

# **Ahsay Online Backup Manager v8**

## **Microsoft System Backup and Restore Guide**

Ahsay Systems Corporation Limited

12 February 2019

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## Revision History

Date	Descriptions	Type of modification
12 February 2019	Updated the FAQ Link for the Hardware Requirement in Ch. 1.1; Updated the FAQ Link for the Software Requirement in Ch. 1.2; Updated the screen shot for the Windows Server Backup and updated the KB article about Temporary Storage Location to Ahsay Wiki in Ch. 1.4; Added the Facebook Page and Twitter Account for the latest updates on AhsayOBM and updated the screen shot of the General Setting in AhsayOBM, updated the screen shot of the Backup Source in AhsayOBM, and updated the KB Article about the Java Heap Size to Ahsay Wiki in Ch. 2; Updated the screen shots in logging in to Ahsay OBM in Ch. 4.1; Updated the screen shots in creating a MS Windows System Backup Set, updated the KB Article about Temporary Storage Location to Ahsay Wiki, added the configuration of backup schedule, updated the process in adding new storage destination / destination pool, updated the KB Article about the Backup Destination to Ahsay Wiki in Ch. 5.1; Updated the screen shots in starting a manual backup in AhsayOBM in Ch. 7.1; Updated the screen shots in restoring the System Image in AhsayOBM in Ch. 8.2;	New/ Modifications

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# Introduction

The MS Windows System Backup module of AhsayOBM provides you with a set of tools to protect your mission critical systems / personal computers on Windows operating system platforms.

This includes an image-based / bare-metal backup feature, that leverages Microsoft's native Wbadmin command-line tool (<http://go.microsoft.com/fwlink/?LinkId=140216>), and recovery feature, to ensure that your servers and computers are protected even if they are lost or destroyed entirely. The image can be recovered onto a new device if necessary.

# Overview

This document contains information that are essential for understanding the MS Windows System backup and recovery process:

1. [Requirement and Limitation](#)
2. [Best Practice and Recommendation](#)
3. [Restore Consideration](#)
4. [Starting AhsayOBM](#)
5. [Configuring a MS Windows System Backup Set](#)
6. [Overview on the Backup Process](#)
7. [Running a Backup](#)
8. [Restore with a MS Windows System Backup Set](#)

# 1 Requirement and Limitation

## 1.1 Hardware Requirement

Refer to the following article for the list of hardware requirements for AhsayOBM:

[FAQ: Ahsay Hardware Requirement List \(HRL\) for version 8.1 or above](#)

## 1.2 Software Requirement

Refer to the following article for the list of compatible Windows operating systems platforms:

[FAQ: Ahsay Software Compatibility List \(SCL\) for version 8.1 or above](#)

## 1.3 Antivirus Exclusion Requirement

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

[FAQ: Suggestion on antivirus exclusions to improve performance of Ahsay software on Windows](#)

## 1.4 Other Requirement and Limitation

Ensure that the following requirements are met:

- **AhsayOBM Installation**

Make sure that AhsayOBM is installed on the computer to be backed up.

- **Add-on Module Requirement**

Make sure that the **Windows System Backup** add-on module is enabled for your AhsayOBM user account.

Please contact your service provider for more details.

The screenshot shows the 'User Profile' settings page for 'Backup Client Settings'. The 'Backup Client' section has 'AhsayOBM User' selected. The 'Add-on Modules' section lists the following modules and their status:

Module Name	Status
Microsoft Exchange Server	Unchecked
MySQL Database Server	Unchecked
Lotus Domino	Unchecked
Windows System Backup	Checked
VMware	Unchecked
Microsoft Exchange Mailbox	Unchecked
Continuous Data Protection	Checked
Mobile	Unchecked
Volume Shadow Copy	Checked
OpenDirect / Granular Restore	Unchecked
Microsoft SQL Server	Unchecked
Oracle Database Server	Unchecked
Lotus Notes	Unchecked
Windows System State Backup	Unchecked
Hyper-V	Unchecked
ShadowProtect System Backup	Unchecked
NAS - Synology	Unchecked
NAS - QNAP	Unchecked
In-File Delta	Checked
Office 365 Backup	Unchecked

## • Backup Quota Requirement

Make sure that your AhsayOBM user account has sufficient quota assigned to accommodate the storage for the system backup. Please Contact your backup service provider for details.

## • AhsayOBM Licenses

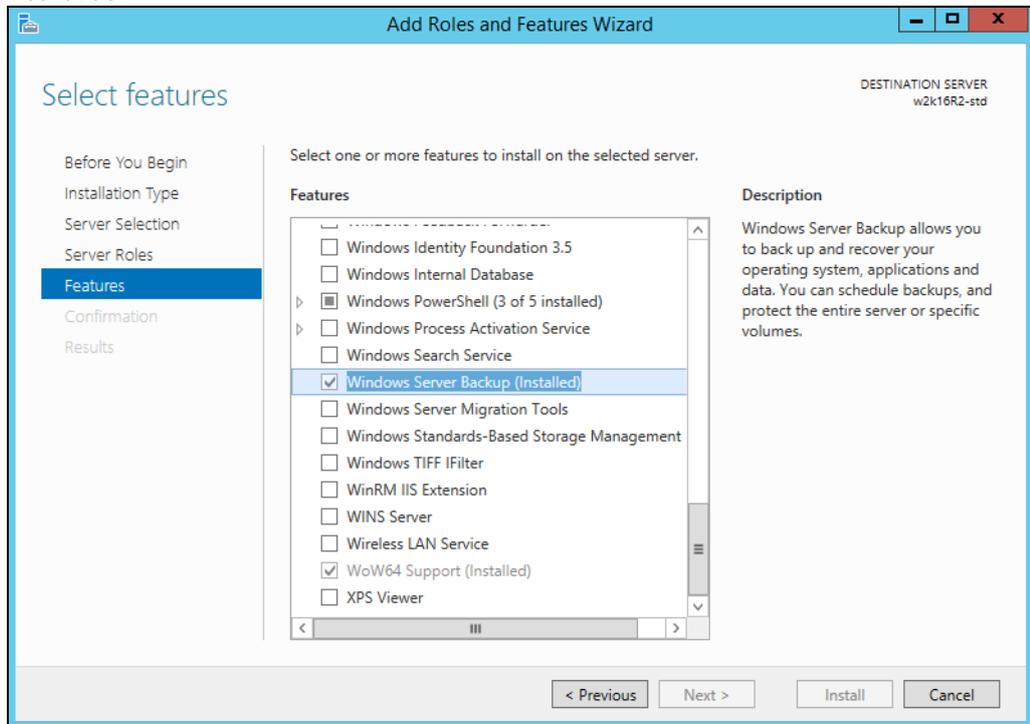
AhsayOBM licenses are calculated on a per device basis:

- i. To backup users with 1 backup client computer (e.g. 1 AhsayOBM installed), 1 AhsayOBM license is required.
- ii. To backup users with multiple backup client computers, the number of AhsayOBM licenses required is equal to the number of devices. For example, if there are 10 users to be backup with 3 backup client computers, then 3 AhsayOBM licenses are required. Please contact your backup service provider for more details.

## • Windows Server Backup (WSB) Features

For Windows server platforms, the Windows Server Backup feature must be installed in order for either the system backup to take place.

Confirm in the Server Manager, the feature can be added by selecting **Add Roles and Features**.



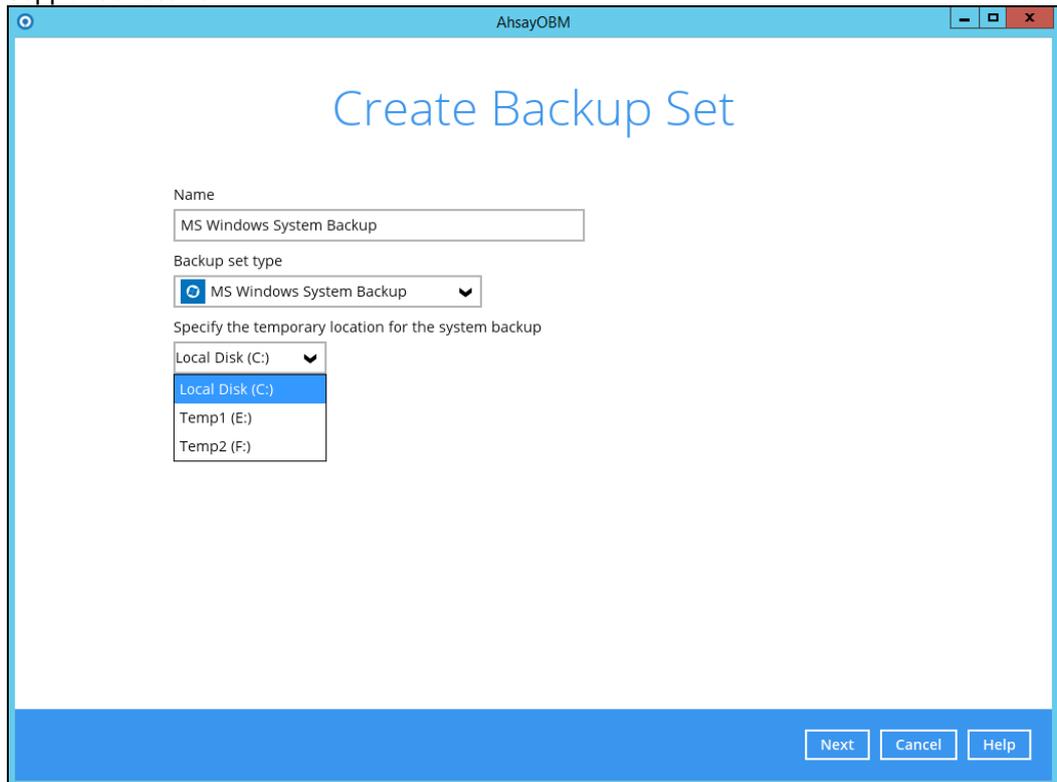
## • Latest Service Packs from Microsoft

Ensure that you have the latest service packs installed.

Updates to the Windows operating system improve its performance and resolve known issues with Windows Server Backup.

## Temporary Storage Location

Make sure that the storage location configured for the system image is set to a supported location.



The temporary storage location is required by the WBADMIN utility to temporarily store the image file during the backup set.

The machine requires an additional drive to accommodate the spooling of the System State image file. As you can see on our sample screen shot above, we have three (3) drives in total, Local Disk C:, Temp1 E:, and Temp2 F:

If by any chance the machine has only one (1) drive and it is his/her Local Disk C:, then one of the following options will need to be implemented

- i. An extra physical drive will need to be installed
- ii. The existing C: drive will need to be repartitioned to create an additional drive, i.e. D:
- iii. A USB drive needs to be connected
- iv. Setup a network drive

Refer to this link for more details about the restrictions:

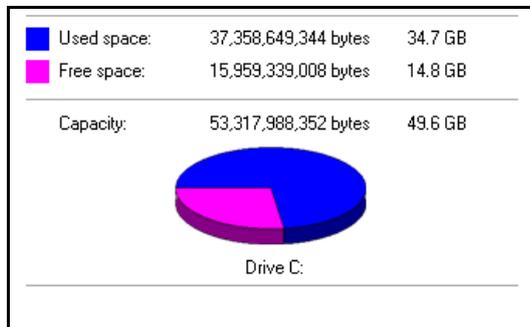
[FAQ: Restrictions on the temporary storage location for the Windows System State and System backup image file](#)

## ⓘ Disk Space Available in Temporary Storage Location

Make sure that there is sufficient disk space available in the storage location for the backup set.

For a system backup, it will typically require disk space of the total used size of all volumes selected for backup.

**Note:** *Used space, not free space of all volumes selected for backup.*



## ⓘ Maximum Supported Disk Size

For Windows Vista, or 2008 / 2008 R2 Server, source volumes with size greater than 2 TB (e.g. 2040 GB - 2 MB = 2088958 MB) are not supported.

This limitation is related to the .vhd file size limit.

**Note:** *This limitation does not apply to Windows 8 or newer releases of Windows platforms.*

## 2 Best Practice and Recommendation

Please consider the following recommendations:

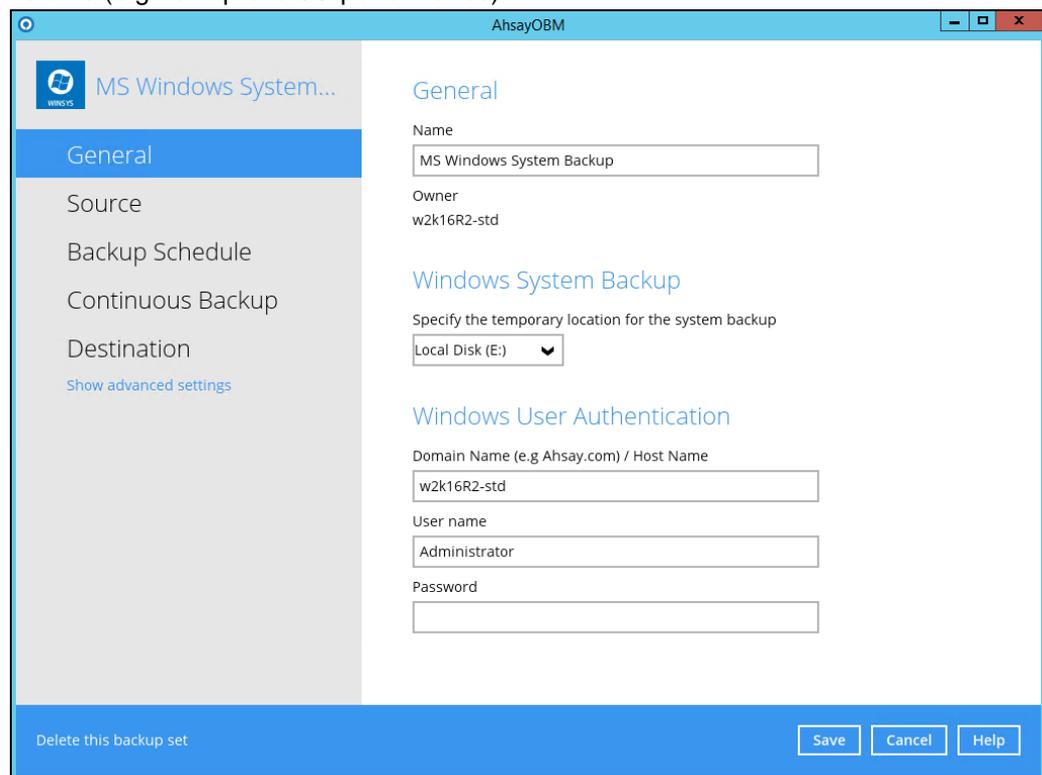
- It is recommended that the latest version of AhsayOBM is installed on the computer to be backed up.

User should also stay up-to-date when newer version of AhsayOBM is released. To get our latest product and company news, please subscribe to our Facebook page and Twitter account:

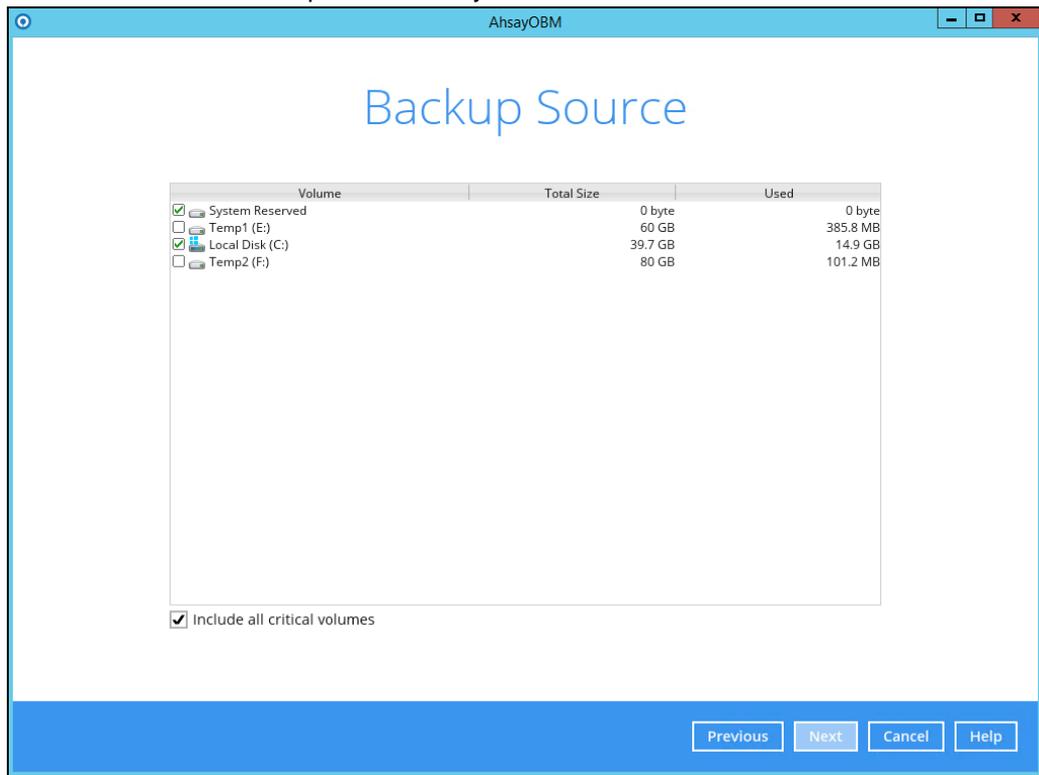
Facebook page: <https://www.facebook.com/ahsaybackup>

Twitter account: <https://twitter.com/ahsay>

- For best performance, it is recommended that the temporary storage location of a MS Windows System backup set is set to a supported local volume, and not to a network volume (e.g. to improve I/O performance).



- It is highly recommended to enable the **Include all critical volumes** option to select all critical volumes for backup automatically.



This will ensure that the backup image can be used for full-system / bare-metal recovery.

- Memory Setting**

The default maximum Java heap size on a 64bit Windows machine is 2048M. For better performance especially for in-file delta generation of large image files it may be advantageous to increase the maximum Java heap size.

For best performance, consider increasing the memory allocation setting for AhsayOBM (Java heap space)

Refer to this link for more details about the modification of the java heap size setting for AhsayOBM

[FAQ: How to modify the Java heap size setting of AhsayOBM / AhsayACB?](#)

- Not a Replacement for File Backup**

An image-based / bare-metal backup should never be considered a replacement for a nightly data backup plan.

Firstly, image-based backups do not lend themselves easily to recovery of a single file. The nature of image-based backup requires a complete restore of the system image file, even if you only want to recover a single file.

- System Recovery Plan**

Consider performing routine system recovery test to ensure your system backup is setup and performed properly. Performing system recovery test can also help identify potential issues or gaps in your system recovery plan.

For best result, it is recommended that you should keep the test as close as possible to a real situation. Often when a recovery test is to take place, administrators will plan for the test (e.g. reconfiguring the test environments, restoring certain data in advance). For real recovery situation, you will not get a chance to do that.

It's important that you do not try to make the test easier, as the objective of a successful test is not to demonstrate that everything is flawless. There might be flaws identified in the plan throughout the test and it is important to identify those flaws.

### 3 Restore Consideration

Please consider the following before performing a restore:

- Windows Account Permission

To perform recovery using Windows Server Backup, the operating system account that you use, must be a member of the Backup Operators or Administrators group.

- Disk Size

For recovery of operating system to a new hard disk, ensure that the disk that you restore to is at least the size of the disk that contained the volumes that were backed up, regardless of the size of those volumes within.

For example, if there was only one volume of size 100 GB created on a 1 TB disk during backup, then you should use a disk that is at least 1 TB when recovering.

- Windows Recovery Environment

For recovery of operating system, the processor architecture for a given instance of Windows Recovery Environment and the computer whose system you are trying to restore must match.

For example, Windows Recovery Environment for an x64 based version of the operating system will only work on an x64 based server.

- Caution on Recovery to Dissimilar Hardware

This recovery method requires the restore target system to have similar hardware and the exact same boot type as the source system from which the backup was taken. Disk adapters are especially sensitive. If dissimilar hardware is used, the restored system might not be boot.

For example, if the system backup image was taken from a BIOS-based system, the recovery environment must be booted in BIOS mode.

- BitLocker Drive

For server with BitLocker Drive Encryption enabled, make sure to re-apply BitLocker Drive Encryption to the server after a restore.

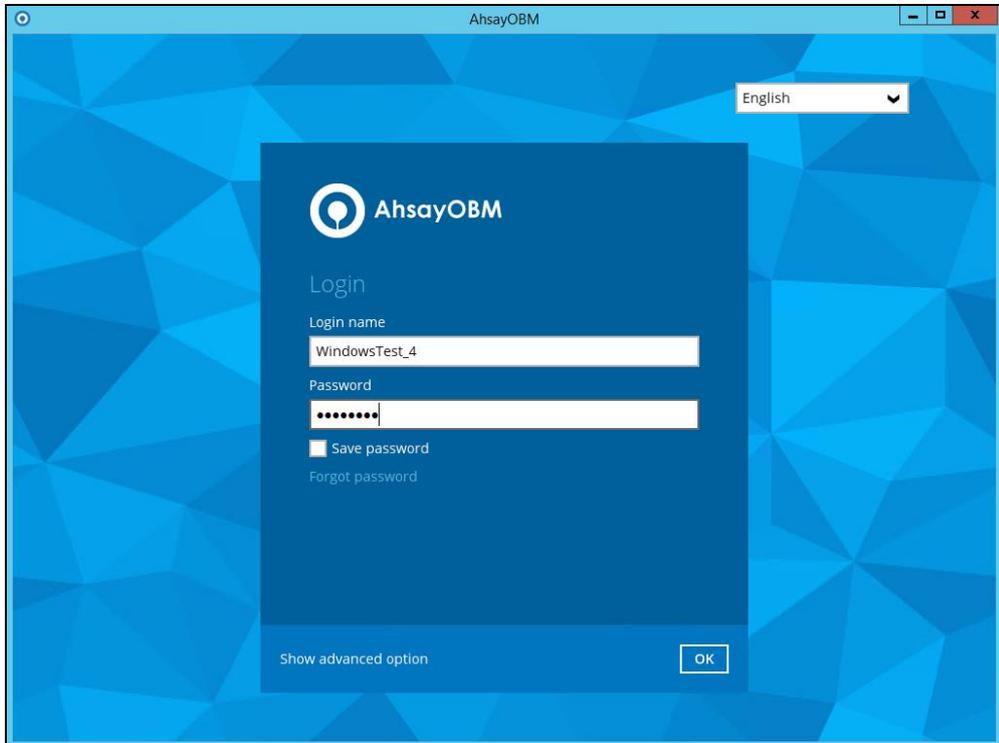
This will not happen automatically, it must be enabled explicitly.

For instructions, refers to the following: <http://go.microsoft.com/fwlink/?LinkID=143722>

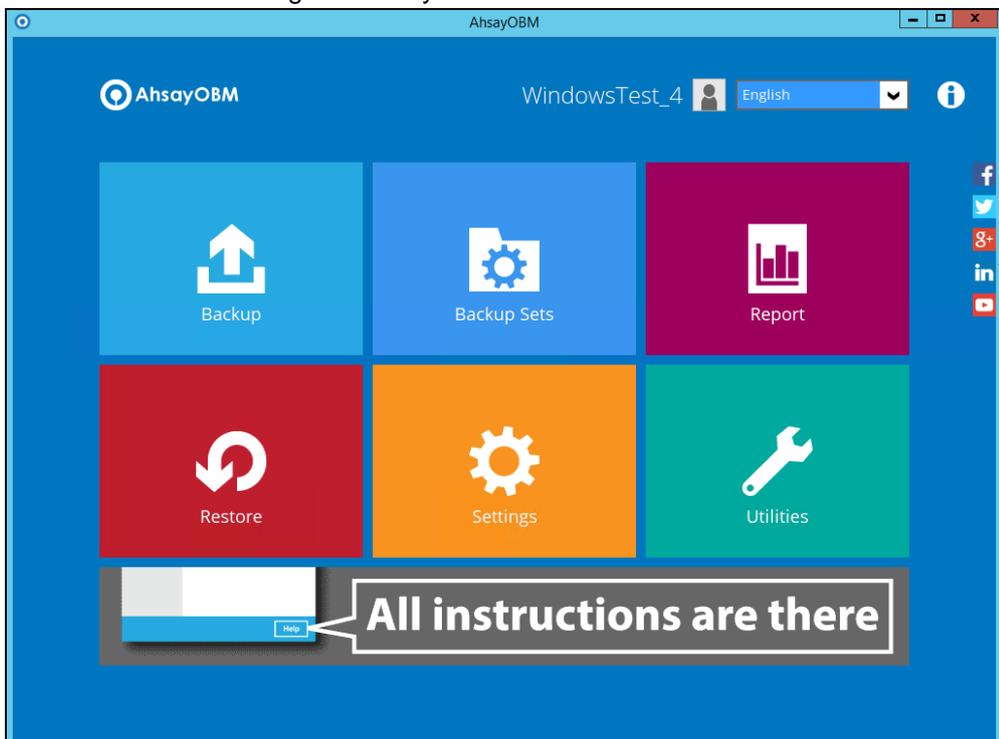
## 4 Starting AhsayOBM

### 4.1 Login to AhsayOBM

1. Login to the AhsayOBM application user interface.
2. Double click the AhsayOBM desktop icon to launch the application. Enter the **Login name** and **Password** of your AhsayOBM account.



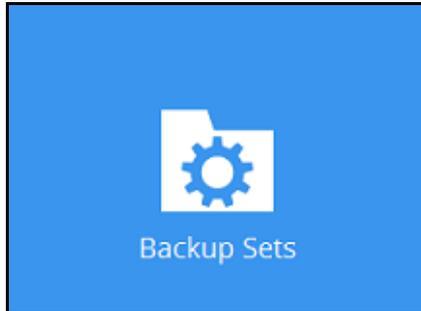
3. Click **OK** afterward to login to AhsayOBM.



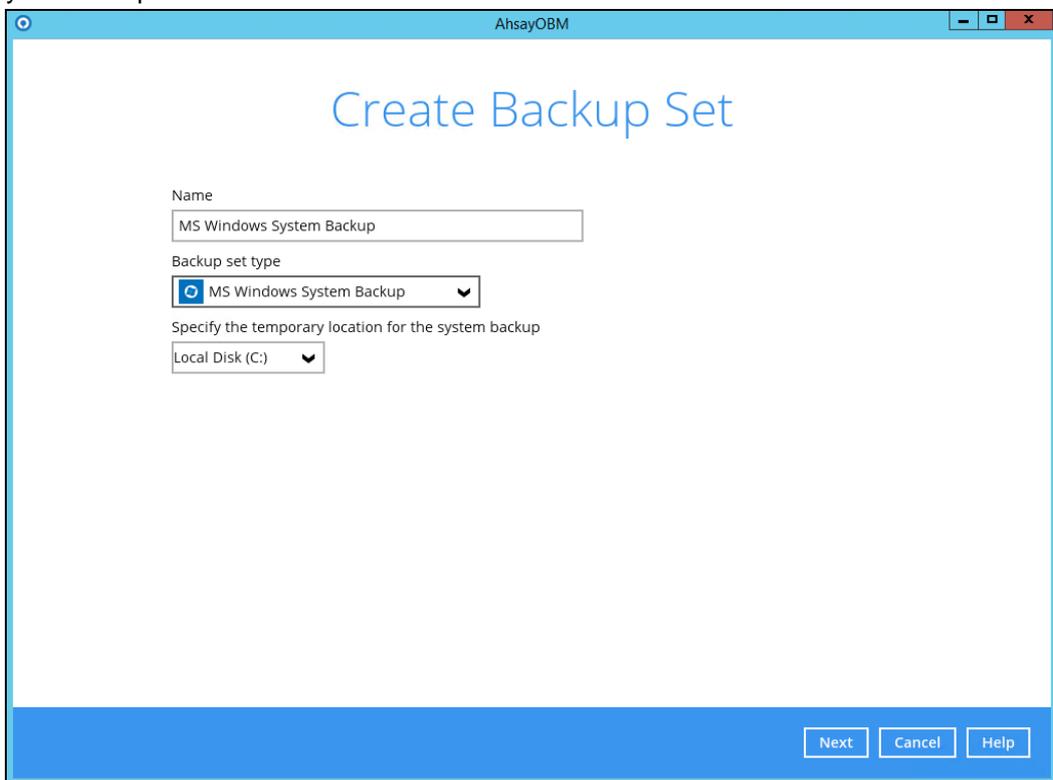
## 5 Configuring a MS Windows System Backup Set

### 5.1 Create a MS Windows System Backup Set

1. In the AhsayOBM main interface, click **Backup Sets**.

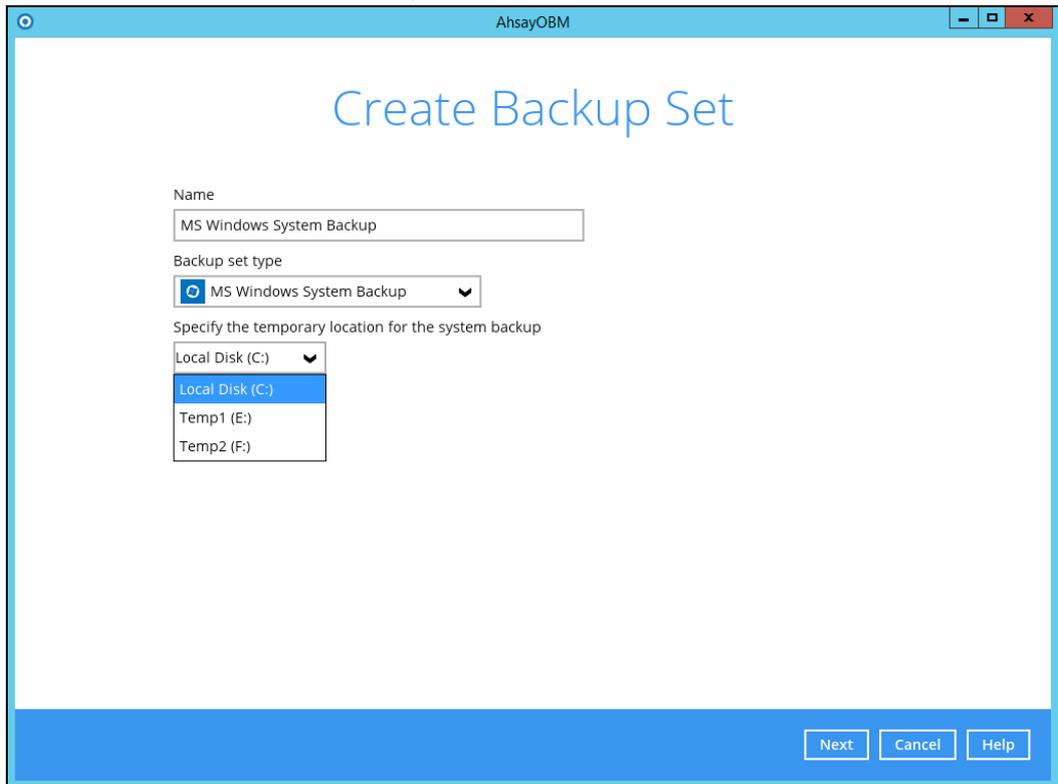


2. Create a MS Windows System backup set by clicking **+** next to **Add new backup set**.
3. Select **MS Windows System Backup** as the **Backup set type**; then enter a **Name** for your backup set.

A screenshot of the 'Create Backup Set' dialog box in the AhsayOBM application. The dialog has a title bar with 'AhsayOBM' and standard window controls. The main content area is white with the title 'Create Backup Set' in blue. It contains three input fields: a text box for 'Name' with the value 'MS Windows System Backup', a dropdown menu for 'Backup set type' with 'MS Windows System Backup' selected, and another dropdown menu for 'Specify the temporary location for the system backup' with 'Local Disk (C:)' selected. At the bottom right, there are three buttons: 'Next', 'Cancel', and 'Help'.

4. Select the location where you would like to store the system image before generating the backup data.

Select a local volume from the dropdown menu.



AhsayOBM

## Create Backup Set

Name  
MS Windows System Backup

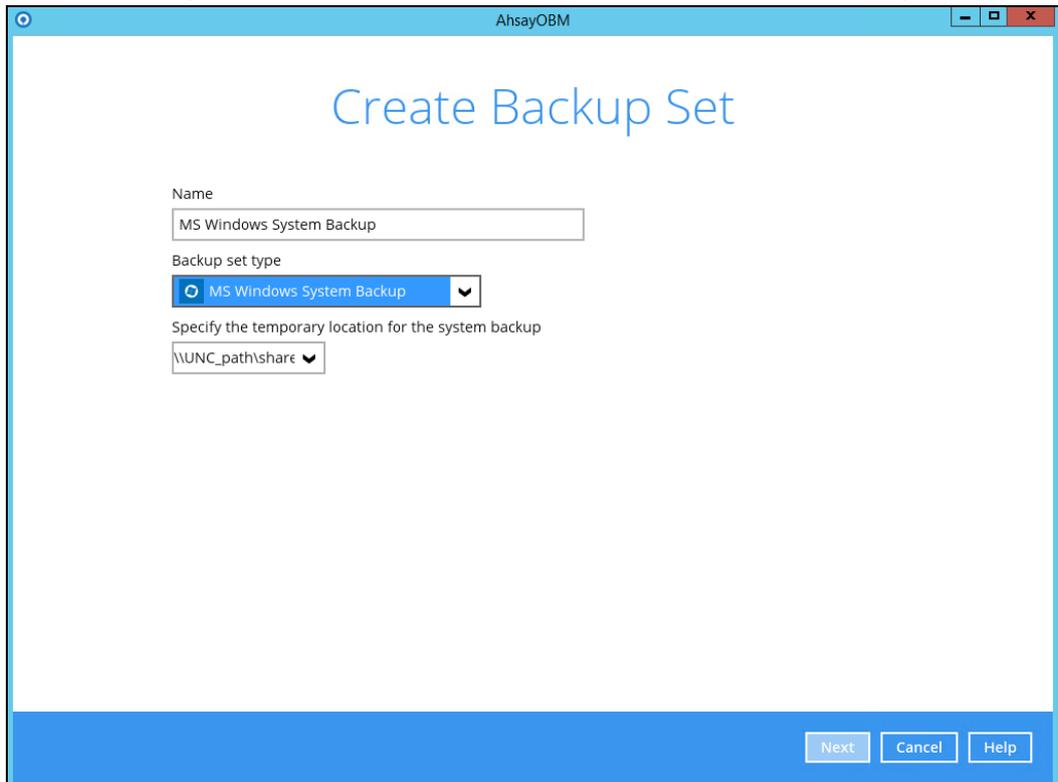
Backup set type  
 MS Windows System Backup

Specify the temporary location for the system backup  
Local Disk (C:) ▼  
Local Disk (C:)  
Temp1 (E:)  
Temp2 (F:)

Next Cancel Help

Or

Enter the UNC path to a network volume that is accessible to the client computer.



AhsayOBM

## Create Backup Set

Name  
MS Windows System Backup

Backup set type  
 MS Windows System Backup

Specify the temporary location for the system backup  
\\UNC\_path\share ▼

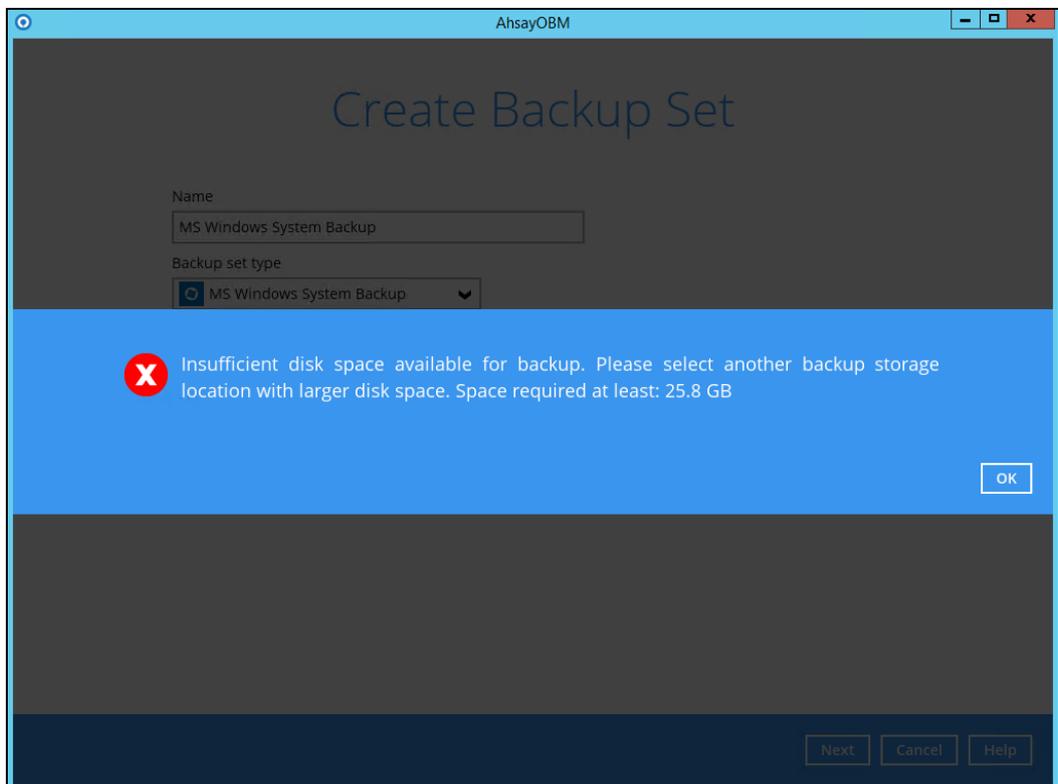
Next Cancel Help

**Note:** Make sure that the storage location configured for the system image is set to a supported location.

Refer to the link to know the restrictions on the temporary storage location for Windows System State and System Backup Image File

[FAQ: Restrictions on the temporary storage location for the Windows System State and System backup image file](#)

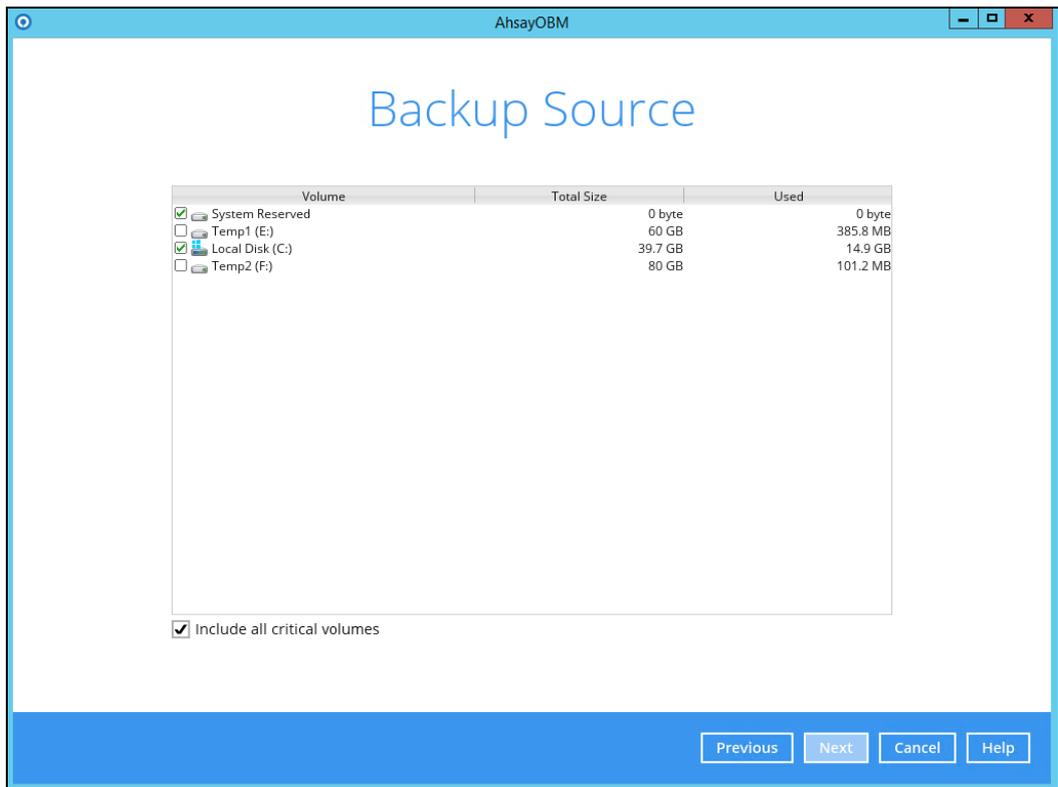
Click **Next** to proceed.



**Note:** If the disk you selected has insufficient space then this alert message will be displayed.

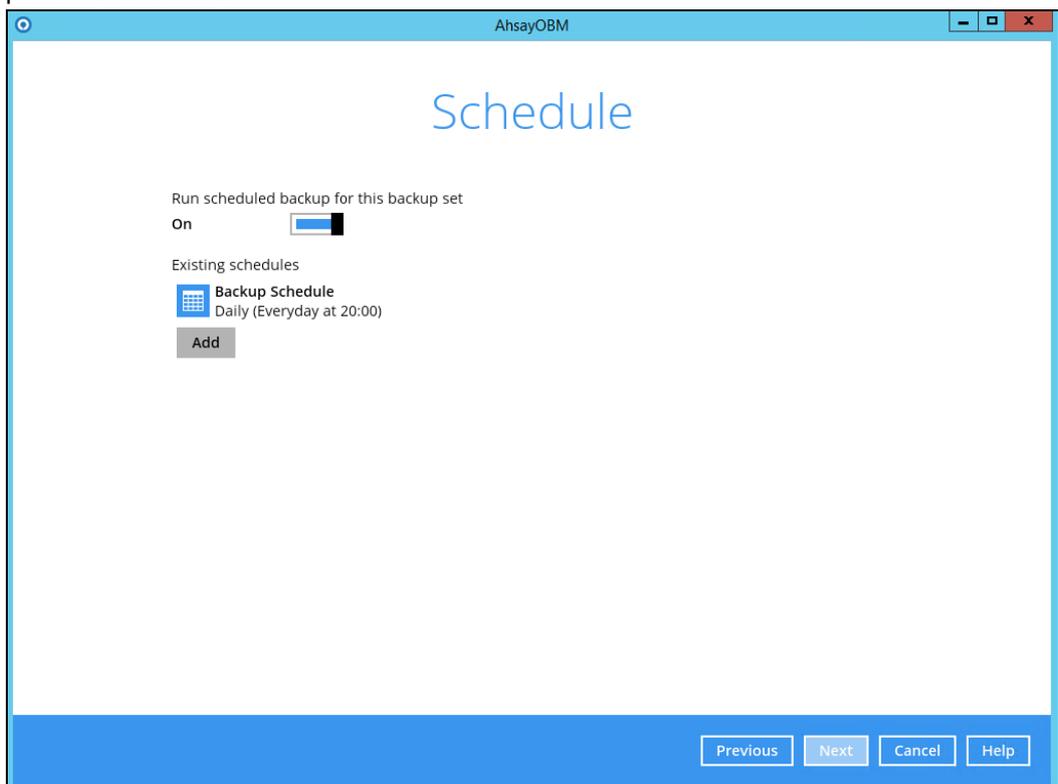
5. In the Backup Source menu, select the volume(s) which you would like to backup.

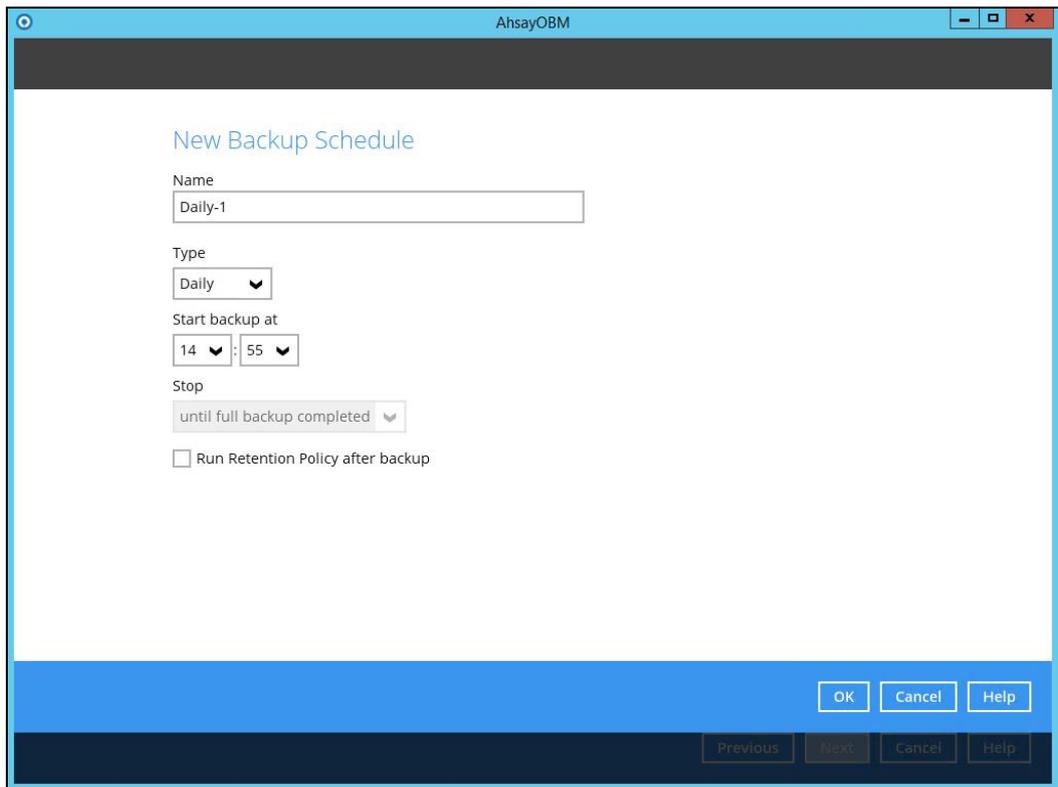
Enable the **Include all critical volumes** option to select all critical volumes for backup automatically. This will ensure that the backup image can be used for full-system / bare-metal recovery.



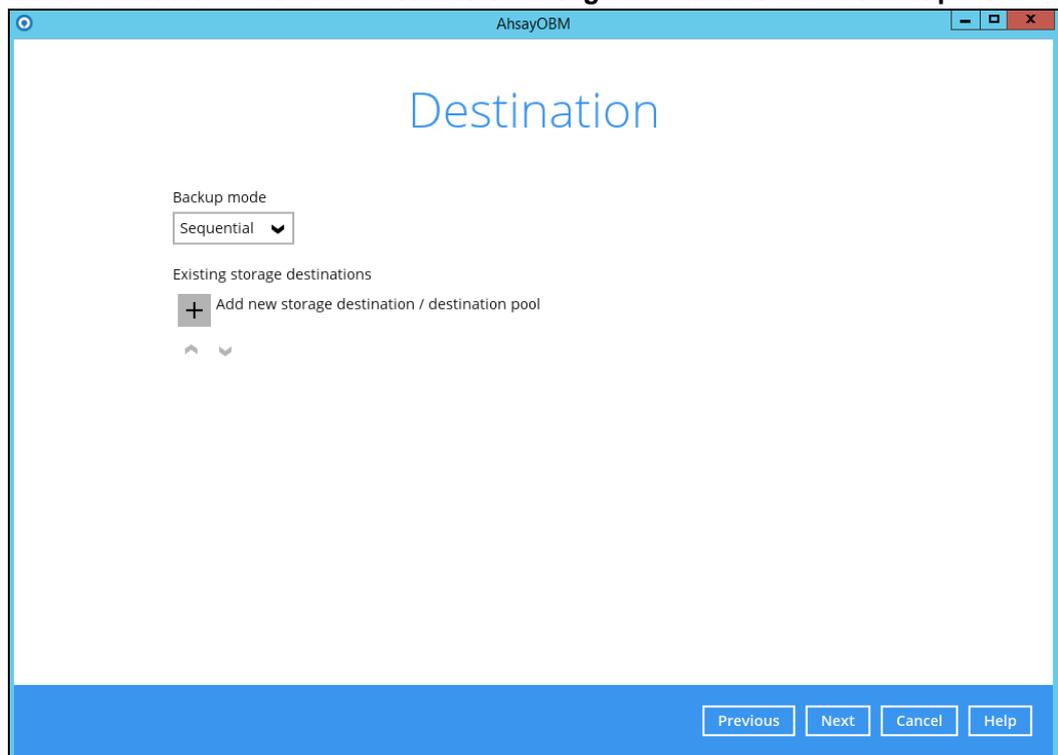
Click **Next** to proceed.

6. In the Schedule menu, configure a backup schedule for backup job to run automatically at your specified time interval. Click **Add** to add a new schedule, then click **Next** to proceed afterward.





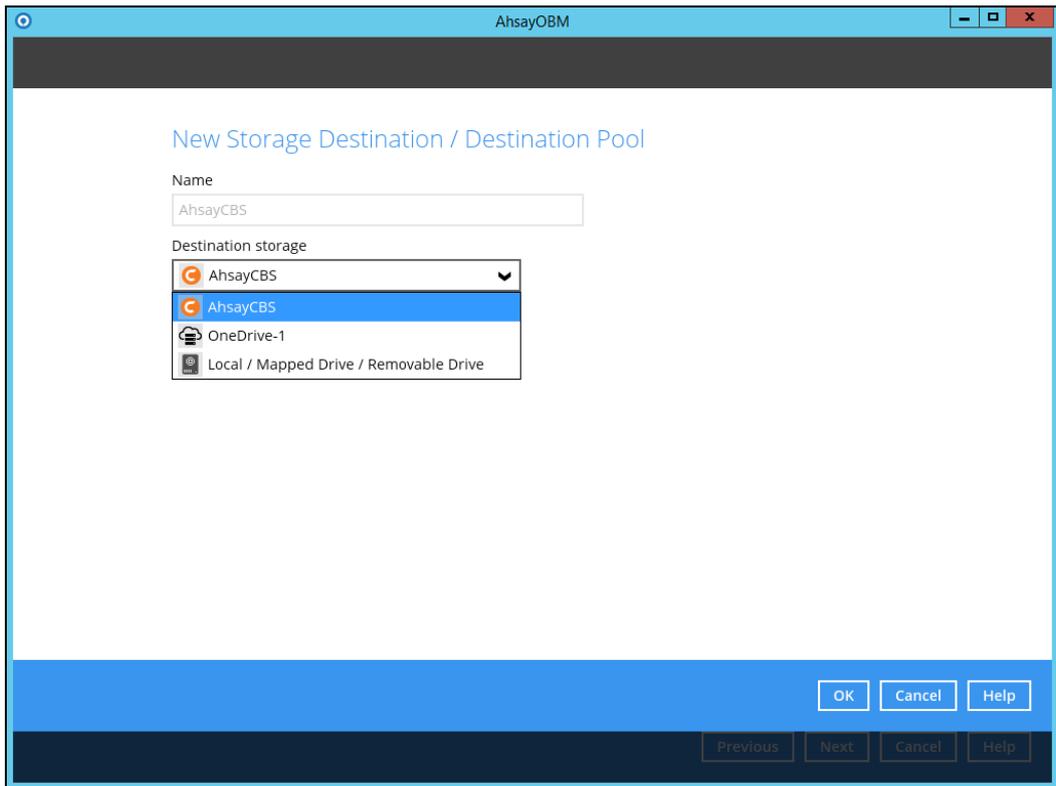
7. In the Destination menu, select a backup destination where the backup data will be stored. Click the "+" icon next to **Add new storage destination / destination pool**.



**Note:** For more details on Backup Destination, refer to this link [FAQ: Frequently Asked Questions on Backup Destination](#)

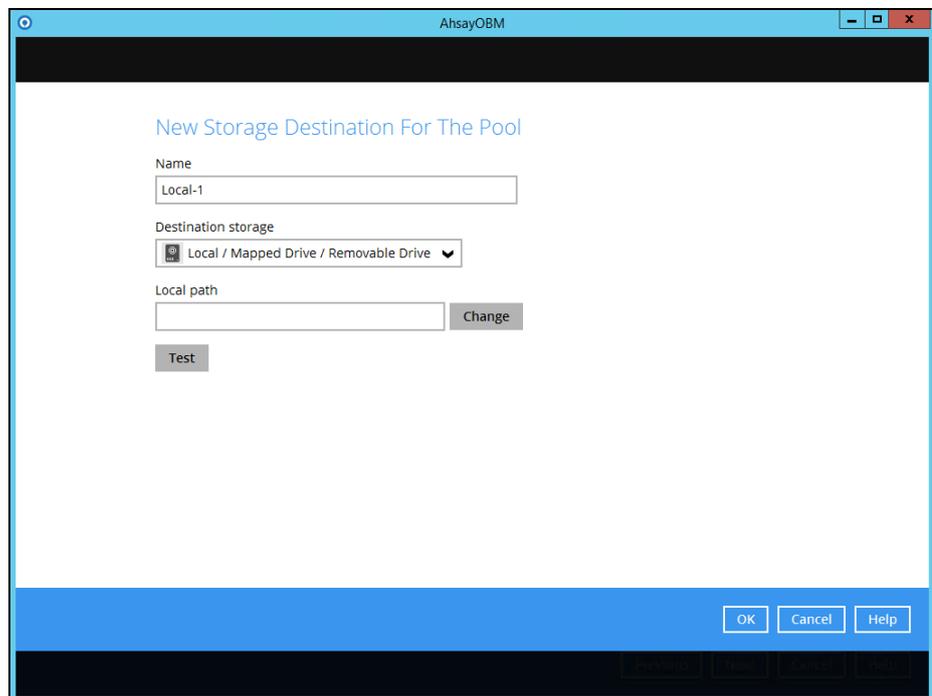
For more details on configuration of cloud storage as backup destination, refer to the [Appendix](#) section in this guide.

8. Select the Destination storage.

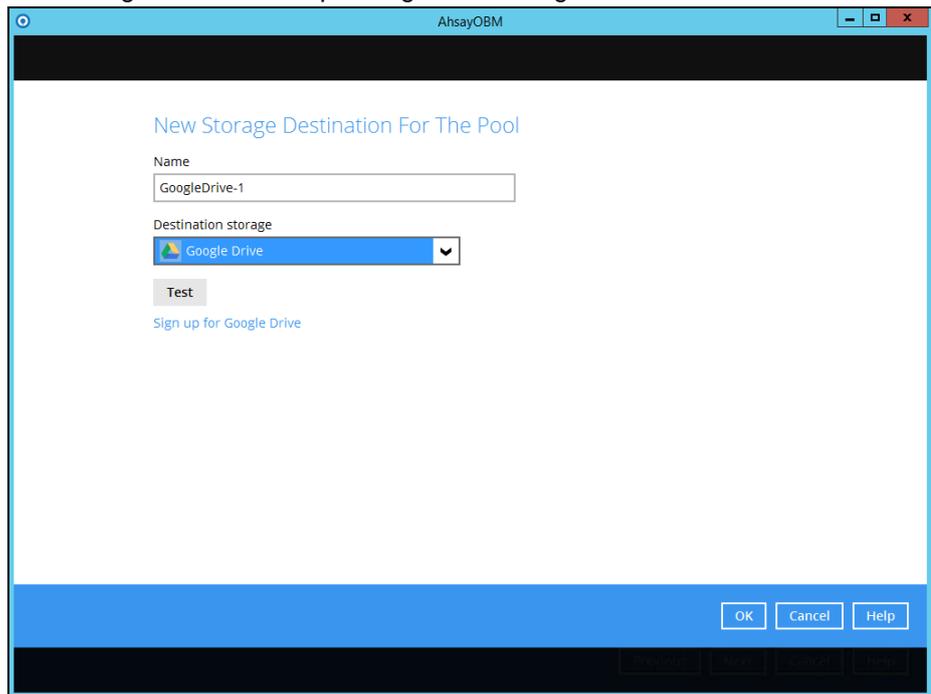


You can choose a storage combination of the Local/Mapped drive/Removable Drive, Cloud storage or FTP. Click **OK** to proceed when you are done with the settings.

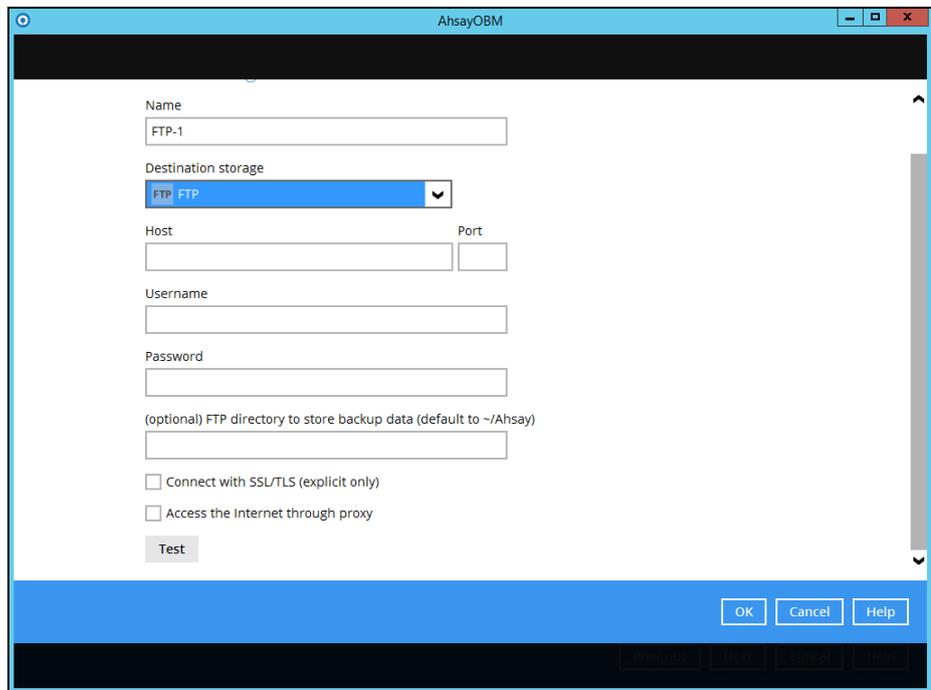
- If you have chosen the Local/Mapped Drive/Removable Drive option, click **Change** to browse to a directory path where backup data will be stored, then click **Test** to validate the path. **Test completed successfully** shows when the validation is done.



- If you have chosen to store the backup files in another Cloud Storage, click **Test** to log in to the corresponding cloud storage service.

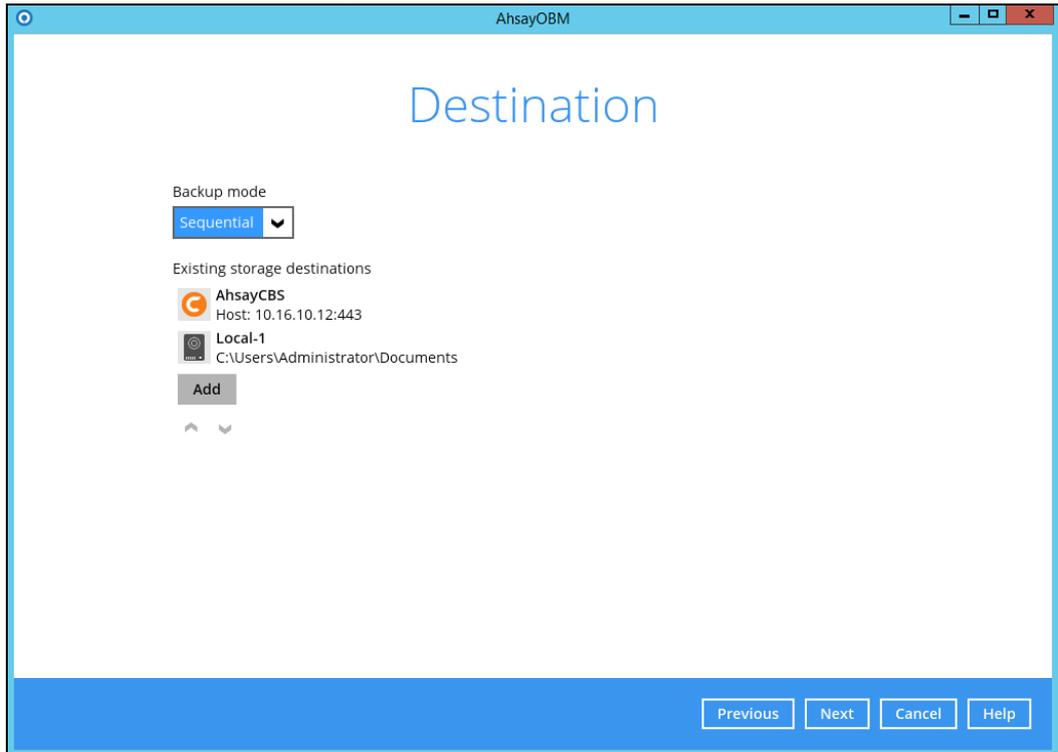


- If you have chosen the FTP as the destination, enter the the Host, Username and Password details.

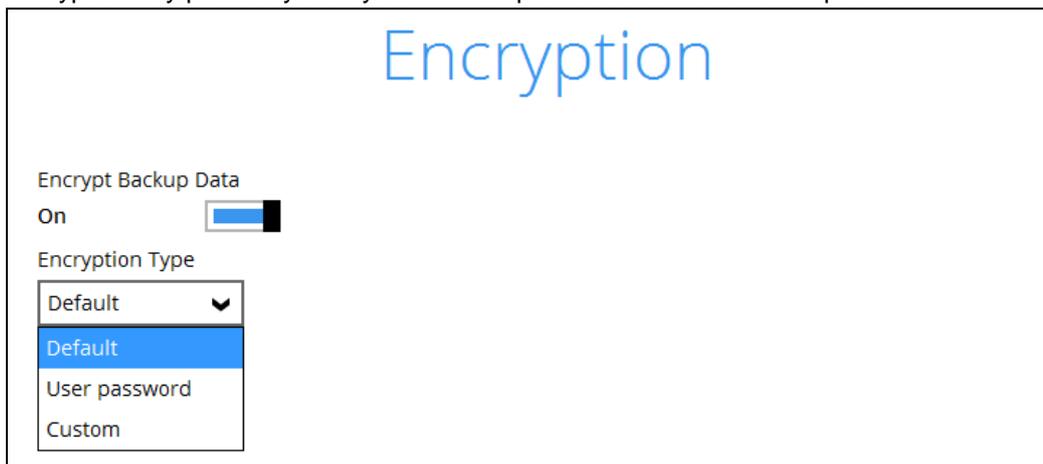


9. You can add multiple storage destinations. The backup data will be uploaded to all the destinations you have selected in the order you added them. Press the   icon to

alter the order. Click **Next** to proceed when you are done with the selection.



10. In the Encryption window, the default **Encrypt Backup Data** option is enabled with an encryption key preset by the system which provides the most secure protection.



You can choose from one of the following three Encryption Type options:

- **Default** – an encryption key with 44 alpha numeric characters will be randomly generated by the system
- **User password** – the encryption key will be the same as the login password of your AhsayOBM at the time when this backup set is created. Please be reminded that if you change the AhsayOBM login password later, the encryption keys of the backup sets previously created with this encryption type will remain unchanged.

- **Custom** – you can customize your encryption key, where you can set your own algorithm, encryption key, method and key length.

Encryption

Encrypt Backup Data  
On

Encryption Type  
Custom ▼

Algorithm  
AES ▼

Encryption key  
\*\*\*\*\*

Re-enter encryption key  
\*\*\*\*\*

Method  
 ECB  CBC

Key length  
 128-bit  256-bit

**Note:** For best practice on managing your encryption key, refer to the following [wiki article](#).

[FAQ: Best practices for managing encryption key for AhsayOBM or AhsayACB](#)

Click **Next** when you are done setting.

11. If you have enabled the Encryption Key feature in the previous step, the following pop-up window shows, no matter which encryption type you have selected.

Encryption

Encrypt Backup Data  
On

Encryption Type  
Default ▼

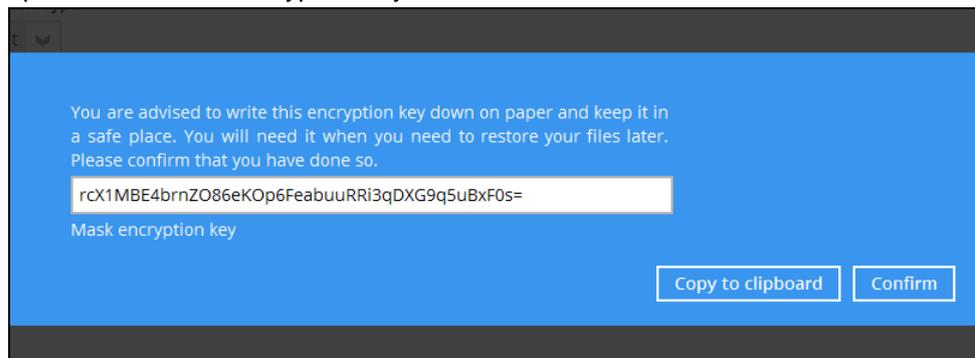
You are advised to write this encryption key down on paper and keep it in a safe place. You will need it when you need to restore your files later. Please confirm that you have done so.

\*\*\*\*\*  
Unmask encryption key

Copy to clipboard Confirm

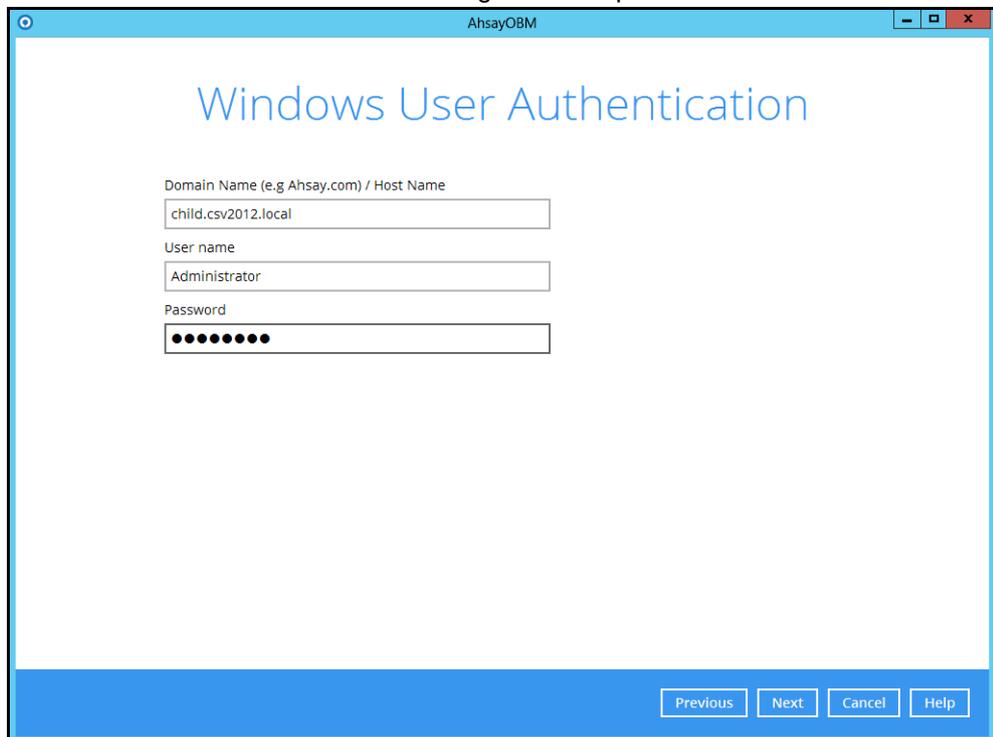
The pop-up window has the following three options to choose from:

- **Unmask encryption key** – The encryption key is masked by default. Click this option to show the encryption key.



- **Copy to clipboard** – Click to copy the encryption key, then you can paste it in another location of your choice.
- **Confirm** – Click to exit this pop-up window and proceed to the next step.

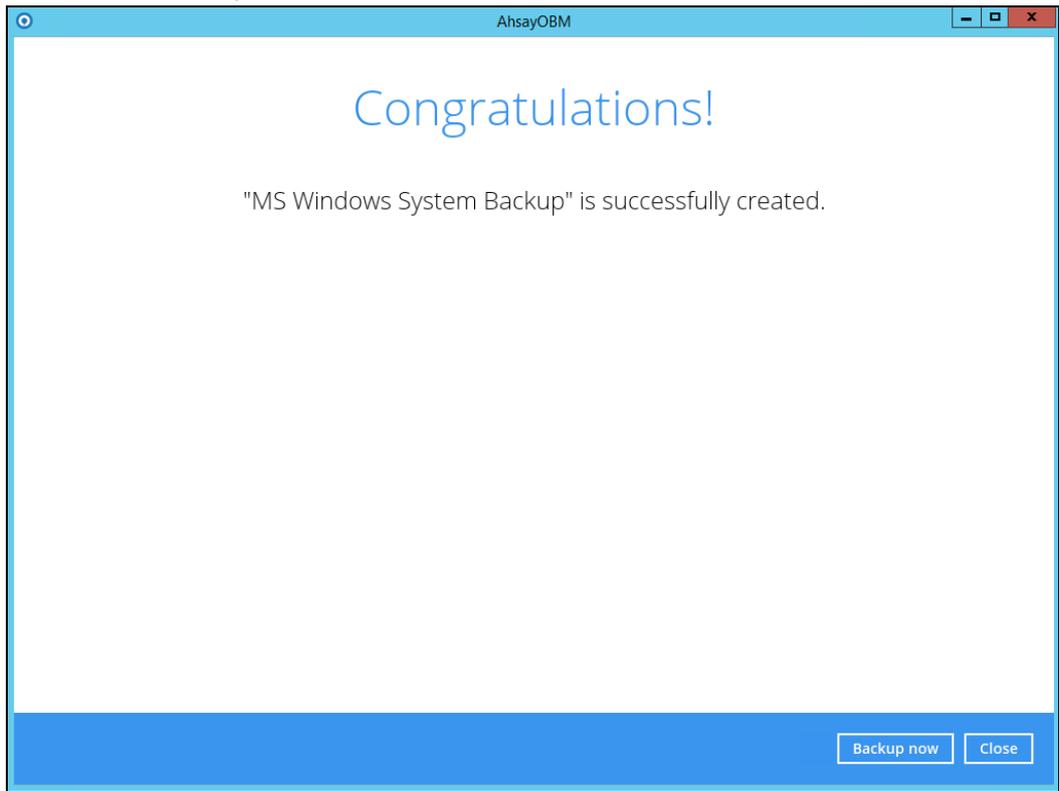
12. Enter the **Domain Name / Host Name** of the computer, **User Name** and **Password** of the Windows account that will be running the backup.



**Note:** This menu will only be displayed if a backup schedule is configured in the previous step.

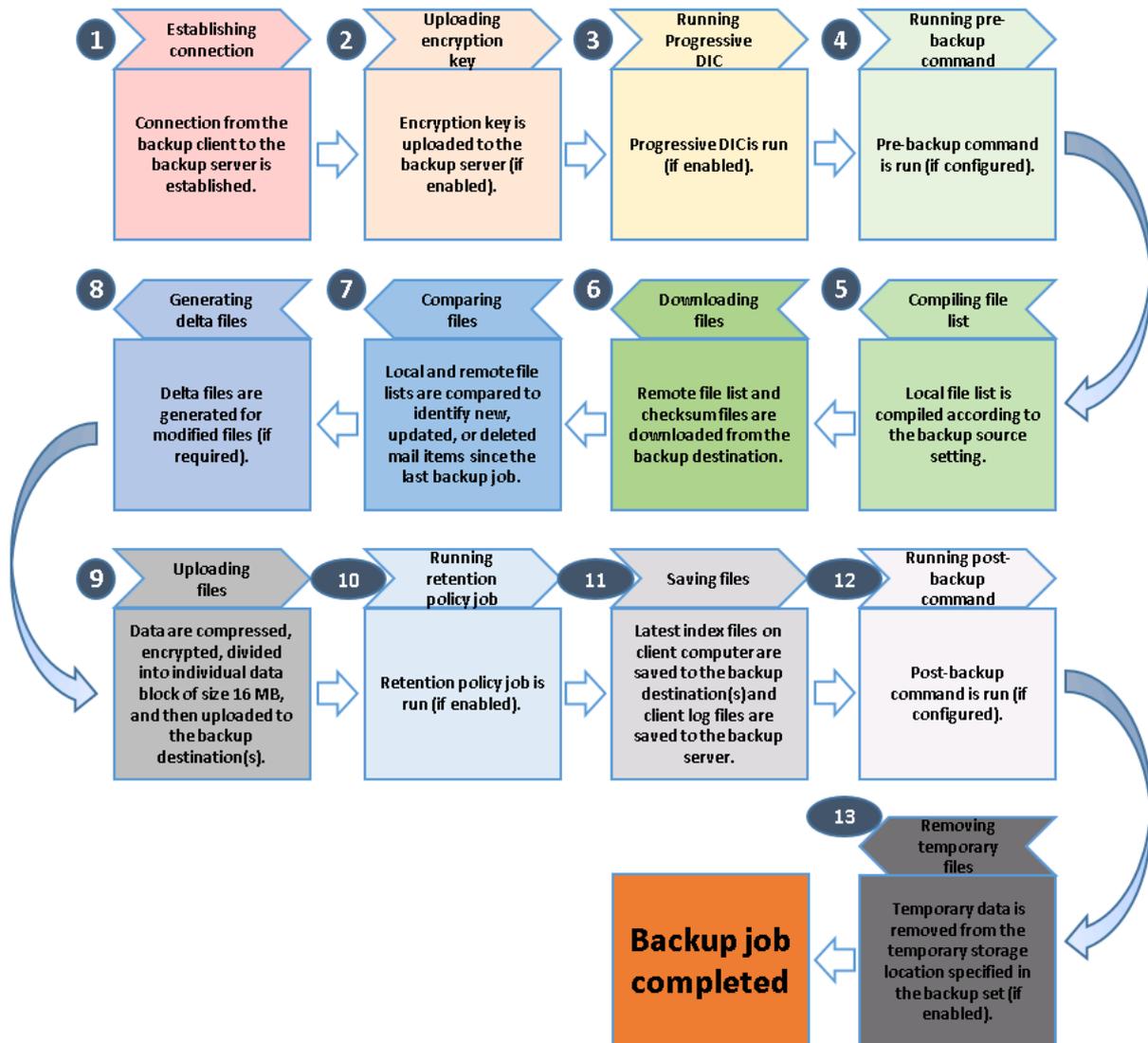
13. Click **Next** to create the backup set.

14. The following screen is displayed when the new MS Windows System backup set is created successfully.



## 6 Overview on the Backup Process

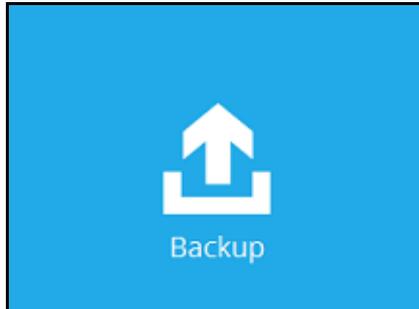
The following steps are performed during a MS Windows System backup job.



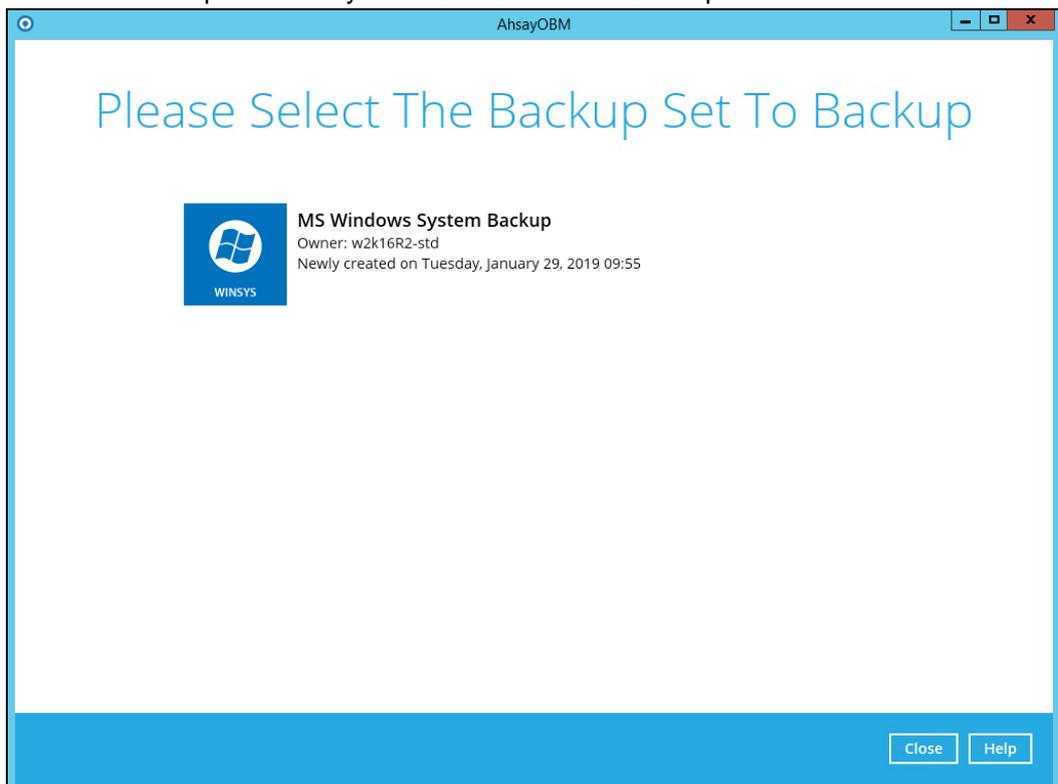
## 7 Running a Backup

### 7.1 Start a Manual Backup

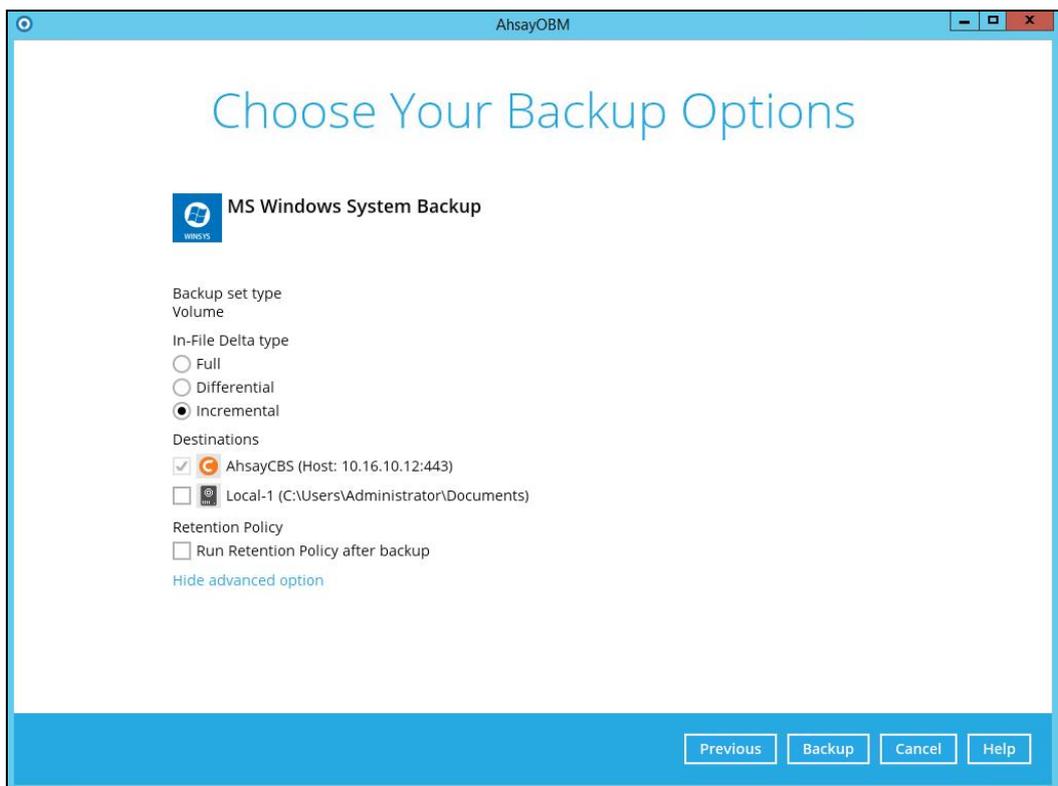
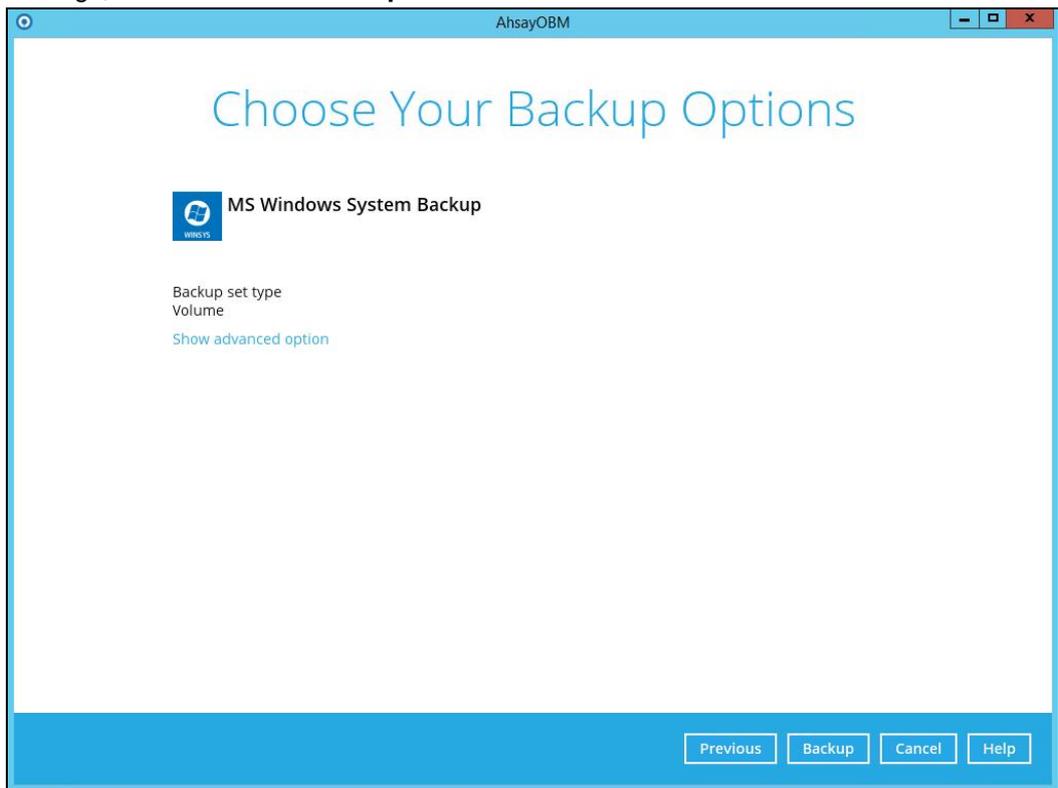
1. Click the **Backup** icon on the main interface of AhsayOBM.



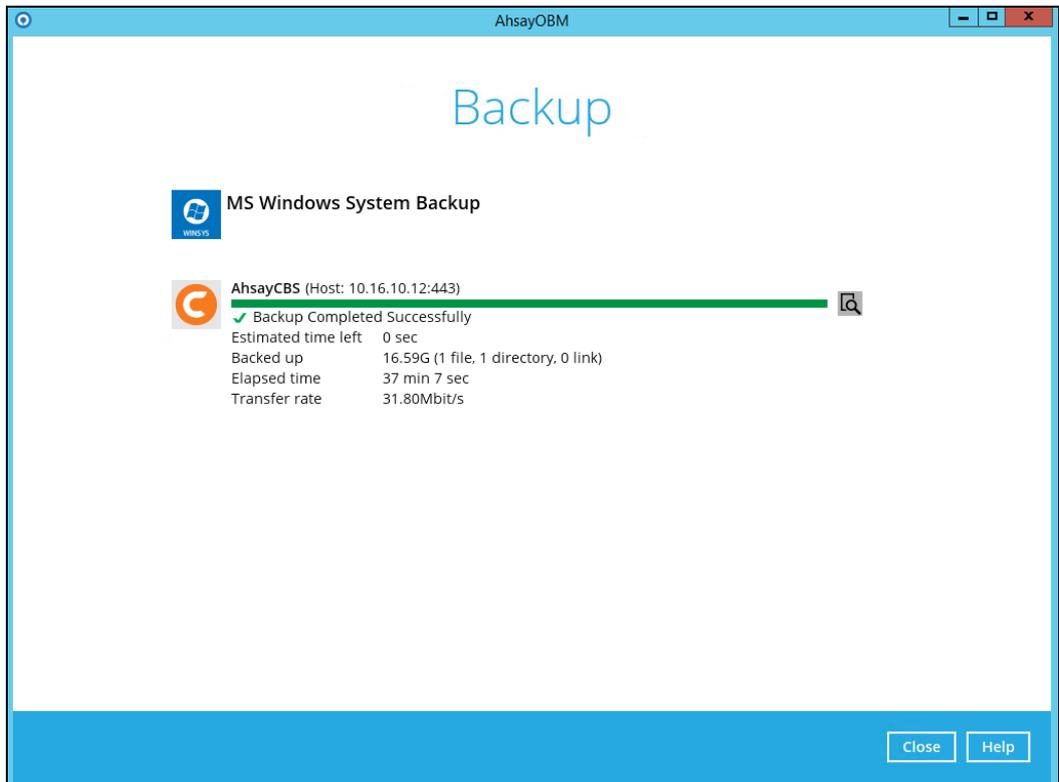
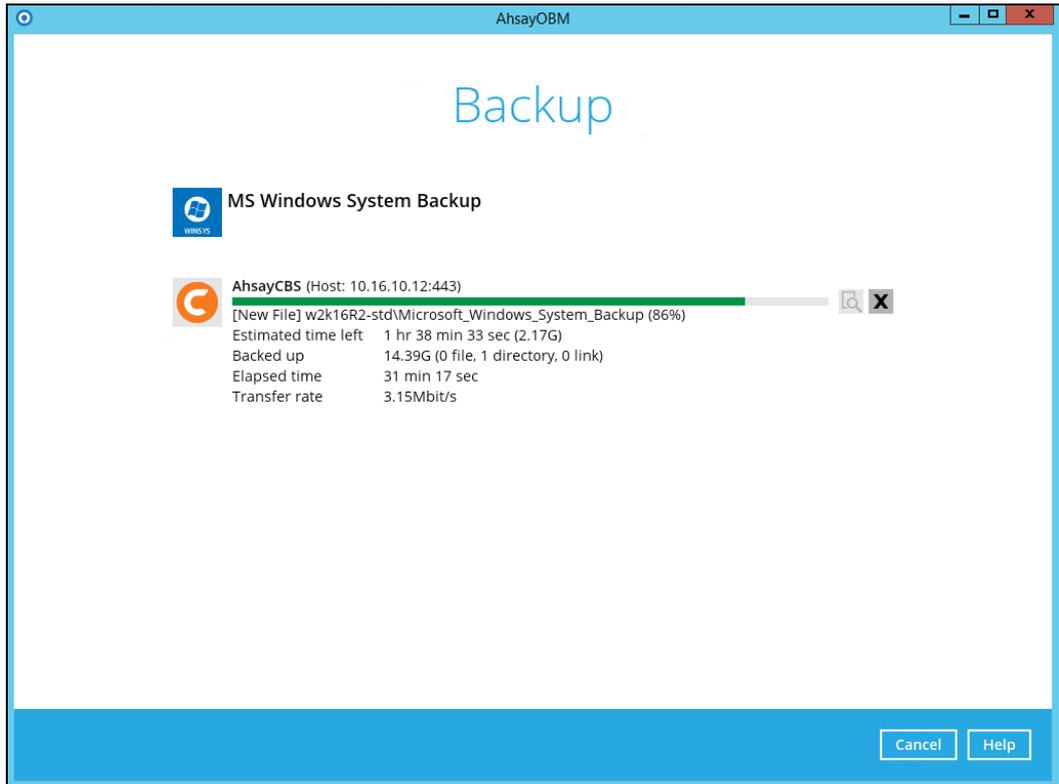
2. Select the backup set which you would like to start a backup for.



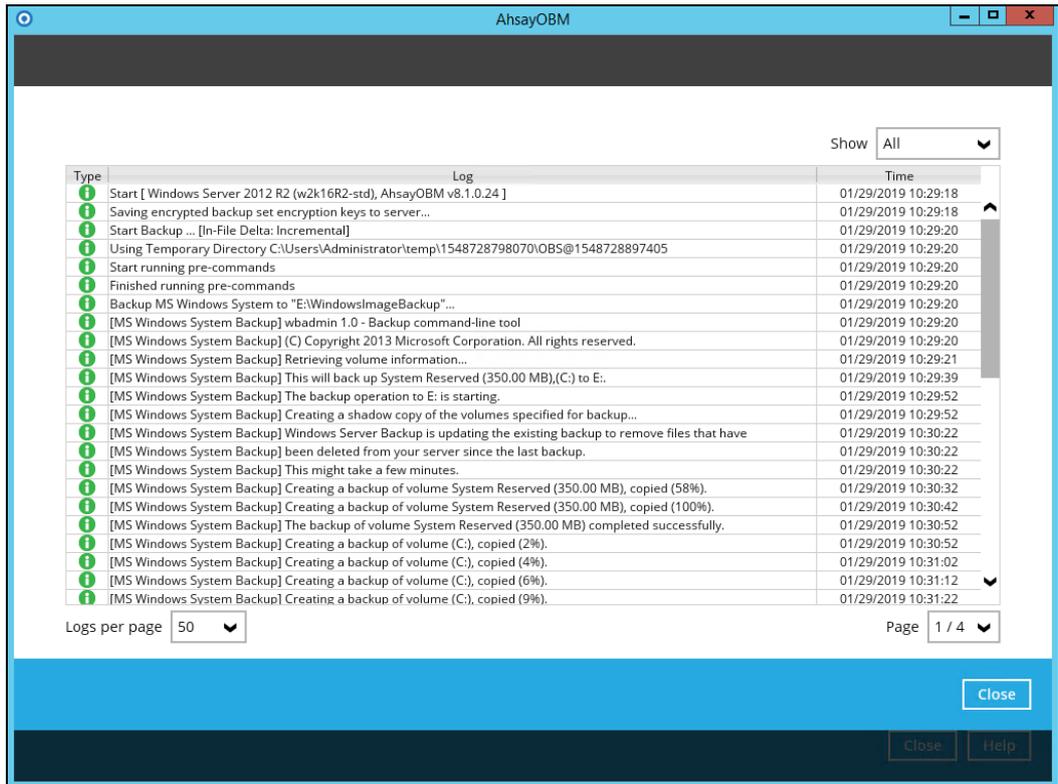
3. If you would like to modify the In-File Delta type, Destinations and Retention Policy Settings, click **Show advance option**.



4. Click **Backup** to start the backup and wait until the backup is done.



- Check the log of your backup by clicking this icon . It will show you the log of your backup with corresponding date and time.

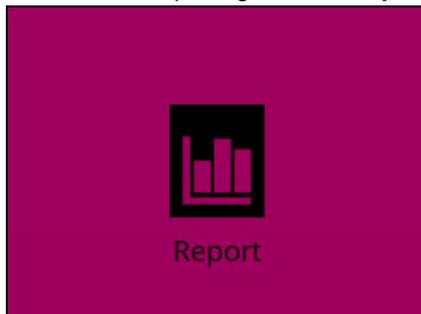


Type	Log	Time
i	Start [ Windows Server 2012 R2 (w2k16R2-std), AhsayOBM v8.1.0.24 ]	01/29/2019 10:29:18
i	Saving encrypted backup set encryption keys to server...	01/29/2019 10:29:18
i	Start Backup ... [In-File Delta: Incremental]	01/29/2019 10:29:20
i	Using Temporary Directory C:\Users\Administrator\temp\1548728798070\OBS@1548728897405	01/29/2019 10:29:20
i	Start running pre-commands	01/29/2019 10:29:20
i	Finished running pre-commands	01/29/2019 10:29:20
i	Backup MS Windows System to "E:\WindowsImageBackup"...	01/29/2019 10:29:20
i	[MS Windows System Backup] wbadmin 1.0 - Backup command-line tool	01/29/2019 10:29:20
i	[MS Windows System Backup] (C) Copyright 2013 Microsoft Corporation. All rights reserved.	01/29/2019 10:29:20
i	[MS Windows System Backup] Retrieving volume information...	01/29/2019 10:29:21
i	[MS Windows System Backup] This will back up System Reserved (350.00 MB),(C:) to E:.	01/29/2019 10:29:39
i	[MS Windows System Backup] The backup operation to E: is starting.	01/29/2019 10:29:52
i	[MS Windows System Backup] Creating a shadow copy of the volumes specified for backup...	01/29/2019 10:29:52
i	[MS Windows System Backup] Windows Server Backup is updating the existing backup to remove files that have	01/29/2019 10:30:22
i	[MS Windows System Backup] been deleted from your server since the last backup.	01/29/2019 10:30:22
i	[MS Windows System Backup] This might take a few minutes.	01/29/2019 10:30:22
i	[MS Windows System Backup] Creating a backup of volume System Reserved (350.00 MB), copied (58%).	01/29/2019 10:30:32
i	[MS Windows System Backup] Creating a backup of volume System Reserved (350.00 MB), copied (100%).	01/29/2019 10:30:42
i	[MS Windows System Backup] The backup of volume System Reserved (350.00 MB) completed successfully.	01/29/2019 10:30:52
i	[MS Windows System Backup] Creating a backup of volume (C:), copied (2%).	01/29/2019 10:30:52
i	[MS Windows System Backup] Creating a backup of volume (C:), copied (4%).	01/29/2019 10:31:02
i	[MS Windows System Backup] Creating a backup of volume (C:), copied (6%).	01/29/2019 10:31:12
i	[MS Windows System Backup] Creating a backup of volume (C:), copied (9%).	01/29/2019 10:31:22

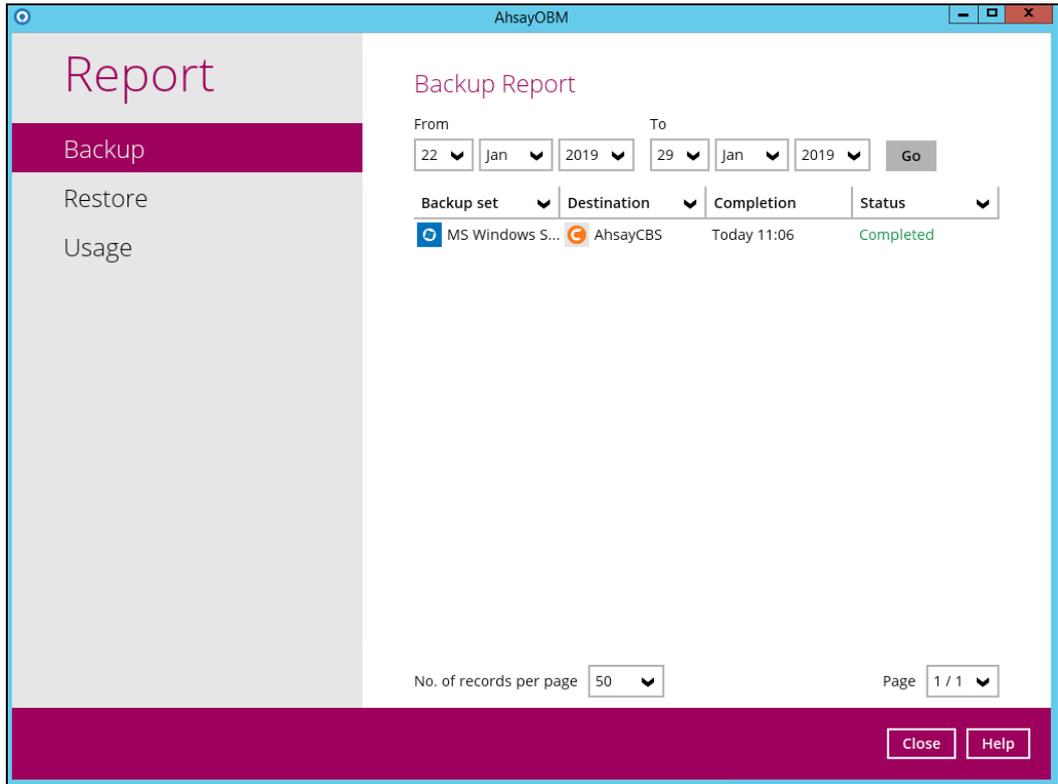
Logs per page: 50 Page: 1 / 4

Buttons: Close, Help

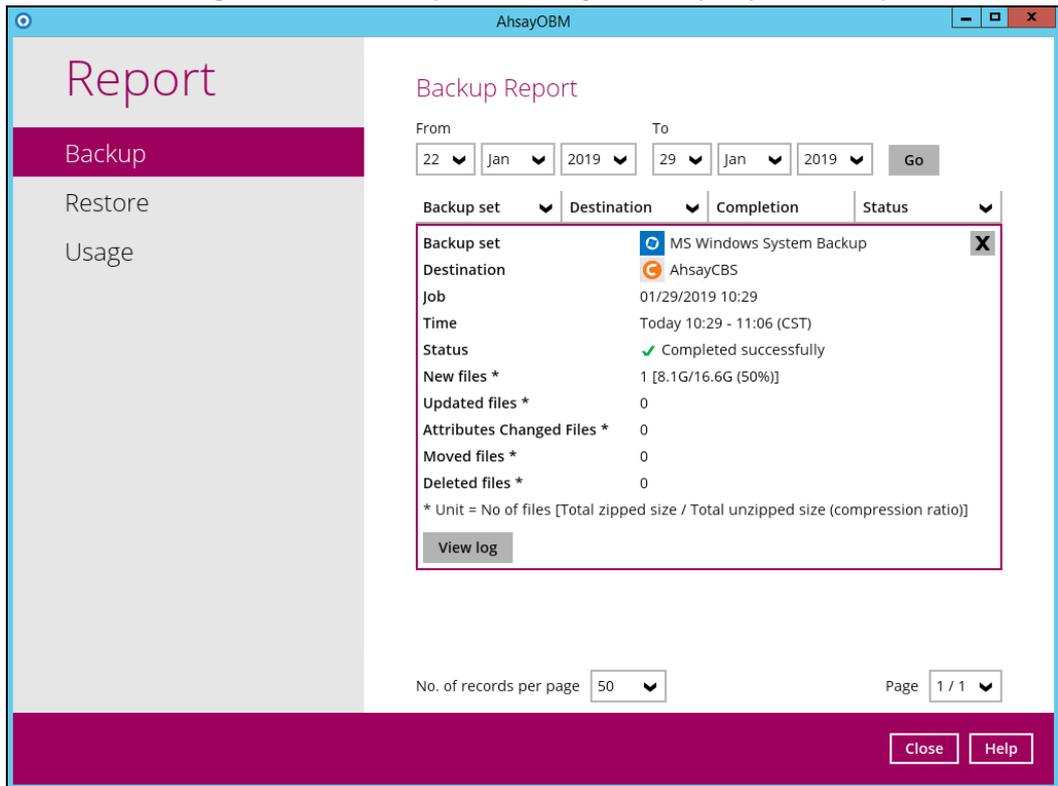
To view the report, go to the **Report > Backup**

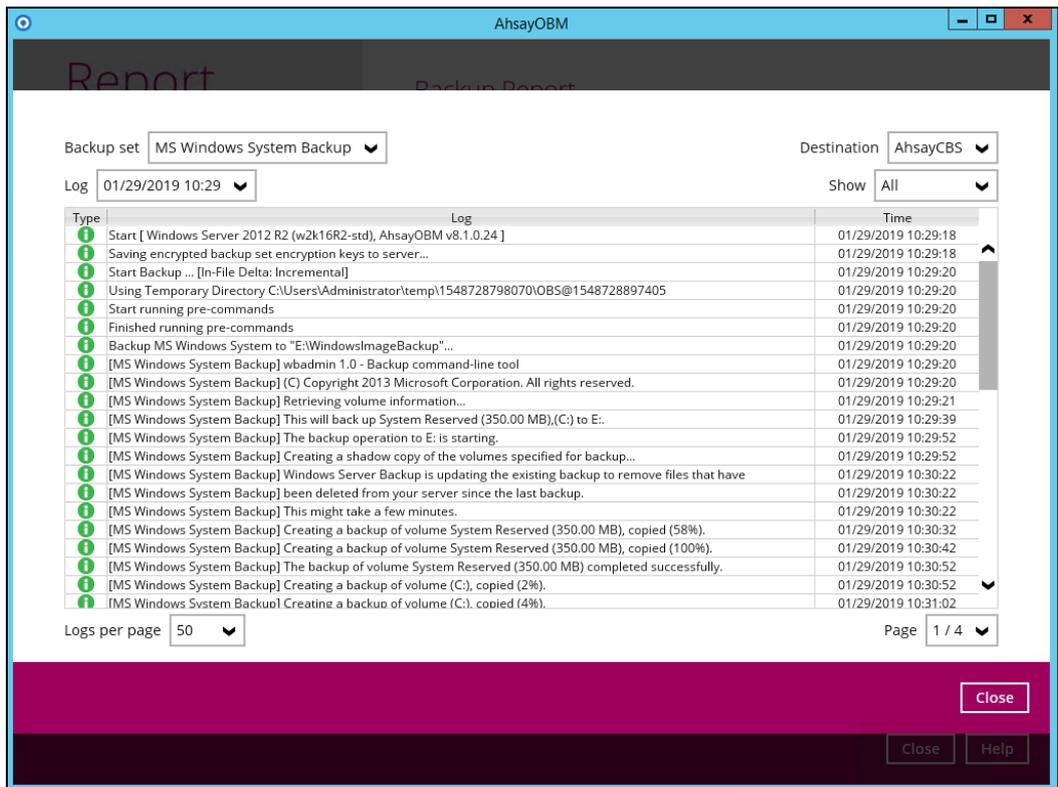


In this Backup Report screen, you can see the backup set with corresponding destination, completion date and time, and status.



Click the backup report and the summary of the backup will be displayed. You can also click the **View Log**, this will redirect you to the log summary of your backup.





You can also search for backup reports from a specific period of date. For example, we have the **From** date which is, **01 Jan 2019** and the **To** date which is, **23 Jan 2019**. Then click the **Go** button to generate the available reports.

From    To

If this is a valid range of dates then backup reports will be displayed unless there were no backup running on the specified dates. A message of **No records found** will also be displayed.

From    To

AhsayOBM

# Report

- Backup
- Restore
- Usage

## Backup Report

From: 01 Jan 2019 To: 03 Jan 2019

Backup set	Destination	Completion	Status
No records found			

No. of records per page: 50 Page: -

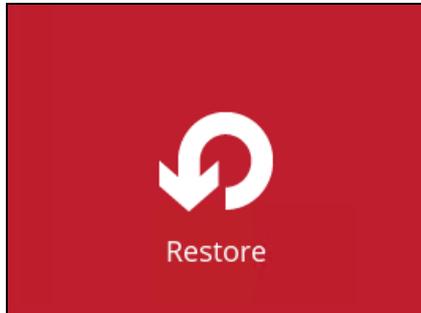
## 8 Restore with a MS Windows System Backup Set

### 8.1 Login to AhsayOBM

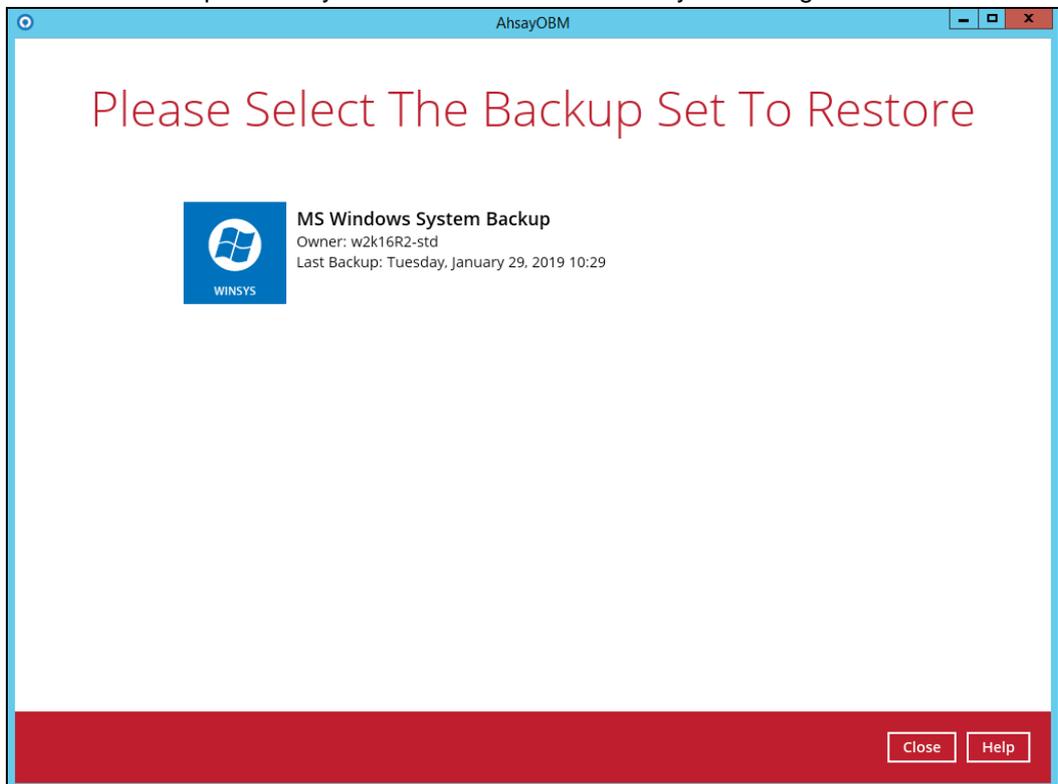
Login to the AhsayOBM application according to the instruction provided in the chapter on [Starting AhsayOBM](#).

### 8.2 Restore the System Image

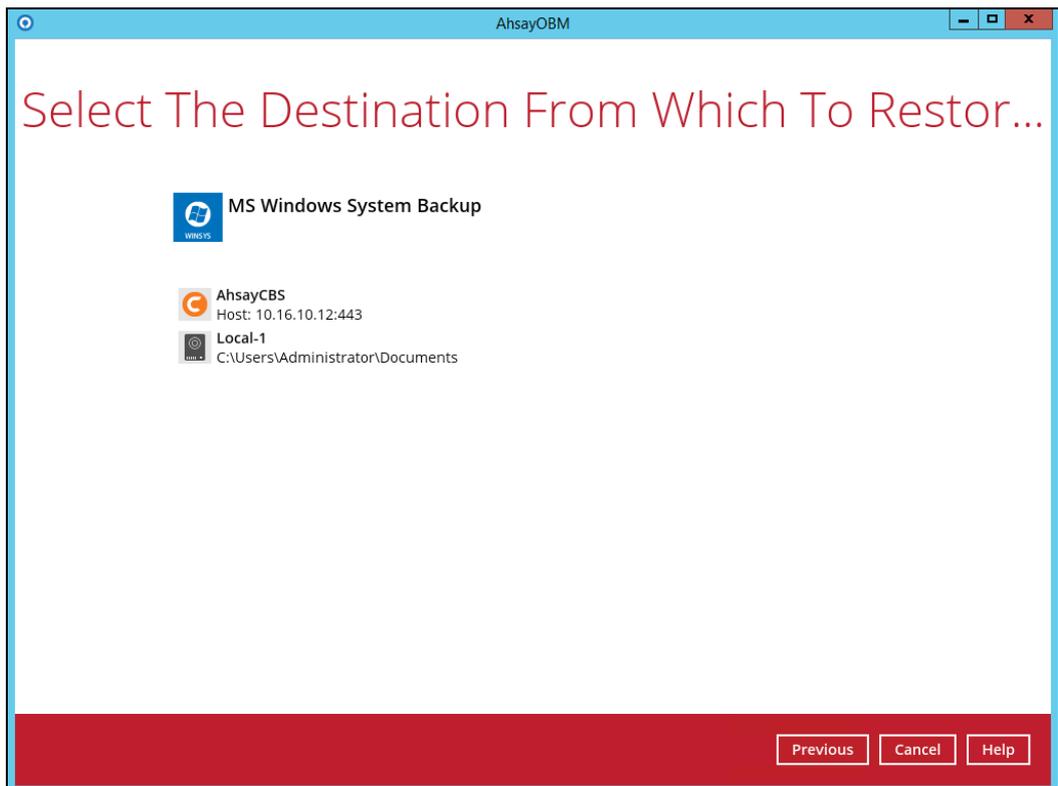
1. Click the **Restore** icon on the main interface of AhsayOBM.



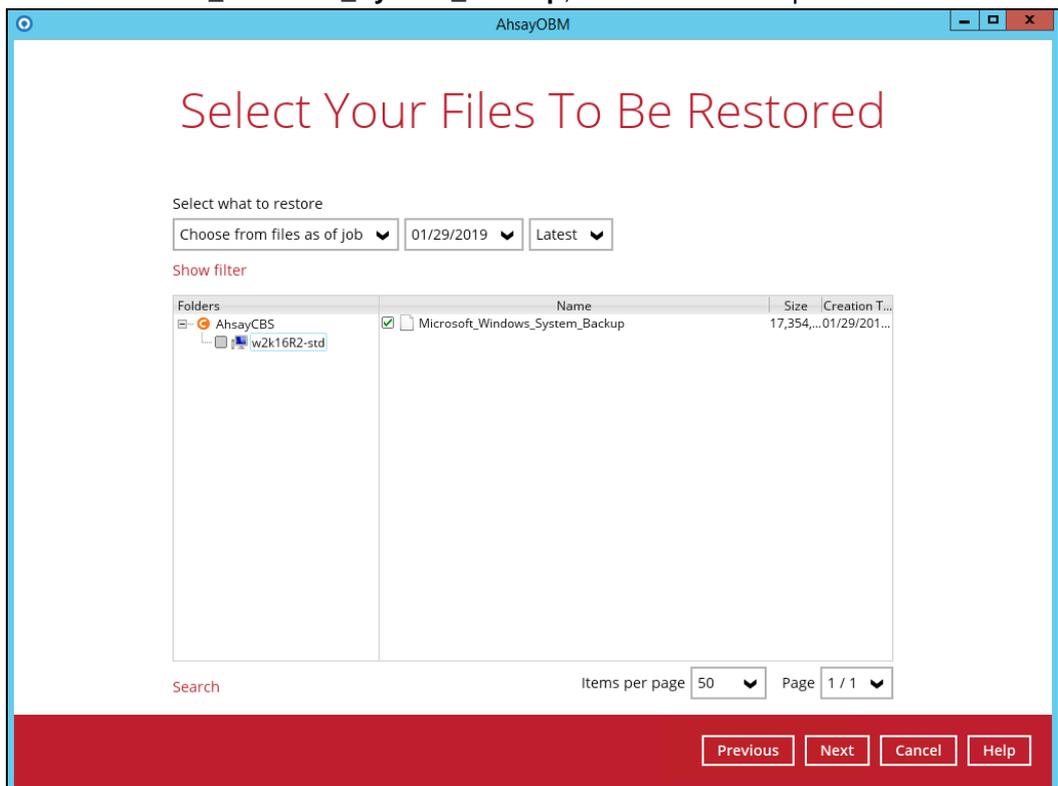
2. Select the backup set that you would like to restore the system image from.



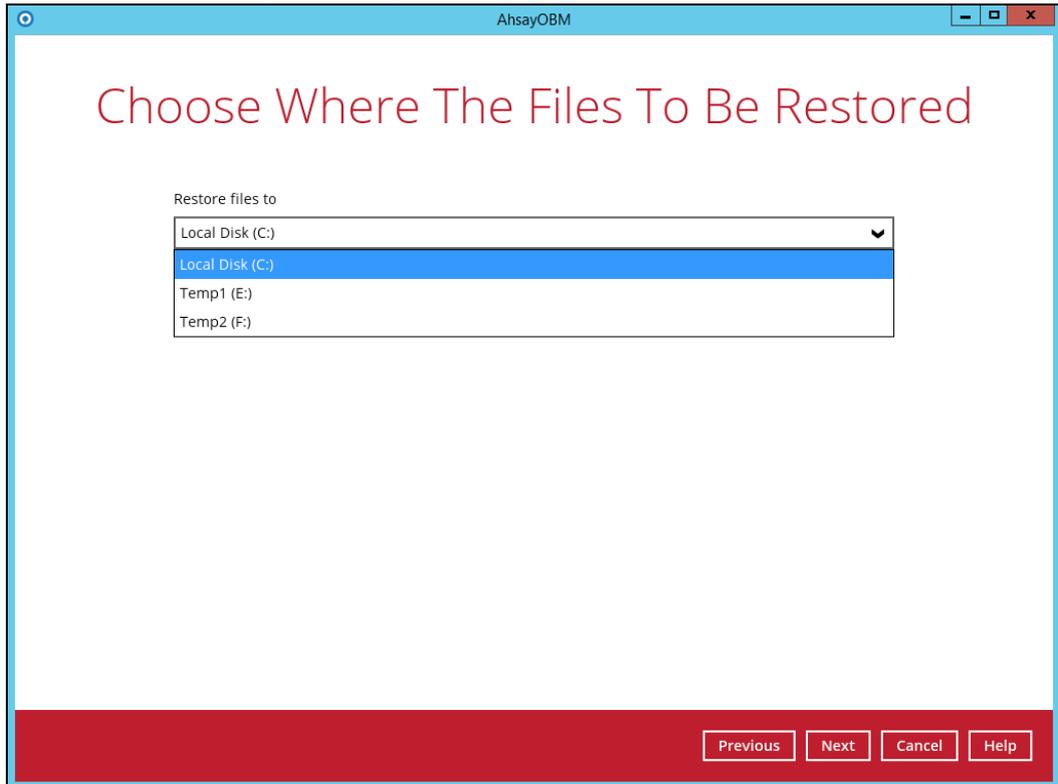
3. Select the backup destination that contains the system image that you would like to restore.



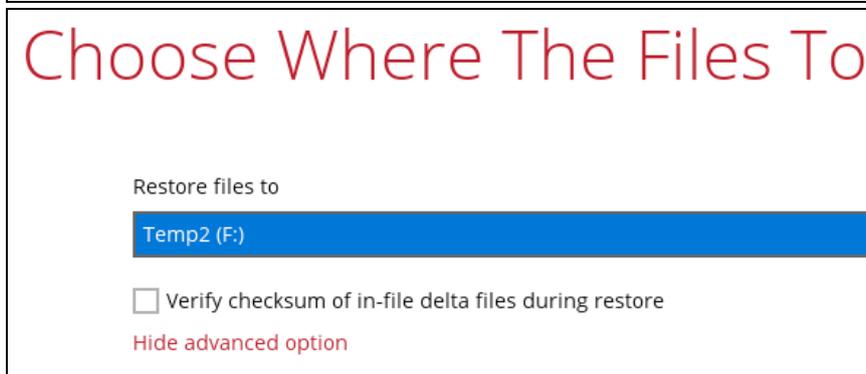
4. Select to restore from a specific backup job, or the latest job available from the **Select what to restore** drop down menu.
5. Select **Microsoft\_Windows\_System\_Backup**, then click **Next** to proceed.



6. Select to restore the system image to a local volume or to a removable drive.



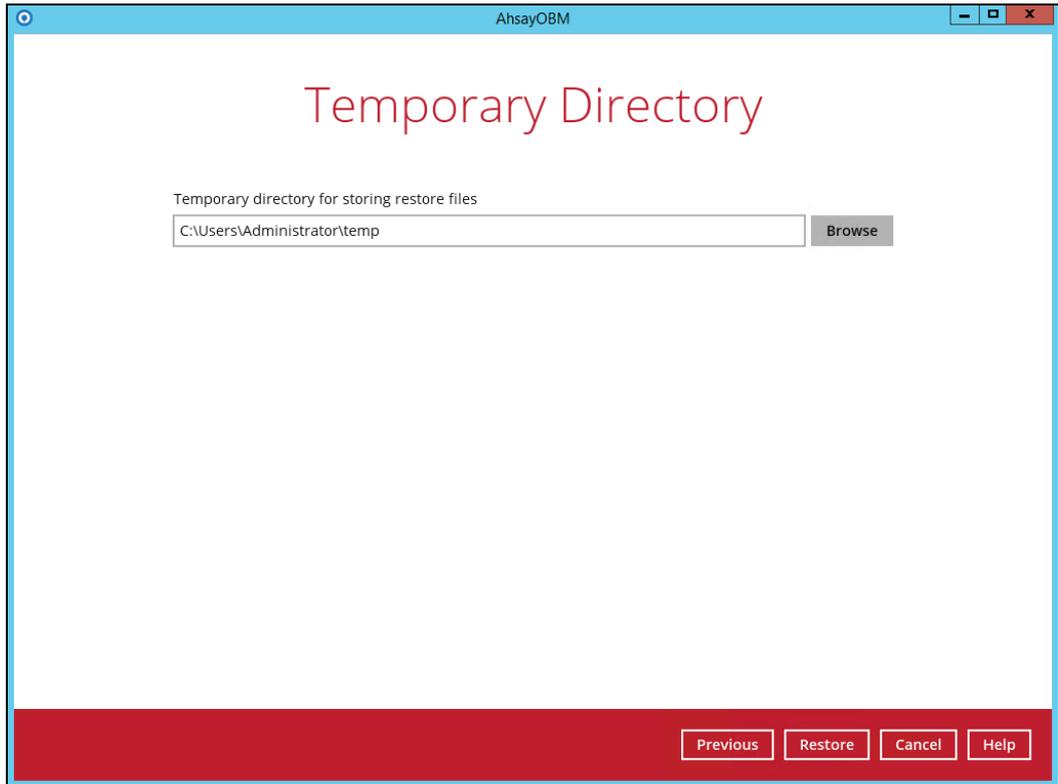
Click **Show advanced option** to configure other restore settings.



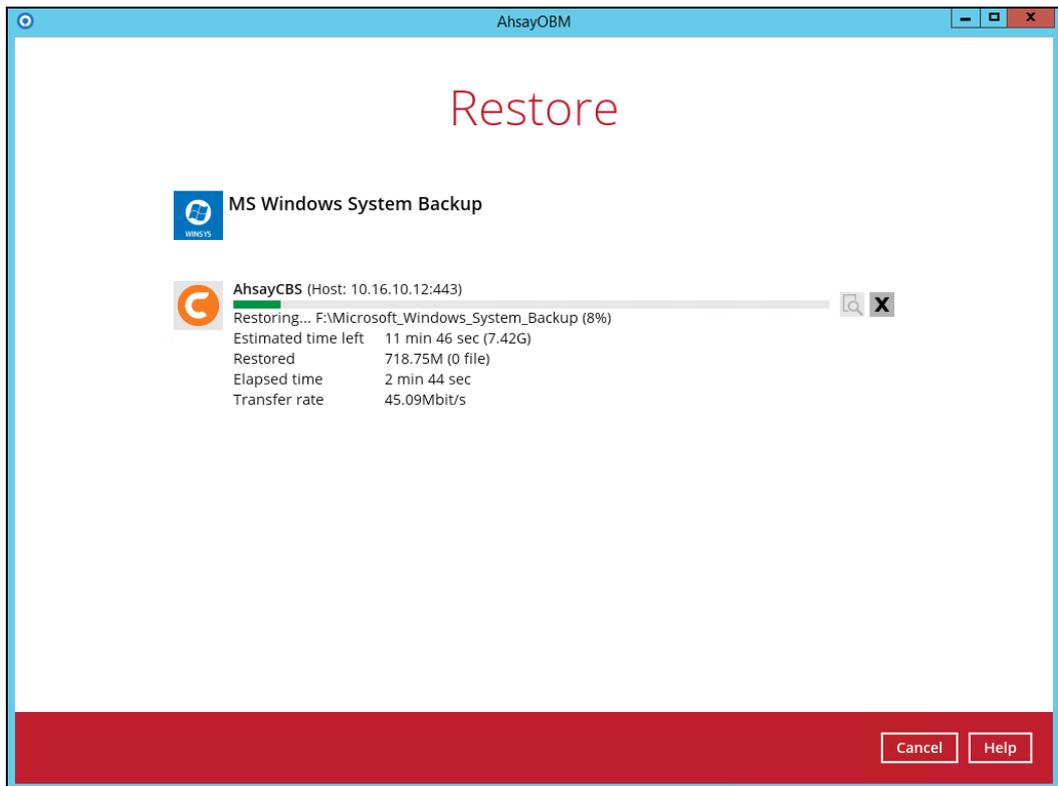
**Verify checksum of in-file delta files during restore**

By enabling this option, the checksum of in-file delta files will be verified during the restore process. This will check the data for errors during the restore process and create a data summary of the in-file delta files which will be included in the report.

7. Select the temporary directory for storing temporary files.



8. Click **Restore** to start the restoration.





To view the report, go to the **Report > Restore**



In this Restore Report screen, you can see the backup set with corresponding destination, completion date and time, and status.

Backup set	Destination	Job	Status
MS Windows S...	AhsayCBS	Today 11:29	Completed

Click the restore report and the summary of the restoration will be displayed. You can also click the **View Log**, this will redirect you to the log summary of your backup.



You can also search for restore reports from a specific period of date. For example, we have the **From** date which is, **01 Jan 2019** and the **To** date which is, **23 Jan 2019**. Then click the **Go** button to generate the available reports.

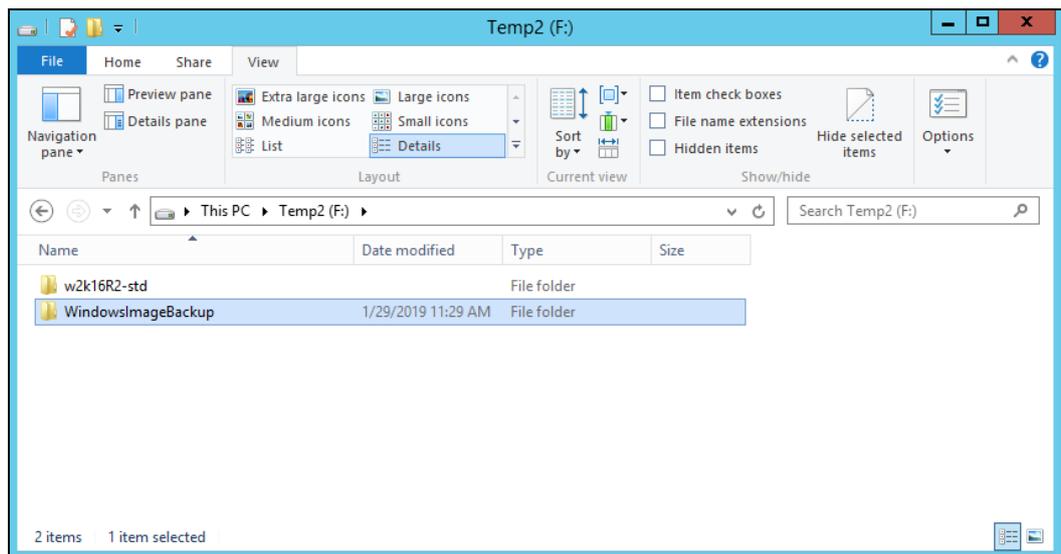
From				To				
	01	Jan	2019		29	Jan	2019	Go

If this is a valid range of dates then restore reports will be displayed unless there were no restoration running on the specified dates. A message of **No records found** will also be displayed.

From				To				
	01	Jan	2019		03	Jan	2019	Go

The screenshot shows the AhsayOBM web application interface. On the left is a navigation menu with 'Report' selected, containing 'Backup', 'Restore', and 'Usage'. The main content area is titled 'Restore Report' and contains a search form. The 'From' date is set to 01 Jan 2019 and the 'To' date is 03 Jan 2019. Below the date fields are filters for 'Backup set', 'Destination', 'Job', and 'Status'. The search results area is empty, displaying the message 'No records found'. At the bottom, there are controls for 'No. of records per page' (set to 50) and 'Page' (set to -). A footer bar contains 'Close' and 'Help' buttons.

10. The restored system image files are stored in the **WindowsImageBackup** folder in the restore location.



**Important:** In addition to the system image files, the **WindowsImageBackup** folder includes catalog files that contain information about all backups in there up to the current backup, and Mediald, that contains the identifier for the backup storage location.

This information is required to perform a recovery. Do not alter the directory structure or delete any file / folder within the **WindowsImageBackup** folder.

11. Copy the **WindowsImageBackup** folder with its content to the server that you want to perform the restore for or copy the folder to a network drive that is accessible to the server that you want to perform the restore for.

**WindowsImageBackup** folder must be stored at the root level of a volume (e.g. top-most level), unless you are copying the folder to a network drive.

12. Continue to the next section of the guide.

## 8.3 Recovering Your Server

For server platforms such as Server 2008 / 2008 R2 / 2012 / 2012 R2, you can recover individual files, folders, volumes, application, application data, operating system, or full-system (bare-metal) with the following tools:

Tool	What you can recover
Recovery wizard (in Windows Server Backup)	Files, folders, volumes, application, and application data.
Windows setup disc / Windows Recovery Environment (Windows RE)	Operating system (critical volume), and full server recovery (all volumes).

**Note:** You can also perform the above tasks using `wbadmin` command. For the syntax of the command, refer to the following: <http://go.microsoft.com/fwlink/?LinkId=140216>

To determine what can be recovered from your restored system image, enter the following command in an elevated command prompt:

```
wbadmin get versions
[-backupTarget:<BackupTargetLocation> | <NetworkSharePath>]
```

*Example (system image restored to G: volume):*

```
C:\Users\Administrator>wbadmin get versions -backupTarget:g:
wbadmin 1.0 - Backup command-line tool
(C) Copyright 2012 Microsoft Corporation. All rights reserved.

Backup time: 1/29/2019 10:29 AM
Backup target: 1394/USB Disk labeled Temp1 (E:)
Version identifier: 01/29/2019-02:29
Can recover: Volume(s), File(s), Application(s), Bare Metal
Recovery, System State
Snapshot ID: {f8cf57da-0c9d-453c-adbb-5f9a976c75c2}
```

For non-server platforms such as Windows 7 / 8 / 8.1 / 10, you can recover the full-system (bare-metal) with the following tools:

Tool	What you can recover
Advanced startup option (in safe mode)	Full system recovery.
Advanced startup option (Windows installation media)	Full system recovery.

**Note:** You can also perform the above tasks using `wbadmin` command. For the syntax of the command, refer to the following: <http://go.microsoft.com/fwlink/?LinkId=140216>

The following chapters in this guide contain instructions for:

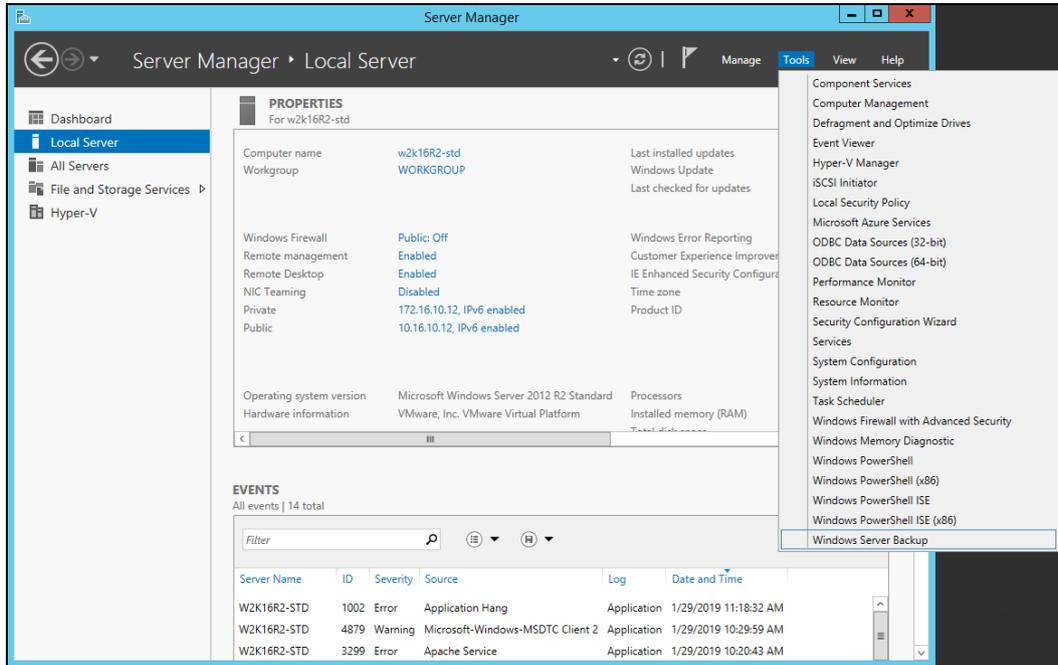
- ▶ [Recover Files and Folders](#)
- ▶ [Recover Application and Data](#)
- ▶ [Recover Volumes](#)
- ▶ [Recover the Operating System or Full System](#)
- ▶ [Recover the Full System \(Non-Server Platforms\)](#)

For instructions specific to recovering Active Directory Domain Services, refer to the following:  
<http://go.microsoft.com/fwlink/?LinkId=143754>.

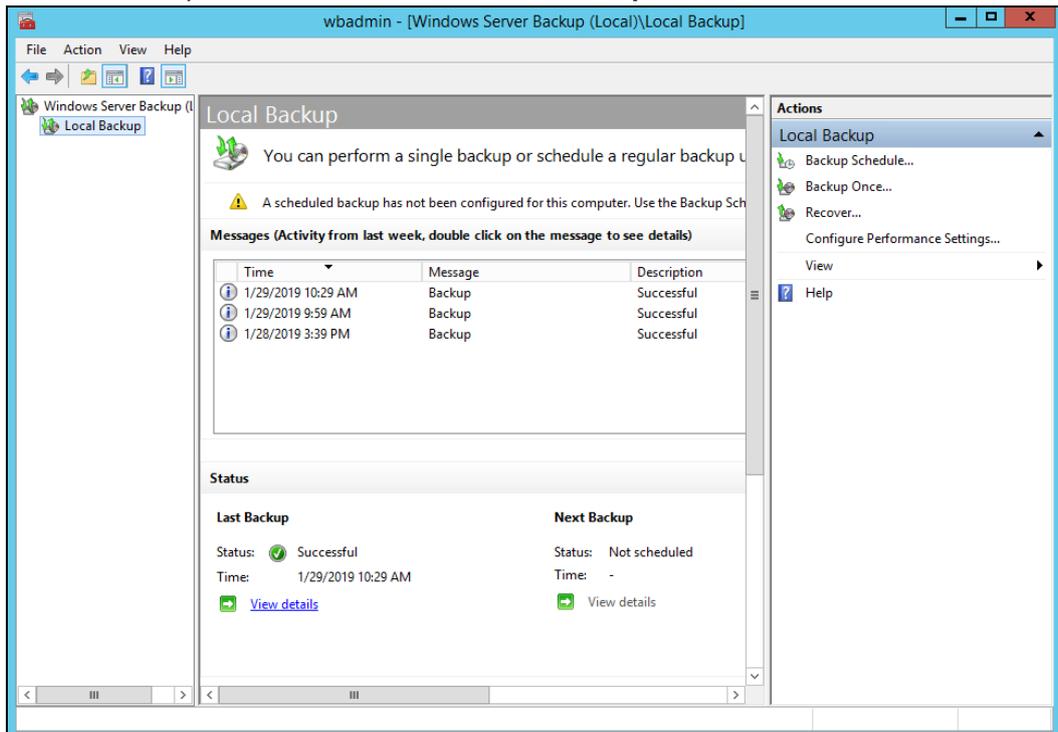
### 8.3.1 Recover Files and Folders

To recover files and folders using the Recovery Wizard in the Windows Server Backup user interface.

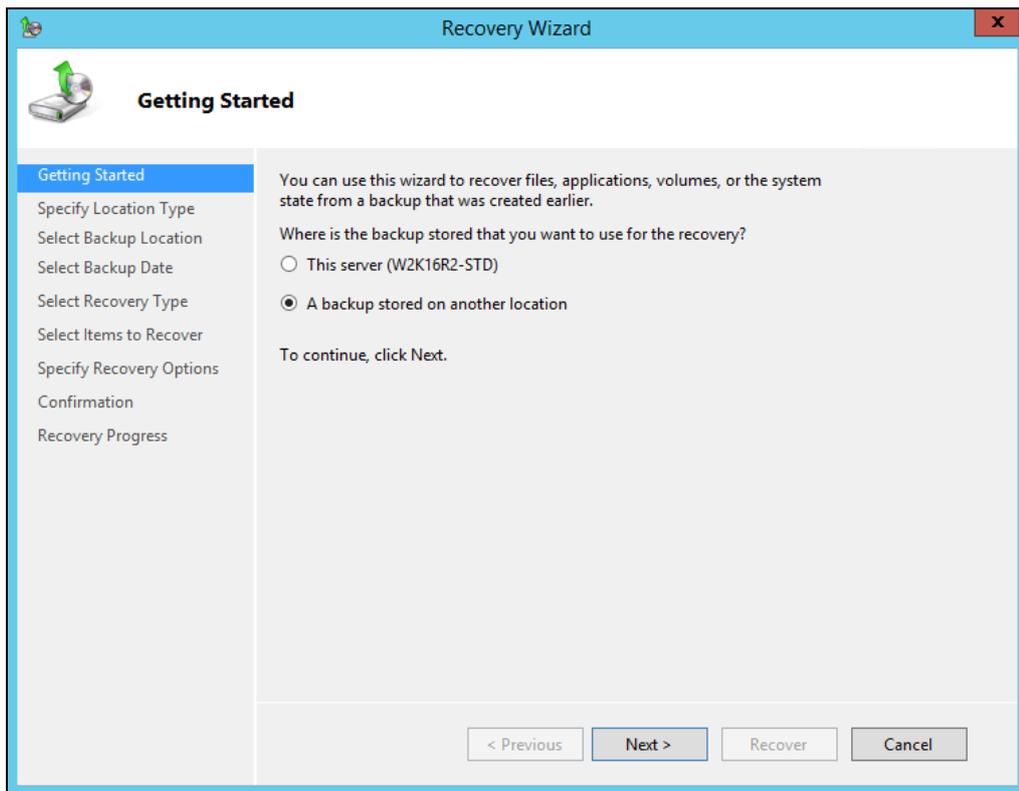
1. Open **Windows Server Backup** from **Administrative Tools** or **Server Manager**.



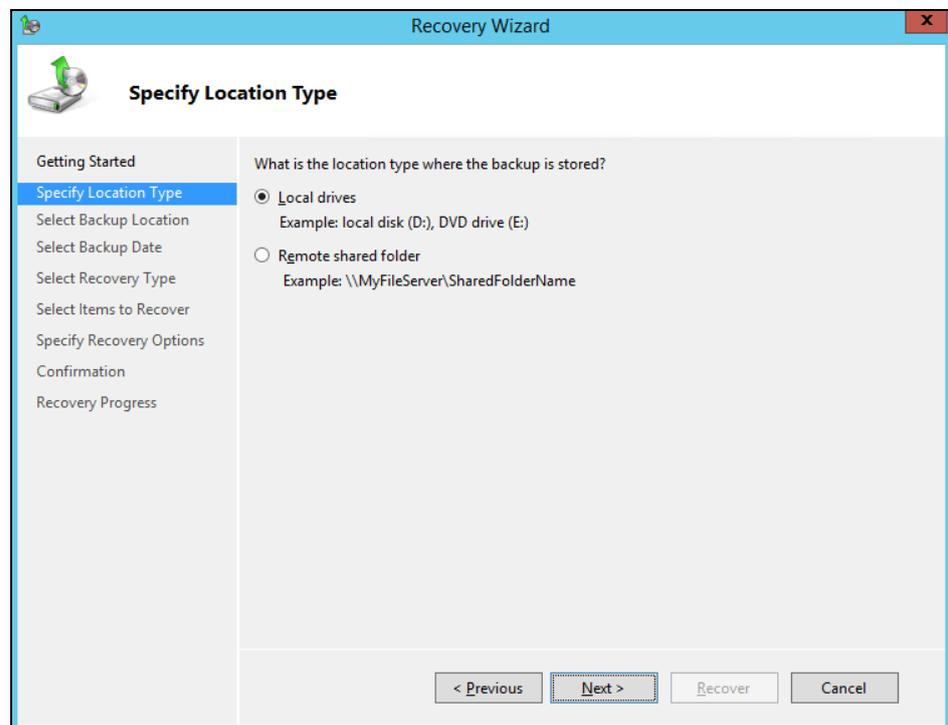
2. In the **Actions** panel under **Windows Server Backup**, click **Recover...**



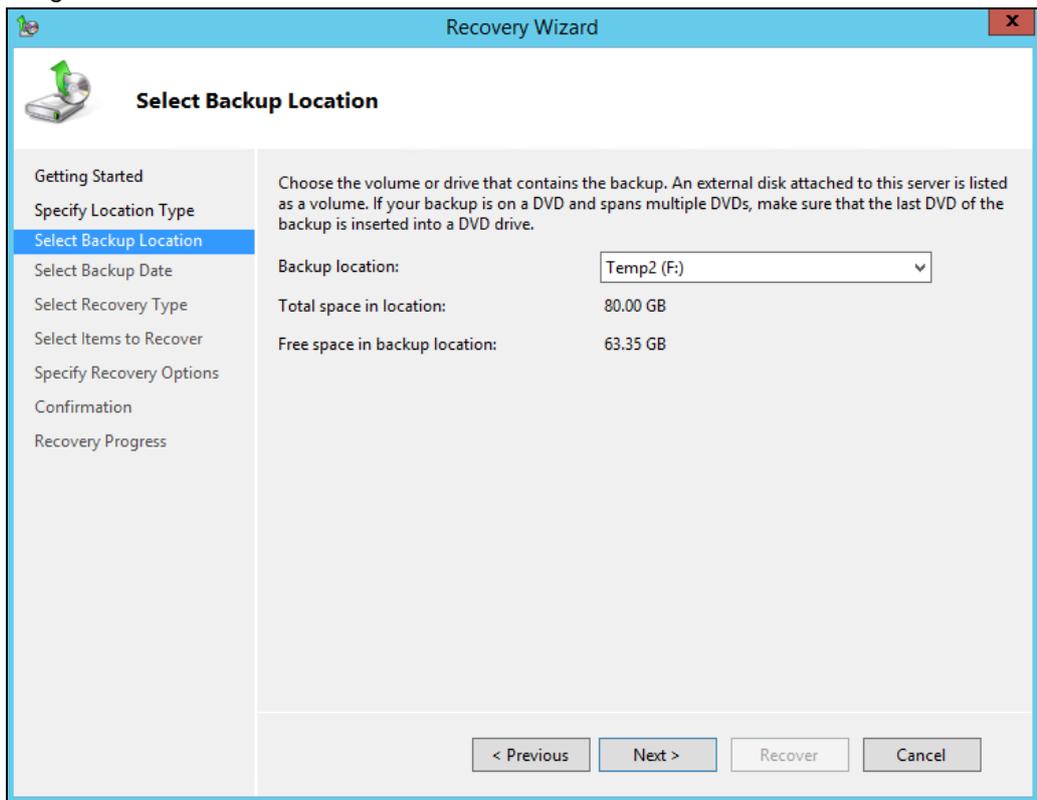
3. On the **Getting Started** page, select **A backup stored on another location**, then click **Next**.



4. On the **Specify Location Type** page, select
  - Click **Local drives**, if the system image was copied to a local volume on the server.
  - Click **Remote shared folder**, if the system image was copied to a network path accessible to this server.

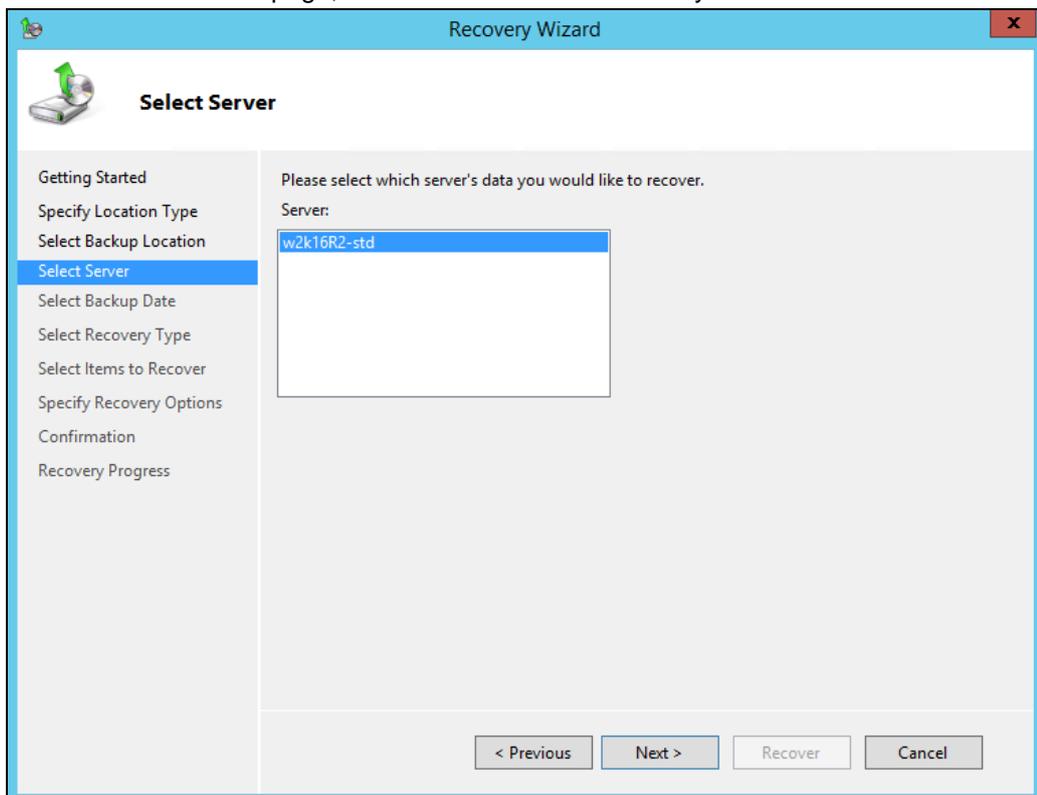


5. On the **Select Backup Location** page, select the volume that contains the system image file.

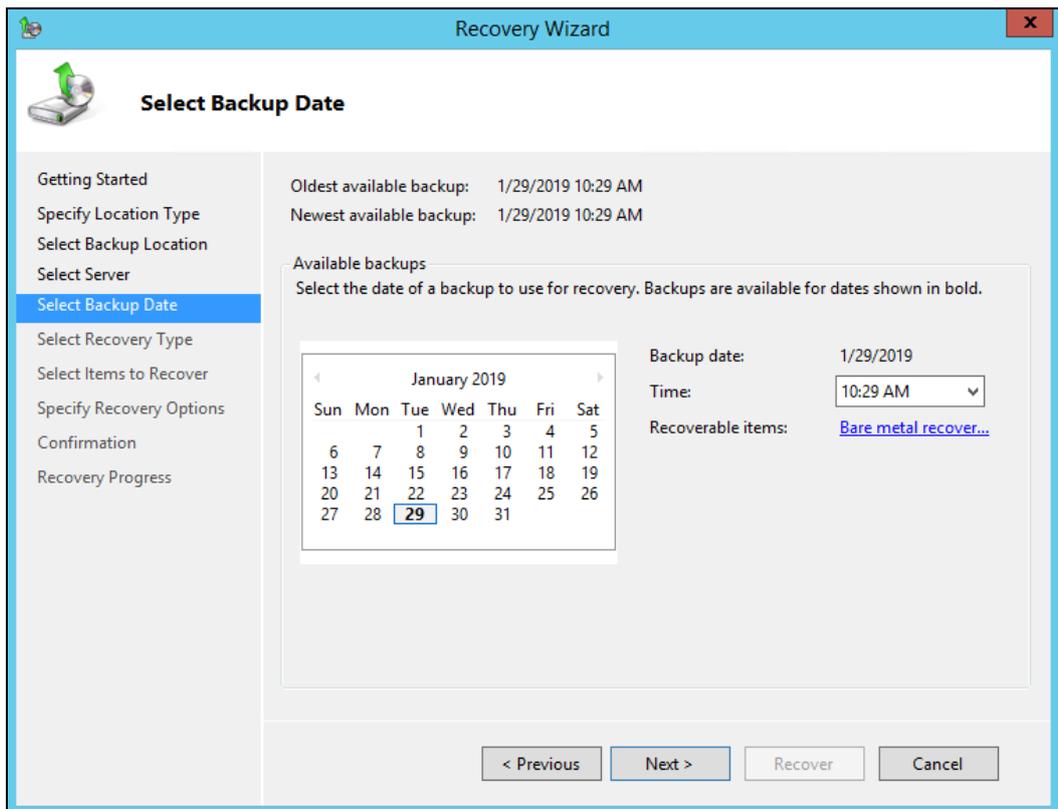


**Note:** Assuming that the **WindowsImageBackup** folder was copied to the following **F:\WindowsImageBackup**

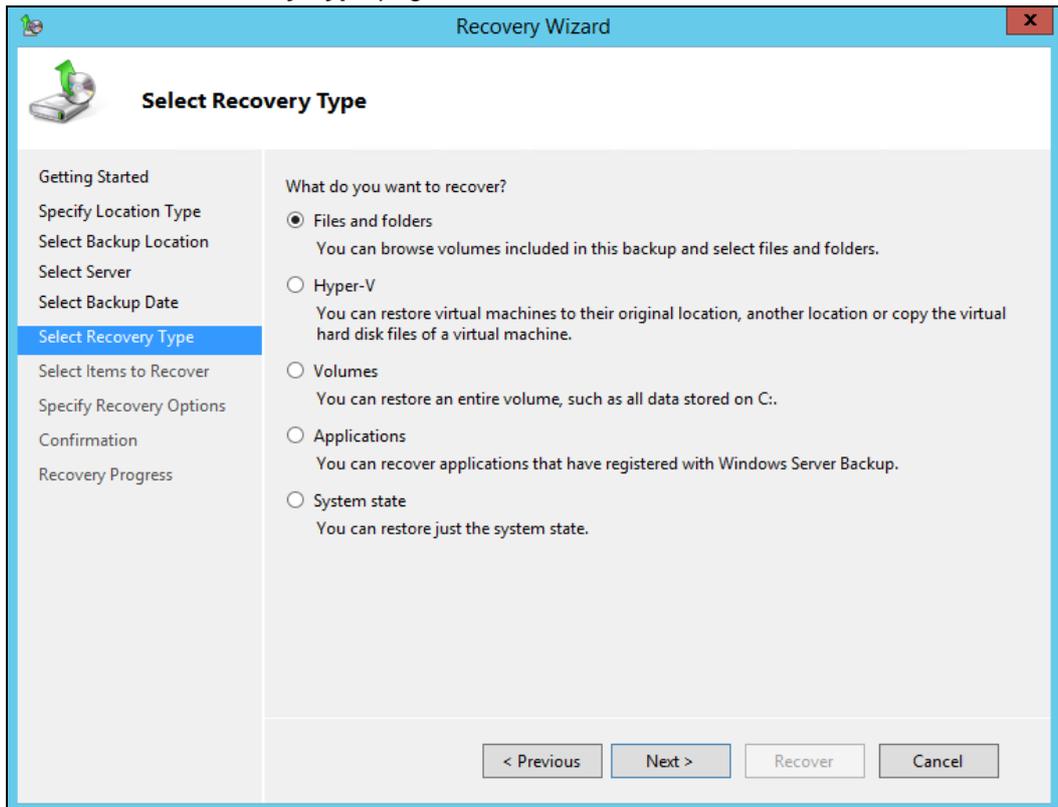
6. On the **Select Server** page, select the server whose data you want to recover.



- On the **Select Backup Date** page, select the point in time of the backup you want to restore from.

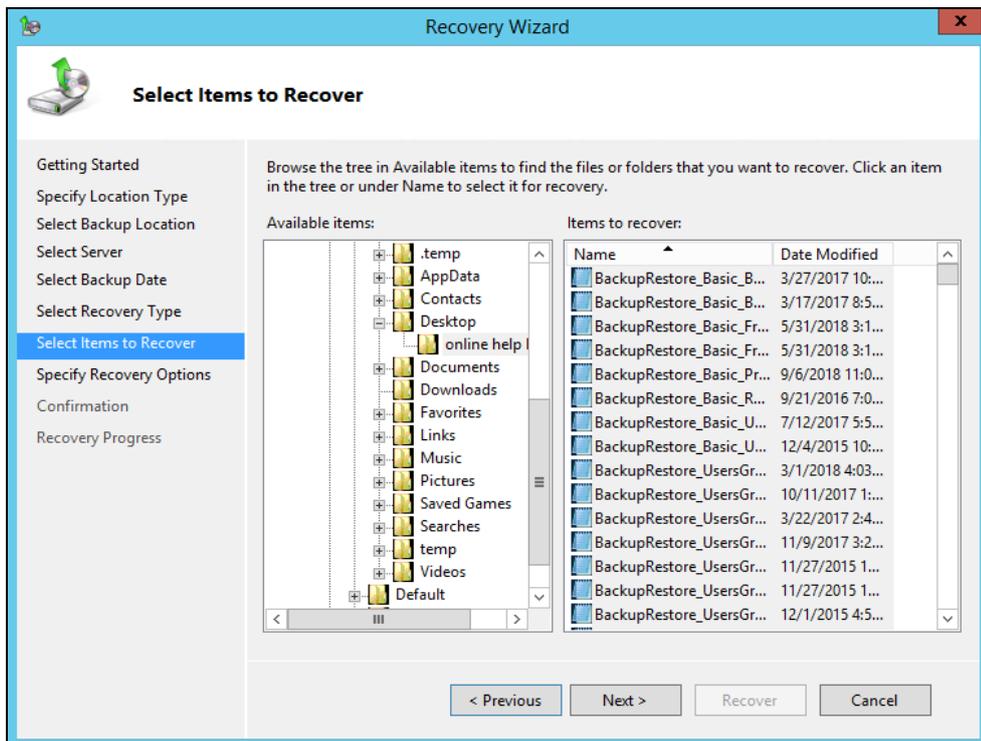


- On the **Select Recovery Type** page, click **Files and folders**.



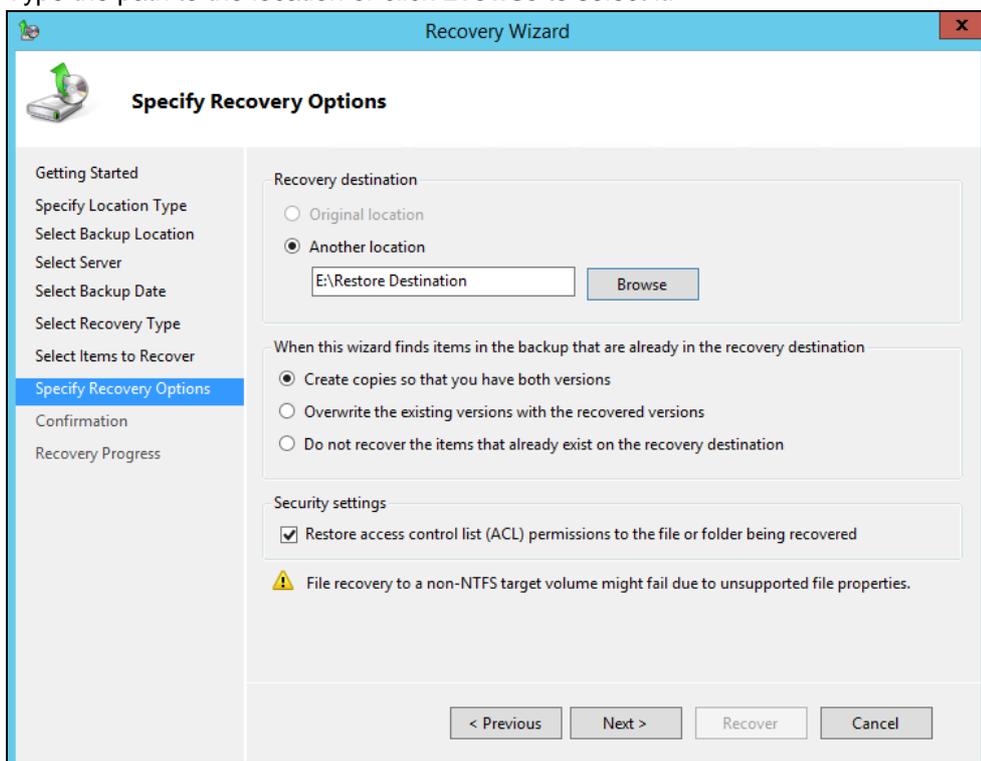
- On the **Select Items to Recover** page, under **Available items**, expand the list until the folder you want is visible.

Click a folder to display the contents in the adjacent pane, click each item that you want to restore.



- On the **Specify Recovery Options** page, under **Recovery destination**, select **Alternate location**.

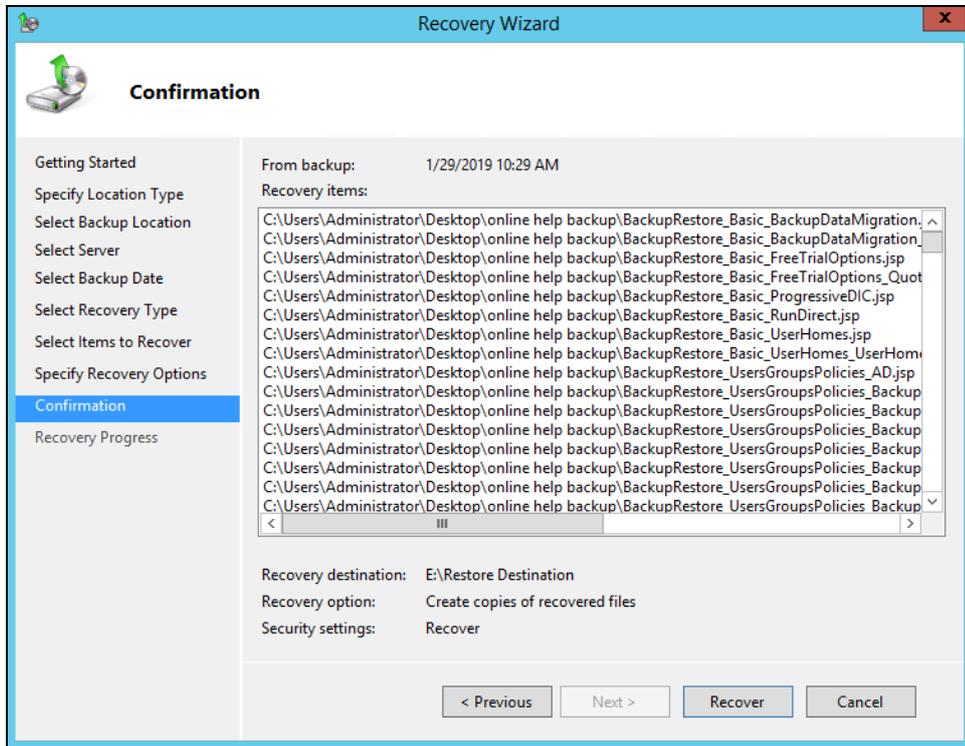
Type the path to the location or click **Browse** to select it.



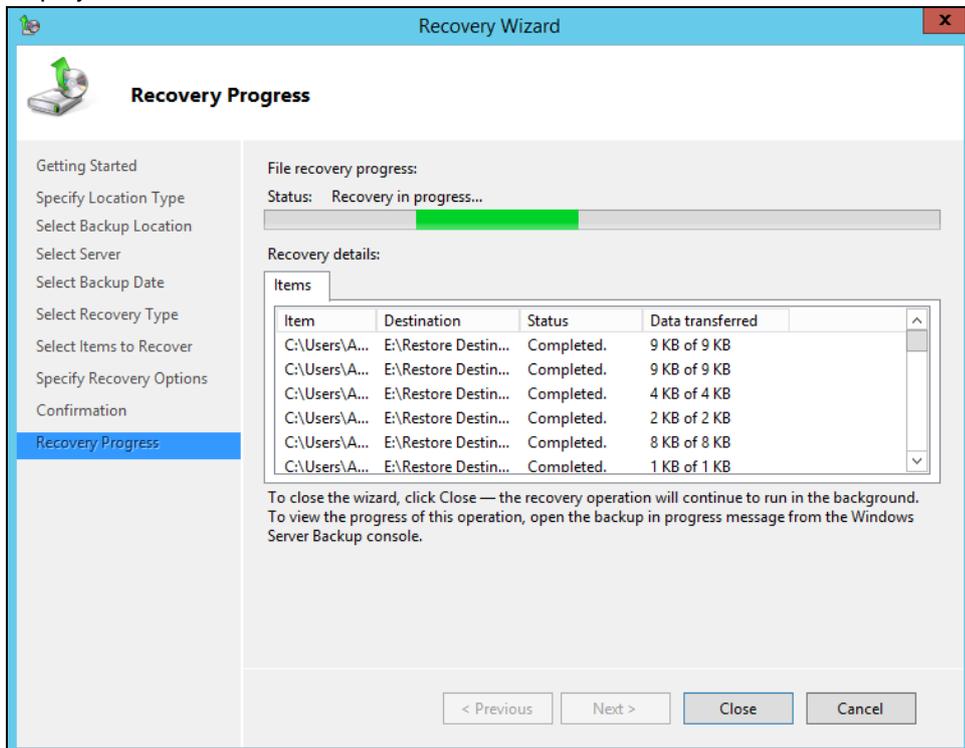
Modify the **When this wizard finds items in the backup that are already in the recovery destination** setting, and the **Security settings** if necessary.

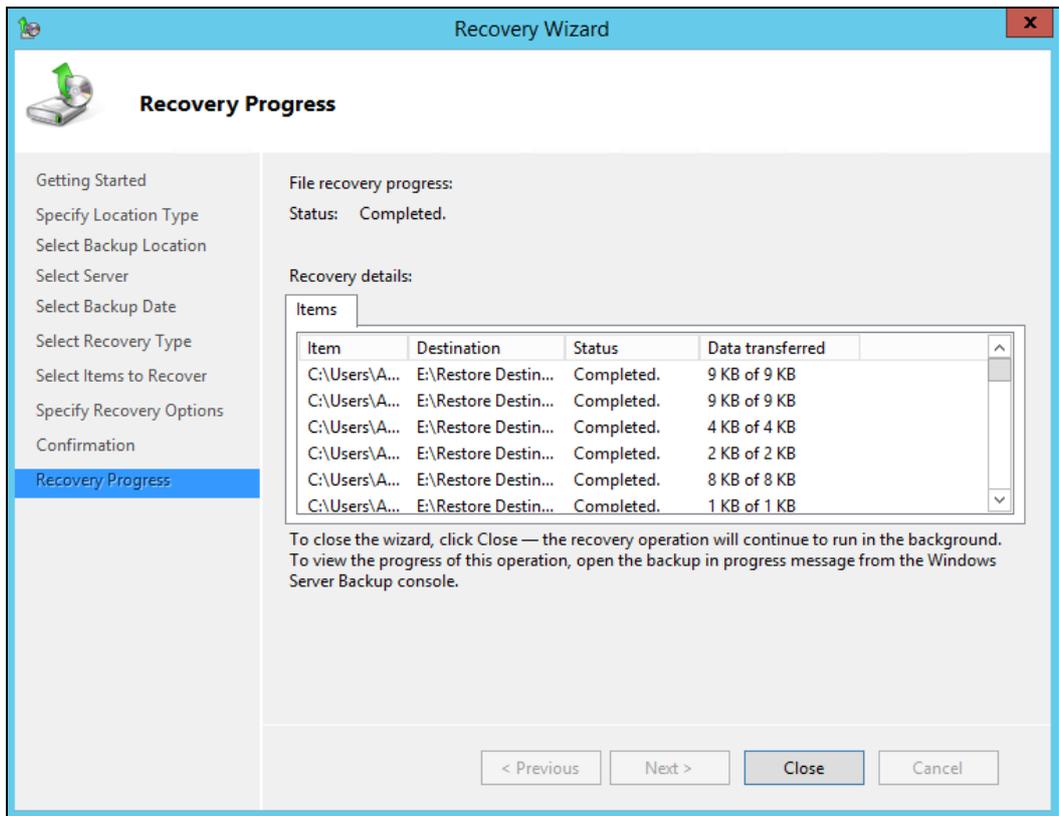
Click **Next** to proceed.

- On the **Confirmation** page, review the details, and then click **Recover** to restore the specified items.



- On the **Recovery progress** page, the status and result of the recovery operation is displayed.

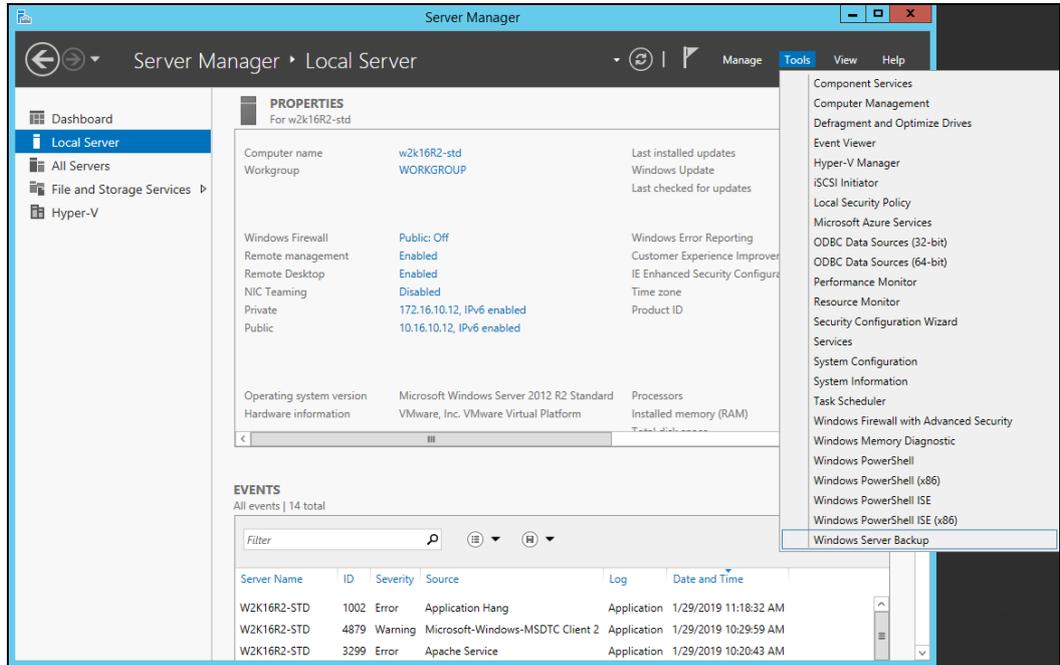




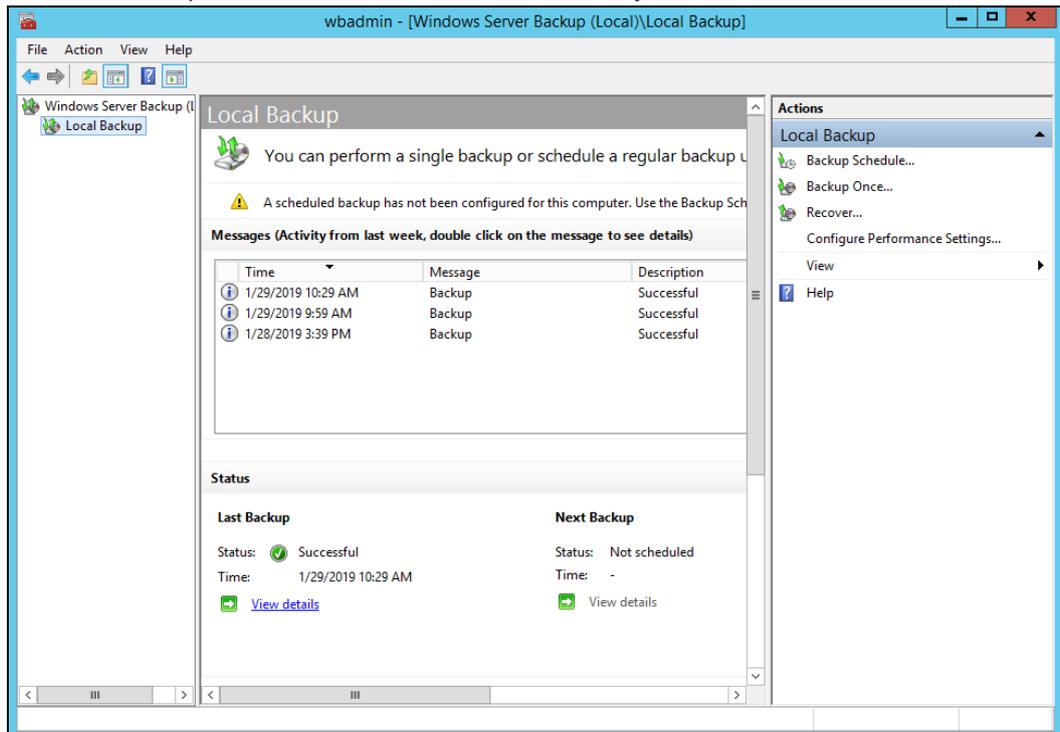
### 8.3.2 Recover Applications and Data

To recover application and data using the Recovery Wizard in the Windows Server Backup user interface.

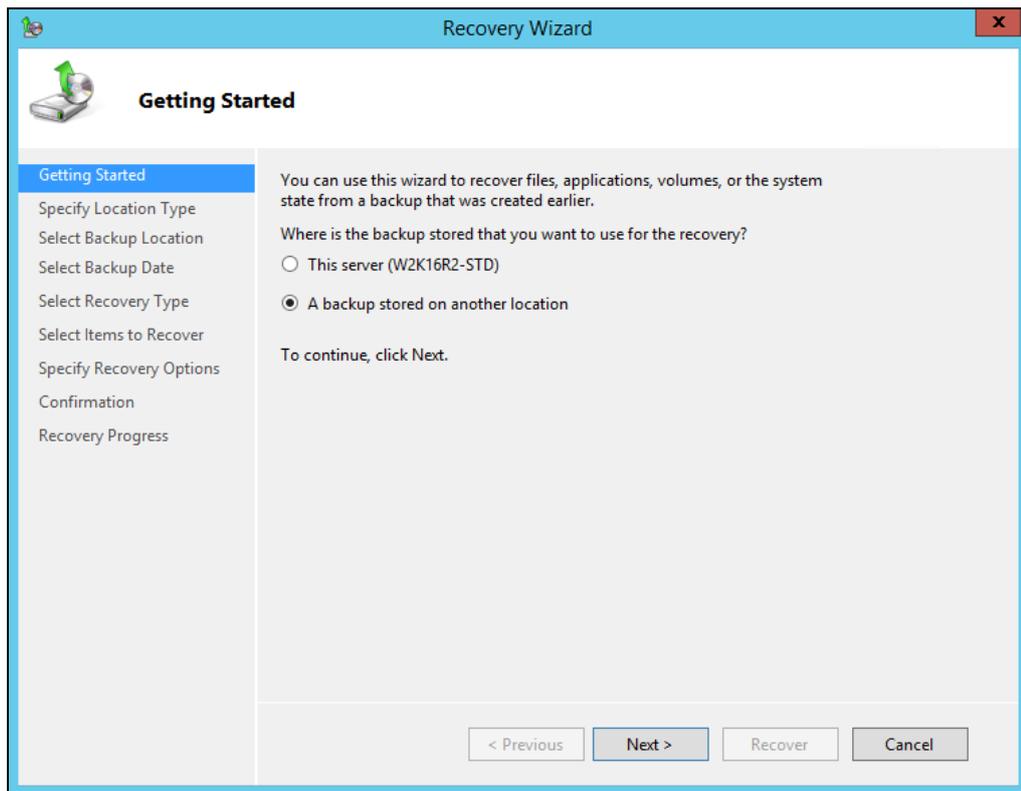
1. Open **Windows Server Backup** from Administrative Tools or Server Manager.



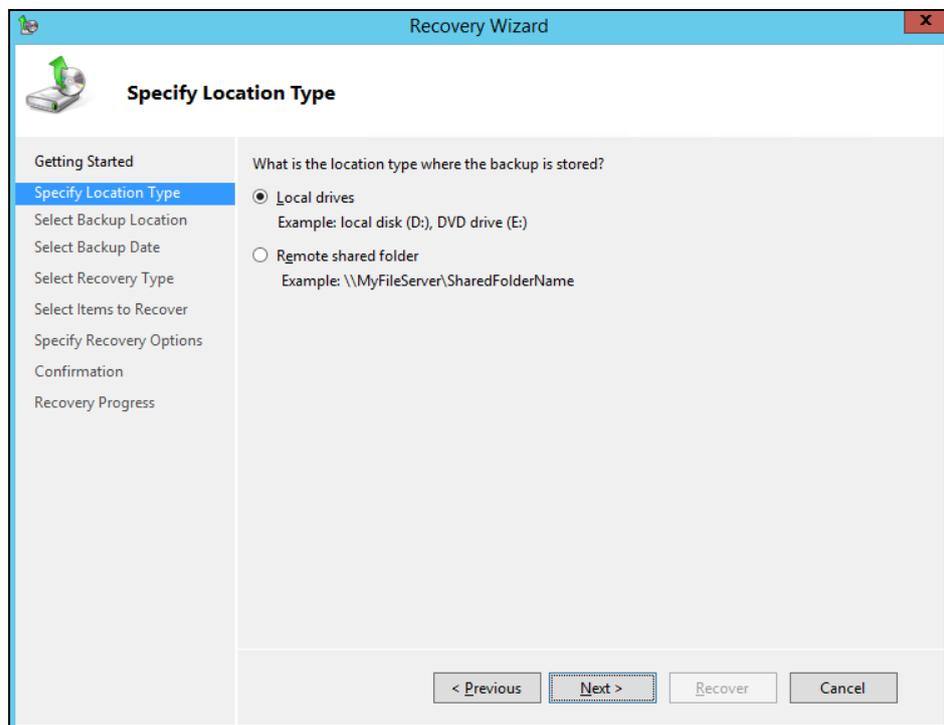
2. In the **Actions** panel under **Windows Server Backup**, click **Recover...**



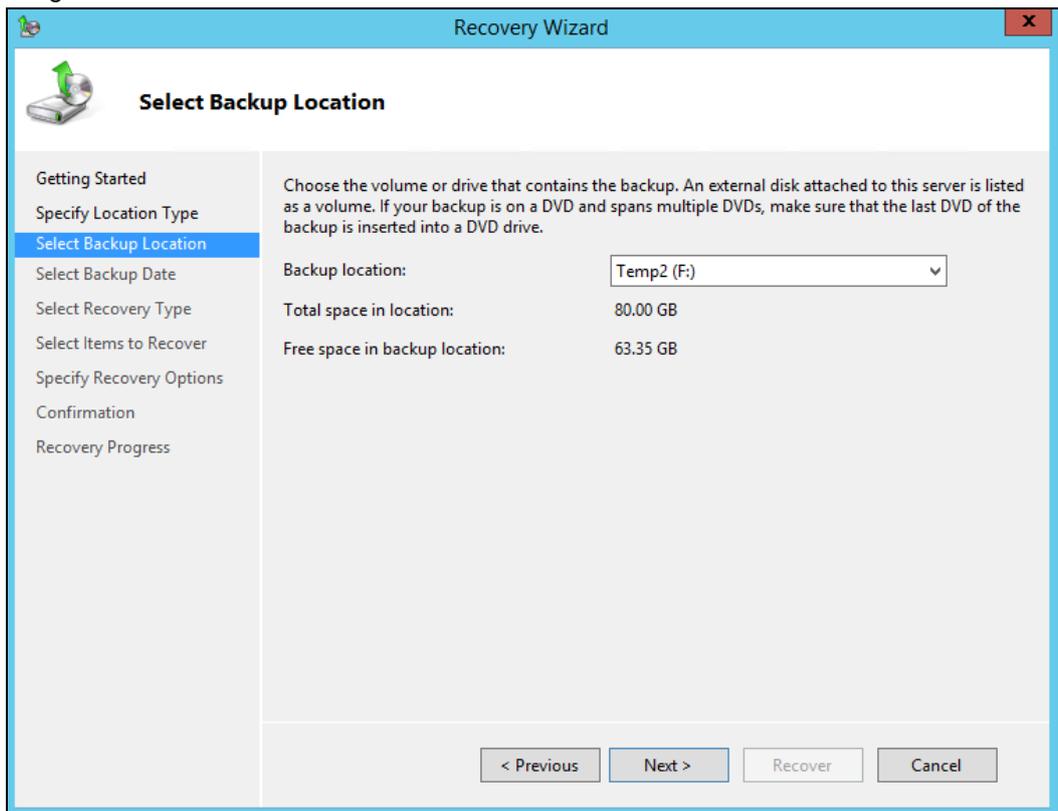
3. On the **Getting Started** page, select **A backup stored on another location**, then click **Next**.



4. On the **Specify Location Type** page, select
  - Click **Local drives**, if the system image was copied to a local volume on the server.
  - Click **Remote shared folder**, if the system image was copied to a network path accessible to this server.

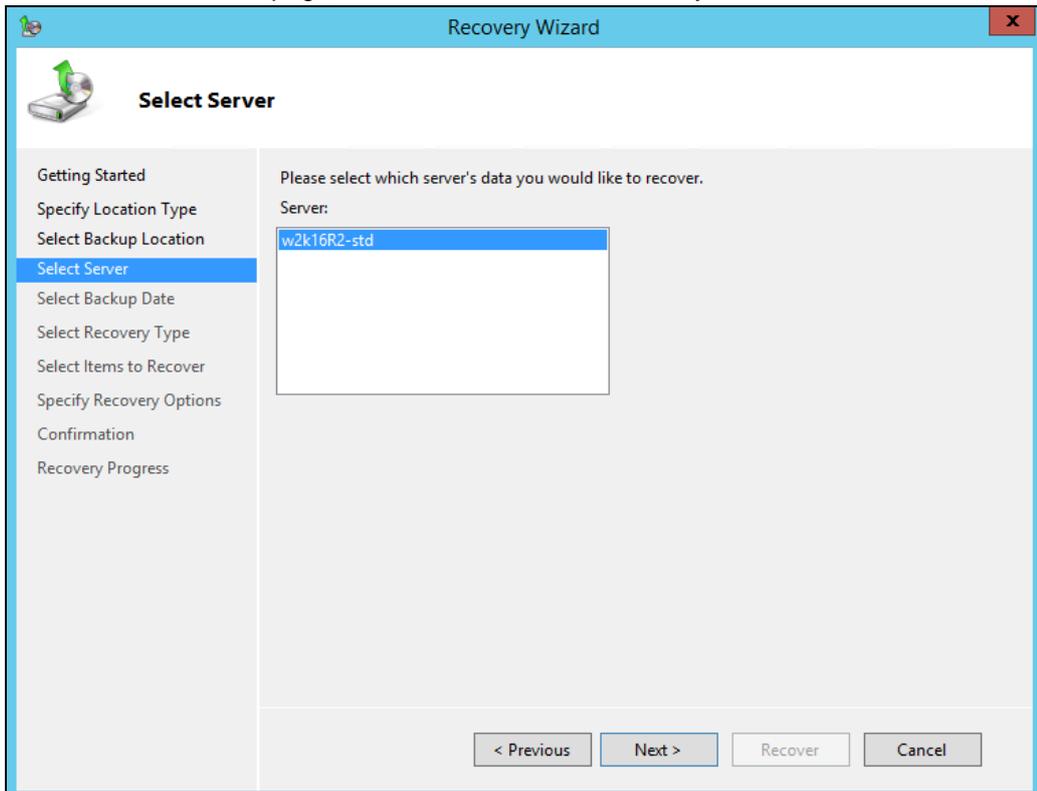


5. On the **Select Backup Location** page, select the volume that contains the system image file.

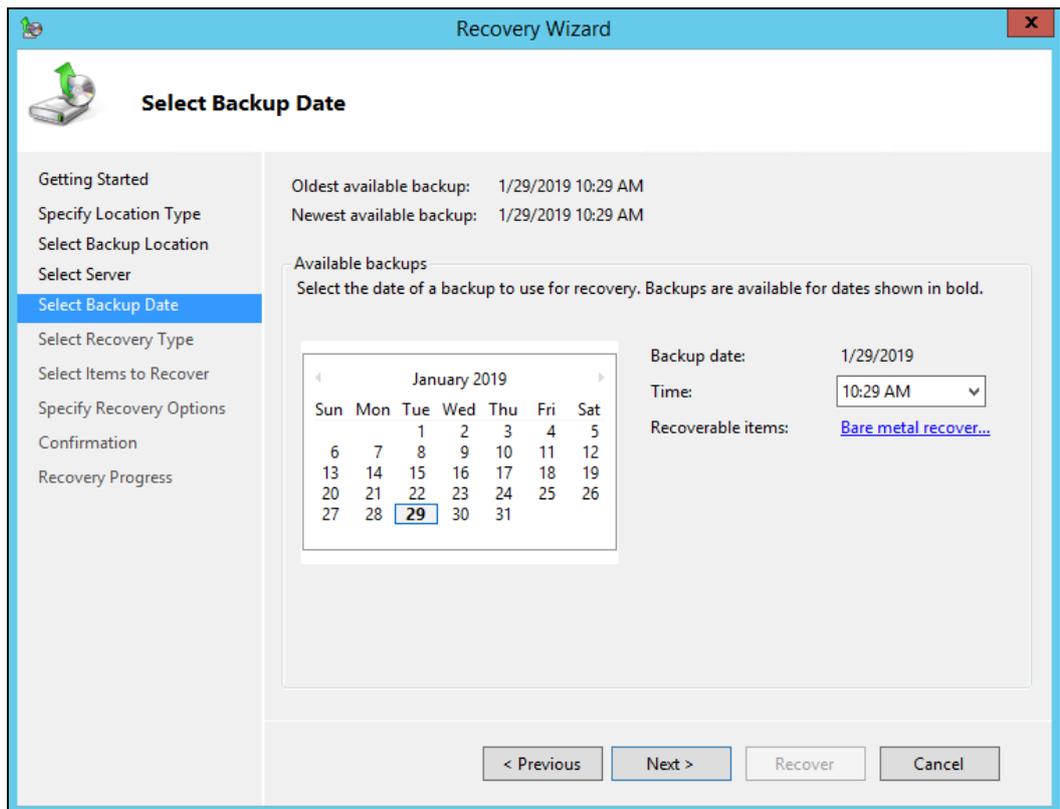


**Note:** Assuming that the *WindowsImageBackup* folder was copied to the following *F:\WindowsImageBackup*

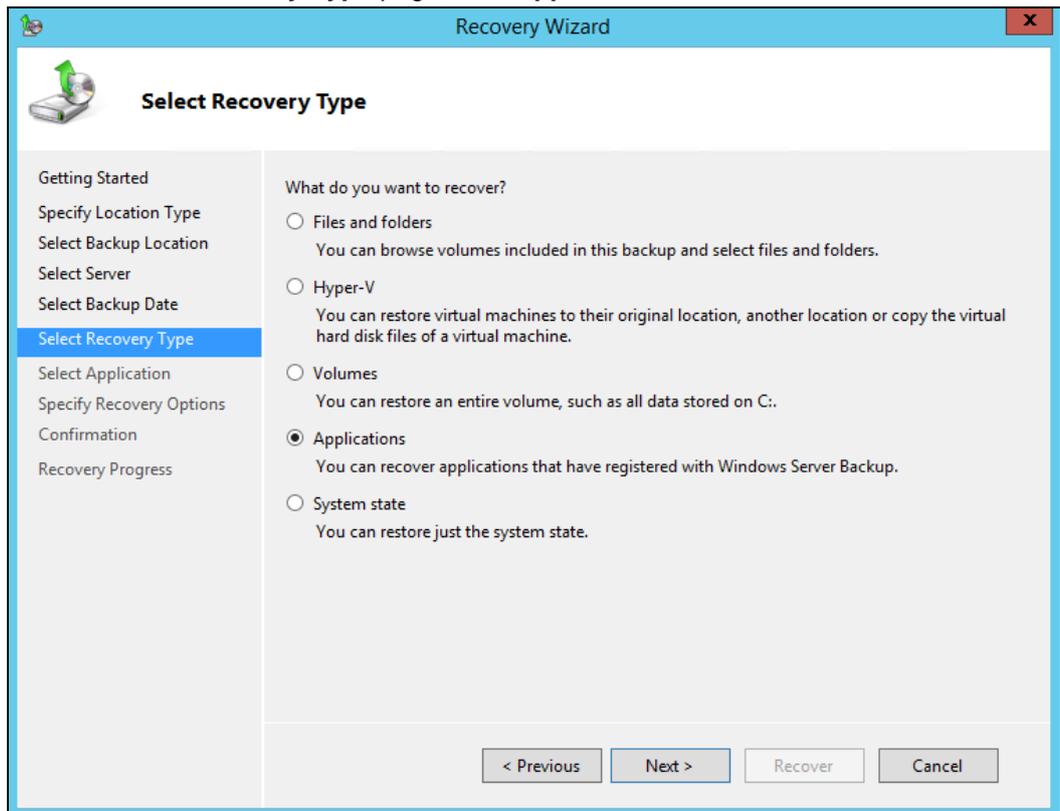
6. On the **Select Server** page, select the server whose data you want to recover.



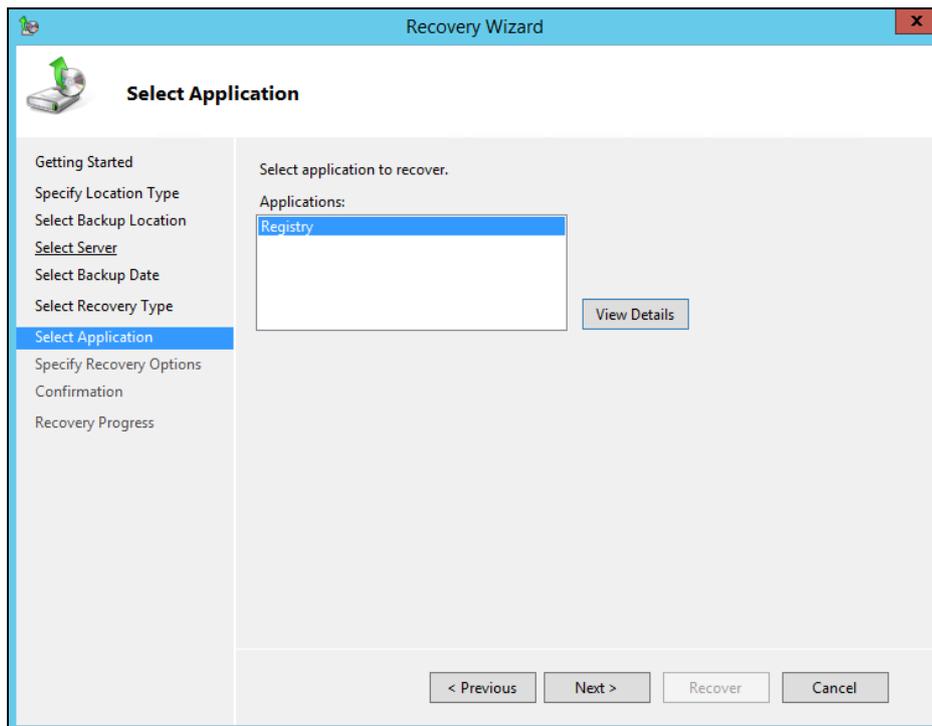
- On the **Select Backup Date** page, select the point in time of the backup you want to restore from



- On the **Select Recovery Type** page, click **Applications**, and then click **Next**.



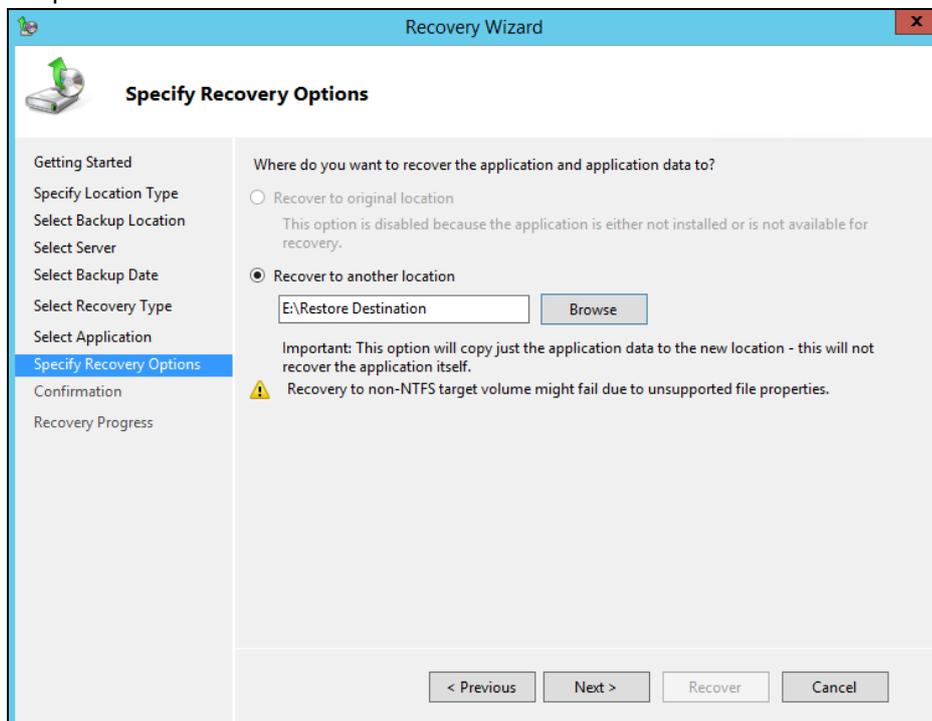
- On the **Select Application** page, under **Applications**, click the application that you want to recover.



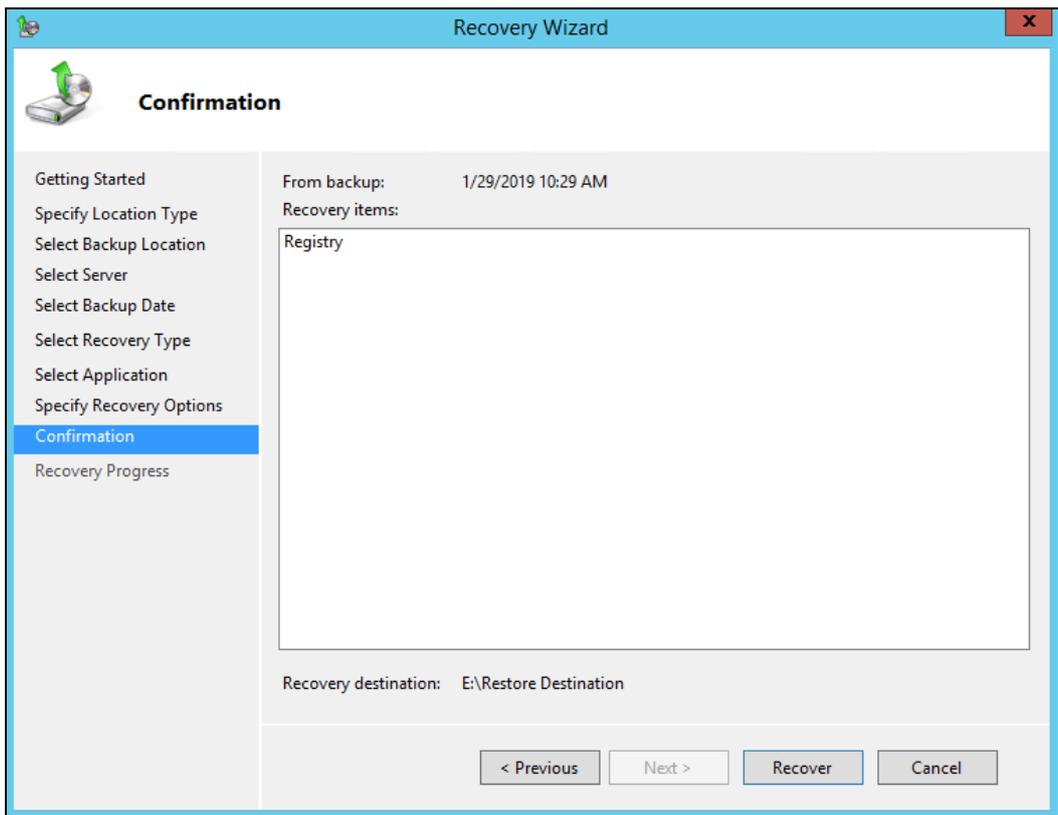
**Note:** If the backup that you are using is the most recent and the application you are recovering supports a "roll-forward" of the application database, you will see a check box labeled **Do not perform a roll-forward recovery of the application databases**.

Select this check box if you want to prevent Windows Server Backup from rolling forward the application database that is currently on your server.

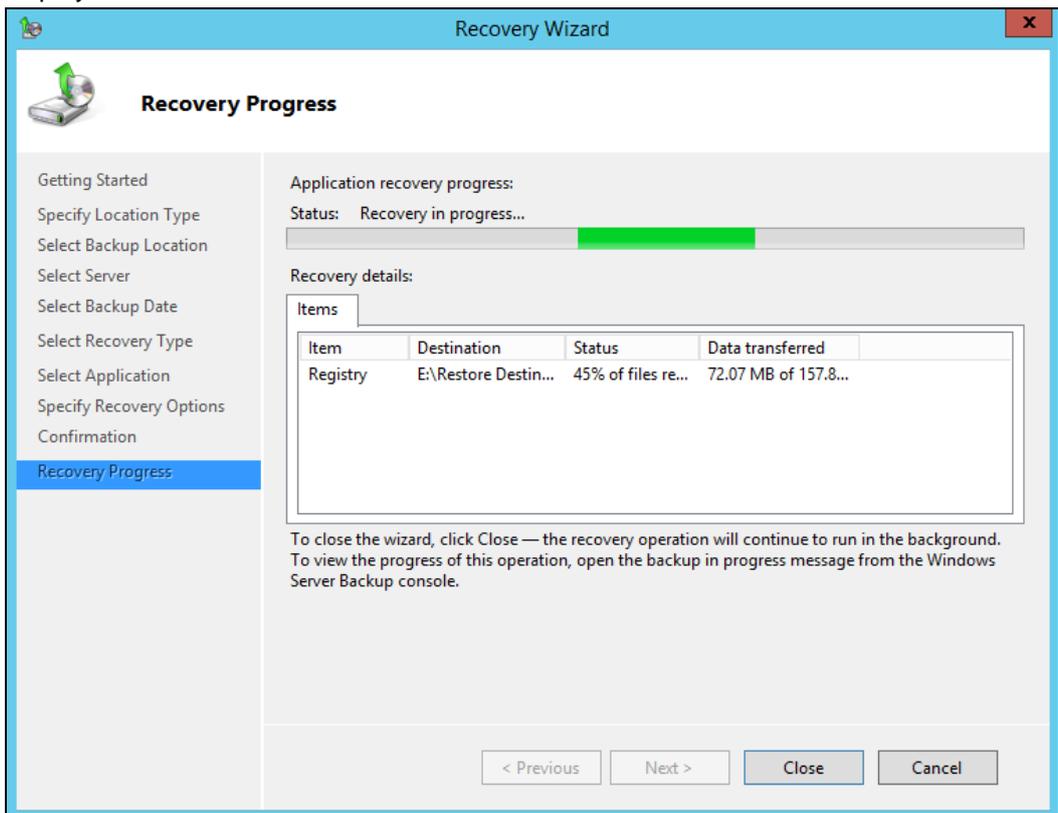
- On the **Specify Recovery Options** page, select **Recover to another location**. Type the path to the location or click **Browse** to select it.

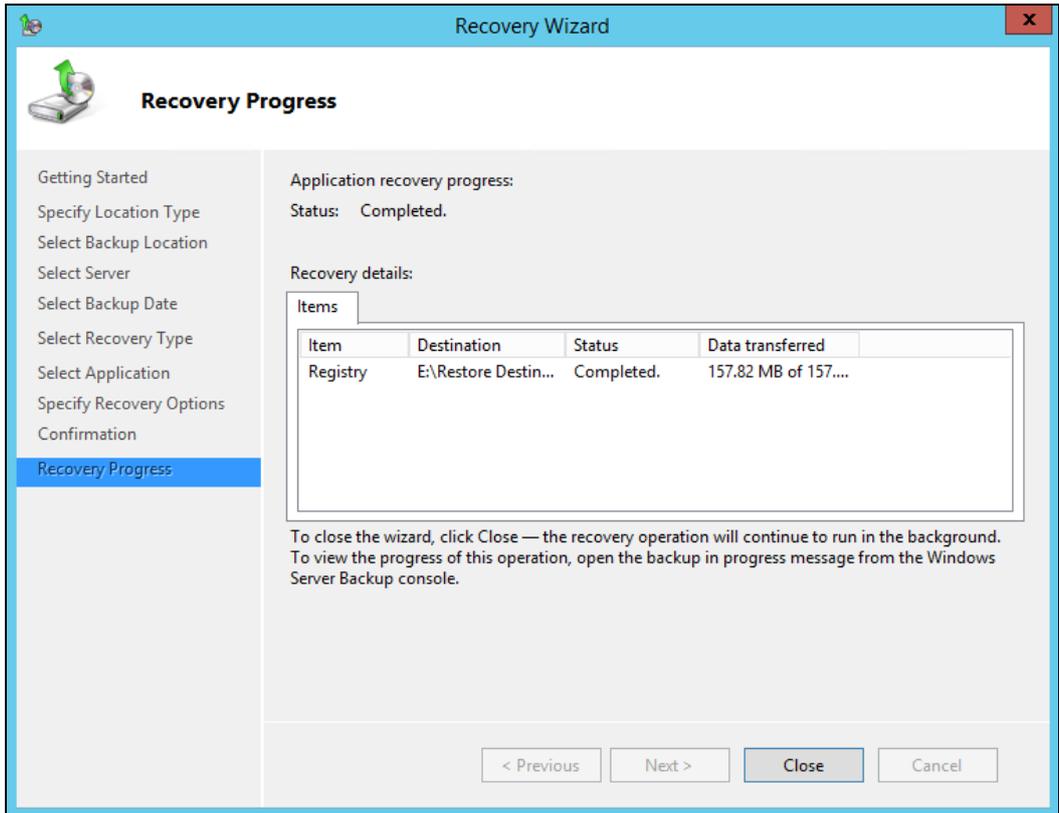


- On the **Confirmation** page, review the details, and then click **Recover** to restore the listed items.



- On the **Recovery progress** page, the status and result of the recovery operation is displayed.

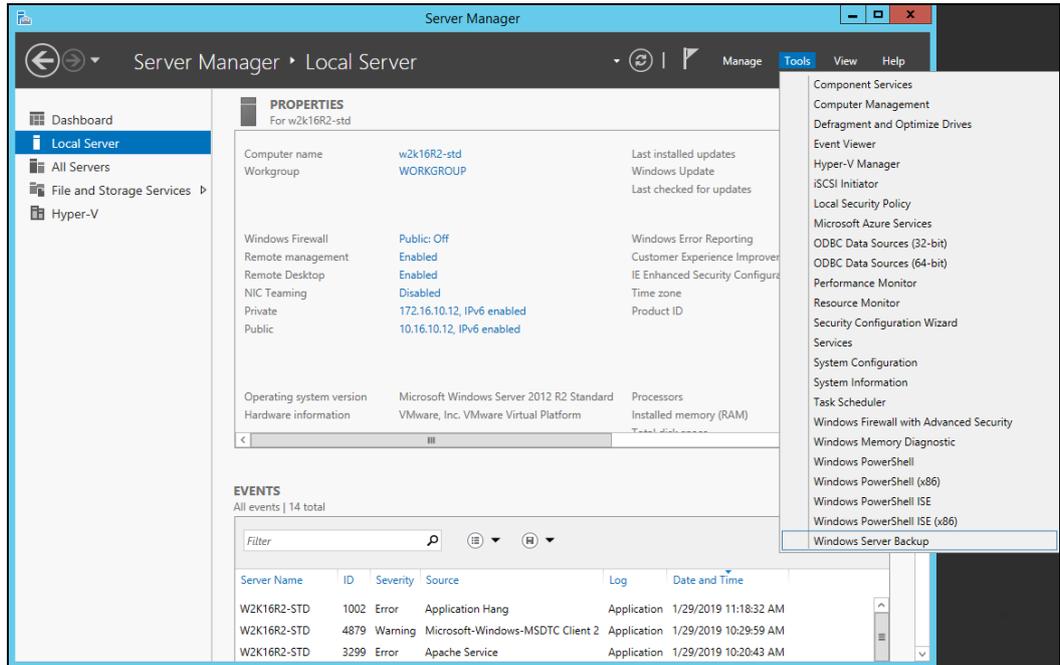




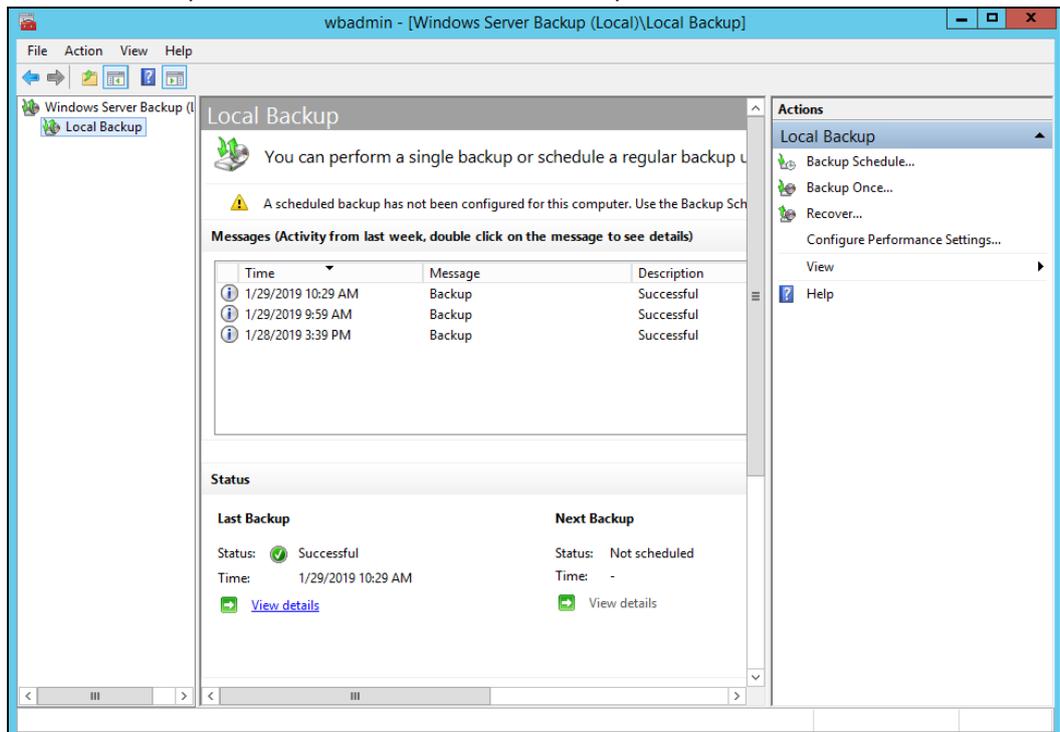
### 8.3.3 Recover Volumes

To recover volume using the Recovery Wizard in the Windows Server Backup user interface.

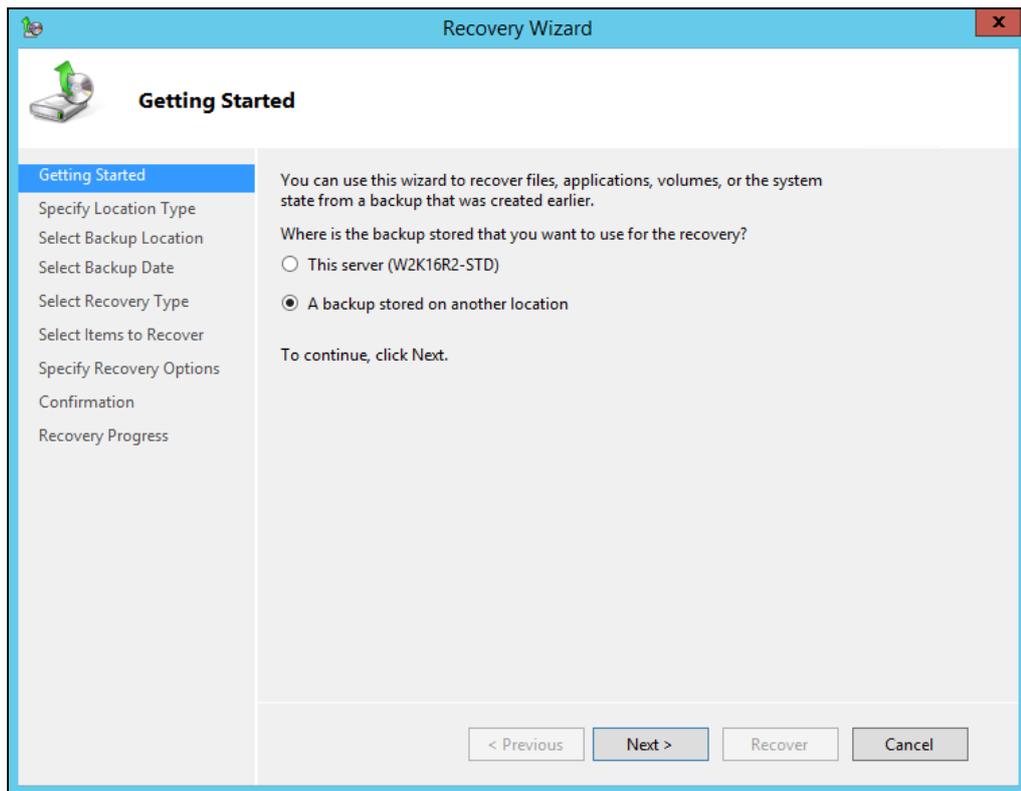
1. Open Windows Server Backup from Administrative Tools or Server Manager.



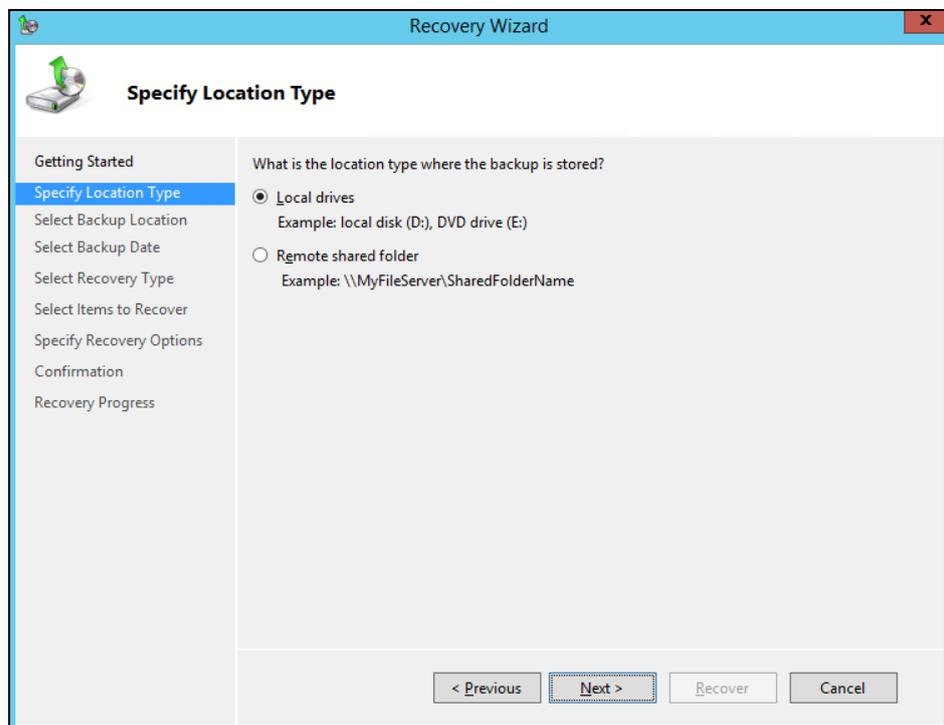
2. In the **Actions** panel under Windows Server Backup, click **Recover**.



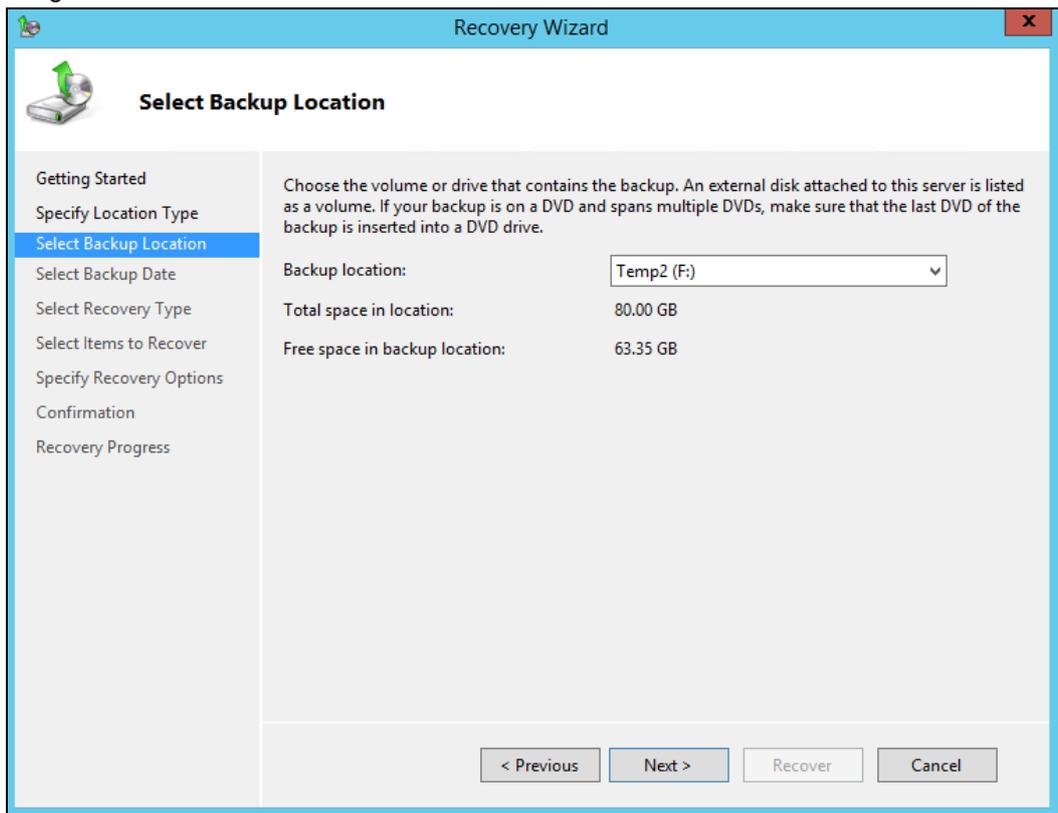
3. On the **Getting Started** page, select **A backup stored on another location**, then click **Next**.



4. On the **Specify Location Type** page, select
  - Click **Local drives**, if the system image was copied to a local volume on the server.
  - Click **Remote shared folder**, if the system image was copied to a network path accessible to this server.

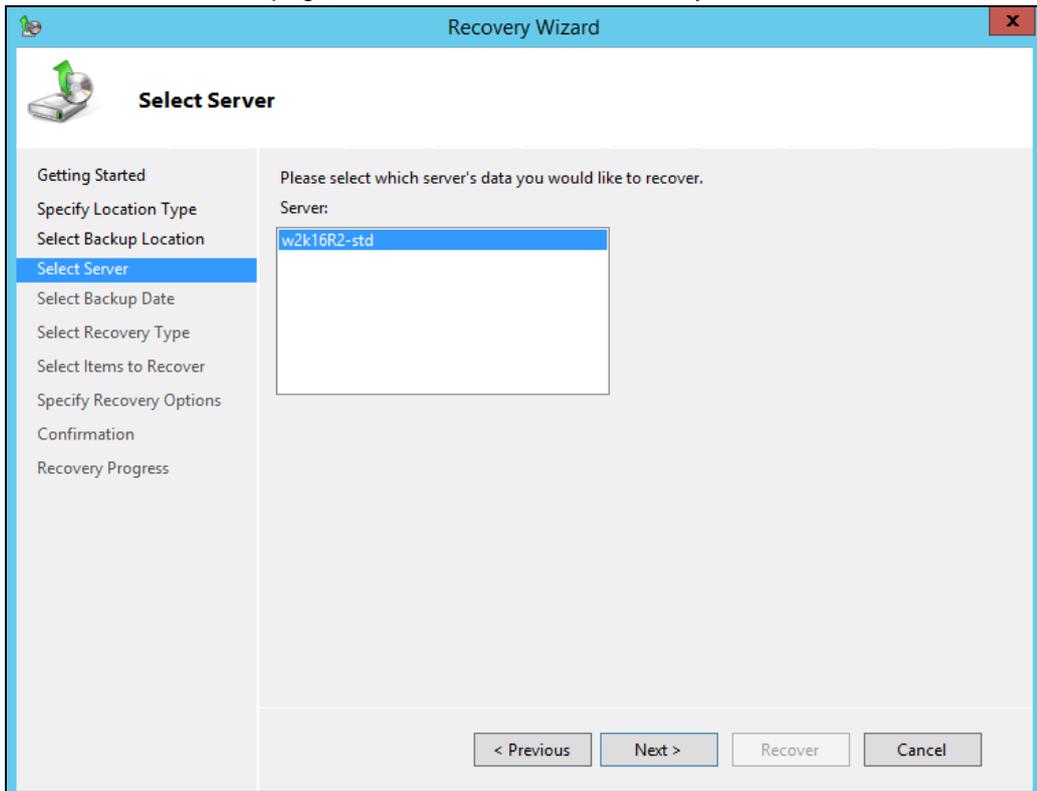


5. On the **Select Backup Location** page, select the volume that contains the system image file.

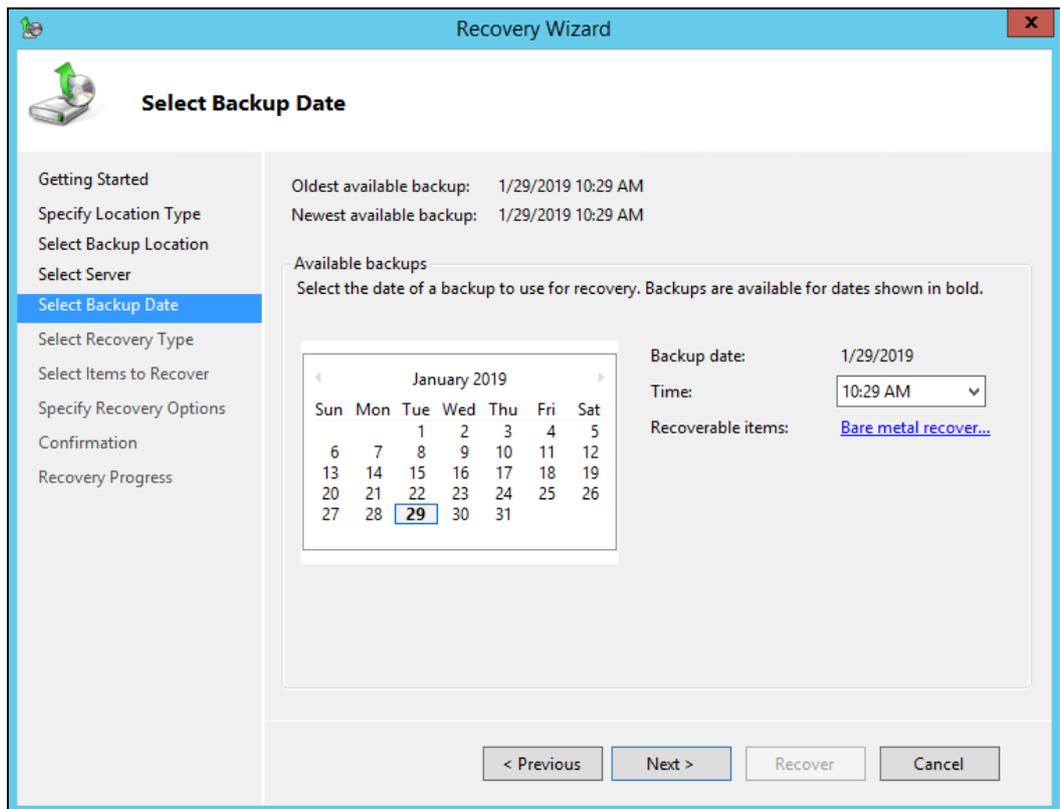


**Note:** Assuming that the *WindowsImageBackup* folder was copied to the following *F:\WindowsImageBackup*

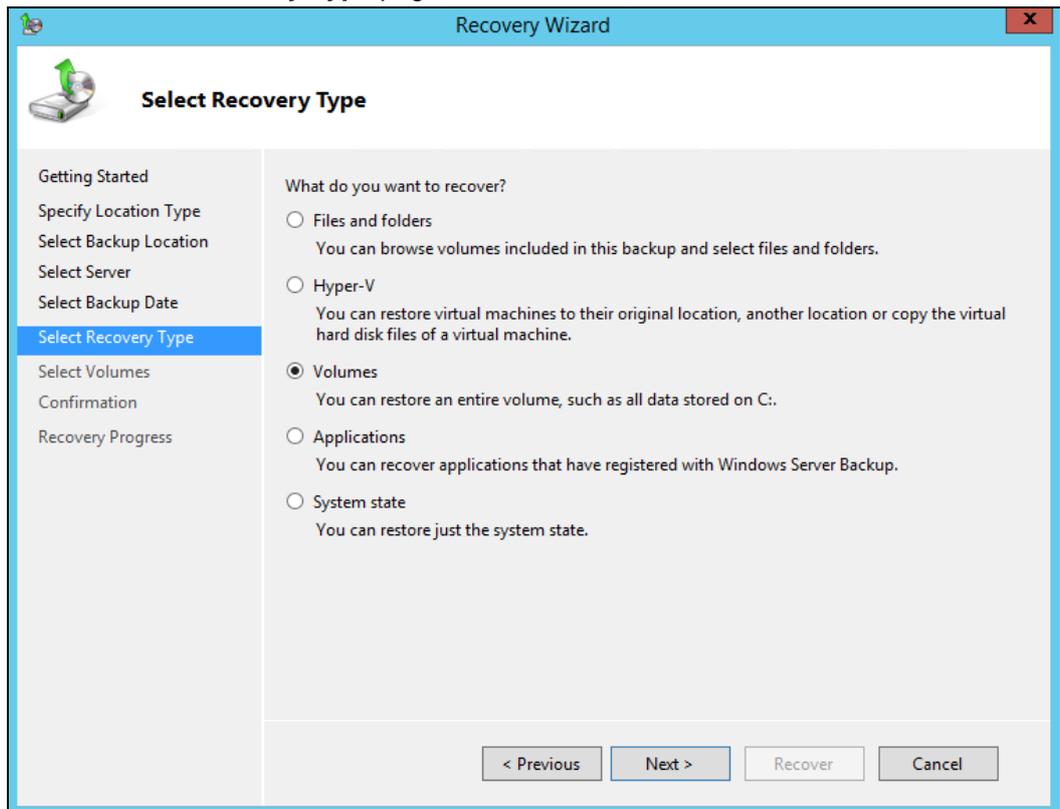
6. On the **Select Server** page, select the server whose data you want to recover.



- On the **Select Backup Date** page, select the point in time of the backup you want to restore from

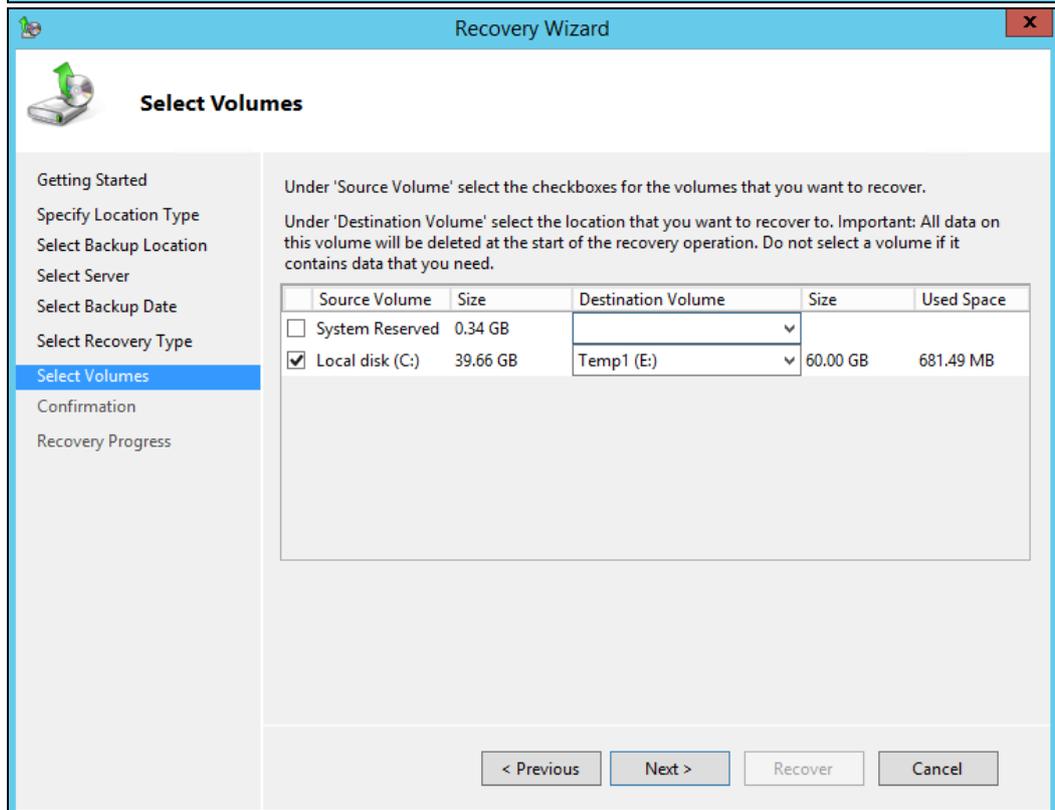
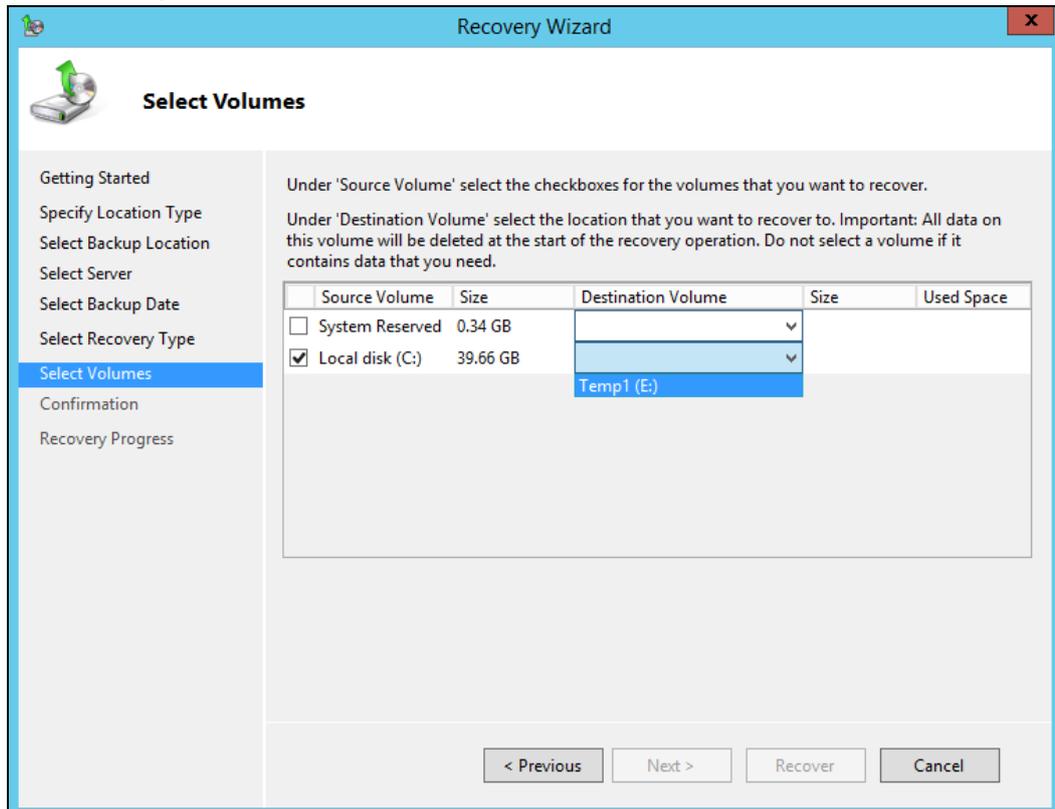


- On the **Select Recovery Type** page, click **Volumes**, and then click **Next**.

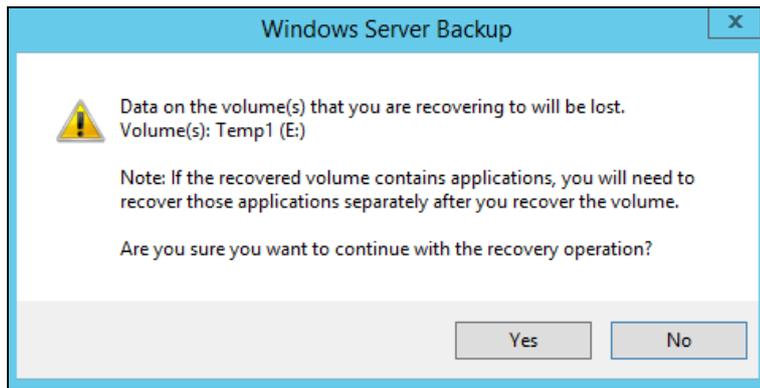


- On the **Select Volumes** page, select the check boxes associated with the volumes in the **Source Volume** column that you want to recover.

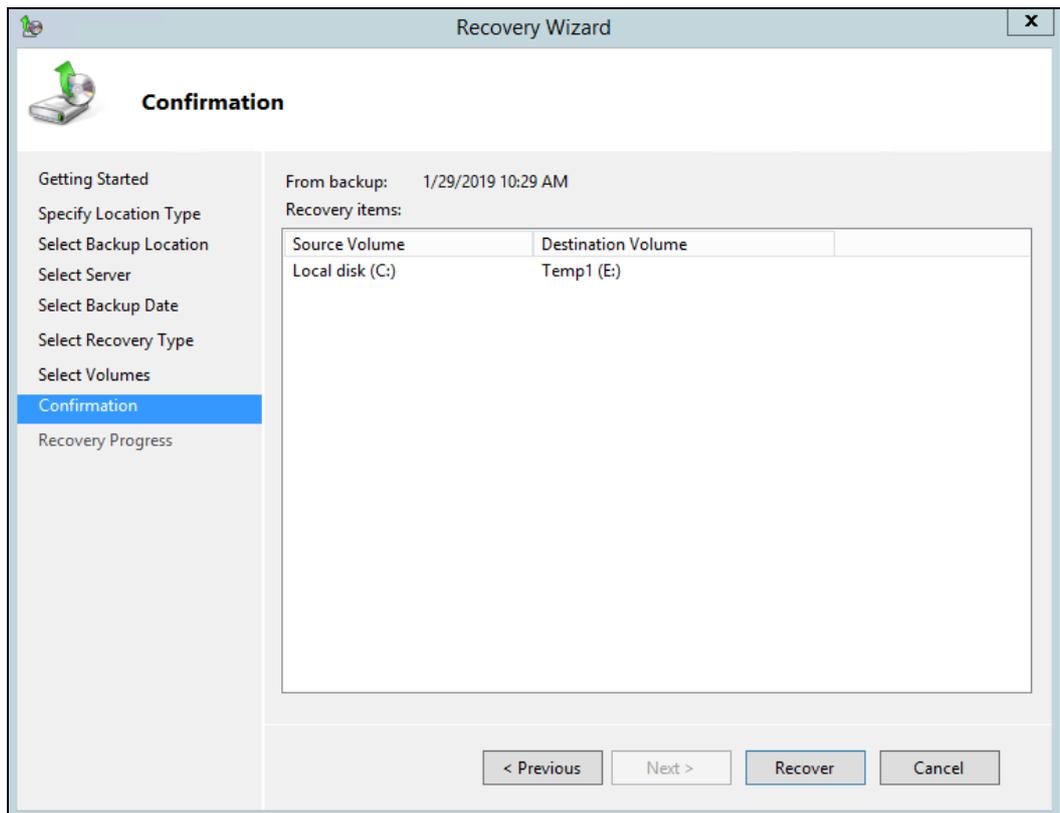
Then, from the associated dropdown list in the **Destination Volume** column, select the location that you want to recover the volume to.



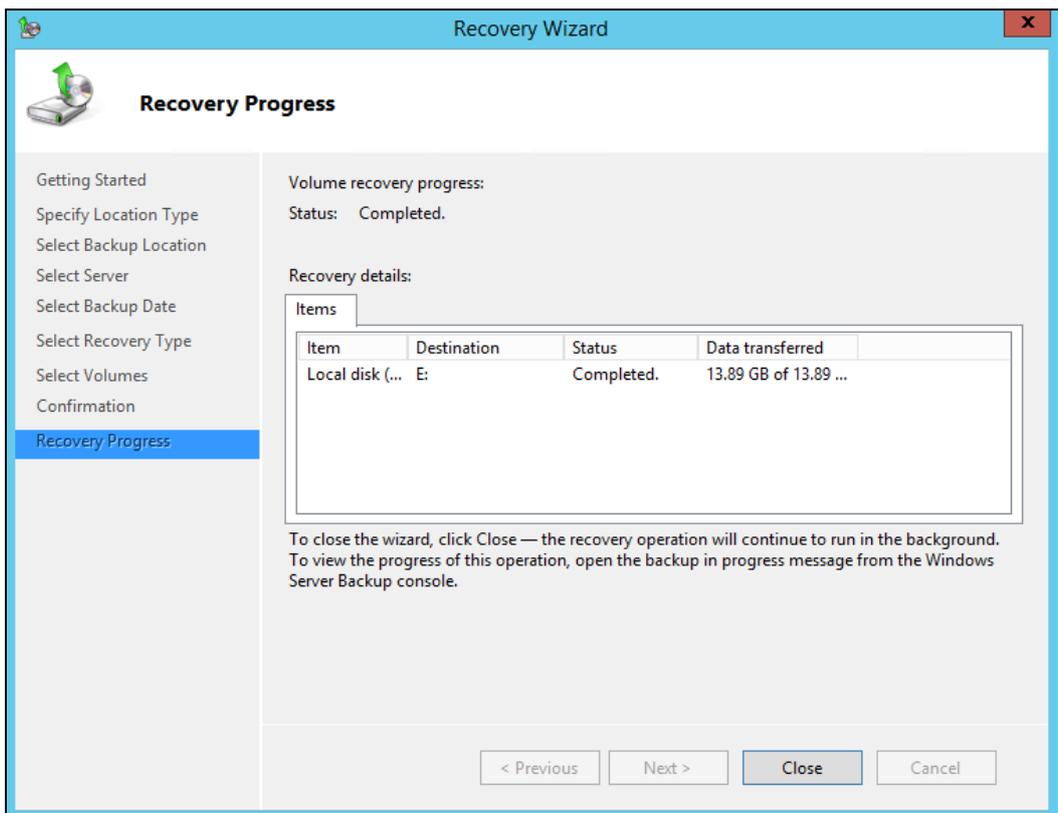
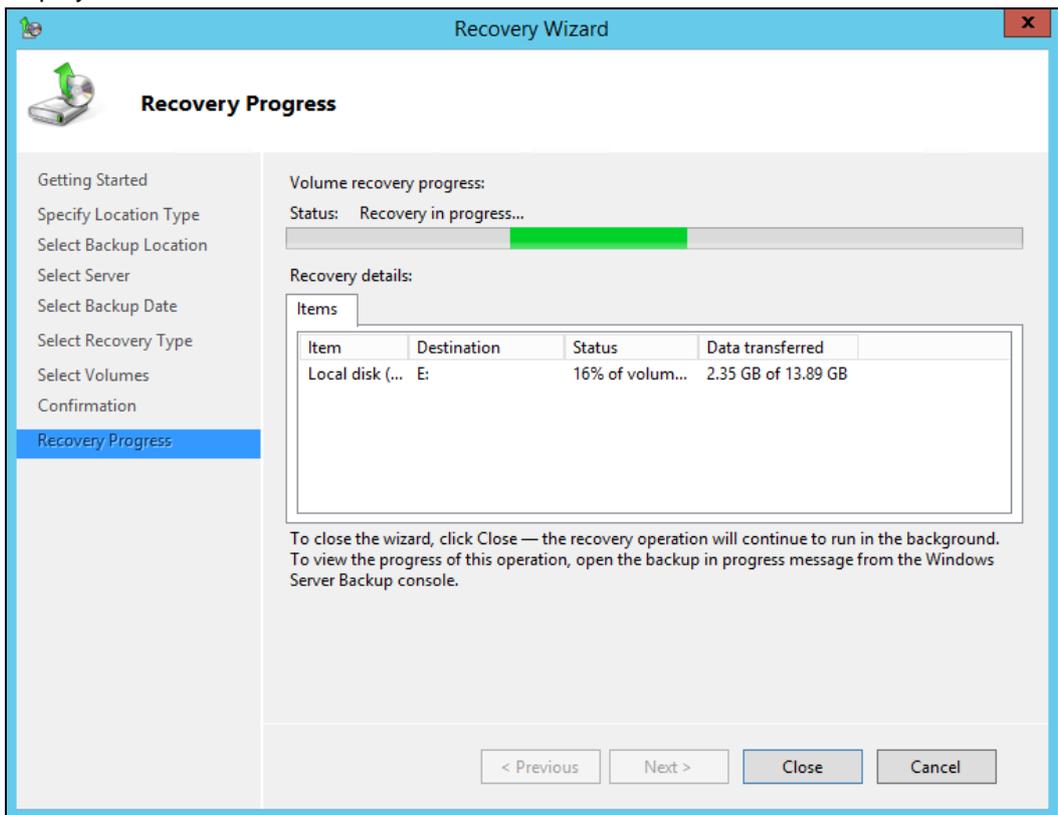
**Important:** Before clicking **Next** to continue, make sure that the destination volume is empty, or does not contain information that you will need later.



10. On the **Confirmation** page, review the details, and then click **Recover** to restore the volume.



- On the **Recovery progress** page, the status and result of the recovery operation is displayed.



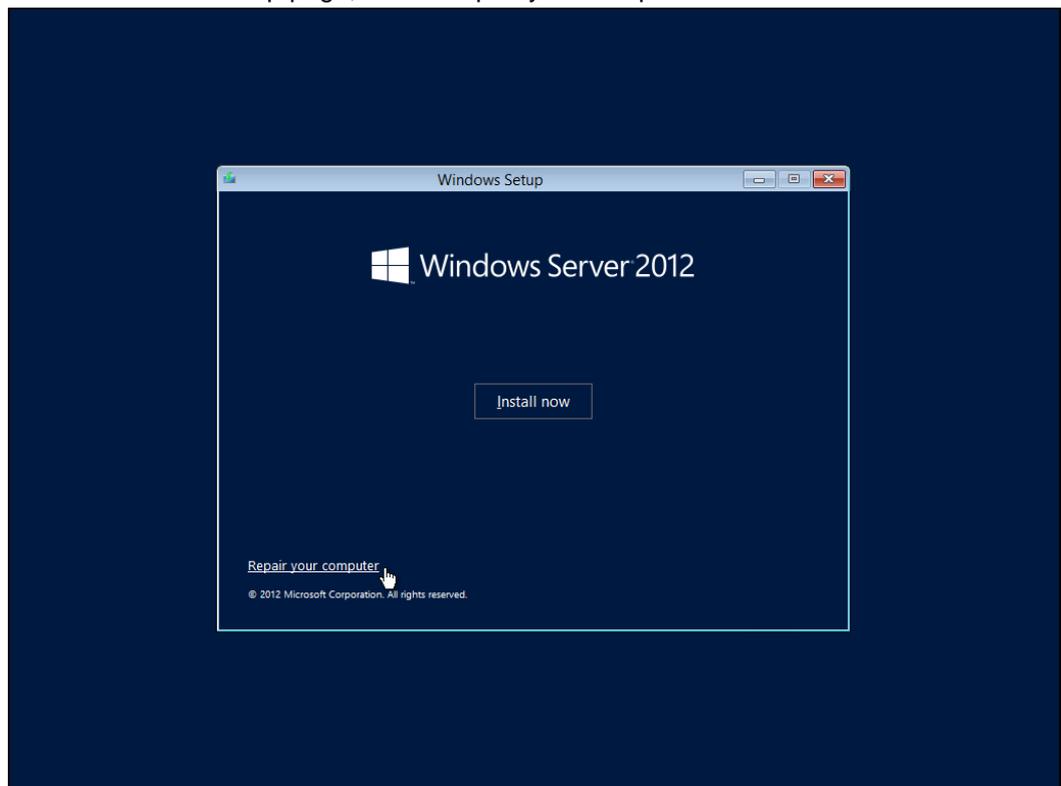
### 8.3.4 Recover Operating System or Full System

You can recover an operating system or full system by using Windows Recovery Environment, or by booting from a Windows setup disc.

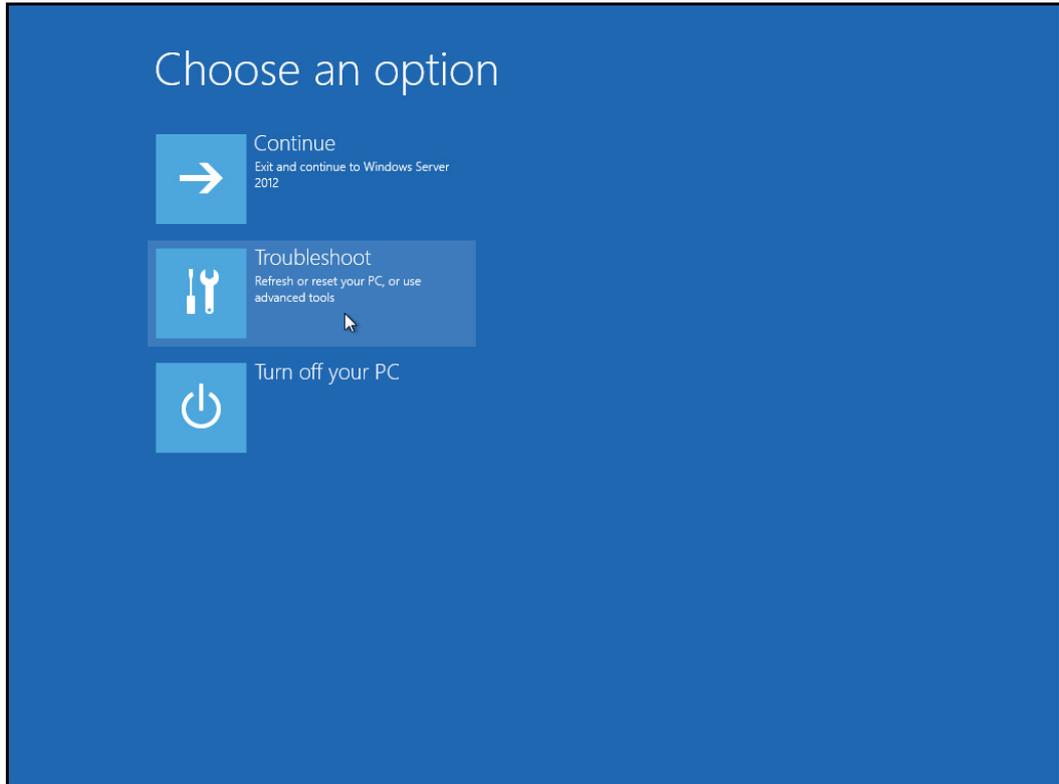
**Note:** For instructions specific to recovering Active Directory Domain Services, refer to the following: <http://go.microsoft.com/fwlink/?LinkId=143754>

To launch in Windows Recovery Environment, insert the Windows setup disc that has the same architecture of the system that you are recovering, into the CD / DVD drive and start or restart the computer. Press the required key to boot from the disc.

1. On the Windows Setup page, select Repair your computer.

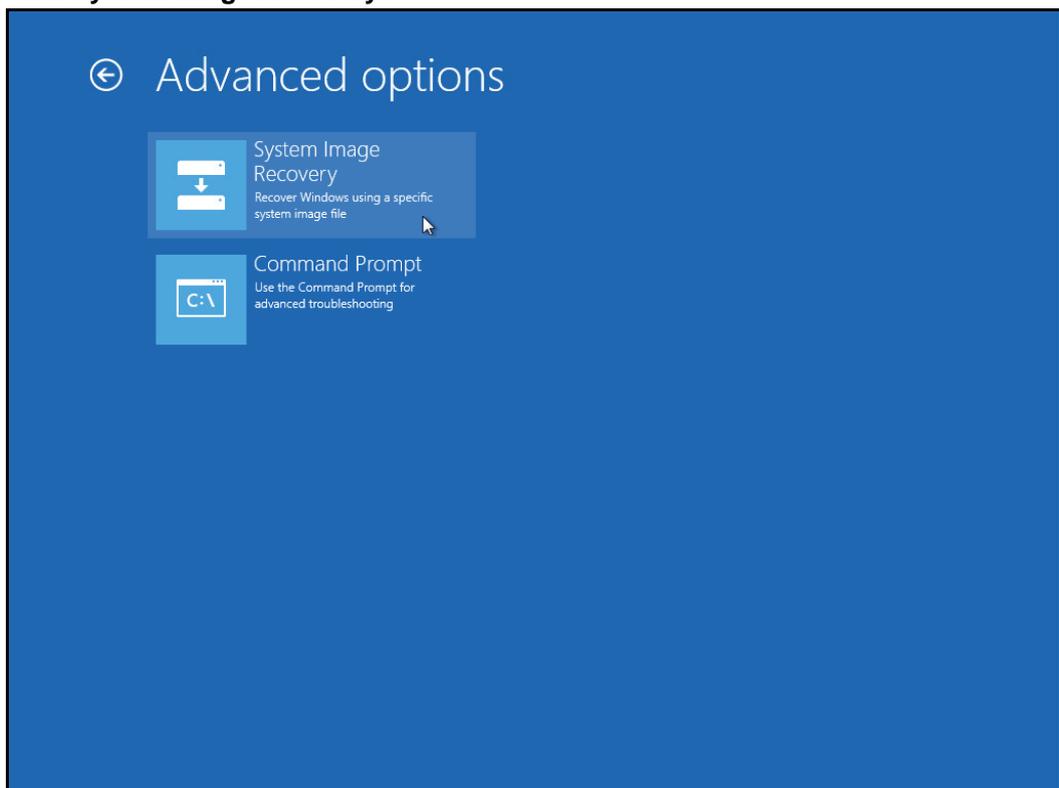


2. On the **Choose an option** page, click **Troubleshoot**.



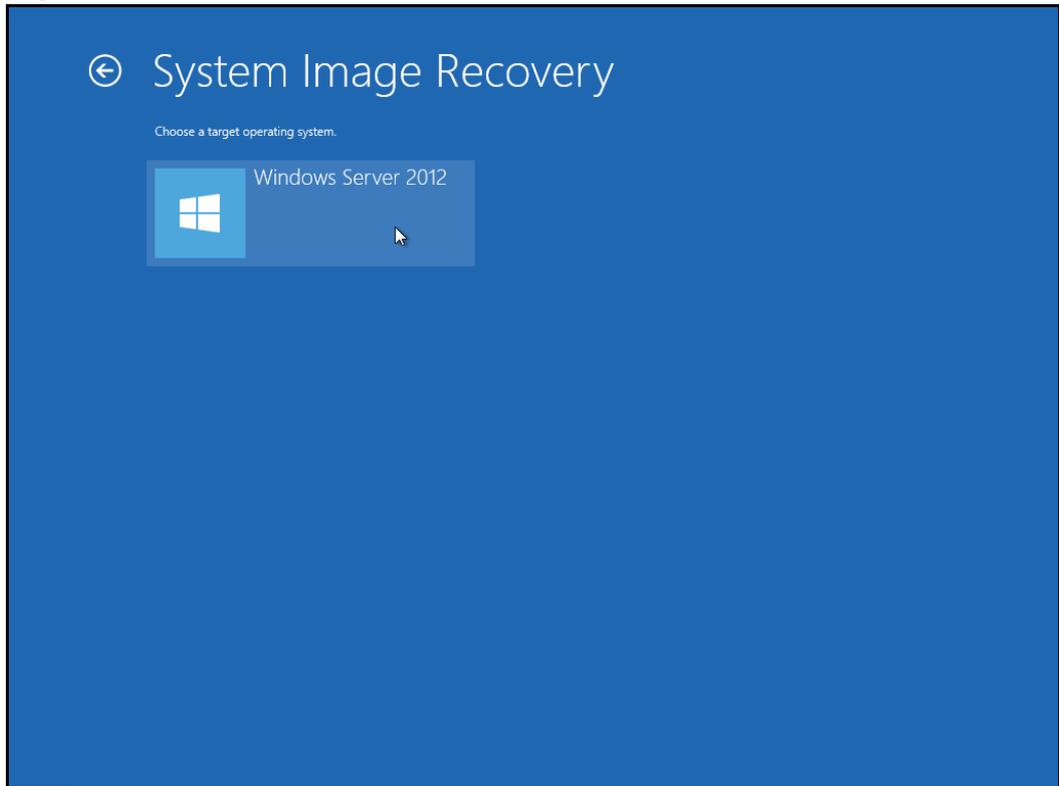
**Note:** This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

3. Click **System Image Recovery**.



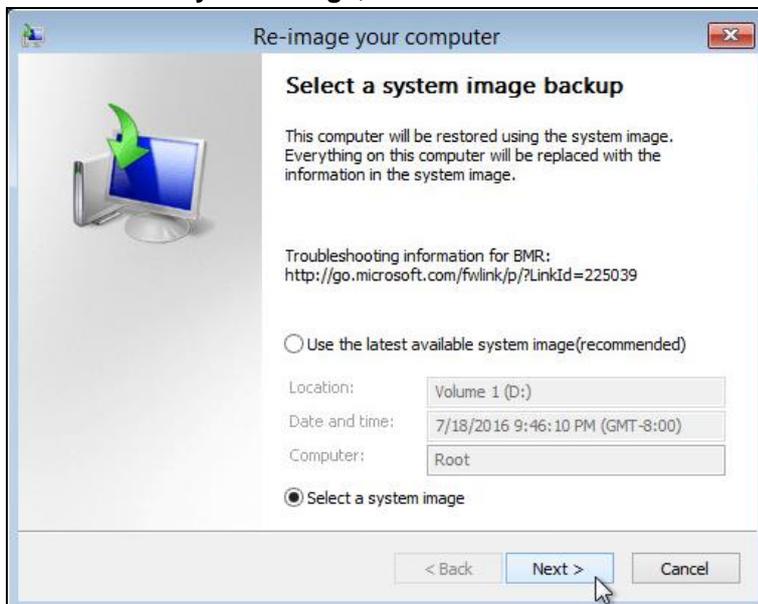
**Note:** This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

4. Confirm on the target operating system. This opens the **Re-image your computer** page.

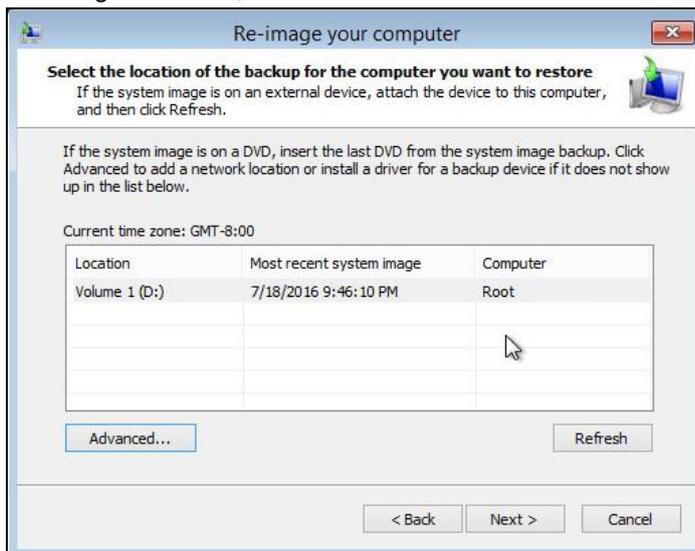


**Note:** This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

5. Click **Select a system image**, then click **Next**.



6. Select the location that contains the system image to restore from. If you do not see the image available, then



1. Click **Advanced**, and install the required driver for the removable drive to be accessed, if the system image was copied to a removable drive attached to the server.

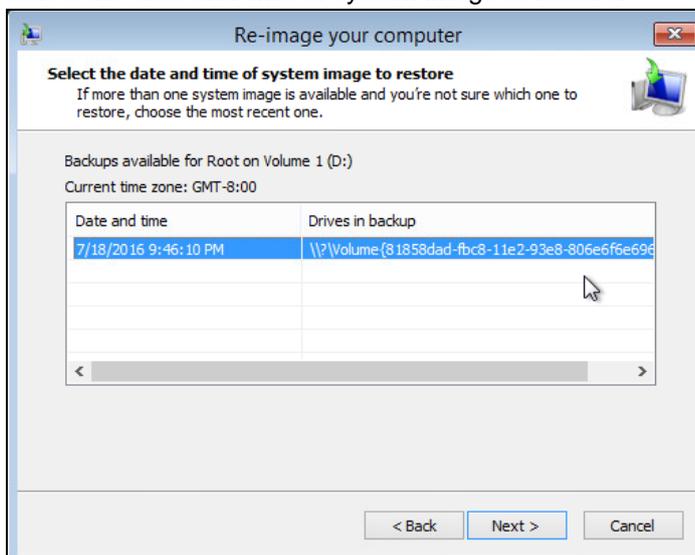
To install a driver, the driver must be located on the local system. You cannot install a driver from the network.

1. Click **Advanced**, and browse to the remote shared folder which contains the system image, if the system image was copied to a network path.

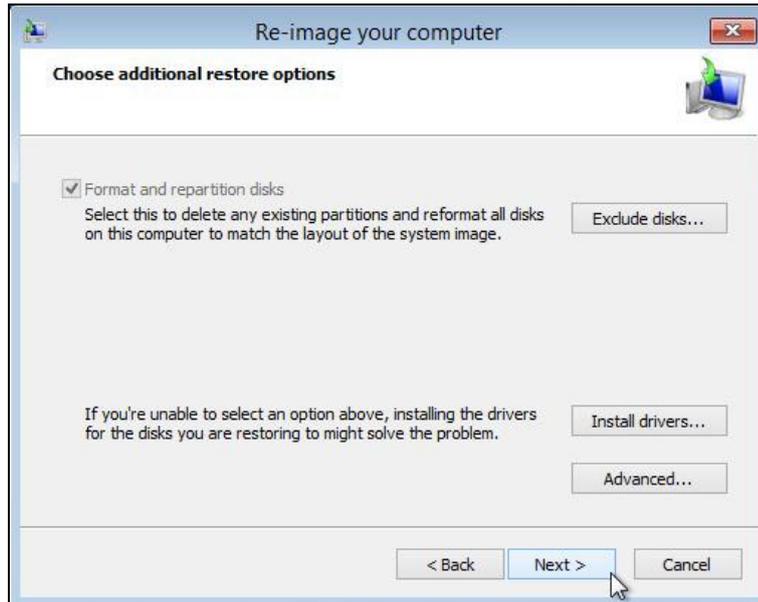
For domain environment, if the backup storage location is on a computer that is a member of that domain, then the computer containing the storage location should be on the IPsec boundary, to be accessible by non-domain computer.

When a computer boots into Windows Recovery Environment, it becomes a non-domain computer, therefore, cannot access the usual network shares. Only those computers that allow non-domain computers to access the share can be used as a backup storage location in this way.

7. Select the date and time of system image to restore.

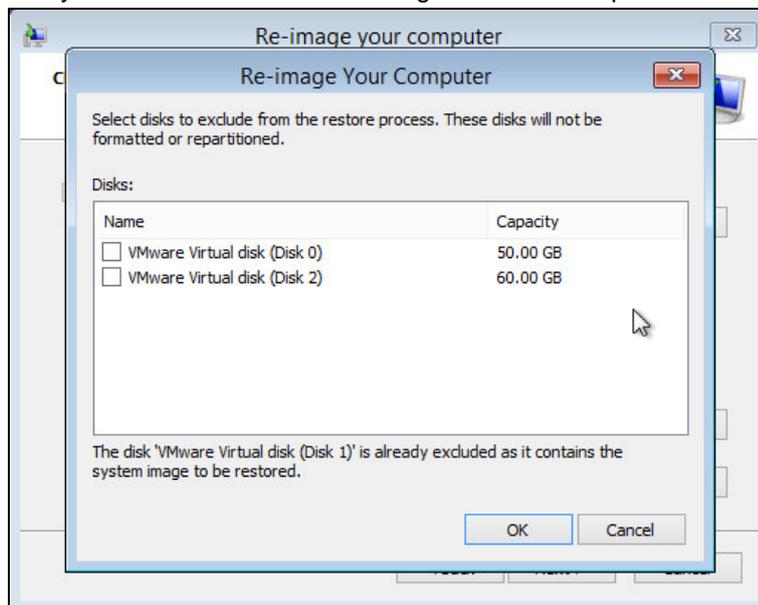


8. On the **Choose additional restore options** page



Select the **Format and repartition disks** check box to delete existing partitions and reformat the destination disks to be the same as the backup.

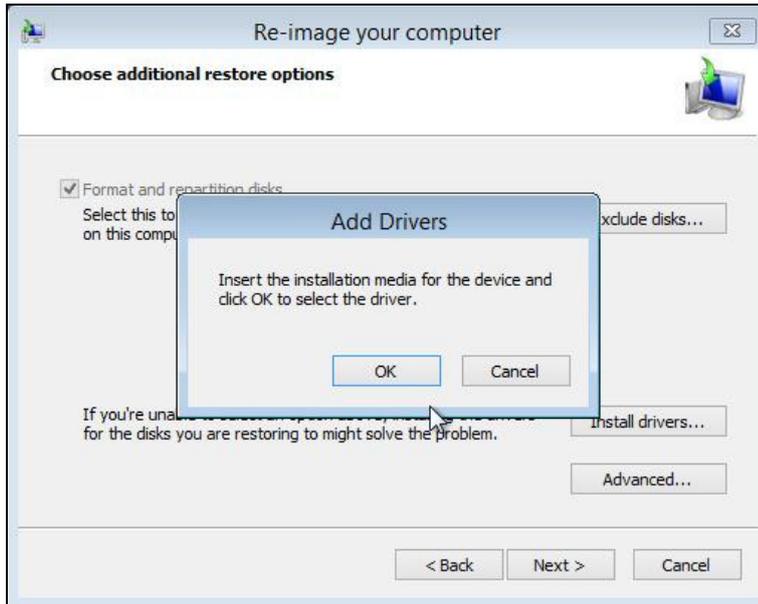
Click the **Exclude disks** button, then select the check boxes associated with any disks that you want to exclude from being formatted and partitioned.



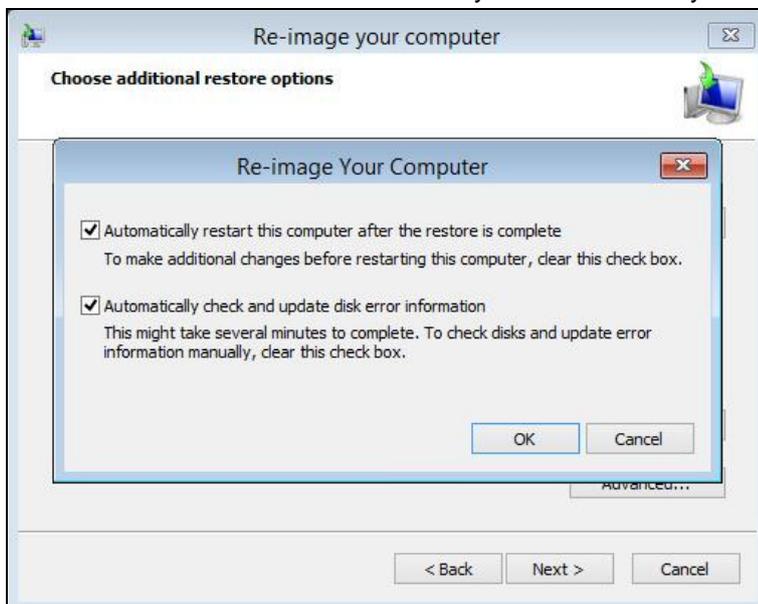
**Note:** The disk that contains the backup that you are using is automatically excluded.

Select the **Only restore system drives** check box (not displayed in screenshot) to perform an operating system only recovery (instead of a full system recovery).

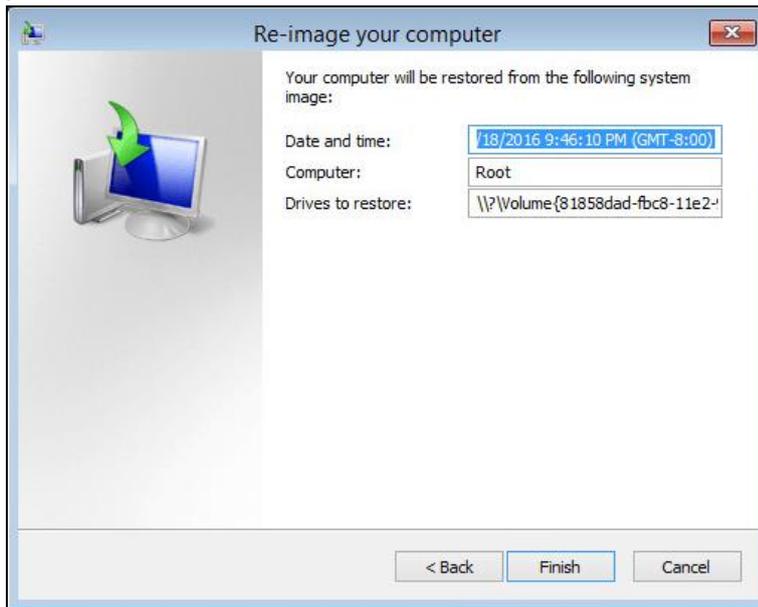
Click **Install drivers** to install device drivers for the hardware that you are recovering to.



Click **Advanced** to specify whether the computer is automatically restarted, and the disks are checked for errors immediately after the recovery.



9. Confirm the details for the restoration, and then click **Finish** to start the recovery process.



The recovery will succeed as long as all the critical volumes (e.g. volumes containing operating system components) are recovered.

If any data volume cannot be recovered, Windows will show a prompt with the unrecoverable volumes at the end of the recovery operation.

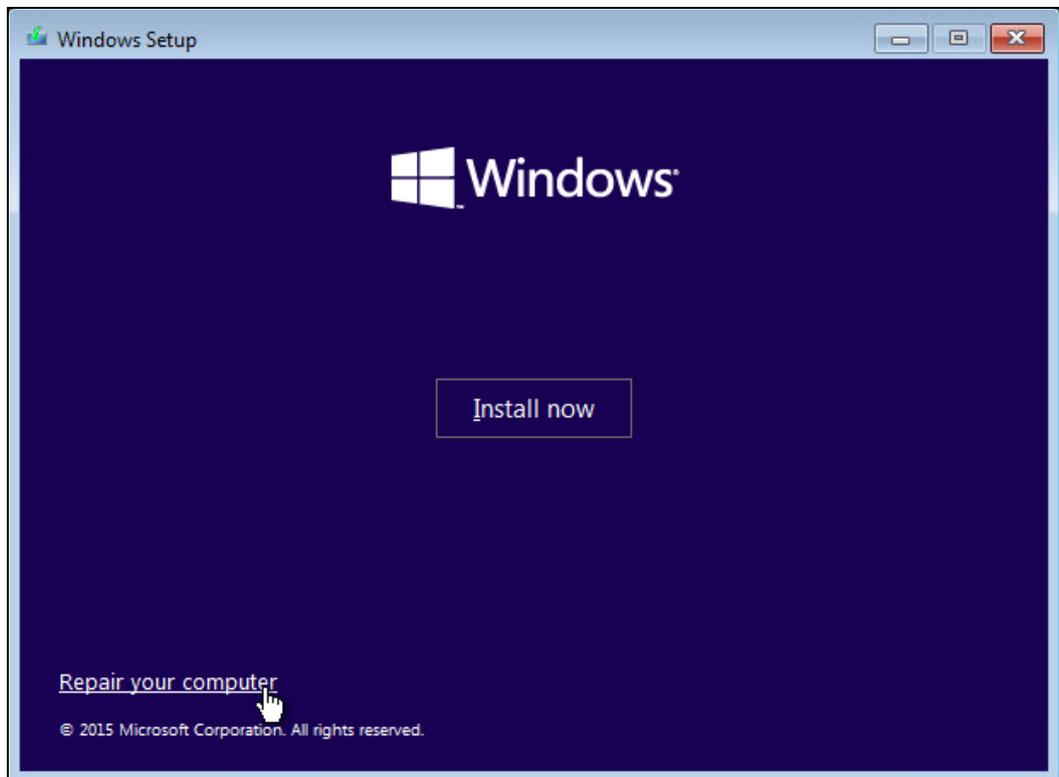
### 8.3.5 Recover a Full System (Non Server Platforms)

You can recover a full system using the advanced startup option by

- ▶ Booting from a Windows installation media

Insert the installation media that has the same architecture of the system that you are recovering and restart your computer. Press the required key to boot from the disc.

When you see the **Windows Setup** page, click **Next**, then click **Repair your computer**.

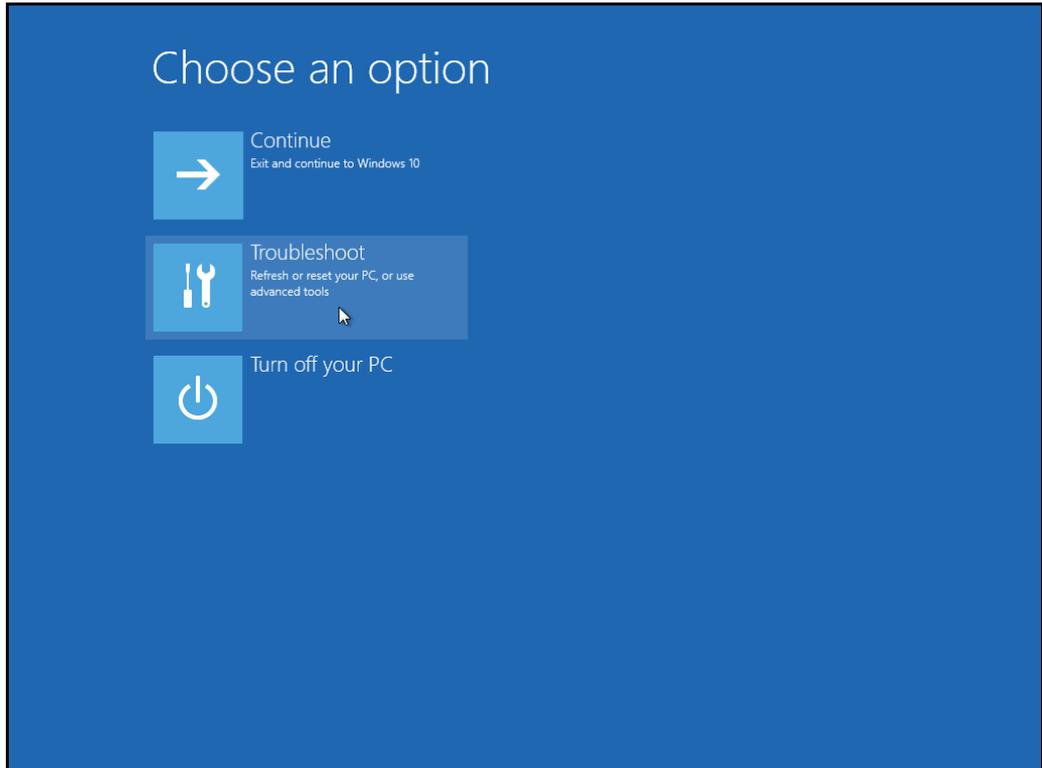


- ▶ Starting Windows in safe mode

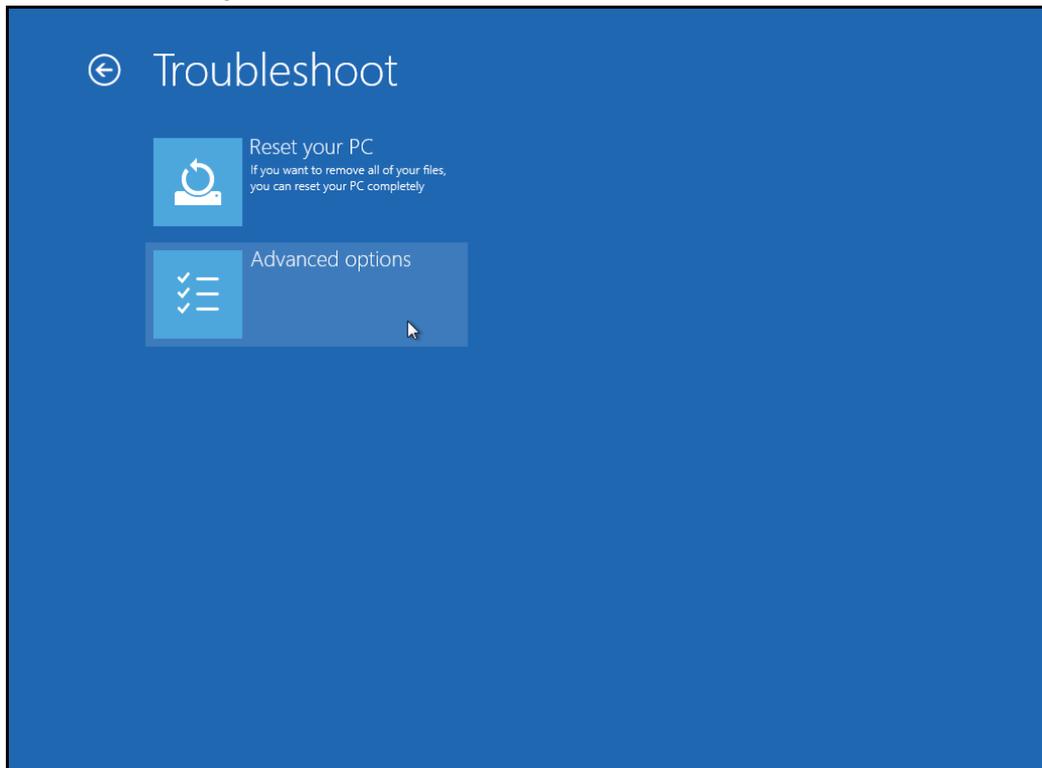
Press the **Power** button at the Windows login screen, in the Start menu, or in the Setting screen. Then press and hold the SHIFT key on the keyboard and click **Restart**.

Once you are in the Startup Option menu, perform the following steps.

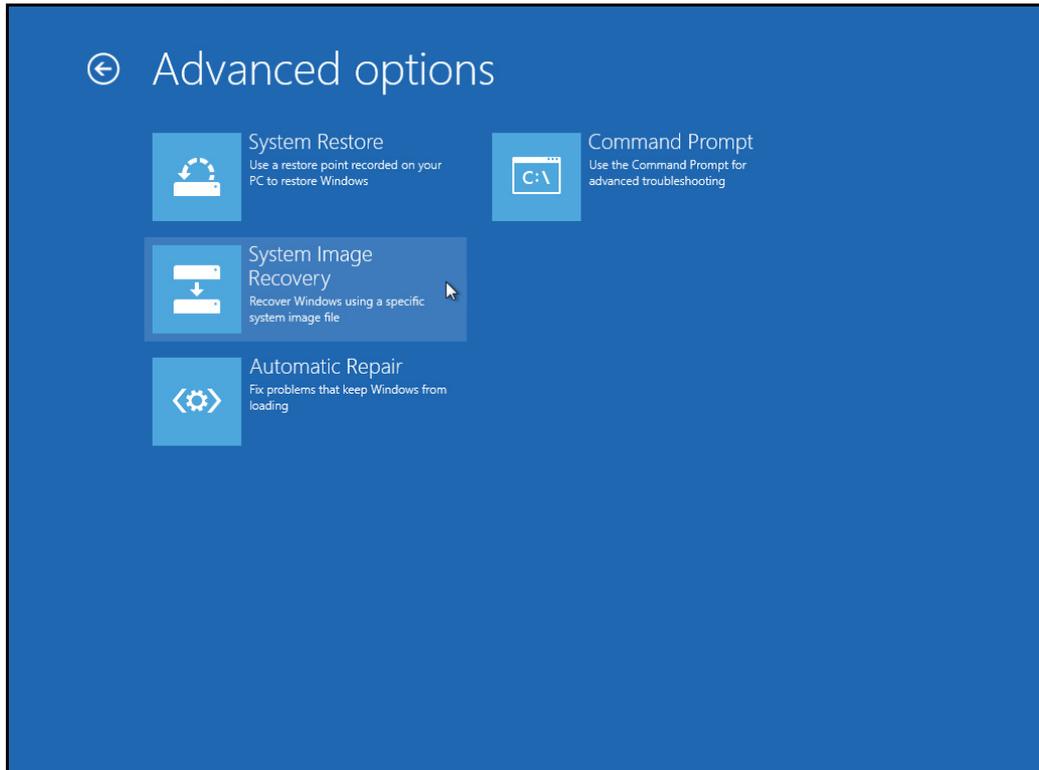
1. Click **Troubleshoot**.



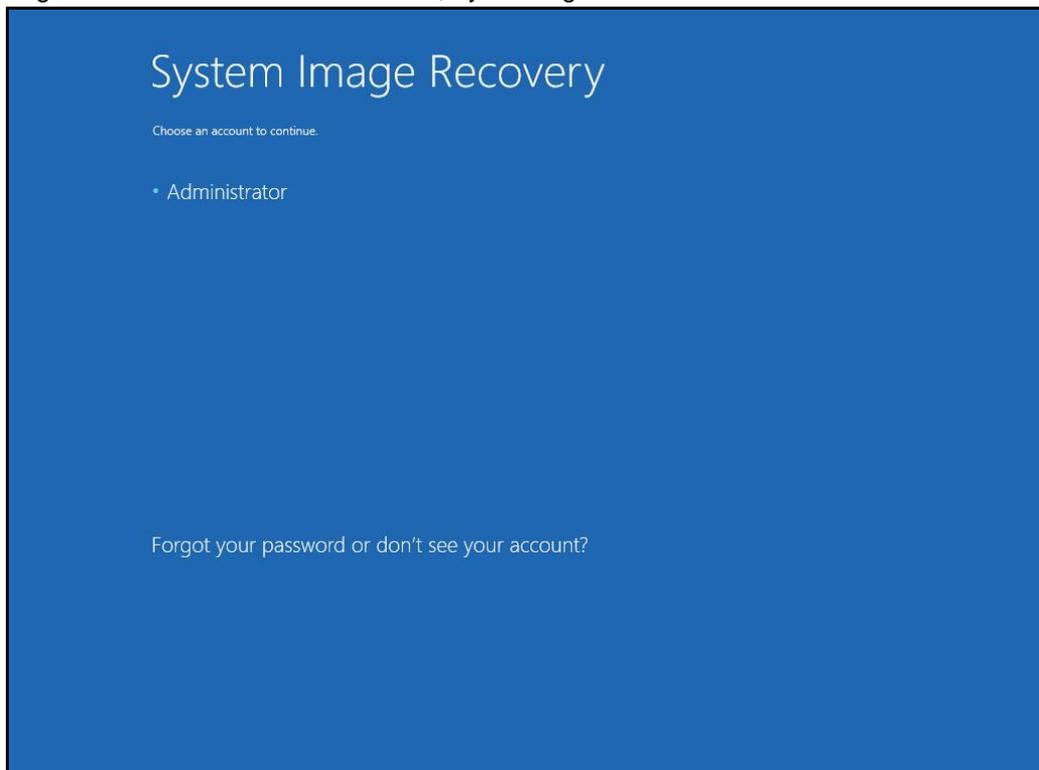
2. Click **Advanced options**.



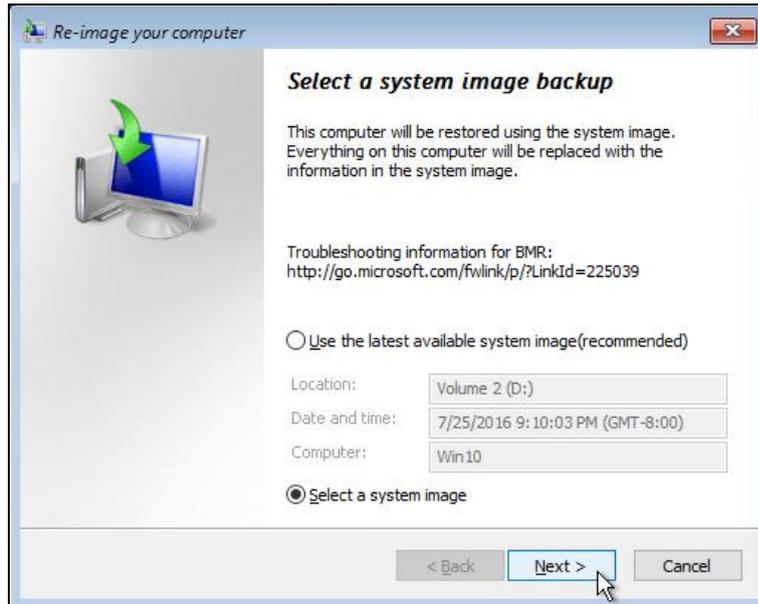
3. Click **System Image Recovery**.



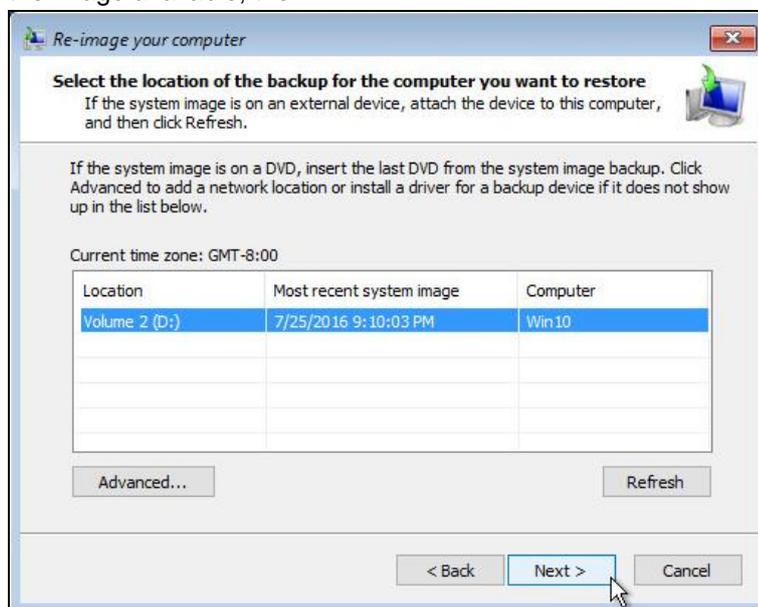
4. Login with an administrative account, by clicking on **Administrator**.



- Click **Select a system image**, then click **Next**.



- Select the location that contains the system image to restore from. If you do not see the image available, then



- Click **Advanced**, and install the required driver for the removable drive to be accessed, if the system image was copied to a removable drive attached to the server.

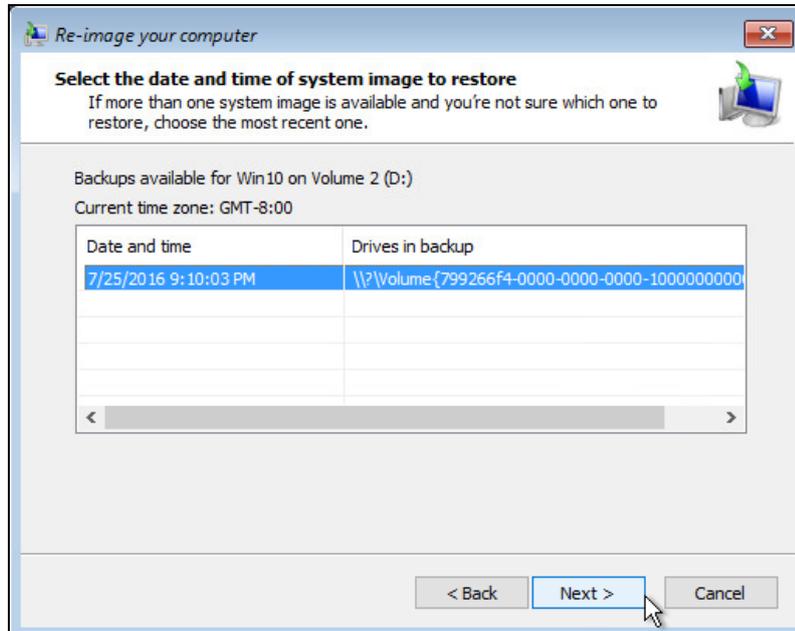
To install a driver, the driver must be located on the local system. You cannot install a driver from the network.

- Click **Advanced**, and browse to the remote shared folder which contains the system image, if the system image was copied to a network path.

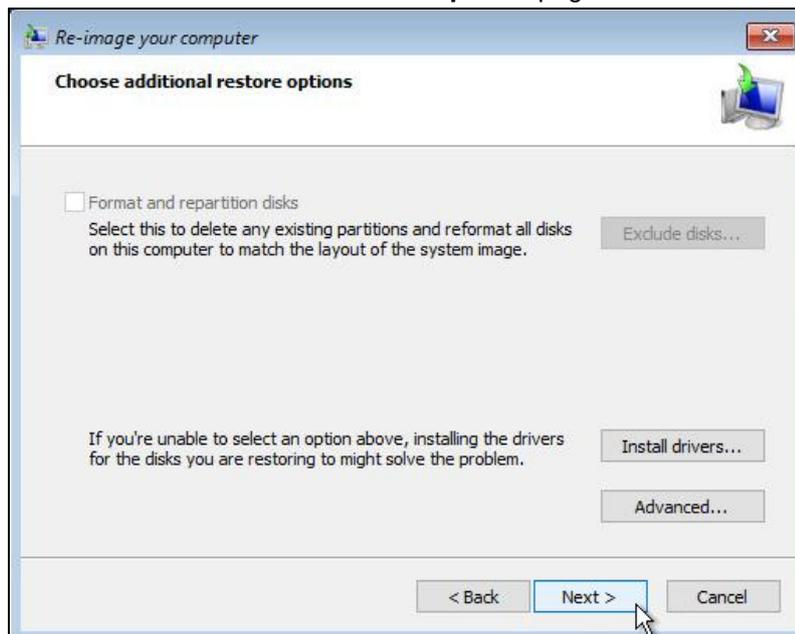
For domain environment, if the backup storage location is on a computer that is a member of that domain, then the computer containing the storage location should be on the IPsec boundary, to be accessible by non-domain computer.

When a computer boots into Windows Recovery Environment, it becomes a non-domain computer, therefore, cannot access the usual network shares. Only those computers that allow non-domain computers to access the share can be used as a backup storage location in this way.

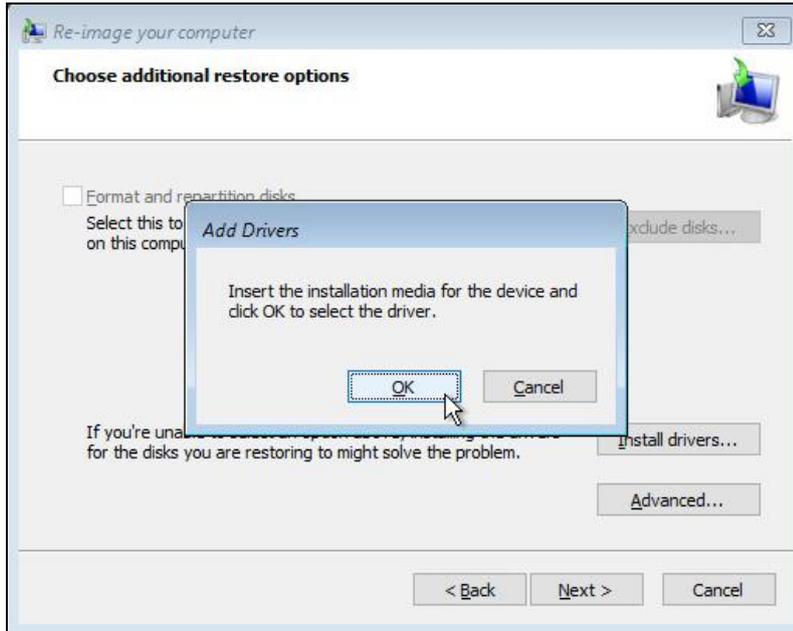
7. Select the date and time of system image to restore.



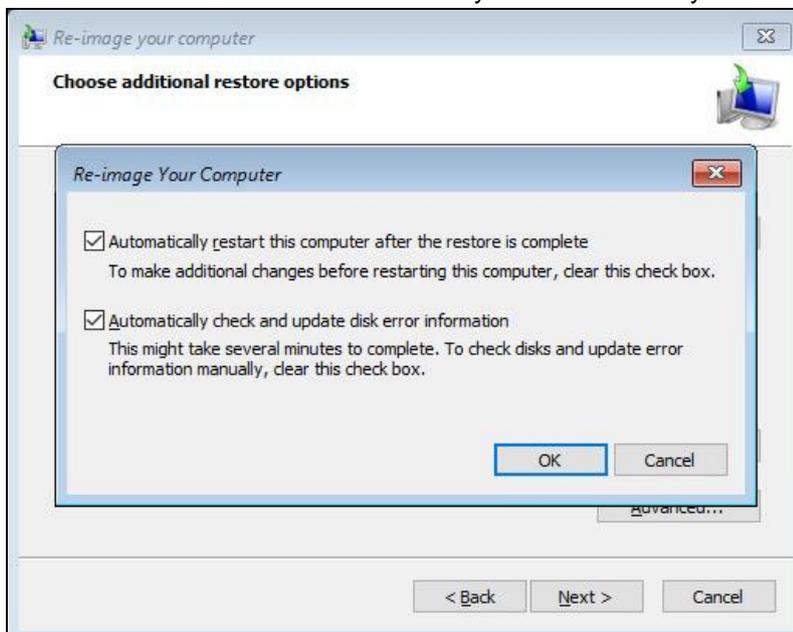
8. On the **Choose additional restore options** page.



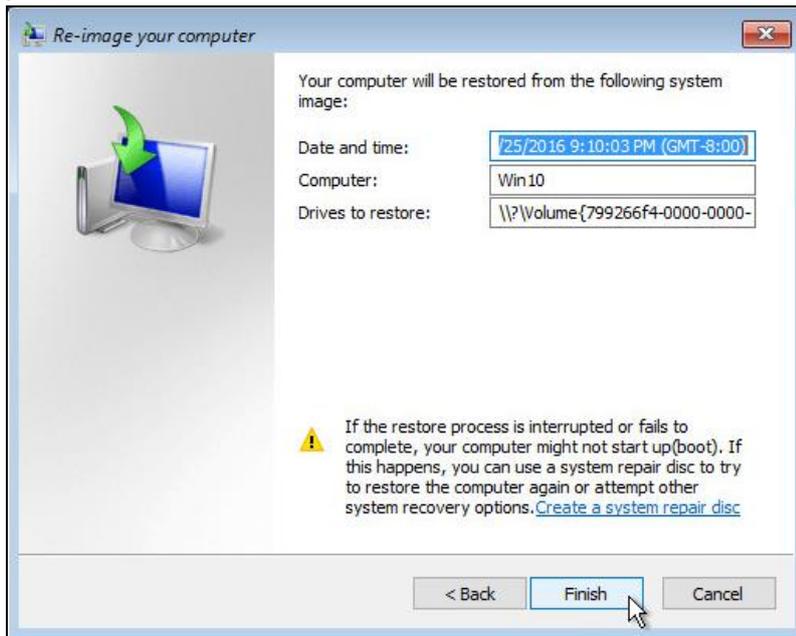
Click **Install drivers** to install device drivers for the hardware that you are recovering to.



Click **Advanced** to specify whether the computer is automatically restarted, and the disks are checked for errors immediately after the recovery.



9. Confirm the details for the restoration, and then click **Finish** to start the recovery process.



**Important:** Do not interrupt the restore process.

The recovery will succeed as long as all the critical volumes (e.g. volumes containing operating system components) are recovered.

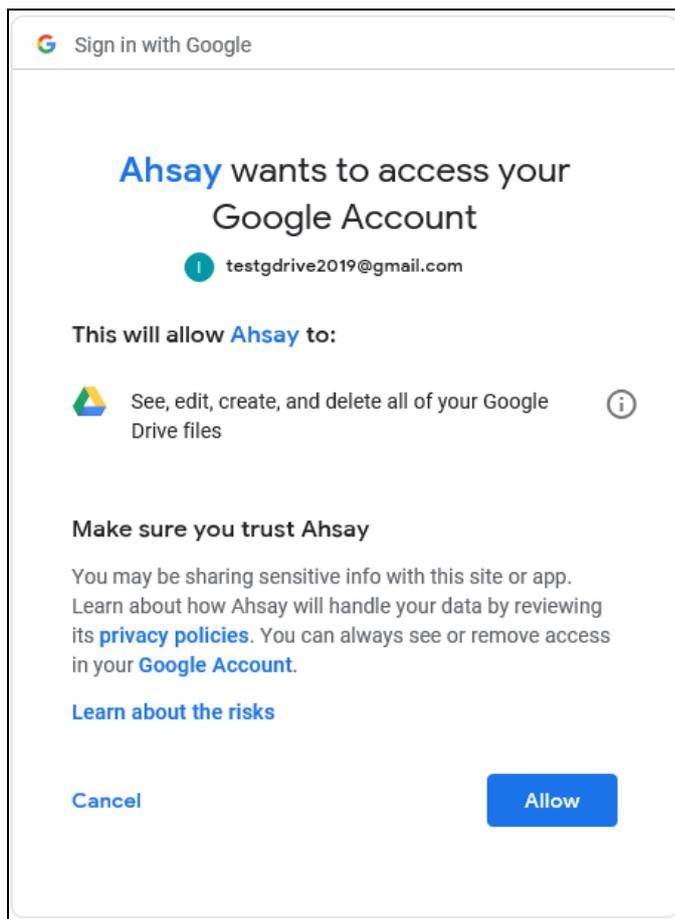
# Appendix

## Appendix A Cloud Storage as Backup Destination:

For most cloud storage provider (e.g. Dropbox, Google Drive ... etc.), you need to allow AhsayOBM to access the cloud destination. Click OK / Test, you will be prompted to login to the corresponding cloud service.

**Important:** The authentication request will be opened in a new tab / window on the browser, ensure that the pop-up tab / window is not blocked (e.g. pop-up blocker in your browser).

Click Allow to permit AhsayOBM to access the cloud storage:



Enter the authentication code returned in AhsayOBM to complete the destination setup.

**Note:** A backup destination can be set to a supported cloud storage, backup server, FTP / SFTP server, network storage, or local / removable drive on your computer.

Multiple backup destinations can be configured for a single backup set. In fact, it is recommended for you to setup at least 2 backup destinations for your backup set.

For more details on backup destination, for example which cloud service providers are supported, destination type, or limitation, you can refer to this link:

[FAQ: Frequently Asked Questions on Backup Destination](#)

## Appendix B Uninstall AhsayOBM

Refer to the Appendix of the AhsayOBM Quick Start Guide for the corresponding operating system for details on how to uninstall AhsayOBM:

[https://www.ahsay.com/jsp/en/home/index.jsp?pageContentKey=ahsay\\_downloads\\_documentation\\_guides](https://www.ahsay.com/jsp/en/home/index.jsp?pageContentKey=ahsay_downloads_documentation_guides)

## Technical Assistance

To contact Ahsay support representatives for technical assistance, visit the following website:

<https://www.ahsay.com/jsp/en/contact/kbQuestion.jsp>

Also use the Ahsay Knowledge Base for resource such as Hardware Compatibility List, Software Compatibility List, and other product information:

<http://wiki.ahsay.com/doku.php?id=public:home>

# Documentation

Documentations for all Ahsay products are available at:

[https://www.ahsay.com/jsp/en/home/index.jsp?pageContentKey=ahsay\\_downloads\\_documentation\\_guides](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/jsp/en/contact/kbQuestion.jsp>

Please specify the specific document title as well as the change required / suggestion when contacting us.