: 1 Days 0 hours]
Bandwidth Control	[Enabled: No, Mode: Independent, Bandwidth Control:]
Others	[Remove temporary files after backup: Yes], [Follow Link: Yes], [Volume Shadow Copy: Yes], [File Permissions: Yes], [Compression Type: Fast (Comp ressed size larger than normal)]

Backup Logs

No.	Type	Timestamp	Log
1	start	2019/08/19 14:26:11	Start [AhsayOBM v8.1.1.50]
2	info	2019/08/19 14:26:12	Saving encrypted backup set encryption keys to server...
3	info	2019/08/19 14:26:13	Using Temporary Directory C:\Users\Administrator\temp\1566189448335\OBSB1566189518301
4	info	2019/08/19 14:26:13	Progressive Data Integrity Check is enabled. It will only check the backup files that have not been checked within the specified interv al: 60 Days

- Or on the AhsayCBS web console, **Manage Backup User > Login Name**, check the **Client Version**.

Manage Backup User ?

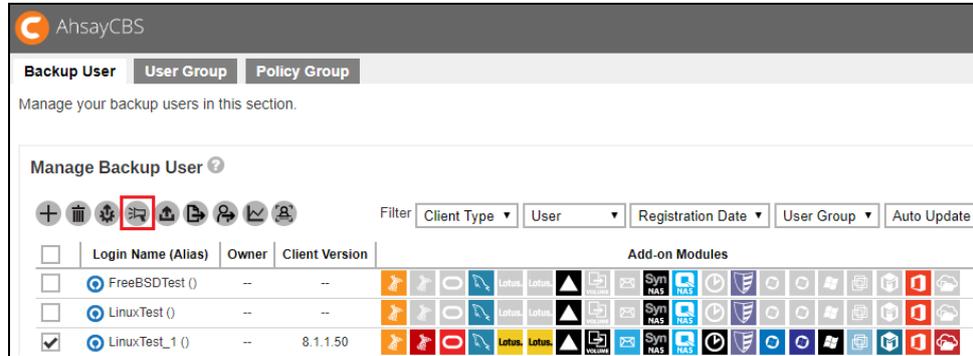
Filter

<input type="checkbox"/>	Login Name (Alias)	Owner	Client Version
<input type="checkbox"/>	FreeBSDTest ()	--	7.17.2.36
<input type="checkbox"/>	LinuxTest ()	--	8.1.1.50
<input type="checkbox"/>	LinuxTest_1 ()	--	8.1.1.50

Broadcast

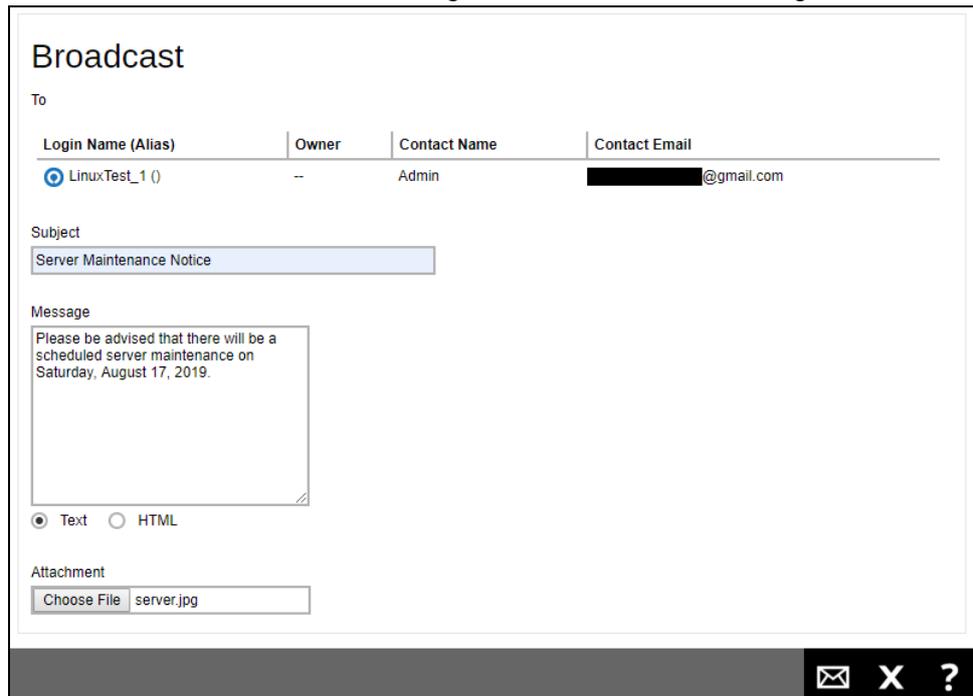
After you selected a list of users for broadcast, you will be able to send a broadcast message to the selected users. This is useful when you need to send announcement such as server maintenance, applied latest patch or some promotion offers to your users.

1. To broadcast a message to users, select the desired users then click the **Broadcast** button as shown below.



The screenshot shows the 'Manage Backup User' interface in AnsayCBS. At the top, there are tabs for 'Backup User', 'User Group', and 'Policy Group'. Below the tabs, there is a section titled 'Manage Backup User' with a help icon. A toolbar contains several icons, with the 'Broadcast' icon (a megaphone) highlighted by a red box. To the right of the toolbar are filter dropdowns for 'Client Type', 'User', 'Registration Date', 'User Group', and 'Auto Update'. Below the toolbar is a table with columns for 'Login Name (Alias)', 'Owner', and 'Client Version'. The table lists three users: 'FreeBSDTest ()', 'LinuxTest ()', and 'LinuxTest_1 ()'. The 'LinuxTest_1 ()' row is selected with a checkmark. To the right of the table is an 'Add-on Modules' section with various icons.

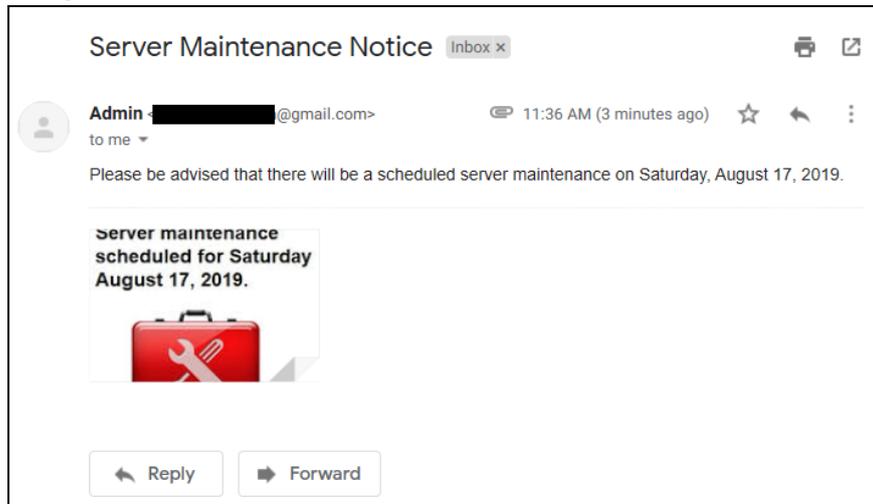
2. Edit the broadcast message by entering your subject and message. The message can be sent in text or html format. You may also include attachments. Once done, click the **Send** button at the bottom right corner to send the message.



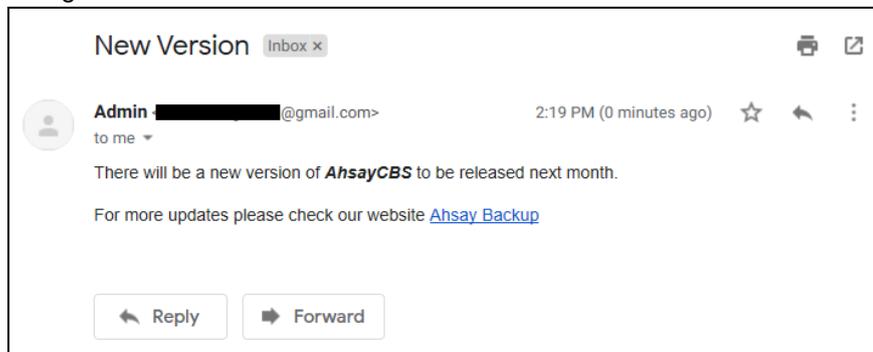
The screenshot shows the 'Broadcast' message composition form. The 'To' field is populated with 'LinuxTest_1 ()' and shows contact details: 'Owner: --', 'Contact Name: Admin', and 'Contact Email: [redacted]@gmail.com'. The 'Subject' field contains 'Server Maintenance Notice'. The 'Message' field contains the text: 'Please be advised that there will be a scheduled server maintenance on Saturday, August 17, 2019.' Below the message field are radio buttons for 'Text' (selected) and 'HTML'. The 'Attachment' field shows 'server.jpg' with a 'Choose File' button. At the bottom right corner, there are icons for 'Send', 'Close', and 'Help'.

3. Here is an example of a message received in the users' mailbox:

• Using Text with attachment



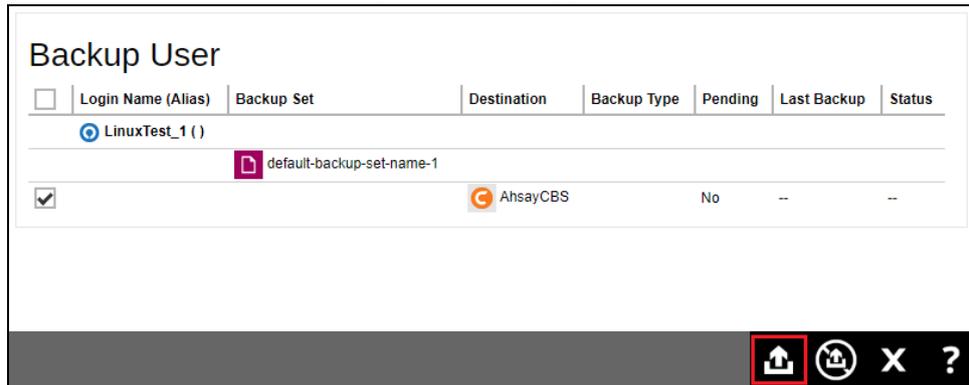
• Using HTML



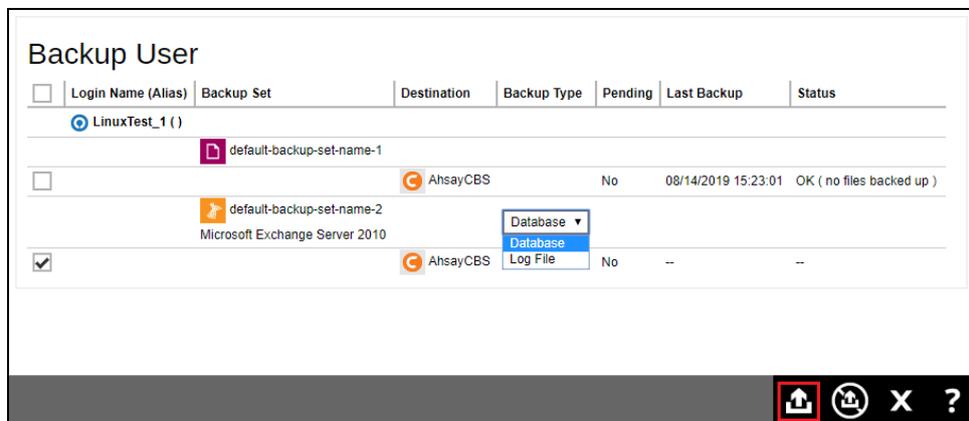
NOTE

The message will be sent to the email address that was provided in the Contact Information of the user.

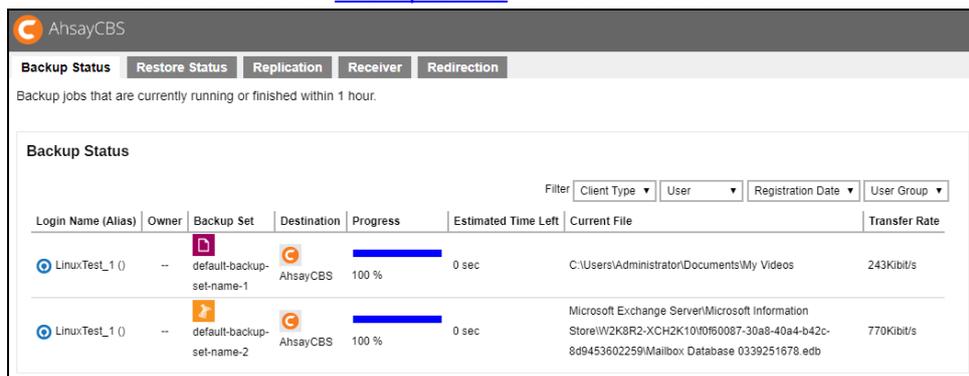
- Select the backup set you would like to start a backup on, and then click the **Run Backup** button at the bottom right corner to trigger a backup.



For database backup you need to select the backup type, whether **Database** or **Log File**.



- The backup will start shortly and you can monitor the progress using the **Live Activities** feature. Refer to [Backup Status](#) for further details.



You can also check the status of the server if it initiates backup through **Manage Backup User > Login Name > Backup User**, check **Pending** and **Status**. In the first screenshot below, after initiating the backup, you can see under the Pending column that the backup has not started yet and the Status is "OK (no files backup

up”.

<input type="checkbox"/>	Login Name (Alias)	Backup Set	Destination	Backup Type	Pending	Last Backup	Status
<input checked="" type="checkbox"/>	LinuxTest_1 ()						
<input type="checkbox"/>		default-backup-set-name-1		AhsayCBS	Yes	08/15/2019 10:25:00	OK (no files backed up)
<input type="checkbox"/>		default-backup-set-name-2 Microsoft Exchange Server 2010		AhsayCBS	No	08/15/2019 10:21:00	OK

Once the start backup command is initiated, you can see under the Pending column that the backup job is not pending anymore because it has started and its Status will be changed to “Backup not yet finished”.

<input type="checkbox"/>	Login Name (Alias)	Backup Set	Destination	Backup Type	Pending	Last Backup	Status
<input checked="" type="checkbox"/>	LinuxTest_1 ()						
<input type="checkbox"/>		default-backup-set-name-1		AhsayCBS	No	08/15/2019 11:10:00	Backup not yet finished
<input type="checkbox"/>		default-backup-set-name-2 Microsoft Exchange Server 2010		AhsayCBS	No	08/15/2019 10:21:00	OK

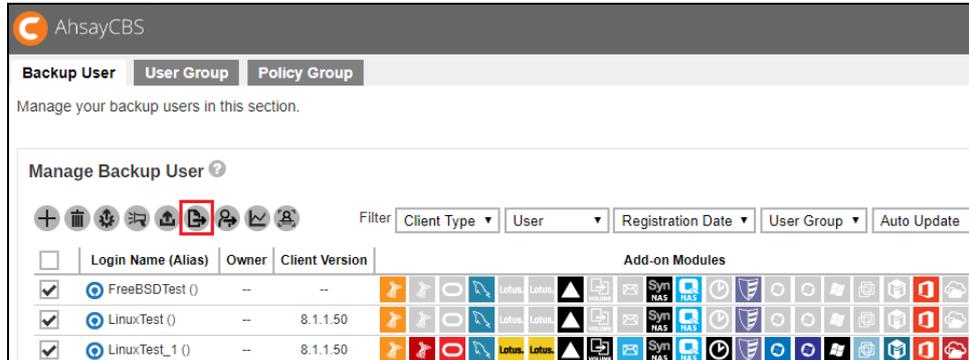
NOTE

In cases when the client machine will be turned off for extended amount of time, the backup job will remain pending until such time the machine is powered on. So, it is advisable to just cancel the backup job. You can do this by selecting the backup set then clicking the  Cancel Backup button in the Backup User screen.

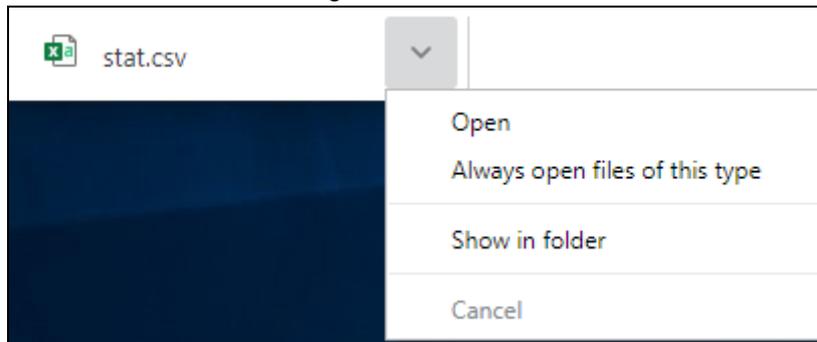
Export Users' Usage Statistics to CSV File

You can export the usage of your selected user(s) to a CSV (Comma Separated Value) file. This format can be imported into spreadsheets or other applications for further analysis or billing purposes.

1. To export usage of users to CSV, select the desired users then click the **Export Users' Usage Statistics to CSV** button as shown below.



2. You will see a .csv file being downloaded.

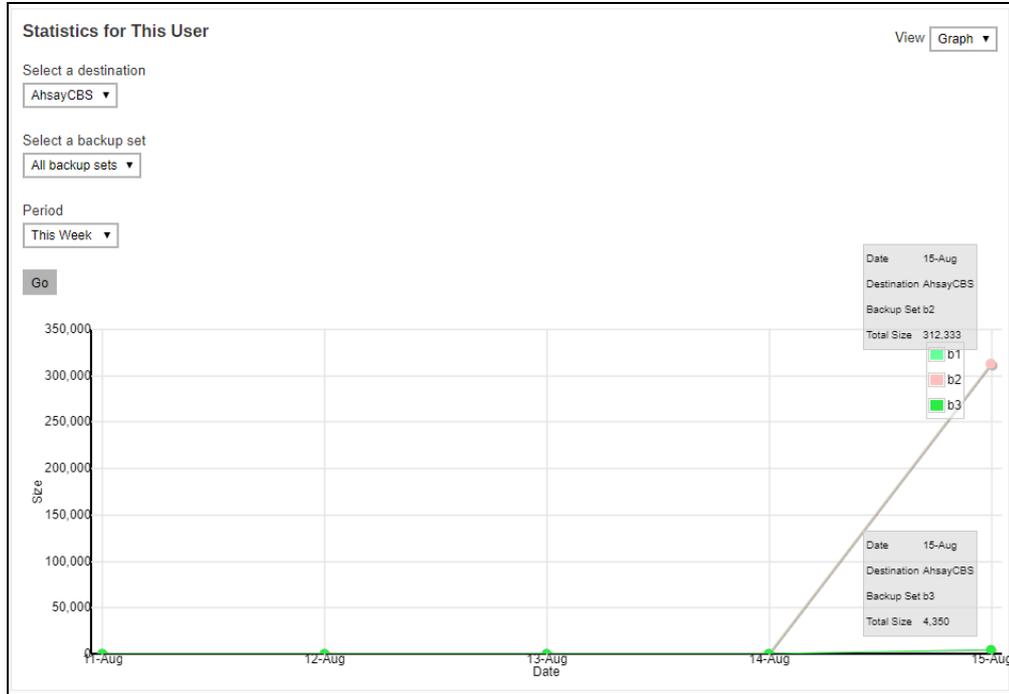


3. When you open it, it will display the Login Name, Alias, Owner, Usage in bytes and Quota in bytes.

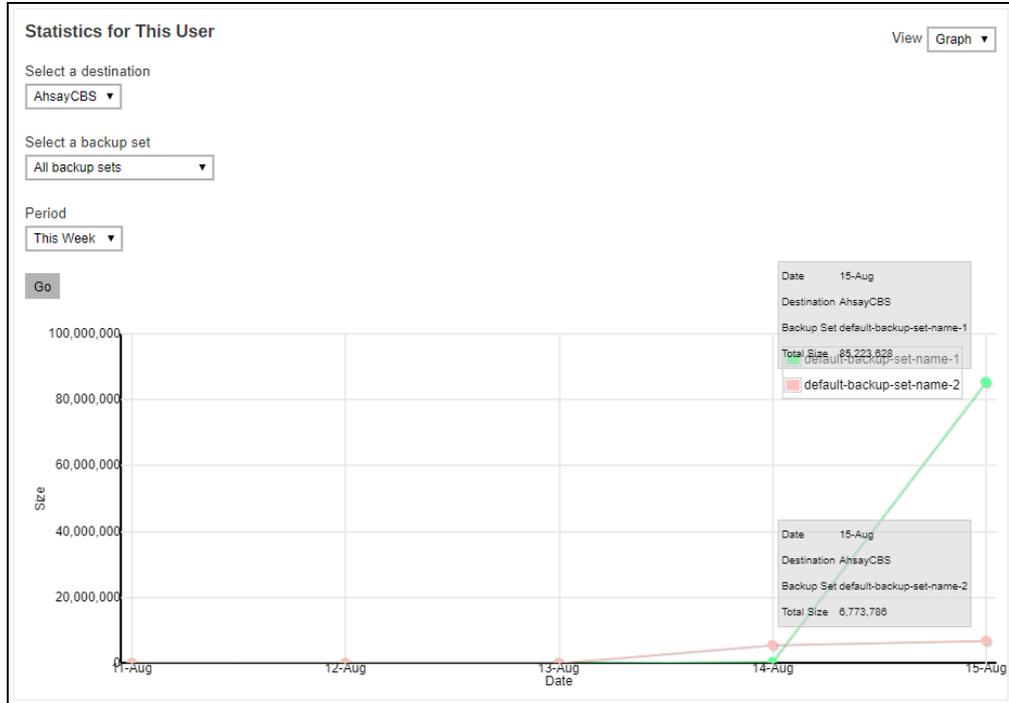
	A	B	C	D	E
1	# Name	Alias	Owner	Usage (Bytes)	Quota (Bytes)
2	FreeBSDTest			0	52428800
3	LinuxTest			629016	52428800
4	LinuxTest_1			91997414	52428800

Below is a screenshot of the Statistics Usage Page, you can access this by going to **Backup / Restore > Users, Groups & Policies > Backup User Tab > Login Name > Statistics:**

For LinuxTest



For LinuxTest_1

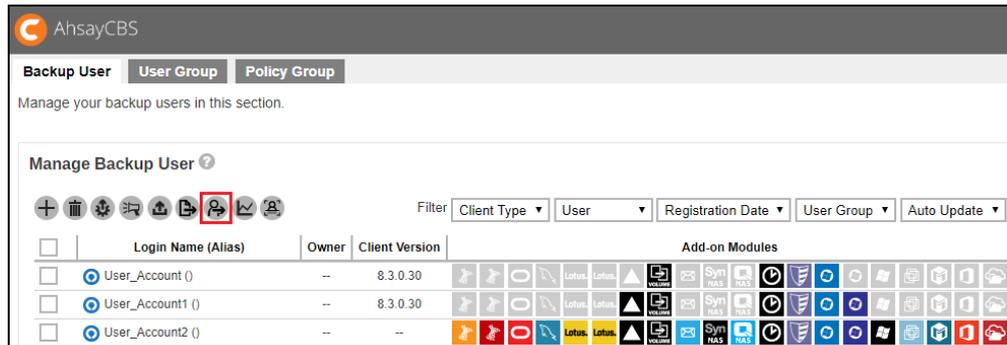


Move/ Import/ Export Users

This function can be used to export users to a zip file and import users from a zip file.

You can also use this function to migrate backup users from one AhsayCBS server to another AhsayCBS server, or to migrate users from their current user home to another user home on the same server. This function is limited to system user with admin role.

Select the desired user, and then click the **Move/ Import/ Export Users** button as shown below.



The following screen appears:

Move / Import / Export Users

Move user home to

Import users to

Exported zip file

Overwrite existing users

Export users to file

Include backup files

- **Move user home to** – Export user from a user home to another user home on the same AhsayCBS server .
- **Import users to** – Import a previously exported user to the selected user home.
- **Export users to file** – Export user profile and backup files to a zip file format.

NOTE

- Please schedule a time with the backup user before migrating a user to another user home / to another AhsayCBS. Ensure that the AhsayOBM / ACB client interface is closed, and that no backup / restore job is performed during the migration.
- It is highly recommended to temporarily suspend the backup user during the export / import procedure.
- It is not supported to import users that belong to AhsayCBS v8.1.0.0 or above to the old version of AhsayCBS server.

Since the migration of a backup user to another user home / AhsayCBS may involve export of the user profile and backup data, for user with a large amount of backup data, the time required for the export may take a while. During the export, please do not restart the AhsayCBS service or the server. In case of power failure or server shutdown, the export of the user will fail.

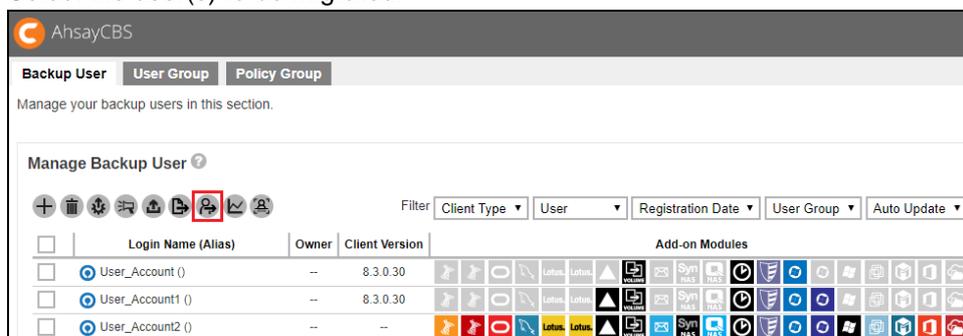
Migrate users from one user home in D: drive to another user home in F: drive within the same AhsayCBS

Assumptions:

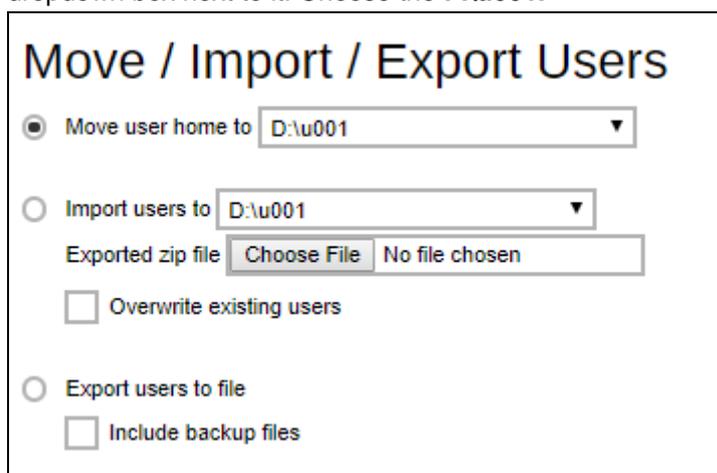
- ▶ The backup users to be moved only have small amount of backup files.
- ▶ These users are located in **D:\u001** to be moved to **F:\u001**.

Steps:

1. Login to the AhsayCBS and go to **Backup/Restore > Users, Groups & Policies**.
2. Select the user(s) to be migrated.



3. Click the **Move/ Import/ Export Users** button.
4. Make sure the radio button of **Move user home to** is turned on and select the dropdown box next to it. Choose the **F:\u001**.



5. Click  to proceed.

While there are two ways to migrate a user from one AhsayCBS server to another AhsayCBS server:

Method 1: Export users including the backup files to a zip file.

Method 2: Export the user profile only to a zip file. Then manually copy the backup files later directly to the destination AhsayCBS server.

Limitations:

- ▶ Migrating data on cloud storage or pre-defined destination is not supported.
- ▶ Exporting and importing user profile and large amount of data.

Suggestions:

- ▶ Perform the export and import procedure for one user at a time, if exporting and importing user profile and backup files.
- ▶ Suspend the user during the export and import procedures to ensure that no backup / restore job is performed during the migration.
- ▶ If the exported “users.zip” file is not saved to a local destination, ensure that the network between the AhsayCBS server and the save destination remain stable throughout the export process.
- ▶ For best result (performance and stability wise), it is recommended that:
 - The export and import operation of the backup user is performed directly on the corresponding AhsayCBS server, or in the same LAN environment.
 - The exported “users.zip” files are copied directly onto the destination AhsayCBS server, or a network drive in the same LAN environment.
- ▶ For backup user with large amount of data, migrate the user by using Method 2.
 - Perform the user data export at a time when the resource usage is low on the AhsayCBS server.

Assumptions:

- ▶ The user to be exported is located on AhsayCBS1, to be moved to AhsayCBS2.
- ▶ Before importing the user to AhsayCBS2, make sure that there is no backup user with the same username on AhsayCBS2.
- ▶ Backup data are stored directly on the AhsayCBS server.
- ▶ The user should be removed on the original server (e.g. AhsayCBS1) after exporting the user to the new AhsayCBS server. This is especially important if these AhsayCBS servers are under the same Redirector setup.

NOTE

Please kindly note that the default size limit for the users.zip file (including Users.xml and backup data) to be imported to the different AhsayCBS server is 50G. If you want to change the size limit, you need to change the number of "50" in the line of "<controller maxFileSize="50G"/>" in "\$CBS_HOME/webapps/cbs/WEB-INF/struts-config.xml" to be other value.

For users with large amount of backup data, an easier option to use is [Method 2](#).

Please refer to the following article for further details about how migration of users between different AhsayCBS under the same Redirector setup:

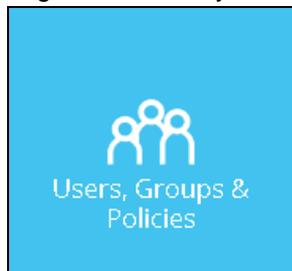
https://wiki.ahsay.com/doku.php?id=public:8024_faq:how_to_move_user_in_same_ahsay_dr_setup

It is best to use Method 1 when exporting a user that has only a relatively small amount of backup data (i.e. like a few MB/GB) since this will be saved in a zip file. Otherwise, use [Method 2](#).

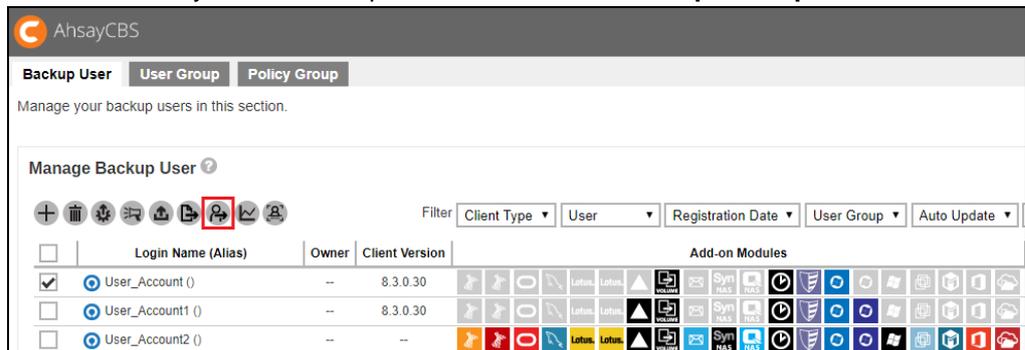
Method 1 -- Export a user (including data) from one AhsayCBS and import to another AhsayCBS

Steps:

1. Login to the AhsayCBS1 and go to **Backup/Restore > Users, Groups & Policies**.



2. Select the user you need to export and click the **Move/ Import/ Export Users** button.



- Click on the **Export users to file** radio button and click on the **Include backup files** check box to export the backup user data.

Move / Import / Export Users

Move user home to

Import users to

Exported zip file

Overwrite existing users

Export users to file

Include backup files

- Click on  to proceed. The system will prompt you to save the file (users.zip) in your local machine. You need to have enough disk space to save the zip file. If the user account has large backup sets, it is expected to wait for a long time.
- After exporting process, click  to go back to the **Backup User Tab** page.
- Login to the AhsayCBS2 and go to **Backup/Restore > Users, Groups & Policies**.



- Click the **Move/ Import/ Export Users** button.

AhsayCBS

Backup User **User Group** **Policy Group**

Manage your backup users in this section.

Manage Backup User ?

Filter

<input type="checkbox"/>	Login Name (Alias)	Owner	Client Version	Add-on Modules

8. Click on the **Import users to** radio button and select the destination user home on the AhsayCBS2 from the drop down list.

Move / Import / Export Users

Move user home to

Import users to

Exported zip file

Overwrite existing users

Export users to file

Include backup files

9. Click on the **Choose File** button under the **Import users to** radio button. Select your previous exported zip file.

Move / Import / Export Users

Move user home to

Import users to

Exported zip file

Overwrite existing users

Export users to file

Include backup files

10. If the overwrite option is selected, the user account on the AhsayCBS2 which has the same username in the users.zip will be overwritten.

Move / Import / Export Users

Move user home to

Import users to

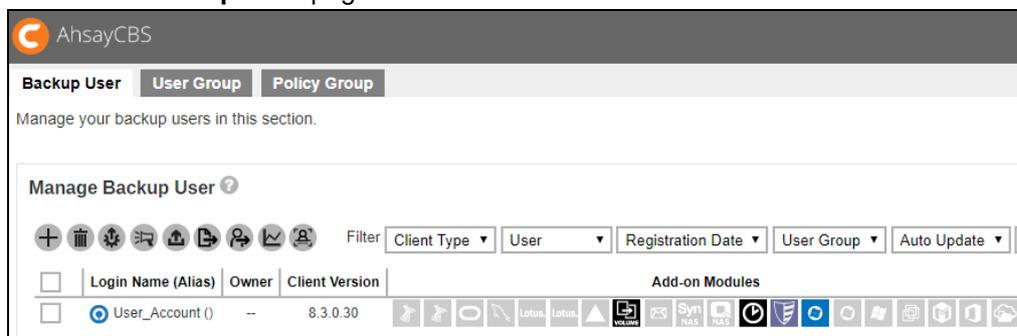
Exported zip file

Overwrite existing users

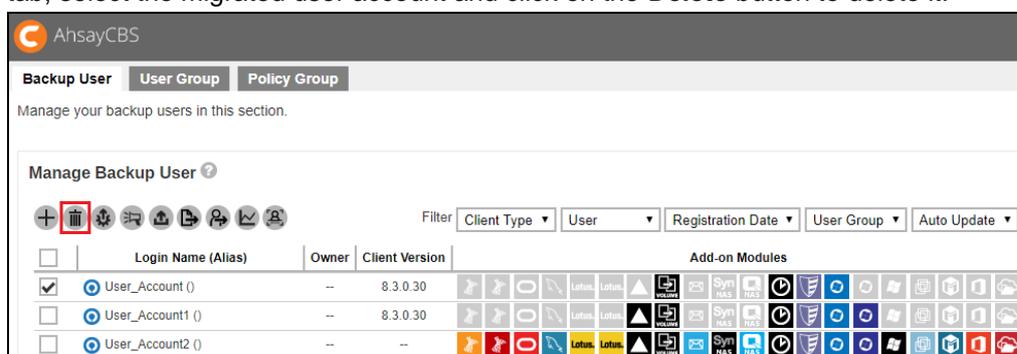
Export users to file

Include backup files

- Click on  to proceed.
- Restart the AhsayCBS service and login to AhsayCBS2 to check the newly imported user in the **Backup User** page.



- After the entire migration process is completed, delete the original backup account on AhsayCBS1. On the AhsayCBS web console of AhsayCBS1, under **Backup User** tab, select the migrated user account and click on the **Delete** button to delete it.

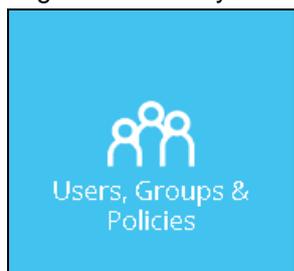


While it is advisable to use Method 2 when exporting a user which has a large amount of backup data. In this option only the user profile will be saved in a zip file and the backup data will be manually transferred to the destination AhsayCBS server.

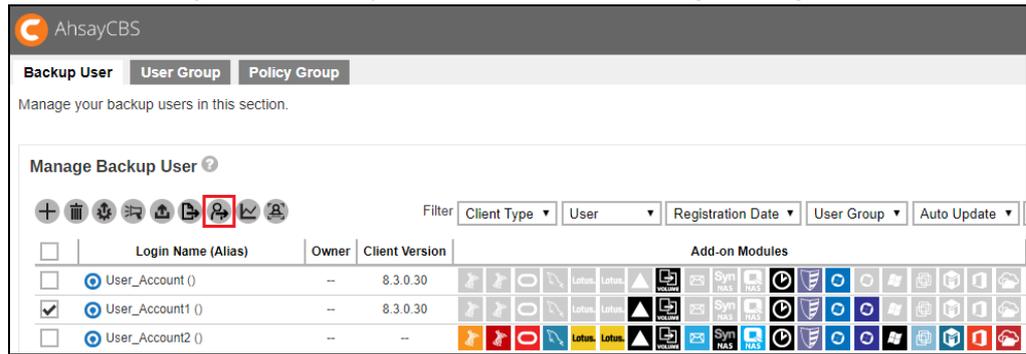
Method 2 -- Export a user from one AhsayCBS and import to another AhsayCBS, afterwards manually copy the backup files to the destination AhsayCBS server

Steps:

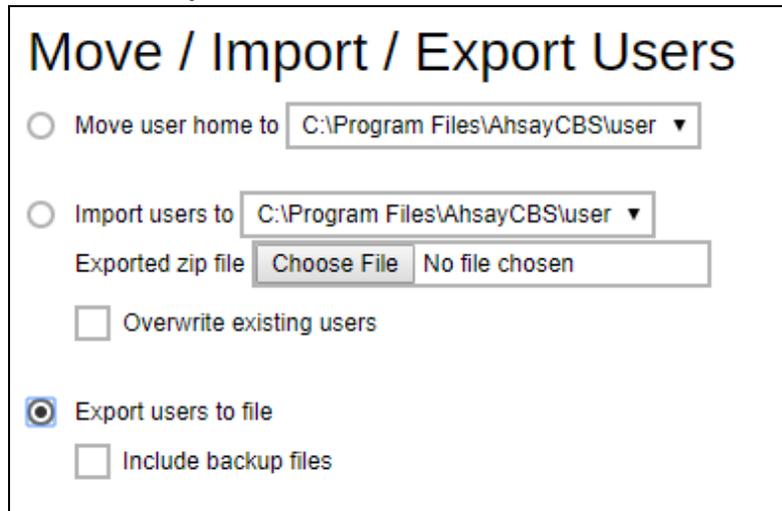
- Login to the AhsayCBS1 and go to **Backup/Restore > Users, Groups & Policies**.



2. Select the user you need to export and click the **Move/ Import/ Export Users** button.



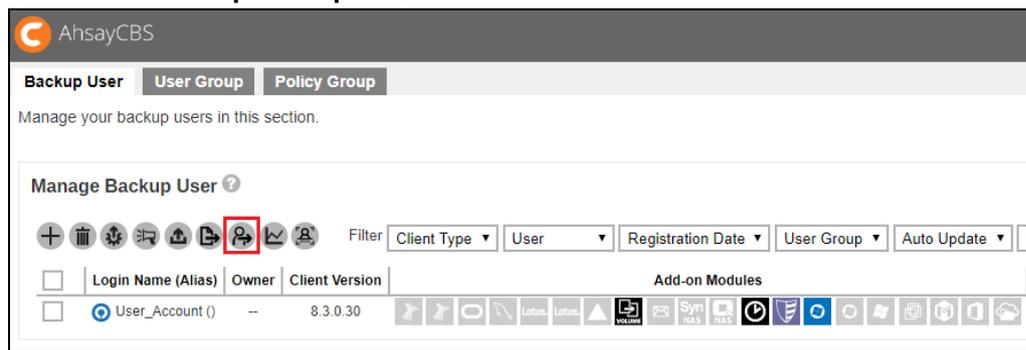
3. Click on the **Export users to file** radio button.



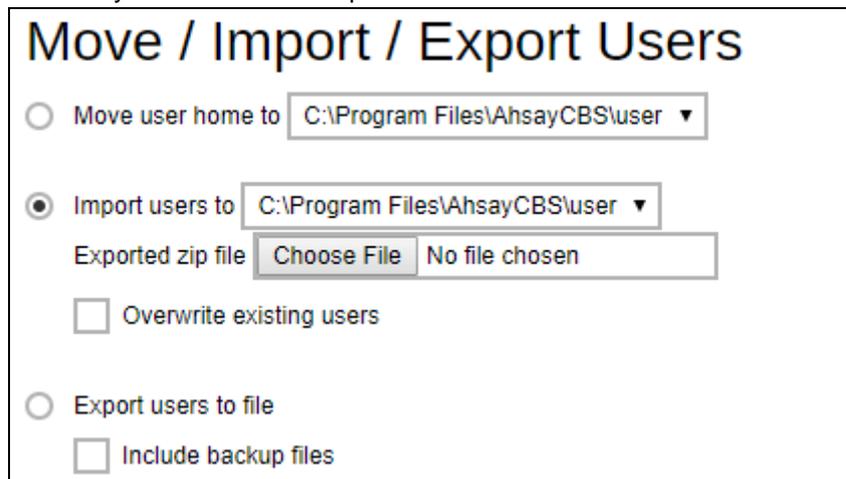
4. Click on  to proceed. The system will prompt you to save the file (users.zip) in your local machine. You need to have enough disk space to save the zip file. If the user account has large backup sets, it is expected to wait for a long time.
5. After exporting process, click  to go back to the **Backup User Tab** page.
6. Login to the AhsayCBS2 and go to **Backup/Restore > Users, Groups & Policies**.



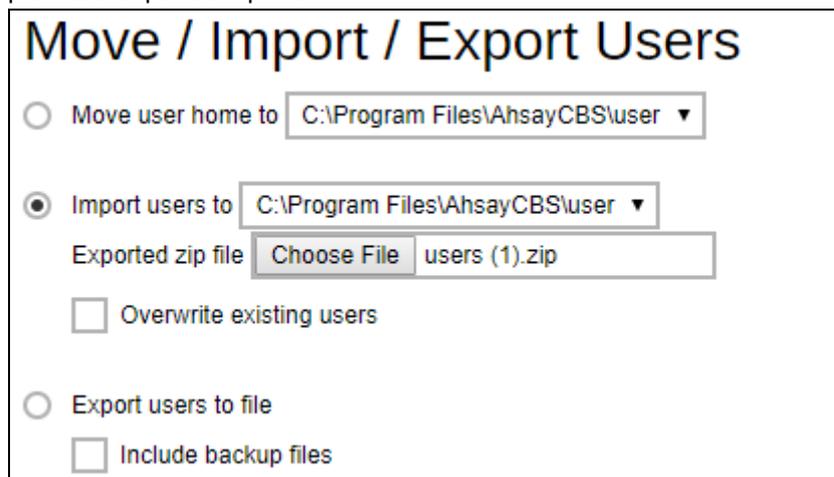
7. Click the **Move/ Import/ Export Users** button.



8. Click on the **Import users to** radio button and select the destination user home on the AhsayCBS2 from the drop down list.



9. Click on the **Choose File** button under the **Import users to** radio button. Select your previous exported zip file.



- If the overwrite option is selected, the user account on the AhsayCBS2 which has the same username in the users.zip will be overwritten.

- Click on  to proceed.
- Restart the AhsayCBS service and login to AhsayCBS2 to check the newly imported user in the **Backup User** page.

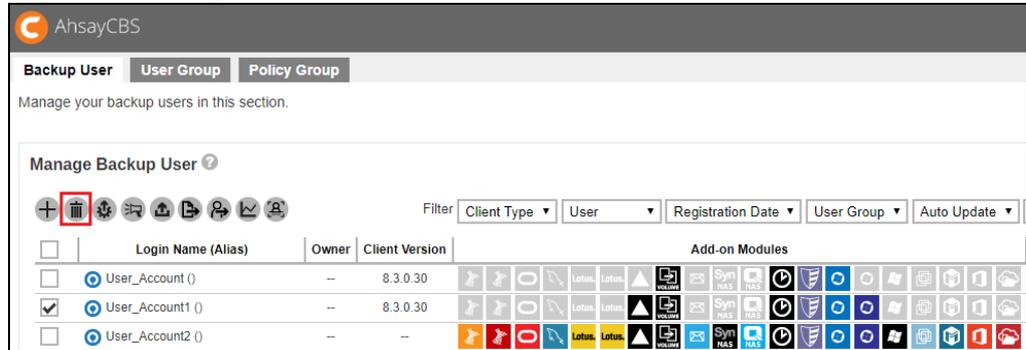
Login Name (Alias)	Owner	Client Version	Add-on Modules
User_Account ()	--	8.3.0.30	[Icons]
User_Account1 ()	--	8.3.0.30	[Icons]

- Go to the source AhsayCBS1 server and copy the backup files then paste to the destination AhsayCBS2 server. The backup files are located in Program Files/AhsayCBS/user/%username%. Copy the entire content to the destination AhsayCBS2 server using the same location.

Name	Date modified	Type
files	10/29/2019 1:24 PM	File folder
1572322526167	10/29/2019 12:17 PM	File folder
1572312667310	10/29/2019 9:31 AM	File folder
db	10/29/2019 6:01 AM	File folder
pdf	10/28/2019 4:00 PM	File folder

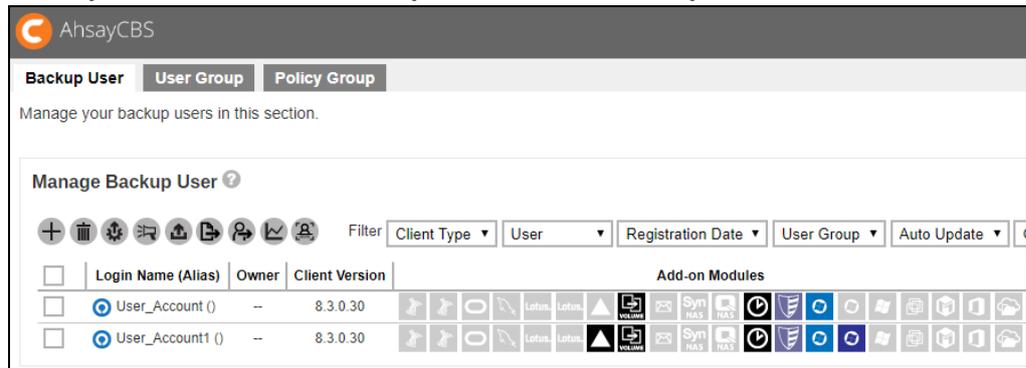
Note: For backup files that has a large amount of data, it is advisable to compress the files first before copying to the destination AhsayCBS server. Or you may also use a third party application (i.e. WinSCP) to transfer files.

- After the entire migration process is completed, delete the original backup account on AhsayCBS1. On the AhsayCBS web console of AhsayCBS1, under **Backup User** tab, select the migrated user account and click on the **Delete** button to delete it.



Post-migration check:

- Check if the user has been copied to the destination AhsayCBS server by going to **Backup / Restore > Users, Groups & Policies > Backup User**.



- Also check if the backup sets were migrated by clicking on the **Backup User Login Name > Backup Set**.



- Also check from the Audit Trail if the user and backup were added. Go to **Administration Logs > Audit Trails**, select the login name from the Filter.

The screenshot shows the AhsayCBS interface with the 'Audit Trails' tab selected. The page title is 'View the activity logs of all users on this server.' Below the title, there are filter options: 'Filter User_Account', 'Type', and 'View Today'. The main content is a table of audit trails.

Timestamp	Type	Message
11/07/2019 02:00:19	RoutineJobInfo	[Job][HourlyJob] User='User_Account' BackupSet='default-backup-set-name-1' missed backup job='2019-11-06-20-00-00', timeZone='China Standard Time', offset='8' hours. User reminded by email.
11/07/2019 06:03:26	RoutineJobInfo	[Job][DailyJob] Cleaning retention area for 'User_Account'
11/07/2019 06:03:26	RoutineJobInfo	[Job][DailyJob] Cleaning retention area for 'User_Account' BackupSet='default-backup-set-name-1(1571025053766)'
11/07/2019 15:08:12	UserChangeLog	[UserParam.addUser] Added a new user, ID = '1571018212851' Name = User_Account
11/07/2019 15:13:38	UserChangeLog	[UserParam.addUser] Added a new user, ID = '1571018212851' Name = User_Account

Rebuild Storage Statistics

This option can only rebuild legacy backup sets created in version 6, which have not been migrated to v8 block storage format. The option is used to enhance the accuracy of storage statistics for the backup set created in version 6.

The time taken to complete a rebuild depends on a number of factors such as the number of files / folders in the backup set(s), the number of backup sets, the hardware specifications of your AhsayCBS server such as the disk I/O and CPU performance, and if there are other resource intensive jobs running.

NOTE

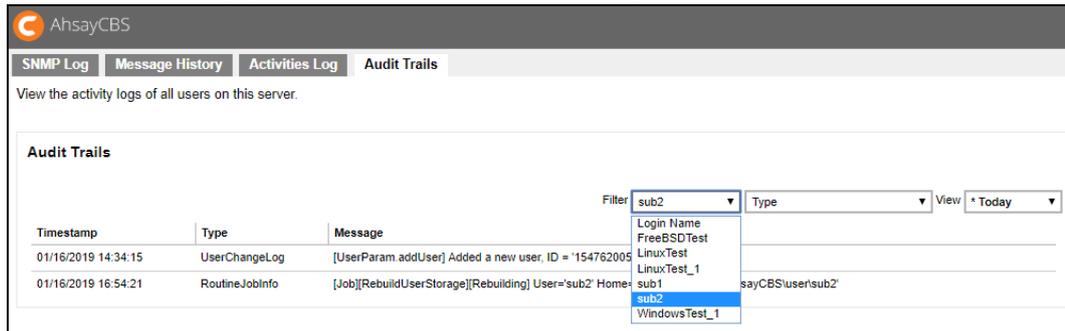
Note that a backup set rebuild can only be started when there is no backup job running (of the corresponding backup set), and vice versa.

To rebuild legacy backup set, click the **Rebuild Storage Statistics** button as shown below.

The screenshot shows the AhsayCBS interface for managing backup users. The page title is 'Manage your backup users in this section.' Below the title, there are filter options: 'Filter Client Type', 'User', 'Registration Date', 'User Group', and 'Auto Update'. The main content is a table of backup users with columns for 'Login Name (Alias)', 'Owner', and 'Client Version'. A red box highlights the 'Rebuild Storage Statistics' button in the table's toolbar.

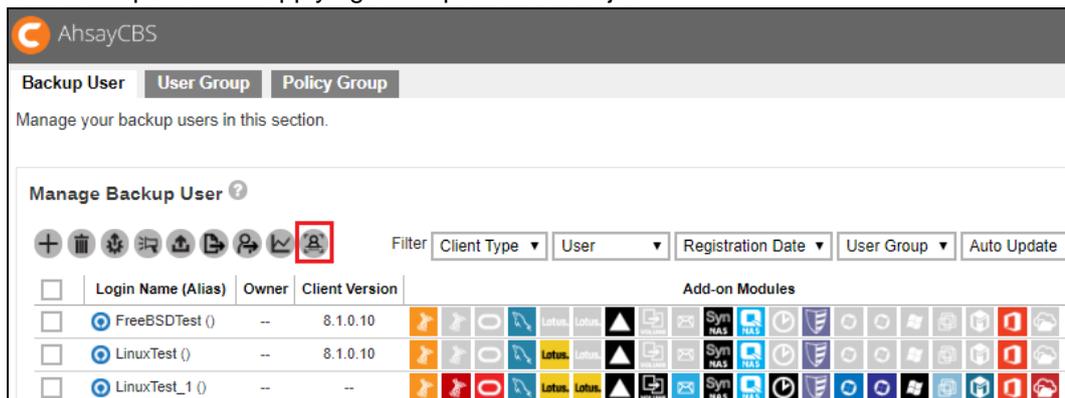
	Login Name (Alias)	Owner	Client Version	Add-on Modules
<input type="checkbox"/>	FreeBSDTest ()	--	8.1.0.10	[Icons]
<input type="checkbox"/>	LinuxTest ()	--	8.1.0.10	[Icons]
<input type="checkbox"/>	LinuxTest_1 ()	--	--	[Icons]

To check the progress or status of the Rebuild Storage Statistics job, go to [Monitoring]> [Administration Logs]>[Audit Trails], use the Filter “login Name” and select the backup user.



Rescan all user home directories

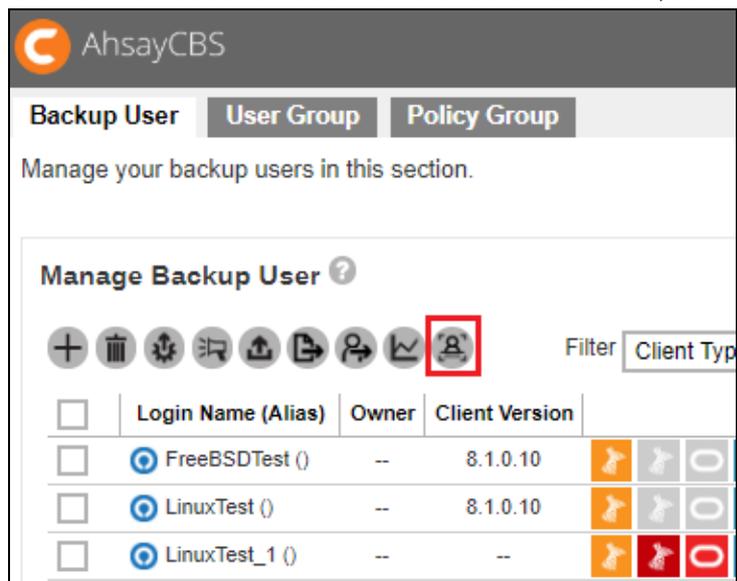
AhsayCBS added the feature of rescanning all user home directories. The feature ensures the status of all user home is updated so that the backup sets under available user home should be shown in the selecting list for Admin user account to exclude while the backup sets under unavailable user home should not be listed during backup data migration. And also if the user home is offline, the backup and restore job cannot be run properly, so the feature helps confirm applying backup and restore job.



The feature will be applied in the following 3 conditions:

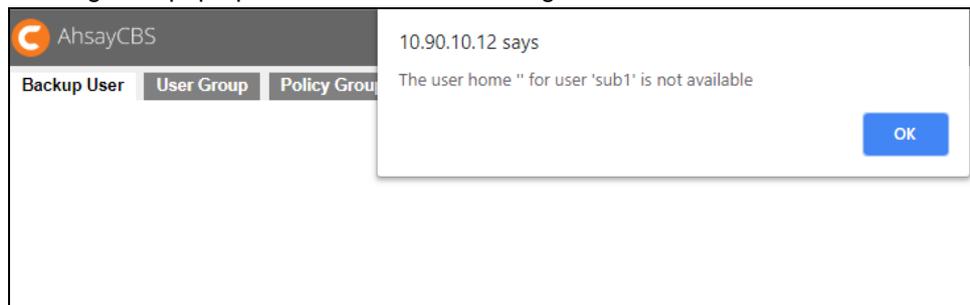
1. Startup AhsayCBS service.

2. Click on the **Rescan all user home directories** button, as shown in screen shot.



3. Run routine job (HourlyJob)

If there is user home offline, which may be caused by disk temporary unavailable, user home directory rename, network drive disconnected or disk corrupted, a message will pop up as shown in the following screen shot.



After clicking into the according user account, **Home Directory** will be blank.

The screenshot shows the 'User Profile' page with tabs for 'General', 'Backup Client Settings', 'Contact', and 'User Group'. The 'General' tab is active, showing 'Basic' information for a user with ID 1547548043399. The 'Login Name' is 'sub1' and the 'Password' is hashed. The 'Home Directory' field is empty and highlighted with a red border.

Enable / Disable Two-Factor Authentication

You can enable or disable the 2FA for several users using this feature. The Enable / Disable Two-Factor Authentication button will only be available once 2FA is selected in the View filter. This feature is helpful when you want to enable or disable the 2FA of many users at once and not do it per backup user. For more information please refer to the [Two-Factor Authentication](#) section.

The screenshot shows the 'Manage Backup User' interface. The 'View' filter is set to '2FA'. A table lists backup users with columns for 'Login Name (Alias)', 'Owner', 'Legacy Client', 'Two-Factor Authentication', and 'Status'. The 'Enable / Disable Two-Factor Authentication' button is highlighted with a red box.

	Login Name (Alias)	Owner	Legacy Client	Two-Factor Authentication	Status
<input type="checkbox"/>	ACBWin ()	--	X	Enabled	Enable
<input type="checkbox"/>	MariaDBUser ()	--	X	Disabled	Enable
<input type="checkbox"/>	MobileUser ()	--	X	Disabled	Enable

Select the backup user that you want to enable 2FA. Then click on Enable / Disable Two-Factor Authentication button.

The screenshot shows the 'Manage Backup User' interface. The 'View' filter is set to '2FA'. The 'Enable / Disable Two-Factor Authentication' button is highlighted with a red box. The 'MariaDBUser ()' and 'MobileUser ()' rows are selected with checkboxes.

	Login Name (Alias)	Owner	Legacy Client	Two-Factor Authentication	Status
<input type="checkbox"/>	ACBWin ()	--	X	Enabled	Enable
<input checked="" type="checkbox"/>	MariaDBUser ()	--	X	Disabled	Enable
<input checked="" type="checkbox"/>	MobileUser ()	--	X	Disabled	Enable

Click Enable to enable 2FA for the selected backup users.

✕

Two-Factor Authentication

Apply the following Two-Factor Authentication option to the selected 2 user(s)

Login Name (Alias)	Owner
<input checked="" type="radio"/> MariaDBUser ()	--
<input checked="" type="radio"/> MobileUser ()	--

Enable Disable Cancel

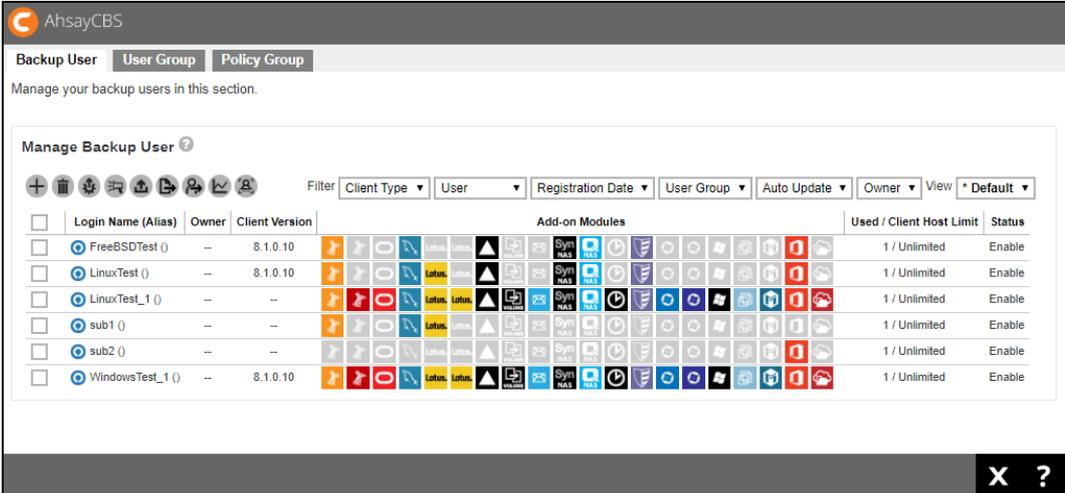
Managing Backup Users

After you have created a backup user in previous section, you can perform the following operation for your users such as:

- ▶ Customize backup users profile settings
- ▶ Customize subscribed modules
- ▶ Create backup sets
- ▶ View backup/restore reports
- ▶ View usage statistics
- ▶ Manage the policies applied to a user
- ▶ Update client software via the auto update agent
- ▶ Send broadcast message to users
- ▶ Export usage to a CSV file
- ▶ Export users
- ▶ Rebuild storage statistic applicable only for v6 backup sets
- ▶ Enable two-factor authentication

Accessing the Backup User

Click the login name of the backup user account you want to manage from the **Backup User** tab.



The screenshot displays the AhsayCBS Backup User management interface. At the top, there are tabs for 'Backup User', 'User Group', and 'Policy Group'. Below the tabs, there is a section titled 'Manage Backup User' with a help icon. A filter bar includes dropdown menus for 'Client Type', 'User', 'Registration Date', 'User Group', 'Auto Update', 'Owner', and a 'View' dropdown set to 'Default'. The main content is a table with the following columns: 'Login Name (Alias)', 'Owner', 'Client Version', 'Add-on Modules', 'Used / Client Host Limit', and 'Status'. The table contains six rows of backup users, each with a checkbox on the left and a set of icons for actions in the 'Add-on Modules' column.

<input type="checkbox"/>	Login Name (Alias)	Owner	Client Version	Add-on Modules	Used / Client Host Limit	Status
<input type="checkbox"/>	FreeBSDTest ()	--	8.1.0.10	[Icons]	1 / Unlimited	Enable
<input type="checkbox"/>	LinuxTest ()	--	8.1.0.10	[Icons]	1 / Unlimited	Enable
<input type="checkbox"/>	LinuxTest_1 ()	--	--	[Icons]	1 / Unlimited	Enable
<input type="checkbox"/>	sub1 ()	--	--	[Icons]	1 / Unlimited	Enable
<input type="checkbox"/>	sub2 ()	--	--	[Icons]	1 / Unlimited	Enable
<input type="checkbox"/>	WindowsTest_1 ()	--	8.1.0.10	[Icons]	1 / Unlimited	Enable

The backup user account opens. You will see 6 tabs (**User Profile, Backup Set, Settings, Report, Statistics, Effective Policy**), each of which is described in detail below.

User Profile	General	Backup Client Settings	Contact	User Group	Authentication	Mobile Backup
Backup Set	General information of this user.					
Settings	<p>Basic</p> <p>ID 1600875039360</p> <p>Login Name <input type="text" value="MobileUser"/> Owner:</p>					
Report						
Statistics						
Effective Policy						

User Profile

The User Profile tab contains user backup account settings information, subscribed modules, backup quota, subscription type, contact information, user group information and security settings. It is located under **Users, Groups & Policies > Backup User**. It is sub divided into six tabs, as described below.

➤ General Tab

User Profile	General	Backup Client Settings	Contact	User Group	Authentication	Mobile Backup
Backup Set	General information of this user.					
Settings	<p>Basic</p> <p>ID 1600875039360</p> <p>Login Name <input type="text" value="MobileUser"/> Owner:</p> <p>Alias <input type="text"/></p>					
Report	<p>Home Directory</p> <p><input type="text" value="C:\Program Files\AhsayCBSuser\MobileUser"/></p>					
Statistics	<p>Subscription Type</p> <p><input type="radio"/> Trial User</p> <p><input checked="" type="radio"/> Paid User</p>					
Effective Policy	<p>Suspend At</p> <p><input type="checkbox"/> <input type="text" value="23-09-2020"/> (dd-mm-yyyy)</p>					
	<p>Status</p> <p><input checked="" type="radio"/> Enable</p>					

- **ID** – Machine generated numerical ID of the backup user.
- **Login Name** – Name of the user used for logging in, cannot be modified.
- **Alias** – Update the alias for this user.
- **Home Directory** – path where user backup setting, reports and uploaded AhsayOBM/AhsayACB client logs are stored, cannot be modified.
- **Subscription Type** – Change the type from Trial User to a Paid User, for example after a user subscribes to backup service after a trial.

- **Suspend At** – Scheduled date to suspend this user’s account.
- **Status** – Suspend or enable locked accounts.
- **Upload Encryption Key** – Enable or disable the “Upload Encryption Key” feature.
- **Language** – Preferred language for all email reports of the backup user.
- **Timezone** – Update the time zone of the backup user.
- **Notes** – Add or update notes about this user, this can be modified by the administrator or user.

➤ Backup Client Settings Tab

The screenshot displays the 'Backup Client Settings' configuration page. The left sidebar includes 'User Profile', 'Backup Set', 'Settings', 'Report', 'Statistics', and 'Effective Policy'. The main content area has tabs for 'General', 'Backup Client Settings', 'Contact', 'User Group', 'Authentication', and 'Mobile Backup'. Under 'Backup Client Settings', the 'Backup Client' section has 'AhsayOBM User' selected. The 'Add-on Modules' section lists various backup targets with checkboxes, including Microsoft Exchange Server, MySQL Database Server, Oracle Database Server, Lotus Domino, Lotus Notes, Windows System Backup, Windows System State Backup, VMware Guest VM (10), Hyper-V Guest VM (10), Microsoft Exchange Mailbox (10), ShadowProtect System Backup, NAS - QNAP, NAS - Synology, Mobile (max. 10), Continuous Data Protection, Volume Shadow Copy, In-File Delta, OpenDirect / Granular Restore (10), Office 365 Backup (10), and MariaDB Database Server. The 'Quota' section shows a table with columns for 'Destination' and 'Quota', with 'AhsayCBS' set to 50.0 Mbytes. The 'Client host limit' section has a checkbox and a value of 1. The 'Run Direct' section has a checkbox and a value of 1.

- **Backup Client** - Type of backup user account, AhsayOBM or AhsayACB. In case you need to change the backup client type, it is better to check if there are existing backup sets in the backup account. For example, if you have an AhsayOBM user account with Exchange backup set and you change the account type to AhsayACB, the Exchange backup set will not be run due to the backup client type does not match.

- **Add-on Modules** – Below is a short summary of the add-on modules available for both AhsayOBM and AhsayACB

Add-on Module	Reference	AhsayOBM	AhsayACB
Microsoft Exchange Server	Backup and restore of Microsoft Exchange Server. Refer to the following link for how to use Microsoft Exchange Database Server with AhsayOBM client: Ahsay Online Backup Manager v8 Microsoft Exchange Database Backup and Restore Guide	✓	x
Microsoft SQL Server	Backup and restore of Microsoft SQL Server. Refer to the following link for how to use Microsoft SQL Server with AhsayOBM client: Ahsay Online Backup Manager v8 Microsoft SQL Server Backup and Restore Guide	✓	x
MySQL Database Server	Backup and restore of MySQL Database Server. Refer to the following link for how to use MySQL Database for the Windows platform with AhsayOBM client: Ahsay Online Backup Manager v8 MySQL Database Backup and Restore for Windows Refer to the following link for how to use MySQL Database for the Linux platform with AhsayOBM client: Ahsay Online Backup Manager v8 MySQL Database Backup and Restore for Linux (CLI)	✓	x
Oracle Database Server	Backup and restore of Oracle Database Server on Windows and Linux platforms. Refer to the following link for how to use Oracle Database Server for the Windows platform with AhsayOBM client: Ahsay Online Backup Manager v8 Oracle Database Server Backup and Restore for Windows Refer to the following link for how to use Oracle Database Server for the Linux platform with AhsayOBM client: - Ahsay Online Backup Manager v8	✓	x

	Oracle Database Server Backup and Restore for Linux (GUI) - Ahsay Online Backup Manager v8 Oracle Database Server Backup and Restore for Linux (CLI)		
Lotus Domino	Backup and restore of Lotus Domino.	✓	x
Lotus Notes	Backup and restore of Lotus Notes.	✓	✓
Windows System Backup	Backup and restore of Windows System Backup. Refer to the following link for how to use Windows System Backup with AhsayOBM and AhsayACB clients: - Ahsay Online Backup Manager v8 Microsoft System Backup and Restore Guide - Ahsay A-Click Backup v8 Microsoft System Backup and Restore Guide	✓	✓
Windows System State Backup	Backup and restore of Windows System State Backup. Refer to the following link for how to use Windows System State Backup with AhsayOBM client: Ahsay Online Backup Manager v8 Microsoft System State Backup and Restore Guide	✓	x
VMware	Backup and restore of VMware guest VMs. Refer to the following link for how to use VMware VCenter/ESXi with AhsayOBM client: Ahsay Online Backup Manager v8 VMware vCenter/ESXi Backup and Restore Guide	✓	x
Hyper-V	Backup and restore of Hyper-V guest VMs. Refer to the following link for how to use Microsoft Hyper-V with AhsayOBM client: Ahsay Online Backup Manager v8 Microsoft Hyper-V Backup and Restore Guide	✓	x
Microsoft Exchange Mailbox	Backup and restore of Microsoft Exchange Mailboxes. Refer to the following links for how to use Microsoft Exchange Mailbox with AhsayOBM client:	✓	x

	Ahsay Online Backup Manager v8 Microsoft Exchange 2007/2010/2013 Mail Level Backup and Restore Guide Ahsay Online Backup Manager v8 Microsoft Exchange 2016/2019 Mail Level Backup and Restore Guide		
NAS - Synology	<p>Backup and restore of file on Synology NAS devices. Starting from AhsayCBS v8.3.0.0 CAL is deducted from the total NAS CAL.</p> <p>Refer to the following link for how to use the Synology NAS with AhsayOBM client: Ahsay Online Backup Manager v8 Quick Start Guide for Synology NAS</p> <p>Refer to the following link for a list of Synology hardware compatible with AhsayOBM: FAQ: Ahsay Hardware Compatibility List (HRL) for AhsayOBM on Synology NAS (8017)</p>	✓	x
NAS - QNAP	<p>Backup and restore of file on QNAP NAS devices. Starting from AhsayCBS v8.3.0.0 CAL is deducted from the total NAS CAL.</p> <p>Refer to the following link for how to use the QNAP NAS with AhsayOBM client: Ahsay Online Backup Manager v8 Quick Start Guide for QNAP NAS</p> <p>Refer to the following article for the list of QNAP NAS models and supported list: FAQ: Ahsay Hardware Compatibility List (HRL) for AhsayOBM on QNAP NAS (8018)</p>	✓	x
Shadow Protect System Backup	Backup and restore of Shadow Protect System image (requires Shadow Protect)	✓	x
Volume Shadow Copy	Volume Shadow Copy to support open file backups on Windows platform.	✓	✓
Continuous Data Protection	A backup will be made whenever this is a change (between 1 min to 12 hour intervals) for Windows platform only.	✓	✓
In-File Delta	When enabled only the changes since the last backup job is backed up.	✓	✓

Mobile	<p>Backup and restore of Mobile (iOS and Android)</p> <p>Refer to the following links for instructions on using the Ahsay Mobile for Android and iOS platforms. Ahsay Mobile User Guide for Android and iOS</p>	✓	✓
Office 365	<p>Backup and restore of Office 365 mailboxes, OneDrive and SharePoint files.</p> <p>Refer to the following link for instructions on using the Office 365 with AhsayOBM.</p> <ul style="list-style-type: none"> - AhsayOBM v8 User Guide - Office365 Backup & Restore for Windows - AhsayOBM v8 User Guide - Office365 Backup & Restore for Mac 	✓	✓
OpenDirect / Granular Restore	<p>For OpenDirect and Granular Restore.</p> <p>Refer to the following link for instructions on using OpenDirect / Granular Restore.</p> <ul style="list-style-type: none"> - Ahsay Online Backup Manager v8 Quick Start Guide for Windows - Ahsay A-Click Backup v8 Quick Start Guide for Windows - Ahsay Online Backup Manager v8 Microsoft Hyper-V Backup and Restore Guide - Ahsay Online Backup Manager v8 VMware VM Backup and Restore Guide 	✓	✓
MariaDB Database Server	<p>Backup and restore of MariaDB Database Server.</p> <p>Refer to the following link for how to use MariaDB Database Server for the Windows platform with AhsayOBM client: Ahsay Online Backup Manager v8 MariaDB Database Server Backup and Restore for Windows</p> <p>Refer to the following link for how to use MariaDB Database Server for the Linux platform with AhsayOBM client: Ahsay Online Backup Manager v8 MariaDB Database Server Backup and Restore for Linux (CLI)</p>	✓	x

NOTE

For IBM Lotus Domino/Notes, and StorageCraft ShadowProtect modules, starting from version v8, software development work related to these modules will be discontinued. There will be no further enhancements or bug fixes for these modules. However, to allow existing users to continue using them after upgrading to version v8, these modules will still be available in AhsayOBM's backup set type option list. Ahsay support team will continue to provide best effort support for these modules until further notice.

- **Quota** – list all the predefined destinations and AhsayCBS associated with the user account and the backup quota of each destination for the user account can be set.

Quota

Unlimit storage space for the destination not shown in the following table

<input type="checkbox"/>	Destination	Quota
<input type="checkbox"/>	 AhsayCBS	50.0 Mbytes

(If preempted mode is enabled in policy settings, the quota settings are disabled)

NOTE

Please kindly note that the local destination will not be included.

- Quota management for individual predefined destination is available for AhsayCBS. For previous version before version 8.1.0.0, only a total quota storage can be set and you cannot configure individual quota for predefined destination, which is shown as following.

Quota

5000.0 Gbytes

Per Destination

<input type="checkbox"/>	Destination	Quota
<input type="checkbox"/>	 AhsayCBS(--)	0.0 Gbytes

If your AhsayCBS was upgraded from a previous version to 8.1.0.0 or above, for users with pre-existing predefined destinations and AhsayCBS, the quota settings for each predefined destination and AhsayCBS will be set according to different situation.

For example

Situation-1: the previous total quota setting is 5000Gbytes, and the quota storage setting for AhsayCBS was default setting.

Quota

5000.0 Gbytes

Per Destination

<input type="checkbox"/>	Destination	Quota
<input type="checkbox"/>	 AhsayCBS(--)	0.0 Gbytes

After the upgrade, the new quota setting for AhsayCBS will be 5000Gbytes.

Quota

Unlimit storage space for the destination not shown in the following table

<input type="checkbox"/>	Destination	Quota
<input type="checkbox"/>	 AhsayCBS	5000.0 Gbytes

(If preempted mode is enabled in policy settings, the quota settings are disabled)

Situation-2: the previous total quota setting is 5000Gbytes, and the quota storage setting for AhsayCBS was 100Gbytes.

Quota

5000.0 Gbytes

Per Destination

<input type="checkbox"/>	Destination	Quota
<input type="checkbox"/>	 AhsayCBS(--)	100.0 Gbytes

After the upgrade, the quota setting for AhsayCBS will maintain to be 100Gbytes.

Quota

Unlimit storage space for the destination not shown in the following table

<input type="checkbox"/>	Destination	Quota
<input type="checkbox"/>	 AhsayCBS	100.0 Gbytes

(If preempted mode is enabled in policy settings, the quota settings are disabled)

- For the destination not shown in the Quota table, the storage space is unlimited. If you want to limit storage space to according destination, please ensure to add the destination here and assign the quota appropriately.

NOTE

Please kindly note that only the destinations already defined by the backup sets can be shown and added to be the backup destination for the backup user.

- If preempted mode is enabled in Backup/ Restore > Users, Groups & Policies > Policy Group > %policygroup% > User Settings > User Quota, the quota settings here will be disabled and cannot be modified.

Quota

Unlimit storage space for the destination not shown in the following table

<input type="checkbox"/>	Destination	Quota	
<input type="checkbox"/>	 AhsayCBS	10.0	Gbytes <input type="text"/>
<input type="checkbox"/>	 IronVaultStor	500.0	Gbytes <input type="text"/>

(If preempted mode is enabled in policy settings, the quota settings are disabled)

NOTE

The backup quota of a VMware VDDK backup set should be set to a value that is higher than the provision size. Even if the backup only upload the actual usage, if the quota is smaller than the provision size, the backup would fail with quota exceed.

- **Client Host Limit** - Set the maximum number of host machine or devices the backup user can install AhsayOBM/AhsayACB on.
- **Run Direct** – Set the maximum number of VMs for VM Run Direct restore on AhsayCBS for this user.

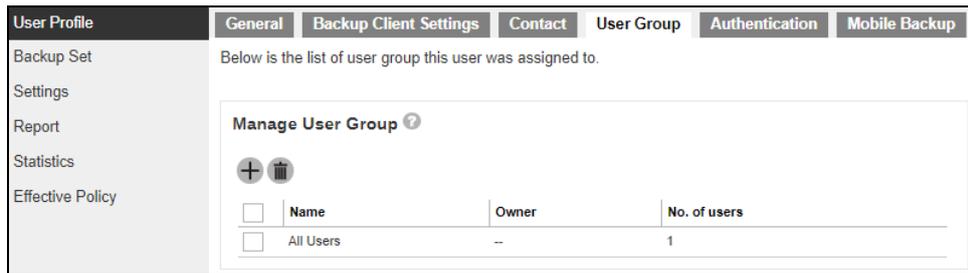
➤ Contact Tab

User Profile	General	Backup Client Settings	Contact	User Group	Authentication	Mobile Backup
Backup Set	Contact information for this user.					
Settings	Manage Contact Information <input type="checkbox"/>					
Report	<input type="checkbox"/> <input type="checkbox"/>					
Statistics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Effective Policy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<input type="checkbox"/>	Name	Email	Encrypt Email
<input type="checkbox"/>	Ahsay	ahsay@gmail.com	No

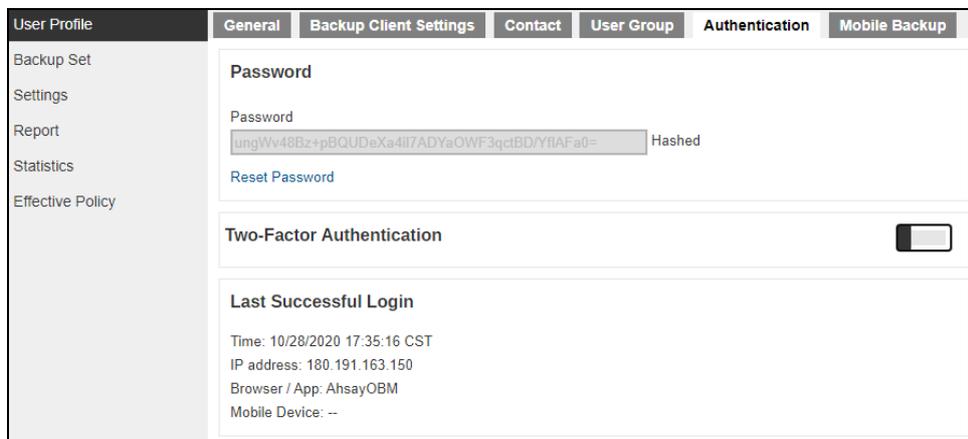
You can configure the client contact here for them to receive backup or restore reports.

➤ User Group Tab



You can assign the user to an existing/assigned user group. When you drag the user group with the side button, it will affect the sequence of the policy rules that will apply to the user.

➤ **Authentication Tab**



🔹 **Password** – Shows the password of the user in hashed format. The password can also be reset here in case the user forgot the current password.

1. Click [Reset Password](#) to reset the password.
2. Enter the new password and confirm the password.

Password

New Password

Confirm Password

3. Click  to save.

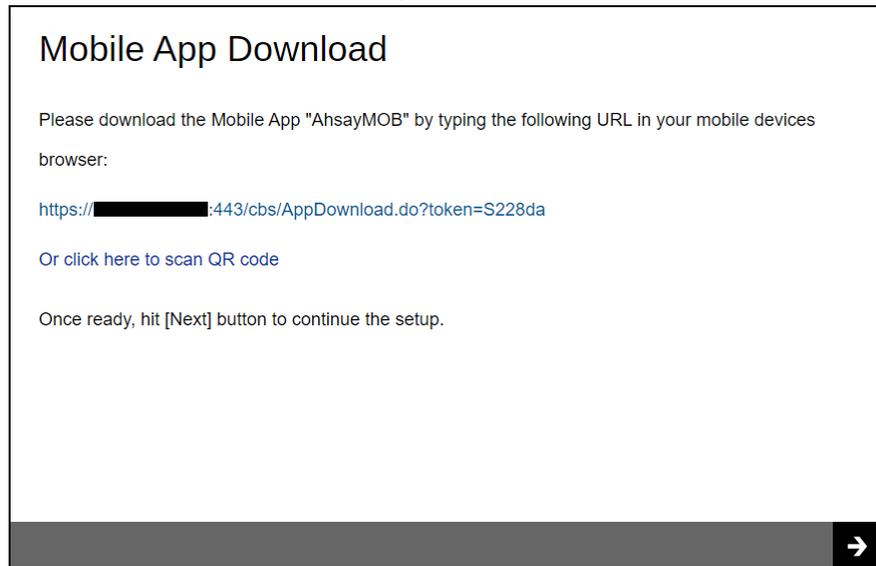
🔹 **Two-Factor Authentication** – Add another layer of security for the account by configuring the two-factor authentication here for the user. Aside from the password, they will be required to approve the login request in the Ahsay Mobile app or enter the one-time passcode that is generated in the third-party TOTP Authenticator app.

1. Slide the switch to the right to enable Two-Factor Authentication. Then click  to add a device.



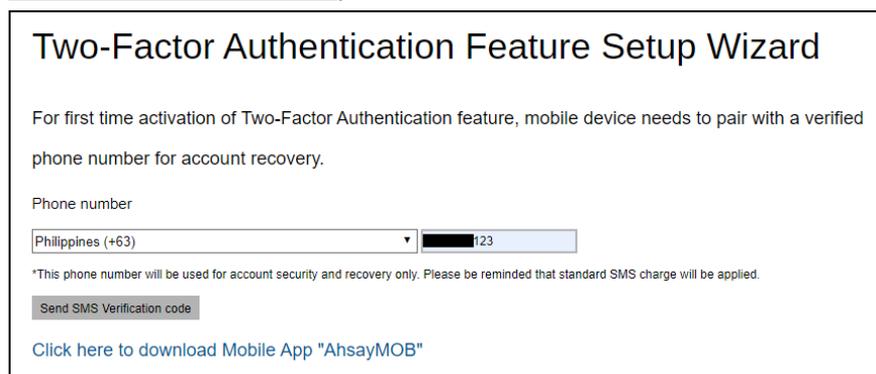
The screenshot shows the 'Two-Factor Authentication' settings page. At the top right, there is a toggle switch that is currently turned off. Below the title, it says 'Registered Mobile Device(s)'. There are two icons: a plus sign and a trash can. Below these icons is a table with three columns: 'Device Name', 'Verified', and 'Last Verified Time'. The table is currently empty.

2. Download the Ahsay Mobile app by typing the given URL in your mobile device's browser or by clicking [Or click here to scan QR code](#) link to scan the QR code. Click  to proceed.



The screenshot shows the 'Mobile App Download' page. It contains the following text: 'Please download the Mobile App "AhsayMOB" by typing the following URL in your mobile devices browser:'. Below this is a URL: 'https://[redacted]:443/cbs/AppDownload.do?token=S228da'. There is a link: 'Or click here to scan QR code'. At the bottom, it says 'Once ready, hit [Next] button to continue the setup.' There is a dark grey bar at the bottom right with a white arrow pointing right.

3. Select the country code and enter the phone number. Click [Send SMS Verification code](#).



The screenshot shows the 'Two-Factor Authentication Feature Setup Wizard' page. It contains the following text: 'For first time activation of Two-Factor Authentication feature, mobile device needs to pair with a verified phone number for account recovery.' Below this is a 'Phone number' section with a dropdown menu showing 'Philippines (+63)' and a text input field containing '[redacted]123'. Below the input field is a note: '*This phone number will be used for account security and recovery only. Please be reminded that standard SMS charge will be applied.' There is a button labeled 'Send SMS Verification code' and a link: 'Click here to download Mobile App "AhsayMOB"'. There is also a dark grey bar at the bottom right with a white arrow pointing right.

4. Enter the verification code sent to your mobile device. Click  to proceed.

Verification code

ZVPY - (00:04:47)

[Resend Verification code to SMS](#)

5. Pair the device with the backup account. There are two ways to do this:

Use the Ahsay Mobile app, scan the QR code.

Two-Factor Authentication Feature Setup Wizard

Please scan the QR code to register your mobile device with your backup account for following feature:

 Two-Factor Authentication



[Using other TOTP Authenticator App \(e.g. Authy, Duo, Google\)?](#)

Or

Use a third-party TOTP Authenticator App (e.g. Authy, Duo, Google), click [Using other TOTP Authenticator App \(e.g. Authy, Duo, Google\)?](#) link.

Either scan the QR code or enter the Secret Key in the third-party TOTP Authenticator. Enter the display name and one time password generated by

the authenticator app and click .

Two-Factor Authentication Feature Setup Wizard

Please scan the QR code or input Secret Key to register your mobile device with your backup account for following feature:

 Two-Factor Authentication



Secret Key: WVIK FXA2 RQXG RV53

Enter a display name for user profile.

Enter the one-time password generated by Authenticator App.
 (00:00:14)

[Using AhsayMOB?](#)

6. Once paired this message will be displayed. Click  to proceed.

Two-Factor Authentication Feature Setup Wizard

You have registered "Galaxy A70" for the following feature:

 Mobile Authentication

7. The paired device is now included in the list of Registered Mobile Device(s).
Click  to save.

Two-Factor Authentication

Registered Mobile Device(s)

<input type="checkbox"/>	Device Name	Verified	Last Verified Time
<input type="checkbox"/>	Galaxy A70	✓	11/17/2020 22:44:26 CST

NOTE

Please note that the Two-Factor Authentication settings will only be available if the Two-Factor Authentication feature is switched on in **System Settings > Basic > Two-Factor Authentication (2FA)**. Adding the device is optional, it will be automatically added once the user's device has been paired with the backup user account upon log in. For more details please read [Two-Factor Authentication](#).

- 🔔 **Last Successful Login** – It shows the date and time the user last logged in. Also shows the IP address, browser or application used during log in and mobile device used in MFA (if enabled). This changes everytime the user logs in.

For old backup accounts using Twilio, this will be the screen displayed.

The screenshot shows the 'User Profile' page with the 'Authentication' tab selected. The 'Password' section displays a hashed password and a 'Reset Password' link. The 'Security Settings' section includes a table for phone numbers for SMS authentication, with one entry for '+63-9254936123' which is verified. The 'Last Successful Login' section shows details for a login on 10/09/2020 at 17:53:43 CST.

- ▶ **Security Settings** – Add another layer of security for the account by configuring the two-factor authentication here for the user. Aside from the password, they will be required to enter a passcode that will be sent to them through SMS.

- Click  to add a phone number where the passcode will be sent.

This screenshot shows the 'Security Settings' page with the 'Add' button (+) highlighted, indicating the process of adding a new phone number for SMS authentication.

- Select the Country Code and enter the phone number.

This screenshot shows the 'Security Settings' page with the input fields for 'Country Code' and the phone number highlighted, indicating the process of entering the new phone number.

- Click  to save.

NOTE

Please note that the Security Settings will only be available if the Twilio Credentials Verification is switched on in **System Settings > Basic > Two-Factor Authentication (2FA)**. Adding the phone number is optional, it will be automatically added once the user's phone number has been verified upon log in. For more details please read [Two-Factor Authentication](#).

➤ **Mobile Backup Tab**

User Profile	General	Backup Client Settings	Contact	User Group	Authentication	Mobile Backup		
Backup Set	Mobile Backup ?							
Settings	Registered Mobile Device(s)							
Report	<table border="1"><thead><tr><th>Device Name</th><th>Backup Destination</th></tr></thead><tbody></tbody></table>						Device Name	Backup Destination
Device Name	Backup Destination							
Statistics								
Effective Policy								

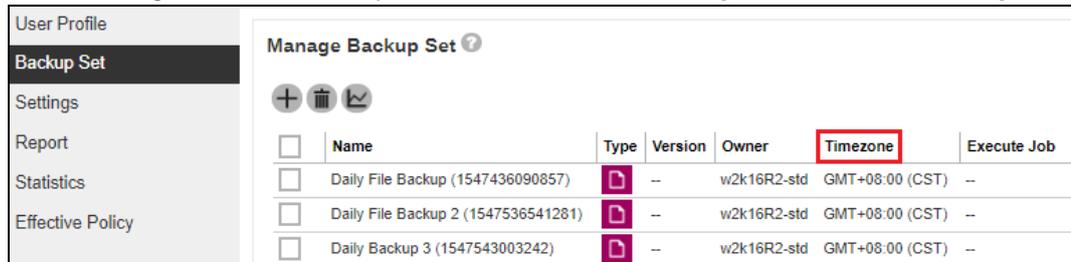
The Mobile Backup tab will only be displayed if the Mobile add-on module is enabled for the backup account. It will display the name of the mobile device(s) registered for backup with the corresponding backup destination.

User Profile	General	Backup Client Settings	Contact	User Group	Authentication	Mobile Backup										
Backup Set	Mobile Backup ?															
Settings	Registered Mobile Device(s)															
Report	<table border="1"><thead><tr><th>Device Name</th><th>Backup Destination</th></tr></thead><tbody><tr><td>iPhone 6s</td><td>D:\backup\iPhone 6s\1605251834187</td></tr><tr><td>Galaxy A70</td><td>D:\backup\Galaxy A70\1605260563030</td></tr><tr><td>Oppo</td><td>D:\backup\Oppo\1605260847649</td></tr><tr><td>Galaxy Tab A (8.0", 2019)</td><td>D:\backup\Galaxy Tab A (8.0 , 2019)\1605262364768</td></tr></tbody></table>						Device Name	Backup Destination	iPhone 6s	D:\backup\iPhone 6s\1605251834187	Galaxy A70	D:\backup\Galaxy A70\1605260563030	Oppo	D:\backup\Oppo\1605260847649	Galaxy Tab A (8.0", 2019)	D:\backup\Galaxy Tab A (8.0 , 2019)\1605262364768
Device Name	Backup Destination															
iPhone 6s	D:\backup\iPhone 6s\1605251834187															
Galaxy A70	D:\backup\Galaxy A70\1605260563030															
Oppo	D:\backup\Oppo\1605260847649															
Galaxy Tab A (8.0", 2019)	D:\backup\Galaxy Tab A (8.0 , 2019)\1605262364768															
Statistics																
Effective Policy																

Backup Set

This function is used to create backup sets for this user account. In some cases, you may need to create backup sets first before you install a backup client on the client machine, or it may be an alternative option for administrator to create/modify a backup set for Linux users with no graphical interface, or there may be access restrictions for administrator to access the backup machine again after the backup client installed.

The following shows the Backup Set tab under **Users, Groups & Policies > Backup User**.



The screenshot shows the 'Manage Backup Set' interface. On the left is a sidebar with navigation options: User Profile, Backup Set (selected), Settings, Report, Statistics, and Effective Policy. The main area displays a table of backup sets with columns for Name, Type, Version, Owner, Timezone, and Execute Job. The 'Timezone' column is highlighted with a red box.

<input type="checkbox"/>	Name	Type	Version	Owner	Timezone	Execute Job
<input type="checkbox"/>	Daily File Backup (1547436090857)		--	w2k16R2-std	GMT+08:00 (CST)	--
<input type="checkbox"/>	Daily File Backup 2 (1547536541281)		--	w2k16R2-std	GMT+08:00 (CST)	--
<input type="checkbox"/>	Daily Backup 3 (1547543003242)		--	w2k16R2-std	GMT+08:00 (CST)	--

Timezone information will be automatically updated when user login client backup agent, such as AhsayOBM and AhsayACB, or perform backup job to avoid the false alarm of missed backup job.

Accessing the Backup Set

Click the backup set name of the user account you want to manage from the **Backup Set** tab. It is sub divided into the following tabs:

- General
- Source
- Backup Schedule
- Continuous Backup
- Destination
- In-File Delta
- Retention Policy
- Command Line Tool
- Reminder
- Bandwidth Control
- IP Allowed for Restore
- Others

General	General
Source	ID 1547436090857
Backup Schedule	Name <input type="text" value="Daily File Backup"/>
Continuous Backup	Owner w2k16R2-std
Destination	Backup set type <input type="text" value="File Backup"/>
In-File Delta	
Retention Policy	
Command Line Tool	
Reminder	
Bandwidth Control	
IP Allowed for Restore	
Others	Windows User Authentication Domain Name (e.g. mycompany.com) / Host Name <input type="text" value="10.90.10.40"/> User name <input type="text" value="administrator"/> Password <input type="password" value="....."/>

Recovering Encryption Key via AhsayCBS Web Console

It is possible to engage the **AhsayCBS v8 Encryption Key Recovery Service** via the AhsayCBS web console under the **Others** menu of this section. [Click here](#) for details on the scope of this professional service.

Required Permission

Only system user with **Admin** role has the right to access the Recover Encryption Key feature via AhsayCBS web console.

Required Settings

Encryption key is recoverable only if the following three settings are **ENABLED**:

- The **Upload Encryption Key** feature in the [Encryption Key](#) section under the **Users, Group & Policies > Policy Group > %Policy Group Name % > User Settings** menu which applies to the corresponding backup set.
- The Encryption Recovery feature under the Profile > Encryption Recovery menu in your AhsayOBM or AhsayACB.
- The **Upload Encryption Key** feature under the [Users, Group & Policies > Backup User > %User Name % > User Profile](#) of the backup user requesting for key recovery.

With these three features on, encryption keys will be uploaded to the backup server during the backup process, so as to make recovery possible.

Preparation before Getting Started

Make sure the following items are valid before getting started with the encryption key recovery process.

- Valid login credentials to log on to the Ahsay Shopping Centre.
- Valid maintenance. For inquiries about maintenance, please contact our Sales Team at partners-kb@ahsay.com.

Encryption Key Recovery for Branded AhsayCBS

Background

If your AhsayCBS is branded, the Recover Encryption Key feature is HIDDEN by default. This measure is enforced to prevent backup users from accessing the Ahsay Shopping Centre directly after clicking the Recover Encryption Key button under a branding environment.

What is a branded AhsayCBS

Your AhsayCBS is considered “branded” when the following criteria are met:

Under the **System Settings > Basic > Administrative Access > %system user% > Rebrand Web Console > User Interface** page in the web management console, if any one of the following parameters is not empty or not holding default image:

Title	Product Name	User Interface logo	Report logo
AhsayCBS logo	AhsayOBM logo	AhsayACB logo	

Force enable the Recover Encryption Key feature

The Recover Encryption Key button can be forced to show by enabling the debug option as shown below in the **cbs.opt** file under the **%CBS_INSTALL%\conf** folder. This debug option will make the Recover Encryption Key button visible to backup users even if the AhsayCBS is branded.

com.ahsay.cbs.system.config.accounts.editSysUserBean.ShowRecoveryEncryptionKeyButton.debug=true

Recovery Steps

Follow the steps below to submit an encryption key recovery request.

1. Click on the backup set, which you wish to recover the encryption key for, under the Manage Backup Set section.
2. Navigate to the **Others** tab.

The screenshot shows a web interface with a sidebar on the left containing various configuration categories. The 'Others' category is selected and highlighted in black. The main content area is divided into several sections:

- Temporary Directory:** A text input field containing 'C:\Users\Administrator\temp' and a checked checkbox for 'Remove temporary files after backup'.
- Follow Link:** A checked checkbox for 'Follow link of the backup files'.
- Volume Shadow Copy:** A checked checkbox for 'Enable Windows' Volume Shadow Copy for open file backup'.
- OpenDirect:** An unchecked checkbox for 'Support of opening backup data directly without restoration'.
- Compressions:** A dropdown menu for 'Select compression type' set to 'Fast (Compressed size larger than normal)'.
- Encryption:** A section with the text 'Backup user password is used as the encrypting key since "User Password" encryption type has been applied to this backup set'. It lists 'Encrypting key *****', 'Algorithm AES', 'Method CBC', and 'Key length 256'. A 'Recover Encryption Key' button is located at the bottom of this section.

3. Look for the **Encryption** sub-section on this page and click on the **Recover Encryption Key** button.

This is a close-up view of the 'Encryption' section from the previous screenshot. It shows the following details:

- Encrypting key:** *****
- Algorithm:** AES
- Method:** CBC
- Key length:** 256
- Recover Encryption Key:** A button highlighted with a red rectangular border.

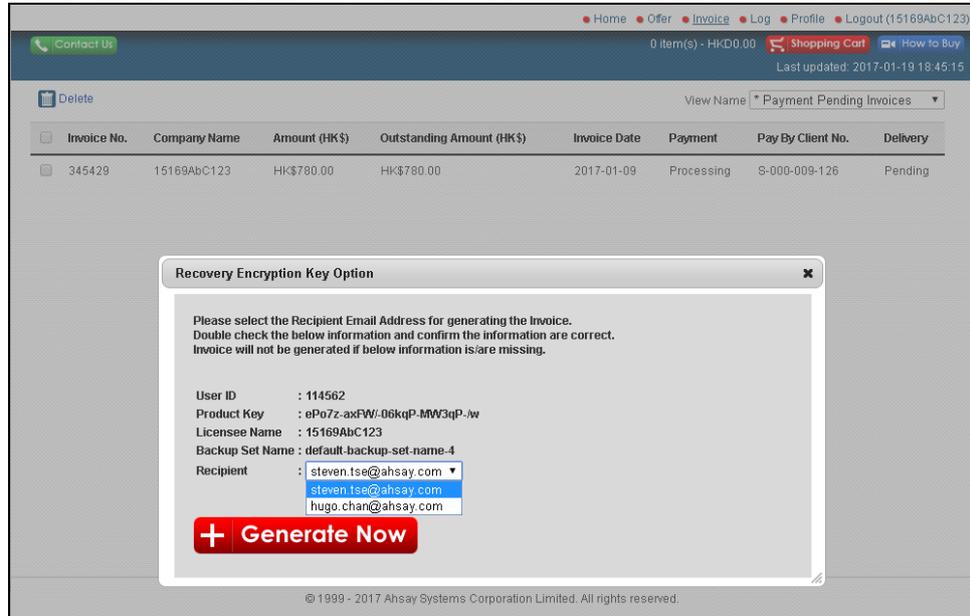
- You will be prompted to log in to the Ahsay Shopping Centre as shown below, if you have not done so yet.

- Upon successful login, you will be re-directed to the Ahsay Shopping Centre to proceed with the encryption key recovery process. You will see a page with your User ID, license information and backup set name listed as shown.

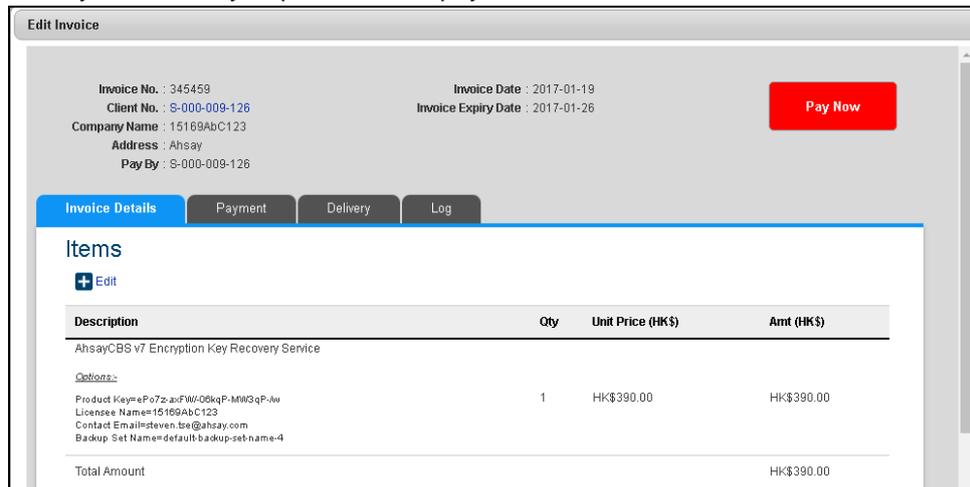
Invoice No.	Company Name	Amount (HK\$)	Outstanding Amount (HK\$)	Invoice Date	Payment	Pay By Client No.	Delivery
345429	15169AbC123	HK\$780.00	HK\$780.00	2017-01-09	Processing	S-000-009-126	Pending

- In the **Recipient** drop-down menu, the backup user's email will be selected as the primary recipient of the decrypted key by default, provided that the backup user has provided an email in his/her user profile. Otherwise, the decrypted key will be sent to you instead, where you can choose to deliver to either your Primary or Alternative Email registered under your account.

Click **Generate Now** when you are ready to proceed.



- You will then be taken to the Invoice page where you can confirm the details of the Encryption Key Recovery Service and the service price. Click the **Pay Now** button when you are ready to proceed with payment.



- Select the desired payment method on this page. You are strongly recommended to pay by Credit Card so that the payment can be confirmed immediately in order to expedite the recovery process. Click **OK** when you are ready to proceed.

Invoice ID : 346571
 Total Amount : HK\$390.00
 Payment Method : Credit Card

Credits

Withdraw Item	In Stock
Purchase Deposit	HK\$30,030.00

OK Cancel

- Depending on the payment method you have selected, you will be taken to the corresponding page to process your payment. Follow the relevant on-screen instructions to confirm the payment.
- When the payment is processed successfully, you will be re-directed to the Invoice page again with the green icon labeled **Paid** as shown.

The Encryption Key Recovery request process is now completed.

Invoice No. : 345459
 Client No. : S-000-009-126
 Company Name : 15169AbC123
 Address : Ahsay
 Pay By : S-000-009-126

Invoice Date : 2017-01-19
 Invoice Expiry Date : 2017-01-26

Paid

Invoice Details Payment Delivery Log

Items

Description	Qty	Unit Price (HK\$)	Amt (HK\$)
AhsayCBS v7 Encryption Key Recovery Service			
<i>Options:</i>			
Product Key=eP07z-asFW-00kgP-MW9qP-4w License Name=15169AbC123 Contact Email=steven.tse@ahsay.com Backup Set Name=default-backup-set-name-4	1	HK\$390.00	HK\$390.00
Purchase Deposit			(HK\$390.00)
Total Amount			HK\$0.00

- The decrypted key will be delivered to the selected email within 15 minutes after the payment has been confirmed.

12. Below is a sample of the email with the decrypted key delivered.

From: localhost <Delivery@Servic.com >
To: 'gavin.fu@Servic.com' <gavin.fu@Servic.com>
Date: 07/04/2017 11:58 AM
Subject: Service Delivery of Encryption Key Recovery Service - Ref#393022

Dear Customer,

Thank you for your continual support.

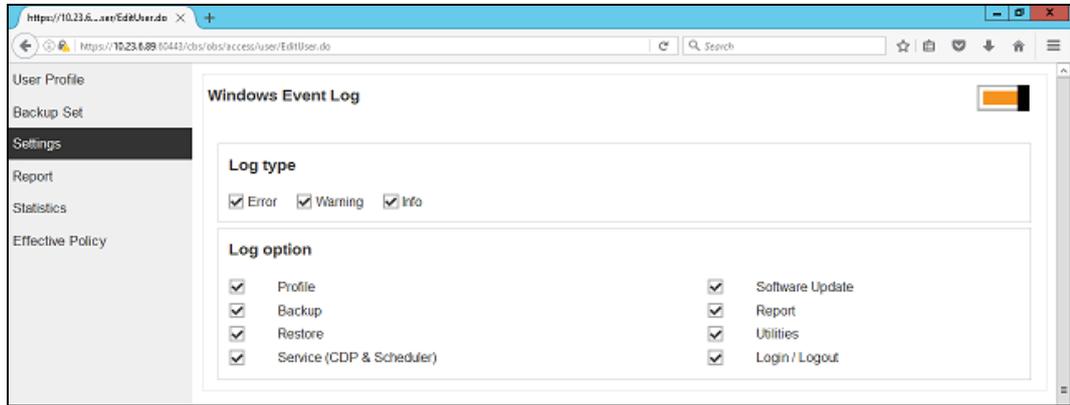
Delivery items:

Reference #393022
Item : Encryption Key Recovery Service
Backup Set Name : Admin-BackupSet
Backup Set Encryption Key : AbC123\$%

Settings

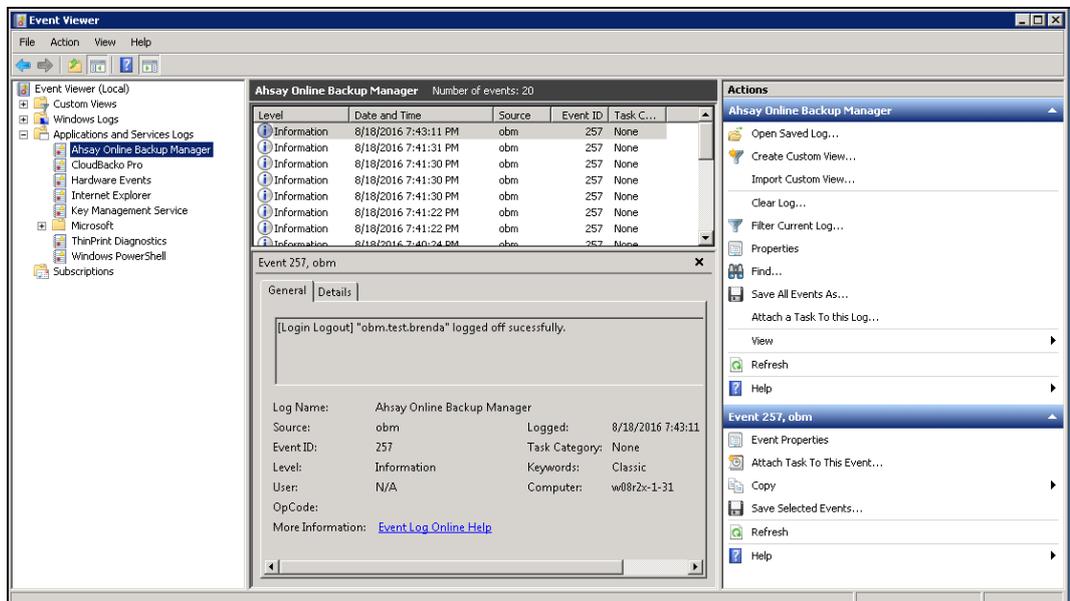
The **Settings** tab allows user to backup client to log the optional events, besides AhsayOBM/ AhsayACB logs, to the Windows event log. This feature is supported on AhsayOBM/AhsayACB clients installed on Windows platform only.

Windows event log



- ▶ **Log type** – There are 3 log types: **Error**, **Warning** and **Info**. Select any of the 3 log types, they will be logged in the Windows event log.
- ▶ **Log option** - Select the desired log option to be captured in the Windows event log. Currently there are 8 different log options: **Profile**, **Backup**, **Restore**, **Service (CDP & Scheduler)**, **Software Update**, **Report**, **Utilities**, **Login/ Logout**.

The events are logged in the Windows event log and can be view from the Windows Event Viewer:



Report

The **Report** tab allows you to check the backup report and restore report for the backup user.

Backup Set	Destination	Start Time	End Time	Status
default-backup-set-name-2(1569564627316)	AhsayCBS	27-Sep-2019 14:10	--	Backup not yet finished
default-backup-set-name-1(1569543198245)	AhsayCBS	27-Sep-2019 14:08	27-Sep-2019 14:09	OK

Click the report to see the details. Below is an example of a backup report.

Backup Set	default-backup-set-name-1(1569543198245)
Destination	AhsayCBS
Job	27-Sep-2019 14:08:59
Time	27-Sep-2019 14:08:59 - 27-Sep-2019 14:09:30
Status	OK
New Files*	1989 [5.85M / 11.17M (47%)]
New Directories	57
New Links	3
Updated files*	0
Attributes Changed Files*	0
Deleted Files*	0
Deleted Directories	0
Deleted Links	0
Moved Files*	0

* Unit = No of files [Total zipped size / Total unzipped size (compression ratio)]

[Download report](#)

Click the **Download report** button at the bottom of the **Backup Report** page to download the complete report in PDF format. The report contains the following information in details.

- ▶ Backup Job Summary
- ▶ Backup Set Settings
- ▶ Backup Logs
- ▶ Backup Files

NOTE

The **Download report** button should be visible around 20 minutes after the backup job has completed.

OpenDirect restore of file backup sets or granular restore of files from VMware and Hyper-V backup sets performed using Windows File Explorer will NOT generate any restore reports on AhsayCBS. Restore reports are only available when the restore is performed directly through AhsayOBM/ AhsayACB/ AhsayOBR or AhsayCBS User Web Console.

Statistics

The Statistics tab allows you to generate a graph of storage statistics for the user by modifying a few factors such as the backup destination, backup set and the period of the backup. The statistics shows the storage capacity of different backup sets on different dates.

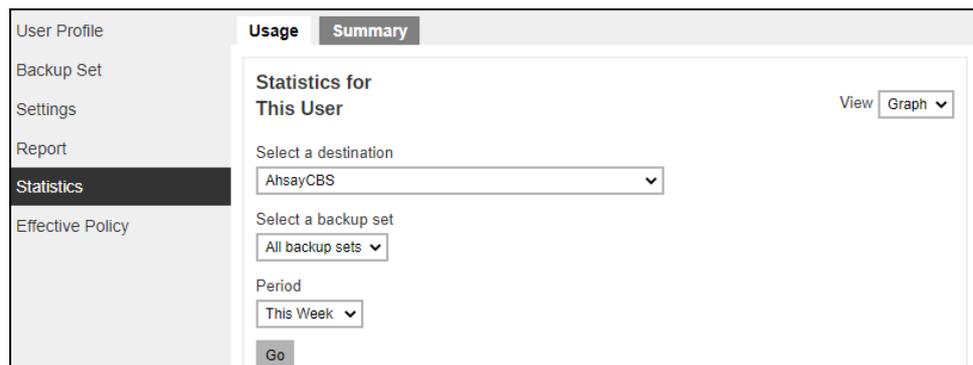
1. Only the restorable files in the data and retention area for each backup set is included in the calculation of storage statistics.
2. The following items are excluded from the calculation of storage statistics:
 - ⦿ Uploaded AhsayOBM/AhsayACB client log files
 - ⦿ backup and restore reports in PDF file format
 - ⦿ Audit log files
 - ⦿ Index files

Therefore, we expect some discrepancy between the storage size reported by AhsayCBS compared with the storage size of the physical files on disk reported by the operating system, the size reported on disk will always be larger than reported on the AhsayCBS storage statistics.

Usage

The following options are configurable for generating statistics in your desirable view.

- ⦿ **Select a destination** – select the backup destination of your choice
- ⦿ **Select a backup set** – you can choose a specific backup set or all backup sets
- ⦿ **Period** – select the period of time during which backups were performed
- ⦿ **View** – you can choose a view, graph or table



The screenshot displays the 'Usage' section of the AhsayCBS interface. On the left is a navigation menu with options: User Profile, Backup Set, Settings, Report, Statistics (highlighted), and Effective Policy. The main content area is titled 'Usage' and 'Summary'. It shows 'Statistics for This User' with a 'View' dropdown set to 'Graph'. Below this are three dropdown menus: 'Select a destination' (set to 'AhsayCBS'), 'Select a backup set' (set to 'All backup sets'), and 'Period' (set to 'This Week'). A 'Go' button is located at the bottom of the configuration area.

Graph View

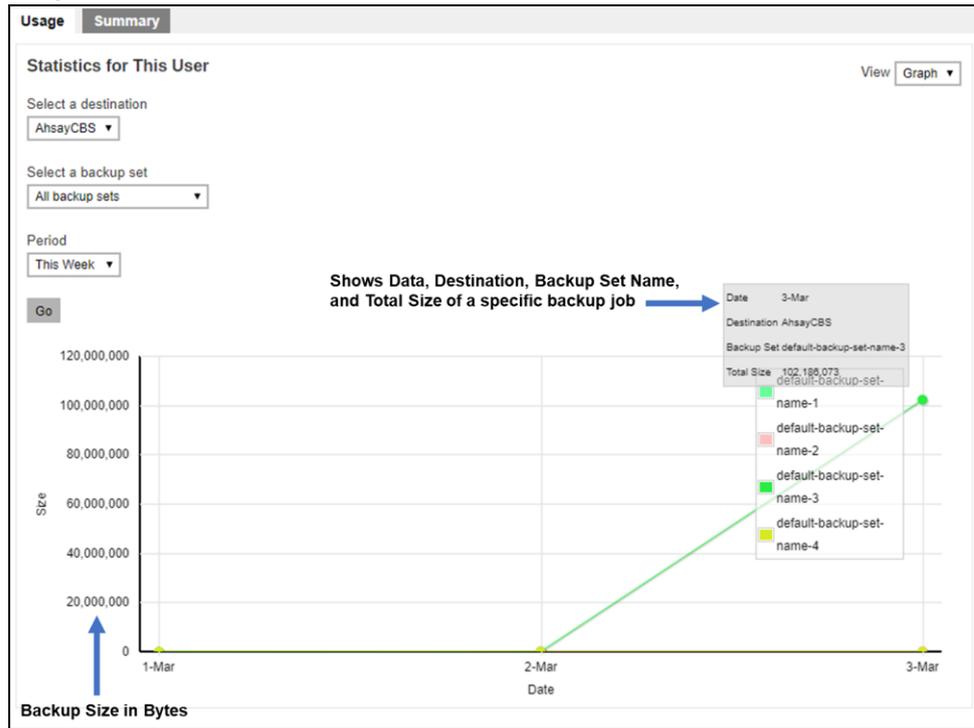


Table View

Usage Summary

Statistics for This User View Table

Select a destination: AhsayCBS

Select a backup set: All backup sets

Period: This Week

Go

Date	Backup Set	Total Size
2020-03-01	Total	0
	default-backup-set-name-1(1583543230248)	0
	default-backup-set-name-2(1583121254009)	0
	default-backup-set-name-3(1583199702515)	0
	default-backup-set-name-4(1583207766110)	0
2020-03-02	Total	304k
	default-backup-set-name-1(1583543230248)	0
	default-backup-set-name-2(1583121254009)	304k
	default-backup-set-name-3(1583199702515)	0
	default-backup-set-name-4(1583207766110)	0
2020-03-03	Total	100.09M
	default-backup-set-name-1(1583543230248)	0
	default-backup-set-name-2(1583121254009)	304k
	default-backup-set-name-3(1583199702515)	99.79M
	default-backup-set-name-4(1583207766110)	0

Summary Tab

Summary for This User

* Unit: Compressed Size / Uncompressed Size [Ratio] [Total No. of Files]
 ** Unit: Compressed Size [Total No. of Files]
 (*) Backup Set completely migrated from v6

Backup Set	Destination	Data Area*
T1(1501661450981)	AhsayCBS	0 / 0 [0%] [0]

There are four columns showing the following information of each backup set.

Data Area

Data Area**
0 / 0 [0%] [0]
1.18G / 1.17G [0%] [149]
3.98M / 4.98M [20%] [12]
181.01M / 1.24G [86%] [703]

Format:

[Compressed Size] / [Uncompressed Size] [Compression Ratio in %] [Number of files]

Example: 3.98M / 4.98M [20%] [12]

The data interpreted as the backup set has 12 files in the data area; the files compressed and uncompressed sizes are 3.98M and 4.98M respectively; the compression ratio is 20%.

Retention Area

Retention Area**
0 / 0 [0%] [0]
4.12M / 4.12M [0%] [12]
0 / 0 [0%] [0]
0 / 0 [0%] [0]
0 / 0 [0%] [0]
34.12M / 234.07M [86%] [239]

Format:

[Compressed Size] / [Uncompressed Size] [Compression Ratio in %] [Total number of files]

Example: 34.12M / 234.07M [86%] [239]

The data interpreted as the backup set has 239 files in the retention area; the files compressed and uncompressed sizes are 34.12M and 234.07M respectively; the compression ratio is 86%.

Total Upload

Total Upload*
0 [0]
1.19G [183]
4M [20]
181.02M [706]
21.06M [78]
789.86M [683]

Format:

[Compressed Size] [Total number of files]

Example: 4M [20]

There are a total of 20 files sized of 4M uploaded for this backup set.

Total Restore

Total Restore*
0 [0]
612.2M [92]
0 [0]
0 [0]
25.12M [36]
4.48G [1044]

Format:

[Compressed Size] [Total number of files]

Example: 612.2M [92]

There are a total of 92 files sized of 612.2M restored from this backup set.

Effective Policy

The Effective Policy tab shows the details of all policies and settings which applies to the backup user account. The **Effective Policy** tab is located under **Users, Groups & Policies > Backup User**. It can be hidden by unchecking the box of **View** for **Effective Policy** under **Users, Groups & Policies > Policy Group > Default settings > GUI Settings**.

It is subdivided into 6 tabs, each of which is described below.

🔹 User Settings Tab

You can see the effective policy on user settings for this user on the **User Settings** tab.

Detail	Value	User Group	Policy
Quota > Quota limits calculation method	Compressed Size	All Users	Default settings
User Quota > Enable	Yes, User Quota Settings: Enabled = true, Mode = Default	All Users	Default settings
User Quota > Value	Destination Quota Settings: DestinationKey=OBS, Enable=true, Quota=52428800, DestinationName=AhsayCBS	All Users	Default settings
Invalid login attempt limit (password only) > Maximum number of invalid login attempts allowed within specified period	3 times within 5 mins	All Users	Default settings
Invalid login attempt limit (password only) > Blocking period for IP address and user that exceed the maximum allowed invalid login attempts	10 Minutes	All Users	Default settings
Email Reports > Backup Report	Yes	All Users	Default settings
Email Reports > Restore Report	Yes	All Users	Default settings
Email Reports > Missed scheduled backup reminder	Yes	All Users	Default settings

🔹 Backup Set Settings Tab

You can see the effective policy on backup set settings for this user on the **Backup Set Settings** tab.

Detail	Value	User Group	Policy
Destinations Visible to Users > Predefined Destination	Wasabi-1 (Wasabi)	All Users	Default settings
Destinations Visible to Users > Standard Destination	Local / Mapped Drive / Network Drive / Removable Drive, Enable=Yes	All Users	Default settings
Destinations Visible to Users > Standard Destination	AhsayCBS, Enable=Yes	All Users	Default settings
Destinations Visible to Users > Standard Destination	Google Cloud Storage, Enable=No	All Users	Default settings
Destinations Visible to Users > Standard Destination	Amazon S3, Enable=No	All Users	Default settings
Destinations Visible to Users > Standard Destination	SFTP, Enable=No	All Users	Default settings
Destinations Visible to Users > Standard Destination	FTP, Enable=No	All Users	Default settings
Destinations Visible to Users > Standard Destination	CTYun, Enable=No	All Users	Default settings
Destinations Visible to Users > Standard Destination	Dropbox, Enable=No	All Users	Default settings

▶ GUI Settings Tab

You can see the effective policy on AhsayOBM or AhsayACB GUI settings for this user on the **GUI Settings** tab.

User Profile	User Settings	Backup Set Settings	GUI Settings	Default Values	Preempted Values	Preempted Backup Sets
User Profile			GUI Settings Related Policies			
Backup Set			Detail	Value	User Group	Policy
Settings			Backup Sets > Add and Remove Backup Set (ONLY applicable to v7.3 - v7.9 client agent)	View=Yes	All Users	Default settings
Report			Backup Sets > General Tab	View=Yes	All Users	Default settings
Statistics			Backup Sets > General Settings - Name	View=Yes, Edit=Yes	All Users	Default settings
Effective Policy			Backup Sets > General Settings - IBM Domino	View=Yes, Edit=Yes	All Users	Default settings
			Backup Sets > General Settings - IBM Notes	View=Yes, Edit=Yes	All Users	Default settings
			Backup Sets > General Settings - MS Exchange Server	View=Yes, Edit=Yes	All Users	Default settings
			Backup Sets > General Settings - MS HyperV	View=Yes, Edit=Yes	All Users	Default settings
			Backup Sets > General Settings - MSSQL Server	View=Yes, Edit=Yes	All Users	Default settings
			Backup Sets > General Settings - Windows System Backup	View=Yes, Edit=Yes	All Users	Default

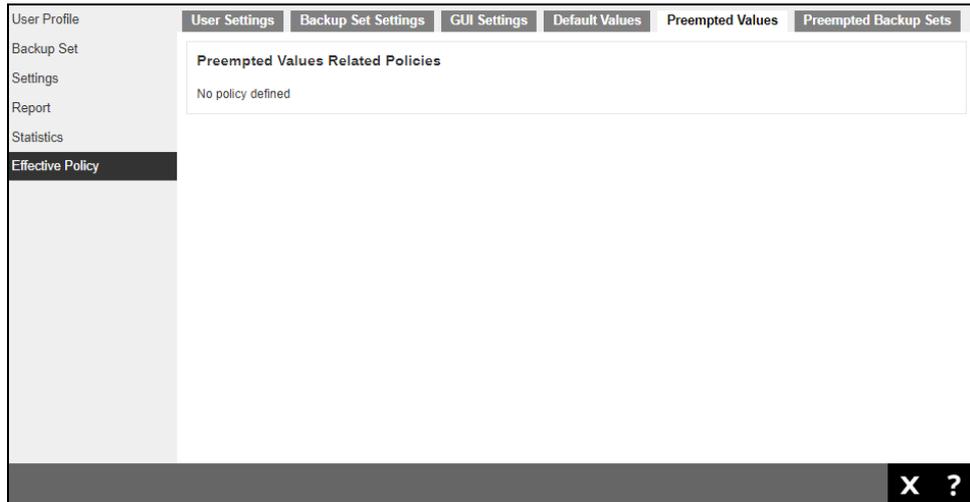
▶ Default Values Tab

You can see the effective policy on default values for this user on the **Default Values** tab.

User Profile	User Settings	Backup Set Settings	GUI Settings	Default Values	Preempted Values	Preempted Backup Sets
User Profile				Default Values Related Policies		
Backup Set			Detail	Value	User Group	
Settings			General > Name	Applied Module=File Backup, Name=default-backup-set-name	All Users	
Report			General > Name	Applied Module=Cloud File Backup, Name=default-backup-set-name	All Users	
Statistics			General > Name	Applied Module=IBM Lotus Domino Backup, Name=default-backup-set-name	All Users	
Effective Policy			General > Name	Applied Module=IBM Lotus Notes Backup, Name=default-backup-set-name	All Users	
			General > Name	Applied Module=MS Exchange Server Backup, Name=default-backup-set-name	All Users	
			General > Name	Applied Module=MS Exchange Mail Level Backup, Name=default-backup-set-name	All Users	
			General > Name	Applied Module=MS SQL Server Backup, Name=default-backup-set-name	All Users	
			General > Name	Applied Module=MS Hyper-V Backup, Name=default-backup-set-name	All Users	

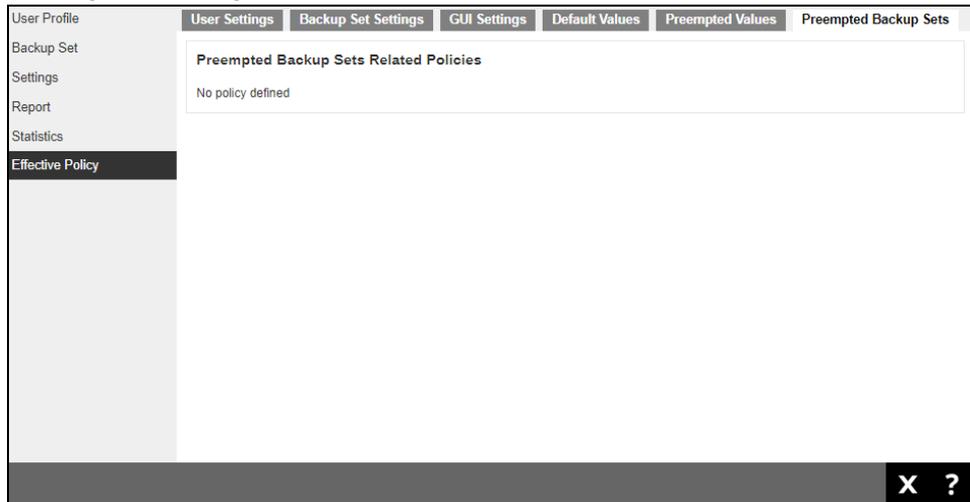
▶ Preempted Values Tab

You can see the effective policy on preempted values for this user on the **Preempted Values** tab.



▶ Preempted Backup Sets Tab

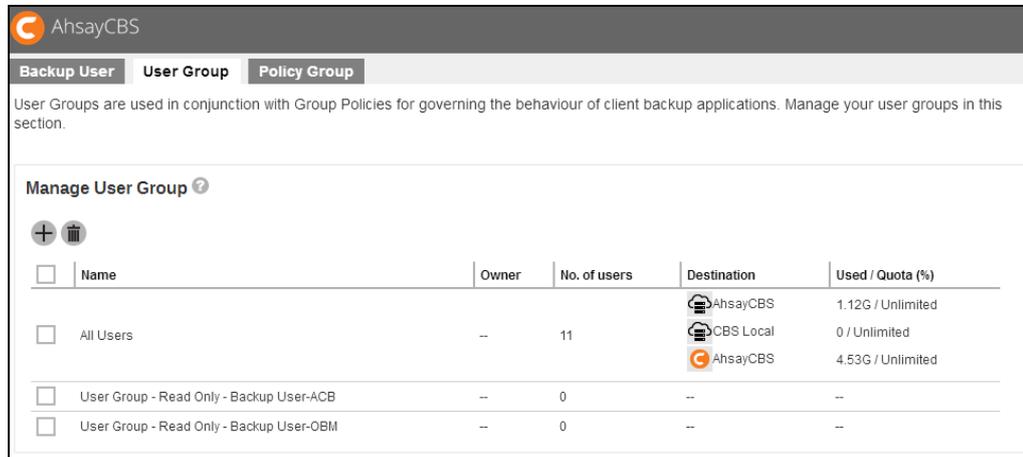
You can see the effective policy on preempted backup sets for this user on the **Preempted Backup Sets** tab.



6.2.2 Manage User Groups

User Group is used in conjunction with Group Policies (see the next chapter [Manage Policy Groups](#) for details) for governing the behavior of client backup agent and the AhsayCBS.

The following shows the User Group tab under **Backup / Restore > Users, Groups & Policies**.



The screenshot shows the 'Manage User Group' interface in AhsayCBS. It features a navigation bar with 'Backup User', 'User Group', and 'Policy Group' tabs. Below the navigation bar, there is a description of user groups and a 'Manage User Group' section with a '+' and '-' icon. A table lists the user groups:

<input type="checkbox"/>	Name	Owner	No. of users	Destination	Used / Quota (%)
<input type="checkbox"/>	All Users	--	11	AhsayCBS CBS Local AhsayCBS	1.12G / Unlimited 0 / Unlimited 4.53G / Unlimited
<input type="checkbox"/>	User Group - Read Only - Backup User-ACB	--	0	--	--
<input type="checkbox"/>	User Group - Read Only - Backup User-OBM	--	0	--	--

The default user group

By default, the user group named All Users has been created. All backup users will be put under the **All Users** user group by default after the user account has been created. When you click on one of the user groups, you will be able to see the following:



The screenshot shows the 'User Group' details page for 'All Users'. It includes the following sections:

- General Information:** Name: All Users, Owner: --, Type: Backup User.
- Assigned User:** Login Name: , Owner: .
- Assigned Policy:** A table with columns Name and Owner. It lists 'Default settings' with Owner: --.

- ▶ **General Information** – It shows the information of the user group, ownership, etc.
- ▶ **Assigned User** – A list of users assigned to the group.
- ▶ **Assigned Policy** – It shows a list of assigned policies to the user group. As the order of the policy would affect the actual applied to the user group, i.e. the policy on the top would probably overwrite the policy at the bottom of the list. If you want to arrange the order of the policies, you can simply drag the policy up and down.

For the **All Users** user group, it has a predefined policy called **Default settings**.

To add backup user to a user group

Backup user cannot be added to a user group in this menu. To do so, you can either:

- Add a user to a user group when you first create the user account, refer to [Create a New Backup User](#) for further instructions.

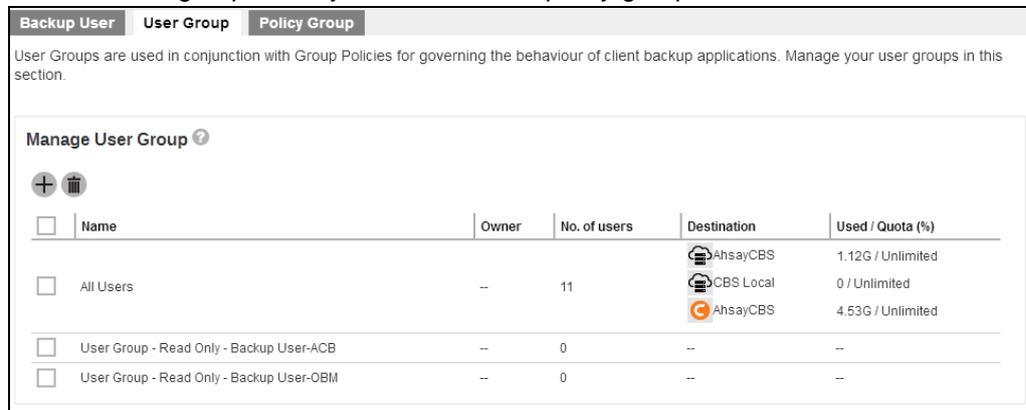
-OR-

- You can add a user to a user group after the account has been created, refer to [User Profile](#) for further instructions.

To add a new policy group to a user group

Follow the steps below to either add an additional policy group to the default user group (All Users) **OR** add a policy group to a newly created user group.

1. Click the user group which you wish to add a policy group to.



The screenshot shows the 'Manage User Group' interface. At the top, there are tabs for 'Backup User', 'User Group', and 'Policy Group'. Below the tabs, a text box explains that user groups are used with group policies. The main section is titled 'Manage User Group' and contains a table with columns: Name, Owner, No. of users, Destination, and Used / Quota (%). The table lists four user groups: 'All Users', 'User Group - Read Only - Backup User-ACB', and 'User Group - Read Only - Backup User-OBM'. The 'All Users' group has 11 users and is associated with three destinations: AhsayCBS (1.12G / Unlimited), CBS Local (0 / Unlimited), and AhsayCBS (4.53G / Unlimited).

<input type="checkbox"/>	Name	Owner	No. of users	Destination	Used / Quota (%)
<input type="checkbox"/>	All Users	--	11	AhsayCBS CBS Local AhsayCBS	1.12G / Unlimited 0 / Unlimited 4.53G / Unlimited
<input type="checkbox"/>	User Group - Read Only - Backup User-ACB	--	0	--	--
<input type="checkbox"/>	User Group - Read Only - Backup User-OBM	--	0	--	--

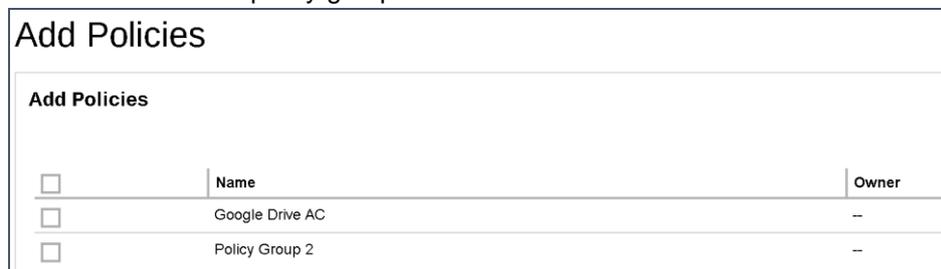
2. Click the  button under the **Assigned Policy** section.



The screenshot shows the 'Assigned Policy' section. It features a table with columns: Name and Default settings. There are two rows in the table, both with empty cells for the 'Name' and 'Default settings' columns. Above the table, there are icons for adding (+) and deleting (trash) policies.

<input type="checkbox"/>	Name
<input type="checkbox"/>	
<input type="checkbox"/>	

3. You will see a list of policy groups available for selection.



The screenshot shows the 'Add Policies' section. It features a table with columns: Name and Owner. There are three rows in the table. The first row has 'Google Drive AC' in the 'Name' column and '--' in the 'Owner' column. The second row has 'Policy Group 2' in the 'Name' column and '--' in the 'Owner' column. The third row is empty. Above the table, there is a heading 'Add Policies' and a checkbox.

<input type="checkbox"/>	Name	Owner
<input type="checkbox"/>	Google Drive AC	--
<input type="checkbox"/>	Policy Group 2	--
<input type="checkbox"/>		

4. Select the desired policy group by checking the box of the policy, then click  to add, and then click  to confirm.

6.2.3 Manage Policy Groups

The following shows the **Policy Group** tab under **Backup / Restore > Users, Groups & Policies**.

<input type="checkbox"/>	Name	Owner
<input type="checkbox"/>	Default settings	--
<input type="checkbox"/>	Policy Group - Read Only - Backup User-ACB-v6	--
<input type="checkbox"/>	Policy Group - Read Only - Backup User-OBM-v6	--

Policy Group is designed to simplify administration and to reduce the effort required for managing groups of backup users, e.g. security settings and backup set settings. It allows administrator to tailor features and services for different user groups. On a fresh AhsayCBS installation, there is a **Default settings** policy group and it is assigned to the **All users** user group.

WARNING

As all the default settings are stored inside “Default settings” policy group, if you change the settings in this policy group, it would affect all users in your AhsayCBS.

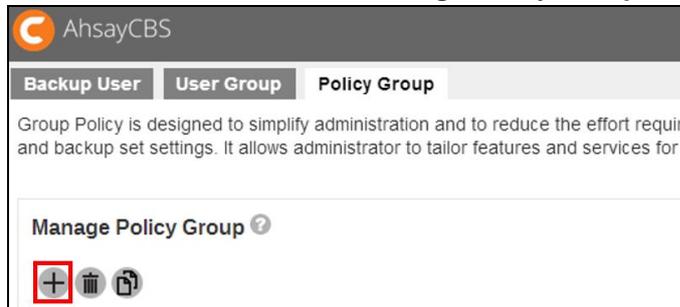
In case you need to work on the policy settings for a group of user base on the default policy group settings, you can consider the followings:

- ▶ Duplicate the **Default settings** policy group. Refer to the steps in [To duplicate a policy group](#) for details.
- ▶ Create a user group for your selected users and apply the duplicated policy group to this new user group. Refer to the steps in [To create a new policy group](#) for details.

To create a new policy group

Follow the steps below to create a new policy group.

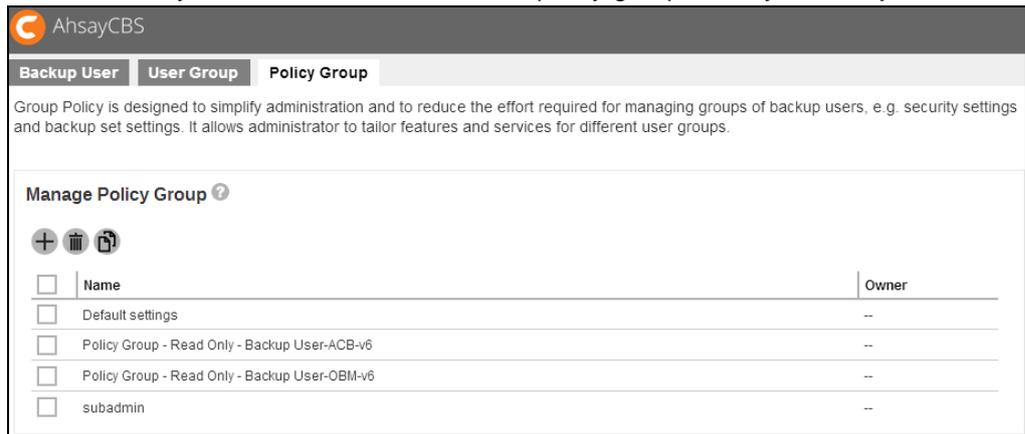
1. Click the  button under the **Manage Policy Group** section.



2. Enter a name for the policy group.

3. Click  to confirm.

4. Go back to the **Policy Group** tab under **Backup / Restore > Users, Groups & Policies**, and you should be able to see the policy group name you have just created.

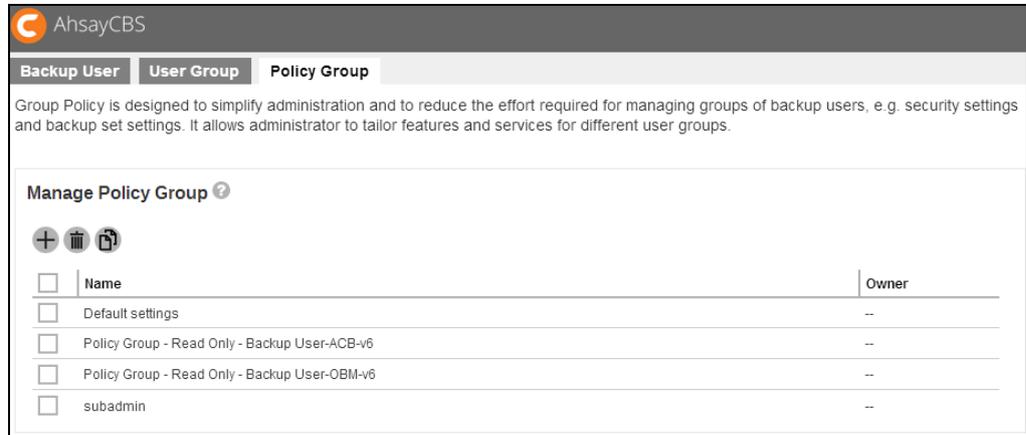


5. Click on the policy group for configuration. The configuration items are subdivided into 8 sections, each of which is described in the [To configure a policy group](#) section below.

To modify a policy group

After a policy group has been created, you can modify its settings by following the steps below.

1. Navigate to the **Policy Group** tab under **Backup / Restore > Users, Groups & Policies**.



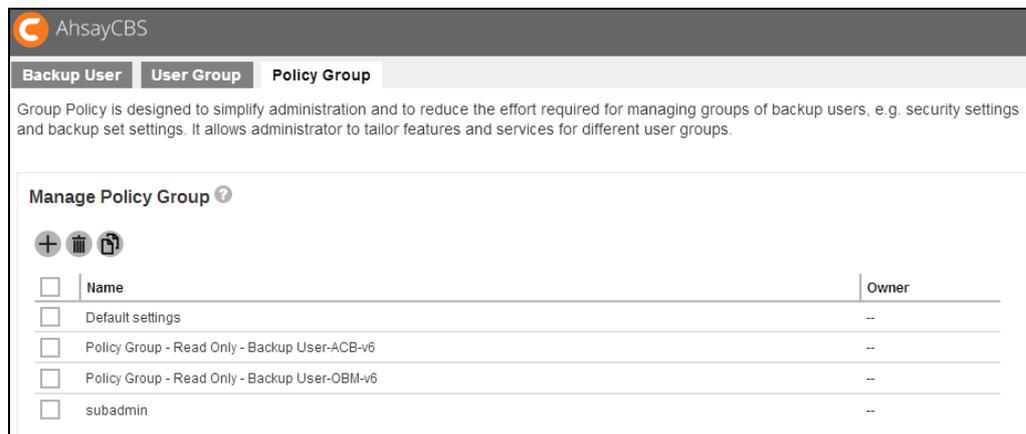
<input type="checkbox"/>	Name	Owner
<input type="checkbox"/>	Default settings	--
<input type="checkbox"/>	Policy Group - Read Only - Backup User-ACB-v6	--
<input type="checkbox"/>	Policy Group - Read Only - Backup User-OBM-v6	--
<input type="checkbox"/>	subadmin	--

2. Click on the policy group you wish to modify, then follow the steps in the [To configure a policy group](#) section below for further instructions on modifying the configurations.

To delete a policy group

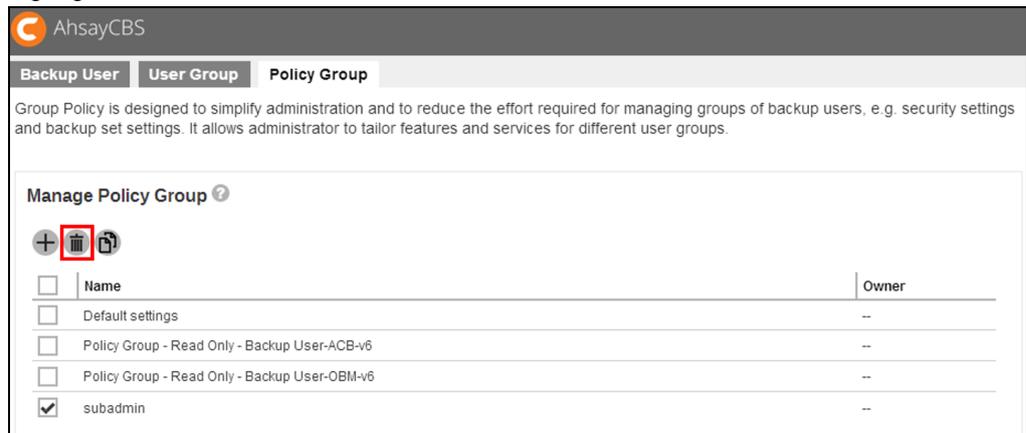
Follow the steps below to delete a policy group.

1. Navigate to the **Policy Group** tab under **Backup / Restore > Users, Groups & Policies**.



<input type="checkbox"/>	Name	Owner
<input type="checkbox"/>	Default settings	--
<input type="checkbox"/>	Policy Group - Read Only - Backup User-ACB-v6	--
<input type="checkbox"/>	Policy Group - Read Only - Backup User-OBM-v6	--
<input type="checkbox"/>	subadmin	--

2. Check the box of the policy group you wish to delete, then click on the  button as highlighted in the screen shot below.

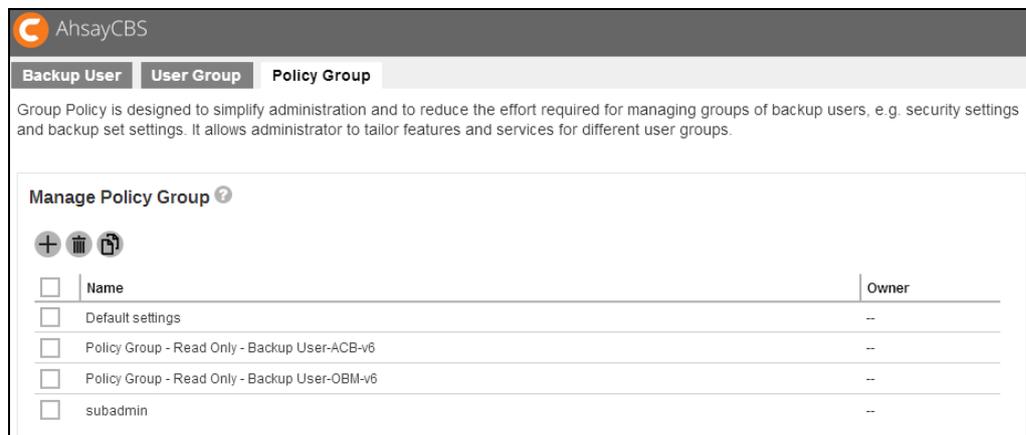


3. Click "OK" to confirm.

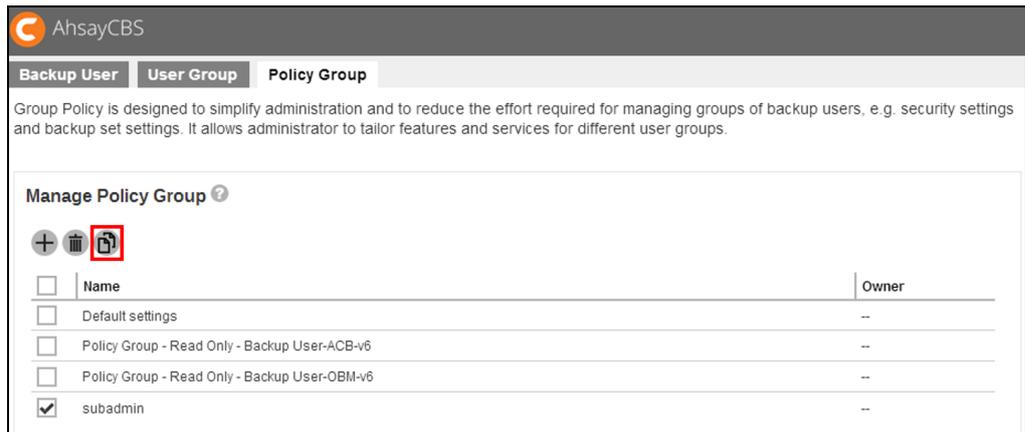
To duplicate a policy group

Follow the steps below to duplicate an existing policy group. This is useful when you wish to apply the same configurations from a policy group to a group of users.

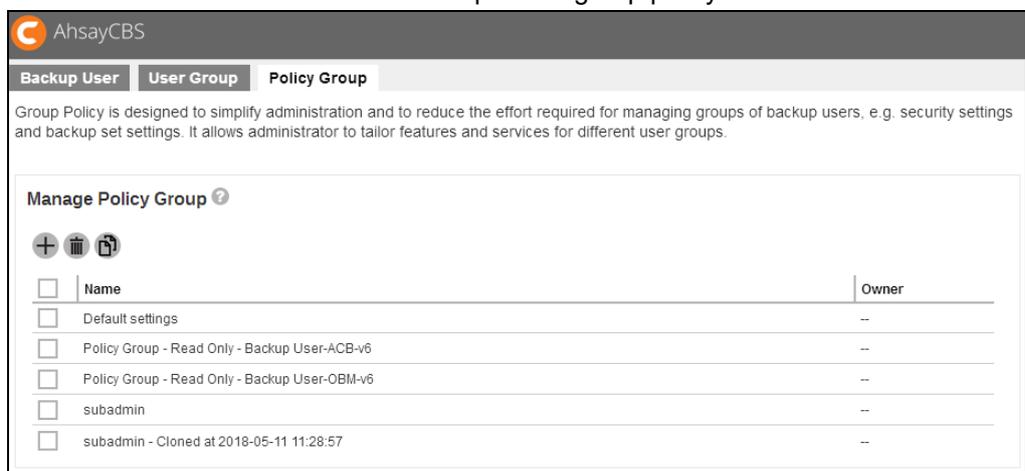
1. Navigate to the **Policy Group** tab under **Backup / Restore > Users, Groups & Policies**.



2. Check the box of the policy group you wish to duplicate, then click on the  button as highlighted in the screen shot below.



- You will immediately see the policy group is being duplicated, with the suffix “Clone at YYYY-MM-DD HH:MM:SS” in the duplicated group policy’s name.



- If you need to configure the duplicated policy group, follow the steps in the [To configure a policy group](#) section below for details.

To configure a policy group

General

This is the general settings of the policy group page, and the user group is a list of user group which is a list of user groups which has applied this policy.

General	<p>Name and Owner</p> <p>Name <input type="text" value="Default settings"/> Owner --</p> <p>Type <input type="text" value="Backup User"/></p>				
User Settings					
Backup Set Settings					
GUI Settings					
Default Values					
Preempted Values					
Preempted Backup Sets	<p>User Group</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Owner</th> </tr> </thead> <tbody> <tr> <td>All Users</td> <td>--</td> </tr> </tbody> </table>	Name	Owner	All Users	--
Name	Owner				
All Users	--				

- ▶ **Name** – the name of the policy group. The name is configurable.
- ▶ **Type** – predefined as Backup User
- ▶ **User Group** – displays the user group(s) with this policy group applied.

If you have changed the policy group name, click  to confirm.

To add backup user to a policy group

Backup users cannot be added to a policy group directly in this setting menu. To do so, you have to:

Step 1: Add the user to a user group first by following the steps in either case below:

- Add a user to a user group when you first create the user account, refer to [Create a New Backup User](#) for further instructions.

-OR-

- You can add user a to a user group after the account has been created, refer to [User Profile](#) for further instructions.

Step 2: Assign the desired policy group to the user group by following the steps in [To add a new policy group to a user group](#).

User Settings

This section allows you to manage user settings such as Quota, Invalid Login Attempt Limit, Two-Factor Authentication, Password, Email Reports, Encryption Key, Client Host limit, Run Direct VM Limit and Advertisement.

- **Quota**

Administrators can set a group storage quota to a user group.

Quota limits calculation method

Mode

Compressed Size

Uncompressed Size

Shared Quota 

<input type="checkbox"/>	Destination	Quota	Maximum percentage of shared size for each user
<input type="checkbox"/>			

User Quota 

Mode

Default

Preempted

<input type="checkbox"/>	Quota
<input type="checkbox"/>	

The following items can be set:

- **Quota limits calculation method** – this defines if the quota limit is calculated by Compressed Size or Uncompressed Size.
- **Shared quota**

Shared Quota

<input type="checkbox"/>	Destination	Quota	Maximum percentage of shared size for each user
<input type="checkbox"/>			

NOTE

Please kindly note that:

- For fresh installation user, Shared Quota default setting is disabled.
- For the user migrated from pre-v8.1, Shared Quota will be same with the previous setting.

When this feature is enabled by turning on the switch to the right, you can click to add the shared quota option, and the destination storage quota will be shared by all users within the user group.

Quota

<input type="checkbox"/>	Destination	Quota		Maximum percentage of shared size for each user
<input checked="" type="checkbox"/>	AhsayCBS	<input type="text" value="0"/>	Gbytes <input type="button" value="v"/>	<input type="text" value="50"/> %
<input type="checkbox"/>	AhsayCBS	<input type="text" value="0"/>	Gbytes <input type="button" value="v"/>	<input type="text" value="50"/> %
<input type="checkbox"/>	CBS Local	<input type="text" value="0"/>	Gbytes <input type="button" value="v"/>	<input type="text" value="50"/> %

After adding the shared destination, you can configure the following two settings.

Shared Quota

<input type="checkbox"/>	Destination	Quota		Maximum percentage of shared size for each user
<input checked="" type="checkbox"/>	AhsayCBS	<input type="text" value="50.0"/>	Gbytes <input type="button" value="v"/>	<input type="text" value="50"/> %

- ❖ **Quota** – this defines the storage quota allowed for the user group.
- ❖ **Maximum percentage of shared size for each user** – defines the maximum percentage of shared storage allowed for each user. For example, setting 50% means all users in the user group can occupy up to 50% of the assigned storage quota. If 100GB is the assigned storage, each user can store up to 50GB of the assigned storage quota. If the value is set to 100%, all users can fully utilize the storage until the assigned storage quota is full.

IMPORTANT

The shared storage quota is allocated to users on a first-come-first-serve basis. If the shared storage quota remains unchanged when the number of backup user grows or there is a change on the maximum percentage of shared size for each user, it may

cause issue like the one mentioned below.

Example

Settings: The shared storage quota is 100GB shared by 2 users with a maximum percentage of 50% of each user. In other words, each user is entitled to a maximum of 50GB of storage.

Current usage: Now, one of the users has used up 45GB of capacity

New setting: The maximum percentage of shared size for each user has adjusted to 30%.

Impact: In that case, that backup user has exceeded the new maximum percentage allowed for each user, which is 30GB. The backed up data will remain on the backup destination but that user will no longer be allowed to perform any new backup.

Best Practice: System administrator should consider upgrading the shared storage quota as the number of backup users in the user group grows or there is a change on the maximum percentage of shared size for each user.

- **User Quota** – the feature is used to define the destination and quota storage for the newly-added backup user.

Destination	Quota
<input type="checkbox"/> AhsayCBS	50.0 Mbytes

NOTE

Please kindly note that:

- For fresh installation user, User Quota will be Default mode and Destination contains AhsayCBS with default quota setting, 50MB.
- For the user migrated from pre-v8.1, User Quota will be Default mode and Destination contains AhsayCBS with default setting, 50MB. If the policy group enable quota setting, the predefined destination will also be displayed.

If the feature is disabled by turning the switch to the left, the backup user quota for newly-added user will be default quota setting, AhsayCBS with 50MB, but you can configure the quota setting as required.

When this feature is enabled, this defines if the user quota mode is Default or Preempted. If you choose Preempted mode, you cannot configure the quota settings in Backup/ Restore > Users, Groups & Policies > Backup User > %backup user% > User Profile > Backup Client Settings.

You can click **+** to add predefined destination for the user as backup destination.

Quota

<input type="checkbox"/>	Destination	Quota	
<input type="checkbox"/>	IronVaultStor	0	Mbytes <input type="button" value="v"/>
<input type="checkbox"/>	CopperStor	0	Mbytes <input type="button" value="v"/>

After adding the backup destination, you can configure the quota storage setting for per destination.

User Quota

Mode

Default

Preempted

+ **🗑️**

<input type="checkbox"/>	Destination	Quota	
<input type="checkbox"/>	AhsayCBS	10.0	Gbytes <input type="button" value="v"/>
<input type="checkbox"/>	IronVaultStor	0.0	Mbytes <input type="button" value="v"/>
<input type="checkbox"/>	CopperStor	0.0	Mbytes <input type="button" value="v"/>

➤ **Invalid Login Attempt Limit**

This setting allows administrator to apply conditions for the number of invalid login attempt allowed to the user group. The following conditions can be set after you turned on the switch on the right.

Invalid login attempt limit

Maximum number of invalid login attempts allowed within specified period

Specified period (minutes)

Blocking period for IP address and user that exceed the maximum allowed invalid login attempts

10 Minutes

24 hours

Forever

- **Maximum number of invalid login attempts allowed within specified period** – this defines the maximum number of attempts allowed for invalid login within the set period time. The backup user account will be blocked after the set number of invalid login attempts have been reached.
- **Specified period (minutes)** – this defines the period of time during which the set maximum number of invalid login attempt is allowed before the invalid login counter resets.

- **Blocking period for IP address and user that exceed the maximum allowed invalid login attempts** – this defines the period of time during when the IP address and user that has exceeded the invalid login attempts will be blocked from logging in again.

Example:

If the following settings are applied:

- **Maximum number of invalid login attempts allowed** – 3
- **Specific period** – 5 minutes
- **Blocking period for IP address and user that exceed the maximum allowed invalid login attempts** – 10 minutes

That means backup user can only enter a maximum of 3 times of invalid login within 5 minutes since the first attempt. If invalid login is made for the 4th time within that 5 minutes duration, the user account will be blocked for 10 minutes.

➤ **Two-Factor Authentication**

Once you enable the two-factor authentication option, users will be required to either enter a one-time password generated in an authenticator app or accept the log in request in the Ahsay Mobile app to login to AhsayOBM/AhsayACB v8.5.0.0 or above.

Turn on the  switch on the right and then make sure the check box **Require Two-Factor Authentication for user logon** is checked for this feature to work.

Two-Factor Authentication 

Require Two-Factor Authentication for user logon

NOTE

The two-factor authentication option will only be visible if Mobile Authentication is enabled in System Settings > Basic > Two-Factor Authentication (2FA).

➤ **Password**

This setting allows administrator to set up the password policy. The following items can be set after you turned on the  switch on the right.

Password

Password Age

Never expire

90 days

Enforce password history (30 passwords remembered)

Complexity Requirements

Default

Numbers (0-9) Uppercase Lowercase Minimum length

Special characters (?!~\$%^&*+.=:;'",.)

Custom (Regular expression)

Custom Description

- **Password Age** – defines the period of time when the login password of a backup user account expires. When the set period of time is reached, backup users will have to change their passwords before they can continue using AhsayCBS.
- **Enforce password history (30 passwords remembered)** – when this feature is enabled, the last 30 login passwords of each user are recorded and cannot be used again when users are changing a new password.
- **Complexity Requirements** – you can customize the complexity requirements for the password to provide better protection for the users. Under the **Default** option, the selected item(s) will be the mandatory element(s) when backup users create their passwords. While the Custom option, will allow you to specify the Regular expression and/or Custom Description that can be used to create their passwords.

➤ Email Reports

This menu allows administrator to select what email reports to be sent to the users of a user group. Turn on the switch on the right then select the desired email report(s) to send. By default, almost all email reports are selected after you turn on this feature except for Email me inactive backup report when my backup set hasn't run for this number of days.

The table below lists out all types of email reports, together with explanation on what the email report is about, when it will be sent, what action backup user should take, and sample screen shot of the email and report. You can also add email recipients in the **Bcc reports to email** section so that the email reports will be sent to them as well.

NOTE

If the PDF report is too large to be sent through email (>20MB), the PDF attached in the email will only contains the first 100 pages of original backup report, with the 101st page showing "**Report truncated because it is too big to be sent in email**". Truncating the attached large report can avoid blocking from some SMTP server caused by email too big size and help save the capacity of client email box.

If the attached PDF report is truncated, the email will contain the links which point to the full PDF report download page.

Email Reports



- Backup Report
- All reports
- Specific report(s):
- Backup Errors
 - Backup quota exceeded
 - Storage Quota Exceeded
 - License Module Quota Exceeded
 - Backup warnings
 - Warnings
 - User interrupted
 - Backup successful
 - OK
 - OK (no files backed up)

Restore Report

Missed scheduled backup reminder

User settings changed alert

Active Directory authentication failure report

Backup Quota Reminder / Alert
Send backup quota reminder to user if the backup quota is over %

Trial User Reminder / Alert
Send trial user reminder to user if the reminding day(s) is less than

Welcome email

Email me consolidated email report only at this time daily
 : (hh:mm)

Email me inactive backup report when my backup set hasn't run for this number of days

Bcc reports to email



<input type="checkbox"/>	Name	Email	Encrypt Email
--------------------------	------	-------	---------------

Backup Report	
What is this email about?	When will you receive it?
<p>A backup report in PDF format, there is a choice if it will include all the reports or just specific reports.</p> <p>The default setting for new installation is “All reports”. It will be the same with upgrades, from v6, v7, pre-8.5.0.0 to v8.5.0.0 and onwards.</p> <p>If “All reports” is selected, the following backup reports will be received: Backup Errors, Backup Quota Exceeded, Backup Warnings and Backup Successful.</p> <p>If “Specific report(s)” is selected, the user has an option to select specific backup report(s) that will be sent thru email. These are organized in four different categories:</p> <ul style="list-style-type: none"> • Backup errors – will contain error encountered during backup. • Backup quota exceeded – there are two types of report which are storage quota exceeded and license module quota exceeded. • Backup warnings – there are two types which are warnings and if backup was interrupted by user. • Backup successful – there are two types which are backup was successful with files backed up and the other one is with no files backed up. 	<p>Backup Report is generated and sent to backup user every 15 mins (every :00, :15, :30 and :45 of an hour)</p> <p>*Depending on the backup size and backup finish time, the actual report sending time may be longer than 15 mins.</p>
What action should you take?	
Download the backup report as attached with the email	

Email / Report Sample

Email sample:



Dear WindowsTest_1,

Here is the summary of your backup job "2019-10-15-10-23-12". Full backup report is also attached for your reference.

Backup Job Summary

User	WindowsTest_1
Backup Set	default-backup-set-name-1
Destination	AhsayCBS
Data Size	305k
Retention Size	0
Backup Quota	50M
Remaining Quota	49.7M
Backup Job	2019-10-15-10-23-12
Job Status	OK
Backup Time	10/15/2019 10:23:12 - 10/15/2019 10:23:33
IP Address	10.16.10.14 (w2k8r2-std)
New Files	35(305.3k)
New Directories	7
New Links	3
Updated Files	0(0)
Attributes Changed Files	0(0)
Deleted Files	0(0)
Deleted Directories	0
Deleted Links	0
Moved Files	0(0)

Sincerely
Ahsay Support Team

Report sample:



Full Backup report

Backup Job Summary

User	WindowsTest_1
Backup Set	default-backup-set-name-1 (1571106159407)
Destination	AhsayCBS (AhsayCBS)
Data Size	305k
Retention Size	0
Backup Quota	50M
Remaining Quota	49.7M
Backup Job	2019-10-15-10-23-12
Job Status	OK
Start - End	10/15/2019 10:23:12 - 10/15/2019 10:23:33
IP Address	10.16.10.14 (v2k8r2-std)
New Files *	35 (305.3k)
New Directories	7
New Links	3
Updated Files *	0 (0)
Attributes Changed Files *	0 (0)
Deleted Files *	0 (0)
Deleted Directories	0
Deleted Links	0
Moved Files *	0 (0)

* No. of files (size)

Backup Set Settings

Field	Value
Backup Source	[Shortcut - Documents]
Filter	[Enabled: No]
Backup Schedule	[Computer Name:][Daily: [Name: Backup Schedule, Time: 20:0, Type: , Duration: -1, Retention Policy: Yes][Weekly:][Monthly:][Custom:]
Continuous Data Protection	[Enabled: No]
In-File Delta	[Enabled: Yes, Default Type: 1, Block Size: -1, Minimum Size = 26214400, Maximum No. of Delta = 100, Delta Ratio = 50, Weekly: [], Monthly: [, Day: 0, Criteria: Friday, Day of selected months in yearly variations: First]
Retention Policy	[Type: Simple, Period: 7, Unit: Days]
Command Line Tool	
Reminder	[Computer Name: v2k8r2-std]
Bandwidth Control	[Enabled: No, Mode: Independent, Bandwidth Control:]
Others	[Remove temporary files after backup: Yes][Follow Link: Yes][Volume Shadow Copy: Yes][File Permissions: Yes][Compression Type: Fast (Compressed size larger than normal)]

Backup Logs

No.	Type	Timestamp	Log
1	start	2019/10/15 10:23:12	Start [AhsayORM v8.3.0.30]
2	info	2019/10/15 10:23:13	Saving encrypted backup set encryption keys to server...
3	info	2019/10/15 10:23:14	Using Temporary Directory C:\Users\Administrator\temp\1571106159407\08501571106178481
4	info	2019/10/15 10:23:15	Start running pre-commands
5	info	2019/10/15 10:23:15	Finished running pre-commands
6	info	2019/10/15 10:23:17	Contact your service provider to enable [Volume Shadow Copy] support
7	info	2019/10/15 10:23:21	Start validating the presence and size of backup data in destination "AhsayCBS"...
8	info	2019/10/15 10:23:21	File "1571106159407/blocks/2019-10-15-10-23-12/0/000000.bak", Size: 312,672, OK
9	info	2019/10/15 10:23:21	Finished validating the presence and size of backup data in destination "AhsayCBS"
10	info	2019/10/15 10:23:23	Start running post-commands
11	info	2019/10/15 10:23:23	Finished running post-commands

Backup Files

No.	Type	Dirs/Files	Size	Last Modified
1	new	C:\	12k / 12k (0%)	10/10/2019 11:13
2	new	C:\Users	4k / 4k (0%)	02/27/2017 23:53
3	new	C:\Users\Administrator	8k / 8k (0%)	09/27/2019 07:56
4	new	C:\Users\Administrator\Documents	16k / 16k (0%)	10/15/2019 10:10
5	new	C:\Users\Administrator\Music	0 / 0 (0%)	10/19/2017 18:39

6	new	C:\Users\Administrator\Pictures	0 / 0 (0%)	10/19/2017 18:39
7	new	C:\Users\Administrator\Videos	0 / 0 (0%)	10/19/2017 18:39
8	new	C:\Users\Administrator\Documents\AhsayCBS_version7_UserGuide.docx	12k / 14k (17%)	07/10/2018 17:24
9	new	C:\Users\Administrator\Documents\AhsayACB_UserGuideforWindows_version7.docx	12k / 14k (17%)	07/10/2018 17:24
10	new	C:\Users\Administrator\Documents\AhsayCloudFileBackupSolution_v10.pptx	30k / 38k (20%)	03/18/2019 15:06
11	new	C:\Users\Administrator\Documents\AhsayCloudFileBackupSolution_v7.pptx	30k / 38k (20%)	03/18/2019 15:06
12	new	C:\Users\Administrator\Documents\AhsayCloudFileBackupSolution_v8.pptx	30k / 38k (20%)	03/18/2019 15:06
13	new	C:\Users\Administrator\Documents\AhsayCloudFileBackupSolution_v9.pptx	30k / 38k (20%)	03/18/2019 15:06
14	new	C:\Users\Administrator\Documents\AhsayOBM_version7_QuickStartGuide.docx	12k / 14k (17%)	07/10/2018 17:24
15	new	C:\Users\Administrator\Documents\AlertMessageFive.png	2k / 2k (0%)	02/28/2019 12:10
16	new	C:\Users\Administrator\Documents\AlertMessageFour.png	2k / 2k (0%)	02/28/2019 12:10
17	new	C:\Users\Administrator\Documents\AlertMessageOne.png	2k / 2k (0%)	02/28/2019 12:10
18	new	C:\Users\Administrator\Documents\AlertMessageThree.png	2k / 2k (0%)	02/28/2019 12:10
19	new	C:\Users\Administrator\Documents\AlertMessageTwo.png	2k / 2k (0%)	02/28/2019 12:10
20	new	C:\Users\Administrator\Documents\BackupSet_2015.docx	12k / 14k (17%)	07/10/2018 17:24
21	new	C:\Users\Administrator\Documents\BackupSet_2017.docx	12k / 14k (17%)	07/10/2018 17:24
22	new	C:\Users\Administrator\Documents\BackupSet_2016.docx	12k / 14k (17%)	07/10/2018 17:24
23	new	C:\Users\Administrator\Documents\BackupSet_2018.docx	12k / 14k (17%)	07/10/2018 17:24
24	new	C:\Users\Administrator\Documents\BackupSet_2019.docx	12k / 14k (17%)	07/10/2018 17:24
25	new	C:\Users\Administrator\Documents\BackupSolution.txt	256 / 7k (96%)	12/17/2018 14:27
26	new	C:\Users\Administrator\Documents\File snapshot testing.txt	256 / 7k (96%)	12/17/2018 14:27
27	new	C:\Users\Administrator\Documents\File snapshot testing1.txt	256 / 7k (96%)	01/15/2019 10:12
28	new	C:\Users\Administrator\Documents\File snapshot testing3.txt	256 / 7k (96%)	01/15/2019 10:12
29	new	C:\Users\Administrator\Documents\File snapshot testing2.txt	256 / 7k (96%)	01/15/2019 10:12
30	new	C:\Users\Administrator\Documents\File snapshot testing4.txt	256 / 7k (96%)	01/15/2019 10:12
31	new	C:\Users\Administrator\Documents\LogFile.txt	256 / 7k (96%)	12/17/2018 14:27
32	new	C:\Users\Administrator\Documents\File snapshot testing5.txt	256 / 7k (96%)	01/15/2019 10:12
33	new	C:\Users\Administrator\Documents\LogFile_2017.txt	256 / 7k (96%)	12/17/2018 14:27
34	new	C:\Users\Administrator\Documents\LogFile_2018.txt	256 / 7k (96%)	12/17/2018 14:27
35	new	C:\Users\Administrator\Documents\SpreadSheet_x_152.xlsx	19k / 23k (19%)	03/18/2019 15:11
36	new	C:\Users\Administrator\Documents\SpreadSheet_x_151.xlsx	19k / 23k (19%)	03/18/2019 15:11
37	new	C:\Users\Administrator\Documents\desktop.ini	208 / 402 (48%)	10/19/2017 18:39
38	new	C:\Users\Administrator\Documents\version7_AhsayMOB_UserGuideAndroid.docx	12k / 14k (17%)	07/10/2018 17:24
39	new	C:\Users\Administrator\Music\desktop.ini	224 / 504 (55%)	10/19/2017 18:39
40	new	C:\Users\Administrator\Documents\SpreadSheet_x_153.xlsx	19k / 23k (19%)	03/18/2019 15:11
41	new	C:\Users\Administrator\Pictures\desktop.ini	224 / 504 (55%)	10/19/2017 18:39
42	new	C:\Users\Administrator\Documents\My Music	0 / 0 (0%)	02/27/2017 23:53
43	new	C:\Users\Administrator\Videos\desktop.ini	224 / 504 (55%)	10/19/2017 18:39
44	new	C:\Users\Administrator\Documents\My Pictures	0 / 0 (0%)	02/27/2017 23:53
45	new	C:\Users\Administrator\Documents\My Videos	0 / 0 (0%)	02/27/2017 23:53

Restore Report																	
What is this email about?	When will you receive it?																
A full report in PDF format, showing the Restore Job Summary, Restore Logs and Restore Files	Restore Report is generated and sent to backup user every 15 mins (every :00, :15, :30 and :45 of an hour) *Depending on the restore size and restore finish time, the actual report sending time may be longer than 15 mins.																
What action should you take?																	
Download the restore report as attached with the email																	
Email / Report Sample																	
<p>Email sample:</p> <div style="border: 1px solid black; padding: 10px;">  <p>Dear WindowsTest_1,</p> <p>Here is the summary of the restore job "2019-10-15-10-24-45". Full restore report is also attached for your reference.</p> <p>Restore Job Summary</p> <table border="1"> <tbody> <tr> <td>User</td> <td>WindowsTest_1</td> </tr> <tr> <td>Backup Set</td> <td>default-backup-set-name-1</td> </tr> <tr> <td>Restore Job</td> <td>2019-10-15-10-24-45</td> </tr> <tr> <td>Job Status</td> <td>OK</td> </tr> <tr> <td>Restore Time</td> <td>10/15/2019 10:24:45 - 10/15/2019 10:24:50</td> </tr> <tr> <td>IP Address</td> <td>10.16.10.14</td> </tr> <tr> <td>Destination Name</td> <td>AhsayCBS</td> </tr> <tr> <td>Restored Files</td> <td>31(304k)</td> </tr> </tbody> </table> <p>Sincerely, Ahsay Support Team</p> </div>		User	WindowsTest_1	Backup Set	default-backup-set-name-1	Restore Job	2019-10-15-10-24-45	Job Status	OK	Restore Time	10/15/2019 10:24:45 - 10/15/2019 10:24:50	IP Address	10.16.10.14	Destination Name	AhsayCBS	Restored Files	31(304k)
User	WindowsTest_1																
Backup Set	default-backup-set-name-1																
Restore Job	2019-10-15-10-24-45																
Job Status	OK																
Restore Time	10/15/2019 10:24:45 - 10/15/2019 10:24:50																
IP Address	10.16.10.14																
Destination Name	AhsayCBS																
Restored Files	31(304k)																

Report sample:



Full Restore Report

Restore Job Summary

User	Backup Set	Restore Job	Restore Destination	Job Status	IP Address	Restored Files *
WindowsTest_1	default-backup-set-name-1 (1571106199407)	2019-10-15-10-24-45	AhsayCBS	OK	10.16.10.14	31 (304.4k)

* No. of files (size)

Restore Logs

No.	Type	Timestamp	Log
1	start	10/15/2019 10:24:46	Start [AhsayOBM v8.3.0.30]
2	info	10/15/2019 10:24:46	Initializing decrypt action...
3	info	10/15/2019 10:24:46	Initializing decrypt action... Completed
4	info	10/15/2019 10:24:47	Creating new directory... "C:\RestoredVC_"
5	info	10/15/2019 10:24:47	Creating new directory... "C:\RestoredVC_\Users"
6	info	10/15/2019 10:24:47	Creating new directory... "C:\RestoredVC_\Users\Administrator"
7	info	10/15/2019 10:24:47	Creating new directory... "C:\RestoredVC_\Users\Administrator\Documents"

Restore Files

No.	File Name	Size	Last Modified	Downloaded Time	Time taken (min:sec)
1	C:\RestoredVC_\Users\Administrator\Documents\AhsayCBS_version7_UserGuide.docx	12k	07/10/2018 17:24	10/15/2019 10:24	0:0
2	C:\RestoredVC_\Users\Administrator\Documents\AhsayACB_UserGuideforWindows_version7.docx	12k	07/10/2018 17:24	10/15/2019 10:24	0:0
3	C:\RestoredVC_\Users\Administrator\Documents\AhsayCloudFileBackupSolution_v7.pptx	30k	03/18/2019 15:06	10/15/2019 10:24	0:0
4	C:\RestoredVC_\Users\Administrator\Documents\AhsayCloudFileBackupSolution_v10.pptx	30k	03/18/2019 15:06	10/15/2019 10:24	0:0
5	C:\RestoredVC_\Users\Administrator\Documents\AhsayCloudFileBackupSolution_v8.pptx	30k	03/18/2019 15:06	10/15/2019 10:24	0:0
6	C:\RestoredVC_\Users\Administrator\Documents\AhsayCloudFileBackupSolution_v9.pptx	30k	03/18/2019 15:06	10/15/2019 10:24	0:0
7	C:\RestoredVC_\Users\Administrator\Documents\AhsayOBM_version7_QuickStartGuide.docx	12k	07/10/2018 17:24	10/15/2019 10:24	0:0
8	C:\RestoredVC_\Users\Administrator\Documents\AlertMessageFive.png	2k	02/28/2019 12:10	10/15/2019 10:24	0:0
9	C:\RestoredVC_\Users\Administrator\Documents\AlertMessageFour.png	2k	02/28/2019 12:10	10/15/2019 10:24	0:0
10	C:\RestoredVC_\Users\Administrator\Documents\AlertMessageOne.png	2k	02/28/2019 12:10	10/15/2019 10:24	0:0
11	C:\RestoredVC_\Users\Administrator\Documents\AlertMessageThree.png	2k	02/28/2019 12:10	10/15/2019 10:24	0:0
12	C:\RestoredVC_\Users\Administrator\Documents\AlertMessageTwo.png	2k	02/28/2019 12:10	10/15/2019 10:24	0:0
13	C:\RestoredVC_\Users\Administrator\Documents\BackupSet_2015.docx	12k	07/10/2018 17:24	10/15/2019 10:24	0:0
14	C:\RestoredVC_\Users\Administrator\Documents\BackupSet_2017.docx	12k	07/10/2018 17:24	10/15/2019 10:24	0:0
15	C:\RestoredVC_\Users\Administrator\Documents\BackupSet_2018.docx	12k	07/10/2018 17:24	10/15/2019 10:24	0:0
16	C:\RestoredVC_\Users\Administrator\Documents\BackupSet_2016.docx	12k	07/10/2018 17:24	10/15/2019 10:24	0:0
17	C:\RestoredVC_\Users\Administrator\Documents\BackupSet_2019.docx	12k	07/10/2018 17:24	10/15/2019 10:24	0:0
18	C:\RestoredVC_\Users\Administrator\Documents\BackupSolution.txt	254	12/17/2018 14:27	10/15/2019 10:24	0:0
19	C:\RestoredVC_\Users\Administrator\Documents\File snapshot testing.txt	254	12/17/2018 14:27	10/15/2019 10:24	0:0
20	C:\RestoredVC_\Users\Administrator\Documents\File snapshot testing1.txt	254	01/15/2019 10:12	10/15/2019 10:24	0:0
21	C:\RestoredVC_\Users\Administrator\Documents\File snapshot testing2.txt	254	01/15/2019 10:12	10/15/2019 10:24	0:0
22	C:\RestoredVC_\Users\Administrator\Documents\File snapshot testing3.txt	254	01/15/2019 10:12	10/15/2019 10:24	0:0
23	C:\RestoredVC_\Users\Administrator\Documents\File snapshot testing4.txt	254	01/15/2019 10:12	10/15/2019 10:24	0:0
24	C:\RestoredVC_\Users\Administrator\Documents\File snapshot testing5.txt	254	01/15/2019 10:12	10/15/2019 10:24	0:0
25	C:\RestoredVC_\Users\Administrator\Documents\LogFile.txt	254	12/17/2018 14:27	10/15/2019 10:24	0:0
26	C:\RestoredVC_\Users\Administrator\Documents\LogFile_2017.txt	254	12/17/2018 14:27	10/15/2019 10:24	0:0
27	C:\RestoredVC_\Users\Administrator\Documents\LogFile_2018.txt	254	12/17/2018 14:27	10/15/2019 10:24	0:0
28	C:\RestoredVC_\Users\Administrator\Documents\SpreadSheet_x_151.xlsx	19k	03/18/2019 15:11	10/15/2019 10:24	0:0
29	C:\RestoredVC_\Users\Administrator\Documents\SpreadSheet_x_152.xlsx	19k	03/18/2019 15:11	10/15/2019 10:24	0:0
30	C:\RestoredVC_\Users\Administrator\Documents\SpreadSheet_x_153.xlsx	19k	03/18/2019 15:11	10/15/2019 10:24	0:0
31	C:\RestoredVC_\Users\Administrator\Documents\version7_AhsayMOB_UserGuideAndroid.docx	12k	07/10/2018 17:24	10/15/2019 10:24	0:0

Missed scheduled backup reminder	
What is this email about?	When will you receive it?
<p>A reminder to alert the backup user about a scheduled backup failure.</p> <p>Any backups that has failed to start 6 hours after the scheduled backup time will be considered as missed schedule backup.</p>	<p>The report is generated and sent to backup users at the next :00 after it's classified as missed scheduled backup (6 hours after backup failure)</p>
Common causes for missed scheduled backups	
<p>The following table highlights some of the common reasons causing missed scheduled backups or scheduled backups not running according to schedule. The cause of missed backups can be related to either server side issues (AhsayCBS or Redirector) or client side issues (AhsayOBM/AhsayACB client machine setup).</p>	
Server Side Issues	
<p>The AhsayCBS service is unresponsive</p> <ul style="list-style-type: none"> ➤ License error ➤ Out of Java memory / threads ➤ Out of space on AhsayCBS user home drive ➤ AhsayCBS service is not started ➤ AhsayCBS server is powered down ➤ SSL certificate expired 	
<p>The Redirector service is unresponsive (if applicable)</p> <ul style="list-style-type: none"> ➤ License error ➤ Out of Java memory / threads ➤ AhsayCBS system password is not updated on Redirection settings ➤ AhsayCBS service is not started on the redirector machine ➤ AhsayCBS server is powered down on the redirector machine ➤ SSL certificate expired 	
<p>The time zone on the AhsayOBM/AhsayACB account user profile on AhsayCBS is set incorrectly. This will cause the scheduled backup time to run either later or earlier than the actual scheduled time but will trigger a missed backup notification.</p>	
<p>There is no backup schedule configured for the affected backup set(s) or the schedule date and/or time is incorrect.</p>	
Client Side Issues	
<p>The AhsayOBM/AhsayACB client machine was switched off, hanged or running in power saving mode.</p>	
<p>The date/time, time zone, or locale on AhsayOBM/AhsayACB client machine is set incorrectly.</p>	

A backup set and backup schedule was created on AhsayCBS but AhsayOBM/AhsayACB client was not installed on the client machine or was uninstalled.

If the AhsayOBM/AhsayACB runs on Windows machine, ensure the login credentials in the Windows User Authentication is correct or is kept updated.

What action should you take?

You may have to check for the causes for the missed scheduled backup. That could be caused by, for example, incorrect login credentials of the client backup application, Internet connection problem, time zone settings, etc.

Email / Report Sample

Email sample:



Dear WindowsTest_1,

Your backup job for "default-backup-set-name-1" was missed. Please check the client software configuration to see if everything is running correctly. Below is the detail of backup set.

User	WindowsTest_1
Backup Set	default-backup-set-name-1
Last Backup Time(Days Without Backup)	2019-10-07 20:00 (1 day(s))
Missed Backup Job(s)	2019-10-08 20:00

You are suggested to perform a backup manually for this backup set to avoid undesired data loss.backup activity of this backup set.

Sincerely
Ahsay Support Team

User settings changed alert															
What is this email about?	When will you receive it?														
A summary report showing the user settings that have been changed in details, with the old values and new values of the changed settings shown.	User Settings Changed Alert Report is generated and sent to backup user every 15 mins (every :00, :15, :30 and :45 of an hour)														
What action should you take?															
The purpose of this email is to allow user to confirm the changes that have made, and alert user for unauthorized access if they have not made those changes. In the latter case, user should change their login password and correct the settings as soon as possible.															
Email / Report Sample															
Email sample:															
 <p>Dear WindowsTest_1,</p> <p>One or more of your user settings have been updated.Please confirm the information shown below is correct, and that these changes were requested by an authorized user on your contact list.</p> <p>If the changes were not made by an authorized user, change your password, correct your settings and see if this happens again. If this happens again, please contact us for further investigation.</p> <table border="1"> <tr> <td>User</td> <td>WindowsTest_1</td> </tr> <tr> <td>Time Of Changes</td> <td>10/15/2019 11:29:49</td> </tr> <tr> <td>Ip Address</td> <td>192.168.12.1</td> </tr> <tr> <td>Changes</td> <td> <table border="1"> <thead> <tr> <th>Field</th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>Contacts</td> <td>"[Name: WindowsTest_1, Email: ██████████@ahsay.com, Company: , Address: , Website: , Phone: , Phone:]"</td> <td>"[Name: WindowsTest_1, Email: ██████████@gmail.com, Company: , Address: , Website: , Phone: , Phone:]"</td> </tr> </tbody> </table> </td> </tr> </table>		User	WindowsTest_1	Time Of Changes	10/15/2019 11:29:49	Ip Address	192.168.12.1	Changes	<table border="1"> <thead> <tr> <th>Field</th> <th>Old Value</th> <th>New Value</th> </tr> </thead> <tbody> <tr> <td>Contacts</td> <td>"[Name: WindowsTest_1, Email: ██████████@ahsay.com, Company: , Address: , Website: , Phone: , Phone:]"</td> <td>"[Name: WindowsTest_1, Email: ██████████@gmail.com, Company: , Address: , Website: , Phone: , Phone:]"</td> </tr> </tbody> </table>	Field	Old Value	New Value	Contacts	"[Name: WindowsTest_1, Email: ██████████@ahsay.com, Company: , Address: , Website: , Phone: , Phone:]"	"[Name: WindowsTest_1, Email: ██████████@gmail.com, Company: , Address: , Website: , Phone: , Phone:]"
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Active Directory authentication failure report	
What is this email about?	When will you receive it?
A reminder to alert the backup user about a backup failure due to the incorrect Active Directory authentication.	Shortly after the active directory authentication failure occurred
What action should you take?	
<p>Check if the active directory authentication is properly set. If you have changed the login credentials of the machine running the client backup application, you have to alter the authentication details as well for the backup to perform. To do so, follow the steps below.</p> <ol style="list-style-type: none"> i) Log in to AhsayOBM/AhsayACB. ii) Click on the Backup Sets icon. iii) Click on the backup set you would like to alter the authentication details. iv) Click on the General section. v) Modify the Password under the Windows User Authentication section. vi) Click  to confirm the change. 	
Email / Report Sample	
<p>Email sample:</p> <div style="border: 1px solid black; padding: 10px;">  <p>Dear</p> <p>Windows Active Directory authentication failed at 28/11/2016 18:51:21(0). If you have changed the Windows login credentials recently, please login to backup server using the backup client with the latest password, otherwise, your Active Directory account may be locked. If the Active Directory user has already been locked, please contact your system administrator to unlock the account.</p> <p>Sincerely Ahsay Support Team</p> </div>	

Backup Quota Reminder / Alert	
What is this email about?	When will you receive it?
<p>A reminder to alert backup users about the backup quota has exceeded the set percentage. User can configure the percentage where the reminder/alert email is triggered when it is reached.</p> <p>By default, this percentage is preset as 80% when this feature is enabled.</p>	<p>The backup quota reminder / alert email is generated and sent to backup user at 6:00am daily.</p>
What action should you take?	
<p>The backup quota is going to exceed its storage quota. Contact your backup service provider to increase the capacity. Alternatively, consider cleaning up the existing backup sets that you are no longer using, or reviewing the retention policy.</p>	
Email / Report Sample	
<p>Email example:</p> <div style="border: 1px solid black; padding: 10px;">  <p>Dear Administrator,</p> <p>Disk usage on Drive C:\Program Files\AhsayCBS\system is over 82%.Please upgrade your storage space to avoid backup failure due to full storage.</p> <p>Sincerely, Ahsay Support Team</p> </div>	

Trial User Reminder / Alert									
What is this email about?	When will you receive it?								
<p>A reminder to alert trial backup users that their account is about to expire in the set number of days.</p> <p>By default, the preset value of this setting is 7 when this feature is enabled.</p>	<p>The trial user reminder / alert email is generated and sent to backup user at 6:00am daily.</p>								
What action should you take?									
<p>In order to continue using your account for backup and restore, contact your backup service provider to subscribe to the paid backup service.</p>									
Email / Report Sample									
<p>Email sample:</p> <div style="border: 1px solid black; padding: 10px;">  <p>Dear trial1,</p> <p>Your trial account will expire in 3 days.Please contact your administrator for further action. Below is the trial information of this account.</p> <table border="1"> <tbody> <tr> <td>User</td> <td>trial1</td> </tr> <tr> <td>Registration Day</td> <td>06/20/2019</td> </tr> <tr> <td>Day(s) to Trial End</td> <td>3</td> </tr> <tr> <td>Total Trial Days</td> <td>30</td> </tr> </tbody> </table> <p>Sincerely Ahsay Support Team</p> </div>		User	trial1	Registration Day	06/20/2019	Day(s) to Trial End	3	Total Trial Days	30
User	trial1								
Registration Day	06/20/2019								
Day(s) to Trial End	3								
Total Trial Days	30								

Trial User Reminder / Alert									
What is this email about?	When will you receive it?								
<p>A reminder to alert trial backup users that their account is about to expire in the set number of days.</p> <p>By default, the preset value of this setting is 7 when this feature is enabled.</p>	<p>The trial user reminder / alert email is generated and sent to backup user at 6:00am daily.</p>								
What action should you take?									
<p>In order to continue using your account for backup and restore, contact your backup service provider to subscribe to the paid backup service.</p>									
Email / Report Sample									
<p>Email sample:</p> <div style="border: 1px solid black; padding: 10px;">  <p>Dear trial1,</p> <p>Your trial account will expire in 3 days.Please contact your administrator for further action. Below is the trial information of this account.</p> <table border="1"> <tbody> <tr> <td>User</td> <td>trial1</td> </tr> <tr> <td>Registration Day</td> <td>06/20/2019</td> </tr> <tr> <td>Day(s) to Trial End</td> <td>3</td> </tr> <tr> <td>Total Trial Days</td> <td>30</td> </tr> </tbody> </table> <p>Sincerely Ahsay Support Team</p> </div>		User	trial1	Registration Day	06/20/2019	Day(s) to Trial End	3	Total Trial Days	30
User	trial1								
Registration Day	06/20/2019								
Day(s) to Trial End	3								
Total Trial Days	30								

Welcome Email																	
What is this email about?	When will you receive it?																
A welcome message generated by the AhsayCBS to confirm a backup account has been created	Shortly after a Backup User account has been created																
What action should you take?																	
You can click on the link in the email to download the client backup application if you have not done so.																	
Email / Report Sample																	
<p>Email sample:</p> <div style="border: 1px solid black; padding: 10px;">  <p>Dear WindowsTest_1,</p> <p>Welcome to Ahsay Cloud Backup Suite</p> <p>Please click here to download and install the AhsayOBM.</p> <p>User Setting</p> <table border="1"> <tr> <td>Login Name</td> <td>WindowsTest_1</td> </tr> <tr> <td>Alias</td> <td>--</td> </tr> <tr> <td>Language</td> <td>English</td> </tr> <tr> <td>Contact</td> <td>WindowsTest_1 <[REDACTED]@gmail.com></td> </tr> </table> <p>Quota</p> <table border="1"> <tr> <td>AhsayCBS</td> <td>500k</td> </tr> <tr> <td>Dropbox-1</td> <td>50G</td> </tr> <tr> <td>GoogleDrive-1</td> <td>50G</td> </tr> <tr> <td>OneDrive-1</td> <td>50G</td> </tr> </table> <p>Sincerely Ahsay Support Team</p> </div>		Login Name	WindowsTest_1	Alias	--	Language	English	Contact	WindowsTest_1 <[REDACTED]@gmail.com>	AhsayCBS	500k	Dropbox-1	50G	GoogleDrive-1	50G	OneDrive-1	50G
Login Name	WindowsTest_1																
Alias	--																
Language	English																
Contact	WindowsTest_1 <[REDACTED]@gmail.com>																
AhsayCBS	500k																
Dropbox-1	50G																
GoogleDrive-1	50G																
OneDrive-1	50G																

Daily User Report (Appears as: Email me consolidated email report only at this time daily)	
What is this email about?	When will you receive it?
<p>A consolidated report in PDF format, showing the following categories of information:</p> <ul style="list-style-type: none"> • PROBLEMS – errors for System / Backup / Restore / Replication / Redirection • ISSUES – potential issues that may cause problems on System/Security, Users or Backup Sets • ACTIVITIES – all Backup Jobs / Restore Jobs / Setting Changes performed • STATISTICS – statistics on User Account / Data Transfer / Disk Storage Usage 	<p>The daily user report is generated and sent to backup user at the time defined by the system administrator in this menu</p>
What action should you take?	
<p>Click on the attachment in the email to get re-directed to the consolidated report page. The report is in interactive format which allows you to click on different tabs/sections for the corresponding report data. Refer to Appendix H for further explanation of the daily user report.</p>	
Email / Report Sample	
<p>Email sample:</p> <div style="border: 1px solid black; padding: 10px;">  <p>Dear WindowsTest_1,</p> <p>Please download the attachment "DailyUserReport.html" to view your consolidated Daily User Report for 10/15/2019. 6 error(s) and 4 issue(s) were found by the system. Please review and fix them as soon as possible.</p> </div>	

Backup Job

No.	User	Details	Status	Report
1	WindowsTest_1	Backup Set: default-backup-set-name-1 (1571107645014)Backup Job: 10/15/2019 10:58:55Destination: AhsayCBSDuration (Size): 00:00:56 (230.02M/230.02M)Last Successful Backup: 10/15/2019 10:47:49 (0 Days)	Quota Exceeded	Download
2	WindowsTest_1	Backup Set: default-backup-set-name-1 (1571107645014)Backup Job: 10/15/2019 10:47:49Destination: AhsayCBSDuration (Size): 00:00:35 (305.34k/439.38k)Last Successful Backup: 10/15/2019 10:47:49 (0 Days)	OK	Download

Restore Job

No.	User	Details	Status	Report
1	WindowsTest_1	Backup Set: default-backup-set-name-1 (1571107645014)Restore Job: 10/15/2019 10:48:38Destination: AhsayCBSDuration (Size): 00:00:04 (305.28k/439.38k)	OK	Download

Sincerely
Ahsay Support Team

Report sample:

[WEB VIEW](#) [PRINT VIEW](#)

Daily User Report (WindowsTest_1)

Generated at : Tuesday, October 15, 2019 11:15:09 CST

[PROBLEMS](#) [ISSUES](#) [ACTIVITIES](#) [STATISTICS](#)

[System](#) [Backup](#) [Restore](#) [Replication](#) [Redirection](#)

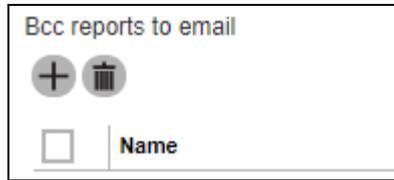
No.	Events	Start Time	End Time	Total No. of Occurrence
1	BackupError	10/15/2019 10:58:54	10/15/2019 10:58:58	2
2	UserAuthFailed	10/14/2019 16:24:40	10/15/2019 10:42:43	3

Inactive Backup Report (Appears as: Email me inactive backup report when my backup set hasn't run for this number of days)											
What is this email about?	When will you receive it?										
A report showing all backup sets under this backup user account that have not been run in the set number of day.	Inactive Backup Report is generated and sent to backup user every 15 mins (every :00, :15, :30 and :45 of an hour)										
What action should you take?											
You may have to check for the causes for the backup sets, especially scheduled backup sets that are not running. That could be caused by, for example, incorrect login credentials of the client backup application, Internet connection problem, etc.											
Email / Report Sample											
<p>Email sample:</p> <div style="border: 1px solid black; padding: 10px;">  <p>Dear user,</p> <p>Your backup set "default-backup-set-name-2" haven't performed any backup for 5 days.Please contact your administrator for necessary action. Below is the backup activity of this backup set.</p> <table border="1"> <tbody> <tr> <td>User</td> <td>user</td> </tr> <tr> <td>Backup Set</td> <td>default-backup-set-name-2</td> </tr> <tr> <td>Days Without Backup</td> <td>5 days without backup</td> </tr> <tr> <td>Last Backup Time</td> <td>10/16/2019 15:15:49</td> </tr> <tr> <td>Notification Days</td> <td>5</td> </tr> </tbody> </table> <p>Sincerely Ahsay Support Team</p> </div>		User	user	Backup Set	default-backup-set-name-2	Days Without Backup	5 days without backup	Last Backup Time	10/16/2019 15:15:49	Notification Days	5
User	user										
Backup Set	default-backup-set-name-2										
Days Without Backup	5 days without backup										
Last Backup Time	10/16/2019 15:15:49										
Notification Days	5										

Bcc reports to email

You can add email recipients in this section so that they will receive a blind carbon copy (bcc) of the email reports as well.

1. Click the  button under the **Bcc reports to email** section.



Bcc reports to email

Name

2. Enter the name of the recipient, email address and other details if necessary.



Contact

Name

Email

Encrypt Email

Address

Company

Website

Phone 1

Phone 2

If you wish to encrypt the email, check the Encrypt Email box. You will be re-directed to another page to upload the **Digital Certificate**. Click the Choose File button to upload the digital certificate, then click the tick button at the bottom of the page to confirm.



Upload Digital Certificate

Digital Certificate for abc@abc.com (.crt)

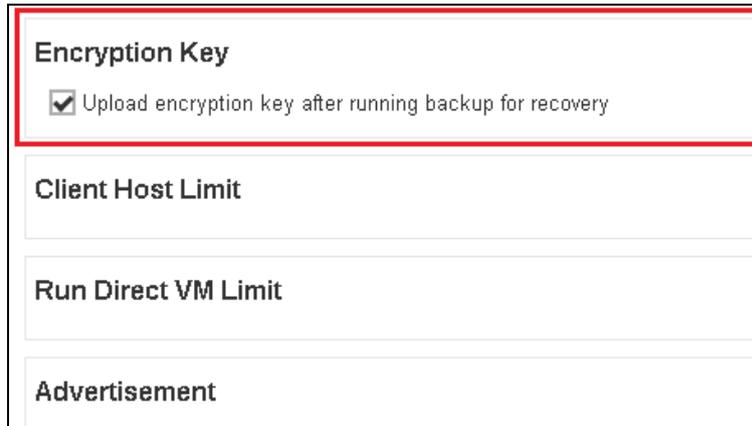
Upload cert: No file chosen

3. Click  when you are done with the settings.
4. Click  to confirm the setting.

➤ **Encryption Key**

Once you enabled the encryption recovery option. The encryption key file will be uploaded to the Backup Server. In case user has forgotten the encryption key, you can still contact us to recover the key.

Turn on the  switch on the right and then make sure the check box **Uploaded encryption key after running backup for recovery** is checked for this feature to work.



Encryption Key

Upload encryption key after running backup for recovery

Client Host Limit

Run Direct VM Limit

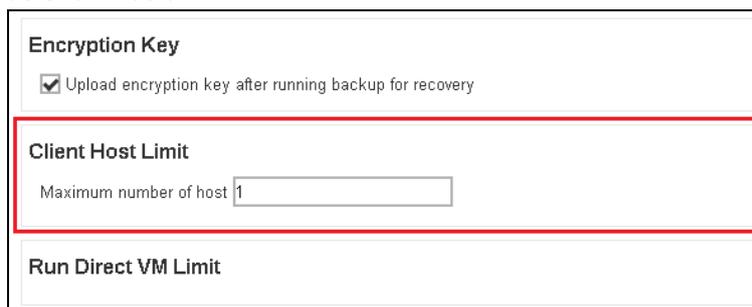
Advertisement

It is possible to submit an encryption key recovery request via the AhsayCBS web console. Refer to the [Recovering Encryption Key via AhsayCBS Web Console](#) section for detailed instructions.

➤ **Client Host Limit**

Administrator is able to set the maximum number of host machine for a backup users account.

Turn on the  switch on the right and then enter the **Maximum number of host** as shown below.



Encryption Key

Upload encryption key after running backup for recovery

Client Host Limit

Maximum number of host

Run Direct VM Limit

➤ **Run Direct VM Limit**

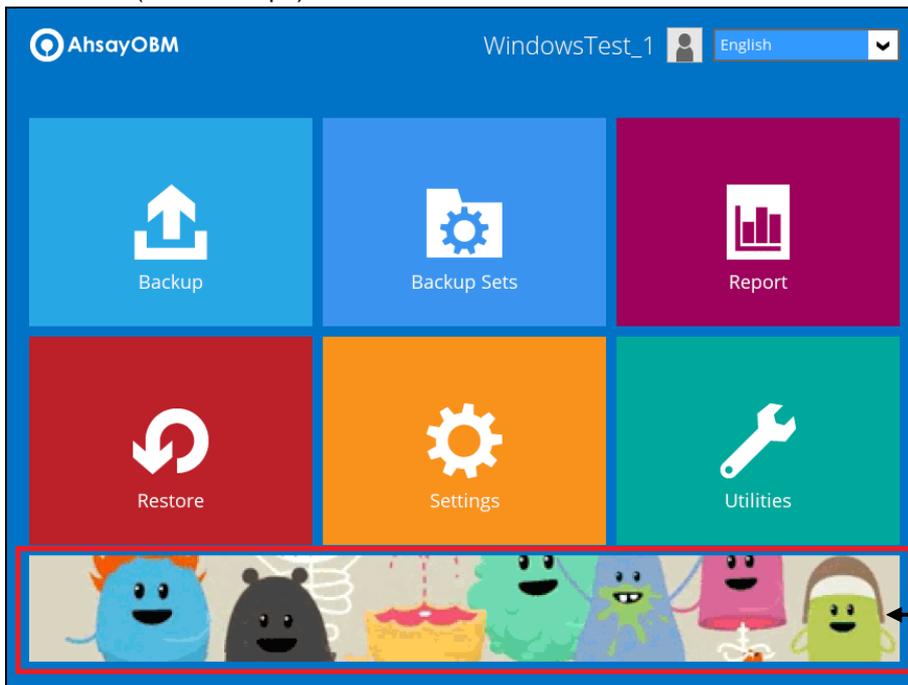
The administrator can set the maximum number of VM for Run Direct restore.

Turn on the  switch on the right and then enter the **Run Direct VM Limit** as shown below.

Encryption Key
Client Host Limit
Run Direct VM Limit Maximum number of VM <input type="text" value="1"/>

➤ **Advertisement**

The administrator can customize the advertising banner on the AhsayOBM/AhsayACB interface. AhsayCBS supports both GIF and SWF formats at the size of (830 x 102 px). It can be found in this area:



1. Turn on the  switch on the right to turn on this feature.

Advertisement 								
<input type="checkbox"/>	Name	Display Time (in seconds)	Type	URL	Language	Platform	Last Uploaded Time	Size
<input type="checkbox"/>	Default advertisement (gif)	20	gif	--	All	All	01/14/2019 11:15:14	35k
<input type="checkbox"/>	Default advertisement (swf)	20	swf	--	All	All	01/14/2019 11:15:14	27k

2. Press  to add the advertisement.

3. Enter details in the following fields below.

Advertisement

Name

Display Time (in seconds)

Type

URL
 ://

Language

Platform

Image (830 x 102 px)
 No file chosen

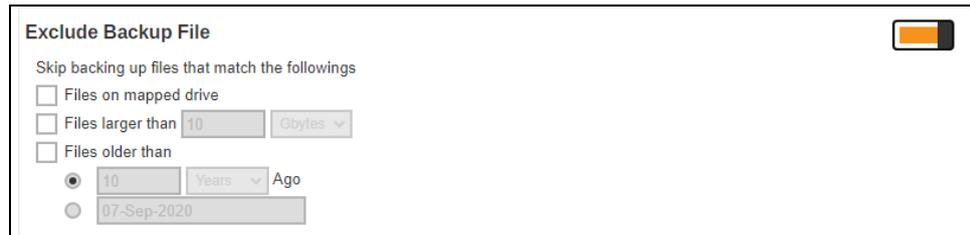
- **Name** – name of the advertisement banner.
 - **Display Time (in seconds)** – period of time for the advertisement to be shown before it rotates to the next one.
 - **Type** – format of the banner, whether it is in **gif** or **swf** format.
 - **URL** - the click through URL of the gif type banner. For flash banner, the click through URL should be coded inside the flash banner.
 - **Language** – select in which language setting in AhsayOBM/AhsayACB will the banner be shown. If **All** is selected, the banner shows no matter what language is selected in the AhsayOBM/AhsayACB.
 - **Platform** – select on which platform (Windows, Mac & Linux) AhsayOBM/AhsayACB is used for the banner to show. If **All** is selected, the banner shows no matter what platform the AhsayOBM/AhsayACB is running on.
 - **Image (830 x 102 px)** – click **Choose File** to upload the banner.
4. Click  when you are done with the settings.
5. Click  to confirm the setting.

Backup Set Settings

This section allows administrator to set up backup exclusion, backup destination visible to users, backup set type visible to users, cloud file backup source visible to users and Office 365 backup customization. It has 5 sub-sections.

➤ Exclude Backup File

This menu allows you to set filter to exclude files from performing backup job. This feature is disabled by default.



- **Files on mapped drive** – files from mapped drive will be excluded from backup (applicable only to UNC path on Windows platform). Typical UNC path is in the format of [\\drive or IP address\folder name](#) (e.g. [\\10.1.0.10\My Documents](#)).
- **Files larger than** – files larger than the defined size will be excluded from backup
- **File older than** – files created the set period of time ago or before a specific set date will be excluded from backup

➤ Destinations Visible to Users

There are two kinds of destinations backup users can choose from when creating a backup set, they are the Predefined Destination and Standard Destination. Only the destinations selected in this menu will be available for backup users to choose from when they are creating a backup set. This feature is enabled by default.

Below is a brief explanation on the differences between the Predefined Destination and Standard Destination.

Predefined Destination vs Standard Destination

- **Predefined Destination** - The predefined destination can be a single storage destination on the local drive where AhsayCBS is installed, mapped drive, cloud storage or FTP server, or a destination pool with a mix of storage options mentioned above. Before you can select a predefined destination in this menu, it must first be configured under the **System Settings > Backup > Predefined Destinations**. Refer to [Predefined Destinations Tab](#) and [Backup User Settings Tab](#) for details on configuration.
- **Standard Destination** - Except for the AhsayCBS storage option, all other storage options under the Standard Destination belong to the backup users, whether it could be a single storage destination on the mapped drive, cloud storage or FTP server, or a destination pool with a mix of storage options mentioned above.

To configure the Predefined Destination

1. Turn on the  switch on the right under the **Destinations Visible to Users** section.
2. Click on  under the **Predefined Destination** section.



<input type="checkbox"/>	Name	Run Direct
--------------------------	------	------------

3. Select the desired destination option, which has been defined in the **System Settings > Backup > Predefined Destinations** menu, by checking the box on the desired destination item.

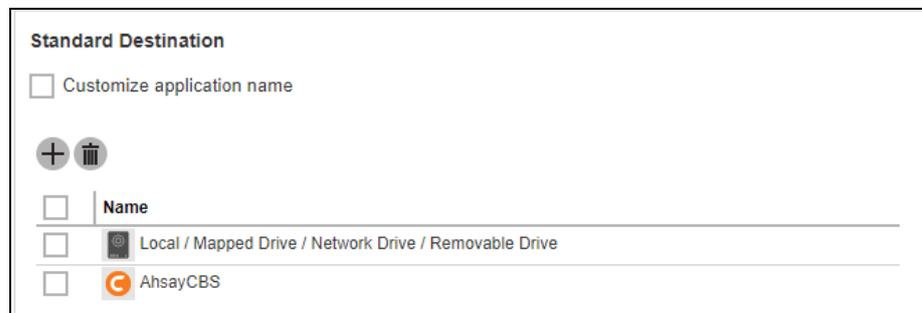


<input type="checkbox"/>	Name
<input type="checkbox"/>	 GoogleDrive-1

4. Click  to confirm adding the predefined destination.
5. If you have multiple predefined destinations to add, repeat steps 3 -4 until all desired destinations have been selected.
6. Click  to confirm.

To configure the Standard Destination

1. Turn on the  switch on the right under the **Destinations Visible to Users** section.
2. Click on  under the **Standard Destination** section.

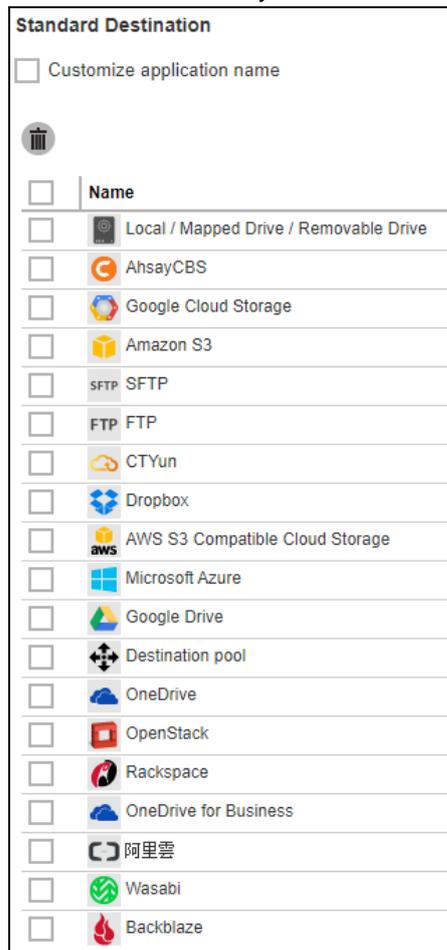


<input type="checkbox"/>	Name
<input type="checkbox"/>	 Local / Mapped Drive / Network Drive / Removable Drive
<input type="checkbox"/>	 AhsayCBS

3. Select the desired storage option from the drop-down menu as shown below.



4. Click  to add the selected standard destination storage.
5. If you have multiple destination storages to add, repeat steps 3 – 4 until all desired storages have been selected.
6. Click  to confirm.
7. You will see the newly added destination shown on the list as shown.



NOTE

Please note that by default AhsayCBS and Local / Mapped Drive / Network Drive / Removable Drive are the destinations already visible to users. The rest of the destinations must be added individually by the administrator.

➤ Backup Set Types Visible to Users

The AhsayCBS supports a wide range of backup set types for backup and restore. This menu allows the administrator to select the backup set types to be displayed for backup users to choose from when they are creating a backup set on AhsayCBS, AhsayOBM or AhsayACB. This feature is disabled by default.

1. Turn on the  switch on the right under the **Backup Set Types Visible to Users** section.
2. Click on .



3. Select the **Backup Set Type** you wish to add from the drop-down menu as shown below.



4. Click  to add the selected backup set type.
5. If you have multiple backup set types to add, repeat steps 3 - 4 until all options have been selected.

6. Click  to confirm.

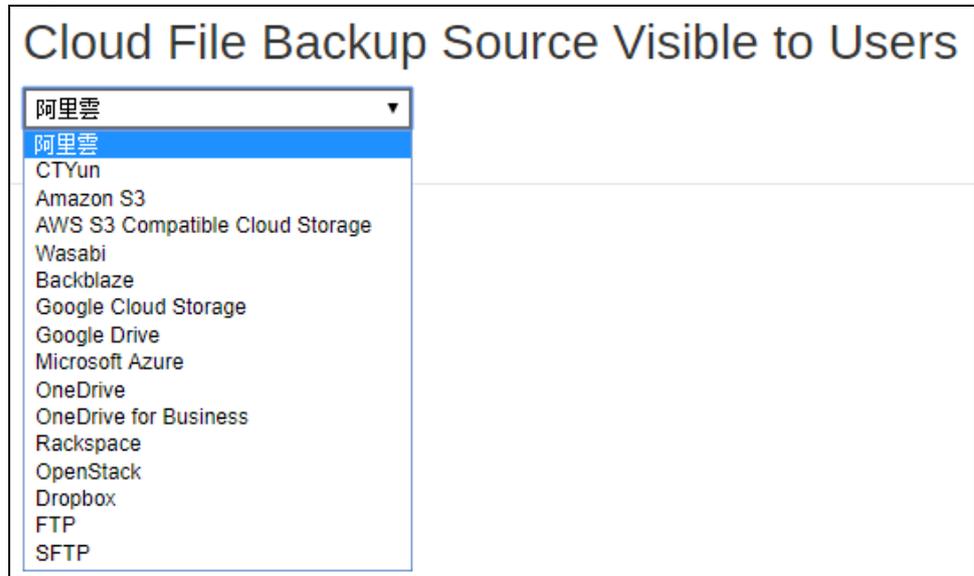
➤ **Cloud File Backup Source Visible to Users**

This menu allows the administrator to select specific cloud file backup source(s) to be visible to backup users when they are creating a Cloud File Backup Set. By default, this feature is on with all cloud file backup sources pre-selected.

1. Turn on the  switch on the right under the **Cloud File Backup Source Visible to Users** section.
2. Click on .



3. Select the **Cloud File Backup Source Visible to Users** you wish to add from the dropdown menu as shown below.



4. Click  to add the selected cloud file backup source.
5. If you have multiple cloud file backup source to add, repeat step 3 - 4 until all options have been added.
6. Click  to save.

➤ **Office 365 Backup Customization**

This setting allows the administrator to customize the Authorization code and Admin consent endpoint screen for Office 365 Global region. By default this feature is turned off, in which case the default Ahsay branded Office 365 Authorization code and Admin consent endpoint screens will be displayed.

For example: Ahsay branded Office 365 Authorization code screen



For example: Ahsay Admin consent endpoint screen



NOTE

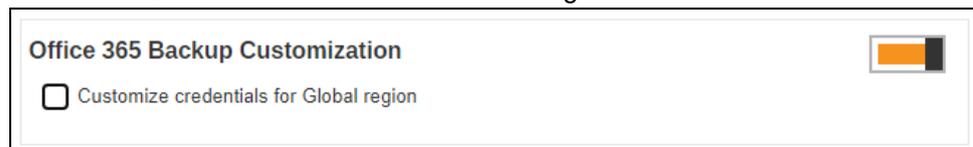
To support the customization of Azure AD App for Modern App Authentication, an Azure AD subscription is required, e.g. for Office 365 Apps, Premium P1 and Premium P2 licenses of Azure AD subscriptions.

As the free version of Azure AD does not support granting Admin consent for the Exchange/SharePoint related APIs via New App Registration.

Please refer to Microsoft for details of Azure AD subscription plans

<https://azure.microsoft.com/en-us/pricing/details/active-directory/>

1. Turn on the switch on the right under the **Office 365 Backup Customization** section.
2. Select the "Customize credentials for Global region" checkbox.



3. Enter the following information:

Office 365 Backup Customization

Customize credentials for Global region

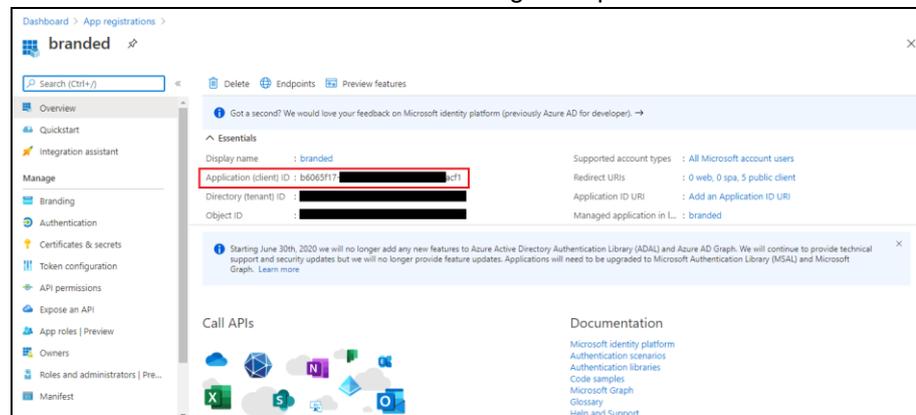
Application (client) ID

Authorization code redirect URI

Admin consent endpoint redirect URI

⦿ **Application (client) ID** – application ID used for authentication

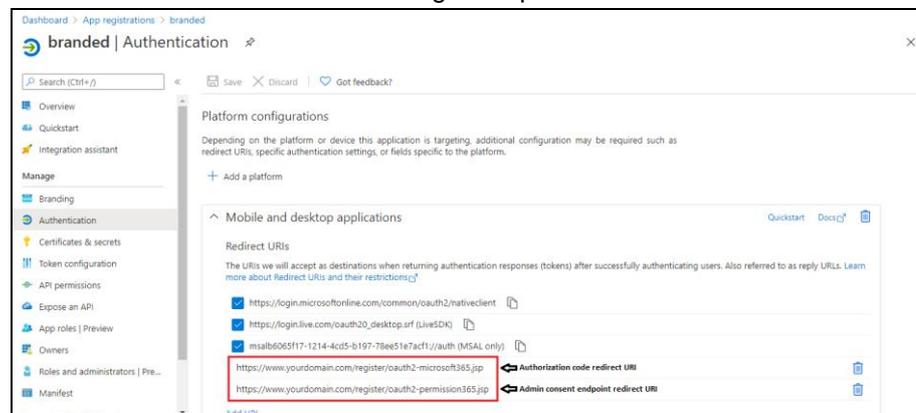
The **Application (client) ID** can be found on the following location on the MS Azure Dashboard as shown in the following example:



⦿ **Authorization code redirect URI** – the branded reply URL where authorization server sends the user once granted an authorization code

⦿ **Admin consent endpoint redirect URI** – the branded URL that sends the user to the Microsoft identity platform admin consent endpoint

Both the **Authorization code redirect URI** and **Admin consent endpoint redirect URI** can be found on the following location on the MS Azure Dashboard as shown in the following example:



NOTE

- Examples of the **oauth2-microsoft365.jsp** and **oauth2-permission365.jsp** files can be downloaded from here:
<https://download.ahsay.com/support/document/v8/app-reg-microsoft365.zip>
- For instructions on how to set up the redirect URI that you will use please refer to [Appendix Q How to create a new app in the Azure Active Directory](#).

4. Click  to save.

GUI Settings

In this menu, administrator can configure the GUI elements to be shown on the client backup agent (AhsayOBM or AhsayACB) interface for backup users. The **View** checkbox allows administrator to decide whether to display the GUI item, and for some items, the **Edit** checkbox is available to enable backup users to change or access the GUI item(s).

Policy	The GUI element on AhsayOBM/AhsayACB
Client Type	The Client Backup Type (AhsayOBM  or AhsayACB )
Apply	Check this box if you wish to configure the “ View ” and “ Edit ” option for the GUI item. If this box is not checked, the GUI item will be shown on AhsayOBM/AhsayACB by default.
View	Enable or disable backup user to view the item
Edit	Enable or disable backup user to edit the item

GUI Settings				
Policy	Client Type	Apply <input type="checkbox"/>	View <input type="checkbox"/>	Edit <input type="checkbox"/>
Main Menu				
Backup	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Restore	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Backup Sets	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Settings	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Report	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Utilities	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Profile	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Language	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Information	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Advertisement	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Links to Social Media (ONLY applicable to v7.3 - v7.5 client agent)	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Links to Social Media - Facebook	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="http://ahsay.com/social/facebook.html"/>
Links to Social Media - Twitter	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="http://ahsay.com/social/twitter.html"/>
Links to Social Media - Google+	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="http://ahsay.com/social/google+.html"/>
Links to Social Media - LinkedIn	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="http://ahsay.com/social/linkedin.html"/>
Links to Social Media - YouTube	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="http://ahsay.com/social/youtube.html"/>
Effective Policy	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Help	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

In AhsayCBS v8.5.0.0 or above, Two-Factor Authentication (2FA) using Mobile Authentication and Mobile Backup is introduced. There are two additional tabs that can be found in the Profile page which are the Authentication Tab and Mobile Backup Tab. However GUI Settings for these tabs are not yet supported.

For 2FA, users who are using Twilio and have upgraded to AhsayCBS v8.5.0.0 or above, the tabs that can be configured in the GUI Settings are the Password and Security Settings tabs. These tabs will only be displayed if the Security Settings for the backup user is enabled in **Backup / Restore > Users, Groups & Policies > Backup User > %backup_user_name% > User Profile > Authentication > Security Settings**. Otherwise, the Authentication tab will be displayed instead of the Password and Security Settings tabs.

While users who are using Mobile Authentication for their 2FA will have the Authentication tab which contains the Password, Two-Factor Authentication and Last Successful Login sections.

➤ **Password**

There are two setting items under this setting category to enable or disable the Password Tab and Password Settings.

Policy	Client Type	Apply <input type="checkbox"/>	View <input type="checkbox"/>	Edit <input type="checkbox"/>
Password Tab	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Password Settings	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

▶ **Password Tab**

This option allows the backup user to view the Password tab when using Twilio for 2FA. If Mobile Authentication is used for 2FA, then this will allow backup users to view the Password settings in the Authentication tab.

Password Tab	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------	---	-------------------------------------	-------------------------------------	--------------------------

When the **View** checkbox is checked for this option, the Password tab will be displayed in the Profile page; otherwise, the Password tab will not be visible in the Profile page.

▶ **Password Settings**

This option allows the backup user to view the Password settings in the Password tab when using Twilio for 2FA. If Mobile Authentication is used for 2FA, then this will allow backup users to view the Password settings in the Authentication tab.

Password Settings	 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------	---	-------------------------------------	--------------------------	--------------------------

When only the **Apply** checkbox is checked for this option, the Password section will not be visible in the Password page.

Password Settings	 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
-------------------	---	-------------------------------------	-------------------------------------	--------------------------

To restrict the backup user from changing and saving the password, check the **View** box and leave the **Edit** box unchecked.



By checking both the **View** and **Edit** checkboxes, backup users can change and save their password.

We have added additional items under the GUI settings to give you greater flexibility for customizing the GUI elements on the client backup agent (AhsayOBM & AhsayACB). Refer to the information below for further details.

➤ **New Backup Set Wizard**

There are six setting items under this new setting category to enable or disable the Destination and Encryption Key, OpenDirect and Granular Restore settings when creating a new backup set using the client backup agent.

Policy	Client Type	Apply <input type="checkbox"/>	View <input type="checkbox"/>	Edit <input type="checkbox"/>
New Backup Set Wizard - Destination		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
New Backup Set Wizard - Encryption		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
New Backup Set Wizard - Encryption - Enable / Disable		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
New Backup Set Wizard - Encryption - Options		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
New Backup Set Wizard - OpenDirect		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
New Backup Set Wizard - Granular Restore		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

🔵 **New Backup Set Wizard – Destination**

You can set to restrict backup users from using the default destination where they can only view the default destination but cannot change it **OR** to allow them to choose the desired backup destination on their own.



To restrict the backup destination WITHOUT letting backup user to change it, check the **View** box and leave the **Edit** box unchecked. With this configuration, backup users can only view the backup destination that is predefined under the **Users, Group & Policies > Policy Group > Default Values > Destination** page, but cannot alter the backup destination when creating a new backup set using the client backup agent.

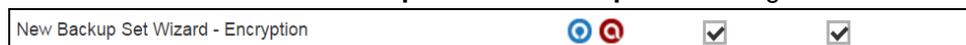
Note: If there is no destination defined in the **Default Values** menu as mentioned above, you will not be allowed to configure this setting.



By checking both the **View** and **Edit** checkboxes, backup users can choose their desired backup destination from the choices defined under the **Users, Group & Policies > Policy Group > Backup Set Settings > Standard Destination**.

🔵 **New Backup Set Wizard – Encryption**

This setting is used in conjunction with the **New Backup Set Wizard – Enable/Disable** and **New Backup Set Wizard – Options** settings.



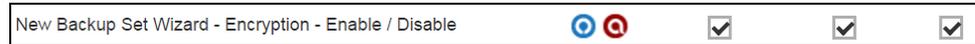
When the **View** checkbox is checked for this option, the encryption key setting page will be shown when creating a new backup set with a client backup agent, otherwise, the relevant page will be skipped.

▶ **New Backup Set Wizard – Encryption – Enable / Disable**

In order for this setting to work, the View option for **New Backup Set Wizard – Encryption** setting must be turned on.



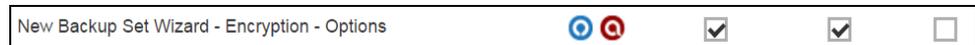
When you set the View option on and the Edit option off for this setting, the Encryption Key feature will be turned on by default.



When you set both the **View** and **Edit** options on, backup users will be able to enable or disable this feature on their own.

▶ **New Backup Set Wizard – Encryption – Options**

This setting allows backup users to choose the Encryption Type among **Default**, **User Password** or **Custom**.



When you set the View option on and the Edit option off for this setting, the encryption type will not be configurable and will use the default value defined in **Users, Group & Policies > Policy Group > Default Values > Others > Encryption**.



When you set both the **View** and **Edit** options on, backup users will be able to choose their desired encryption type.

▶ **New Backup Set Wizard – OpenDirect**

You can set to restrict backup users from enabling the OpenDirect feature **OR** to allow them to enable this feature.



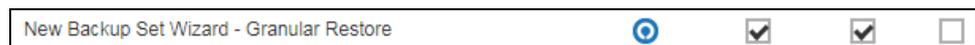
To restrict the OpenDirect feature **WITHOUT** letting backup user to enable it, check the **View** box and leave the **Edit** box unchecked. With this configuration, backup users can only view OpenDirect but cannot enable it when creating a new backup set using the client backup agent.



When you set both the **View** and **Edit** options on, backup users will be able to enable OpenDirect.

▶ **New Backup Set Wizard – Granular Restore**

You can set to restrict backup users from enabling the Granular Restore feature **OR** to allow them to enable this feature.



To restrict the Granular Restore feature **WITHOUT** letting backup user to enable it, check the **View** box and leave the **Edit** box unchecked. With this configuration, backup users can only view Granular Restore but cannot enable it when creating a new backup set using the client backup agent.

New Backup Set Wizard - Granular Restore		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
--	--	-------------------------------------	-------------------------------------	-------------------------------------

When you set both the **View** and **Edit** options on, backup users will be able to enable Granular Restore.

➤ **Help Page**

This option allows you to configure whether to show the Help button on the UI of the client backup agent. The Help button takes you to a set of online help instructions that correspond to the relevant page in the client backup agent.

Help			<input checked="" type="checkbox"/>	<input type="checkbox"/>
------	--	--	-------------------------------------	--------------------------

➤ **Add Contact**

This option allows backup users to add Contact information, such as name, email, address, etc. under the **Profile > Contacts** page in the client backup agent.

Add Contact			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------	--	--	-------------------------------------	-------------------------------------

By checking the View checkbox for this option, backup users can configure contact information on their own.

➤ **Remove Contact**

This option allows backup users to remove contact information under the **Profile > Contacts** page in the client backup agent.

Remove Contact			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
----------------	--	--	-------------------------------------	-------------------------------------

By checking the View checkbox for this option, backup users can remove contact information on their own in the client backup agent.

➤ **Add Backup Set**

Add Backup Set			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
----------------	--	--	-------------------------------------	-------------------------------------

By enabling the View checkbox of this option, backup users are able to add backup set using the client backup agent.

➤ **Remove Backup Set**

Remove Backup Set			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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By enabling the View checkbox of this option, backup users are able to remove backup set using the client backup agent.

➤ **General Settings - MariaDB**

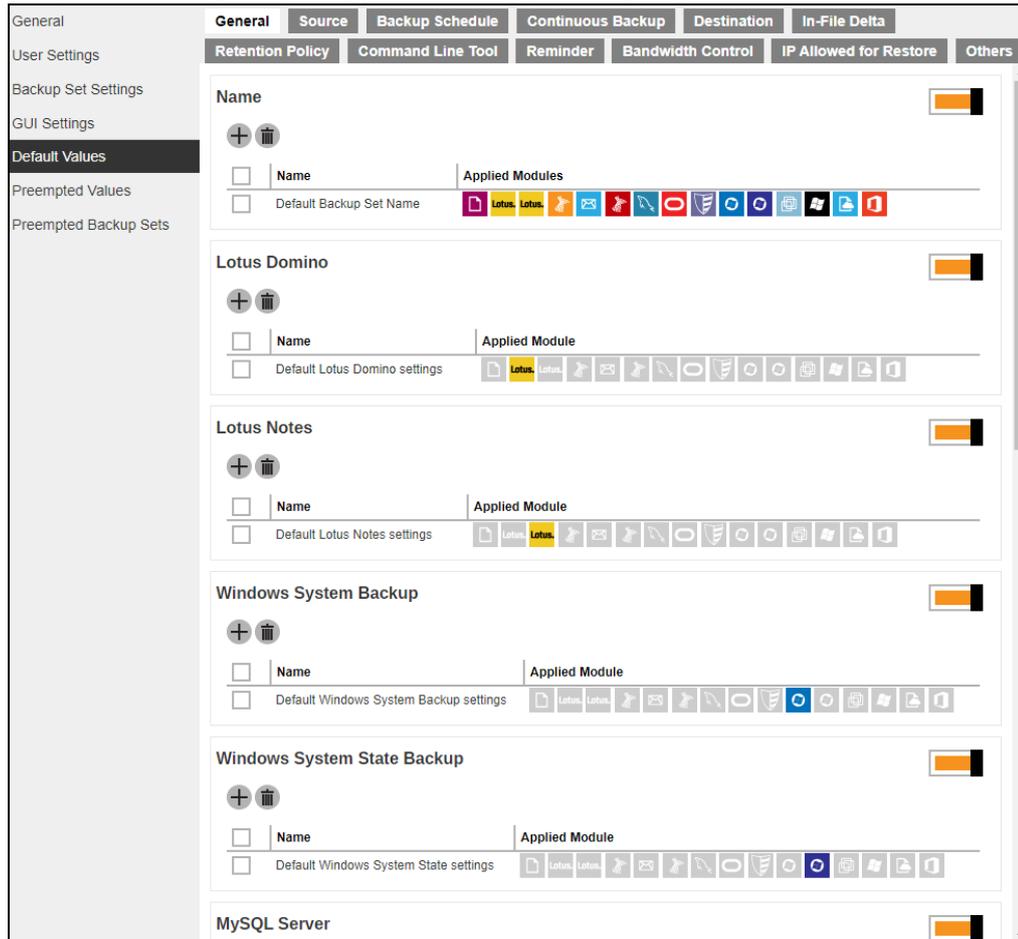
General Settings - MariaDB		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
----------------------------	--	-------------------------------------	-------------------------------------	-------------------------------------

By enabling the View checkbox of this option, backup users are able to view MariaDB.

Default Values

This section allows administrator to define the default values for numerous setting items. The default values set under this setting menu will be applied to the backup sets directly. However, users can still override the default values during new backup set creation. As opposed to Preempted Values, which will be introduced later in this chapter, is a set of predefined values by the system administrator where backup users have no right to override the settings.

All setting items under the Default Values tab are enabled by default. The default values of the general setting items may be modified by clicking on the item.



➤ General

This section defines the default values of some general configuration items. The following table explains each setting item under the **General** tab, with a brief description of what the setting is about and all the configurable items.

Name	
What is this setting about?	Defines the default backup set name when backup users create a backup set. Multiple settings can be created in this menu if you wish to define different default backup set names for different backup modules.

What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Backup Set Name – default backup set name to be displayed when a backup set is created for the selected module(s).
----------------------------------	--

Lotus Domino	
What is this setting about?	<p>Defines the path to notes.ini. Please exercise extra caution when changing this setting because an accidental or incorrect change of this path may cause unpredictable impact on running the Lotus Domino. Refer to the URL below for further information on this setting.</p> <p>http://www.ibm.com/support/knowledgecenter/SSKTMJ_9.0.1/admin/conf_editingthenotesinifile_c.html</p>
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of this setting item ➤ Path to notes.ini – path name of the Path to notes.ini

Lotus Notes	
What is this setting about?	<p>Defines the path to notes.ini . Please exercise extra caution when changing this setting because an accidental or incorrect change of this path may cause unpredictable impact on running the Lotus Notes. Refer to the URL below for further information on this setting.</p> <p>http://www.ibm.com/support/knowledgecenter/SSKTMJ_9.0.1/admin/conf_editingthenotesinifile_c.html</p>
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of this setting item ➤ Path to notes.ini – path name of the Path to notes.ini

Windows System Backup	
What is this setting about?	<p>Defines the default location where you wish to store the system backup for MS Windows System Backup module</p>
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of this setting item ➤ Specify the location where you want to store the system backup location path where you wish the system backup be stored

Windows System State Backup	
What is this setting about?	<p>Defines the default location where you wish to store the system backup for MS Windows System State Backup module.</p>

What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of this setting item ➤ Specify the location where you want to store the system backup location path where you wish the system state backup be stored
---	---

MySQL Server	
What is this setting about?	Defines the default Login ID, Host name, Port and Path to mysqldump for MySQL server backup module
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of this setting item ➤ Login ID – login ID for accessing the MySQL server ➤ Host – host name of the MySQL server ➤ Port – port number ➤ Path to mysqldump – path name to the mysqldump utility

MariaDBServer	
What is this setting about?	Defines the default Login ID, Host name, Port and Path to mysqldump for MariaDB server backup module
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of this setting item ➤ Login ID – login ID for accessing the MariaDB server ➤ Host – host name of the MariaDB server ➤ Port – port number ➤ Path to mysqldump – path name to the mysqldump utility

Oracle Database Server	
What is this setting about?	Defines the default Login ID, Host name, Port and SID for Oracle Database Server module
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of this setting item ➤ Login ID – login ID for accessing the Oracle Database server ➤ Host – host name of the Oracle server ➤ Port – port number ➤ SID – the unique identifier to the database instance

VMware Host	
What is this setting about?	Defines the default VMware version, host name, port number and SSH port for VMware backup module

What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of this setting item ➤ Version – VMware version ➤ Host – host name of the VMware host ➤ Port – port number ➤ SSH Port – SSH port number
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Shadow Protect	
What is this setting about?	Defines the default path to install the Shadow Protect and whether to encrypt the image file in temporary directory.
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of this setting item ➤ Path to StorageCraft ShadowProtect – the path where you installed the ShadowProtect ➤ Encrypt the image file in temporary directory – to enable or disable encryption for image file in the temporary directory where the ShadowProtect image is stored.

Windows User Authentication	
What is this setting about?	Defines the default domain name/host name and user name for backup users to enter the Windows User Authentication details. Multiple settings can be created in this menu if you wish to define different default domain name/host name and user name for different modules.
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of this setting item ➤ Applied Modules – modules you wish to apply this default setting to ➤ Domain Name (e.g. ahsay.com) / Host Name – domain name or host name of the Windows login ➤ User name – user name to log in to the backup user's Windows for backup

➤ **Source**

This section defines the default backup source values. The following table explains each setting item under the **Source** tab, with a brief description of what the setting is about and all the configurable items.

Shortcut	
What is this setting about?	Defines the default common files and folders to be selected when user is creating a backup set for File Backup.
What are the configurable	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Module – modules you wish to apply this default setting

items?	<p>to</p> <ul style="list-style-type: none"> ➤ Common Files and Folders – a list of common files or folders to choose from as default backup source when creating a file backup set.
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Filter	
What is this setting about?	<p>Defines the default filters which used to include/exclude files in the backup source from performing backup. This filter applies only to File Backup on Windows platform. Creating multiple filter settings is possible.</p>
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the filter setting ➤ Matching pattern - defines the pattern of the file selection, e.g., *.doc, *.png. ➤ For each of the matched files/folders under top directory – define to include or exclude all the files/folder matching the filtering criteria under the top directory ➤ Exclusion / Inclusion – to include (if you have chosen to exclude the matched files) or exclude (if you have chosen to include the matched files) those unmatched files/folder in the backup ➤ Match file/folder names by – you can set the following filtering rules: <ul style="list-style-type: none"> [Simple comparison starts with] Include/Exclude all files/directories with name starting with a certain pattern. Example: <i>You can use B* to match all file with name starting with a B character.</i> [Simple comparison ends with] Include / Exclude all files / directories with name ending with a certain pattern. Example: <i>You can use *.doc to match all files with name ending with .doc (all Word Documents)</i> [Simple comparison contain] Include/Exclude all files/directories with name containing a certain pattern. Example: <i>You can use *B* to match all files with name containing with a B character.</i> [Regular Expression (UNIX-style)] Include/Exclude all files/directories with name matching a

	<p>regular expression.</p> <p>Notes:</p> <ul style="list-style-type: none"> ➤ The pattern of a backup filter is case sensitive. ➤ If multiple patterns are required, please add the pattern one by one e.g.: *.doc and then *.xls ➤ How to Apply This Filter – you can choose to apply this filter on “All hard disk drivers” or a selected folder of your choice. ➤ Apply to - apply the filter to the File and/or Folder level
<p>Use Cases</p>	<p><u>Example 1</u></p> <p>If you want to backup only Word, Excel and PowerPoint documents in your document directory (e.g. C:\My Documents), you should setup your backup filter as follows.</p> <p>Matching pattern = *.doc, *.xls, *.ppt For each of the matched files/folders under top directory = Include them Exclusion = Check Match file/folder names by = Simple comparison end with How to Apply This Filter = This folder only C:\My Documents Apply to = File</p> <p><u>Example 2</u></p> <p>If you want to backup all files, excluding all *.exe, *.dll and *.tmp, in C:\Application, you should setup your backup filter as follows.</p> <p>Matching pattern = *.exe, *.dll, *.tmp For each of the matched files/folders under top directory = Exclude them Inclusion = Check Match file/folder names by = Simple comparison end with How to Apply This Filter = This folder only C:\Applicaitons Apply to = File</p> <p><u>Example 3</u></p> <p>If you have already chosen files (all under C:\) from the backup source setting but you want to exclude all images (e.g. *.jpg and *.gif) from your selection, you should setup your backup filter as follows.</p> <p>Matching pattern = *.jpg, *.gif For each of the matched files/folders under top directory = Exclude them Inclusion = uncheck Match file/folder names by = Simple comparison end with How to Apply This Filter = This folder only C:\ Apply to = File</p> <p><i>Please note that the Inclusion setting should not be checked because you have already chosen the desired files to back up and do not want</i></p>

	<p>to include all other files (NOT *.jpg, *.gif) under C:\ into the backup set.</p> <p>Example 4 If you want to include everything, except the "log" directory, under C:\Applications into a backup set, you should setup your backup filter as follows.</p> <p>Matching pattern = ^log\$ For each of the matched files/folders under top directory = Exclude them Inclusion = check Match file/folder names by = Regular Expression (UNIX-style) How to Apply This Filter = C:\Applications Apply to = Folder</p> <p>Example 5 If you want to include all directories named "log" from the backup set files with file name starting with "B" and ending with "*.doc" under C:\My Documents into the backup set, you can use a regular expression of "^B.*\.\doc\$" to do your selection. The filter backup can then be setup as follows.</p> <p>Matching pattern = ^B.*\.\doc\$ For each of the matched files/folders under top directory = Include them Exclusion = check Match file/folder names by = Regular Expression (UNIX-style) How to Apply This Filter = C:\My Documents Apply to = File</p>
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Advanced	
What is this setting about?	Defines the default advanced settings, including the platform of the user's machine, the backup module, selected or deselected source for backup.
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Platform – select the platform to apply this advanced filter ➤ Applied Modules – modules you wish to apply this default setting to ➤ Other Selected Source – define the path of the source, e.g. Windows: C:\My folder; Linux: /home/my folder, to include in the backup set ➤ Deselected Source - define the path of the source, e.g. Windows: C:\My folder; Linux: /home/my folder, to exclude in the backup set

➤ **Backup Schedule**

Setting up the backup schedule allows backup sets to run automatically at the specified time. This section allows administrator to define the default backup schedule. The following table explains each setting item under the **Backup Schedule** tab, with a brief description of what the setting is about and all the configurable items.

Schedule	
What is this setting about?	Defines the default backup schedule when backup users create a backup set. Multiple settings can be created in this menu if you wish to define different default backup schedule for different backup modules. Within a backup schedule setting, multiple schedules can be added.
What are the configurable items?	<p><u>Backup Schedule</u></p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Run scheduled backup for this backup set – to enable or disable the scheduled backup settings you set in this menu <p><u>Manage Schedule</u></p> <ul style="list-style-type: none"> ➤ Name – name of the scheduler ➤ Type – frequency of running the scheduled backup <ul style="list-style-type: none"> Daily – to run the scheduled backup everyday Weekly – to run the scheduled backup on the selected days of a week Monthly – to run the scheduled backup on a specific day in a month, or on a specific day in a specific week. Custom – to run the scheduled backup on a specific day of your selection ➤ Start backup – specify a specific time to run the scheduled backup based on the frequency set in the Type menu above. <ul style="list-style-type: none"> at – this option will start a backup job at a specific time. every – this option will start a backup job in intervals of minutes or hours. ➤ Stop – set the scheduled backup to stop either <ul style="list-style-type: none"> until full backup completed – this option will stop the backup job when it is completed regardless of how much time it takes after – this option will stop the backup job at the set time (1-24 hrs) regardless if the backup is done or not. <p>This only applies to schedules with start backup “at” and is not supported for periodic backup schedule (start backup “every”).</p> ➤ Run Retention Policy after backup – enable this feature if you wish the modified or deleted data after backup remains in the

	backup server for the set number of retention day
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➤ **Continuous Backup**

When the Continuous Backup feature is enabled, a backup job will be triggered whenever a change is made in the backup source. This section allows administrator to define the default continuous backup settings. The following table explains each setting item under the **Continuous Backup** tab, with a brief description of the available settings and all the configurable items. **Continuous Backup is only available on Windows platform.**

IMPORTANT

When setting up the Continuous Backup feature for a backup set, you must run a manual or scheduled backup job first so that the initial files are uploaded your designated backup destination.

Continuous Backup	
What is this setting about?	Defines whether to enable this feature, whether to exclude system files, frequency of running backup when changes are detected, configure the maximum file size allowed for backup and configure filters to exclude files from backup.
What are the configurable items?	<p><u>Continuous Backup</u></p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Backup whenever a change is made – enable or disable the continuous backup feature. ➤ Exclude system files – enable this feature if you do not want to back up system files. Refer to Appendix I for a full list of system files excluded from the backup set. ➤ How often should the backup run – set the frequency of running backup when changes are detected. ➤ Only apply to files smaller than – file size that is larger than the set value will not be backed up. ➤ Run CDP on computers named – define the name of the computer on which continuous backup will be run. <p><u>Exclude Filter</u></p> <ul style="list-style-type: none"> ➤ Name - name of the filter setting item ➤ Match file/folder names by – you can set the following filtering rules: <ul style="list-style-type: none"> [Simple comparison starts with] Include/Exclude all files/directories with name starting with a certain pattern.

	<p>Example: You can use <i>B*</i> to match all file with name starting with a <i>B</i> character.</p> <p>[Simple comparison ends with] Include / Exclude all files / directories with name ending with a certain pattern.</p> <p>Example: You can use <i>*.doc</i> to match all files with name ending with <i>.doc</i> (all Word Documents)</p> <p>[Simple comparison contain] Include/Exclude all files/directories with name containing a certain pattern.</p> <p>Example: You can use <i>*B*</i> to match all files with name containing with a <i>B</i> character.</p> <p>[Regular Expression (UNIX-style)] Include/Exclude all files/directories with name matching a regular expression.</p> <p>Notes:</p> <ul style="list-style-type: none"> - The pattern of a backup filter is case sensitive. - If multiple patterns are required, please add the pattern one by one e.g.: <i>*.doc</i> and then <i>*.xls</i> <ul style="list-style-type: none"> ➤ Matching pattern - defines the pattern of the file selection, e.g., <i>*.doc</i>, <i>*.png</i>. ➤ Apply This Filter to all files/folders in – you can choose to apply this filter on “All selected sources” or a selected folder of your choice ➤ Apply to - apply the filter to the File and/or Folder level
<p>Use Cases</p>	<p>Example 1</p> <p>If you want to back up all files, except all Word, Excel and PowerPoint documents, in your document directory (e.g. C:\My Documents), you should setup your backup filter as follows.</p> <p>Match file/folder names by = Simple comparison end with Matching pattern = <i>*.doc, *.xls, *.ppt</i> Apply this filter to all files/folders in = This folder only C:\My Documents Apply to = File</p> <p>Example 2</p> <p>If you want to include everything, except the “log” directory, under C:\Applications into a backup set, you should setup your backup filter as follows.</p> <p>Match file/folder names by = Regular Expression (UNIX-style) Matching pattern = <i>^log\$</i></p>

	<p>Apply this filter to all files/folders in = C:\Applications Apply to = Folder</p> <p>Example 3 If you want to exclude all directories named "log" from the backup set files with file name starting with "B" and ending with "*.doc" under C:\My Documents into the backup set, you can use a regular expression of "^B.*\.\doc\$" to do your selection. The filter backup can then be setup as follows.</p> <p>Match file/folder names by = Regular Expression (UNIX-style) Matching pattern = ^B.*\.\doc\$ Apply this filter to all files/folders in = C:\My Documents Apply to = File</p>
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➤ **Destination**

This section allows administrator to define the default backup destination for backup set. The following table explains each setting item under the **Destination** tab, with a brief description of what the setting is about and all the configurable items.

Destination	
What is this setting about?	Defines the default backup destination when backup users create a backup set. Multiple settings can be created in this menu if you wish to define different default destinations for different backup modules.
What are the configurable items?	<p><u>Destination</u></p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Backup Mode – select the files transfer method during backup <ul style="list-style-type: none"> Sequential – backup files are sent to the backup destination one by one, one after another. Concurrent – multiple files are sent to the backup destination at the same time ➤ Maximum concurrent backup destinations (only if you have selected Concurrent as the Backup Mode) – select the maximum number of files allowed for uploading to the backup destination ➤ Predefined Destination – select the predefined destination you have configured in the Predefined Destinations Tab section.

➤ **In-File Delta**

In-file delta technology is an advanced data block matching algorithm with the intelligence to pick up changes (delta) of file content between two files.

Using this algorithm, daily backup of large files over low-speed internet connection is made possible because it requires only the changes of information since the last backup to be sent over (assuming that the full backup of the file has been saved on the backup server already).

This section allows administrator to define the default In-File Delta type for backup set. The following table explains each setting item under the **In-File Delta** tab, with a brief description of what the setting is about and all the configurable items.

In-File Delta	
What is this setting about?	Defines the default in-file delta setting for backup set. Multiple settings can be created in this menu if you wish to define different default in-file delta settings for different backup modules.
What kind of in-file delta type are there?	<p><u>Incremental In-file delta</u></p> <p>Incremental Delta will facilitate ease of backup. The delta is generated by comparing with the last uploaded full or delta file. Delta generated with this method is smaller and uses the least bandwidth. However, for restoration, the full file and all deltas up to the required point-in-time are required to be restored and merged.</p> <p><u>Differential In-file delta</u></p> <p>Differential Delta will facilitate ease of restore. The delta is generated by comparing with the last uploaded full file only. Delta generated with this method will grow daily and uses more bandwidth. However, for restoration, the full file and a single delta is required to be restored and merged.</p>
What are the configurable items?	<p><u>Destination</u></p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Default Type – type of backup method (Incremental or Differential) <p><u>Advanced settings</u></p> <ul style="list-style-type: none"> ➤ In-File Delta block size – defines the size of delta block used when detecting changes between last full or delta file and the file to be backed up. <ul style="list-style-type: none"> <u>In-file delta backup with small block size</u> <ul style="list-style-type: none"> -Produce a smaller delta file due to a more precise comparison -Require more processing power on the client machine -Comparison may take longer to complete

-Require more Java memory

In-file delta backup with large block size:

- Produce a larger delta file due to a less precise comparison
- Require less processing power on the client machine
- Comparison will complete faster
- Require less Java memory

For most cases, the default setting **Auto** will select the optimal block size for each file (depending on the size of the file).

File size	Block size
Smaller than 2GB	4KB
2GB – 8GB	8KB
Larger than 8GB	16KB

- **Only apply In-File Delta to files larger than** – defines the minimum file size to apply the in-file delta setting. If the size of a file to be backed up is smaller than the set value, the in-file delta setting will not apply and the whole file will be uploaded to the backup server.

It is not necessary to perform In-file delta backup on small files because backing up the whole file does not take long. Backing up the whole file instead reduces the time required to restore the file.

- **Upload full file when either of these conditions is met** – a backup of the full file will be performed if the following condition is met:
 - **Number of deltas is over** – when the number of delta file exceeds the set value
 - **Delta ratio (delta file size / full file size) is over** – this setting is to ensure that a full file backup is performed for file with significant changes, as it is preferable to upload a full file instead to reduce the time required to restore the file
- **Weekly variations for overriding default type** – override the default in-file delta setting in the **Default Type** field on selected day(s) of a week
- **Yearly variations for overriding default type and weekly variations** – override the default in-file delta setting in the **Default Type** field as well as the setting in the “**Weekly variations for overriding default type**” section on a selected day in a week based on either of the following selection
 - **Day of selected months in yearly variations** - select a specific day in a month. On this specified day in the month defined above will the in-file delta variation setting override the default value.

➤ **Retention Policy**

Retention policy defines the policies of persistent data management for meeting business data archival requirements. When a backup job is performed, for data that are modified or deleted on the client computer, their existing versions on the backup server (backup records) will be moved into retention area, while newly backed up files will be placed in the current data area.

Specifically, retention policy setting defines how long are the backup records kept in the retention area before they are deleted permanently from the backup server.

This section allows administrator to define the default Retention Policy for backup set. The following table explains each setting item under the **Retention Policy** tab, with a brief description of what the setting is about and all the configurable items.

Retention Policy								
What is this setting about?	Defines the default retention policy for backup sets when they are created. Multiple settings can be created in this menu if you wish to define different default retention policy for different backup modules.							
What are the configurable items?	<p>Destination</p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ How to retain the files in the backup set, which have been deleted in the backup source – choose between Simple and Advanced setting, which is explained in details below. <ul style="list-style-type: none"> - Simple – enter a specific number of day or backup job number. The retained data will be removed from the backup destination permanently after the set number of day or set number of job is met. - Advanced – manage advanced retention policies by applying advanced settings <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td rowspan="2" style="background-color: #d9ead3; text-align: center; vertical-align: middle;">Daily</td> <td style="background-color: #d9ead3; text-align: center;">The past number of days on which different versions of your files are retained</td> </tr> <tr> <td>Set the number of day(s) on which the old version of data will be stored</td> </tr> <tr> <td rowspan="3" style="background-color: #d9ead3; text-align: center; vertical-align: middle;">Weekly</td> <td style="background-color: #d9ead3; text-align: center;">The days within a week on which different versions of your files are retained</td> </tr> <tr> <td>Select the day(s) in a week (Monday – Sunday) on which the old version of data will be stored</td> </tr> <tr> <td style="background-color: #d9ead3; text-align: center;">The number of weeks to repeat the above selection</td> </tr> </tbody> </table>	Daily	The past number of days on which different versions of your files are retained	Set the number of day(s) on which the old version of data will be stored	Weekly	The days within a week on which different versions of your files are retained	Select the day(s) in a week (Monday – Sunday) on which the old version of data will be stored	The number of weeks to repeat the above selection
Daily	The past number of days on which different versions of your files are retained							
	Set the number of day(s) on which the old version of data will be stored							
Weekly	The days within a week on which different versions of your files are retained							
	Select the day(s) in a week (Monday – Sunday) on which the old version of data will be stored							
	The number of weeks to repeat the above selection							

			Enter the number of week(s) for the above setting to repeat
		Monthly	The days within a month on which different versions of your files are retained
			Select a day in a month on which the old version of data will be stored. You can either set: <ul style="list-style-type: none"> - An exact day (1-31) or - The (First/Second/Third/Fourth/Last) of (Monday -Sunday)
			The number of months to repeat the above selection
			Enter the number of month(s) for the above setting to repeat
		Quarterly	The day within a quarter on which different versions of your files are retained
			Select a day within a quarter on which the old version of data will be stored. You can either set: <ul style="list-style-type: none"> - An exact day (1-31) or - The (First/Second/Third/Fourth/Last) of (Monday -Sunday)
			Months of quarter
			Select the desired combination of months of quarter <ul style="list-style-type: none"> - (January, April, July, October) - (February, May, August, November) - (March, June, September, December)
			The number of quarters to repeat the above selection
			Enter the number of quarter(s) for the above setting to repeat
		Yearly	The day within a year on which different versions of your files are retained
Select a day within a year on which the old version of data will be stored. You can set the day by using one of the following methods: <ul style="list-style-type: none"> - Select an exact day (1 – 31) in an exact 			

			<p>month (January – December)</p> <ul style="list-style-type: none"> - Select the (First/Second/Third/Fourth/Last) of (Monday/Tuesday/Wednesday/Thursday/Friday/Saturday/Sunday/Weekday/Weekend) in an exact month (January – December) - Select a day in a week (Monday – Sunday) in an exact week of a year (Week 1 - 53)
			<p align="center">The number of years to repeat the above selection</p>
			<p>Enter the number of year(s) for the above setting to repeat</p>
	Custom	<p align="center">A specific day on which different versions of your files are retained</p>	
		<p>Select a day on which the old version of data will be stored. You can set the day by using one of the following methods:</p> <ul style="list-style-type: none"> - Select an exact day (1 – 31) in an exact month (January – December) - Select the (First/Second/Third/Fourth/Last) of (Monday/Tuesday/Wednesday/Thursday/Friday/Saturday/Sunday/Weekday/Weekend) in an exact month (January – December) - Select a day in a week (Monday – Sunday) in an exact week of a year (Week 1 - 53) 	
		<p align="center">Year</p>	
<p>Enter a specific year for the day set above to execute the retention policy</p>			

➤ **Command Line Tool**

This section allows administrator to configure a Pre-Backup or Post-Backup command. Command such as batch file to stop and start an application before and after a backup job is completed, or other command such as to shut down the computer when a backup job is completed can be configured.

The following table explains each setting item under the **Retention Policy** tab, with a brief description of what the setting is about and all the configurable items.

Command Line Tool	
What is this setting about?	Defines the default command line to execute before or after a backup is performed. Multiple settings can be created in this menu if you wish to define different default command line for different backup modules.
What are the configurable items?	<p>Destination</p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Pre-Backup Command Line Tool – configure the pre-backup command line <ul style="list-style-type: none"> - Name – name of this command line setting. - Working Directory – directory which the pre-backup command will run at. - Command – Enter the pre-backup command to be run ➤ Post-Backup Command Line Tool – configure the post-backup command line <ul style="list-style-type: none"> - Name – name of this command line setting. - Working Directory – directory which the post-backup command will run at. - Command – enter the post-backup command to be run

➤ **Reminder**

This section allows administrator to enable the backup reminder feature where users will be reminded to run a backup job when they log off or shut down their computers. The reminder feature is only available on Windows platform.

The following table explains each setting item under the **Reminder** tab, with a brief description of what the setting is about and all the configurable items.

Reminder	
What is this setting about?	Defines whether the backup reminder is on for backup users when they log off or shut down their computers. Multiple settings can be created in this menu if you wish to define different settings for different backup modules.
What are the configurable items?	<p>Destination</p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Remind me to backup during Windows log off or shut down

	<ul style="list-style-type: none"> - turn on or off this feature - Computer name – you can specify the computer's name for this reminder to apply on
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➤ **Bandwidth Control**

This section allows administrator to limit the data transfer rate when performing backup and restore jobs.

NOTE	
➤	The actual value will be around +/- 5% of the limit value when the bandwidth control set to below 32Mb/s. When the bandwidth control set to above 64Mb/s, the gap between actual value and limit value might be over 5%.
➤	Network stability might influence the transfer rate fluctuation accuracy.

The following table explains each setting item under the **Bandwidth Control** tab, with a brief description of what the setting is about and all the configurable items.

Bandwidth Control							
What is this setting about?	Defines the default settings on limiting the data transfer rate when performing backup and restore jobs. Multiple settings can be created in this menu if you wish to define different settings for different backup modules.						
What are the configurable items?	<p>Destination</p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Limit the transfer rate when performing backup and restore tasks – click to turn on or off this feature <ul style="list-style-type: none"> - Mode <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="text-align: center;">Independent</td> <td>Each backup and restore job has its assigned bandwidth</td> </tr> <tr> <td style="text-align: center;">Share</td> <td>All backup and restore jobs are sharing the same assigned bandwidth Note: Share mode does not support performing backup job on multiple destinations concurrently.</td> </tr> </table> - Existing bandwidth controls – configure the bandwidth control details <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="text-align: center;">Name</td> <td>Name of the bandwidth control setting item</td> </tr> </table> 	Independent	Each backup and restore job has its assigned bandwidth	Share	All backup and restore jobs are sharing the same assigned bandwidth Note: Share mode does not support performing backup job on multiple destinations concurrently.	Name	Name of the bandwidth control setting item
Independent	Each backup and restore job has its assigned bandwidth						
Share	All backup and restore jobs are sharing the same assigned bandwidth Note: Share mode does not support performing backup job on multiple destinations concurrently.						
Name	Name of the bandwidth control setting item						

	Type	<p>Always – apply the bandwidth control settings at all times</p> <p>Only within this period – configure a specific start time and end time on a day of a week for this bandwidth control setting to take place</p>
	Maximum transfer rate	Enter the maximum transfer rate allowed, in the unit of Kbit/s, Mbit/s or Gbit/s.

➤ **IP Allowed for Restore**

This section allows administrator to define IP ranges that are allowed to perform restore. The following table explains each setting item under the **IP Allowed for Restore** tab, with a brief description of what the setting is about and all the configurable items.

IP Allowed for Restore	
What is this setting about?	Defines the default settings on IP allowed for restore. Multiple settings can be created in this menu if you wish to define different settings for different backup modules.
What are the configurable items?	<p>Destination</p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ IP Allowed for Restore– configure the IP ranges allowed for restore <ul style="list-style-type: none"> - From – restore allowed from this IP value - To - restore allowed up to this IP value

➤ **Others**

This section allows administrator to configure other default settings. The following table explains each setting item under the **Others** tab, with a brief description of what the setting is about and all the configurable items.

Temporary Directory	
What is this setting about?	<p>The temporary directory is used for various purposes, such as storage of temporary spooled file, remote file list, local file list, temporary delta file and other files of temporary nature.</p> <p>Administrator can define the default location of the temporary</p>

	directory. Multiple settings can be created in this menu if you wish to define different temporary directory locations for different backup modules.
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Platform – the platform on which this setting will apply on ➤ Applied Modules – modules to apply this setting to ➤ Temporary directory for storing backup files – location of the temporary directory you wish to set. ➤ Remove temporary files after backup – the temporary files are removed after backup if this option is selected

Follow Link	
What is this setting about?	Administrator can define whether to turn on the Follow Link feature by default. When this feature is on, not only the symbolic link or junction point will be restored, the directories and files that the symbolic link or junction point links to will also be restored. This feature is only applicable to File Backup module.
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Follow link of the backup files – check the box to enable this feature

Volume Shadow Copy	
What is this setting about?	<p>Enabling the Volume Shadow Copy option will allow backup of local files that are exclusively opened during the backup process (e.g. Outlook PST file).</p> <p>Some requirements of the Volume Shadow Copy option include:</p> <ul style="list-style-type: none"> - Volume Shadow Copy can only be applied for local drive; exclusively opened file on network shared drive cannot be backed up even with the Volume Shadow Copy option enabled. - Volume Shadow Copy is only available on Windows platforms (e.g. Vista / 2008 / 2008 R2 / 7 / 2012 / 2012 R2 / 8 / 10). - The user using the backup application must have administrative privileges to access the Volume Shadow Copy service on a computer. - At least one of the partitions on the machine must be in NTFS format. <p>For more technical information on Volume Shadow Copy, please refer to the following page from Microsoft for details: http://technet.microsoft.com/en-us/library/cc785914(WS.10).aspx</p> <p>Administrator can define whether to turn on the Volume Shadow</p>

	Copy feature by default .This feature is only applicable to File Backup module.
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Enable Windows' Volume Shadow Copy for open file backup – check or uncheck to enable or disable this feature

File Permissions	
What is this setting about?	<p>By enabling this option, file permissions of the operating system files will be backed up. File permission defines, for example, the right to view or change a file by the system owner/group/individual.</p> <p>Administrator can define whether to turn on the backup of File Permissions by default .This feature is only applicable to File Backup module.</p>
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Backup files' permissions – check the box to enable this feature

Archived Log Deletion	
What is this setting about?	Administrator can define whether the archived log files will be deleted after backup by default .This feature is only applicable to Oracle Database Server Backup module.
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Delete the archived logs after backup – turn on or off this feature <ul style="list-style-type: none"> - Delete archived logs that are older than the following days – set the number of day(s) that the archived logs will be deleted when exceeding this number

Open Direct	
What is this setting about?	Administrator can enable the OpenDirect setting for Windows File backup sets on AhsayOBM and AhsayCB, to support restore of selected files/folder within a compressed or images file without the need to restore the compressed of image file first.
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ OpenDirect – enable or disable this feature

Granular Restore	
What is this setting about?	Administrator can enable the Granular Restore setting for VMware ESXi/vCenter and Hyper-V guest VM backup sets, to support restore of selected files/folder within a virtual disk of a guest VM without the need to restore the guest VM file first.
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Granular Restore – enable or disable this feature

Compressions	
What is this setting about?	<p>Compressing data before they are backed up brings faster backup and restore time and save storage space on the backup destination. Compression does not apply on Run direct backup sets for Hyper-V and VMware even this feature is on.</p> <p>Administrator can define the default compression type for backup set. Multiple settings can be created in this menu if you wish to define different default compression types for different backup modules.</p>
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Select compression type – type of compression that will be used during backup <ul style="list-style-type: none"> No Compression – no compression of file will be made Normal – compressed file size is the smallest among all compression type but will result to high CPU usage Fast (Compressed size larger than normal) – compressed file size is larger than the Normal compression type and will result to lower CPU usage Fast with optimization for local – compressed file size is larger than the Fast compression type and will result to lowest CPU usage

Encryption	
What is this setting about?	<p>For better security reason, backup users can choose to encrypt their backup data with an algorithm, mode and key of their choice. Encryption does not apply on Run direct backup sets for Hyper-V and VMware even this feature is on.</p> <p>Administrator can define the default encryption setting for backup set. Multiple settings can be created in this menu if you wish to define different default encryption settings for different backup modules.</p>

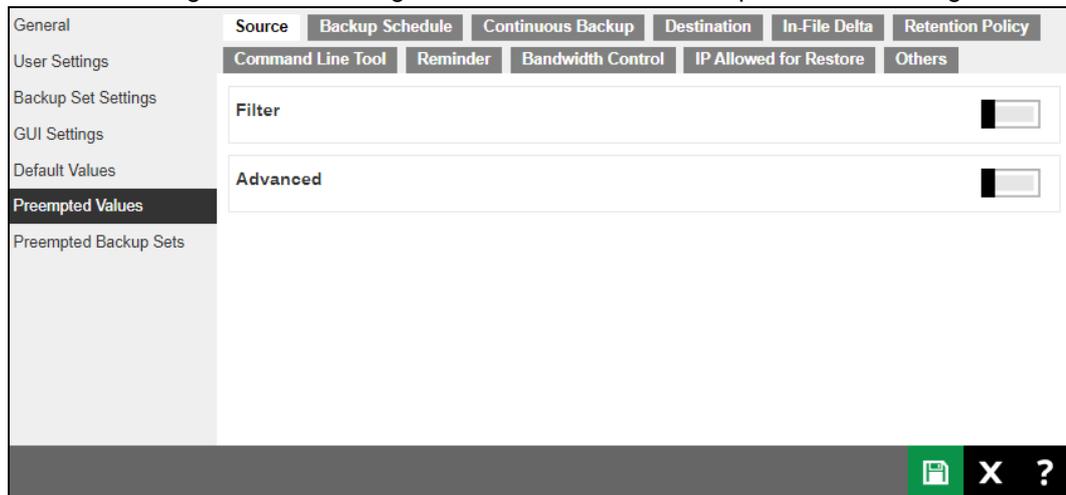
What are the configurable items?

- **Name** – name of the setting item
- **Applied Modules** – modules to apply this setting to
- **Encrypt Backup Data** – enable or disable this feature
 - Default (Machine Generated Random)** – the system will randomly generate an encryption key
 - User Password** – the encryption key will be the same as the login password of your AhsayOBM
 - Custom** – define your own algorithm, encryption key, method and key length.

Preempted Values

This section allows administrator to define the predefined values for backup users' backup sets. The preempted values set under this setting menu will be applied to the backup sets directly. Backup users can add additional values on top of the preempted values when creating a backup set but **CANNOT** remove the preempted values preset by the system administrator.

All setting items under the Preempted Values tab are disabled by default. Click the  switch on the right of each setting item and then follow the steps below for configuration.



Mode

In all the setting items in the Preempted Values section, there is a **Mode** setting item that contains 3 options on how this preempted values are applied to user defined settings.

- **Prepend** – the preempted values will be applied as the first user defined settings
- **Append** – the preempted values will be applied as the last user defined settings
- **Override** – override all user defined settings

NOTE

In some preempted value settings, "Override" mode is set as default and cannot be modified, e.g. Reminder, as administrator should take full control of the policy settings. However, prepend and append mode are available for some non-administrator related features, such as backup schedule, where users defined settings can also be considered.

➤ Source

This section defines the preempted backup source values. The following table explains each setting item under the **Source** tab, with a brief description of what the setting is about and all the configurable items.

Filter	
What is this setting about?	Defines the default filter mode, filters which used to include/exclude files in the backup source from performing backup. This filter applies only to File Backup on Windows platform. Creating multiple filter settings is possible.
What are the configurable items?	<ul style="list-style-type: none">➤ Name – name of the filter setting➤ Apply filters to the backup source – turn this on to configure the filters➤ Matching pattern - defines the pattern of the file selection, e.g., *.doc, *.png.➤ For each of the matched files/folders under top directory – define to include or exclude all the files/folder matching the filtering criteria under the top directory➤ Exclusion / Inclusion – to include (if you have chosen to exclude the matched files) or exclude (if you have chosen to include the matched files) those unmatched files/folder in the backup➤ Match file/folder names by – you can set the following filtering rules:<ul style="list-style-type: none">[Simple comparison starts with] Include/Exclude all files/directories with name starting with a certain pattern. Example: <i>You can use B* to match all file with name starting with a B character.</i>[Simple comparison ends with] Include / Exclude all files / directories with name ending with a certain pattern. Example: <i>You can use *.doc to match all files with name ending with .doc</i>

	<p>(all Word Documents)</p> <p>[Simple comparison contain] Include/Exclude all files/directories with name containing a certain pattern. Example: You can use *B* to match all files with name containing with a B character.</p> <p>[Regular Expression (UNIX-style)] Include/Exclude all files/directories with name matching a regular expression.</p> <p>Notes:</p> <ul style="list-style-type: none"> ➤ The pattern of a backup filter is case sensitive. ➤ If multiple patterns are required, please add the pattern one by one e.g.: *.doc and then *.xls <p>➤ How to Apply This Filter – you can choose to apply this filter on “All hard disk drivers” or a selected folder of your choice.</p> <p>➤ Apply to - apply the filter to the File and/or Folder level</p>
<p>Use Cases</p>	<p>Example 1 If you want to backup only Word, Excel and PowerPoint documents in your document directory (e.g. C:\My Documents), you should setup your backup filter as follows.</p> <p>Matching pattern = *.doc, *.xls, *.ppt For each of the matched files/folders under top directory = Include them Exclusion = Check Match file/folder names by = Simple comparison end with How to Apply This Filter = This folder only C:\My Documents Apply to = File</p> <p>Example 2 If you want to backup all files, excluding all *.exe, *.dll and *.tmp, in C:\Application, you should setup your backup filter as follows.</p> <p>Matching pattern = *.exe, *.dll, *.tmp For each of the matched files/folders under top directory = Exclude them Inclusion = Check Match file/folder names by = Simple comparison end with How to Apply This Filter = This folder only C:\Applicaitons Apply to = File</p> <p>Example 3 If you have already chosen files (all under C:\) from the backup source setting but you want to exclude all images (e.g. *.jpg and *.gif) from</p>

	<p>your selection, you should setup your backup filter as follows.</p> <p>Matching pattern = *.jpg, *.gif For each of the matched files/folders under top directory = Exclude them Inclusion = uncheck Match file/folder names by = Simple comparison end with How to Apply This Filter = This folder only C:\ Apply to = File</p> <p><i>Please note that the Inclusion setting should not be checked because you have already chosen the desired files to back up and do not want to include all other files (NOT *.jpg, *.gif) under C:\ into the backup set.</i></p> <p>Example 4 If you want to include everything, except the "log" directory, under C:\Applications into a backup set, you should setup your backup filter as follows.</p> <p>Matching pattern = ^log\$ For each of the matched files/folders under top directory = Exclude them Inclusion = check Match file/folder names by = Regular Expression (UNIX-style) How to Apply This Filter = C:\Applications Apply to = Folder</p> <p>Example 5 If you want to include all directories named "log" from the backup set files with file name starting with "B" and ending with "*.doc" under C:\My Documents into the backup set, you can use a regular expression of "^B.*\.\doc\$" to do your selection. The filter backup can then be setup as follows.</p> <p>Matching pattern = ^B.*\.\doc\$ For each of the matched files/folders under top directory = Include them Exclusion = check Match file/folder names by = Regular Expression (UNIX-style) How to Apply This Filter = C:\My Documents Apply to = File</p>
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Advanced	
What is this setting about?	Defines the default advanced settings for backup source, including backup mode, other selected source and deselected source.
What are the configurable	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Module – module you wish to apply this default setting

items?	<p>to</p> <ul style="list-style-type: none"> ➤ Other Selected Source – define the path of the source, e.g. Windows: C:\My folder; Linux: /home/my folder, to include in the backup set ➤ Deselected Source - define the path of the source, e.g. Windows: C:\My folder; Linux: /home/my folder, to exclude in the backup set.
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➤ **Backup Schedule**

Setting up backup schedule allows backup sets to run automatically at the specified time. This section allows administrator to pre-define default backup schedule(s) for backup users. The following table explains each setting item under the **Backup Schedule** tab, with a brief description of what the setting is about and all the configurable items.

Schedule	
What is this setting about?	<p>Predefine backup schedule(s) for backup sets. Multiple settings can be created in this menu if you wish to pre-define different backup schedules for different backup modules. Within a backup schedule setting, multiple scheduled times can be added.</p>
What are the configurable items?	<p><u>Backup Schedule</u></p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Run scheduled backup for this backup set – to enable or disable the scheduled backup settings you set in this menu <p><u>Manage Schedule</u></p> <ul style="list-style-type: none"> ➤ Name – name of the scheduler ➤ Type – frequency of running the scheduled backup <ul style="list-style-type: none"> - Daily – to run the scheduled backup everyday - Weekly – to run the scheduled backup on the selected days of a week - Monthly – to run the scheduled backup on a specific day in a month, or on a specific day in a specific week. - Custom – to run the scheduled backup on a specific day of your selection ➤ Start backup – specify a specific time to run the scheduled backup based on the frequency set in the Type menu above. <ul style="list-style-type: none"> at – this option will start a backup job at a specific time. every – this option will start a backup job in intervals of minutes

	<p>or hours.</p> <ul style="list-style-type: none"> ➤ Stop – set the scheduled backup to stop either <ul style="list-style-type: none"> until full backup completed – this option will stop the backup job when it is completed regardless of how much time it takes after – this option will stop the backup job at the set time (1-24 hrs) regardless if the backup is done or not. <p>This only applies to schedules with start backup “at” and is not supported for periodic backup schedule (start backup “every”).</p> ➤ Run Retention Policy after backup – enable this feature if you wish the modified or deleted data after backup remains in the backup server for the set number of retention day
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➤ **Continuous Backup**

When the Continuous Backup feature is enabled, a backup job will be triggered whenever a change is made in the backup source. This section allows administrator to define the default continuous backup settings. The following table explains each setting item under the **Continuous Backup** tab, with a brief description of the available settings and all the configurable items. **Continuous Backup is only available on Windows platform.**

IMPORTANT

When setting up the Continuous Backup feature for a backup set, you must run a manual or scheduled backup job first so that the initial files are uploaded your designated backup destination.

Continuous Backup	
What is this setting about?	Predefine the settings and filters to trigger continuous backup, including to exclude system files, frequency of running backup when changes are detected, configure the maximum file size allowed for backup and configure filters to exclude files from backup.
What are the configurable items?	<p><u>Continuous Backup</u></p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Backup whenever a change is made – enable or disable the continuous backup feature ➤ Exclude system files – enable this feature if you do not want to back up system files. Refer to Appendix I for a full list of system files excluded from the backup set. ➤ How often should the backup run – set the frequency of

	<p>running backup when changes are detected.</p> <ul style="list-style-type: none"> ➤ Only apply to files smaller than – file size that is larger than the set value will not be backed up <p><u>Exclude Filter</u></p> <ul style="list-style-type: none"> ➤ Name - name of the filter setting item ➤ Match file/folder names by – you can set the following filtering rules: <ul style="list-style-type: none"> [Simple comparison starts with] Include/Exclude all files/directories with name starting with a certain pattern. Example: <i>You can use B* to match all file with name starting with a B character.</i> [Simple comparison ends with] Include / Exclude all files / directories with name ending with a certain pattern. Example: <i>You can use *.doc to match all files with name ending with .doc (all Word Documents)</i> [Simple comparison contain] Include/Exclude all files/directories with name containing a certain pattern. Example: <i>You can use *B* to match all files with name containing with a B character.</i> [Regular Expression (UNIX-style)] Include/Exclude all files/directories with name matching a regular expression. Notes: <ul style="list-style-type: none"> - The pattern of a backup filter is case sensitive. - If multiple patterns are required, please add the pattern one by one e.g.: *.doc and then *.xls ➤ Matching pattern - defines the pattern of the file selection, e.g., *.doc, *.png. ➤ Apply This Filter to all files/folders in – you can choose to apply this filter on “All selected sources” or a selected folder of your choice ➤ Apply to - apply the filter to the File and/or Folder level
<p>Use Cases</p>	<p><u>Example 1</u> If you want to back up all files, except all Word, Excel and PowerPoint documents, in your document directory (e.g. C:\My Documents), you should setup your backup filter as follows.</p>

	<p>Match file/folder names by = Simple comparison end with Matching pattern = *.doc, *.xls, *.ppt Apply this filter to all files/folders in = This folder only C:\My Documents Apply to = File</p> <p>Example 2 If you want to include everything, except the "log" directory, under C:\Applications into a backup set, you should setup your backup filter as follows.</p> <p>Match file/folder names by = Regular Expression (UNIX-style) Matching pattern = ^log\$ Apply this filter to all files/folders in = This folder only C:\Applications Apply to = Folder</p> <p>Example 3 If you want to exclude all directories named "log" from the backup set files with file name starting with "B" and ending with "*.doc" under C:\My Documents into the backup set, you can use a regular expression of "^B.*\doc\$" to do your selection. The filter backup can then be setup as follows.</p> <p>Match file/folder names by = Regular Expression (UNIX-style) Matching pattern = ^B.*\doc\$ Apply this filter to all files/folders in = This folder only C:\My Documents Apply to = File</p>
<p>Use Cases</p>	<p>Example 1 If you want to back up all files, except all Word, Excel and PowerPoint documents, in your document directory (e.g. C:\My Documents), you should setup your backup filter as follows.</p> <p>Match file/folder names by = Simple comparison end with Matching pattern = *.doc, *.xls, *.ppt Apply this filter to all files/folders in = This folder only C:\My Documents Apply to = File</p> <p>Example 2 If you want to include everything, except the "log" directory, under C:\Applications into a backup set, you should setup your backup filter as follows.</p> <p>Match file/folder names by = Regular Expression (UNIX-style) Matching pattern = ^log\$ Apply this filter to all files/folders in = This folder only C:\Applications</p>

	<p>Apply to = Folder</p> <p>Example 3 If you want to exclude all directories named "log" from the backup set files with file name starting with "B" and ending with "*.doc" under C:\My Documents into the backup set, you can use a regular expression of "^B.*\doc\$" to do your selection. The filter backup can then be setup as follows.</p> <p>Match file/folder names by = Regular Expression (UNIX-style) Matching pattern = ^B.*\doc\$ Apply this filter to all files/folders in = This folder only C:\My Documents Apply to = File</p>
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➤ **Destination**

This section allows administrator to predefine backup destination for backup sets. The following table explains each setting item under the **Destination** tab, with a brief description of what the setting is about and all the configurable items.

Destination	
What is this setting about?	Pre-define backup destination when backup users create a backup set. Multiple settings can be created in this menu if you wish to define different default destinations for different backup modules.
What are the configurable items?	<p>Destination</p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Backup Mode – select the files transfer method during backup <ul style="list-style-type: none"> - Sequential – backup files are sent to the backup destination one by one, one after another - Concurrent – multiple files are sent to the backup destination at the same time ➤ Maximum concurrent backup destinations (only if you have selected Concurrent as the Backup Mode) – select the maximum number of files allowed for uploading to the backup destination ➤ Predefined Destination – select the predefined destination you have configured in the Predefined Destinations Tab section.

➤ **In-File Delta**

In-file delta technology is an advanced data block matching algorithm with the intelligence to pick up changes (delta) of file content between two files.

Using this algorithm, daily backup of large files over low-speed internet connection is made possible because it requires only the changes of information since the last backup to be sent over (assuming that the full backup of the file has been saved on the backup server already).

This section allows administrator to predefine the In-File Delta settings for backup set. The following table explains each setting item under the **In-File Delta** tab, with a brief description of what the setting is about and all the configurable items.

In-File Delta	
What is this setting about?	Predefine In-File delta setting for backup set. Multiple settings can be created in this menu if you wish to pre-define different in-file delta settings for different backup modules.
What kind of in-file delta types are there?	<p><u>Incremental In-file delta</u></p> <p>Incremental Delta will facilitate ease of backup. The delta is generated by comparing with the last uploaded full or delta file. Delta generated with this method is smaller and uses the least bandwidth. However, for restoration, the full file and all deltas up to the required point-in-time are required to be restored and merged.</p> <p><u>Differential In-file delta</u></p> <p>Differential Delta will facilitate ease of restore. The delta is generated by comparing with the last uploaded full file only. Delta generated with this method will grow daily and uses more bandwidth. However, for restoration, the full file and a single delta is required to be restored and merged.</p>
What are the configurable items?	<p><u>Destination</u></p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Default Type – type of backup method (Incremental or Differential) <p><u>Advanced settings</u></p> <ul style="list-style-type: none"> ➤ In-File Delta block size – defines the size of block used when detecting changes between last full or delta file and the file to be backed up. <p style="text-align: center;"><u>In-file delta backup with small block size</u></p>

- Produce a smaller delta file due to a more precise comparison
- Require more processing power on the client machine
- Comparison may take longer to complete
- Require more Java memory

In-file delta backup with large block size:

- Produce a larger delta file due to a less precise comparison
- Require less processing power on the client machine
- Comparison will complete faster
- Require less Java memory

For most cases, the default setting **Auto** will select the optimal block size for each file (depending on the size of the file). The **Auto** setting will set the block size according the following criteria:

File size	Block size
Smaller than 2GB	4KB
2GB – 8GB	8KB
Larger than 8GB	16KB

- **Only apply In-File Delta to files larger than** – defines the minimum file size a file to apply the in-file delta setting. If the size of a file to be backed up is smaller than the set value, the in-file delta setting will not apply and the whole file will be uploaded to the backup server.

It is not necessary to perform In-file delta backup on small files because backing up the whole file does not take long. Backing up the whole file instead reduces the time required to restore the file.

- **Upload full file when either of these conditions is met** – a backup of the full file will be perform if the following condition is met:
 - **Number of deltas is over** – when the number of delta file exceeds the set value
 - **Delta ratio (delta file size / full file size) is over** – this setting is to ensure that a full file backup is performed for file with significant changes, as it is preferable to upload a full file instead to reduce the time required to restore the file
- **Weekly variations for overriding default type** – override the default in-file delta setting in the **Default Type** field on selected day(s) of a week
- **Yearly variations for overriding default type and weekly variations** – override the default in-file delta setting in the **Default Type** field as well as the setting in the “**Weekly**

	<p>variations for overriding default type” section on a selected day in a week based on either of the following selection</p> <ul style="list-style-type: none"> - Day of selected months in yearly variations - select a specific day in a month. On this specified day in the month defined above will the in-file delta variation setting override the default value.
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➤ **Retention Policy**

Retention policy defines the policies of persistent data management for meeting business data archival requirements. When a backup job is performed, for data that are modified or deleted on the client computer, their existing versions on the backup server (backup records) will be moved into retention area, while newly backed up files will be placed in the current data area.

Specifically, retention policy setting defines how long are the backup records kept in the retention area before they are deleted permanently from the backup server.

This section allows administrator to pre-define the Retention Policy for backup set. The following table explains each setting item under the **Retention Policy** tab, with a brief description of what the setting is about and all the configurable items.

Retention Policy							
What is this setting about?	Pre-define the retention policy for backup sets when they are created. Multiple settings can be created in this menu if you wish to define different default retention policy for different backup modules.						
What are the configurable items?	<p>Destination</p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ How to retain the files in the backup set, which have been deleted in the backup source – choose between Simple and Advanced setting, which is explained in detail below. <ul style="list-style-type: none"> - Simple – enter a specific number of day or backup job number. The retained data will be removed from the storage destination permanently after the set number of day or set number of job is met. - Advanced – manage advanced retention policies by applying advanced configurations <table border="1" style="margin-left: 40px;"> <tr> <td style="background-color: #d9ead3;">Daily</td> <td style="background-color: #d9ead3;">The past number of days on which different versions of your files are retained</td> </tr> <tr> <td></td> <td>Set the number of day(s) on which the old version of data will be stored</td> </tr> <tr> <td style="background-color: #d9ead3;">Weekly</td> <td style="background-color: #d9ead3;">The days within a week on which different</td> </tr> </table>	Daily	The past number of days on which different versions of your files are retained		Set the number of day(s) on which the old version of data will be stored	Weekly	The days within a week on which different
Daily	The past number of days on which different versions of your files are retained						
	Set the number of day(s) on which the old version of data will be stored						
Weekly	The days within a week on which different						

			versions of your files are retained
			Select the day(s) in a week (Monday – Sunday) on which the old version of data will be stored
			The number of weeks to repeat the above selection
			Enter the number of week(s) for the above setting to repeat
		Monthly	The days within a month on which different versions of your files are retained
			Select a day in a month on which the old version of data will be stored. You can either set: <ul style="list-style-type: none"> - An exact day (1-31) or - The (First/Second/Third/Forth/Last) of (Monday -Sunday)
			The number of months to repeat the above selection
			Enter the number of month(s) for the above setting to repeat
		Quarterly	The day within a quarter on which different versions of your files are retained
			Select a day within a quarter on which the old version of data will be stored. You can either set: <ul style="list-style-type: none"> - An exact day (1-31) or - The (First/Second/Third/Forth/Last) of (Monday -Sunday)
			Months of quarter
			Select the desired combination of months of quarter <ul style="list-style-type: none"> - (January, April, July, October) - (February, May, August, November) - (March, June, September, December)
The number of quarters to repeat the above selection			
Enter the number of quarter(s) for the above			

			setting to repeat
	Yearly		The day within a year on which different versions of your files are retained
			<p>Select a day within a year on which the old version of data will be stored. You can set the day by using one of the following methods:</p> <ul style="list-style-type: none"> - Select an exact day (1 – 31) in an exact month (January – December) - Select the (First/Second/Third/Forth/Last) of (Monday/Tuesday/Wednesday/Thursday/Friday/Saturday/Sunday/Weekday/Week end) in an exact month (January – December) - Select a day in a week (Monday – Sunday) in an exact week of a year (Week 1 - 53)
			The number of years to repeat the above selection
			Enter the number of year(s) for the above setting to repeat
	Custom		A specific day on which different versions of your files are retained
			<p>Select a day on which the old version of data will be stored. You can set the day by using one of the following methods:</p> <ul style="list-style-type: none"> - Select an exact day (1 – 31) in an exact month (January – December) - Select the (First/Second/Third/Forth/Last) of (Monday/Tuesday/Wednesday/Thursday/Friday/Saturday/Sunday/Weekday/Week end) in an exact month (January – December) - Select a day in a week (Monday – Sunday) in an exact week of a year (Week 1 - 53)
			Year
			Enter a specific year for the day set above to execute the retention policy

--	--

➤ **Command Line Tool**

This section allows administrator to configure a Pre-Backup or Post-Backup command. Command such as batch file to stop and start an application before and after a backup job is completed, or other command such as to shut down the computer when a backup job is completed can be configured.

The following table explains each setting item under the **Retention Policy** tab, with a brief description of what the setting is about and all the configurable items.

Command Line Tool	
What is this setting about?	Predefine command line to execute before or after a backup is performed. Multiple settings can be created in this menu if you wish to pre-define different command line for different backup modules.
What are the configurable items?	<p>Destination</p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Pre-Backup Command Line Tool – configure the pre-backup command line <ul style="list-style-type: none"> - Name – name of this command line setting. - Working Directory – directory which the pre-backup command will run at. - Command – Enter the pre-backup command to be run ➤ Post-Backup Command Line Tool – configure the post-backup command line <ul style="list-style-type: none"> - Name – name of this command line setting. - Working Directory – directory which the post-backup command will run at. - Command – enter the post-backup command to be run

➤ **Reminder**

This section allows administrator to enable the backup reminder feature where users will be reminded to run a backup job when they log off or shut down their computers. Reminder feature is only available on Windows platform.

The following table explains each setting item under the **Reminder** tab, with a brief description of what the setting is about and all the configurable items.

Reminder	
What is this	Pre-define to turn on the reminder so that backup users will be

setting about?	reminded to perform backup when they log off or shut down their computers. Multiple settings can be created in this menu if you wish to define different settings for different backup modules.
What are the configurable items?	<p>Destination</p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Remind me to backup during Windows log off or shut down – turn on or off this feature <ul style="list-style-type: none"> - Computer name – you can specify the computer's name for this reminder to enable on

➤ **Bandwidth Control**

This section allows administrator to pre-define the limit for data transfer when performing backup and restore jobs.

NOTE	
➤	The actual value will be around +/- 5% of the limit value when the bandwidth control set to below 32Mb/s. When the bandwidth control set to above 64Mb/s, the gap between actual value and limit value might be over 5%.
➤	Network stability might influence the transfer rate fluctuation accuracy.

The following table explains each setting item under the **Bandwidth Control** tab, with a brief description of what the setting is about and all the configurable items.

Bandwidth Control			
What is this setting about?	Pre-define the settings on limiting the data transfer rate when performing backup and restore jobs. Multiple settings can be created in this menu if you wish to pre-define different settings for different backup modules.		
What are the configurable items?	<p>Destination</p> <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Limit the transfer rate when performing backup and restore tasks – click to turn on or off this feature <ul style="list-style-type: none"> - Mode <table border="1" style="margin-left: 20px;"> <tr> <td style="text-align: center;">Independent</td> <td>Each backup and restore job has its assigned bandwidth</td> </tr> </table> 	Independent	Each backup and restore job has its assigned bandwidth
Independent	Each backup and restore job has its assigned bandwidth		

		Share	All backup and restore jobs are sharing the same assigned bandwidth Note: Share mode does not support performing backup job on multiple destinations concurrently.
	- Existing bandwidth controls – configure the bandwidth control details		
		Name	Name of the bandwidth control setting item
		Type	Always – apply the bandwidth control settings at all times Only within this period – configure a specific start time and end time in a day of a week for this bandwidth control setting to take place
		Maximum transfer rate	Enter the maximum transfer rate allowed, in the unit of Kbit/s, Mbit/s or Gbit/s.

➤ **IP Allowed for Restore**

This section allows administrator to predefine IP ranges that are allowed to perform restore. The following table explains each setting item under the **IP Allowed for Restore** tab, with a brief description of what the setting is about and all the configurable items.

IP Allowed for Restore	
What is this setting about?	Pre-define the IP allowed for restore. Multiple settings can be created in this menu if you wish to pre-define different settings for different backup modules.
What are the configurable items?	Destination <ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ IP Allowed for Restore– configure the IP ranges allowed for restore <ul style="list-style-type: none"> - From – restore allowed from this IP value - To - restore allowed up to this IP value

➤ **Others**

This section allows administrator to pre-define other configurations for backup sets. The following table explains each setting item under the **Others** tab, with a brief description of what the setting is about and all the configurable items.

Follow Link	
What is this setting about?	Administrator can pre-define whether to turn on the Follow Link feature. When this feature is on, not only the symbolic link or junction point will be restored, the directories and files that the symbolic link or junction point links to will also be restored. This feature is only applicable to File Backup module.
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Follow link of the backup files – check the box to enable this feature

Volume Shadow Copy	
What is this setting about?	<p>Enabling the Volume Shadow Copy option will allow backup of local files that are exclusively opened during the backup process (e.g. Outlook PST file).</p> <p>Some requirements of the Volume Shadow Copy option include:</p> <ul style="list-style-type: none"> - Volume Shadow Copy can only be applied for local drive; exclusively opened file on network shared drive cannot be backed up even with the Volume Shadow Copy option enabled. - Volume Shadow Copy is available on Windows platforms (e.g. Vista / 2008 / 2008 R2 / 2012 / 2012 R2 / 7 / 8 / 10). - The user using the backup application must have administrative privileges to access the Volume Shadow Copy service on a computer. - At least one of the partitions on the machine must be in NTFS format. <p>For more technical information on Volume Shadow Copy, please refer to the following page from Microsoft for details: http://technet.microsoft.com/en-us/library/cc785914(WS.10).aspx</p> <p>Administrator can pre-define whether to turn on the Volume Shadow Copy feature by default. This feature is only applicable to File Backup module.</p>
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item

items?	<ul style="list-style-type: none"> ➤ Enable Windows' Volume Shadow Copy for open file backup – check or uncheck to enable or disable this feature
--------	---

File Permissions

What is this setting about?	<p>By enabling this option, file permissions of the operating system files will be backed up. File permission defines, for example, the right to view or change a file by the system owner/group/individual.</p> <p>Administrator can pre-define whether to turn on the backup of File Permissions by default .This feature is only applicable to File Backup module.</p>
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Backup files' permissions – check or uncheck to enable or disable this feature

Archived Log Deletion

What is this setting about?	<p>Administrator can pre-define whether the archived log files will be deleted after backup by default .This feature is only applicable to Oracle Database Server Backup module.</p>
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Delete the archived logs after backup – turn on or off this feature <ul style="list-style-type: none"> - Delete archived logs that are older than the following days – set the number of day(s) that the archived logs will be deleted when exceeding this number

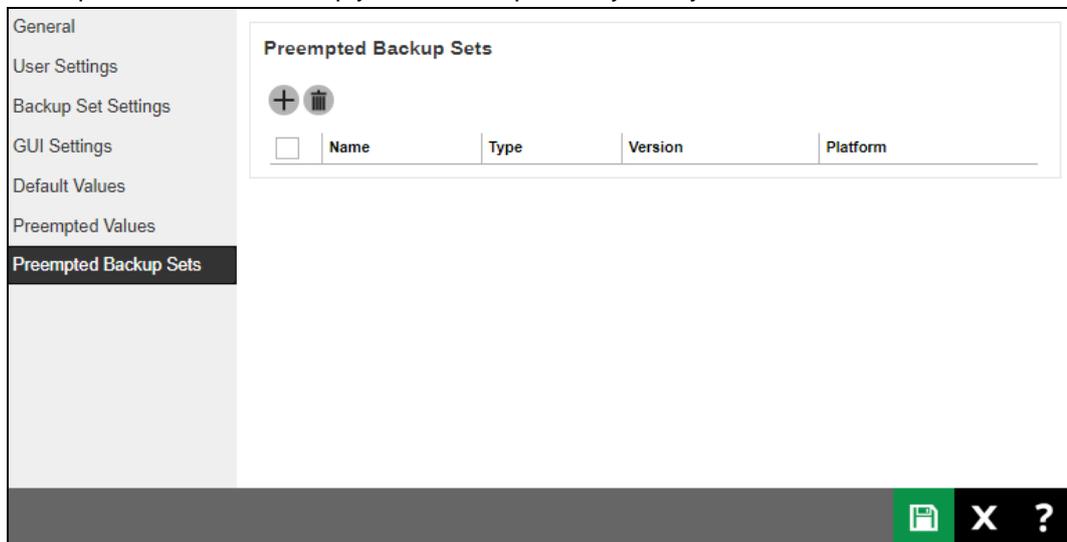
Compressions

What is this setting about?	<p>Compressing data before they are backed up brings faster backup and restore time and save storage space on the backup destination. Compression does not apply on Run direct backup sets for Hyper-V and VMware even this feature is on.</p> <p>Administrator can pre-define the default compression type for backup set. Multiple settings can be created in this menu if you wish to define different default compression types for different backup modules.</p>
What are the configurable items?	<ul style="list-style-type: none"> ➤ Name – name of the setting item ➤ Applied Modules – modules to apply this setting to ➤ Select compression type – type of compression that will be used during backup. <ul style="list-style-type: none"> No Compression – no compression of file will be made

	<p>Normal – compressed file size is the smallest among all compression type but will result to high CPU usage</p> <p>Fast (Compressed size larger than normal) – compressed file size is larger than the Normal compression type and will result to lower CPU usage</p> <p>Fast with optimization for local – compressed file size is larger than the Fast compression type and will result to lowest CPU usage</p>
--	--

Preempted Backup Sets

This section allows you predefine a backup set that will be run a default backup set for backup user with this policy group setting. Backup user **CANNOT** remove this preempted backup set from their backup job once it is preset by the system administrator.



Create a preempted backup set

Follow the steps below to create a preempted backup set

1. Click  under the **Preempted Backup Sets** section.



2. Enter the **Name** of the new backup set, the **Platform** on which the backup set will run on, and select the backup set type from the **Type** dropdown box. |

Create Backup Set

General

Name

Platform

Backup set type

The choices for Platform

- Windows
- Mac
- Linux

The choices for backup set types

- File Backup
- IBM Lotus Notes Backup
- MS Exchange Mail Level Backup
- MS Hyper-V Backup
- MySQL Backup
- Oracle Database Server Backup
- MS Windows System State Backup
- IBM Lotus Domino Backup
- MS Exchange Server Backup
- MS SQL Server Backup
- MS Windows System Backup
- MariaDB Backup
- ShadowProtect System Backup
- VMware Backup

In our example, the new backup set is called **default-backup-set-name-2** which is a File Backup type that will be run on Windows.

Click  to continue.

3. Specify the backup source for the new backup set. The selection items of this page varies depending on the backup set type you have chosen. Below is an example of

creating a File Backup set.

Backup Source

Select the items and folders that you want to backup

- Desktop
- Documents
- Favourites
- Outlook
- Outlook Express
- Windows Mail
- Windows Live Mail

4. You can apply filters to the backup source, select other backup source or deselect backup source. Click to get redirected to the relevant section in the previous chapter for configurations details.

Apply filters to the backup source

Name

Other Selected Source

Path

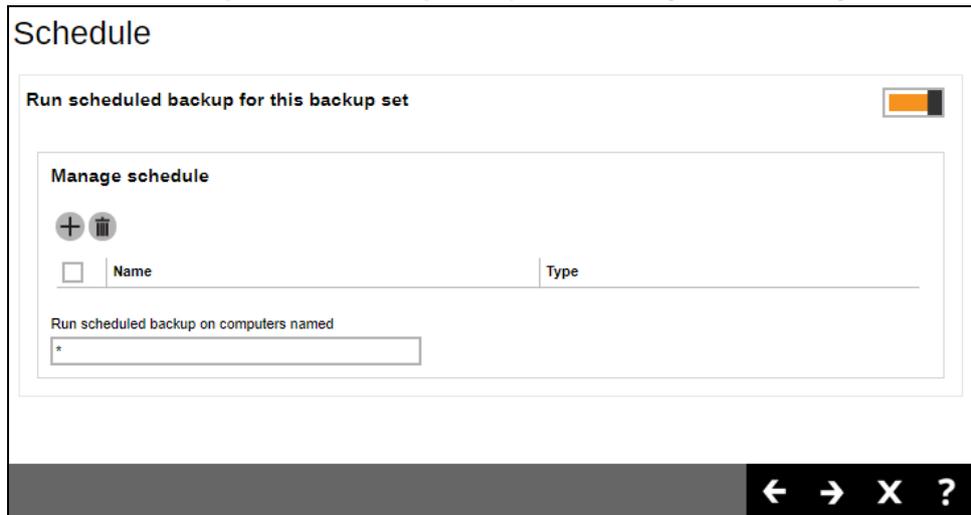
Deselected Source

Path

5. Click  to continue.

6. If necessary, add a Backup Schedule for this backup set by sliding the **Run scheduled backup for this backup set** option to the right and clicking .



- Enter the information of the new backup schedule you want to add. Click  to continue.



Here is an example of a backup set that has a periodic and normal backup schedule.

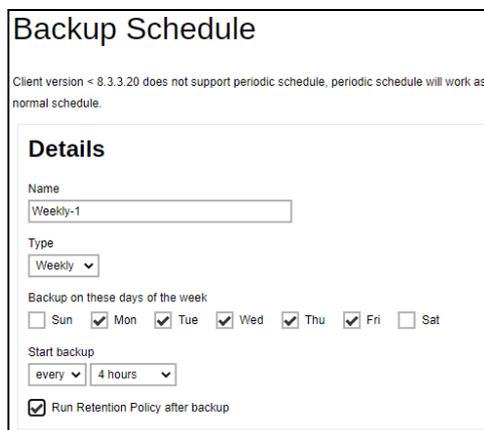


Figure 1.1

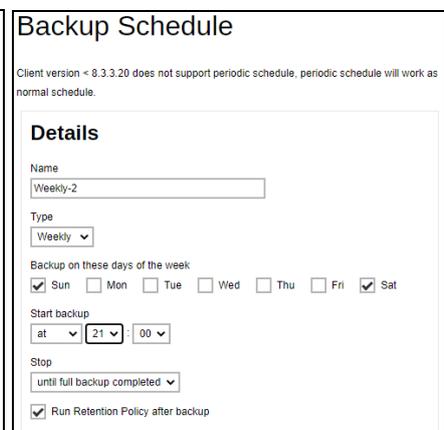


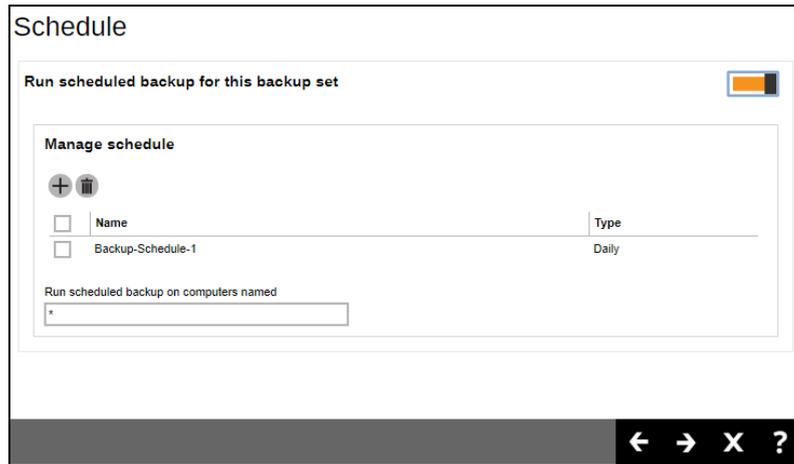
Figure 1.2

Figure 1.1 - Periodic backup schedule runs every 4 hours from Monday – Friday during business hours

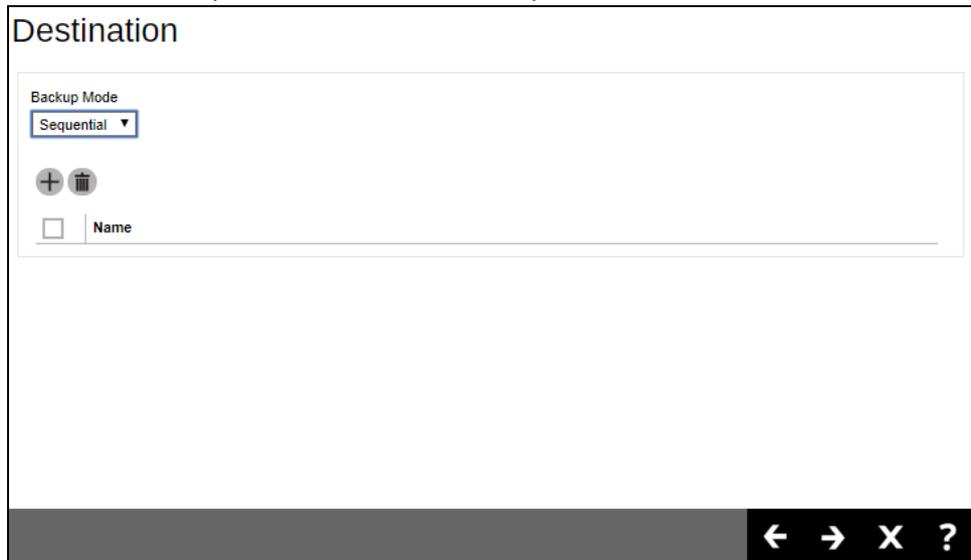
Figure 1.2 – Normal backup schedule runs at 21:00 or 9:00 PM on Saturday and Sunday on weekend non-business hours

- The new backup schedule, **Backup-Schedule-1** in our example, can be seen under the **Manage schedule** list.

Click  to continue.



7. Add a new backup destination for this backup set.



- From the **Backup Mode** dropdown box, select either **Sequential** or **Concurrent**. In our example, we select **Sequential**.
- Add a Destination by clicking .

Check the box next to the destination you want, then click  to continue.

Add Destination

Add predefined destination to this backup set below. If there are no predefined destinations created, you need to go to "AhsayCBS > Backup Server > Basic > Predefined Destination" and create the appropriate destinations first.

<input type="checkbox"/>	Name
<input checked="" type="checkbox"/>	 AhsayCBS

- The new destination, **AhsayCBS** in our example, can be seen under the **Destination** list.

Destination

Backup Mode
Sequential ▾

<input type="checkbox"/>	Name
<input type="checkbox"/>	 AhsayCBS

If you would like to add predefined destination, you will have to configure it first in System Settings > Basic > Predefined Destinations. Make sure to make it visible to users in Backup / Restore > Users, Groups & Policies > Policy Group tab > Backup Set Settings.

Click  to continue.

8. Select to enable OpenDirect, by default it is already enabled.
9. Enter the Windows User Authentication information. This is needed for backup set with backup schedule and network shared drive selected as backup source. Enter the domain name and user name for AhsayOBM to access the network location.

Add New Backup Set

Windows User Authentication

Domain Name (e.g. mycompany.com) / Host Name

User name

Password

10. Click  to save.

11. A new backup set called **default-backup-set-name-2** is created and can be seen in the Preempted Backup Sets list.



The screenshot shows a web interface for managing backup sets. On the left is a sidebar with navigation options: General, User Settings, Backup Set Settings, GUI Settings, Default Values, Preempted Values, and Preempted Backup Sets (which is highlighted). The main content area is titled 'Preempted Backup Sets' and contains a table with the following data:

<input type="checkbox"/>	Name	Type	Version	Platform
<input type="checkbox"/>	default-backup-set-name-2		--	

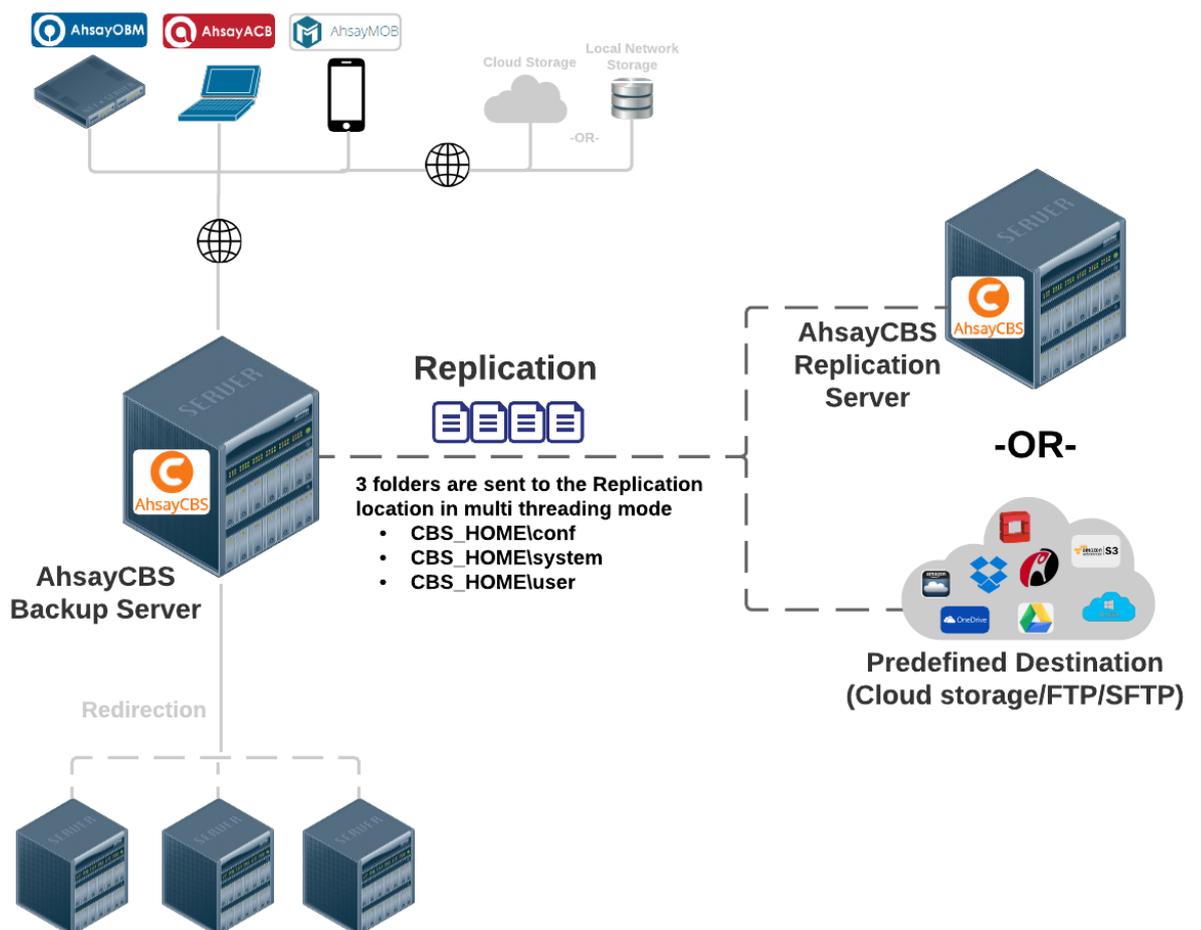
7 Replication

7.1 Overview

7.1.1 What is Replication?

AhsayCBS replication server provides an additional layer of data protection by providing an offsite backup store for synchronizing data from either a single or multiple AhsayCBS servers to provide high availability for your business needs. The replication feature is specially designed for replicating user home data hosted physically on AhsayCBS to either another AhsayCBS (Replication Server) or a predefined destination (e.g. cloud storage, FTP/SFTP or local/network storage) configured in the AhsayCBS backup server. The replication process is close to real-time and therefore can reduce the possibilities of significant data loss in the event of an AhsayCBS server outage. In case the AhsayCBS backup server is down, the replication server can be quickly converted into a backup server with minimal down time.

This feature is designed to provide replication services for AhsayCBS only and it does not provide general replication service for other files within the system. This means that you cannot use AhsayCBS replication to replicate your Windows/Linux/Unix system to another machine.



7.1.2 What technology is used for Replication?

During the **Resync** stage of the replication process (refer to [How does Replication Work](#) below for details), snapshot images of users' backup sets will be created and then sent to the replication server. By utilizing the snapshot image technology, the data on the backup server can be replicated in a rather short time and therefore close to real-time replication is made possible.

By utilizing the multi-threading technology, replication can now be processed faster than the traditional single thread replication. Refer to [Multiple Threads Replication](#) for further details.

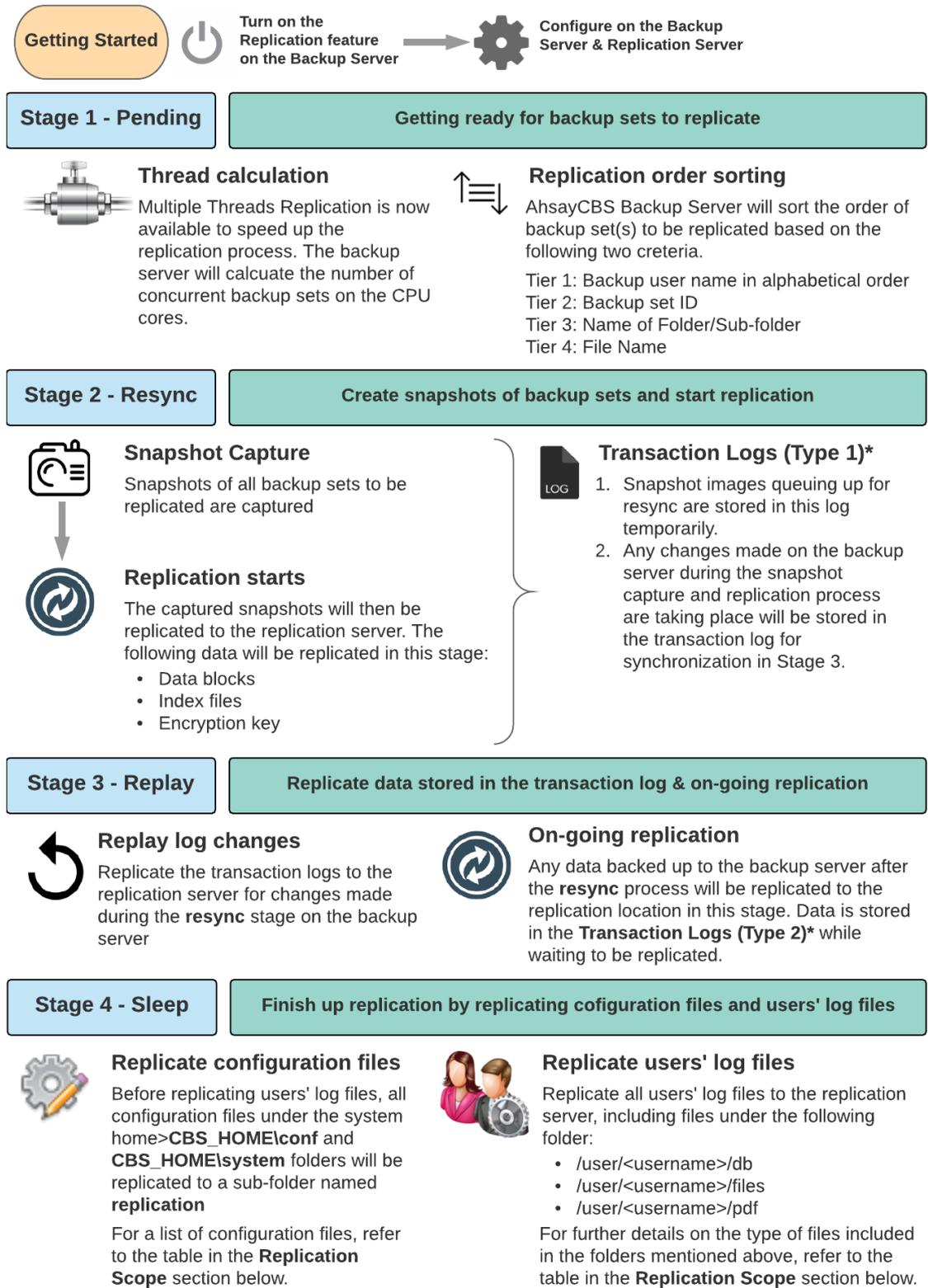
7.1.3 Differences between v6 and v8 on Replication

The replication service has been revamped to empower you with a more reliable and secure replication experience. The table below explains the major feature differences between v6 and v8 on replication.

	Version 6	Version 8
Multi Threads Replication	Replication process is performed over single thread mode which takes longer time to complete.	The replication process is performed over multi threads mode where multiple backup sets are sent to the replication location concurrently. The number of threads for replication is also configurable by the backup user.
Support Replication to Cloud Storage	Only replication to AhsayRPS is possible.	Supports replication to either another AhsayCBS server or cloud storage (as defined in the predefined destination).
Replication Port	A dedicated port has to be defined for replication receiver to perform replication.	Replication is performed via the http/https (ports 80 and 443 by default) defined on AhsayCBS. No additional ports are required.
Real-time Monitoring Progress	Real-time replication progress cannot be monitored.	The real-time replication progress of each backup set can now be monitored on the AhsayCBS web console.
Replication of Individual Backup Sets Only	User Level - all backup sets from all backup users must be replicated when the replication feature is turned on.	Backup Set Level - replication of only selected backup sets is now possible.

7.1.4 How does Replication Work

Replication runs in 4 stages, namely **Pending**, **Resync**, **Replay** and **Sleep**. Refer to the diagram below for an overview of the replication process.



* For more details on the differences between Transaction Logs Type 1 and Type 2, refer to [Transaction Log Location](#).

7.1.5 Replication Scope

The following three folders on the local file system are included in the replication process.

IMPORTANT	
1.	Please be reminded that ALL 3 folders will be CRITICAL and REQUIRED if you need to rebuild AhsayCBS from scratch, or to recover system settings.
2.	Only user data hosted physically on AhsayCBS will be replicated. Local drive includes, for example, local hard disk, mapped network drive, removable drive, external storage device connected to AhsayCBS with UNC path, etc. Certain types of external storage connection, for example FTP/SFTP, are not regarded as local drive even if it is connected through LAN, and therefore will not be included for replication.

🔗 %CBS_INSTALL%\conf

The table below shows a list of files included in this folder.

Server Configuration	
Path	Description
/conf/server.xml	Connector setting file
/conf/afc.opt /conf/cbs.opt	CBS option files
/conf/cbssvc.ini	Runtime setting file
/conf/ca.crt /conf/ssl.crt /conf/ssl.key	Default certificate files
/conf/cbs.json	CBS setting files
/conf/lfsConfig.xml	Redirector configuration files
CBS Configuration	
Path	Description
/conf/obs.json	Backup Server setting files
/conf/lic.json /conf/license.xml	License files
/conf/cbs.opt	CBS/OBS option files
/conf/autoUpdate.bdb	Autoupdate index
/conf/rpsSend.xml	Replication configuration files
/conf/users.xml	Users' profile
RPS Configuration	
Path	Description
/conf/rps.xml /conf/rpsRecv.xml /conf/rps-recv.json	Replication configuration files
RDR Configuration	

Path	Description
/conf/rdr.xml /conf/rdr.json	Redirector configuration files
/conf/rdr-lic.json /conf/rdr-license.xml	License files
Others	
Path	Description
/conf/Branding/*.*	Branding directory
/conf/Backup/*.*	Auto Save snapshot file
/conf/certs	Only created after administrator importing a SSL certificate or generating a new CSR (Certificate Signing Request)

▶ **%CBS_INSTALL%\system**

The table below shows a list of files included in this folder.

Group Policy Settings	
Path	Description
/system/obs/policies/userGroup.xml	User group definition
/system/obs/policies/policyList.xml	Policy group definition

▶ **%USER_HOME%**

The table below shows a list of files included in this folder.

CBS User Profile	
Path	Description
/user/%username%/db	<p>This sub-folder contains files with the following info:</p> <ul style="list-style-type: none"> ➤ Backup logs of all backup sets ➤ All logs and statistics records of all backup sets created on different client locations ➤ Records of email notification for backup/restore/setting change ➤ Restore logs ➤ Monthly storage record of each backup set ➤ Daily activities log
/user/%username%/files	<p>This sub-folder contains info files for all backup sets, with the following info:</p> <ul style="list-style-type: none"> ➤ Backup set name ➤ Backup set ID ➤ Backup set type ➤ Version of the client's machine running the backup set

/user/%username%/pdf	This sub-folder contains all backup and restore reports in pdf format
/user/%username%/ %backup set ID%	This sub-folder contains files with the following info: <ul style="list-style-type: none"> ➤ Data blocks and index file of all backups ➤ Encryption key file (if uploaded) ➤ Replication snapshots (if applicable)

Coexistence of v6 and v8 Formats Backup Data

When you have enabled replication for v6 backup sets on AhsayCBS v8, the backup data will be replicated to your replication destination in v6 data format. If, afterwards, a v8 upgrade of the AhsayOBM/AhsayACB is done and backup is performed for those backup sets, the backup data will be produced and replicated in v8 format. In that case, there will be two sets of backup data stored for the same backup set in separate locations under the **CBS_HOME**user. The following illustrations show the location where the v6 and v8 format backup data stored.

➤ V8 format backup data

Backup set ID – unique ID for individual backup set

Name ^	Date modified	Type
 1570679685194	10/10/2019 7:55 PM	File folder
 1570679775195	10/10/2019 7:56 PM	File folder
 1570679855039	10/10/2019 7:58 PM	File folder
 db	10/10/2019 7:55 PM	File folder
 files	10/10/2019 7:58 PM	File folder
 pdf	10/10/2019 7:59 PM	File folder

Data blocks folder

Name ^	Date modified	Type
 blocks	10/10/2019 7:55 PM	File folder
 settings	10/10/2019 7:55 PM	File folder
 Snapshots	10/10/2019 7:55 PM	File folder
 v6Migrate.csv	10/10/2019 8:01 PM	CSV File

A new folder created every time when a backup is run, indicated by date and time in the folder name

Name ^	Date modified	Type
 2019-10-10-11-55-37	10/10/2019 7:55 PM	File folder
 2019-10-10-12-04-18	10/10/2019 8:04 PM	File folder
 2019-10-10-12-06-12	10/10/2019 8:08 PM	File folder
 index.db.17000.16db3dae57d.cgz	10/10/2019 8:08 PM	CGZ File
 index.db.i9f4ce47b.2150i.17000.16db3dae5...	10/10/2019 8:08 PM	CGZ File

Data block in v8 format

Name ^	Date modified	Type	Size
000000.bak	10/10/2019 8:06 PM	BAK File	32,768 KB
000000_000001.bak	10/10/2019 8:06 PM	BAK File	32,768 KB
000000_000002.bak	10/10/2019 8:06 PM	BAK File	32,768 KB
000000_000003.bak	10/10/2019 8:06 PM	BAK File	17,774 KB
00000a.bak	10/10/2019 8:06 PM	BAK File	777 KB
00000b.bak	10/10/2019 8:06 PM	BAK File	32,768 KB
00000b_000001.bak	10/10/2019 8:07 PM	BAK File	32,768 KB
00000b_000002.bak	10/10/2019 8:06 PM	BAK File	32,768 KB
00000b_000003.bak	10/10/2019 8:06 PM	BAK File	26,787 KB

➤ **v6 format backup data**

Under the files folder

Name	Date modified	Type
1490777956899	4/10/2017 10:12 AM	File folder
1490778216015	3/29/2017 6:09 PM	File folder
1490780883458	3/29/2017 6:09 PM	File folder
db	4/7/2017 3:00 PM	File folder
files	3/29/2017 5:48 PM	File folder
pdf	3/29/2017 5:16 PM	File folder

Backup set ID – unique ID for individual backup set

Name	Date modified	Type
1490777956899	4/7/2017 3:01 PM	File folder
1490778216015	4/7/2017 6:01 AM	File folder
1490780883458	4/7/2017 6:01 AM	File folder

Backup data stored under the **Current** folder

Name	Date modified	Type
Current	3/29/2017 5:01 PM	File folder
index.bdb	4/7/2017 3:01 PM	BDB File
info.xml	4/7/2017 4:00 PM	XML Document
r-index.bdb	4/7/2017 3:01 PM	BDB File

Name	Date modified	Type
0x00	3/29/2017 5:01 PM	File folder
0x0b	3/29/2017 5:01 PM	File folder
0x0c	3/29/2017 5:01 PM	File folder
0x0f	3/29/2017 5:01 PM	File folder
0x01	3/29/2017 5:01 PM	File folder
0x1b	3/29/2017 5:01 PM	File folder
0x1c	3/29/2017 5:01 PM	File folder

NOTE

When data migration for v6 data is completed and AhsayCBS has replicated the v6 backup data, the v6 data will be deleted from both the backup server and replication server.

7.1.6 Transaction Log Location

Transaction log is a location storing backup data temporarily before they enter the replication cycle mentioned in [How does Replication work](#).

There are two different kinds of transaction logs which are located separately under the AhsayCBS folder. Refer to the information below for further elaboration.

Type 1 – transaction log stored in USER HOME

Location
%USER_HOME%/BACKUP_SET_ID%/rps/{DELETE_TIME%.LOG_SEQ%}
What kind of transaction log does it store?
This folder stores the transaction log entries produced during Stage 2 – Resync of the replication process. In specific, the transaction logs are the changes made on the backup server during the snapshot capture and replication process are taking place. This kind of data will only be replicated to the replication location in Stage 3 – Replay .

Type 2 – transaction log stored in SYSTEM HOME

Location
%SYSTEM_HOME%/USER_ID%/BACKUP_SET_ID%/rps/replay-XXXXXX.log
What kind of transaction log does it store?
This folder stores the transaction log entries produced in Stage 3 - Replay mode where it stores data from the backup server pending for replication to the replication location in the on-going replication process.

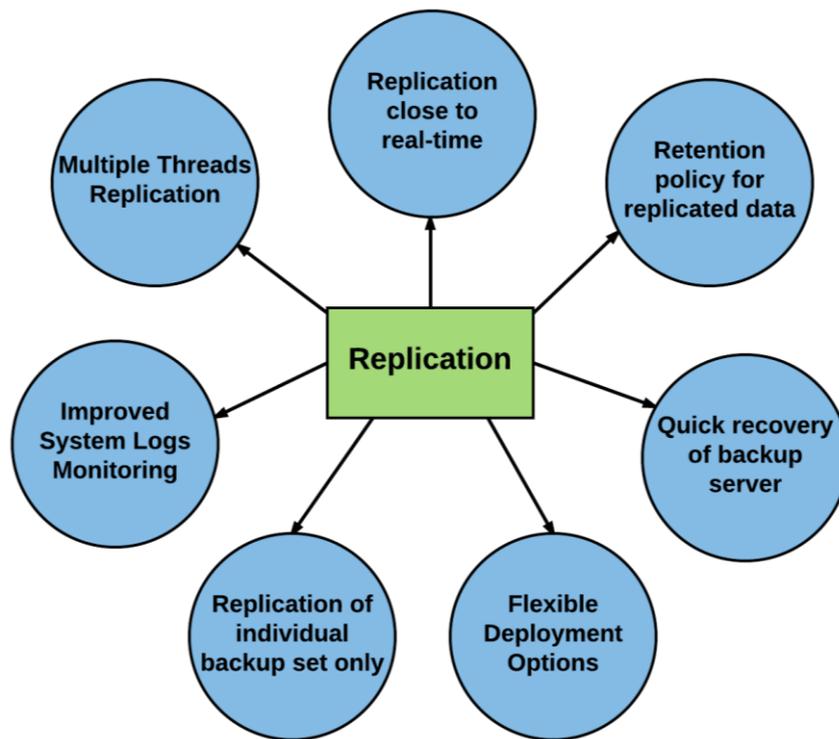
7.1.7 Replication Order

Replication is performed in the order of the tiers as shown in the table below.

Tier 1	Backup User Name
Tier 2	Backup Set ID
Tier 3	Name of Folder/Sub-folder
Tier 4	File Name

Within each tier, the order of replication is performed according to the standard defined by the **American Standard Code for Information Interchange (ASCII)**, refer to <http://www.ascii-code.com/> for details of the order.

7.1.8 Benefits of using Replication?



Multiple Threads Replication

1. From AhsayCBS v8.3.6.0 or onwards, the maximum number of replication threads is determined using the following formula:

$$\text{Number of concurrent backup set to replicate} = \text{Total CPU Cores} / 8$$

For example, an AhsayCBS server with 8 CPU cores will have a maximum of one concurrent replication thread.

The minimum number of replication thread is 1 while the maximum is 4.

While the maximum **number of concurrent files replicated for each backup set = 4**.

For example, there are 2 concurrent backup sets to replicate. Then the maximum number of concurrent files that can be replicated concurrently is 8 (2 backup sets x 4 files per backup set = 8 files).

NOTE

The maximum number of files replicated for each backup set is fixed at 4 and is not user configurable.

For replication of v6 backup sets on AhsayCBS v8, only single thread replication is supported.

The number of backup sets to replicate concurrently can also be configured by the backup user. Refer to [Setting the Number of Backup Sets to Replicate Concurrently](#) for further instructions.

NOTE

If you are upgrading to v8.3.6.0 or onwards from v7, 8.1.x, 8.3.0.x and using default setting for number of backup sets to replicate, the number of concurrent backup sets replicated will be significantly reduced. However, this is offset by an increase in number of concurrent files replicated for each backup set from 1 to 4 files.

For example, if AhsayCBS v7, 8.1.x, 8.3.0.x was enabled with replication on a server with single socket CPU with 8 cores. The default number of concurrent backup sets replicated will be reduced from 4 to 1 backup set. Even though the number of concurrent backup sets is reduced, the actual number of concurrent files replicated remain unchanged at 4.

2. For underutilized AhsayCBS backup servers running on high performance hardware and storage configurations, with spare network bandwidth capacity, there is an option to increase the maximum number of concurrent backup sets replicated equal to the number of CPU cores. For example, an AhsayCBS server with a single CPU with 8 cores will be able to get up to 8 concurrent backup sets replicated.

As each backup set supports a maximum of 4 concurrent files, then the maximum number of concurrent files that can be replicated concurrently is 32 (8 backup sets x 4 files per backup set = 32 files).

Warning

Please consider carefully before increasing the maximum number of concurrent replication threads on your AhsayCBS backup server. As this change could have a negative impact on your AhsayCBS backup server and therefore your backup service, for example:

- The AhsayCBS backup server could become unresponsive or sluggish.
- Slow AhsayOBM/AhsayACB backup/restore performance.
- Your AhsayOBM/AhsayACB clients may be unable to connect to the backup server, resulting in missed backups.

The AhsayCBS replication server may become overloaded if it is unable to process the increased number of threads and data sent from the AhsayCBS backup server.

Example:

Assumptions:

- ⦿ AhsayCBS v8.3.6.0 or onwards is installed.
- ⦿ AhsayCBS Java heap size setting.

Increasing the number of concurrent replication threads will result in increased Java memory usage. As a general rule of thumb, twice as many replication threads will utilize twice as the amount of Java memory. Therefore, it is highly recommended to increase your Java heap size setting before using a higher replication thread setting, if the peak Java memory usage on your AhsayCBS server is over 50% of the maximum Java heap size setting. (The peak Java memory usage can be obtained from **[Monitoring] > [Dashboard] > [Memory]**)

For example:

- If current maximum Java heap setting is 4096M and the peak Java memory usage exceeds 2048M, then you should consider increasing the maximum Java heap size up to 8192M.
- If current maximum Java heap setting is 4096M and the peak Java memory usage is only 1500M, you may not need any maximum Java heap size adjustment in the short term.

Please refer to the following link to check about the details of how to modify the Java heap size of AhsayCBS [FAQ: How to modify the Java heap size of AhsayCBS?](#)

- ⦿ AhsayCBS installation path: %CBS_INSTALL_PATH%
 - Windows: C:\Program Files\AhsayCBS
 - Linux/Unix: /usr/local/cbs
 - AhsayUBS: /ubs/mnt/eslsfw/obsr

Steps:

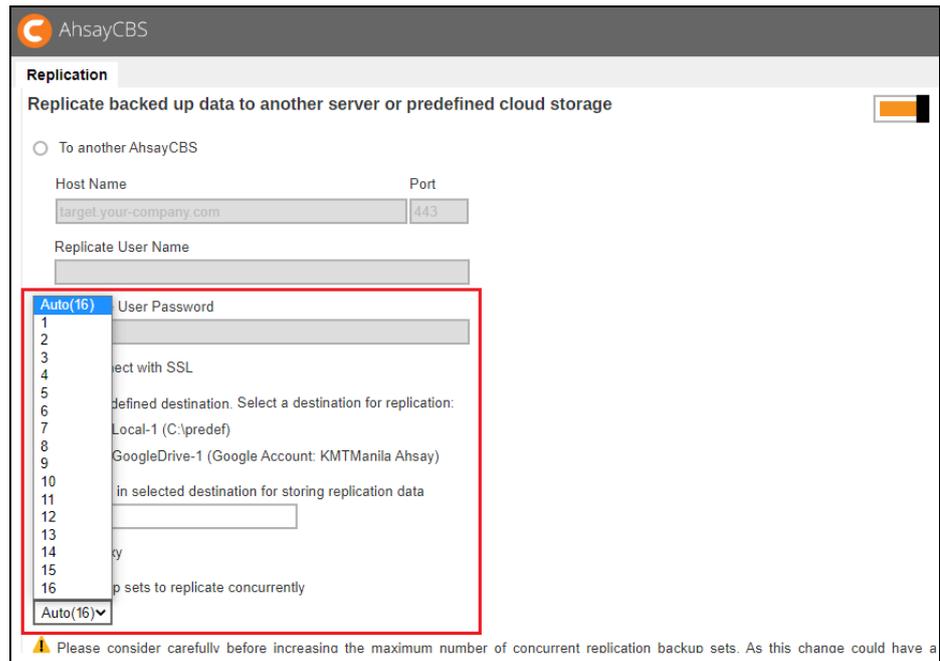
- ⦿ Shutdown the AhsayCBS service.
- ⦿ Using a text editor open the %CBS_INSTALL_PATH%/conf/cbs.opt file
- ⦿ Add the following setting to the end of the file and save:
`com.ahsay.cbs.obs.config.Index.RepMaxThreads=true`
- ⦿ Restart the AhsayCBS service.
- ⦿ Login to the AhsayCBS web management console.

Go to **[Replication] > [Sending Data]** and click on the “**No. of backup sets to replicate concurrently**” and select the number of replication threads you wish to configure.

Example: When

```
com.ahsay.cbs.obs.config.Index.RepMaxThreads=true
```

For an AhsayCBS server with a total of 16 CPU cores, the Auto value would be 16, then the maximum number of concurrent files that can be replicated is 64 (16 backup sets x 4 files per backup set = 64 files).



Improved System Logs Monitoring

The Replication Logs section in the AhsayCBS console provides a consolidated view of all replication sending and receiving logs to allow a one-stop monitoring of the replication activities.

Replication Close to Real-Time

The synchronization process does not require stopping or interrupting any backup/restore operations. As the replication module will be replicating the backup data in 4 modes, pending, sleep, resync and replay mode. These 4 modes are used to identify the mode of the replicating backup.

- **Pending** — backup set pending for replication
- **Resync** — responsible to create a snapshot of the current system configuration and user backup files
- **Replay** — replay the changes that happened during the resync mode
- **Sleep** — Backup sets that have finished replicating the backup data

When new backup data are available on the backup server, it will arrange into the above mode of replication which will be replicated to another AhsayCBS (Replication Server) or a predefined storage immediately. Refer to the [How does Replication Work](#) section for further details on the 4 replication modes.

Replication of Individual Backup Set Only

Instead of replicating all backup sets from all backup users, you now have the flexibility to select specific user's backup set(s) from the Backup Server to replicate to either another Replication Server or a predefined storage.

You can select the desired backup sets for replication when you create a replication sending account, refer to [Configuration on the Replication Sending End](#) for further details.

Retention Policy for Replicated Data

When a snapshot of the backup data on the backup server is replicated to the replication server, the older version of the snapshot will be moved to the retention area for a set period of time before it will be deleted permanently from the replication server. This feature is useful in case you have to recover data on the backup server from the past.

This configuration can be set when you create a replication receiver, refer to the [Create a Replication User Account](#) section for further details.

**This feature applies only to replication to AhsayCBS server.*

Flexible Deployment Options

The replication service can be deployed in various options, including another AhsayCBS server, cloud storage, NAS storage connected via FTP/SFTP/local network, etc. It is also possible for multiple backup servers to replicate data to a single AhsayCBS replication server.

You can replicate v6 backup sets to a receiver on a v7 or v8 replication server before the backup sets undergo the data migration process. This new deployment option gives you greater flexibility to gradually migrate the backup sets in v6 format to v7 or v8 format after the backup server is upgraded to v7 or v8, while the backup sets in v6 format will still be replicated to provide you with data protection.

For more details on deployment, refer to the [Deployment Options and Comparison](#) section.

Quick Recovery of Backup Server

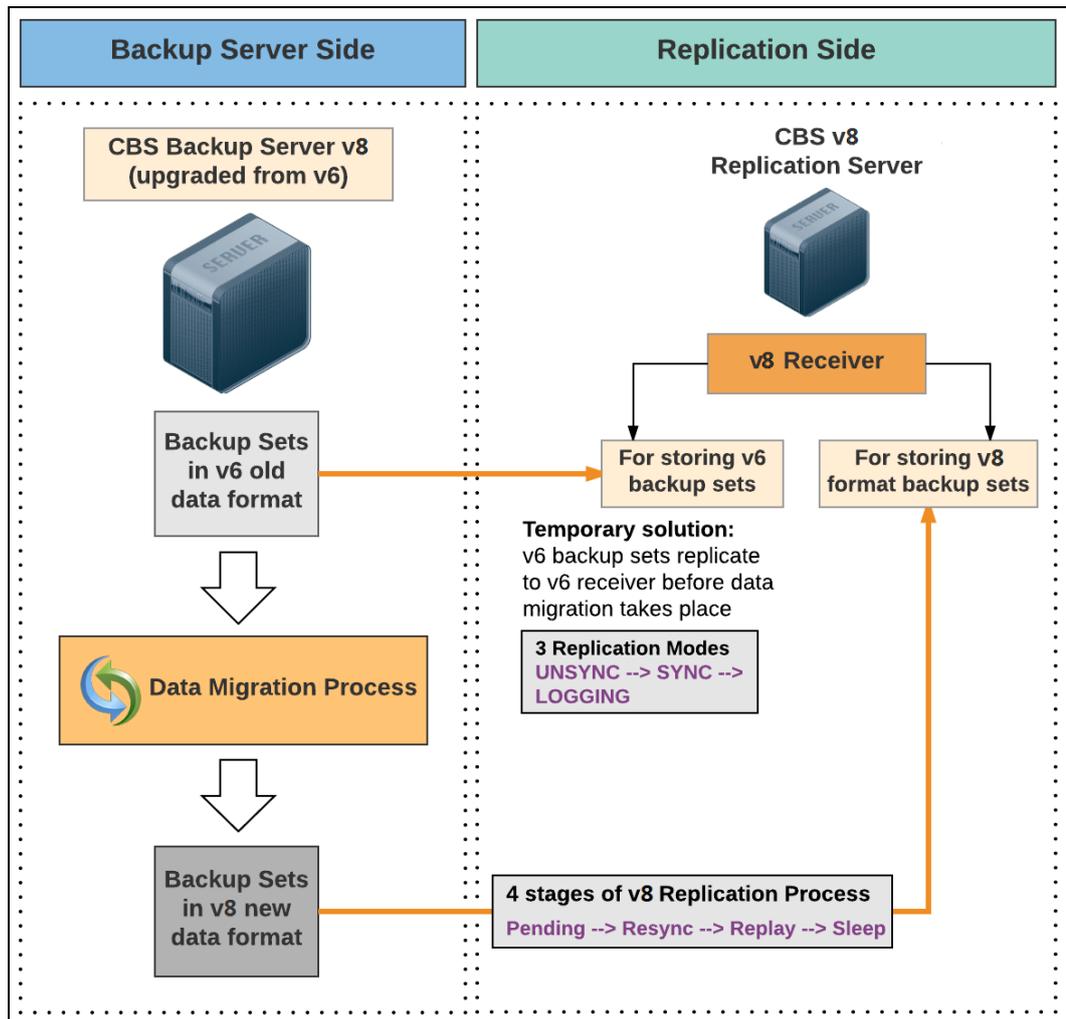
The primary purpose of replication is to provide an extra layer of protection to the data on the backup server in case of disaster like power outage or data corruption. We also understand that it is critical to keep the data recovery process fast so as to minimize interruption to your backup services to clients, that is why we have taken another step forward to simplify the transitioning between replication server and backup server to make the recovery process as fast and seamless as possible. Refer to the [Recovery Method](#) section for further details.

7.1.9 Replication of v6 backup sets on AhsayCBS v8

Supports replication of v6 backup sets to a receiver on a v8 replication receiver, this feature can be set under the **[Backup / Restore] > [Sending Data] > [Replication]** page.

The v6 backup set replication feature is designed as a temporary solution to provide extra protection during data migration (conversion from v6 data format to v8 data block format) on a v8 backup server after an upgrade from v6 to v8, it is not intended to be used as a permanent replication solution. Once the data migration process is completed for all backup user accounts, the v6 replication feature should be disabled as v6 backup set data would already have been automatically removed post data migration.

Details of the v6 replication status can be viewed under **[Monitoring] > [Replication Logs] > [Replication Sending]**.



Note: For further details and instructions on backup set data migration from v6 to v8 format, refer to the [Backup Data Migration](#) section.

Requirements

1. Both the AhsayCBS Backup Server (sender) and AhsayCBS Replication Server (receiver) must be on v8.1 or above.
2. v6 backup set replication must be enabled on both the backup server and replication server.
3. Replication license modules are required for replication of v6 backup sets.
4. The v8 replication on AhsayCBS must be enabled to another replication server.
5. A separate dedicated replication port (default port 9444) is required.

Limitations

1. v8 replication must be enabled to another AhsayCBS server in order to use the feature. As replication to predefined destination does not support replication of v6 backup sets.
2. Replication of v6 backup sets is supported using a single thread.
3. Only v6 backup set data found in the **%USER_HOME%\%USERNAME%\files** folder will be replicated. The replication of other folders and files are handled by v7 replication process.

7.2 Before Getting Started

7.2.1 Requirements and Best Practices

License Information

The pricing unit of AhsayCBS Replication Server module is per device to be replicated. If you will replicate to another AhsayCBS, a CBS module license will also be required.

For inquiries please contact the Sales team at Ahsay by email at sales-kb@ahsay.com or call our International Sales Hotline +852 3580 8091.

Version / Platform Compatibility

While AhsayCBS can be deployed on Windows, Linux, FreeBSD, or Solaris x64 platform, it should be noted that only some of the version and platform combinations are supported as illustrated below.

Backup Server		Replication Server		Compatible?
Version	Platform	Version	Platform	
V8	Windows	V8	Windows	Yes
V8	Linux/FreeBSD/Solaris x64	V8	Linux/FreeBSD/Solaris x64	Yes
V8	Windows	V8	Linux/FreeBSD/Solaris x64	Yes
V8	Linux/FreeBSD/Solaris x64	V8	Windows	No*
V6	Windows	V8	Linux/FreeBSD/Solaris x64	Yes
V6	Linux/FreeBSD/Solaris x64	V8	Windows	No*

* The incompatibility is a result of the limitations on Windows operating systems handling of Linux file/folder naming conventions.

Replication Server Storage Requirement

There is a possibility that after your backup data is replicated to replication server, the final data size on the replication server may be larger than the original data size on backup server. This situation could arise if there are differences in the way each respective storage device is formatted, i.e. different default block sizes or different files systems.

Your retention policy settings would also determine the storage required on the replication server. You will need to weight the advantages of using smaller **Restore Point Interval** which allows for a greater chances of recovery and or the **Retention Customization Policy** setting is configured for a large number of days against your replication server storage limitations.

Considering the factors mentioned above, the disk capacity of your replication server should by default be greater than your backup server to accommodate the replication data.

Location of the Replication Server

In terms of disaster recovery situation, the restore media should not be stored or located on the same premises, and these rules would also depend on different compliances, regulations or terms with your customers.

Here are some suggestions that you may need to consider:

Set up the AhsayCBS Replication Server in another data center. In case you need to host the Replication Server with your Backup Server, you may consider hosting it in another server rack or another server room if possible.

➤ **Dedicated Server for Replication**

Following are the pros and cons on setting up replication on a dedicated server.

Pros:

- ⦿ Able to switch from Replication Server to Backup Server
- ⦿ Fast in recovery hence small recovery window and short downtime
- ⦿ Able to keep replicated snapshots in retention area in case recovery of data in past snapshots becomes necessary

Cons:

- ⦿ Relatively more complex setup; requires datacenter hosting and maintenance cost
- ⦿ Relatively expensive to expand storage
- ⦿ Downtime required for regular maintenance and upgrade
- ⦿ Upfront investment in hardware storage

➤ **Predefined Destination (Cloud Storage / FTP / SFTP) for Replication**

Following are the pros and cons on setting up replication on a predefined destination.

Pros:

- ⦿ Quick setup; low hosting and maintenance cost
- ⦿ Cheaper cost for storage expansion
- ⦿ No upfront hardware investment required

Cons:

- ⦿ To recover the replicated data, it is required to set up new backup server and restore data from the predefined destination
- ⦿ Slow in recovery hence large recovery window and longer downtime.

For more information and comparison on different replication environment setup, please refer to the [Appendix F](#).

AhsayCBS Replication Partitioning

The AhsayCBS replication module makes heavy use of the **User Home** directory to process the snapshots of the backup sets during the Resync stage. During Resync stage, snapshots of backup sets will be written to the User Home in the form of transactions log files.

It is not recommended to use the O/S partition or drive as the System Home. If the System Home folder fills up, this will cause your O/S to become unstable and may even crash your AhsayCBS server. It is strongly recommended the System Home directory should be located on a dedicated local drive.

Replication Performance Tuning

The connection speed between the backup server and the replication location (whether it is an AhsayCBS server or a cloud storage) is typically the primary factor of the replication performance. However, even with a fast and stable connection between the backup server and replication location, the replication performance could be affected by the following factors:

- Poor disk I/O on the backup server – when scanning and retrieving data files to be sent to the replication server.
- Poor disk I/O on the replication server – when receiving and committing files to the receiver home.

Poor disk I/O can be attributed to:

- The use of network drives as AhsayCBS user and system homes on the backup server side
- The use of network drives as AhsayCBS receiver home(s) on the replication side.
- The use of a single large disk or volume for AhsayCBS user home.
- The use of a single large disk or volume for multiple AhsayCBS receiver home(s) on the replication side.
- Slow performing local hard drives or storage devices.

In order to improve overall replication performance, the following is recommended:

- A separate local drive for each AhsayCBS user home on the backup server side
- Distributing user accounts across multiple user homes to balance the I/O load
- A separate local drive for AhsayCBS system home on the backup server side
- A separate local drive for each receiver on the replication side

AhsayCBS Java Heap Size Setting

The machine with the Replication server installed may require more memory for additional feature such as retention policy to run.

- For a replication server with single receiver, a maximum Java heap size setting of at least 1024M is recommended.

- For a replication server with multiple receivers, a maximum Java heap size setting of at least 2048M is recommended.

When setting the maximum Java heap size for the replication server, please ensure this value does not exceed 2/3 of the RAM on the server, to allow sufficient memory for O/S processes and operations.

It is not recommended to set excessively high values for the maximum Java heap size, as this could result in performance issues on the replication server during internal Java VM garbage collection or memory recycling routines.

Firewall Settings

Since replication is performed via the http/https ports defined on the AhsayCBS backup server, after you have finished setting up your replication server, please ensure you have updated your firewall settings to allow network traffic through the those ports, which are typically **port 80** for **http** and **port 443** for **https**.

Don't Deploy the Backup and Replication Servers on a Single Machine

It is not recommend to configure and use both services on one single machine because it will completely defeat the purpose of the replication service as a backup or standby server for your backup server.

Moreover, the two services will compete for system resources, such as CPU and memory. This could affect the performance and stability of your backup service.

Dedicated Restore Drive on Replication Server

In order to facilitate a fast restore of snapshots from the retention area on the replication server, it is recommended the files are not restored to an existing receiver home drive to avoid affecting replication performance. Your replication server should be configured with a dedicated disk for restore purposes. Alternatively, an external USB drive can also be used.

Storage Requirement on Replication Server

The amount of space required to keep these replication depends on the amount of data changed on your Backup Server.

To calculate the amount of storage required for the retention settings, we can base on the following assumption and formula.

Assumption
There is a 2% data change in the backup server daily.
Formula
Total data storage required = $(1+0.02)^n$ x original data size, where n = number of days of the retention customization policy
For n=30 days, it will be around 1.81 times of the original data size, and 3.28 times if n=60.

Replication Server with Multiple Receivers

If you have configured multiple receivers on your replication server to server more than one backup servers, it is recommended that each receiver is located on its own individual disk. The major advantage of this kind of setup is that it will minimize the I/O on each disk and therefore improve the replication performance.

Replication Using Cross Over Cable

It is not recommended to set up a connection between the backup server and replication server using a cross over cable. As from our experience this setup will result in connection and performance issues.

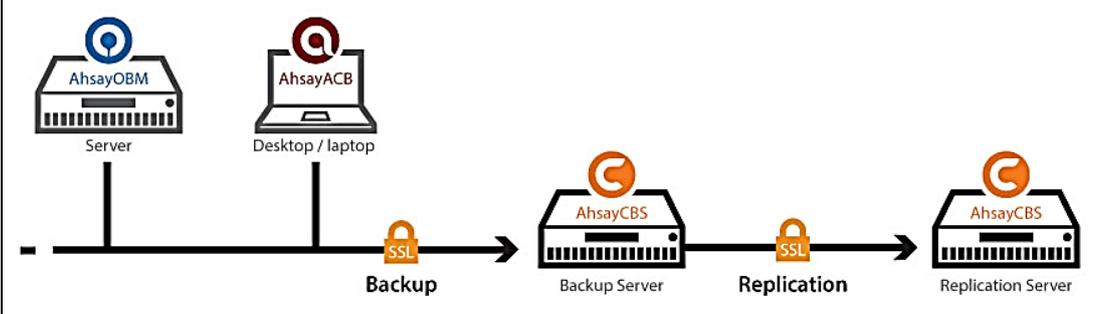
If the backup server and replication server are located on the same site, they should be connected via a switch.

7.3 Deployment Options and Comparison

There are three major methods to deploy the replication service. This chapter presents you with all the available deployment options, deployment combination and features comparison on different deployment methods, to help you decide which option to use.

7.3.1 Deployment Method

There are three methods to deploy the replication service as described below.

Method 1 (Recommended) – Deploy on a single AhsayCBS Backup Server replicate to another AhsayCBS Replication Server	
Introduction	
This is the typical deployment option, as well as the most recommended one, which features replication between a single AhsayCBS backup server and AhsayCBS replication server.	
System Architecture	
 <p>The diagram illustrates the system architecture for Method 1. On the left, there is an 'AhsayOBM Server' and an 'AhsayACB Desktop / laptop'. Both are connected to a central 'Backup Server' (labeled 'AhsayCBS Backup Server') via a 'Backup' process, which is secured with an 'SSL' lock icon. The 'Backup Server' is then connected to a 'Replication Server' (labeled 'AhsayCBS Replication Server') via a 'Replication' process, also secured with an 'SSL' lock icon.</p>	
Requirement	
Set up a new machine where you wish to host the replication server, and install AhsayCBS on it. In other words, you will have two AhsayCBS services running. One on the backup server, and the other on the replication server where you would like to have the backup data replicated to.	
Pros	
Speed for Replication and Restore	<p><u>Multiple Threads Replication</u> Multiple threads replication is supported to improve the replication speed. The actual number of threads that are available for use depends on the CPU power of the backup server. The more CPU cores the backup server has, the more threads it will have for replication. Refer to Multiple Threads Replication for more details.</p>
	<p><u>High Hardware Performance for High Replication Speed</u> A direct attached storage and SAN storage would provide good replicating speed.</p>

Recovery	<p><u>Fast Recovery in a Few Clicks</u></p> <p>In case of a backup server outage, the replication server can be switched as the backup server in a short time to minimize the system down time and interruption to backup users.</p> <p>For instructions to switch a replication server to backup server, refer to Method 3 - Startup Replication Server as Backup Server.</p>
Cons	
Cost	<p><u>Higher Cost</u></p> <ul style="list-style-type: none"> ➤ Setup cost is higher ➤ Cost for hardware storage expansion is relatively higher <p>Although this option involves higher setup cost, consider the higher replication/restore speed and recovery switching, it may be worth the investment.</p>
Storage Provisioning	<p><u>Slower Storage Provisioning</u></p> <p>Compared to cloud storage deployment, it takes more time and effort to assign the additional storage acquired when you need to expand the hardware storage.</p>

Method 2 – Deploy on a single AhsayCBS Backup Server replicate to a Predefined Destination

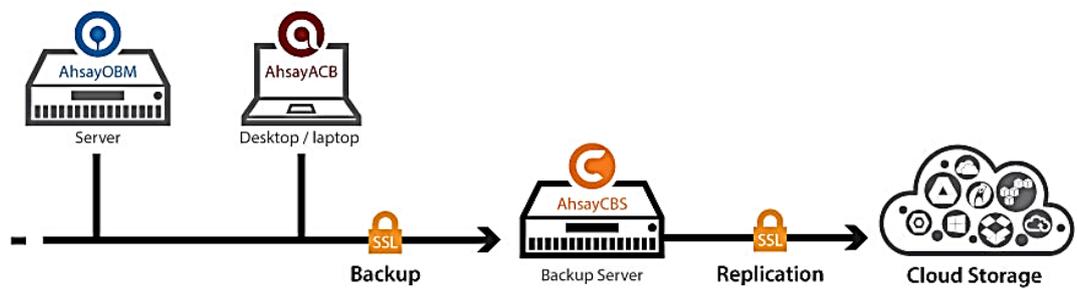
Introduction

This deployment option allows you to replicate your backup data on the backup server to a cloud storage, local/mapped drive/removable storage, or FTP/SFTP server.

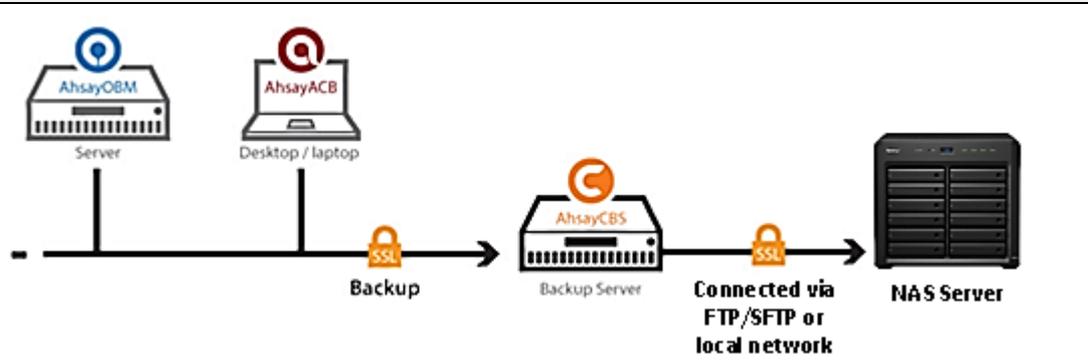
Refer to the list below for all the available redefined destination options.

System Architecture

Method 2a – Cloud Storage as Replication Destination connected via Internet



Method 2b – NAS Server as Replication Destination connected via FTP/SFTP or local network



Requirement

First, you need to have cloud storage account, a local/network/removable drive, or a FTP/SFTP server in place. Then, the predefined destination must have been set under the **System Settings > Predefined Destinations** menu so it can be used for the replication purpose.

Available Predefined Destinations

Aliyun (阿里云)	CTYun (中国电信天翼云)	Wasabi	Amazon S3
Amazon Compatible Cloud Storage	Google Cloud Storage	Google Drive	Microsoft Azure
OneDrive	OneDrive for Business	Rackspace	OpenStack
Dropbox	FTP	SFTP	Local / Mapped Drive / Network Drive / Removable Drive
Backblaze			

Pros

Multiple Threads Replication	Multiple threads replication is supported to improve the replication speed. The actual number of threads that are available for use depends on the CPU power of the backup server. The more CPU cores the backup server has, the more threads it will have for replication. Refer to Multiple Threads Replication for more details.
Cost	<p><u>Low Cost</u></p> <ul style="list-style-type: none"> ➤ Setup cost is low ➤ Cost for storage expansion, especially on cloud storage, is relatively cheaper

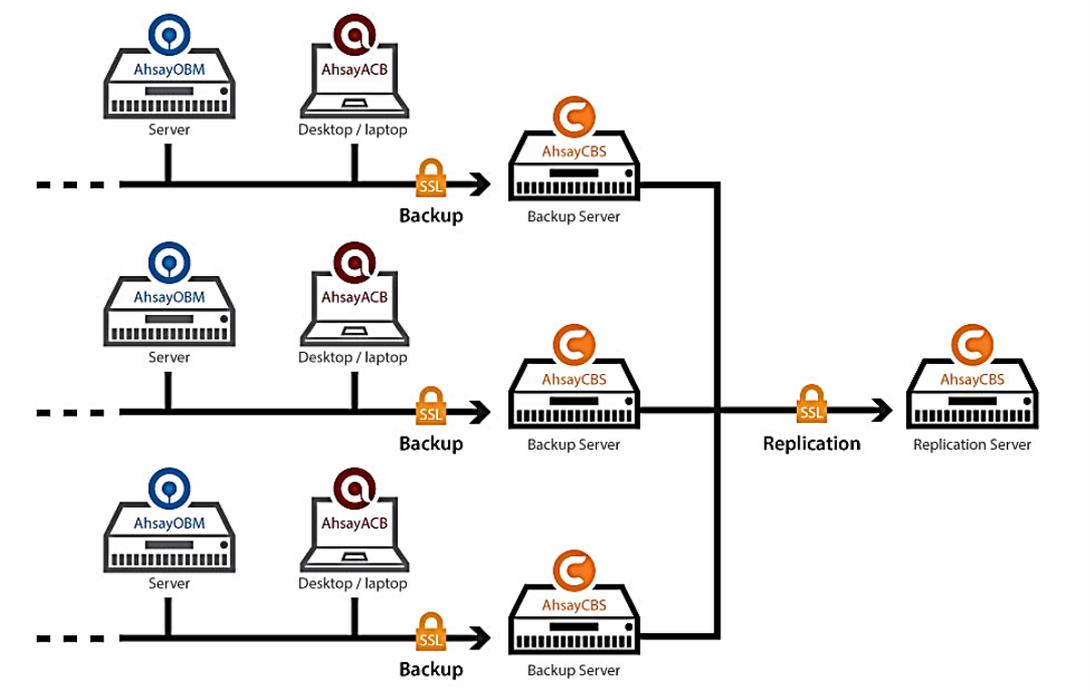
Cons	
Speed of Replication and Restore	<p><u>Slower Upload Bandwidth</u> The replication and restore speed is subject to the connection speed to the predefined destination, and administrator may not always have control over the bandwidth.</p>
Recovery	<p><u>Longer Recovery Process</u> There is no quick way to restore the replicated data from the predefined destination to the backup server. To recover the replicated data on a predefined destination, you have to:</p> <ol style="list-style-type: none"> 1. Setup a new machine. 2. Install Ahsay CBS. 3. Download the replicated files from the predefined destination back to the Backup Server.

Method 3 – Deploy on multiple AhsayCBS Backup Servers replicating to another AhsayCBS Replication Server

Introduction

This deployment option allows you to replicate backup data from multiple AhsayCBS backup servers to an AhsayCBS Replication Server.

System Architecture



Requirement	
<p>Set up a new machine where you wish to host the replication server, and install AhsayCBS on it.</p> <p>In other words, you will have multiple AhsayCBS services running. Each backup server runs on its own license, while the replication server where you would like to have the backup data replicated to requires another license as well.</p>	
Pros	
Cost	<p><u>Lower Setup Cost</u> You only require to have one replication server to accommodate replication from multiple backup servers, instead of one-to-one replication between backup server and replication server.</p>
Single Replication Point Management	<p>With only a single replication server, this deployment option allows you to centrally manage the replication settings and view replication status on the replication server web console, As opposed to the Method 1 deployment where you have to access multiple AhsayCBS web console pages for settings and management.</p>

7.3.2 Comparison between Deployment on AhsayCBS and Cloud Storage

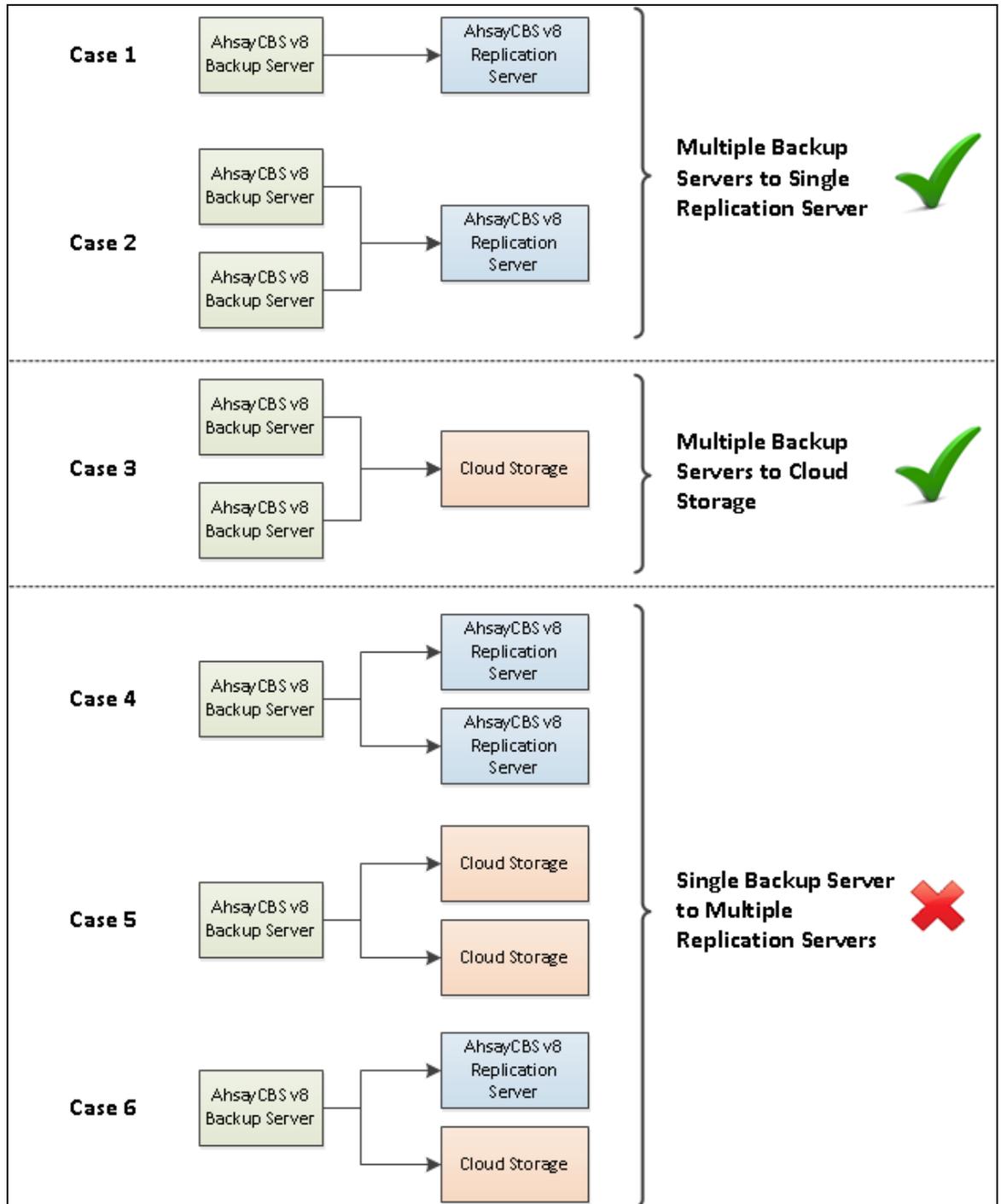
	Deploy on AhsayCBS Replication Server	Deploy on Cloud Storage
Replication Retention	✓	✗
<p>The replication server creates snapshot of the replication data. Under the Replication Retention configurations, Restore Point Interval can be configured to define the number of days between each retention snapshot; Retention Customization Policy can be configured to define the number of days before an existing retention snapshot is removed from the replication server. Click here to see details of this configuration.</p>		
Startup Replication Server as Backup Server	✓	✗
<p>This feature allows you to quickly convert your AhsayCBS replication server into AhsayCBS backup server in the event of a backup server down, so that you can keep serving the backup users to minimal impact to your business. Refer to Method 3 - Startup Replication Server as Backup Server for detailed steps to perform this recovery.</p>		
Replicate Multiple Backup Servers	✓	✓
<p>It is possible to replicate backup data from multiple AhsayCBS backup servers to another AhsayCBS replication server or cloud storage. This gives you the convenience of hosting backup data of multiple backup servers in one single replication server for the purposes of</p>		

cost saving and easier management. Refer to [Deployment Combinations of Backup and Replication Servers](#) for more details.

Support v6 Backup Set Replication	✓	✗
This feature gives you the flexibility to back up not only v8 format backup sets, but also the v6 ones to the replication server, before the v6 format backup sets undergo the data migration process. Refer to Replication of v6 backup sets on AhsayCBS v8 for further details.		
Quick Storage Provisioning	✗	✓
As time goes by, your replication data may fill up the capacity on your AhsayCBS replication server or cloud storage and you will have to expand the storage capacity to accommodate the replication data. Comparing to AhsayCBS deployment, cloud deployment allows a hassle-free storage upgrade where you only have to pay your cloud storage service provider to get the upgrade done.		
Upfront Hardware Investment	✓	✗
Depending on your organization's budget on deploying the replication service, it is generally more cost-saving to deploy the replication service on cloud storage instead of the AhsayCBS as you do not need to invest on hardware and hosting upfront.		

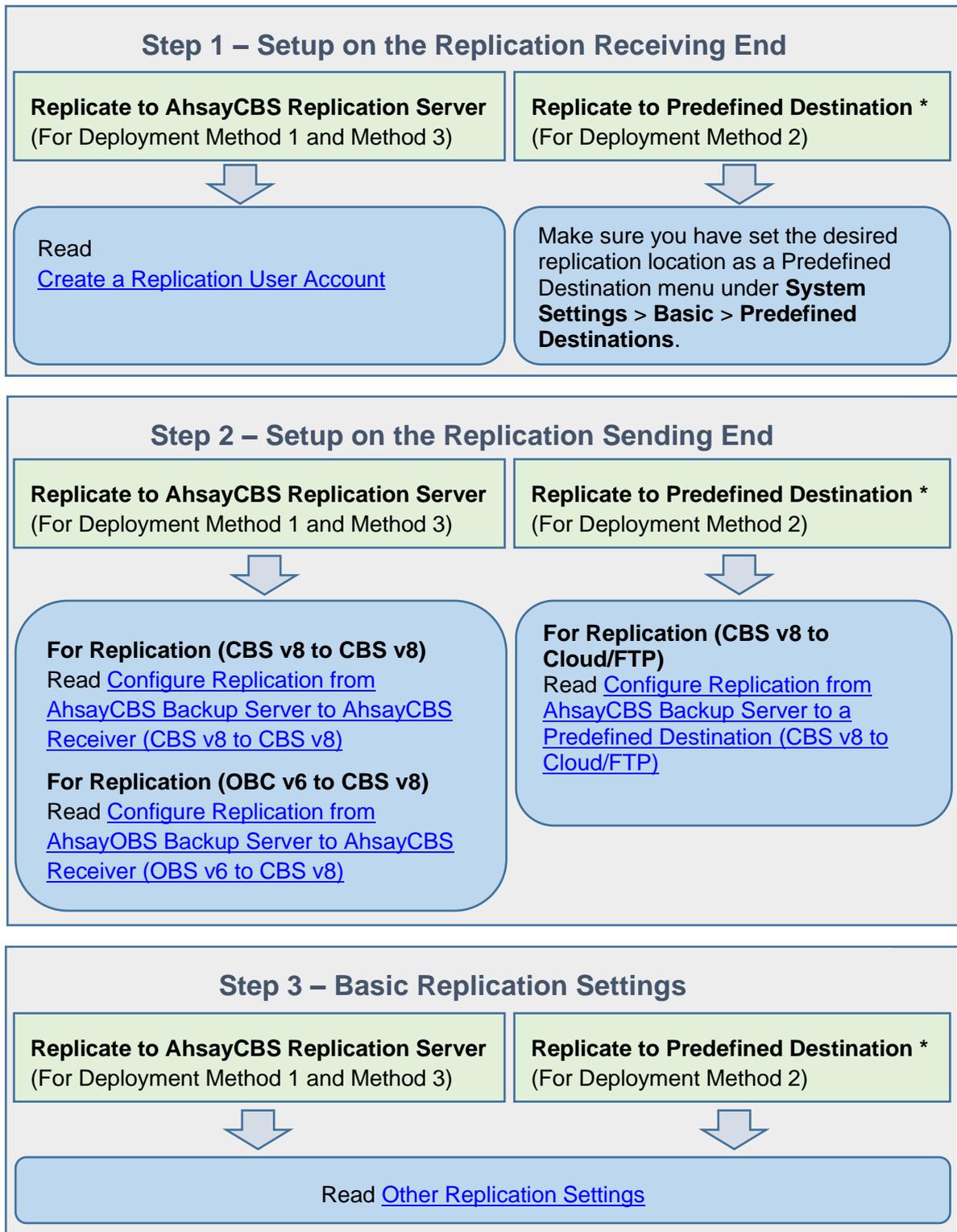
7.3.3 Deployment Combinations of Backup and Replication Servers

It is only possible for a single replication server or cloud storage to host replication data from multiple backup servers, but not the other way around, i.e. a single backup server replicating to multiple replication servers or cloud storage destinations. Refer to the illustration below for details on the possible deployment combinations.



7.4 Deployment

7.4.1 Major Steps to Deploy a Replication Service



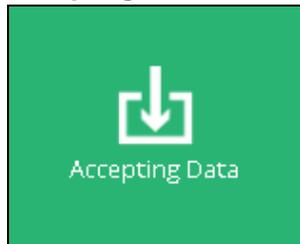
* Replication to Predefined Destination **DOES NOT** support deployment for v6 backup sets on CBS v8

7.4.2 Configuration on the Replication Receiving End

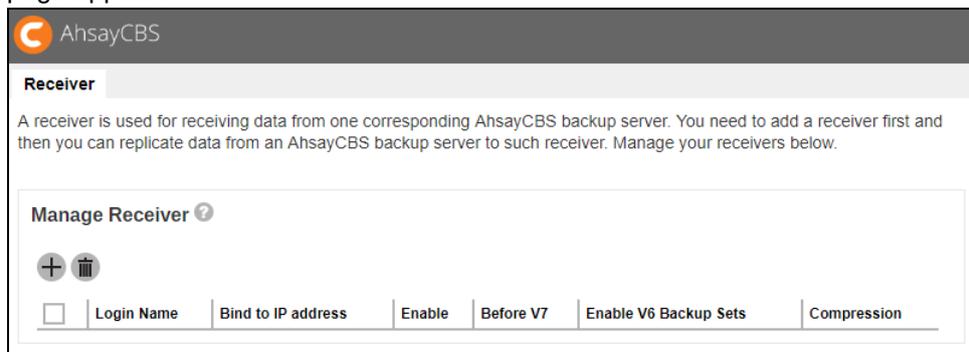
Create a Replication User Account

Before an AhsayCBS/AhsayOBS backup server can replicate backup data to another AhsayCBS replication server, a receiver user account must be created on the AhsayCBS replication server first. Follow the steps below to create a replication receiver account.

1. Log in to the web console on the replication receiving end, go to **Replication > Accepting Data.**



2. Click the **Create (+)** button in the **Manage Receiver** section. The **Add New Receiver** page appears.



3. Set the login name, password and alias of the receiver account.

Add New Receiver

Add a new receiver to receive replication data from another AhsayCBS.

Receiver User Account

Create a user account for this receiver.

Login Name

Password

Alias

4. Configure the source backup server host settings, including the http/https protocol, source backup server host name and port number.

Source Backup Server

Enter the server and user information of the source backup server that will replicate the backup data to this receiver.

Backup Server Host

http ▾		80
--------	--	----

Backup Server Version

V7 or above ▾

Backup Server Host – IP address / host name of the backup server

Backup Server Version – select the source backup server version.

- If you select **V7 or above**, it means the source backup server is an AhsayCBS version 8 backup server.

If you have upgraded your backup server to v8 from v6, and still wish to replicate backup sets in v6 format before they are migrated to v8 format, make sure you select **V7 or above** in this menu.

- **System User** – the system user login of the source backup server
- **System Password** - the system user password of the source backup server

System User

System Password

- If you select **Before 7** as the backup server version, enter the bind to IP address and the replication port. "0.0.0.0" and "9444" are the default values, you can assign a specific IP if you have multiple network cards. For multiple backup servers' replication, a unique replication port number is required to set, such as "9444".

Bind to IP address

0.0.0.0	9444
---------	------

5. Switch the **Enable V6 Backup Sets Replication** on if you will replicate v6 backup sets to the replication server.

Enable V6 Backup Sets Replication

Bind to IP address

6. Configure the retention settings for the replicated data.

Retention Setting

Configure retention settings for the replicated data.

Restore Point Interval

Days

Retention Customization Policy

Days

- **Restore Point Interval** – defines the number of days before new snapshot of the replicated data will be taken and stored in the retention area. A retention snapshot will be taken only when the following two conditions are met:

- There is data received from the backup server
- Restore Point Interval has reached

No retention snapshot will be taken if there is no data received, even when the Restore Point Interval has reached.

- **Retention Customization Policy** – defines the number of days the old snapshot copies to be retained in the retention area.

7. Click the  icon at the bottom right corner to proceed when you are done with settings.

8. Set the default home directory for this replication, and set up the path to store the user homes.

- The following is an example of a v8 receiver setup. In v8 receiver setup, you will be able to configure the default home directory, as well as replication home directory for individual backup server user home.

Add New Receiver

Add a new receiver to receive replication data from another AhsayCBS.

Receiver Home

Configure the Receiver Home(s) where this receiver will use to store all the data replicated from the corresponding backup server.

Default Home Directory

Backup Server User Home	Replication Home
D:\AhsayCBS\user	<input type="text"/>
D:\AhsayCBS\user1	<input type="text"/>
G:\AhsayCBS\user	<input type="text"/>

NOTE

If AhsayCBS is receiving multiple backup servers, please use unique path for each receiver's "Replication Home".

- In v6 receiver, you can only set up the default home directory.

NOTE

It is recommended to configure the default home directory to a non-system drive (i.e. not C:\ drive), especially when there are v6 backup sets, as the replication transaction log files may fill up the disk space and cause the operating system become unstable.

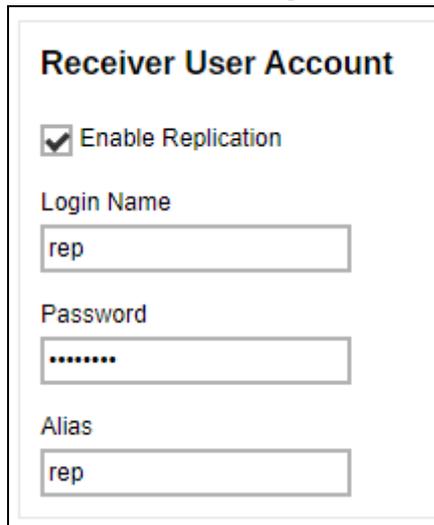
9. Click in the bottom right corner to confirm the configuration.

10. Although the receiver has been created it is still disabled.

Manage Receiver ?

<input type="checkbox"/>	Login Name	Bind to IP address	Enable	Before V7	Enable V6 Backup Sets	Compression
<input type="checkbox"/>	rep	0.0.0.443, 0.0.0.80	false	No	false	true

11. Click on the receiver you created then check the Enable Replication checkbox. Click  to confirm the configuration.



Receiver User Account

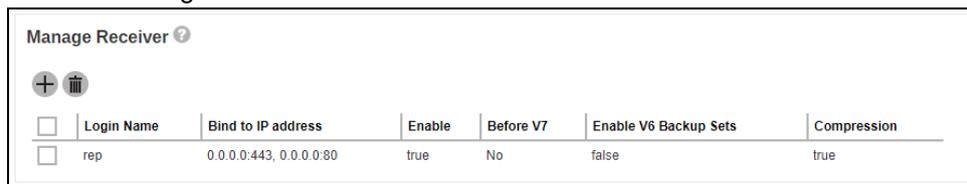
Enable Replication

Login Name

Password

Alias

12. The receiver is now enabled as you can see from the screenshot below. Click  to save the settings.



Manage Receiver 

<input type="checkbox"/>	Login Name	Bind to IP address	Enable	Before V7	Enable V6 Backup Sets	Compression
<input type="checkbox"/>	rep	0.0.0.0:443, 0.0.0.0:80	true	No	false	true

Editing Replication Receiver

You can edit the configurations of the replication receiver after it has been set up.

1. Go to **Replication > Accepting Data** on the AhsayCBS web console on the replication receiver side.
2. Click on the replication receiver account under the **Manage Receiver** section which you wish to edit configurations for.
3. Revise the desired replication receiver item, then click  and  at the bottom right corner to confirm the changes.

7.4.3 Configuration on the Replication Sending End

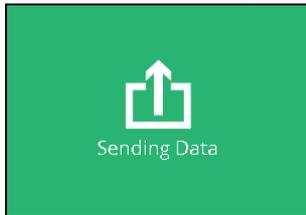
Enable and configure the replication feature on the backup server side by following the corresponding sub-chapter below depending on the backup server version or replication destination.

AhsayCBS v8 Backup Server to AhsayCBS v8 Receiver

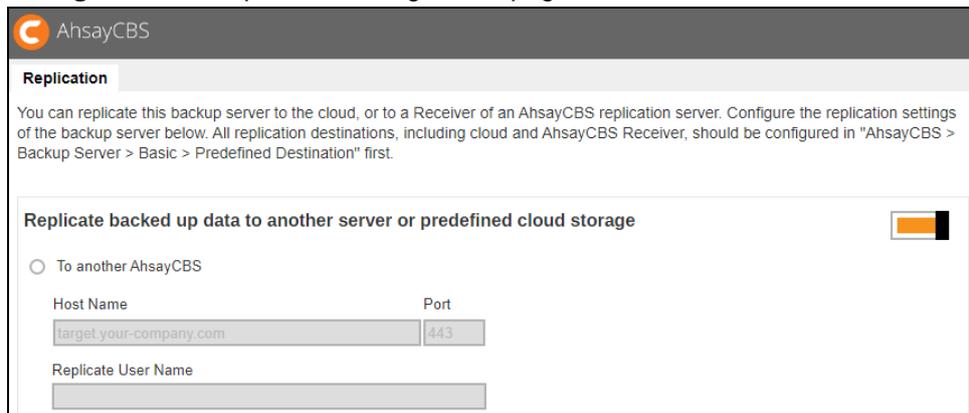
The following example is a v8 (backup server) to v8 (replication server) replication setup. For earlier version setup, please refer to [Configure Replication from AhsayOBS Backup Server to AhsayCBS Receiver \(OBS v6 to CBS v8\)](#) for details.

Note: If you will replicate v6 backup sets on CBS v8 server to another CBS v8 replication server, follow the steps below for setup and make sure you turn on the **Replicate v6 backup sets to v7 server** option in step 7.

1. Make sure you have created a replication receiver account on the receiving end of the AhsayCBS server first. Refer to [Create a Replication User Account](#) for detailed instructions.
2. Click on the **Sending Data** icon under the Replication section on the AhsayCBS web console of the backup server.



3. Switch the **Replicate backed up data to another server or predefined cloud storage** on. The Replication configuration page shows as below.



AhsayCBS

Replication

You can replicate this backup server to the cloud, or to a Receiver of an AhsayCBS replication server. Configure the replication settings of the backup server below. All replication destinations, including cloud and AhsayCBS Receiver, should be configured in "AhsayCBS > Backup Server > Basic > Predefined Destination" first.

Replicate backed up data to another server or predefined cloud storage

To another AhsayCBS

Host Name	Port
<input type="text" value="target-your-company.com"/>	<input type="text" value=".443"/>
Replicate User Name	<input type="text"/>

4. Select the **To another AhsayCBS** option, and then enter the **Host Name**, **Port**, **Replicate User Name**, **Replicate User Password** of the replication receiver.

To another AhsayCBS

Host Name	Port
<input type="text" value="target.your-company.com"/>	<input type="text" value="443"/>
Replicate User Name	<input type="text"/>
Replicate User Password	<input type="text"/>

- **Host Name** – IP address or host name of the replication server with AhsayCBS installed
 - **Replicate User Name** – the username of the receiver created on the AhsayCBS replication server
 - **Replicate User Password** – the password to log in to the receiver created on the AhsayCBS replication server.
5. Check the Connect with SSL checkbox if you need to connect to the replication server with SSL.

Connect with SSL

6. If proxy is required to access the replication server, mark the **Use proxy** checkbox.

Use proxy

7. If there are backup sets in v6 format to be replicated to the replication server, make sure you switch the **Replicate v6 backup sets to v7 server** on. The default port is set as “9444”.

Replicate v6 backup sets to v7 server

Port (SSL)

8. If you wish to configure the following replication settings, refer to [Other Replication Settings](#).

- **Traffic limit for replication** – which limits the amount of bandwidth used by replication.
- **Selectable backup set for replication** – which allows you to choose individual backup set from selected users for replication.
- **Concurrent backup set for replication** – which allows you to configure the maximum number of backup set allowed for replication at the same time.

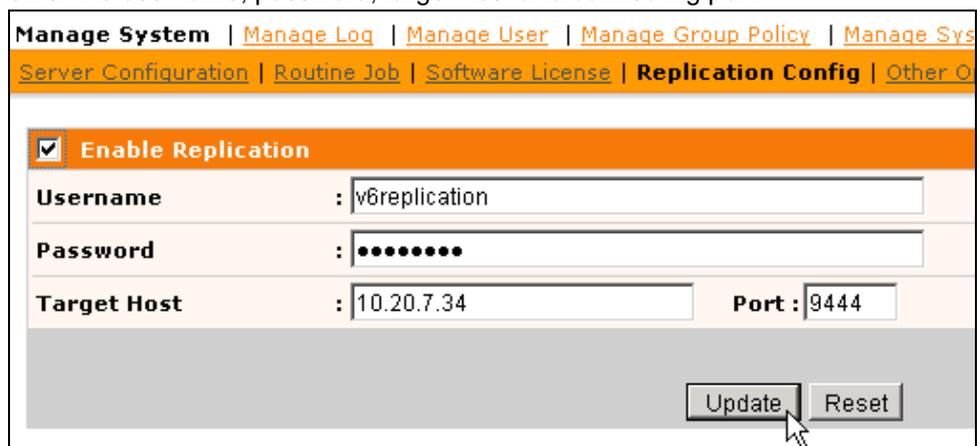
- **Cyclic Redundancy Check (CRC) Checking** – which allows you to enable this checking to run automatically for verifying the integrity of the replicated data.

9. Click the  icon at the bottom right corner to confirm the configuration.

AhsayOBS v6 Backup Server to AhsayCBS v8 Receiver

It is suggested to upgrade your v6 backup server to v8 so that you can enjoy the latest features provided by the AhsayCBS. If you still wish to continue using the v6 backup server to replicate to a v8 receiver, follow the steps below for configuration of the v6 backup server.

1. Make sure you have created a replication receiver account on the receiving end of the AhsayCBS server first. Refer to [Create a Replication User Account](#) for detailed instructions.
2. In your backup server, navigate to **Manage System -> Replication Config**, then enter the username, password, target host and connecting port.



The screenshot shows the 'Replication Config' page in the AhsayOBS v6 backup server. The page has a navigation bar with links: Manage System, Manage Log, Manage User, Manage Group Policy, Manage Sys, Server Configuration, Routine Job, Software License, Replication Config, and Other O. The 'Replication Config' section is active. It features a checkbox for 'Enable Replication' which is checked. Below this are input fields for 'Username' (containing 'v6replication'), 'Password' (masked with dots), 'Target Host' (containing '10.20.7.34'), and 'Port' (containing '9444'). At the bottom right, there are 'Update' and 'Reset' buttons. A mouse cursor is pointing at the 'Update' button.

3. Click **Update** to confirm the settings.

NOTE

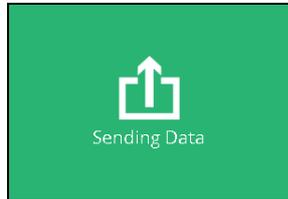
The index files stored in the v6 backup server will not be replicated to the AhsayCBS (Replication Server) nor any cloud storage.

There is no multiple threads replication.

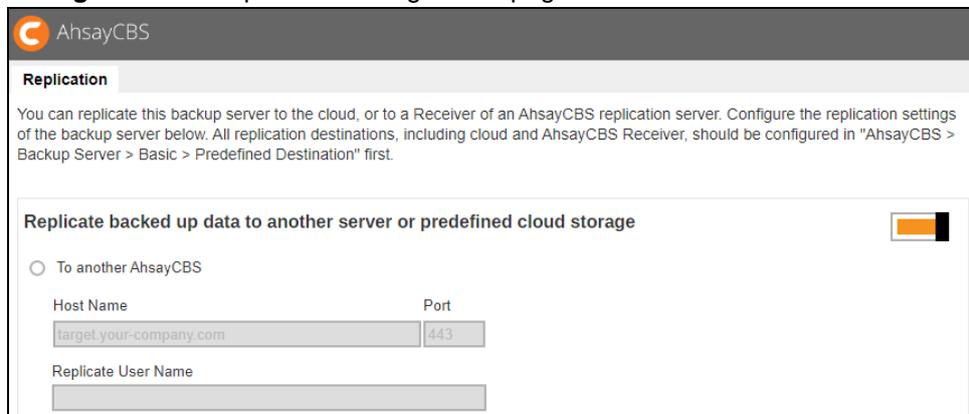
The AhsayCBS replication server cannot be started as a v6 backup server.

AhsayCBS v8 Backup Server to a Predefined Destination

1. Make sure you have created a replication receiver account on the receiving end of the AhsayCBS server first. Refer to [Create a Replication User Account](#) for detailed instructions.
2. Click on the **Sending Data** icon under the Replication section on the AhsayCBS web console of the backup server.



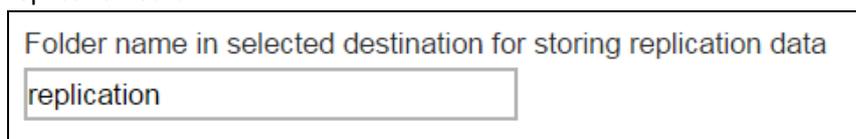
3. Switch the **Replicate backed up data to another server or predefined cloud storage** on. The Replication configuration page shows as below.



4. Select the **To a predefined destination** option as shown below. You will then see a list of predefined destination you have set under the **System Settings > Basic > Predefined Destinations** menu.



5. You can configure the folder name in the selected predefined destination to store the replication data.



6. If proxy is required to access the replication server, mark the **Use proxy** checkbox.

 Use proxy

7. If you wish to configure the following replication settings, refer to [Other Replication Settings](#).

- **Traffic limit for replication** – which limits the amount of bandwidth used by replication.
- **Selectable backup set for replication** – which allows you to choose individual backup set from selected users for replication.
- **Concurrent backup set for replication** – which allows you to configure the maximum number of backup set allowed for replication at the same time.
- **Cyclic Redundancy Check (CRC) Checking** – which allows you to enable this checking to run automatically for verifying the integrity of the replicated data.

8. Click the  icon at the bottom right corner to confirm the configuration.

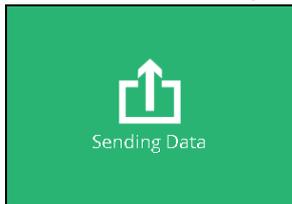
7.4.4 Other Replication Settings

The following replication settings can only be set when the replication feature has been enabled on the AhsayCBS backup server.

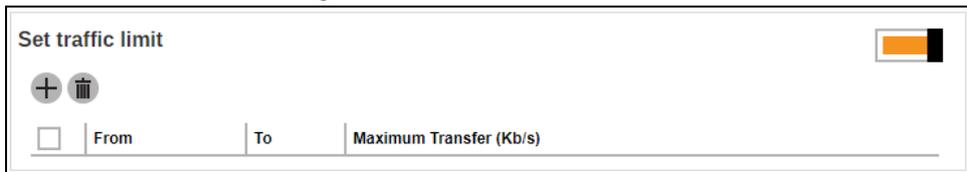
Traffic Limit

This is an optional setting that allows you to limit the amount of bandwidth used by replication traffic between a specified periods of your choice.

1. Click on the **Sending Data** icon under the Replication section on the AhsayCBS web console of the backup server.



2. Click the  button in the **Set traffic limit** section to turn the replication feature on. You will then see the configuration menu as shown.



3. Click on the  icon for configuration.
4. You will then see the configuration page as shown.

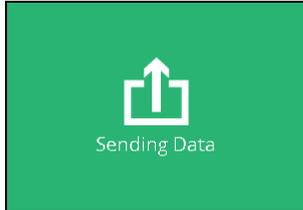
A screenshot of the "Traffic Limit" configuration page. It has a title "Traffic Limit" and three main sections: "From" with a date and time selector (Sun, 00:00), "To" with a date and time selector (Sun, 00:00), and "Maximum Transfer" with a text input field and the unit "kbits / Second".

- **From** – set the start time to apply the traffic limit by selecting a day of the week and time in hh:mm (24-hr format)
 - **To** – set the end time to apply the traffic limit by selecting a day of the week and time in hh:mm (24-hr format)
 - **Maximum Transfer** – set the maximum bandwidth allowed for data transfer in the format of kbits /second.
5. Click the  icon then the  icon at the bottom right corner to confirm the changes.

Replicate Individual Backup Sets

By default, all backup sets of all users on all use homes will be replicated to the replication location (either another AhsayCBS or a predefined destination). However, it is possible to select specific backup users and their specific backup sets for replication.

1. Click on the **Sending Data** icon under the Replication section on the AhsayCBS web console of the backup server.



2. Click the  button in the **Replicate individual backup sets** section to turn the replication feature on. You will then see the configuration menu as shown.

Replicate individual backup sets 

Replicate new backup sets of paid users

Replicate new backup sets of trial users

3. First, you can set to replicate the backup data of either the paid users or trial users, or both by checking the corresponding checkbox(s).

Replicate new backup sets of paid users

Replicate new backup sets of trial users

4. Now, you can start selecting specific backup sets(s) to replicate. Click on the  icon to select the desired backup users first. Multiple selections is possible. Click on the  icon at the bottom right corner to proceed when you are done with the selection.

Select Users

<input type="checkbox"/>	User
<input checked="" type="checkbox"/>	 MSSQL1020135 (Owner: --)
<input checked="" type="checkbox"/>	 TestMSSQL (Owner: --)
<input type="checkbox"/>	 TestOBM_5.63 (Owner: --)
<input type="checkbox"/>	 Test_MSSQL (Owner: --)
<input type="checkbox"/>	 Testoffice365 (Owner: --)
<input type="checkbox"/>	 dennis.test.obm (Owner: --)
<input type="checkbox"/>	 test.test (Owner: --)
<input type="checkbox"/>	 test_obm (Owner: --)
<input type="checkbox"/>	 testencrypt (Owner: --)
<input type="checkbox"/>	 testobmv6tov7 (Owner: --)
<input type="checkbox"/>	 v6client (Owner: --)

- You will then see a page listing all the backup sets of the backup user(s) you have selected from the last step. Each individual row shows the name of the backup user, the name of the backup set, and the backup set type in the corresponding icon.

Select Backup Sets

<input type="checkbox"/>	User	Name	Type
<input type="checkbox"/>	<input checked="" type="radio"/> MSSQL1020135 (Owner: --)	FullRecovery-backup-set-Full	
<input type="checkbox"/>	<input checked="" type="radio"/> MSSQL1020135 (Owner: --)	FullRecovery-backup-set-Incremental	
<input type="checkbox"/>	<input checked="" type="radio"/> MSSQL1020135 (Owner: --)	Simple-backup-set-Incremental01	
<input type="checkbox"/>	<input checked="" type="radio"/> MSSQL1020135 (Owner: --)	Simple-backup-set-Incremental02	
<input type="checkbox"/>	<input checked="" type="radio"/> TestMSSQL (Owner: --)	FullRecovery-backup-Full	
<input type="checkbox"/>	<input checked="" type="radio"/> TestMSSQL (Owner: --)	FullRecovery-backup-incremental	

- Select the desired backup sets by clicking the corresponding checkbox, then click the icon at the bottom right corner to confirm the selection.

Select Backup Sets

<input type="checkbox"/>	User
<input checked="" type="checkbox"/>	<input checked="" type="radio"/> MSSQL1020135 (Owner: --)
<input checked="" type="checkbox"/>	<input checked="" type="radio"/> MSSQL1020135 (Owner: --)
<input type="checkbox"/>	<input checked="" type="radio"/> MSSQL1020135 (Owner: --)
<input type="checkbox"/>	<input checked="" type="radio"/> MSSQL1020135 (Owner: --)
<input checked="" type="checkbox"/>	<input checked="" type="radio"/> TestMSSQL (Owner: --)
<input type="checkbox"/>	<input checked="" type="radio"/> TestMSSQL (Owner: --)

- You will then see the selected backup sets being added to the **Replicate individual backup sets** section as shown if they are added successfully. Each row of the entry shows the corresponding backup user name, backup set name and the size of the backup set.

Replicate individual backup sets

Replicate new backup sets of paid users
 Replicate new backup sets of trial users

<input type="checkbox"/>	Login Name (Alias)	Backup Set	Used
<input type="checkbox"/>	<input checked="" type="radio"/> MSSQL1020135 (MSSQL1020135)	FullRecovery-backup-set-Full	231.83M
<input type="checkbox"/>	<input checked="" type="radio"/> MSSQL1020135 (MSSQL1020135)	FullRecovery-backup-set-Incremental	225.93M
<input type="checkbox"/>	<input checked="" type="radio"/> TestMSSQL (TestMSSQL)	FullRecovery-backup-Full	43.5M

- Click the icon then the icon at the bottom right corner to confirm the changes.

Setting the Number of Backup Sets to Replicate Concurrently

You are able to change the number of backup sets to replicate concurrently on the AhsayCBS backup server web console under **Replication > Sending Data**.

Under the Replicate backed up data to another server or predefined cloud storage section, there is a drop-down menu for the No. of backup sets to replicate concurrently setting. The minimum number of backup sets that can be configured to replicate concurrently is 1 while the maximum is 16.

The default value is **Auto**, with this setting the number of backup sets to replicate concurrently is automatically computed. The way this value will be computed depends on the setting of the maximum threads for replication option which can be added in the `%CBS_INSTALL_PATH%\conf\cbs.opt` file.

Here are the two ways that the Auto value will be computed:

- If the maximum allowed number of replication threads is enabled
`com.ahsay.cbs.obs.config.Index.RepMaxThreads=true`

The default (Auto) number of concurrent backup sets = the number of CPU cores

For example, if the AhsayCBS server has a total of 8 CPU cores, then the number of concurrent backup set to replicate is 8.

NOTE

There is no maximum value for the default (Auto) value, so if the AhsayCBS server has a total of 64 CPU cores then the Auto value will be 64.

- If the maximum allowed number of replication threads is disabled (default)
`com.ahsay.cbs.obs.config.Index.RepMaxThreads=false`

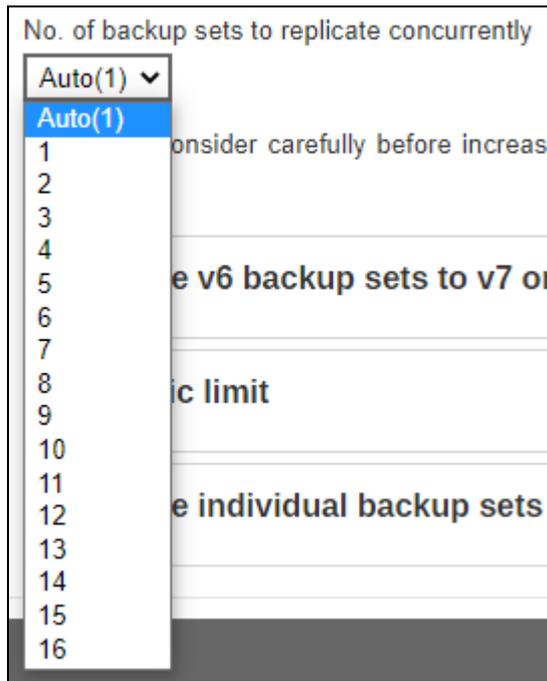
The default (Auto) number of concurrent backup sets = Total number of CPU cores / 8

For example, if the AhsayCBS server has a total of 8 CPU cores, then the number of concurrent backup set to replicate is 1.

Another example, if the AhsayCBS server has a total of 16 CPU cores, then the number of concurrent backup set to replicate is 2.

NOTE

There is a minimum number for the default (Auto) value which is 1. While the maximum number for the default (Auto) value is 4.



You may adjust the concurrent backup set value from the drop-down menu as highlighted above. In case you find the default setting is too low, the value can be increased to a larger value. Or if the large value is causing performance issues such as hard disk I/O or high network bandwidth utilization, it can be decreased to a lower value.

For more information regarding replication threads please refer to this article: [FAQ: How do I increase the number of replication threads on my AhsayCBS backup server to improve replication speed?](#)

NOTE

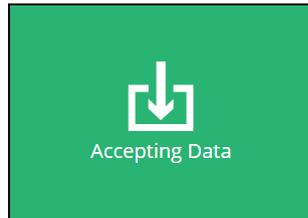
The multiple threads feature supports the backup set that is created/converted in V8 format. This feature does not support users who are still using v6 backup clients, as their backup sets are still using the legacy v6 backup set data format. Refer to the [Backup Data Migration](#) section for further information on converting backup set format.

Cyclic Redundancy Check (CRC) Checking

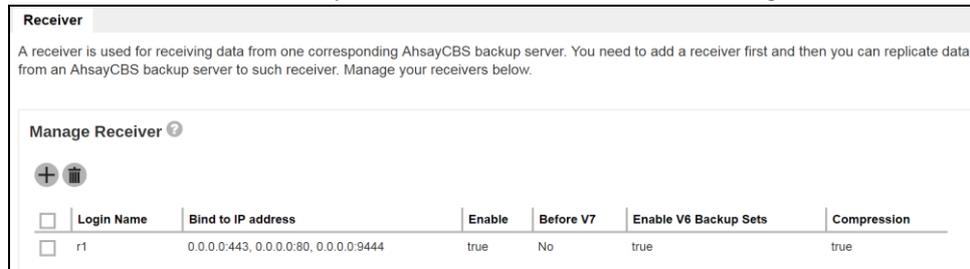
The **Cyclic Redundancy Check (CRC) Checking** job will check all new files replicated to the AhsayCBS receiver since the last CRC job. This checking can be run automatically for verifying the integrity of the replicated data.

A replication receiver must have been set before you can enable the Cyclic Redundancy Check (CRC) Checking.

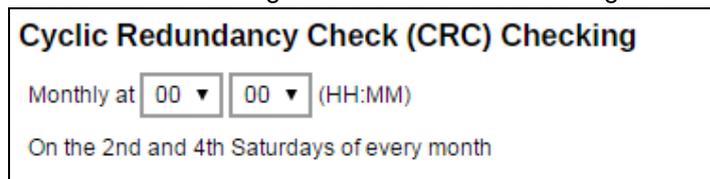
1. Click on the **Accepting Data** icon under the Replication section on the AhsayCBS web console of the backup server.



2. Click on the receiver which you wish to enable the CRC checking feature.



3. Scroll to the **Cyclic Redundancy Check (CRC) Checking** section and switch on the feature by sliding the  icon on the right.
4. The CRC checking is set to run on the second and fourth Saturdays of every month by default. You can configure the time for the checking to run on the specified dates.



5. Click the  icon then the  icon at the bottom right corner to confirm the changes.

NOTE

Please note that the Cyclic Redundancy Check (CRC) Checking feature option is only available for backwards compatibility:

- AhsayOBS v6 to AhsayCBS v8

It is not supported in replication setups for:

- AhsayCBS v8 to AhsayCBS v8
- AhsayCBS v7 to AhsayCBS v8

7.5 Recovery Process Overview

After you have deployed the replication server, data from the backup server will be replicated to the replication destination you have selected. In the event of a system down on your backup server, or you wish to retrieve deleted data from the replication destination, you can recover the configurations and backup data replicated from the backup server by using any one of the recovery methods below.

Method 1 – Rebuild AhsayCBS from Replication

Introduction

This recovery method rebuilds the AhsayCBS by extracting AhsayCBS configuration, system files, user profiles and backup data from the replication destination then restoring it either to the Backup Server or restoring the raw data alone using a Backup Client Agent (AhsayOBM / AhsayACB).

Steps

Step 1: Confirm Replication Status by Checking Replication Logs

Step 2: Extract Data from Replication Destination

- From [AhsayCBS Replication Server](#)
- From [a Predefined Destination - Cloud storage](#)
- From [FTP/SFTP](#)
- From [Local/Mapped Drive/Removable Drive](#)
- From [v6 Replication](#)
- From [Snapshot in Retention Area](#)

Step 3: Restore replication data extracted from the previous step using either method below

- [Restore Data to the Backup Server](#)
- OR-
- [Restore the Raw Data Alone using a Backup Client Agent](#)

Pros

Selective Backup Set Restore

After extracting the backed up data from the replication destination, you have the flexibility to restore only the selected backup sets from selected backup users, instead of restoring all data at once.

Restore as Raw Data

Instead of restoring the backed up data to the backup server, you can only restore the raw data by using a client backup agent (AhsayOBM / AhsayACB).

Cons

Relatively Time and Effort Consuming

As opposed to Method 3 where you can quickly convert the replication server as backup server, this recovery method takes more time and effort to rebuild the backup server.

Method 2 – Rebuild from Auto Save

Introduction

This recovery method only restores the AhsayCBS configuration, system files and user profiles but not the users' backed up data. Users' backed up data will have to be re-uploaded again to complete the recovery.

Steps

Step 1: Select the desired Auto Save snapshot by date

Step 2: Select the desired configuration and/or user profile

Step 3: Override the existing configuration files

-OR-

Manually restore the configuration files

Step 4: Restart AhsayCBS service

Refer to [Method 2 - Rebuild from Auto Save](#) section for detailed steps.

Pros

Quick Rebuild of AhsayCBS

AhsayCBS can be quickly rebuilt by applying only the configuration files and user profiles.

Cons

Longer Time to Re-upload Backup Data

Since the users' backup data is not restored and required to be re-uploaded again, it is going to take a longer time to complete the whole recovery process.

Method 3 – Start up Replication Server as Backup Server

Introduction

This recovery method allows you to quickly convert AhsayCBS in replication receiver mode to a backup server. This is a quick and direct way to access your backup data in the event of a system down on your backup server.

Steps

Refer to [Method 3 - Startup Replication Server as Backup Server](#) for detailed steps.

Pros

Fastest Recovery

This recovery method is the fastest way to turn the replication server as a backup server so as to minimize the system down time in the event of a backup server disaster.

7.6 Recovery Methods

7.6.1 Method 1 - Rebuild AhsayCBS from Replication

1. Set up a new AhsayCBS on a new machine with similar hardware specification, and sufficient hard disk space as the original backup server.
2. Make sure replication has been performed before you start restoring any replication data. Refer to [To check replication logs on the Backup Server:](#) and [To check the replication logs on the Replication Server:](#) for details.
3. Extract data in the 3 folders (“**conf**”, “**system**” and “**user**”) from the replication destination. Below are the links that can quickly direct you to the corresponding section for the detailed steps.
 - From [AhsayCBS Replication Server](#)
 - From [a Predefined Destination - Cloud storage](#)
 - From [FTP/SFTP](#)
 - From [Local/Mapped Drive/Removable Drive](#)
 - From [v6 Replication](#)
 - From [Snapshot in Retention Area](#)
4. Stop AhsayCBS server on the new machine.
5. To rebuild the AhsayCBS on the new machine by restoring the extracted data, continue to read through the rest of the steps in this section.

-OR-

To restore the backup raw data alone using a Backup Client Agent, disregard the steps below and skip to [Restore Raw Data Using AhsayOBM / AhsayACB](#) for further steps.

6. Copy all the contents in 3 folders backup to your new server as instructed below:
 - **system -> CBS_HOME\system**
 - **user -> CBS_HOME\user**
 - **conf\conf.zip -> CBS_HOME\conf**

Note: Expand the conf.zip first.

7. Start the AhsayCBS server on the new machine after copying the data instructed above.

8. Logon to the AhsayCBS web management console.
9. You will notice that there is a license error. This is because your AhsayCBS is running on the new machine with hardware and settings changed. Please contact our [support](#) with your licensee name and license key. We shall relax the license for you. There is a 14 days grace period before the license deactivates.

Here is a list of suggested items to check after you started up your AhsayCBS.

1. Check SMTP settings in AhsayCBS web console by navigating to **System Settings > Basic > Email**.
2. Check all users' profile, backup and policy group settings in AhsayCBS web console by navigating to **Backup/Restore > Users, Groups & Policies**.
3. Check https connection to the AhsayCBS on different browsers (IE, Firefox and Chrome).

7.6.2 Method 2 - Rebuild from Auto Save

Comparing with the rebuilding from the replication server, this option can only restore the AhsayCBS configuration, system files and user profiles. Users' backed up data will not be restored and therefore users need to re-upload all backup data again on their next schedule backup.

So it is very important to configure a replication for your AhsayCBS if you need to restore everything that was originally on the Backup Server.

REMINDERS

1. As the system keeps only a maximum of 30 Auto Save snapshots on software vendor's cloud, if you want to keep these snapshot(s) on your server, you need to download these snapshots manually.
2. If you restore an earlier snapshot, all the snapshots beyond the restore date will not be able to restore again.

Example: If today is Jan 21st 2016, after you restore the snapshot on Jan 19th, 2016, the snapshot on Jan 20th and Jan 21st will not be able to select from the dropdown list.

The table below shows all the major system configuration files that are saved on the cloud daily by the Auto Save system job:

Server Configuration	
Description	Path
Connector setting file	/conf/server.xml
CBS option files	/conf/afc.opt /conf/cbs.opt
Runtime setting file	/conf/cbssvc.ini
Default certificate files	/conf/ca.crt /conf/ssl.crt /conf/ssl.key
CBS setting files	/conf/cbs.json
Redirector configuration files	/conf/lfsConfig.xml
CBS Configuration	
Description	Path
Backup Server setting files	/conf/obs.json
License files	/conf/lic.json /conf/license.xml
CBS/OBS option files	/conf/cbs.opt

Autoupdate index	/conf/autoUpdate.bdb
Replication configuration files	/conf/rpsSend.xml
RPS Configuration	
Description	Path
Replication configuration files	/conf/rps.xml /conf/rpsRecv.xml /conf/rps-recv.json
RDR Configuration	
Description	Path
Redirector configuration files	/conf/rdr.xml /conf/rdr.json
License files	/conf/rdr-lic.json /conf/rdr-license.xml
CBS User Profile	
Description	Path
Users' profile	/conf/users.xml
Others	
Description	Path
Branding directory	/conf/Branding/*.*
User group definition	/system/obs/policies/userGroup.xml
Policy group definition	/system/obs/policies/policyList.xml

Please note that there are no options to restore the "Others" category, however it will be restored automatically every time when you need to restore the auto save files.

Steps to restore the Auto Save snapshot

1. Login to AhsayCBS management console, and go to **System Settings -> Advanced -> Auto Save**.
2. Turn on the **Use Auto Save** switch, then click on the **Restore** button.

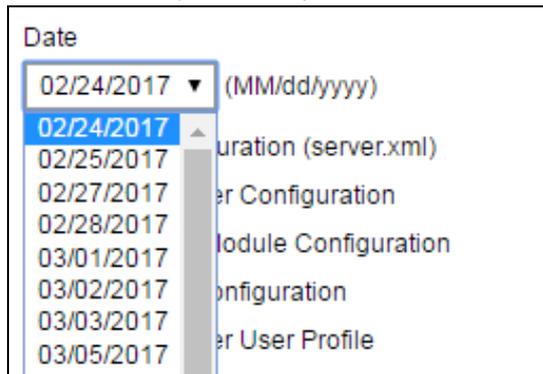
Auto Save
Proxy
Logging
File Explorer
Runtime Options

When this feature is enabled, the system will automatically save all the settings in this server to the software vendor's cloud so that you can restore those settings in the future when needed.

Use Auto Save

Use Proxy

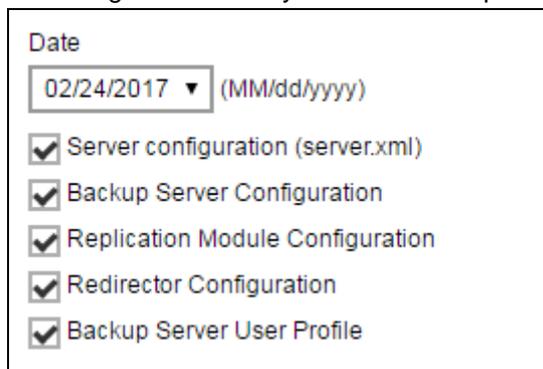
3. Select the snapshot that you want to restore.



A screenshot of a date selection dropdown menu. The title is "Date". The selected date is "02/24/2017" with a dropdown arrow and "(MM/dd/yyyy)" next to it. Below the dropdown, a list of dates is shown with corresponding configuration items:

Date	Configuration Item
02/24/2017	uration (server.xml)
02/25/2017	er Configuration
02/27/2017	er Configuration
02/28/2017	odule Configuration
03/01/2017	onfiguration
03/02/2017	onfiguration
03/03/2017	er User Profile
03/05/2017	

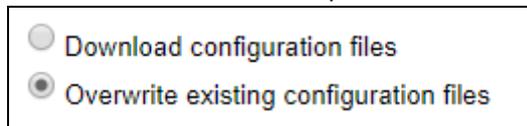
4. Select the items that you need to restore. Select all the items if you need to restore the configuration exactly on that restore point.



A screenshot of a configuration selection form. The title is "Date". The selected date is "02/24/2017" with a dropdown arrow and "(MM/dd/yyyy)" next to it. Below the date, there are five checkboxes, all of which are checked:

- Server configuration (server.xml)
- Backup Server Configuration
- Replication Module Configuration
- Redirector Configuration
- Backup Server User Profile

5. Click on the **Next** button.
6. Select to download the snapshot file or to overwrite the existing configuration.



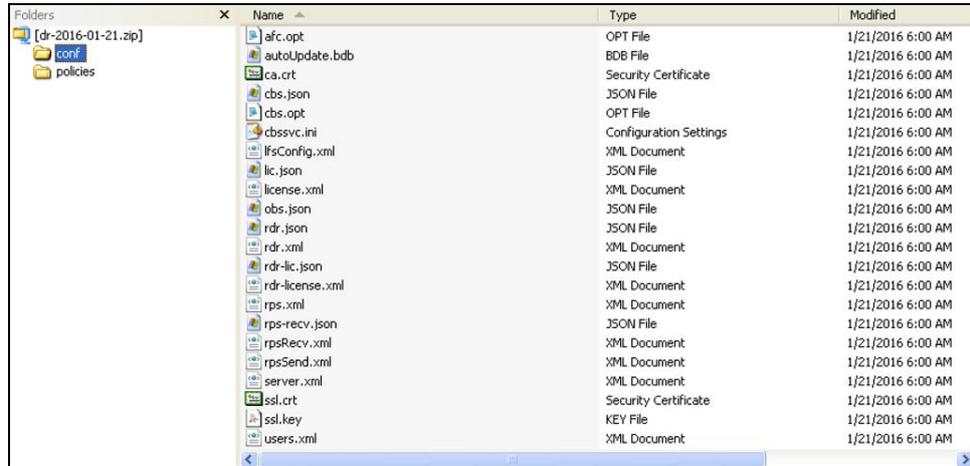
A screenshot of two radio button options for configuration restoration:

- Download configuration files
- Overwrite existing configuration files

- In this example, we have selected the **Overwrite existing configuration files** option.
 - Skip to the [Manual Restore](#) section below if you want to restore the downloaded file manually.
7. Click on the **Restore** button if you want to overwrite the existing configuration.
 8. Restart the AhsayCBS service, and the configuration will be overwritten.

Manual Restore

1. Here is an example of the downloaded configuration file, it is named as dr-YYYY-MM-DD.zip date format.



Name	Type	Modified
afc.opt	OPT File	1/21/2016 6:00 AM
autoUpdate.bdb	BDB File	1/21/2016 6:00 AM
ca.crt	Security Certificate	1/21/2016 6:00 AM
cbs.json	JSON File	1/21/2016 6:00 AM
cbs.opt	OPT File	1/21/2016 6:00 AM
cbssvc.ini	Configuration Settings	1/21/2016 6:00 AM
fsConfig.xml	XML Document	1/21/2016 6:00 AM
lc.json	JSON File	1/21/2016 6:00 AM
license.xml	XML Document	1/21/2016 6:00 AM
obs.json	JSON File	1/21/2016 6:00 AM
rdr.json	JSON File	1/21/2016 6:00 AM
rdr.xml	XML Document	1/21/2016 6:00 AM
rdr-lc.json	JSON File	1/21/2016 6:00 AM
rdr-license.xml	XML Document	1/21/2016 6:00 AM
rps.xml	XML Document	1/21/2016 6:00 AM
rps-recv.json	JSON File	1/21/2016 6:00 AM
rpsRecv.xml	XML Document	1/21/2016 6:00 AM
rpsSend.xml	XML Document	1/21/2016 6:00 AM
server.xml	XML Document	1/21/2016 6:00 AM
ssl.crt	Security Certificate	1/21/2016 6:00 AM
ssl.key	KEY File	1/21/2016 6:00 AM
users.xml	XML Document	1/21/2016 6:00 AM

2. (Optional) If you need to restore the file manually, you can unzip the 2 folders “**conf**” and “**policies**” into the **CBS_HOME\system\recovery**. After the restart of the AhsayCBS service, the configuration will be imported to the AhsayCBS.

7.6.3 Method 3 - Startup Replication Server as Backup Server

Refer to the following steps to convert your AhsayCBS in replication receiver mode to a backup server.

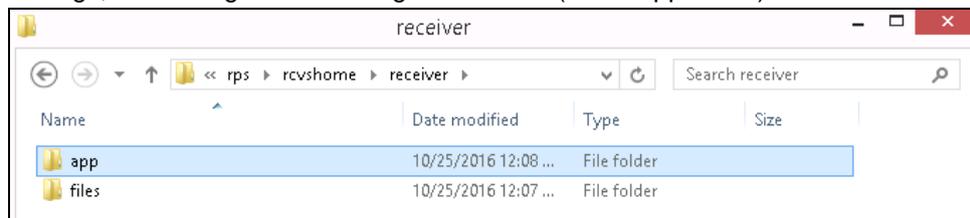
NOTE

It is assumed that the first cycle of replication from the sender to the receiver had been completed.

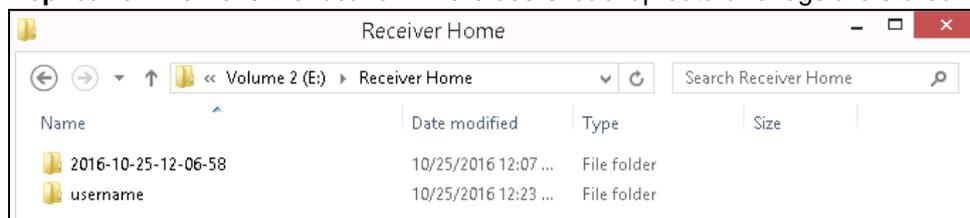
1. Check on the Receiver's Setting by following the steps below, and make note of the **Default Home Directory** and **Replication Home** settings.
 - On the AhsayCBS in replication receiver mode, login to the AhsayCBS web console.
 - Confirm on the replication receiver's settings. Under **Replication**, select **Accepting Data**.
 - Check on the **Default Home Directory** setting, as well as the **Replication Home** setting.

Default Home Directory	
C:\Program Files\AhsayCBS\system\rps\rcvshome\receiver	
Backup Server User Home	Replication Home
C:\Program Files\AhsayCBS\user	E:\Receiver Home

Default Home Directory is where the replication sender's system home, user settings, and configuration settings are stored (in the app folder).



Replication Home is the location where users' backup data and logs are stored.



In the example above, the following settings are used:

- Default Home Directory is set to:
C:\Program Files\AhsayCBS\system\rps\rcvshome\receiver

- Replication Home is set to:
E:\Receiver Home

2. Configure the Software License by following the steps below.

- On the AhsayCBS in replication receiver mode, login to the AhsayCBS web console.
- Under **System Settings**, select **Licenses**, then apply the AhsayCBS license (the license from the AhsayCBS in backup server mode).

This will ensure that there are sufficient **Client Software** and **Add-on Modules** available to the backup users after the switch.

- Press **Update**, then click .

Ensure that the license information are properly applied by checking the Client Software and Add-on Modules settings under License Details.

IMPORTANT

Before continuing with the next step, ensure that the license is properly applied. Failure to do so may result in backup accounts being suspended and all backup settings being reset.

Also, ensure to shut down the AhsayCBS on the backup server, so that you are not running two servers with the same AhsayCBS license.

3. Convert the AhsayCBS in Replication Receiver Mode to Backup Server Mode by following the steps below.

- Shutdown the AhsayCBS service.

Note: *Shutdown the AhsayCBS and AhsayCBS NFS services.*

- Copy the replicated system **config** files to the corresponding location.
 - ⦿ Extract the content of the **conf.zip** file from the **Default Home Directory** to the AhsayCBS installation **conf** folder.

Extract

%Default Home Directory%\app\conf\conf.zip

to

%AhsayCBS Install Home%*

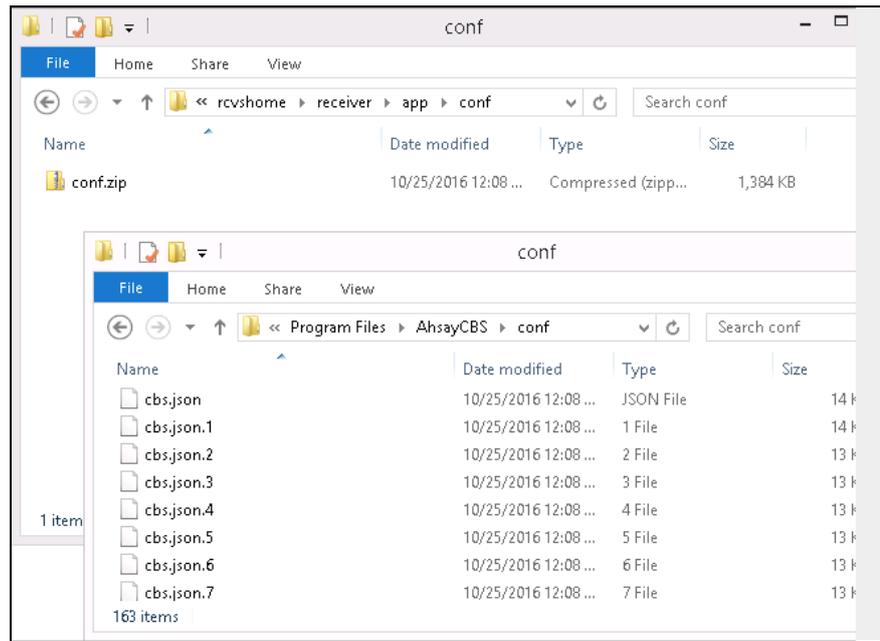
Using the example in Step 1, extract content of

C:\Program

Files\AhsayCBS\system\rps\rcvshome\receiver\app\conf\conf.zip

to

C:\Program Files\AhsayCBS\conf



- Copy the replicated system home to the corresponding location by following the steps below.
 - ⦿ Copy the replicated system home from the **Default Home Directory** to the AhsayCBS system home folder.

Copy

%Default Home Directory%\app\system*

to

%AhsayCBS System Home%*

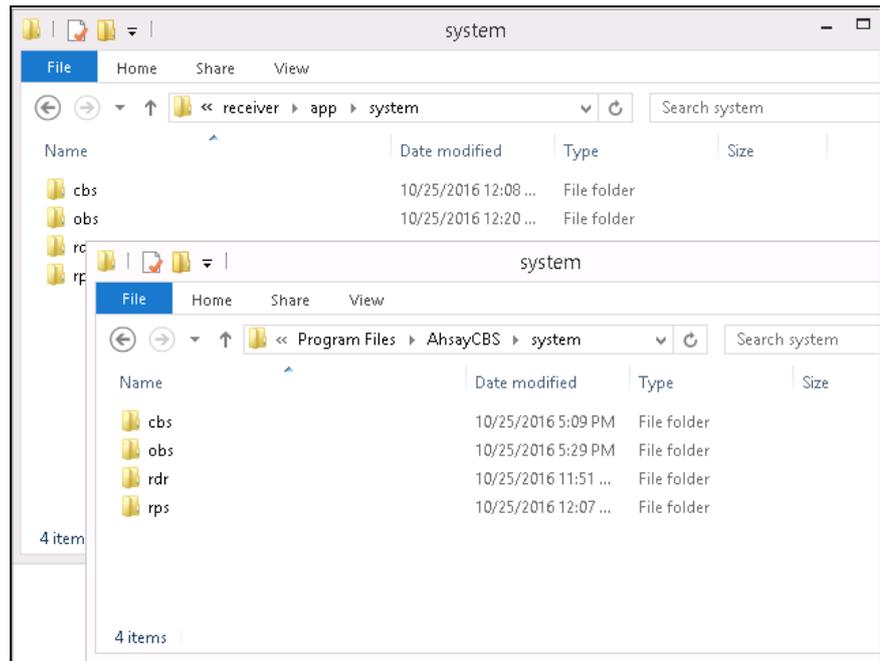
Using the example in Step 1, copy the content of

C:\Program

Files\AhsayCBS\system\rps\rcvshome\receiver\app\system*

to

C:\Program Files\AhsayCBS\system



NOTE

If you are planning to change the system home location, copy the replicated system home to the new system home location instead.

- Copy the replicated user home to the corresponding location.
 - ⊙ Copy the replicated user home from the **Replication Home** to the AhsayCBS user home folder.

Copy

%Replication Home%\%username%

to

%AhsayCBS User Home%*

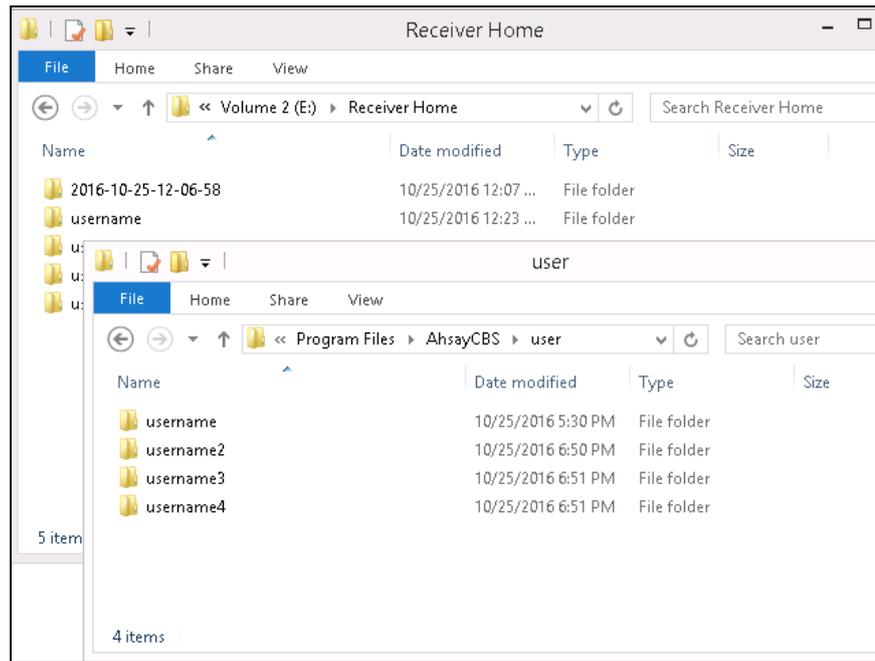
Important: Do not copy over the folder in YYYY-MM-DD-hh-mm-ss format.

Using the example in Step 1, copy the content of

E:\Receiver Home*

to

C:\Program Files\AhsayCBS\user



NOTE

If you are planning to change the user home location, copy the replicated user home to the new user home location instead.

- Startup the AhsayCBS service.

Note: Startup the AhsayCBS and AhsayCBS NFS services.

- Login to the AhsayCBS web console, confirm on the settings.
 - ⦿ Confirm the system settings under the **System Settings > Basic** and **System Settings > Advanced** menus.
Modify the **System Home** setting under **System Settings > Basic** if necessary (e.g. if you had copied the replicated system home to a new location in the previous step).
 - ⦿ Confirm the user and policy settings under **Backup / Restore > Users, Groups & Policies** menu.
Modify the **User Home** setting under **Backup / Restore > Basic** if necessary (e.g. if you had copied the replicated user home to a new location in the previous step).

NOTE

For AhsayCBS installation on Linux platforms, the conversion procedure is the same except all directory paths are in the Linux convention.

7.7 Extract Data from Replication Destination

7.7.1 Getting Started

If you have chosen to recover your replication data using [Method 1 - Rebuild AhsayCBS from Replication](#), you will have to extract the replication data from the replication destination first. Before getting started, make sure replication has been performed before you start restoring any replication data by performing the following checking.

To check replication logs on the Backup Server:

Log in to the AhsayCBS web console, navigate to **Monitoring > Replication Logs > Replication Sending**.

A screenshot of the AhsayCBS web console showing the "Replication Sending" tab. The page displays a "Replication Sent Log" table with columns for Timestamp, Type, and Message. The table contains 15 rows of log entries. At the top right of the log area, there are filter controls: "Filter" with a dropdown menu set to "Type", and "View" with a dropdown menu set to "Today".

Timestamp	Type	Message
11/16/2016 14:21:15	ReplicateStart	Start replication (User: a1, Backup Set: MySQL Database 1)
11/16/2016 14:21:15	ReplicateStart	Start replication (User: a1, Backup Set: MySQL Daily)
11/16/2016 14:21:15	ReplicateMode	Start replication in RESYNC mode (User: a1, Backup Set: MySQL Database 1)
11/16/2016 14:21:15	ReplicateMode	Start replication in RESYNC mode (User: a1, Backup Set: MySQL Daily)
11/16/2016 14:21:19	CompareDirInfo	Comparing directory 'replicationToDropBox4Biz10318usera1\1465211867978\blocks' with the one at target destination
11/16/2016 14:21:20	CompareDirInfo	Comparing directory 'replicationToDropBox4Biz10318usera1\1465203392036\blocks' with the one at target destination
11/16/2016 14:21:23	ReplicateFileInfo	Replicating 'D:\AhsayCBS\usera1\1465211867978\blocks\2016-06-06-19-18-59\0\000000.bak'...
11/16/2016 14:21:23	ReplicateFileInfo	Replicating 'D:\AhsayCBS\usera1\1465203392036\blocks\2016-06-06-16-58-05\0\000000.bak'...
11/16/2016 14:21:25	ReplicateFileInfo	Replicating 'D:\AhsayCBS\usera1\1465203392036\blocks\2016-06-06-16-58-05\0\000001.bak'...
11/16/2016 14:21:25	ReplicateFileInfo	Replicating 'D:\AhsayCBS\usera1\1465211867978\blocks\2016-06-06-19-18-59\0\000001.bak'...
11/16/2016 14:21:35	ReplicateFileInfo	Replicating 'D:\AhsayCBS\usera1\1465203392036\blocks\2016-06-06-16-58-05\0\000001_000001.bak'...
11/16/2016 14:21:35	ReplicateFileInfo	Replicating 'D:\AhsayCBS\usera1\1465211867978\blocks\2016-06-06-19-18-59\0\000001_000001.bak'...
11/16/2016 14:21:39	ReplicateFileInfo	Replicating 'D:\AhsayCBS\usera1\1465203392036\blocks\2016-06-06-16-58-05\0\000002.bak'...
11/16/2016 14:21:40	ReplicateFileInfo	Replicating 'D:\AhsayCBS\usera1\1465211867978\blocks\2016-06-06-19-18-59\0\000002.bak'...
11/16/2016 14:21:40	ReplicateFileInfo	Replicating 'D:\AhsayCBS\usera1\1465203392036\blocks\2016-06-06-16-58-05\index-s0.j00.100.15524f01610.cgz'...
11/16/2016 14:21:41	ReplicateFileInfo	Replicating 'D:\AhsayCBS\usera1\1465211867978\blocks\2016-06-06-19-18-59\index-s0.j00.100.1552570d700.cgz'...

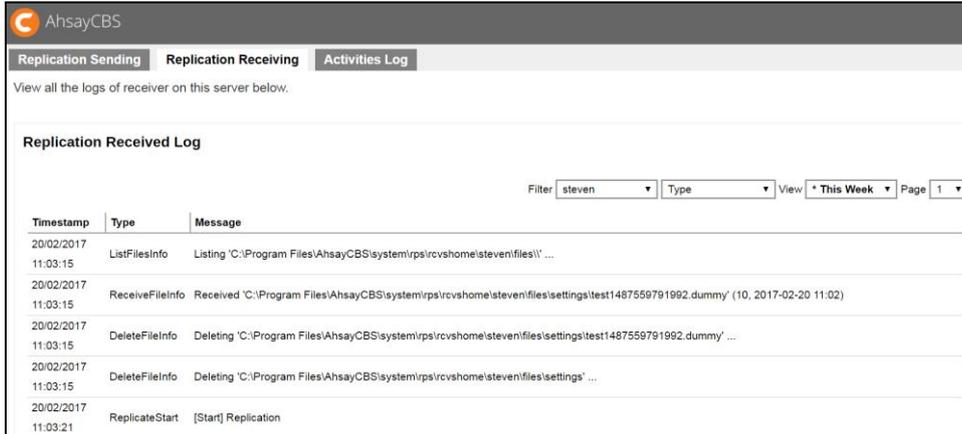
Viewing option

Use the drop-down filters at the top right corner to filter the desired replication sending logs:

Type	Select the desired type of replication log to display
View	Select a specified date or range of time of the replication logs

To check the replication logs on the Replication Server:

Log in to the AhsayCBS web console, navigate to **Monitoring > Replication Logs > Replication Receiving**.



Viewing option

Use the drop-down filters at the top right corner to filter the desired replication receiving logs:

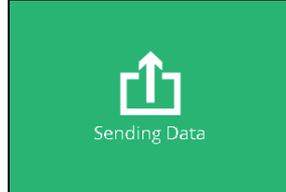
Receiver Name	Select the receiver name of whom the replication data is from
Type	Select the type of replication log to display
View	Select a specified date or range of time of the replication logs

7.7.2 Extract from AhsayCBS Replication Server

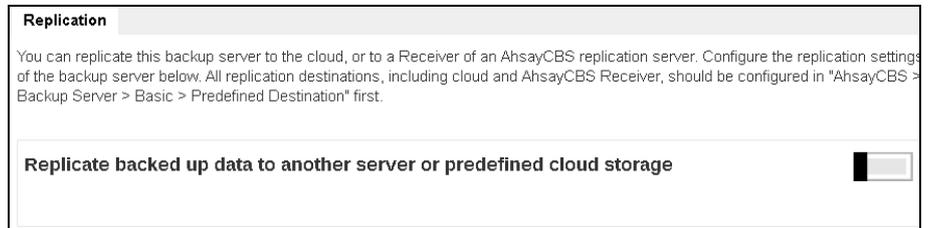
1. Follow the steps below to disable the replication service on both the Backup Server and the Replication Server.

⦿ To Disable on the Backup Server Side

- i. Click on the **Sending Data** icon under the Replication section on the AhsayCBS web console of the backup server.

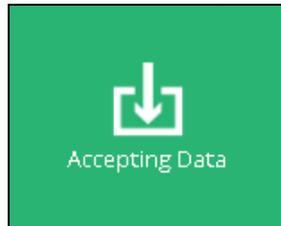


- ii. Click the  button in the **Replicate individual backup sets** section to turn the replication feature off. You will then see the configuration menu as shown.

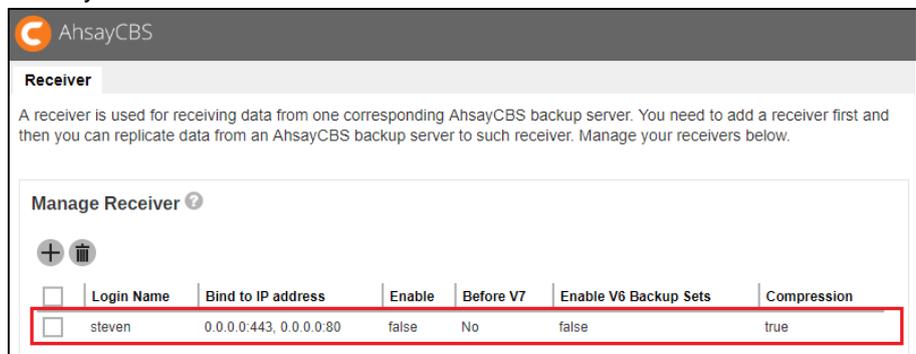


⦿ To Disable on the Replication Server Side

- i. Click On the replication receiving end, go to **Replication > Accepting Data** on the AhsayCBS web console to create a replication user account.



- ii. Click on the replication receiver item under the **Manage Receiver** section which you wish to turn off.



- iii. Uncheck the **Enable Replication** checkbox under the **Receiver User Account** section.

Edit Receiver
Edit the details of this receiver.

Receiver User Account

Enable Replication

Login Name
steven

Password
.....

Alias

2. Go to the Replication Server web console > **Accepting Data > Manage Receiver > %receiver_name%**.

AhsayCBS

Receiver

A receiver is used for receiving data from one corresponding AhsayCBS backup server. You need to add a receiver first and then you can replicate data from an AhsayCBS backup server to such receiver. Manage your receivers below.

Manage Receiver ?

+ -

<input type="checkbox"/>	Login Name	Bind to IP address	Enable	Before V7	Enable V6 Backup Sets	Compression
<input type="checkbox"/>	steven	0.0.0.0:443, 0.0.0.0:80	false	No	false	true

3. Locate the **Restore** section at the bottom of the page.

Restore

Snapshot

Current
2017-01-06-18-20-59

4. Click on the Snapshot "**Current**", you will see all the replicated users.

- Select the user(s) that you want to recover, select all if you want to recover all the users for the Backup Server.

Restore Path

<input type="checkbox"/>	User
<input type="checkbox"/>	a1
<input type="checkbox"/>	a2
<input type="checkbox"/>	a3
<input type="checkbox"/>	aaa
<input type="checkbox"/>	acbwin
<input type="checkbox"/>	emilytest
<input type="checkbox"/>	mini
<input type="checkbox"/>	mininas
<input type="checkbox"/>	miniwin

- Enter the path you want to restore the data to (e.g. D:\Restore).

Restore Path

- Click the  button at the bottom right corner to start the restoration.
- It will then go back to the **Edit Receiver** page and you will see the restore progress under the **Restore** section.

Restore

Restore Path
D:\Restore\Retention_Current

Restoring C:\Program Files\AhsayCBS\system\tps\rcvshome\stever\app\system\cbs\Installers\ROOT\component

- When you see the **Finished restoration !!** message, the restore is completed.

Restore

Finished restoration !!

10. The data of the selected users and the server configuration are restored to the specified restore path on the Replication Server.

You will find folder structure as:

- **D:\Restore\Retention_Current\system**
(It contains "CBS_HOME\conf" and "SYSTEM_HOME".)
- **D:\Restore\Retention_Current\users**
(It contains user folders.)

Name	Date modified	Type
 system	1/17/2017 4:49 PM	File folder
 users	1/17/2017 5:17 PM	File folder

11. Copy the whole restored folder "**D:\Restore**" to a free space on your Backup Server first, e.g. C:\Desktop.
12. After extracting the replication data, you can follow the instructions in [Restore Replication Data to the Backup Server](#) to restore the replication data to your AhsayCBS backup server.

-OR-

Refer to the [Restore Raw Data Using AhsayOBM / AhsayACB](#) if you wish to recover the raw data alone without restoring them to AhsayCBS.

7.7.3 Extract from a Predefined Destination - Cloud storage

In this example, we use Google drive as the cloud storage. Other cloud storage should have similar capability.

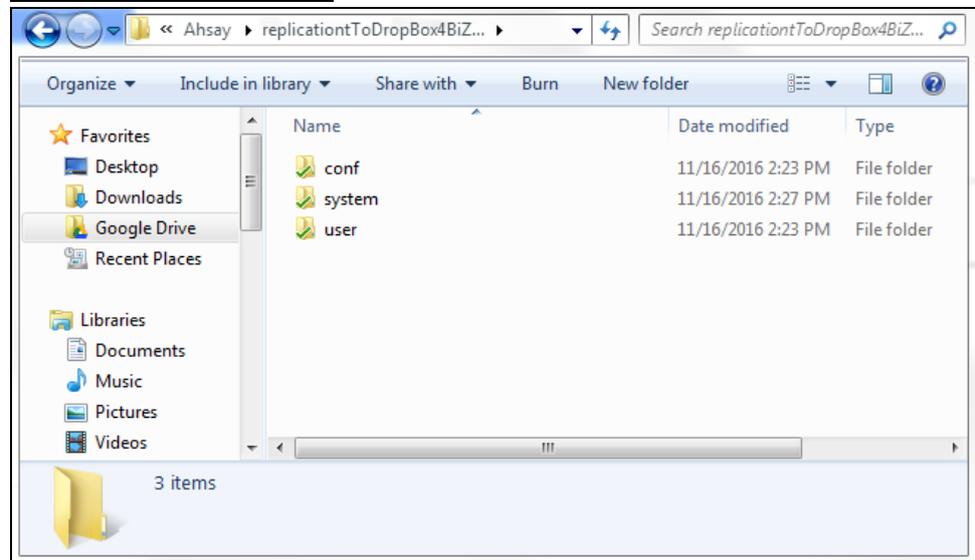
Prerequisite: Google drive is installed

1. Disable the replication on the Backup Server by following the steps below.
 - i. Click on the **Sending Data** icon under the Replication section on the AhsayCBS web console of the backup server.



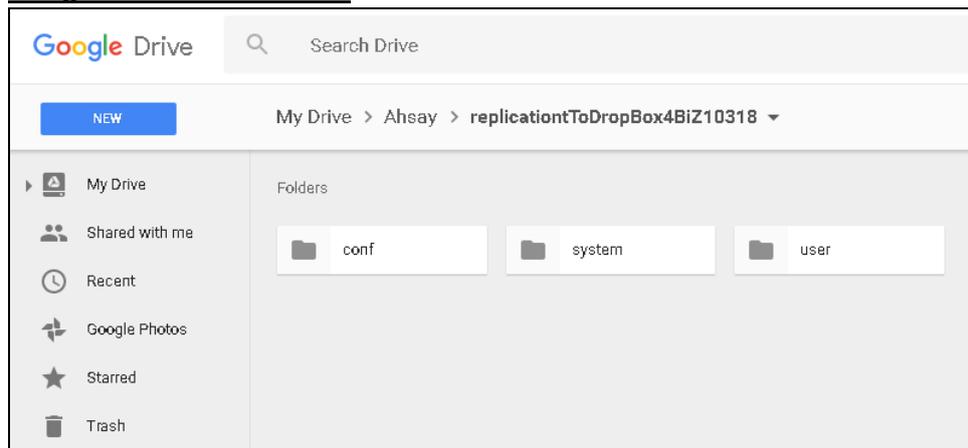
- ii. Click the  button in the **Replicate individual backup sets** section to turn the replication feature off. You will then see the configuration menu as shown.
2. Go to your Google drive folder or login to the Google drive web interface to access to your storage.
3. You will be able to find the following path such as **Google drive > Ahsay > replication**. ('**replication**' is the replication profile name)

Google drive file explorer



Go

Google drive web interface



4. You will see the following 3 folders.
 - **conf**
 - **system**
 - **user**
5. You may download all the 3 folders to your local drive if you need to restore all the files. Select the folder to download according to your requirement.

NOTE

The **conf** and **system** folders are AhsayCBS configuration or system related files. The **user** folder contains the replicated user folders.

6. After extracting the replication data, you can follow the instructions in [Restore Replication Data to the Backup Server](#) to restore the replication data to your AhsayCBS backup server.

-OR-

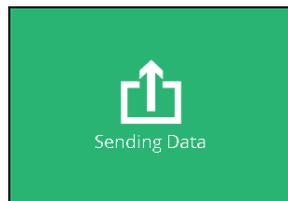
Refer to the [Restore Raw Data Using AhsayOBM / AhsayACB](#) if you wish to recover the raw data alone without restoring them to AhsayCBS.

7.7.4 Extract from the FTP/SFTP

In this example, we use SFTP server as an example, the restore method is basically the same for FTP and SFTP.

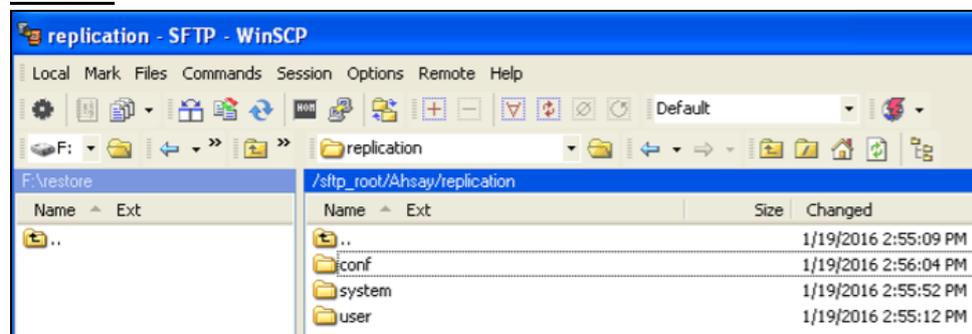
Assumption: The WinSCP is installed on the system. Other FTP tools can be used.

1. Disable the replication on the Backup Server by following the steps below.
 - i. Click on the **Sending Data** icon under the Replication section on the AhsayCBS web console of the backup server.

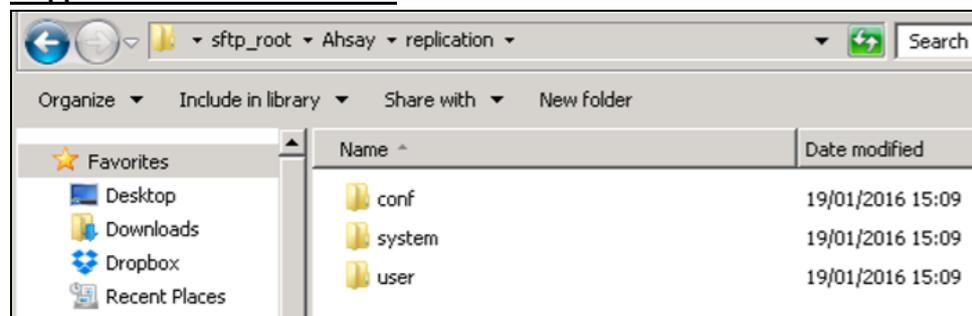


- ii. Click the  button in the **Replicate individual backup sets** section to turn the replication feature off. You will then see the configuration menu as shown.
2. Login to the WinSCP and locate the replication folder. If the FTP/SFTP server is on your LAN, you may map the drive on your FTP/SFTP server.
 3. You will be able to find the following path such as /sftp_root/Ahsay/replication. ('replication' is the replication profile name)

WinSCP



Mapped the SFTP share folder



4. You will see the following 3 folders.
 - ▶ **conf**
 - ▶ **system**
 - ▶ **user**
5. You may download all the 3 folders to your local drive if you need to restore all the files. Select the folder to download according to your requirement.

NOTE

The **conf** and **system** folders are AhsayCBS configuration or system related files. The **user** folder contains the replicated user folders.

6. After extracting the replication data, you can follow the instructions in [Restore Replication Data to the Backup Server](#) to restore the replication data to your AhsayCBS backup server.

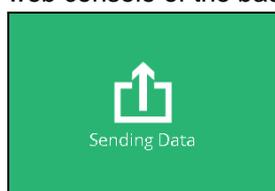
-OR-

Refer to the [Restore Raw Data Using AhsayOBM / AhsayACB](#) if you wish to recover the raw data alone without restoring them to AhsayCBS.

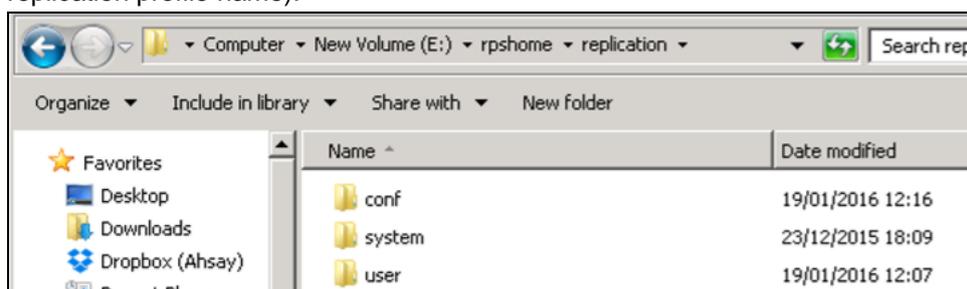
7.7.5 Extract from the Local/Mapped Drive/Removable Drive

In this example, we use local drive as an example, the restore method is basically the same for mapped drive and removable drive.

1. Disable the replication on the Backup Server by following the steps below.
 - i. Click on the **Sending Data** icon under the Replication section on the AhsayCBS web console of the backup server.



- ii. Click the  button in the **Replicate individual backup sets** section to turn the replication feature off. You will then see the configuration menu as shown.
2. Open your replication home folder e.g.: E:\rps\home\replication ('replication' is the replication profile name).



3. You will see the following 3 folders.
 - **conf**
 - **system**
 - **user**
4. You may copy all the 3 folders if you need to restore all the files on your AhsayCBS. Select the folder to download according to your requirement.

NOTE

The **conf** and **system** folders are AhsayCBS configuration or system related files. The **user** folder contains the replicated user folders.

5. After extracting the replication data, you can follow the instructions in [Restore Replication Data to the Backup Server](#) to restore the replication data to your AhsayCBS backup server.

-OR-

Refer to the [Restore Raw Data Using AhsayOBM / AhsayACB](#) if you wish to recover the raw data alone without restoring them to AhsayCBS.

7.7.6 Extract from v6 Replication

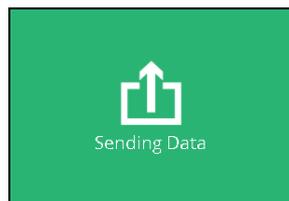
This section provides steps on restoring replication data in v6 format to a v6 version backup server.

IMPORTANT

Please be reminded that the steps in this section apply only if you are restoring the replication data in v6 data format back to a backup server in v6 version.

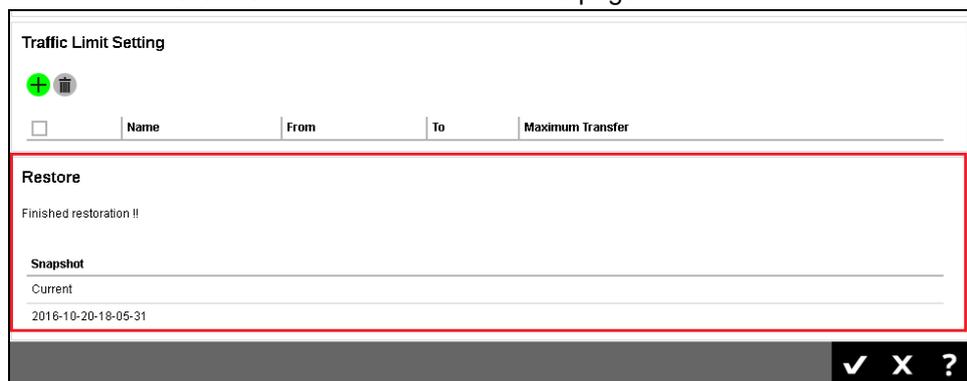
If the backup server has been upgraded to v8, the replication data in v6 data format cannot be restored in the upgraded backup server due to the fundamental differences of the system structure and data format between v6 and v8. If you have upgraded your backup server to v8, you will have to configure the replication receiver again and make sure to select the Backup Server Version as 8 during the receiver creation process. Refer to the [Create a Replication User Account](#) section for further details on the configuration.

1. Disable the replication on the Backup Server by following the steps below.
 - i. Click on the **Sending Data** icon under the Replication section on the AhsayCBS web console of the backup server.



- ii. Click the  button in the **Replicate individual backup sets** section to turn the replication feature off. You will then see the configuration menu as shown.

2. Go to the Replication Server web console, then navigate to **Replication > Accepting Data > Manage Receiver > %receiver_name%**.
3. Locate the **Restore** section at the bottom of the page.



4. Click on the Snapshot "Current", you will see all the replicated users.
5. Select the user(s) that you want to recover, select all if you want to recover all the users for the Backup Server.

6. Enter the path you want to restore the data to (e.g. F:\v6rps).



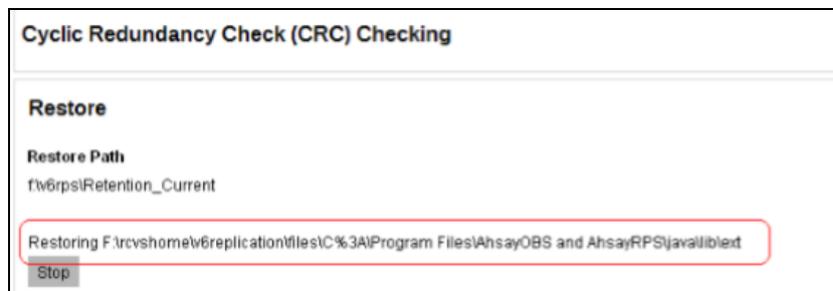
Restore Path

f:\v6rps

User

user1

7. Click the [Restore] button to start.
8. It will then go back to the "Edit Receiver" page and you will see the restore progress under the "Restore" section.



Cyclic Redundancy Check (CRC) Checking

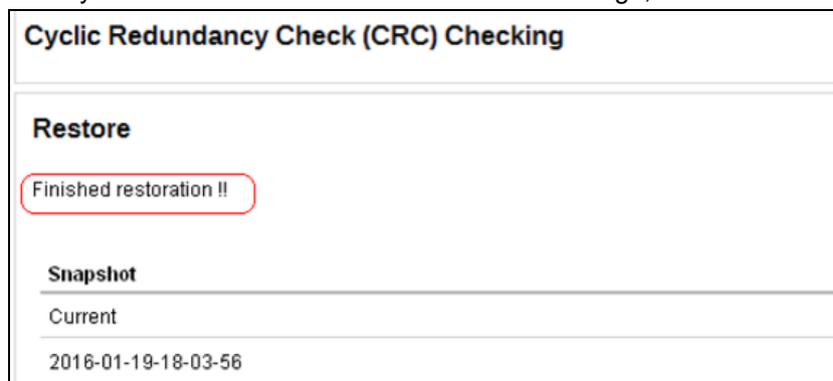
Restore

Restore Path
f:\v6rps\Retention_Current

Restoring F:\rcvshome\v6replication\files\C%3A\Program Files\AhsayOBS and AhsayRPS\java\lib\ext

Stop

9. Once you see the "**Finished restoration !!**" message, the restore is completed.



Cyclic Redundancy Check (CRC) Checking

Restore

Finished restoration !!

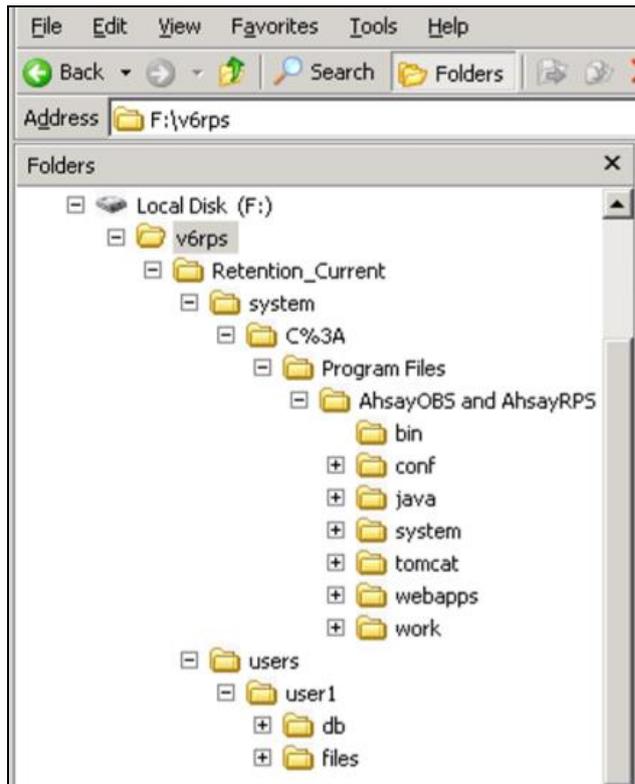
Snapshot

Current

2016-01-19-18-03-56

10. The data of the selected users and the server configuration are restored to the restore path on the Replication Server.

11. You will find folder structure as:



NOTE

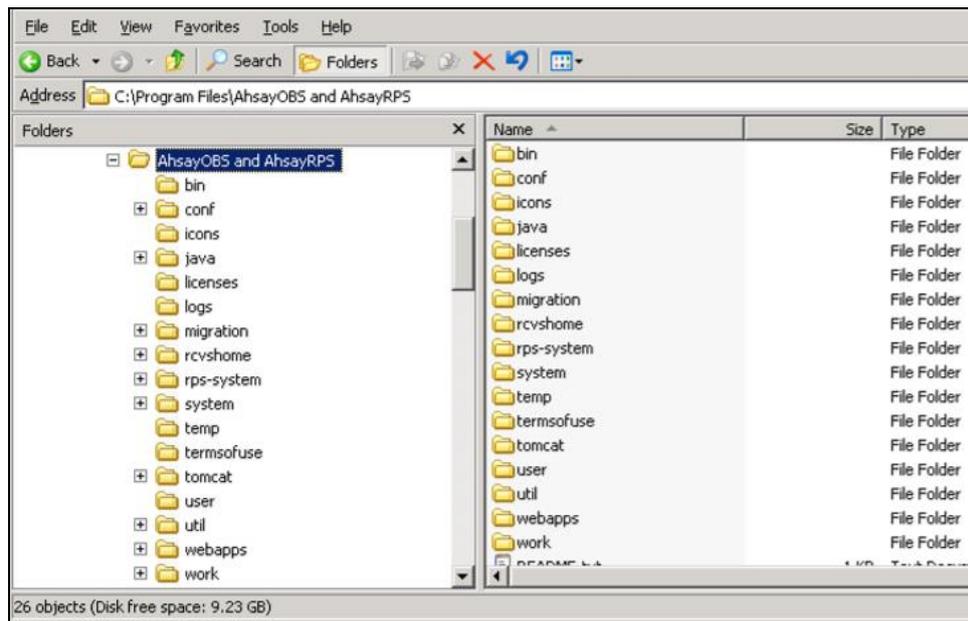
The folder F:\v6rps\Retention_Current\ contains all the restore materials for your v6 OBS. Under the folder, F:\v6rps\Retention_Current\system, you can see the folder “C%3A” which indicate the drive letter of the installation, %3A is the URL encoding for the colon character which means “C:”.

Here is a summary of the restored folders under the path “F:\v6rps\Retention_Current\system\C%3A\Program Files\AhsayOBS and AhsayRPS”:

Folder name	Description
bin	It contains startup scripts.
conf	OBS server configuration files.
java	Bundled Java for the OBS.
system	System configuration and policy settings.
tomcat	Bundled Tomcat for the OBS.
webapps	OBS and RPS application folders, OBC installer files etc.
work	Cache folder.

12. Copy the whole restored folder “F:\v6rps” to your AhsayOBS machine.

13. Locate the OBS installation directory in the OBS machine, **conf** folder, **system** folder and **user** folder.



In this case, all the 3 folders are located in the same directory. If you have changed the OBS system home or user home folder, you can check this information in your **OBS Management Console > Manage System > Server Configuration** page.

14. After extracting the replication data, you can follow the instructions in [Restore Replication Data to the Backup Server](#) to restore the replication data to your AhsayCBS backup server.

-OR-

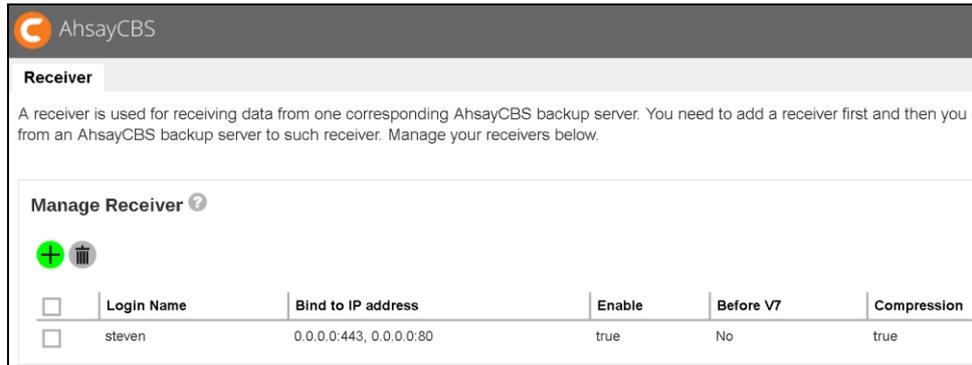
Refer to the [Restore Raw Data Using AhsayOBM / AhsayACB](#) if you wish to recover the raw data alone without restoring them to AhsayCBS.

7.7.7 Extract Snapshot from Retention Area

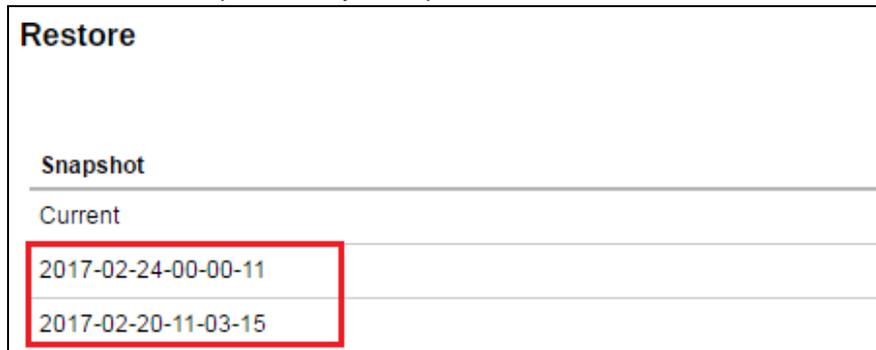
A snapshot of the replicated data is taken and stored in the retention area for a certain period of time of your configuration. This gives you an extra layer of protection in case you need to retrieve the old replication data. For details of the retention policy setting, refer to the [Retention Setting](#) under the [Create a Replication User Account](#) section.

Follow the instructions below to recover replication data from the retention area.

1. Go to the Replication Server web console > **Accepting Data** > **Manage Receiver** > **%receiver_name%**.



2. Locate the **Restore** section at the bottom of the page and you will see the snapshots that have been captured for your replication data.



3. The past snapshots are named in date and time when it was captured. Click on the desired snapshot you wish to extract the replication data from.

- Select the user(s) that you want to recover, select all if you want to recover all the users for the Backup Server.

Restore Path

<input type="checkbox"/>	User
<input type="checkbox"/>	a1
<input type="checkbox"/>	a2
<input type="checkbox"/>	a3
<input type="checkbox"/>	aaa
<input type="checkbox"/>	acbwin
<input type="checkbox"/>	emilytest
<input type="checkbox"/>	mini
<input type="checkbox"/>	mininas
<input type="checkbox"/>	miniwin

- Enter the path you want to restore the data in the retention area (e.g. E:\Retention).

Restore Path

NOTE

Do not restore the retention data to the same folder where you normally store the extracted replication data so as to avoid any possible confusion.

- Click the  button at the bottom right corner to start the restoration.
- It will then go back to the **Edit Receiver** page and you will see the restore progress under the **Restore** section.

Restore

Restore Path
E:\Retention\Retention_2017-02-24-00-00-11

Restoring C:\Program Files\AhsayCBS\system\rps\rcvshome\stevan\app\system\cbs\MessageLog

- When you see the **Finished restoration !!** message, the restore is completed.

Restore

Finished restoration !!

- The data of the selected users and the server configuration are restored to the specified restore path on the Replication Server.

You will find folder structure as:

- ⦿ **E:\Retention\Retention_YYYY-MM-DD-HH-MM-SS\system**
(It contains "CBS_HOME\conf" and "SYSTEM_HOME".)
- ⦿ **E:\Retention\Retention_YYYY-MM-DD-HH-MM-SS\users**
(It contains user folders.)

Name	Date modified	Type
 system	1/17/2017 4:49 PM	File folder
 users	1/17/2017 5:17 PM	File folder

- Copy the whole restored folder "**E:\Retention**" to a free space on your Backup Server first, e.g. C:\Desktop.
- After extracting the replication data, you can follow the instructions in [Restore Replication Data to the Backup Server](#) to restore the replication data to your AhsayCBS backup server.

-OR-

Refer to the [Restore Raw Data Using AhsayOBM / AhsayACB](#) if you wish to recover the raw data alone without restoring them to the backup server.

7.8 Restore Replication Data

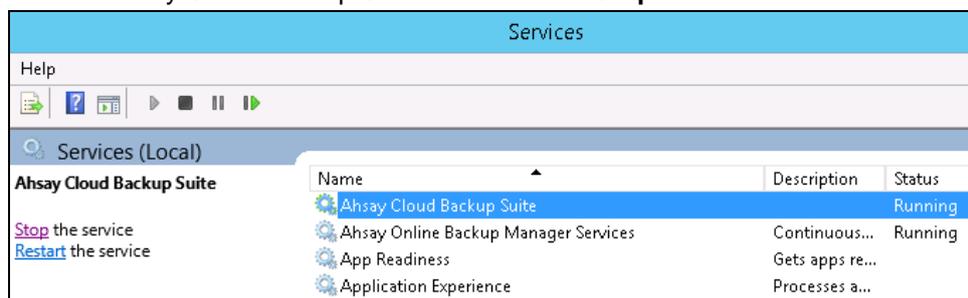
7.8.1 Restore Replication Data to the Backup Server

IMPORTANT

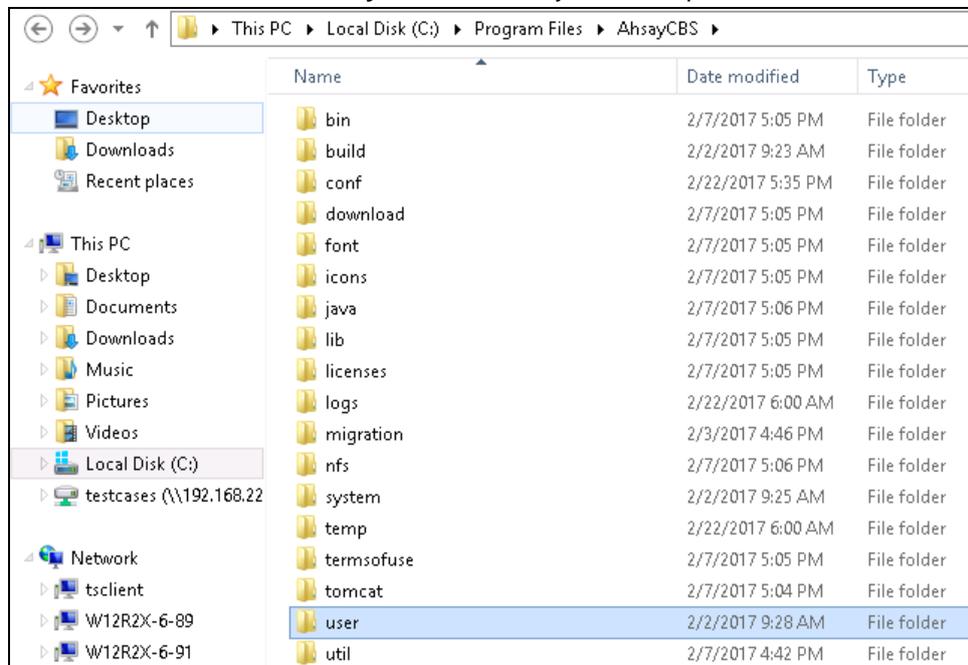
Make sure you have extracted the replication data from the replication destination before you start with the restore. Refer to the instructions in the [Extract Data from the Replication Destination](#) for details.

Follow the instructions below to restore replication data to your AhsayCBS backup server.

1. Stop the AhsayCBS service on the Backup Server by going to the **Services** console, click on Ahsay Cloud Backup Suite then click the **Stop** button on the left.



2. If you want to recover the user data, copy the `%user_name%` folder from the "`%Restored_folder%\Retention_Current\users`" folder, then paste it to the User Home folder located in "`\AhsayCBS\user\`" on your backup server machine.



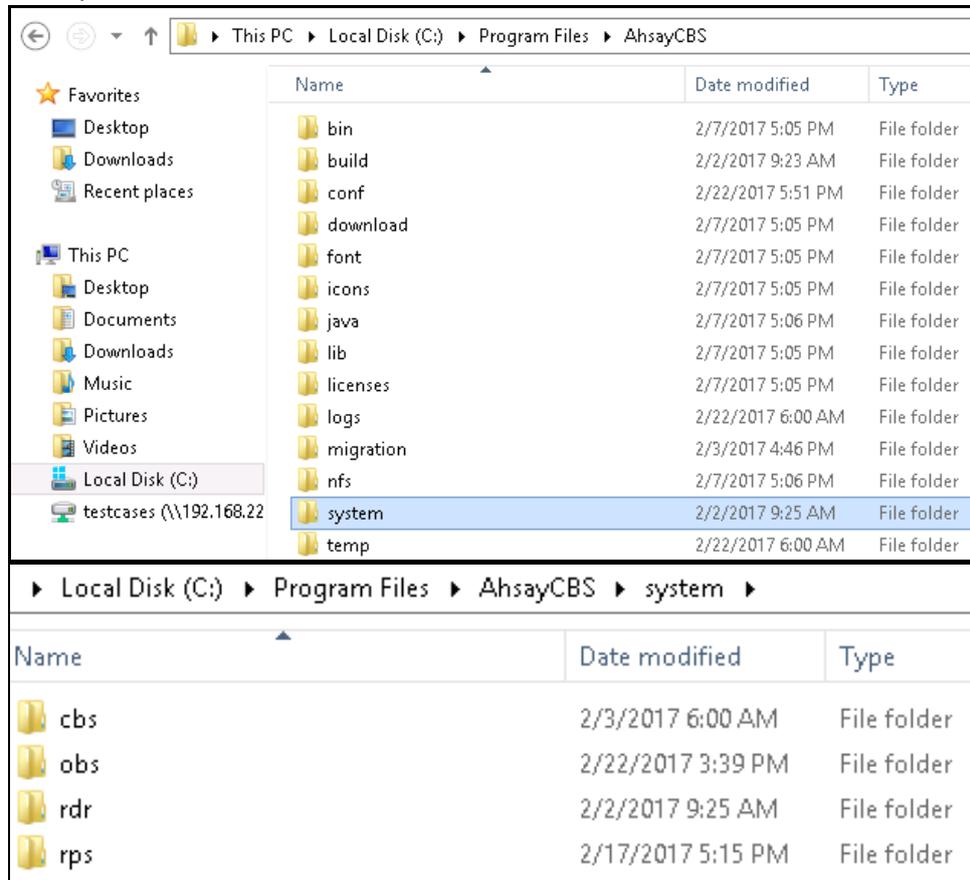
Local Disk (C:) > Program Files > AhsayCBS > user >		
Name	Date modified	Type
backup user 1	2/20/2017 4:28 PM	File folder
backup user 2	2/3/2017 5:35 PM	File folder
backup user 3	2/22/2017 5:40 PM	File folder

- If you want to recover the server configuration, extract the "%Restored_folder%\Retention_Current\system\conf\conf.zip", then unzip the file and replace all the unzipped files with those located on "\AhsayCBS\conf".

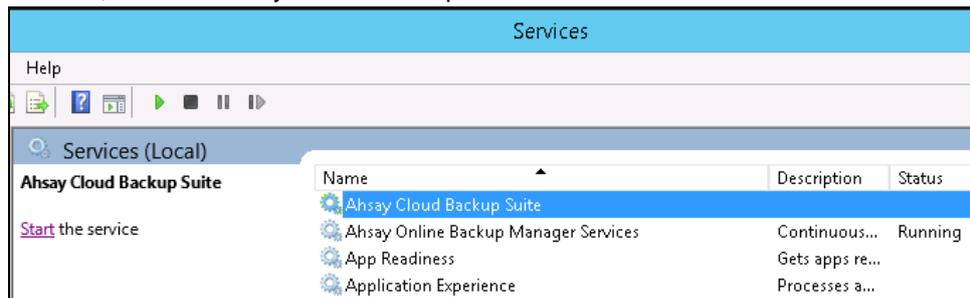
This PC > Local Disk (C:) > Program Files > AhsayCBS >		
Name	Date modified	Type
bin	2/7/2017 5:05 PM	File folder
build	2/2/2017 9:23 AM	File folder
conf	2/22/2017 5:43 PM	File folder
download	2/7/2017 5:05 PM	File folder
font	2/7/2017 5:05 PM	File folder

This PC > Local Disk (C:) > Program Files > AhsayCBS > conf		
Name	Date modified	Type
Backup	2/22/2017 6:00 AM	File folder
acb-config.xml	2/20/2017 11:08 AM	XML Document
afc.opt	2/20/2017 11:08 AM	OPT File
autoDiscovery.xml	2/20/2017 11:08 AM	XML Document
autoUpdate.bdb	2/20/2017 11:08 AM	BDB File
ca.crt	2/20/2017 11:08 AM	Security Certificate
Catalina	2/20/2017 11:08 AM	File
catalina.policy	2/20/2017 11:08 AM	POLICY File
catalina.properties	2/20/2017 11:08 AM	PROPERTIES File
cbs.json	2/22/2017 6:00 AM	JSON File
cbs.json.1	2/21/2017 6:01 AM	1 File
cbs.json.2	2/20/2017 11:08 AM	2 File

- If you want to recover the system home, copy the content of the "%Restored_folder%\Retention_Current\system\system" folder in the restored folder, then paste it in the system folder located in "AhsayCBS\system" on your backup service machine.



- Restart the AhsayCBS service on the Backup Server by going to the **Services** console, click on Ahsay Cloud Backup Suite then click the **Start** button on the left.



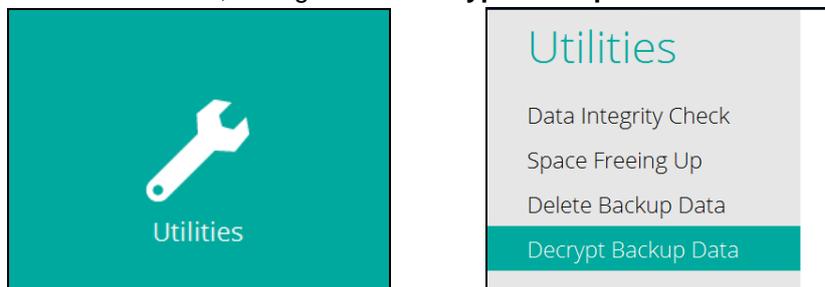
7.8.2 Restore Raw Data Using AhsayOBM / AhsayACB

Besides restoring the replication data back to the backup server, you can also restore the raw data alone using either of the client backup agent (AhsayOBM / AhsayACB).

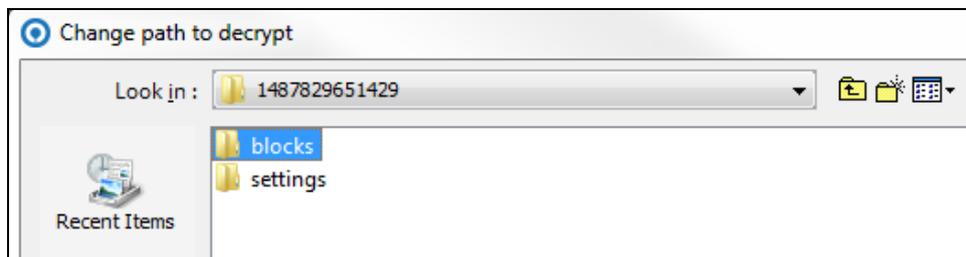
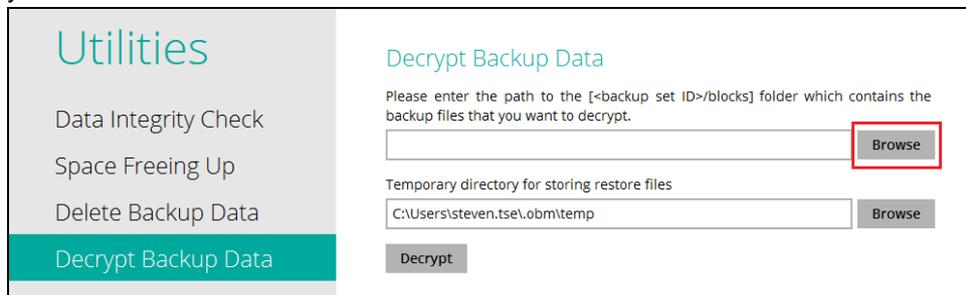
Make sure you have extracted the replication data from the replication destination before you start with the restore. Refer to the instructions in the [Extract Data from the Replication Destination](#). Once you have extracted the replication data, follow the steps below to restore the raw data.

AhsayOBM is used in the following instructions for decrypting the data. The procedures work basically the same for AhsayACB.

1. Log in to the AhsayOBM client backup agent, then navigate to the **Utilities** icon on the main interface, then go to the **Decrypt Backup Data** section.



2. Click Browse to locate the backup set you wish to decrypt replication data you have extracted, then navigate to the [%backup set ID%/blocks] level of the backup set you wish to restore data from.



3. Click **Decrypt** to proceed.

Utilities

Data Integrity Check

Space Freeing Up

Delete Backup Data

Decrypt Backup Data

Decrypt Backup Data

Please enter the path to the [<backup set ID>/blocks] folder which contains the backup files that you want to decrypt.

C:\Users\steven.tse\Desktop\1487829651429-20170223T061107Z-001'

Temporary directory for storing restore files

C:\Users\steven.tse\obm\temp

4. Select the file(s)/folder(s) you wish to restore from the selected source, then click Next to proceed.

Select Your Files To Be Restored

Select what to restore

Choose from files as of job 23/02/2017 Latest

Show filter

Folders	Name	Size	Date modified
decrypt_destination	<input type="checkbox"/> Backup Process Overview		
C:\			
Users			
steven.tse			
Desktop			
Backup f			
Documents			
Music			
Pictures			
Videos			

5. Select to restore to the Original location or an alternate location of your choice. Click **Restore** to start the decryption process when you are done with the settings.

Choose Where The Files To Be Restored

Restore files to

Original location

Alternate location

Show advanced option

8 Configuring Redirector

As your business keeps growing, the capacity of an AhsayCBS machine may reach its physical limit such as the I/O, disk space, etc. In that case, you may consider adding a machine to solve the problem.

A common practice for server administrator will name their server in the following way when a new server is added for backup service, for example:

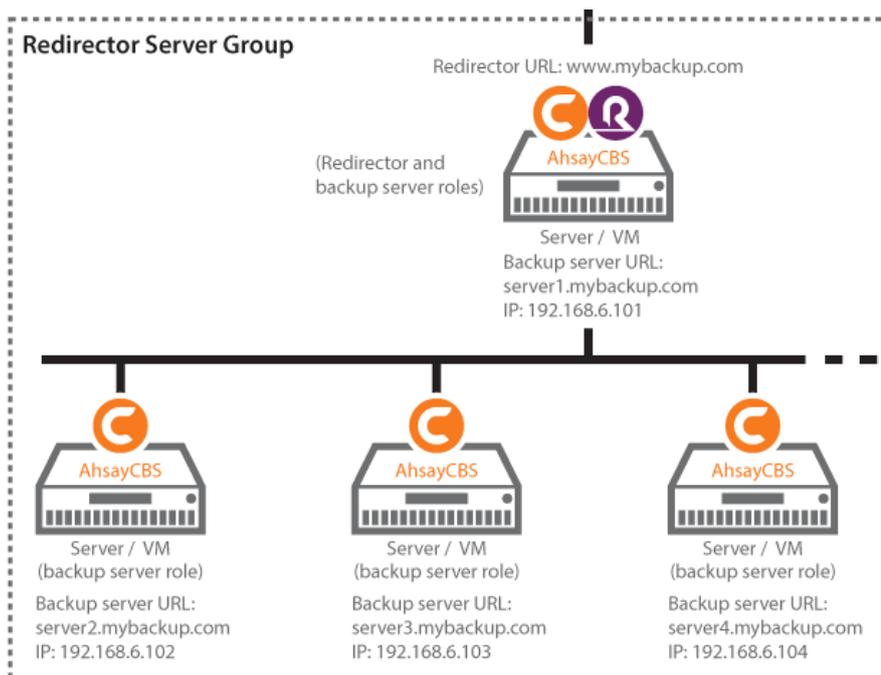
```
server1.mybackup.com
server2.mybackup.com
server3.mybackup.com
:
```

With mybackup.com being the domain name of the backup service in the above example. This is only a solution to resolve physical limit of a server but is not flexible to apply into a high scalable backup system. This is because if a user has hosted in, for example, server1.mybackup.com and later on wants to add more backup quota, however, only server2.mybackup.com has enough storage for expansion. In that case, you will need to migrate the user to server2 and your backup users will need to change the backup server URL from server1 to server2 in the login screen of the client interface to get access to the new server.

A high scalable backup system should make this kind of transition seamless to users, for example, you can set up a domain name www.mybackup.com for your client to connect which is able to redirect users to the correct backup server to backup. Our Redirector is exactly designed to work for this solution.

By setting up a Redirector Server:

1. All new clients can use the backup URL e.g.: www.mybackup.com when they set up the backup client interface.
2. Administrator can add backup machines to the Redirector as the number of users grows.



The dotted area shows the redirector server group.

```
server1.mybackup.com
server2.mybackup.com
server3.mybackup.com
:
:
```

As the CPU utilization for a Redirector Server is low, you can dedicate one of the AhsayCBS as the redirector host. In the above example, server1.mybackup.com also serves as a redirector host. The domain name www.mybackup.com is also pointed to this server.

Administrator will require setting up the following in the DNS, for example:

Name	Type	Value
www.mybackup.com.	CNAME	server1.mybackup.com.
server1.mybackup.com.	A record	192.168.6.101
server2.mybackup.com.	A record	192.168.6.102
server3.mybackup.com.	A record	192.168.6.103
server4.mybackup.com.	A record	192.168.6.104

Notes:

1. The IP address of server1 to server4 are ranged from 192.168.6.101 to 192.168.6.104.
2. The Redirector Server is hosted on the server1.mybackup.com machine.

In the following chapters, we shall guide you to set up a Redirector host, and how to join your existing servers to this Redirector host.

Limitation

1. Existing users can continue to back up to their existing server, for example, server2.mybackup.com in the above example. However if they want to use the redirector feature, they are required to change the connecting host name to e.g.: www.mybackup.com . The redirector setup can only benefit new users as you will distribute the URL, i.e. www.mybackup.com to new users, you may not want to bother the existing users on applying the settings immediately.
2. Administrators need to ensure the same username (case sensitive) has not been used within the backup servers in the same redirector group. This limitation includes all the users created by the resellers.

License information

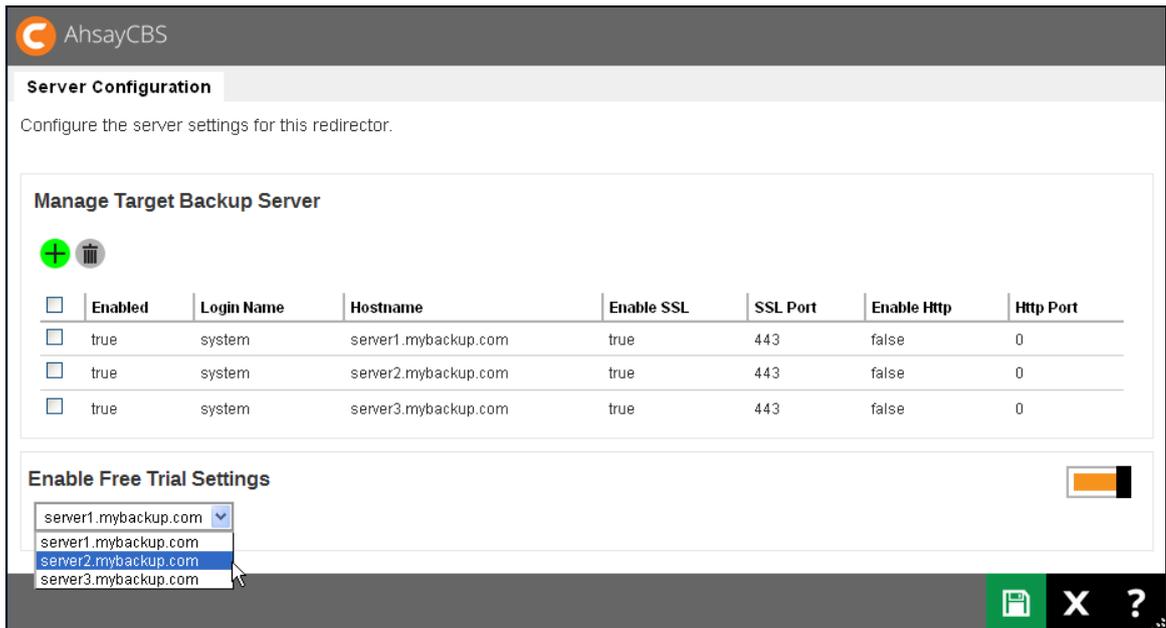
The pricing unit of AhsayCBS Redirection Server module is per device to be redirected.

For meter key inquiries please contact the Sales team at Ahsay by email at sales-kb@ahsay.com or call our International Sales Hotline +852 3580 8091.

8.1 Hosting a Redirector

First of all, you need to assign an AhsayCBS to be set up as a Redirector role. In our example, server1.mybackup.com also serves as a redirector host. The domain name www.mybackup.com is also pointed to this server.

In the following steps, we will set up the connection channel between the redirector host and the backup servers. In the AhsayCBS of server1, you need to register your Backup Server(s) with the Redirector in AhsayCBS management console under **Redirection -> Hosting a Redirector**.



<input type="checkbox"/>	Enabled	Login Name	Hostname	Enable SSL	SSL Port	Enable Http	Http Port
<input type="checkbox"/>	true	system	server1.mybackup.com	true	443	false	0
<input type="checkbox"/>	true	system	server2.mybackup.com	true	443	false	0
<input type="checkbox"/>	true	system	server3.mybackup.com	true	443	false	0

1. Add a Backup Server in the Redirector by clicking the **Create** button, then entering the login credentials and host name, and the ports of that Backup Server.
2. Repeat the above steps until all the Backup Servers in your environment are registered with the AhsayCBS with the Redirector role.

Option: You can dedicate one of the AhsayCBS (Backup Server) to host free trial users, by enabling this feature and assign one of your Backup Servers in the list.

WARNING

Do not update any settings in "Hosting a Redirector" after Ahsay Redirector v6 is upgraded to AhsayCBS v8, if any AhsayOBM/AhsayACB v6 clients are using the Local Copy feature on any of the AhsayOBS v6 server(s). Otherwise, all AhsayOBM/AhsayACB v6 backups with Local Copy enabled will fail to work and the problem cannot be fixed afterwards.

You may only change the settings after:

- AhsayOBS v6 is upgraded to AhsayCBS v8.
- All AhsayOBM/AhsayACB v6 clients with Backup Set Local Copy feature enabled hosted on the AhsayCBS v8 are also upgraded to AhsayOBM/AhsayACB v8.

8.2 Joining Redirector

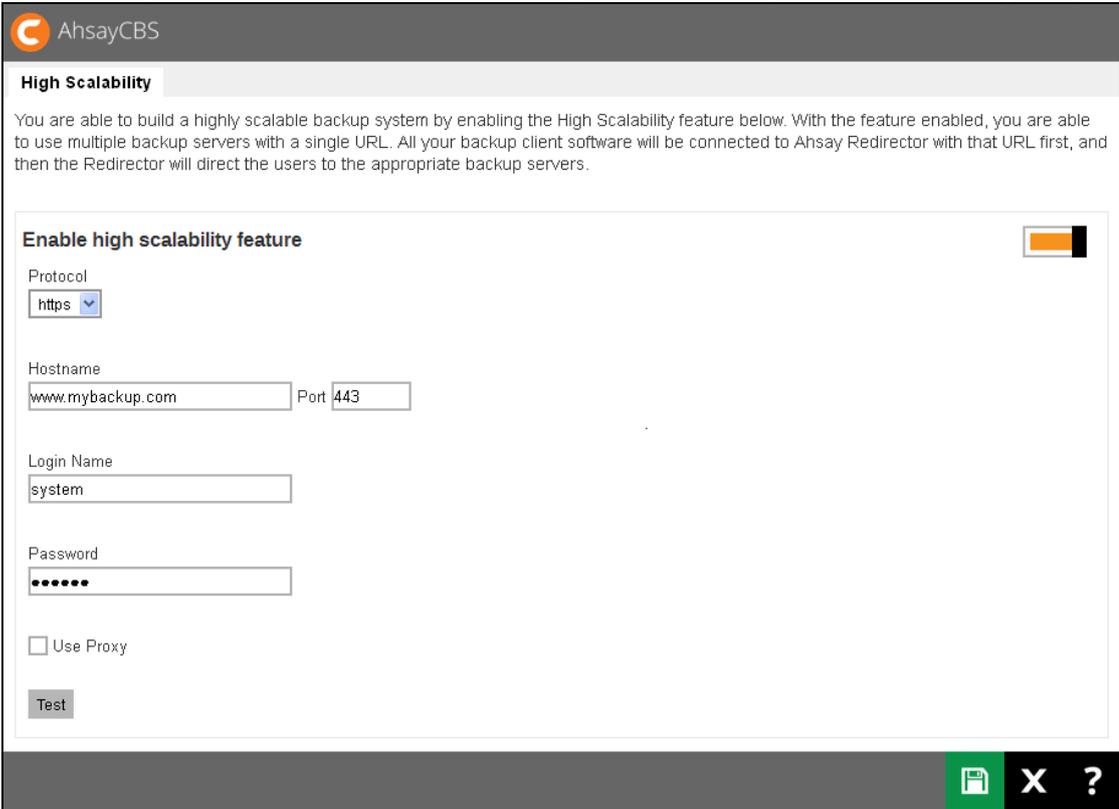
In the following steps, we will set up the connection channel between the redirector host and the backup servers.

Limitation:

Administrators need to ensure the same user name (case sensitive) has not been used within the backup servers in the same redirector group, this limitation includes all the users created by the resellers.

To join your Backup Servers to a Redirector, please enter your AhsayCBS management console under **Redirection -> Joining Redirectors**.

Note: Even your redirector is hosted in server1, you still need to perform the following setup.



The screenshot shows the AhsayCBS management console interface for configuring High Scalability. The page title is "High Scalability" and it includes a brief explanation of the feature. Below the text, there is a section titled "Enable high scalability feature" with a toggle switch that is currently turned on. The configuration fields include: Protocol (dropdown menu set to "https"), Hostname (text input field containing "www.mybackup.com"), Port (text input field containing "443"), Login Name (text input field containing "system"), Password (password input field with masked characters), and a checkbox for "Use Proxy" which is currently unchecked. A "Test" button is located at the bottom of the configuration section. The interface also features a dark footer bar with icons for save, close, and help.

1. Turn on the Enable high scalability feature button.
2. Enter the protocol, host name, and port number of the Redirector machine.
3. Enter the login credentials to the Redirector machine.
4. Repeat the above steps on all other backup server that needs to join the redirector server.

8.3 Advanced Setup

8.3.1 Setup Wild Card Certificate

In the Redirector with a number of Backup Servers setup scenario, you need to apply a wild card certificate for all your AhsayCBS servers. When you add a new backup server or Redirector into the redirector server group, you need to apply the wild card certificate to the new server. This is cost efficient and do not require to purchase a new certificate for a new server.

8.3.2 Setup Replication in Redirector Server Group

Since the user profile and local user data are hosted on individual Backup Servers, if you need to setup replication in this environment, you need to setup a dedicated replication profile for each Backup Server. In our example, 4 dedicated replication profiles are required to setup.

Note: The replication can be replicated to another replication server or predefined storage.

For more information about the replication setup, please refer to the [CONFIGURING REPLICATION](#) section for details.

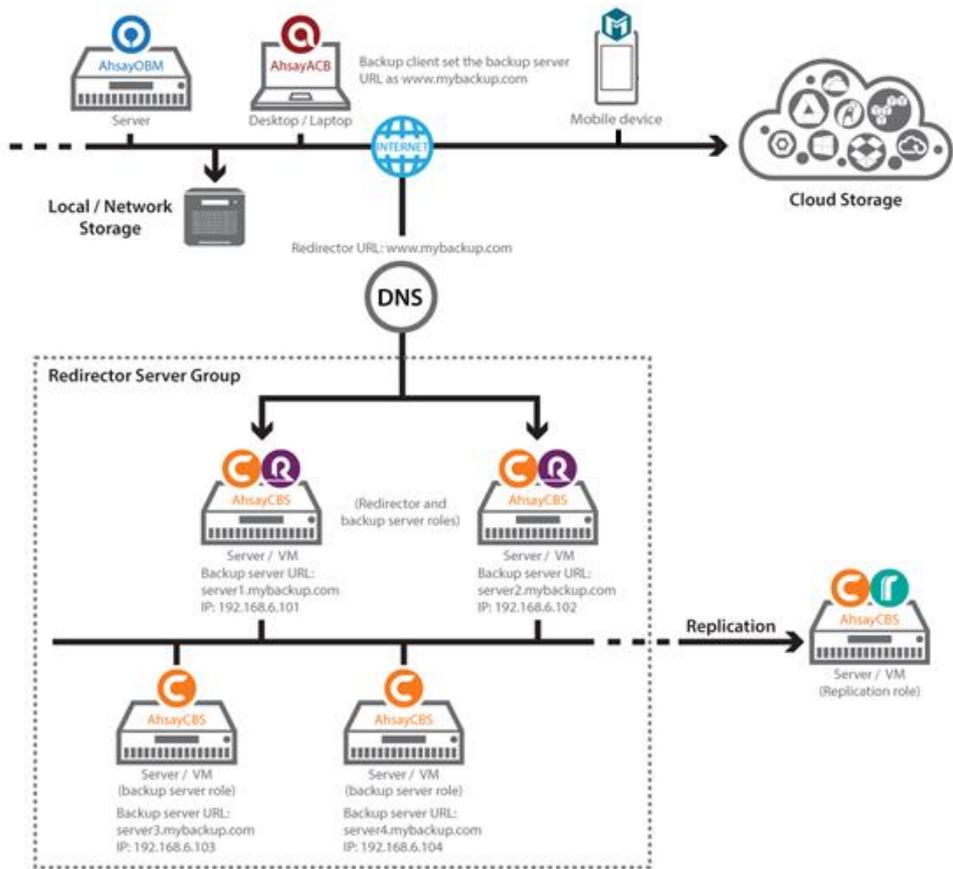
8.3.3 Multiple Redirector Setup

The following is an example on setting up a multiple redirector server group. The main reason is to maintain a high availability redirector.

Assumption and requirement:

In this example, we assumed that you are using a DNS round robin setup, when there is a request from the Internet, e.g.: www.mybackup.com , it will be able to redirect either to the first redirector (e.g.: server1.mybackup.com) or second redirector (e.g.: server2.mybackup.com).

For each Redirector Server, it is required to have its own redirector license key. If you setup 2 Redirector Servers, you will need 2 times of your redirector licenses.



Administrator will require setting up the following in the DNS, for example:

Name	Type	Value
www.mybackup.com.	A record	192.168.6.101
www.mybackup.com.	A record	192.168.6.102
server1.mybackup.com.	A record	192.168.6.101
server2.mybackup.com.	A record	192.168.6.102
server3.mybackup.com.	A record	192.168.6.103
server4.mybackup.com.	A record	192.168.6.104

Notes:

1. The round robin setting is required to redirect the traffic to either server1.mybackup.com (192.168.6.101) or server2.mybackup.com (192.168.6.102).
2. The IP address of server1 to server4 are ranged from 192.168.6.101 to 192.168.6.104.
3. The Redirector Servers are hosted on the server1.mybackup.com and server2.mybackup.com machine.

When you configure the redirector hosting on the first redirector, which we have described in the [Hosting a Redirector](#) section, same configuration is required to apply on the second redirector.

Example:

The screenshot shows the 'Server Configuration' page in AhsayCBS. It includes a 'Manage Target Backup Server' section with a table of backup servers and an 'Enable Free Trial Settings' section with a dropdown menu.

<input type="checkbox"/>	Enabled	Login Name	Hostname	Enable SSL	SSL Port	Enable Http	Http Port
<input type="checkbox"/>	true	system	server1.mybackup.com	true	443	false	0
<input type="checkbox"/>	true	system	server2.mybackup.com	true	443	false	0
<input type="checkbox"/>	true	system	server3.mybackup.com	true	443	false	0

The 'Enable Free Trial Settings' section has a dropdown menu with the following options: server1.mybackup.com, server1.mybackup.com, server2.mybackup.com (highlighted), and server3.mybackup.com.

On other backup servers, you need to join the redirector.

Example:

The screenshot shows the 'High Scalability' configuration page in AhsayCBS. It includes a section to 'Enable high scalability feature' with various input fields and a 'Test' button.

Enable high scalability feature

Protocol:

Hostname: Port:

Login Name:

Password:

Use Proxy

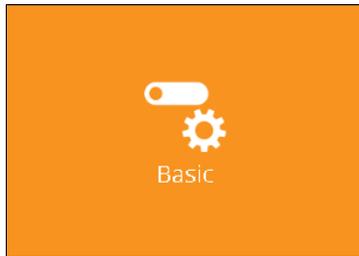
9 Monitoring Activities

9.1 Set up a Read-only Admin Account for Operators

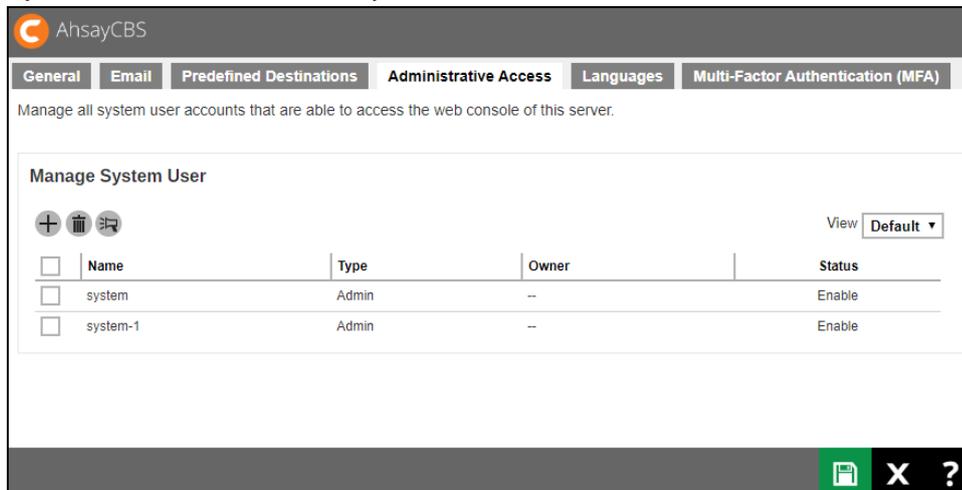
For daily monitoring on the AhsayCBS management console, you can assign your staff/operators with a read-only admin role account. This read-only admin role system account shares similar accessibility as its creator, except it has read-only permission. This feature is designed to help you with monitoring on the backup and restore jobs, Live Activities on the AhsayCBS server, Administration logs and Reporting etc.

Follow the steps below to create a system user with read-only admin role:

1. Click on the **Basic** icon under the **System Settings** section on the CBS main page.



2. Navigate to the **Administrative Access** tab, then click on the **+** button under Manage System User to create a new system user.



The screenshot shows the AhsayCBS web console interface. The top navigation bar includes tabs for General, Email, Predefined Destinations, Administrative Access (selected), Languages, and Multi-Factor Authentication (MFA). Below the tabs, there is a heading 'Manage System User' and a sub-heading 'Manage all system user accounts that are able to access the web console of this server.' The main content area contains a table with columns for Name, Type, Owner, and Status. There are also icons for adding (+), deleting (trash), and refreshing (refresh) users, and a 'View' dropdown menu set to 'Default'.

<input type="checkbox"/>	Name	Type	Owner	Status
<input type="checkbox"/>	system	Admin	--	Enable
<input type="checkbox"/>	system-1	Admin	--	Enable

- Fill in the details of the system user profile on the page as shown below. Make sure you have selected **Read-only Admin** under the **Type** field.

Add new system user

Profile

Name

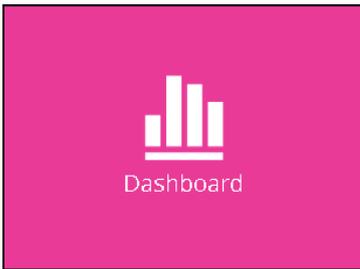
Password

Re-type Password

Type

- Click the  button then the  button at the bottom of the page to confirm. The system user with read-only admin role has been added.

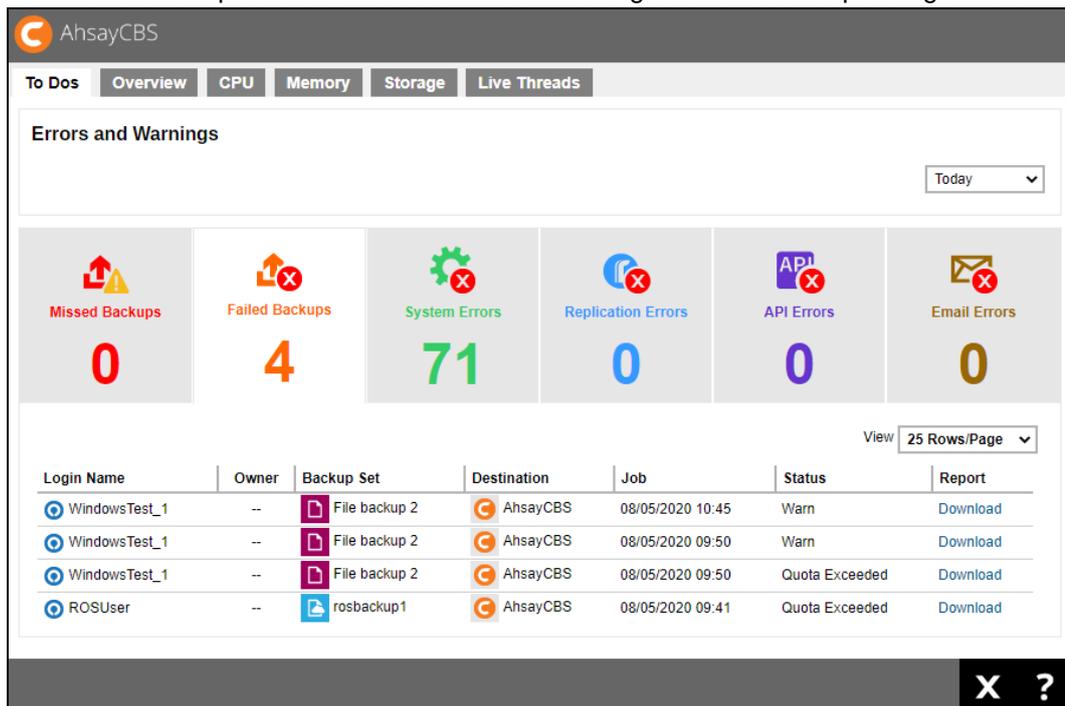
9.2 Dashboard



The dashboard is a one-stop overview providing important information that the system administrator should have attention to, for example, system errors/warnings, the system health conditions and real-time activities of the system. With this information, system administrator can quickly identify the potential issues that might pose threat to the AhsayCBS system and therefore can react accordingly to fix the issues. Below is a summary of the information that the dashboard section provides.

9.2.1 To Dos

It contains system announcement, errors and warning such as “**Missed Backups**”, “**Failed Backups**”, “**System Errors**”, “**Replication Errors**”, “**API Errors**” and “**Email Errors**”. Administrator or operators can base on these messages to take corresponding actions.



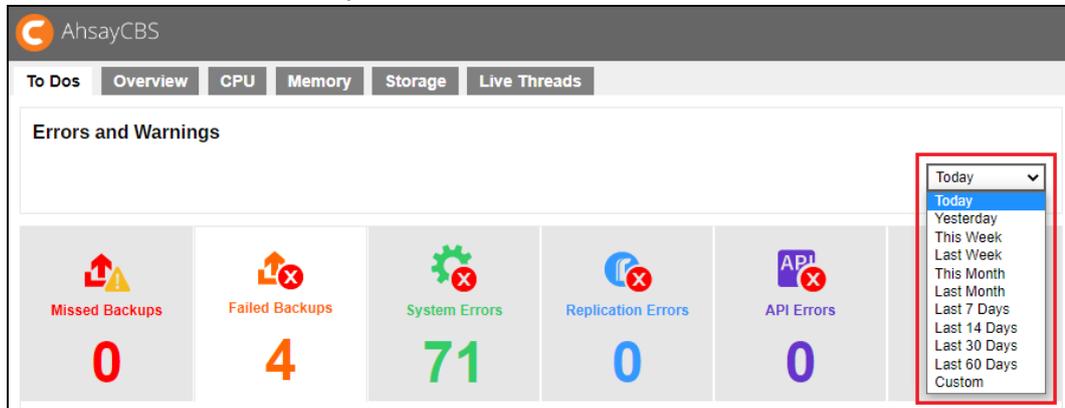
The screenshot shows the AhsayCBS dashboard interface. At the top, there is a navigation bar with tabs for 'To Dos', 'Overview', 'CPU', 'Memory', 'Storage', and 'Live Threads'. Below this, the 'Errors and Warnings' section is displayed, with a dropdown menu set to 'Today'. The dashboard features six summary cards for different error types: Missed Backups (0), Failed Backups (4), System Errors (71), Replication Errors (0), API Errors (0), and Email Errors (0). Below these cards is a table with columns for Login Name, Owner, Backup Set, Destination, Job, Status, and Report. The table contains four rows of backup job data.

Login Name	Owner	Backup Set	Destination	Job	Status	Report
WindowsTest_1	--	File backup 2	AhsayCBS	08/05/2020 10:45	Warn	Download
WindowsTest_1	--	File backup 2	AhsayCBS	08/05/2020 09:50	Warn	Download
WindowsTest_1	--	File backup 2	AhsayCBS	08/05/2020 09:50	Quota Exceeded	Download
ROUser	--	rosbackup1	AhsayCBS	08/05/2020 09:41	Quota Exceeded	Download

Viewing options

Selectable Logs Period

You can select to display the log entries of the errors and warnings from a period of time you selected. Click the drop-down menu on the right under the **Errors and Warnings** section to select the desired period of time.



Besides selecting **Today** and **Yesterday** from the above mentioned drop-down menu, you will see a chart illustrating the number of errors for different types of errors/warning within the selected period of time.

In the chart below, for example, the **vertical axis** denotes the number of errors/warnings while the **horizontal axis** denotes the date. The lines on the chart in different colors correspond to the different types of errors/warnings as shown in the number counter below the chart in their respective colors.



Selectable Number of Row per Page

You can also select the number of rows (i.e. the number of entries) to display on each page. Click on the drop-down menu as shown in the screen shot below to select the desired setting.

The screenshot shows the AhsayCBS dashboard with the 'Errors and Warnings' section. The 'System Errors' count is 71. A dropdown menu is open, showing options for 'View' (25 Rows/Page, 50 Rows/Page, 100 Rows/Page, 200 Rows/Page, 500 Rows/Page). The table below shows the error details:

Timestamp	Login Name	Owner	Message
08/05/2020 13:18:21	--	--	[GetIndexXml.execute] Invalid login name 'WindowsTest_5' [Exception] login name 'WindowsTest_5'
08/05/2020	--	--	[GetIndexXml.execute] Invalid login name 'ORBMTestAccount' [Exception] [GetIndexXml.execute] Invalid

Missed Backups

Missed Backups
1327

This page shows all details on all missed backups from all backup users using the AhsayCBS server. Missed backup refers to backup jobs that failed to run according to the set backup schedules. Any backup jobs failed to run backup 6 hours after the scheduled backup time is considered as missed backup.

The screenshot shows the AhsayCBS dashboard with the 'Missed Backups' table. The table has columns for Login Name, Owner, Backup Set, Destination, Job, and Status. The table is filtered to show missed backups.

Login Name	Owner	Backup Set	Destination	Job	Status
WindowsTest_1	--	File backup 2	AhsayCBS	08/05/2020 09:50	Missed Backup
WindowsTest_2	--	File backup 1	AhsayCBS	08/05/2020 09:50	Missed Backup
ROSUser	--	rosbackup1	AhsayCBS	08/05/2020 09:41	Missed Backup

Login Name	Login name of the backup user
Owner	Ownership of the backup account
Backup Set	Name of the backup set that has missed the scheduled backup
Destination	Backup destination of the missed backup
Job	Date and time when the backup job was classified as a missed backup

Status	Status of the missed backup job
---------------	---------------------------------

Failed Backups



Failed Backups

126

This page shows all details on all failed backups from all backup users using the AhsayCBS server. Failed backup refers to backup jobs that are not performed successfully. The backup failure could be caused by various reasons, such as storage capacity on the backup destination, Internet connection between the client backup agent and the AhsayCBS server/backup destination, user interruption during backup, etc.

To Dos							
Overview	CPU	Memory	Storage	Live Threads			
							View <input type="text" value="25 Rows/Page"/> Page <input type="text" value="1"/>
Login Name	Owner	Backup Set	Destination	Job	Status	Report	
 WindowsTest_1	--	 File backup 2	 AhsayCBS	08/05/2020 09:50	Warn	Download	
 WindowsTest_1	--	 File backup 2	 AhsayCBS	08/05/2020 09:50	Quota Exceeded	Download	
 ROSUser	--	 rosbackup1	 AhsayCBS	08/05/2020 09:41	Quota Exceeded	Download	

Login Name	Login name of the backup user
Owner	Ownership of the backup account
Backup Set	Name of the backup set that failed to back up
Destination	Backup destination of the failed backup
Job	Date and time when the backup job failed to back up
Status	Status of the failed backup job
Report	Downloadable report in pdf format

System Errors

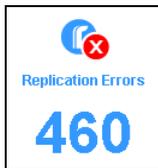


This page shows all details of system errors related to backup/restore for the AhsayCBS server. System errors include, for example, failed login attempt, login authentication failed, etc.

AhsayCBS					
To Dos	Overview	CPU	Memory	Storage	Live Threads
View <input type="text" value="25 Rows/Page"/> Page <input type="text" value="1"/>					
Timestamp	Login Name	Owner	Message		
08/05/2020 13:18:21		--	[GetIndexXml.execute] Invalid login name 'WindowsTest_5' [Exception] [GetIndexXml.execute] Invalid login name 'WindowsTest_5'		
08/05/2020 13:14:41		--	[GetIndexXml.execute] Invalid login name 'OBMTestAccount' [Exception] [GetIndexXml.execute] Invalid login name 'OBMTestAccount'		
08/05/2020 13:14:18		--	[GetIndexXml.execute] Invalid login name 'OBMTestAccount' [Exception] [GetIndexXml.execute] Invalid login name 'OBMTestAccount'		
08/05/2020 13:10:16		--	[GetIndexXml.execute] Invalid login name 'MSSQL' [Exception] [GetIndexXml.execute] Invalid login name 'MSSQL'		
08/05/2020 13:03:18		--	[GetIndexXml.execute] Invalid login name 'WindowsTest_5' [Exception] [GetIndexXml.execute] Invalid login name 'WindowsTest_5'		

Timestamp	Date and time when the system error recorded
Login Name	Name of backup user in relation to the system error
Owner	Ownership of the backup account
Message	Message showing the system errors in details

Replication Errors

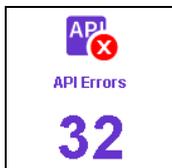


This page shows all details of replication error for the Ahsay CBS server.

AhsayCBS					
To Dos	Overview	CPU	Memory	Storage	Live Threads
View <input type="text" value="25 Rows/Page"/> Page <input type="text" value="1"/>					
Timestamp	Message				
12/08/2016 16:33:38	Error replaying '1457105878860/files/2016-06-14-23-30-00/retention.xml.187.158d6598cac.gz' to target destination				
12/08/2016 16:33:38	Failed to replicate 'E:\ahsay01\Telco_PC\1457105878860\Snapshots\1481152470048.313'. Error=[LocalDiskManager.getOutputStream] Fail to open 'X:\replicate\Ahsay_nortec\user\Telco_PC\1457105878860/files/2016-06-14-23-30-00/retention.xml.187.158d6598cac.gz'. Error='Fail to set file attributes: X:\replicate\Ahsay_nortec\user\Telco_PC\1457105878860/files/2016-06-14-23-30-00/retention.xml.187.158d6598cac.gz'				
12/08/2016 16:33:32	Error replaying '1464621030883/files/2016-07-01-20-00-00/retention.xml.187.158d5840493.gz' to target destination				
12/08/2016 16:33:32	Failed to replicate 'E:\ahsay01\Eidem_DC01_NY\1464621030883\Snapshots\1481137128205.107'. Error=[LocalDiskManager.getOutputStream] Fail to open 'X:\replicate\Ahsay_nortec\user\Eidem_DC01_NY\1464621030883/files/2016-07-01-20-00-00/retention.xml.187.158d5840493.gz'. Error='Fail to set file attributes: X:\replicate\Ahsay_nortec\user\Eidem_DC01_NY\1464621030883/files/2016-07-01-20-00-00/retention.xml.187.158d5840493.gz'				

Timestamp	Date and time when the replication error recorded
Message	Message showing the replication errors in details

API Errors



This page shows all details of API errors for the AhsayCBS server.

To Dos	Overview	CPU	Memory	Storage	Live Threads
Timestamp	Login Name	Owner	Message		
11/24/2016 17:21:39	mvong	--	<pre>[Api]RunDirect[com.ahsay.obs.core.dbs.c: Incorrect backup username/password at com.ahsay.obs.api.ApiStructsAction.checkBkplUserPwd(Unknown Source) at com.ahsay.obs.api.ApiStructsAction.checkBkpl at com.ahsay.obs.api.json.JSONApi.execute(Unknown Source) at org.apache.struts.chain.commands.servlet.ExecuteAction.execute(ExecuteAction.java:58) at org.apache.struts.chain.commands.AbstractExecuteAction.execute(AbstractExecuteAction.java:67) at org.apache.struts.chain.commands.ActionCommandBase.execute(ActionCommandBase.java:51) at org.apache.commons.chain.impl.ChainBase.execute(ChainBase.java:191) at org.apache.struts.chain.generic.LookupCommand.execute(LookupCommand.java:305) at org.apache.commons.chain.impl.ChainBase.execute(ChainBase.java:191) at org.apache.struts.chain.ComposableRequestProcessor.process(ComposableRequestProcessor.java:283) at org.apache.struts.action.ActionServlet.process(ActionServlet.java:1913) at org.apache.struts.action.ActionServlet.doPost(ActionServlet.java:462) at javax.servlet.http.HttpServlet.service(HttpServlet.java:646) at javax.servlet.http.HttpServlet.service(HttpServlet.java:727) at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:303) at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:208) at org.apache.tomcat.websocket.server.WsFilter.doFilter(WsFilter.java:52) at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:241) at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:208) at com.ahsay.obs.www.EncodingFilter.doFilter(Unknown Source) at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:241) at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:208) at com.ahsay.obs.www.IFFilter.doFilter(Unknown Source) at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:241) at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:208) at org.apache.catalina.core.StandardWrapperValve.invoke(StandardWrapperValve.java:220) at org.apache.catalina.core.StandardContextValve.invoke(StandardContextValve.java:122) at org.apache.catalina.authenticator.AuthenticatorBase.invoke(AuthenticatorBase.java:504) at org.apache.catalina.valves.AccessLogValve.invoke(AccessLogValve.java:950) at org.apache.catalina.core.StandardHostValve.invoke(StandardHostValve.java:170) at org.apache.catalina.valves.ErrorReportValve.invoke(ErrorReportValve.java:103) at org.apache.catalina.core.StandardEngineValve.invoke(StandardEngineValve.java:116) at org.apache.catalina.connector.CoyoteAdapter.service(CoyoteAdapter.java:421) at org.apache.coyote.http11.AbstractHttp11Processor.process(AbstractHttp11Processor.java:1074) at org.apache.coyote.AbstractProtocol\$AbstractConnectionHandler.process(AbstractProtocol.java:611) at org.apache.tomcat.util.net.AprEndpoint\$SocketProcessor.doRun(AprEndpoint.java:2486) at org.apache.tomcat.util.net.AprEndpoint\$SocketProcessor.run(AprEndpoint.java:2455) at java.util.concurrent.ThreadPoolExecutor.runWorker(Unknown Source) at java.util.concurrent.ThreadPoolExecutor\$Worker.run(Unknown Source) at org.apache.tomcat.util.threads.TaskThread\$WrappingRunnable at java.lang.Thread.run(Unknown Source)</pre>		

Timestamp	Date and time when the API error recorded
Login Name	Name of backup user in relation to the API error
Owner	Ownership of the backup account
Message	Message displaying the API errors in details

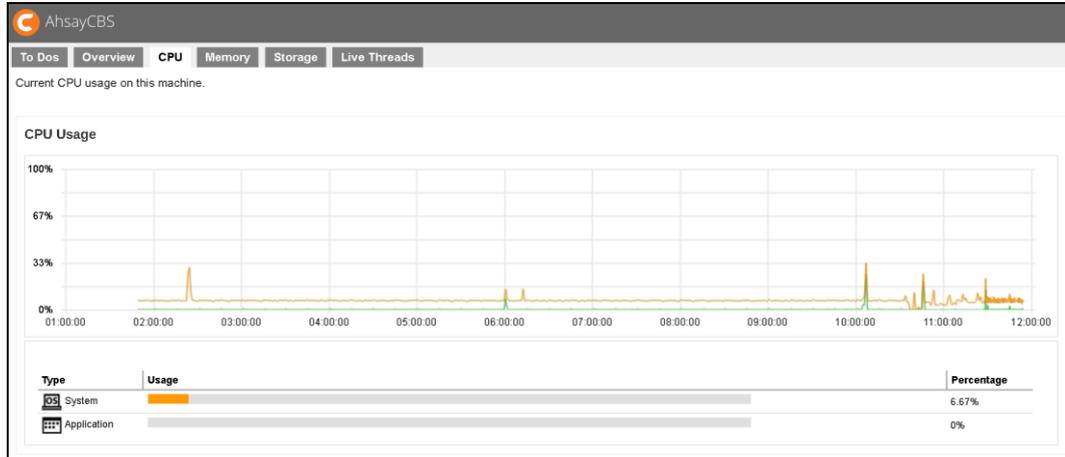
Email Errors



This page shows all details of email errors for the AhsayCBS server. Email errors could be caused by invalid email entered by the backup users, storage capacity of the backup user's

9.2.3 CPU

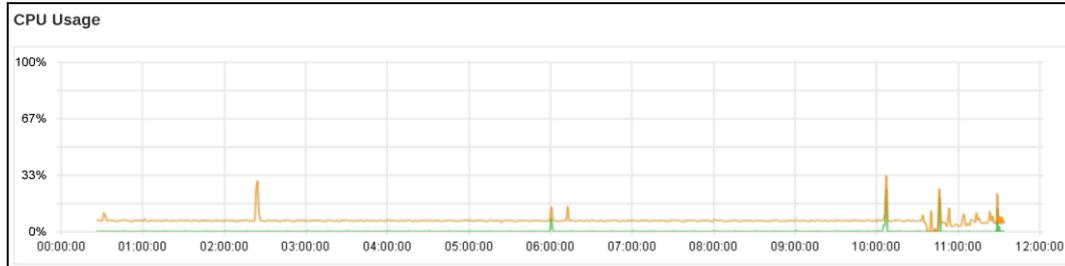
In the CPU page, you can see the current CPU utilization, the percentage that system and application occupied



There are two parts of information from this page.

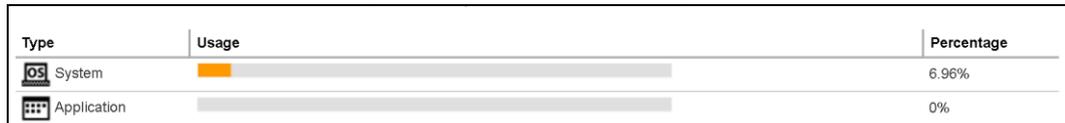
CPU Usage Chart

The CPU Usage shows the daily usage of the machine's CPU where the AhsayCBS is installed, with the vertical axis denotes and CPU utilization rate while the Y axis denotes the time.



Usage Distribution

This chart shows the CPU usage distribution in percentage on System and Application.



9.2.4 Memory

This is a graphical view of the memory pool/managers usage on this machine.



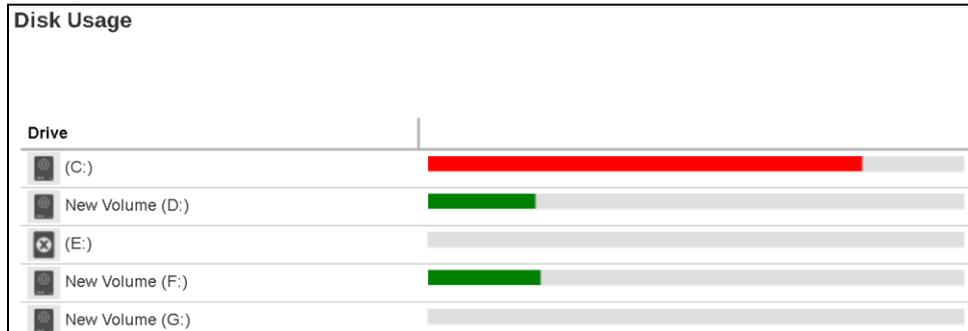
Heap Size	The heap memory is the runtime data area from which the Java VM allocates memory for all class instances and arrays.
Non Heap Size	Non heap memory includes a method area shared among all threads and memory required for the internal processing or optimization for the Java VM.
Par Eden Space	The pool from which memory is initially allocated for most objects.
Par Survivor Space	The pool containing objects that have survived the garbage collection of the Eden space.
CMS Old Gen	The pool containing objects that have existed for some time in the survivor space.
Code Cache	The HotSpot Java VM also includes a code cache, containing memory that is used for compilation and storage of native code.
Metaspace	The pool containing all the reflective data of the virtual machine itself, such as class and method objects. With Java VMs that use class data sharing, this generation is divided into read-only and read-write areas.
Compressed Class Space	This is part of the metaspace.

9.2.5 Storage

This is a local storage and predefined destination usage overview.

➤ Disk Usage

Under the Disk Usage section, it shows all the drives on the machine where the AhsayCBS is installed. You can see the capacity used (**Used**) and capacity remain (**Free**) for each drive.



You can select to view the entries in the Disk Usage section by sorting the Drive Letter or Free Storage



➤ Predefined Destination Usage

Under the Predefined Destination Usage section, it shows all the predefined destinations that you have added under the **System Settings > Basics > Predefined Destination**.



You can select to view the predefined destination entries by sorting the **Destination Name** or **Free Storage**.



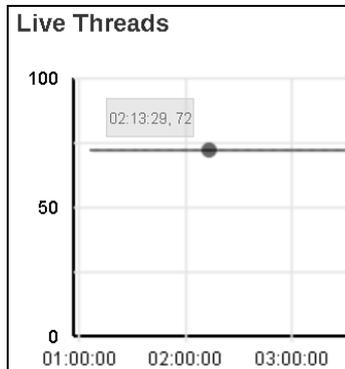
9.2.6 Live Threads

This page shows all live threads that are running on this machine.



Live Threads	Active process threads
Peak	The largest number of live threads record in the above period
Daemon Threads	Threads that are handled in the background
Total Threads Started	The total number of started threads

You can use mouse over at any point of the curve to obtain the number of live threads at the particular time.



If you click on the Details button below the Live Threads icon, you will see a breakdown of all live threads that are running on this machine. It is shown as thread groups for developers or administrators reference.



Live Threads
88

Details

Threads

- Thread group:system (8)
- Thread group:main (67)
- Thread group:WebSocketServer-ROOT (0)
- Thread group:WebSocketServer-Jobs (0)
- Thread group:[AccessManager.ThreadGroup@24385a8b] (0)
- Thread group:AhsayCBS-internal (13)
- Thread group:WebSocketServer-lrps (0)
- Thread group:WebSocketServer-lrdr (0)
- Thread group:WebSocketServer-icbs (0)

9.3 Live Activities



You can check on recent backup and restore status with the progress monitor in percentage, replication (both send and receive) and redirection status.

9.3.1 Backup Status

Backup Type	AhsayOBM	AhsayACB	Ahsay Mobile
File Backup	✓	✓	NA
Cloud File Backup	✓	✓	NA
IBM Lotus Domino Backup	✓	NA	NA
IBM Lotus Notes Backup	✓	✓	NA
MariaDB Backup	✓	NA	NA
MS Exchange Mail Level Backup	✓	NA	NA
MS SQL Server Backup	✓	NA	NA
MS Windows System Backup	✓	✓	NA
MS Windows System State Backup	✓	NA	NA
MS Hyper-V Backup	✓	NA	NA
MySQL Backup	✓	NA	NA

Office 365 Backup	✓	✓	NA
Oracle Database Server	✓	NA	NA
ShadowProtect System Backup	✓	NA	NA
VMware Backup	✓	NA	NA

This section shows a list of agent based and agentless backup job(s) that is currently running. Once a backup job is completed, the entry will be immediately removed from the Live Activities.

For agentless Office 365 and Cloud File backup job(s), aside from monitoring the backup job(s) from here, each agentless backup Java process can also be monitored at an operating system level on the AhsayCBS server.

For more details on how to monitor the agentless backup Java process, please refer to [Appendix N How to monitor Run on Server backup Java process](#).

It will also show a list of agent based and agentless backup job(s) that were terminated abnormally. Examples of these are:

- The backup machine was shutdown, rebooted or AhsayOBM/AhsayACB was killed using Windows Task Manager.
- AhsayOBM/AhsayACB client crashed during a backup job, the affected entries will be automatically cleared after 72 hours.
- Agentless Office 365 and Cloud File backup job(s) that have become unresponsive and have been terminated. There are several methods to terminate the unresponsive agentless backup job(s). For more information, please refer to [Appendix O How to terminate unresponsive Run on Server backup jobs](#).

The screenshot shows the AhsayCBS Backup Status page. It features a navigation bar with tabs for Backup Status, Restore Status, Replication, Receiver, and Redirection. Below the navigation bar, there is a filter section with dropdown menus for Client Type, User, Registration Date, and User Group. The main content area displays a table of backup jobs with columns for Login Name (Alias), Owner, Backup Set, Destination, Progress, Estimated Time Left, Current File, and Transfer Rate.

Login Name (Alias)	Owner	Backup Set	Destination	Progress	Estimated Time Left	Current File	Transfer Rate
ROSUser ()	--	cloudbackupset-1	AhsayCBS	100 %	0 sec	for backup\IMG_3315.JPG	4Mibit/s
ROSUser ()	--	O365backupset-1	AhsayCBS	0 %	0 sec		0bit/s
ROSUser ()	--	File Backup	AhsayCBS	100 %	0 sec	C:\Users\Administrator\Documents\Backup Files\sample screenshot.JPG	22Mibit/s

9.3.2 Restore Status

Restore Type		AhsayOBM	AhsayACB	AhsayOBR	Ahsay Mobile
File	Normal Restore	✓	✓	✓	NA
	OpenDirect Restore	X	X	X	NA
Cloud File Backup		✓	✓	✓	NA
IBM Lotus Domino Backup		✓	NA	✓	NA
IBM Lotus Notes Backup		✓	✓	✓	NA
MariaDB Backup		✓	NA	✓	NA
MS Exchange Server Backup		✓	NA	✓	NA
MS Exchange Mail Level Backup		✓	NA	✓	NA
MS SQL Server Backup		✓	NA	✓	NA
MS Windows System Backup		✓	✓	✓	NA
MS Windows System State Backup		✓	NA	✓	NA
MS Hyper-V	Normal Restore	✓	NA	✓	NA
	Run Direct Restore	✓	NA	✓	NA
	Granular Restore with AhsayOBM File Explorer	✓	NA	✓	NA
	Granular Restore with	X	NA	X	NA

	Windows File Explorer				
MS SQL Server Backup		✓	NA	✓	NA
MySQL Backup		✓	NA	✓	NA
Office 365 Backup		✓	✓	✓	NA
Oracle Database Server		✓	NA	✓	NA
ShadowProtect System Backup		✓	NA	✓	NA
VMware	Normal Restore	✓	NA	✓	NA
	Run Direct Restore	✓	NA	✓	NA
	Granular Restore with AhsayOBM File Explorer	✓	NA	✓	NA
	Granular Restore with Windows File Explorer	X	NA	X	NA

This section shows a list of agent based and agentless restore job(s) that is currently running. Once a restore job is completed the entry will be immediately removed from the Live Activities. It will also show a list of restore job(s) that were terminated abnormally. Examples of these are:

- The backup machine was shutdown, rebooted or AhsayOBM/AhsayACB was killed using Windows Task Manager.
- AhsayOBM/AhsayACB client crashed during a restore job, the affected entries will be automatically cleared after 72 hours.

AhsayCBS

Backup Status **Restore Status** **Replication** **Receiver** **Redirection**

All restore jobs that are currently running or finished within 1 hour.

Restore Status

Filter: Client Type User Registration Date User Group

Login Name (Alias)	Owner	Backup Set	Destination	Progress	Estimated Time Left	Current File	Transfer Rate
ROSUser ()	--	cloudbackupset-1	AhsayCBS	<div style="width: 100%;"><div style="width: 100%;"></div></div> 100 %	0 sec		0bit/s
ROSUser ()	--	File Backup	AhsayCBS	<div style="width: 100%;"><div style="width: 100%;"></div></div> 100 %	0 sec		0bit/s

X ?

NOTE

OpenDirect restore of file backup sets or granular restore from VMware and Hyper-V backup sets performed using Windows File Explorer will not show up on the **[Restore Status]** tab in Live Activities. This only applies to restores performed directly through AhsayOBM/AhsayACB/AhsayOBR or AhsayCBS User Web Console.

9.3.3 Replication

Here is the replication jobs status from the backup server to the corresponding receiver.

AhsayCBS

Backup Status **Restore Status** **Replication** **Receiver** **Redirection**

List of all replication jobs from this server to the corresponding receiver that are current running.

Replication Status

Filter: Mode Status

Login Name (Alias)	Owner	Backup Set	Mode	Status	Current Job	Start Time	Estimated Time Left
b 0	--	bset	RESYNC	<div style="width: 0%;"><div style="width: 0%;"></div></div> 0%	G:\tobs6\system\lobs\templconf.zip	14:46:17	

X ?

9.3.4 Receiver

In this menu, you will see all the replication jobs that the receiver on this server is currently running.

AhsayCBS

Backup Status | Restore Status | Replication | **Receiver** | Redirection

List of all replication jobs that the receiver on this server is currently receiving.

Receiver Status

Filter: Mode Status

Receiver	Mode	Status	Current Job	Start Time	Estimated Time Left
replication	REPLAY	<div style="width: 18%;"><div style="width: 18%;"></div></div> 18%	1449727753291/blocks /2015-12-11-14-56-10 /00000001_000002.bak	15:01:37	

X ?

9.3.5 Redirection

You can see a list of all redirection jobs that are currently running.

AhsayCBS

Backup Status | Restore Status | Replication | Receiver | **Redirection**

List of all redirection jobs that are current running.

Redirection Status

Filter: User: Type:

Login Name	Host	From	Target	Type	Number
system		10.7.0.130		listBackupServers	4

X ?

9.4 Administration Logs



You can check on the SNMP logs, list of notifications/announcements/alerts, and activities log (system logs) and audit trails.

9.4.1 SNMP Log

You can see a list of SNMP log message in this page. You need to enable the SNMP log in **Settings -> Advanced -> Logging -> Enable SNMP Service**, and need to download the MIB definition file and pass to your SNMP machine. The logs may be filtered by type, user group and date.

The screenshot shows the AhsayCBS interface for the SNMP Log page. At the top, there is a navigation bar with the AhsayCBS logo and four tabs: "SNMP Log" (selected), "Message History", "Activities Log", and "Audit Trails". Below the tabs, the text "View all the SNMP logs below." is displayed. The main content area is titled "List of SNMP Log" and contains a table with columns: "Timestamp", "Login Name", "Owner", "Trap address", "Type", "OID", and "Message". Above the table, there are filter options: "Filter" with dropdowns for "Type", "User Group", and "View" set to "Today".

9.4.2 Message History

This page contains a list of notifications, announcements and alerts. The logs may be filtered by type.

The screenshot shows the AhsayCBS interface for the Message History page. At the top, there is a navigation bar with the AhsayCBS logo and four tabs: "SNMP Log", "Message History" (selected), "Activities Log", and "Audit Trails". Below the tabs, the text "List of system notifications, announcements from software vendor, and system alerts received." is displayed. The main content area is titled "Latest Notifications / Announcements / Alerts" and contains a table with columns: "Date", "Type", and "Notification". Above the table, there is a "Filter" dropdown menu set to "Notification".

Date	Type	Notification
10/30/2018	Announcement	Effect on the postponement of Daylight Saving Time in Brazil
10/22/2018	Announcement	End of support for Oracle Database, IBM Lotus Domino/Notes and StorageCraft ShadowProtect modules in Ahsay version 8

9.4.3 Activities Log

In this page, you will see a list of activities/system logs generated by system events, v6 migration or other user activities. The logs may be filtered by type and date.

The screenshot shows the AhsayCBS interface with the 'Activities Log' tab selected. Below the navigation tabs, there is a heading 'List of System Log' and a table of logs. The table has columns for 'Timestamp', 'Type', and 'Message'. The logs are filtered by 'Type' and 'View Today'.

Timestamp	Type	Message
08/05/2020 09:14:26	RoutineJobInfo	[Job][Logger] Starting to log system status
08/05/2020 09:14:26	RoutineJobInfo	[Job][Logger] Start: logging system status
08/05/2020 09:14:26	RoutineJobInfo	[Job][Logger] End: logging system status
08/05/2020 09:14:28	RemoveMigratedV6DataInfo	[Job][HourlyJob]Start: Remove migrated v6 data

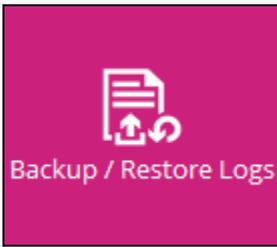
9.4.4 Audit Trails

In this page, you can only see the activity logs of the selected user. The logs may be filtered further according to type and date.

The screenshot shows the AhsayCBS interface with the 'Audit Trails' tab selected. Below the navigation tabs, there is a heading 'Audit Trails' and a table of logs. The logs are filtered by 'Type' and 'View Today'. A 'Select User' dropdown is set to 'ROUser'.

Timestamp	Type	Message
08/05/2020 09:40:52	UserChangeLog	[Profile] Per Destination Quota ("[Destination Key: OBS, Quota: 5368709120][Destination Key: -1596510991161, Quota: 0][Destination Key: -1596510471330, Quota: 0]" => "[Destination Key: OBS, Quota: 5120][Destination Key: -1596510991161, Quota: 0][Destination Key: -1596510471330, Quota: 0]") IP = '180.191.171.16'
08/05/2020 09:41:19	FileServiceInfo	[FileService.logInfo] Start to log start backup , Username = ROUser, Backup Set ID = 1596514380913, Destination ID = 1596514565804, Job ID = 2020-08-05-09-41-11, Minor Version = 3.4.42
08/05/2020 09:41:19	BackupStart	Backup, rosbackup1 -> 2020-08-05-09-41-11, to AhsayCBS started with host , server host name = http://125.5.184.206:80
		[UpdateObmBackupSet] User="ROUser", IP="125.5.184.206", Backup Set="rosbackup1", ("[Name: rosbackup1, Windows User Authentication: [Domain Name: , User name: , User name:], Backup Source: [backup file], Filter: [Enabled:

9.5 Backup / Restore Logs



You can check on a list of backup and restore jobs, backup errors, backup set logs, and activities logs.

9.5.1 Backup Jobs

Here is summary of the backup jobs. The logs may be filtered by backup job, job status, where the backup was run either client or server, user group and date.

AhsayCBS

Backup Jobs | Restored Jobs | Backup Errors | Backup Set Log | Activities Log

View all the backup jobs by all backup users below.

List of Backup Jobs

Filter: Backup Job | Job Status | Run on | User Group | View | Today

Login Name	Owner	Backup Set	Destination	Start Time	End Time	Version	Upload Size	Job Status	Report
ROSUser		rosbackup1 (1596514380913)	AhsayCBS	08/05/2020 09:41	08/05/2020 09:41	AhsayCBS 8.3.4.42	41.12M	Quota Exceeded	Download
WindowsTest_1		File Backup (1596591869919)	AhsayCBS	08/05/2020 09:46	08/05/2020 09:46	OBM 8.3.4.42	34.31M	OK	Download
WindowsTest_1		File backup 2 (1596592087543)	AhsayCBS	08/05/2020 09:50	08/05/2020 09:50	OBM 8.3.4.42	0	Quota Exceeded	Download
WindowsTest_1		File backup 2 (1596592087543)	AhsayCBS	08/05/2020 09:50	08/05/2020 09:50	OBM 8.3.4.42	0	Warn	Download

9.5.2 Restored Jobs

Here is a summary of the restored jobs. The logs may be filtered by user group, date and where it was run either client or server.

AhsayCBS

Backup Jobs | Restored Jobs | Backup Errors | Backup Set Log | Activities Log

View restore jobs by all backup users below.

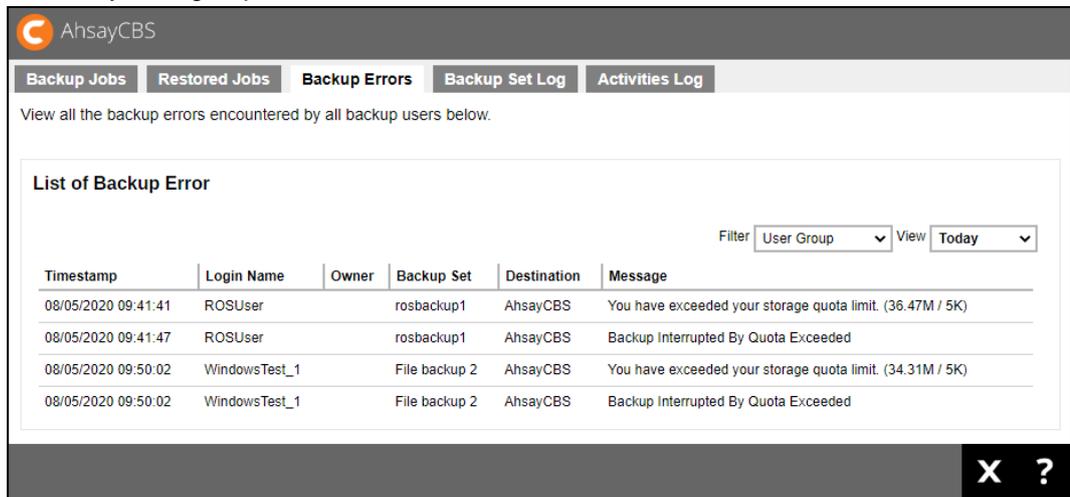
List of Restore Jobs

Filter: Run on | User Group | View | Today

Login Name	Owner	Backup Set	Destination	Start Time	End Time	Size	IP	Status	Report
WindowsTest_1		File Backup (1596591869919)	AhsayCBS	08/05/2020 10:20	08/05/2020 10:20	0	125.5.184.206	OK	Download
WindowsTest_1		File backup 2 (1596592087543)	AhsayCBS	08/05/2020 10:21	08/05/2020 10:21	0	125.5.184.206	OK	Download
ROSUser		rosbackup1 (1596514380913)	AhsayCBS	08/05/2020 10:23	08/05/2020 10:23	0		OK	Download

9.5.3 Backup Errors

Here is a summary of the backup errors encountered by all backup users. The logs may be filtered by user group and date.

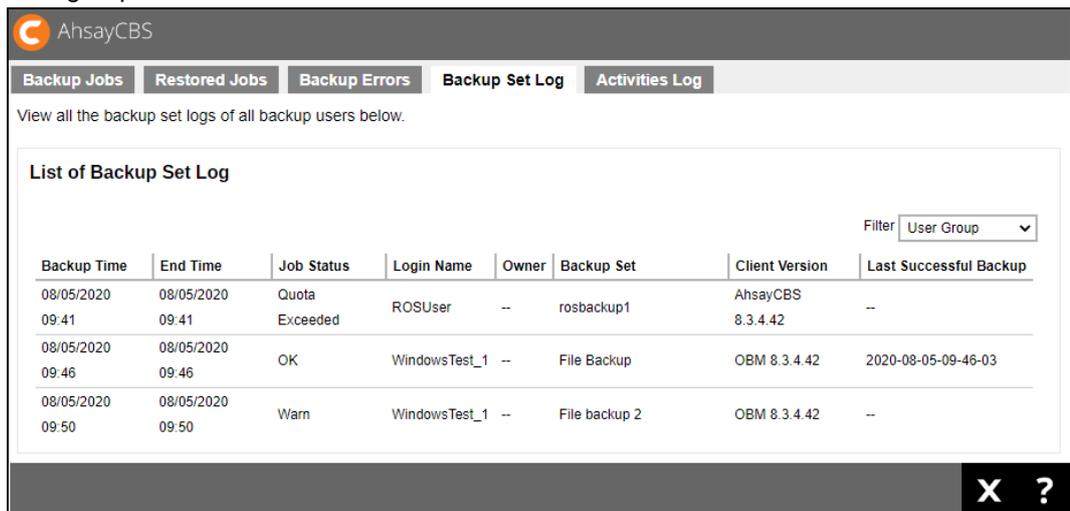


The screenshot shows the AhsayCBS interface for viewing backup errors. It includes a navigation bar with tabs for Backup Jobs, Restored Jobs, Backup Errors, Backup Set Log, and Activities Log. Below the navigation bar, there is a heading 'List of Backup Error' and a table with columns: Timestamp, Login Name, Owner, Backup Set, Destination, and Message. The table contains four rows of error logs. A filter dropdown is set to 'User Group' and a 'View' dropdown is set to 'Today'. A close button (X) and a help button (?) are visible in the bottom right corner.

Timestamp	Login Name	Owner	Backup Set	Destination	Message
08/05/2020 09:41:41	ROSUser		rosbackup1	AhsayCBS	You have exceeded your storage quota limit. (36.47M / 5K)
08/05/2020 09:41:47	ROSUser		rosbackup1	AhsayCBS	Backup Interrupted By Quota Exceeded
08/05/2020 09:50:02	WindowsTest_1		File backup 2	AhsayCBS	You have exceeded your storage quota limit. (34.31M / 5K)
08/05/2020 09:50:02	WindowsTest_1		File backup 2	AhsayCBS	Backup Interrupted By Quota Exceeded

9.5.4 Backup Set Log

Here is a summary of backup set logs of all the backup users. The logs may be filtered by user group.

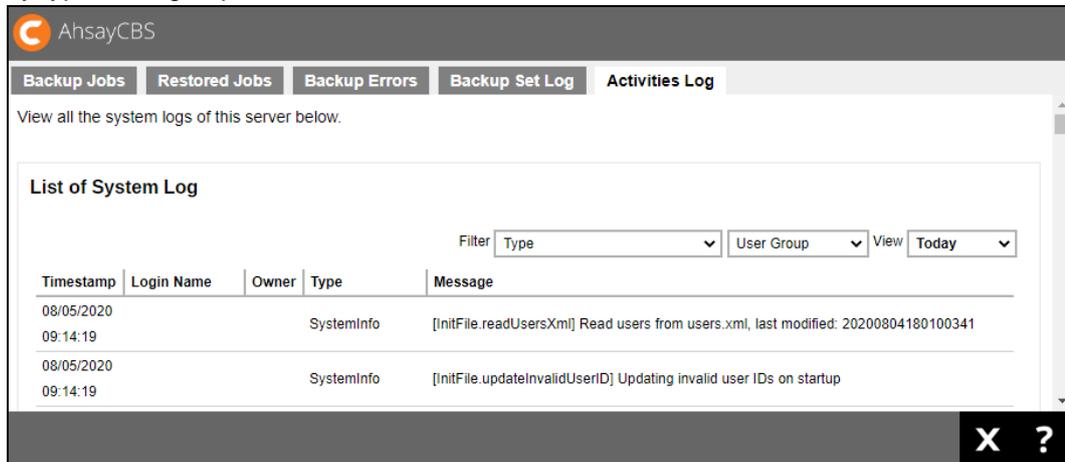


The screenshot shows the AhsayCBS interface for viewing backup set logs. It includes a navigation bar with tabs for Backup Jobs, Restored Jobs, Backup Errors, Backup Set Log, and Activities Log. Below the navigation bar, there is a heading 'List of Backup Set Log' and a table with columns: Backup Time, End Time, Job Status, Login Name, Owner, Backup Set, Client Version, and Last Successful Backup. The table contains four rows of log entries. A filter dropdown is set to 'User Group'. A close button (X) and a help button (?) are visible in the bottom right corner.

Backup Time	End Time	Job Status	Login Name	Owner	Backup Set	Client Version	Last Successful Backup
08/05/2020 09:41	08/05/2020 09:41	Quota Exceeded	ROSUser	--	rosbackup1	AhsayCBS 8.3.4.42	--
08/05/2020 09:46	08/05/2020 09:46	OK	WindowsTest_1	--	File Backup	OBM 8.3.4.42	2020-08-05-09-46-03
08/05/2020 09:50	08/05/2020 09:50	Warn	WindowsTest_1	--	File backup 2	OBM 8.3.4.42	--

9.5.5 Activities Log

Here is a list of user backup/restore related system activities logs. The logs may be filtered by type, user group and date.



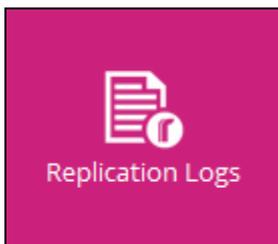
View all the system logs of this server below.

List of System Log

Filter: Type User Group View Today

Timestamp	Login Name	Owner	Type	Message
08/05/2020 09:14:19			SystemInfo	[InitFile.readUsersXml] Read users from users.xml, last modified: 20200804180100341
08/05/2020 09:14:19			SystemInfo	[InitFile.updateInvalidUserID] Updating invalid user IDs on startup

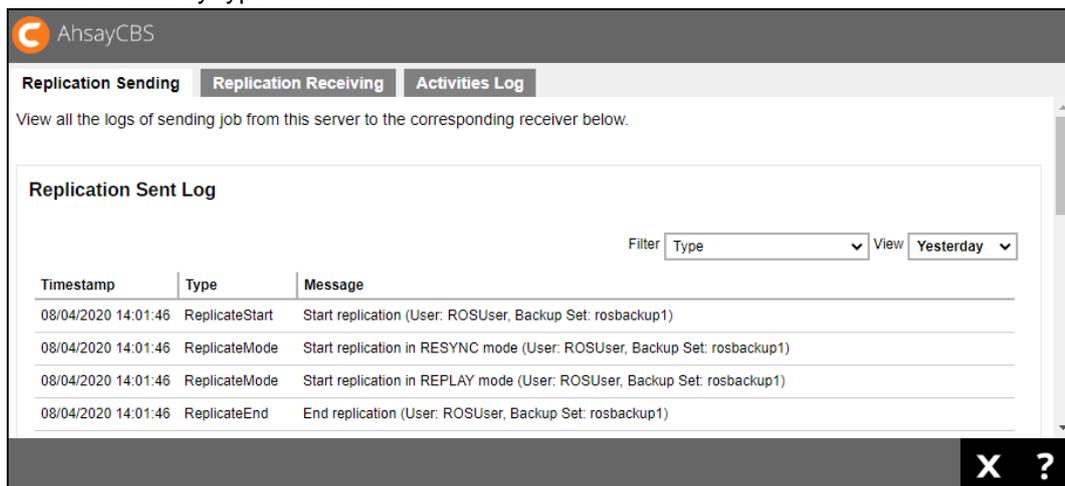
9.6 Replication Log



You can check on both send and receiver logs, and activities logs.

9.6.1 Replication Sending

You can see a list of sending job from the AhsayCBS to the corresponding receiver. Logs can be filtered by type and date.



View all the logs of sending job from this server to the corresponding receiver below.

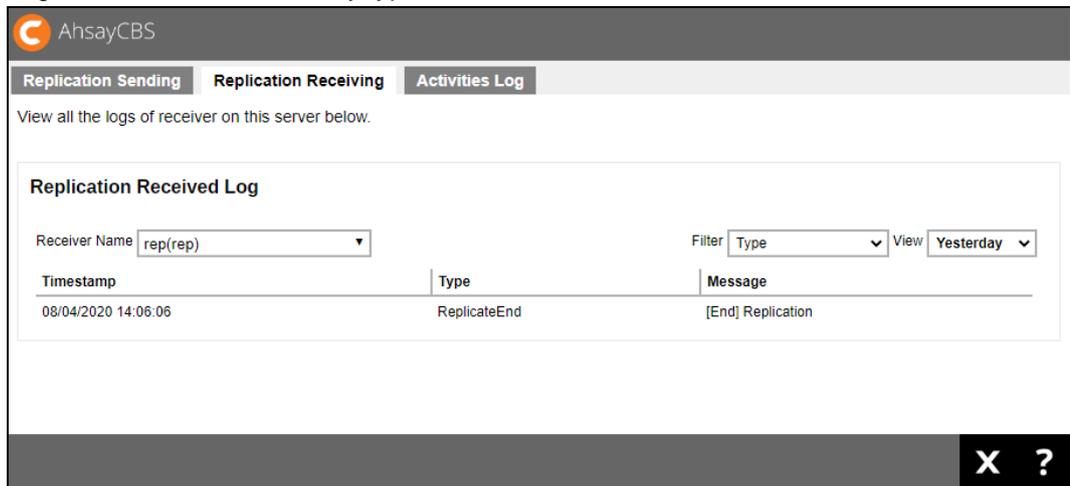
Replication Sent Log

Filter: Type View Yesterday

Timestamp	Type	Message
08/04/2020 14:01:46	ReplicateStart	Start replication (User: ROSUser, Backup Set: rosbackup1)
08/04/2020 14:01:46	ReplicateMode	Start replication in RESYNC mode (User: ROSUser, Backup Set: rosbackup1)
08/04/2020 14:01:46	ReplicateMode	Start replication in REPLAY mode (User: ROSUser, Backup Set: rosbackup1)
08/04/2020 14:01:46	ReplicateEnd	End replication (User: ROSUser, Backup Set: rosbackup1)

9.6.2 Replication Receiving

Here is the receiver log on the AhsayCBS. It only shows the logs of the selected receiver. Logs can be filtered further by type and date.



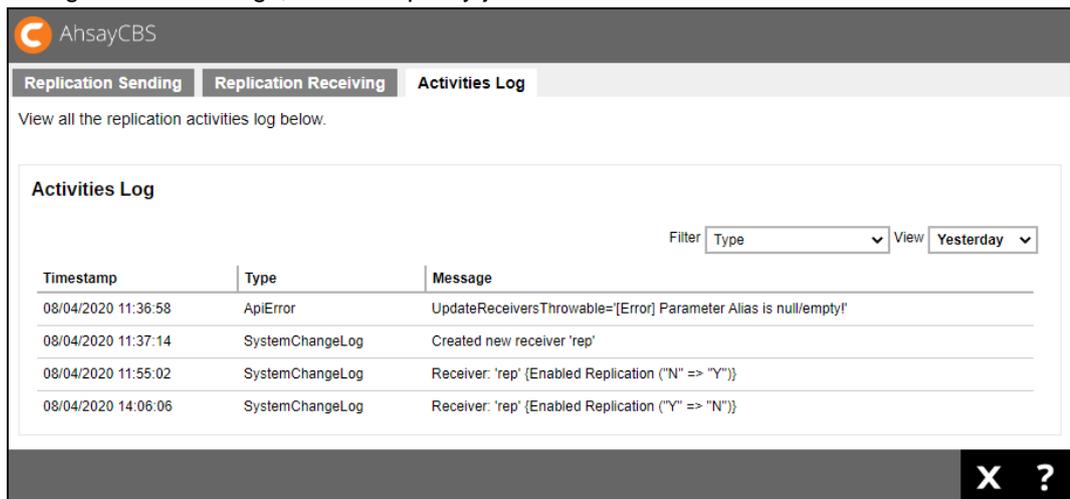
The screenshot shows the AhsayCBS interface for the 'Replication Receiving' section. It features a navigation bar with 'Replication Sending', 'Replication Receiving', and 'Activities Log'. Below the navigation bar, there is a text prompt: 'View all the logs of receiver on this server below.' The main content area is titled 'Replication Received Log' and includes a 'Receiver Name' dropdown menu set to 'rep(rep)', a 'Filter' dropdown set to 'Type', and a 'View' dropdown set to 'Yesterday'. A table displays the log entries:

Timestamp	Type	Message
08/04/2020 14:06:06	ReplicateEnd	[End] Replication

The interface also includes a dark footer bar with a close button (X) and a help button (?).

9.6.3 Activities Log

Here is the page to view all the replication activities log, such as creation of new receiver, changes in the settings, retention policy job etc.

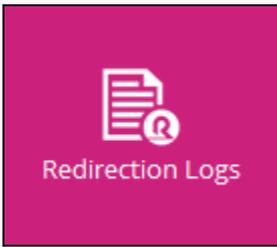


The screenshot shows the AhsayCBS interface for the 'Activities Log' section. It features a navigation bar with 'Replication Sending', 'Replication Receiving', and 'Activities Log'. Below the navigation bar, there is a text prompt: 'View all the replication activities log below.' The main content area is titled 'Activities Log' and includes a 'Filter' dropdown set to 'Type' and a 'View' dropdown set to 'Yesterday'. A table displays the log entries:

Timestamp	Type	Message
08/04/2020 11:36:58	ApiError	UpdateReceiversThrowable=[Error] Parameter Alias is null/empty!
08/04/2020 11:37:14	SystemChangeLog	Created new receiver 'rep'
08/04/2020 11:55:02	SystemChangeLog	Receiver: 'rep' {Enabled Replication ("N" => "Y")}
08/04/2020 14:06:06	SystemChangeLog	Receiver: 'rep' {Enabled Replication ("Y" => "N")}

The interface also includes a dark footer bar with a close button (X) and a help button (?).

9.7 Redirection Logs



You can check on the redirection activities logs in this menu. The logs may be filtered by type and date.

The screenshot shows the AhsayCBS interface for viewing redirection activities. At the top, there's a header with the AhsayCBS logo and the text "Activities Log". Below the header, it says "View all the redirection activities below." The main content area is titled "Activities Log" and contains a table with columns for "Timestamp", "Type", and "Message". There are also filter options for "Type" and "View" (set to "Today").

Timestamp	Type	Message
08/05/2020 09:14:25	RoutineJobInfo	localhost-startStop-4 Skip daily license update
08/05/2020 09:14:26	RoutineJobInfo	[Job][HourlyJob] Skip license check
08/05/2020 09:15:00	RoutineJobInfo	[Job][DailyLicenseUpdate] Skip daily license update

Enable Third Party Monitoring Tools

You can set up third party monitoring tools such as SNMP and Windows Event Log (Windows only) in **System Settings -> Advanced -> Logging**.

The screenshot shows the AhsayCBS interface for configuring logging settings. At the top, there's a header with the AhsayCBS logo and the text "Logging". Below the header, there are tabs for "Auto Save", "Proxy", "Logging", "File Explorer", and "Runtime Options". The main content area contains instructions: "You can publish system and error messages of this server to third parties' monitoring tools through SNMP. If your monitoring tool supports SNMP, simply enable the SNMP feature below." There are three sections: "Download MIB Files" with a "Download" button, "Enable SNMP Service" with a toggle switch, and "Windows Event Log" with a checkbox "Use Windows Event Log" and an "Event Log Name" input field.

10 Branding the AhsayCBS

This chapter describes the steps to brand the AhsayCBS/AhsayUBS.

You can brand the AhsayCBS and generate new AhsayCBS installers and AhsayUBS image files from the AhsayCBS interface.

10.1 Prerequisite

A Rebranding license is required for this feature to work. Evaluation license does not support this feature. If you do not have a license yet, visit the [Ahsay Shopping Centre – Rebranding](#) page to purchase one.

10.2 Before Getting Started

Here are the suggested steps for you to complete the process.

1. Prepare the logos, properties, application settings and digital signature to be applied in the **Rebrand Clients** section, which will be reflected in the Client Backup Agents (AhsayACB/AhsayOBM).
2. Generate the AhsayOBM/AhsayACB installers for testing.
3. Prepare the logos, properties, cascade style sheet, connector/SSL certificate settings and customized report templates to be applied in the **Rebrand Web Console** section, which will be reflected in the AhsayCBS web console.
4. Generate the AhsayCBS installer for testing.
5. **Optional:**

- ▶ AhsayUBS image file generation. Select either 'ISO' or 'IMG' as the format for image file generation. The image file will be the installation file for the AhsayUBS.
- ▶ If Office 365 backups are offered, need to prepare the **oauth2-microsoft365.jsp** and **oauth2-permission365.jsp** files, to customize the Authorization code and Admin consent endpoint screen for Office 365 Global region.
- ▶ If Two-Factor Authentication and/or mobile backup service is enabled then Ahsay Mobile app branding is required.

During the initial rollout phases, the branding of Ahsay Mobile app can only be done by Ahsay, if you are interested in branding the Ahsay mobile app you must engage our professional services. For more information please refer to [Chapter 10.8 Ahsay Mobile Branding](#).

Ahsay Mobile Branding Service

To engage our professional services for Ahsay Mobile branding, please contact our sales team at Ahsay by email at sales-kb@ahsay.com or call our International Sales Hotline +852 3580 8091.

AhsayUp Upgrade Service

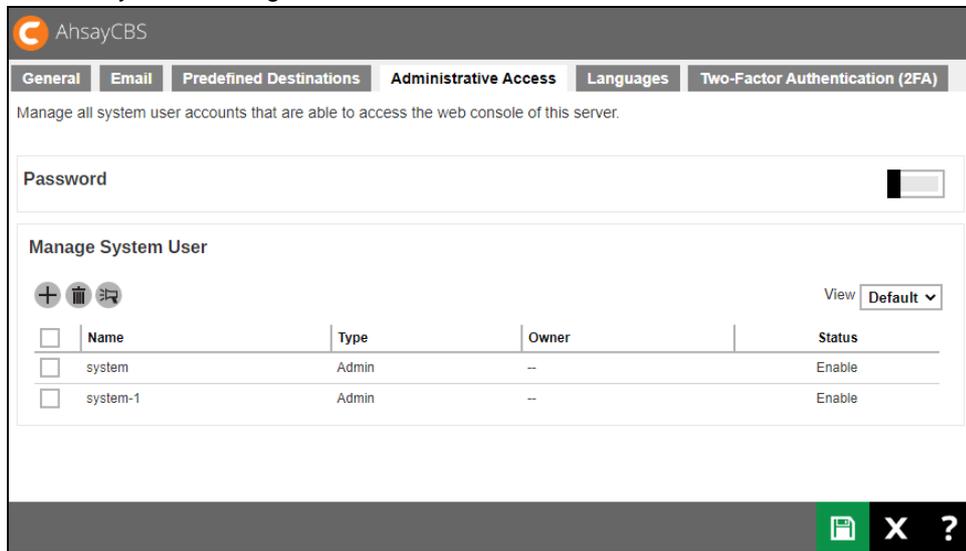
Subscribe to our premium upgrade service to enjoy a smooth and effortless upgrade experience. Click [here](#) to learn more about the AhsayUp Upgrade Service or visit the [Ahsay Shopping Centre](#) directly to subscribe the service.

For the images specifications, please refer to the [Appendix E](#).

10.3 Prepare Branding for AhsayCBS Interface

After you have installed the AhsayCBS, you can upload the graphics and customize the properties.

1. Login to the AhsayCBS management console as “**system**” user.
2. Click in System Settings -> Basic -> Administrative Access.



3. Click on the “**system**” user to brand the AhsayCBS.

If you are testing this feature, please create a sub admin user and test the following steps, this is because when new installers are generated, the existing installers will be overwritten with the new ones.

- Click on the **Rebrand Web Console** section on the left.

The screenshot shows the 'Rebrand Web Console' interface. On the left, there is a sidebar with 'Rebrand Web Console' selected. The main area is titled 'User Interface' and contains the following fields:

- Title:** An empty text input field.
- Product Name:** An empty text input field.
- Download link for iOS app:** A text input field containing the URL `https://www.ahsay.com/jsp/en/home/index.jsp?pageContentKe`.
- Download link for Android app:** A text input field containing the URL `https://www.ahsay.com/jsp/en/home/index.jsp?pageContentKe`.

- Enter the following fields under the **User Interface** tab.
 - Title** – the name to be displayed on the title bar of the browser.
 - Product Name** – the name to be displayed in the software license page.
 - Download link for iOS app** – the URL link directs users to iOS App Store to download Ahsay Mobile.
 - Download link for Android app** – the URL directs users to Android Google Play to download Ahsay Mobile.
- Upload the branding image for the AhsayCBS interface. Please refer to the branding image specifications listed on [Appendix E](#), you can download the default logo/icon for reference.
- At the bottom of this page, you can upload the Cascade Style Sheet (CSS) for the AhsayCBS interface.
- Click on the **Connector** tab if you need to change the connector settings and SSL settings. These settings will be applied to your new installers.

The screenshot shows the 'Rebrand Web Console' interface with the 'Connector' tab selected. It displays a table of connector settings and an SSL Certificate section.

<input type="checkbox"/>	IP	Port	Protocol	Max Connection	Connection Timeout	Max Keep Alive Request	SSL Certificate
<input type="checkbox"/>	0.0.0.0	80	HTTP	2000	120000	1000	--
<input type="checkbox"/>	0.0.0.0	443	HTTPS	2000	120000	1000	--

SSL Certificate

Buttons: + (Add), - (Remove)

<input type="checkbox"/>	Name	Common Name	Organization Unit	Organization Name	Location	State	Country	Expiry Date	Status
<input type="checkbox"/>									

If you will generate the AhsayUBS installer, please reserve the port 8080 for the AhsayUBS web admin interface.

9. Click on the **Predefined Destinations** tab if you need to customize the application name for standard destinations or the credentials for Cloud storage. Please refer to the [Customize Application Name on Cloud Storages](#) for instruction.

NOTE

OpenStack, Local, AhsayCBS and Destination Pool destinations cannot be customized.

Profile

Backup User Settings

Rebrand Web Console

Rebrand Clients

User Interface Connector **Predefined Destinations** Report

Custom Properties Custom Files Digital Signature Build Installers

Application Name

Customize application name

OneDrive

Customize credentials for OneDrive

OneDrive for Business

Customize credentials for Global and Germany region

Customize credentials for China region

Google Drive

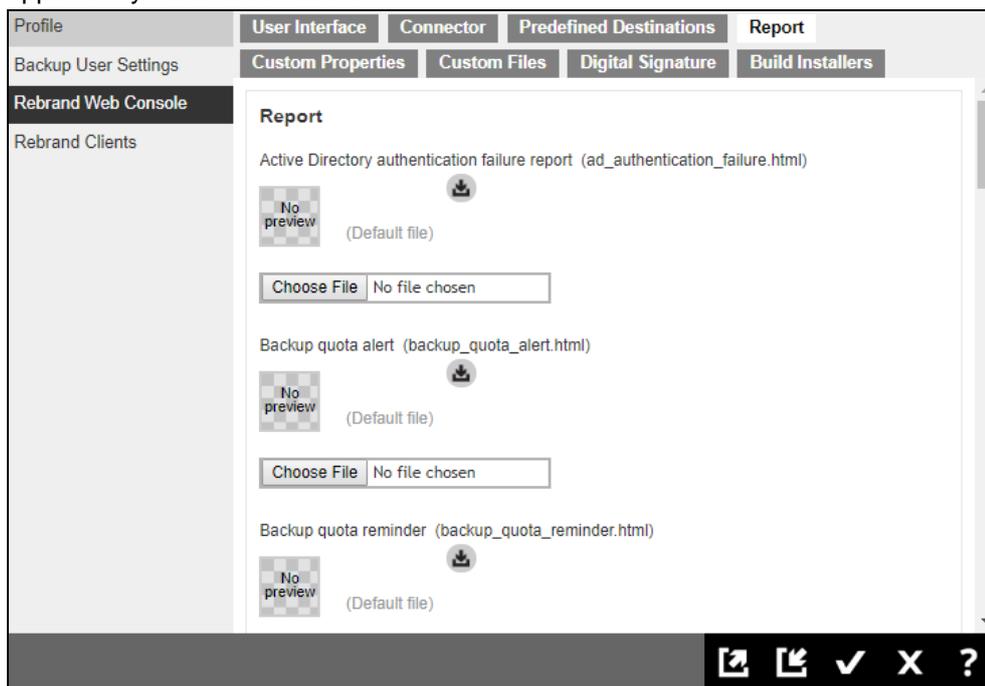
Customize credentials for Google Drive

Dropbox

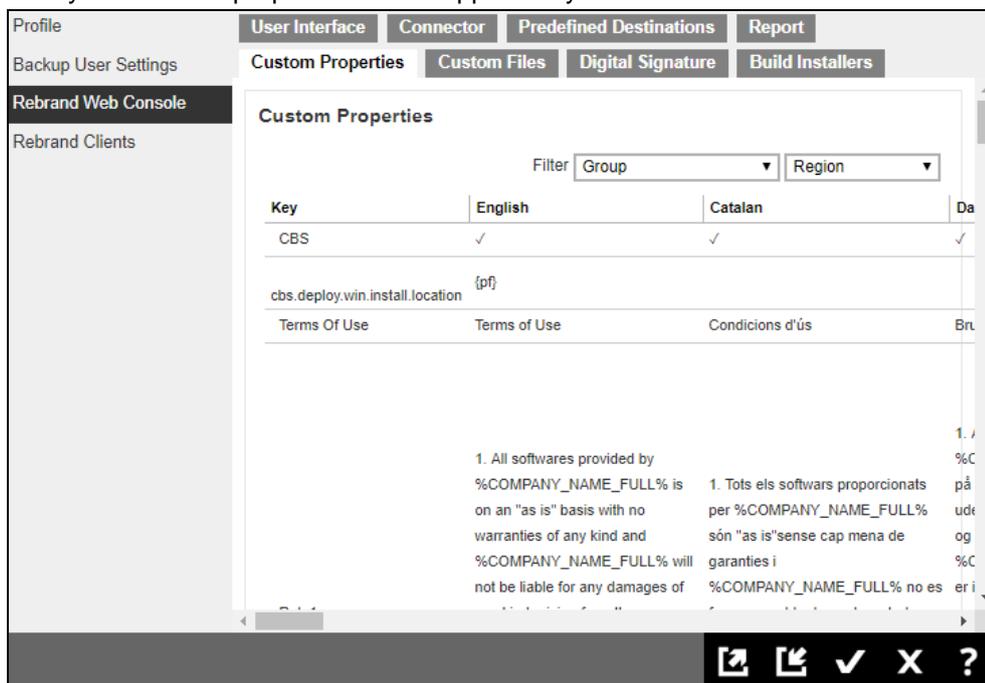
Customize credentials for Dropbox

⏪ ⏩ ✓ ✕ ?

- Click on the **Report** tab if you want to modify the HTML template. These templates will be applied to your new installers.

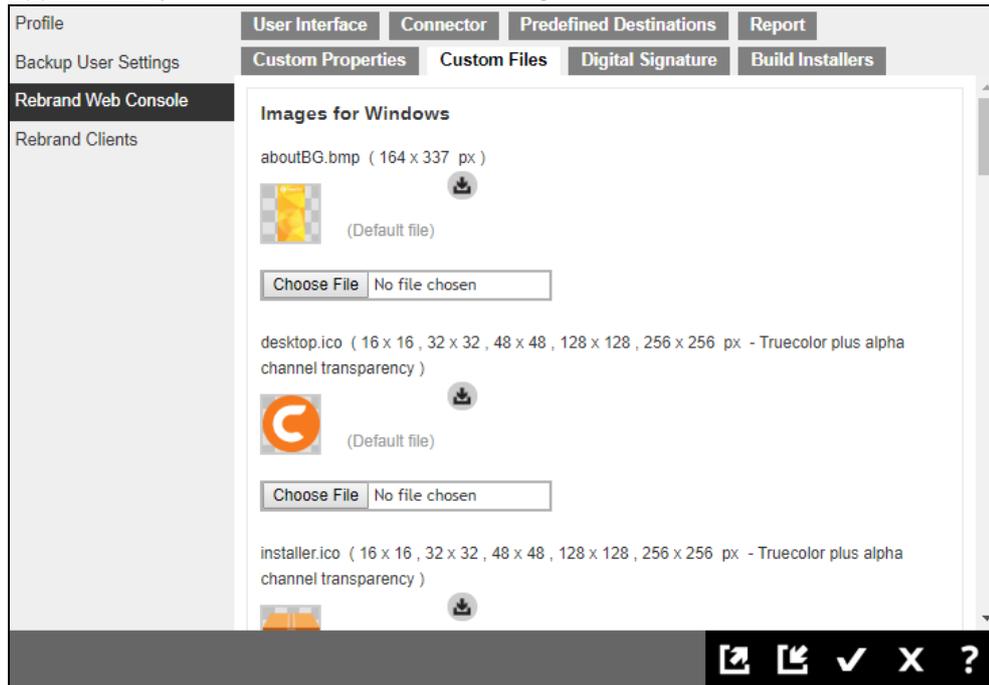


- Click on the **Custom Properties** tab if you want to modify the properties on the AhsayCBS. These properties will be applied to your new installers.



- Click on the **Custom Files** tab. Upload the branding image for the AhsayCBS installer/AhsayUBS image file. Please refer to the branding image specifications listed on

[Appendix E](#), you can download the default logo/icon for reference.



- If you have uploaded the digital signature in **Rebrand Clients > Digital Signature**, it will be applied to your new Windows installer.



- Click on the **Build Installer** tab.

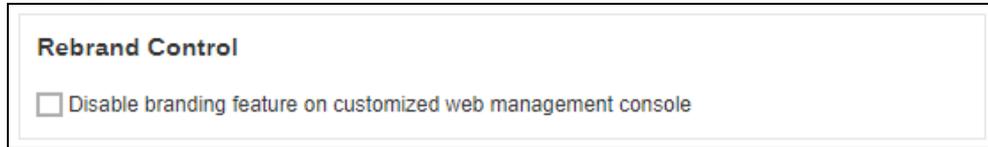
NOTE

The new AhsayOBM/AhsayACB will be generated and overwrite your existing installers.

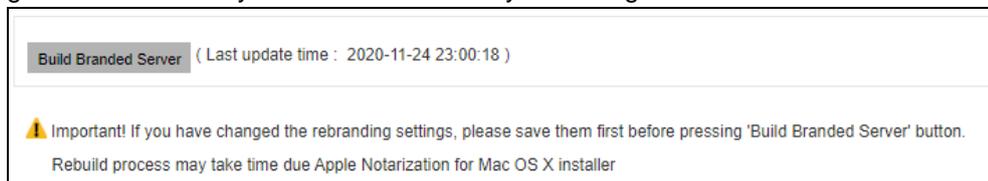
- Select the installer(s) or image file(s) to generate. You can also select the AhsayUBS image file generation. Before you use this option, you may test the AhsayCBS installer generation first, this can save the generation time and download time before you can finalize your branding work.



16. If you wish to rebrand the AhsayCBS to resellers using your own branding and to prevent resellers from knowing the software is from Ahsay and changing the branding, you can check the **Disable branding feature on customized web management console** checkbox. With this feature enabled, the **Rebrand Web Console** and **Rebrand Clients** sections in the web management console of the CBS installer to be generated will be disabled. In that case, backup users will not see any Rebrand parameters with Ahsay wording.



17. Click  and  to save all the settings before generating the installer.
18. Go back to the **Build Installers** tab, click on the **Build Branded Server** button to generate new AhsayCBS installer or AhsayUBS image file.



Please be patient, the installer generation process should take around 10 to 15 minutes for each installer/image. The generation time would depend on the traffic condition on the customization portal.

19. You can download branded AhsayCBS installer from the download page.
20. In case there are any problems when building the installer, you will be able to see the logs by clicking on the **Download Log** button.



By clicking on the **Download Log** button, you can download the branding log file "**cbs-log.zip**" and you can take a look into the log for troubleshooting the branding issue.

10.4 Prepare Branding for AhsayOBM/AhsayACB

Follow the steps below to brand the AhsayOBM/AhsayACB.

1. Login to the AhsayCBS management console with "system" account.

2. Click in **System Settings -> Basic -> Administrative Access.**

AhsayCBS

General | Email | Predefined Destinations | **Administrative Access** | Languages | Two-Factor Authentication (2FA)

Manage all system user accounts that are able to access the web console of this server.

Password

Manage System User

+ - 🗑️ 🔄 View **Default** ▾

<input type="checkbox"/>	Name	Type	Owner	Status
<input type="checkbox"/>	system	Admin	--	Enable
<input type="checkbox"/>	system-1	Admin	--	Enable

3. Click on the “**system**” user to brand the client. If you are testing this feature, please create a sub admin user and test the following steps, this is because when new installers are generated, the existing installers will be overwritten with the new ones.

4. Click on the **Rebrand Clients** where you can customize the properties, apply the OBM, ACB settings, and upload OBM and ACB branding images.

Profile | Custom Properties | Application Settings - AhsayOBM | Application Settings - AhsayACB | Custom Files - AhsayOBM

Backup User Settings | Custom Files - AhsayACB | Custom Files - AhsayOBC

Rebrand Web Console | Mobile Feature | Color Scheme Settings - AhsayOBM | Color Scheme Settings - AhsayACB | Digital Signature | Build Installers

Rebrand Clients

Custom Properties

Filter: Group ▾ Region ▾

Key	English	Catalan	Danish
%THIS_YEAR%	2020	2020	2020
%COMPANY_NAME_FULL%	Ahsay Systems Corporation	Ahsay Systems Corporation	Ahsay Systems Corporation
%COMPANY_NAME_SHORT%	Ahsay	Ahsay	Ahsay
%COMPANY_NAME_SYSTEM%	Ahsay Systems Corporation		
%COMPANY_URL%	www.ahsay.com	www.ahsay.com	www.ahsay.com
%COMPANY_COPYRIGHT%	1999-%THIS_YEAR% (C) %COMPANY_NAME_SYSTEM% All rights reserved.	1999-%THIS_YEAR% (C) %COMPANY_NAME_SYSTEM% All rights reserved.	1999-%THIS_YEAR% (C) %COMPANY_NAME_SYSTEM% All rights reserved.
%SUPPORT_EMAIL%	support-kb@ahsay.com	support-kb@ahsay.com	support-kb@ahsay.com
%SUPPORT_URL%	http://kb.ahsay.com	http://kb.ahsay.com	http://kb.ahsay.com
%SUPPORT_TEL%			
%SUPPORT_TEAM%	Ahsay Support Team	Ahsay Support Team	Ahsay Support Team
%UPDATES_URL%	http://forum.ahsay.com/viewforum.php?f=1	http://forum.ahsay.com/viewforum.php?f=1	http://forum.ahsay.com/viewforum.php?f=1

5. First, click on the **Custom Properties** tab.

Key	English	Catalan	Danish
%THIS_YEAR%	2020	2020	2020
%COMPANY_NAME_FULL%	Ahsay Systems Corporation	Ahsay Systems Corporation	Ahsay Systems Corporation
%COMPANY_NAME_SHORT%	Ahsay	Ahsay	Ahsay
%COMPANY_NAME_SYSTEM%	Ahsay Systems Corporation		
%COMPANY_URL%	www.ahsay.com	www.ahsay.com	www.ahsay.com
%COMPANY_COPYRIGHT%	1999-%THIS_YEAR% (C) %COMPANY_NAME_SYSTEM% All rights reserved.	1999-%THIS_YEAR% (C) %COMPANY_NAME_SYSTEM% All rights reserved.	1999-%THIS_YEAR% (C) %COMPANY_NAME_SYSTEM% All rights reserved.
%SUPPORT_EMAIL%	support-kb@ahsay.com	support-kb@ahsay.com	support-kb@ahsay.com
%SUPPORT_URL%	http://kb.ahsay.com	http://kb.ahsay.com	http://kb.ahsay.com
%SUPPORT_TEL%			
%SUPPORT_TEAM%	Ahsay Support Team	Ahsay Support Team	Ahsay Support Team
%UPDATES_URL%	http://forum.ahsay.com/viewforum.php?f=1	http://forum.ahsay.com/viewforum.php?f=1	http://forum.ahsay.com/viewforum.php?f=1

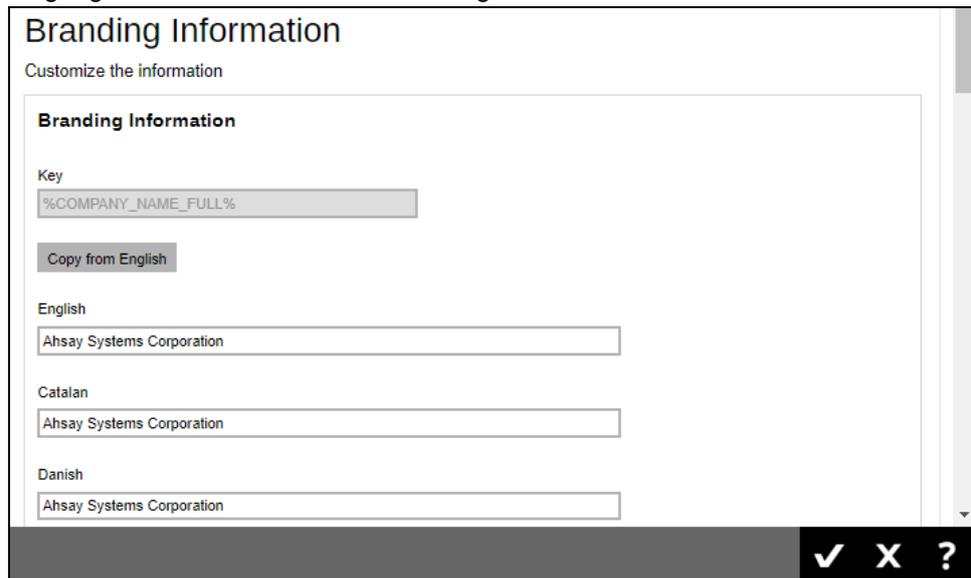
- i. There are three categories of branding properties on this page, they are **“Branding information”**, **“Installer – Configuration”** and **“Installer - Terms of Use”**. By default, you will be able to branding properties of all categories, you can also select the desired category by using the filter on the right hand side of the page.

Filter	Group	Region
Catalan	Branding Information	Danish
2019	Installer - Configuration	2019
Ahsay Systems Corporation	Installer - Terms Of Use	Ahsay Systems Corp
Ahsay		Ahsay

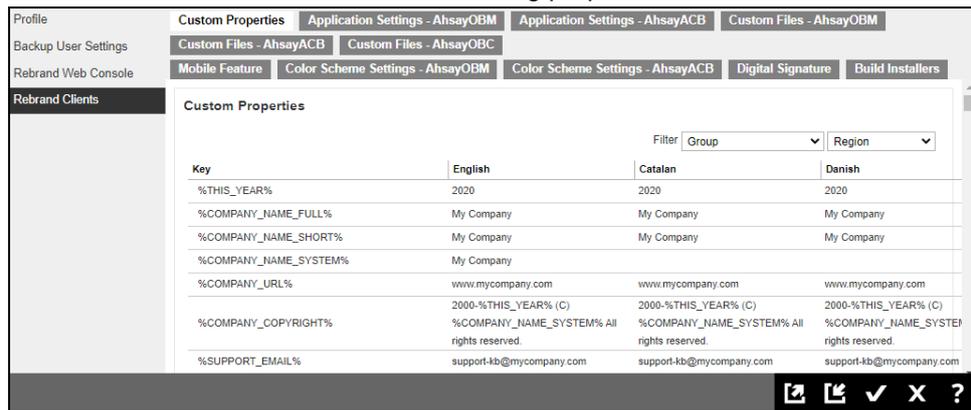
- ii. You can also filter the language displayed on this page by using the **Region** drop-down menu.

Filter	Group	Region
Catalan		Region
2019		Western Europe
Ahsay Systems Corporation		Northern Europe
Ahsay		Eastern Europe
		Middle East
		America
		Asia Pacific

- iii. By clicking into each item, you can modify the name of each property in different languages. Click on  at the bottom right corner to continue.



- iv. You will be able to see the modified branding properties as shown.



Key	English	Catalan	Danish
%THIS_YEAR%	2020	2020	2020
%COMPANY_NAME_FULL%	My Company	My Company	My Company
%COMPANY_NAME_SHORT%	My Company	My Company	My Company
%COMPANY_NAME_SYSTEM%	My Company		
%COMPANY_URL%	www.mycompany.com	www.mycompany.com	www.mycompany.com
%COMPANY_COPYRIGHT%	2000-%THIS_YEAR% (C) rights reserved.	2000-%THIS_YEAR% (C) rights reserved.	2000-%THIS_YEAR% (C) rights reserved.
%SUPPORT_EMAIL%	support-kb@mycompany.com	support-kb@mycompany.com	support-kb@mycompany.com

NOTE

AhsayCBS made some constraints for the system properties, which are defined as follow:

Short System Property (%XXX_SHORT_NAME_SYSTEM%)

- Accepts alphabet and/or numeric character(s)

General System Property (%XXX_SYSTEM%, except for Short System Property, %OBM_SYNOLOGY_APP_ID_SYSTEM% and %SOCIAL_MEDIA_LINK_XXX_SYSTEM%)

- Only accept alphabet, numeric and/or space character(s)

%OBM_SYNOLOGY_APP_ID_SYSTEM%

- Accepts alphabet, numeric and/or dot character(s)
- The length cannot exceed 128 characters

Install Location Properties (i.e. acb.deploy.win.install.location and obm.deploy.win.install.location)

- Cannot be empty

In order to meet the above constraints, some default values of system properties are modified:

%ACB_FULL_NAME_SYSTEM%

- From “Ahsay A-Click Backup” to “Ahsay AClick Backup”

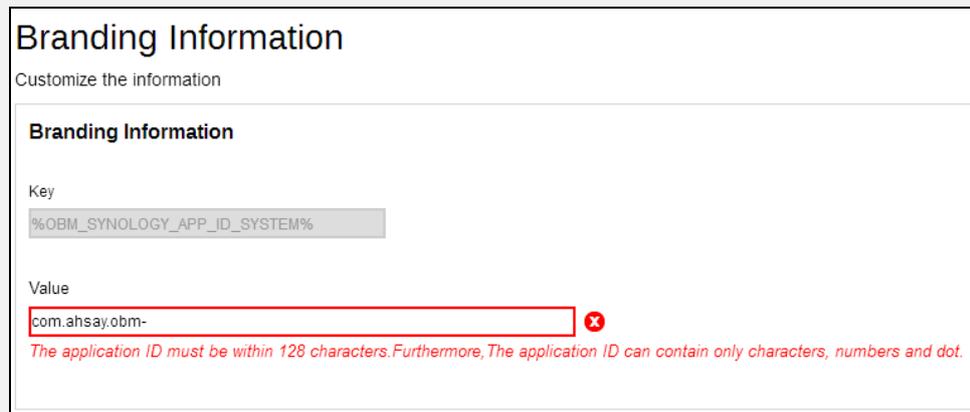
%OBSR_SHORT_NAME_SYSTEM%

- From “AhsayOBS and AhsayRPS” to “AhsayOBSR”

%ACB_COMMENTS_SYSTEM%

- From “Ahsay A-Click Backup” to “Ahsay AClick Backup”

There will be warning shown if the character is incorrect.



Branding Information
Customize the information

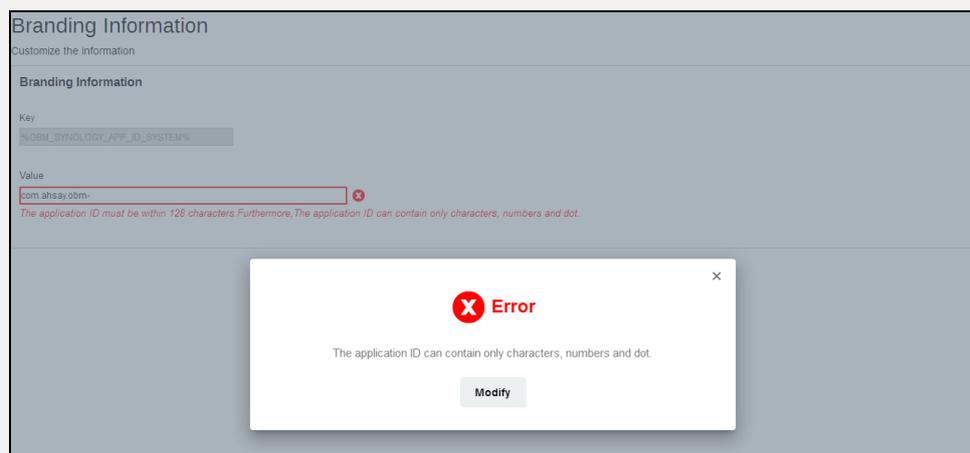
Branding Information

Key
%OBM_SYNNOLOGY_APP_ID_SYSTEM%

Value
com.ahsay.obm- ✘

The application ID must be within 128 characters. Furthermore, The application ID can contain only characters, numbers and dot.

It is not allowed to save the incorrect value, a warning **Error** will pop out.



Branding Information
Customize the information

Branding Information

Key
%OBM_SYNNOLOGY_APP_ID_SYSTEM%

Value
com.ahsay.obm- ✘

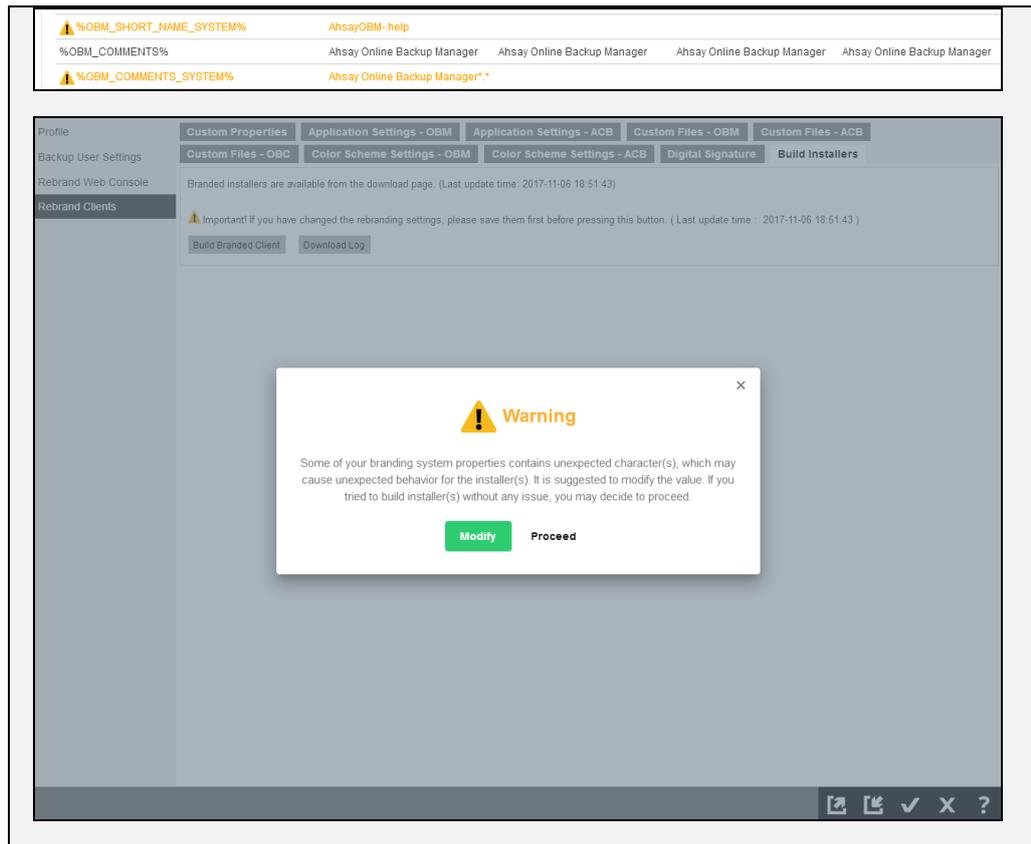
The application ID must be within 128 characters. Furthermore, The application ID can contain only characters, numbers and dot.

✘ **Error**

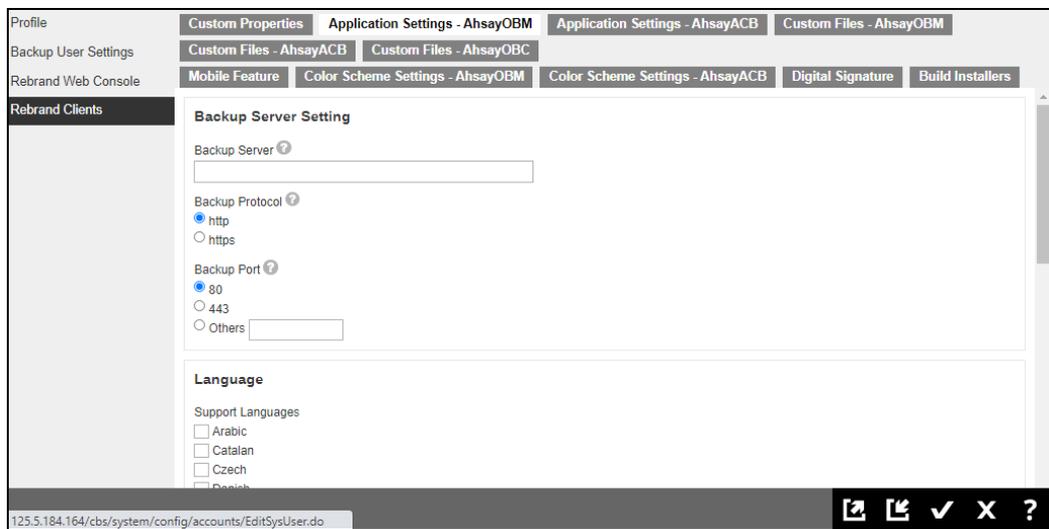
The application ID can contain only characters, numbers and dot.

Modify

If there is still some unexpected character(s) in the branding system properties, which may cause unexpected behavior for installer(s), the warning will pop out to suggest that you modify the value when click on **Build Branded Client** in **Builder Installers**.

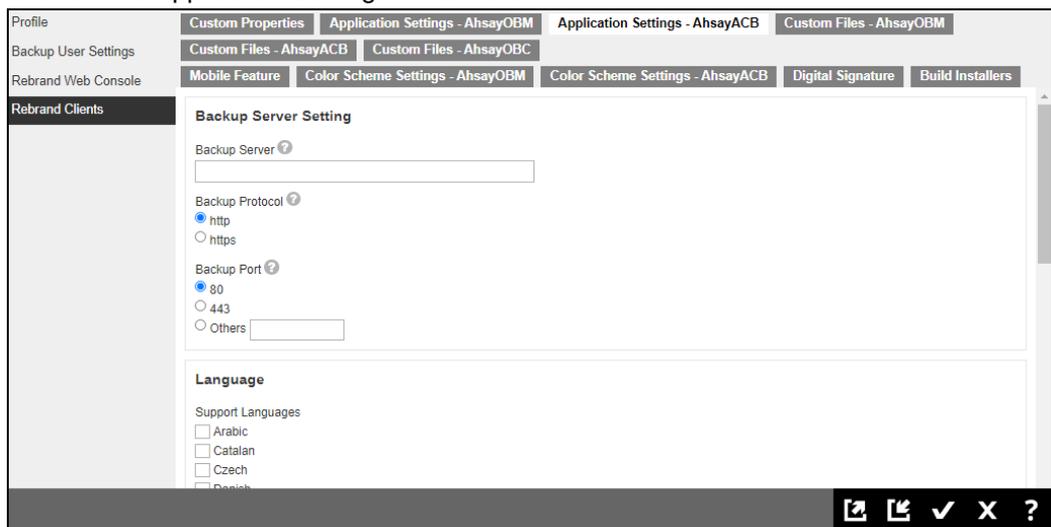


6. After you completed properties, you can click on the **Application Settings – OBM** tab.



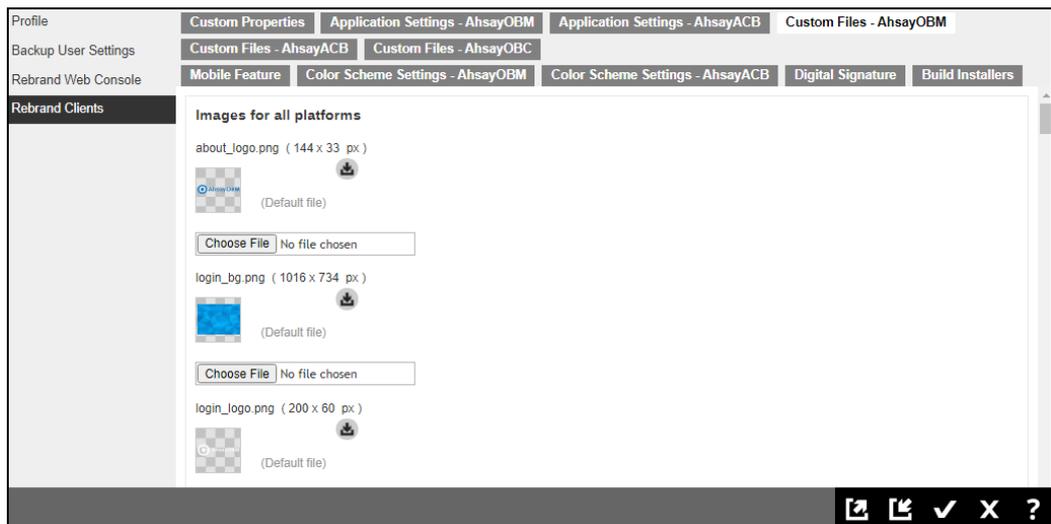
You can customize the default connection settings, supported languages, and GUI features such as show backup server URL or select language drop down list.

7. Click on the Application Settings – ACB tab.



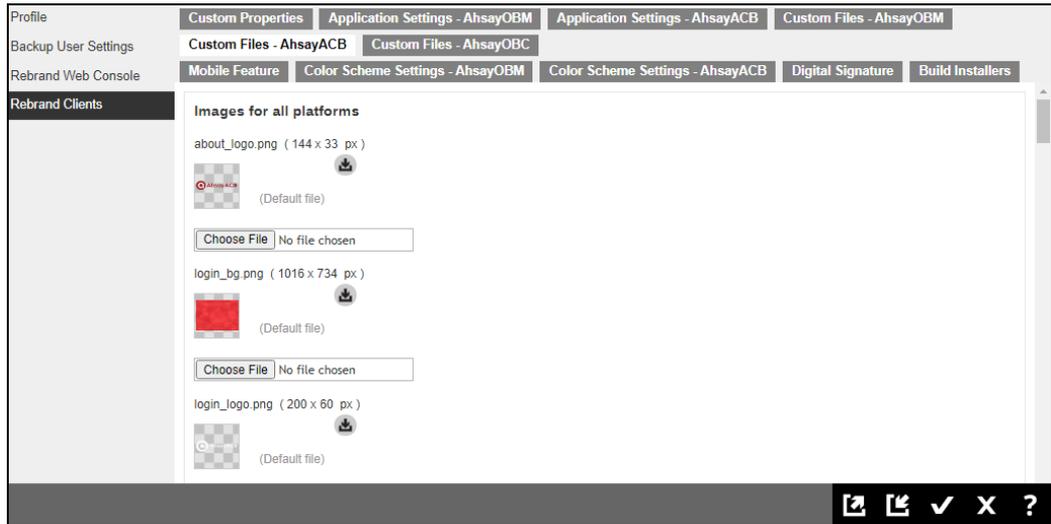
Similar to the previous step, you can customize the default connection settings, supported languages, and GUI features such as show backup server URL or select language drop down list.

8. Click on the Custom Files – OBM tab.



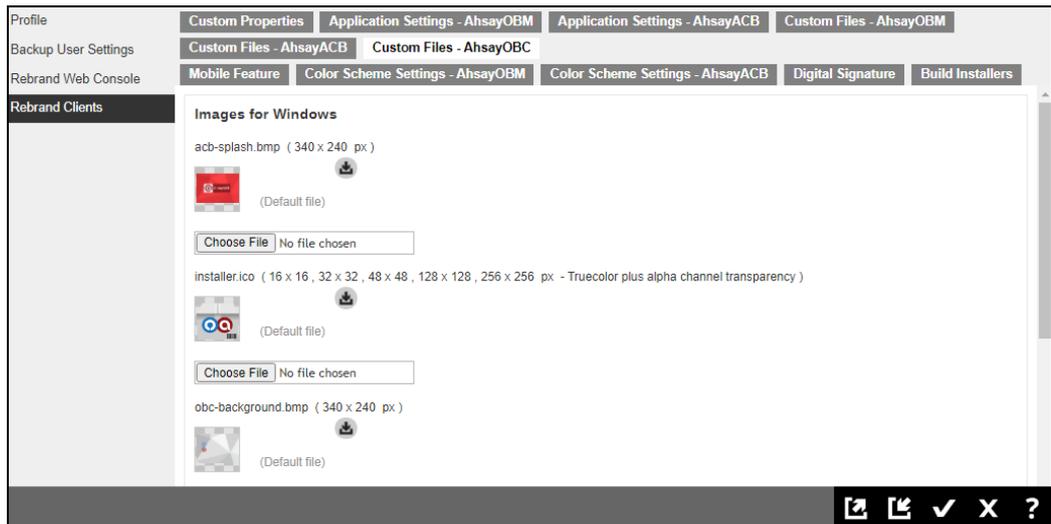
You can upload the branded images for your OBM installer/application. Please refer to the branding image specifications listed on [Appendix E](#), you can download the default logo/icon for reference.

9. Click on the **Custom Files – ACB** tab.



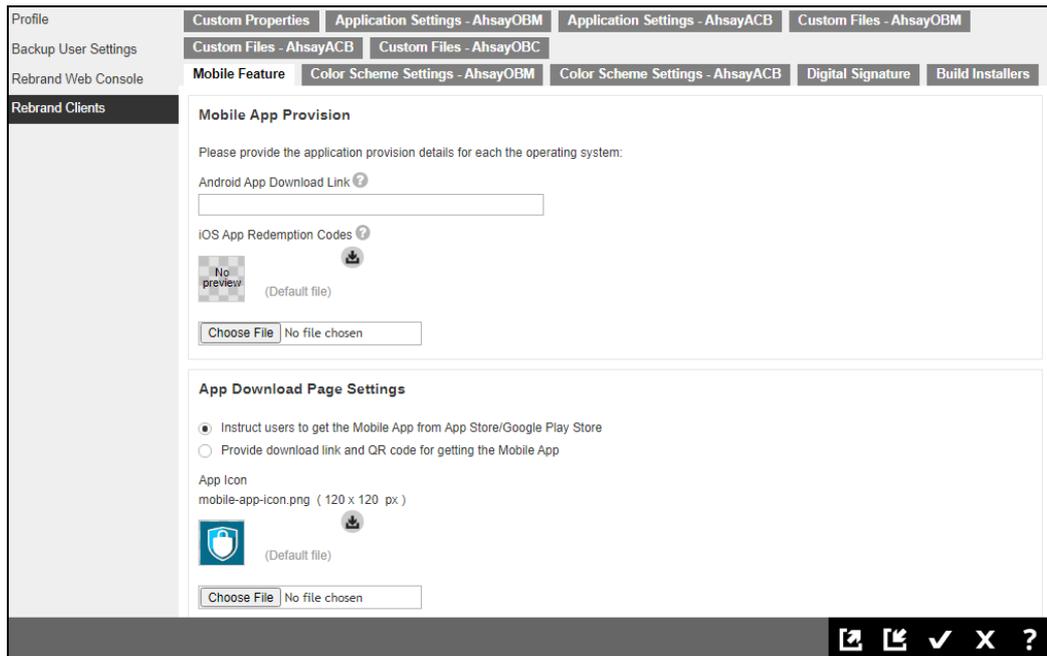
You can upload the branded images for your ACB installer/application. Please refer to the branding image specifications listed on [Appendix E](#), you can download the default logo/icon for reference.

10. Click on the **Custom Files – OBC** tab.



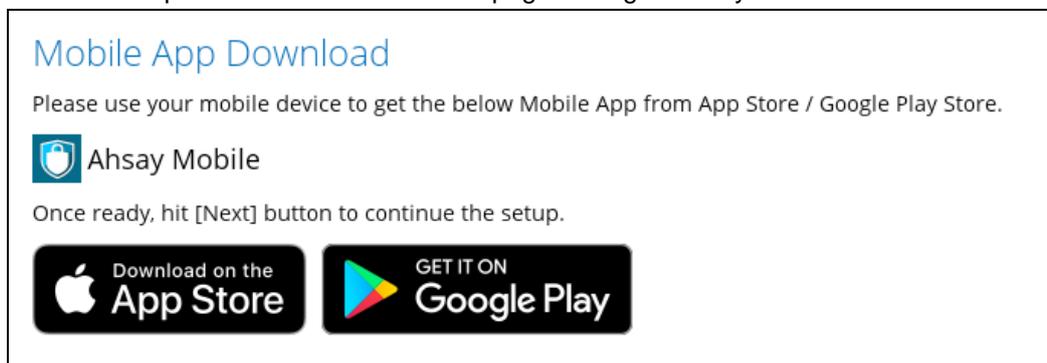
You can upload the branded images for your OBC installer. Please refer to the branding image specifications listed on [Appendix E](#), you can download the default logo/icon for reference.

11. Click on the **Mobile Feature** tab.

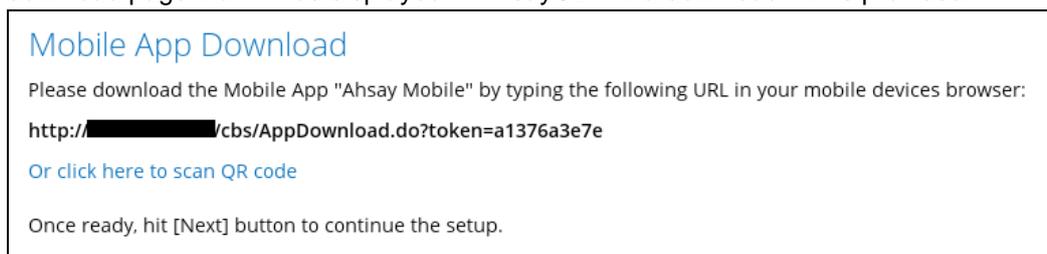


You can provide the download link for the Mobile App to be used in the Google Play Store for android device. While for iOS device, import the excel file containing the Mobile App Redemption Codes generated from the Custom Apps Section of Apple Business. You can customize the app download page by uploading the branded image for your app icon. Also you can select how instructions for downloading is displayed, the default setting will show the App Store and Google Play icons on AhsayOBM/AhsayACB.

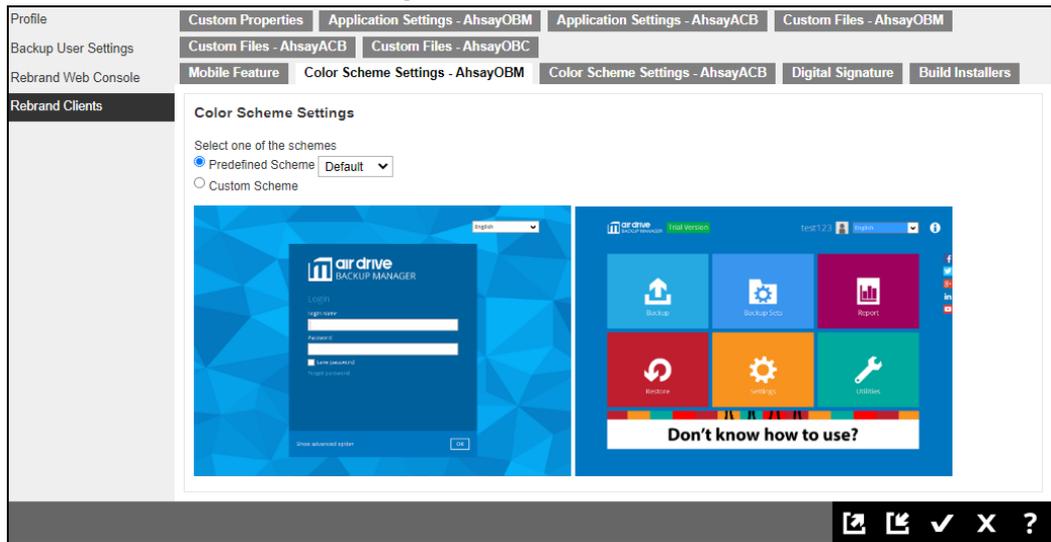
This is a sample of the default download page setting in AhsayOBM:



However, if there is download link provided, then AhsayOBM/AhsayACB will display the download link instead of the App Store and Google Play icons. This is a sample of the download page that will be displayed in AhsayOBM if a download link is provided.

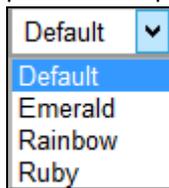


12. Click on the Color Scheme Settings – OBM tab.

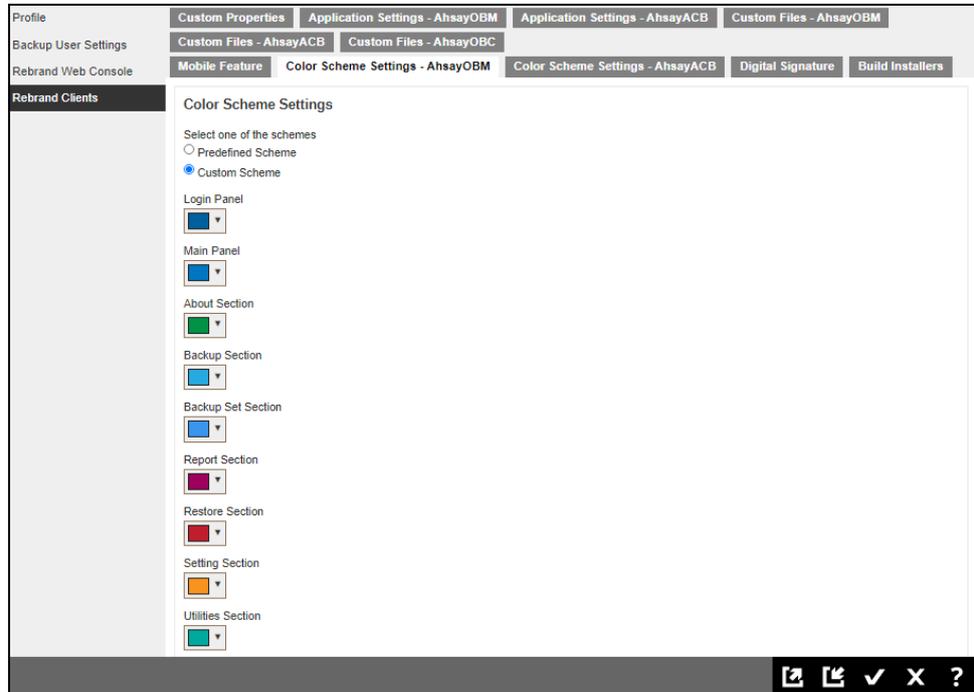


AhsayCBS supports changing the color scheme for backup clients. You can select the color scheme settings from “Predefined Scheme” or “Custom Scheme”.

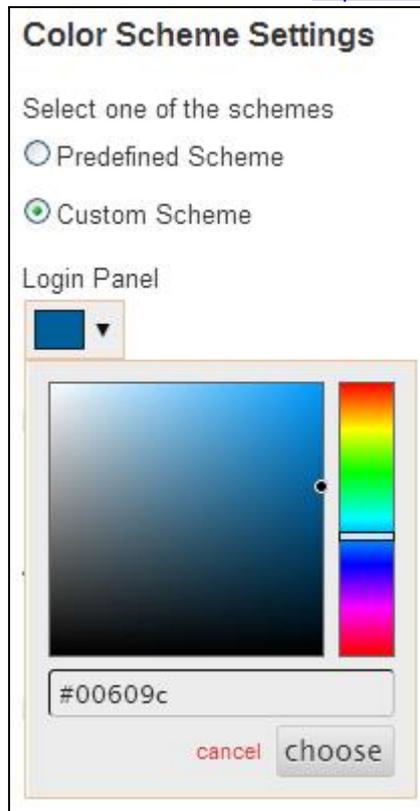
- i. For **Predefined Scheme**, you can click on the dropdown to choose from the predefined options.



- ii. For **Custom Scheme**, you can choose color for each section.



The color setting is based on hex color codes and you can either select the color using the palette or just input the hex color code. Please refer to the following link for details of hex color code: <http://www.color-hex.com/>



Color Scheme Settings

Select one of the schemes

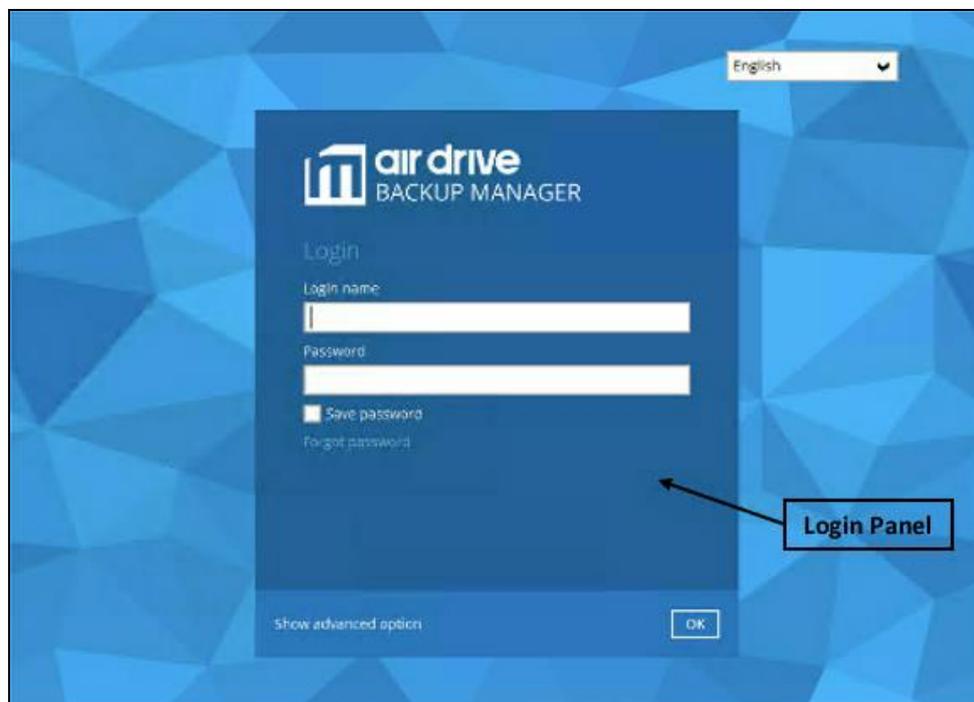
Predefined Scheme

Custom Scheme

Login Panel

#00609c

cancel choose



English

air drive
BACKUP MANAGER

Login

Login name:

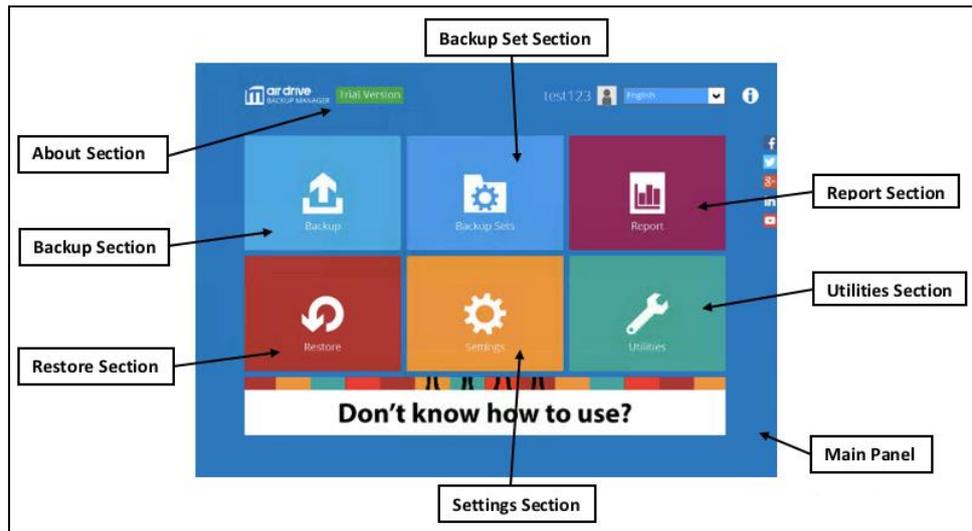
Password:

Save password

[Forgot password](#)

Show advanced options

Login Panel



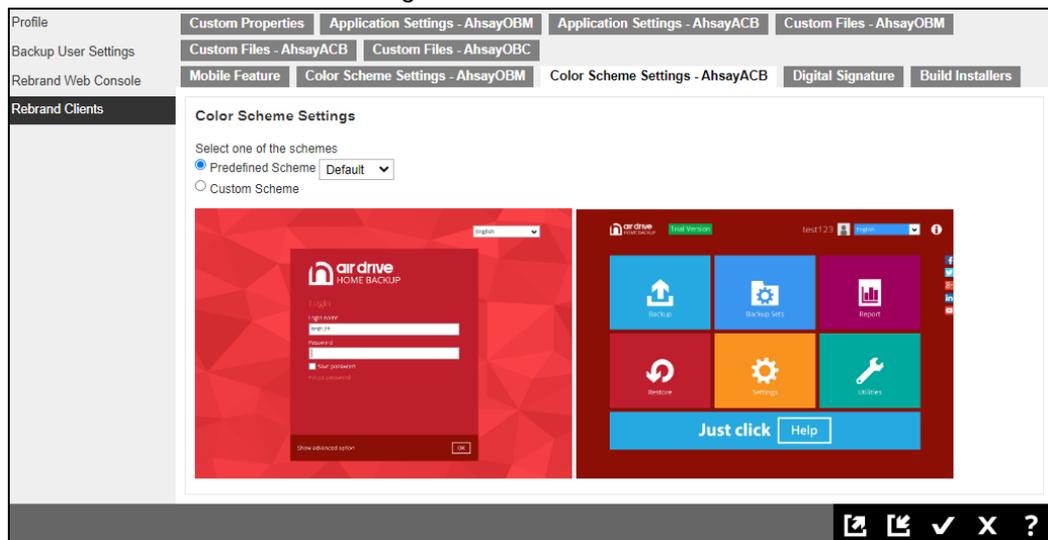
Click on  at the bottom right corner to continue.

NOTE

After changing and saving the configuration of **Color Scheme Settings – OBM**, administrator can provide available online/ offline installer with according color scheme for client user to download and run after finishing **[Build Installers] > [Build Branded Client]** successfully.

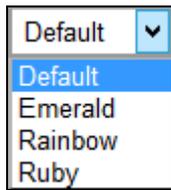
AhsayOBR will follow the same color scheme settings with AhsayOBM.

13. Click on the Color Scheme Settings – ACB tab.

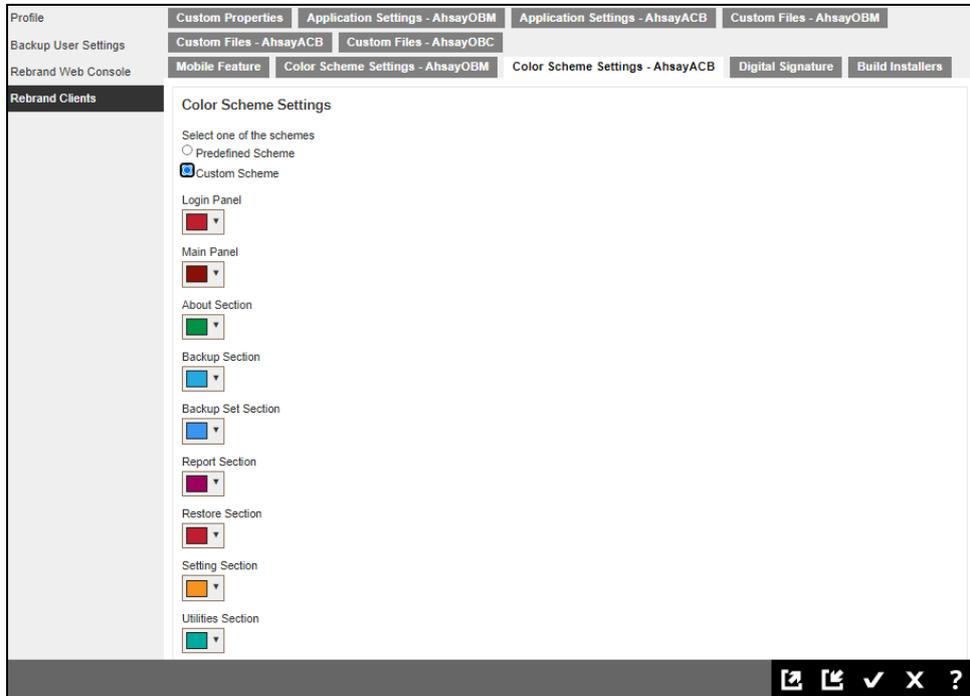


AhsayCBS supports changing the color scheme for backup clients. You can select the color scheme settings from “Predefined Scheme” or “Custom Scheme”.

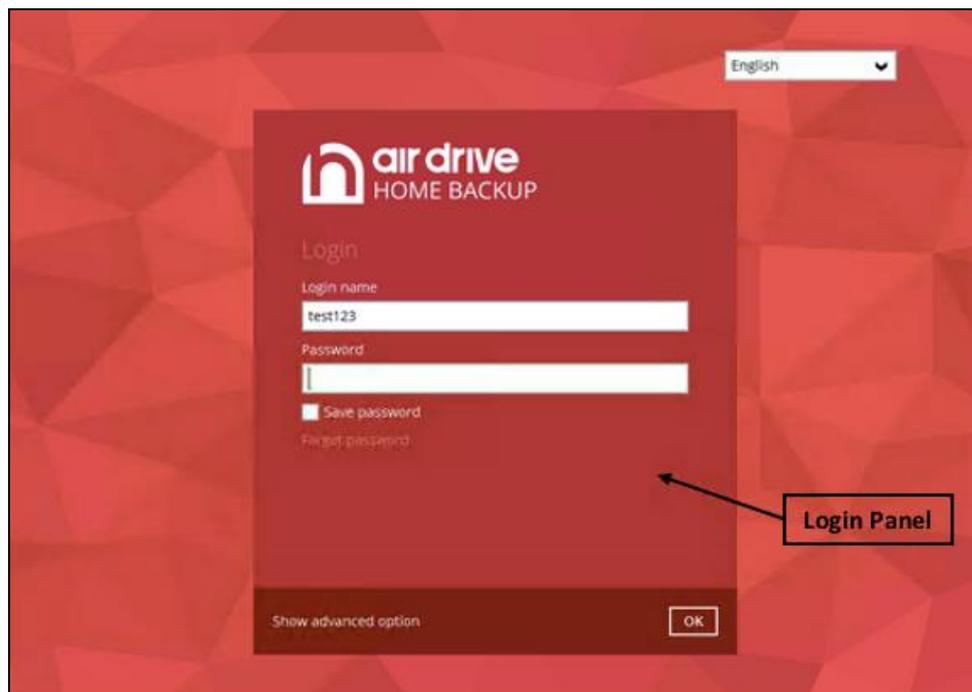
- i. For **Predefined Scheme**, you can click on the dropbox to choose from the predefined options.

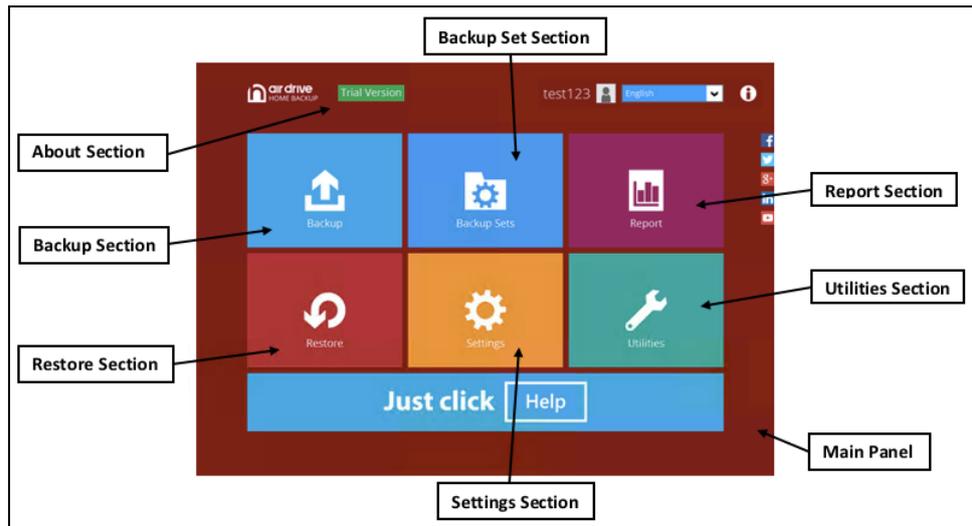


ii. For **Custom Scheme**, you can choose color for each section.



The color setting is based on hex color codes and you can either select the color using the palette or just input the hex color code. Please refer to the following link for details of hex color code: <http://www.color-hex.com/>



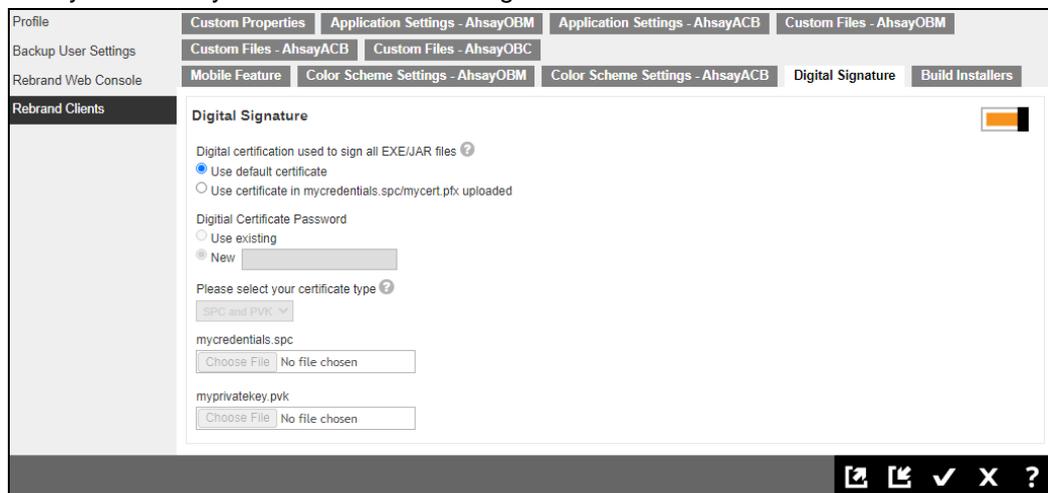


Click on  at the bottom right corner to continue.

NOTE

After changing and saving the configuration of **Color Scheme Settings – ACB**, administrator cannot provide available online/ offline installer with according color scheme for client user to download and run until **[Build Installers] > [Build Branded Client]** finished successfully.

14. **Optional:** Click on the **Digital Signature** tab if you need to generate your AhsayOBM/AhsayACB installers with a digital certificate.



NOTE

The digital signature is only supported for AhsayOBM and AhsayACB Windows installers.

- i. Switch on the **Digital Signature** button.



- ii. You can use the Ahsay default digital certificate by selecting the **Use default certificate**.

Digital Signature 

Digital certification used to sign all EXE/JAR files ?

Use default certificate
 Use certificate in mycredentials.spc/mycert.pfx uploaded

NOTE

If the default digital signature is used then the AhsayOBM and AhsayACB Windows installers will show they are signed by Ahsay Systems Corporation Limited.

-OR-

If you prefer to use your own digital certificate, you can select **Use certificate in mycredentials.spc/mycert.pfx uploaded** option.

Digital Signature 

Digital certification used to sign all EXE/JAR files ?

Use default certificate
 Use certificate in mycredentials.spc/mycert.pfx uploaded

Digital Certificate Password

Use existing
 New

Please select your certificate type ?

SPC and PVK v

mycredentials.spc
 No file chosen

myprivatekey.pvk
 No file chosen

Enter the digital certificate password and select whether you are uploading a “SPC and PVK” or “PFX” digital certificate, then you can upload your digital certificate file.

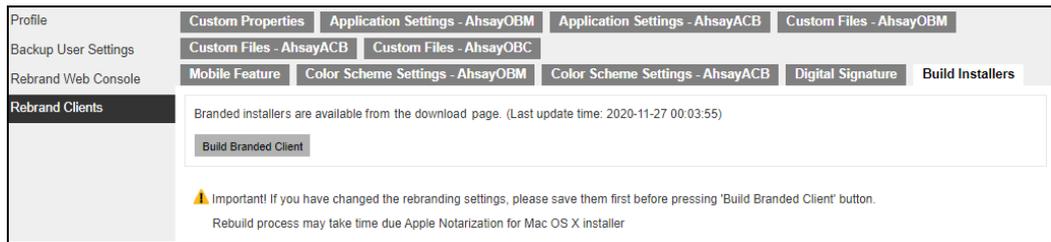
15. Click  and  to save all the settings.
16. Go back to the **Build Installers** tab and click on the **Build Branded Client** button. AhsayCBS will request our customization portal to generate new installers.

Profile	Custom Properties	Application Settings - AhsayOBM	Application Settings - AhsayACB	Custom Files - AhsayOBM
Backup User Settings	Custom Files - AhsayACB	Custom Files - AhsayOBC		
Rebrand Web Console	Mobile Feature	Color Scheme Settings - AhsayOBM	Color Scheme Settings - AhsayACB	Digital Signature
Rebrand Clients				Build Installers

Build Branded Client (Last update time : 2020-11-24 23:00:18)

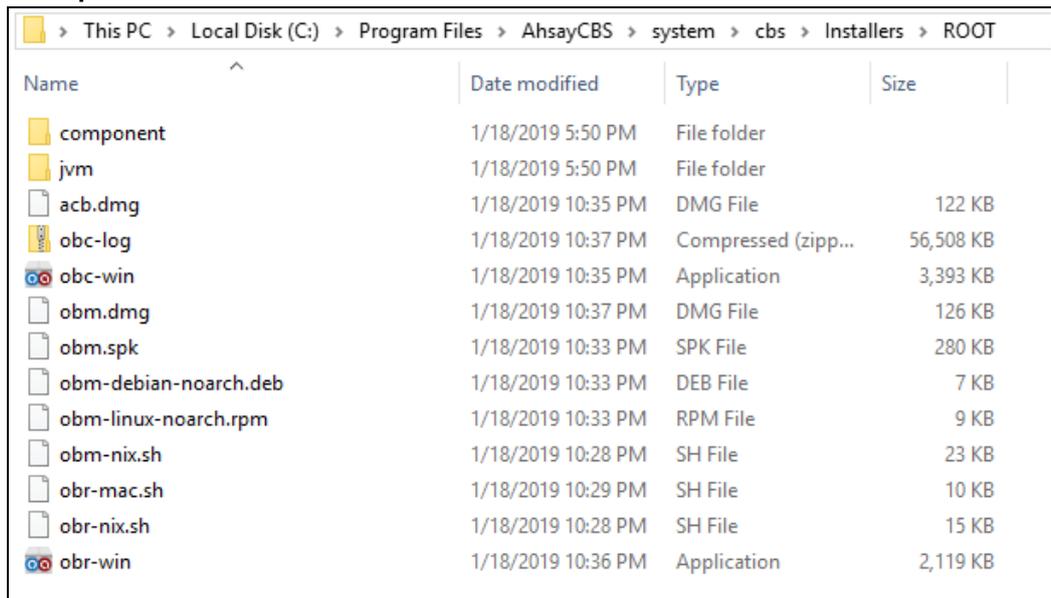
⚠ Important! If you have changed the rebranding settings, please save them first before pressing 'Build Branded Client' button.
 Rebuild process may take time due Apple Notarization for Mac OS X installer

Please be patient as the installer generation process should take around 5 to 10 minutes. The generation time depends on the traffic condition on the customization portal. The option will be greyed-out. You will be able to see the following message when the installer generation is completed.

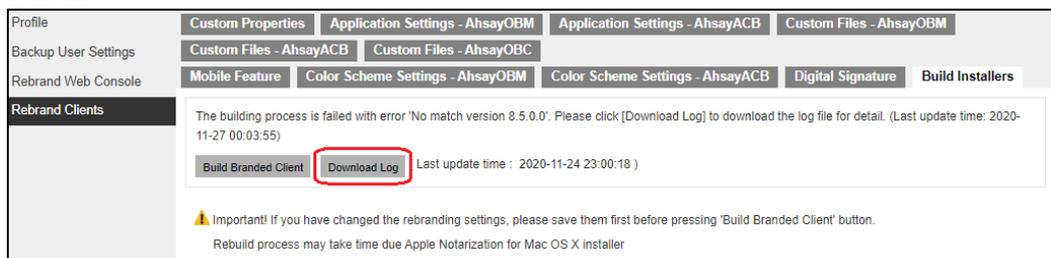


You will be able to find the installers under the following path,
CBS_HOME\system\cbs\Installers\ROOT

Example:



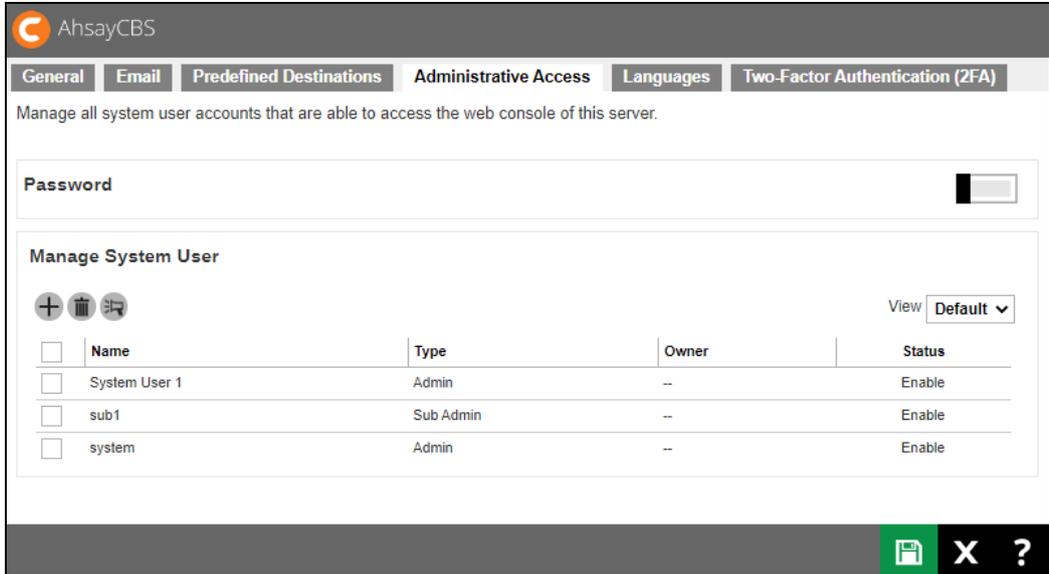
17. Please leave them inside this folder and it is forbidden to move them to other folders. When your customers access the web console by the system account's hostname, AhsayCBS will arrange the corresponding branded installers for users to download.
18. Download new installers from the installer download page in your AhsayCBS.
19. After you tested your installers, you can enable the client auto-update or update your client manually.
20. In case of any problems when the installer is being built, you will see the **Download Log** button.



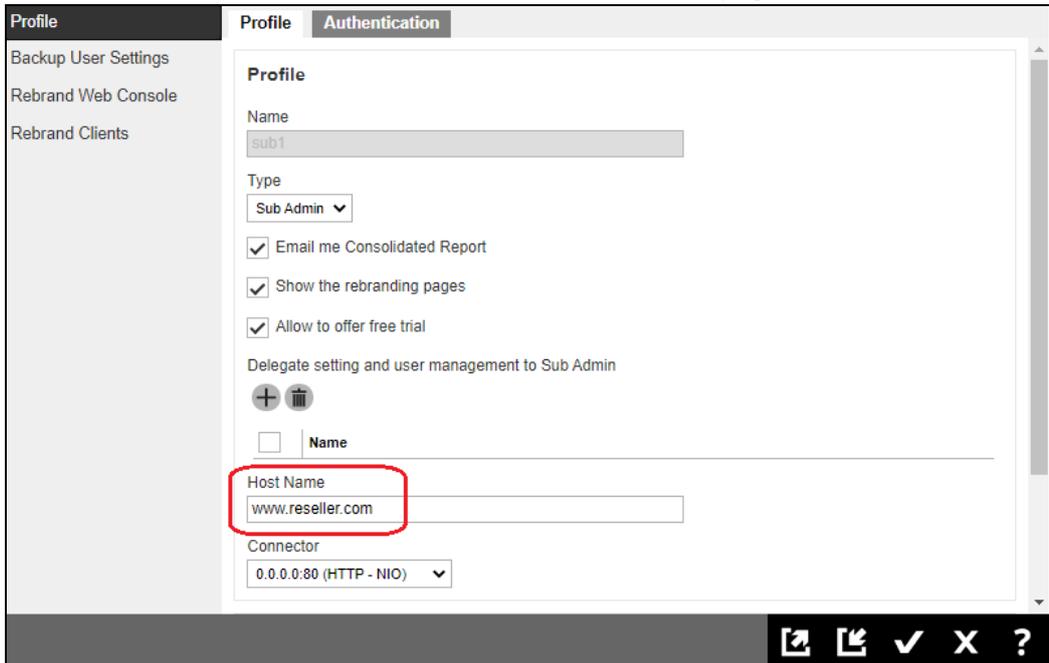
Click on the **Download Log** button and you can download the branding log file **obc-log.zip** and you can take a look into the log for troubleshooting the branding issue.

10.5 Brand the AhsayCBS Interface and AhsayOBM/AhsayACB Installers for your Resellers

1. Click in **System Settings > Basic > Administrative Access**.
2. Click into the sub admin account that you want to apply the branding.

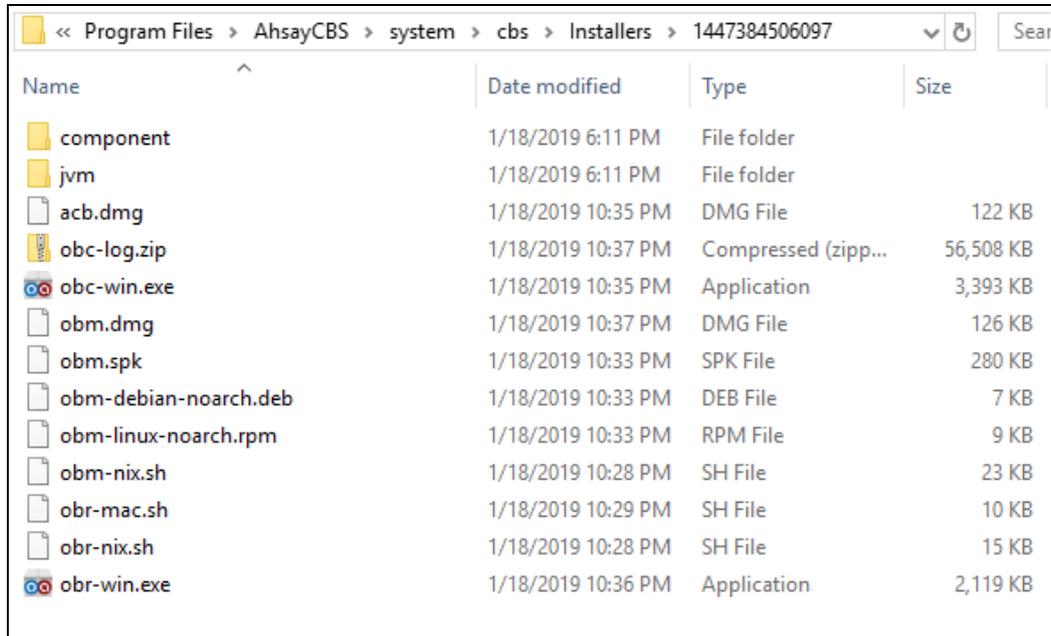


3. Make sure there is a correct hostname in sub admin **Profile** page.



4. Please follow the steps in previous chapters to brand their own web console, and rebrand the AhsayOBM/AhsayACB installers. The branded installers is stored in **CBS_HOME\system\cbs\Installer\%Reseller_ID%**

Example:



Name	Date modified	Type	Size
component	1/18/2019 6:11 PM	File folder	
jvm	1/18/2019 6:11 PM	File folder	
acb.dmg	1/18/2019 10:35 PM	DMG File	122 KB
obc-log.zip	1/18/2019 10:37 PM	Compressed (zipp...	56,508 KB
obc-win.exe	1/18/2019 10:35 PM	Application	3,393 KB
obm.dmg	1/18/2019 10:37 PM	DMG File	126 KB
obm.spk	1/18/2019 10:33 PM	SPK File	280 KB
obm-debian-noarch.deb	1/18/2019 10:33 PM	DEB File	7 KB
obm-linux-noarch.rpm	1/18/2019 10:33 PM	RPM File	9 KB
obm-nix.sh	1/18/2019 10:28 PM	SH File	23 KB
obr-mac.sh	1/18/2019 10:29 PM	SH File	10 KB
obr-nix.sh	1/18/2019 10:28 PM	SH File	15 KB
obr-win.exe	1/18/2019 10:36 PM	Application	2,119 KB

Please leave them inside this folder and it is forbidden to move them to other folders. When your reseller's customer access to the web console by the system account's hostname, AhsayCBS will arrange the corresponding branded installers for users to download.

10.6 Customize Application Name on Cloud Storages

10.6.1 Request for Permission Pages

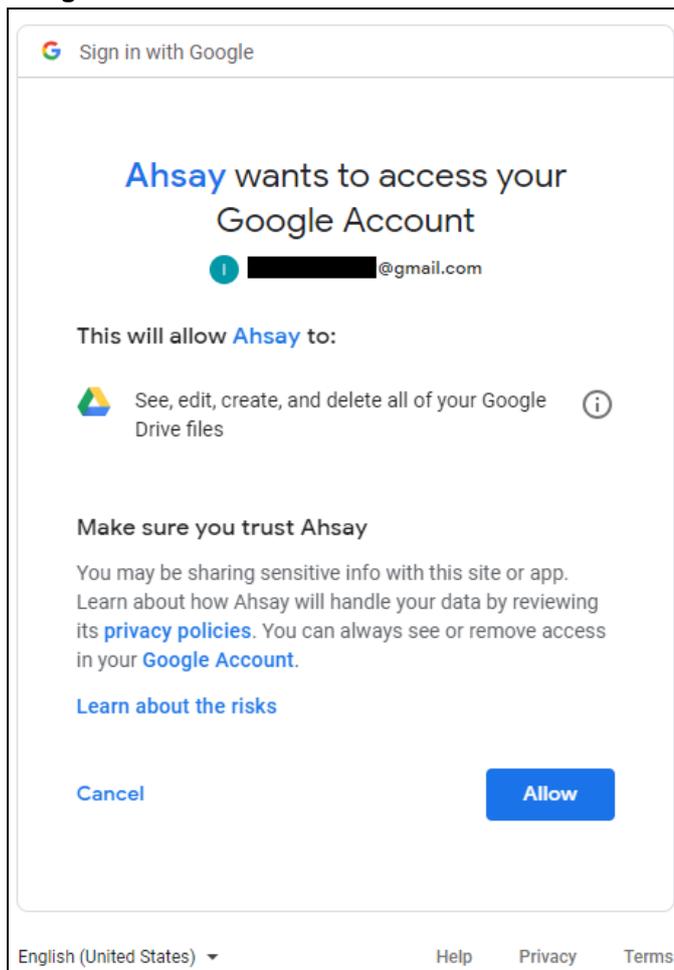
When your client set up the cloud storage on

1. Dropbox
2. Google Drive
3. OneDrive
4. OneDrive for Business

AhsayOBM / ACB would forward an URL through the browser to the cloud storage. The cloud storage would require your client to login and/or prompt the following page to get client's approval for the AhsayOBM / ACB to access the cloud storage.

For example:

Google Drive



One Drive



In this request for permission pages, you can see the “Ahsay” logo and the “Ahsay” wording. You can setup the destination settings in the policy group in your AhsayCBS to customize the branding.

Preparation

Before you customize the logo and application name on the request for permission page, you need to collect the following details:

Dropbox

- Application key
- Application secret

Google Drive

- Client ID
- Client Secret

OneDrive

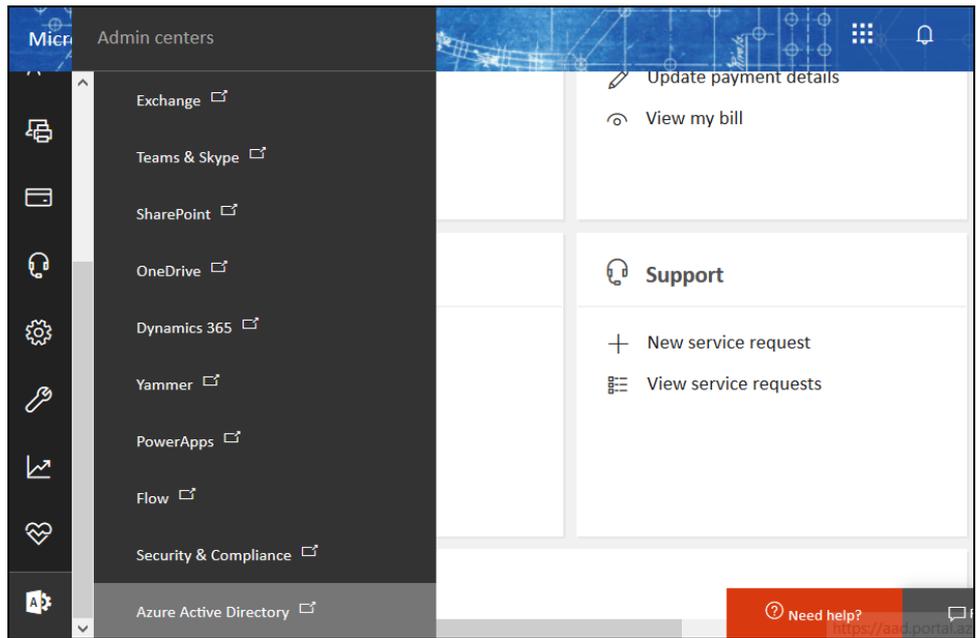
- Client ID
- Client Secret
- Native application redirect URI

OneDrive for Business

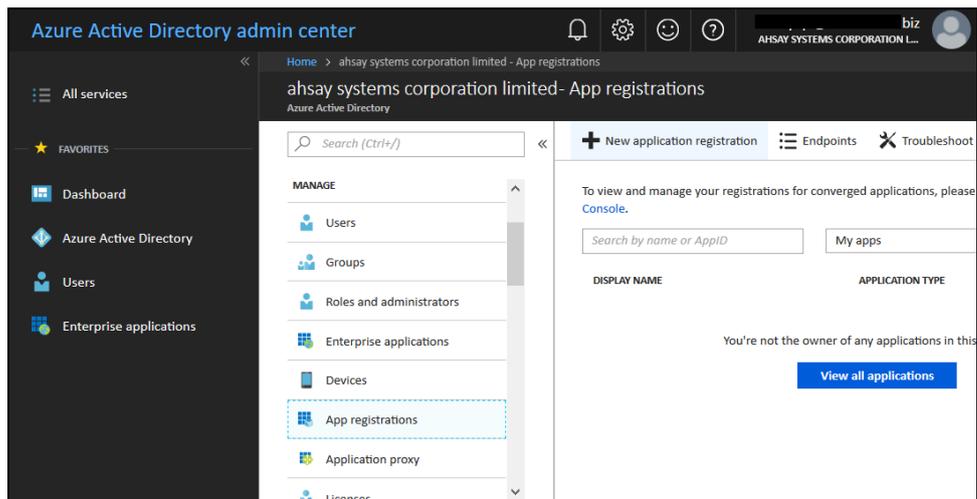
- Client ID

To retrieve the Client ID:

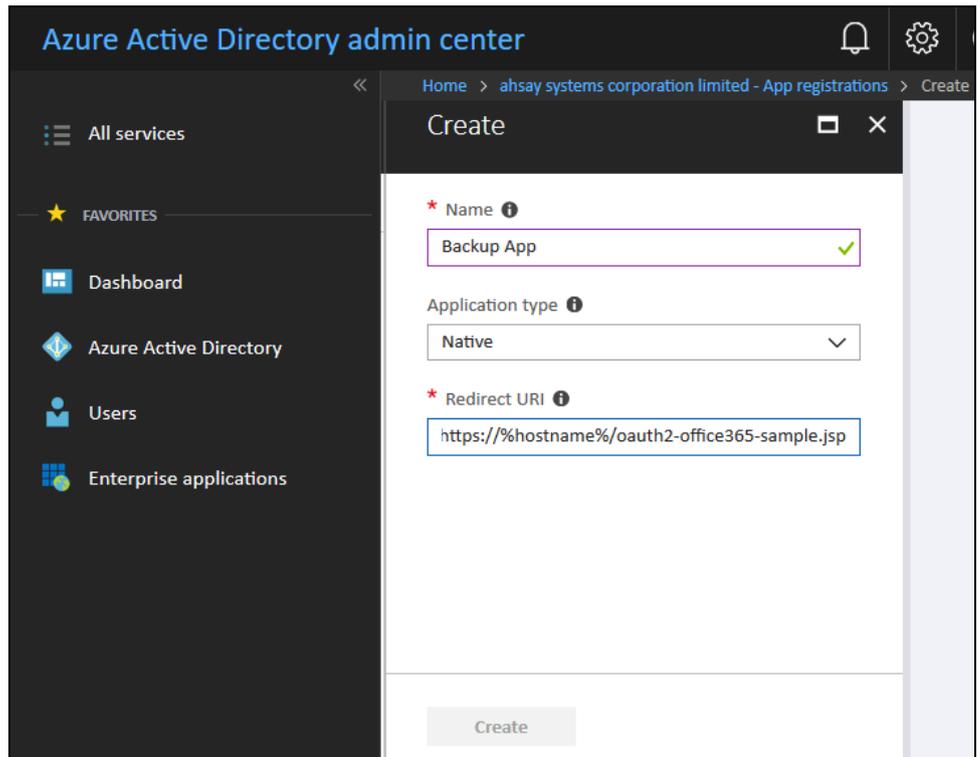
1. Login to the OneDrive for Business portal (Microsoft 365 Admin Center): <http://portal.office.com>
2. Select **Admin Centers** at the bottom of the left panel, then select **Azure Active Directory**.



3. Click on **Azure Active Directory** from the left panel, then **App registrations**.

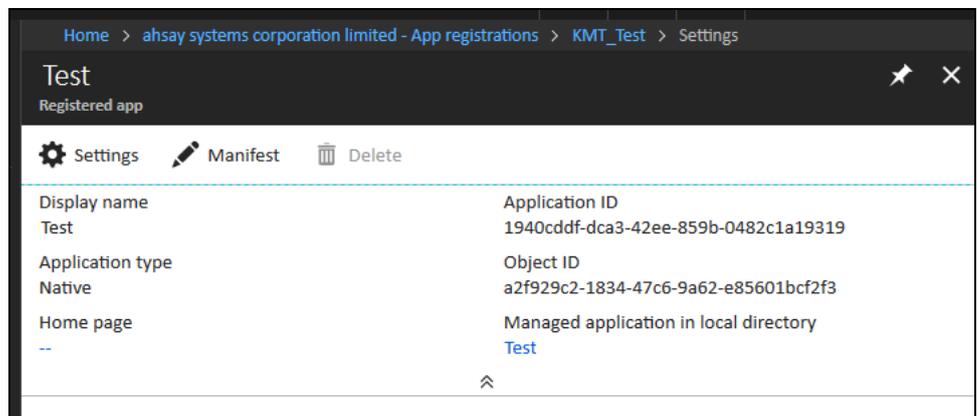


4. Select **New application registration**, then enter the following:



- **Name:** Enter a name for your customized application.
 - **Application type:** Select **Native**.
 - **Redirect URI:** Enter the path to the corresponding .jsp file on the AhsayCBS server (obtained from the next step), for example:

https://%hostname%/oauth2-office365-sample.jsp
5. Click **Create** afterward.
 6. The **Application ID** will be displayed, which is the **Client ID** required for the OneDrive for Business customization



7. Finally, configure the permission required, select **Settings**.

- Under **API ACCESS**, select **Required permission**. Enable the following API settings:

Windows Azure Active Directory

- **Sign in and read user profile**
- **Access the directory as the signed-in user**

Office 365 SharePoint Online

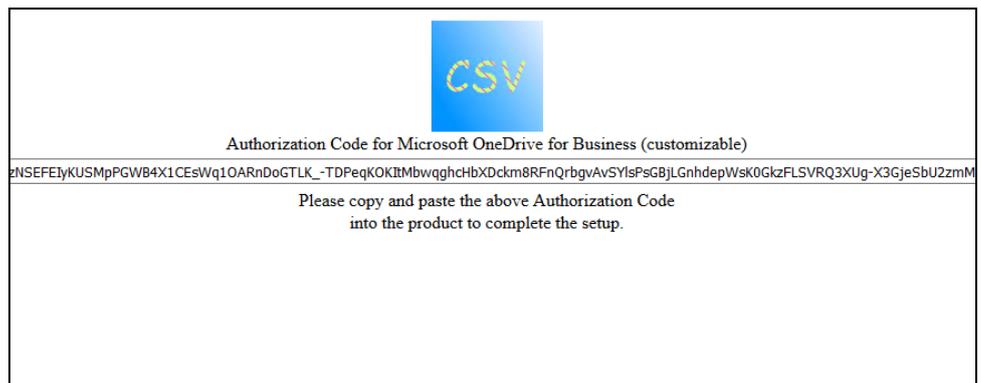
- **Read and write user files**

- Save the changes afterward.

➤ Native application redirect URI

To retrieve the Native application redirect URI:

- Create a web page (.jsp) for request of the Authorization Code.



A sample format of the page:

```
<html>
<head>
<title>Authorization Code for Office 365</title>
</head>
<body>
<table width="100%" border="0" align="center">
<tr>
<td align="center">
<br>
Authorization Code for Microsoft OneDrive for Business</td>
</tr>
<tr>
<td align="center"><input onClick="this.select()" id="authcode" type="text" size="30"
value="<%= request.getParameter("code") %>"></td>
</tr>
<tr>
<td align="center"><p>Please copy and paste the above Authorization Code
<br>into the product to complete the setup.</p></td>
</tr>
</table>
```

```
</body>
</html>
```

You can obtain a sample jsp file by [Clicking Here](#).

Important:

The line `value="<%= request.getParameter("code") %>` are used for retrieving / displaying the authorization code, you must include this on the page.

It is expected that you have basic HTML knowledge to create the authorization code request page.

2. Once you have created the customized page, copy and place the jsp file to the AhsayCBS server at:

For CBS on Windows: %CBS_Install_Home%\webapps\ROOT

For CBS on Linux: %CBS_Install_Home%/webapps/ROOT

3. The Native application redirect URI will be:

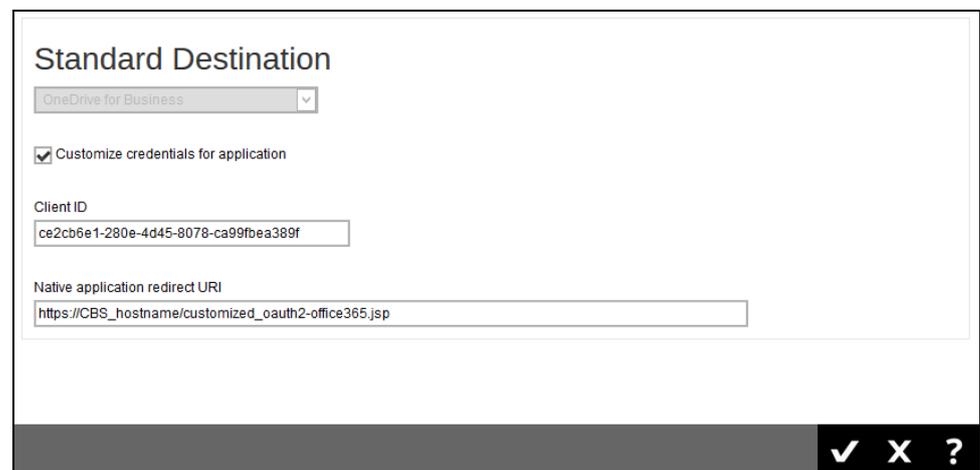
`https://%CBS_hostname%/customized_page_name.jsp`

Where CBS_hostname is the hostname or IP address of your AhsayCBS server and customized_page_name is the name of the jsp file.

For example:

`https://backup.server.com/oauth2-office365-sample.jsp`

The **Client ID** and **Native application redirect URI** can now be entered in



Standard Destination

OneDrive for Business

Customize credentials for application

Client ID

ce2cb6e1-280e-4d45-8078-ca99fba389f

Native application redirect URI

https://CBS_hostname/customized_oauth2-office365.jsp

✓ X ?

For other cloud vendors, refer to the following websites for information on how to collect the required information.

Reference

Dropbox

<https://www.dropbox.com/developers/support>

Google Drive

https://developers.google.com/drive/v3/web/enable-sdk#enable_the_drive_api
<https://auth0.com/docs/connections/social/google>

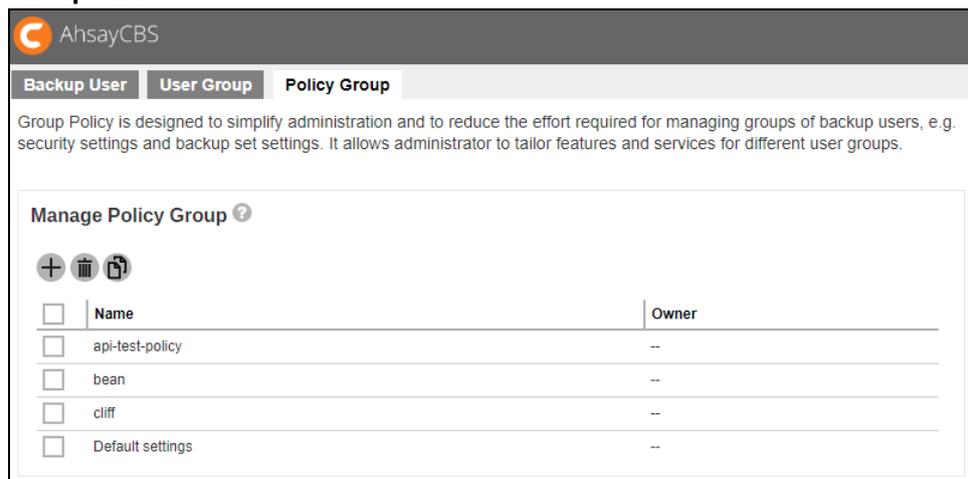
OneDrive and OneDrive for Business

<https://dev.onedrive.com/app-registration.htm>

Configure the storage

After you have collected the above information from your cloud / developer account, you can put the relevant information in the policy settings of your AhsayCBS.

1. Navigate to **Backup / Restore > Users, Group & Policies**, then select the **Policy Group** tab.



2. Select the policy group that you want to apply the setting.

3. Click into **Backup Set Settings** tab.

Exclude Backup File

Skip backing up files that match the followings

- Files on mapped drive
- Files larger than 1 Gbytes
- Files older than 10 Years Ago
- 17-Nov-2016

Destinations Visible to Users

Predefined Destination

<input type="checkbox"/>	Name	Destination Storage	Info	Quota	Run Direct
<input type="checkbox"/>	Group Storage		Dropbox Account: [REDACTED]	<input type="checkbox"/> 500.0 Gbytes	<input type="checkbox"/>
<input type="checkbox"/>	Alans Storage		Microsoft Account: CloudBacko Corp.@9161be4d902076af	<input type="checkbox"/> 10.0 Gbytes	<input type="checkbox"/>

Standard Destination

Customize application name

- Local / Mapped Drive / Removable Drive
- Amazon S3
- AWS S3 Compatible Cloud Storage
- Google Cloud Storage
- Google Drive

4. Turn on the switch **“Destinations Visible to Users”**

5. Scroll to the bottom part of **“Destinations Visible to Users”**

You can select one of the following cloud storage to customize

- Dropbox
- Google Drive
- OneDrive
- OneDrive for Business

Dropbox

1. Click into Dropbox
2. Enable the “Customize credentials for application” option.

Standard Destination

Dropbox ▼

Customize credentials for Dropbox

Application key

Application secret

3. Enter the “Application Key”
4. Enter the “Application Secret”
5. Click  to continue.

Google Drive

1. Click into Google Drive
2. Enable the “Customize credentials for application”

Standard Destination

Google Drive ▼

Customize credentials for Google Drive

Client ID

Client Secret

3. Enter the “Client ID”
4. Enter the “Client Secret”
5. Click  to continue.

OneDrive

1. Click into OneDrive
2. Enable the “Customize credentials for application”

Standard Destination

OneDrive ▾

Customize credentials for OneDrive

Client ID

Client Secret

Native application redirect URI

3. Enter the “Client ID”
4. Enter the “Client Secret”
5. Enter the “Native application redirect URI”
6. Click  to continue.

OneDrive for Business

1. Click into OneDrive for Business
2. Enable the “Customize credentials for application”

Standard Destination

OneDrive for Business ▾

Customize credentials for Global and Germany region

Client ID

Native application redirect URI

Customize credentials for China region

Client ID

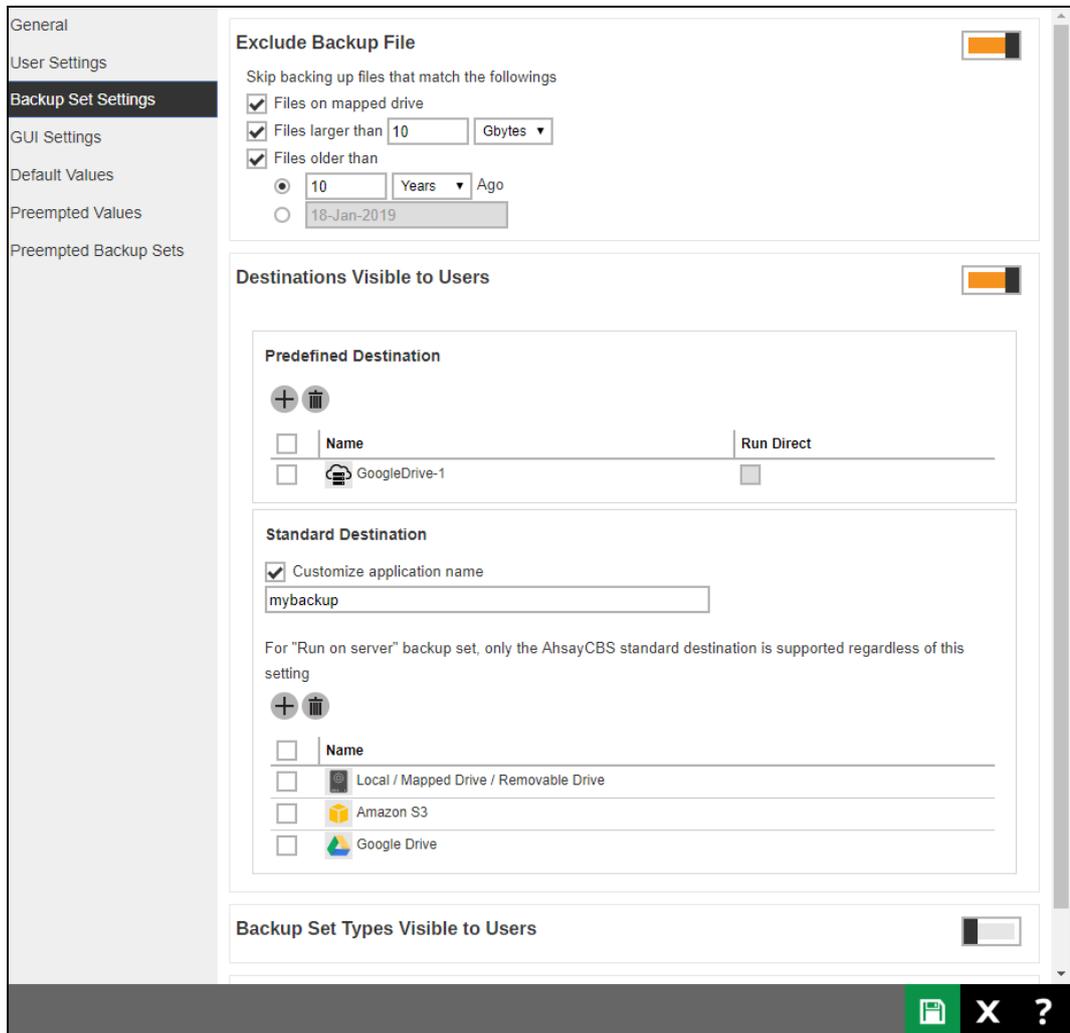
Native application redirect URI

3. Enter the “Client ID”
4. Enter the “Native application redirect URI”
5. Click  to continue.

10.6.2 Customize the Folder/Bucket name in Standard Destination

Navigate to **Backup/Restore -> Users, Group & Policies**, then select the **Policy Group** tab. Click on the desired Policy Group, then select the **Backup Set Settings** section on the left. You can customize the application name (folder/bucket name) in different storages from there.

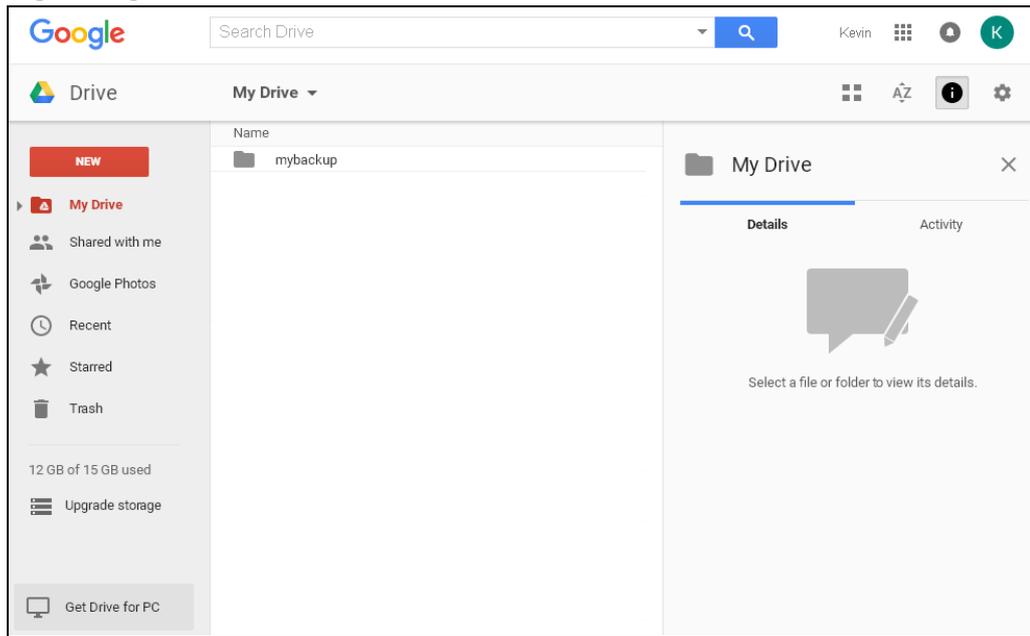
In the following example, we set the “Customize application name” as “mybackup”, when backup to the cloud storage (e.g.: Google Drive), the folder name “mybackup” will be created.



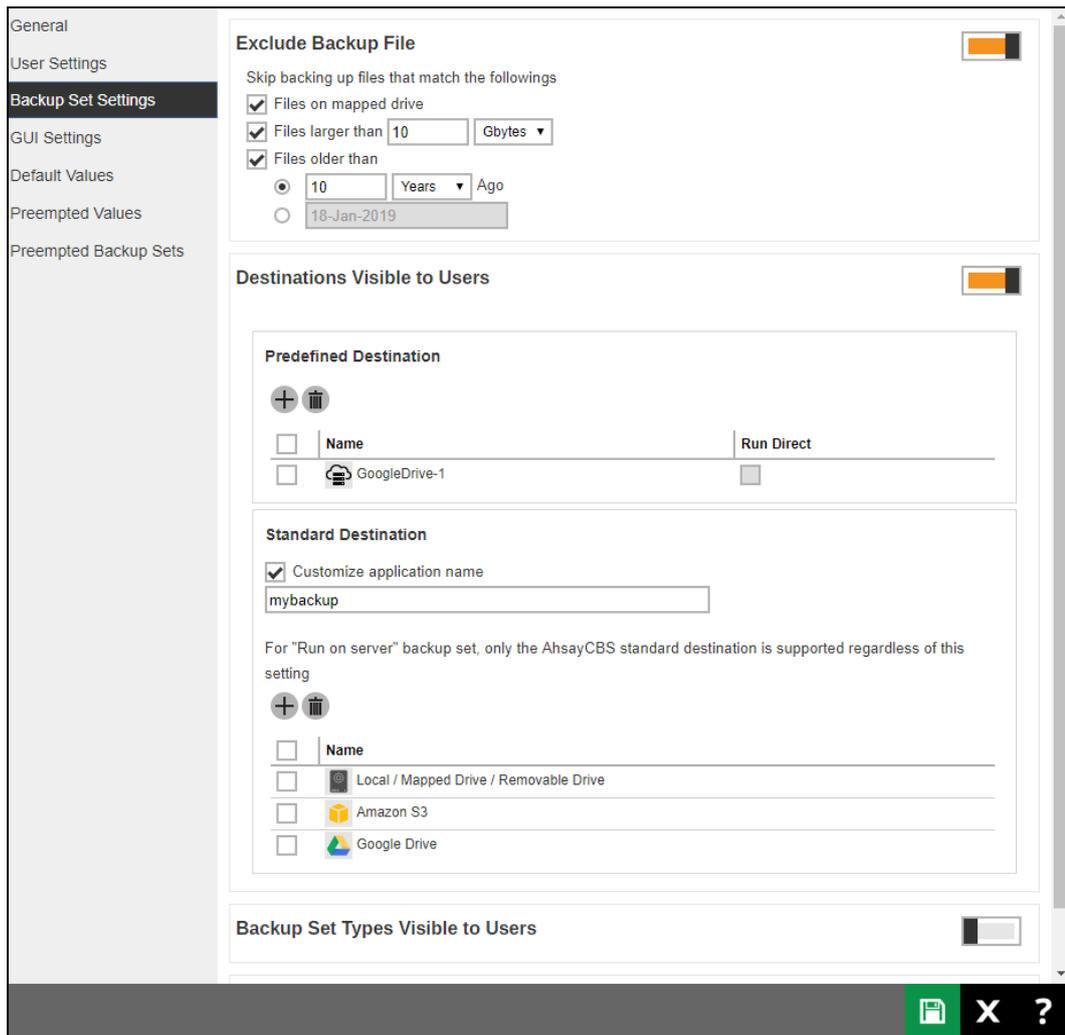
The screenshot shows the 'Backup Set Settings' configuration page. The left sidebar includes 'General', 'User Settings', 'Backup Set Settings' (selected), 'GUI Settings', 'Default Values', 'Preempted Values', and 'Preempted Backup Sets'. The main content area is divided into three sections:

- Exclude Backup File:** A toggle switch is turned on. Below it, a note says 'Skip backing up files that match the followings'. There are three checked checkboxes: 'Files on mapped drive', 'Files larger than 10 Gbytes', and 'Files older than 10 Years Ago'. There is also an unchecked radio button for '18-Jan-2019'.
- Destinations Visible to Users:** A toggle switch is turned on. It contains two sub-sections:
 - Predefined Destination:** Includes a table with columns 'Name' and 'Run Direct'. One entry is 'GoogleDrive-1' with an unchecked checkbox.
 - Standard Destination:** The 'Customize application name' checkbox is checked, and the text field contains 'mybackup'. Below this is a note: 'For "Run on server" backup set, only the AhsayCBS standard destination is supported regardless of this setting'. There are three unchecked checkboxes for 'Local / Mapped Drive / Removable Drive', 'Amazon S3', and 'Google Drive'.
- Backup Set Types Visible to Users:** A toggle switch is turned off.

E.g.: Google Drive



10.6.3 Customize the Storage in Predefined Destination



Navigate to **Backup / Restore > Users, Group & Policies**, then select the **Policy Group** tab. Click on the desired Policy Group, then select the **Backup Set Settings** section on the left. You can add a predefined destination for your clients, and your clients will be able to select the predefined destination when they create a new backup set.

Example:

New Storage Destination / Destination Pool

Name
AhsayCBS

Destination storage

- AhsayCBS
- AhsayCBS
- GoogleDrive-1
- Local / Mapped Drive / Removable Drive

OK Cancel Help

Previous Next Cancel Help

NOTE

You need to add a predefined destination in advance, after that you can set the predefined destination visible to your user group.

10.7 Office 365 Backup Customization

For details on how to customize the Authorization code and Admin consent endpoint screen for the Office 365 Global region please refer to discussion regarding [Office365 Backup Customization](#) and [Appendix Q: How to create a new app in the Azure Active Directory](#).

10.8 Ahsay Mobile Branding

During the initial rollout phases, the branding of Ahsay Mobile app can only be done by Ahsay, if you are interested in branding the Ahsay mobile app you must engage our professional services.

Ahsay Mobile Branding Service

To engage our professional services for Ahsay Mobile branding, please contact our sales team to obtain a service quotation by email at sales-kb@ahsay.com or call our International Sales Hotline +852 3580 8091.

Once the branded mobile application has been completed, it will automatically be available for download in the Play Store for android mobile devices. However for iOS users, you need to setup the [redemption code](#) in AhsayCBS to provide a download link for your users so they can be redirected to the App Store to download the mobile application.

10.8.1 Requirements

Once you have settled the Ahsay mobile branding service fee. Please submit the following materials to enable us to brand your Ahsay Mobile application:

1. Image files and icons with your branding

To customize the look and feel of your mobile application prepare the following:

- ▶ Application images
- ▶ Application icons
- ▶ Splash screen
- ▶ Colors dictionary
- ▶ Localization
- ▶ Adverts

For more information on the specifications needed please refer to the [Ahsay Mobile Image Specifications](#) document.

2. Organisation Information

- ▶ Organisation ID and Organisation Name for your Apple Business Account
- ▶ Mobile application description
- ▶ Keywords to be used for searching the mobile application
- ▶ Support URL

10.8.2 Download Redemption Codes for iOS only

After the mobile application has been branded by Ahsay you must download the redemption code from your Apple Business Manager account. Follow the steps below to setup the download link of iOS for your users.

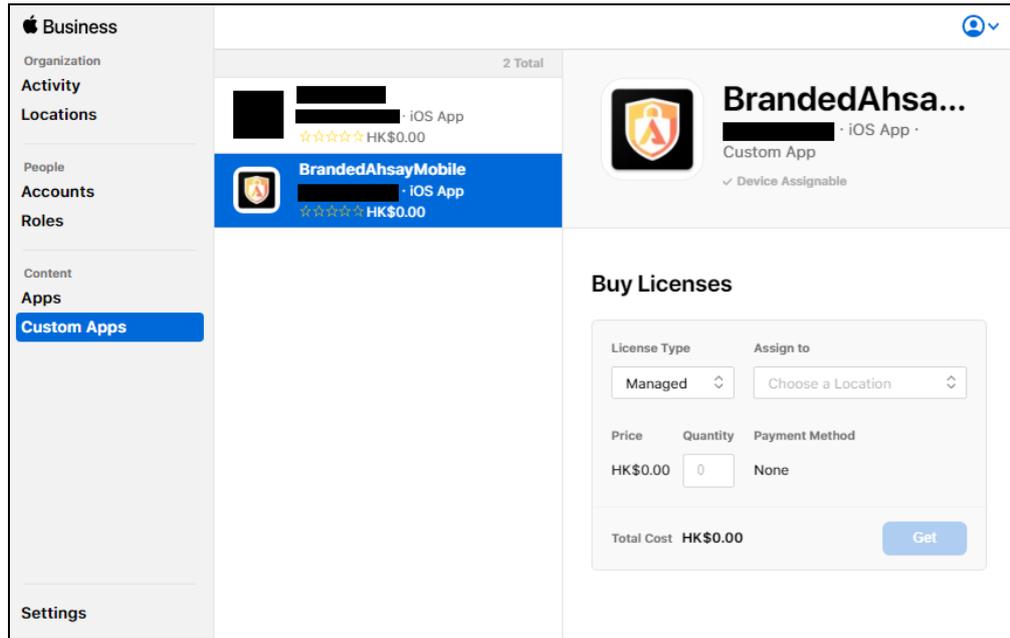
1. To download the redemption code, log in to your [Apple Business Manager](#).

NOTE

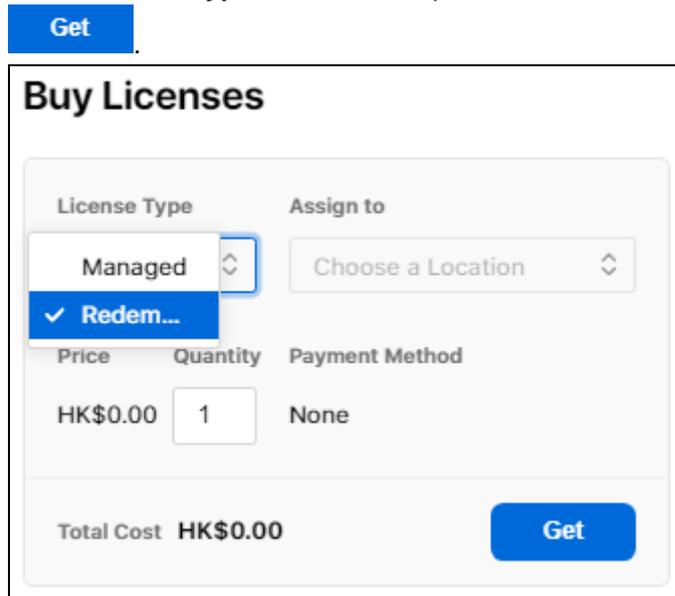
Apple Business Manager supports:

- ▶ Safari 12 or later on macOS
- ▶ iPad running iOS 12 or later
- ▶ Google Chrome 55 or later
- ▶ Microsoft Edge 18 or later on Windows

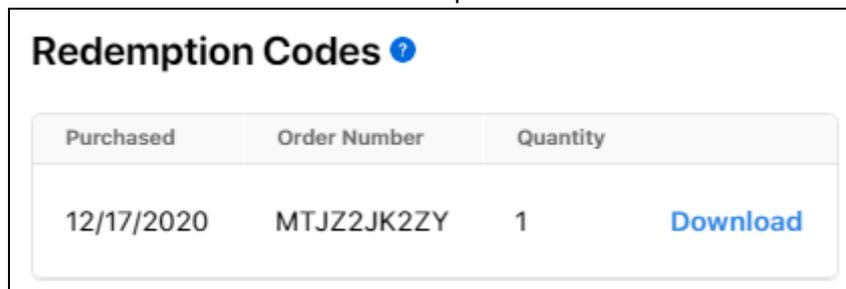
- Go to **Custom Apps**. Select the mobile application that was customized.



- In the **License Type** select "Redemption Codes" and enter the **Quantity**. Click



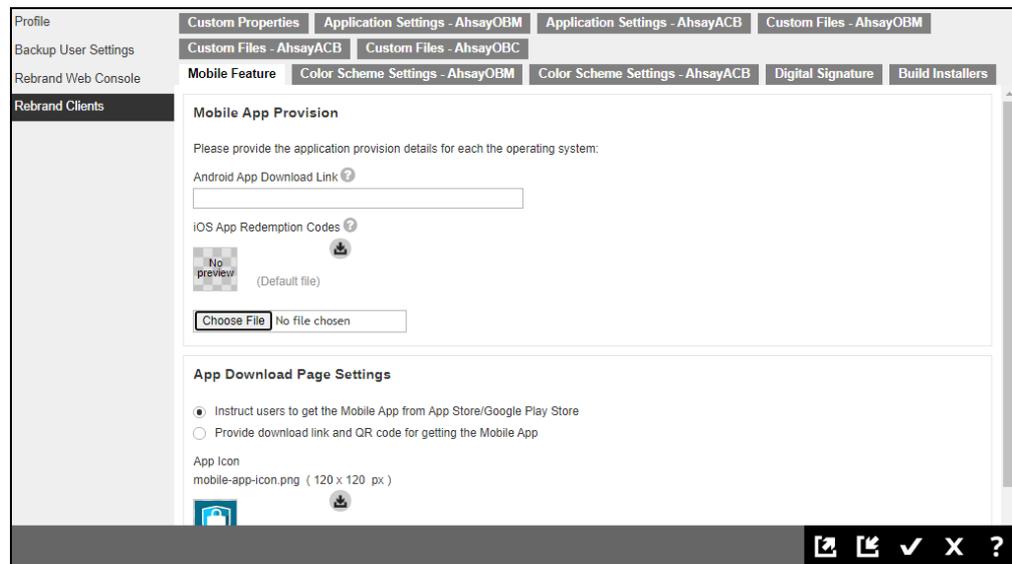
- Click **Download** and save the redemption code in .xls format.



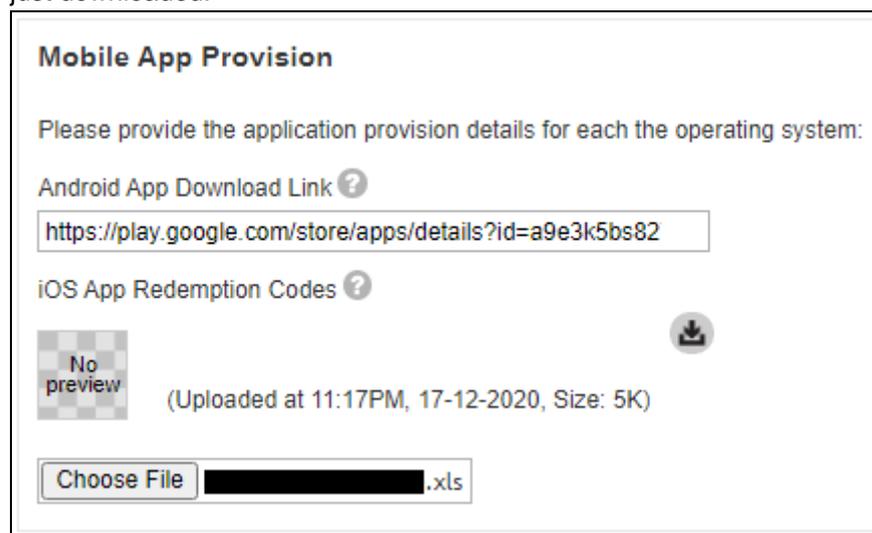
Here is a sample of the redemption code.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Volume Purchase Codes							ProductTy	Applicator		AdamId:	1541263555	
2	Order ID		MTJZ2JK2ZY										
3	Product		BrandedAhsayMobile, v1.0.3										
4	Purchaser		< [REDACTED] @ahsay.com>										
5	Codes Purchased		1										
6	Codes Redeemed		0										
7	Codes Remaining		1										
8													
9													
10	Code		Code Redemption Link										
11	M6 [REDACTED]		https://buy.itunes.apple.com/WebObjects/MZFinance.woa/wa/freeProductCodeWizard?code=M6 [REDACTED]										

- Open your AhsayCBS and go to **System Settings > Basic > Administrative Access > %username% > Rebrand Clients > Mobile Feature.**



- Under **Mobile App Provision**, click **Choose File** and select the redemption code you just downloaded.



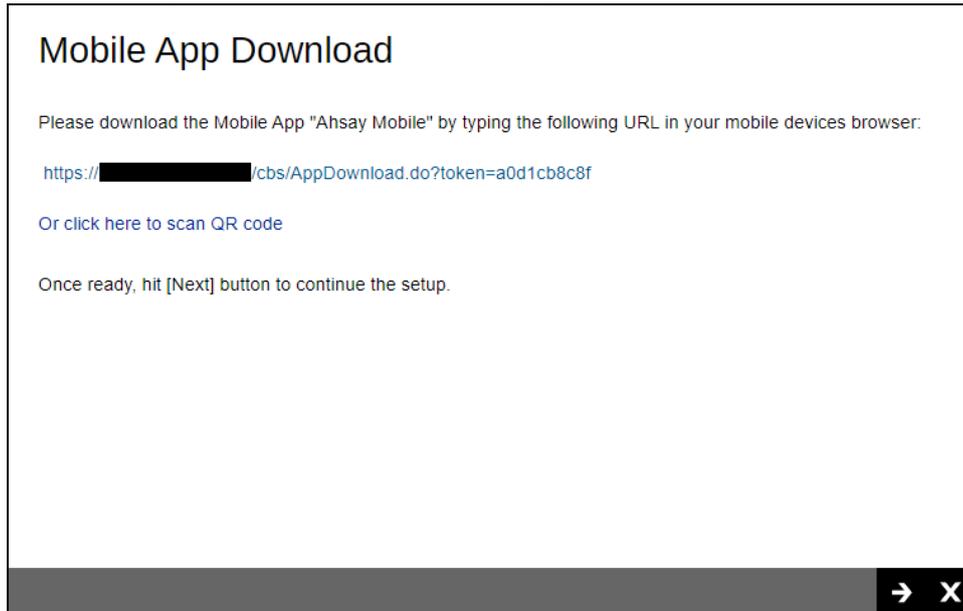
- Click  then  to save.

The download link and QR code will be displayed in AhsayCBS, AhsayOBM and AhsayACB. Once a user enters the download link in their mobile devices browser, they will be redirected to the App Store to download the app.

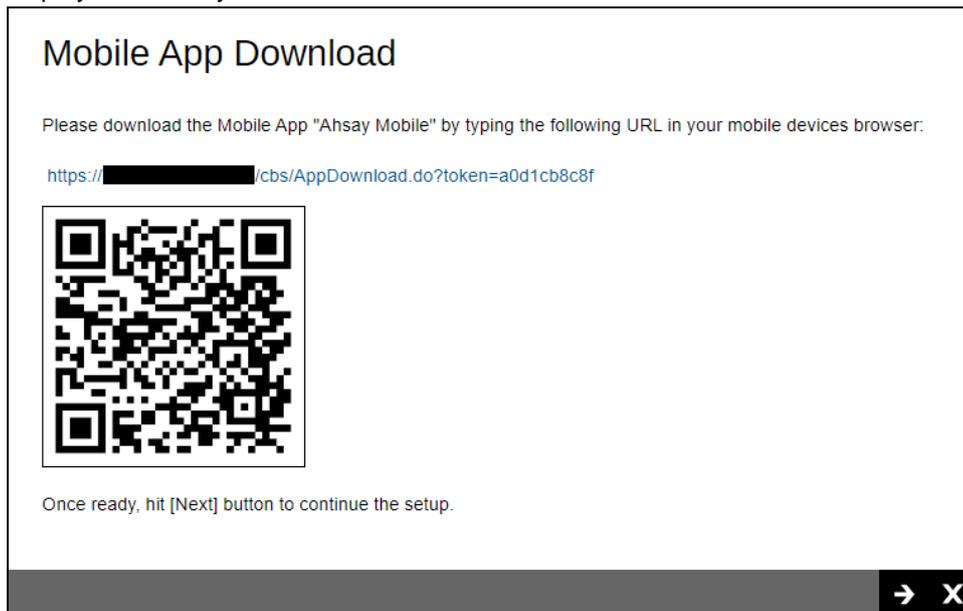
The following are samples of download link and QR code that will be displayed:

- ▶ in [AhsayCBS](#)
- ▶ in [AhsayOBM](#)
- ▶ in [AhsayACB](#)

Here is a sample of the download link in AhsayCBS.



Once [Or click here to scan QR code](#) is clicked, the download link and QR code will be displayed in AhsayCBS.



Here is a sample of the download link in AhsayOBM.

Mobile App Download

Please download the Mobile App "Ahsay Mobile" by typing the following URL in your mobile devices browser:
[http://\[REDACTED\]/cbs/AppDownload.do?token=a16185a36e](http://[REDACTED]/cbs/AppDownload.do?token=a16185a36e)

[Or click here to scan QR code](#)

Once ready, hit [Next] button to continue the setup.

Once [Or click here to scan QR code](#) is clicked, the download link and QR code will be displayed in AhsayOBM.

Mobile App Download

Please download the Mobile App "Ahsay Mobile" by typing the following URL in your mobile devices browser:
[http://\[REDACTED\]/cbs/AppDownload.do?token=a16185a36e](http://[REDACTED]/cbs/AppDownload.do?token=a16185a36e)



Once ready, hit [Next] button to continue the setup.

Here is a sample of the download link in AhsayACB.

Mobile App Download

Please download the Mobile App "Ahsay Mobile" by typing the following URL in your mobile devices browser:
[http://\[REDACTED\]/cbs/AppDownload.do?token=a170d824c6](http://[REDACTED]/cbs/AppDownload.do?token=a170d824c6)
[Or click here to scan QR code](#)

Once ready, hit [Next] button to continue the setup.

Once [Or click here to scan QR code](#) is clicked, the download link and QR code will be displayed in AhsayACB.

Mobile App Download

Please download the Mobile App "Ahsay Mobile" by typing the following URL in your mobile devices browser:
[http://\[REDACTED\]/cbs/AppDownload.do?token=a170d824c6](http://[REDACTED]/cbs/AppDownload.do?token=a170d824c6)



Once ready, hit [Next] button to continue the setup.

NOTE

Please note that the branded mobile application is not available in the public App Store.

11 API

In this release, new APIs (now in JSON format) are introduced in the AhsayCBS, if you have written API in previous version, please test and modify your API calls on AhsayCBS v8 in your testing environment first, so that it will not affect your current CRM, billing systems etc. when new AhsayCBS is upgraded. Please download the [AhsayCBS API guide](#) from our website for reference.

12 Contacting Ahsay

12.1 Technical Assistance

To contact Ahsay support representatives for technical assistance, visit the Partner Portal:

<https://www.ahsay.com/partners/>

Also use the Ahsay Wikipedia for resource such as Hardware Compatibility List, Software Compatibility List, and other product information:

<https://wiki.ahsay.com/>

12.2 Documentation

Documentations for all Ahsay products are available at:

https://www.ahsay.com/jsp/en/home/index.jsp?pageContentKey=ahsay_downloads_documentation_guides

You can send us suggestions for improvements or report on issues in the documentation by contacting us at:

<https://www.ahsay.com/partners/>

Please specify the specific document title as well as the change required/suggestion when contacting us.

Appendix

Appendix A Supported Language Code

Language Code	Language
ar	Arabic
ca	Catalan
cs	Czech
da	Danish
de	German
el	Greek Modern
en	English
es	Spanish
eu	Euskara/Basque
fi	Finnish
fr	French
iw	Hebrew
hu	Hungarian
id	Indonesian
it	Italian
ja	Japanese
ko	Korean
lt	Lithuanian
nl	Dutch
no	Norwegian
pl	Polish
pt_BR	Portuguese (Brazil)
pt_PT	Portuguese (Portugal)
ro	Russian
sl	Slovenian

sv	Swedish
th	Thai
tr	Turkish
vi	Vietnamese
zh_CN	Chinese (Simplified)
zh_TW	Chinese (Traditional)

Appendix B Supported Time Zone

Timezone String	Timezone Name
GMT-11:00 (SST)	Pacific/Midway
GMT-11:00 (NUT)	Pacific/Niue
GMT-10:00 (TAHT)	Pacific/Tahiti
GMT-10:00 (HST)	HST
GMT-10:00 (HADT)	America/Adak
GMT-10:00 (CKT)	Pacific/Rarotonga
GMT-09:00 (GAMT)	Pacific/Gambier
GMT-09:00 (AKDT)	AST
GMT-08:00 (PST)	Pacific/Pitcairn
GMT-08:00 (PDT)	America/Dawson
GMT-07:00 (MST)	America/Dawson_Creek
GMT-07:00 (MDT)	America/Boise
GMT-06:00 (GALT)	Pacific/Galapagos
GMT-06:00 (EAST)	Chile/EasterIsland
GMT-06:00 (CST)	America/Belize
GMT-05:00 (PET)	America/Lima
GMT-05:00 (GMT-05:00)	Etc/GMT+5
GMT-05:00 (EST)	America/Cayman
GMT-05:00 (ECT)	America/Guayaquil
GMT-05:00 (COT)	America/Bogota
GMT-05:00 (CDT)	America/Chicago
GMT-04:30 (VET)	America/Caracas
GMT-04:00 (PYT)	America/Asuncion
GMT-04:00 (GYT)	America/Guyana
GMT-04:00 (EDT)	America/Detroit
GMT-04:00 (CLT)	America/Santiago
GMT-04:00 (BOT)	America/La_Paz

GMT-04:00 (AST)	America/Anguilla
GMT-04:00 (AMT)	America/Boa_Vista
GMT-04:00 (ADT)	America/Glace_Bay
GMT-04:00 (ACT)	America/Eirunepe
GMT-03:30 (NST)	Canada/Newfoundland
GMT-03:00 (WGST)	America/Godthab
GMT-03:00 (UYT)	America/Montevideo
GMT-03:00 (SRT)	America/Paramaribo
GMT-03:00 (PMDT)	America/Miquelon
GMT-03:00 (GFT)	America/Cayenne
GMT-03:00 (FKT)	Atlantic/Stanley
GMT-03:00 (BRT)	America/Araguaina
GMT-03:00 (BET)	BET
GMT-03:00 (ART)	AGT
GMT-02:00 (GST)	Atlantic/South_Georgia
GMT-02:00 (FNT)	America/Noronha
GMT-01:00 (EGT)	America/Scoresbysund
GMT-01:00 (CVT)	Atlantic/Cape_Verde
GMT-01:00 (AZOST)	Atlantic/Azores
GMT+13:00 (WST)	MIT
GMT+13:00 (TKT)	Pacific/Fakaofu
GMT+12:00 (WFT)	Pacific/Wallis
GMT+12:00 (WAKT)	Pacific/Wake
GMT+12:00 (TVT)	Pacific/Funafuti
GMT+12:00 (PETST)	Asia/Kamchatka
GMT+12:00 (NZST)	Antarctica/McMurdo
GMT+12:00 (NRT)	Pacific/Nauru
GMT+12:00 (MHT)	Kwajalein
GMT+12:00 (MAGT)	Asia/Magadan

GMT+12:00 (GILT)	Pacific/Tarawa
GMT+12:00 (FJT)	Pacific/Fiji
GMT+12:00 (ANAST)	Asia/Anadyr
GMT+11:00 (VUT)	Pacific/Efate
GMT+11:00 (VLAT)	Asia/Vladivostok
GMT+11:00 (SBT)	Pacific/Guadalcanal
GMT+11:00 (PONT)	Pacific/Ponape
GMT+11:00 (NCT)	Pacific/Noumea
GMT+11:00 (KOST)	Pacific/Kosrae
GMT+10:00 (YAKT)	Asia/Yakutsk
GMT+10:00 (TRUT)	Pacific/Truk
GMT+10:00 (PGT)	Pacific/Port_Moresby
GMT+10:00 (EST)	AET
GMT+10:00 (DDUT)	Antarctica/DumontDUrville
GMT+10:00 (ChST)	Pacific/Guam
GMT+09:30 (CST)	Australia/Adelaide
GMT+09:00 (PWT)	Pacific/Palau
GMT+09:00 (KST)	Asia/Pyongyang
GMT+09:00 (JST)	Asia/Tokyo
GMT+09:00 (JAYT)	Asia/Jayapura
GMT+09:00 (IRKST)	Asia/Irkutsk
GMT+08:00 (WST)	Australia/West
GMT+08:00 (ULAT)	Asia/Ulaanbaatar
GMT+08:00 (SGT)	Asia/Singapore
GMT+08:00 (PHT)	Asia/Manila
GMT+08:00 (MYT)	Asia/Kuala_Lumpur
GMT+08:00 (KRAT)	Asia/Krasnoyarsk
GMT+08:00 (HKT)	Asia/Hong_Kong
GMT+08:00 (CST)	Asia/Chongqing

GMT+08:00 (BORT)	Asia/Ujung_Pandang
GMT+08:00 (BNT)	Asia/Brunei
GMT+07:00 (NOVT)	Asia/Novosibirsk
GMT+07:00 (JAVT)	Asia/Jakarta
GMT+07:00 (ICT)	Asia/Bangkok
GMT+07:00 (CXT)	Indian/Christmas
GMT+06:00 (YEKST)	Asia/Yekaterinburg
GMT+06:00 (KGST)	Asia/Bishkek
GMT+06:00 (IOT)	Indian/Chagos
GMT+06:00 (BTT)	Asia/Thimbu
GMT+06:00 (BDT)	Asia/Dacca
GMT+06:00 (ALMST)	Asia/Almaty
GMT+05:30 (LKT)	Asia/Colombo
GMT+05:30 (IST)	Asia/Calcutta
GMT+05:00 (UZT)	Asia/Tashkent
GMT+05:00 (TMT)	Asia/Ashgabat
GMT+05:00 (TJT)	Asia/Dushanbe
GMT+05:00 (TFT)	Indian/Kerguelen
GMT+05:00 (PKT)	Asia/Karachi
GMT+05:00 (MVT)	Indian/Maldives
GMT+05:00 (MAWT)	Antarctica/Mawson
GMT+05:00 (AQTST)	Asia/Aqtau
GMT+04:00 (SCT)	Indian/Mahe
GMT+04:00 (SAMST)	Europe/Samara
GMT+04:00 (RET)	Indian/Reunion
GMT+04:00 (MUT)	Indian/Mauritius
GMT+04:00 (MSD)	Europe/Moscow
GMT+04:00 (GST)	Asia/Dubai
GMT+04:00 (GEST)	Asia/Tbilisi

GMT+04:00 (AZST)	Asia/Baku
GMT+04:00 (AMST)	Asia/Yerevan
GMT+03:30 (IRST)	Asia/Tehran
GMT+03:00 (EAT)	Africa/Addis_Ababa
GMT+03:00 (AST)	Asia/Aden
GMT+03:00 (ADT)	Asia/Baghdad
GMT+02:00 (SAST)	Africa/Johannesburg
GMT+02:00 (IDT)	Asia/Jerusalem
GMT+02:00 (EET)	ART
GMT+02:00 (EEST)	Asia/Amman
GMT+02:00 (CEST)	Africa/Ceuta
GMT+02:00 (CAT)	Africa/Blantyre
GMT+01:00 (WAT)	Africa/Bangui
GMT+01:00 (CET)	Africa/Algiers
GMT+00:00 (WET)	Africa/Casablanca
GMT+00:00 (WEST)	Atlantic/Canary
GMT+00:00 (UTC)	Etc/UCT
GMT+00:00 (IST)	Eire
GMT+00:00 (GMT)	Africa/Abidjan
GMT+00:00 (BST)	Europe/Belfast

Appendix C Error Code 1011 and 1012

Internal Error 1011

This error could occur when one of the following conditions is true:

- The license key has been used on more than one machine.
- Change of network card of the server machine or moving the AhsayCBS system to a new server.

Solution:

In the case where the license key was used on a second server for testing purposes, please use an evaluation key instead.

Alternatively, please shutdown the AhsayCBS service on the second server, and then contact our Support Engineer with your "License Name" and "License Key", and we shall update the license server to allow your key to be used again.

In the case where the network card of the server machine is changed, or an AhsayCBS relocation has been performed. Please also contact our Support Engineer with your "License Name" and "License Key", and we shall update the license server to allow your key to be used again.

If the problem still persists, please ensure that there are no connectivity issues from the AhsayCBS server to the Internet and that you can connect to lic.ahsay.com with HTTPS from the AhsayCBS backup server. There is a connection test button underneath the license field entry box to test the connection to our license server. The testing result will be displayed next to the test button.

Please also verify if the machine in concern contain any software that would create virtual MAC address, for example, VPN software. If yes, please disable such software, and notify us again.

Internal Error 1012

Internal Error 1012 can occur when one of the following conditions is true:

- The license key has been used on more than one machine.
- Change of the MAC address, local / remote IP address, or local port that AhsayCBS is installed on.

Solution:

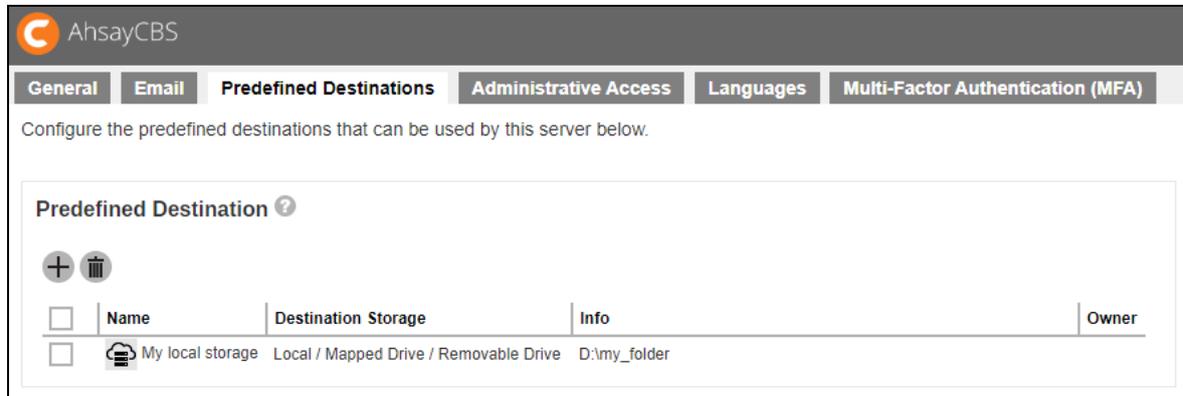
Persistent 1012 license errors can occur if your AhsayCBS server is operating in a network environment where network traffic is routed to the Internet via multiple external IP addresses. For example, network load balancing is implemented using, i.e. a dual WAN router, Round Robin routing, or network card with multiple external IP.

For these cases, we would suggest setting up a static route for the server's connection to lic.ahsay.com, so that the remote IP address on the server will remain the same every time a connection to lic.ahsay.com is established.

Appendix D Setting up Cloud Storage

In the following examples, we are demonstrating how to setup cloud storage in predefined destinations.

Add a predefined destination in **System Settings -> Basic -> Predefined Destinations**, click on the **Add** button.



Aliyun (阿里云)

This storage option is available on computers with China or Hong Kong locale settings.

1. If you do not have the Aliyun (阿里云), please click on the link 'Sign up for 阿里云' to create an account.
2. Select '阿里云' from the [Destination Storage] drop down box.
3. Enter name of the backup destination.

The screenshot shows the 'Add New Predefined Destination' form. The form has the following fields and options:

- Name: Input field with 'Aliyun-1' entered.
- Type: Radio buttons for 'Single storage destination' (selected) and 'Destination pool'.
- Destination Storage: Dropdown menu with '阿里云' selected.
- Access Key ID: Input field.
- Access Key Secret: Input field.
- Region: Dropdown menu with 'Hangzhou' selected.
- (optional) Bucket Name: Input field.
- Test: Button.
- Sign up for 阿里云: Link.

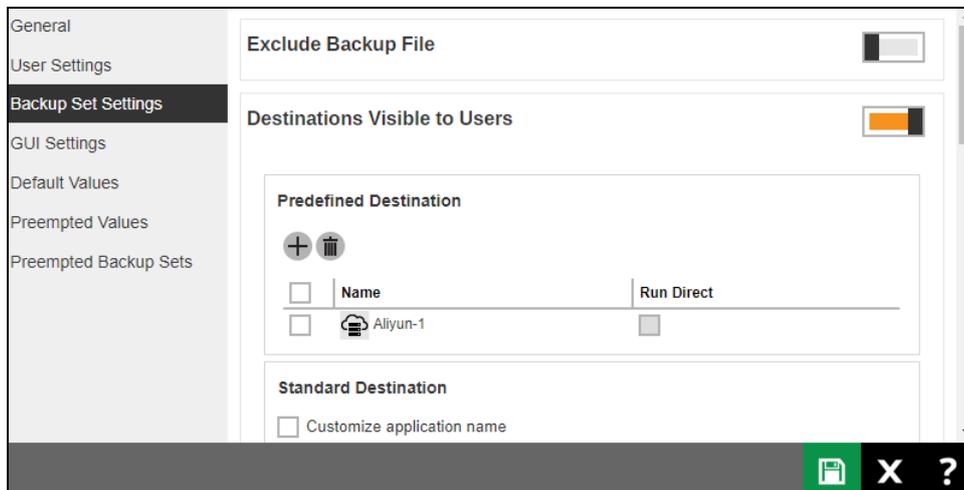
4. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

5. Enter the Access Key ID.
6. Enter the Access Key Secret.
7. Select the region from the dropdown box.
8. Click **Add** to continue the setup.
9. Go to **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the “**Default settings**”, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

Add the newly created predefined storage “Aliyun-1” to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.



10. When you create a backup set for a user, you will be able to see the new predefined destination.

CTYun

This storage option is available on computers with China or Hong Kong locale settings.

1. If you do not have the CTYun, please click on the link 'Sign up for CTYun' to create an account.
2. Select 'CTYun' from the [Destination Storage] drop down box.

3. Enter name of the backup destination.

Add New Predefined Destination

Name
CTYun-1

Type
 Single storage destination
 Destination pool

Destination Storage
CTYun

Access Key ID

Secret Access Key

Test
[Sign up for CTYun](#)

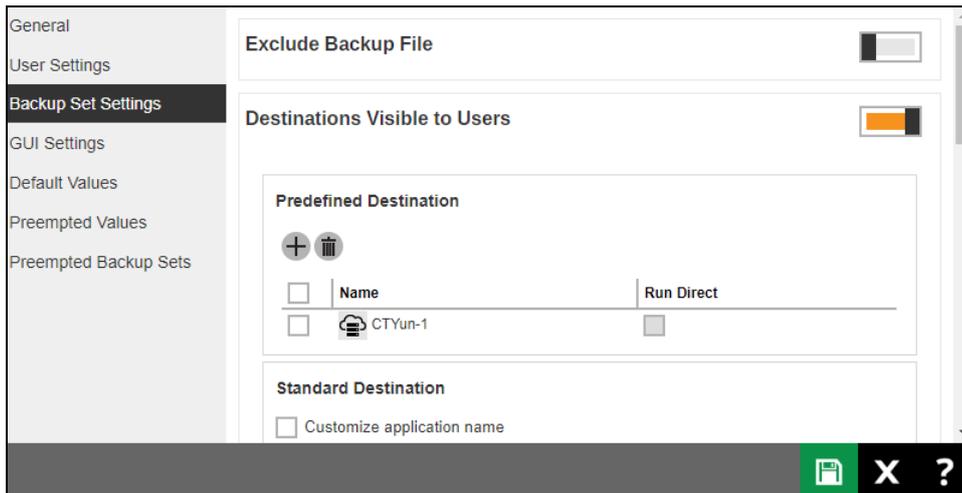
4. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

5. Enter the Access Key ID.
6. Enter the Secret Access Key.
7. Click **Add** to continue the setup.
8. Go to **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

Add the newly created predefined storage “CTYun-1” to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.



9. When you create a backup set for a user, you will be able to see the new predefined destination.

Amazon S3

1. If you do not have the Amazon S3, please click on the link 'Sign up for Amazon S3' to create an account.
2. Select Amazon S3 from the [Destination Storage] drop down box.
Enter name of the backup destination

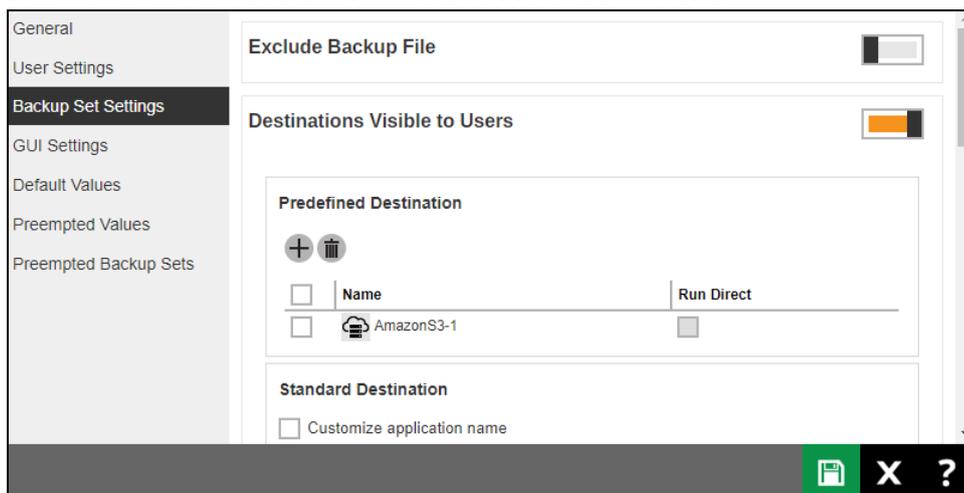
3. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

4. Select the "Location" from the drop down box.
5. Enter the Access Key ID.
6. Enter the Secret Access Key.
7. Select the "Storage Class" from the drop down box.
8. Option: Enter the Bucket Name.
9. Click **Add** to continue the setup.
10. Go to **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

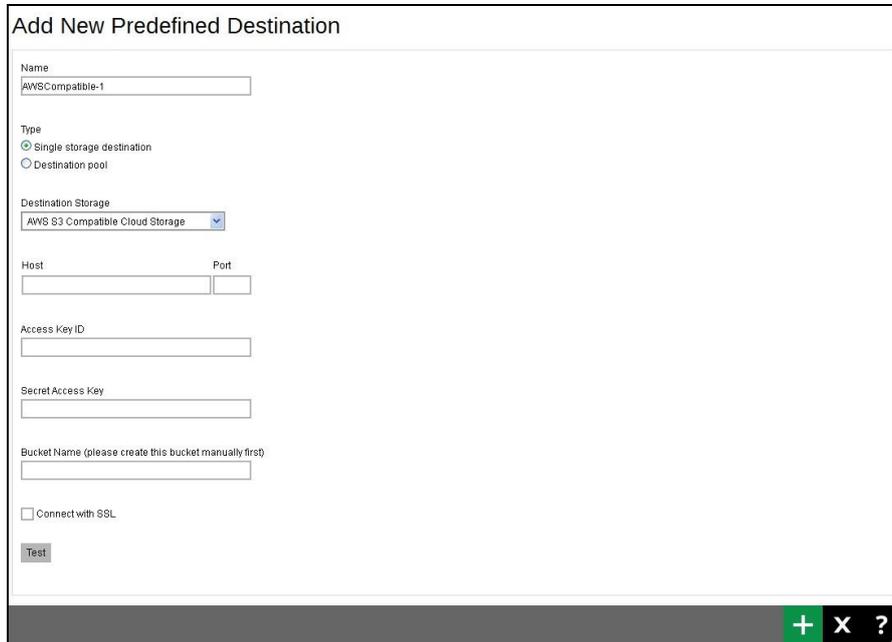
Add the newly created predefined storage "AmazonS3-1" to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.



11. When you create a backup set for a user, you will be able to see the new predefined destination.

AWS S3 Compatible Cloud Storage

1. Select AWS S3 Compatible Cloud Storage from the [Destination Storage] drop down box.
2. Enter name of the backup destination.



The screenshot shows a web form titled "Add New Predefined Destination". The form contains the following fields and options:

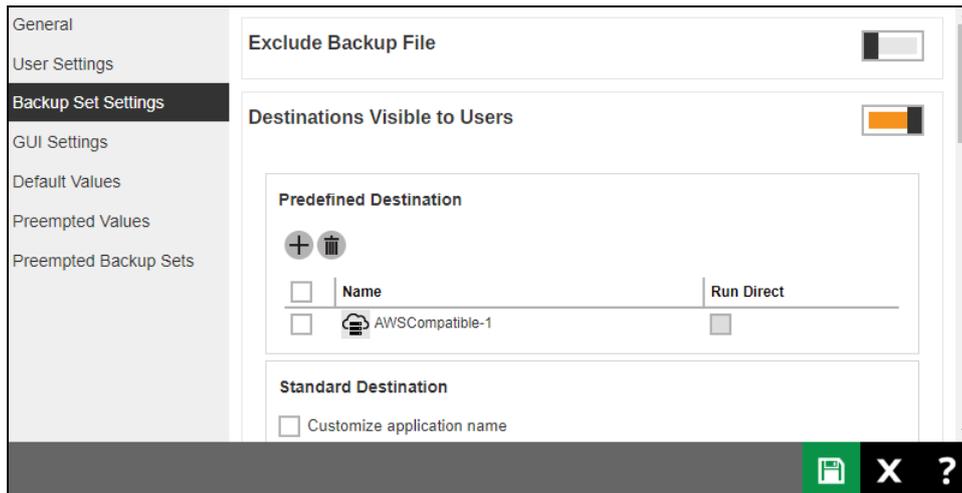
- Name:** Text input field containing "AWSCompatible-1".
- Type:** Radio button options: "Single storage destination" (selected) and "Destination pool".
- Destination Storage:** Dropdown menu showing "AWS S3 Compatible Cloud Storage".
- Host:** Text input field.
- Port:** Text input field.
- Access Key ID:** Text input field.
- Secret Access Key:** Text input field.
- Bucket Name (please create this bucket manually first):** Text input field.
- Connect with SSL:** Unchecked checkbox.
- Test:** Button.

At the bottom right of the form, there are three icons: a green plus sign (+), a red X, and a question mark (?).

3. Select Single storage destination.
- Note:** The option **Destination Pool** is defined from a number of single storage destination.
4. Enter the Host and Port number.
5. Enter the Access Key ID.
6. Enter the Secret Access Key.
7. Enter the Bucket Name for the storage. (You need to create this bucket manually first).
8. Option: Click on the check box [Connect with SSL] if necessary.
9. Click **Add** to continue the setup.
10. Go to **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

Add the newly created predefined storage "AWSCompatible-1" to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.



11. When you create a backup set for a user, you will be able to see the new predefined destination.

Wasabi

1. If you do not have a Wasabi account, please click on the link 'Sign up for Wasabi' to create an account.
2. Select Wasabi from the [Destination Storage] drop down box.
3. Enter name of the backup destination.

The screenshot shows the 'Add New Predefined Destination' form. It contains the following fields and options:

- Name:** Text input field containing 'Wasabi-1'.
- Type:** Radio buttons for 'Single storage destination' (selected) and 'Destination pool'.
- Destination Storage:** Drop-down menu showing 'Wasabi'.
- Access Key ID:** Text input field.
- Access Key Secret:** Text input field.
- Region:** Drop-down menu showing 'us-west-1'.
- (optional) Bucket Name:** Text input field.
- Connect with SSL:** Unchecked checkbox.
- Test:** Button.
- Sign up for Wasabi:** Link.

 At the bottom right of the form are icons for add, close, and help.

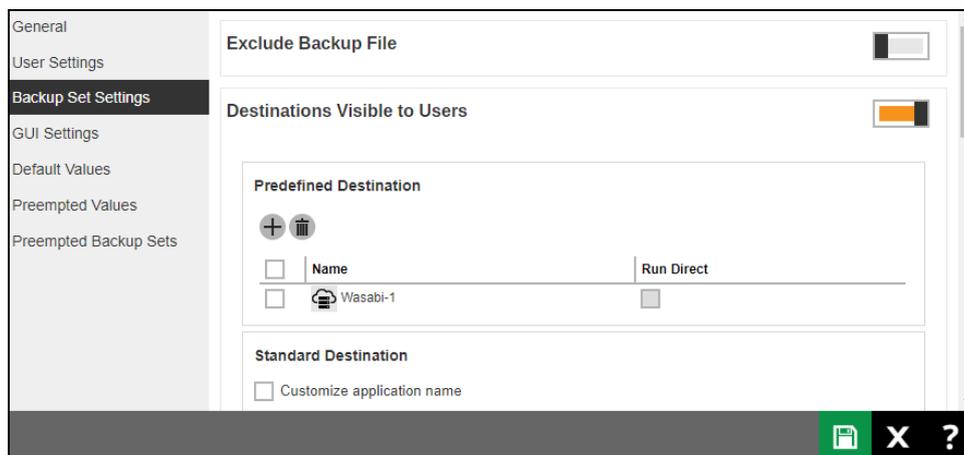
4. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

5. Enter the Access Key ID.
6. Enter the Access Key Secret.
7. Select the region from the dropdown box.
8. Option: Enter the Bucket Name.
9. Option: Click on the check box [Connect with SSL] if necessary.
10. Click **Add** to continue the setup.
11. Go to the **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the “**Default settings**”, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

Add the newly created predefined storage “Wasabi-1” to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.



12. When you create a backup set for a user, you will be able to see the new predefined destination.

Backblaze

1. If you do not have a Backblaze account, please click on the link 'Sign up for Backblaze' to create an account.
2. Select Backblaze from the [Destination Storage] drop down box.
3. Enter name of the backup destination.

The screenshot shows a web form titled "Add New Predefined Destination". The form contains the following elements:

- Name:** A text input field containing "Backblaze-1".
- Type:** Two radio button options: "Single storage destination" (which is selected) and "Destination pool".
- Destination Storage:** A dropdown menu with "Backblaze" selected.
- Key ID:** An empty text input field.
- Application Key:** An empty text input field.
- (optional) Bucket Name:** An empty text input field.
- Test:** A grey button.
- Sign up for Backblaze:** A blue text link.

At the bottom right of the form, there are three icons: a green plus sign (+), a black X, and a black question mark (?).

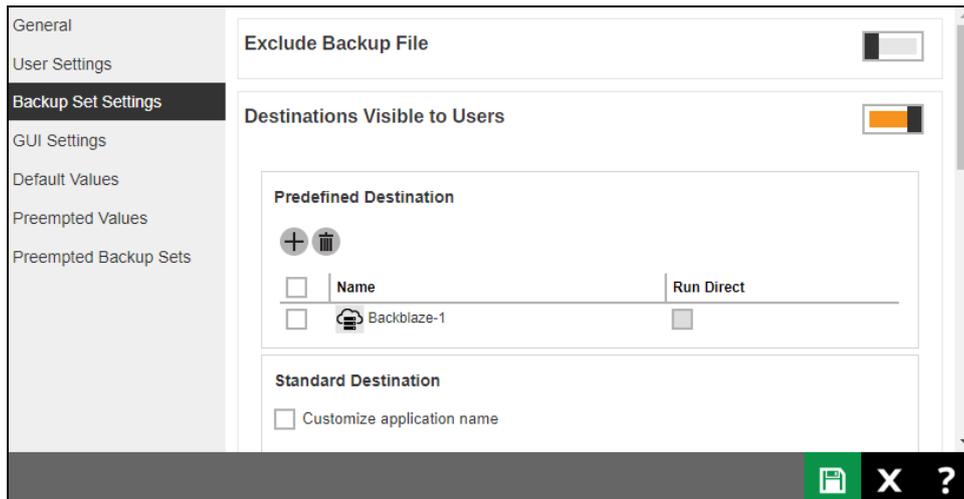
4. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

5. Enter the Key ID.
6. Enter the Application Key.
7. Option: Enter the Bucket Name.
8. Click **Add** to continue the setup.
9. Go to the **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the “**Default settings**”, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

Add the newly created predefined storage “Backblazei-1” to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.



10. When you create a backup set for a user, you will be able to see the new predefined destination.

Google Cloud Storage

** Before you set up the storage for Google Cloud Storage, please collect the Access Key and Secret Key from your Google Cloud Storage account first.

1. Go to the Google Developers Console.
2. Click the name of the project you would like to use as your default project.
3. In the left sidebar, click APIs & auth.
4. Find Google Cloud Storage JSON API and make sure it is enabled. When the JSON API is enabled, the Status will display "ON".
5. Next to the Google Cloud Storage JSON API service, click the settings gear icon.
6. Click Interoperable Access in the left sidebar.
7. Click Generate new key.
8. The access key part of the new developer key is displayed.
9. Click Show to show the secret part of the new developer key.

Now, you can go back to add your predefined destination.

10. If you do not have Google Cloud Storage, please click on the link 'Sign up for Google Cloud Storage' to create an account.
11. Select Google Cloud Storage from the [Destination Storage] drop down box.

12. Enter name of the backup destination.

Add New Predefined Destination

Name

Type
 Single storage destination
 Destination pool

Destination Storage

Access Key

Secret

Storage Class

Location

(optional) Bucket Name

[Sign up for Google Cloud Storage](#)

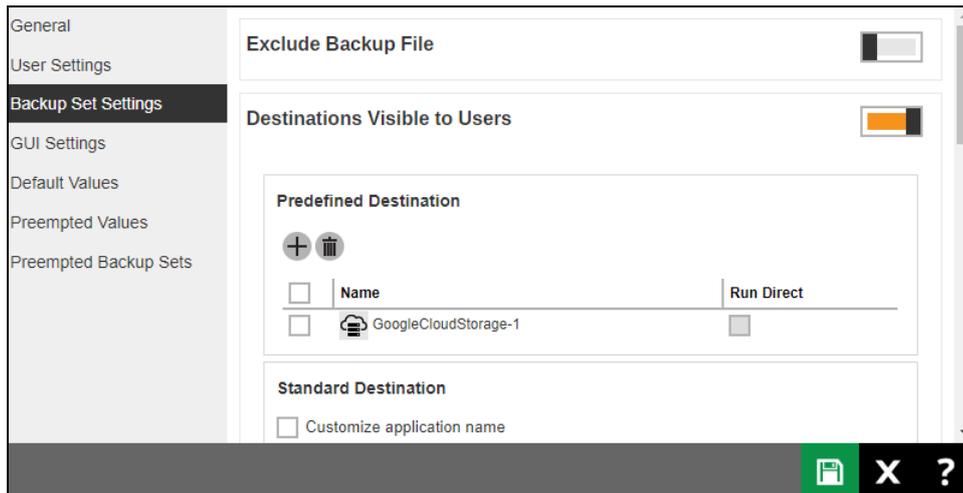
13. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

14. Enter the Access Key.
15. Enter the Secret.
16. Select the 'Storage Class' from the drop down box
17. Select the 'Location' from the drop down box.
18. Option: Enter the Bucket Name.
19. Click **Add** to continue the setup.
20. Go to the **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

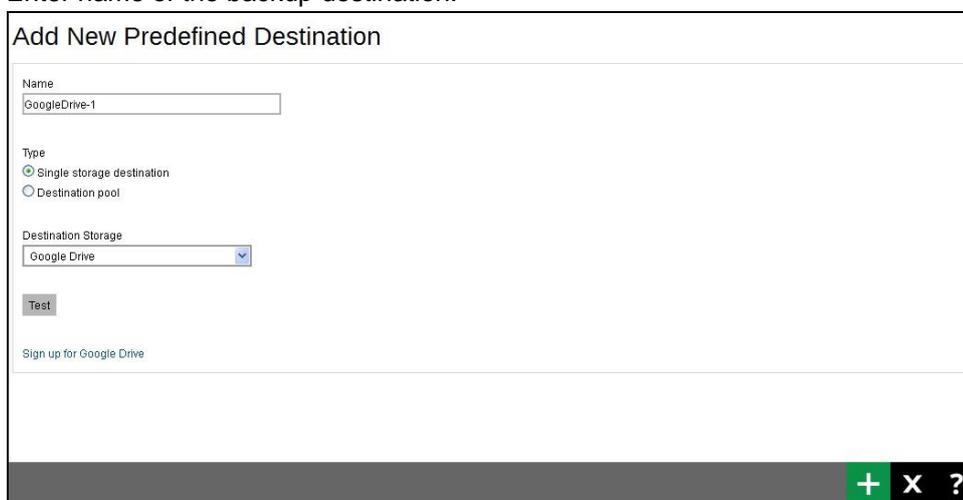
Add the newly created predefined storage "GoogleCloudStorage-1" to the [Backup Set Settings] -> [Destinations Visible to Users] -> [Predefined Destinations].



21. When you create a backup set for a user, you will be able to see the new predefined destination.

Google Drive

1. If you do not have Google Drive, please click on the link 'Sign up for Google Drive' to create an account.
2. Select 'Google Drive' from the [Destination storage] drop down box.
3. Enter name of the backup destination.

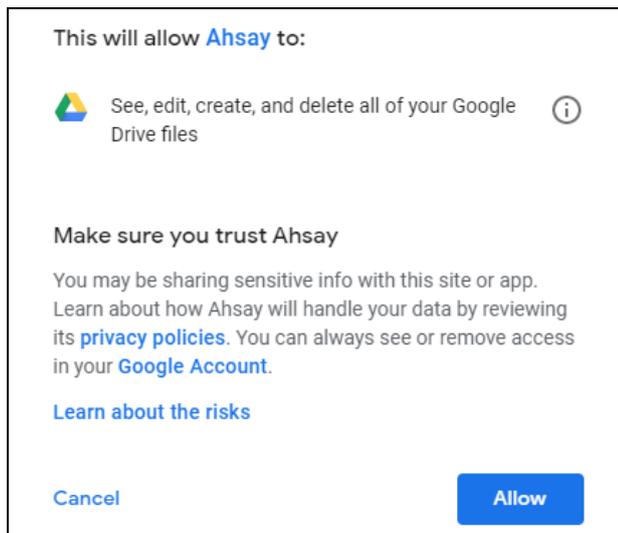


4. Select Single storage destination.

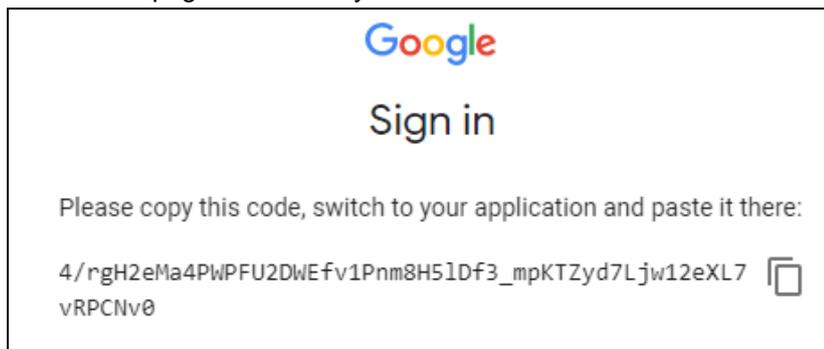
Note: The option **Destination Pool** is defined from a number of single storage destination.

5. Click **Add** to continue the setup.

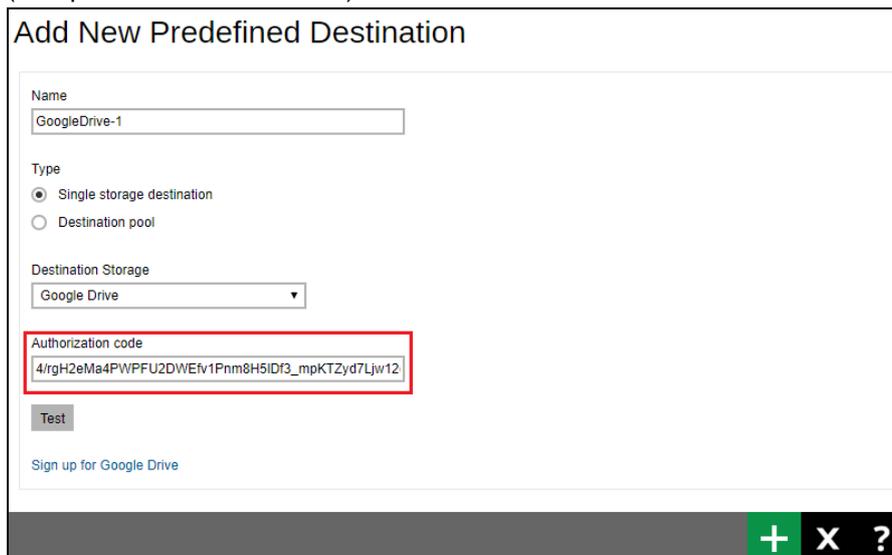
6. A browser will pop up and Google will ask for your permission to access the storage, click on **"Allow"**.



7. On the browser, a code is displayed, copy it and paste into the "create predefined destination" page in the AhsayCBS.



(Sample authentication code)

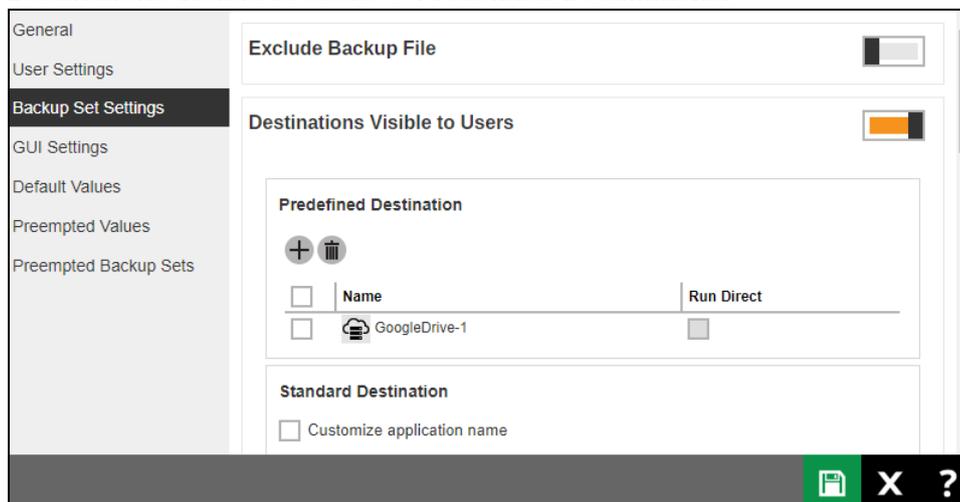


8. Click **Add** to continue.

9. Go to **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

10. Add the newly created predefined storage "GoogleDrive-1" to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.



11. When you create a backup set for a user, you will be able to see the new predefined destination.

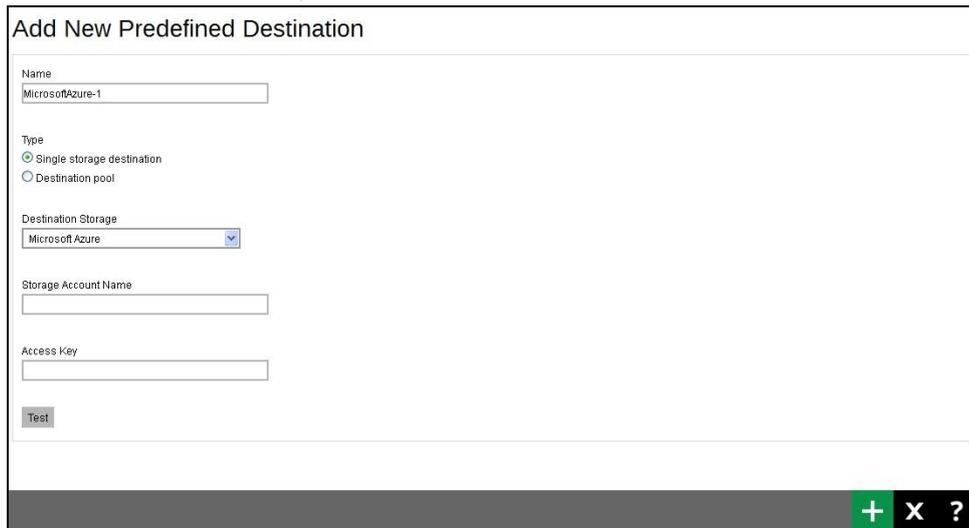
Microsoft Azure

** Before you setup the storage for Microsoft Azure, please collect the Storage Account Name and Access Key from your Microsoft Azure account first.

1. Go to the Microsoft Azure web page.
2. Click the "portal" link at the top of the page.
3. Login to the portal.
4. Click on the "**MANAGE ACCESS KEYS**" link at the bottom of the page.
5. The "**STORAGE ACCOUNT NAME**" and "**PRIMARY ACCESS KEY**" are displayed. The Storage account name is the same as the node name when you create this Windows Azure account.
6. Copy the "**STORAGE ACCOUNT NAME**" and "**PRIMARY ACCESS KEY**" to your AhsayOBM application.

(Suggested to copy and paste the name and key to avoid typographical errors.)
Now, you can go back to add your predefined destination.
7. Select 'Microsoft Azure' from the [Destination Storage] drop down box.

Enter name of the backup destination.



Add New Predefined Destination

Name
MicrosoftAzure-1

Type
 Single storage destination
 Destination pool

Destination Storage
Microsoft Azure

Storage Account Name

Access Key

Test

8. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

9. Enter the Storage Account Name.

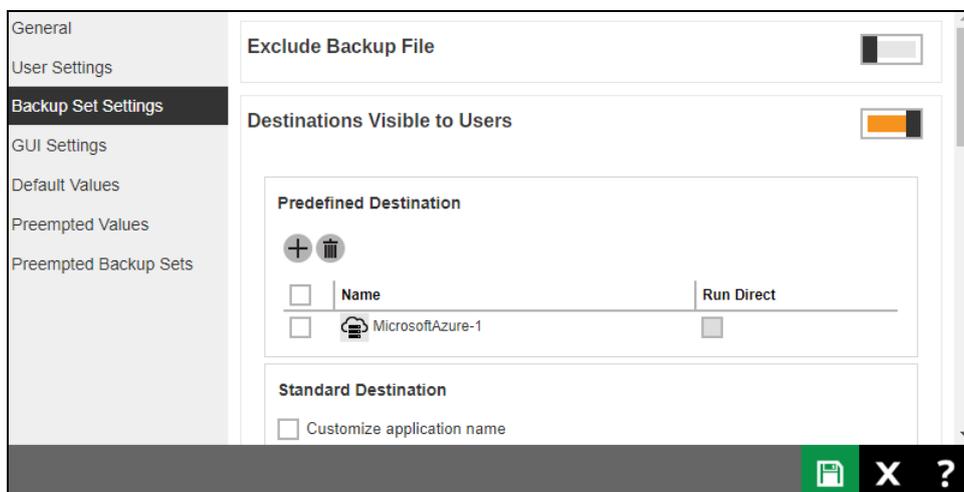
10. Enter the Access Key.

11. Click **Add** to continue the setup.

12. Go to **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

Add the newly created predefined storage “MicrosoftAzure-1” into the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.



General

User Settings

Backup Set Settings

GUI Settings

Default Values

Preempted Values

Preempted Backup Sets

Exclude Backup File

Destinations Visible to Users

Predefined Destination

<input type="checkbox"/>	Name	Run Direct
<input type="checkbox"/>	MicrosoftAzure-1	<input type="checkbox"/>

Standard Destination

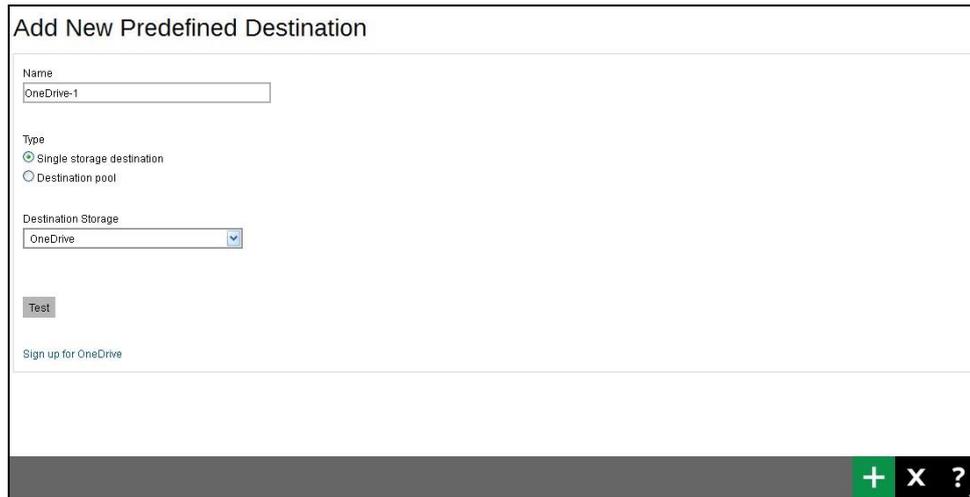
Customize application name

13. When you create a backup set for a user, you will be able to see the new predefined destination.

OneDrive

1. If you do not have the OneDrive, please click on the link 'Sign up for OneDrive' to create an account.
2. Select 'OneDrive' from the [Destination Storage] drop down box.

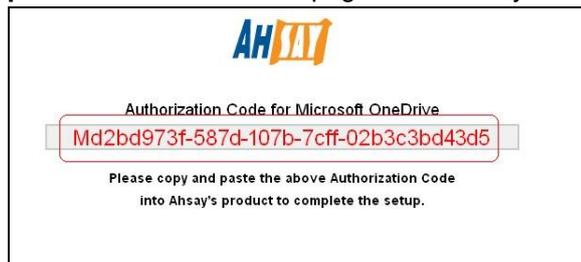
Enter name of the backup destination.



3. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

4. Click **Add** to continue the setup.
5. A browser will popup and a code is displayed, copy it and paste into the “**create predefined destination**” page in the AhsayCBS.



(Sample authentication code)

Add New Predefined Destination

Name
OneDrive-1

Type
 Single storage destination
 Destination pool

Destination Storage
OneDrive

Authorization code
M02bd973f587d-107b-7cf-02b3c3b443d5

Test

Sign up for OneDrive

6. Click [**Add**] to continue the setup.
7. Go to the **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

Add the newly created predefined storage “OneDrive-1” to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.

General

User Settings

Backup Set Settings

GUI Settings

Default Values

Preempted Values

Preempted Backup Sets

Exclude Backup File

Destinations Visible to Users

Predefined Destination

<input type="checkbox"/>	Name	Run Direct
<input type="checkbox"/>	OneDrive-1	<input type="checkbox"/>

Standard Destination

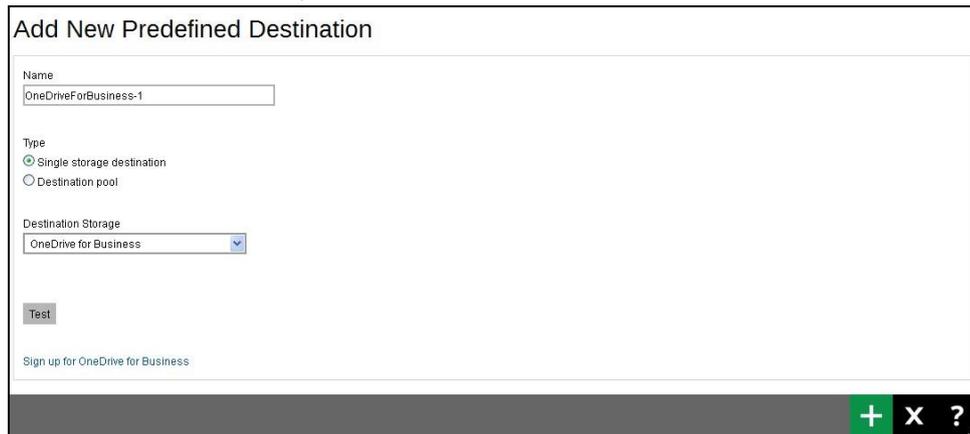
Customize application name

8. When you create a backup set for a user, you will be able to see the new predefined destination.

OneDrive for Business

1. If you do not have the OneDrive for Business, please click on the link 'Sign up for OneDrive for Business' to create an account.
2. Select 'OneDrive' from the [Destination Storage] drop down box.

Enter name of the backup destination.

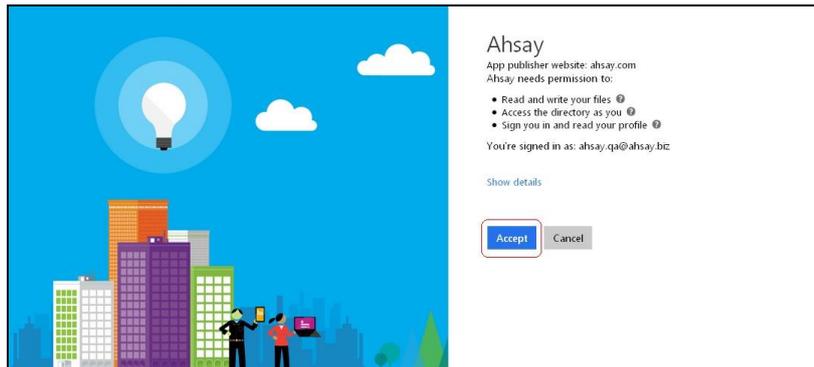


3. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

4. Click **Add** to continue the setup.

A browser will pop up and Microsoft will ask for your permission to access the storage, click on "**Accept**".



5. On the browser, a code is displayed, copy it and paste into the "create predefined destination" page in the AhsayCBS.



(Sample authentication code)

Add New Predefined Destination

Name
OneDriveForBusiness-1

Type
 Single storage destination
 Destination pool

Destination Storage
OneDrive for Business

Authorization code
jcbOuNn-HyI-XLsZ-FFpDYzrTDX4t5_klKP4Gqm9IAA
Test

6. Click **Add** to continue.
7. Go to **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

Add the newly created predefined storage “OneDriveForBusiness-1” to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.

General

User Settings

Backup Set Settings

GUI Settings

Default Values

Preempted Values

Preempted Backup Sets

Exclude Backup File

Destinations Visible to Users

Predefined Destination

+ -

<input type="checkbox"/>	Name	Run Direct
<input type="checkbox"/>	OneDriveForBusiness-1	<input type="checkbox"/>

Standard Destination

Customize application name

8. When you create a backup set for a user, you will be able to see the new predefined destination.

Rackspace

1. If you do not have the Rackspace, please click on the link 'Sign up for Rackspace' to create an account.
2. Select 'Rackspace' from the [Destination Storage] drop down box.

3. Enter name of the backup destination.

Add New Predefined Destination

Name
Rackspace-1

Type
 Single storage destination
 Destination pool

Destination Storage
Rackspace

Username

API Key

Test

Sign up for Rackspace

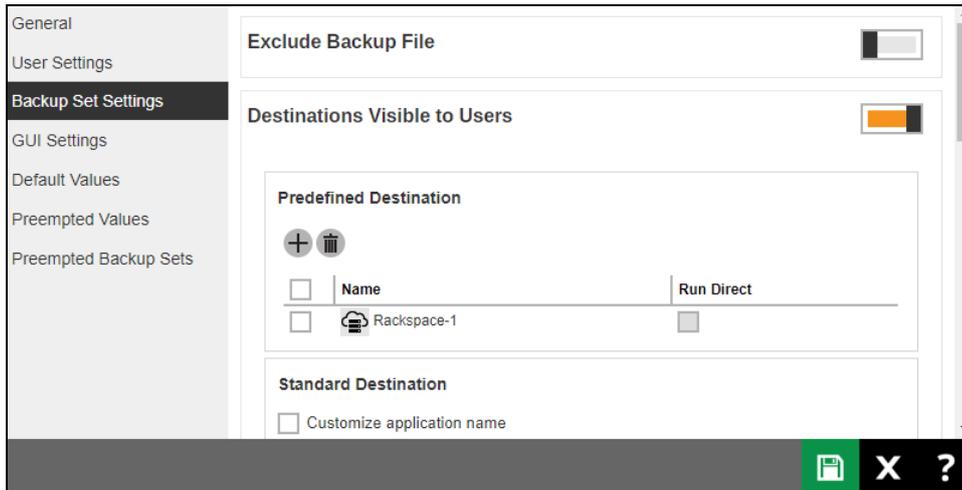
4. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

5. Enter the User Name.
6. Enter the API Key.
7. Click **Add** to continue the setup.
8. It will prompt for the "Region", select the "Region" from the dropdown box.
9. Click **Add** to continue the setup.
10. Go to **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

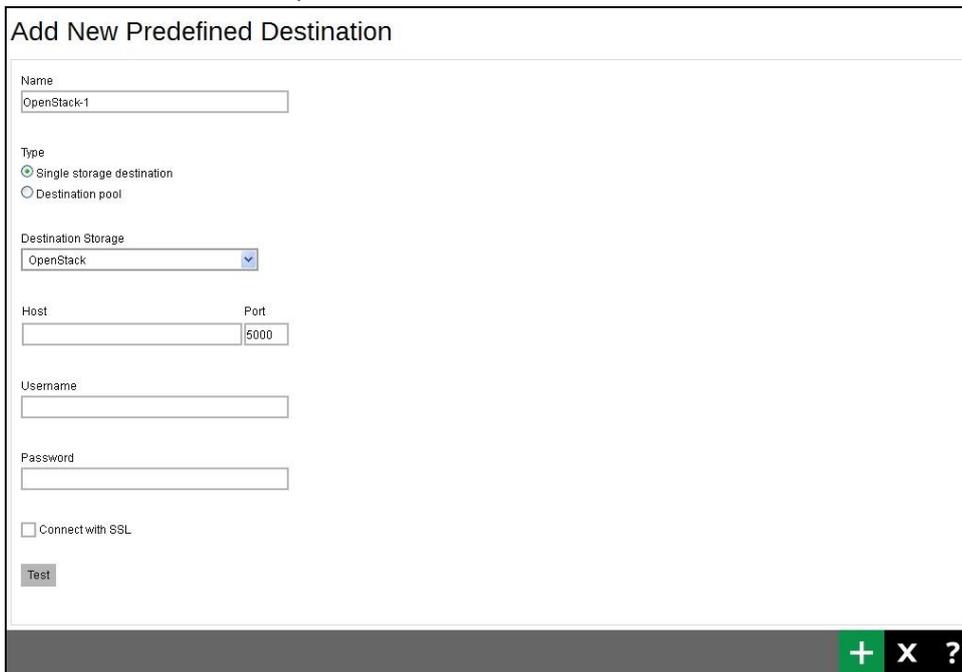
Add the newly created predefined storage “Rackspace-1” to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.



11. When you create a backup set for a user, you will be able to see the new predefined destination.

OpenStack

1. Select 'OpenStack' from the [Destination Storage] drop down box.
2. Enter name of the backup destination.

The screenshot shows a form titled 'Add New Predefined Destination'. The 'Name' field contains 'OpenStack-1'. The 'Type' section has two radio buttons: 'Single storage destination' (selected) and 'Destination pool'. The 'Destination Storage' dropdown menu is set to 'OpenStack'. The 'Host' field is empty and the 'Port' field contains '5000'. The 'Username' and 'Password' fields are empty. There is a checkbox for 'Connect with SSL' and a 'Test' button. At the bottom right of the form are icons for add, close, and help.

3. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

4. Enter the Host and Port number.
5. Enter the Username.

6. Enter the Password.
7. Option: Click on the check box [Connect with SSL] if necessary.
8. Click **Add** to continue the setup.
9. The page will request to enter more information after the initial connection.

Add New Predefined Destination

Name

Type
 Single storage destination
 Destination pool

Destination Storage

Host Port

Username

Password

Project

Region

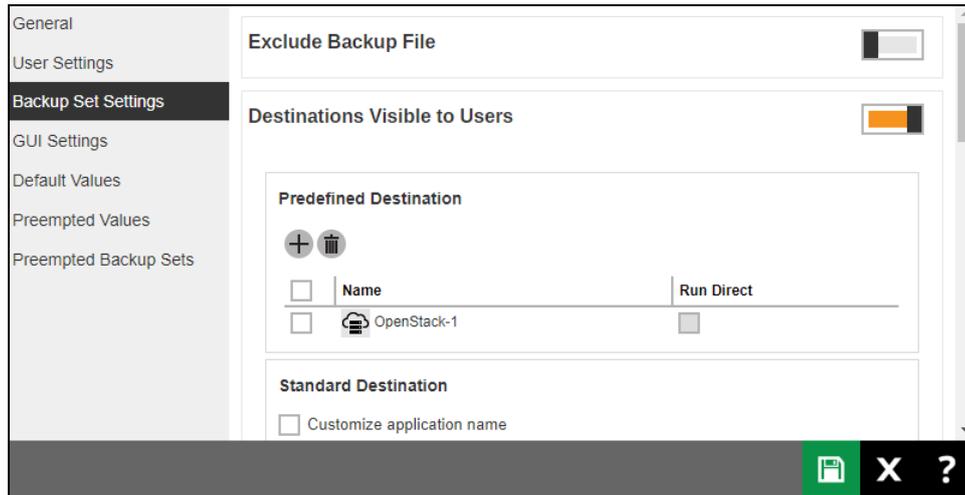
Container

Connect with SSL

10. Select the “**Project**” in the dropdown box.
11. Select the “**Region**” in the dropdown box.
12. Enter the container name.
13. Click **Add** to continue the setup.
14. Go to the **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

Add the newly created predefined storage “OpenStack-1” to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations.**

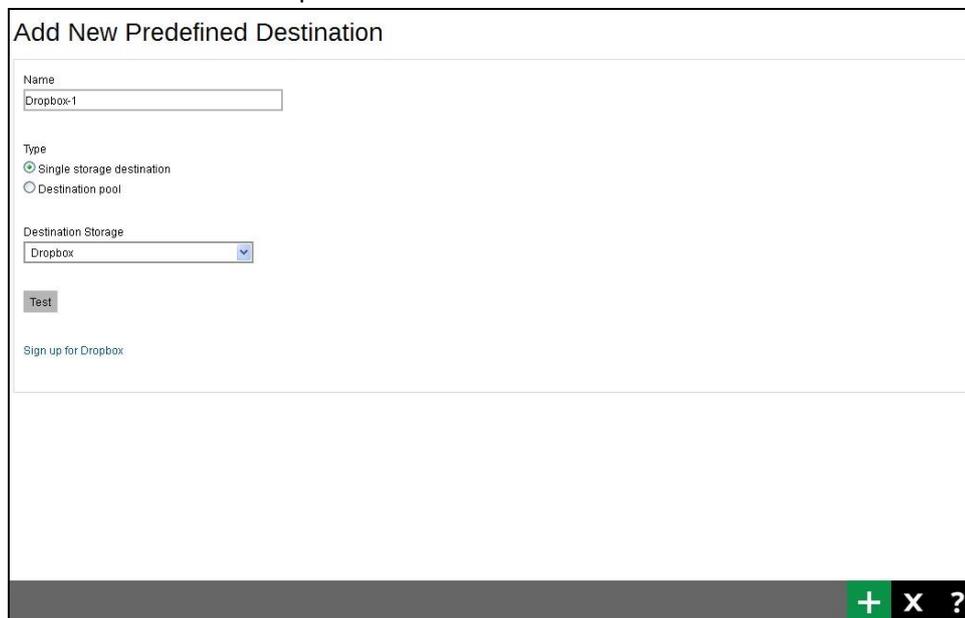


15. When you create a backup set for a user, you will be able to see the new predefined destination.

Dropbox

1. If you do not have the Dropbox, please click on the link 'Sign up for Dropbox' to create an account.
2. Select 'Dropbox' from the [Destination Storage] drop down box.

Enter name of the backup destination.

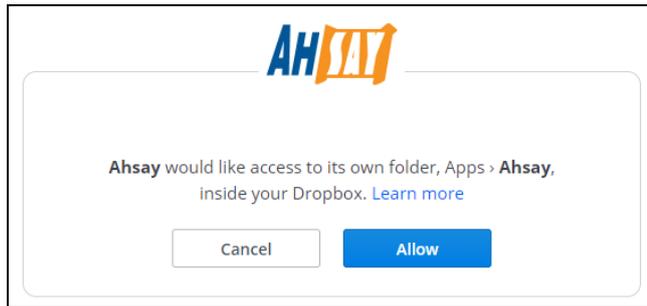


3. Select Single storage destination.

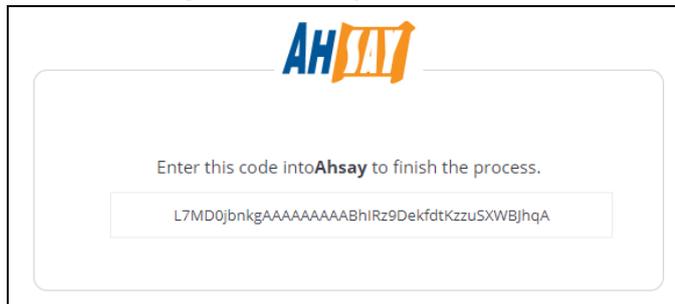
Note: The option **Destination Pool** is defined from a number of single storage destination.

4. Click **Add** to continue the setup.

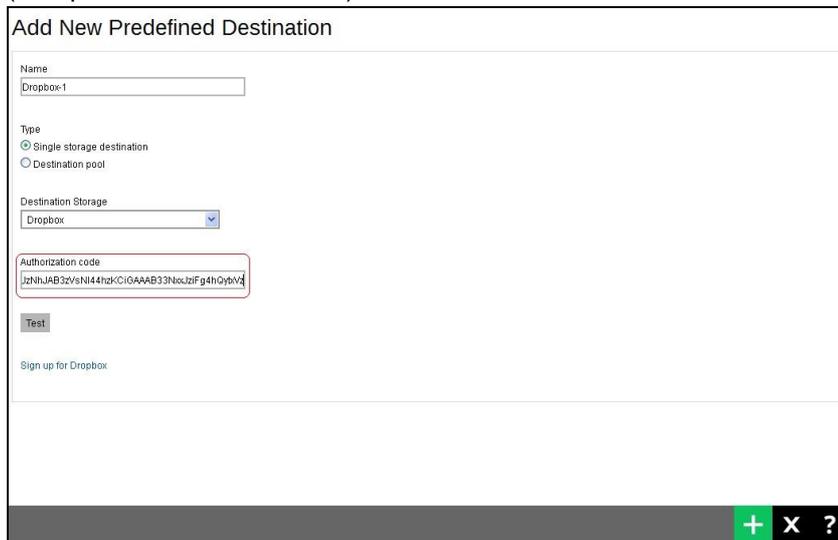
5. A browser will pop up and Dropbox will ask for your permission to access the storage, click on "Ahsay".



On the browser, a code is displayed, copy it and paste into the "create predefined destination" page in the AhsayCBS.



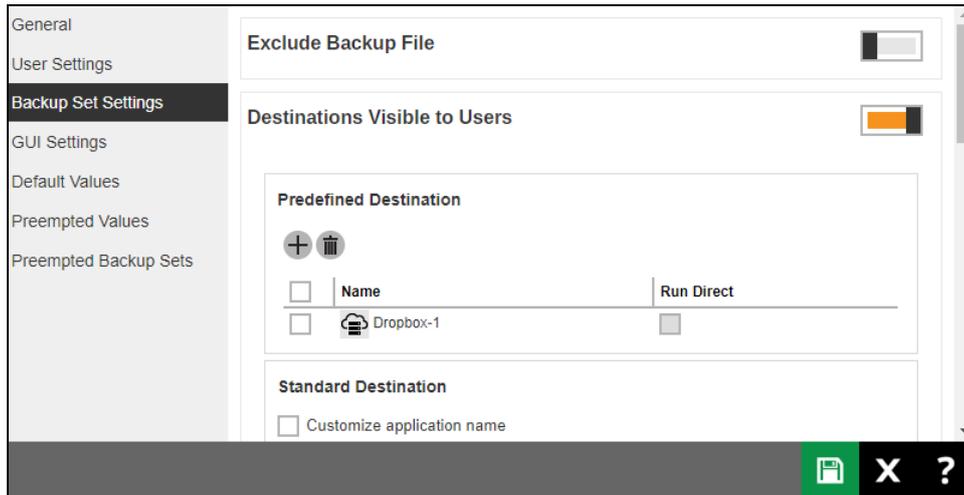
(Sample authentication code)



6. Click **Add** to continue the setup.
7. Go to the **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the "Default settings", all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

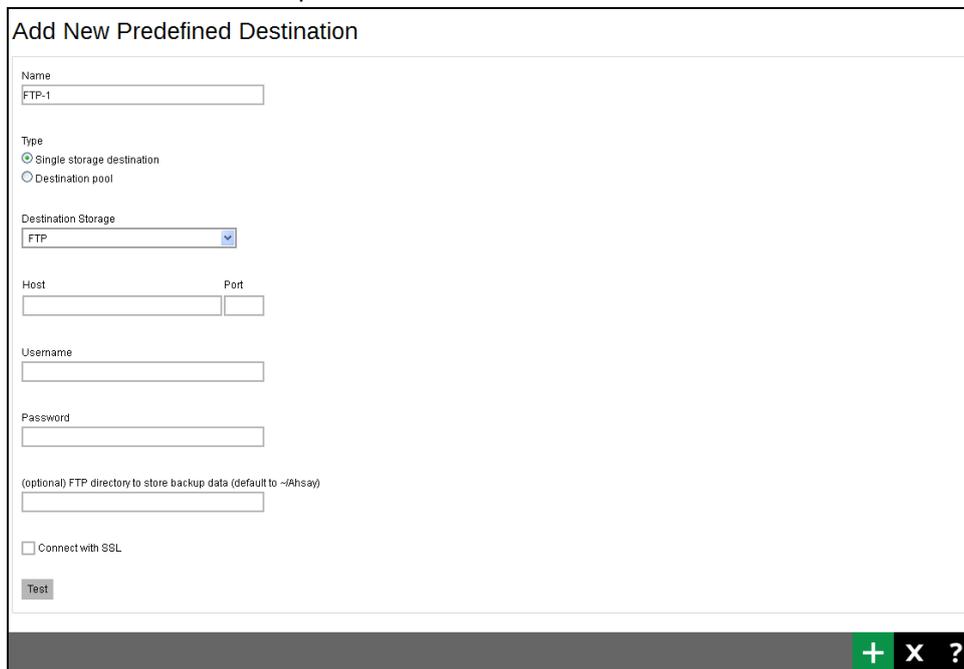
Add the newly created predefined storage “Dropbox-1” to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations.**



8. When you create a backup set for a user, you will be able to see the new predefined destination.

FTP

1. Select 'FTP' from the [**Destination storage**] drop down box.
2. Enter name of the backup destination.



3. Select Single storage destination.

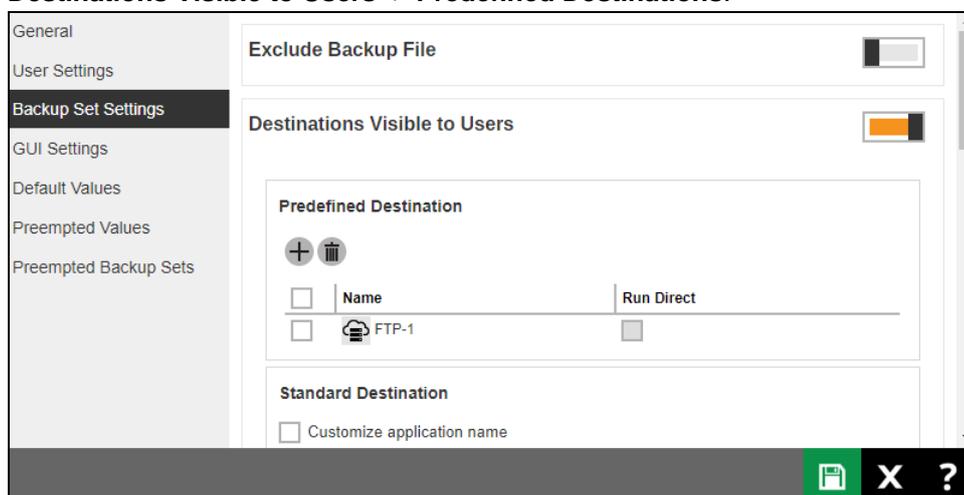
Note: The option **Destination Pool** is defined from a number of single storage destination.

4. Enter the Host and Port number.
5. Enter the Username.

6. Enter the Password.
7. Option: Enter the FTP directory if you have one.
8. Click **Add** to continue the setup.
9. Go to **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

Add the newly created predefined storage “FTP-1” to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations**.



10. When you create a backup set for a user, you will be able to see the new predefined destination.

SFTP

1. Select 'SFTP' from the [Destination storage] drop down box.

2. Enter name of the backup destination.

Add New Predefined Destination

Name
SFTP-1

Type
 Single storage destination
 Destination pool

Destination Storage
SFTP

Host Port

Username

Password

(optional) SFTP directory to store backup data (default to ~\Ahsay)

Test

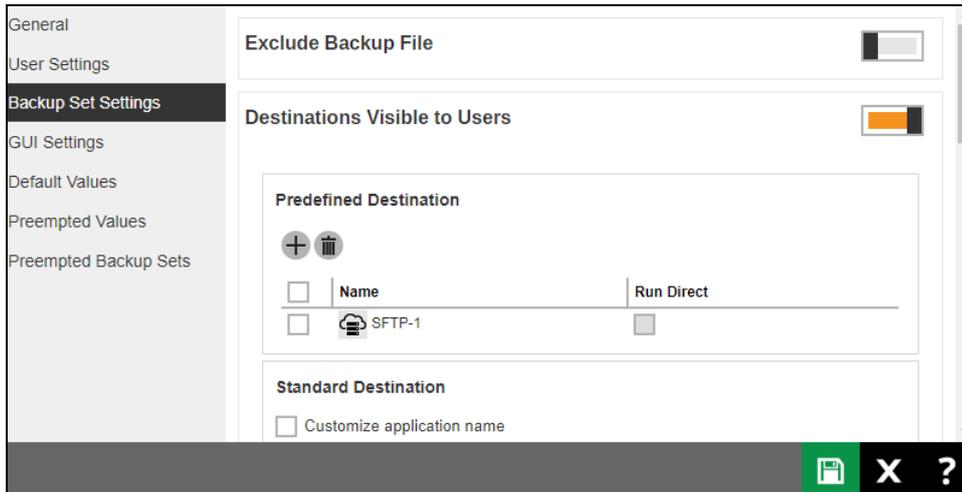
3. Select Single storage destination.

Note: The option **Destination Pool** is defined from a number of single storage destination.

4. Enter the Host and Port number.
5. Enter the Username.
6. Enter the Password.
7. Option: Enter the SFTP directory if you have one.
8. Click [**Add**] to continue the setup.
9. Go to **Backup/Restore -> Users, Groups & Policies -> Policy Group -> Manage Policy Group**, edit the **Default settings** policy.

(By applying the changes to the **Default settings**, all the users will be able to see and use the settings by default. If you need to create a predefined destination for a particular group of users, you need to create a new policy group and user group for this.)

Add the newly created predefined storage “SFTP-1” to the **Backup Set Settings -> Destinations Visible to Users -> Predefined Destinations.**

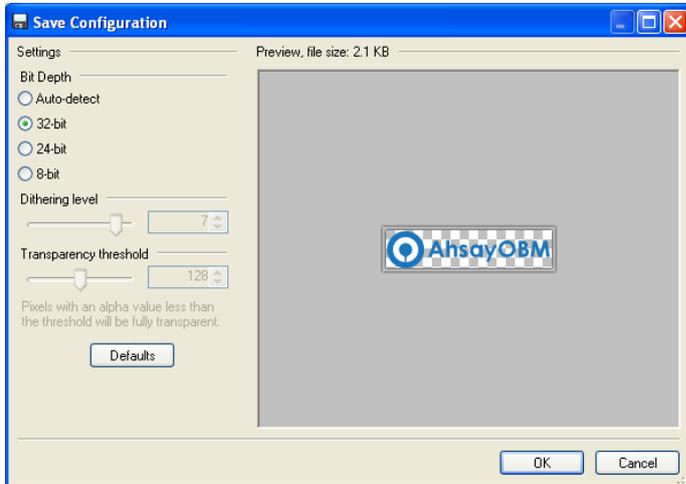


10. When you create a backup set for a user, you will be able to see the new predefined destination.

Appendix E Image Specifications

You can use common graphics editing tools that able to edit 32bit graphic files to generate these png format files with transparent background.

Example:



For those ico (Windows icon) and icns (Mac icon) files, you can use icon editing tools (available to download from Internet). Most of the icon files have multiple sizes of images. Please refer to the original icon format to replace your product logo into the files.

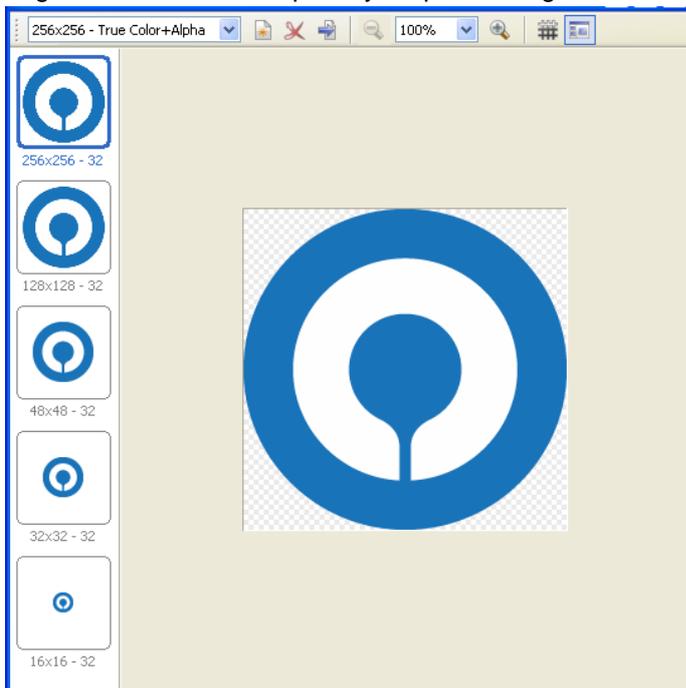
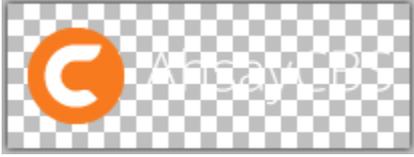


Image specifications for AhsayCBS (web interface, pdf and email report)

File name: ico_40_cbs_logo.png	Format: png Width: 200 px Height: 72 px
This logo has transparent background (checkered squares) with white text.	
	

File name: default.large.gif	Format: gif Width: 129 px Height: 40 px
This logo has transparent background (checkered squares).	
	

File name: ico_24_cbs.png	Format: png Width: 24 px Height: 24 px
This logo has transparent background (checkered squares).	
	

File name: ico_obm_16.png	Format: png Width: 18 px Height: 18 px
This logo has transparent background (checkered squares).	
	

File name: ico_acb_16.png	Format: png Width: 18 px Height: 18 px
This logo has transparent background (checkered squares).	
	

Image specifications for Ahsay Mobile icon (on web console Mobile App Download page and Mobile Feature tab)

File name: mobile-app-icon.png	Format: png Width: 120 px Height: 120 px
	

Image specifications for AhsayCBS (Installation graphics)

Images for Windows (Installation graphics)

File name: aboutBG.bmp	Format: Bitmap Width: 164 px Height: 337 px
	
(The size of this graphic is reduced to fit into this document.)	

File name: desktop.ico	Format: Windows Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



File name: installer.ico	Format: Windows Icon
This logo has transparent background (checkered squares).	Width: 256,128,48,32,16px
	Height: 256,128,48,32,16px
(True color plus alpha channel transparency)	



File name: splash.bmp

Format: Bitmap
Width: 340 px
Height: 240 px



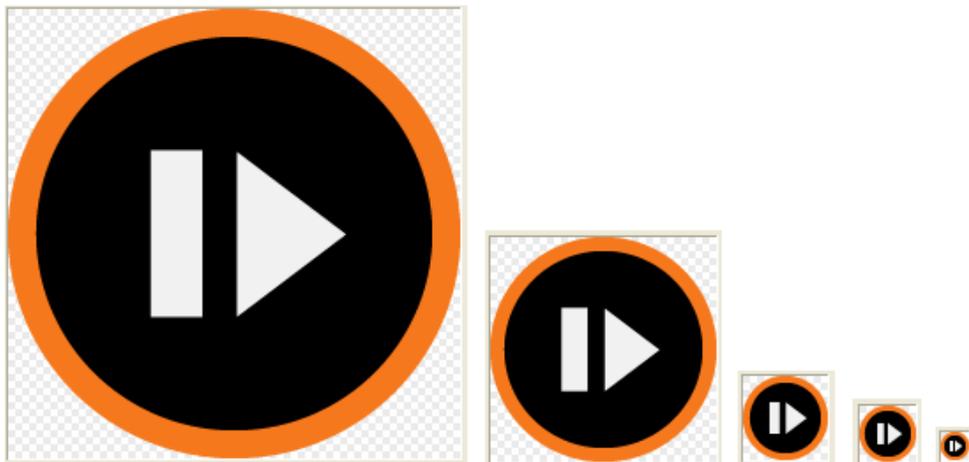
(The size of this graphic is reduced to fit into this document.)

File name: restart.ico

Format: Windows Icon
Width: 256,128,48,32,16px
Height: 256,128,48,32,16px

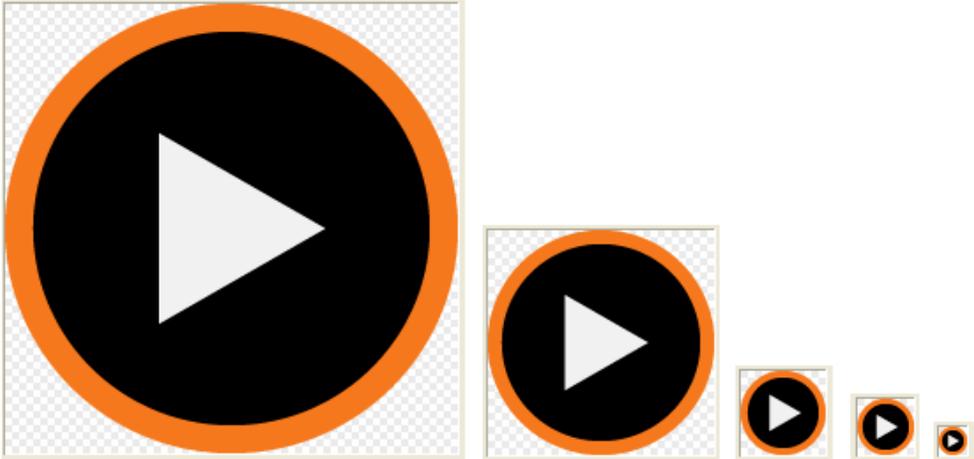
This logo has transparent background (checkered squares).

(True color plus alpha channel transparency)

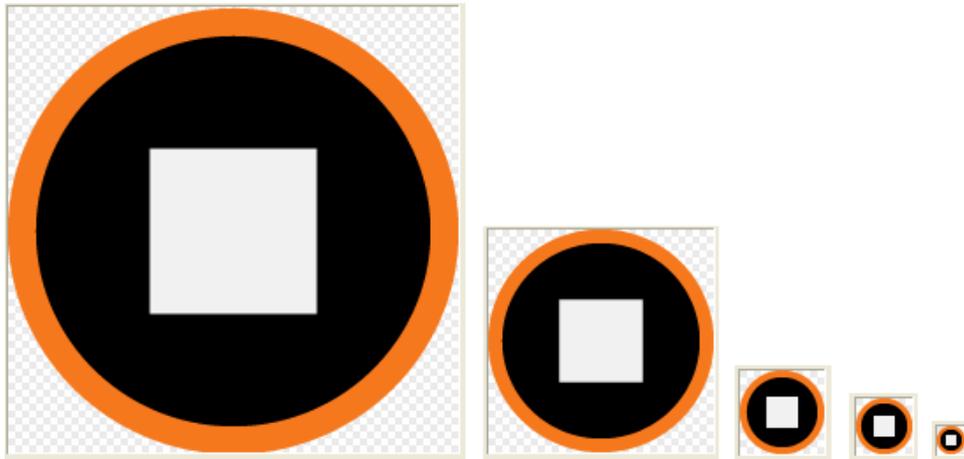


(The sizes of these logos are reduced to fit into this document.)

File name: small.bmp	Format: Bitmap Width: 55 px Height: 58 px
	

File name: start.ico	Format: Windows Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)
	
(The sizes of these logos are reduced to fit into this document.)	

File name: stop.ico	Format: Windows Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

File name: uninstall.ico

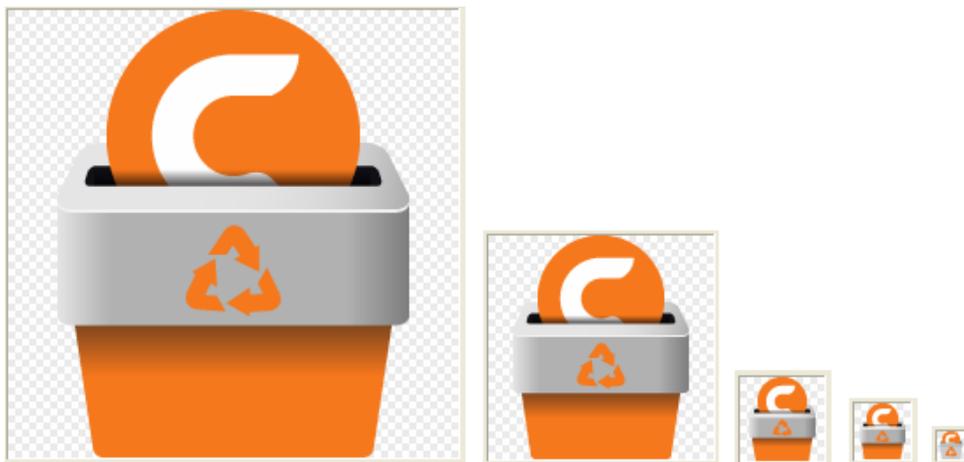
This logo has transparent background (checkered squares).

Format: Windows Icon

Width: 256,128,48,32,16px

Height: 256,128,48,32,16px

(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

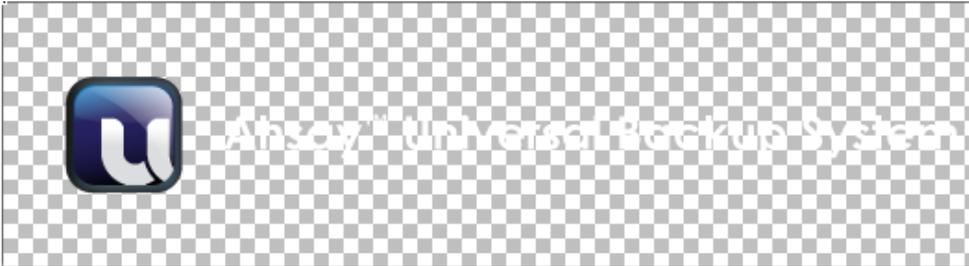
File name: webAdmin.ico	Format: Windows Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checked squares).	(True color plus alpha channel transparency)
	
(The sizes of these logos are reduced to fit into this document.)	

Images for AhsayUBS (Installation graphics)

File name: favicon.ico	Format: Website Icon Width: 16 px Height: 16 px
This logo has transparent background (checked squares).	or Width: 32 px Height: 32 px
(True color plus alpha channel transparency)	
	

File name: footer.png	Format: png Width: 127 px Height: 42 px
	

File name: header_bg.png	Format: png Width: 2400 px Height: 143 px
	
<p>(The size of this graphic is reduced to fit into this document.)</p>	

File name: header_logo.png	Format: png Width: 524 px Height: 143 px
<p>This logo has transparent background (checkered squares) with white text.</p>	
	
<p>(The size of this graphic is reduced to fit into this document.)</p>	

File name: login_bg.png

Format: png
Width: 471 px
Height: 340 px

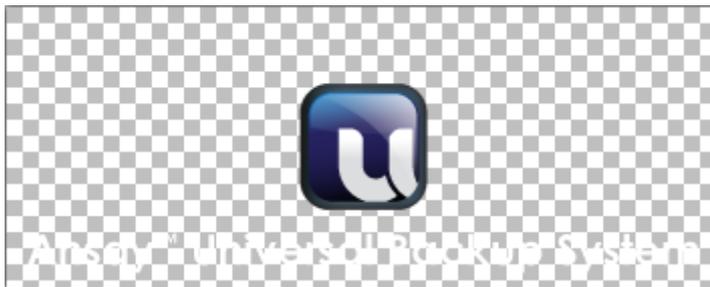


(The size of this graphic is reduced to fit into this document.)

File name: login_logo.png

Format: png
Width: 353 px
Height: 140 px

This logo has transparent background (checkered squares) with white text.



File name: splash_320x200.bmp

Format: Bitmap

Width: 320 px

Height: 200 px

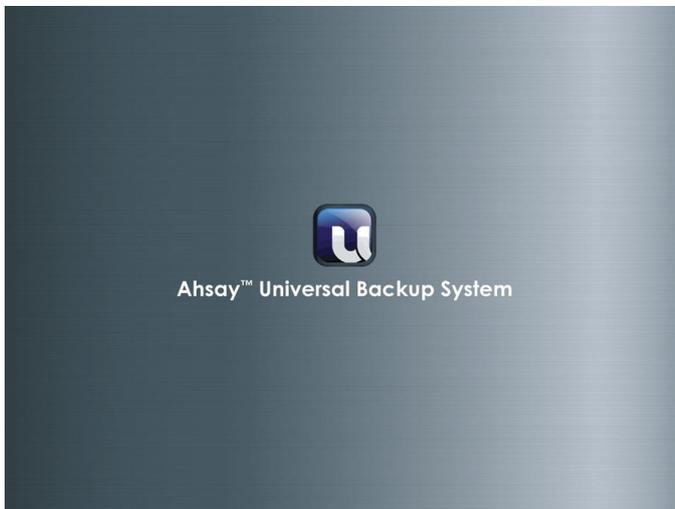


File name: splash_1024x768.bmp

Format: Bitmap

Width: 1024 px

Height: 768 px



(The size of this graphic is reduced to fit into this document.)

Image specifications for AhsayOBM (Application graphics)

Images for all platforms

File name: about_logo.png	Format: png Width: 144 px Height: 33 px
This logo has transparent background (checkered squares).	
	

File name: login_bg.png	Format: png Width: 1016 px Height: 734 px
	
(The size of this graphic is reduced to fit into this document.)	

File name: login_logo.png	Format: png Width: 200 px Height: 60 px
This logo has transparent background (checkered squares) with white text.	
	

File name: logo.png	Format: png Width: 32 px Height: 32 px
This logo has transparent background (checked squares).	
	

File name: main_logo.png	Format: png Width: 148 px Height: 33 px
This logo has transparent background (checked squares) with white text.	
	

File name: splash.png	Format: png Width: 420 px Height: 240 px
	
(The size of this graphic is reduced to fit into this document.)	

File name: dstn_CBS_24.png	Format: png Width: 24 px Height: 24 px
This logo has transparent background (checkered squares) with white text.	
	

File name: dstn_CBS_32.png	Format: png Width: 32 px Height: 32 px
This logo has transparent background (checkered squares) with white text.	
	

File name: dstn_CBS_48.png	Format: png Width: 48 px Height: 48 px
This logo has transparent background (checkered squares) with white text.	
	

File name: fs16_root_CBS.png	Format: png Width: 16 px Height: 16 px
This logo has transparent background (checkered squares) with white text.	
	

Images for Linux, FreeBSD and Solaris (Application graphics)

File name: desktop.png	Format: png Width: 128 px Height: 128 px
This logo has transparent background (checked squares).	
	

Images for Synology (Application graphics)

File name: logo_16.png	Format: png Width: 16 px Height: 16 px
This logo has transparent background (checked squares).	
	

File name: logo_32.png	Format: png Width: 32 px Height: 32 px
This logo has transparent background (checked squares).	
	

File name: logo_72.png	Format: png Width: 72 px Height: 72 px
This logo has transparent background (checkered squares).	
	

Images for QNAP (Application graphics)

File name: logo_72.png	Format: png Width: 72 px Height: 72 px
This logo has transparent background (checkered squares).	
	

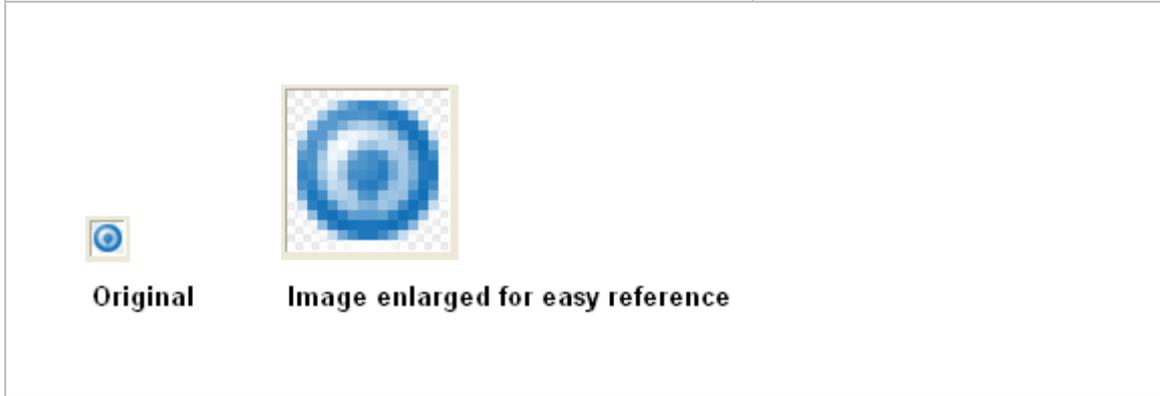
Images for Windows (System tray)

The following icons icon1.ico, icon2.ico, icon3.ico and icon4.ico will be used in the Windows system tray. Please arrange them in an animated sequence. The application will arrange the animation sequence when the backup job is run.

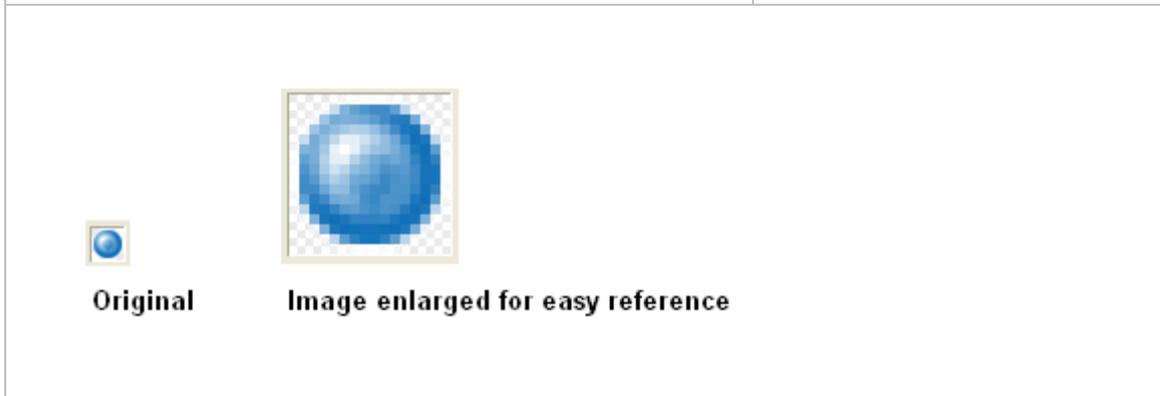
File name: icon1.ico	Format: Windows Icon Width: 16 px Height: 16 px
This logo has transparent background (checkered squares).	
(True color plus alpha channel transparency)	



File name: icon2.ico	Format: Windows Icon Width: 16 px Height: 16 px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



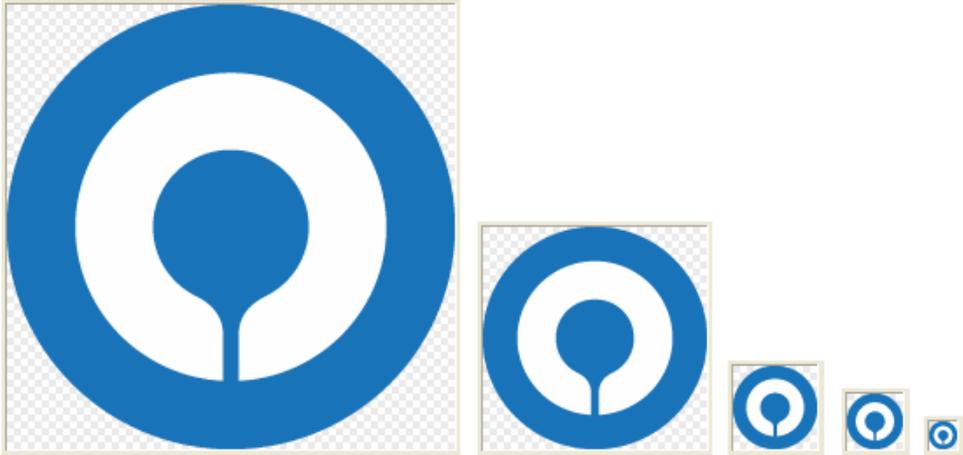
File name: icon3.ico	Format: Windows Icon Width: 16 px Height: 16 px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



File name: icon4.ico	Format: Windows Icon Width: 16 px Height: 16 px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Original</p> </div> <div style="text-align: center;">  <p>Image enlarged for easy reference</p> </div> </div>	

File name: toast.ico	Format: Windows Icon Width: 64 px Height: 64 px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)
	

Images for Mac (Application and installation graphics)

File name: desktop.icns	Format: Mac Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)
	
(The sizes of these logos are reduced to fit into this document.)	

File name: GenericJavaApp.icns	Format: Mac Icon
This logo has transparent background (checkered squares).	



128x128-32bit



32x32-32bit



16x16-32bit



32x32-8bit



16x16-8bit



32x32-1bit



16x16-1bit

Note: These are default Java application icons, they will be displayed when there are icons missing. This is not directly related the product branding.

File name: installer.icns

Format: Mac Icon

Width: 256,128,48,32,16px

Height: 256,128,48,32,16px

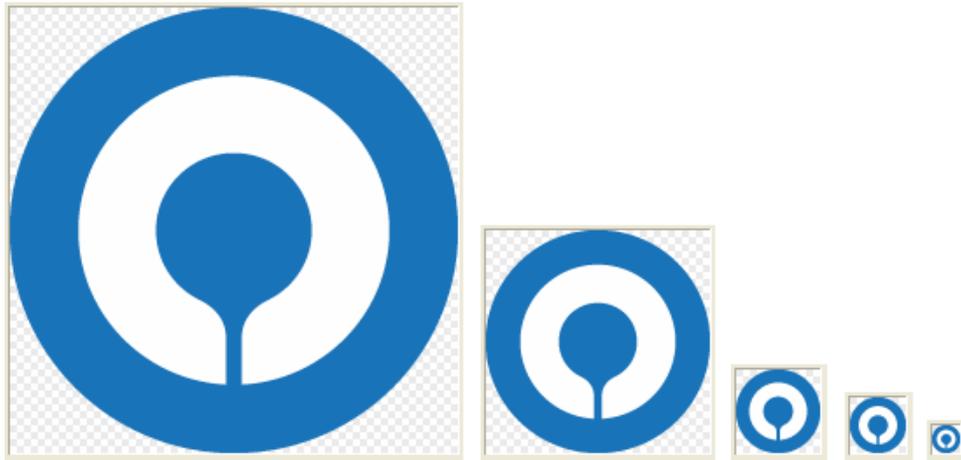
This logo has transparent background (checkered squares).

(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

File name: Logo.icns	Format: Mac Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



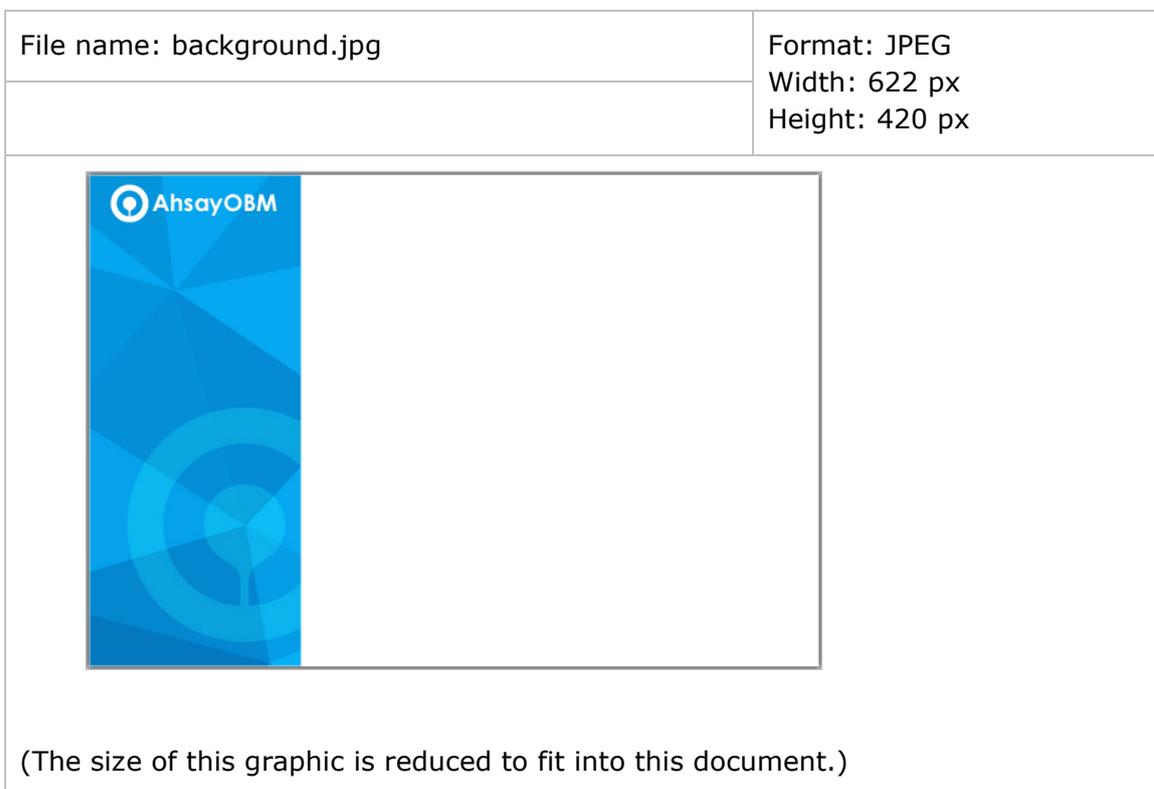
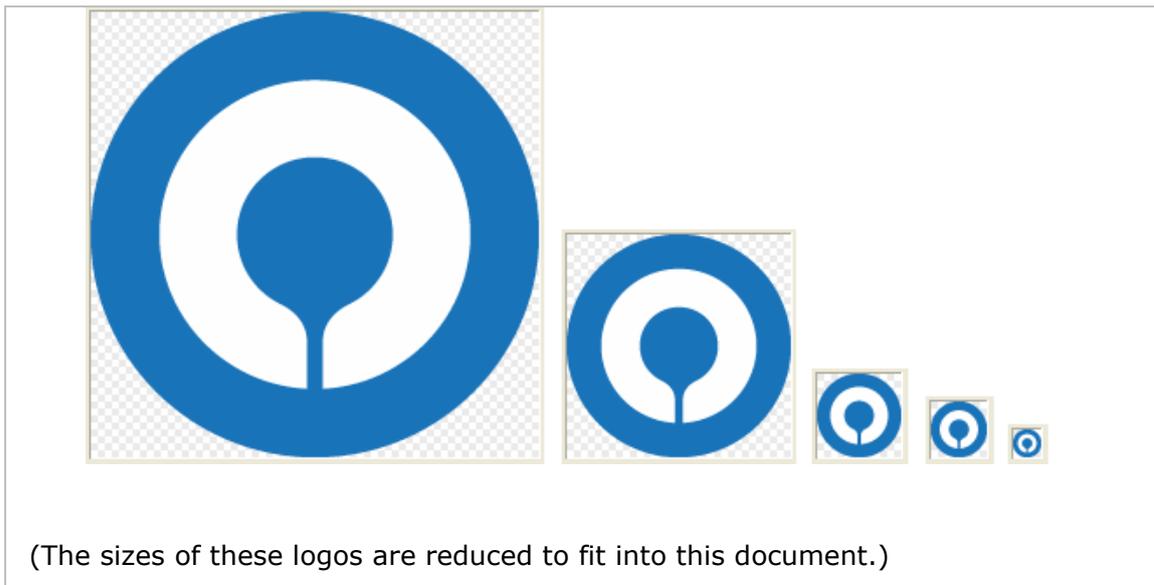
(The sizes of these logos are reduced to fit into this document.)

File name: uninstall.icns	Format: Mac Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

File name: OBMLogo.icns	Format: Mac Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



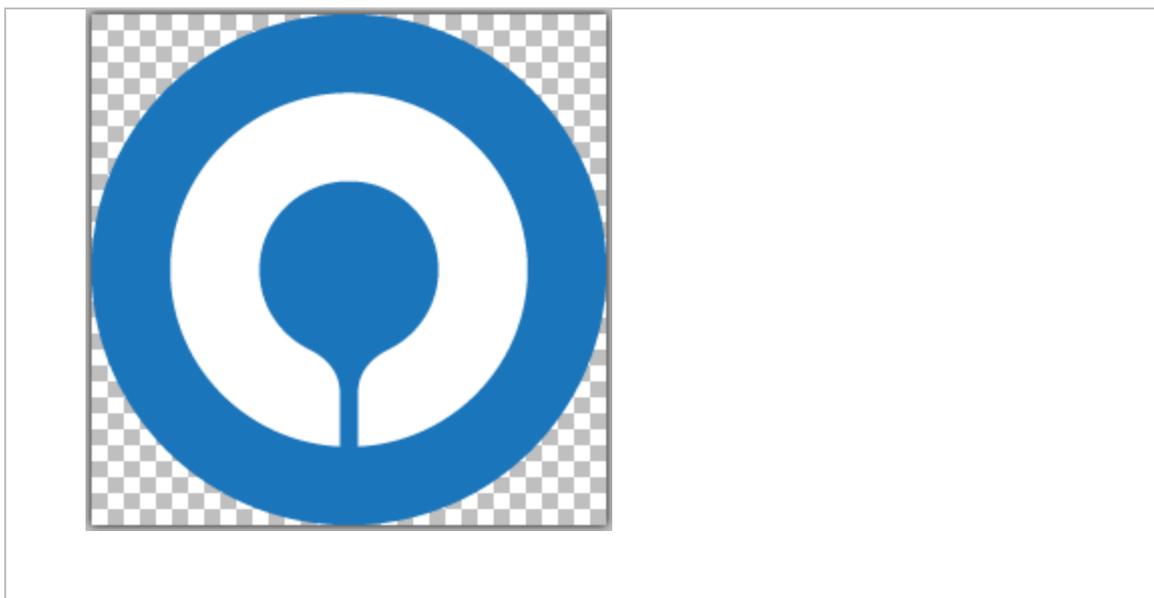
(The size of this graphic is reduced to fit into this document.)

Images for Synology (Installation graphics)

File name: PACKAGE_ICON.PNG	Format: png Width: 72 px Height: 72 px
This logo has transparent background (checkered squares).	
	

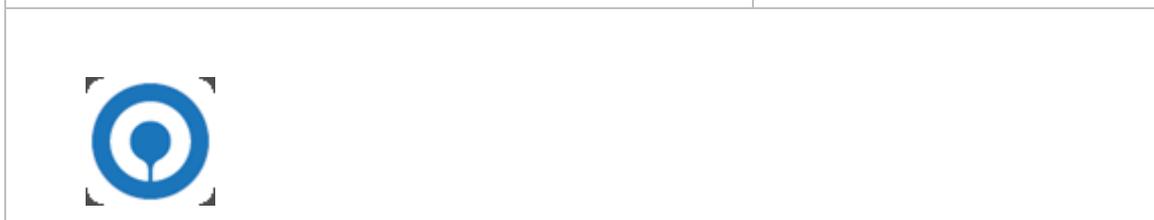
File name: PACKAGE_ICON_120.PNG	Format: png Width: 120 px Height: 120 px
This logo has transparent background (checkered squares).	
	

File name: PACKAGE_ICON_256.PNG	Format: png Width: 256 px Height: 256 px
This logo has transparent background (checkered squares).	
	

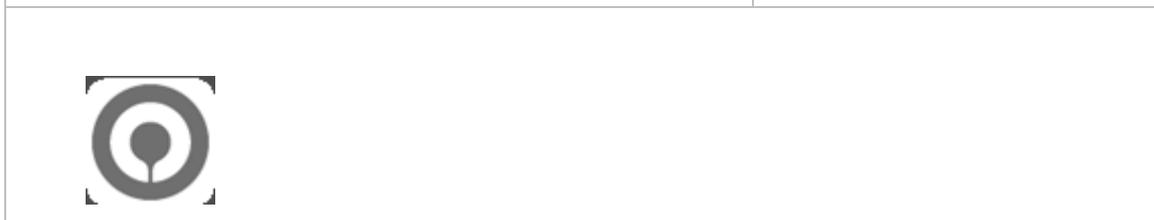


Images for QNAP (Installation graphics)

File name: PACKAGE_ICON_64.GIF	Format: gif Width: 64 px Height: 64 px
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File name: PACKAGE_ICON_64_GRAY.GIF	Format: gif Width: 64 px Height: 64 px
-------------------------------------	--



File name: PACKAGE_ICON_80.GIF	Format: gif Width: 80 px Height: 80 px
--------------------------------	--

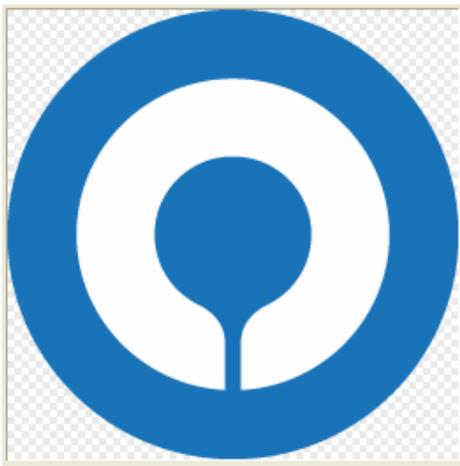




Images for Windows (Installation graphics)

File name: aboutBG.bmp	Format: Bitmap Width: 164 px Height: 337 px
	
(The size of this graphic is reduced to fit into this document.)	

File name: desktop.ico	Format: Windows Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



File name: installer.ico

This logo has transparent background (checkered squares).

Format: Windows Icon

Width: 256,128,48,32,16px

Height: 256,128,48,32,16px

(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

File name: small.bmp

Format: Bitmap

Width: 55 px

Height: 58 px



File name: uninstall.ico

This logo has transparent background (checked squares).

Format: Windows Icon

Width: 256,128,48,32,16px

Height: 256,128,48,32,16px

(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

Image specifications for AhsayACB (Application graphics)

Images for all platforms

File name: about_logo.png	Format: png Width: 144 px Height: 33 px
This logo has transparent background (checkered squares).	
	

File name: login_bg.png	Format: png Width: 1016 px Height: 734 px
	
(The size of this logo is reduced to fit into this document.)	

File name: login_logo.png	Format: png Width: 200 px Height: 60 px
This logo has transparent background (checkered squares) with white text.	
	

File name: logo.png	Format: png Width: 32 px Height: 32 px
This logo has transparent background (checked squares).	
	

File name: main_logo.png	Format: png Width: 148 px Height: 33 px
This logo has transparent background (checked squares) with white text.	
	

File name: splash.png	Format: png Width: 420 px Height: 240 px
	
<p>(The size of this graphic is reduced to fit into this document.)</p>	

File name: dstn_CBS_24.png	Format: png Width: 24 px Height: 24 px
This logo has transparent background (checkered squares) with white text.	
	

File name: dstn_CBS_32.png	Format: png Width: 32 px Height: 32 px
This logo has transparent background (checkered squares) with white text.	
	

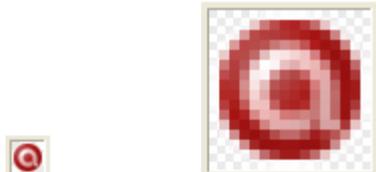
File name: dstn_CBS_48.png	Format: png Width: 48 px Height: 48 px
This logo has transparent background (checkered squares) with white text.	
	

File name: fs16_root_CBS.png	Format: png Width: 16 px Height: 16 px
This logo has transparent background (checkered squares) with white text.	
	

Images for Windows (System tray)

The following icons icon1.ico, icon2.ico, icon3.ico and icon4.ico will be used in the Windows system tray. Please arrange them in an animated sequence. The application will arrange the animation sequence when the backup job is run.

File name: icon1.ico	Format: Windows Icon Width: 16 px Height: 16 px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)
 Original Image enlarged for easy reference	

File name: icon2.ico	Format: Windows Icon Width: 16 px Height: 16 px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)
 Original Image enlarged for easy reference	

File name: icon3.ico	Format: Windows Icon Width: 16 px Height: 16 px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)
 	
<p>Original Image enlarged for easy reference</p>	

File name: icon4.ico	Format: Windows Icon Width: 16 px Height: 16 px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)
 	
<p>Original Image enlarged for easy reference</p>	

File name: toast.ico	Format: Windows Icon Width: 64 px Height: 64 px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)
	



Images for Mac (Application and installation graphics)

File name: desktop.icns	Format: Mac Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

File name: GenericJavaApp.icns	Format: Mac Icon
This logo has transparent background (checkered squares).	

128x128-32bit 32x32-32bit 16x16-32bit

32x32-8bit 16x16-8bit

32x32-1bit 16x16-1bit

Note: These are default Java application icons, they will be displayed when there are icons missing. This is not directly related the product branding.

File name: installer.icns	Format: Mac Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

File name: Logo.icns	Format: Mac Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

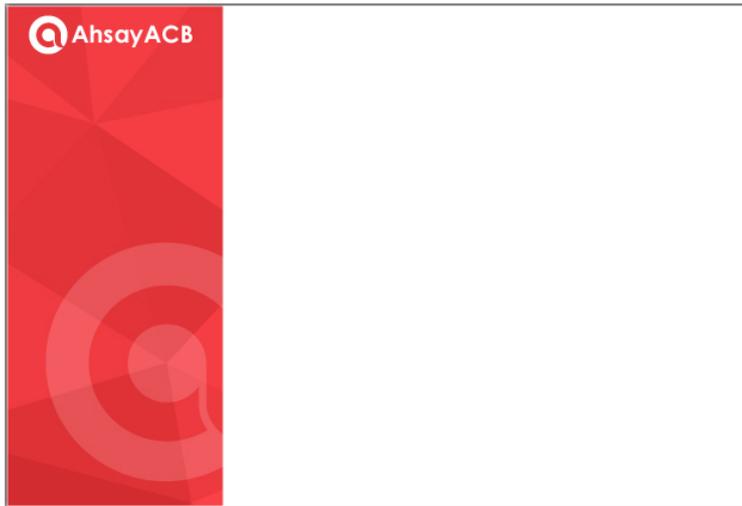
File name: uninstall.icns	Format: Mac Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



File name: ACBLogo.icns	Format: Mac Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px (True color plus alpha channel transparency)
This logo has transparent background (checkered squares).	



File name: background.jpg	Format: JPEG Width: 622 px Height: 420 px



(The size of this graphic is reduced to fit into this document.)

File name: logo.png	Format: png Width: 128 px Height: 128 px



(The size of this graphic is reduced to fit into this document.)

Images for Windows (Installation graphics)

File name: aboutBG.bmp	Format: Bitmap Width: 164 px Height: 337 px



(The size of this graphic is reduced to fit into this document.)

File name: desktop.ico	Format: Windows Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

File name: installer.ico	Format: Windows Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

File name: small.bmp

Format: Bitmap
Width: 55 px
Height: 58 px



File name: uninstall.ico

This logo has transparent background (checkered squares).

Format: Windows Icon
Width: 256,128,48,32,16px
Height: 256,128,48,32,16px

(True color plus alpha channel transparency)



(The sizes of these logos are reduced to fit into this document.)

Image specifications for AhsayOBC (Installation graphics)

Images for Windows

File name: acb-splash.bmp	Format: Bitmap Width: 340 px Height: 240 px
 The splash screen features a red background with a geometric, low-poly pattern. In the center, there is a white square containing a red 'Q' logo, followed by a dark red rectangular box with the text 'AhsayACB' in white.	

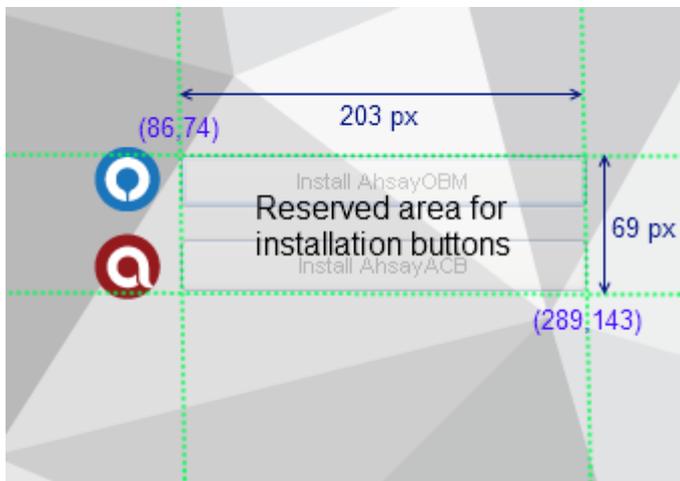
File name: installer.ico	Format: Windows Icon Width: 256,128,48,32,16px Height: 256,128,48,32,16px
This logo has transparent background (checkered squares).	(True color plus alpha channel transparency)
 The image shows a series of five icons representing the installer. The largest icon on the left is a grey box with a white top, containing two circular logos (one blue with a white 'Q', one red with a white 'Q') and a barcode. To its right are four smaller versions of the same icon, decreasing in size from left to right.	
(The sizes of these logos are reduced to fit into this document.)	

File name: obc-background.bmp

Format: Bitmap
Width: 340 px
Height: 240 px



The central area inside the green dotted lines is reserved for the OBM/ACB installation buttons.



File name: obc-splash.bmp

Format: Bitmap
Width: 340 px
Height: 240 px



File name: obm-splash.bmp

Format: Bitmap
Width: 340 px
Height: 240 px



Appendix F Comparison on Different Replication Setup Environments

Here is a comparison table of the setup concerns on different replication environment.

	Ahsay CBS (Physical machine/Cloud)	Ahsay CBS (Existing VM)	Cloud (Storage)	FTP/ SFTP	Ahsay CBS (Physical machine/Cloud)	Ahsay CBS (Existing VM)	Local FTP/ SFTP	Mapped Drive	Local/ Removable Drive
Type of connection	Internet				LAN				N/A
	<p>This is the type of connection with the Backup Server, for Internet connection, you may aware on the download speed which may affect the restore performance.</p> <p>N/A refers to a direct connection with the Backup Server and the replication storage is not located on the same disk of the user home.</p>								
Cost	High	Medium	Medium*	Low	High	Medium	Low	Low	Low
	<p>The cost is measured in terms of setup, hosting, storage media type and maintenance.</p> <p>* The cost would be affected if the cloud storage is charged base on bandwidth or amount of access.</p>								
Replication Speed	Medium	Medium	Medium	Medium	Fast	Fast	Fast	Fast	Fast
	<p>The replication speed over the Internet would mainly depend on the upload bandwidth. The replication speed is similar as file copying between 2 devices and the number of backup set to replicate. If fast replication is required, you can consider using the multiple threads replication (v7.7 onwards)</p>								
Recovery Speed	Fast	Fast	Slow	Slow	Fast	Fast	Fast	Fast	Fast
	<p>This is measured in terms of the Backup Server downtime. The bottleneck is mainly on the Internet bandwidth.</p>								
Switch to Backup Server	Yes	Yes	No	No	Yes	Yes	No	No	No
Time to switch over by DNS	Slow **	Slow **	N/A	N/A	Fast	Fast	N/A	N/A	N/A
	<p>** The speed would depend on the DNS propagation time.</p> <p>N/A refers to the device has no such capability and not applicable for the DNS switch over.</p>								
Time to switch over by IP address	Fast	Fast	N/A	N/A	Fast	Fast	N/A	N/A	N/A
	<p>Switch the IP address of the Replication Server to the IP address of the Backup Server, provided that the Backup Server is down and the IP address will not be used on the Backup Server again.</p> <p>N/A refers to the device has no such capability and not applicable for the IP switch over.</p>								
Offsite replication	Yes	Yes	Yes	Yes	No	No	No	No	No
Replication snapshot	By Ahsay CBS	By Ahsay CBS	Depends ***	No	By Ahsay CBS	By Ahsay CBS	No	No	No
	<p>*** Depends on the cloud service provider/setup.</p>								

Appendix G System Job

Here is a summary of the system jobs on the AhsayCBS. For the daily job, it is scheduled at 06:00, while others will be performed hourly and quarter-hourly.

Quarter-hourly Job

Job Name	Description	Email
Low Disk Space Alert	When the disk space of the user home or system home is over 80%, email will be sent to administrator. Once the alert email is sent, email will not be sent within the next hour.	✓
Inactive Backup Set Report	Email users when backup set has not been run for a number of days. (The number of days can be set in policy group.)	✓
Settings Change Report	When user's profile or backup set settings is changed, Email will be sent to user.	✓
Restore Job Report	Send restore job report to user.	✓
Backup Job Report	Send backup job report to user.	✓
Remove Deleted Backup Set	This job scans removed backup sets from the storage.	x

Hourly Job

Job Name	Description	Email
Missed Backup Report	Email will be sent if scheduled backup job has not been started after 6 hours.	✓
Remove Migrated v6 Data	(Version 7.7 or later) When v6 backup data has completely migrated to v7 format, this job will remove the old v6 backup data.	x
License Check	License validation check.	x

Daily Job

Job Name	Description	Email
Backup Quota Reminder Report	It will send report to user when the backup quota is over 80% or backup quota is full.	✓
Trial User Reminder Job	It will send report to trial users when trial users are going to expire or to those expired trial users.	✓
Low Destination Space Reminder	It will send disk space reminder email to administrator. It monitors the local and cloud storages such as Google Drive, OneDrive and OneDrive for Business.	✓
Configuration	Perform AhsayCBS system configuration, user profile, and	x

Archival	runtime settings to our cloud.	
Remove Trial User	Expired trial users will be removed by this job.	x
Logs Removal	This job removes expired log entries such as backup error, backup job, CDP backup job, replication log, advertisement log and system logs etc.	x
Meter license usage	Upload meter license usage to our cloud.	x

Appendix H Daily User Report

If the user group your account belongs to has the Daily User Report selected in the Policy Group setting, you will receive a daily user report generated by the CBS system.

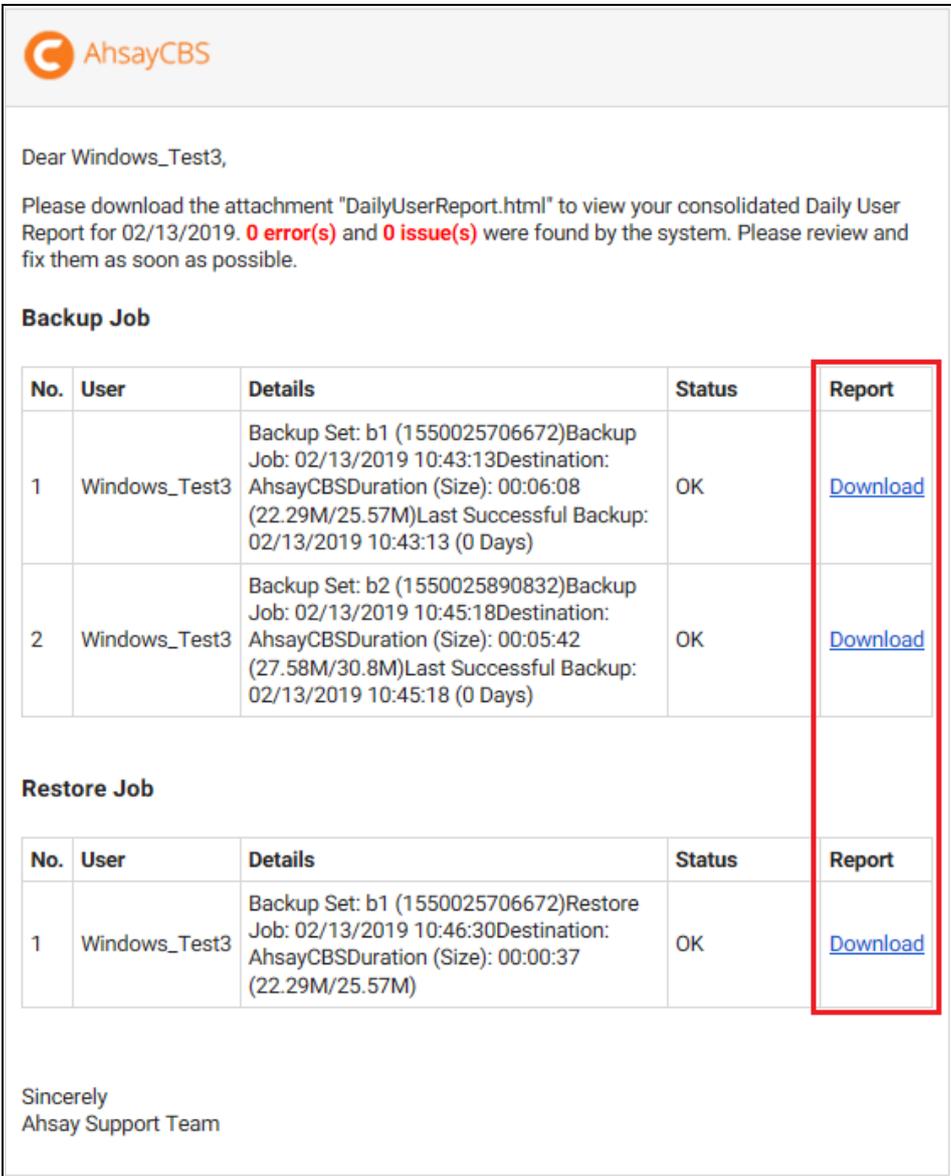
The daily user report is an interactive report to provide you with detailed information activities, statistics, problems or issues that your account is associated with.

There are two major types of reports you can find from the email, the **Backup/Restore Report** and the **Daily User Report**.

To access the Backup/Restore report

➤ Download individual Backup or Restore report

1. The content in the email shows a list of Backup and Restore jobs performed associated with your user. Simply click on the **Download** link in the individual backup or restore job item as highlighted in the screen shot below.



The screenshot shows an email from AhsayCBS. The header includes the AhsayCBS logo. The body of the email addresses 'Windows_Test3' and provides instructions to download a 'DailyUserReport.html' attachment. It mentions '0 error(s)' and '0 issue(s)'. Below this, there are two sections: 'Backup Job' and 'Restore Job'. Each section contains a table with columns for 'No.', 'User', 'Details', 'Status', and 'Report'. In both tables, the 'Report' column contains a 'Download' link, which is highlighted with a red rectangular box in the original image. The email concludes with a signature from the Ahsay Support Team.

Backup Job

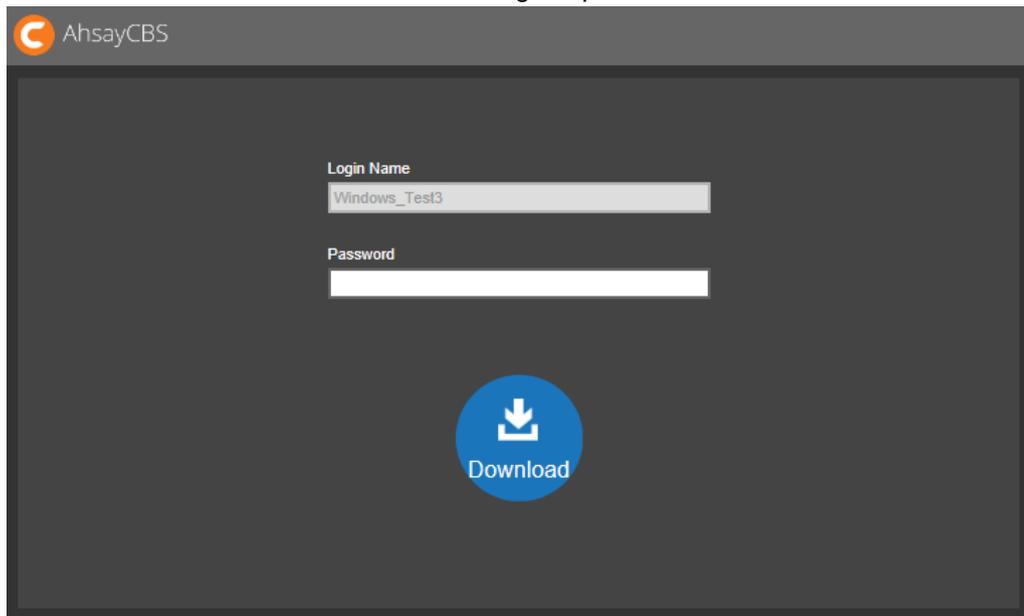
No.	User	Details	Status	Report
1	Windows_Test3	Backup Set: b1 (1550025706672)Backup Job: 02/13/2019 10:43:13Destination: AhsayCBSDuration (Size): 00:06:08 (22.29M/25.57M)Last Successful Backup: 02/13/2019 10:43:13 (0 Days)	OK	Download
2	Windows_Test3	Backup Set: b2 (1550025890832)Backup Job: 02/13/2019 10:45:18Destination: AhsayCBSDuration (Size): 00:05:42 (27.58M/30.8M)Last Successful Backup: 02/13/2019 10:45:18 (0 Days)	OK	Download

Restore Job

No.	User	Details	Status	Report
1	Windows_Test3	Backup Set: b1 (1550025706672)Restore Job: 02/13/2019 10:46:30Destination: AhsayCBSDuration (Size): 00:00:37 (22.29M/25.57M)	OK	Download

Sincerely
Ahsay Support Team

2. You will be prompted to enter the password of your backup user account as shown below. Click on the **Download** button after entering the password.



3. The Backup or Restore report in .zip format will be download.

➤ **Download Backup and Restore reports at once**

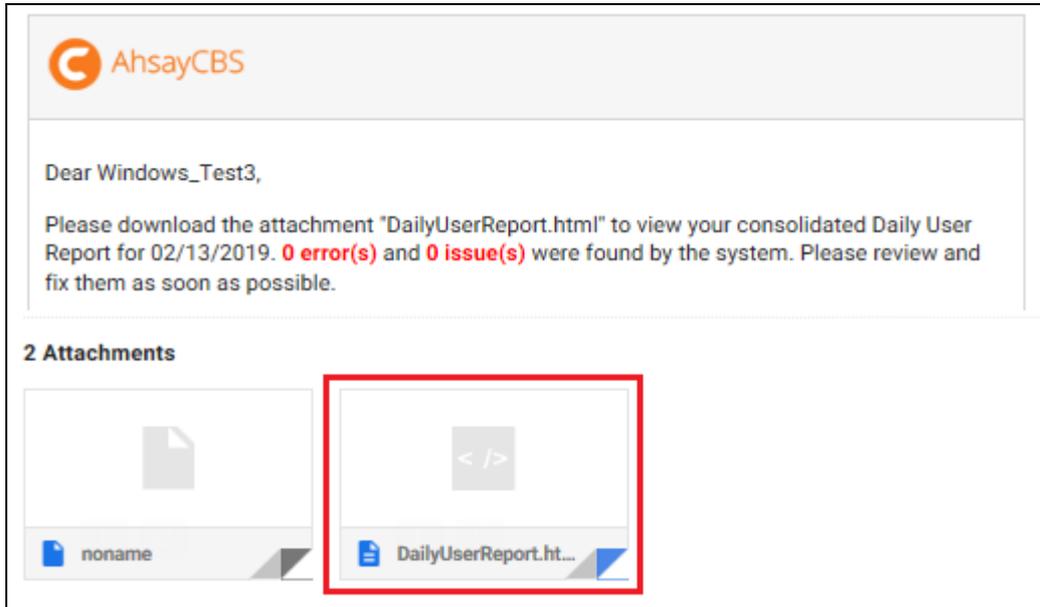
1. All backup reports and restore reports are grouped separate **.zip** attachments and are named as **BackupReports.zip** and **RestoreReports.zip** respectively.



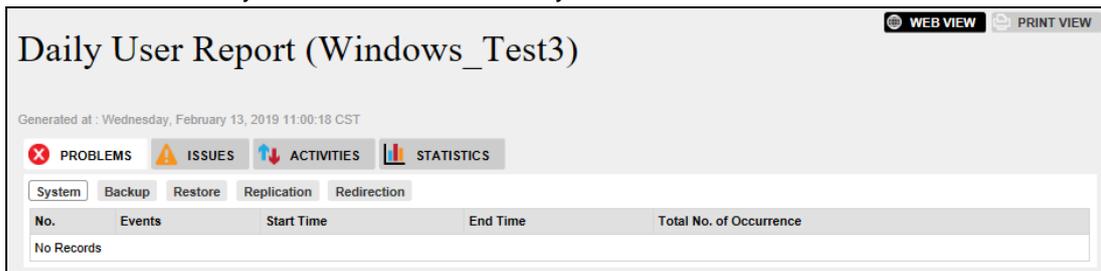
2. Unzip the downloaded file and you will find all the backup or restore reports.

To access the Consolidated Report

1. Click on the attachment **DailyUserReport.html** from the email to download the file.

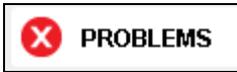


2. Launch the file with your Internet browser and you will see a screen similar to this.



About the Daily User Report

The daily user report has 4 major sections which are **PROBLEMS**, **ISSUES**, **ACTIVITIES** and **STATISTICS**.



All unsuccessful activities including system jobs, backup jobs, restore, replication and redirection are recorded under the PROBLEMS section. There are 5 tabs under this category.

➤ System

This page shows the consolidated data for system job errors with the following details. All same type of system job error will be grouped as one entry.

 A screenshot of a web application interface. At the top right, there are 'WEB VIEW' and 'PRINT VIEW' buttons. The main title is 'Daily User Report (Windows_Test3)'. Below the title, it says 'Generated at : Wednesday, February 13, 2019 13:45:01 CST'. There are four main navigation tabs: 'PROBLEMS' (selected), 'ISSUES', 'ACTIVITIES', and 'STATISTICS'. Under 'PROBLEMS', there are five sub-tabs: 'System' (selected), 'Backup', 'Restore', 'Replication', and 'Redirection'. A table below shows one entry:

No.	Events	Start Time	End Time	Total No. of Occurrence
1	UserAuthFailed	02/13/2019 12:29:12	02/13/2019 12:29:12	1

No.	Sequential number of report item
Events	Type of system job error
Start Time	Start time of the first occurrence of the particular type of system job error
End Time	End time of the last occurrence of the particular type of system job error
Total No. of Occurrence	Number of occurrence of the particular type of system job error

➤ Backup

This page shows all the unsuccessful backup jobs with the following details.

 A screenshot of a web application interface, similar to the one above. The 'PROBLEMS' tab is selected, and the 'Backup' sub-tab is selected. A table below shows one entry:

User	Backup Sets	Start Time	End Time	Job Status	Jobs@Destinations	Total No. of Errors	Last Successful Backup
Windows_Test3	b3	02/13/2019 12:52:57	02/13/2019 12:58:19	User interrupted	2019-02-13-12-58-05@AhsayCBS	1	--

User	Name of the backup user
Backup Sets	Name of the failed backup set
Start Time	Start time of the failed backup job (in backup server's time zone)
End Time	End time of the failed backup job (in backup server's time zone)

Job Status	Status of the failed backup job, e.g. Missed Backup
Job@Destinations	Backup time in client time zone
Total No. of Errors	Total number of backup error for the particular backup set
Last Successful Backup	Time of the last successful backup job for the particular backup set

➤ Restore

This page shows all the unsuccessful restore jobs with the following details.

[WEB VIEW](#) [PRINT VIEW](#)

Daily User Report (Windows_Test3)

Generated at : Wednesday, February 13, 2019 13:45:01 CST

❌ PROBLEMS
⚠️ ISSUES
↕️ ACTIVITIES
📊 STATISTICS

System
Backup
Restore
Replication
Redirection

User	Backup Sets	Start Time	End Time	Job Status	Jobs@Destinations	Total No. of Errors
Windows_Test3	b2	02/13/2019 12:58:44	02/13/2019 12:58:46	User interrupted	2019-02-13-12-58-44@AhsayCBS	1

User	Name of the backup user
Backup Sets	Name of the failed backup set
Start Time	Start time of the failed restore job (in backup server's time zone)
End Time	End time of the failed restore job (in backup server's time zone)
Job Status	Status of the failed restore job, e.g. User interrupted
Job@Destinations	Restore time in client backup agent's time zone
Total No. of Errors	Total number of restore error for the particular backup set

➤ Replication

This page shows all the unsuccessful replication jobs with the following details.

[WEB VIEW](#) [PRINT VIEW](#)

Daily User Report (Windows_Test3)

Generated at : Wednesday, February 13, 2019 12:15:00 CST

❌ PROBLEMS
⚠️ ISSUES
↕️ ACTIVITIES
📊 STATISTICS

System
Backup
Restore
Replication
Redirection

User	Backup Sets	Timestamp	Type	Messages
No Records				

User	Name of the backup user
Backup Sets	Name of the backup set failed for replication

Timestamp	Recorded time of the replication error
Type	Type of the replication error
Messages	Error message showing details of the replication error

➤ **Redirection**

This page shows all the unsuccessful redirection jobs with the following details.

WEB VIEW PRINT VIEW

Daily User Report (Windows_Test3)

Generated at : Wednesday, February 13, 2019 12:15:00 CST

PROBLEMS
ISSUES
ACTIVITIES
STATISTICS

System
Backup
Restore
Replication
Redirection

Timestamp	Events	Users	Total No. of Errors
No Records			

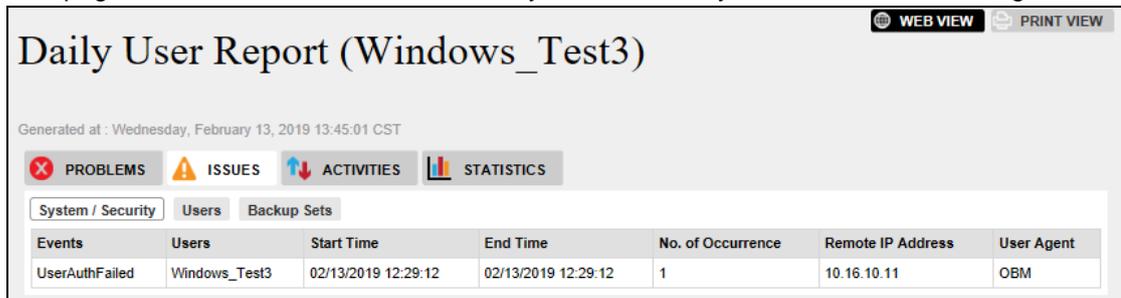
Timestamp	Recorded time of the redirection error
Events	Type of the redirection error
Users	Name of user failed for the redirection job
Total No. of Errors	Total number of redirection error for the particular user

 **ISSUES**

This section shows issues regarding system jobs, backup user account and backup sets that backup user should be aware of. There are 3 tabs under this category.

➤ **System / Security**

This page shows the consolidated data for system or security issues with the following details.



Generated at : Wednesday, February 13, 2019 13:45:01 CST

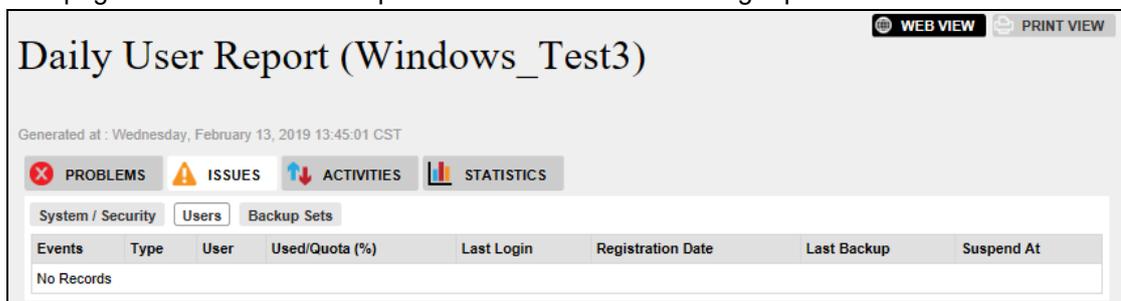
System / Security | Users | Backup Sets

Events	Users	Start Time	End Time	No. of Occurrence	Remote IP Address	User Agent
UserAuthFailed	Windows_Test3	02/13/2019 12:29:12	02/13/2019 12:29:12	1	10.16.10.11	OBM

Events	Type of system / security issues
Users	Name of the backup user for the particular type of system/security issue
Start Time	Start time of the first occurrence of the particular type of system/security issue
End Time	End time of the last occurrence of the particular type of system/security issue
No. of Occurrence	Number of occurrence of the particular type of system/security of a backup user
Remote IP Address	IP address where Client Agent Application is installed
User Agent	Type of Client Agent Application (AhsayOBM/AhsayACB)

➤ **Users**

This page shows a list of backup users whose account's storage quota is 90% or above full.



Generated at : Wednesday, February 13, 2019 13:45:01 CST

System / Security | Users | Backup Sets

Events	Type	User	Used/Quota (%)	Last Login	Registration Date	Last Backup	Suspend At
No Records							

Events	Type of user issue
Type	User's subscription status, whether it is a paid or trial user

User	Name of the backup user
Used/Quota (%)	Storage used / Storage Quota (Utilization rate)
Last Login	Last login time of user
Registration Date	Backup account's registration date and time
Last Backup	Date and time of the last backup job performed
Suspend At	<ul style="list-style-type: none"> ➤ Trial account – date when the trial account expires ➤ Paid account – suspension date set by the system administrator

➤ **Backup Sets**

This page shows a list of missed scheduled backup and backup sets that have not been backed up for 14 days or more.

WEB VIEW PRINT VIEW

Daily User Report (Windows_Test3)

Generated at : Wednesday, February 13, 2019 13:45:01 CST

PROBLEMS
ISSUES
ACTIVITIES
STATISTICS

System / Security
Users
Backup Sets

Events	Users	Backup Set	Creation Date	Last Backup Job
No Records				

Events	Type of backup set issue
Users	Name of the backup user
Backup Set	Name of the backup set
Creation Date	Date and time when the backup set was created
Last Backup Job	Number of day when a backup job was last performed



This section shows activities of all backup and restore jobs, both successful and unsuccessful ones, as well as all setting changes made. There are 3 tabs under this category.

➤ **Backup Jobs**

This page shows a list of all backup job activities.

Daily User Report (Windows_Test3) WEB VIEW PRINT VIEW

Generated at : Wednesday, February 13, 2019 13:45:01 CST

PROBLEMS
ISSUES
ACTMITIES
STATISTICS

Backup Jobs
Restore Jobs
Setting Changes

Users	Backup Set	Destinations	IP Address	Start Time	End Time	Backup Duration	Backup Status	Backup Size *
Windows_Test3	b1	AhsayCBS	10.16.10.11 (w16_spd2013)	02/13/2019 10:38:06	02/13/2019 10:44:14	6 min(s) 8 sec(s)	OK	7 [22.29M / 25.57M]
Windows_Test3	b2	AhsayCBS	10.16.10.11 (w16_spd2013)	02/13/2019 10:40:09	02/13/2019 10:45:51	5 min(s) 42 sec(s)	OK	19 [27.58M / 30.8M]
Windows_Test3	b2	AhsayCBS	10.16.10.11 (w16_spd2013)	02/13/2019 12:05:46	02/13/2019 12:12:07	6 min(s) 21 sec(s)	OK (no files backed up)	0 [0 / 0]
Windows_Test3	b3	AhsayCBS	10.16.10.11 (w16_spd2013)	02/13/2019 12:52:57	02/13/2019 12:58:19	5 min(s) 22 sec(s)	User interrupted	0 [0 / 0]

* Unit = No. of files [Compressed size / Uncompressed size]

Users	Name of the backup user
Backup Set	Name of the backup set
Destinations	Location of the backup destination
IP Address	IP address where User Agent Application is installed
Start Time	Date and time backup job started
End Time	Date and time backup job ended
Backup Duration	Duration of the backup job
Backup Status	Status of the backup job
Backup Size	No. of files [Compressed size / Uncompressed size]

➤ **Restore Jobs**

This page shows a list of all restore job activities.

Daily User Report (Windows_Test3) WEB VIEW PRINT VIEW

Generated at : Wednesday, February 13, 2019 13:45:01 CST

PROBLEMS
ISSUES
ACTMITIES
STATISTICS

Backup Jobs
Restore Jobs
Setting Changes

Users	Backup Set	Destinations	IP Address	Start Time	End Time	Restore Duration	Restore Status	Restore Size*
Windows_Test3	b1	AhsayCBS	10.16.10.11	02/13/2019 10:46:30	02/13/2019 10:47:07	37 sec(s)	OK	5(22.29M)
Windows_Test3	b2	AhsayCBS	10.16.10.11	02/13/2019 12:58:44	02/13/2019 12:58:46	2 sec(s)	User interrupted	0(0)

* Unit = No. of files (Downloaded size)

Users	Name of the backup user
Backup Set	Name of the backup set

Destinations	Location of the restore destination
IP Address	IP address where User Agent Application is installed
Start Time	Date and time restore job started
End Time	Date and time restore job ended
Restore Duration	Duration of the restore job
Restore Status	Status of the restore job
Restore Size	Number of files restored (Downloaded size)

➤ **Setting Changes**

This page shows a list of the settings changed by backup users.

WEB VIEW PRINT VIEW

Daily User Report (Windows_Test3)

Generated at : Wednesday, February 13, 2019 13:45:01 CST

PROBLEMS
ISSUES
ACTIVITIES
STATISTICS

Backup Jobs
Restore Jobs
Setting Changes

Users	Field	Old Value	New Value	Time of Changes	IP Address
Windows_Test3	Timezone	"1084"	"1097"	02/13/2019 12:46:53	192.168.12.1
Windows_Test3	[Profile] [Backup Set]	""	"[Name: b1, Windows User Authentication: [Domain Name: w16_spd2013, User name: Administrator, User name:], Backup Source: [C:\for backup], Filter: [Enabled: false], Schedule: [Computer Name: w16_spd2013][Daily: [Name: Backup Schedule, Time: 20: 0, Type: , Duration: -1, Retention Policy: Yes][Weekly:][Monthly:][Custom:], Continuous Backup: [Enabled: No], Destinations: [Name: AhsayCBS, Type: OBS], In-File Delta: [Enabled: Yes, Default Type: 1, Block Size: -1, Minimum Size = 26214400, Maximum No. of Delta = 100, Delta Ratio = 50, Weekly: [], Monthly: [, Day: 0, Criteria: Friday, Day of selected months in yearly variations: First], Retention Policy: [Type: Simple, Period: 7, Unit: Day(s)], Command Line Tool: , Reminder: Logout Backup Reminder: w16_spd2013, Off-line Backup Reminder: , Off-line Notification Day: 1 Days 0 hours, Bandwidth Control: [Enabled: No, Mode: Independent, Bandwidth Control:], IP Allowed for Restore: [[From: 0.0.0.0, To: 255.255.255.255]], Remove temporary files after backup: Yes, Follow Link: Yes, Volume Shadow Copy: Yes, File Permissions: Yes, Compression Type: Fast (Compressed size larger than normal)]"	02/13/2019 10:37:58	10.16.10.11

Users	Name of the backup user
Field	The field that has been changed
Old Value	Old Value before the change
New Value	New Value after the change
Time of Changes	Date and time change was made
IP Address	IP Address of the machine which initiated the changes

STATISTICS

This section shows statistics data of backup users, user quota and data transfer.

➤ Users

This page shows a list of statistics data regarding the backup user account.

The screenshot shows a web interface for a 'Daily User Report (Windows_Test3)'. It includes navigation tabs for PROBLEMS, ISSUES, ACTIVITIES, and STATISTICS. Under the STATISTICS tab, there are sub-tabs for Users, User Quota, and Data Transfer. The 'Users' sub-tab is active, displaying a table with the following data:

Username	Alias	Registration Date	Last Backup	Last Login
Windows_Test3	--	02/13/2019 09:58:11	--	02/13/2019 13:00:48

Username	Name of the backup user
Alias	Another name of the backup user
Registration Date	Date and time when the backup account was registered
Last Backup	Number of day when a backup job was last performed with the particular user account
Last Login	Date and time when user last logged in to the particular account

➤ User Quota

This page shows a list of statistics data regarding user quota.

The screenshot shows a web interface for a 'Daily User Report (Windows_Test3)'. It includes navigation tabs for PROBLEMS, ISSUES, ACTIVITIES, and STATISTICS. Under the STATISTICS tab, there are sub-tabs for Users, User Quota, and Data Transfer. The 'User Quota' sub-tab is active, displaying a table with the following data:

Username	Alias	Destination	Used/Quota (%)	Compressed
Windows_Test3	--	GoogleDrive-1	0 / Unlimited (--%)	✓
Windows_Test3	--	AhsayCBS (--)	49.87M / 100G (0.05%)	✓

Username	Name of the backup user
Alias	Another name of the backup user
Destination	Backup destination used by the backup user
Used/Quota	Storage used / Storage Quota (Utilization rate)
Compressed	Whether data is compressed or not

➤ **Data Transfer**

This page shows a list of statistics data regarding data transfer for backup jobs and restore jobs.

WEB VIEW PRINT VIEW

Daily User Report (Windows_Test3)

Generated at : Wednesday, February 13, 2019 13:45:01 CST

PROBLEMS
ISSUES
ACTIVITIES
STATISTICS

Users
User Quota
Data Transfer

Backup Jobs

User	Backup Set	Destinations	IP Address	Start Time	End Time	Backup Duration	Backup Status	Backup Size*
Windows_Test3	b1	AhsayCBS	10.16.10.11 (w16_spd2013)	02/13/2019 10:38:06	02/13/2019 10:44:14	6 min(s) 8 sec(s)	OK	7 [22.29M / 25.57M]
Windows_Test3	b2	AhsayCBS	10.16.10.11 (w16_spd2013)	02/13/2019 10:40:09	02/13/2019 10:45:51	5 min(s) 42 sec(s)	OK	19 [27.58M / 30.8M]
Windows_Test3	b2	AhsayCBS	10.16.10.11 (w16_spd2013)	02/13/2019 12:05:46	02/13/2019 12:12:07	6 min(s) 21 sec(s)	OK (no files backed up)	0 [0 / 0]
Windows_Test3	b3	AhsayCBS	10.16.10.11 (w16_spd2013)	02/13/2019 12:52:57	02/13/2019 12:58:19	5 min(s) 22 sec(s)	User interrupted	0 [0 / 0]

Restore Jobs

User	Backup Set	Destinations	IP Address	Start Time	End Time	Restore Duration	Restore Status	Restore Size**
Windows_Test3	b1	AhsayCBS	10.16.10.11	02/13/2019 10:46:30	02/13/2019 10:47:07	37 sec(s)	OK	5 (22.29M)
Windows_Test3	b2	AhsayCBS	10.16.10.11	02/13/2019 12:58:44	02/13/2019 12:58:46	2 sec(s)	User interrupted	0 (0)

* Unit = No. of files [Compressed size / Uncompressed size]
** Unit =No. of files (Downloaded size)

Users	Name of the backup user
Backup Set	Name of the backup set
Destinations	Backup Destination of the particular backup set
IP Address	IP address of the client backup agent running the backup / restore
Start Time	Start time of the particular backup / restore
End Time	End time of the particular backup / restore
Backup Duration / Restore Duration	Duration of the backup / restore for the particular backup / restore
Backup Status / Restore Status	Status of the particular backup / restore job
Backup Size / Restore Size	Backup size / Restore size No. of files [Compressed size / Uncompressed size] No. of file [Downloaded size]

Daily Report Viewing Option

There are two viewing options for the daily report, namely the WEB VIEW and PRINT VIEW, which can be altered by click the corresponding icon at the top right corner.

Daily User Report (Windows_Test3)

 WEB VIEW  PRINT VIEW

The **WEB VIEW** is an interactive style report where data is presented under different categories while user navigates through the report.

Daily User Report (Windows_Test3)

 WEB VIEW  PRINT VIEW

Generated at : Wednesday, February 13, 2019 13:45:01 CST

 PROBLEMS  ISSUES  ACTIVITIES  STATISTICS

Users User Quota Data Transfer

Username	Alias	Registration Date	Last Backup	Last Login
Windows_Test3	--	02/13/2019 09:58:11	--	02/13/2019 13:00:48

The **PRINT VIEW** is a one-page report listing all the data from the different categories from the **WEB VIEW** report.

Daily User Report (Windows_Test3)

 WEB VIEW  PRINT VIEW

Generated at : Wednesday, February 13, 2019 13:45:01 CST

Problems > System

No.	Events	Start Time	End Time	Total No. of Occurrence
1	UserAuthFailed	02/13/2019 12:29:12	02/13/2019 12:29:12	1

Problems > Backup

User	Backup Sets	Start Time	End Time	Job Status	Jobs@Destinations	Total No. of Errors	Last Successful Backup
Windows_Test3	b3	02/13/2019 12:52:57	02/13/2019 12:58:19	User interrupted	2019-02-13-12-58-05@AhsayCBS	1	--

Problems > Restore

User	Backup Sets	Start Time	End Time	Job Status	Jobs@Destinations	Total No. of Errors
Windows_Test3	b2	02/13/2019 12:58:44	02/13/2019 12:58:46	User interrupted	2019-02-13-12-58-44@AhsayCBS	1

Appendix I System Files for Continuous Backup Exclusion

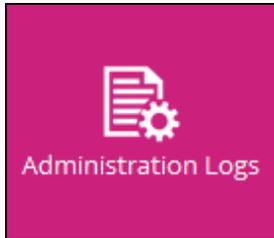
Below is a full list of system files you choose to exclude from performing the continuous backup.

- C:\Program Files
- C:\Windows
- Pagefile.sys
- hiberfil.sys
- *.tmp
- *.part
- System Volume Information
- \$Recycle.Bin (Vista, 2008/R2, Win7)
- RECYCLER(2000, XP, 2003)
- RECYCLED
- C:\Documents and Settings\All Users\Application Data\Microsoft, C:\ProgramData\Microsoft
- C:\Documents and Settings\All Users\Application Data\Kaspersky Lab
- C:\Documents and Settings\All Users\Application Data\Symantec
- C:\Documents and Settings\All Users\Application Data\Avg7
- C:\Documents and Settings\All Users\Application Data\Avg8
- C:\Documents and Settings\All Users\Application Data\McAfee
- C:\Documents and Settings\All Users\Application Data\McAfee.com
- C:\Documents and Settings\All Users\Application Data\Sophos
- ntuser.dat ntuser.dat.log
- *AppData\Local\Microsoft*
- *AppData\Local\Temp*
- *AppData\Roaming Data\Microsoft*
- *Local Settings\Application Data\Microsoft*
- *Local Settings\Temporary Internet Files
- *Local Settings\Temp
- *Local Settings\History
- *LOCALS~1\Temp
- *LOCALS~1\Tempor~1
- *LOCALS~1\History
- ~\$*.doc
- ~\$*.ppt
- ~\$*.xls
- ~\$*.dot

Appendix J Monitoring Activities Log Filter List

Administration Logs

On the AhsayCBS Web Console, click the following icon to see the list of system logs generated by system events, v6 migration, and other user activities.



Click the **Activities Log** tab to display the list of system log.

View all the system logs of this server below.

List of System Log

Filter: Type View Today Page 9

Timestamp	Type	Message
11/06/2019 13:17:58	RoutineJobInfo	[Job][Logger] Start: logging system status
11/06/2019 13:17:58	RoutineJobInfo	[Job][Logger] End: logging system status
11/06/2019 13:18:00	MigrateV6DataInfo	[Job][MigrateV6File]Start: migrate v6 data
11/06/2019 13:18:00	MigrateV6DataInfo	[Job][MigrateV6File] End: migrate v6 data.
11/06/2019 13:18:58	RoutineJobInfo	[Job][Logger] Starting to log system status
11/06/2019 13:18:58	RoutineJobInfo	[Job][Logger] Start: logging system status
11/06/2019 13:18:58	RoutineJobInfo	[Job][Logger] End: logging system status
11/06/2019 13:19:00	MigrateV6DataInfo	[Job][MigrateV6File]Start: migrate v6 data
11/06/2019 13:19:00	MigrateV6DataInfo	[Job][MigrateV6File] End: migrate v6 data.

On the log filter, click the drop-down menu to select a filter type that you would like to display.

View all the system logs of this server below.

List of System Log

Filter: Type View Today Page 7

Timestamp	Type	Message
11/06/2019 09:55:47	RoutineJobInfo	[Job][Logger] Start: logging system s
11/06/2019 09:55:47	RoutineJobInfo	[Job][Logger] End: logging system st
11/06/2019 09:56:00	MigrateV6DataInfo	[Job][MigrateV6File]Start: migrate v6
11/06/2019 09:56:00	MigrateV6DataInfo	[Job][MigrateV6File] End: migrate v6
11/06/2019 09:56:47	RoutineJobInfo	[Job][Logger] Starting to log system s
11/06/2019 09:56:47	RoutineJobInfo	[Job][Logger] Start: logging system s
11/06/2019 09:56:47	RoutineJobInfo	[Job][Logger] End: logging system st
11/06/2019 09:57:00	MigrateV6DataInfo	[Job][MigrateV6File]Start: migrate v6
11/06/2019 09:57:00	MigrateV6DataInfo	[Job][MigrateV6File] End: migrate v6

- Type
- Auto Save Config Error
- Auto Save Config Info
- Backup Status Error
- Backup Status Info
- Dashboard Error
- Dashboard Info
- Data Integrity Check Error
- Data Integrity Check Info
- Data Integrity Check Warn
- Debug Configuration Error
- Debug Configuration Info
- Delete Backup Data Error
- Delete Backup Data Info
- Delete Backup Data Warn
- Disk Monitoring Error
- Disk Space Warning
- Migrate V6 Data End
- Migrate V6 Data Error
- Migrate V6 Data Info

The following table shows the filter list and their use.

Filter Type	Description
Auto Save Config Error	Indicates error(s) encountered in the auto save configuration settings under Advanced > Auto Save on the AhsayCBS Web

	Console. For further details, refer to Auto Save Settings .
Auto Save Config Info	Displays auto save related activities under Advanced > Auto Save on the AhsayCBS Web Console. For further details, refer to Auto Save Settings .
Backup Status Error	Indicates error(s) on the backup status. To see the progress of recent backup(s), go to Live Activities > Backup Status tab on the AhsayCBS Web Console. For further details, refer to Live Activities (Monitoring Backup Status) .
Backup Status Info	Indicates any backup related information. e.g. <ul style="list-style-type: none"> <code>[ClientAbortException] java.io.EOFException: Unexpected EOF read on the socket, caused by [EOFException]</code> To see the progress of recent backup(s), go to Live Activities > Backup Status tab on the AhsayCBS Web Console. For further details, refer to Live Activities (Monitoring Backup Status) .
Dashboard Error	Indicates information related to the following error(s) and warning(s): <ul style="list-style-type: none"> • Missed backup(s) • Failed backup(s) • System error(s) • Replication error(s) • API error(s) • Email error(s) Detailed error and warning information can be found under Dashboard > To Dos tab on the AhsayCBS Web Console. For further details about dashboard, refer to AhsayCBS Dashboard .
Dashboard Info	Provides important information that should be monitored by the system administrator. e.g. <ul style="list-style-type: none"> • System error(s) or warning(s) • System health conditions • Real-time activities of the system For further details about dashboard, refer to AhsayCBS Dashboard .
Data Integrity Check Error	Indicates any error(s) encountered during Data Integrity Check for Run on Server (Office 365 and Cloud File) backup initiated on the AhsayCBS Web Console. e.g. <ul style="list-style-type: none"> <code>Failed to check integrity of destination "1570697247058". Error: "[p] "</code>
Data Integrity Check Info	Shows the Data Integrity Check process for Run on Server (Office 365 and Cloud File) backup initiated on the AhsayCBS Web Console. e.g. <ul style="list-style-type: none"> <code>Start data integrity check on backup set "BackupSet_Cloud(1573527965483)", "GoogleDrive-1(-1571107249564)", crc enabled, rebuild index disabled</code> <code>Download valid index files from backup job</code>

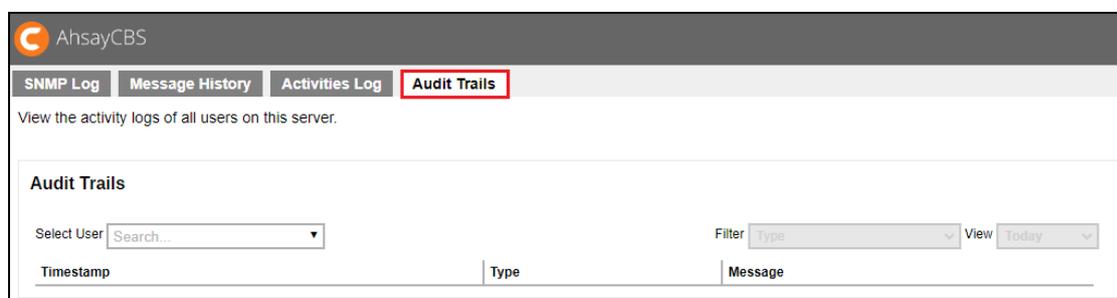
	<p><i>"Current" to "%UserProfile%\AhsayCBS\temp\1573527965483\Pred efined@-1571107249564\index".</i></p> <ul style="list-style-type: none"> <i>• Processing Job "2019-11-12-11-12-16", ""</i> <i>• Saving encrypted backup file index to 1573527965483/blocks at destination GoogleDrive-1...</i> <i>• Data integrity check on backup set= "BackupSet_Cloud" destination= "GoogleDrive-1" is completed</i> <i>• Finished data integrity check on backup set "BackupSet_Cloud(1573527965483)", "GoogleDrive- 1(-1571107249564)", crc enabled, rebuild index disabled</i>
Data Integrity Check Warn	Indicates any warning(s) encountered during Data Integrity Check for Run on Server (Office 365 and Cloud File) backup initiated on the AhsayCBS Web Console.
Debug Configuration Error	Indicates any error(s) related to the debug configuration settings in the AhsayCBS Web Console.
Debug Configuration Info	Displays information related to debug configuration settings in the AhsayCBS Web Console.
Delete Backup Data Error	Indicates any error(s) encountered during delete backup data for Run on Server (Office 365 and Cloud File) backup initiated on the AhsayCBS Web Console.
Delete Backup Data Info	Indicates deleted backup data from delete backup data feature on the AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) backup. e.g. <ul style="list-style-type: none"> <i>• 1573527965483/blocks/index.db.11000.16e5d95dd26 .cgz</i> <i>• 1573527965483/logs</i> <i>• Finished deleting files by server run. User Name = TestAccount1, Backup Set = BackupSet- 1(1573527965483)</i>
Delete Backup Data Warn	Indicates any warning(s) encountered during delete backup data for Run on Server (Office 365 and Cloud File) backup initiated on the AhsayCBS Web Console.
Disk Monitoring Error	Indicates any error(s) encountered in the disk storage monitoring.
Disk Space Warning	Indicates low disk space warning(s) on the AhsayCBS backup destination(s). e.g. <ul style="list-style-type: none"> <i>• Free space of the disk for path C:\Program Files\AhsayCBS\user is 19%, less than 20%</i>
Migrate V6 Data End	Shows the ended v6 data migration process.
Migrate V6 Data Error	Indicates any error(s) encountered during v6 data migration process.
Migrate V6 Data Info	Displays the full status of v6 data migration process. e.g. <ul style="list-style-type: none"> <i>• [Job][MigrateV6File]Start: migrate v6 data</i>

	<ul style="list-style-type: none"> <i>[Job][MigrateV6File] End: migrate v6 data.</i>
Migrate V6 Data Start	Shows the started v6 data migration process.
Redirection Status Error	Indicates error(s) in the redirection job status. To see the list of all redirection jobs that are currently running, go to Live Activities > Redirection tab on the AhsayCBS Web Console. For further details, refer to Live Activities (Monitoring Redirection) .
Redirection Status Info	Indicates information related to redirection job(s). To see the list of all redirection jobs that are currently running, go to Live Activities > Redirection tab on the AhsayCBS Web Console. For further details, refer to Live Activities (Monitoring Redirection) .
Remove Migrated V6 Data Error	Indicates any error(s) encountered during the process of removing migrated v6 data.
Remove Migrated V6 Data Info	Shows the full status of removing migrated v6 data. e.g. <ul style="list-style-type: none"> <i>[Job][HourlyJob]Start: Remove migrated v6 data</i> <i>[Job][HourlyJob] End: Remove migrated v6 data.</i>
Replication Receiver Status Error	Indicates error(s) in the replication receiving status. To see the progress of the replication receiving jobs that are currently running, go to Live Activities > Receiver tab on the AhsayCBS Web Console. For further details, refer to Live Activities (Monitoring Replication Receiver) .
Replication Receiver Status Info	Indicates information related to replication receiving job(s). To see the progress of replication receiving jobs that are currently running, go to Live Activities > Receiver tab on the AhsayCBS Web Console. For further details, refer to Live Activities (Monitoring Replication Receiver) .
Replication Sender Status Error	Indicates error(s) in the replication sending status. To see the progress of replication sending jobs that are currently running, go to Live Activities > Replication tab on the AhsayCBS Web Console.
Replication Sender Status Info	Indicates information related to replication sending job(s). To see the progress of replication sending jobs that are currently running, go to Live Activities > Replication tab on the AhsayCBS Web Console.
Restore Status Error	Indicates error(s) on the restore status. To see the list of restore jobs that are currently running or finished within 1 hour, go to Live Activities > Restore Status tab on the AhsayCBS Web Console. For further details, refer to Live Activities (Monitoring Restore Status) .
Restore Status Info	Indicates information related to restore job(s). To see the list of restore jobs that are currently running or finished within 1 hour, go to Live Activities > Restore Status tab on the AhsayCBS Web Console. For further details, refer to Live Activities (Monitoring Restore Status) .
Routine Job Error	Indicates error(s) encountered in the start and end of logging system status.
Routine Job Info	Displays the start and end of logging system status. e.g.

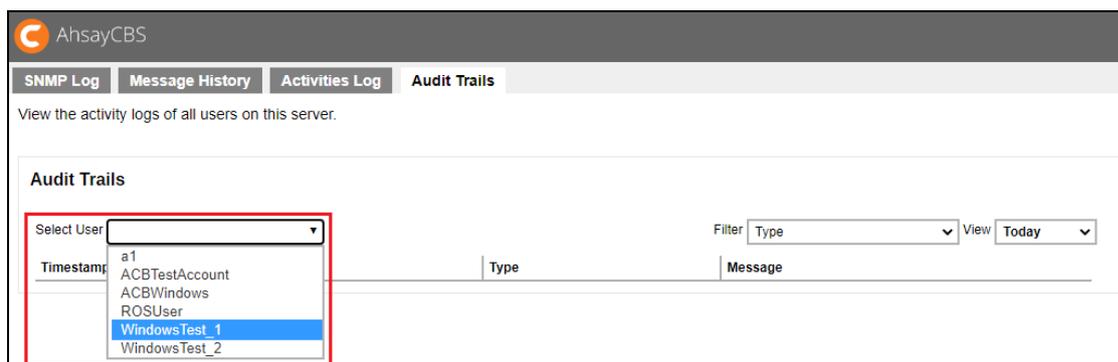
	<ul style="list-style-type: none"> • <i>[Job][Logger] Start: logging system status</i> • <i>[Job][Logger] End: logging system status</i>
Space Free Up Error	Indicates any error(s) encountered during space freeing up job(s) initiated on the AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) backup.
Space Free Up Info	Shows the process of space freeing up job(s) initiated on the AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) backup. e.g. <ul style="list-style-type: none"> • <i>Start processing space freeing up on backup set= "BackupSet1 (1573527965483)" destination= "GoogleDrive-1 (-1571107249564)"</i> • <i>Saving encrypted backup file index to 1573527965483/blocks at destination GoogleDrive-1...</i> • <i>Finished space freeing up on backup set " BackupSet1 (1573527965483)", "GoogleDrive-1(-1571107249564)"</i>
Space Free Up Warn	Indicates any warning(s) encountered during space freeing up job for Run on Server (Office 365 and Cloud File) backup initiated on the AhsayCBS Web Console.
System Authentication Failed	Displays all the logs for failed admin login attempt to AhsayCBS Web Console. e.g. <ul style="list-style-type: none"> • <i>Failed login attempt from IP address 127.0.0.1</i>
System Authentication Successful	Displays all successful admin login attempt to AhsayCBS Web Console. e.g. <ul style="list-style-type: none"> • <i>[Logon] Admin authentication successful "system" logon to web console successfully from IP address 192.168.12.1, server host name = 10.90.10.14</i>
System Change Log	Indicates the basic system settings of the AhsayCBS server. e.g. <ul style="list-style-type: none"> • <i>[System Settings]Basic {Host name ("server1.mybackup.com" => "125.5.184.206")}</i> • <i>[System Settings]Basic {Admin Contact (" " => "[Name: system, Email: ahsaytest01@gmail.com]"), MFA ("{"SmsVerification={Enable=false, PasscodeLength=6, ResendCooldownTime=1, ExpiryTime=5, MaxSendAllowed=5, MaxInvalidAllowed=5, AllowLegacyClientToSkip=true, TwilioSettings={AccountSid=, AuthToken=1B2M2Y8AsgTpgAmY7PhCfg==, Sender={Type=PHONE, Value=}}}") => "{"SmsVerification={Enable=true, PasscodeLength=6, ResendCooldownTime=1, ExpiryTime=5, MaxSendAllowed=5, MaxInvalidAllowed=5, AllowLegacyClientToSkip=true,</i>

	<pre>TwilioSettings={AccountSid=ACcf6235ffe9c0b66ec7 1230a009c2001b, AuthToken=eqPH1r/3ZNJJFrSIaxJWUA==, Sender={Type=PHONE, Value=1-2028997544}}}}")}</pre>
System Configuration Error	<p>Displays any error(s) encountered in the AhsayCBS system configuration settings.</p> <p>e.g.</p> <ul style="list-style-type: none"> <code>[Exception] Failed to delete the connector. Subadmin: "subadmin1" with hostname: "mysubadmin.com" is using this connector "0.0.0.0:80".</code>
System Configuration Info	Indicates information related to AhsayCBS system configuration settings.
System Error	Indicates error(s) related to system activities (e.g. failed to export backup user).
System Status Error	Indicates any system status related error(s).
System Status Info	Indicates any information on the system status.
User Authentication Failed	<p>Displays all the logs for failed user login attempt to AhsayCBS User Web Console.</p> <p>e.g.</p> <ul style="list-style-type: none"> <code>[Logon] 'Account_Test1' logon failed. IP='127.0.0.1'. Reason=User 'AccountTest1' not found.</code>
User Authentication Successful	<p>Displays successful user login attempt to AhsayOBM/AhsayACB client and AhsayCBS User Web Console.</p> <p>e.g.</p> <p>For AhsayOBM/AhsayACB client</p> <ul style="list-style-type: none"> <code>[Logon] User authentication successful "WindowsTestAccount" logon to client software successfully from IP address 10.16.10.11, server host name = https://10.16.10.14:443</code> <p>For AhsayCBS User Web Console</p> <ul style="list-style-type: none"> <code>[Logon] User authentication successful "TestAccount" logon to web console successfully from IP address 192.168.12.1, server host name = 10.90.10.14</code>

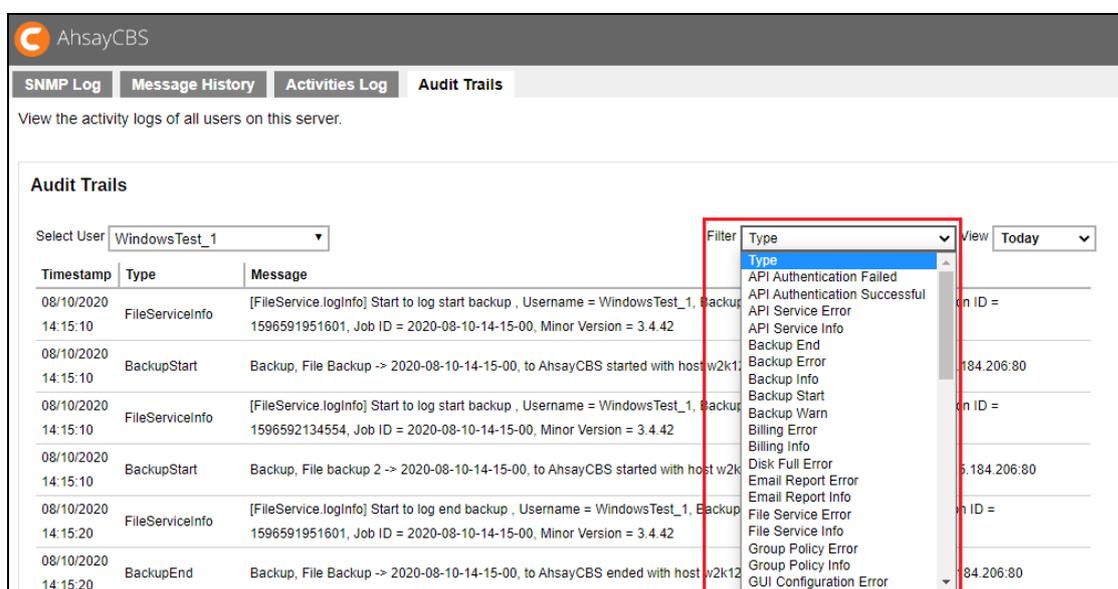
To see the list of activities of selected user on the AhsayCBS server, go to the **Audit Trails** tab.



In this page, click the drop-down menu to select a backup account.



After selecting a backup account, click the drop-down menu to select the type of filter that you would like to display.



The following table shows the filter list and their use.

Filter Type	Description
Backup End	<p>Displays all ended backup job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) backup.</p> <p>e.g.</p> <p>For AhsayOBM/AhsayACB client</p> <ul style="list-style-type: none"> Backup, NewBackup1 -> 2019-11-18-13-41-24, to AhsayCBS ended with host w2k16R2-std, server host name = http://10.16.10.14:80 <p>For Run on Server (Office 365 and Cloud File) backup</p> <ul style="list-style-type: none"> Backup, CloudFileBackup -> 2019-11-18-14-31-18, to GoogleDrive-1 ended with host 172.16.10.14
Backup Error	<p>Indicates error(s) encountered during backup job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) backup.</p>

	<p>e.g.</p> <p>For AhsayOBM/AhsayACB client</p> <ul style="list-style-type: none"> • <i>NewBackup1 -> 2019-11-18-14-46-20: Backup Interrupted By Quota Exceeded, http://10.16.10.14:80</i> <p>For Run on Server (Office 365 and Cloud File) backup</p> <ul style="list-style-type: none"> • <i>CloudFileBackup -> 2019-11-20-10-57-28: You have exceeded your storage quota limit. (39.55M / 2k) , null</i>
Backup Info	<p>Indicates post-backup information or action(s) initiated by user during backup.</p> <p>e.g.</p> <ul style="list-style-type: none"> • <i>You have exceeded your storage quota limit. (42.1M / 50k)</i> • <i>User Interrupted</i>
Backup Start	<p>Displays all started backup job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) backup.</p> <p>e.g.</p> <p>For AhsayOBM/AhsayACB client</p> <ul style="list-style-type: none"> • <i>Backup, NewBackup1 -> 2019-11-18-13-41-24, to AhsayCBS started with host w2k16R2-std, server host name = http://10.16.10.14:80</i> <p>For Run on Server (Office 365 and Cloud File) backup</p> <ul style="list-style-type: none"> • <i>Backup, CloudFileBackup -> 2019-11-18-14-31-18, to GoogleDrive-1 started with host</i>
Backup Warn	<p>Indicates any warning(s) encountered during backup job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) backup.</p>
File Service Error	<p>Indicates error(s) related to backup and/or restore operation(s).</p> <p>e.g.</p> <ul style="list-style-type: none"> • <i>[FileService.checkQuotaExceeded][CloudException.QuotaExceededExpt] You have exceeded your storage quota limit. 345k / 2k (Used / Total Quota)</i>
File Service Info	<p>Indicates the following information of the started backup job:</p> <ul style="list-style-type: none"> • Backup user • Backup set ID • Destination ID • Job ID (date and time of the started backup) • Backup client version <p>e.g.</p> <ul style="list-style-type: none"> • <i>[FileService.logInfo] Start to log start backup , Username = UserAccount, Backup Set ID = 1574055547862, Destination ID = 1574055674297, Job ID = 2019-11-18-13-41-24, Minor Version = 3.0.30</i>
Lockout User	<p>Indicates backup account(s) with “locked” status on the AhsayCBS Web Console. Locked backup account(s) can be enabled in Users, Groups & Policies > Backup User tab > *select user* > User Profile > General tab > Status.</p>
Profile Service Info	<p>Shows logs for updated time zone of the backup set.</p> <p>e.g.</p>

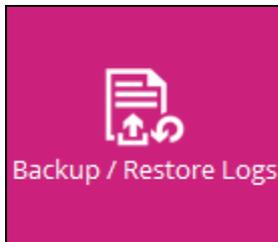
	<i>[doGetProfile] Updating timezone for backupSet NewBackup from to 1098</i>
Quota Alert	Indicates when backup user(s) has reached its backup quota set percentage.
Quota Exceeded	Displays module(s) with exceeded quota. Storage quota settings on the AhsayCBS Web Console can be configured in Users, Groups & Policies > Backup User tab > *select user* > User Profile > Backup Client Settings tab > Quota.
Quota Reminder	Displays backup user(s) which backup quota has exceeded the set percentage.
Request Reset Password	Displays backup account(s) which requested to reset password.
Reset Password	Displays backup account(s) with reset password.
Restore End	Displays all ended restore job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) restore. e.g. For AhsayOBM/AhsayACB client <ul style="list-style-type: none"> <i>Restore, NewBackup -> 2019-11-25-11-44-14, from AhsayCBS ended</i> For Run on Server (Office 365 and Cloud File) restore <ul style="list-style-type: none"> <i>Restore, Cloud backup set -> 2019-11-25-12-13-10 ended</i>
Restore Error	Indicates error(s) encountered during restore job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) restore.
Restore Info	Indicates post-restore information or action(s) initiated by user during restore job(s). e.g. <ul style="list-style-type: none"> <i>You have exceeded your storage quota limit. (42.1M / 50k)</i> <i>User Interrupted</i>
Restore Start	Displays all started restore job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) restore. e.g. For AhsayOBM/AhsayACB client <ul style="list-style-type: none"> <i>Restore, NewBackup1 -> 2019-11-18-14-42-27, from AhsayCBS started</i> For Run on Server (Office 365 and Cloud File) restore <ul style="list-style-type: none"> <i>Restore, CloudFileBackup -> 2019-11-18-14-41-05 started</i>
Restore Warn	Indicates any warning(s) encountered during restore job(s) on the AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) restore. e.g. <ul style="list-style-type: none"> <i>Restore Interrupted by User</i>
Resume User	Indicates enabled account status of the backup account. Backup account status can be configured in Users, Groups & Policies >

	Backup User tab > *select user* > User Profile > General tab > Status.
Routine Job Info	Displays all running system activities on the AhsayCBS server. e.g. <ul style="list-style-type: none"> <i>[Job][QuarterHourlyJob][removeOrphanBSet] Start: Remove v6 data. User 'UserAccount'. Backup Set '1574058352552'.</i>
Suspend User	Indicates system user(s) with suspended account status.
System Info	Indicates unsuccessful login authentication to AhsayOBM/AhsayACB client and AhsayCBS User Web Console. e.g. For AhsayOBM/AhsayACB client <ul style="list-style-type: none"> <i>[Logon] 'UserAccount' logon failed. IP='10.16.10.12'. Login Failure Count=2 . Reason=[UserCacheManager.PasswordIncorrectExpt] Incorrect password for user 'UserAccount'.</i> AhsayCBS User Web Console <ul style="list-style-type: none"> <i>[GetUserProfileRqt] [UserCacheManager.PasswordIncorrectExpt] Incorrect password for user 'UserAccount'. IP = '192.168.12.1'. Login Failure Count = 1</i>
User Authentication Failed	Displays all unsuccessful user login attempt to AhsayOBM/AhsayACB client. e.g. <ul style="list-style-type: none"> <i>Failed login attempt from IP address 10.16.10.12</i>
User Authentication OK	Displays all successful user login attempt to AhsayOBM/AhsayACB client. e.g. <ul style="list-style-type: none"> <i>Logon to client software successfully from IP address 10.16.10.12, server host name = http://10.16.10.14:80</i>
User Authentication Type Error	Displays any error(s) encountered on the user login attempt (e.g. incorrect login credentials).
User Change Log	Displays user activities and backup set settings under its created backup set. e.g. <ul style="list-style-type: none"> <i>[UserParam.addUser] Added a new user, ID = '1574055353372' Name = UserAccount'</i> <i>[ProfileService][Profile][Backup Set] (" " => "[Name: NewBackup, Windows User Authentication: [Domain Name: w2k16R2-std, User name: Administrator, User name:], Backup Source: [%UserProfile%\Test files], Filter: [Enabled: No], Schedule: [Computer Name: w2k16R2-std][Daily: [Name: Backup Schedule, Time: 20: 0, Type: , Duration: -1, Retention Policy: Yes]][Weekly:][Monthly:][Custom:], Continuous Backup: [Enabled: No], Destinations: [Name: AhsayCBS, Type: OBS], In-File Delta: [Enabled: Yes, Default Type: I, Block Size: -1, Minimum Size = 26214400, Maximum No. of Delta = 100, Delta Ratio =</i>

```
50, Weekly: [], Monthly: [, Day: 0, Criteria:
Friday, Day of selected months in yearly
variations: First], Retention Policy: [Type:
Simple, Period: 7, Unit: Day(s)], Command Line
Tool: , Reminder: [Computer Name: w2k16R2-std],
Bandwidth Control: [Enabled: No, Mode: Independent,
Bandwidth Control: ], IP Allowed for Restore:
[[From: 0.0.0.0, To: 255.255.255.255]], [Remove
temporary files after backup: Yes][Follow Link:
Yes][Volume Shadow Copy: Yes][File Permissions:
Yes][Compression Type: Fast (Compressed size larger
than normal)]]") IP = '10.16.10.12'
```

Backup / Restore Logs

Click the following icon on the AhsayCBS Web Console to see the list of backup and/or restore related system activities.



Go to the **Activities Log** tab to display the list of system log.

AhsayCBS

Backup Jobs Restored Jobs Backup Errors Backup Set Log **Activities Log**

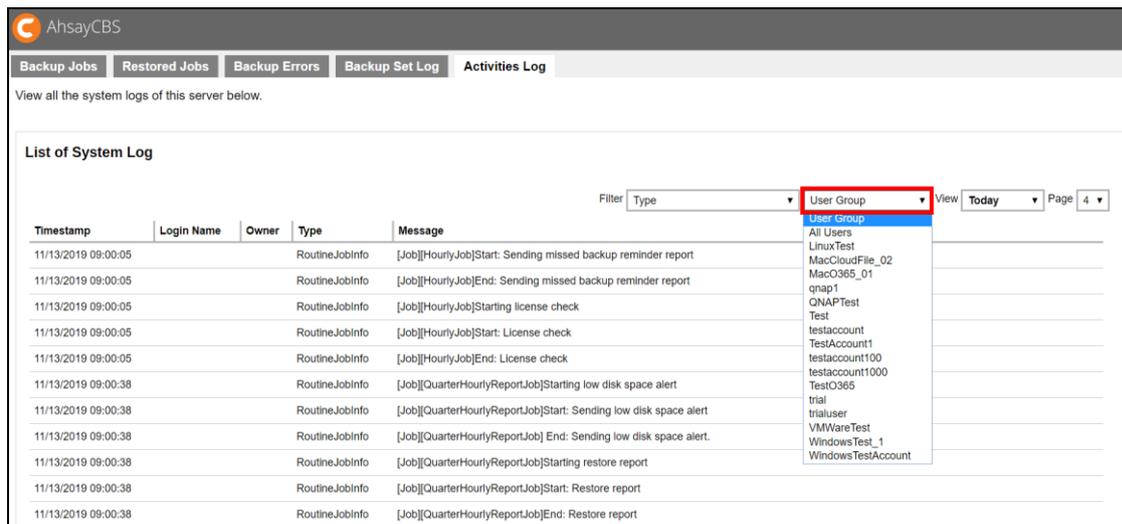
View all the system logs of this server below.

List of System Log

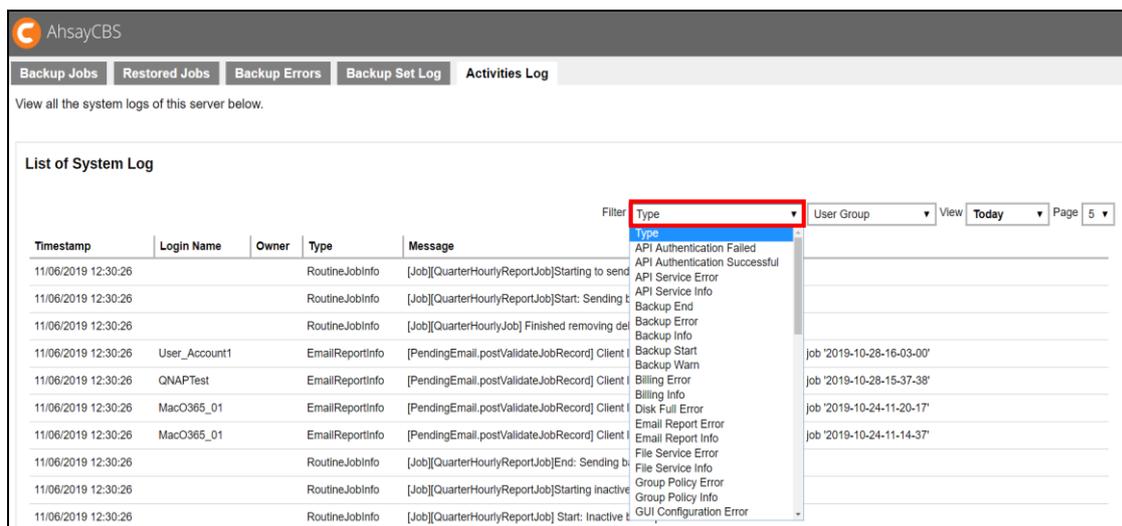
Filter Type User Group View Today Page 5

Timestamp	Login Name	Owner	Type	Message
11/06/2019 12:30:26			RoutineJobInfo	[Job][QuarterHourlyReport.Job]Starting to send backup report
11/06/2019 12:30:26			RoutineJobInfo	[Job][QuarterHourlyReport.Job]Start: Sending backup report
11/06/2019 12:30:26			RoutineJobInfo	[Job][QuarterHourlyJob] Finished removing deleted backup set files
11/06/2019 12:30:26	User_Account1		EmailReportInfo	[PendingEmail.postValidate.JobRecord] Client log is not found for '1572249684765', job '2019-10-28-16-03-00'
11/06/2019 12:30:26	QNAPTest		EmailReportInfo	[PendingEmail.postValidate.JobRecord] Client log is not found for '1572247006690', job '2019-10-28-15-37-38'
11/06/2019 12:30:26	MacO365_01		EmailReportInfo	[PendingEmail.postValidate.JobRecord] Client log is not found for '1571294168281', job '2019-10-24-11-20-17'
11/06/2019 12:30:26	MacO365_01		EmailReportInfo	[PendingEmail.postValidate.JobRecord] Client log is not found for '1571294168281', job '2019-10-24-11-14-37'
11/06/2019 12:30:26			RoutineJobInfo	[Job][QuarterHourlyReport.Job]End: Sending backup report
11/06/2019 12:30:26			RoutineJobInfo	[Job][QuarterHourlyReport.Job]Starting inactive backup reminder

On the user group filter, click the drop-down menu to select a backup account.



On the log filter, click the drop-down menu to select the type of filter that you would like to display.



The following table shows the filter list and their use.

Filter Type	Description
API Authentication Failed	Displays unsuccessful API login authentication to AhsayCBS server. e.g. <ul style="list-style-type: none"> <i>Failed login attempt from IP address 192.168.22.40</i>
API Authentication Successful	Displays successful API login authentication to AhsayCBS server. e.g. <ul style="list-style-type: none"> <i>Logon to API from IP address 192.168.22.40 successfully</i>
API Service Error	Indicates any API service error(s) encountered on the AhsayCBS server. e.g.

	<ul style="list-style-type: none"> • <code>[Api][UpdateLicense] [o] Incorrect Product Key</code> • <code>[Api][AuthUser] [ad]</code> <code>[UserCacheManager.NoSuchUserExpt] User 't1' not found.</code>
API Service Info	Displays any API related information on the AhsayCBS server.
Backup End	<p>Displays all ended backup job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) backup.</p> <p>e.g.</p> <p>For AhsayOBM/AhsayACB client</p> <ul style="list-style-type: none"> • <code>Backup, NewBackup -> 2019-11-20-10-57-18, to AhsayCBS ended with host w2k16R2-std, server host name = http://10.16.10.14:80</code> <p>For Run on Server (Office 365 and Cloud File) backup</p> <ul style="list-style-type: none"> • <code>Backup, Server Run Office 365 Backup Set -> 2019-11-15-23-00-00, to AhsayCBS ended with host 172.16.10.14</code>
Backup Error	<p>Indicates error(s) encountered during backup job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) backup.</p> <p>e.g.</p> <p>For AhsayOBM/AhsayACB client</p> <ul style="list-style-type: none"> • <code>Backup Set Test_01 -> 2019-11-07-20-00-00: You have exceeded your storage quota limit. (304k / 50k) , https://127.0.0.1:443</code> <p>For Run on Server (Office 365 and Cloud File) backup</p> <ul style="list-style-type: none"> • <code>Client Run Office 365 Backup Set -> 2019-11-02-23-38-00: Backup completed with error(s) , https://10.90.10.14:443</code>
Backup Info	<p>Indicates post-backup information or action(s) initiated by user during backup job(s).</p> <p>e.g.</p> <ul style="list-style-type: none"> • <code>You have exceeded your storage quota limit. (42.1M / 50k)</code> • <code>User Interrupted</code>
Backup Start	<p>Displays all started backup job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) backup.</p> <p>e.g.</p> <p>For AhsayOBM/AhsayACB client</p> <ul style="list-style-type: none"> • <code>Backup, Sample Backup Set 01 -> 2019-11-01-20-00-00, to AhsayCBS started with host w2k16R2-std, server host name = https://10.16.10.14:443</code> <p>For Run on Server (Office 365 and Cloud File) backup</p> <ul style="list-style-type: none"> • <code>Backup, Server Run Office 365 Backup Set -> 2019-11-01-23-00-00, to AhsayCBS started with host</code>
Backup Warn	Indicates any warning(s) encountered during backup job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) backup.
Disk Full Error	Indicates error(s) encountered in the disk storage usage.

Email Report Error	<p>Indicates failed sending of generated email report to the system administrator and/or backup user(s).</p> <ul style="list-style-type: none"> <code>[BackupJob.record.list] Unable to list pending email, error = [UserCacheManager.NoSuchUserExpt] User 'User_Account1' not found. [ad] [UserCacheManager.NoSuchUserExpt] User 'User_Account1' not found.</code> <p>For further details about email settings, refer to Email configuration settings.</p>
Email Report Info	<p>Displays email report related information.</p> <p>e.g.</p> <ul style="list-style-type: none"> <code>[PendingEmail.postValidateJobRecord] Client log is not found for '1573526959301', job '2019-11-12-10-52-42'</code> <code>[BackupReport.send] Backup report email sent to pd-vm95-obm@qa.ahsay.com; Subject: Backup Report [OK] > qa-w03r2x-0-95-obm > v5-VM95-mysql155-IC-R4J > Job 2019-12-02-13-00-00; Time used (milliseconds): 577</code> <code>[LicEmailAlert] No SMTP servers configured</code> <code>[LowDiskSpaceAlertReport.send] Low disk space alert email sent to ahsaytest01@gmail.com; Subject: (80-90%) %UserProfile%\AhsayCBS\system has reached 85% of its capacity; Time used (milliseconds): 2435</code> <p>For further details about email settings, refer to Email configuration settings.</p>
File Service Error	<p>Indicates error(s) encountered in the backup client settings.</p> <p>e.g.</p> <ul style="list-style-type: none"> <code>[FileService.checkQuotaExceeded] [G] [CloudException.QuotaExceededExpt] You have exceeded your storage quota limit. 345k / 2k (Used / Total Quota)</code>
File Service Info	<p>Indicates backup account settings and other user activities on the AhsayCBS server.</p> <p>e.g.</p> <ul style="list-style-type: none"> <code>[FileService.logInfo] Start to log start backup , Username = UserAccount, Backup Set ID = 1574055547862, Destination ID = 1574055674297, Job ID = 2019-11-18-13-41-24, Minor Version = 3.0.30</code> <code>[logEndInfo] :user = UserAccount, BackupSet ID = 1574058352552, Destination ID = - 1571107249564, sMajorVersion = 8, sMinorVersion = 3.0.30, Operation = delete</code>
Group Policy Error	<p>Indicates any error(s) related to migration of backup accounts or policy group issue.</p>
Group Policy Info	<p>Indicates information related to managing of backup accounts (e.g. security settings, backup settings).</p>
GUI Configuration Error	<p>Indicates error(s) encountered in the GUI configuration settings.</p> <p>e.g.</p> <ul style="list-style-type: none"> <code>[DbsException.PwdComplexityExpt] Password does not meet complexity requirements</code>

GUI Configuration Info	<p>Indicates server connection status of GUI configuration settings. e.g.</p> <p>For license server</p> <ul style="list-style-type: none"> <code>[TestLicConn] The license server connection test is successful.</code> <p>For backup destination</p> <ul style="list-style-type: none"> <code>[TestDestination] The destination connection test is successful.</code> <p>For redirector</p> <ul style="list-style-type: none"> <code>[TestRdrConn] The redirector connection test is successful.</code>
License Error	<p>Indicates incorrect or unspecified license key. e.g.</p> <ul style="list-style-type: none"> <code>[Thread][Job][LicenseExpiryCheck] License Incorrect - Validation46: Internal Error 1011. [o] [License.Expt] Unspecified license exception !</code>
License Info	<p>Indicates license key related activities. e.g.</p> <ul style="list-style-type: none"> <code>Verifying online license, License Name = 'AhsayKorea_NFR04 ', License Key = 'aMoRa-n82qe-aIB9M-pJVrA-6A'</code> <code>Product Key Activation Requesting.</code> <code>Product Key Activated.</code>
Lockout User	<p>Indicates backup account(s) with “locked” status on the AhsayCBS Web Console. Locked backup account(s) can be enabled in Users, Groups & Policies > Backup User tab > *select user* > User Profile > General tab > Status.</p>
Policy Service Error	<p>Indicates any error(s) encountered in the policy service.</p>
Policy Service Info	<p>Indicates policy service-related information.</p>
Profile Service Error	<p>Indicates “locked/suspended” status of the backup account(s). e.g.</p> <ul style="list-style-type: none"> <code>[ProfileService.doGetProfile] [ak] [UserCacheManager.UserLockedExpt] User 'TestAccount1' is locked.</code> <code>[ProfileService.doGetProfile] [ai] [UserCacheManager.SuspendedUserExpt] User 'TestAccount1' is suspended.</code>
Profile Service Info	<p>Indicates system activities and/or activities initiated by user on the AhsayCBS server. e.g.</p> <ul style="list-style-type: none"> <code>[doGetProfile] Updating timezone for backupSet BackupSet_1 from to 1098</code> <code>[ProfileService.doSendMfaPasscode] Passcode with prefix 'GFUJ' sent to phone = +639171234567</code>
Quota Alert	<p>Indicates when backup user(s) has reached its backup quota set percentage.</p>
Quota Exceeded	<p>Indicates backup user(s) with exceeded storage quota for AhsayCBS backup destination(s). Storage quota settings on the AhsayCBS Web Console can be configured in Users, Groups &</p>

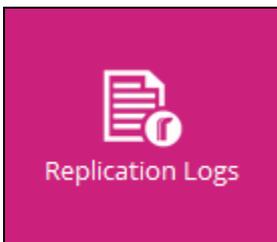
	Policies > Backup User tab > *select user* > User Profile > Backup Client Settings tab > Quota.
Quota Reminder	Displays backup user(s) which backup quota has exceeded the set percentage.
Replicate Error	Displays any error(s) encountered in the replication process.
Replicate File	Displays the data replication process that is currently running. e.g. <ul style="list-style-type: none"> • <i>Replicating</i> <i>'%UserProfile%\1570697089264\blocks\2019-10-10-17-09-35\0\000000.bak'...</i> • <i>Replicating</i> <i>'%UserProfile%\1570696973741\blocks\2019-10-10-17-02-25\backupInfo.db.9000.16db4e97dc0.cgz'...</i> • <i>Replicating</i> <i>'%UserProfile%\1570696973741\settings\EncryptionKeys-2019-10-10.json.rgz'...</i> • <i>Replicating</i> <i>'%UserProfile%\2019-10-31.log'...</i>
Replication End	Displays all ended replication job(s). e.g. <ul style="list-style-type: none"> • <i>End replication (User: username, Backup Set: backup_set_name)</i>
Replication Mode Changed	Indicates the changes on the replication status of the backup set(s). e.g. <ul style="list-style-type: none"> • <i>Replication for backup_set_name is now in RESYNC mode</i> • <i>Replication for backup_set_name is now in REPLAY mode</i> For further details, refer to Replication Close to Real-Time in Chapter 7 Replication .
Replication Start	Displays all started replication process. e.g. <ul style="list-style-type: none"> • <i>Replication for backup_set_name started</i>
Request Reset Password	Displays backup account(s) which requested to reset password.
Reset Password	Displays backup account(s) with reset password.
Restore End	Displays all ended restore job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) restore. e.g. For AhsayOBM/AhsayACB client <ul style="list-style-type: none"> • <i>Restore, BackupSet_1 -> 2019-11-12-10-09-30, from AhsayCBS ended</i> For Run on Server (Office 365 and Cloud File) restore <ul style="list-style-type: none"> • <i>Restore, BackupSet_Cloud -> 2019-11-12-13-58-47 ended</i>
Restore Error	Indicates error(s) encountered during restore job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) restore.
Restore Info	Indicates post-restore information or action(s) initiated by user during restore job(s).

	<p>e.g.</p> <ul style="list-style-type: none"> <i>You have exceeded your storage quota limit. (42.1M / 50k)</i> <i>User Interrupted</i>
Restore Start	Displays all started restore job(s) on the AhsayOBM/AhsayACB client and AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) restore.
Restore Warn	<p>Indicates any warning(s) encountered during restore job(s) initiated on the AhsayCBS Web Console for Run on Server (Office 365 and Cloud File) restore.</p> <p>e.g.</p> <ul style="list-style-type: none"> <i>Restore Interrupted by User</i>
Resume User	Indicates enabled account status of the backup account. Backup account status can be configured in Users, Groups & Policies > Backup User tab > *select user* > User Profile > General tab > Status.
Routine Job Error	Indicates any error(s) encountered in the backup and/or restore job(s).
Routine Job Info	<p>Displays all running system activities on the AhsayCBS server for backup and restore job(s).</p> <p>e.g.</p> <ul style="list-style-type: none"> <i>[Job][QuarterHourlyReportJob]Start: Sending backup report</i> <i>[Job][QuarterHourlyReportJob]End: Sending setting change report job</i> <i>[Job][QuarterHourlyJob] Finished checking run backup.</i> <i>[Job][ConsolidatedReport] Finished to send consolidated report.</i> <i>[Job][QuarterHourlyJob] Start removing deleted backup set files</i> <p>For further details, refer to Appendix G System Job.</p>
Suspend User	Indicates system user(s) with suspended account status.
System ChangeLog	<p>Displays server configuration settings and other system events initiated by the system user.</p> <p>e.g.</p> <ul style="list-style-type: none"> <i>[Server Configuration]RDR {Enabled ("Y" => "N"), Host ("125.5.184.206" => ""), Port ("443" => ""), Login Name ("system" => ""), Password ("system" => "")}</i> <i>[Server Configuration]RDR {Login Name ("system" => "apitest"), Password ("system" => "abc123\$%")}</i> <i>[Remove Backup User][Web Console] Removed backup user "user1" by system user "system" from IP address "180.232.88.174"</i>
System Error	Indicates system related error(s) during backup and/or restore operation(s).
System Info	<p>Displays backup and/or restore related system activities.</p> <p>e.g.</p>

	<ul style="list-style-type: none"> <code>[TestDestination.checkDuplicatedDestination]</code> <code>Creating GDrive access info</code>
User Authentication Failed	<p>Displays unsuccessful user login attempt to AhsayOBM/AhsayACB client.</p> <p>e.g.</p> <ul style="list-style-type: none"> <code>Failed login attempt from IP address 10.16.10.12</code>
User Authentication OK	<p>Displays successful user login attempt to AhsayOBM/AhsayACB client.</p> <p>e.g.</p> <ul style="list-style-type: none"> <code>Logon to client software successfully from IP address 10.16.10.12, server host name = https://10.16.10.14:443</code>
User Authentication Type Error	Displays any error(s) encountered on the user login attempt (e.g. incorrect login credentials).
User Change Log	<p>Indicates user configuration settings.</p> <ul style="list-style-type: none"> For AhsayOBM/AhsayACB client: Backup Set Settings (e.g. Windows User Authentication, Backup Schedule, Retention Policy) For AhsayCBS Web Console (e.g. Reset password)
V6 Service Error	Indicates any error(s) encountered in the v6 service connection.
V6 Service Info	Indicates information about v6 service connection.

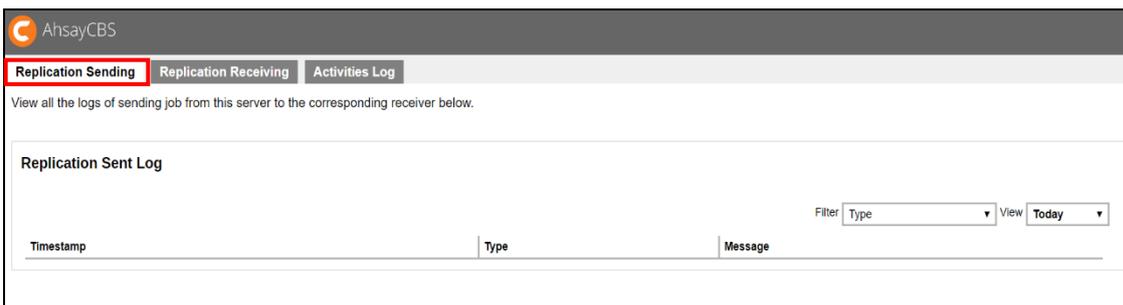
Replication Logs

Click the following icon on the AhsayCBS Web Console to see the list of replication sending and receiving logs, and other system activities.

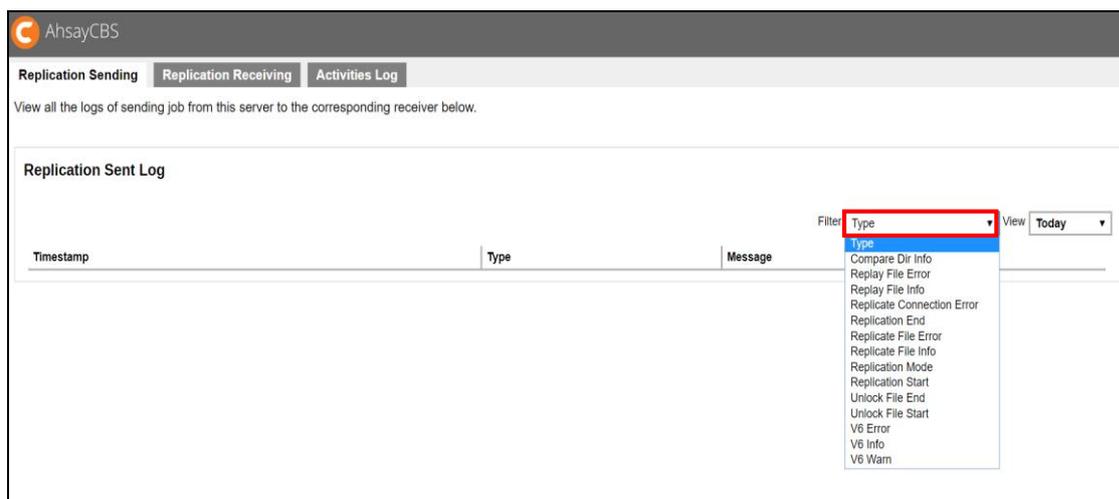


Replication Sending

Click the **Replication Sending** tab to display the logs for replication sending from the AhsayCBS server to the corresponding receiver.



On the log filter, click the drop-down menu to select the type of filter that you would like to display.



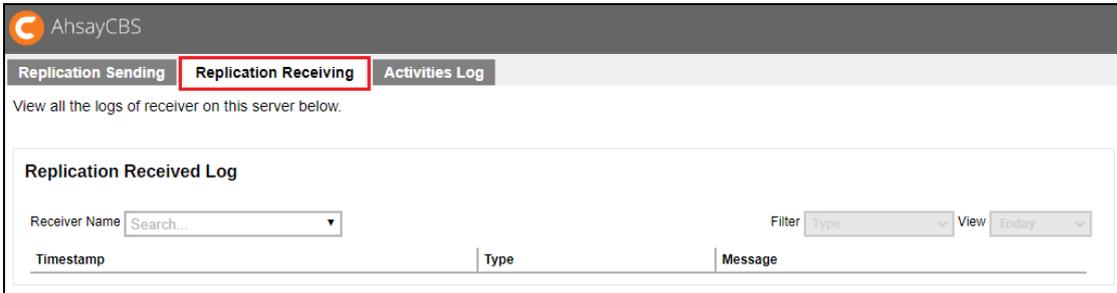
The following table shows the filter list and their use.

Filter Type	Description
Compare Dir Info	Displays the comparing of target destination(s) of the backup data during the replication sending process. e.g. <ul style="list-style-type: none"> Comparing directory 'testaccount\1572250130514\settings' with the one at target destination Comparing directory 'C:\Program Files\AhsayCBS\system' with the one at target destination Comparing directory 'C:\Program Files\AhsayCBS\user\qa-wxp-0-102-obm\db\UserLog' with the one at target destination
Replay File Error	Indicates any error(s) encountered in the replay mode of the replication sending process.
Replay File Info	Displays the replaying process of the data to the target destination(s). e.g. <ul style="list-style-type: none"> Replaying '1573546575096\settings\' to target destination Replaying '1573546575096\blocks\2019-11-13-20-00-00\0\000000.bak' to target destination
Replicate Connection Error	Indicates any error(s) encountered in the replication connection.
Replication End	Indicates all ended replication sending process. e.g. <ul style="list-style-type: none"> End replication (User: username, Backup Set: backup_set_name)
Replicate File Error	Indicates error(s) encountered in the replication sending process.
Replicate File Info	Displays the process of the file replication sending. e.g. <ul style="list-style-type: none"> Replicating

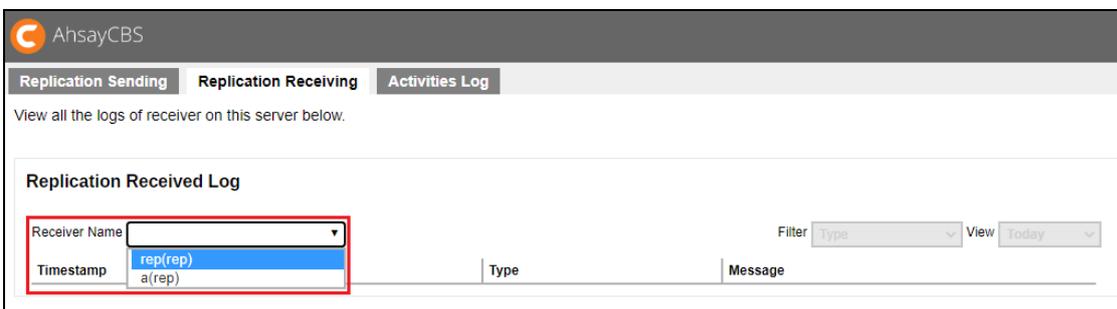
	<pre>'%UserProfile%\user_account\StorageLog\157225324515 2\2019-10.log'...</pre> <ul style="list-style-type: none"> • <i>Deleting '%UserProfile%\user_account\1572253245152\2019-11.log'...</i>
Replication Mode	<p>Shows the process of identifying the replication mode. Replicating backup data is classified into four (4) modes: Pending, Resync, Replay, and Sleep.</p> <p>e.g.</p> <ul style="list-style-type: none"> • <i>Start replication in RESYNC mode (User: username, Backup set: backup_set_name)</i> • <i>Start replication in REPLAY mode (User: username, Backup set: backup_set_name)</i> <p>For further details, refer to Replication Close to Real-Time in Chapter 7 Replication.</p>
Replication Start	<p>Displays all the started replication sending process.</p> <p>e.g.</p> <ul style="list-style-type: none"> • <i>Start replication (User: username, Backup Set: backup_set_name)</i>
Unlock File End	Indicates the files locked by the replication process.
Unlock File Start	Indicates the unlocked files when there is another valid operation running (i.e. space free up), which needs to access the files locked by the replication process.
V6 Error	<p>Indicates error(s) encountered in the v6 data during the replication process.</p> <p>e.g.</p> <ul style="list-style-type: none"> • <i>[SendHandler.connect][Unable to connect] [IOException] Reason=[SSLSocketJVM14.getSSLSocket] Hostname verifying failed. sDNSname='10.16.10.15' doesn't match any name on the SSL certificate. Session=[Session-1, SSL_NULL_WITH_NULL_NULL][IOException] Reason=[SendHandler.connect][Unable to connect] [IOException] Reason=[SSLSocketJVM14.getSSLSocket] Hostname verifying failed. sDNSname='10.16.10.15' doesn't match any name on the SSL certificate. Session=[Session-1, SSL_NULL_WITH_NULL_NULL]</i>
V6 Info	<p>Indicates information on the v6 replication sending process.</p> <p>e.g.</p> <ul style="list-style-type: none"> • <i>[Start] Replication</i> • <i>[MonthlyJob] Resyncing all files again because it hasn't been run for the past 31 days</i> • <i>[MonthlyJob] Resyncing all files again</i> • <i>Sent 0 byte in 190 sec (0 byte/sec)</i>
V6 Warn	Indicates any warning(s) encountered in the v6 data during the replication sending process.

Replication Receiving

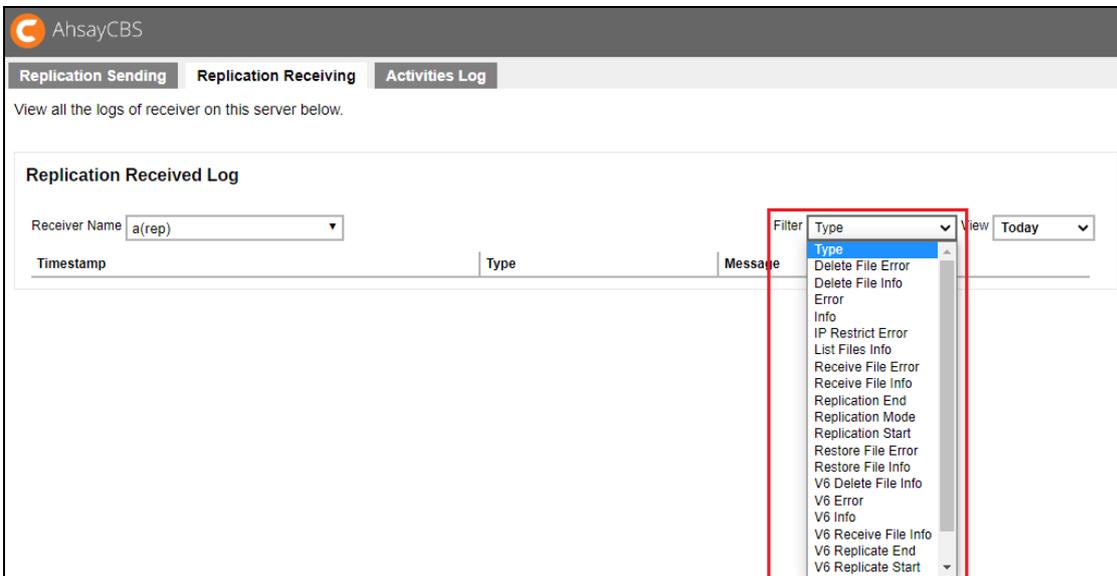
Click the following tab to display the replication receiving logs on the AhsayCBS server.



Click the drop-down menu to select a receiver account.



On the log filter, click the drop-down menu to select the type of filter that you would like to display.



The following table shows the filter list and their use.

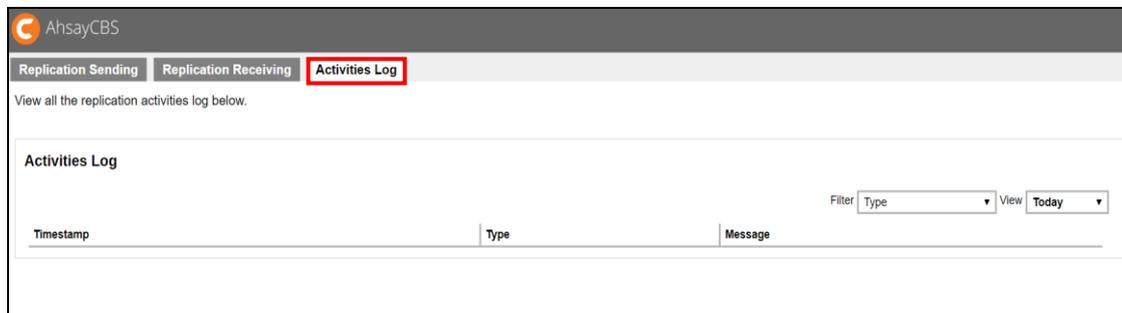
Filter Type	Description
Delete File Error	Indicates error(s) encountered during the deletion of the received data in the replication receiving process. e.g. <ul style="list-style-type: none"> <i>Error deleting</i>

	'%UserProfile%\user_account\backup_set_name\backup_set_folder_destination\blocks_folder\0\000000.bak'
Delete File Info	Displays the received data that are deleted. e.g. <ul style="list-style-type: none"> Deleting '%UserProfile%\user_account\backup_set_name\backup_set_folder_destination\blocks_folder\0\000000.bak'
Error	Indicates any error(s) in the replication receiving process.
Info	Indicates any information in the replication receiving process.
IP Restrict Error	Indicates any error(s) encountered in the IP restriction to AhsayCBS Web Console.
List Files Info	Shows the listing of the received data from the corresponding backup server. e.g. <ul style="list-style-type: none"> Listing '%UserProfile%\user_account\backup_set_name\backup_set_folder_destination ...'
Receive File Error	Indicates error(s) encountered in the received data from the corresponding backup server.
Receive File Info	Displays information of the received data (i.e. file path, file size, date and time of the received data) from the corresponding backup server. e.g. <ul style="list-style-type: none"> Received '%UserProfile%\user_account\backup_set_name\backup_set_folder_destination\blocks_folder\0\000000.bak' (22.53M, 2019-11-12 15:00)
Replication End	Indicates all ended replication receiving process. e.g. <ul style="list-style-type: none"> End replication (User: username, Backup Set: backup_set_name)
Replication Mode	Displays the full status of the replication mode. e.g. <ul style="list-style-type: none"> Replication is now in RESYNC mode Replication is now in REPLAY mode For more details about replication modes, refer to How does Replication work?
Replication Start	Displays the logs for the started replication receiving process. e.g. <ul style="list-style-type: none"> [Start] Replication
Restore File Error	Indicates any error(s) encountered in the restore file during the replication receiving process.
Restore File Info	Indicates restore file related information in the replication receiving process.
V6 Delete File Info	Indicates information about the received v6 data which has been deleted.
V6 Error	Indicates error(s) encountered in the replication receiving process. e.g. <ul style="list-style-type: none"> [2019/11/14 14:38:06][RequestHandler.run] There is not enough space on the disk
V6 Info	Indicates software version of the corresponding v6 backup server and the size of the received data. e.g. <ul style="list-style-type: none"> Sender OBS Version: 6.29.0.0

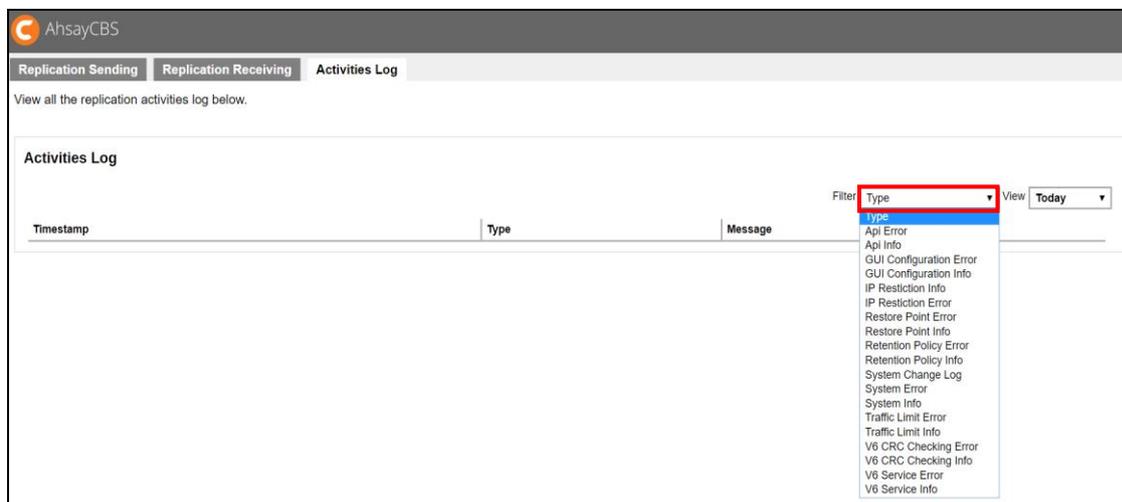
	<ul style="list-style-type: none"> Received 1.72G byte in 153 sec (11.55M byte/sec)
V6 Receive File Info	<p>Displays the process of receiving data from the corresponding v6 backup server.</p> <p>e.g.</p> <ul style="list-style-type: none"> Receiving '%UserProfile%\user\test-OLD.zip'...
V6 Replicate End	Indicates the ended v6 replication receiving process.
V6 Replicate Start	Indicates the started v6 replication receiving process.
V6 Warn	Indicates any warning(s) encountered in the v6 replication receiving process.
Warn	Indicates any warning(s) encountered in the replication process.

Activities Log

Go to the **Activities Log** to view all the replication related activities on the AhsayCBS server.



On the log filter, click the drop-down menu to select the type of filter that you would like to display.



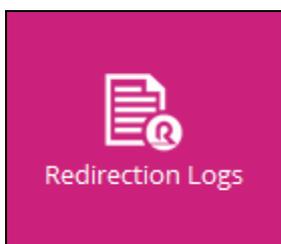
The following table shows the filter list and their use.

Filter Type	Description
API Error	<p>Indicates any API related error(s) encountered in the replication process.</p> <p>e.g.</p> <ul style="list-style-type: none"> <code>UpdateReceiversThrowable='[Error] Parameter Alias is null/empty!'</code>

API Info	Indicates API related activities in the replication process. e.g. <ul style="list-style-type: none"> <i>Removed receiver 'AhsayCBS_receiver_name'</i>
GUI Configuration Error	Indicates any error(s) encountered in the GUI configuration settings.
GUI Configuration Info	Indicates information about the GUI configuration settings.
IP Restriction Info	Indicates information about the IP restriction to AhsayCBS Web Console. For further details, refer to Restricting access to system page by IP address .
IP Restriction Error	Indicates any error(s) encountered in the IP restriction to AhsayCBS Web Console.
Restore Point Error	Indicates any restore point related error(s) in the retention settings for the replicated data.
Restore Point Info	Indicates information about the set restore point in the retention settings for the replicated data.
Retention Policy Error	Indicates retention policy related error(s).
Retention Policy Info	Shows the process of the retention policy for replicated data. e.g. <ul style="list-style-type: none"> <i>Cleaning retention area for '%UserProfile%\AhsayCBS\user'</i> <i>[Job][DailyJob] Finished removing retained files.</i>
System Change Log	Indicates replication related activities initiated by system administrator. e.g. <ul style="list-style-type: none"> <i>Created new receiver 't1'</i>
System Error	Indicates system activities error(s) related to the replication process.
System Info	Indicates system activities information related to the replication process.
Traffic Limit Error	Indicates error(s) related to the configuration of traffic limit for the replication process.
Traffic Limit Info	Indicates the amount of bandwidth used by replication when the traffic limit setting in Sending Data > Set traffic limit on the AhsayCBS Web Console is enabled. For further details about traffic limit, refer to Traffic Limit Configuration .
V6 CRC Checking Error	Displays any error(s) encountered in the v6 CRC checking during the replication process.
V6 CRC Checking Info	Displays information about the v6 CRC checking during the replication process.
V6 Service Error	Indicates any error(s) encountered in the v6 service connection during the replication process.
V6 Service Info	Indicates information about v6 service connection in the replication process.

Redirection Logs

To see the list of redirection activities log, click the following icon on the AhsayCBS Web Console.



On the log filter, click the drop-down menu to select the type of filter that you would like to display.

Timestamp	Type	Message
11/06/2019 16:55:11	LocateBackupServerInfo	[LocateBackupServer] No enabled host identified. Login name = 'Windows'
11/06/2019 16:55:24	LocateBackupServerInfo	[LocateBackupServer] No enabled host identified. Login name = 'WinO365'
11/06/2019 16:58:02	LocateBackupServerInfo	[LocateBackupServer] No enabled host identified. Login name = 'MacClou'
11/06/2019 16:58:12	LocateBackupServerInfo	[LocateBackupServer] No enabled host identified. Login name = 'MacO365'
11/06/2019 16:59:35	LocateBackupServerInfo	[LocateBackupServer] No enabled host identified. Login name = 'testacco'
11/06/2019 17:00:02	LocateBackupServerInfo	[LocateBackupServer] No enabled host identified. Login name = 'User_Ao'
11/06/2019 17:00:12	LocateBackupServerInfo	[LocateBackupServer] No enabled host identified. Login name = 'Windows'
11/06/2019 17:00:26	Routine.JobInfo	[Job][HourlyJob]Starting license check
11/06/2019 17:00:26	Routine.JobInfo	[Job][HourlyJob]Start: License check
11/06/2019 17:00:26	Routine.JobInfo	[Job][HourlyJob]End: License check

The following table shows the filter list and their use.

Filter Type	Description
API Authentication Failed	Indicates failed API login authentication.
API Authentication Successful	Displays successful API login authentication. e.g. <ul style="list-style-type: none"> <i>Logon to API from IP address 180.232.88.174 successfully</i>
API Check New User Error	Displays any error(s) encountered in checking new user in the redirection process.
API Check New User Info	Displays any error(s) encountered in checking new user in the redirection process.
API Get Backup Server Statistics Error	Indicates any error(s) encountered in the API backup server statistics.
API Get Backup Server Statistics Info	Indicates information related to API backup server statistics.
API List Backup Servers Error	Indicates any error(s) encountered in the API backup server(s). e.g. <ul style="list-style-type: none"> <i>Incorrect system username/password[Exception]</i>

API List Backup Servers Info	Indicates information about API backup server(s).
API Test Connection Error	Displays any error(s) encountered in the API connection test.
API Test Connection Info	Indicates information about the API connection test.
API Update Configuration Error	Indicates any error(s) encountered in the API server configuration settings. e.g. <ul style="list-style-type: none"> <code>UpdateServerConfig[DbException\$ConnectObsExpt]</code> <code>[DbException.ConnectObsExpt]</code> <code>https://server2.mybackup.com:443,</code> <code>errMsg = server2.mybackup.com:443</code> <code>failed to check duplicated user with</code> <code>error class</code>
API Update Configuration Info	Indicates information about API configuration settings.
API Update License Error	Indicates any error(s) encountered in API license update. e.g. <ul style="list-style-type: none"> <code>Activate Product Key Error.[Exception]</code> <code>License key incorrect. Please try</code> <code>again.</code> <code>[Api][UpdateLicense][Exception]</code> <code>License key incorrect. Please try</code> <code>again.</code>
API Update License Info	Shows logs for requesting API product activation key. e.g. <ul style="list-style-type: none"> <code>Product Key Activation Requesting.</code>
GUI Configuration Error	Indicates any redirection related error(s) on the AhsayCBS server. e.g. <ul style="list-style-type: none"> <code>Incorrect system username/password</code> <code>Must enable/configure at least one</code> <code>backup server</code> <code>Failed to connect to Backup Server,</code> <code>system:80</code>
GUI Configuration Info	Indicates the server connection status of the redirection job. e.g. <ul style="list-style-type: none"> <code>[TestObsServerConn] The obs server</code> <code>connection test is successful.</code>
Locate Backup Server Error	Indicates error(s) encountered in locating the backup server.
Locate Backup Server Info	Displays the location info of the backup server (host, port, login name, and IP address). e.g. <ul style="list-style-type: none"> <code>[LocateBackupServer] Protocol =</code> <code>'https'. Host = '125.5.184.66'. Port =</code> <code>'443'. Login name = 'server2'. IP =</code> <code>'180.232.88.174'</code>
Routine Job Error	Indicates any error(s) encountered in the redirection process.

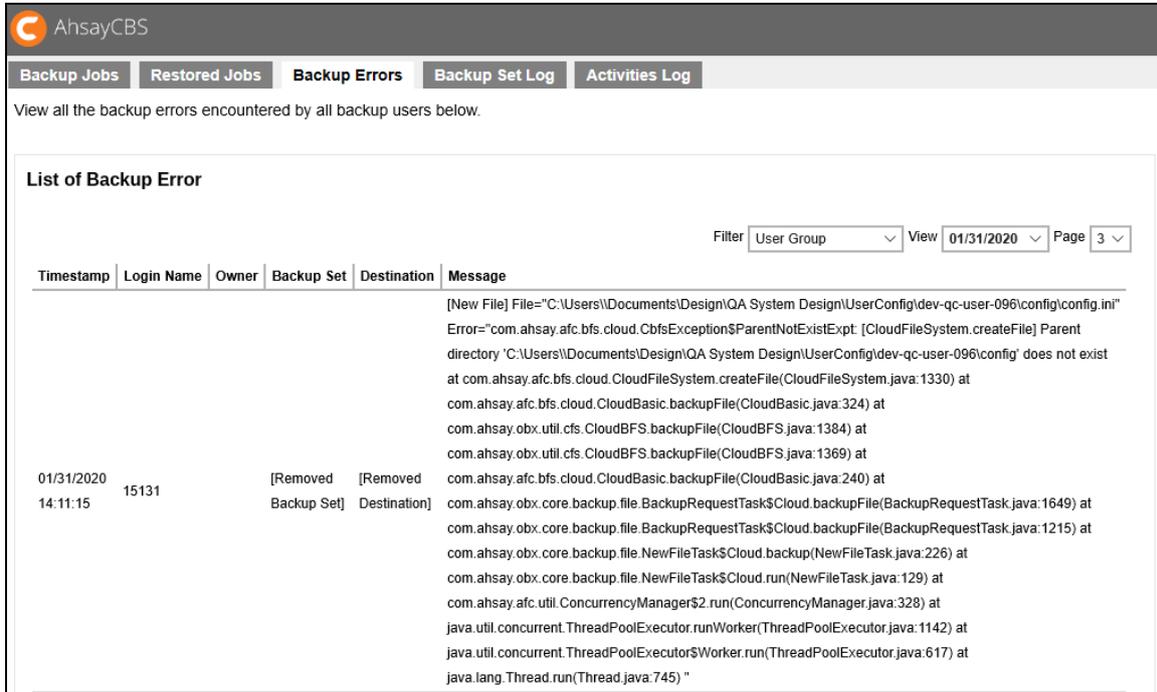
Routine Job Info	Displays all the license check process for redirection job(s). e.g. <ul style="list-style-type: none"> <code>[Job][HourlyJob]Start: License check</code> <code>[Job][HourlyJob]End: License check</code> <code>[Job][DailyLicenseUpdate]Starting daily license update</code>
Server Service Error	Indicates any error(s) encountered in the AhsayCBS server service connection.
Server Service Info	Indicates information related to AhsayCBS server service connection.
System Change Log	Shows all server configuration settings. e.g. <ul style="list-style-type: none"> <code>Server Configuration {Backup Server (" => "[Host: 125.5.184.66, Login name: system, Password: VLUwclQ07rj46TQ+cfKBdg==] ") }</code>
System Error	Indicates error(s) related to redirection process. e.g. <ul style="list-style-type: none"> <code>[LicenseCheck.checkMultipleRDR][Exception] No Authentication from Server.Throwable='No Authentication from Server.'</code>
System Info	Displays all redirection related system activities on the AhsayCBS. e.g. <ul style="list-style-type: none"> <code>[RedirectionStatusCache.removeObsolete Record] Removing the following user from redirector cache [apiAuthFailed] due to inactivity for 30 minutes.</code> <code>Instance check starting.</code> <code>Instance checking ending.</code>
V6 Locate OBSR Error	Indicates any error(s) encountered in the location of the OBSR server.
V6 Locate OBSR Info	Indicates the location information of the OBSR server. e.g. <ul style="list-style-type: none"> <code>[obc.LocateObsr] Protocol = 'https'. Host = '10.3.0.101'. Port = '443'. Login name = 'qa-w03r2x-0-95-obm'. IP = '10.6.0.12'.</code>
V6 OBC Error	Indicates any error(s) encountered in the OBC server connection (e.g. connection timeout).
V6 OBC Info	Indicates information about the OBC server.

NOTE

Some events might take a bit of time (i.e. may take a few minutes) to appear on the AhsayCBS Web Console system logs.

Error messages in AhsayCBS web console in [Backup/Restore Logs] > [Backup Errors] are not displayed properly. It is hard to read them since they do not look presentable and looks unformatted.

See sample of how an unformatted error message looks like below:



AhsayCBS

Backup Jobs | Restored Jobs | Backup Errors | Backup Set Log | Activities Log

View all the backup errors encountered by all backup users below.

List of Backup Error

Filter: User Group [v] View: 01/31/2020 [v] Page: 3 [v]

Timestamp	Login Name	Owner	Backup Set	Destination	Message
01/31/2020 14:11:15	15131	[Removed]	[Removed Backup Set]	[Removed Destination]	[New File] File="C:\Users\Documents\Design\QA System Design\UserConfig\dev-qc-user-096\config\config.ini" Error="com.ahsay.afc.bfs.cloud.CbfsException\$ParentNotExistExpt: [CloudFileSystem.createFile] Parent directory 'C:\Users\Documents\Design\QA System Design\UserConfig\dev-qc-user-096\config' does not exist at com.ahsay.afc.bfs.cloud.CloudFileSystem.createFile(CloudFileSystem.java:1330) at com.ahsay.afc.bfs.cloud.CloudBasic.backupFile(CloudBasic.java:324) at com.ahsay.obx.util.cfs.CloudBFS.backupFile(CloudBFS.java:1384) at com.ahsay.obx.util.cfs.CloudBFS.backupFile(CloudBFS.java:1369) at com.ahsay.afc.bfs.cloud.CloudBasic.backupFile(CloudBasic.java:240) at com.ahsay.obx.core.backup.file.BackupRequestTask\$Cloud.backupFile(BackupRequestTask.java:1649) at com.ahsay.obx.core.backup.file.BackupRequestTask\$Cloud.backupFile(BackupRequestTask.java:1215) at com.ahsay.obx.core.backup.file.NewFileTask\$Cloud.backup(NewFileTask.java:226) at com.ahsay.obx.core.backup.file.NewFileTask\$Cloud.run(NewFileTask.java:129) at com.ahsay.afc.util.ConcurrencyManager\$2.run(ConcurrencyManager.java:328) at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1142) at java.util.concurrent.ThreadPoolExecutor\$Worker.run(ThreadPoolExecutor.java:617) at java.lang.Thread.run(Thread.java:745) "

To improve the formatting of error messages in AhsayCBS web console logs, follow the steps below to modify the std.css file.

1. Go to CBS_Home\webapps\cbs\at\std.css.
2. Modify the line:


```
table.list_table > tbody > tr >td > dive {
    word-break: normal;
}
to
table.list_table > tbody >tr >td > dive {
    word-break: break-all;
}
```
3. Save the file.
4. Restart the AhsayCBS server.

Backup Error logs will look like this once formatting is applied:

View all the backup errors encountered by all backup users below.

List of Backup Error

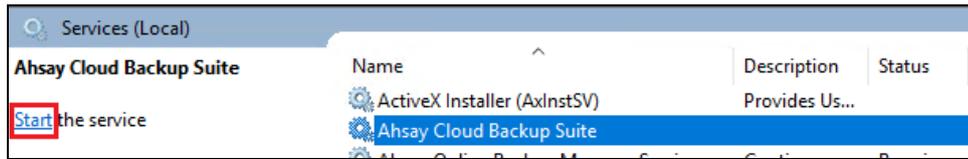
Filter View Page

Timestamp	Login Name	Owner	Backup Set	Destination	Message
01/31/2020 14:11:15	15131	[Removed B ackup Set]	[Removed D estination]		[New File] File="C:\Users\Documents\Design\QA System Design\UserConfig\dev-qc-user-096\config\config.ini" Error="com.ahsay.afc.bfs.cloud.CbfsException\$ParentNotExistExpt: [CloudFileSystem.createFile] Parent directory 'C:\Users\Documents\Design\QA System Design\UserConfig\dev-qc-user-096\config' does not exist at com.ahsay.afc.bfs.cloud.CloudFileSystem.createFile(CloudFileSystem.java:1330) at com.ahsay.afc.bfs.cloud.CloudBasic.backupFile(CloudBasic.java:324) at com.ahsay.obx.util.cfs.CloudBFS.backupFile(CloudBFS.java:1384) at com.ahsay.obx.util.cfs.CloudBFS.backupFile(CloudBFS.java:1369) at com.ahsay.afc.bfs.cloud.CloudBasic.backupFile(CloudBasic.java:240) at com.ahsay.obx.core.backup.file.BackupRequestTask\$Cloud.backupFile(BackupRequestTask.java:1649) at com.ahsay.obx.core.backup.file.BackupRequestTask\$Cloud.backupFile(BackupRequestTask.java:1215) at com.ahsay.obx.core.backup.file.NewFileTask\$Cloud.backup(NewFileTask.java:226) at com.ahsay.obx.core.backup.file.NewFileTask\$Cloud.run(NewFileTask.java:129) at com.ahsay.afc.util.ConcurrencyManager\$2.run(ConcurrencyManager.java:328) at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1142) at java.util.concurrent.ThreadPoolExecutor\$Worker.run(ThreadPoolExecutor.java:617) at java.lang.Thread.run(Thread.java:745) *

For Branded AhsayCBS, aside from modifying the std.css file, follow the instructions below:

1. Login to AhsayCBS.
2. Go to [System Settings] > [Basic] > [Administrative Access] > system user.
3. Select [Rebrand Web Console] > [User Interface] and upload the branded cbs.css file.
4. Click on Save.
5. Re-enter the page and go to [Build Installers] to build the installer.

▶ In Windows



▶ In Linux/FreeBSD

```
# cd /usr/local/cbs/bin
# sh startup.sh
```

6. Login to AhsayCBS web console, the system administrator should be able to login using the username and password only, 2FA will not be required.

7. System administrator may now setup the registered phone number and Twilio credentials.

▶ To set up registered phone number

i. Go to System Settings > Basic > Administrative Access > %System_User_Name% > Authentication. By default Security Settings is off, switch it on by sliding the lever to the right.



ii. Click on the + button. Select the Country Code and enter your phone number then click ✓.



iii. Click ✓ in the succeeding window then  to save the registered phone number.

▶ To set up Twilio credentials

i. Go to System Settings > Basic > Two-Factor Authentication (2FA).

The screenshot shows the AhsayCBS interface for configuring Two-Factor Authentication (2FA). The 'Twilio Credentials Verification' section is active, showing fields for Account SID, Auth Token, and Sender (Phone Number). A 'Test' button is located below the fields. The 'Mobile Authentication' section is also visible but disabled.

ii. Enter the new Account SID, Auth Token and Sender details. Click **Test** then  once done to save the new Twilio credentials.

NOTE

To enhance security, the recovery email feature for Twilio users has been removed for AhsayCBS v8.5.0.0 or above.

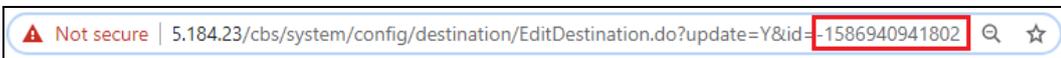
Appendix M How to migrate AWS S3 Compatible Cloud Storage destination to Wasabi Hot Cloud Storage

Before AhsayCBS v8.3.0.30 was released, you may have created a backup set using AWS S3 Compatible Cloud Storage as destination that connects Wasabi Hot Cloud Storage to save backup sets. After AhsayCBS v8.3.0.30 has been released, you may now change AWS S3 Compatible Cloud Storage to backup directly to your Wasabi Hot Cloud Storage. To do this follow the steps below:

1. Take note of the destination ID of the existing AWS S3 Compatible Cloud Storage predefined destination that is connecting to Wasabi. To get the destination ID go to System Settings > Basic > Predefined Destination > %Predefined_Destination_Name%, it is located at the end of the address bar.



2. In AhsayCBS create a new Wasabi Hot Cloud Storage predefined destination. Also take note of the destination ID.



- i. To create the Wasabi Hot Cloud Storage predefined destination go to System Settings > Basic > Predefined Destination and click the  button.



- ii. Provide the following information:

- Name – name of the predefined destination
- Type – type of destination, whether single storage destination or destination pool, for this select Single storage destination
- Destination Storage – the name of destination storage, in this case select Wasabi
- Access Key ID – the access key ID of your Wasabi account
- Access Key Secret – the secret access key of your Wasabi account
- Region – the region of your bucket in Wasabi
- Bucket Name – the name of your bucket in Wasabi, this is optional, if no name is provided a bucket name will be created by AhsayCBS
- Connect with SSL – only check this box if you use SSL to connect to the internet

Add New Predefined Destination

Name
Wasabi-1

Type
 Single storage destination
 Destination pool

Destination Storage
Wasabi

Access Key ID
FS3 [REDACTED] HW2

Access Key Secret
.....

Region
us-west-1

(optional) Bucket Name
[REDACTED]

Connect with SSL

Test

[Sign up for Wasabi](#)

+ X ?

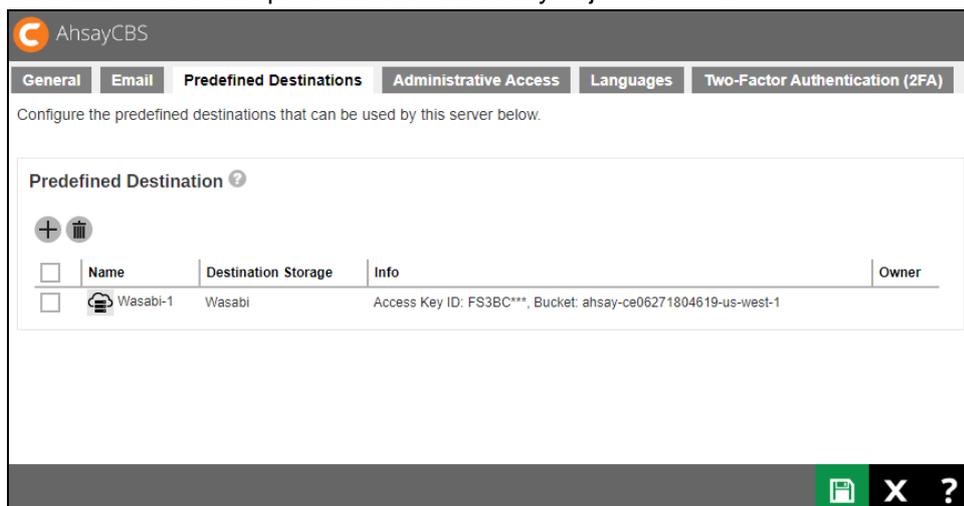
- iii. Click the **Test** button then **OK** in the pop up message that will appear. Click the **+** button to add the predefined destination.

125 [REDACTED] says

OK

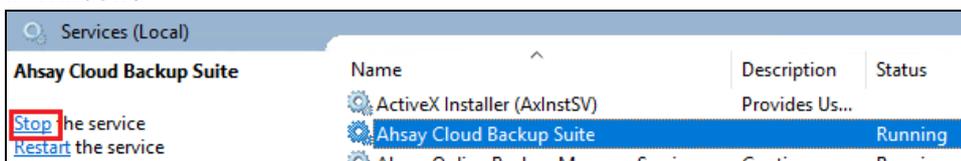
OK

- iv. Click  to save the predefined destination you just created.



3. Stop the AhsayCBS services.

- In Windows



- In Linux/FreeBSD

```
# cd /usr/local/cbs/bin
# sh shutdown.sh
```

4. Replace the destination ID of AWS S3 with the destination ID of Wasabi in the following server text files:

e.g. `<Value data="-1586934300011">` to `<Value data="-1586940941802">`

- %CBS_Home%\conf\users.xml

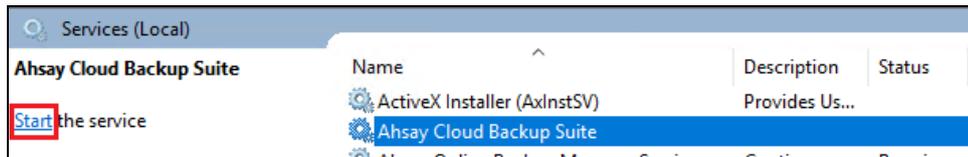
```
<Key name="com.ahsay.obx.cxp.obs.DestinationSettings" content="">
  <Value data="1" name="concurrency-level" type="integer" />
  <Key name="com.ahsay.obx.cxp.obs.SystemDestination" content="" allowMultiple="Y">
    <Value data="-1586940941802" name="id" type="string" />
    <Value data="" name="name" type="string" />
  </Key>
</Key>
```

- %CBS_Home%\system\obs\policies\policyList.xml

```
<Key name="com.ahsay.obx.cxp.cof.policy.userSettings.SystemDestination" content="" allowMultiple="Y">
  <Value data="-1586940941802" name="destination-id" type="string" />
  <Value data="N" name="enable-quota" type="boolean" />
  <Value data="0" name="quota" type="long" />
  <Value data="N" name="run-direct-enabled" type="boolean" />
</Key>
```

5. Start the AhsayCBS services.

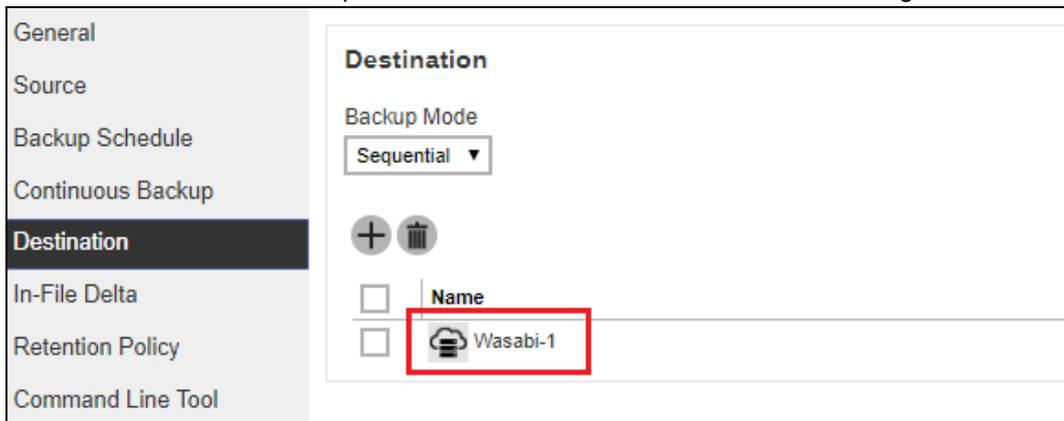
▶ In Windows



▶ In Linux/FreeBSD

```
# cd /usr/local/cbs/bin  
# sh startup.sh
```

6. The destination of the backup set must now be the Wasabi Hot Cloud Storage.



Appendix N How to monitor Run on Server backup Java process from an operating system level

To monitor the Run on Server backup Java process from an operating system level, the following commands can be used on the AhsayCBS server.

In AhsayCBS for Windows, the following command can be used to check the Run on Server backup Java process: **wmic process where caption="java.exe" get commandline.**

Each Run on Server backup process starts with the \$APPLICATION_HOME path. In the example below, there are three backup jobs running.

```
C:\Users\Administrator>wmic process where caption="java.exe" get commandline

"C:\Program Files\AhsayCBS\java\bin\java" -Xms512m -Xmx1024m -
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=lib/WinX64 -cp "C:\Program
Files\AhsayCBS\lib\cbs.jar;C:\Program Files\AhsayCBS\lib\*;C:\Program
Files\AhsayCBS\lib;C:\Program Files\AhsayCBS\tomcat\lib\*" -
Dcom.ahsay.obcs.sch.scheduler=false -Dcom.ahsay.obcs.sch.serverinit=false "-
Dcatalina.base=C:\Program Files\AhsayCBS" RunBackupSet "C:\Program
Files\AhsayCBS" 1593767006824 ALL "Cloud File"
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0ulzfJhC2cJPReetUm29xImsRXNzhxQPMICIB
gMMXzanlAFb9mtmknrvGtkszdbfNAU= I false 2020-07-07-15-54-05 ROSUser
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0ssctUDZdSAWnOeERkREuIxRdd0cLm1Hi0/50
vZMzZhDJ3Q/rucQQFR5WBU+KpFgv/3/r2PJx2pmC7XcfJu+cp1gcZq1qkcb4jTI3AIXqWEoA==
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8QvBb5kBYA9
B8rSVDm6XlfsUaZnNNijIkqhDiMJo=
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0vASWCtVmPYioVyBxBenAD
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP78Dmh7twm
LK6Sf7HA== OBM
"C:\Program Files\AhsayCBS\java\bin\java" -Xms512m -Xmx1024m -
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=lib/WinX64 -cp "C:\Program
Files\AhsayCBS\lib\cbs.jar;C:\Program Files\AhsayCBS\lib\*;C:\Program
Files\AhsayCBS\lib;C:\Program Files\AhsayCBS\tomcat\lib\*" -
Dcom.ahsay.obcs.sch.scheduler=false -Dcom.ahsay.obcs.sch.serverinit=false "-
Dcatalina.base=C:\Program Files\AhsayCBS" RunBackupSet "C:\Program
Files\AhsayCBS" 1593765511356 ALL "Office 365 Exchange Online"
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0ulzfJhC2cJPReetUm29xImsRXNzhxQPMICIB
gMMXzanlAFb9mtmknrvGtkszdbfNAU= I false 2020-07-07-15-54-13 ROSUser
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0ssctUDZdSAWnOeERkREuIxRdd0cLm1Hi0/50
vZMzZhDJ3Q/rucQQFR5WBU+KpFgv/3/r2PJx2pmC7XcfJu+cp1gcZq1qkcb4jTI3AIXqWEoA==
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8QvBb5kBYA9
B8rSVDm6XlfsUaZnNNijIkqhDiMJo=
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0vASWCtVmPYioVyBxBenAD
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP78Dmh7twm
LK6Sf7HA== OBM
"C:\Program Files\AhsayCBS\java\bin\java" -Xms512m -Xmx1024m -
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=lib/WinX64 -cp "C:\Program
Files\AhsayCBS\lib\cbs.jar;C:\Program Files\AhsayCBS\lib\*;C:\Program
Files\AhsayCBS\lib;C:\Program Files\AhsayCBS\tomcat\lib\*" -
Dcom.ahsay.obcs.sch.scheduler=false -Dcom.ahsay.obcs.sch.serverinit=false "-
Dcatalina.base=C:\Program Files\AhsayCBS" RunBackupSet "C:\Program
Files\AhsayCBS" 1593765066840 ALL "Cloud File"
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0ulzfJhC2cJPReetUm29xImsRXNzhxQPMICIB
```

```
gMMXzan1AFb9mtmknrvGtktzdbfNAU= I false 2020-07-07-15-54-21 ROSUser
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0sscTUDZdSAWnOeERkREuIxRdd0cLm1Hi0/50
vZMZhDJ3Q/rucQQFR5WBU+KpFgv/3/r2PJx2pmC7XcfJu+cp1gcqz1qkcb4jTI3AIXqWEoA==
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8QvBb5kBYA9
B8rSVDm6XlfsUaZnNijIkqhDiMJo=
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0vASWctVmPYioVyBxBenAD
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP78Dmh7twm
LK6Sf7HA== OBM
```

In AhsayCBS for Linux there are two commands that can be used to check the Run on Server backup Java process.

- You can use the `ps -ef|grep RunBackupSet` command to list only the Run on Server backup jobs that are running. To easily identify the backup job that is running, it starts with the username then the process ID. In the example below, there are three Run on Server backup jobs that are running.

```
# ps -ef|grep RunBackupSet

root      6491    6304 17 22:15 pts/3    00:00:03 /usr/local/cbs/java-linux-
x64/bin/java -Xms512m -Xmx1024m -XX:MaxDirectMemorySize=1024m -
Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=/usr/local/cbs/lib/LinX64 -cp
/usr/local/cbs/lib/cbs.jar:/usr/local/cbs/lib/*:/usr/local/cbs/lib:/usr/local
/cbs/tomcat/lib/* -Dcom.ahsay.obcs.sch.scheduler=false -
Dcom.ahsay.obcs.sch.serverinit=false -Dcatalina.base=/usr/local/cbs
RunBackupSet /usr/local/cbs 1593776649249 ALL Cloud File
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0uyzIAFFlBJq1ZNFwllKxfODE8gZiYInGbCq
IX/97xW/A== F true 2020-07-03-22-15-42 ROSUser
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0t9RweXikmaghJq5Aic6cADx3k7FY2lmwUjW
GKgrlxTlqfC6A6I8VTVW5G1SJ/5iOZ2ruA/FXcgG+sGwJLXFBrLAJNvRgI+8c7t8nMukIBAJA==
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8QvBb5kBYA
9B8rSVDm6XlfsUaZnNijIkqhDiMJo=
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0vASWctVmPYioVyBxBenAD
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP78Dmh7tw
mLK6Sf7HA== OBM

root      6519    6304 34 22:15 pts/3    00:00:03 /usr/local/cbs/java-linux-
x64/bin/java -Xms512m -Xmx1024m -XX:MaxDirectMemorySize=1024m -
Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=/usr/local/cbs/lib/LinX64 -cp
/usr/local/cbs/lib/cbs.jar:/usr/local/cbs/lib/*:/usr/local/cbs/lib:/usr/local
/cbs/tomcat/lib/* -Dcom.ahsay.obcs.sch.scheduler=false -
Dcom.ahsay.obcs.sch.serverinit=false -Dcatalina.base=/usr/local/cbs
RunBackupSet /usr/local/cbs 1593784149501 ALL Office 365 Exchange Online
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0uyzIAFFlBJq1ZNFwllKxfODE8gZiYInGbCq
IX/97xW/A== F false 2020-07-03-22-15-52 ROSUser
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0t9RweXikmaghJq5Aic6cADx3k7FY2lmwUjW
GKgrlxTlqfC6A6I8VTVW5G1SJ/5iOZ2ruA/FXcgG+sGwJLXFBrLAJNvRgI+8c7t8nMukIBAJA==
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8QvBb5kBYA
9B8rSVDm6XlfsUaZnNijIkqhDiMJo=
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0vASWctVmPYioVyBxBenAD
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP78Dmh7tw
mLK6Sf7HA== OBM

root      6549    6304 95 22:15 pts/3    00:00:03 /usr/local/cbs/java-linux-
```

```
x64/bin/java -Xms512m -Xmx1024m -XX:MaxDirectMemorySize=1024m -
Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=/usr/local/cbs/lib/LinX64 -cp
/usr/local/cbs/lib/cbs.jar:/usr/local/cbs/lib/*:/usr/local/cbs/lib:/usr/local
/cbs/tomcat/lib/* -Dcom.ahsay.obcs.sch.scheduler=false -
Dcom.ahsay.obcs.sch.serverinit=false -Dcatalina.base=/usr/local/cbs
RunBackupSet /usr/local/cbs 1593785006625 ALL Cloud File
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0uvzIAFFlBJqlZNFwlLKxf0De8gZiYInGbCq
IX/97xW/A== F false 2020-07-03-22-16-00 ROSUser
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0t9RweXikmaghJq5Aic6cADx3k7FY2lmwUjW
GKgrlxTlqfC6A6I8VTVW5G1SJ/5iOZ2ruA/FXcgG+sGwJLXFBrlAJNvRgI+8c7t8nMukIBAJA==
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8QvBb5kBYA
9B8rSVDm6X1fsUaZnNnijIkqhDimJo=
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0vASWctVmPYioVybBxBenAD
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP78Dmh7tw
mLK6Sf7HA== OBM

root      6577   5818   0 22:16 pts/0      00:00:00 grep --color=auto
RunBackupSet
```

- Or you can use the `ps -aux|grep java` command to list all the processes using java to run. This also starts with the username then the process ID to identify the running processes. In the example below, the first process you will see is the AhsayCBS process and the next three processes are the Run on Server backup jobs that are running.

```
# ps -aux|grep java

root      16820   3.3   6.8 5810040 552284 pts/2    S1   16:16   0:51
/usr/local/cbs/java/bin/java -
Djava.util.logging.config.file=/usr/local/cbs/conf/logging.properties -
Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager -
Djava.library.path=/usr/local/cbs/lib/LinX64 -DCATALINA_PID=/var/run/obsr.pid
-Xrs -Xms512m -Xmx2048m -Xss384k -XX:MetaspaceSize=96m -
XX:MaxMetaspaceSize=256m -XX:MaxDirectMemorySize=512m -XX:NewRatio=3 -
XX:SurvivorRatio=32 -XX:MinHeapFreeRatio=20 -XX:MaxHeapFreeRatio=80 -
XX:+PrintGCDetails -XX:+PrintGCDateStamps -XX:+UseConcMarkSweepGC -
XX:+UseCMSInitiatingOccupancyOnly -XX:CMSInitiatingOccupancyFraction=85 -
XX:+ScavengeBeforeFullGC -XX:+CMSScavengeBeforeRemark -
Dsun.net.inetaddr.ttl=3600 -Dnetworkaddress.cache.ttl=3600 -
Dsun.net.inetaddr.negative.ttl=300 -Dnetworkaddress.cache.negative.ttl=300 -
Dsun.nio.PageAlignDirectMemory=true -Djava.net.preferIPv4Stack=true -
Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager -
Djava.util.logging.config.file=conf/logging.properties -Dtc.work.path=work -
Dtc.log.path=logs -Djavax.servlet.context.tempdir=work -
Djdk.nio.maxCachedBufferSize=262144 -Dfile.encoding=UTF-8 -
Dsun.jnu.encoding=UTF-8 -Djdk.tls.ephemeralDHKeySize=2048 -
Djava.protocol.handler.pkgs=org.apache.catalina.webresources -
Dorg.apache.catalina.security.SecurityListener.UMASK=0027 -
Dignore.endorsed.dirs= -classpath
/usr/local/cbs/tomcat/bin/bootstrap.jar:/usr/local/cbs/tomcat/bin/tomcat-
juli.jar -Dcatalina.base=/usr/local/cbs -Dcatalina.home=/usr/local/cbs/tomcat
-Djava.io.tmpdir=/usr/local/cbs/temp org.apache.catalina.startup.Bootstrap
start

root      17074 3.0 2.8 3712820 228680 pts/2    S1   16:41   0:03
/usr/local/cbs/java-linux-x64/bin/java -Xms512m -Xmx1024m -
```

```
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=/usr/local/cbs/lib/LinX64 -cp
/usr/local/cbs/lib/cbs.jar:/usr/local/cbs/lib/*:/usr/local/cbs/lib:/usr/local
/cbs/tomcat/lib/* -Dcom.ahsay.obcs.sch.scheduler=false -
Dcom.ahsay.obcs.sch.serverinit=false -Dcatalina.base=/usr/local/cbs
RunBackupSet /usr/local/cbs 1593776649249 ALL Cloud File
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0uvzIAFFlBJq1ZNFwlLKxfODE8gZiYInGbCq
IX/97xw/A== I true 2020-07-07-16-41-11 ROSUser
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0t9RweXikmaghJq5Aic6cADx3k7FY2lmwUjW
GKgrlxTlqfC6A6I8VTVW5G1SJ/5iOZ2ruA/FXcgG+sGwJLXFBrlAJNvRgI+8c7t8nMukIBAJA==
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8QvBb5kBYA
9B8rSvDM6XlfsUaZnNnijIkqhDimJo=
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0vASWctVmPYioVybBxBenAD
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP78Dmh7tw
mLK6Sf7HA== OBM
```

```
root 17103 26.1 2.7 3712820 221984 pts/2 S1 16:41 0:03
/usr/local/cbs/java-linux-x64/bin/java -Xms512m -Xmx1024m -
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=/usr/local/cbs/lib/LinX64 -cp
/usr/local/cbs/lib/cbs.jar:/usr/local/cbs/lib/*:/usr/local/cbs/lib:/usr/local
/cbs/tomcat/lib/* -Dcom.ahsay.obcs.sch.scheduler=false -
Dcom.ahsay.obcs.sch.serverinit=false -Dcatalina.base=/usr/local/cbs
RunBackupSet /usr/local/cbs 1593784149501 ALL Office 365 Exchange Online
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0uvzIAFFlBJq1ZNFwlLKxfODE8gZiYInGbCq
IX/97xw/A== I false 2020-07-07-16-41-24 ROSUser
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0t9RweXikmaghJq5Aic6cADx3k7FY2lmwUjW
GKgrlxTlqfC6A6I8VTVW5G1SJ/5iOZ2ruA/FXcgG+sGwJLXFBrlAJNvRgI+8c7t8nMukIBAJA==
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8QvBb5kBYA
9B8rSvDM6XlfsUaZnNnijIkqhDimJo=
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0vASWctVmPYioVybBxBenAD
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP78Dmh7tw
mLK6Sf7HA== OBM
```

```
root 17132 84.7 2.8 3712820 227676 pts/2 S1 16:41 0:03
/usr/local/cbs/java-linux-x64/bin/java -Xms512m -Xmx1024m -
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=/usr/local/cbs/lib/LinX64 -cp
/usr/local/cbs/lib/cbs.jar:/usr/local/cbs/lib/*:/usr/local/cbs/lib:/usr/local
/cbs/tomcat/lib/* -Dcom.ahsay.obcs.sch.scheduler=false -
Dcom.ahsay.obcs.sch.serverinit=false -Dcatalina.base=/usr/local/cbs
RunBackupSet /usr/local/cbs 1593785006625 ALL Cloud File
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0uvzIAFFlBJq1ZNFwlLKxfODE8gZiYInGbCq
IX/97xw/A== I true 2020-07-07-16-41-33 ROSUser
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0t9RweXikmaghJq5Aic6cADx3k7FY2lmwUjW
GKgrlxTlqfC6A6I8VTVW5G1SJ/5iOZ2ruA/FXcgG+sGwJLXFBrlAJNvRgI+8c7t8nMukIBAJA==
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8QvBb5kBYA
9B8rSvDM6XlfsUaZnNnijIkqhDimJo=
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0vASWctVmPYioVybBxBenAD
QgsSo/AkSjvTl0OVjcf/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP78Dmh7tw
mLK6Sf7HA== OBM
```

```
root 17159 0.0 0.0 112712 980 pts/0 R+ 16:41 0:00 grep --
color=auto java
```

In AhsayCBS for FreeBSD, there are two steps to check the Run on Server backup Java process.

1. First find the process ID using the `ps -aux|grep java` command. To identify each process that is running, it also starts with the username then the process ID. In the example below, you will see the AhsayCBS process and two Run on Server backup jobs that are running. The first two processes are the Run on Server backup and the last process is the AhsayCBS process.

```
# ps -aux|grep java
root 68150 144.9 0.5 2455244 21896 2 S 17:20 0:12.39
/usr/local/cbs/jvm/jre/bin/java -Xms512m -Xmx1024m -
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlign

root 68151 42.6 0.4 1349592 16152 2 S 17:20 0:02.96
/usr/local/cbs/jvm/jre/bin/java -Xms512m -Xmx1024m -
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlign

root 59569 18.5 16.3 3825776 676432 2 I 10:32 26:30.41
/usr/local/cbs/java/bin/java -
Djava.util.logging.config.file=/usr/local/cbs/conf/logging.properties

root 68153 0.0 0.1 14828 2096 4 S+ 17:20 0:00.55 grep java
```

2. Then use `procstat -c [process ID]` to display the details of the Run on Server backup Java process.

```
# procstat -c 68150

PID COMM          ARGS

68150 java             /usr/local/cbs/jvm/jre/bin/java -Xms512m -Xmx1024m -
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=/usr/local/cbs/lib/FbdX64 -cp
/usr/local/cbs/lib/cbs.jar:/usr/local/cbs/lib/*:/usr/local/cbs/lib:/usr/local
/cbs/tomcat/lib/* -Dcom.ahsay.obcs.sch.scheduler=false -
Dcom.ahsay.obcs.sch.serverinit=false -Dcatalina.base=/usr/local/cbs
RunBackupSet /usr/local/cbs 1594037087130 ALL Cloud File
QgsSo/AkSjvTl0OVjcF/W9dcqxOKiFnVqI/A9Le/N0uvzIAFFlBJq1ZNFwlLKxfODE8gZiYInGbCq
IX/97xw/A== I true 2020-07-07-17-20-06 ROSUser
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0s89Y0XStiERf9PjB9NZu/iqbTHxSAA5l1w6
nKgeWtBZqUnoT0hgp5X7PQTqTcvX1WcOHdUHHUUUnnRwBYWnCH5rY+qkScYei6KtEg4yB0wlQ==
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8QvBb5kBYA
9B8rSvDM6XlfsUaZnNnijIkqhDiMJo=
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0uzvzj1uNHq9X3XpxeAQo7ljqISmlnwlTgT9
xva+0YL4A==
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP78Dmh7tw
mLK6Sf7HA== OBM

# procstat -c 68151

PID COMM          ARGS

68151 java             /usr/local/cbs/jvm/jre/bin/java -Xms512m -Xmx1024m -
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=/usr/local/cbs/lib/FbdX64 -cp
/usr/local/cbs/lib/cbs.jar:/usr/local/cbs/lib/*:/usr/local/cbs/lib:/usr/local
```

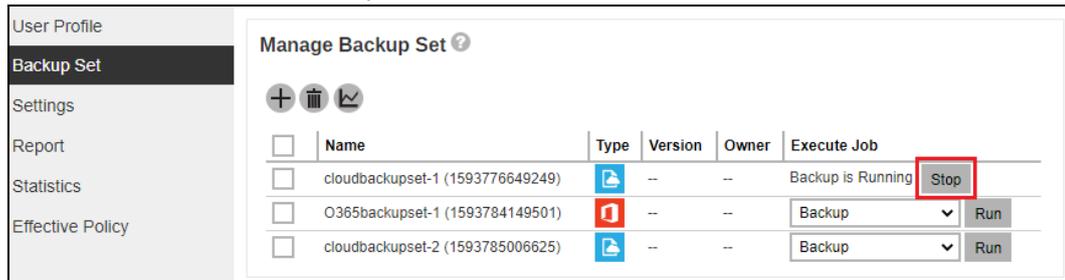
```
/cbs/tomcat/lib/* -Dcom.ahsay.obcs.sch.scheduler=false -  
Dcom.ahsay.obcs.sch.serverinit=false -Dcatalina.base=/usr/local/cbs  
RunBackupSet /usr/local/cbs 1594037275026 ALL Cloud File  
QgsSo/AkSjvTlOOVjcF/W9dcqxQKiFnVqI/A9Le/N0uvzIAFFlBJq1ZNFwlLKxfODE8gZiYInGbCq  
IX/97xW/A== I true 2020-07-07-17-20-15 ROSUser  
QgsSo/AkSjvTlOOVjcF/W9dcqxQKiFnVqI/A9Le/N0s89Y0XStiERf9PjB9NZu/iqbTHxSAA511w6  
nKgeWtBZqUnoT0hgp5X7PQTqTcvX1WcOHdUHHHUUnnRwBYWnCH5rY+qkScYei6KtEg4yB0wlQ==  
QgsSo/AkSjvTlOOVjcF/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8QvBb5kBYA  
9B8rSVDm6XlfsUaZnNNijIkqhDiMJo=  
QgsSo/AkSjvTlOOVjcF/W9dcqxQKiFnVqI/A9Le/N0uzvzj1uNHq9X3XpxeAQo71jqISmlnwlTgT9  
xva+0YL4A==  
QgsSo/AkSjvTlOOVjcF/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KixvhC0SrP78Dmh7tw  
mLK6Sf7HA== OBM
```

Appendix O How to terminate unresponsive Run on Server backup jobs

In situations where a Run on Server backup job encounters errors/warnings, becomes unresponsive or appears to be “stuck”, or even crashes; the following methods can be used to terminate the problematic backup job.

Terminate a Run on Server backup job in this order:

1. Use the **Stop** button in AhsayCBS



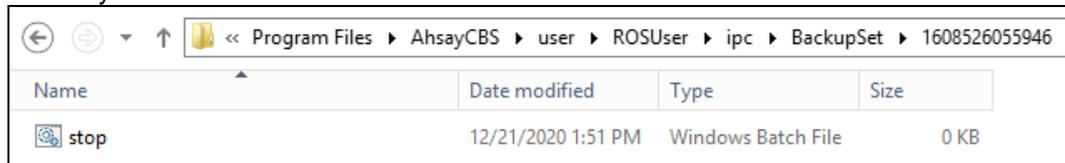
<input type="checkbox"/>	Name	Type	Version	Owner	Execute Job
<input type="checkbox"/>	cloudbackupset-1 (1593776649249)		--	--	Backup is Running Stop
<input type="checkbox"/>	O365backupset-1 (1593784149501)		--	--	Backup <input type="button" value="Run"/>
<input type="checkbox"/>	cloudbackupset-2 (1593785006625)		--	--	Backup <input type="button" value="Run"/>

NOTE

This will only work for manually triggered backup job.

2. Create an empty “stop” file in %USER_HOME%/user%/ipc/BackupSet/%backup set ID%/ if “running” is found

In AhsayCBS for Windows:



Name	Date modified	Type	Size
stop	12/21/2020 1:51 PM	Windows Batch File	0 KB

In AhsayCBS for Linux/FreeBSD:

```
# touch /usr/local/cbs/user/ROSUser/ipc/BackupSet/1593753612991/stop
```

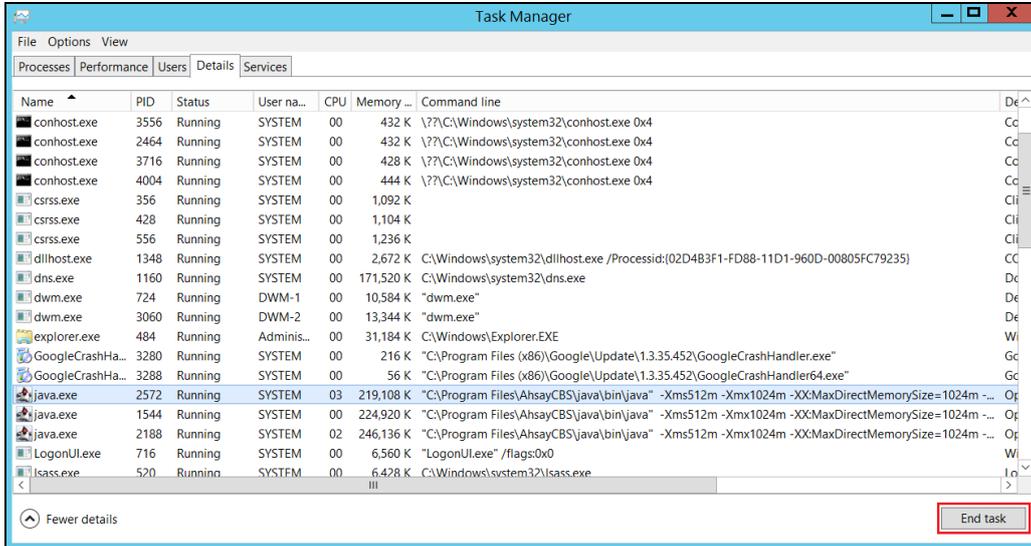
In AhsayUBS:

```
# touch /ubs/mnt/esfmfw/obsr/system/obsr/user/jbl/ipc/BackupSet/1594198116726/stop
```

3. Use the Windows Task Manager to end task or kill in Linux

In AhsayCBS for Windows:

Go to the Windows Task Manager, select the backup job (java.exe) that you want to stop and click **End task**.



In AhsayCBS for Linux:

Type `ps -aux|grep java`. Locate the process ID of the backup job (`%java home% -Xms%xms% -Xmx%xm% -XX:MaxDirectMemorySize=1024`) that you want to stop. Then use the kill command.

```
# ps -aux|grep java

root      6491  4.3  2.8 4799704 226524 pts/3  Sl   22:15   0:03
/usr/local/cbs/java-linux-x64/bin/java -Xms512m -Xmx1024m -
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlignDirectMemory=true -
Xrs -Djava.library.path=/usr/local/cbs/lib/LinX64 -cp
/usr/local/cbs/lib/cbs.jar:/usr/local/cbs/lib/*:/usr/local/cbs/lib:/u
sr/local/cbs/tomcat/lib/* -Dcom.ahsay.obcs.sch.scheduler=false -
Dcom.ahsay.obcs.sch.serverinit=false -Dcatalina.base=/usr/local/cbs
RunBackupSet /usr/local/cbs 1593776649249 ALL Cloud File
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0uvzIAFFlBJq1ZNFwllKxfODE8gz
iYInGbCqIX/97xw/A== F true 2020-07-03-22-15-42 ROSUser
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0t9RweXikmaghJq5Aic6cADx3k7F
Y2lmwUjWgKgrlxTlqfC6A6I8VTVW5G1Sj/5ioZ2ruA/FXcgG+sGwJLXFBr1AJNvRgI+8c
7t8nMukIBAJA==
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8Q
vBb5kBYA9B8rSvDM6XlfsUaZnNNijIkqhDiMJo=
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0vASWctVmPYioVyBxBenAD
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP
78Dmh7twmLK6Sf7HA== OBM

# kill -9 6491
```

In AhsayCBS for FreeBSD:

Use the ps -aux|grep java command to locate the process ID of the backup job (%java home% -Xms%mx% -Xmx%mx% -XX:MaxDirectMemorySize=1024) that you want to stop. Check the details of the Run on Server backup Java process to make sure that you are terminating the correct backup job by using the procstat -c [process ID] command. Then use the kill command.

```
# ps -aux|grep java

root 68150 144.9 0.5 2455244 21896 2 S 17:20 0:12.39
/usr/local/cbs/jvm/jre/bin/java -Xms512m -Xmx1024m -
XX:MaxDirectMemorySize=1024m -Dsun.nio.PageAlign

# procstat -c 68150

PID COMM ARGVS

68150 java /usr/local/cbs/jvm/jre/bin/java -Xms512m -
Xmx1024m -XX:MaxDirectMemorySize=1024m -
Dsun.nio.PageAlignDirectMemory=true -Xrs -
Djava.library.path=/usr/local/cbs/lib/FbdX64 -cp
/usr/local/cbs/lib/cbs.jar:/usr/local/cbs/lib/*:/usr/local/cbs/lib:/u
sr/local/cbs/tomcat/lib/* -Dcom.ahsay.obcs.sch.scheduler=false -
Dcom.ahsay.obcs.sch.serverinit=false -Dcatalina.base=/usr/local/cbs
RunBackupSet /usr/local/cbs 1594037087130 ALL Cloud File
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0uvzIAFFlBJq1ZNFwlLKxfODE8gZ
iYInGbCqIX/97xw/A== I true 2020-07-07-17-20-06 ROSUser
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0s89Y0XStiERf9PjB9NZu/iqbTHx
SAA5l1w6nKgeWtBZqUnoT0hgp5X7PQTqTcvX1WcOHdUHHHUUnnRwBYWnCH5rY+qkScYei
6KtEg4yB0wlQ==
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0voJhU2PJUcvVdhX9RRqMqfFqf8Q
vBb5kBYA9B8rSVDM6XlfsUaZnNNijIkqhDiMJo=
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0uzvzj1uNHq9X3XpxeAQo7ljqISM
lnwlTgT9xva+0YL4A==
QgsSo/AkSjvTl0OVjcF/W9dcqxQKiFnVqI/A9Le/N0v1S0NsRs2pazhxGk4KIxvhC0SrP
78Dmh7twmLK6Sf7HA== OBM

# kill -9 68150
```

Appendix P Setting the Data Synchronization Check (DSC)

Data Synchronization Check (DSC) is enabled by default and will run every 60 days.

Assumption: AhsayOBM Installation path is **C:\Program Files\AhsayOBM**

To disable the data synchronization check, follow the instructions below:

1. Make sure there are no active backup or restore job running.
2. Close AhsayOBM UI.
3. Stop the Ahsay Online Backup Manager Services.
4. Go to C:\Program Files\AhsayOBM\ folder.
5. Open **cb.opt** file using a text editor such as Notepad or Notepad++.
6. Add this line, `Office365.DSCInterval=-1`
A value of **-1** indicates data synchronization check is disabled.
7. Start the Ahsay Online Backup Manager Services.

To check if the data synchronization check is enabled, follow the instructions below:

1. Go to C:\Program Files\AhsayOBM\ folder.
2. Open **cb.opt** file using a text editor such as Notepad or Notepad++.
3. Look for this line, `Office365.DSCInterval=xx`.

Note:

If **xx** is a positive value this indicates the data synchronization check is enabled and represents the interval number of days until the next run of data synchronization check.

-OR-

If the interval value is not **-1**.

To adjust the interval number of days, follow the instructions below:

1. Make sure there are no active backup/restore job running.
2. Close AhsayOBM UI.
3. Stop the Ahsay Online Backup Manager Services.
4. Go to C:\Program Files\AhsayOBM\ folder.
5. Open **cb.opt** file using a text editor such as Notepad or Notepad++.
6. Change the interval number.

For example:

Current interval: `Office365.DSCInterval=60`

Updated interval: `Office365.DSCInterval=10`

Explanation:

On the current interval, the number of days is 60. While in the updated interval, the number of days is reduced to 10.

WARNING

If the interval value is 0, `Office365.DSCInterval=0`, then the Data Synchronization Check (DSC) will run for every backup job.

7. Start the Ahsay Online Backup Manager services.

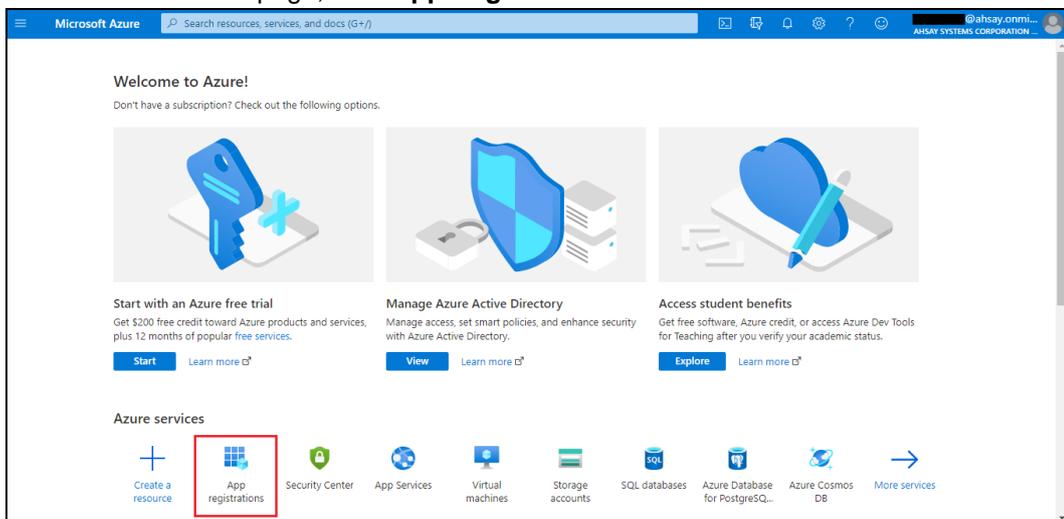
Appendix Q How to create a new app in the Azure Active Directory

In order to obtain the redirect URI that will be used in your branded pages, a new app must be created in the Azure Active Directory using the App Registrations.

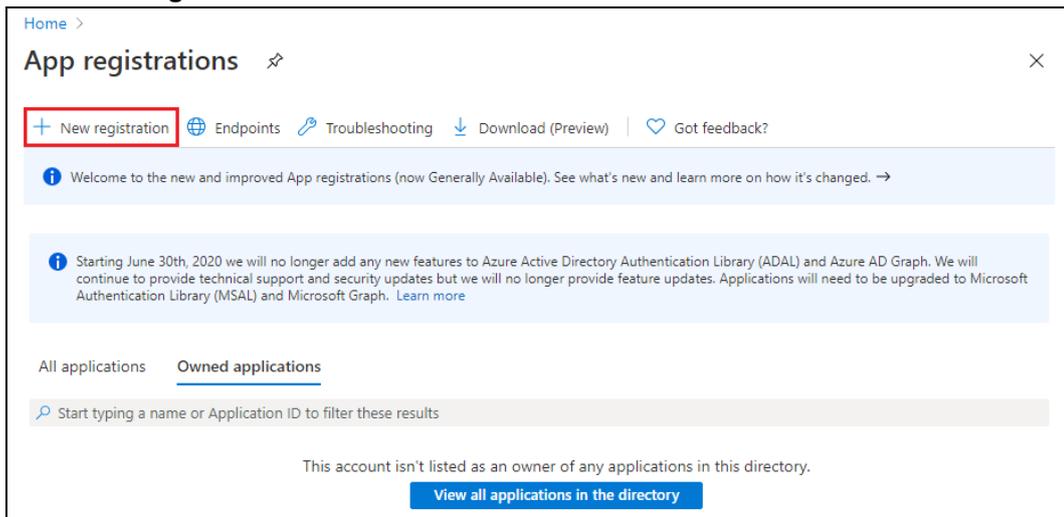
To support the customization of Azure AD App for Modern App Authentication, an Azure AD subscription is required, e.g. for Office 365 Apps a Premium P1 and Premium P2 licenses of Azure AD subscriptions is required. As the free version of Azure AD does not support granting admin consent for the Exchange/SharePoint related APIs via New App Registration. Please refer to Microsoft for details of [Azure AD subscription plans](#).

Once you have the required subscription, follow the instructions below on how to do this:

1. Login to [Azure AD](#).
2. On the bottom of the page, click **App Registrations**.



3. Click **New Registration**.



4. Enter the **Name** of the app and under **Supported account types** select “Accounts in any organizational directory (Any Azure AD directory – Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)” then click **Register**.

Home > App registrations >

Register an application

* Name

The user-facing display name for this application (this can be changed later).

branded ✓

Supported account types

Who can use this application or access this API?

- Accounts in this organizational directory only (Ahsay Systems Corporation Limited only - Single tenant)
- Accounts in any organizational directory (Any Azure AD directory - Multitenant)
- Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)
- Personal Microsoft accounts only

By proceeding, you agree to the [Microsoft Platform Policies](#)

Register

5. On the left panel click **Authentication** then **Add a platform**.

Home > App registrations > branded

branded | Authentication

Search (Ctrl+/) Save Discard Got feedback?

Overview
Quickstart
Integration assistant | Preview

Manage

- Branding
- Authentication**
- Certificates & secrets
- Token configuration
- API permissions
- Expose an API
- Owners
- Roles and administrators | Pre...

Platform configurations

Depending on the platform or device this application is targeting, additional configuration may be required such as redirect URIs, specific authentication settings, or fields specific to the platform.

+ Add a platform

Supported account types

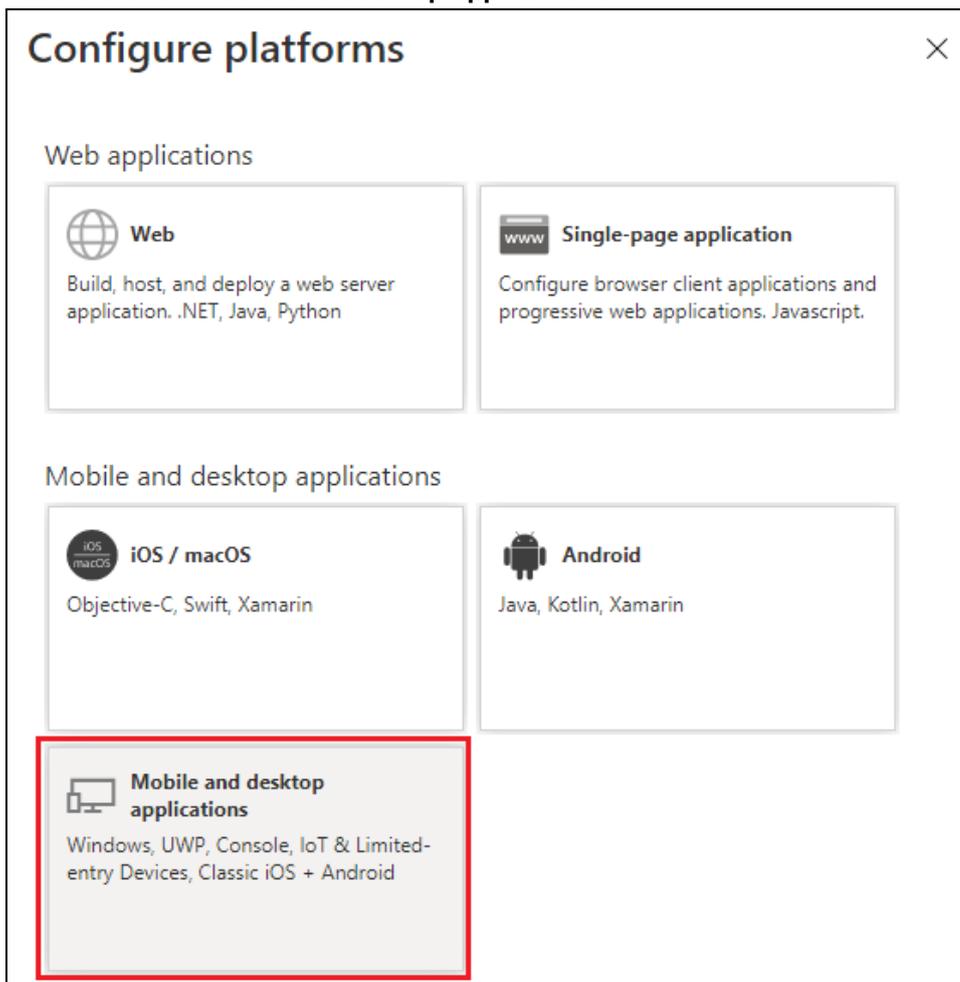
Who can use this application or access this API?

- Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)**

All users with a work or school, or personal Microsoft account can use your application or API. This includes Office 365 subscribers.

⚠ To change the supported accounts for an existing registration, use the manifest editor. Take care, as certain properties may cause errors for personal accounts. [Learn more about these restrictions.](#)

6. Double click on **Mobile and desktop applications**.



7. Check all three (3) checkboxes and enter the Authorization code redirect customized URI (e.g. <https://www.yourdomain.com/register/oauth2-microsoft365.jsp>). Click **Configure**.

Configure Desktop + devices

< All platforms Quickstart Docs

Redirect URIs

The URIs we will accept as destinations when returning authentication responses (tokens) after successfully authenticating users. Also referred to as reply URLs. [Learn more about Redirect URIs and their restrictions](#)

- <https://login.microsoftonline.com/common/oauth2/nativeclient>
- [https://login.live.com/oauth20_desktop.srf \(LiveSDK\)](https://login.live.com/oauth20_desktop.srf (LiveSDK))
- [msal6065f17-1214-4cd5-b197-78ee51e7acf1://auth \(MSAL only\)](msal6065f17-1214-4cd5-b197-78ee51e7acf1://auth (MSAL only))

Custom redirect URIs

Configure Cancel

8. Click **Add URI** and enter the Admin consent endpoint redirect customized URI (e.g. <https://www.yourdomain.com/register/oauth2-permission365.jsp>). Click **Save**.

Home > App registrations > branded

branded | Authentication

Search (Ctrl+/) Save Discard Got feedback?

Overview Quickstart Integration assistant | Preview

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- Branding
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- Token configuration
- API permissions
- Expose an API
- Owners
- Roles and administrators | Pre...
- Manifest

redirect URIs, specific authentication settings, or fields specific to the platform.

+ Add a platform

Mobile and desktop applications

Redirect URIs

The URIs we will accept as destinations when returning authentication responses (tokens) after successfully authenticating users. Also referred to as reply URLs. [Learn more about Redirect URIs and their restrictions](#)

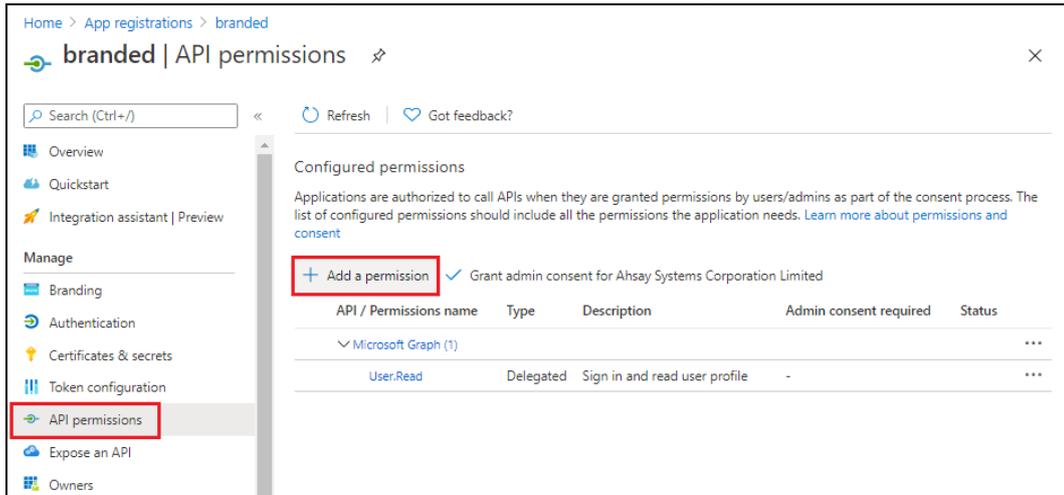
- <https://login.microsoftonline.com/common/oauth2/nativeclient>
- [https://login.live.com/oauth20_desktop.srf \(LiveSDK\)](https://login.live.com/oauth20_desktop.srf (LiveSDK))
- [msal6065f17-1214-4cd5-b197-78ee51e7acf1://auth \(MSAL only\)](msal6065f17-1214-4cd5-b197-78ee51e7acf1://auth (MSAL only))
- <https://www.yourdomain.com/register/oauth2-microsoft365.jsp>
- <https://www.yourdomain.com/register/oauth2-permission365.jsp>

Add URI

NOTE

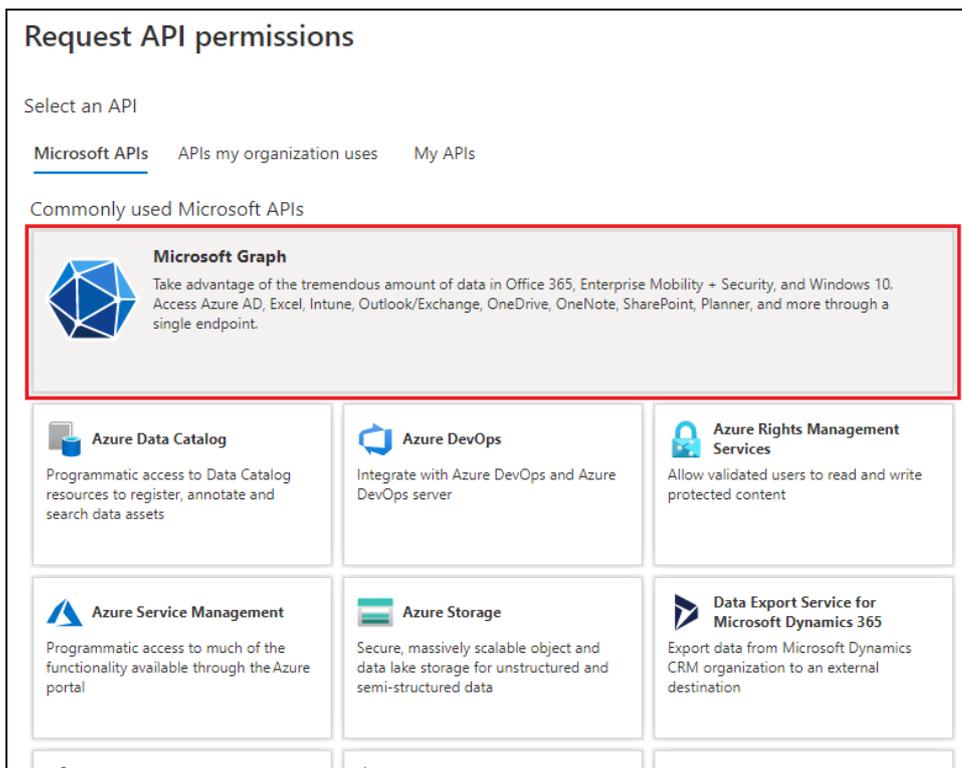
Examples of the `oauth2-microsoft365.jsp` and `oauth2-permission365.jsp` files can be downloaded from here <https://download.ahsay.com/support/document/v8/app-reg-microsoft365.zip>.

9. On the left panel go to **API permissions**, then click **Add a permission**.



10. Add the permissions for [Microsoft Graph](#), [SharePoint](#) and [Exchange](#).

Click on **Microsoft Graph**.



Click **Delegated permissions**. Check the box beside the following permissions:

- email
- profile
- User.Read.All

Request API permissions

< All APIs

Microsoft Graph
<https://graph.microsoft.com/> Docs

What type of permissions does your application require?

Delegated permissions
Your application needs to access the API as the signed-in user.

Application permissions
Your application runs as a background service or daemon without a signed-in user.

Select permissions expand all

Start typing a reply url to filter these results

Permission	Admin consent required
<p>OpenId permissions (2)</p>	
<input checked="" type="checkbox"/> email View users' email address	-
<input type="checkbox"/> offline_access Maintain access to data you have given it access to	-
<input type="checkbox"/> openid Sign users in	-
<input checked="" type="checkbox"/> profile View users' basic profile	-
<p>User (1)</p>	
<input type="checkbox"/> User.Export.All Export user's data	Yes
<input type="checkbox"/> User.Invite.All Invite guest users to the organization	Yes
<input type="checkbox"/> User.ManageIdentities.All Manage user identities	Yes
<input type="checkbox"/> User.Read Sign in and read user profile	-
<input checked="" type="checkbox"/> User.Read.All Read all users' full profiles	Yes
<input type="checkbox"/> User.ReadBasic.All Read all users' basic profiles	-

Then go to **Application permissions**. Check the box beside the following permissions:

- Organization.Read.All
- User.ReadWrite.All

Then click **Add permissions**.

Request API permissions

< All APIs

Microsoft Graph
<https://graph.microsoft.com/> Docs

What type of permissions does your application require?

Delegated permissions
Your application needs to access the API as the signed-in user.

Application permissions
Your application runs as a background service or daemon without a signed-in user.

Select permissions expand all

Start typing a reply url to filter these results

Permission	Admin consent required
Organization (1)	
<input checked="" type="checkbox"/> Organization.Read.All ⓘ Read organization information	Yes
<input type="checkbox"/> Organization.ReadWrite.All ⓘ Read and write organization information	Yes
User (1)	
<input type="checkbox"/> User.Export.All ⓘ Export user's data	Yes
<input type="checkbox"/> User.Invite.All ⓘ Invite guest users to the organization	Yes
<input type="checkbox"/> User.ManageIdentities.All ⓘ Manage all users' identities	Yes
<input type="checkbox"/> User.Read.All ⓘ Read all users' full profiles	Yes
<input checked="" type="checkbox"/> User.ReadWrite.All ⓘ Read and write all users' full profiles	Yes

Add permissions Discard

You can see that the permissions added for Microsoft Graph will be listed. Do the same process to add permissions for SharePoint. Click **Add a permission**.

Home > App registrations > branded

branded | API permissions

Search (Ctrl+/) Refresh Got feedback?

You are editing permission(s) to your application, users will have to consent even if they've already done so previously.

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission Grant admin consent for Ahsay Systems Corporation Limited

API / Permissions name	Type	Description	Admin consent required	Status
Microsoft Graph (5)				
email	Delegated	View users' email address	-	...
Organization.Read.All	Applicati...	Read organization information	Yes	No... ..
profile	Delegated	View users' basic profile	-	...
User.Read.All	Delegated	Read all users' full profiles	Yes	No... ..
User.ReadWrite.All	Applicati...	Read and write all users' full pr...	Yes	No... ..

Click **SharePoint**.

Request API permissions

<p>Intune Programmatic access to Intune data</p>	<p>Office 365 Management APIs Retrieve information about user, admin, system, and policy actions and events from Office 365 and Azure AD activity logs</p>	<p>OneNote Create and manage notes, lists, pictures, files, and more in OneNote notebooks</p>
<p>Power BI Service Programmatic access to Dashboard resources such as Datasets, Tables, and Rows in Power BI</p>	<p>PowerApps Runtime Service Powerful data storage, modeling, security and integration capabilities</p>	<p>SharePoint Interact remotely with SharePoint data</p>
<p>Skype for Business Integrate real-time presence, secure messaging, calling, and conference capabilities</p>	<p>Yammer Access resources in the Yammer web interface (e.g. messages, users, groups etc.)</p>	

Click **Delegated permissions**. Check the box beside **AllSites.FullControl**.

Request API permissions

< All APIs

SharePoint
https://microsoft.sharepoint-df.com/ Docs

SharePoint APIs are available via the Microsoft Graph API. You may want to consider using Microsoft Graph instead.

What type of permissions does your application require?

Delegated permissions
Your application needs to access the API as the signed-in user.

Application permissions
Your application runs as a background service or daemon without a signed-in user.

Select permissions expand all

Start typing a reply url to filter these results

Permission	Admin consent required
∨ AllSites (1)	
<input checked="" type="checkbox"/> AllSites.FullControl ⓘ Have full control of all site collections	Yes

Then go to **Application permissions**. Check the box beside the following permissions:

- Sites.FullControl.All
- User.ReadWrite.All

Then click **Add permissions**.

Request API permissions

< All APIs

SharePoint
https://microsoft.sharepoint-df.com/ Docs

SharePoint APIs are available via the Microsoft Graph API. You may want to consider using Microsoft Graph instead.

What type of permissions does your application require?

Delegated permissions
Your application needs to access the API as the signed-in user.

Application permissions
Your application runs as a background service or daemon without a signed-in user.

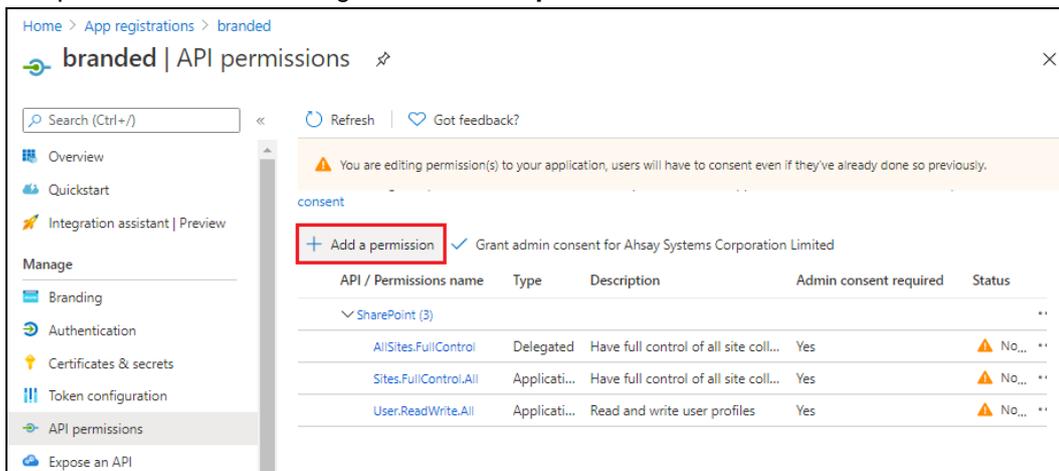
Select permissions expand all

Start typing a reply url to filter these results

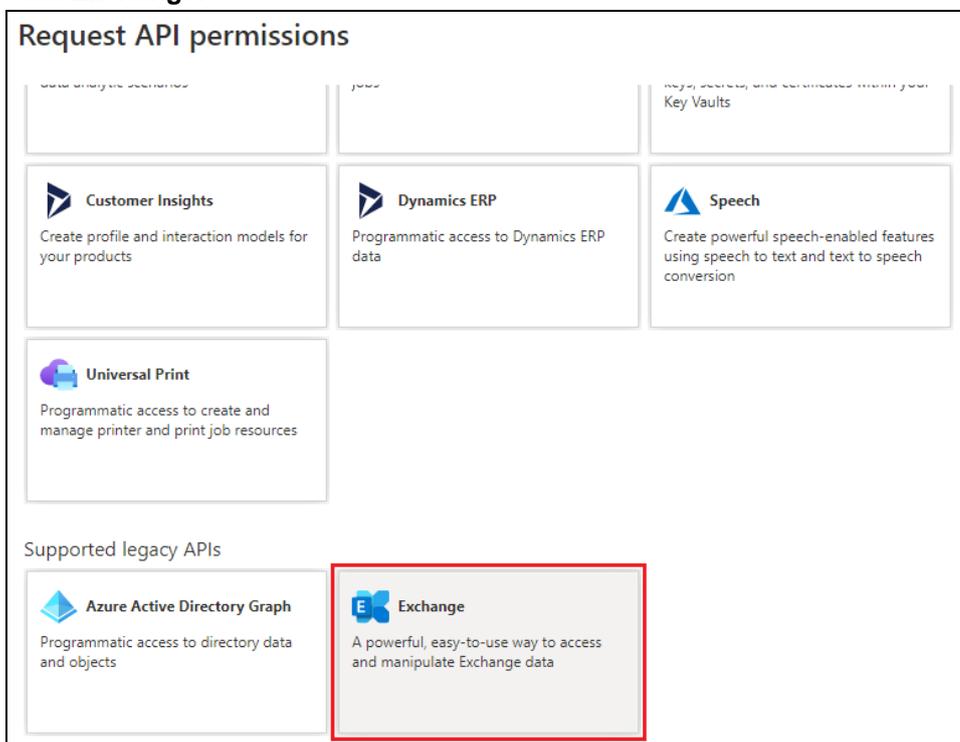
Permission	Admin consent required
∨ Sites (1)	
<input checked="" type="checkbox"/> Sites.FullControl.All ⓘ Have full control of all site collections	Yes
∨ User (1)	
<input type="checkbox"/> User.Read.All ⓘ Read user profiles	Yes
<input checked="" type="checkbox"/> User.ReadWrite.All ⓘ Read and write user profiles	Yes

Add permissions Discard

You can see that the permissions added for SharePoint will be listed. Do the same process to add permissions for Exchange. Click **Add a permission**.



Click **Exchange**.



Click **Delegated permissions**. Check the box beside the following permissions:

- Calendars.ReadWrite.All
- Contacts.ReadWrite.All
- EWS.AccessAsUser.All
- Group.ReadWrite.All
- Mail.ReadWrite.All
- Notes.ReadWrite
- People.ReadWrite
- Place.Read.All
- Tasks.ReadWrite
- User.Read.All

Request API permissions

< All APIs

Exchange
<https://outlook.office365.com/> Docs

What type of permissions does your application require?

Delegated permissions
 Your application needs to access the API as the signed-in user.

Application permissions
 Your application runs as a background service or daemon without a signed-in user.

Select permissions expand all

Start typing a reply url to filter these results

Permission	Admin consent required
<p>Calendars (1)</p>	
<input type="checkbox"/> Calendars.ReadWrite ⓘ Read and write user calendars	-
<input checked="" type="checkbox"/> Calendars.ReadWrite.All ⓘ Read and write user and shared calendars	-
<input type="checkbox"/> Calendars.ReadWrite.Shared ⓘ Read and write user and shared calendars	-
<p>Contacts (1)</p>	
<input type="checkbox"/> Contacts.ReadWrite ⓘ Read and write user contacts	-
<input checked="" type="checkbox"/> Contacts.ReadWrite.All ⓘ Read and write user and shared contacts	-
<input type="checkbox"/> Contacts.ReadWrite.Shared ⓘ Read and write user and shared contacts	-
<p>EWS (1)</p>	
<input checked="" type="checkbox"/> EWS.AccessAsUser.All ⓘ Access mailboxes as the signed-in user via Exchange Web Services	-
<p>Group (1)</p>	
<input type="checkbox"/> Group.Read.All ⓘ Read all groups (preview)	-
<input checked="" type="checkbox"/> Group.ReadWrite.All ⓘ Read and write all groups (preview)	-
<p>Mail (1)</p>	
<input type="checkbox"/> Mail.ReadWrite ⓘ Read and write user mail	-
<input checked="" type="checkbox"/> Mail.ReadWrite.All ⓘ Read and write user and shared mail	-
<input type="checkbox"/> Mail.ReadWrite.Shared ⓘ Read and write user and shared mail	-
<p>Notes (1)</p>	
<input type="checkbox"/> Notes.Read ⓘ Read user notes	-
<input checked="" type="checkbox"/> Notes.ReadWrite ⓘ Create, read, update and delete user notes	-

<p>People (1)</p>		
<input type="checkbox"/>	<p>People.Read ⓘ Read users' relevant people lists (preview)</p>	-
<input checked="" type="checkbox"/>	<p>People.ReadWrite ⓘ Read and write users' relevant people lists (preview)</p>	-
<p>Place (1)</p>		
<input checked="" type="checkbox"/>	<p>Place.Read.All ⓘ Read all company places</p>	Yes
<p>Tasks (1)</p>		
<input type="checkbox"/>	<p>Tasks.Read.Shared ⓘ Read all tasks a user has access to</p>	-
<input checked="" type="checkbox"/>	<p>Tasks.ReadWrite ⓘ Create, read, update and delete user tasks</p>	-
<input type="checkbox"/>	<p>Tasks.ReadWrite.Shared ⓘ Create, read, update and delete all tasks a user has access to</p>	-
<p>User (1)</p>		
<input type="checkbox"/>	<p>User.Read ⓘ Read user profiles</p>	-
<input checked="" type="checkbox"/>	<p>User.Read.All ⓘ Read all users' full profiles</p>	Yes
<input type="checkbox"/>	<p>User.ReadBasic.All ⓘ Read all users' basic profiles</p>	-

Then go to **Application permissions**. Check the box beside the following permissions:

- full_access_as_app
- Calendars.ReadWrite.All
- Contacts.ReadWrite
- Exchange.ManageAsApp
- MailboxSettings.ReadWrite
- Mail.ReadWrite
- Place.Read.All
- Tasks.ReadWrite
- User.Read.All

Then click **Add permissions**.

Request API permissions

< All APIs

 Exchange
<https://outlook.office365.com/> Docs

What type of permissions does your application require?

Delegated permissions

Your application needs to access the API as the signed-in user.

Application permissions

Your application runs as a background service or daemon without a signed-in user.

Select permissions expand all

Start typing a reply url to filter these results

Permission	Admin consent required
<p>Other permissions (1)</p>	
<p><input checked="" type="checkbox"/> full_access_as_app ⓘ Use Exchange Web Services with full access to all mailboxes</p>	Yes

<p>Calendars (1)</p>		
<input type="checkbox"/>	<p>Calendars.Read ⓘ Read calendars in all mailboxes</p>	Yes
<input type="checkbox"/>	<p>Calendars.Read.All ⓘ Read calendars in all mailboxes</p>	Yes
<input checked="" type="checkbox"/>	<p>Calendars.ReadWrite.All ⓘ Read and write calendars in all mailboxes</p>	Yes
<p>Contacts (1)</p>		
<input type="checkbox"/>	<p>Contacts.Read ⓘ Read contacts in all mailboxes</p>	Yes
<input checked="" type="checkbox"/>	<p>Contacts.ReadWrite ⓘ Read and write contacts in all mailboxes</p>	Yes
<p>Exchange (1)</p>		
<input checked="" type="checkbox"/>	<p>Exchange.ManageAsApp ⓘ Manage Exchange As Application</p>	Yes
<p>MailboxSettings (1)</p>		
<input type="checkbox"/>	<p>MailboxSettings.Read ⓘ Read all user mailbox settings</p>	Yes
<input checked="" type="checkbox"/>	<p>MailboxSettings.ReadWrite ⓘ Read and write all user mailbox settings</p>	Yes
<p>Mail (1)</p>		
<input type="checkbox"/>	<p>Mail.Read ⓘ Read mail in all mailboxes</p>	Yes
<input checked="" type="checkbox"/>	<p>Mail.ReadWrite ⓘ Read and write mail in all mailboxes</p>	Yes
<input type="checkbox"/>	<p>Mail.Send ⓘ Send mail as any user</p>	Yes
<p>Place (1)</p>		
<input checked="" type="checkbox"/>	<p>Place.Read.All ⓘ Read all company places</p>	Yes
<p>Tasks (1)</p>		
<input type="checkbox"/>	<p>Tasks.Read ⓘ Read user tasks in all mailboxes</p>	Yes
<input checked="" type="checkbox"/>	<p>Tasks.ReadWrite ⓘ Read and write tasks in all mailboxes</p>	Yes
<p>User (1)</p>		
<input checked="" type="checkbox"/>	<p>User.Read.All ⓘ Read all users' full profiles</p>	Yes
<p><input checked="" type="button" value="Add permissions"/> <input type="button" value="Discard"/></p>		

11. Check **Grant admin consent for Ahsay Systems Corporation Limited** and click **Yes** in the confirmation message that will be displayed.

Home > App registrations > branded

branded | API permissions

Search (Ctrl+/) Refresh Got feedback?

You are editing permission(s) to your application, users will have to consent even if they've already done so previously.

consent

+ Add a permission Grant admin consent for Ahsay Systems Corporation Limited

API / Permissions name	Type	Description	Admin consent required	Status
Exchange (18)				
Calendars.ReadWrite.All	Delegated	Read and write user and share...	-	**
Calendars.ReadWrite.All	Applicati...	Read and write calendars in all ...	Yes	No... **
Contacts.ReadWrite	Applicati...	Read and write contacts in all ...	Yes	No... **
Contacts.ReadWrite.All	Delegated	Read and write user and share...	-	**
EWS.AccessAsUser.All	Delegated	Access mailboxes as the signed...	-	**
Exchange.ManageAsApi	Applicati...	Manage Exchange As Applicati...	Yes	No... **
full_access_as_app	Applicati...	Use Exchange Web Services wit...	Yes	No... **
Mail.ReadWrite	Applicati...	Read and write mail in all mailb...	Yes	No... **
Mail.ReadWrite.All	Delegated	Read and write user and share...	-	**
MailboxSettings.ReadW	Applicati...	Read and write all user mailbox...	Yes	No... **

Do you want to grant consent for the requested permissions for all accounts in Ahsay Systems Corporation Limited? This will update any existing admin consent records this application already has to match what is listed below.

Yes

No

All permissions have now been granted admin consent.

Successfully granted admin consent for the requested permissions.

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission

API / Permissions name	Type	Description	Admin consent req...	Status
Exchange (19)				
Calendars.ReadWrite.All	Delegated	Read and write user and shared calendars	-	Granted for Ahsay System
Calendars.ReadWrite.All	Application	Read and write calendars in all mailboxes	Yes	Granted for Ahsay System
Contacts.ReadWrite	Application	Read and write contacts in all mailboxes	Yes	Granted for Ahsay System
Contacts.ReadWrite.All	Delegated	Read and write user and shared contacts	-	Granted for Ahsay System
EWS.AccessAsUser.All	Delegated	Access mailboxes as the signed-in user via Exchange W...	-	Granted for Ahsay System
Exchange.ManageAsApp	Application	Manage Exchange As Application	Yes	Granted for Ahsay System
full_access_as_app	Application	Use Exchange Web Services with full access to all mailb...	Yes	Granted for Ahsay System
Group.ReadWrite.All	Delegated	Read and write all groups (preview)	-	Granted for Ahsay System
Mail.ReadWrite	Application	Read and write mail in all mailboxes	Yes	Granted for Ahsay System
Mail.ReadWrite.All	Delegated	Read and write user and shared mail	-	Granted for Ahsay System
MailboxSettings.ReadWrite	Application	Read and write all user mailbox settings	Yes	Granted for Ahsay System
Notes.ReadWrite	Delegated	Create, read, update and delete user notes	-	Granted for Ahsay System
People.ReadWrite	Delegated	Read and write users' relevant people lists (preview)	-	Granted for Ahsay System
Place.Read.All	Delegated	Read all company places	Yes	Granted for Ahsay System
Place.Read.All	Application	Read all company places	Yes	Granted for Ahsay System
Tasks.ReadWrite	Delegated	Create, read, update and delete user tasks	-	Granted for Ahsay System
Tasks.ReadWrite	Application	Read and write tasks in all mailboxes	Yes	Granted for Ahsay System
User.Read.All	Delegated	Read all users' full profiles	Yes	Granted for Ahsay System
User.Read.All	Application	Read all users' full profiles	Yes	Granted for Ahsay System
Microsoft Graph (5)				
email	Delegated	View users' email address	-	Granted for Ahsay System
Organization.Read.All	Application	Read organization information	Yes	Granted for Ahsay System
profile	Delegated	View users' basic profile	-	Granted for Ahsay System
User.Read.All	Delegated	Read all users' full profiles	Yes	Granted for Ahsay System
User.ReadWrite.All	Application	Read and write all users' full profiles	Yes	Granted for Ahsay System
SharePoint (3)				
AllSites.FullControl	Delegated	Have full control of all site collections	Yes	Granted for Ahsay System
Sites.FullControl.All	Application	Have full control of all site collections	Yes	Granted for Ahsay System
User.ReadWrite.All	Application	Read and write user profiles	Yes	Granted for Ahsay System

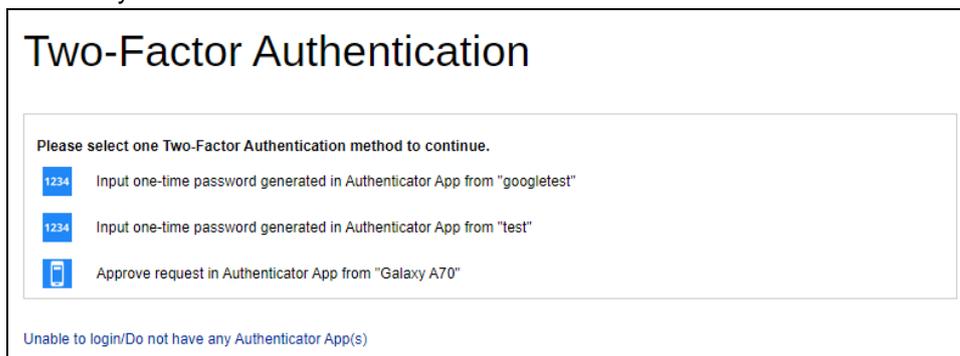
Appendix R How to setup authenticator app to be able to login to AhsayCBS web console after losing access to authenticator app

After setting up the Mobile Authentication 2FA login, there might be an instance wherein the system administrator cannot login using 2FA. Here are some cases when that may happen:

- Lost access to registered phone
- Lost access to authenticator app
- System user was deleted from the authenticator app

Follow the steps below to be able to login again to AhsayCBS web console:

1. Select any method from the list.

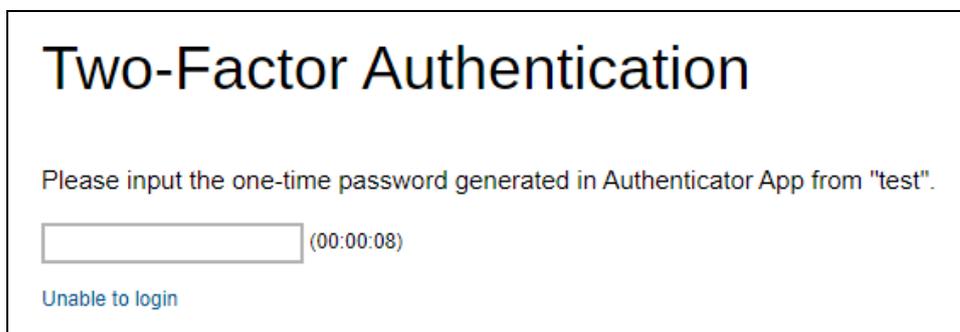


The screenshot shows a 'Two-Factor Authentication' screen with the title 'Two-Factor Authentication'. Below the title, it says 'Please select one Two-Factor Authentication method to continue.' There are three options listed, each with a blue square icon containing the number '1234':

- Input one-time password generated in Authenticator App from "googletest"
- Input one-time password generated in Authenticator App from "test"
- Approve request in Authenticator App from "Galaxy A70"

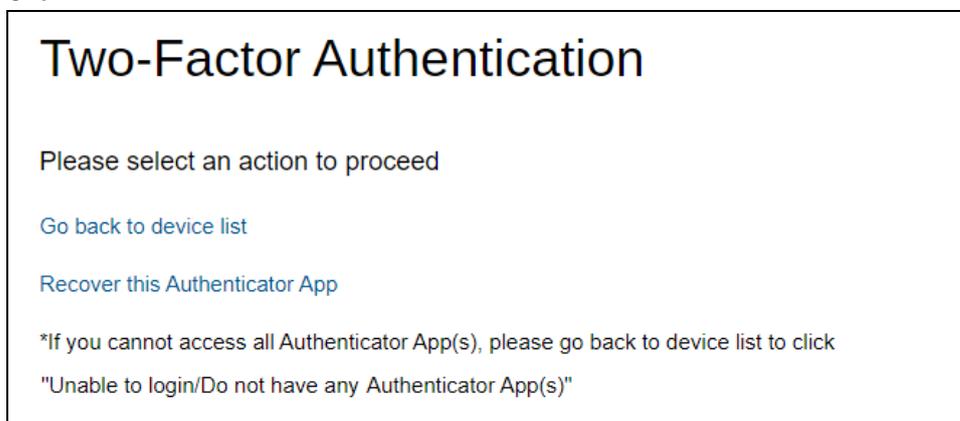
At the bottom of the screen, there is a link that says 'Unable to login/Do not have any Authenticator App(s)'.

2. Click [Unable to login](#) link.



The screenshot shows a 'Two-Factor Authentication' screen with the title 'Two-Factor Authentication'. Below the title, it says 'Please input the one-time password generated in Authenticator App from "test".' There is a text input field followed by a timer '(00:00:08)'. At the bottom of the screen, there is a link that says 'Unable to login'.

3. Click [Recover this Authenticator App](#) link.



The screenshot shows a 'Two-Factor Authentication' screen with the title 'Two-Factor Authentication'. Below the title, it says 'Please select an action to proceed'. There are two links listed:

- [Go back to device list](#)
- [Recover this Authenticator App](#)

At the bottom of the screen, there is a note: '*If you cannot access all Authenticator App(s), please go back to device list to click "Unable to login/Do not have any Authenticator App(s)"'

4. Enter the recovery phone number excluding the last 2 digits then click **Send SMS Verification code**

Authentication Recovery

Please enter the first few digits of "test" (*****75) for recovery. It will be discarded after the recovery process is completed.

Please fill in the recovery phone number

Philippines (+63)

*This phone number will be used for account security and recovery only. Please be reminded that standard SMS charge will be applied.

Send SMS Verification code

5. Enter the verification code and click  to continue.

Authentication Recovery

You have selected "test" and it will be discarded after recovery is completed.

Verification code

AFGD - (00:04:41)

Resend SMS Verification code

6. Click  to setup 2FA again.

Authentication Recovery

Please use your mobile device to get the below Mobile App from Apple App Store / Google Play Store.

 **Ahsay Mobile**

Once ready, hit [Next] button to continue the setup.



7. Scan the QR code using third-party authenticator app and enter a display name and the one-time password generated by the third-party authenticator app. Click  to continue.

Authentication Recovery

Please scan the QR code or input Secret Key to register your mobile device with your backup account for following feature:

 Two-Factor Authentication



Secret Key: D5DB HOP2 YWFV QNC5

Enter a display name for user profile.

Enter the one-time password generated by Authenticator App.
 (00:00:05)

[Using Ahsay Mobile](#)



Or

If you want to use Ahsay Mobile click the [Using Ahsay Mobile](#) link and scan the QR code.

Authentication Recovery

Please scan the QR code to register your mobile device with your backup account for following feature:

 Two-Factor Authentication



[Using other TOTP Authenticator App \(e.g. Authy, Duo, Google\)?](#)

8. Click  to finish the setup and login to AhsayCBS.



9. The main screen is now displayed.

