



Online Backup Manager v8

Microsoft System Backup and Restore Guide

8 July 2019

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Table of Contents

Introduction.....	1
Overview	2
1 Requirement and Limitation	3
1.1 Other Requirement and Limitation	3
2 Best Practice and Recommendation	7
3 Restore Consideration.....	10
4 Starting OBM	11
4.1 Login to OBM	11
5 Configuring a MS Windows System Backup Set	12
5.1 Create a MS Windows System Backup Set.....	12
6 Overview on the Backup Process	23
7 Running a Backup	24
7.1 Start a Manual Backup.....	24
8 Restore with a MS Windows System Backup Set.....	31
8.1 Login to OBM	31
8.2 Restore the System Image	31
8.3 Recovering Your Server.....	40
8.3.1 Recover Files and Folders	42
8.3.2 Recover Applications and Data.....	49
8.3.3 Recover Volumes.....	56
8.3.4 Recover Operating System or Full System	63
8.3.5 Recover a Full System (Non Server Platforms)	70

Introduction

The MS Windows System Backup module of OBM 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 OBM](#)
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 Requirement and Limitation

Ensure that the following requirements are met:

• OBM Installation

Make sure that OBM 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 OBM user account.

Please contact your service provider for more details.

The screenshot displays the 'Backup Client Settings' tab for a user profile. The 'Add-on Modules' section lists various backup options. The 'Windows System Backup' module is checked and highlighted with a red box. Other modules include Microsoft Exchange Server, MySQL Database Server, Lotus Domino, VMware, Microsoft Exchange Mailbox, Continuous Data Protection, Mobile, Volume Shadow Copy, OpenDirect / Granular Restore, Microsoft SQL Server, Oracle Database Server, Lotus Notes, Windows System State Backup, Hyper-V, ShadowProtect System Backup, NAS - Synology, NAS - QNAP, In-File Delta, and Office 365 Backup.

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

• Backup Quota Requirement

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

• OBM Licenses

OBM licenses are calculated on a per device basis:

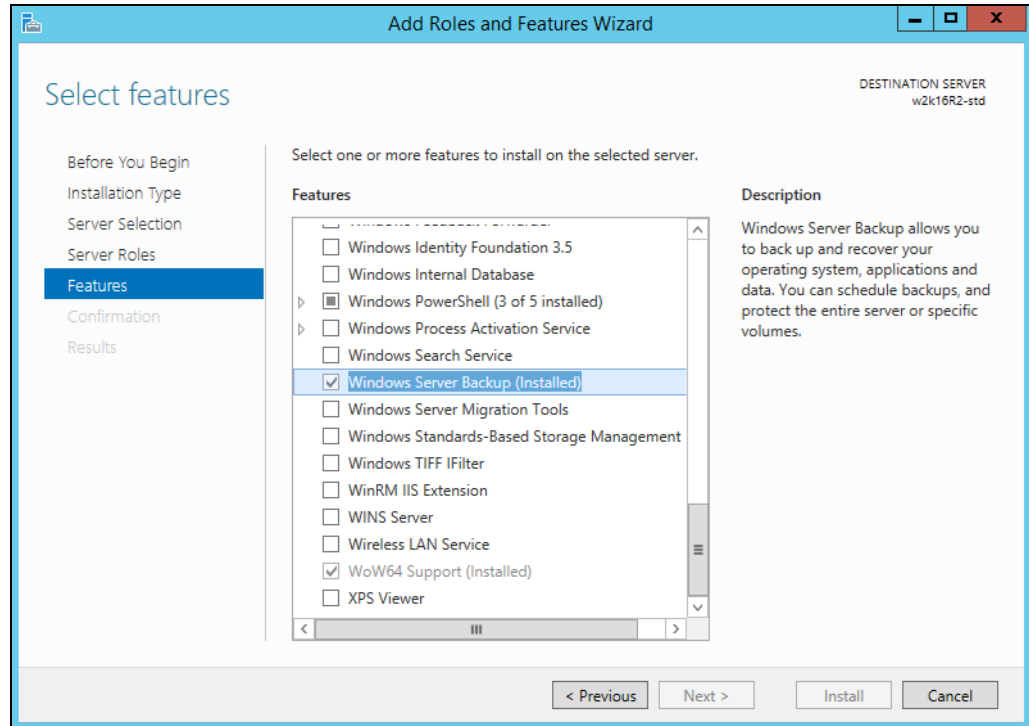
- To backup users with 1 backup client computer (e.g. 1 OBM installed), 1 OBM license is required.
- To backup users with multiple backup client computers, the number of OBM licenses required is equal to the number of devices. For example, if there are

10 users to be backup with 3 backup client computers, then 3 OBM 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.

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

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

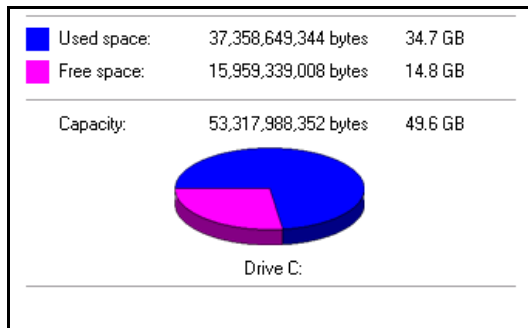
- i. An extra physical drive will need to be installed
- ii. The existing C: drive will need to be repartitioned to create an additional drive, i.e. D:
- iii. A USB drive needs to be connected
- iv. Setup a network drive

📌 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.*

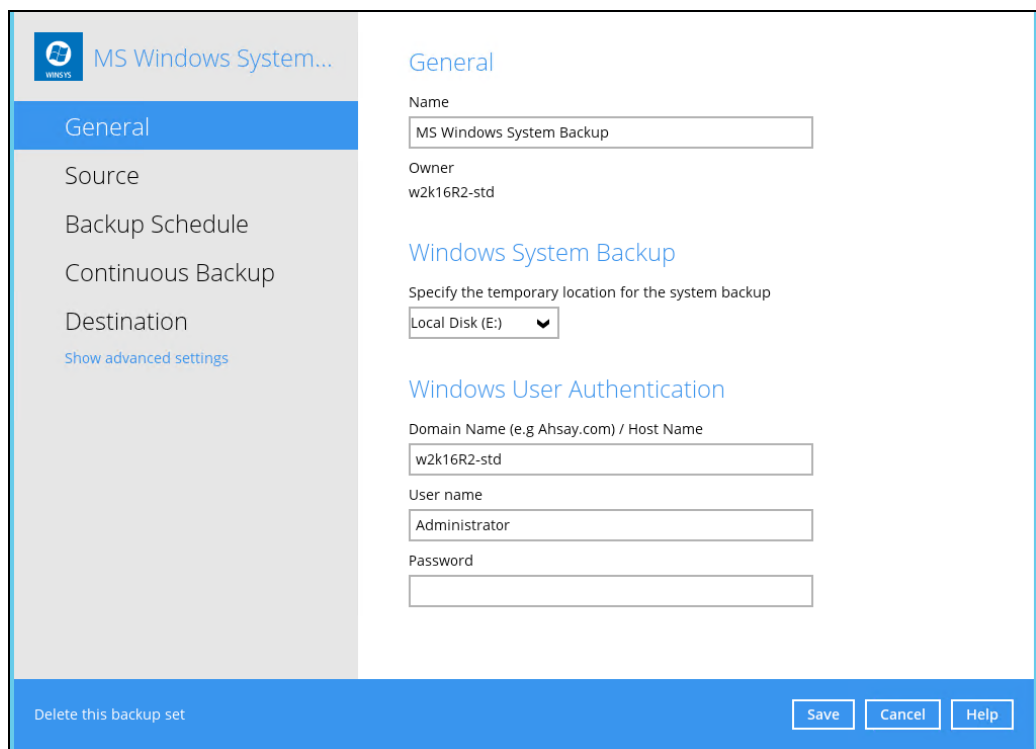
2 Best Practice and Recommendation

Please consider the following recommendations:

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

User should also stay up-to-date when newer version of OBM is released.

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).

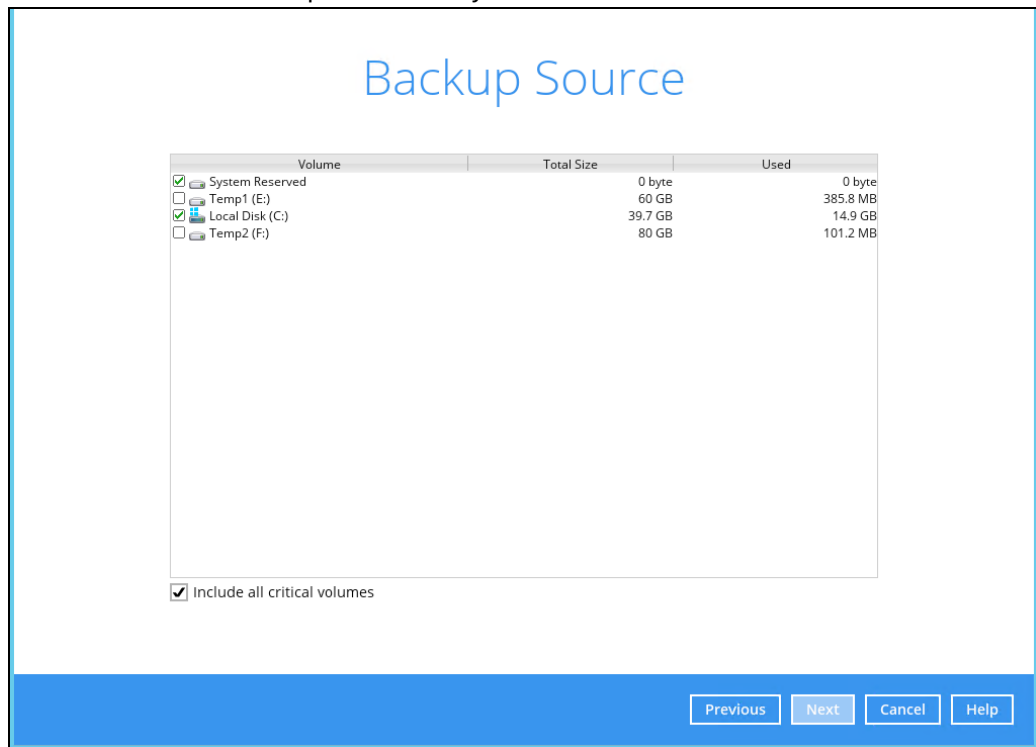


The screenshot shows the 'MS Windows System Backup' configuration window. On the left is a sidebar with a blue header 'MS Windows System...' and a list of options: 'General' (highlighted in blue), 'Source', 'Backup Schedule', 'Continuous Backup', and 'Destination'. Below 'Destination' is a link 'Show advanced settings'. The main area is titled 'General' and contains the following fields:

- Name:** A text box containing 'MS Windows System Backup'.
- Owner:** A text box containing 'w2k16R2-std'.
- Windows System Backup:** A section header.
- Specify the temporary location for the system backup:** A dropdown menu showing 'Local Disk (E:)' with a downward arrow.
- Windows User Authentication:** A section header.
- Domain Name (e.g. Ahsay.com) / Host Name:** A text box containing 'w2k16R2-std'.
- User name:** A text box containing 'Administrator'.
- Password:** An empty text box.

At the bottom of the window is a blue bar with the text 'Delete this backup set' on the left and three buttons ('Save', 'Cancel', 'Help') on the right.

- 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 OBM (Java heap space)

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.

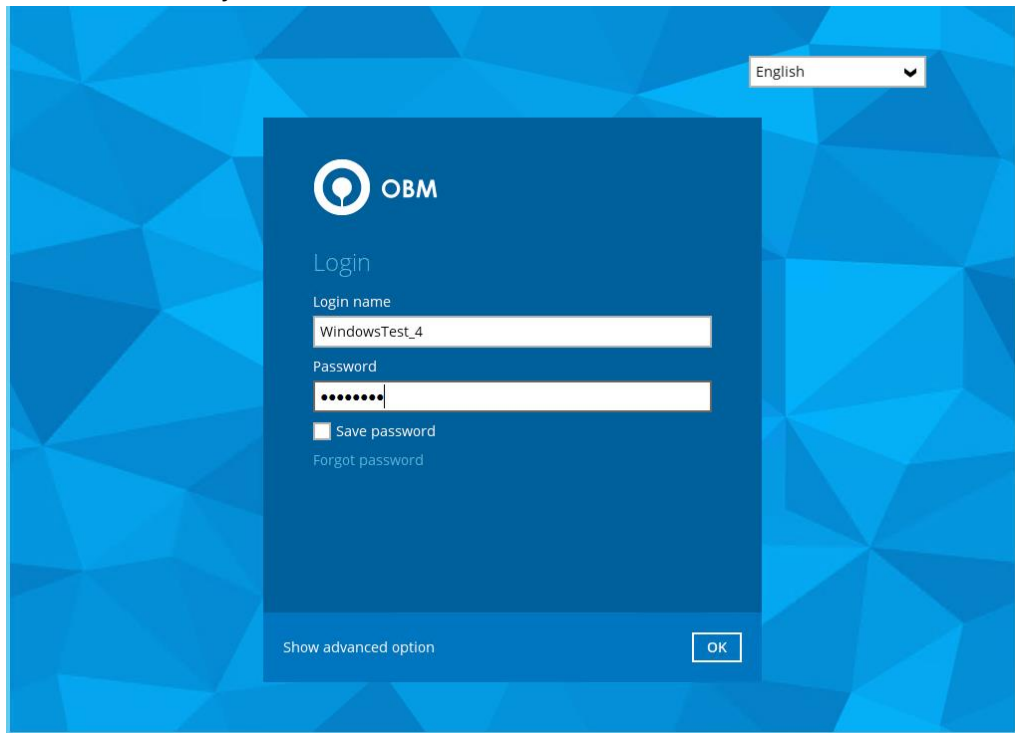
This will not happen automatically, it must be enabled explicitly.

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

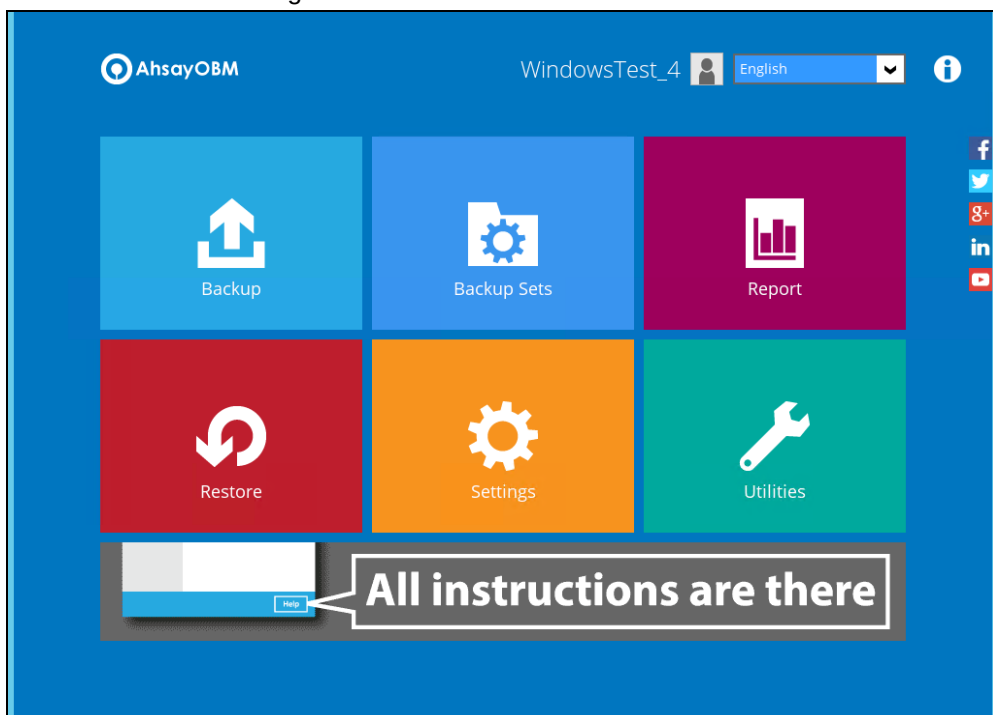
4 Starting OBM

4.1 Login to OBM

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



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



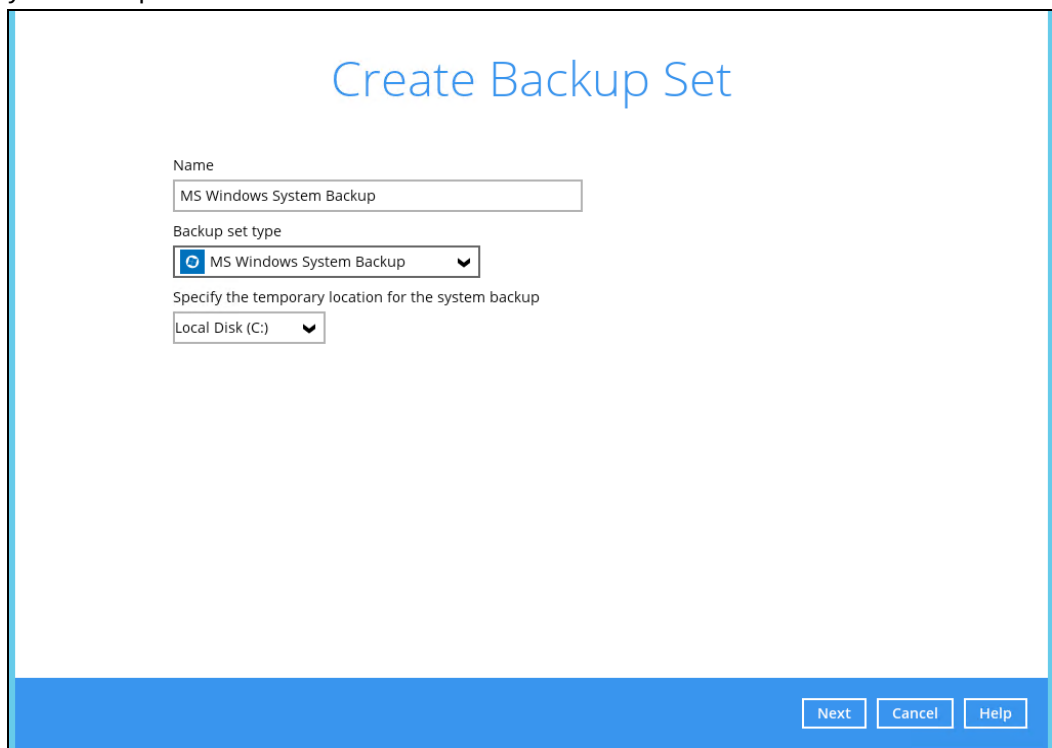
5 Configuring a MS Windows System Backup Set

5.1 Create a MS Windows System Backup Set

1. In the OBM 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 dialog box titled "Create Backup Set" in blue text. 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 a 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".

Create Backup Set

Name
MS Windows System Backup

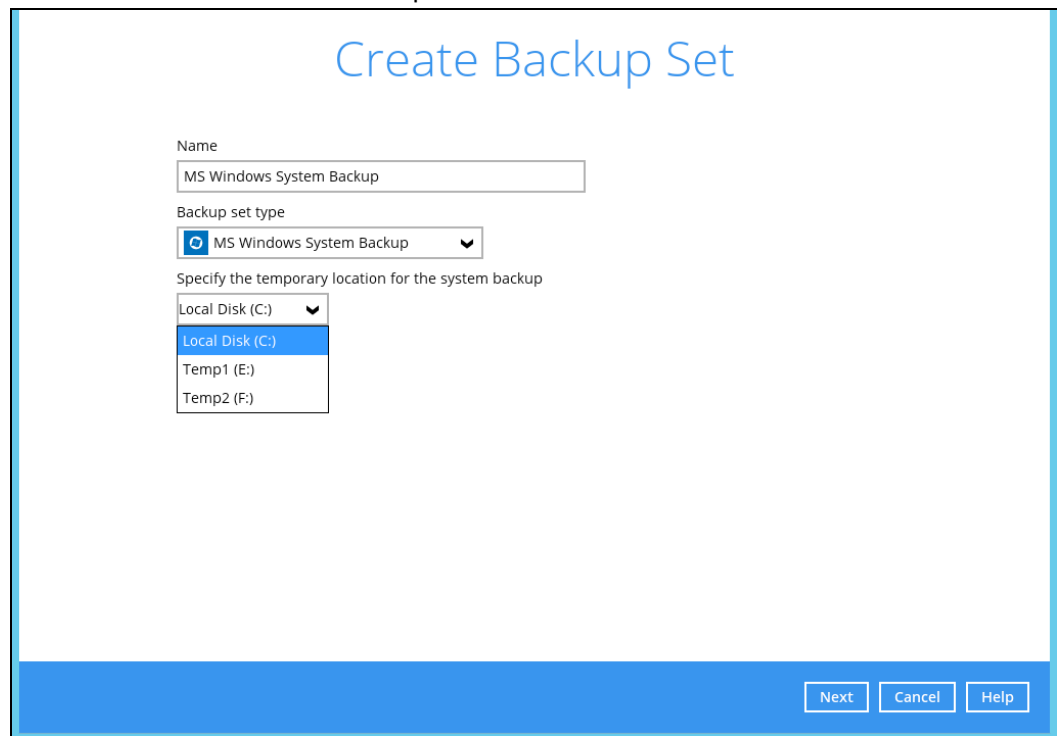
Backup set type
 MS Windows System Backup

Specify the temporary location for the system backup
Local Disk (C:)

Next Cancel Help

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

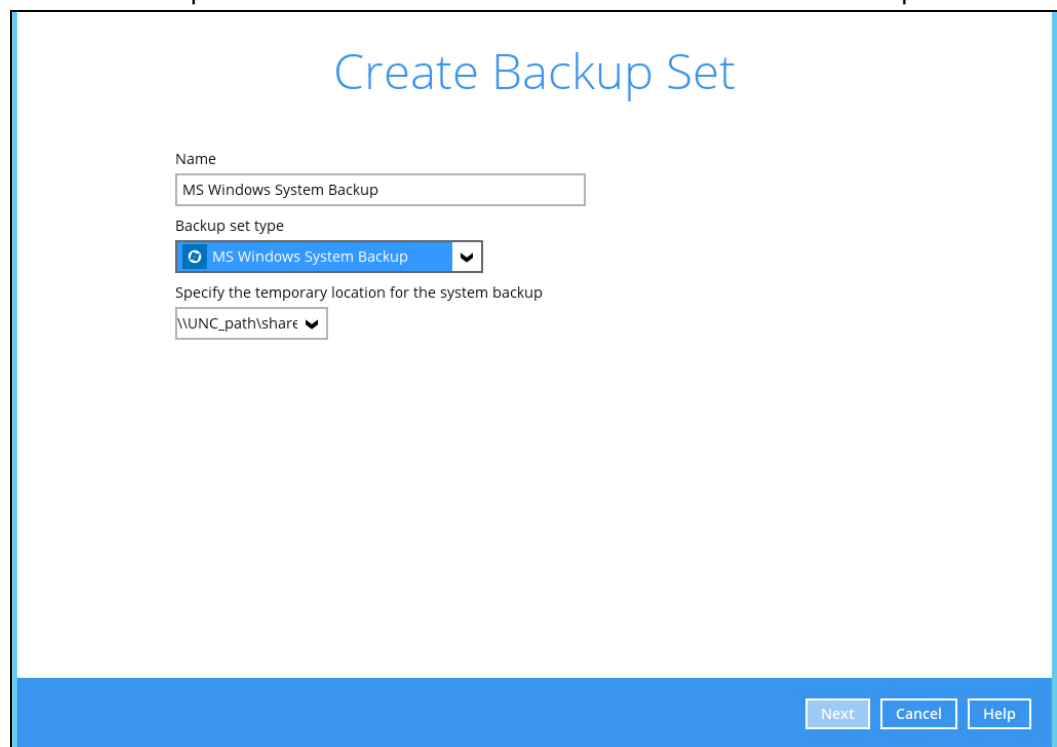
Select a local volume from the dropdown menu.



The screenshot shows the 'Create Backup Set' wizard. The title 'Create Backup Set' is at the top in blue. Below it, the 'Name' field contains 'MS Windows System Backup'. The 'Backup set type' dropdown is set to 'MS Windows System Backup'. The 'Specify the temporary location for the system backup' section shows a dropdown menu with 'Local Disk (C:)' selected. Other options in the dropdown are 'Local Disk (C:)', 'Temp1 (E:)', and 'Temp2 (F:)'. At the bottom right, there are 'Next', 'Cancel', and 'Help' buttons.

Or

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



The screenshot shows the 'Create Backup Set' wizard. The title 'Create Backup Set' is at the top in blue. Below it, the 'Name' field contains 'MS Windows System Backup'. The 'Backup set type' dropdown is set to 'MS Windows System Backup'. The 'Specify the temporary location for the system backup' section shows a dropdown menu with '\\UNC_path\\share' selected. At the bottom right, there are 'Next', 'Cancel', and 'Help' buttons.

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

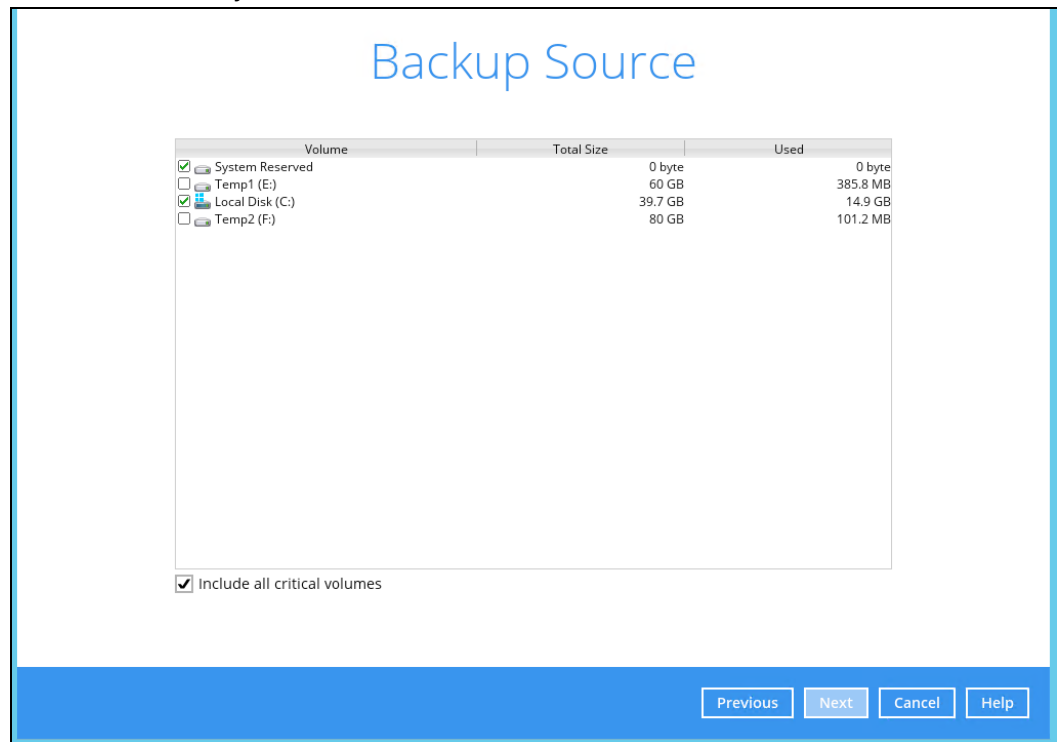
Click **Next** to proceed.



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

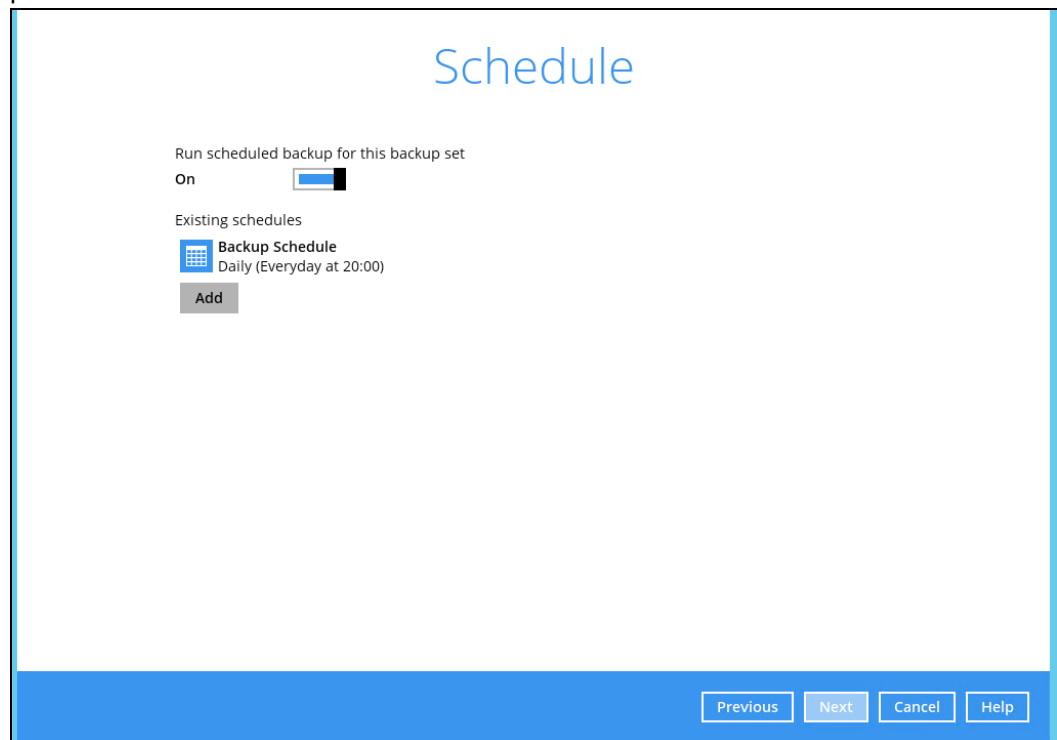
5. In the Backup Source menu, select the volume(s) which you would like to backup.

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.



New Backup Schedule

Name
Daily-1

Type
Daily

Start backup at
14 : 55

Stop
until full backup completed

☐ Run Retention Policy after backup

OK Cancel Help

Previous Next Cancel Help

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**.

Destination

Backup mode
Sequential

Existing storage destinations
+ Add new storage destination / destination pool

^ v

Previous Next Cancel Help

8. Select the Destination storage.

New Storage Destination / Destination Pool

Name
CBS

Destination storage

- CBS
- CBS
- OneDrive-1
- Local / Mapped Drive / Removable Drive

OK Cancel Help

Previous Next Cancel Help

You can choose a storage combination of the Local/Mapped drive/Removable Drive, or 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.

New Storage Destination For The Pool

Name
Local-1

Destination storage
Local / Mapped Drive / Removable Drive

Local path
Change

Test

OK Cancel Help

Previous Next Cancel Help

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

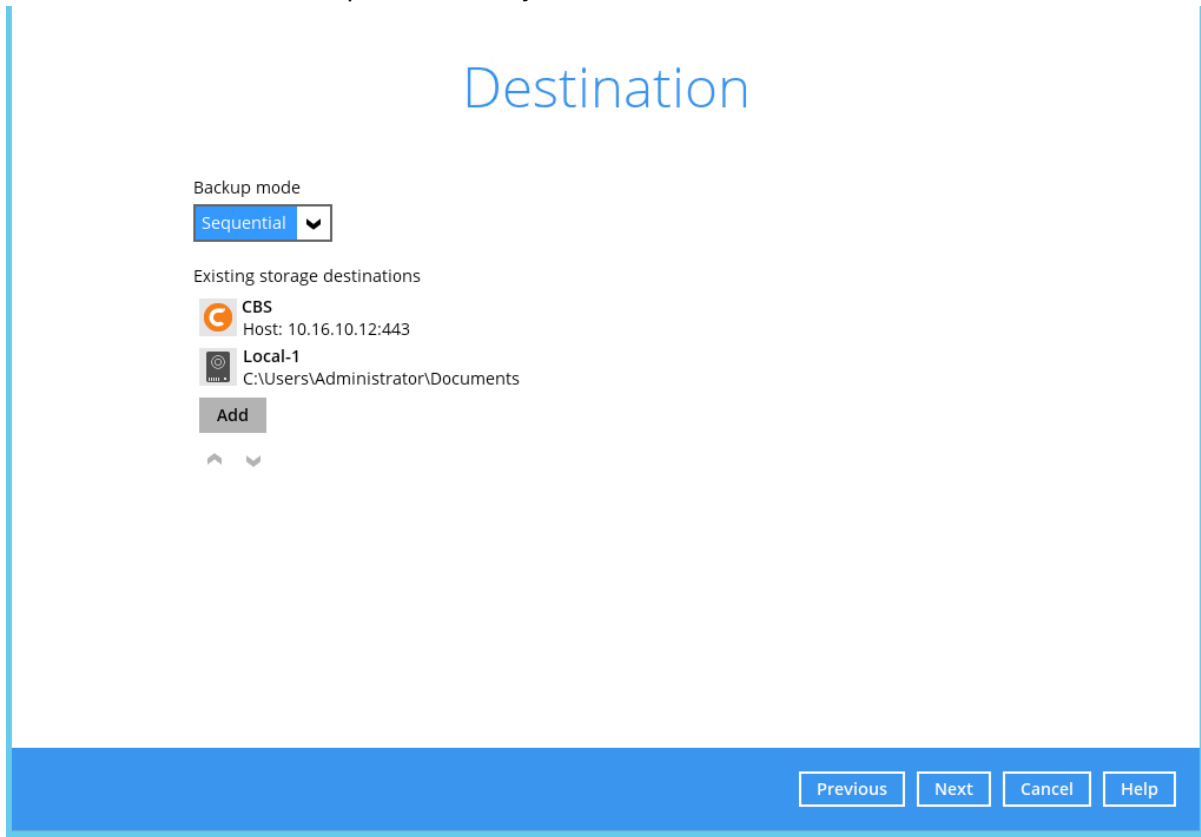
The screenshot shows a dialog box titled "New Storage Destination For The Pool". It contains a text field for "Name" with the value "GoogleDrive-1". Below it is a dropdown menu for "Destination storage" with "Google Drive" selected. A "Test" button is visible. At the bottom right are "OK", "Cancel", and "Help" buttons. A link "Sign up for Google Drive" is located below the "Test" button.

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

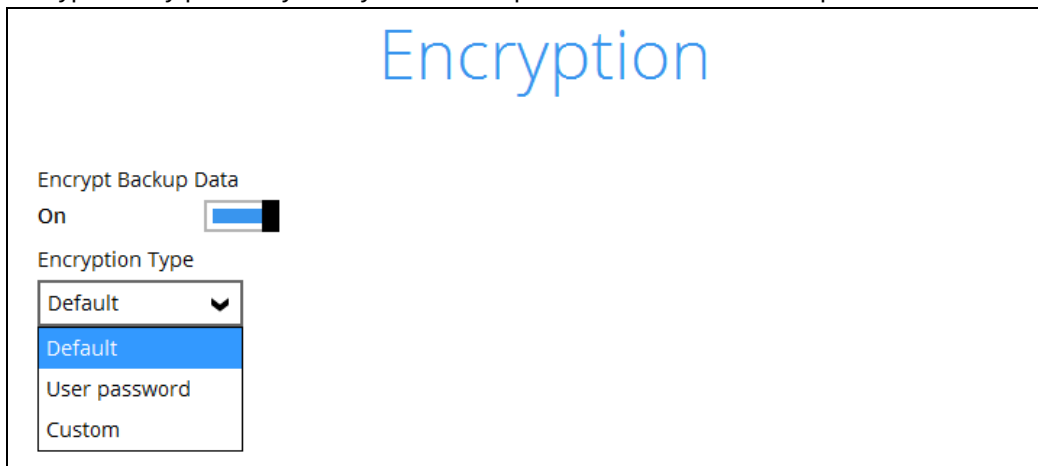
The screenshot shows the same dialog box but with "FTP" selected in the "Destination storage" dropdown. The "Name" field contains "FTP-1". There are additional fields for "Host", "Port", "Username", and "Password". An optional field for "FTP directory to store backup data (default to ~/Ahsay)" is also present. At the bottom, there are checkboxes for "Connect with SSL/TLS (explicit only)" and "Access the Internet through proxy", followed by a "Test" button. The "OK", "Cancel", and "Help" buttons are at the bottom right.

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 OBM at the time when this backup set is created. Please be reminded that if you change the OBM 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.

The screenshot shows a window titled "Encryption" with a light blue header. Below the title, there are several settings:

- Encrypt Backup Data:** A toggle switch set to "On".
- Encryption Type:** A dropdown menu with "Custom" selected.
- Algorithm:** A dropdown menu with "AES" selected.
- Encryption key:** A text input field containing "*****".
- Re-enter encryption key:** A text input field containing "*****".
- Method:** Two radio buttons, "ECB" and "CBC", with "CBC" selected.
- Key length:** Two radio buttons, "128-bit" and "256-bit", with "256-bit" selected.

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.

The screenshot shows a pop-up window titled "Encryption" with a dark grey header. The main area has a blue background and contains the following text:

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.

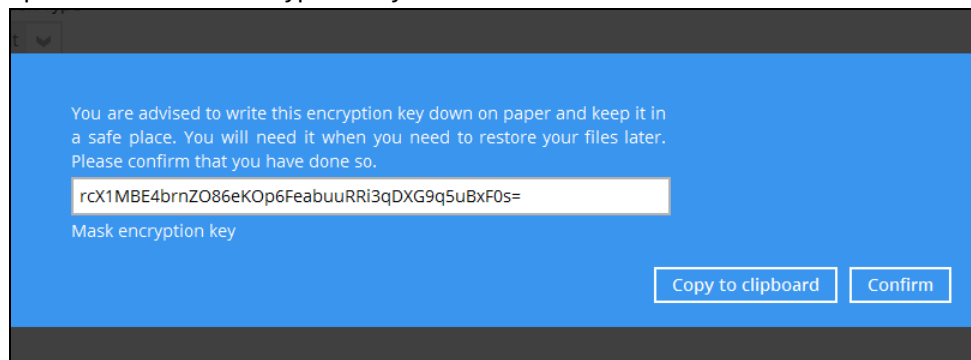
Below the text is a text input field containing "●●●●●●".

Below the input field is the text "Unmask encryption key".

At the bottom right, there are two buttons: "Copy to clipboard" and "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.

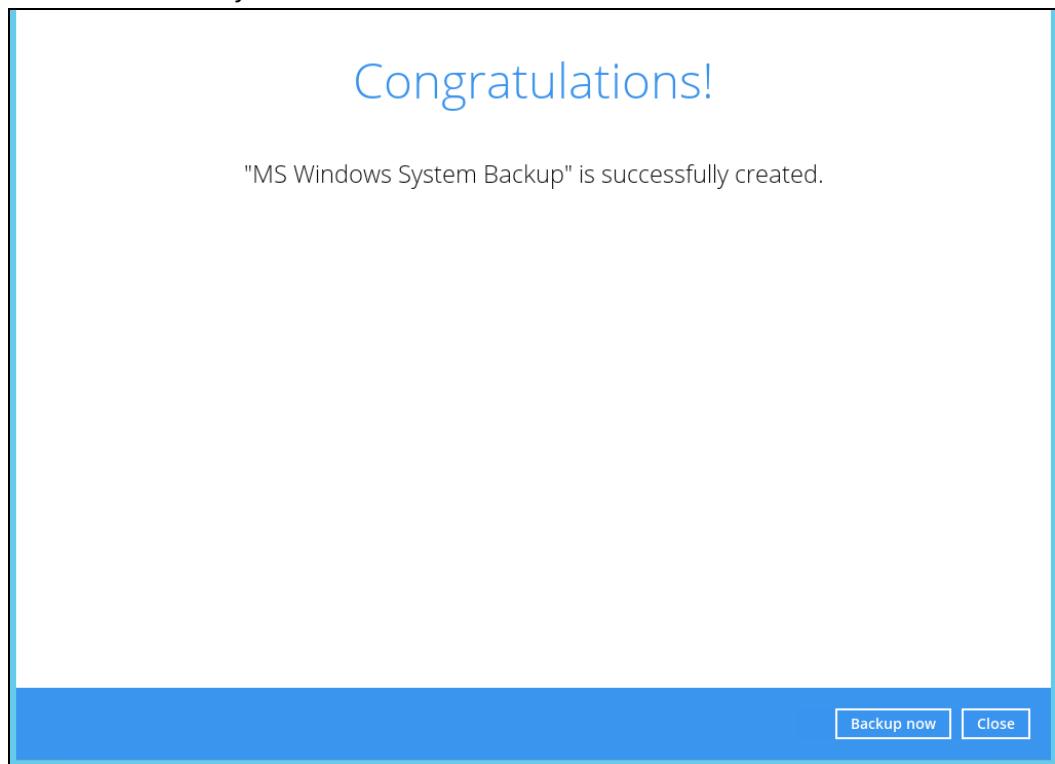
12. Enter the **Domain Name / Host Name** of the computer, **User Name** and **Password** of the Windows account that will be running the backup.

A white dialog box with a blue header and footer. The header contains the title "Windows User Authentication" in blue. The main content area is white and contains three input fields: "Domain Name (e.g Ahsay.com) / Host Name" with the value "child.csv2012.local", "User name" with the value "Administrator", and "Password" with masked characters (dots). At the bottom right of the dialog box are four buttons: "Previous", "Next", "Cancel", and "Help".

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

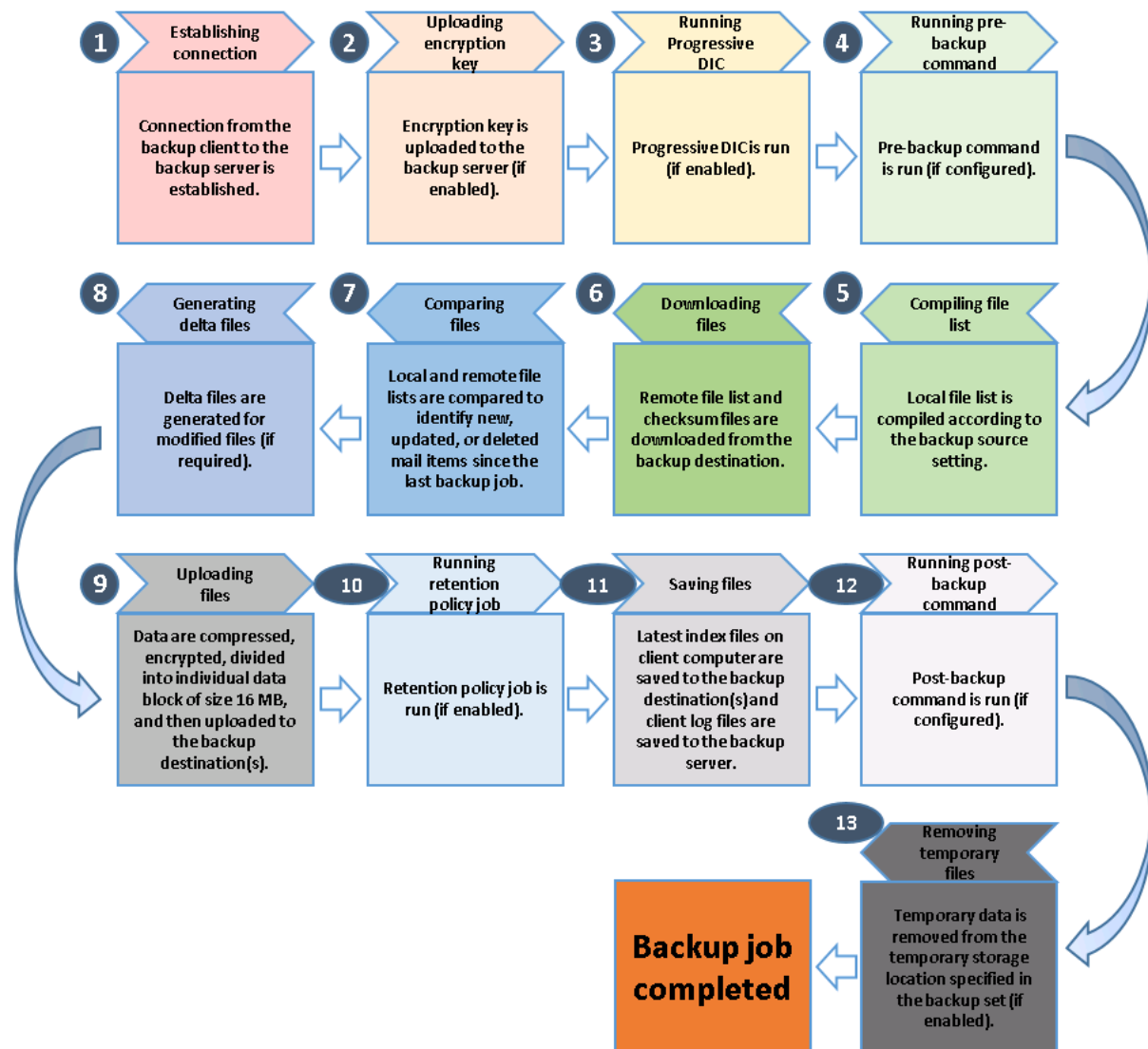
13. Click **Next** to create the backup set.

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.



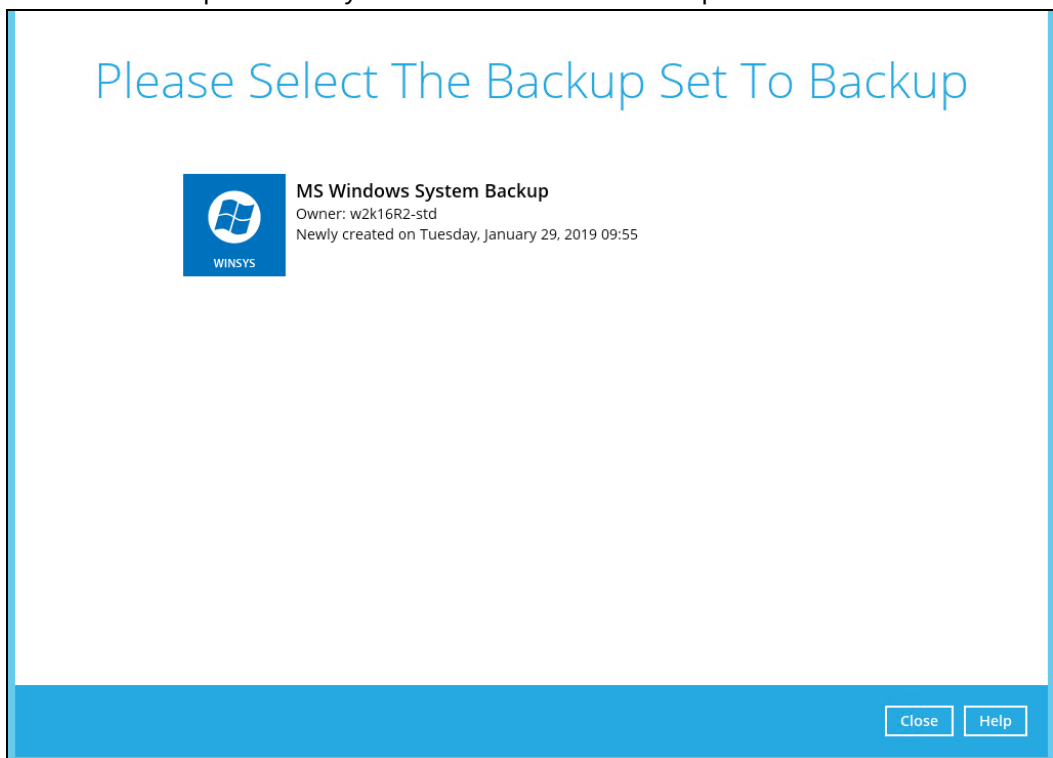
7 Running a Backup

7.1 Start a Manual Backup

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



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**.

Choose Your Backup Options

 MS Windows System Backup

Backup set type
Volume

[Show advanced option](#)

Previous

Backup

Cancel

Help

Choose Your Backup Options

 MS Windows System Backup

Backup set type
Volume

In-File Delta type
☐ Full
☐ Differential
☒ Incremental

Destinations
☒ CBS (Host: 10.16.10.12:443)
☐ Local-1 (C:\Users\Administrator\Documents)

Retention Policy
☐ Run Retention Policy after backup

[Hide advanced option](#)

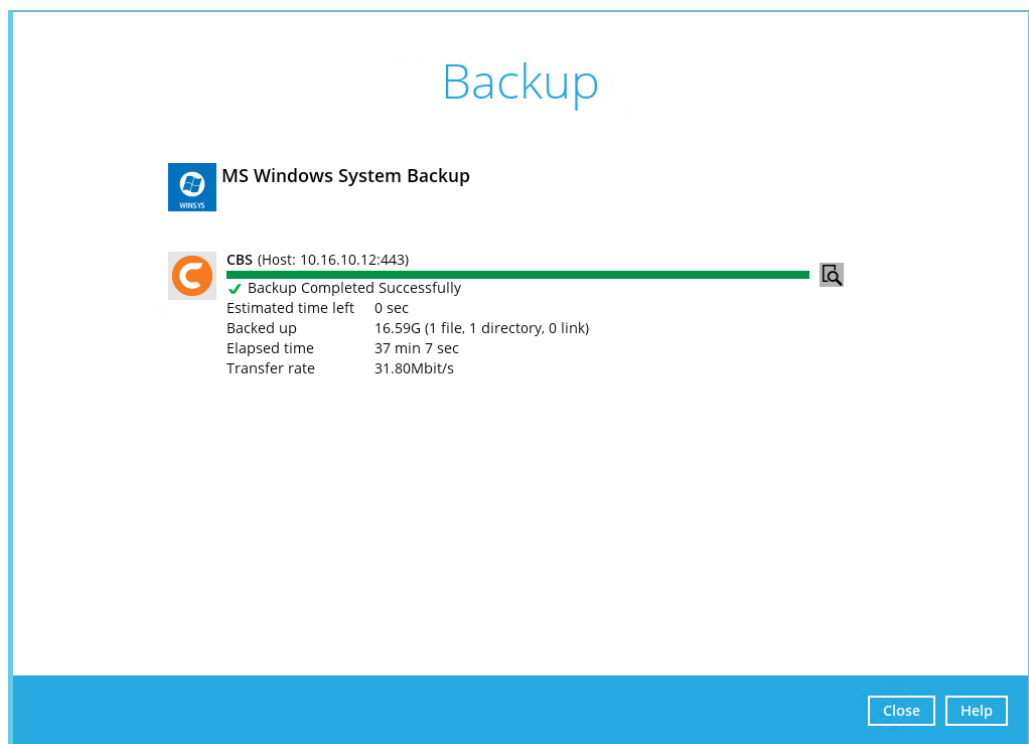
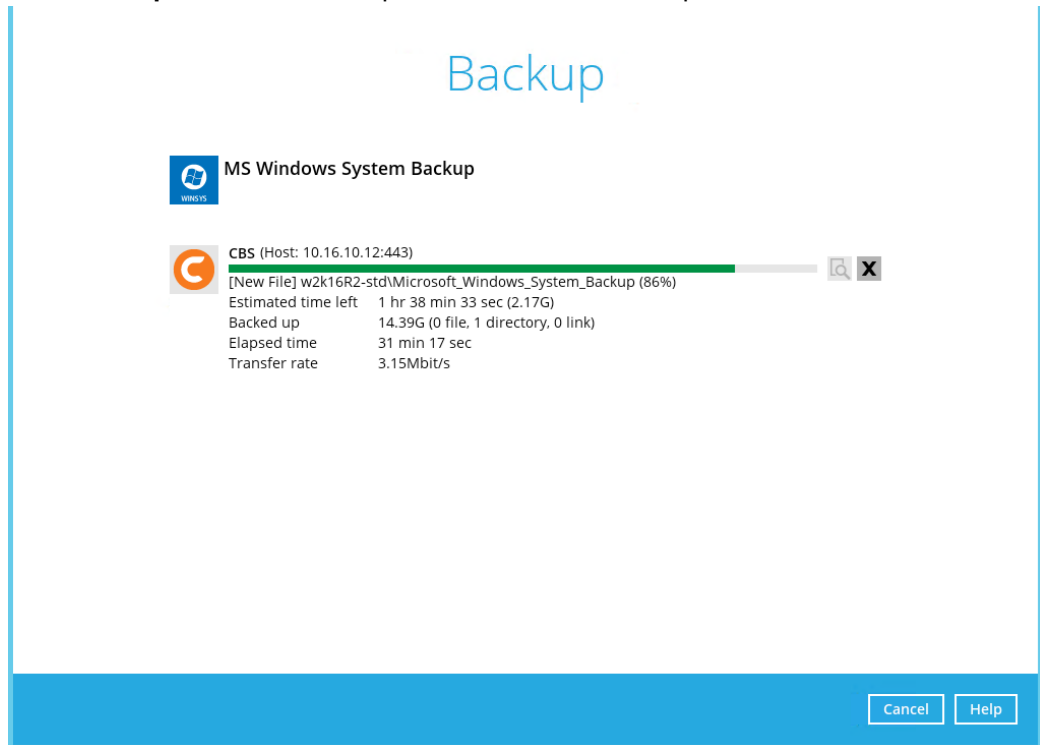
Previous

Backup

Cancel

Help

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



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

ShowAll

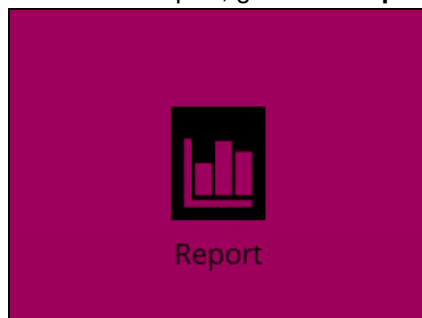
Type	Log	Time
	Start [Windows Server 2012 R2 (w2k16R2-std), AhsayOBM v8.1.0.24]	01/29/2019 10:29:18
	Saving encrypted backup set encryption keys to server...	01/29/2019 10:29:18
	Start Backup ... [In-File Delta: Incremental]	01/29/2019 10:29:20
	Using Temporary Directory C:\Users\Administrator\temp\1548728798070\OBS@1548728897405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

Logs per page50Page1 / 4

Close

CloseHelp

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.

Report

Backup

Restore

Usage

Backup Report

From
22 Jan 2019

To
29 Jan 2019

Go

Backup set	Destination	Completion	Status
MS Windows S...	CBS	Today 11:06	Completed

No. of records per page 50

Page 1 / 1

Close Help

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.

Report

Backup

Restore

Usage

Backup Report

From
22 Jan 2019

To
29 Jan 2019

Go

Backup set	Destination	Completion	Status
MS Windows System Backup	CBS	01/29/2019 10:29	Completed successfully

No. of records per page 50

Page 1 / 1

Close Help

Backup set
Destination
Job
Time
Status
New files *
Updated files *
Attributes Changed Files *
Moved files *
Deleted files *

MS Windows System Backup
CBS
01/29/2019 10:29
Today 10:29 - 11:06 (CST)
Completed successfully
1 [8.1G/16.6G (50%)]
0
0
0
0

* Unit = No of files [Total zipped size / Total unzipped size (compression ratio)]

View log

Report

Backup Report

Backup set

MS Windows System Backup

Destination

AhsayCBS

Log

01/29/2019 10:29

Show

All

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

Logs per page

50

Page

1 / 4

Close

Close

Help

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

01

Jan

2019

29

Jan

2019

Go

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

01

Jan

2019

03

Jan

2019

Go

Report

Backup

Restore

Usage

Backup Report

From To

Backup set	Destination	Completion	Status
No records found			

No. of records per page

Page

Close

Help

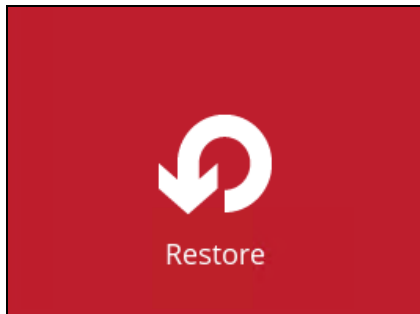
8 Restore with a MS Windows System Backup Set

8.1 Login to OBM

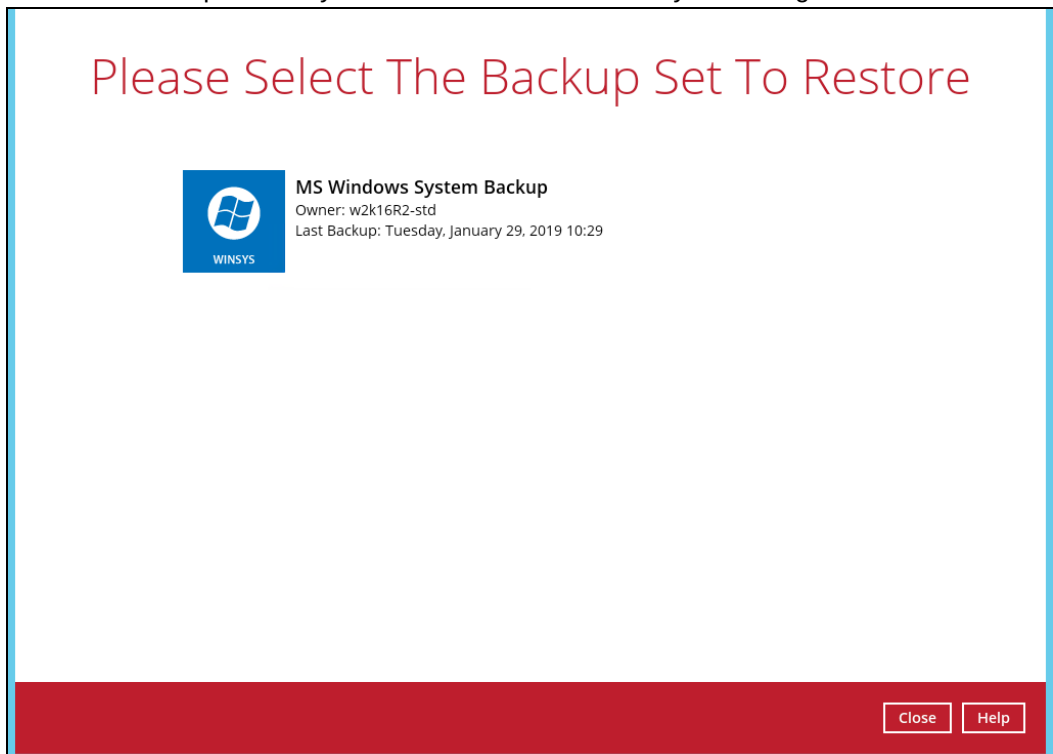
Login to the OBM application according to the instruction provided in the chapter on [Starting OBM](#).

8.2 Restore the System Image

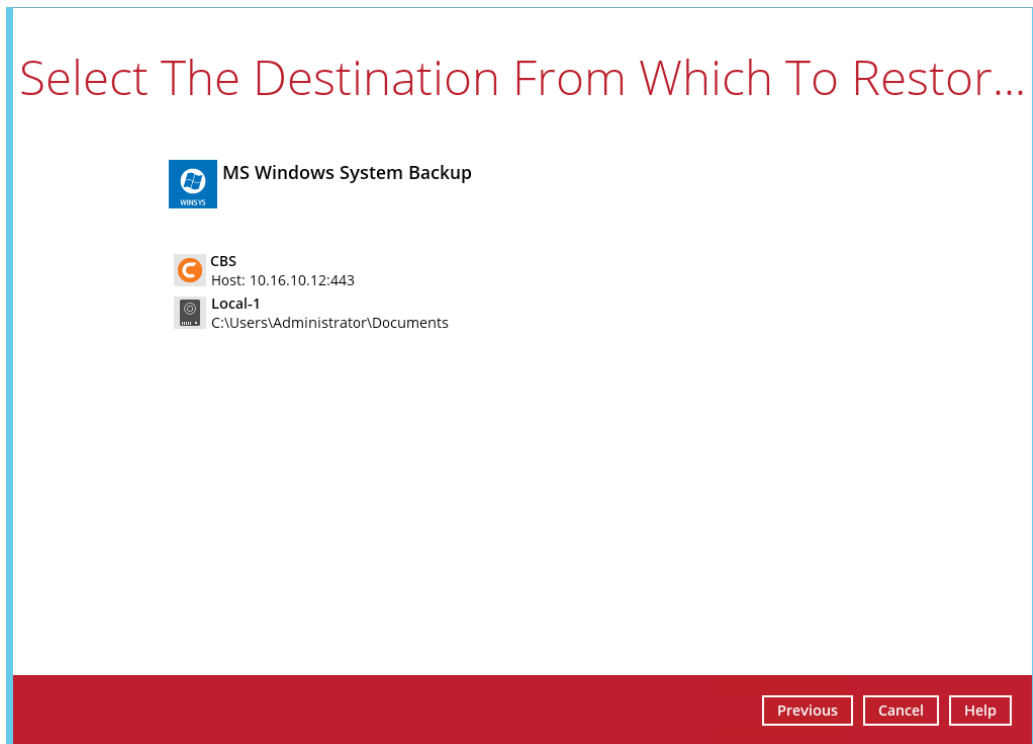
1. Click the **Restore** icon on the main interface of OBM.



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

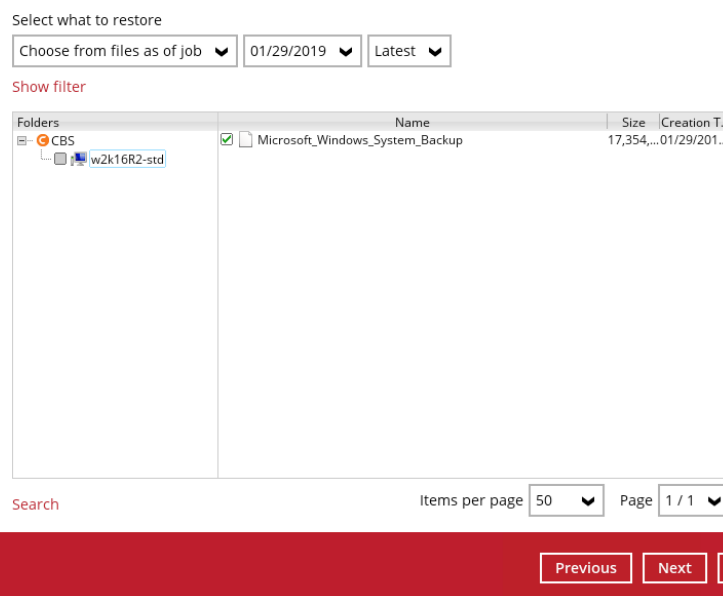


3. Select the backup destination that contains the system image that you would like to restore.



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.

Select Your Files To Be Restored



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

Choose Where The Files To Be Restored

Restore files to

Local Disk (C:)	▼
Local Disk (C:)	
Temp1 (E:)	
Temp2 (F:)	

[Previous](#) [Next](#) [Cancel](#) [Help](#)

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

Choose Where The Files To

Restore files to

Temp2 (F:)

[Show advanced option](#)

Choose Where The Files To

Restore files to

Temp2 (F:)

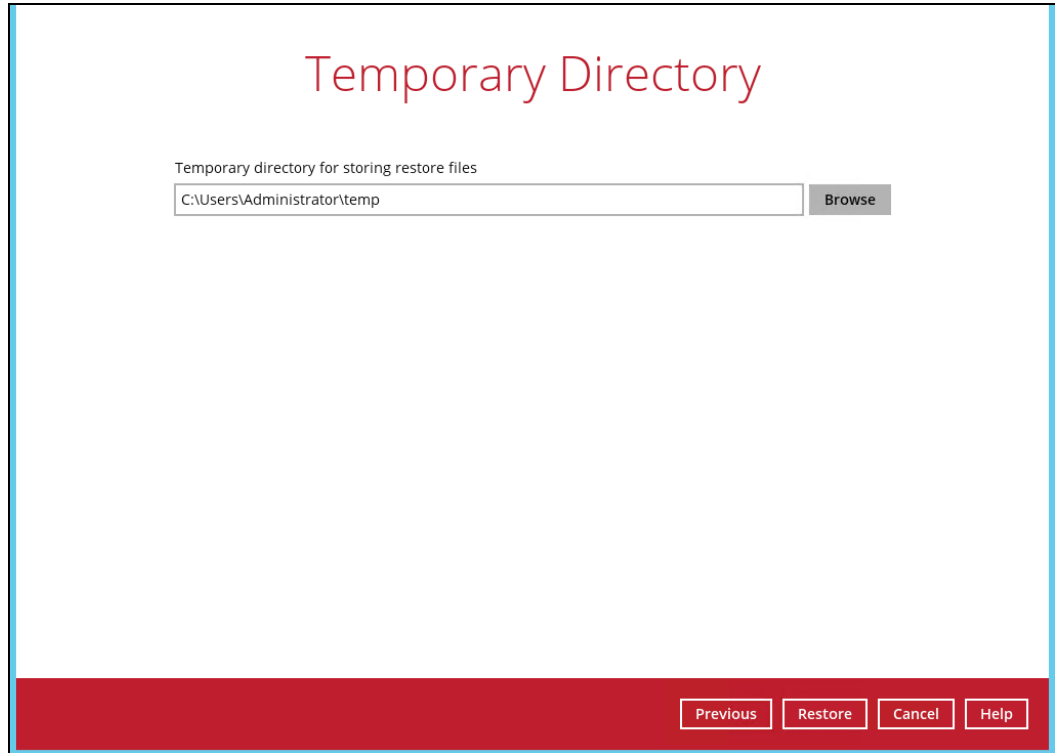
☐ Verify checksum of in-file delta files during restore

[Hide advanced option](#)

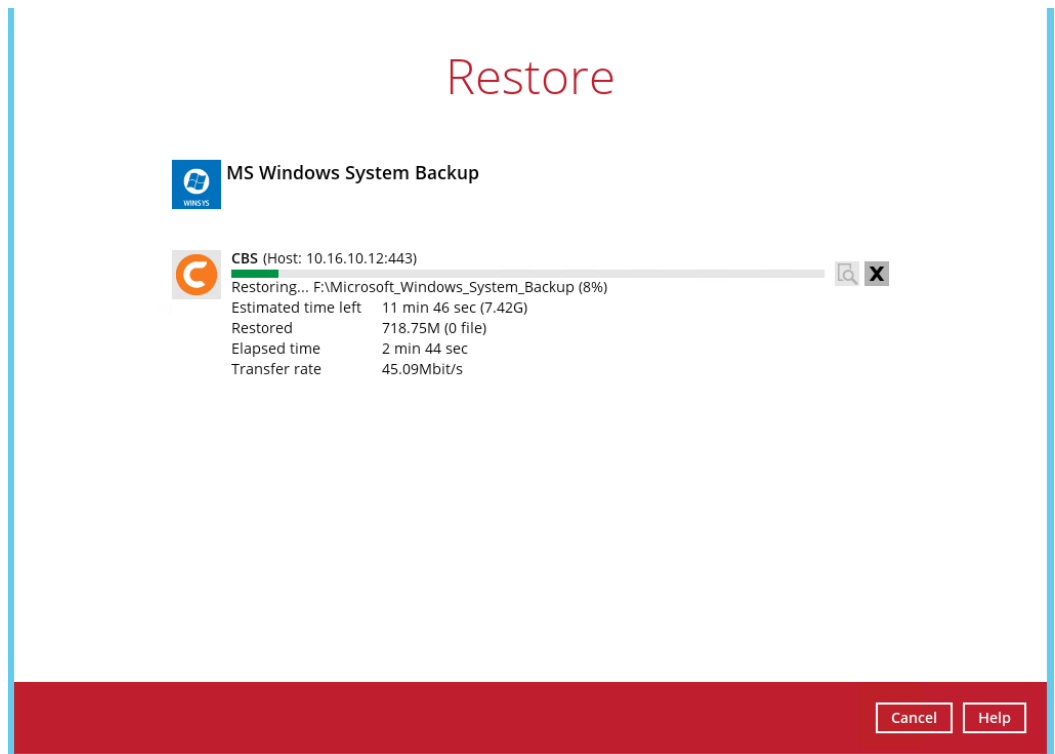
🔍 Verify checksum of in-file delta files during restore

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.



9. The following screen is displayed when the system image files are restored successfully.

Restore

**MS Windows System Backup**



CBS (Host: 10.16.10.12:443)
✓ Restore Completed Successfully
Estimated time left 0 sec
Restored 8.12G (1 file)
Elapsed time 17 min 12 sec
Transfer rate 67.64Mbit/s



Close

Help

Show All

Type	Log	Time
	Start [Windows Server 2012 R2 (w2k16R2-std), AhsayOBM v8.1.0.24]	01/29/2019 11:29:57
	Initializing decrypt action...	01/29/2019 11:29:57
	Initializing decrypt action... Completed	01/29/2019 11:29:57
	Creating new directory... "F:\w2k16R2-std"	01/29/2019 11:29:57
	Downloading in-file delta backup file... "F:\Microsoft_Windows_System_Backup" (Total 16.55G bytes)	01/29/2019 11:29:57
	Downloading... "F:\WindowsImageBackup\w2k16R2-std" (Total 0 bytes)	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..." (Total 0 bytes)	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59
	Downloading... "F:\WindowsImageBackup\w2k16R2-std\Backup 2019-01-29 022952\0bb236ab-5170-4d91-b53b-ff047859..."	01/29/2019 11:29:59

Logs per page 50

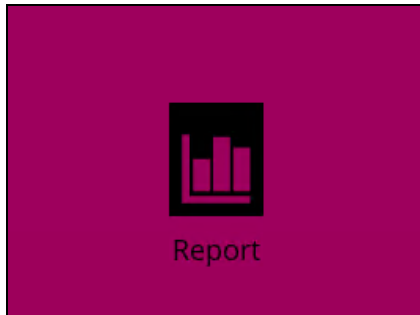
Page 1 / 1

Close

Close

Close

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.

A screenshot of the "Restore Report" interface. On the left is a sidebar with the heading "Report" and three menu items: "Backup", "Restore" (which is highlighted with a dark blue bar), and "Usage". The main area is titled "Restore Report" and contains a date range selector with "From" and "To" fields, each with day, month, and year dropdowns, and a "Go" button. Below this is a table with columns "Backup set", "Destination", "Job", and "Status". One row is visible with icons for "IMS Windows S..." and "CBS", the job name "Today 11:29", and the status "Completed". At the bottom of the main area are "No. of records per page" (set to 50) and "Page" (1 / 1) dropdowns. A dark blue footer bar at the very bottom contains "Close" and "Help" buttons.

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

Report

- Backup
- Restore
- Usage

Restore Report

From				To				
	01	Jan	2019		03	Jan	2019	Go

Backup set	Destination	Job	Status

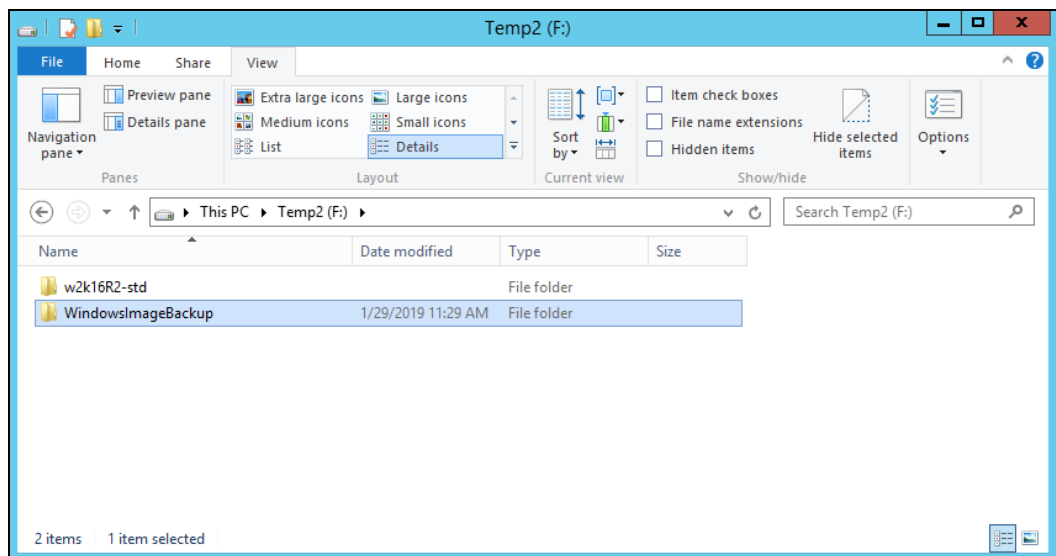
No records found

No. of records per page 50

Page -

Close Help

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 MediaId, 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:

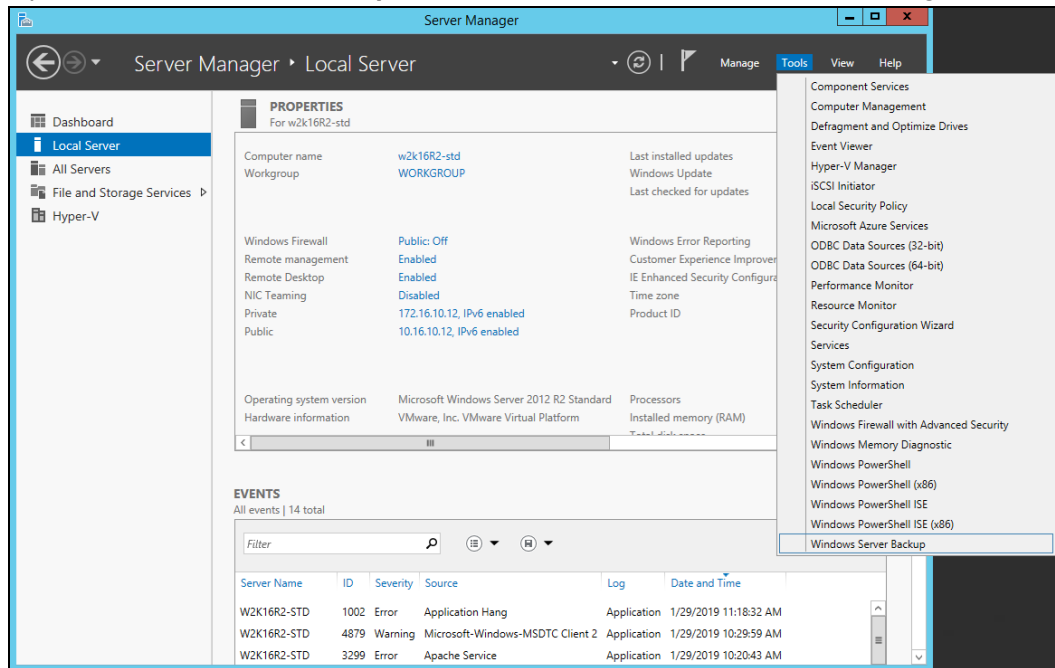
- ▶ [Recover Files and Folders](#)
- ▶ [Recover Application and Data](#)
- ▶ [Recover Volumes](#)
- ▶ [Recover the Operating System or Full System](#)
- ▶ [Recover the Full System \(Non-Server Platforms\)](#)

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

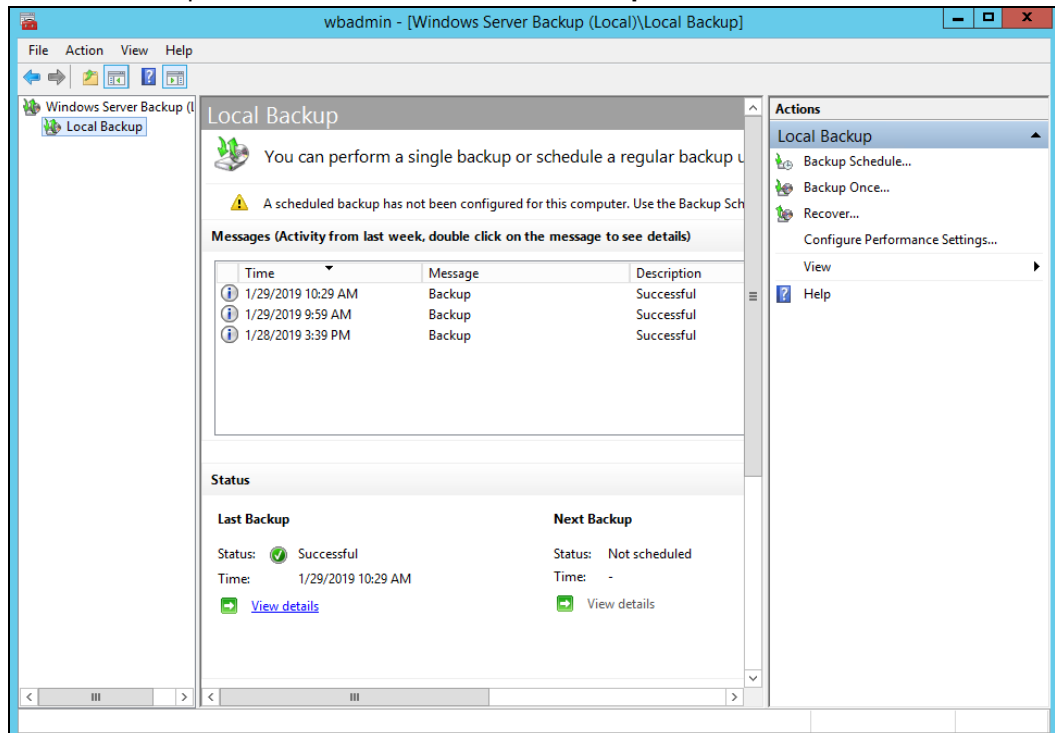
8.3.1 Recover Files and Folders

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

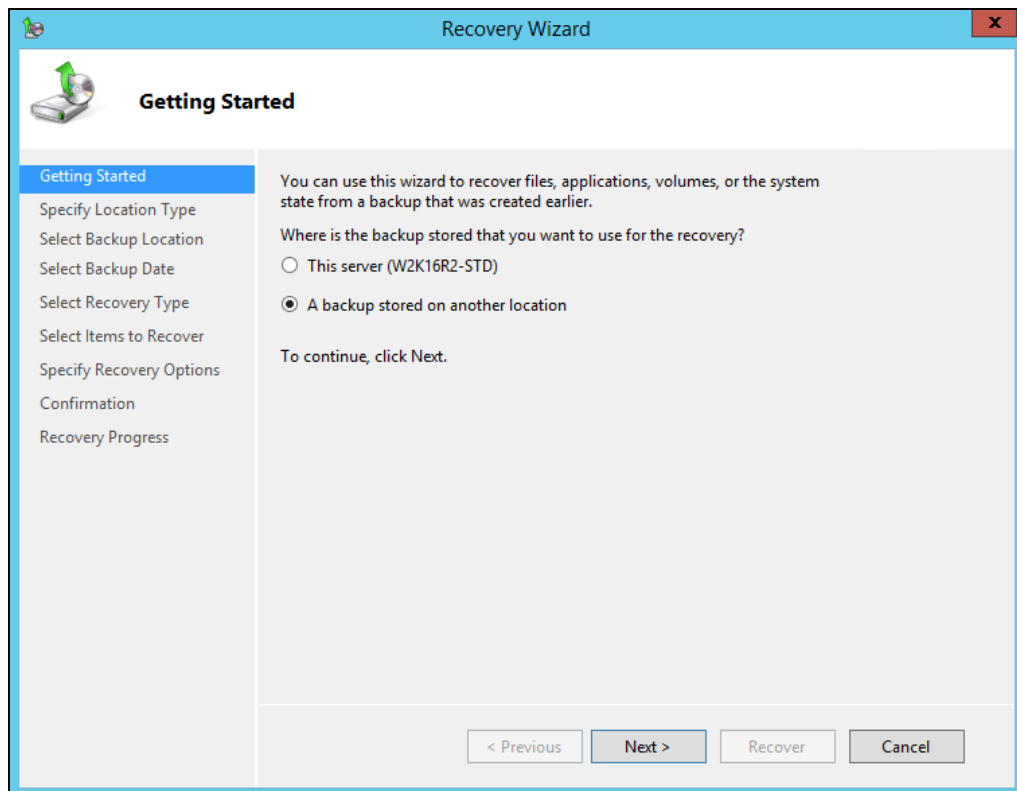
1. Open **Windows Server Backup** from **Administrative Tools** or **Server Manager**.



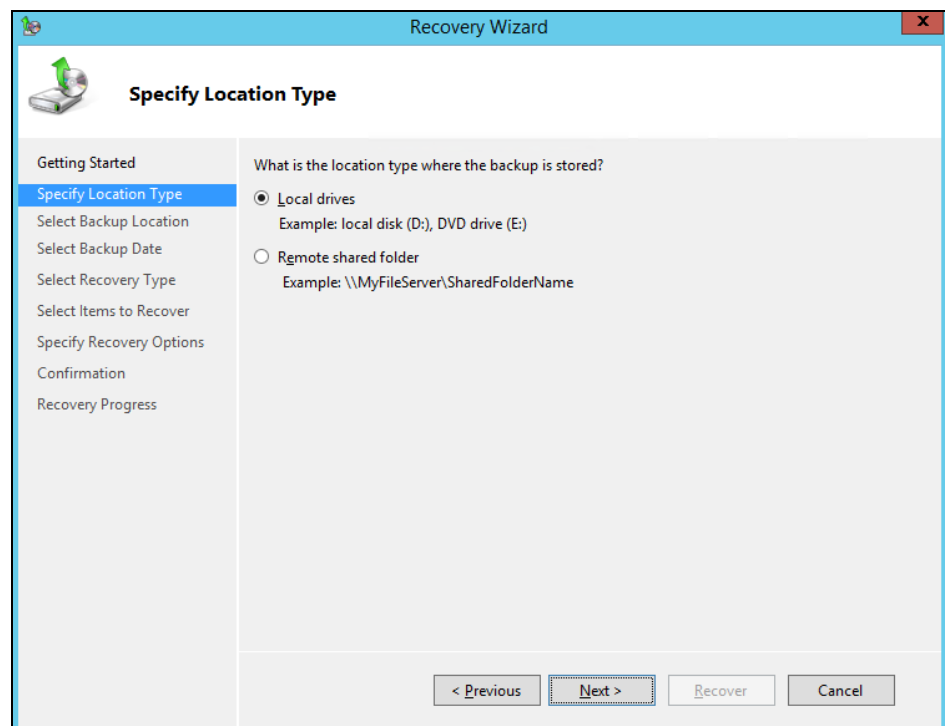
2. In the **Actions** panel under **Windows Server Backup**, click **Recover...**



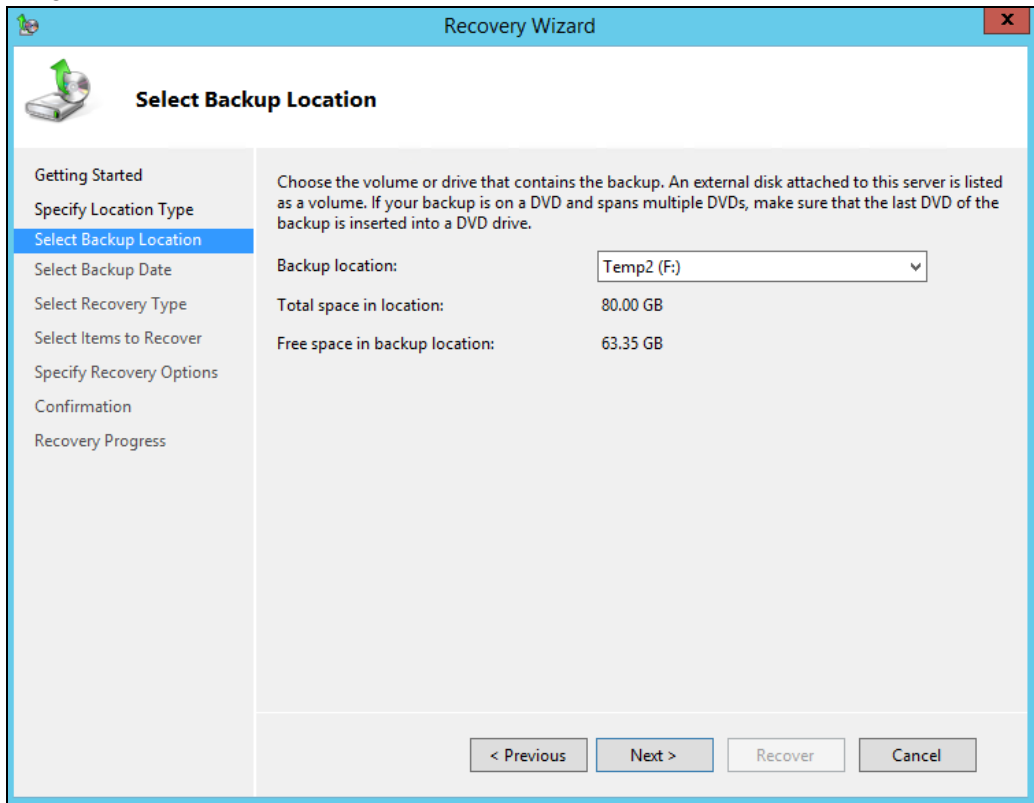
- On the **Getting Started** page, select **A backup stored on another location**, then click **Next**.



- 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.



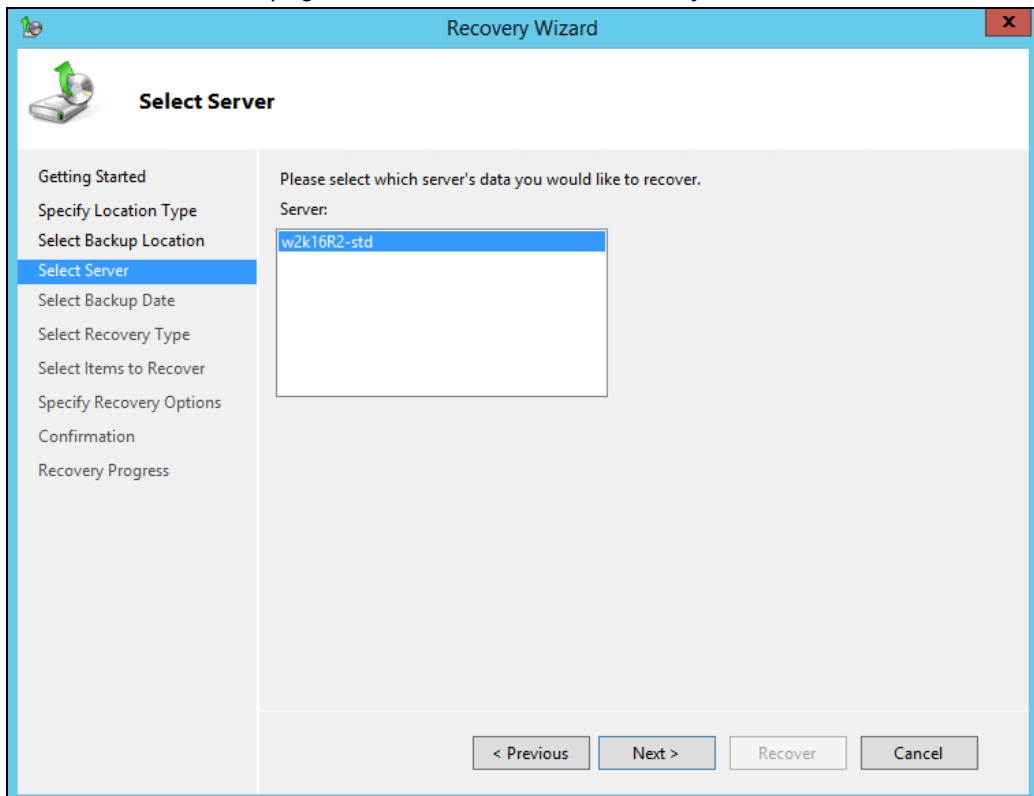
5. On the **Select Backup Location** page, select the volume that contains the system image file.



The screenshot shows the 'Recovery Wizard' window with the 'Select Backup Location' page selected in the left-hand navigation pane. The main area contains instructions: 'Choose the volume or drive that contains the backup. An external disk attached to this server is listed as a volume. If your backup is on a DVD and spans multiple DVDs, make sure that the last DVD of the backup is inserted into a DVD drive.' Below this, there is a 'Backup location:' dropdown menu set to 'Temp2 (F:)', and two lines of information: 'Total space in location: 80.00 GB' and 'Free space in backup location: 63.35 GB'. At the bottom, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

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.



The screenshot shows the 'Recovery Wizard' window with the 'Select Server' page selected in the left-hand navigation pane. The main area contains the instruction: 'Please select which server's data you would like to recover.' Below this, there is a 'Server:' label and a list box containing the server name 'w2k16R2-std'. At the bottom, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

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

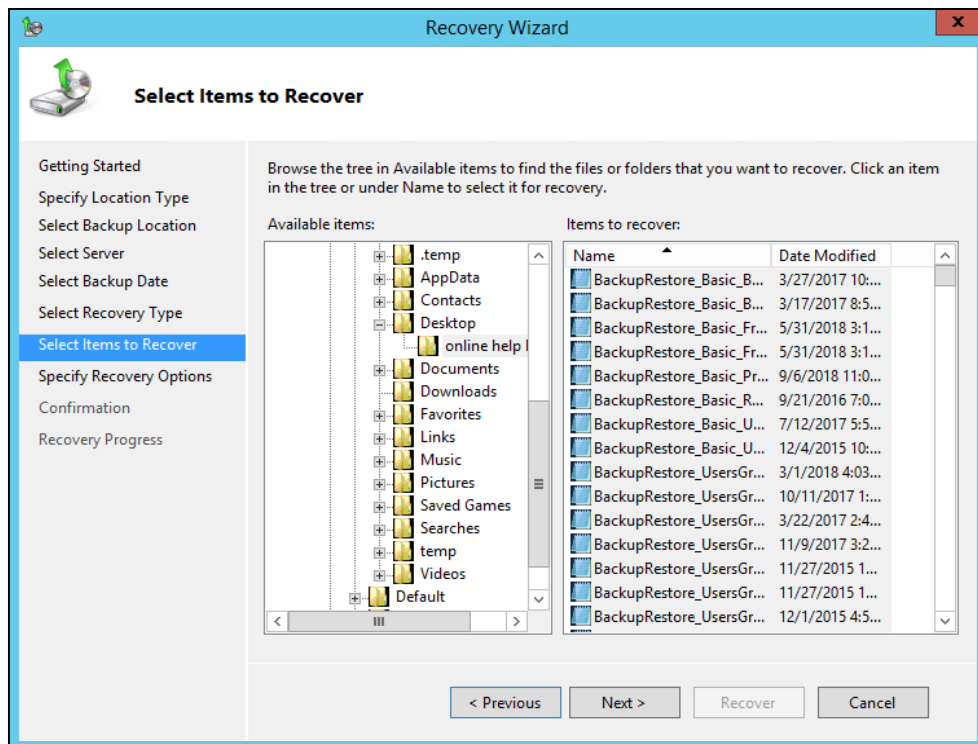
The screenshot shows the 'Select Backup Date' page of the Recovery Wizard. The left sidebar contains a list of steps: Getting Started, Specify Location Type, Select Backup Location, Select Server, **Select Backup Date** (highlighted), Select Recovery Type, Select Items to Recover, Specify Recovery Options, Confirmation, and Recovery Progress. The main area displays backup information: 'Oldest available backup: 1/29/2019 10:29 AM' and 'Newest available backup: 1/29/2019 10:29 AM'. Below this, a section titled 'Available backups' instructs to 'Select the date of a backup to use for recovery. Backups are available for dates shown in bold.' A calendar for January 2019 is shown, with the 29th highlighted in bold. To the right of the calendar, the 'Backup date' is set to '1/29/2019' and the 'Time' is set to '10:29 AM'. The 'Recoverable items' section shows a link for 'Bare metal recover...'. At the bottom, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

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

The screenshot shows the 'Select Recovery Type' page of the Recovery Wizard. The left sidebar contains a list of steps: Getting Started, Specify Location Type, Select Backup Location, Select Server, Select Backup Date, **Select Recovery Type** (highlighted), Select Items to Recover, Specify Recovery Options, Confirmation, and Recovery Progress. The main area is titled 'What do you want to recover?' and lists four options with radio buttons:
• **Files and folders**: You can browse volumes included in this backup and select files and folders.
• Hyper-V: You can restore virtual machines to their original location, another location or copy the virtual hard disk files of a virtual machine.
• Volumes: You can restore an entire volume, such as all data stored on C:.
• Applications: You can recover applications that have registered with Windows Server Backup.
• System state: You can restore just the system state.
At the bottom, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

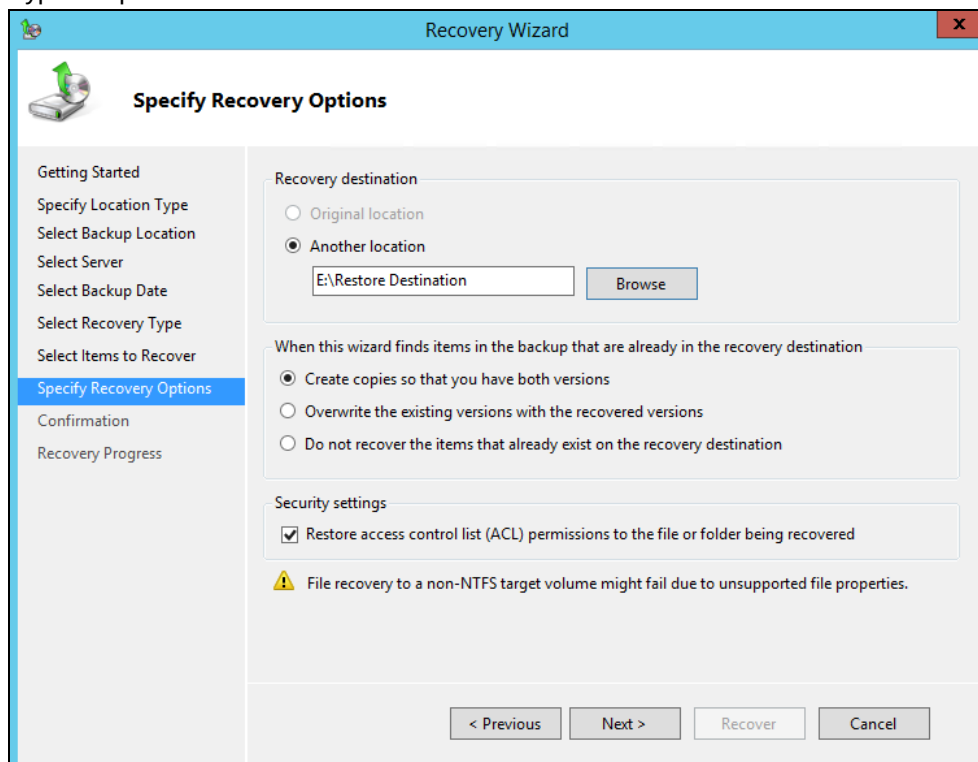
- On the **Select Items to Recover** page, under **Available items**, expand the list until the folder you want is visible.

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**.

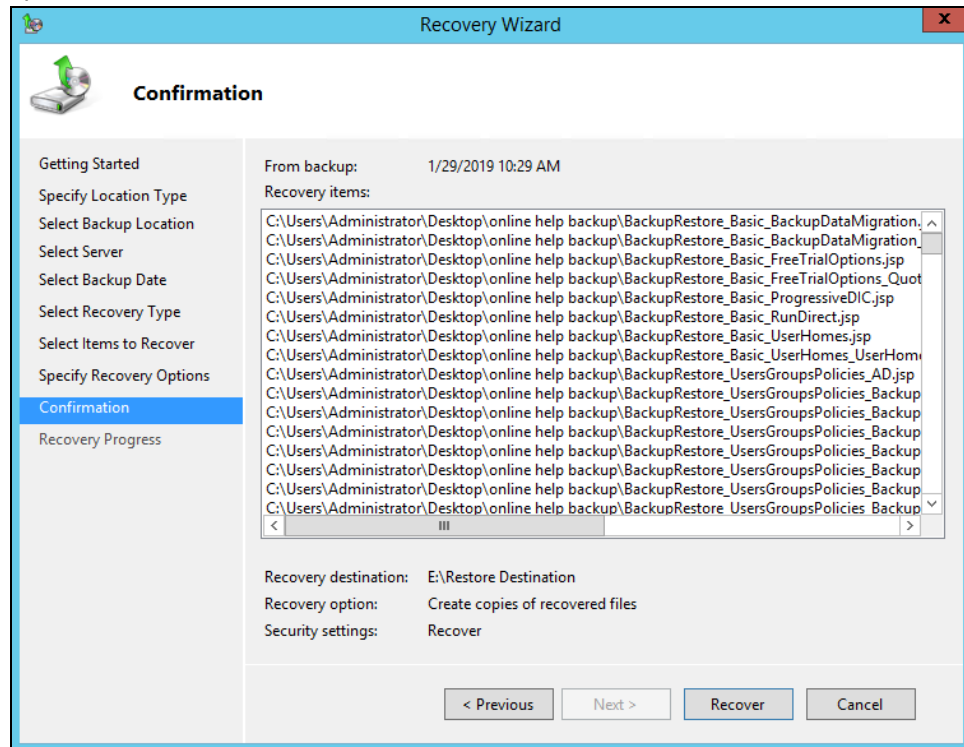
Type the path to the location or click **Browse** to select it.



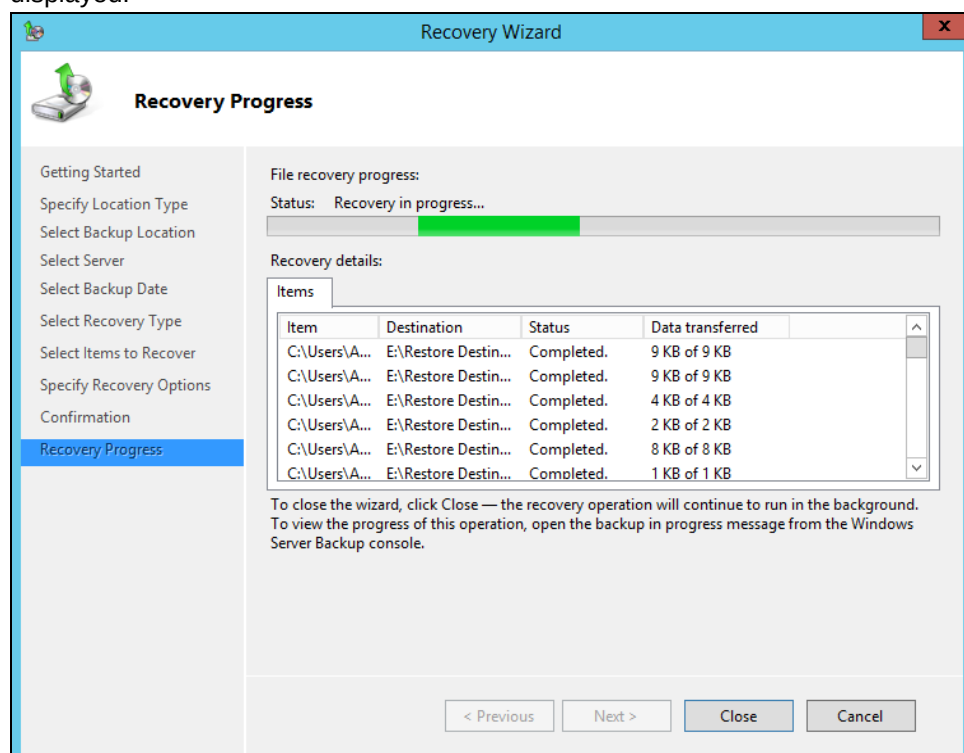
Modify the **When this wizard finds items in the backup that are already in the recovery destination** setting, and the **Security settings** if necessary.

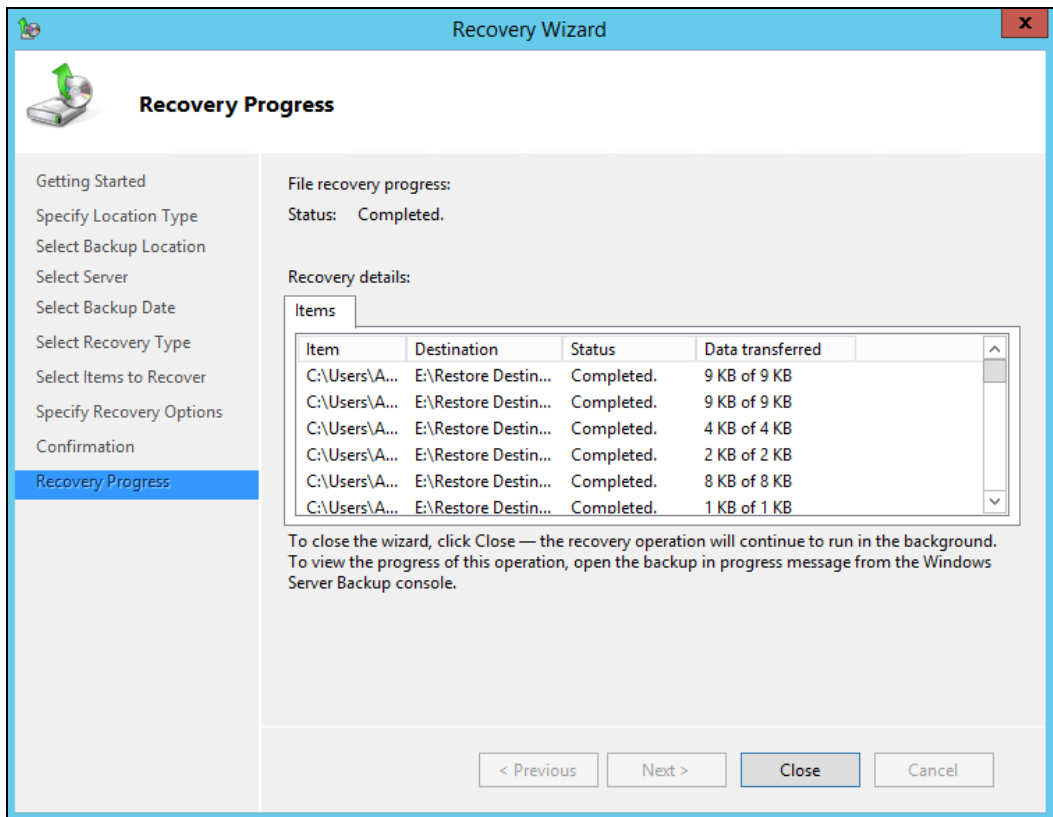
Click **Next** to proceed.

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



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

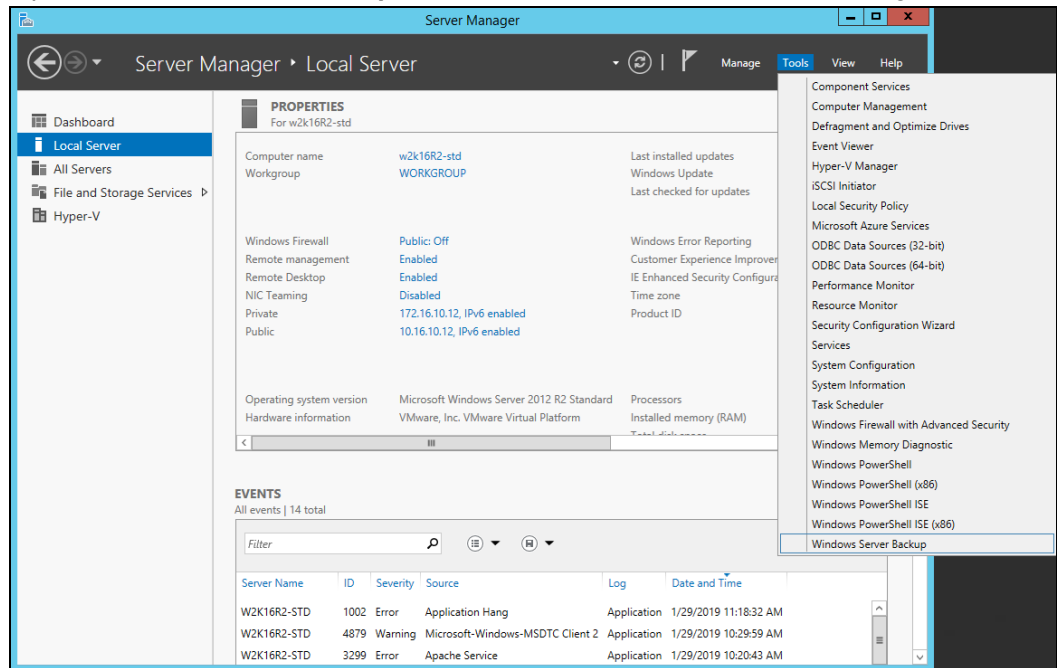




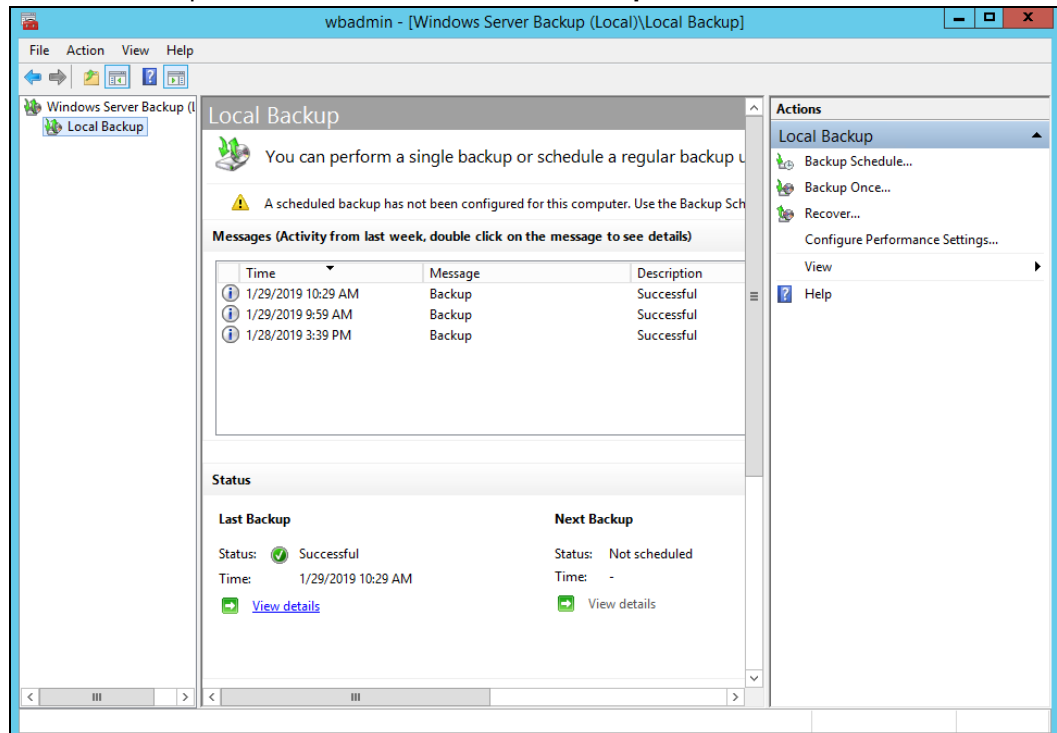
8.3.2 Recover Applications and Data

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

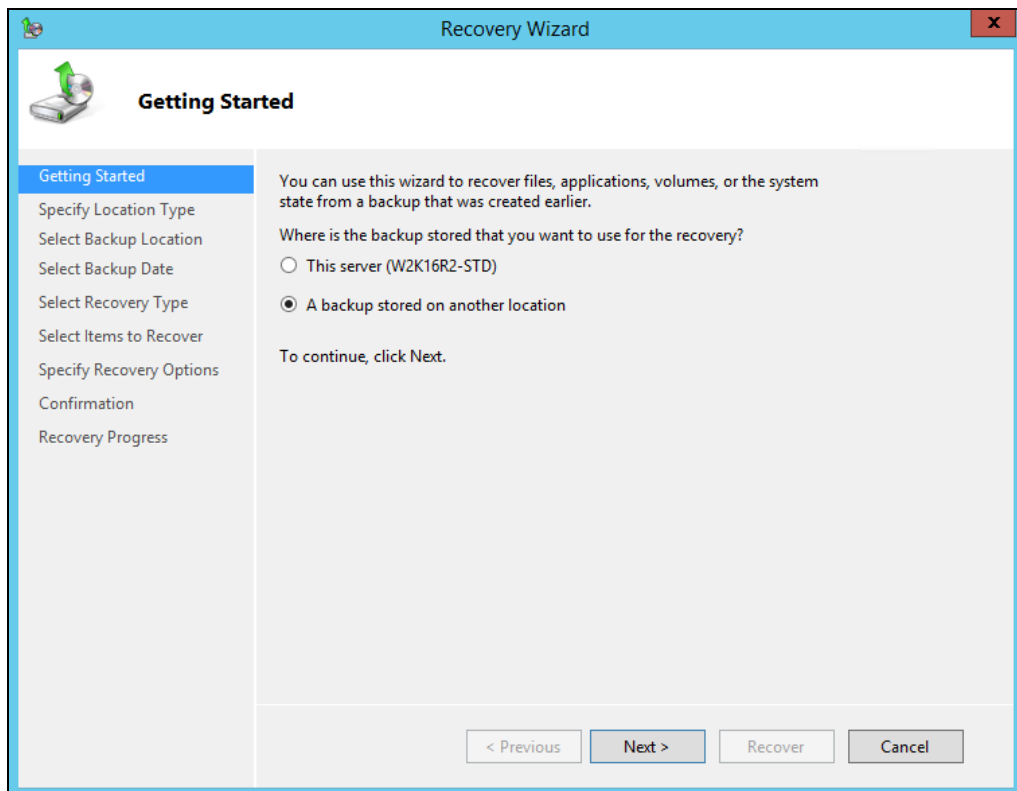
1. Open **Windows Server Backup** from Administrative Tools or Server Manager.



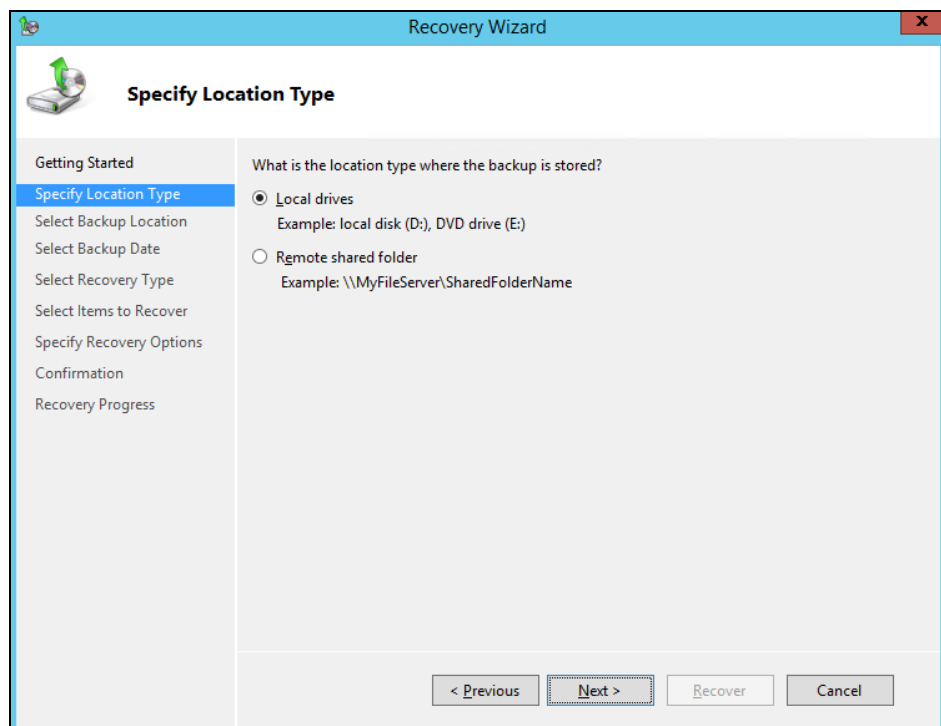
2. In the **Actions** panel under **Windows Server Backup**, click **Recover...**



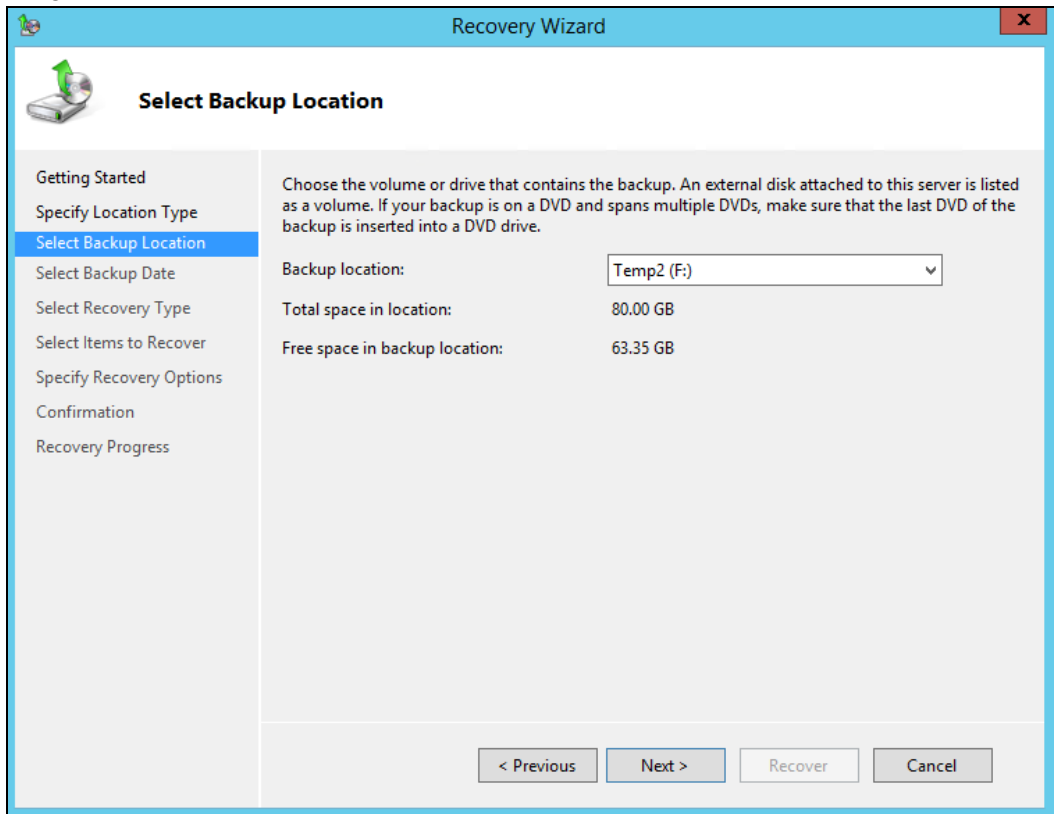
- On the **Getting Started** page, select **A backup stored on another location**, then click **Next**.



- 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.



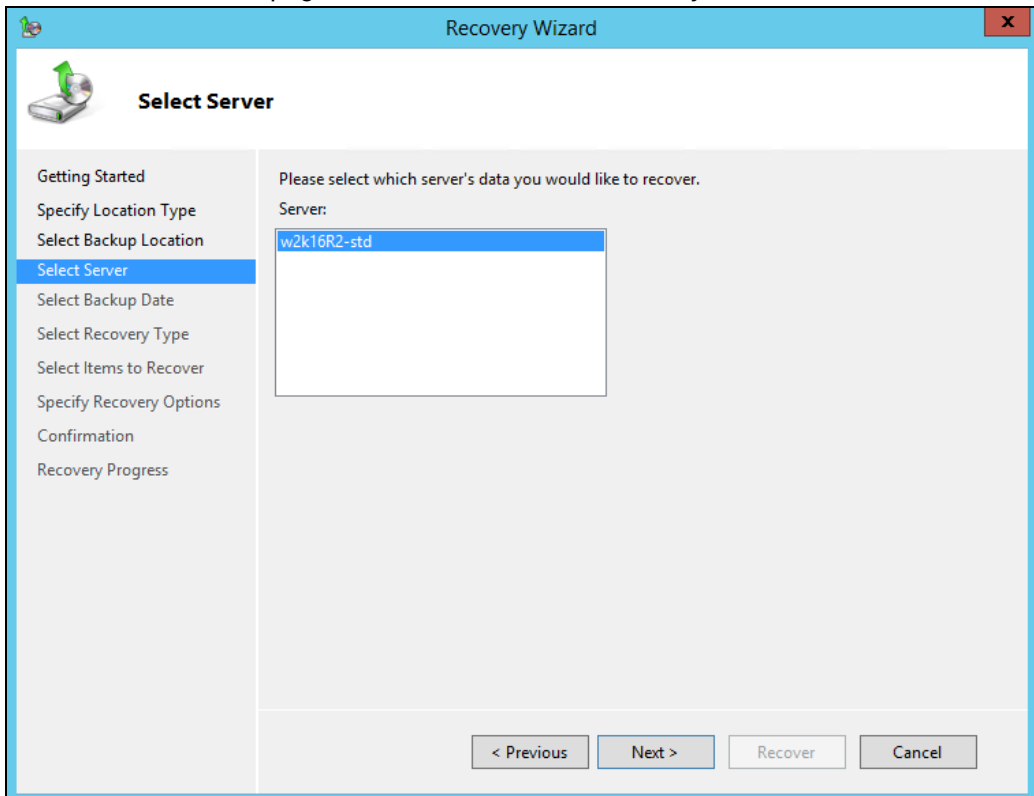
5. On the **Select Backup Location** page, select the volume that contains the system image file.



The screenshot shows the 'Recovery Wizard' window with the 'Select Backup Location' page active. The left sidebar contains a list of steps: 'Getting Started', 'Specify Location Type', 'Select Backup Location' (highlighted), 'Select Backup Date', 'Select Recovery Type', 'Select Items to Recover', 'Specify Recovery Options', 'Confirmation', and 'Recovery Progress'. The main area has a title bar with a green arrow icon and the text 'Select Backup Location'. Below the title bar, there is a descriptive text: 'Choose the volume or drive that contains the backup. An external disk attached to this server is listed as a volume. If your backup is on a DVD and spans multiple DVDs, make sure that the last DVD of the backup is inserted into a DVD drive.' Below this text, there are three fields: 'Backup location:' with a dropdown menu showing 'Temp2 (F:)', 'Total space in location:' with the value '80.00 GB', and 'Free space in backup location:' with the value '63.35 GB'. At the bottom right, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

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.



The screenshot shows the 'Recovery Wizard' window with the 'Select Server' page active. The left sidebar contains a list of steps: 'Getting Started', 'Specify Location Type', 'Select Backup Location', 'Select Server' (highlighted), 'Select Backup Date', 'Select Recovery Type', 'Select Items to Recover', 'Specify Recovery Options', 'Confirmation', and 'Recovery Progress'. The main area has a title bar with a green arrow icon and the text 'Select Server'. Below the title bar, there is a descriptive text: 'Please select which server's data you would like to recover.' Below this text, there is a label 'Server:' followed by a list box containing the text 'w2k16R2-std'. At the bottom right, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

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

The screenshot shows the 'Select Backup Date' page of the Recovery Wizard. The left sidebar contains a list of steps: Getting Started, Specify Location Type, Select Backup Location, Select Server, **Select Backup Date** (highlighted), Select Recovery Type, Select Items to Recover, Specify Recovery Options, Confirmation, and Recovery Progress. The main area displays the following information:

- Oldest available backup: 1/29/2019 10:29 AM
- Newest available backup: 1/29/2019 10:29 AM
- Available backups: Select the date of a backup to use for recovery. Backups are available for dates shown in bold.

A calendar for January 2019 is shown, with the date 29 highlighted. To the right of the calendar, the 'Backup date' is set to 1/29/2019, and the 'Time' is set to 10:29 AM. Below the calendar, the 'Recoverable items' are listed as [Bare metal recover...](#). At the bottom, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

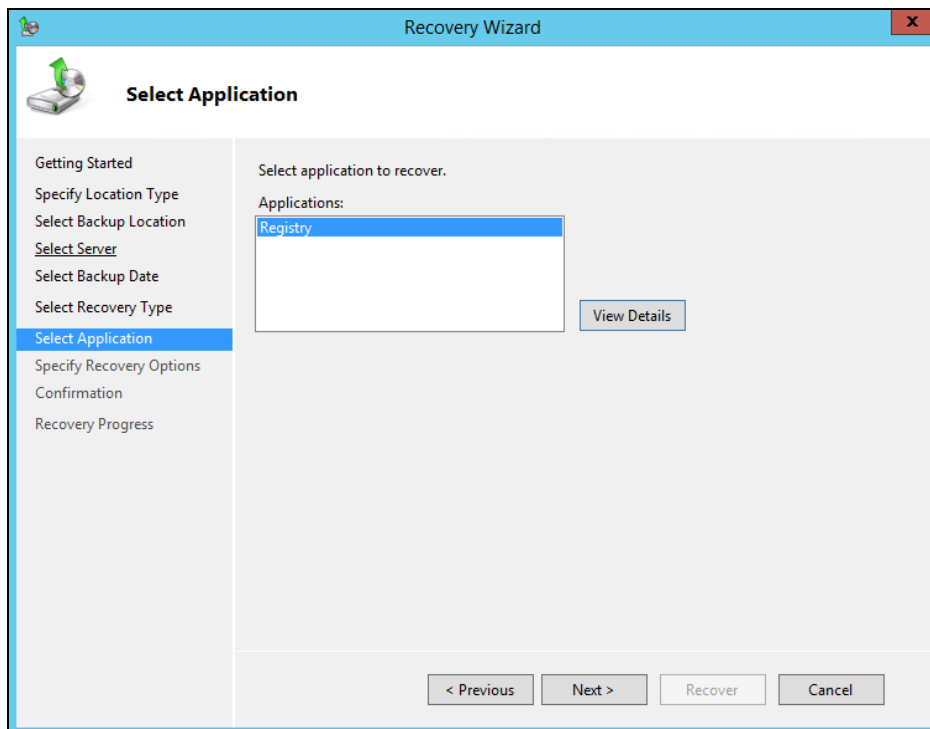
8. On the **Select Recovery Type** page, click **Applications**, and then click **Next**.

The screenshot shows the 'Select Recovery Type' page of the Recovery Wizard. The left sidebar contains a list of steps: Getting Started, Specify Location Type, Select Backup Location, Select Server, Select Backup Date, **Select Recovery Type** (highlighted), Select Application, Specify Recovery Options, Confirmation, and Recovery Progress. The main area displays the following information:

- What do you want to recover?
- ☐ Files and folders: You can browse volumes included in this backup and select files and folders.
- ☐ Hyper-V: You can restore virtual machines to their original location, another location or copy the virtual hard disk files of a virtual machine.
- ☐ Volumes: You can restore an entire volume, such as all data stored on C:.
- ☒ **Applications**: You can recover applications that have registered with Windows Server Backup.
- ☐ System state: You can restore just the system state.

At the bottom, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

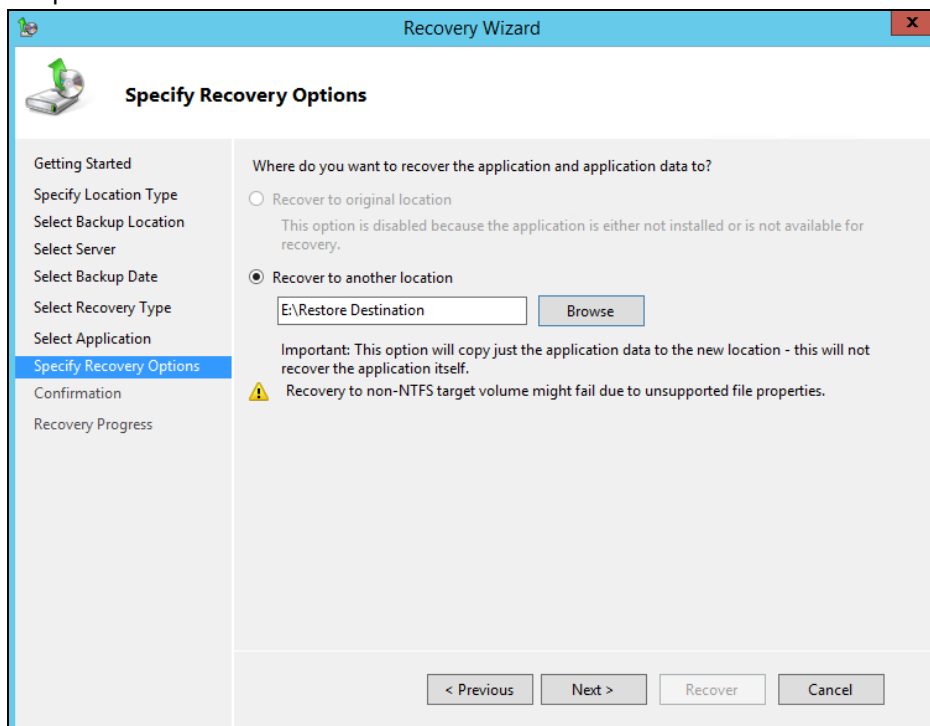
9. On the **Select Application** page, under **Applications**, click the application that you want to recover.



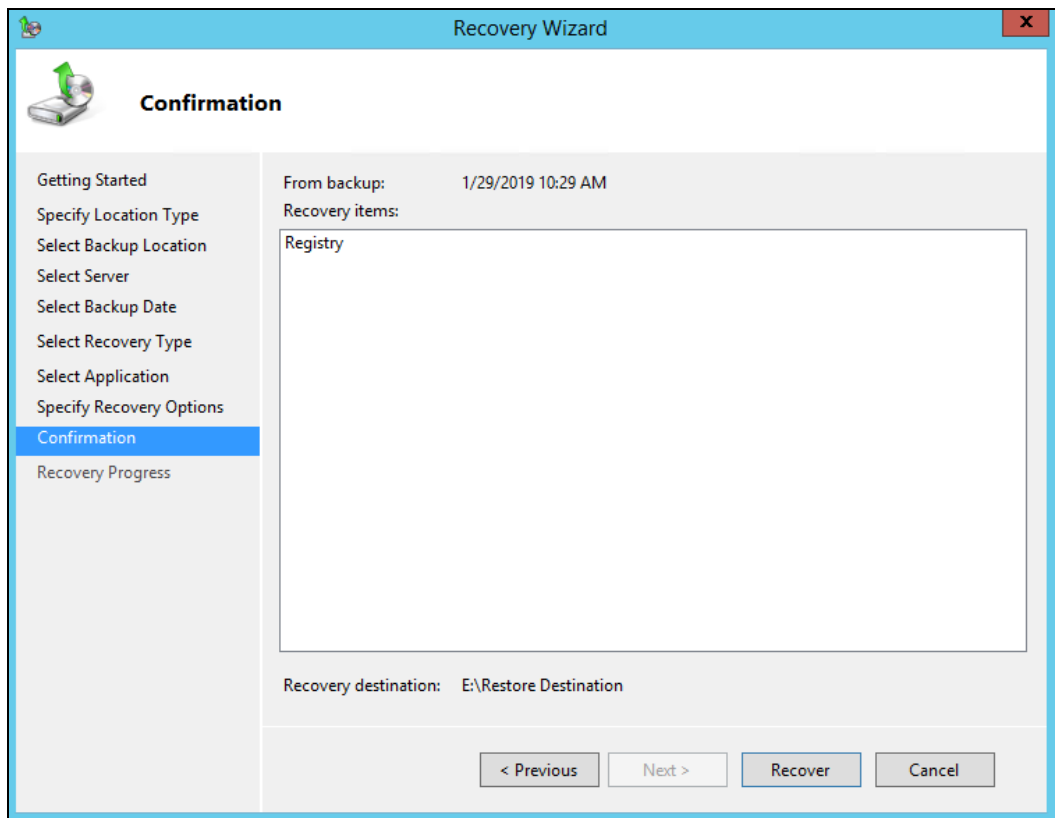
Note: If the backup that you are using is the most recent and the application you are recovering supports a "roll-forward" of the application database, you will see a check box labeled **Do not perform a roll-forward recovery of the application databases**.

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

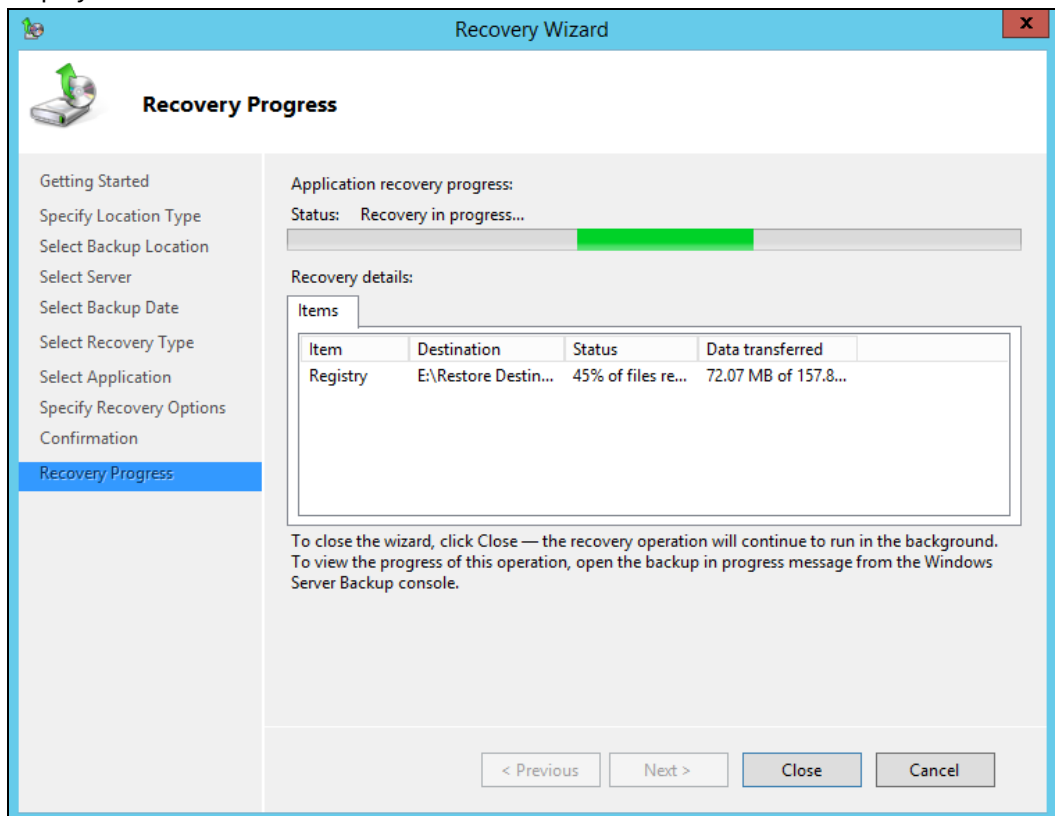
10. On the **Specify Recovery Options** page, select **Recover to another location**. Type the path to the location or click **Browse** to select it.

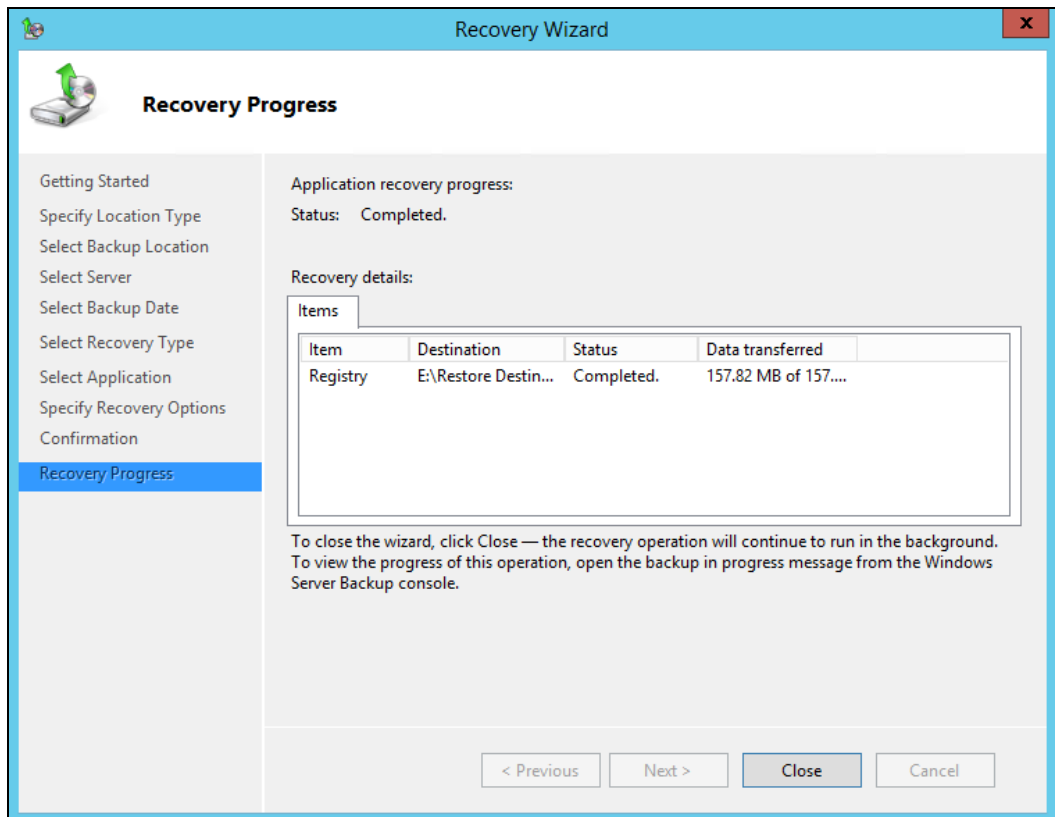


11. On the **Confirmation** page, review the details, and then click **Recover** to restore the listed items.



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

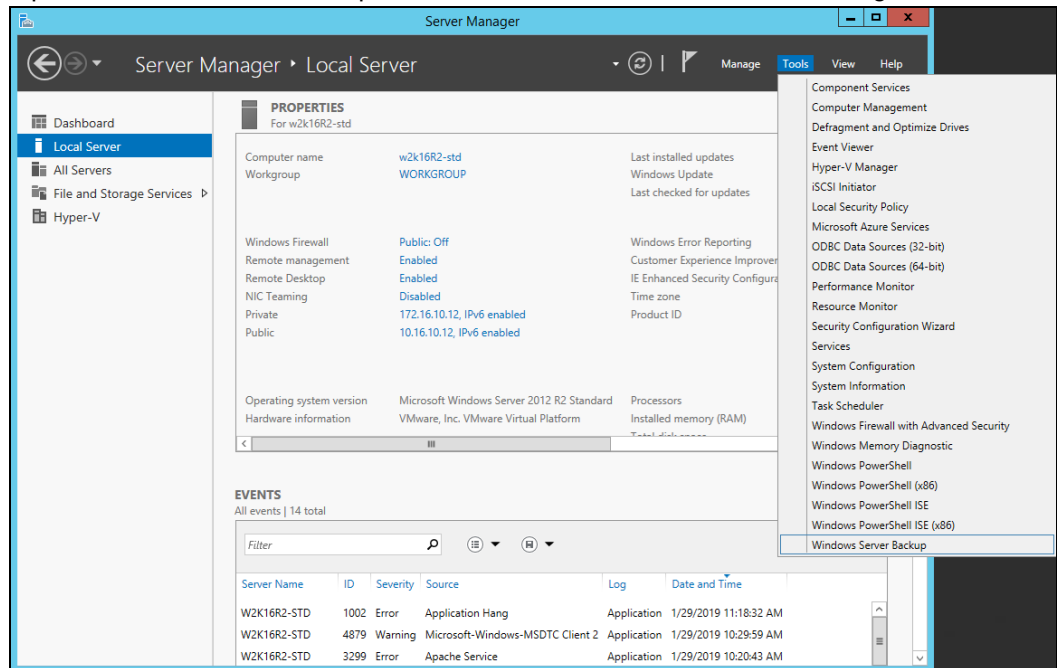




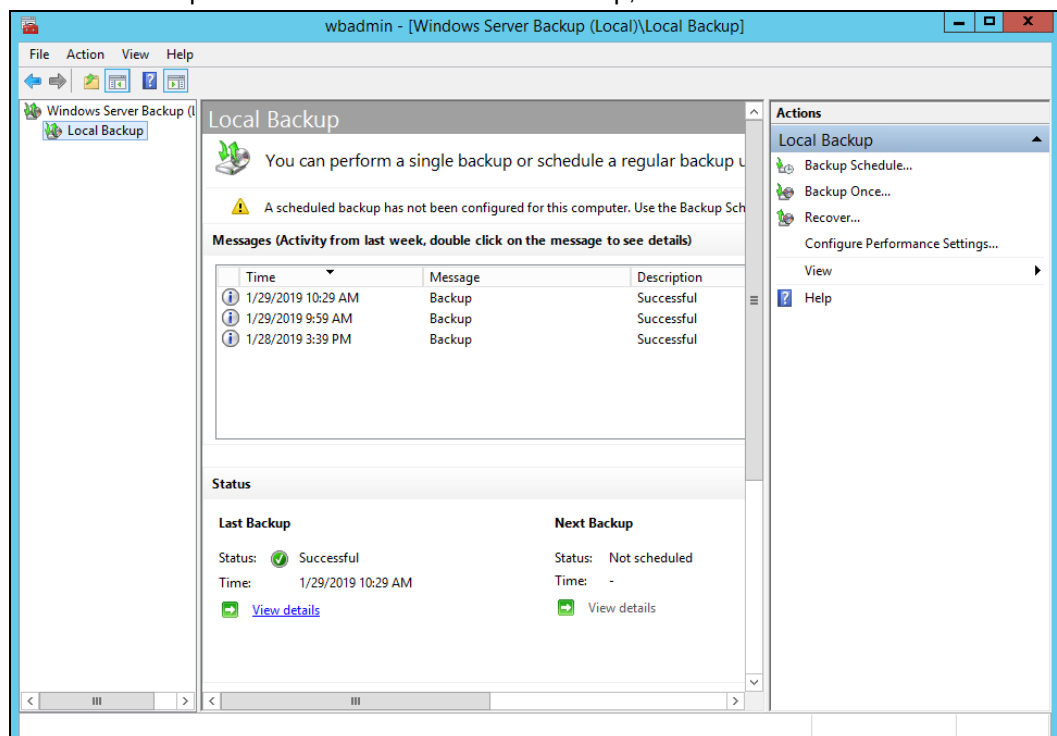
8.3.3 Recover Volumes

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

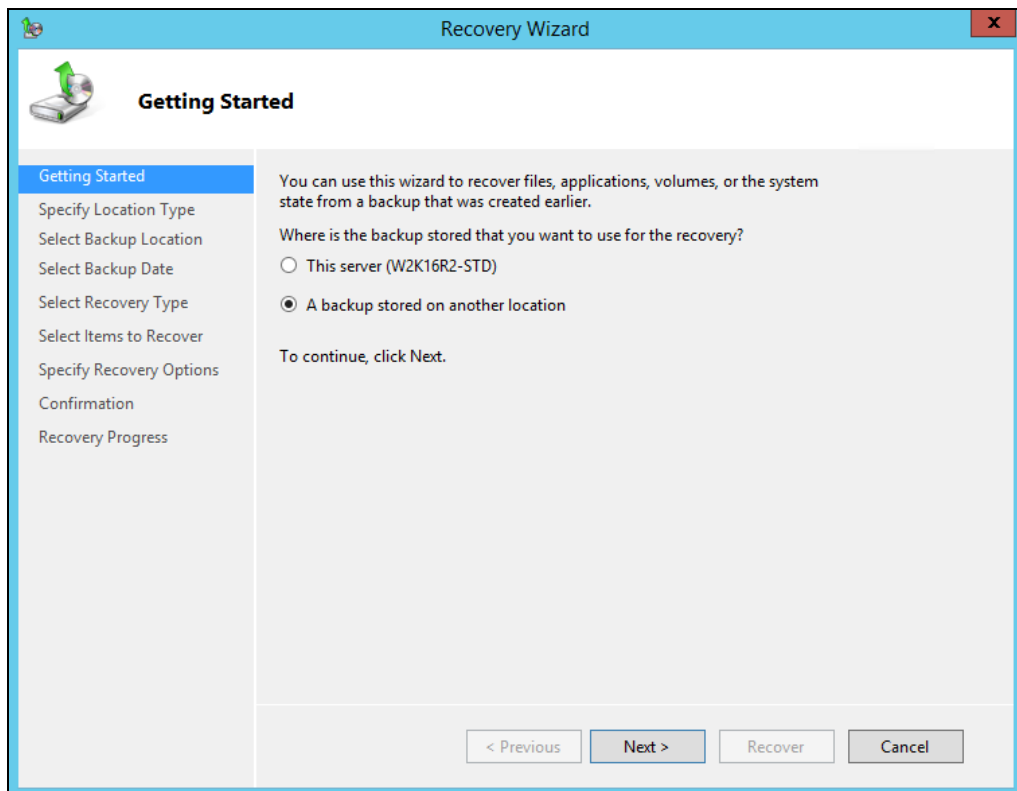
1. Open Windows Server Backup from Administrative Tools or Server Manager.



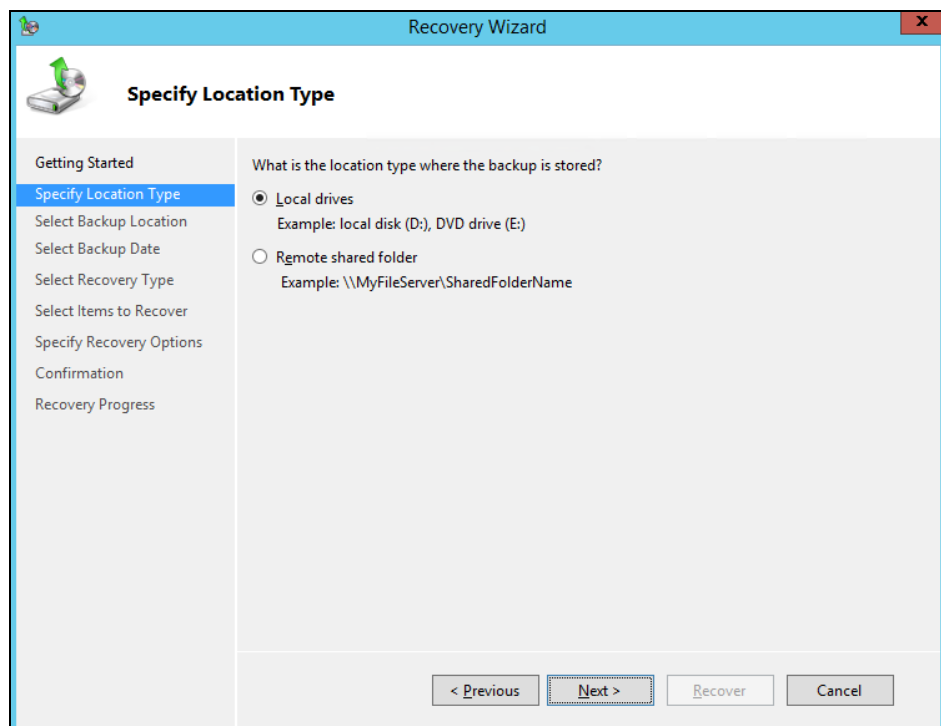
2. In the **Actions** panel under Windows Server Backup, click **Recover**.



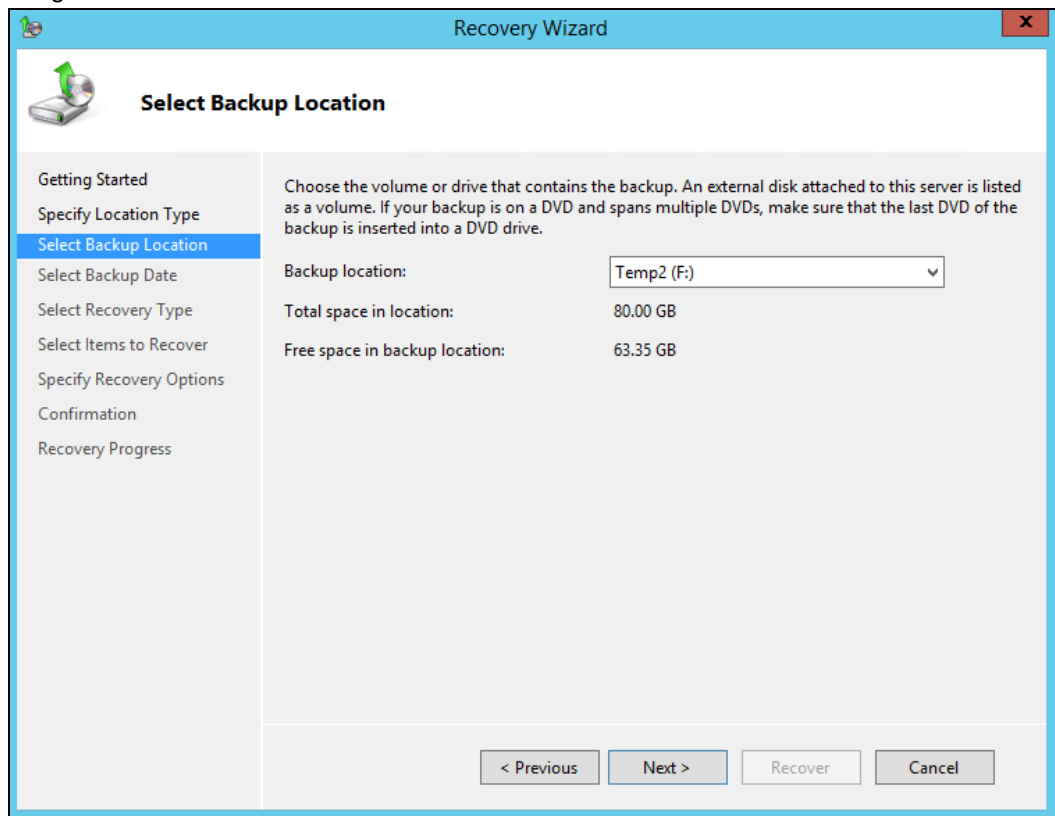
- On the **Getting Started** page, select **A backup stored on another location**, then click **Next**.



- 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.



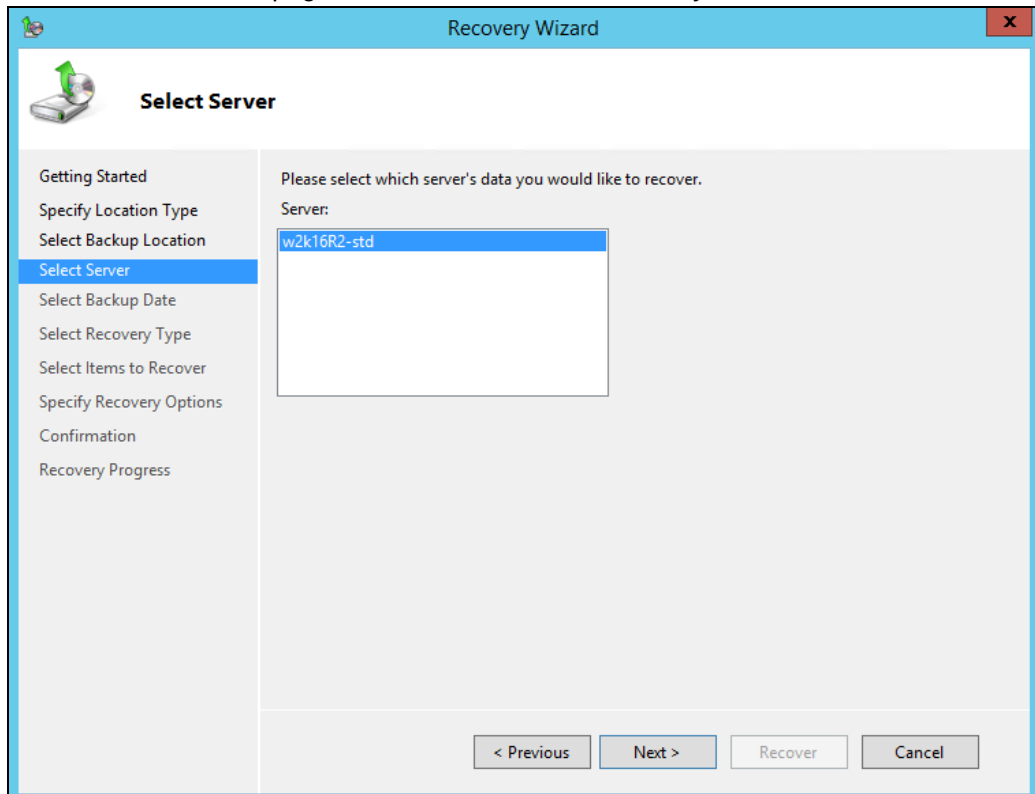
5. On the **Select Backup Location** page, select the volume that contains the system image file.



The screenshot shows the 'Recovery Wizard' window with the 'Select Backup Location' step selected in the left-hand navigation pane. The main area contains instructions: 'Choose the volume or drive that contains the backup. An external disk attached to this server is listed as a volume. If your backup is on a DVD and spans multiple DVDs, make sure that the last DVD of the backup is inserted into a DVD drive.' Below this, the 'Backup location:' is set to 'Temp2 (F:)' in a dropdown menu. The 'Total space in location:' is 80.00 GB, and the 'Free space in backup location:' is 63.35 GB. At the bottom, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

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.



The screenshot shows the 'Recovery Wizard' window with the 'Select Server' step selected in the left-hand navigation pane. The main area contains the instruction: 'Please select which server's data you would like to recover.' Below this, the 'Server:' label is followed by a list box containing 'w2k16R2-std', which is currently selected. At the bottom, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

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

The screenshot shows the 'Recovery Wizard' window with the 'Select Backup Date' page selected in the left-hand navigation pane. The main area displays the following information:

- Oldest available backup: 1/29/2019 10:29 AM
- Newest available backup: 1/29/2019 10:29 AM
- Available backups: Select the date of a backup to use for recovery. Backups are available for dates shown in bold.

A calendar for January 2019 is shown, with the date 29 highlighted in bold. To the right of the calendar, the 'Backup date' is set to 1/29/2019, and the 'Time' is set to 10:29 AM. Below the calendar, the 'Recoverable items' are listed as [Bare metal recover...](#).

At the bottom of the window, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

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

The screenshot shows the 'Recovery Wizard' window with the 'Select Recovery Type' page selected in the left-hand navigation pane. The main area displays the following information:

- What do you want to recover?
- ☐ Files and folders
You can browse volumes included in this backup and select files and folders.
- ☐ Hyper-V
You can restore virtual machines to their original location, another location or copy the virtual hard disk files of a virtual machine.
- ☒ Volumes
You can restore an entire volume, such as all data stored on C:.
- ☐ Applications
You can recover applications that have registered with Windows Server Backup.
- ☐ System state
You can restore just the system state.

At the bottom of the window, there are four buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

9. 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.

Recovery Wizard

Select Volumes

Getting Started
Specify Location Type
Select Backup Location
Select Server
Select Backup Date
Select Recovery Type
Select Volumes
Confirmation
Recovery Progress

Under 'Source Volume' select the checkboxes for the volumes that you want to recover.

Under 'Destination Volume' select the location that you want to recover to. Important: All data on this volume will be deleted at the start of the recovery operation. Do not select a volume if it contains data that you need.

Source Volume	Size	Destination Volume	Size	Used Space
☐ System Reserved	0.34 GB			
☒ Local disk (C:)	39.66 GB	Temp1 (E:)		

< Previous Next > Recover Cancel

Recovery Wizard

Select Volumes

Getting Started
Specify Location Type
Select Backup Location
Select Server
Select Backup Date
Select Recovery Type
Select Volumes
Confirmation
Recovery Progress

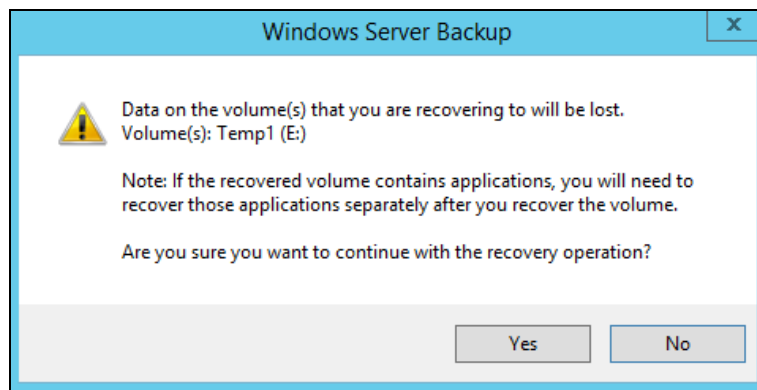
Under 'Source Volume' select the checkboxes for the volumes that you want to recover.

Under 'Destination Volume' select the location that you want to recover to. Important: All data on this volume will be deleted at the start of the recovery operation. Do not select a volume if it contains data that you need.

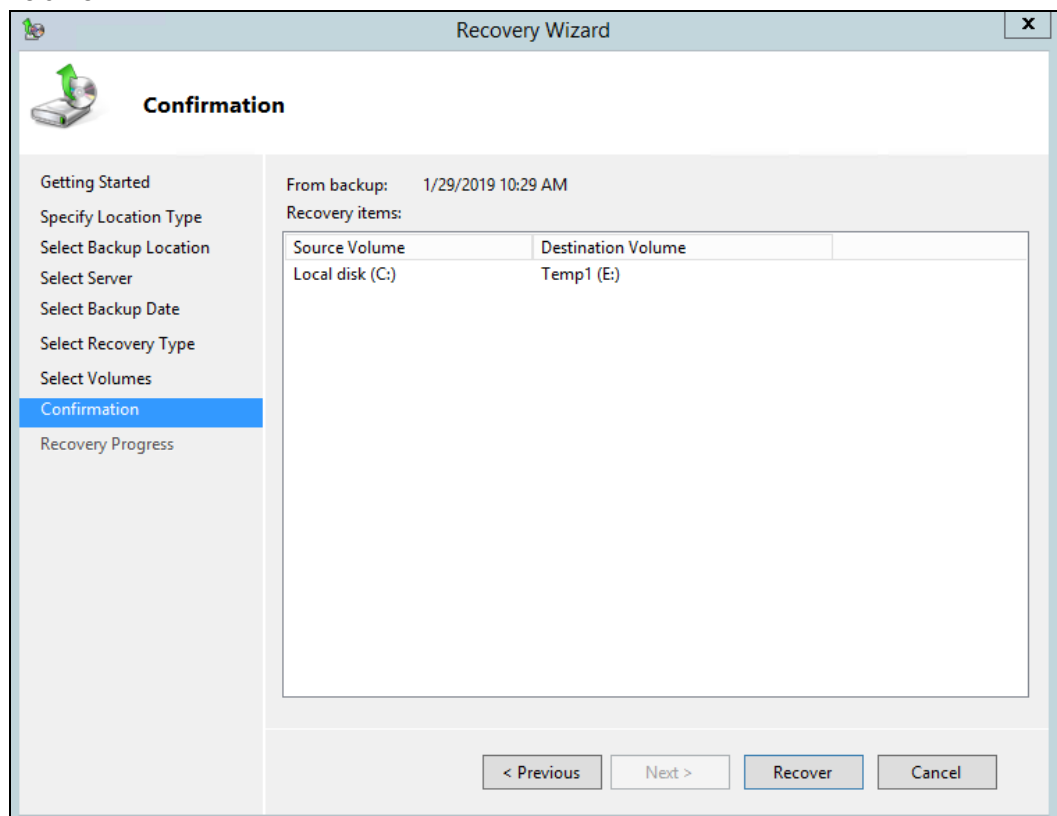
Source Volume	Size	Destination Volume	Size	Used Space
☐ System Reserved	0.34 GB			
☒ Local disk (C:)	39.66 GB	Temp1 (E:)	60.00 GB	681.49 MB

< Previous Next > Recover Cancel

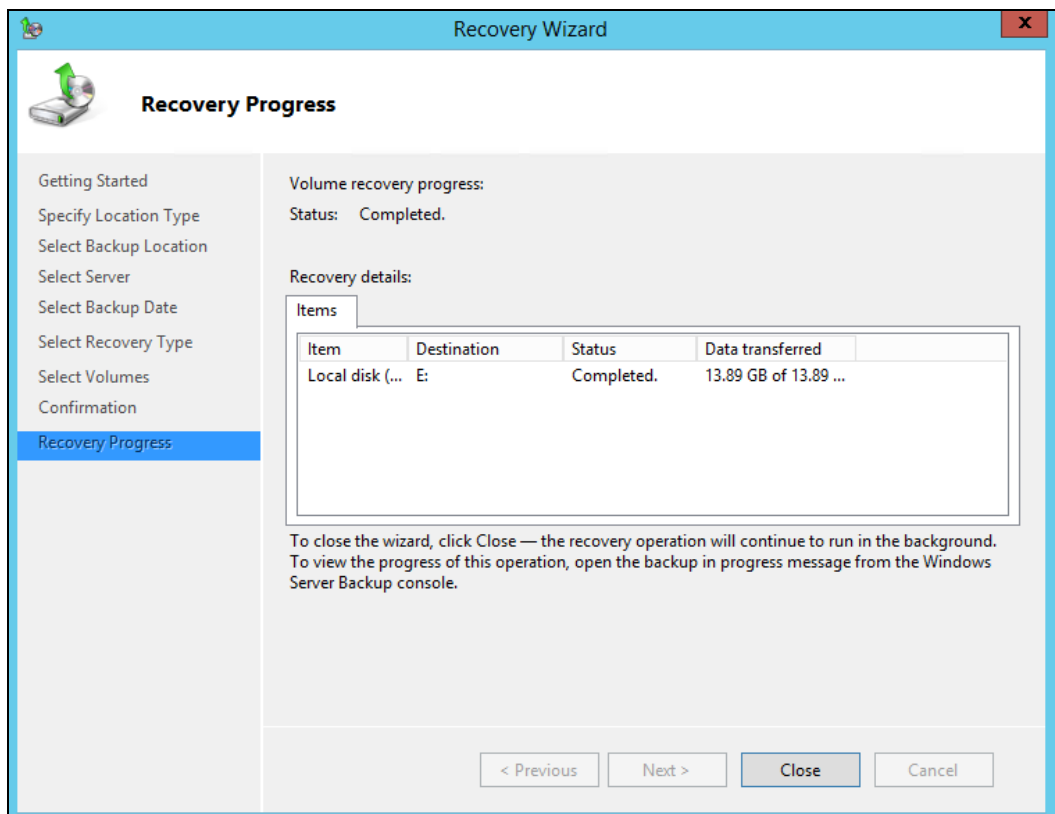
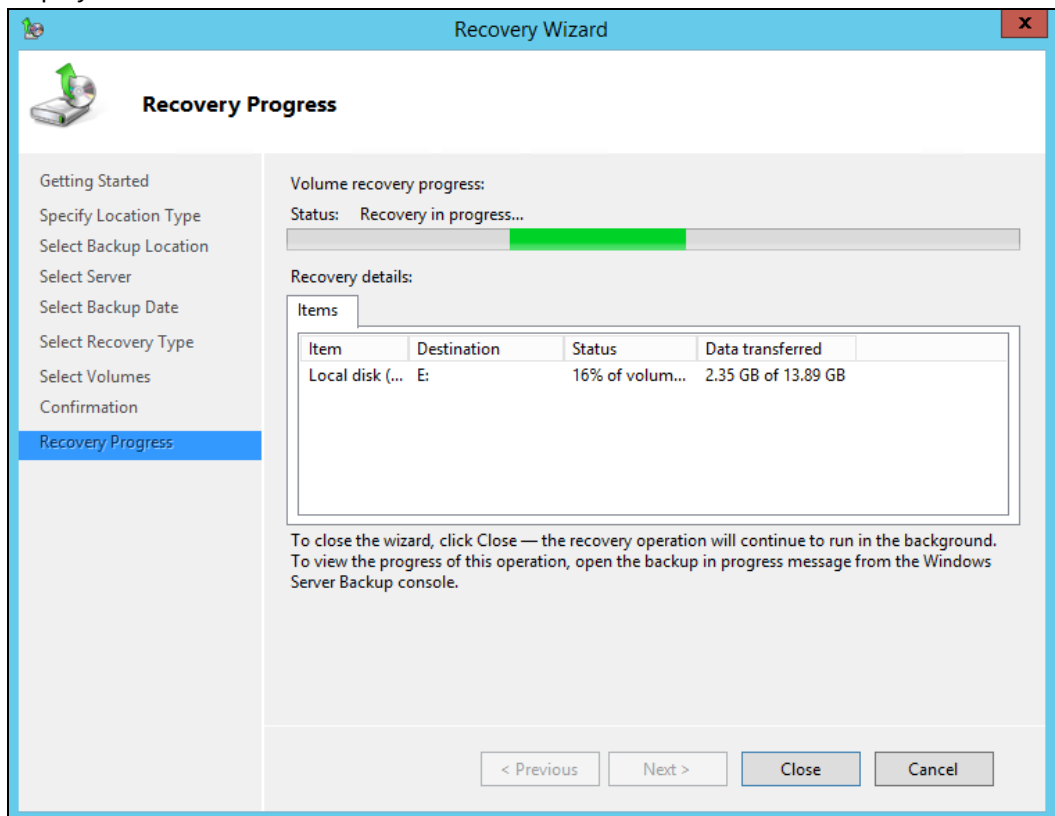
Important: Before clicking **Next** to continue, make sure that the destination volume is empty, or does not contain information that you will need later.



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



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



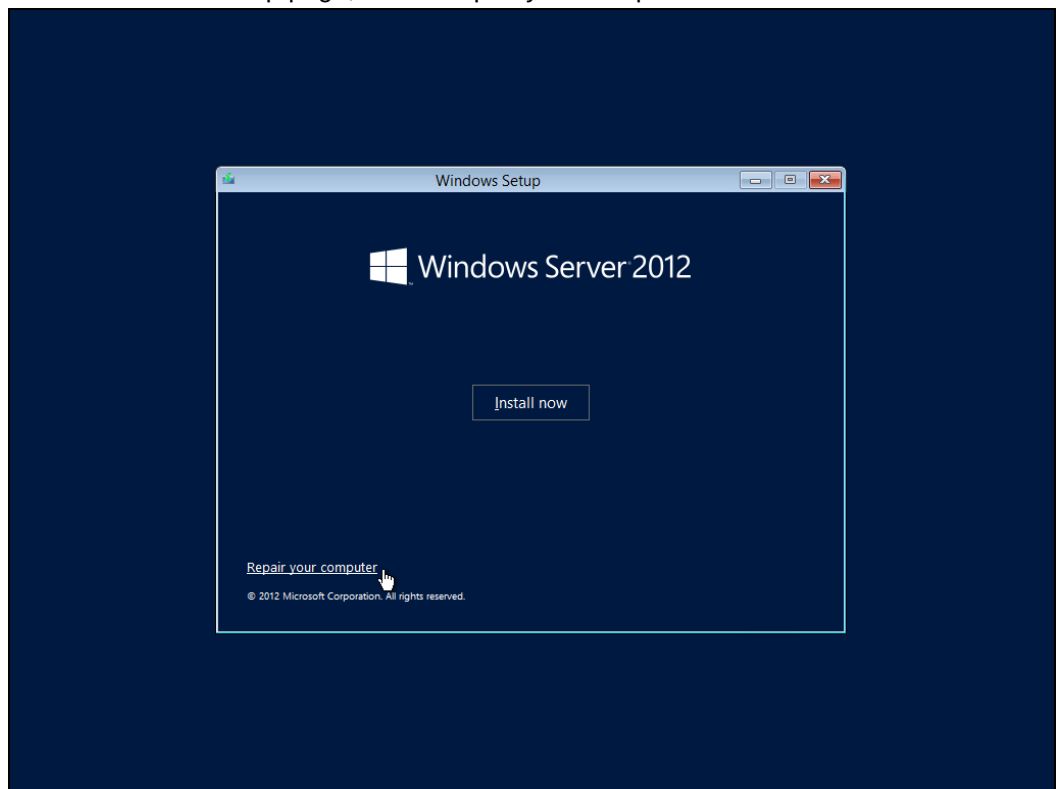
8.3.4 Recover Operating System or Full System

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

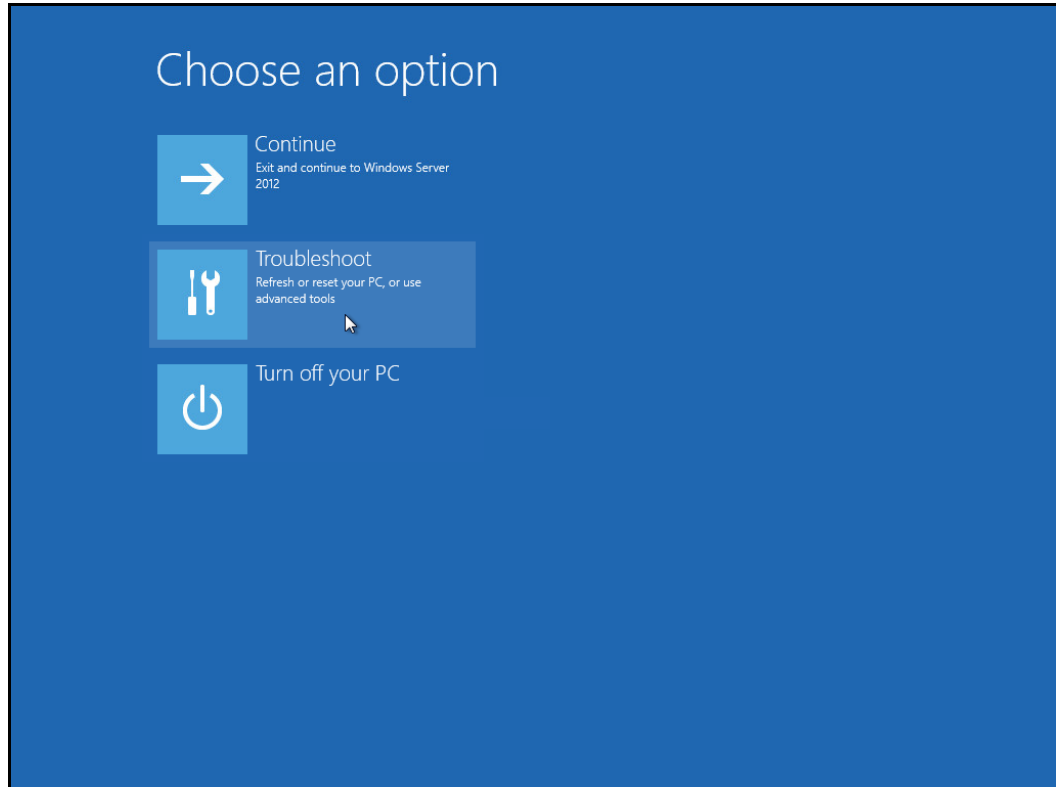
Note: For instructions specific to recovering Active Directory Domain Services, refer to the following: <http://go.microsoft.com/fwlink/?LinkId=143754>

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.

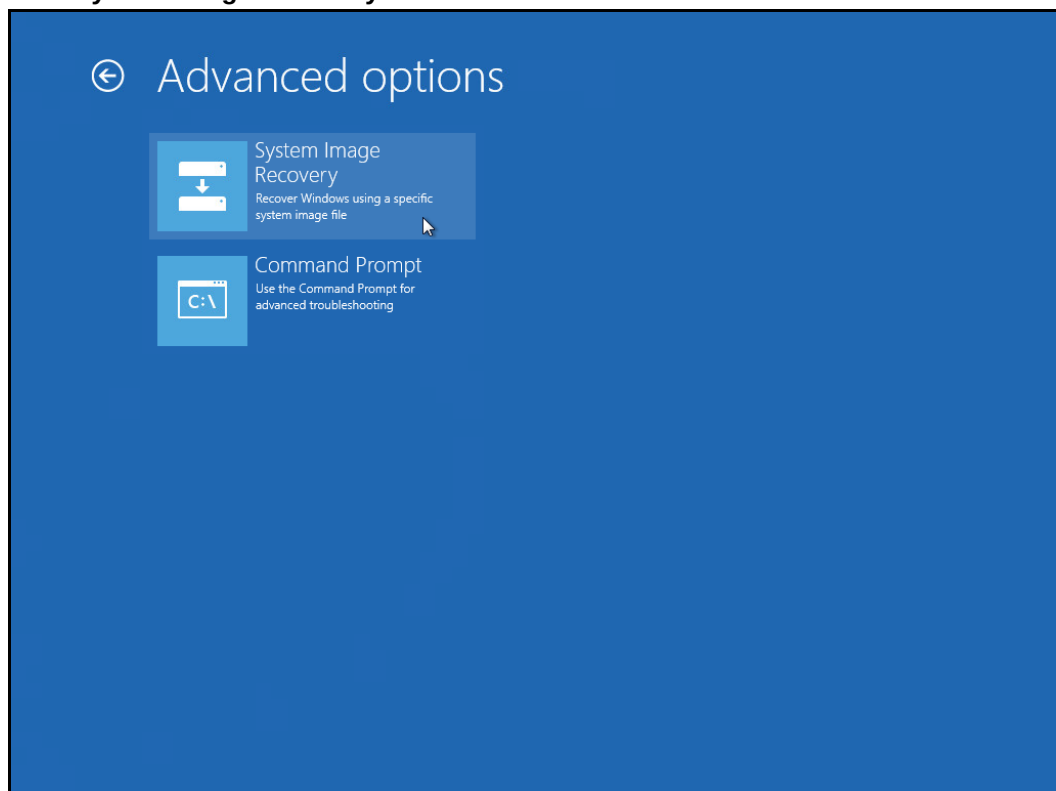


2. On the **Choose an option** page, click **Troubleshoot**.



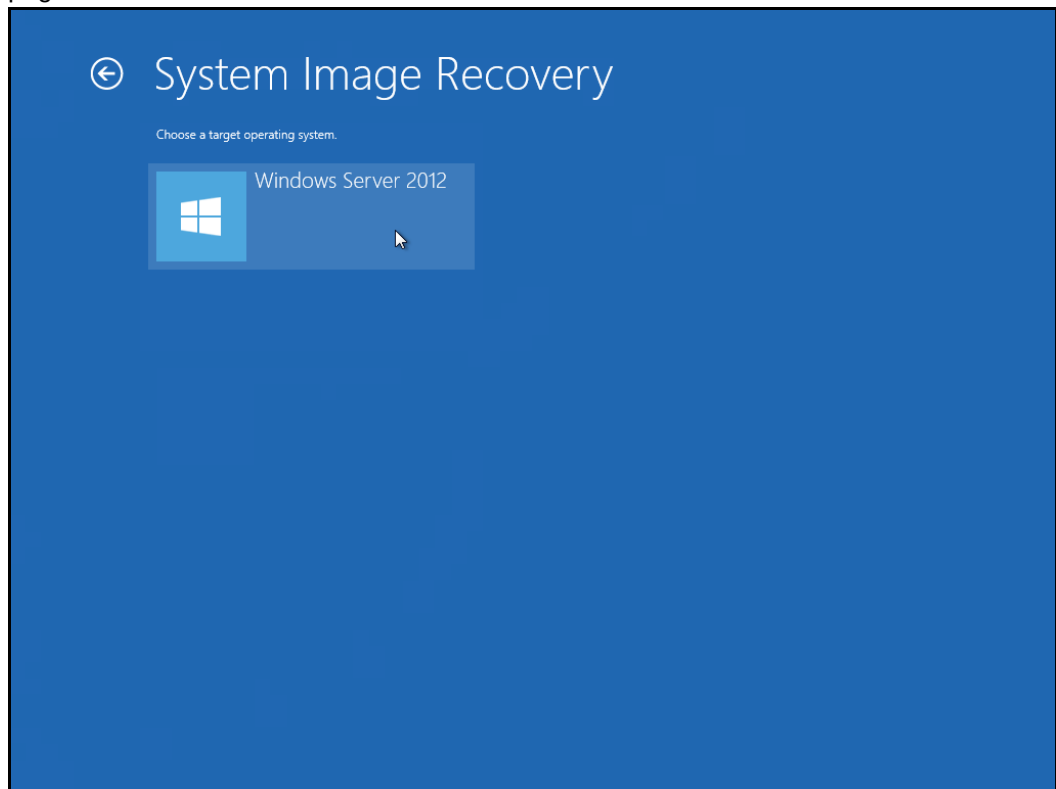
Note: This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

3. Click **System Image Recovery**.



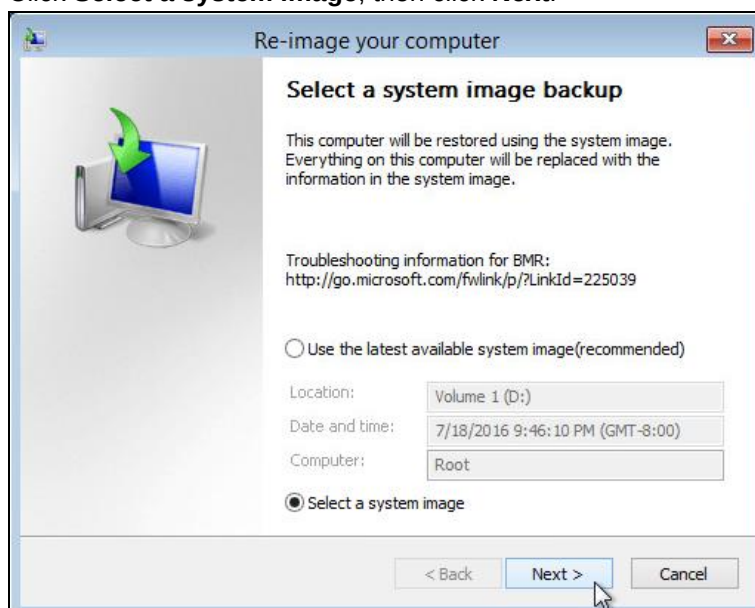
Note: This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

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

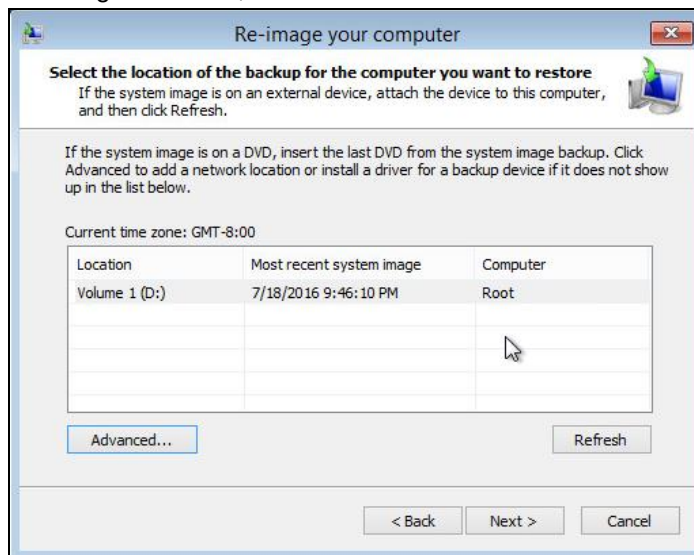


Note: This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

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



- 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.

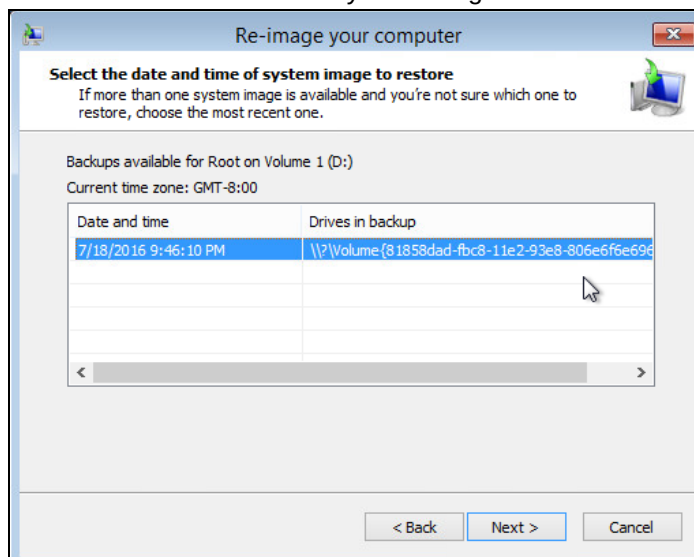
To install a driver, the driver must be located on the local system. You cannot install a driver from the network.

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

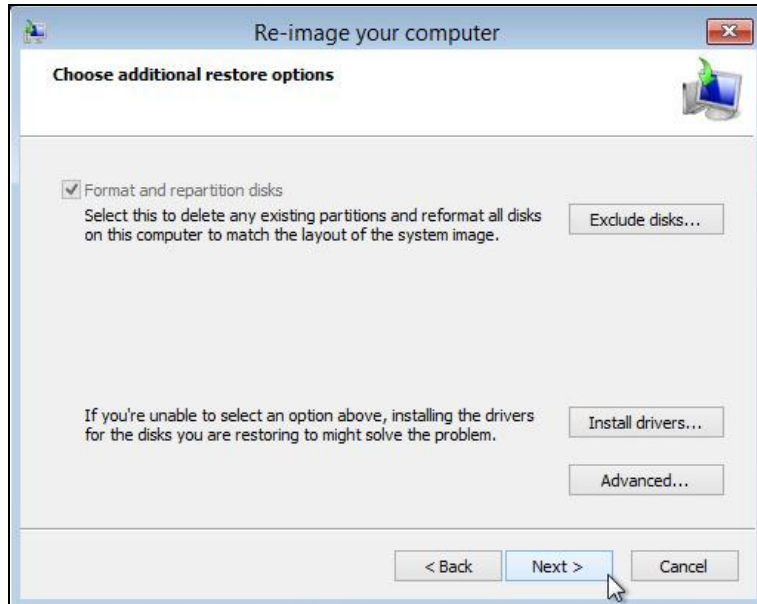
For domain environment, if the backup storage location is on a computer that is a member of that domain, then the computer containing the storage location should be on the IPsec boundary, to be accessible by non-domain computer.

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.

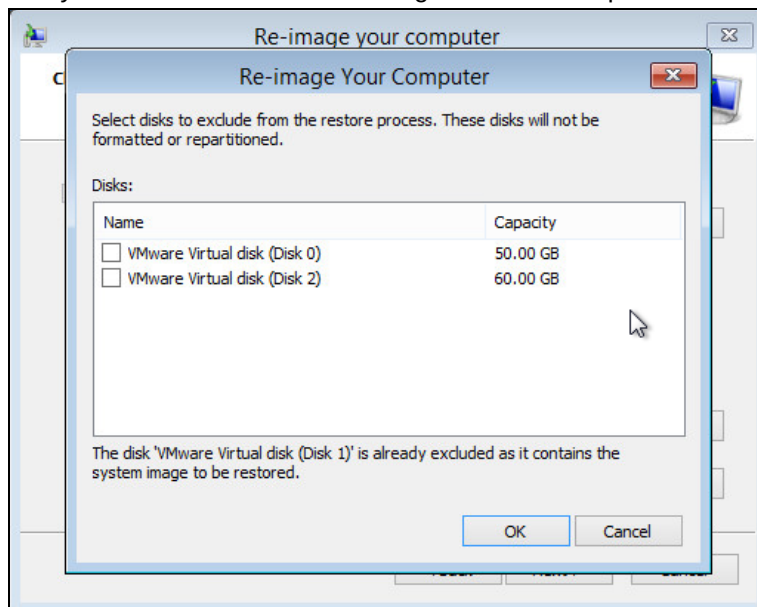


8. On the **Choose additional restore options** page



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

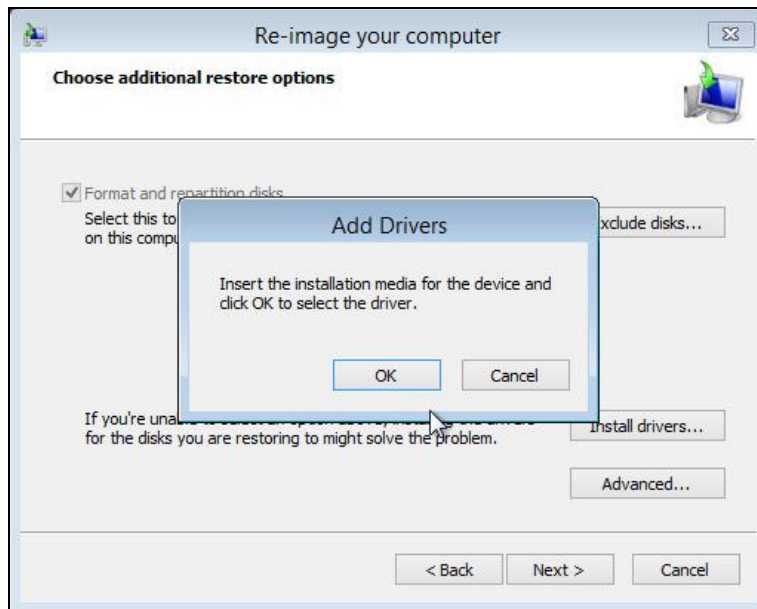
Click the **Exclude disks** button, then select the check boxes associated with any disks that you want to exclude from being formatted and partitioned.



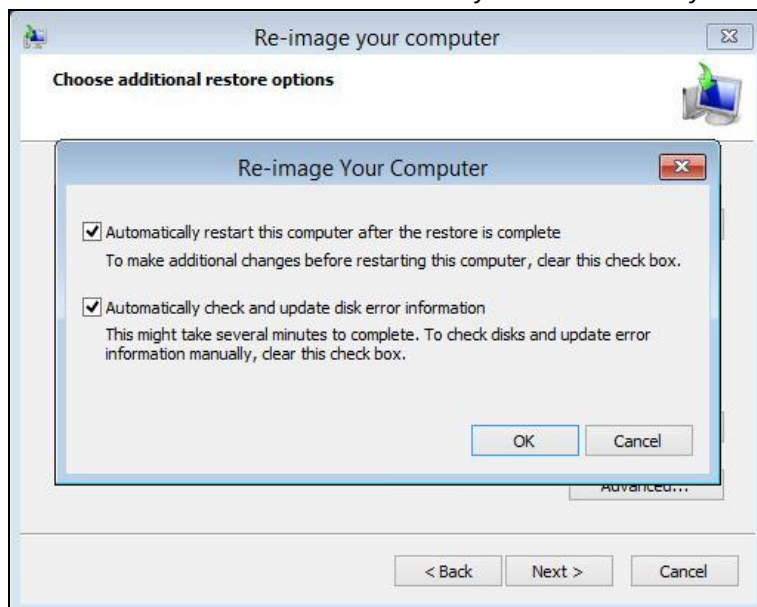
Note: The disk that contains the backup that you are using is automatically excluded.

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).

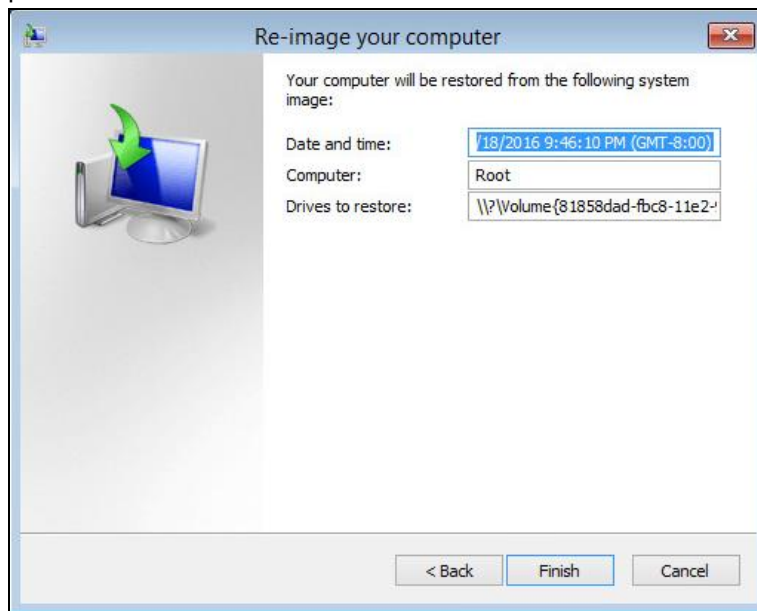
Click **Install drivers** to install device drivers for the hardware that you are recovering to.



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.

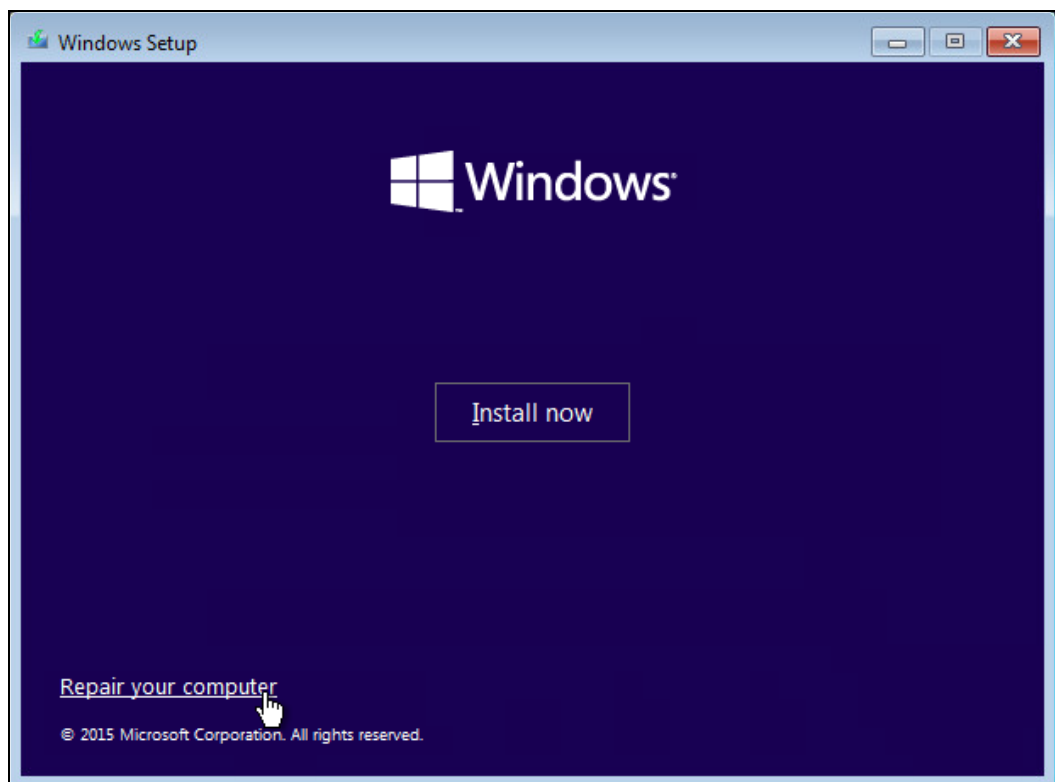
8.3.5 Recover a Full System (Non Server Platforms)

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**.

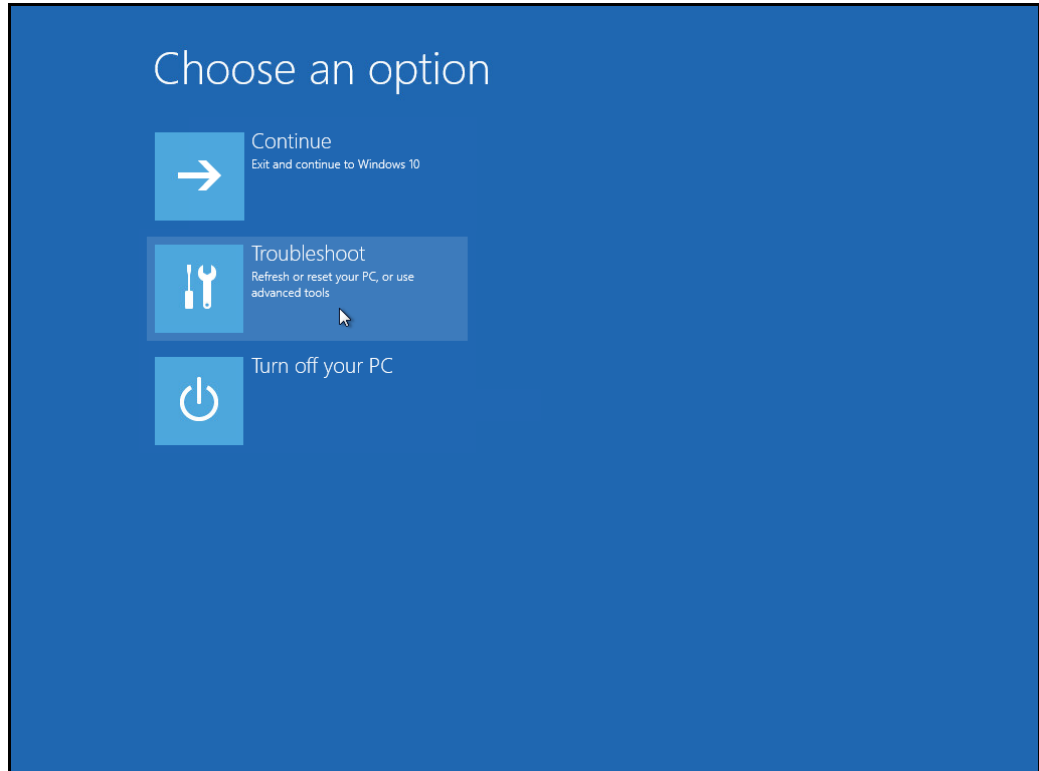


- ▶ Starting Windows in safe mode

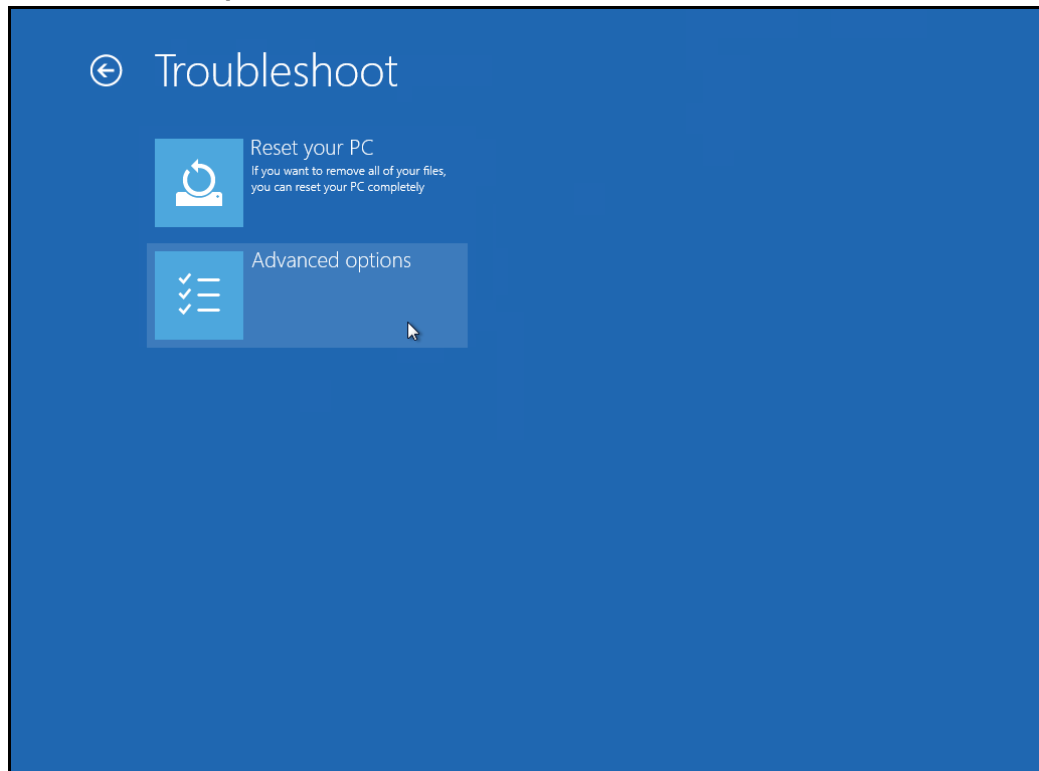
Press the **Power** button at the Windows login screen, in the Start menu, or in the Setting screen. Then press and hold the SHIFT key on the keyboard and click **Restart**.

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

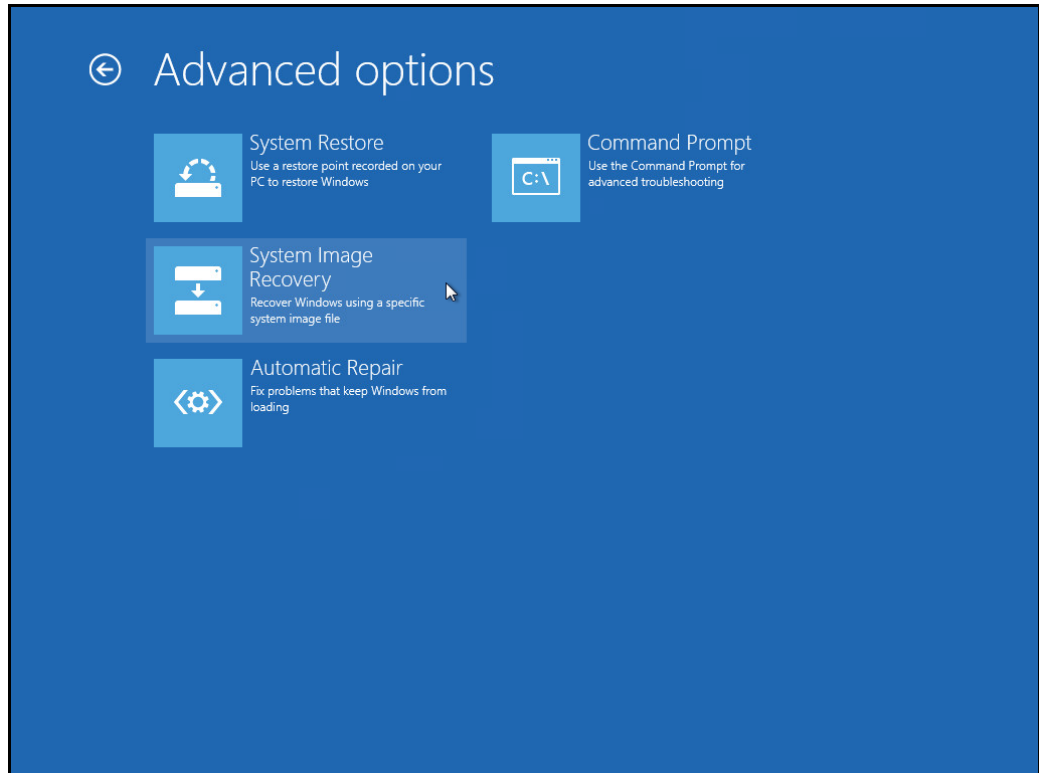
1. Click **Troubleshoot**.



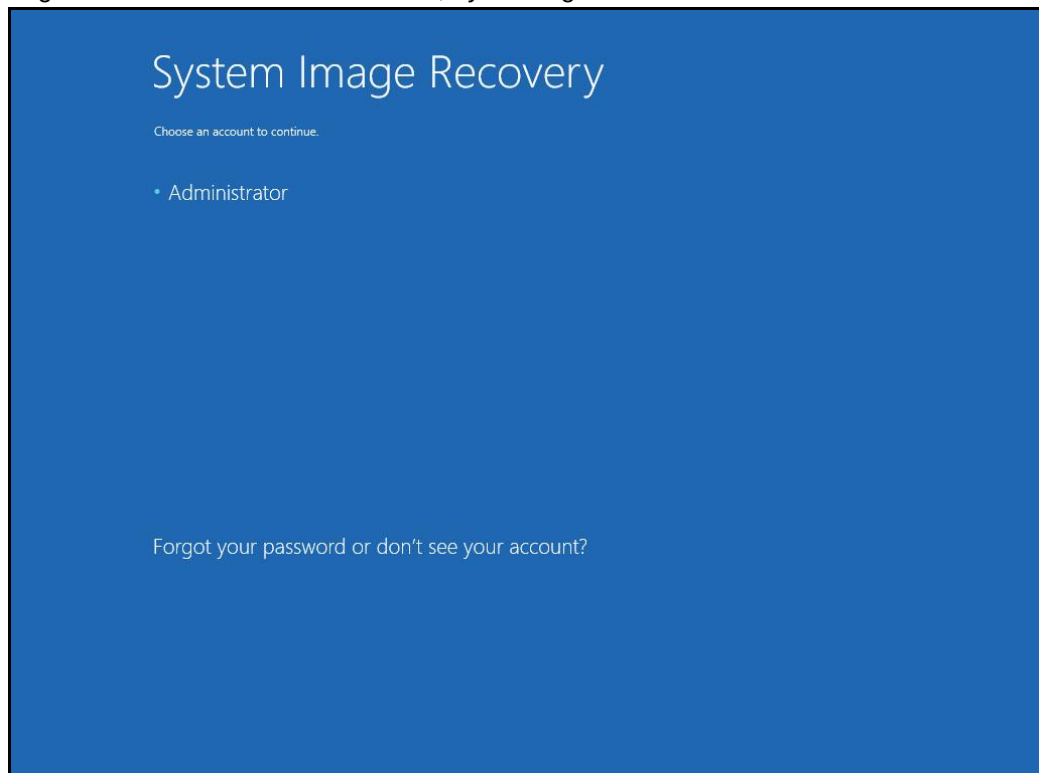
2. Click **Advanced options**.



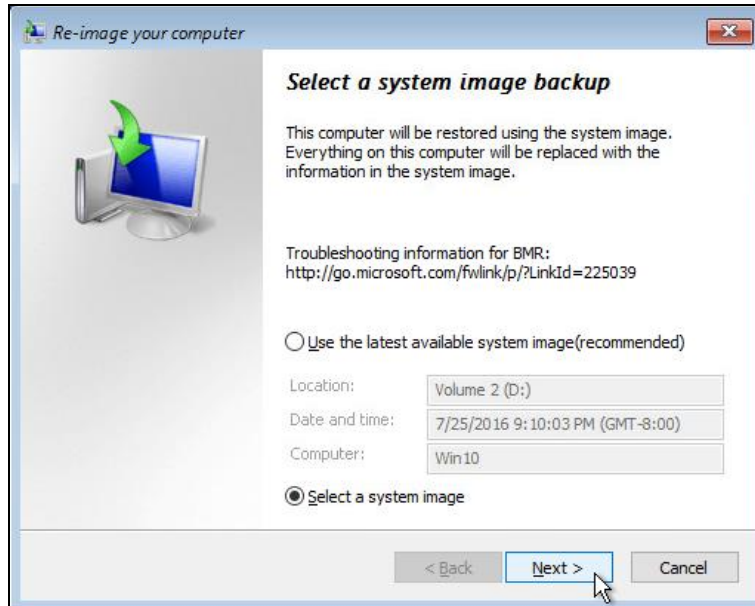
3. Click **System Image Recovery**.



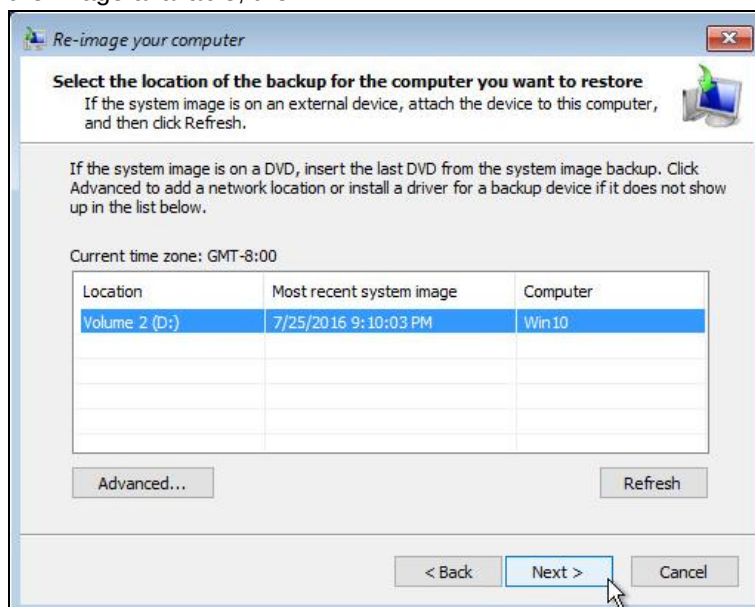
4. Login with an administrative account, by clicking on **Administrator**.



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



- 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.

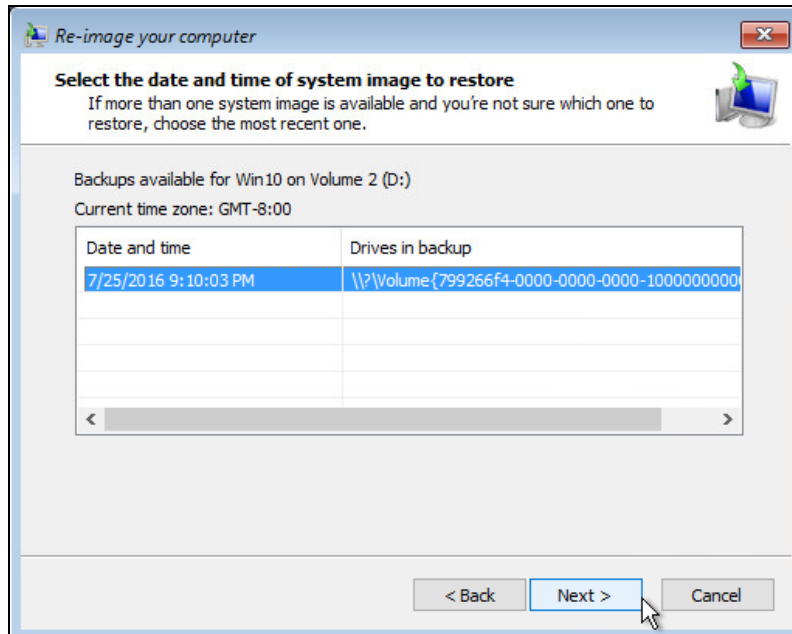
To install a driver, the driver must be located on the local system. You cannot install a driver from the network.

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

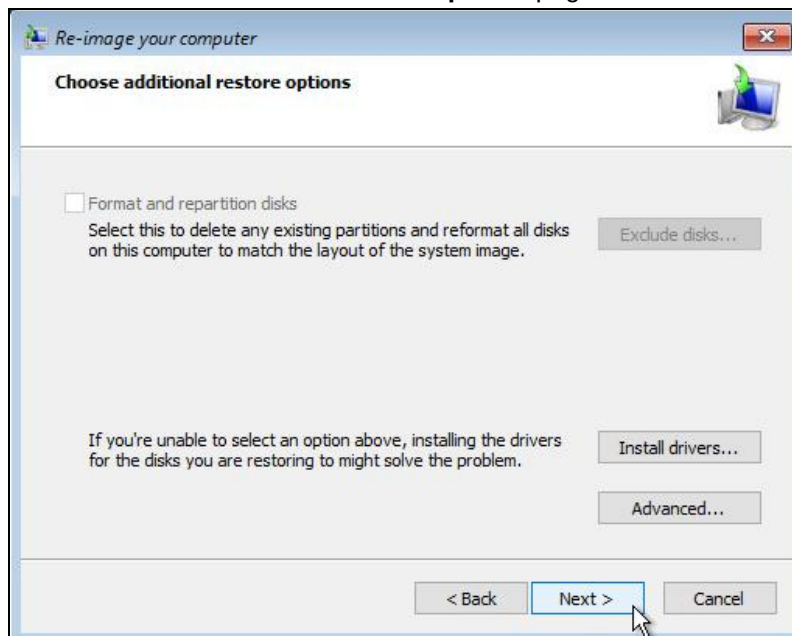
For domain environment, if the backup storage location is on a computer that is a member of that domain, then the computer containing the storage location should be on the IPsec boundary, to be accessible by non-domain computer.

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.

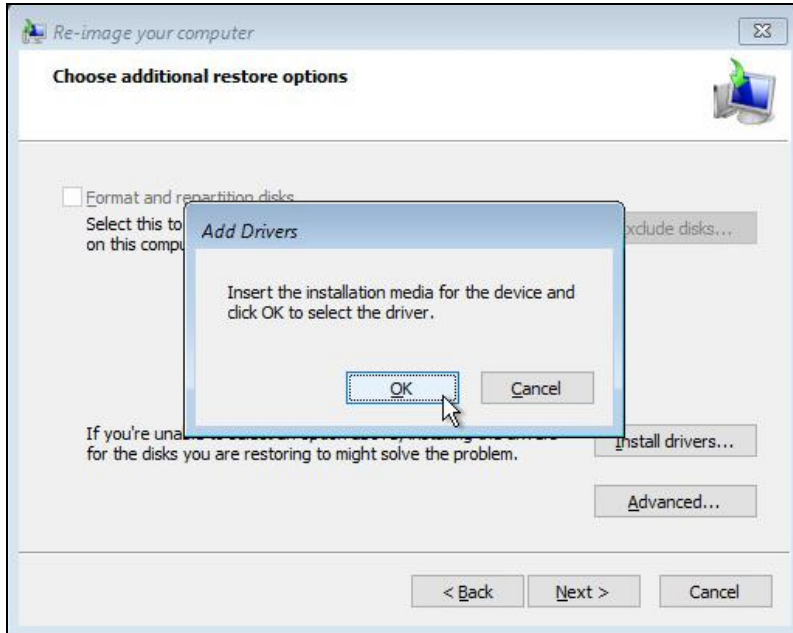
7. Select the date and time of system image to restore.



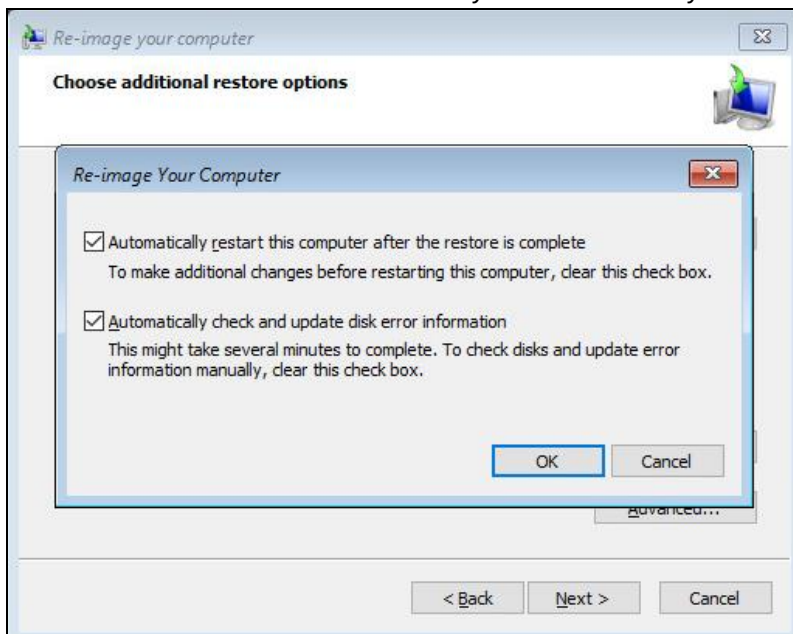
8. On the **Choose additional restore options** page.



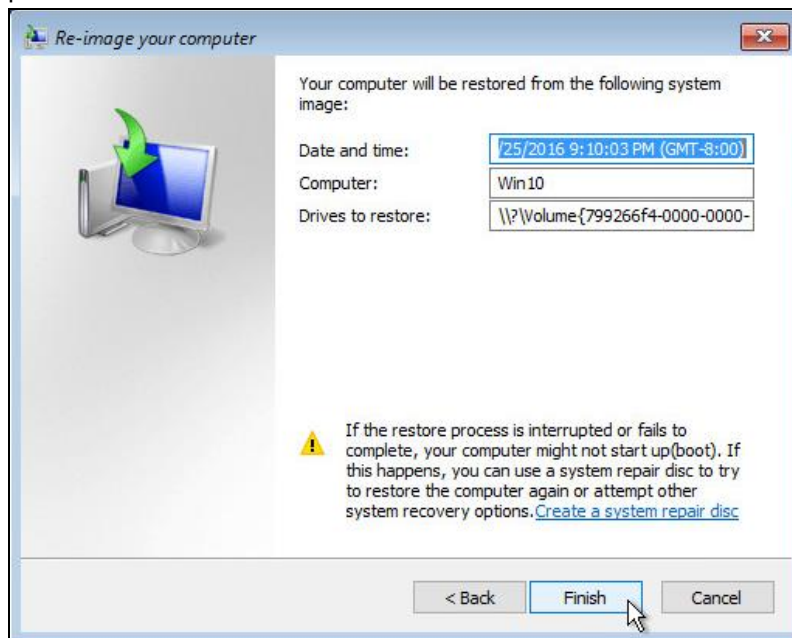
Click **Install drivers** to install device drivers for the hardware that you are recovering to.



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.