

Ahsay Online Backup Manager v7

Microsoft System Backup and Restore Guide

Ahsay Systems Corporation Limited

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Revision History

Date	Descriptions	Type of modification
27 July 2016	First Draft	New
3 Feb 2017	Added instructions and screen shots for Encryption key handling in Ch. 5.1	New
5 Apr 2017	Added Encryption Type option in Ch. 5.1 Create a MS Windows System Backup Set section	New
4 Sept 2017	Updated screen shot for Create a MS Windows System Backup Set	Modification

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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 7.3 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 7.3 or above](#)

1.3 Other Requirement and Limitation

Ensure that the following requirements are met:

- 1. AhsayOBM Installation

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

- 2. Add-on Module Requirement

Make sure that the Windows System Backup add-on module is enabled for your AhsayOBM user account. Contact your backup service provider for more details.

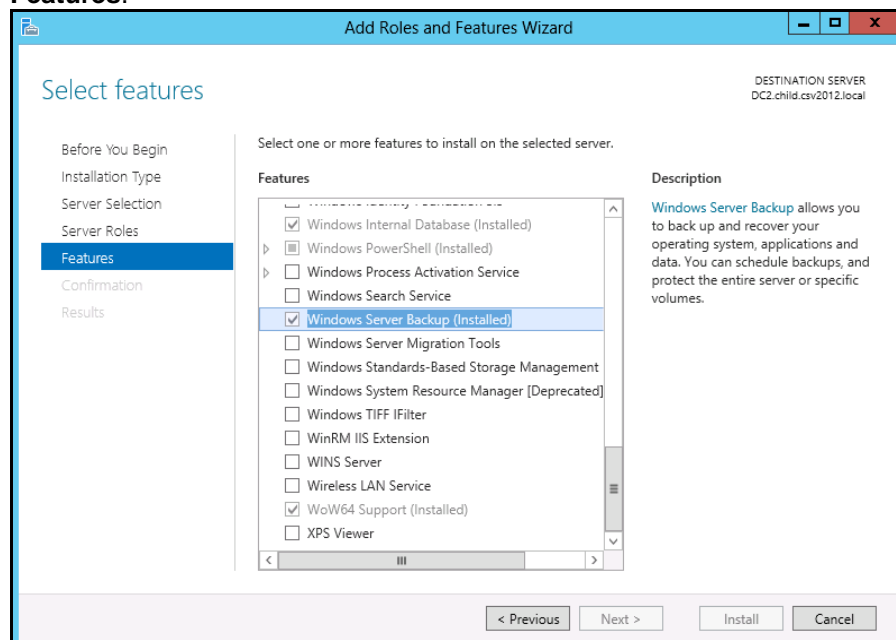
- 3. Backup Quota Requirement

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

- 4. 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 configure for the system image is set to a supported location.

Refer to the following KB article for details on the restriction:

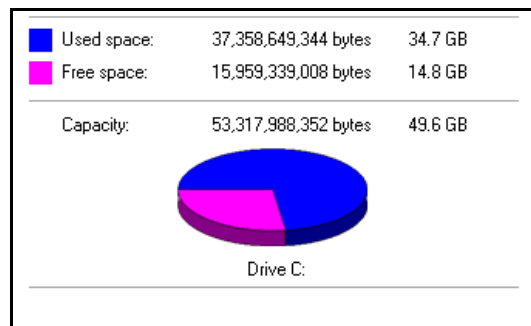
<https://forum.ahsay.com/viewtopic.php?f=196&t=16301>

▶ Disk Space Available in Temporary Storage Location

Make sure that there are sufficient disk spaces 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:

- ❶ 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 through email, please subscribe to our mailing list:

http://www.ahsay.com/jsp/en/home/subscribe_mail_list.jsp

- ❷ 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).

AhsayOBM

MS Windows System Backup Set

General

Name
MS Windows System Backup Set

Owner
Root

Windows System Backup

Specify the location where you want to store the system backup
Volume 3 (G:)

Windows User Authentication

Domain Name (e.g. Ahsay.com) / Host Name
csv2012.local

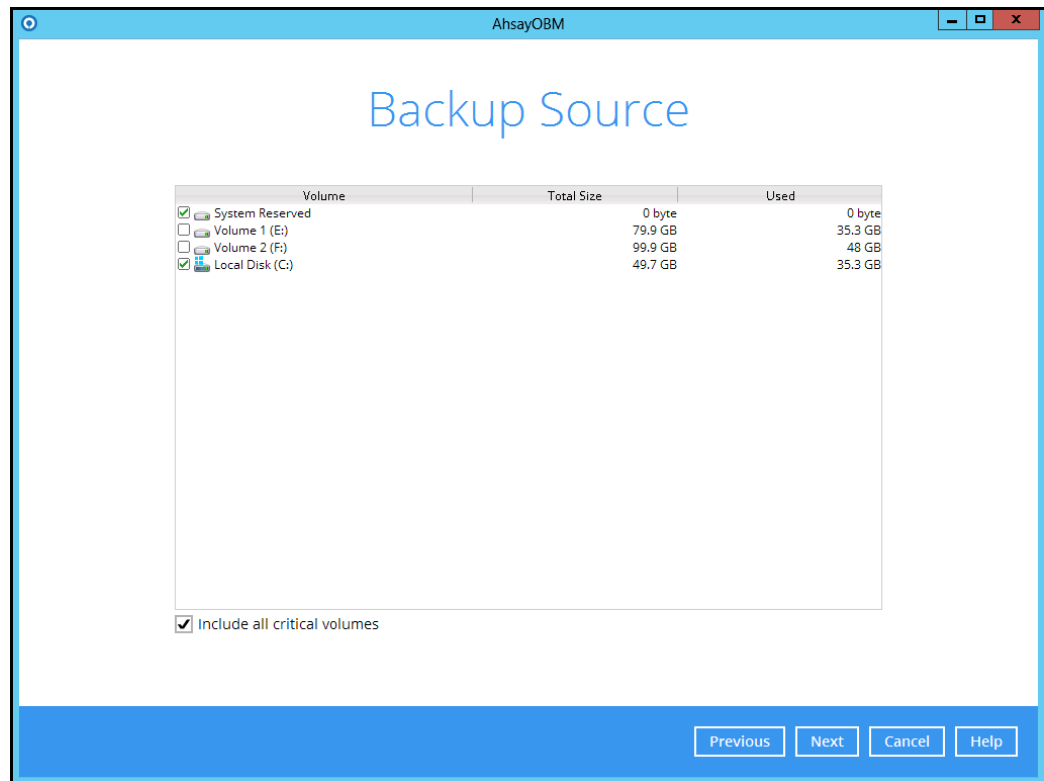
User name
Administrator

Password

Delete this backup set

Save Cancel Help

- 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

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

Refer to the following KB article for further instruction:

<https://forum.ahsay.com/viewtopic.php?f=206&t=14117>

- 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 times 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.

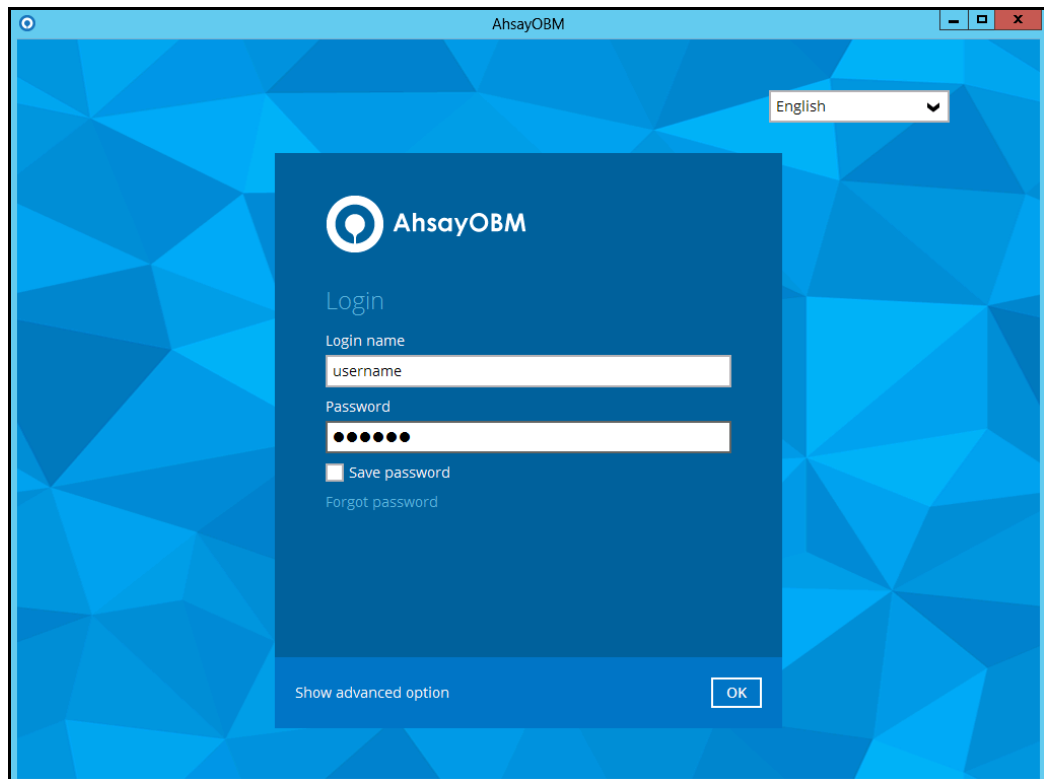
For instructions, refers to the following: <http://go.microsoft.com/fwlink/?LinkID=143722>

4 Starting AhsayOBM

4.1 Login to AhsayOBM

1. Login to the AhsayOBM application user interface.

Double click the AhsayOBM desktop icon to launch the application.




2. Enter the **Login name** and **Password** of your AhsayOBM account.
3. Click **OK** afterward to login to AhsayOBM.

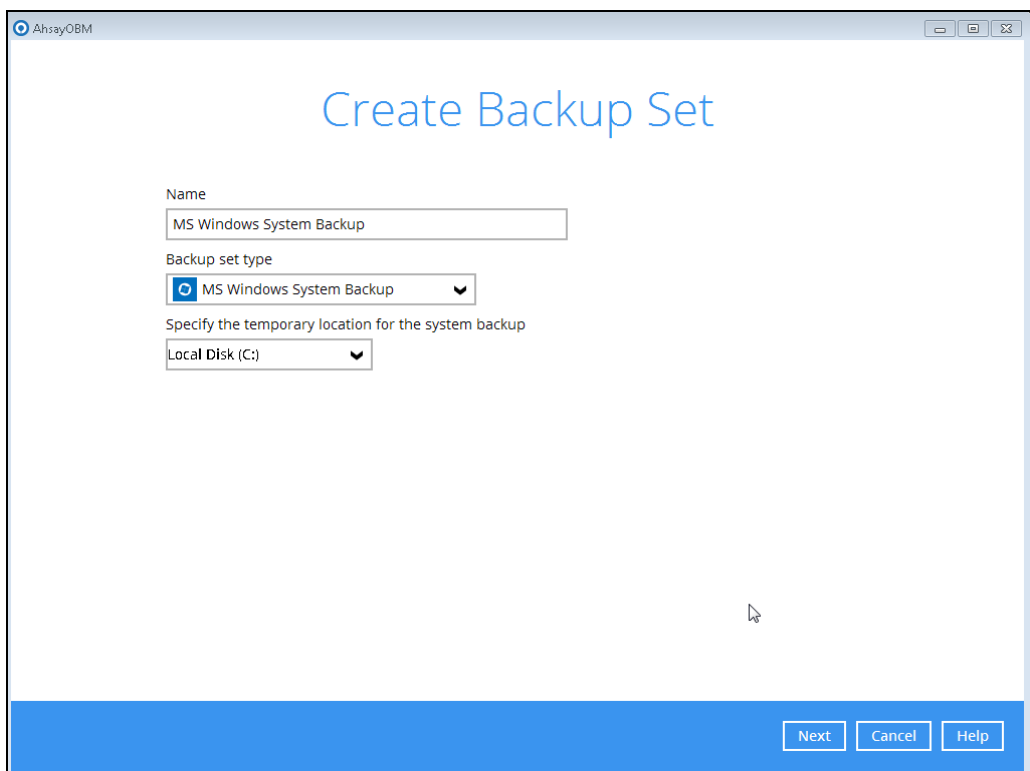
5 Configuring a MS Windows System Backup Set

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 a window titled 'AhsayOBM' with a standard Windows title bar. The main content area has the title 'Create Backup Set' in blue. Below it, there are three input fields: a text box for 'Name' containing 'MS Windows System Backup', a dropdown menu for 'Backup set type' with 'MS Windows System Backup' selected and a blue gear icon to its left, 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:)
Volume 1 (E:)
Volume 2 (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
default-backup-set-name-2

Backup set type
MS Windows System Backup

Specify the temporary location for the system backup
\\UNC_path\share\destina

Next Cancel Help

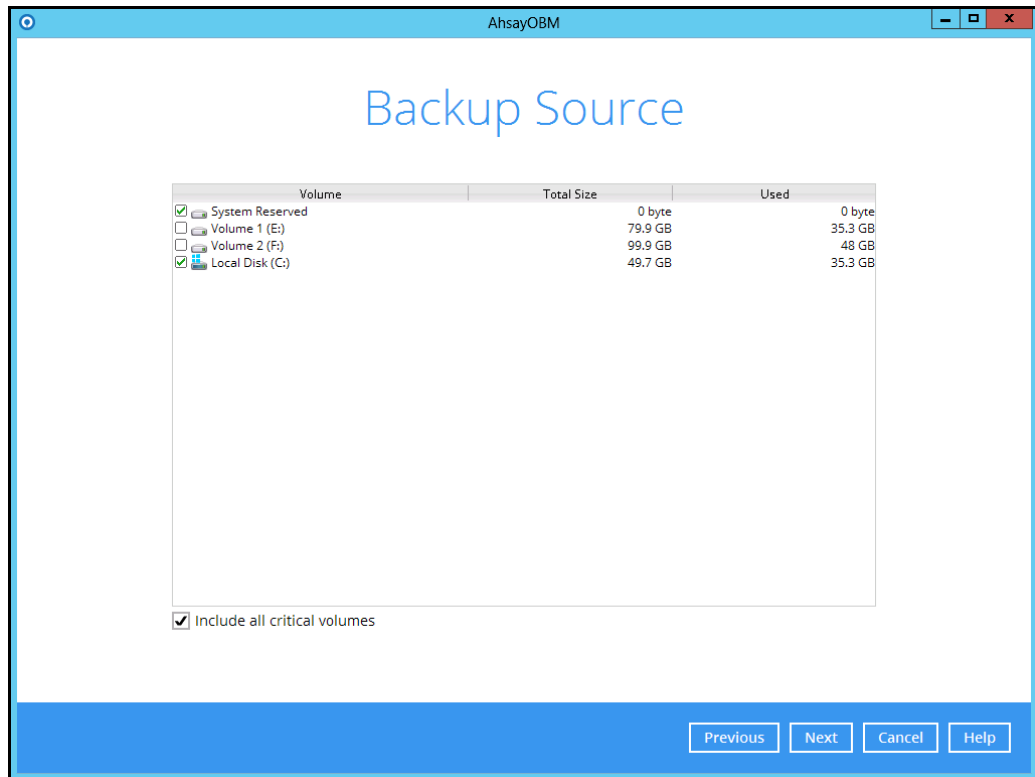
Note: Make sure that the storage location configure for the system image is set to a supported location.

Refer to the following KB article for details on the restriction:
<https://forum.ahsay.com/viewtopic.php?f=196&t=16301>

Click **Next** to proceed.

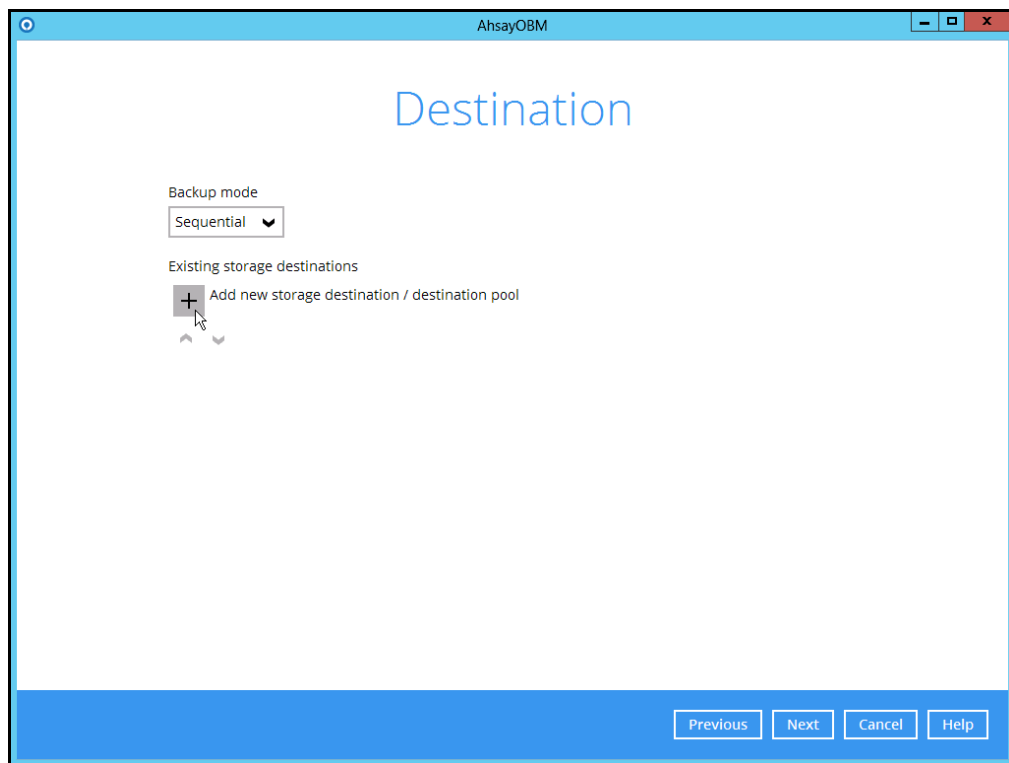
5. In the Backup Source menu, select the volume(s) which you would like to backup.

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.

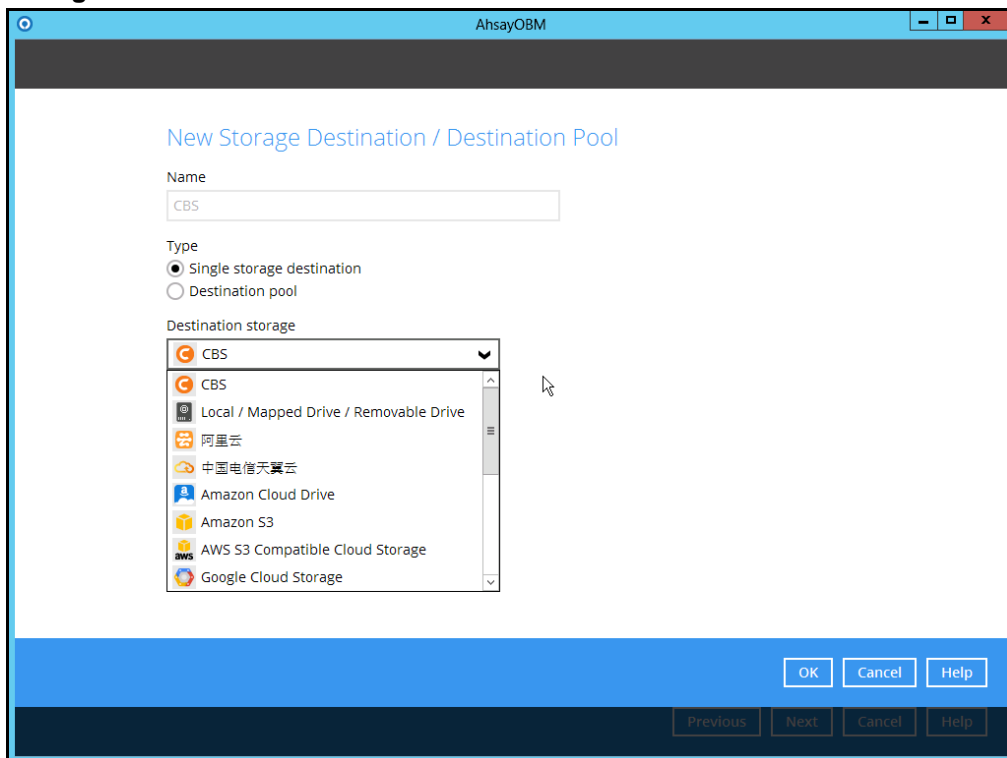
6. In the Schedule menu, configure a backup schedule for backup job to run automatically at your specified time interval. Click **Add** to add a new schedule, then click **Next** to proceed afterward.
7. In the Destination menu, select a backup destination where the backup data will be stored. Click the “+” icon next to **Add new storage destination / destination pool**.



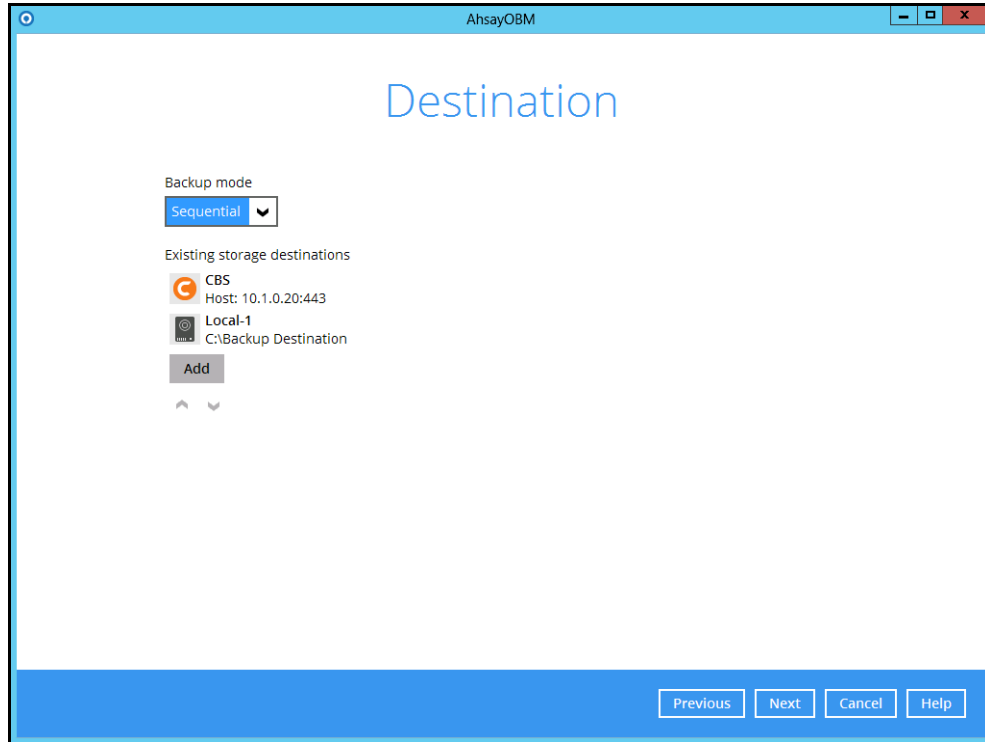
Note: For more details on Backup Destination, refer to the following KB article for details: <https://forum.ahsay.com/viewtopic.php?f=186&t=14049>

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

8. Enter a **Name** for the backup destination, and select the **Type** and **Destination storage**.

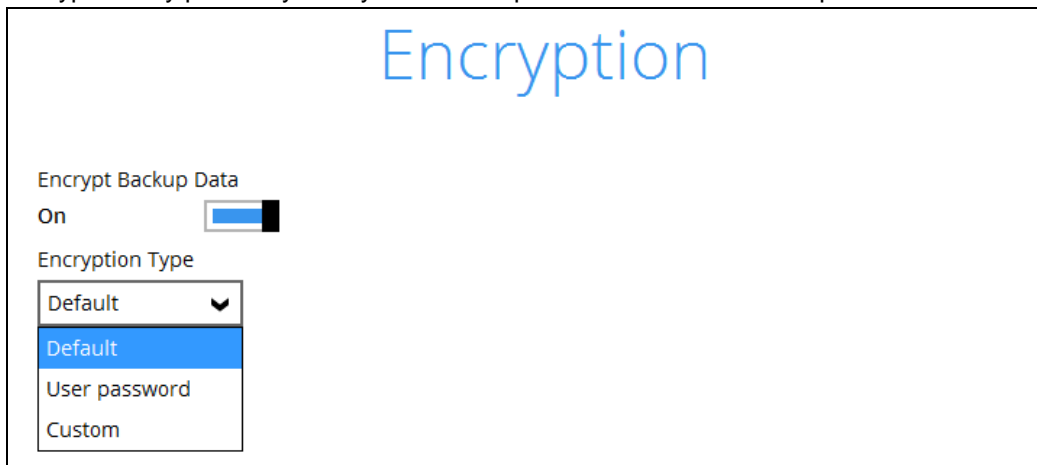


9. Continue by adding another destination for the backup set, or click **Next** to proceed.



Note: Multiple backup destinations can be configured for a single backup set.

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 KB article. <https://forum.ahsay.com/viewtopic.php?f=169&t=14090>

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

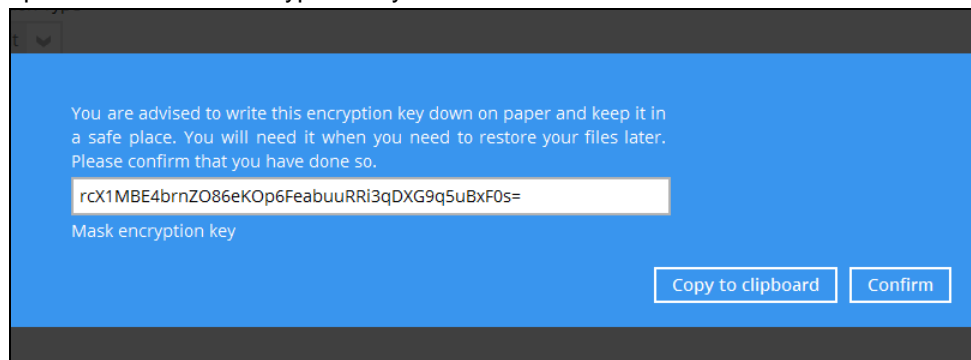
You are advised to write this encryption key down on paper and keep it in a safe place. You will need it when you need to restore your files later. Please confirm that you have done so.

Unmask encryption key

Copy to clipboard Confirm

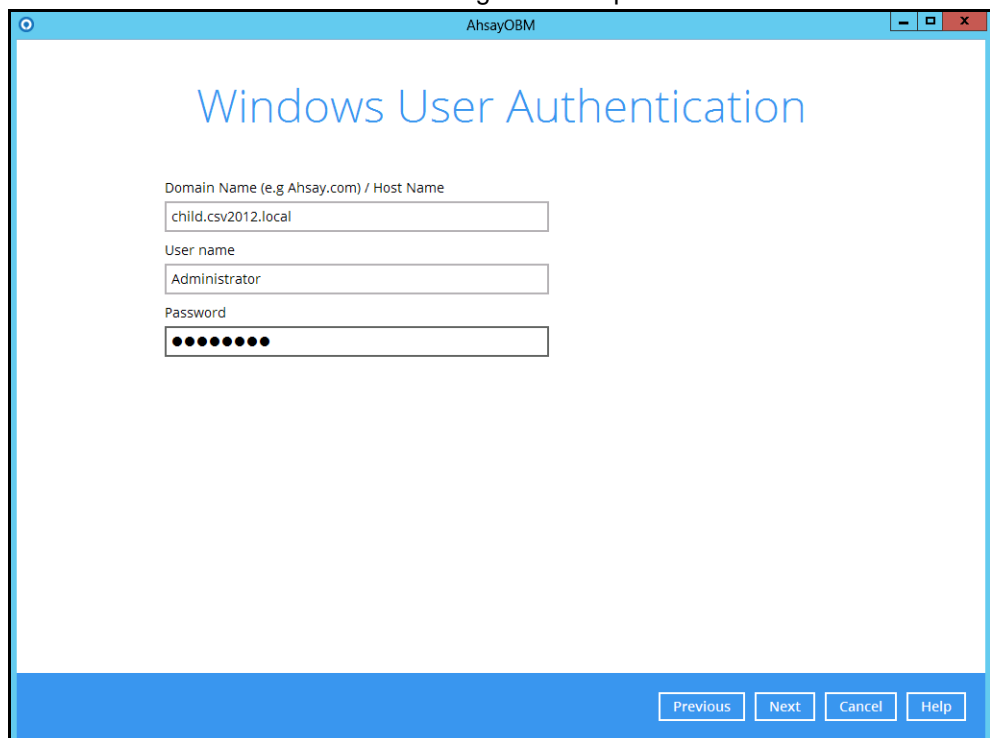
The pop-up window has the following three options to choose from:

- **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.

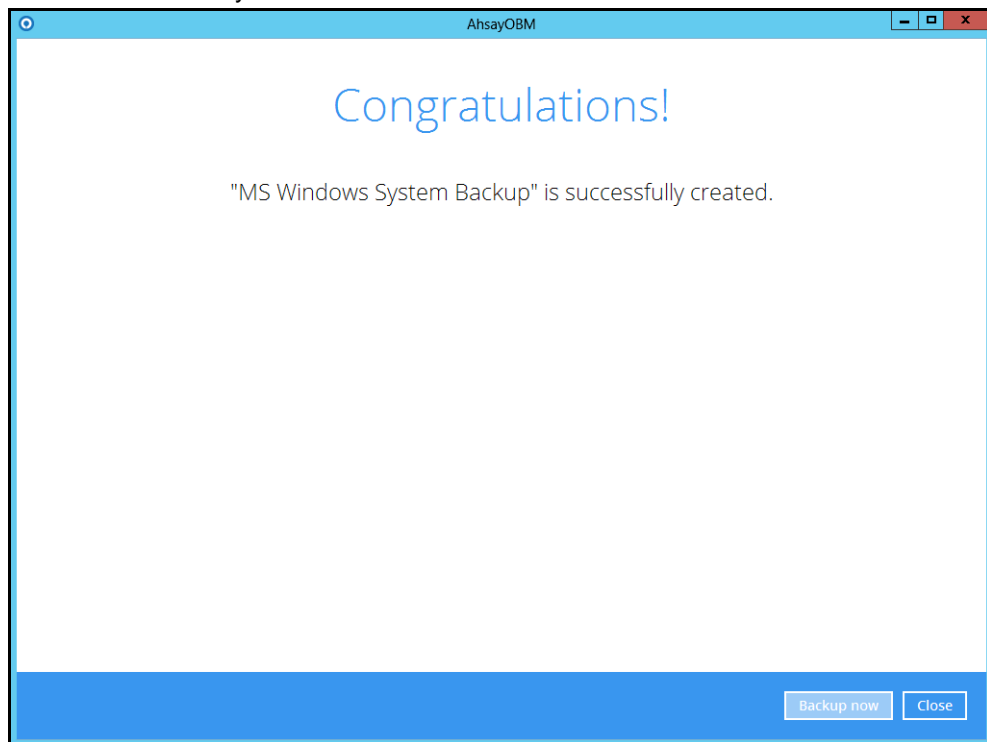
12. Enter the **Domain Name / Host Name** of the computer, **User Name** and **Password** of the Windows account that will be running the backup.



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

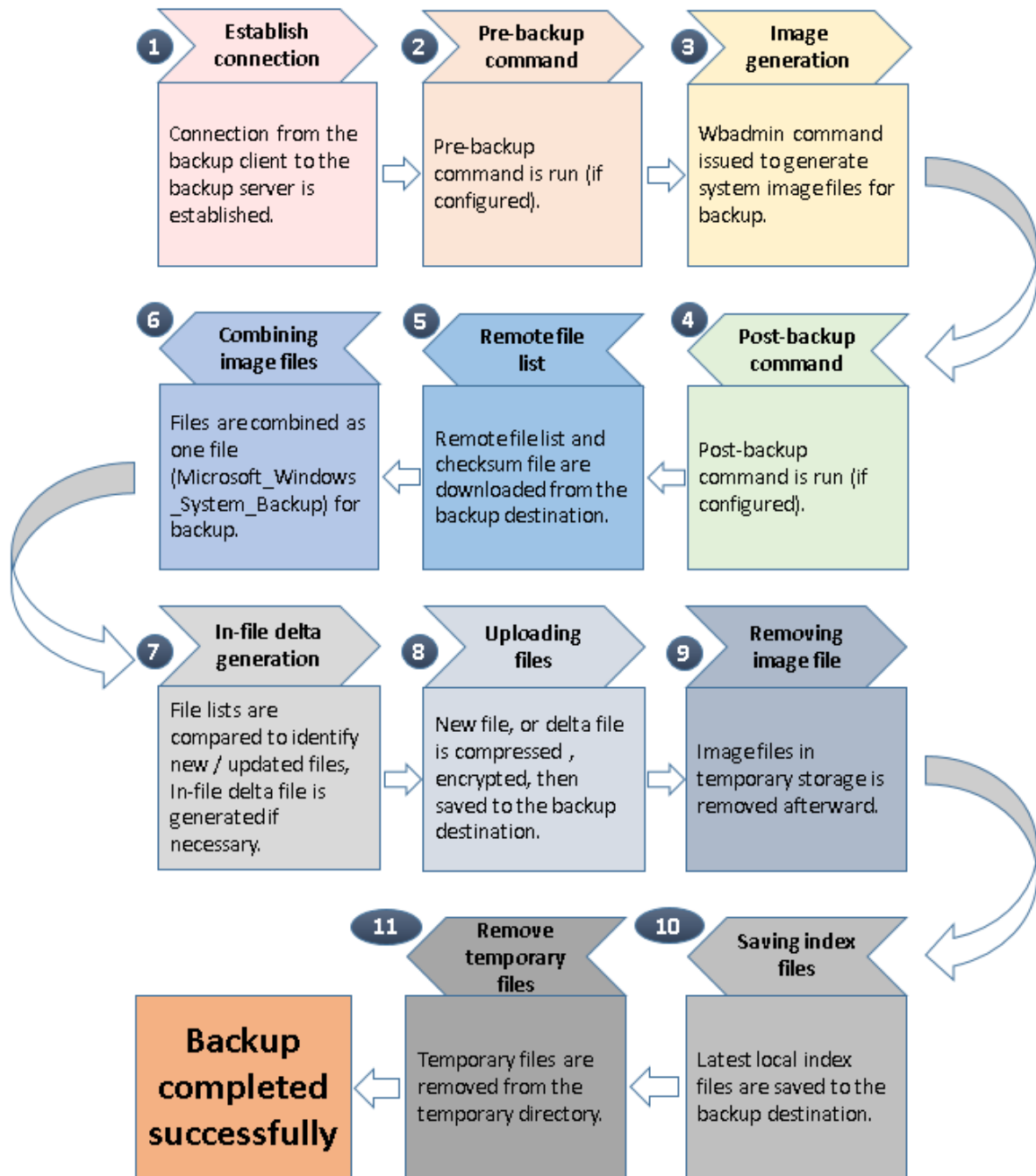
13. Click **Next** to create the backup set.

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.



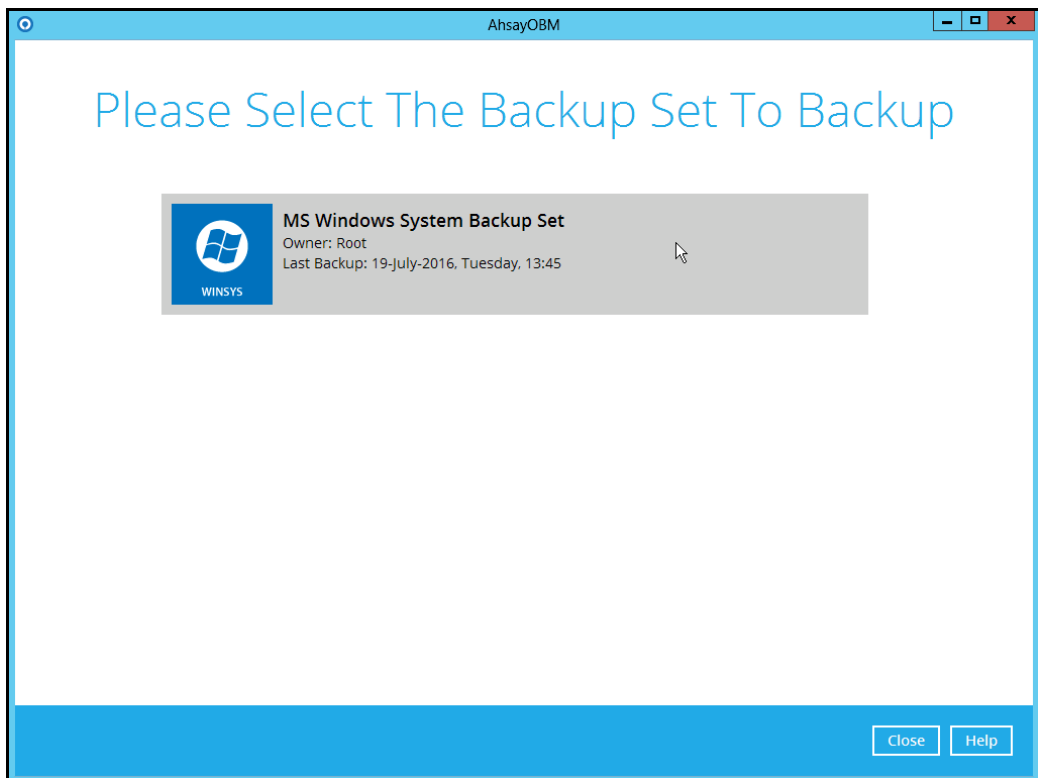
7 Running a Backup

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.

7.2 Configure Backup Schedule for Automated Backup

1. Click the Backup Sets icon on the AhsayOBM main interface.



2. Select the backup set that you want to create a backup schedule for.
3. Click **Backup Schedule**, then create a new backup schedule by clicking **Add**.
4. Configure the backup schedule settings, then click **OK** to proceed.
5. Click **Save** to confirm your settings.

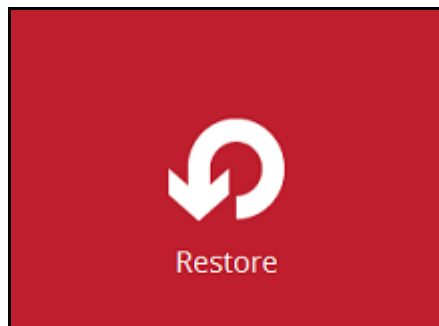
8 Restore with a MS Windows System Backup Set

8.1 Login to AhsayOBM

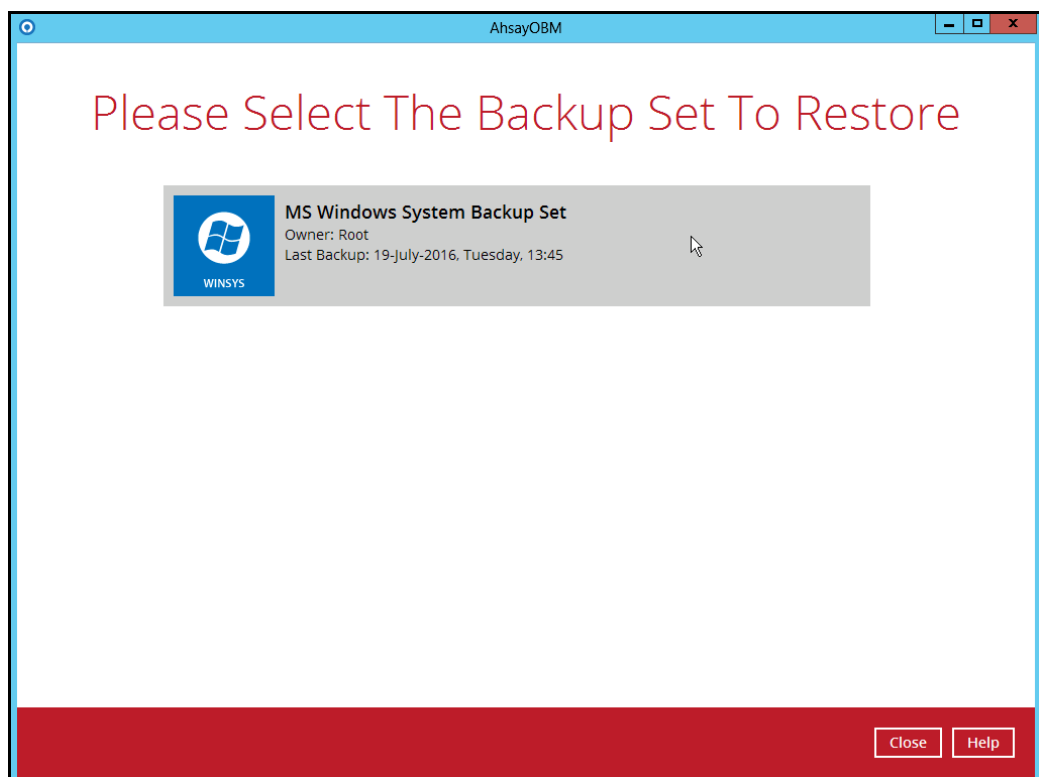
Login to the AhsayOBM application according to the instruction provided in the chapter on [Starting AhsayOBM](#).

8.2 Restore the System Image

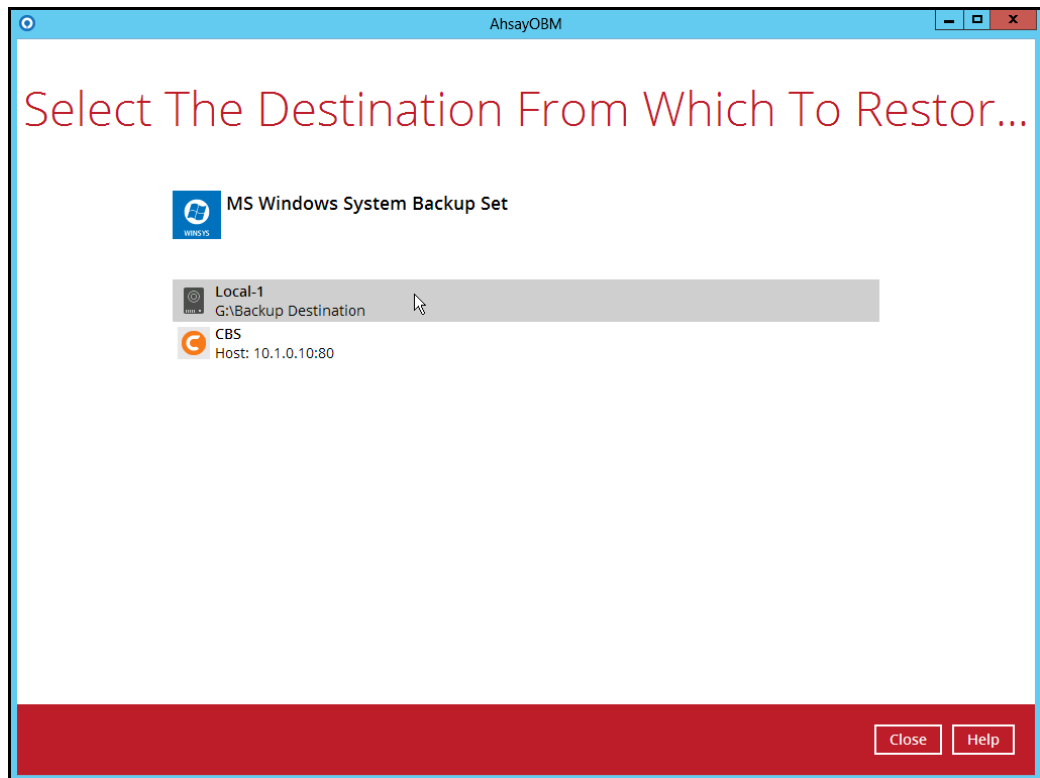
1. Click the **Restore** icon on the main interface of AhsayOBM.



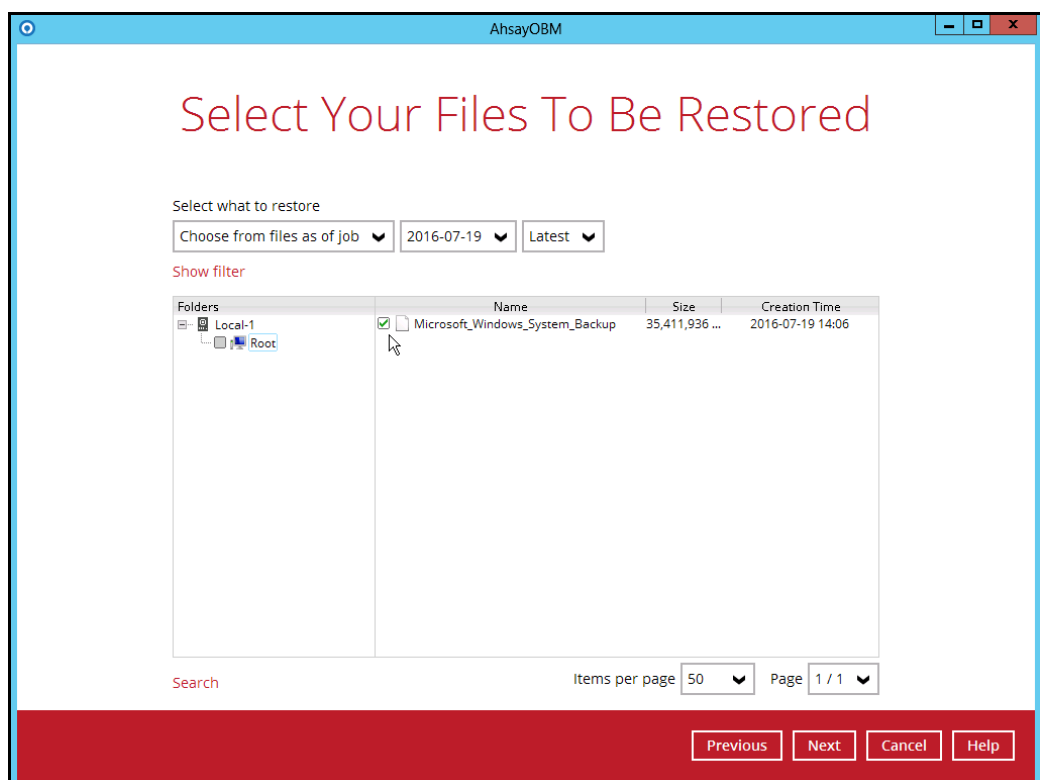
2. Select the backup set that you would like to restore the system image from.



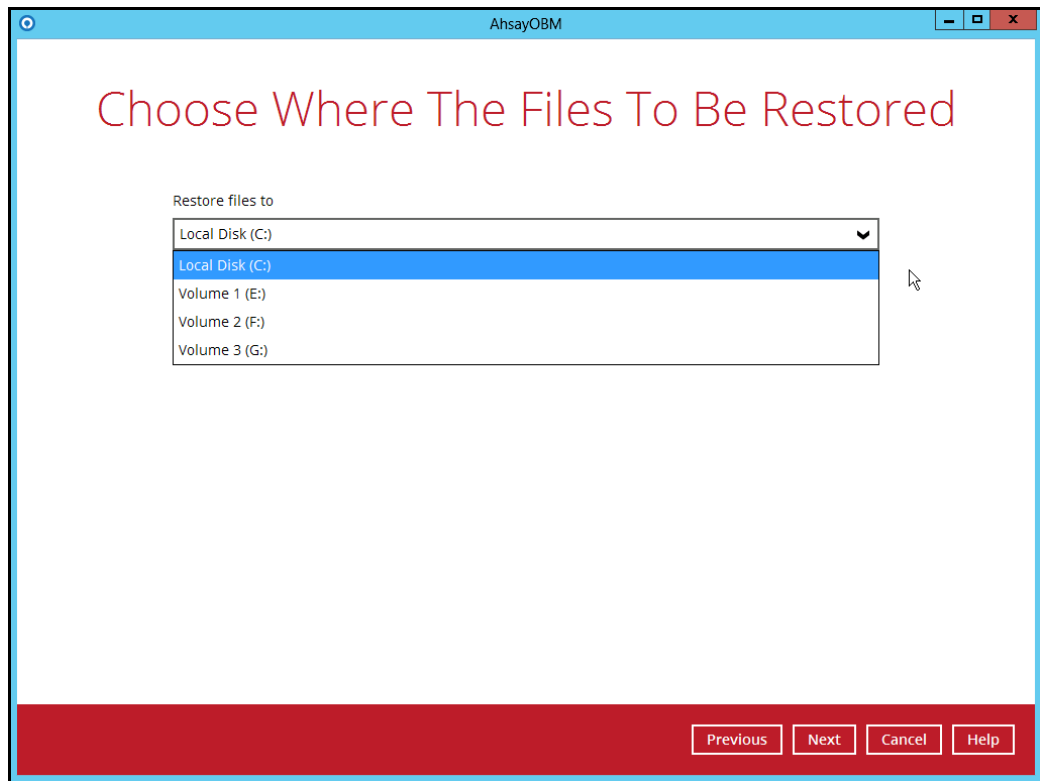
3. Select the backup destination that contains the system image that you would like to restore.



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.

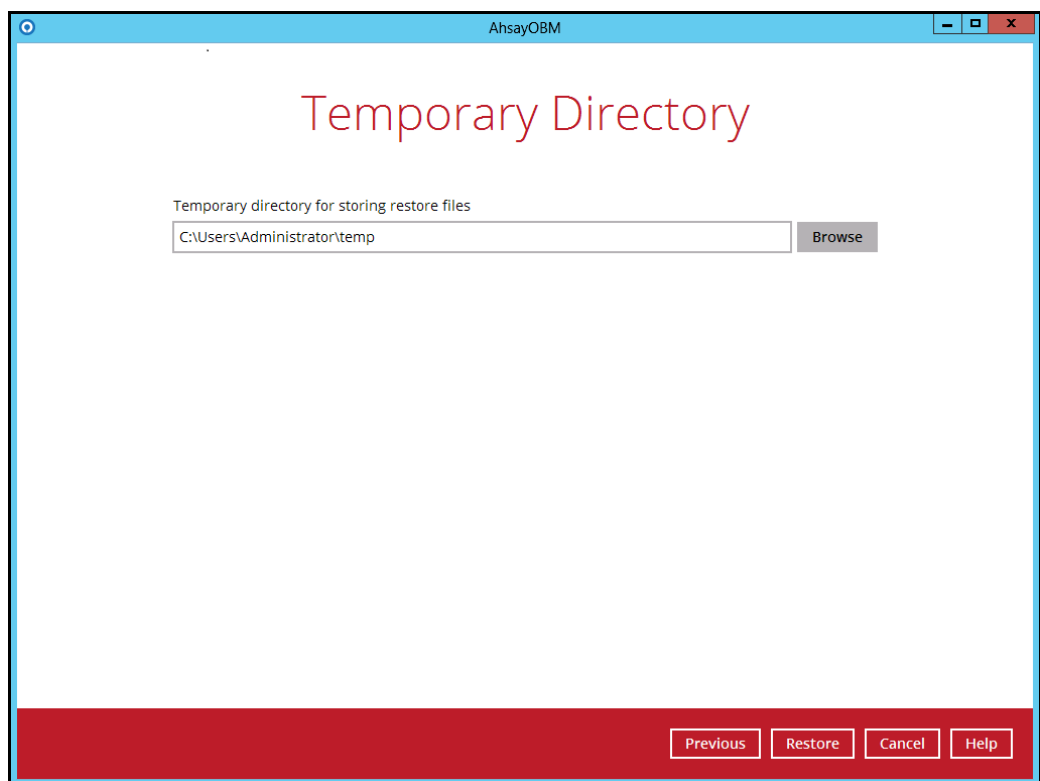


6. Select to restore the system image to a local volume or to a removable drive.

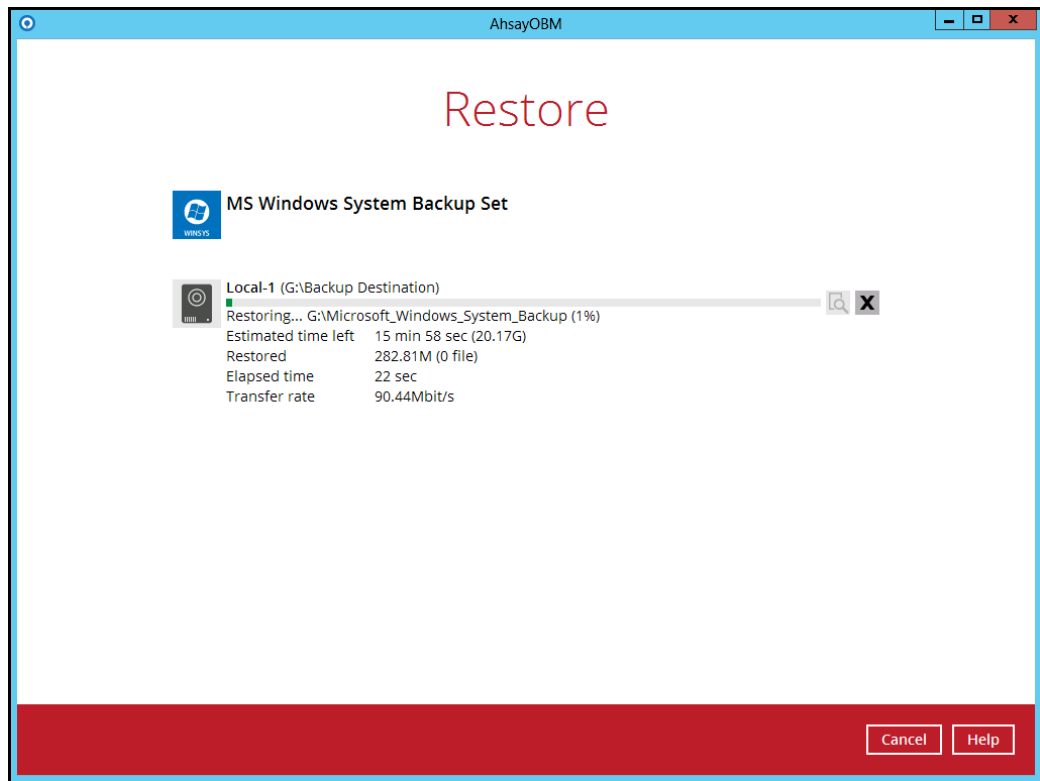


Click **Next** to proceed.

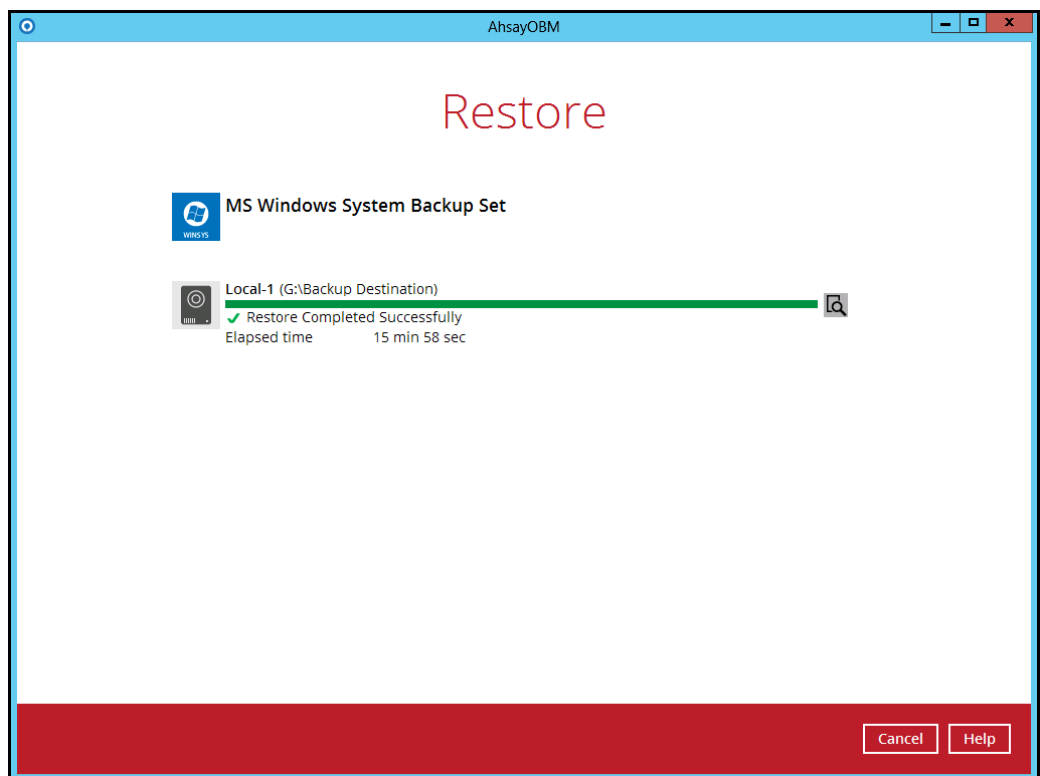
7. Select the temporary directory for storing temporary files.



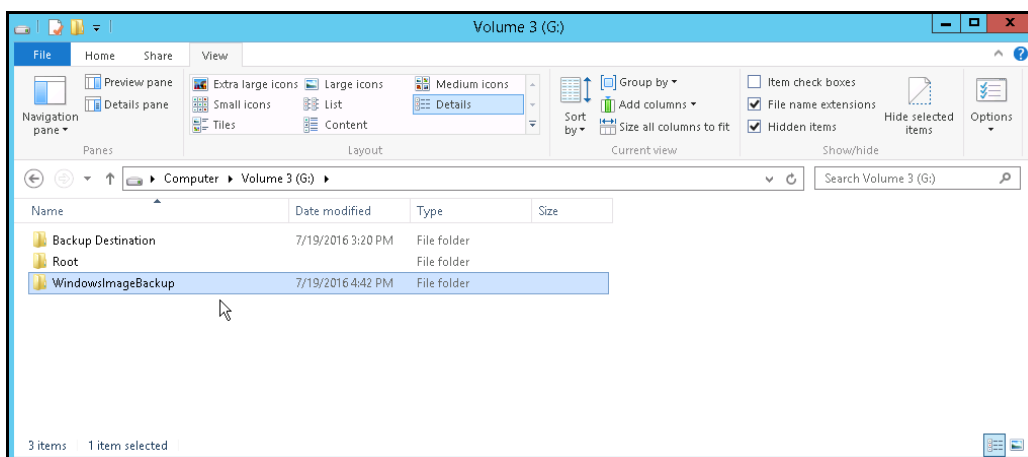
8. Click **Restore** to start the restoration.



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



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: 7/19/2016 1:46 PM  
Backup target: 1394/USB Disk labeled Volume 3 (G:)  
Version identifier: 07/19/2016-05:46  
Can recover: Volume(s), File(s), Application(s), Bare Metal  
Recovery, System State  
Snapshot ID: {feb9079c-9459-4034-908f-7b5a9b0bb1e5}
```

For non server platforms such as Windows 7 / 8 / 8.1 / 10, you can recover perform a 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:

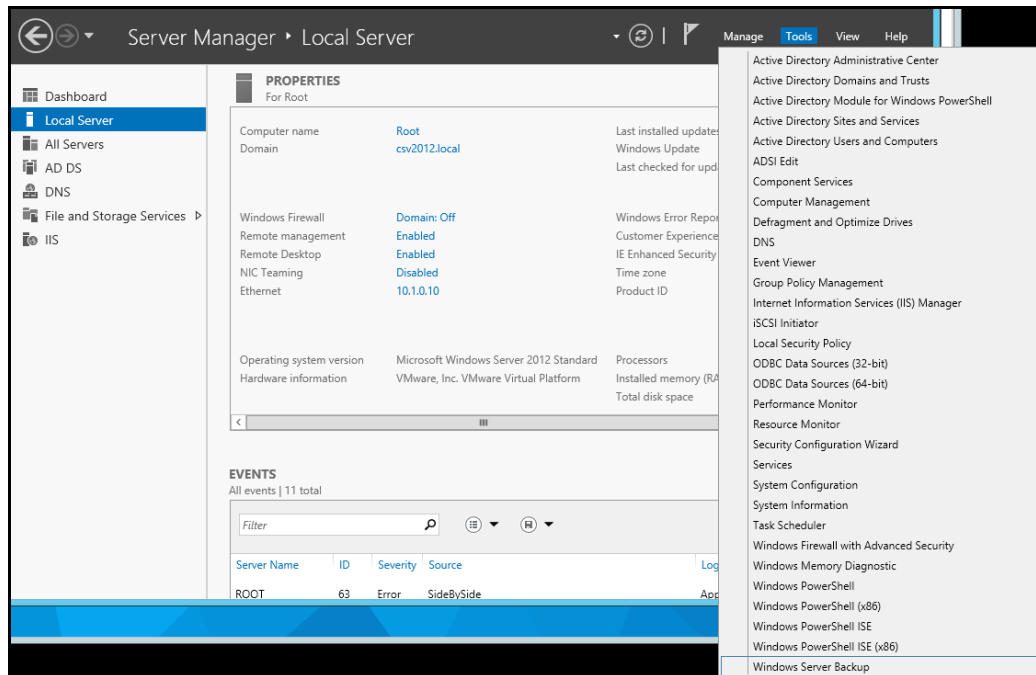
- [Recover Files and Folders](#)
- [Recover Application and Data](#)
- [Recover Volumes](#)
- [Recover the Operating System or Full System](#)
- [Recover the Full System \(Non Server Platforms\)](#)

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

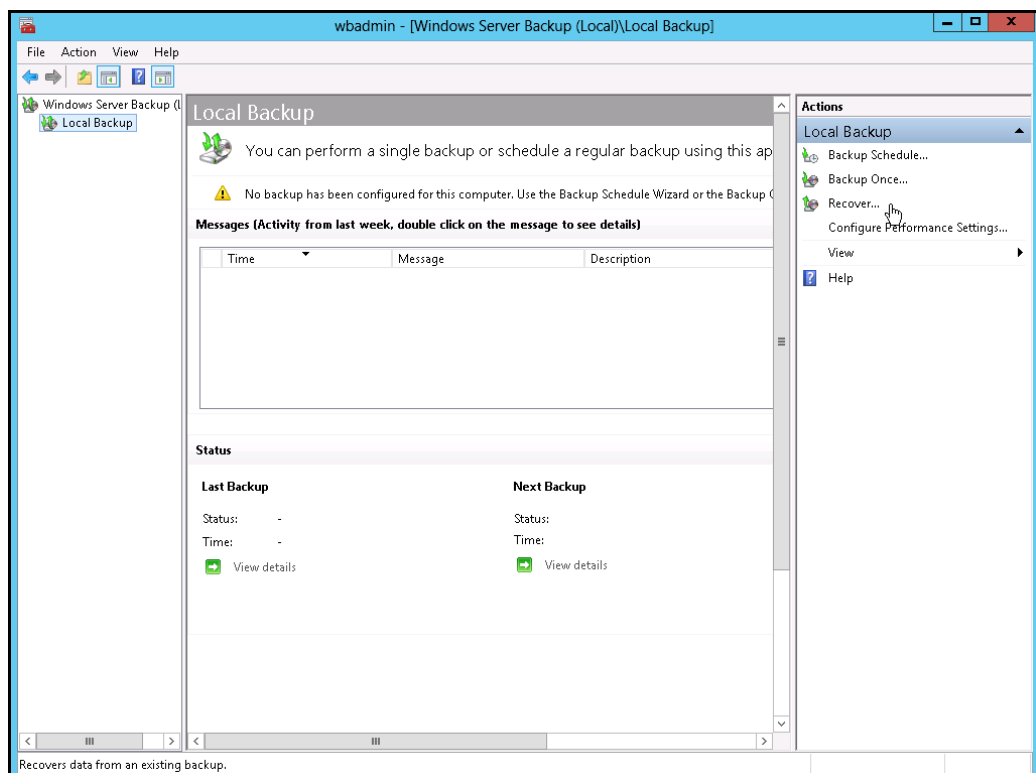
8.3.1 Recover Files and Folders

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

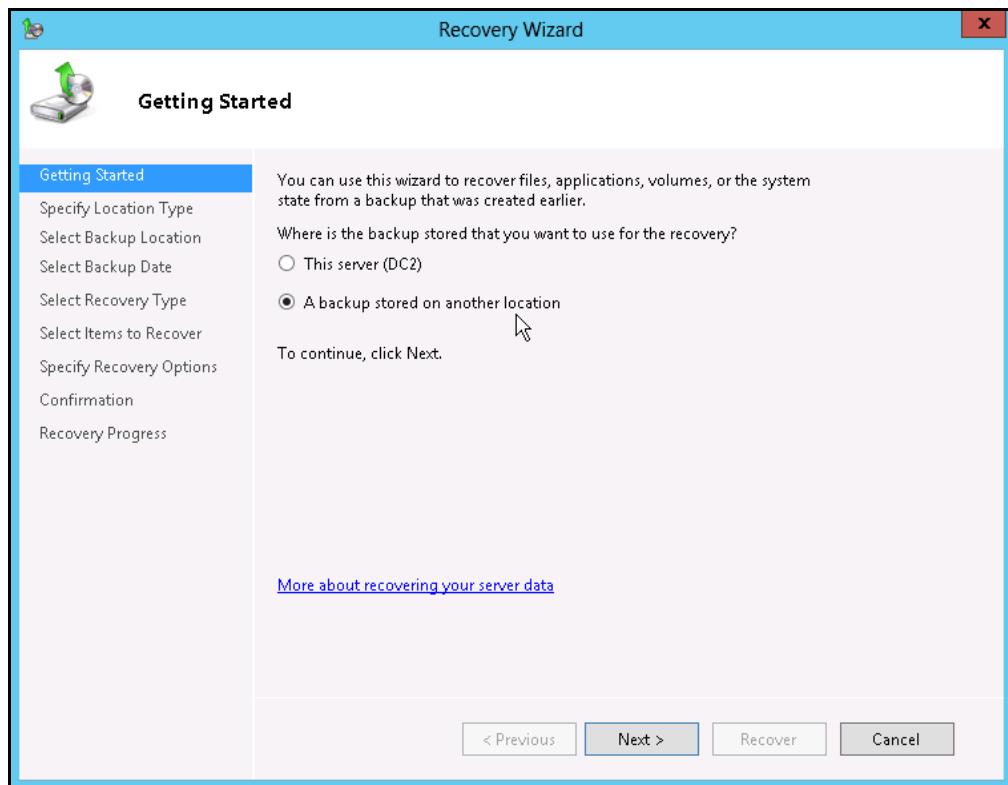
1. Open **Windows Server Backup** from **Administrative Tools** or **Server Manager**.



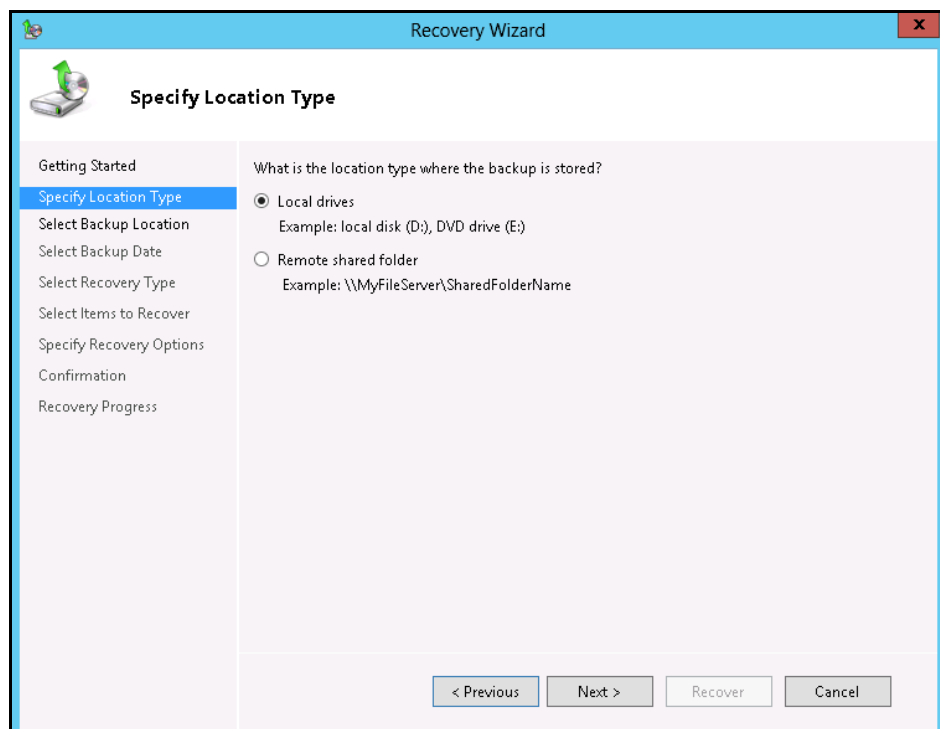
2. In the **Actions** panel under **Windows Server Backup**, click **Recover...**



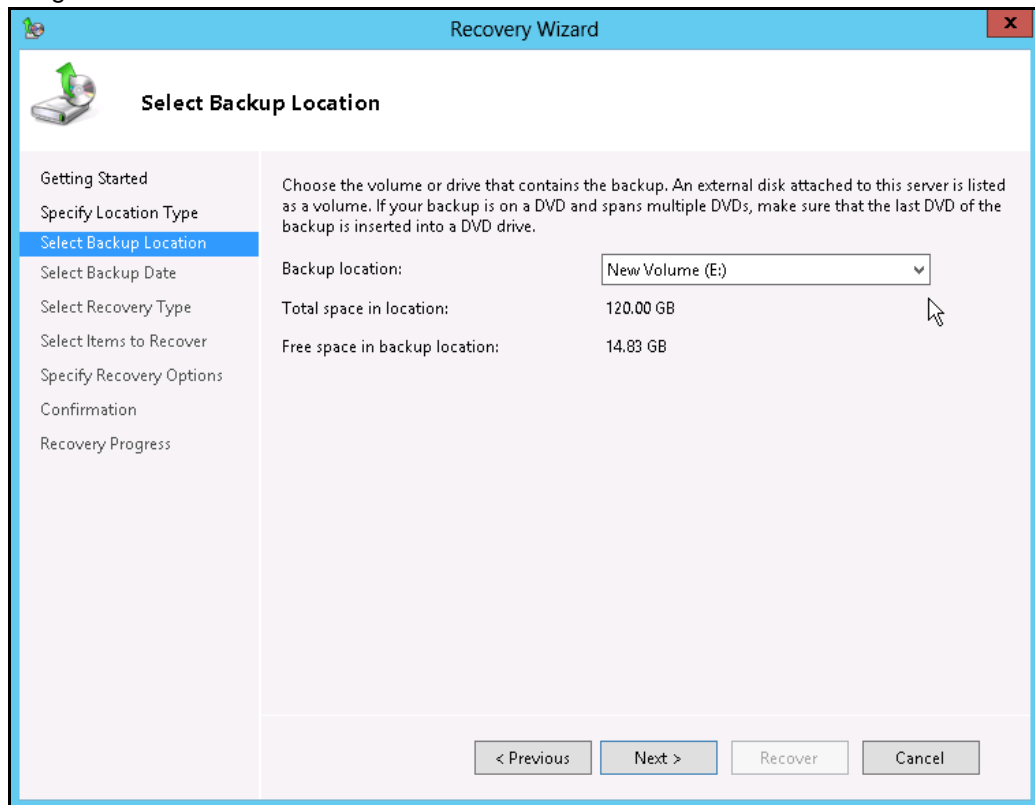
3. On the **Getting Started** page, select **A backup stored on another location**, then click **Next**.



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

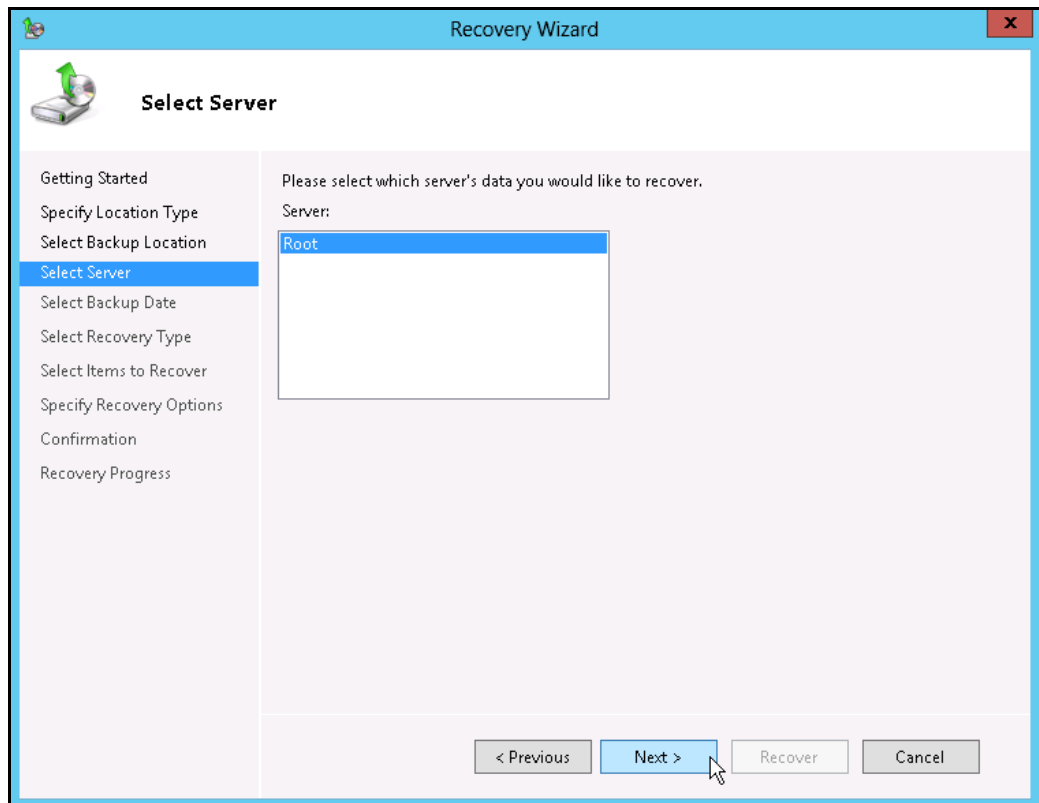


5. On the **Select Backup Location** page, select the volume that contains the system image file.

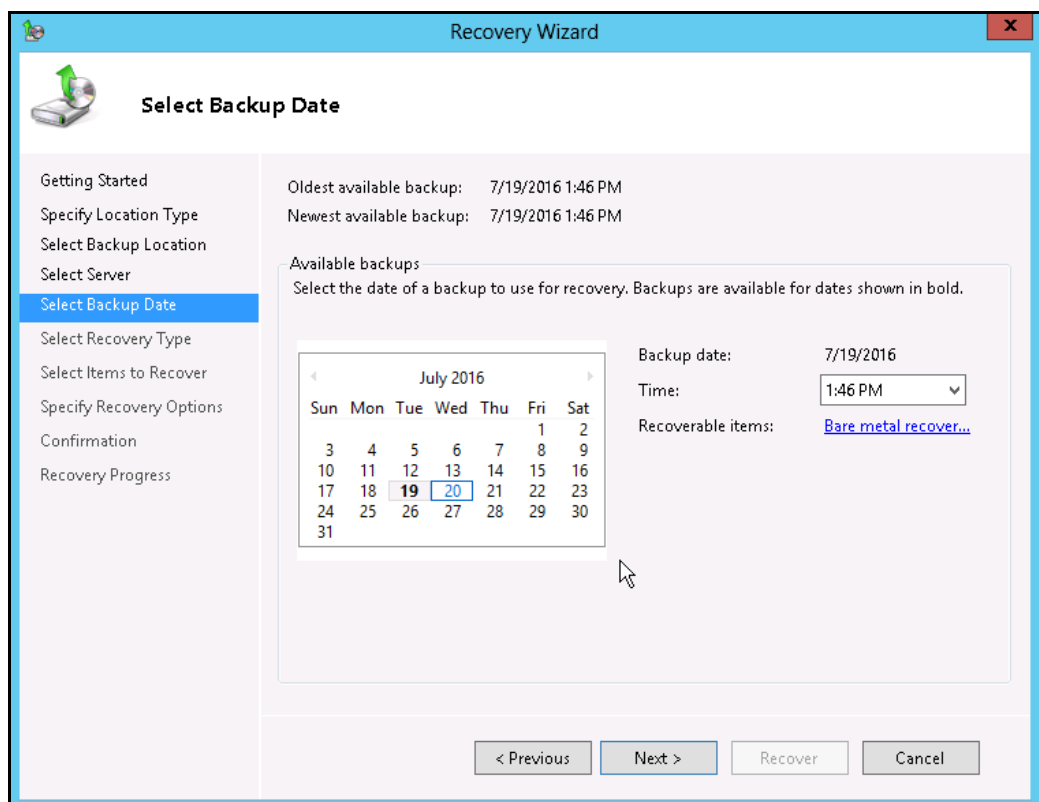


Note: Assuming that the **WindowsImageBackup** folder was copied to the following
E:\WindowsImageBackup

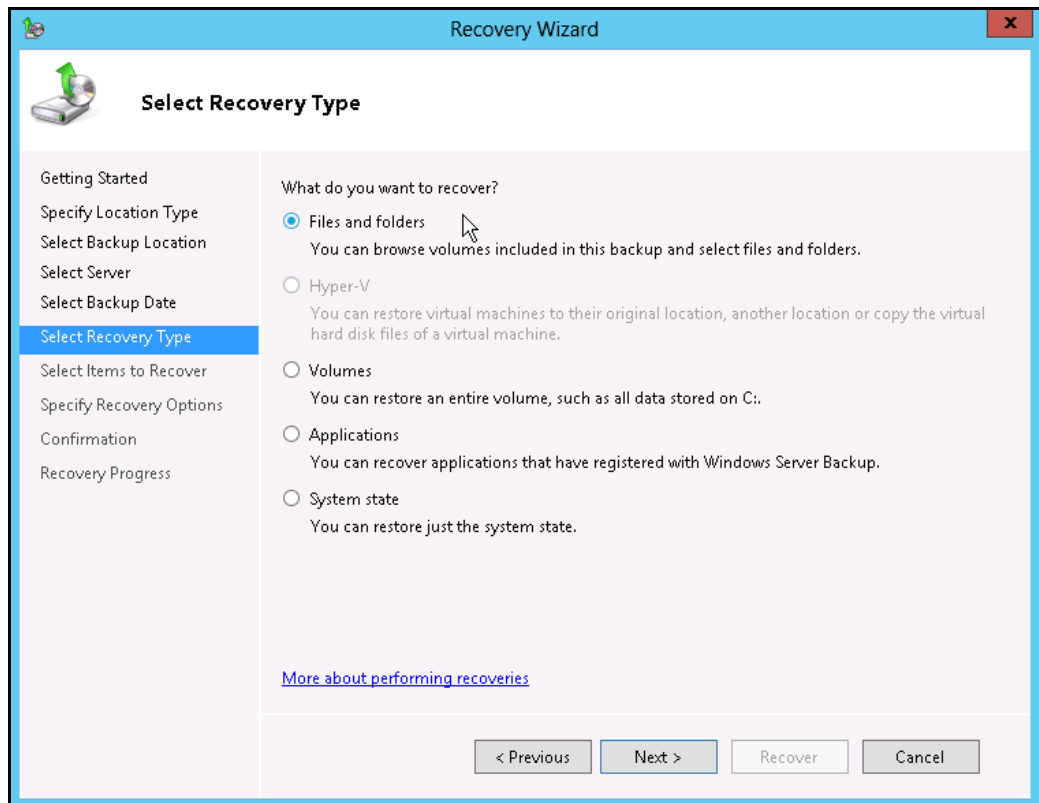
6. On the **Select Server** page, select the server whose data you want to recover.



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

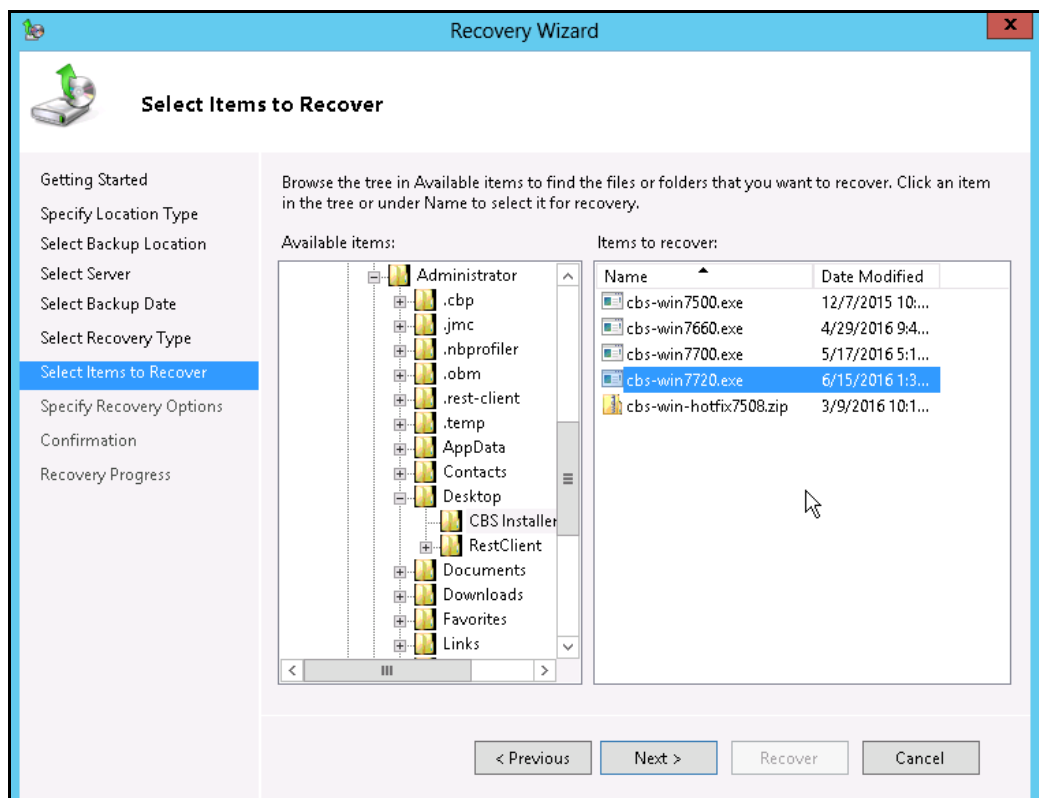


8. On the **Select Recovery Type** page, click **Files and folders**.



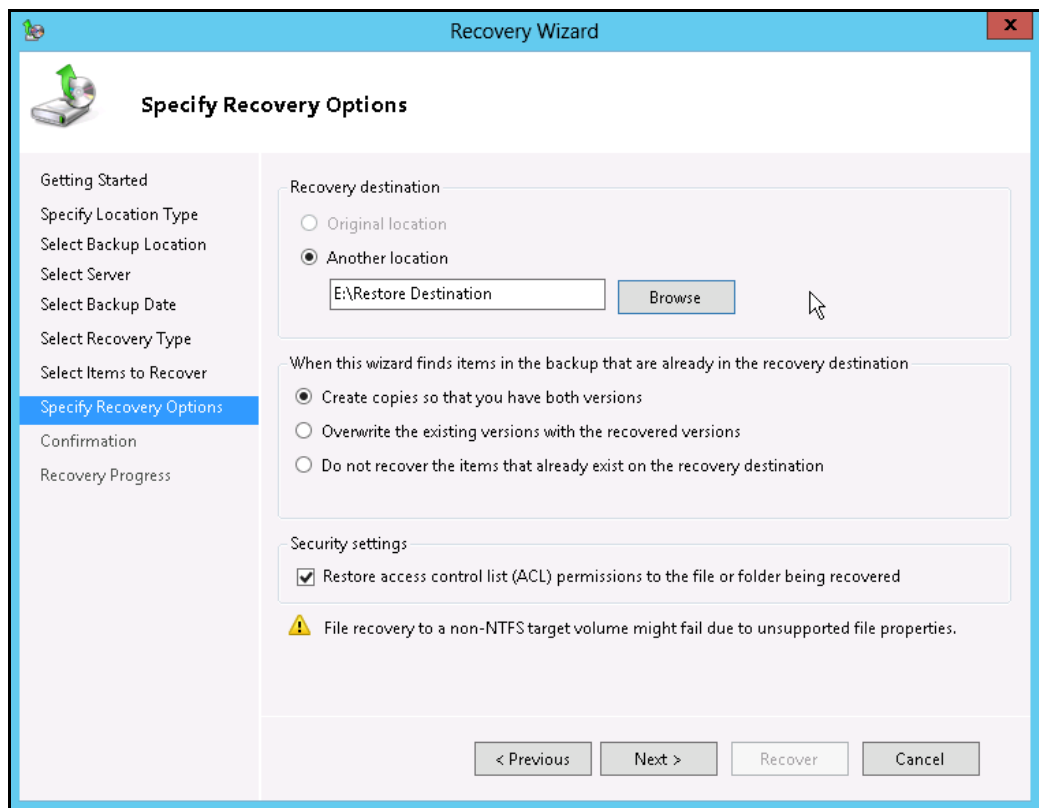
9. On the **Select Items to Recover** page, under **Available items**, expand the list until the folder you want is visible.

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



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

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

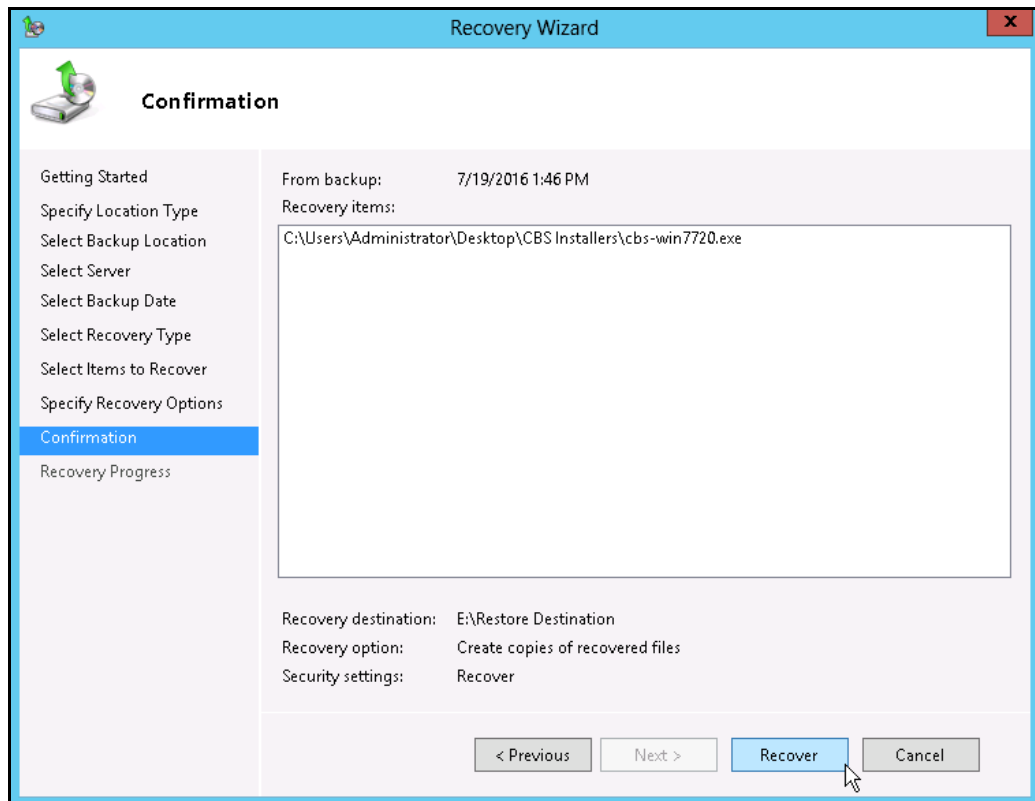


The screenshot shows the 'Specify Recovery Options' window of the Recovery Wizard. The window has a blue title bar and a sidebar on the left with the following steps: Getting Started, Specify Location Type, Select Backup Location, Select Server, Select Backup Date, Select Recovery Type, Select Items to Recover, Specify Recovery Options (highlighted), Confirmation, and Recovery Progress. The main area is divided into three sections: 'Recovery destination' with radio buttons for 'Original location' and 'Another location' (selected), a text box containing 'E:\Restore Destination', and a 'Browse' button; 'When this wizard finds items in the backup that are already in the recovery destination' with radio buttons for 'Create copies so that you have both versions' (selected), 'Overwrite the existing versions with the recovered versions', and 'Do not recover the items that already exist on the recovery destination'; and 'Security settings' with a checked checkbox for 'Restore access control list (ACL) permissions to the file or folder being recovered'. A warning icon and message are present below the security settings. At the bottom are buttons for '< Previous', 'Next >', 'Recover', and 'Cancel'.

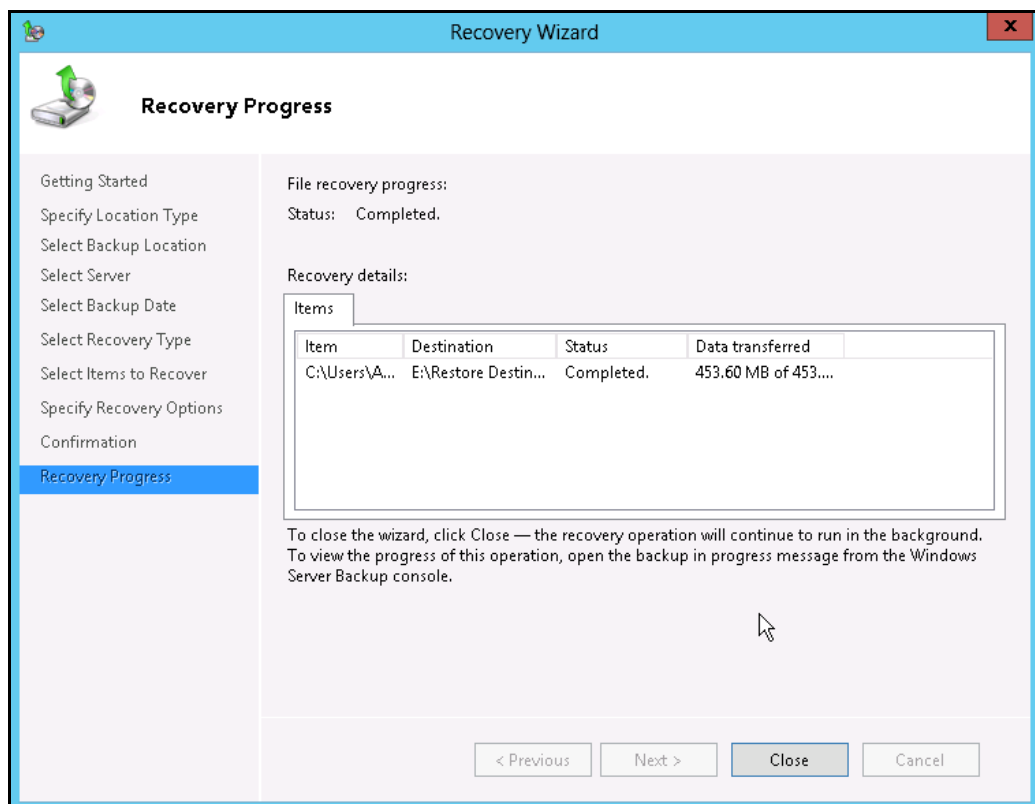
Modify the **When this wizard finds items in the backup that are already in the recovery destination** setting, and the **Security settings** if necessary.

Click **Next** to proceed.

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



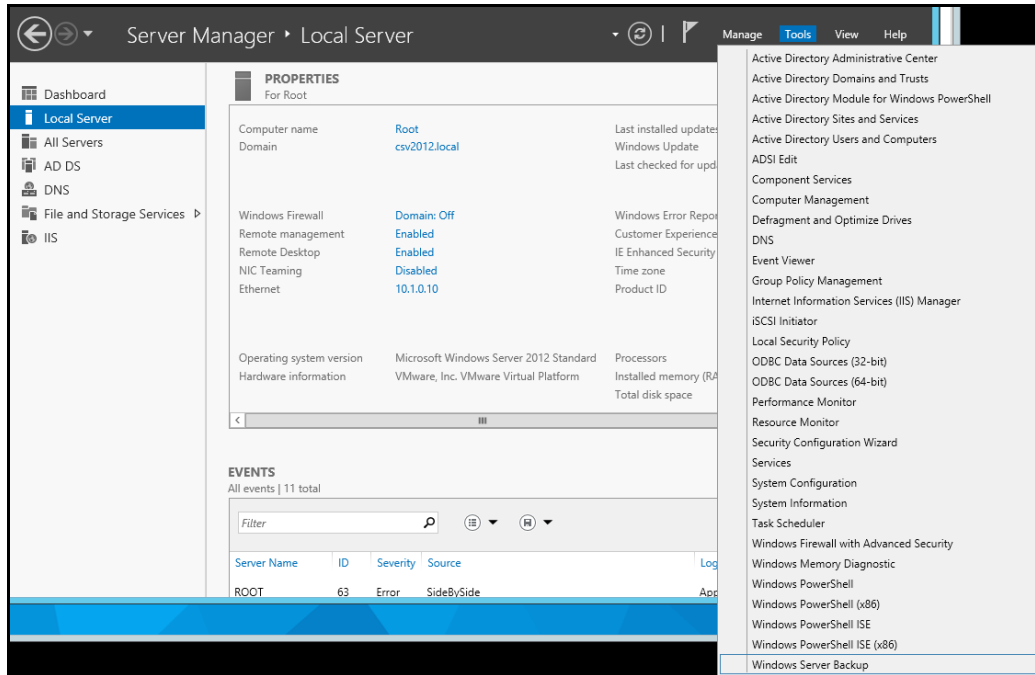
12. On the **Recovery progress** page, the status and result of the recovery operation is displayed.



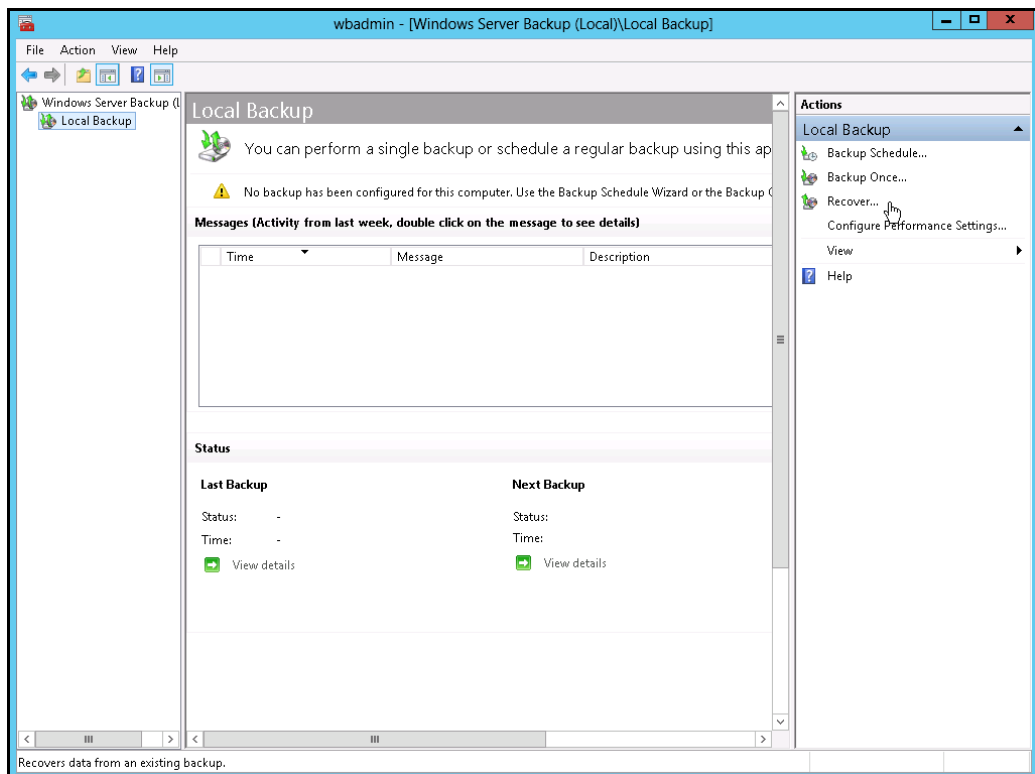
8.3.2 Recover Applications and Data

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

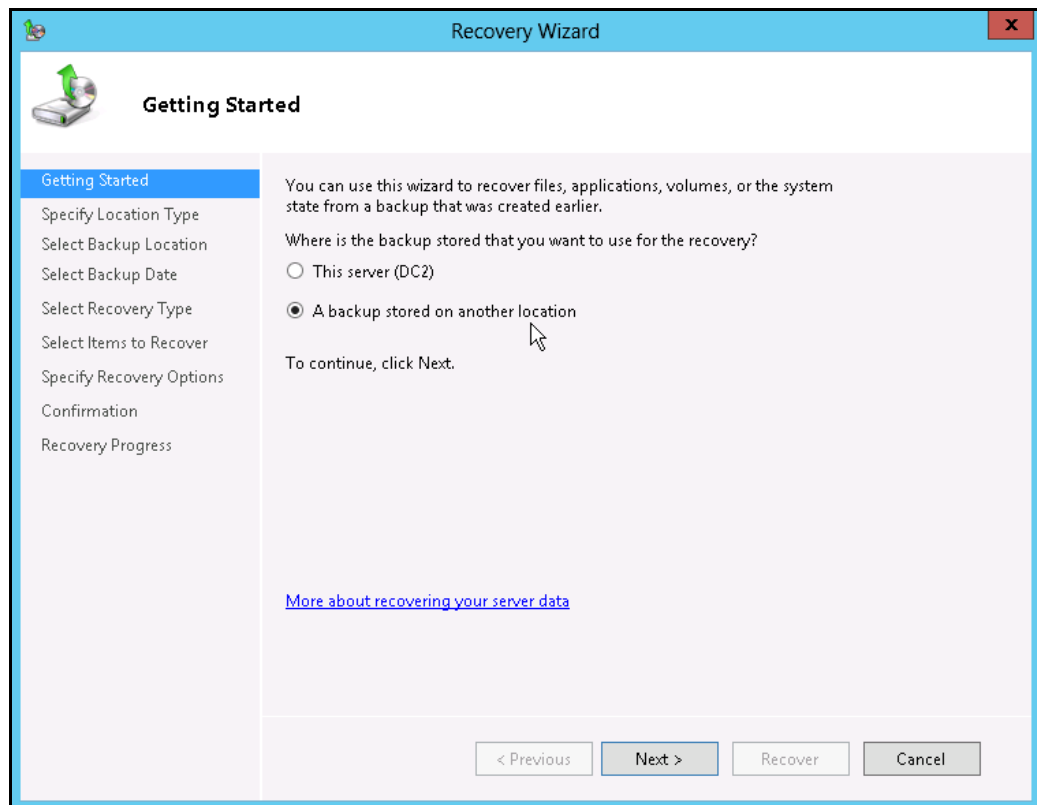
1. Open **Windows Server Backup** from Administrative Tools or Server Manager.



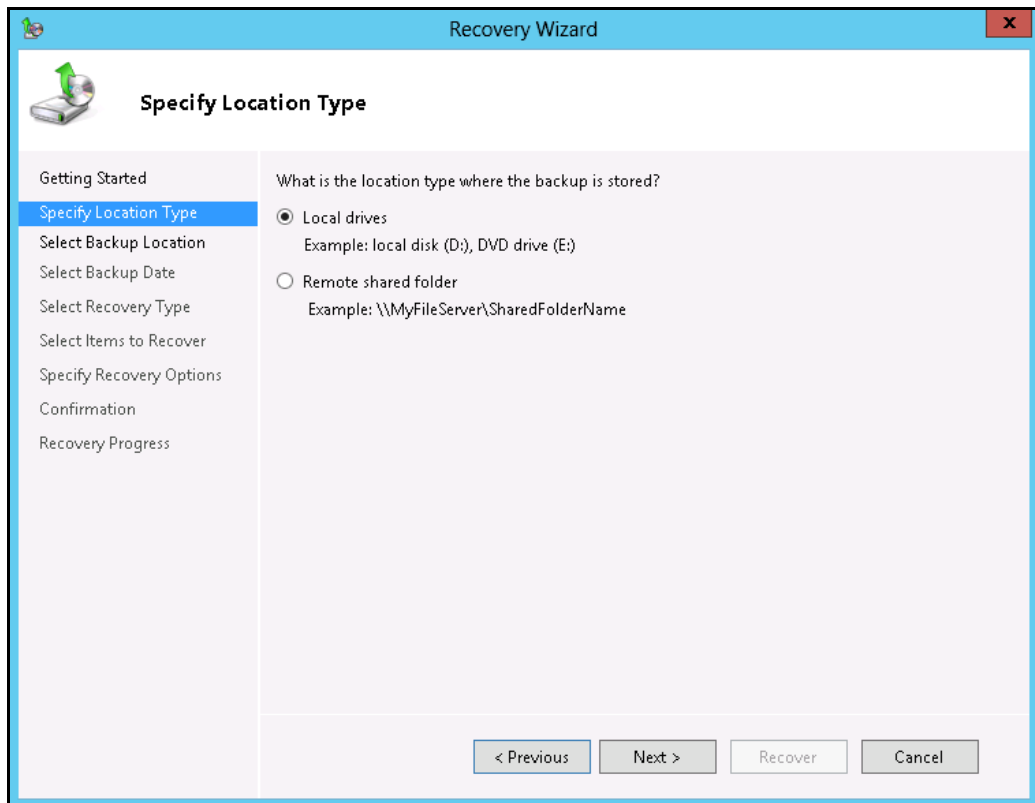
2. In the **Actions** panel under **Windows Server Backup**, click **Recover...**



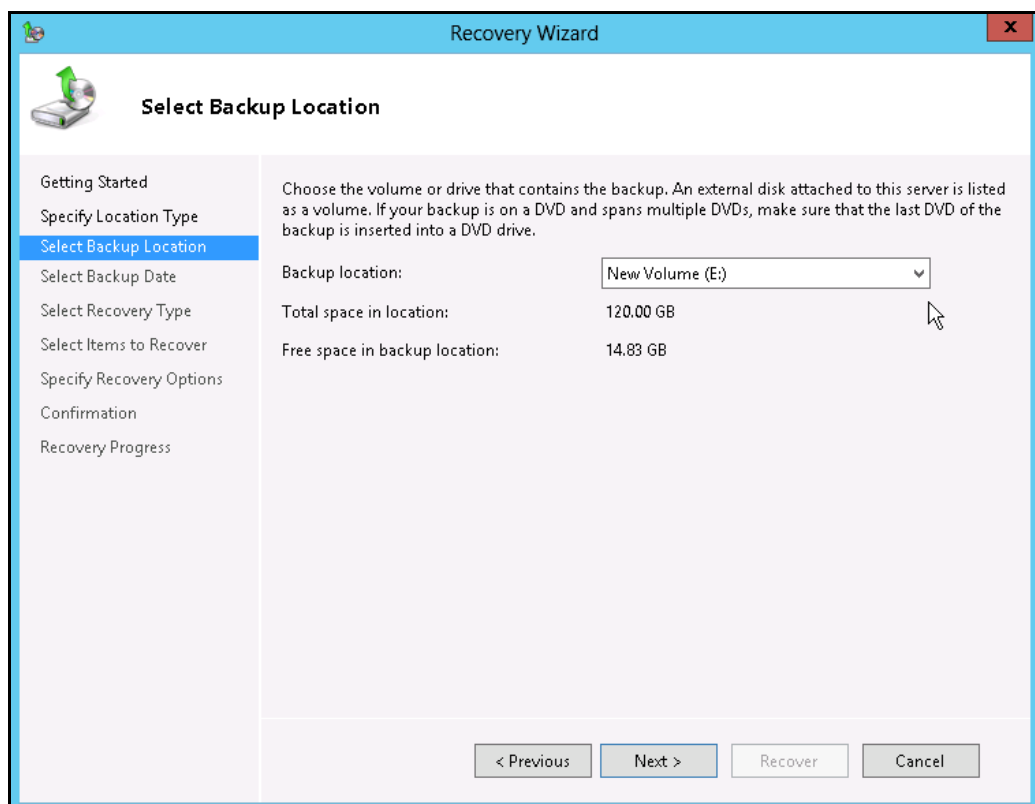
3. On the **Getting Started** page, select **A backup stored on another location**, then click **Next**.



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



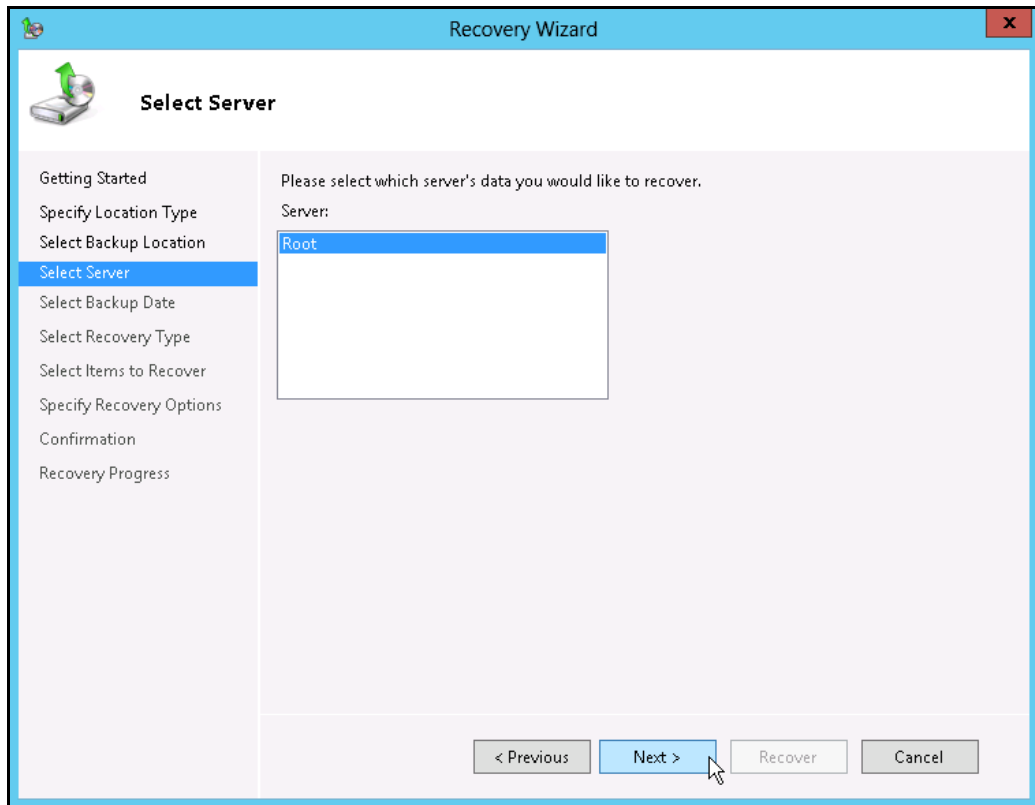
5. On the **Select Backup Location** page, select the volume that contains the system image file.



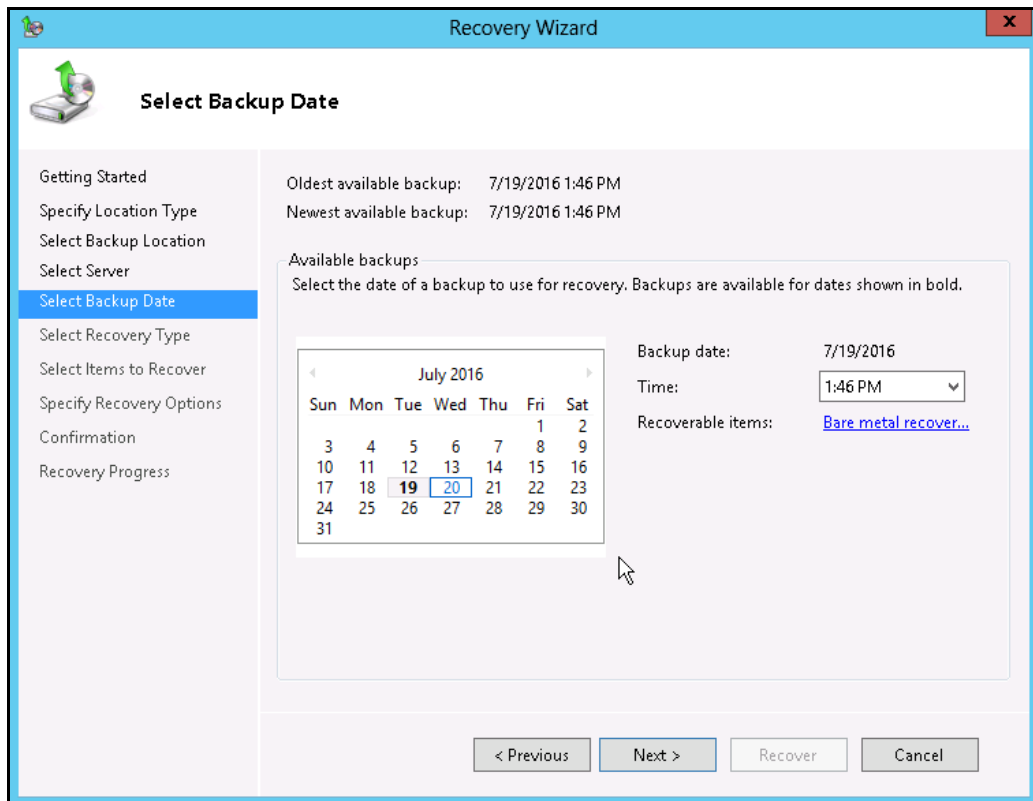
Note: Assuming that the **WindowsImageBackup** folder was copied to the following

E:\ WindowsImageBackup

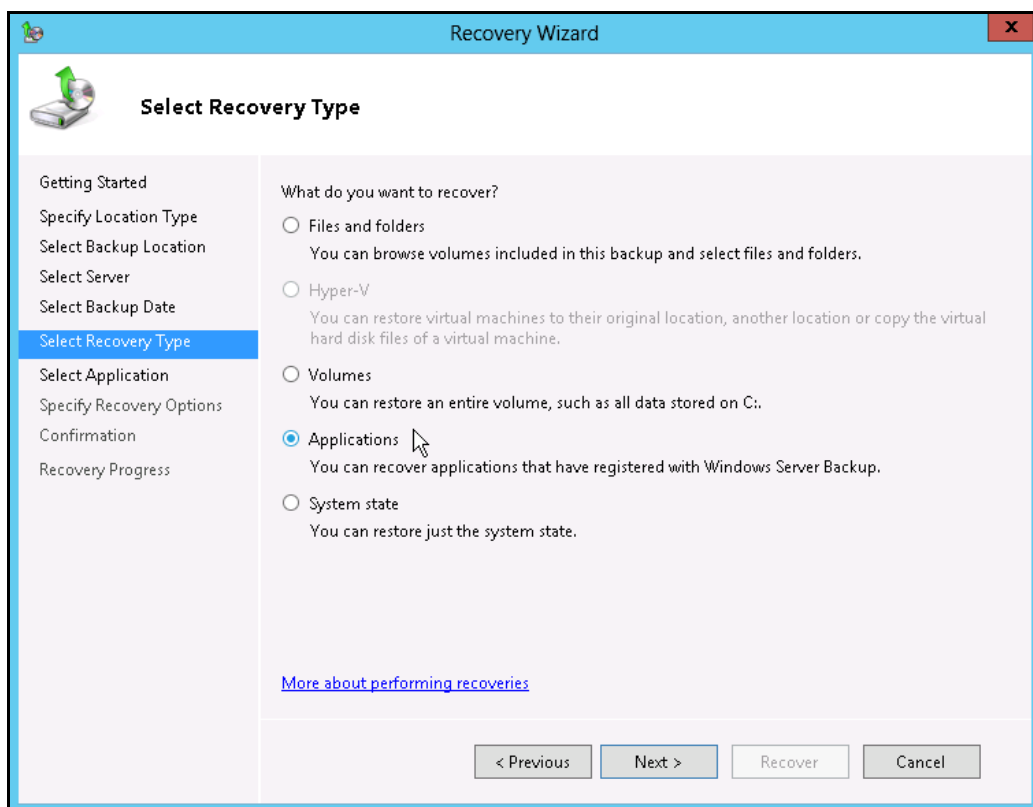
6. On the **Select Server** page, select the server whose data you want to recover.



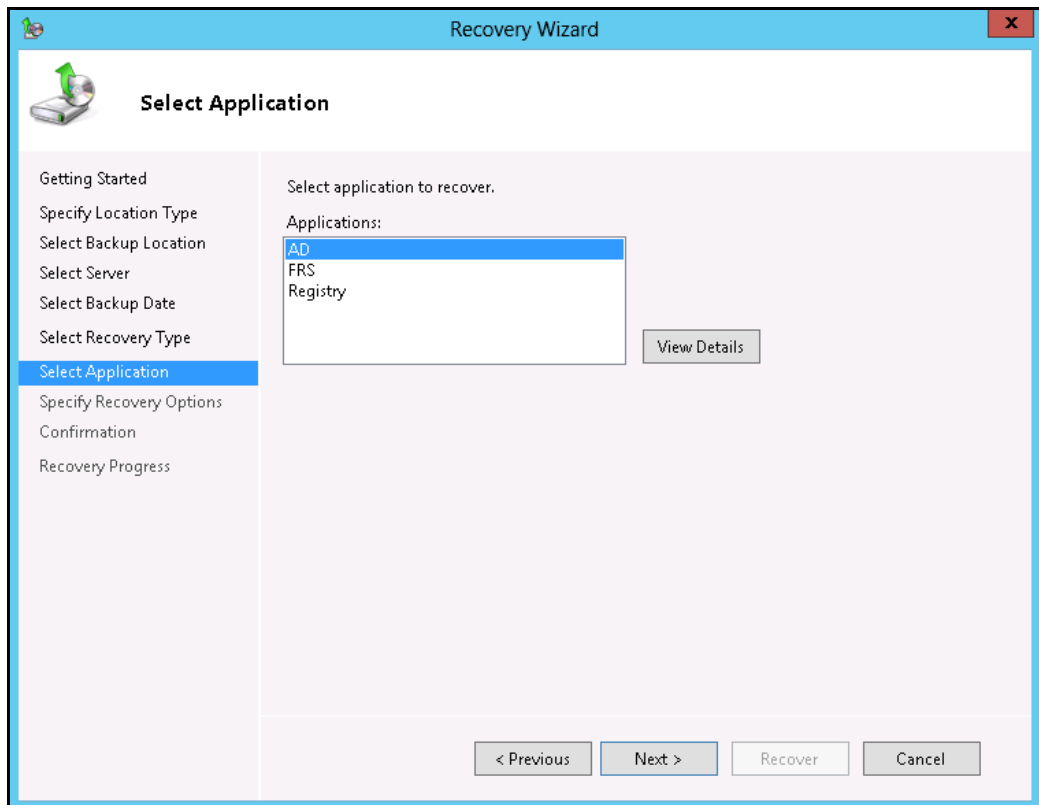
7. On the **Select Backup Date** page, select the point in time of the backup you want to restore from



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



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

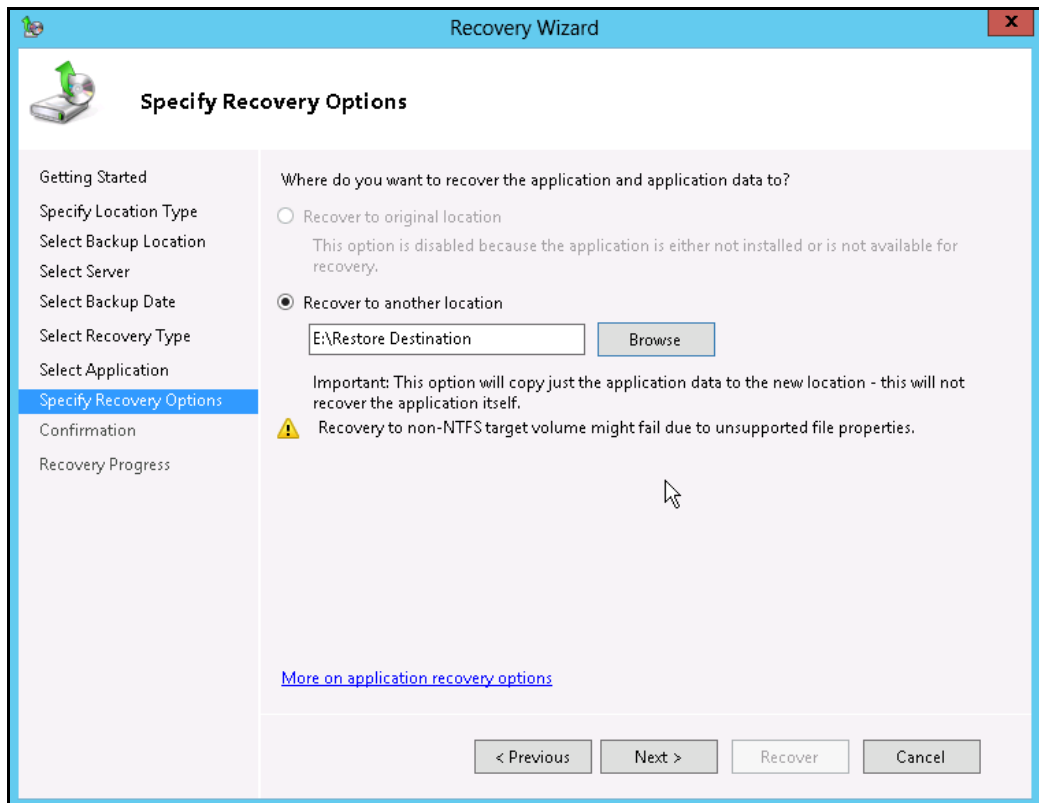


Note: If the backup that you are using is the most recent and the application you are recovering supports a "roll-forward" of the application database, you will see a check box labeled **Do not perform a roll-forward recovery of the application databases**.

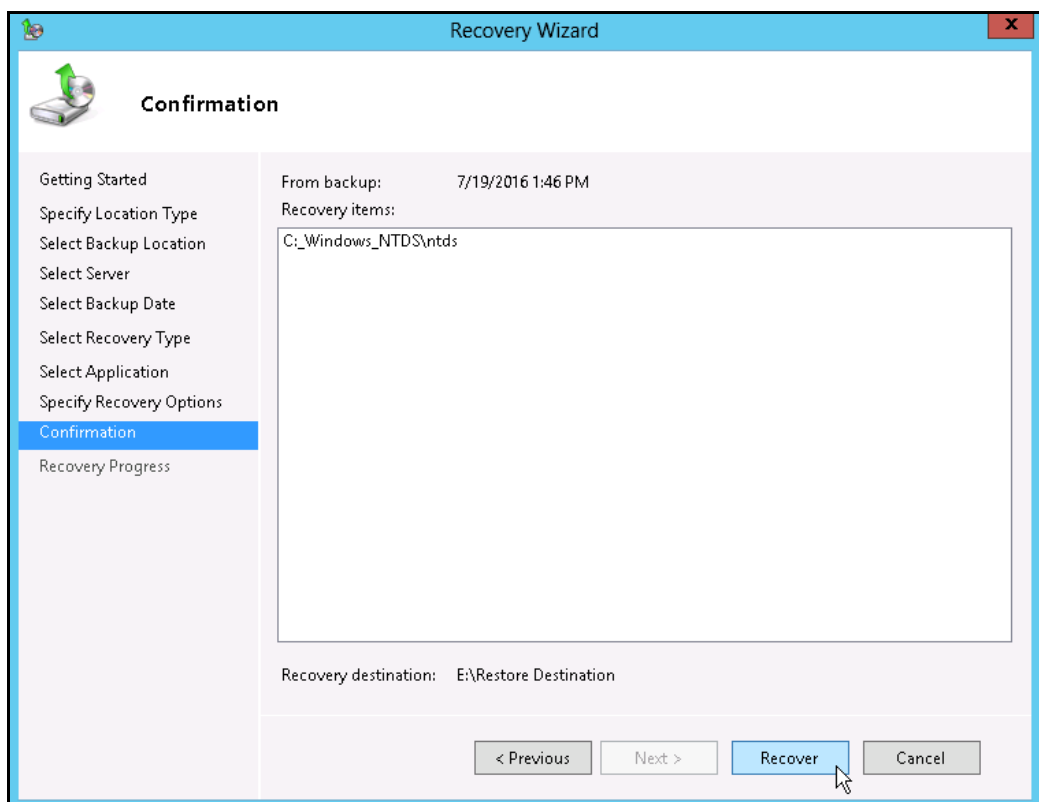
Select this check box if you want to prevent Windows Server Backup from rolling forward the application database that is currently on your server.

10. On the **Specify Recovery Options** page, select **Recover to another location**.

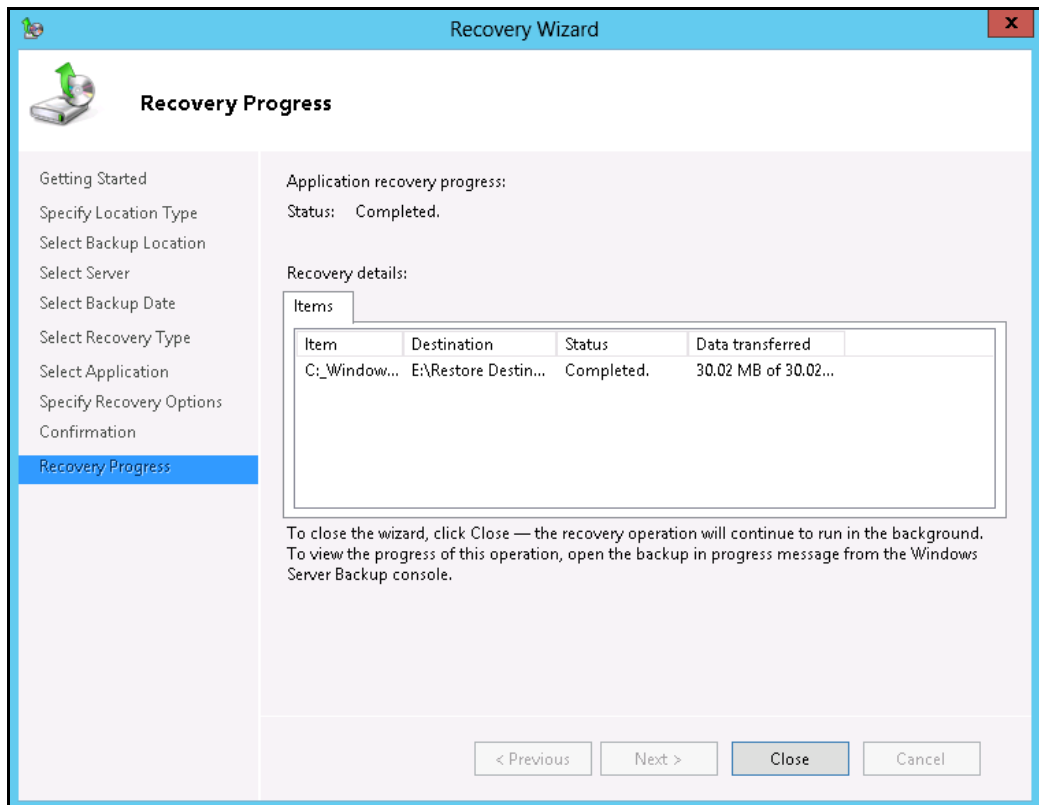
Type the path to the location, or click **Browse** to select it.



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



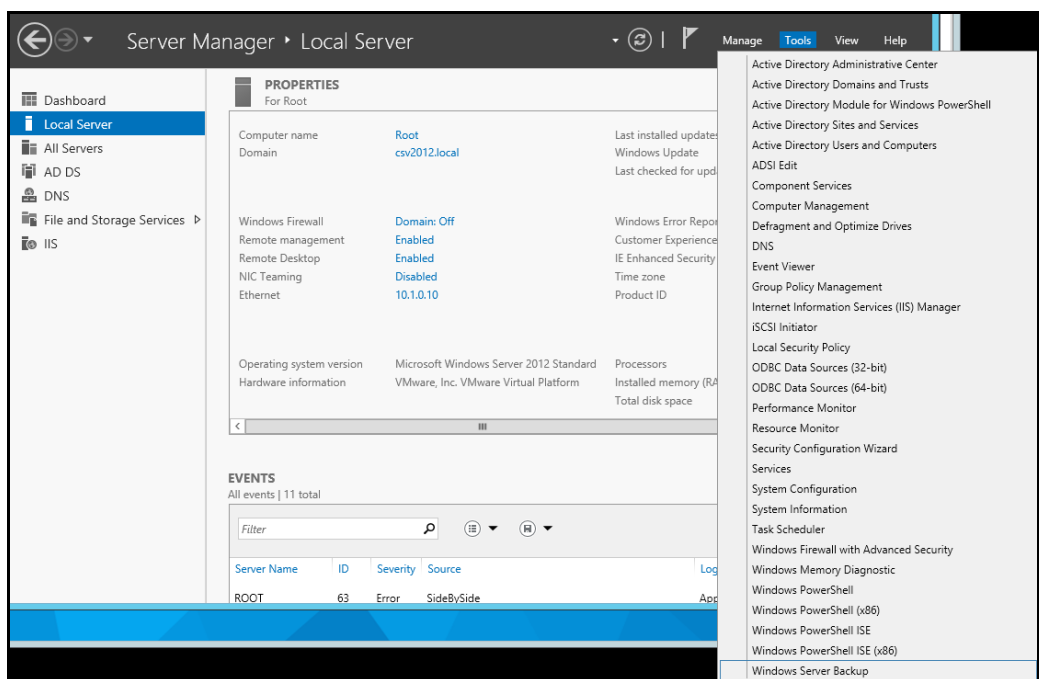
12. On the **Recovery progress** page, the status and result of the recovery operation is displayed.



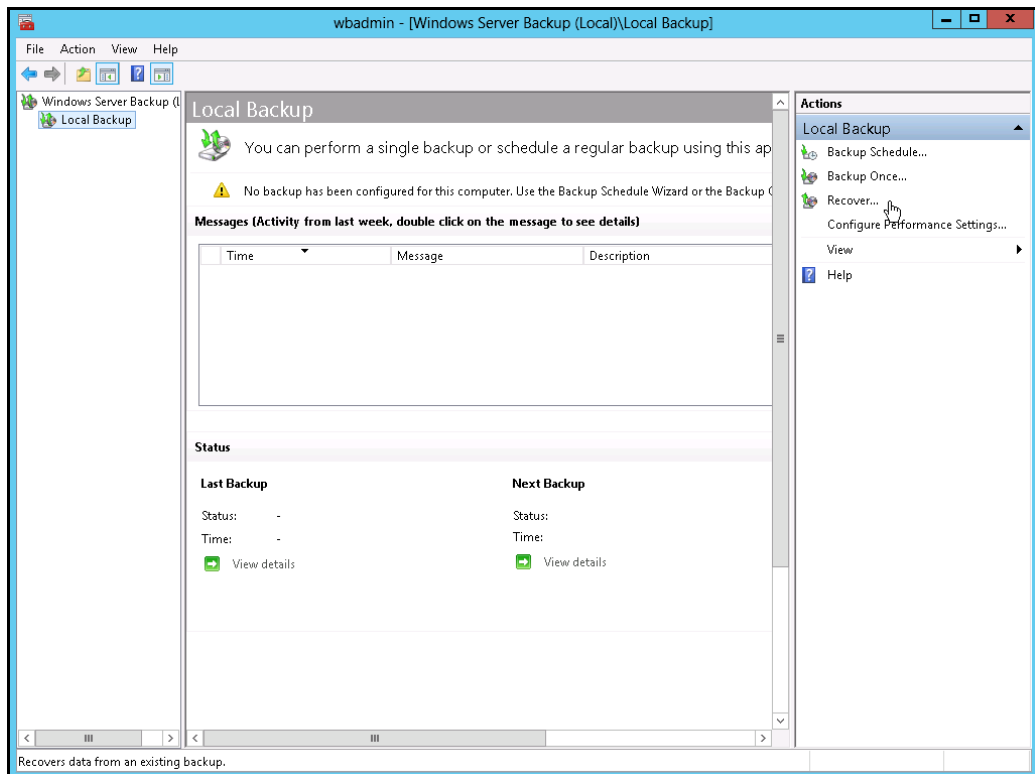
8.3.3 Recover Volumes

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

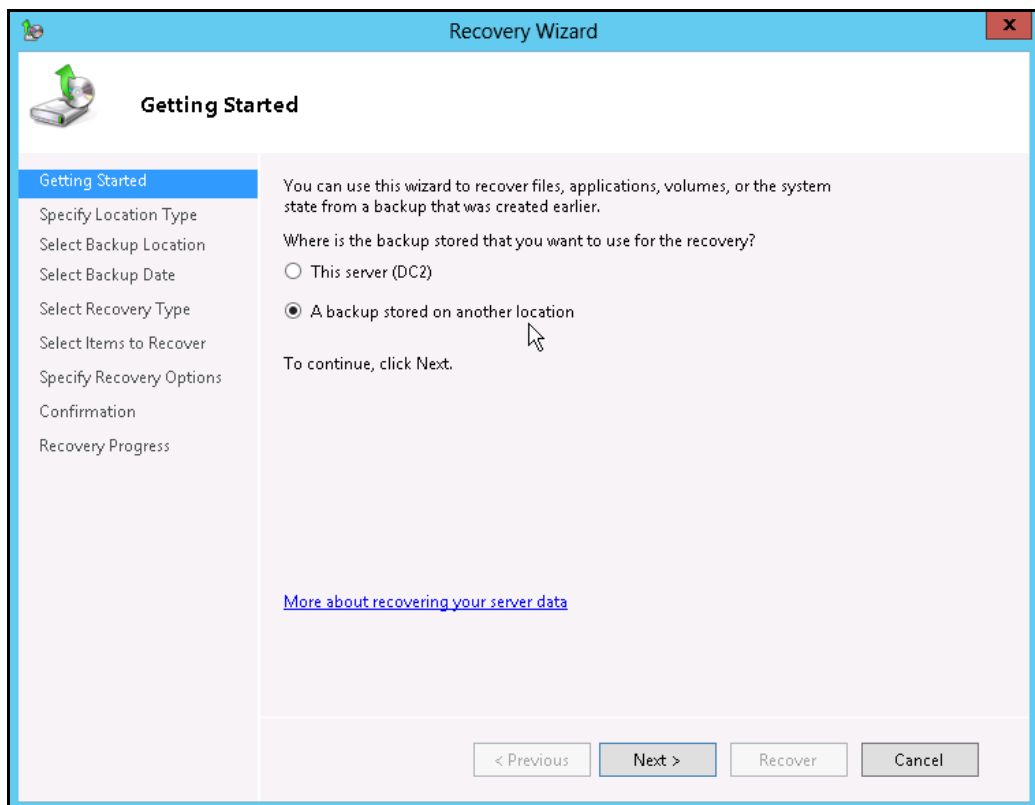
1. Open Windows Server Backup from Administrative Tools or Server Manager.



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

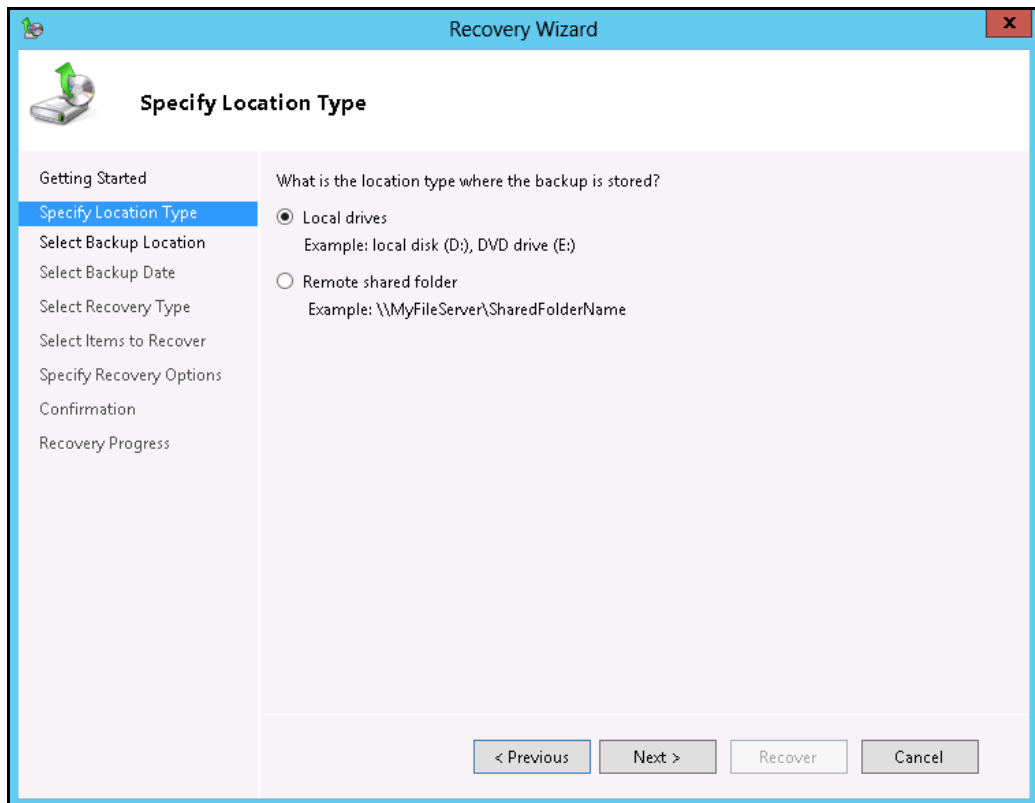


3. On the **Getting Started** page, select **A backup stored on another location**, then click **Next**.

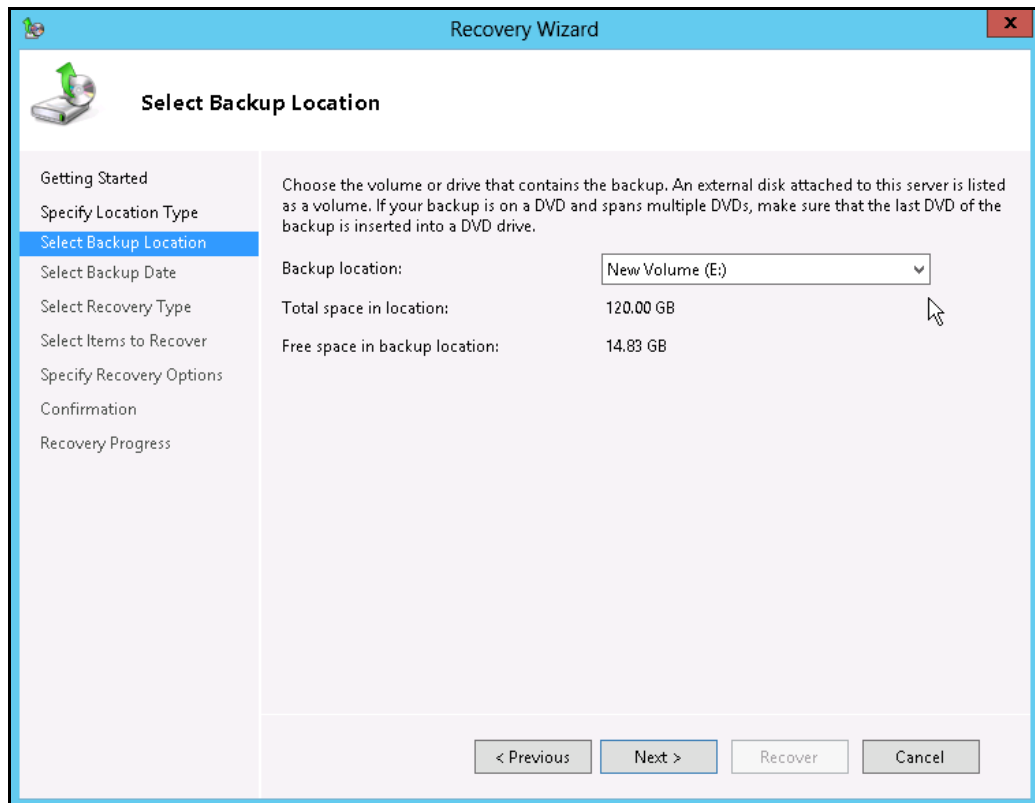


4. On the **Specify Location Type** page, select

- 1. Click **Local drives**, if the system image was copied to a local volume on the server.
- 2. Click **Remote shared folder**, if the system image was copied to a network path accessible to this server.

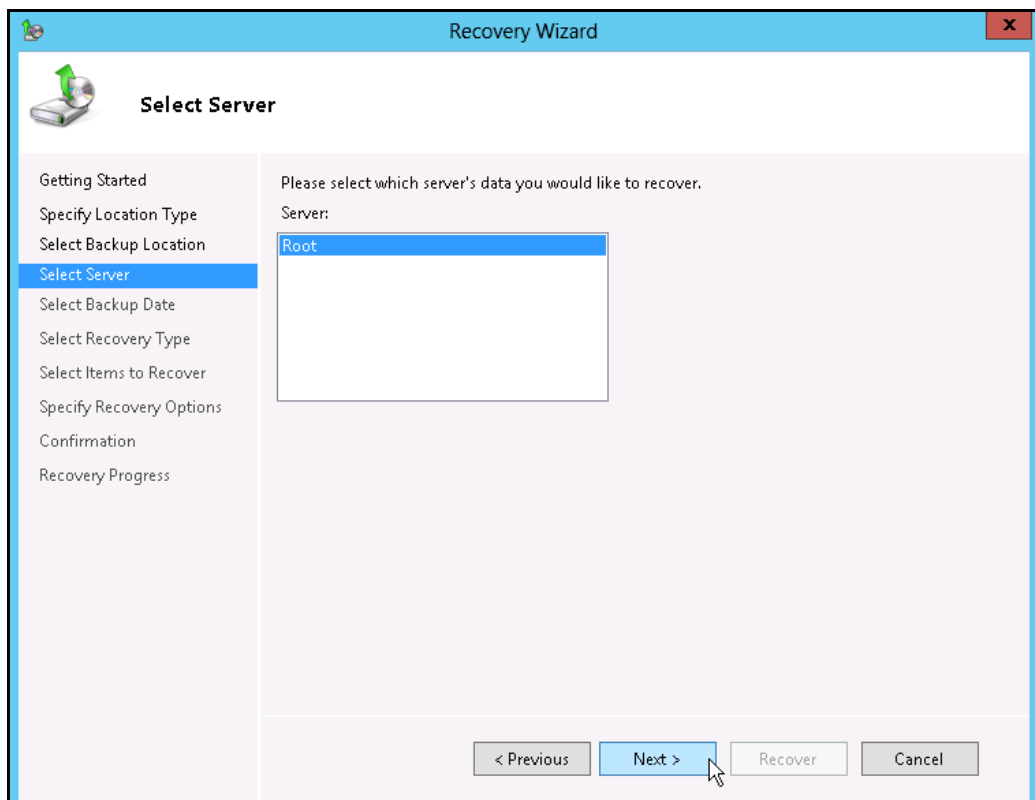


5. On the **Select Backup Location** page, select the volume that contains the system image file.



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

Recovery Wizard

Select Backup Date

Getting Started
Specify Location Type
Select Backup Location
Select Server
Select Backup Date
Select Recovery Type
Select Items to Recover
Specify Recovery Options
Confirmation
Recovery Progress

Oldest available backup: 7/19/2016 1:46 PM
Newest available backup: 7/19/2016 1:46 PM

Available backups
Select the date of a backup to use for recovery. Backups are available for dates shown in bold.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Backup date: 7/19/2016
Time: 1:46 PM
Recoverable items: [Bare metal recover...](#)

< Previous Next > Recover Cancel

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

Recovery Wizard

Select Recovery Type

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

What do you want to recover?

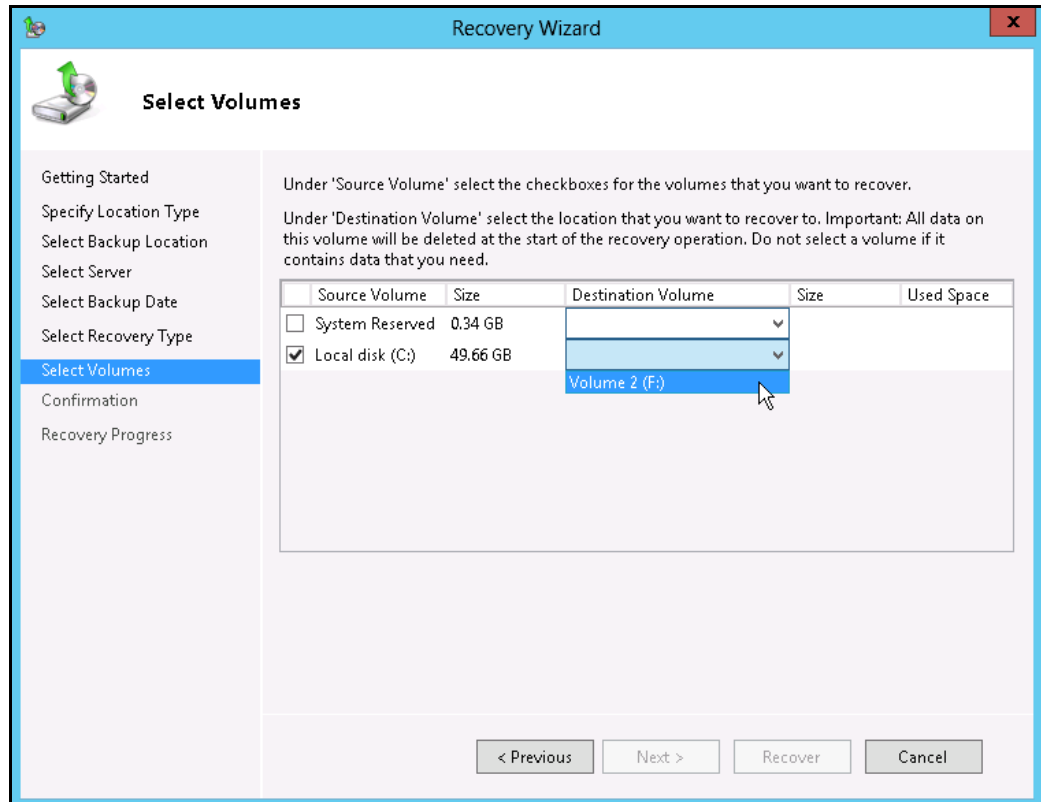
- ☐ Files and folders
You can browse volumes included in this backup and select files and folders.
- ☐ Hyper-V
You can restore virtual machines to their original location, another location or copy the virtual hard disk files of a virtual machine.
- ☒ **Volumes**
You can restore an entire volume, such 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.

[More about performing recoveries](#)

< Previous Next > Recover 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.

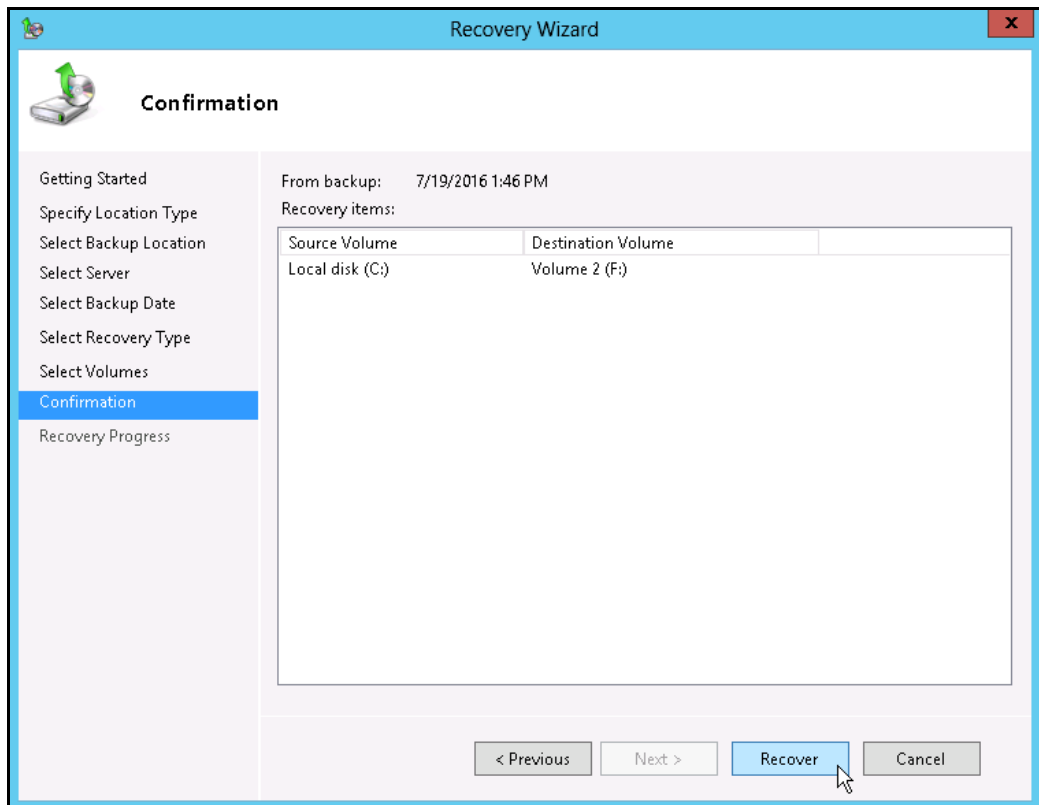
Then, from the associated dropdown list in the **Destination Volume** column, select the location that you want to recover the volume to.



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.

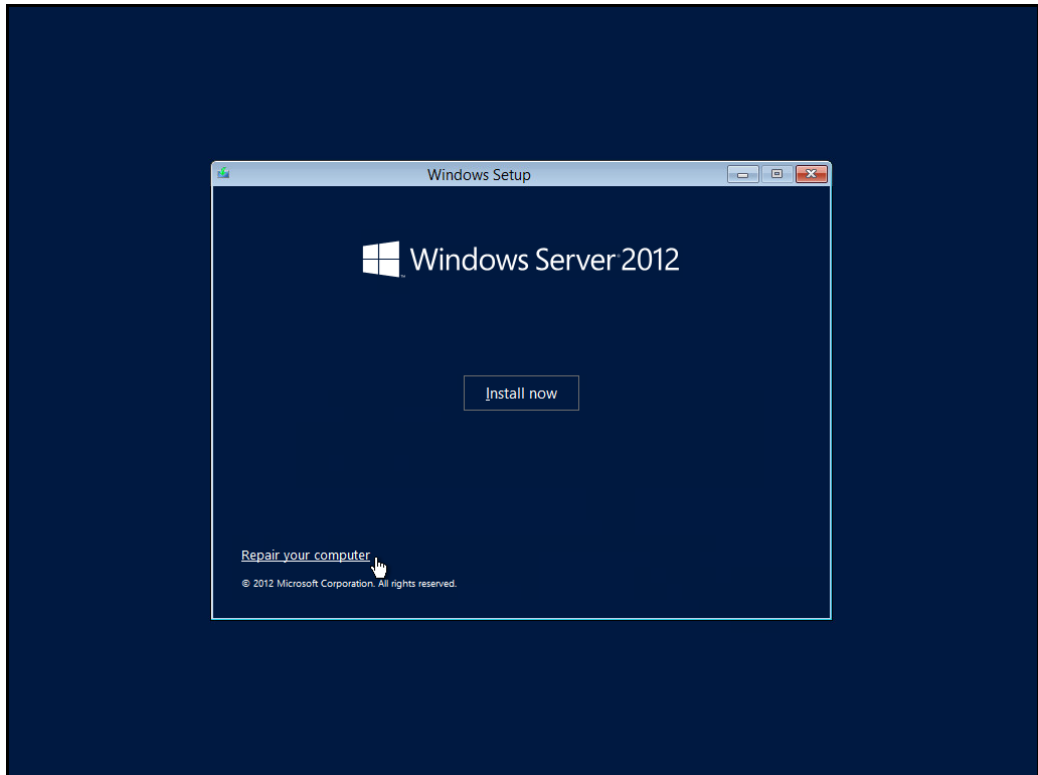
8.3.4 Recover Operating System or Full System

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

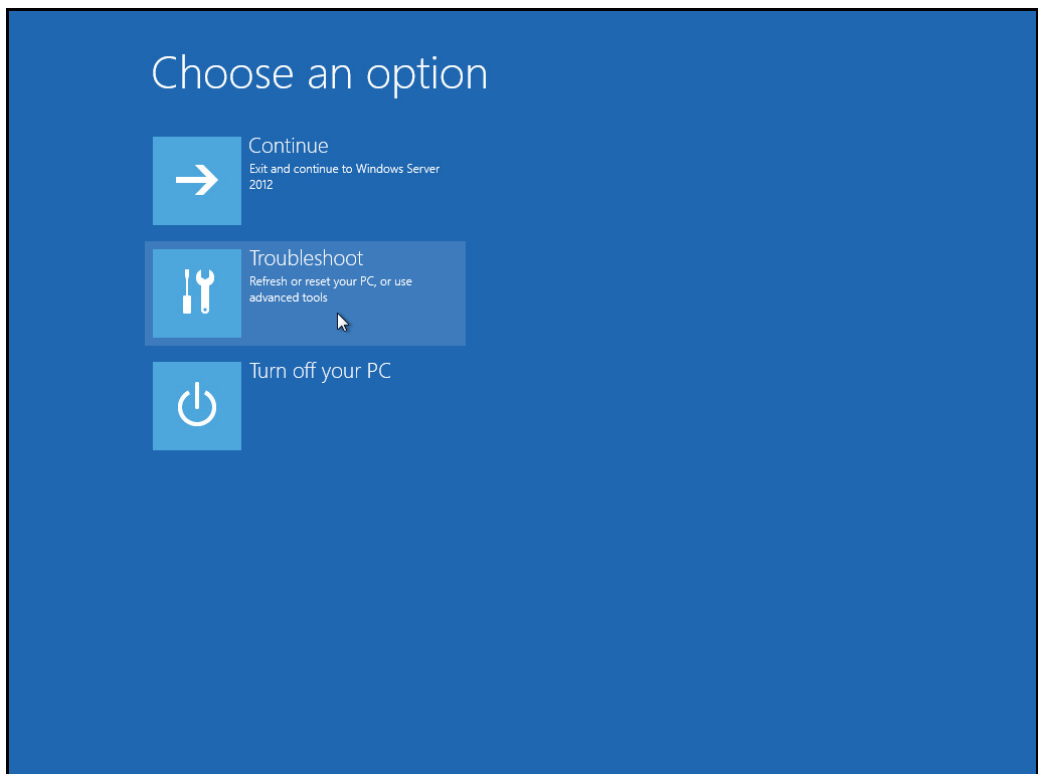
Note: For instructions specific to recovering Active Directory Domain Services, refer to the following: <http://go.microsoft.com/fwlink/?LinkId=143754>

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.

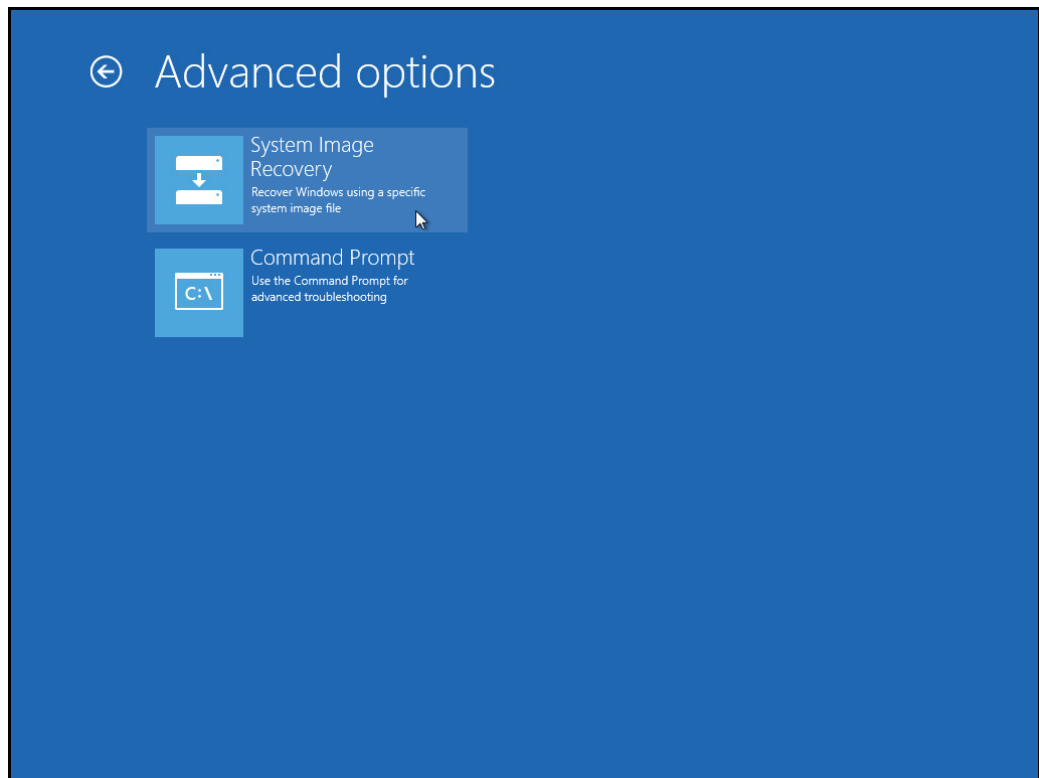


2. On the **Choose an option** page, click **Troubleshoot**.



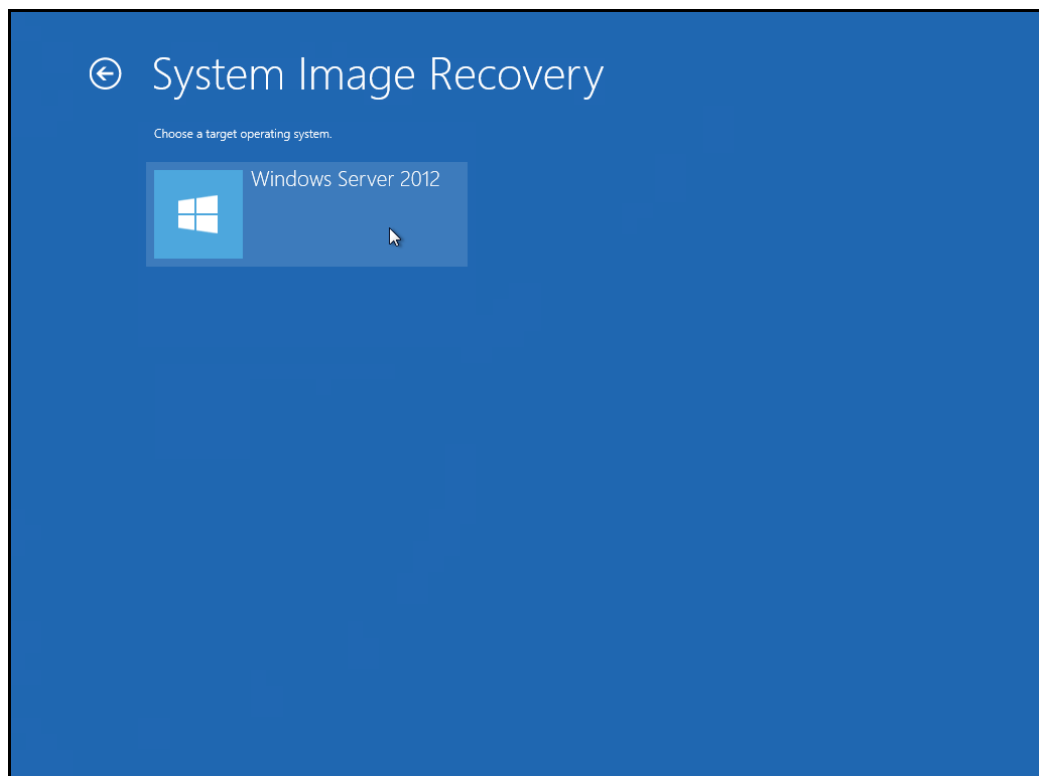
Note: This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

3. Click **System Image Recovery**.



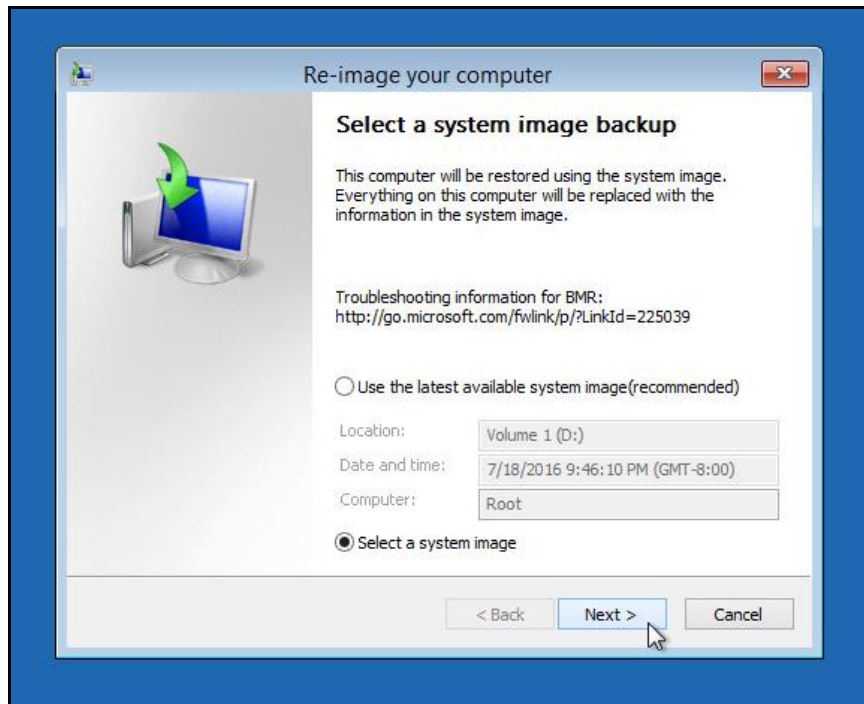
Note: This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

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

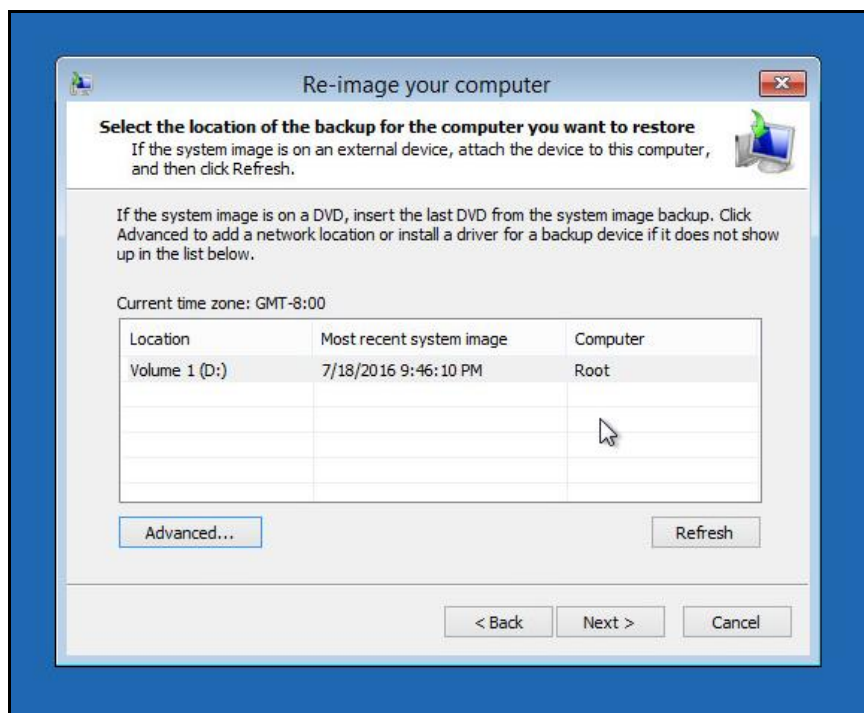


Note: This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

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.

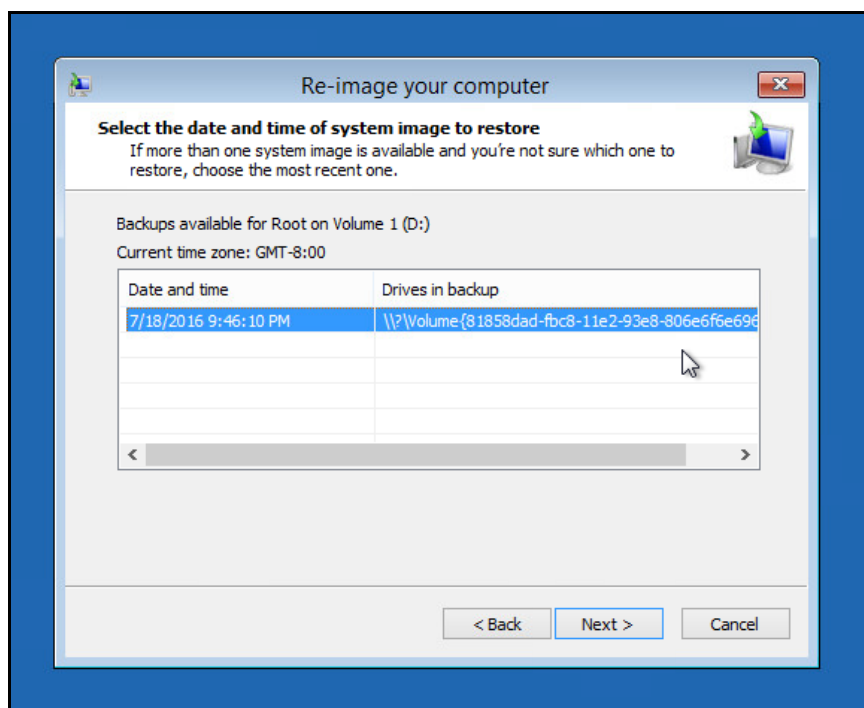
To install a driver, the driver must be located on the local system. You cannot install a driver from the network.

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

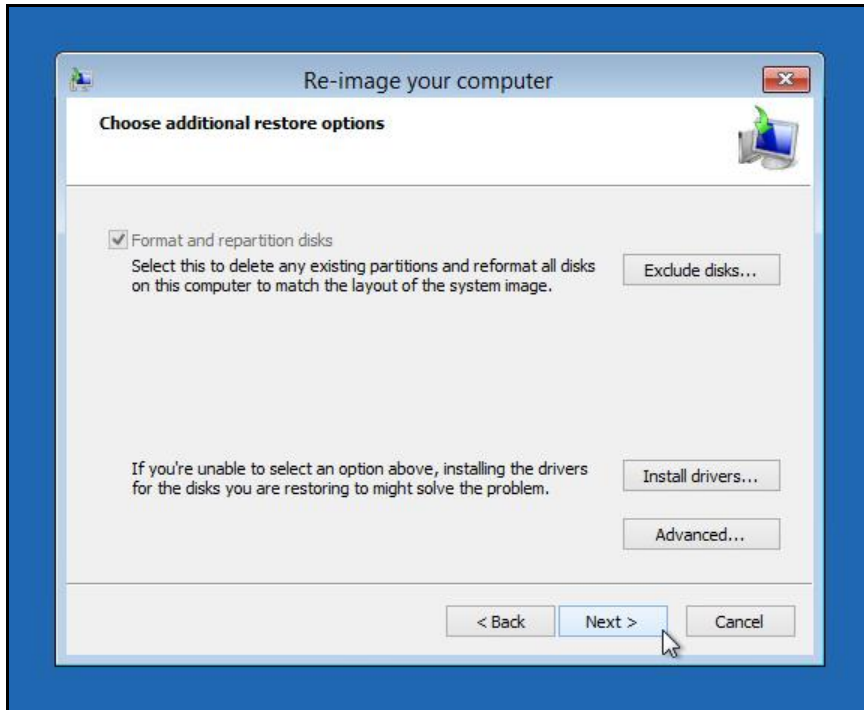
For domain environment, if the backup storage location is on a computer that is a member of that domain, then the computer containing the storage location should be on the IPsec boundary, to be accessible by non domain computer.

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 system image to restore.

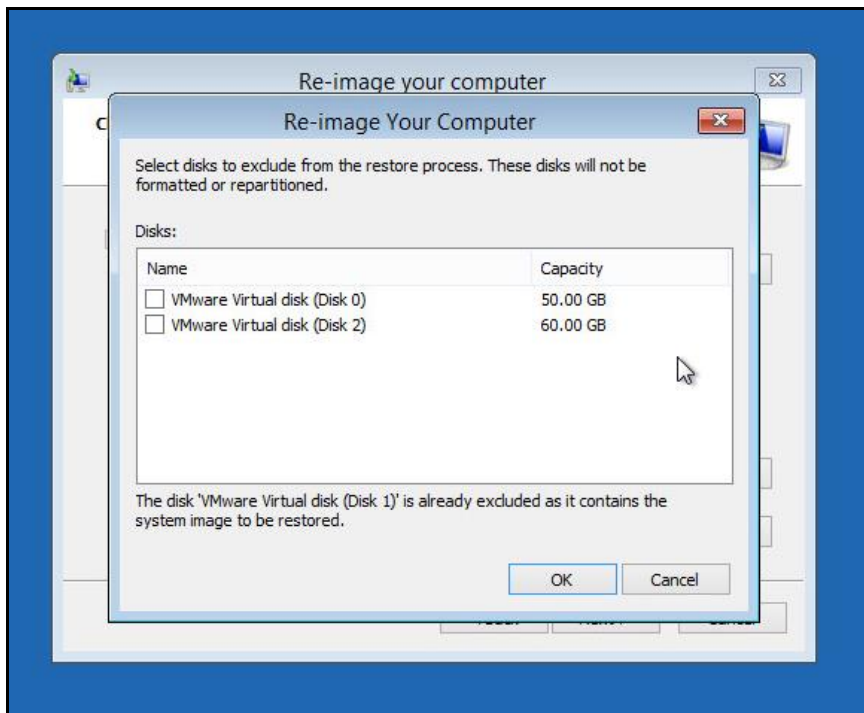


8. On the **Choose additional restore options** page



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

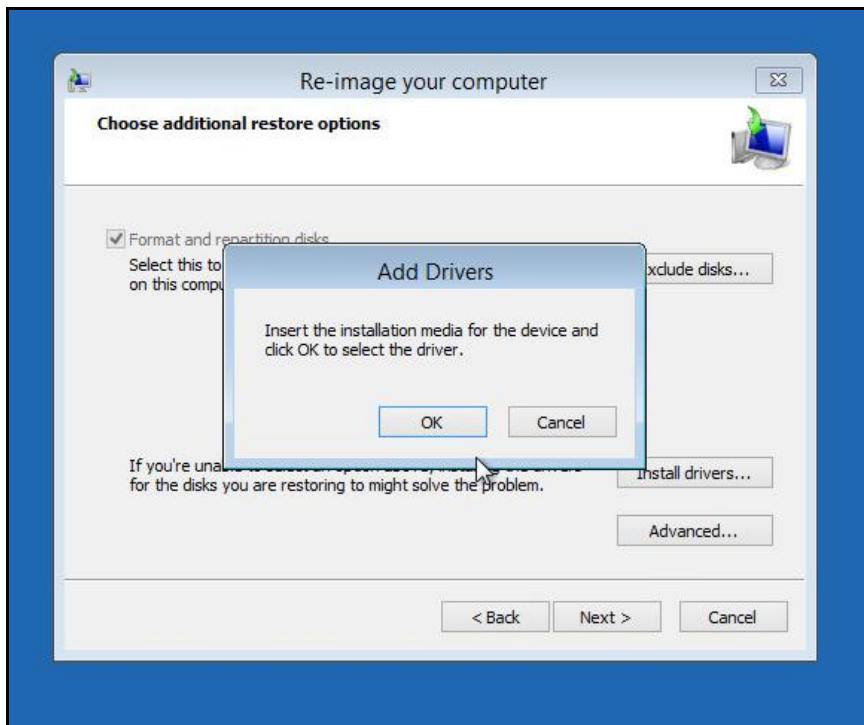
Click the **Exclude disks** button, then select the check boxes associated with any disks that you want to exclude from being formatted and partitioned.



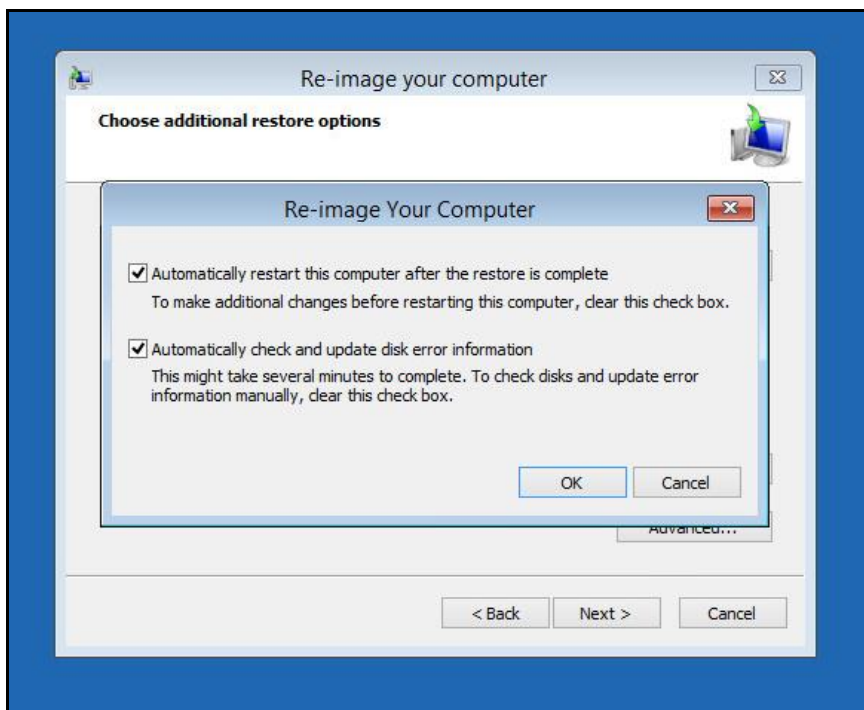
Note: The disk that contains the backup that you are using is automatically excluded.

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).

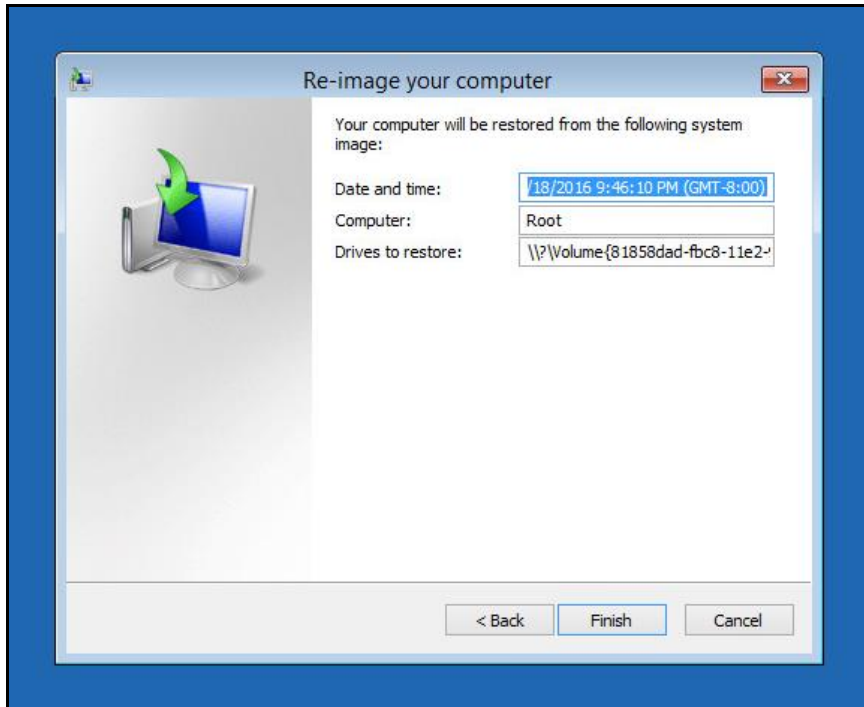
Click **Install drivers** to install device drivers for the hardware that you are recovering to.



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.

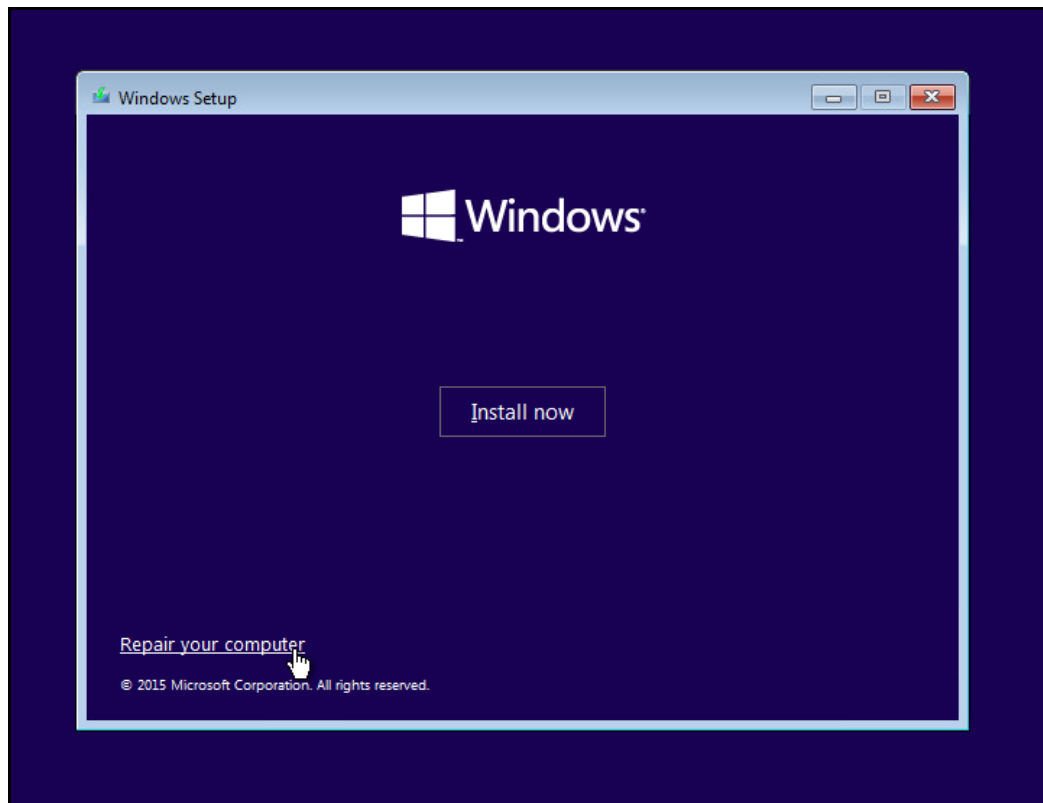
8.3.5 Recover a Full System (Non Server Platforms)

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**.

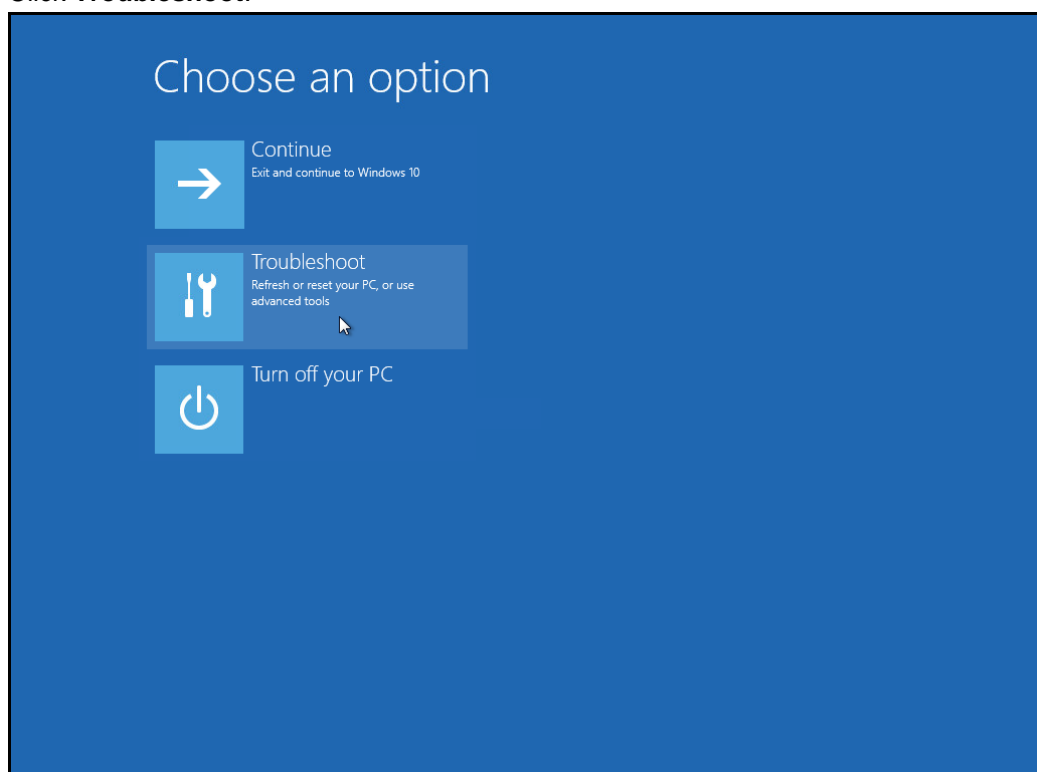


• Starting Windows in safe mode

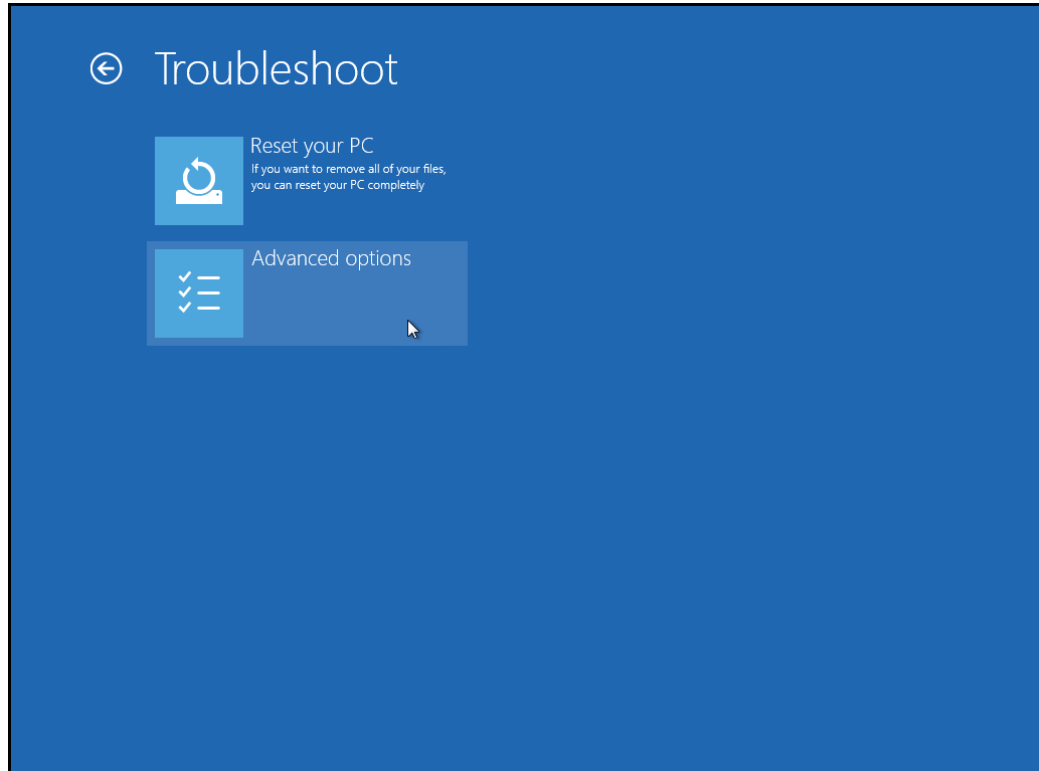
Press the **Power** button at the Windows login screen, in the Start menu, or in the Setting screen. Then press and hold the SHIFT key on the keyboard and click **Restart**.

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

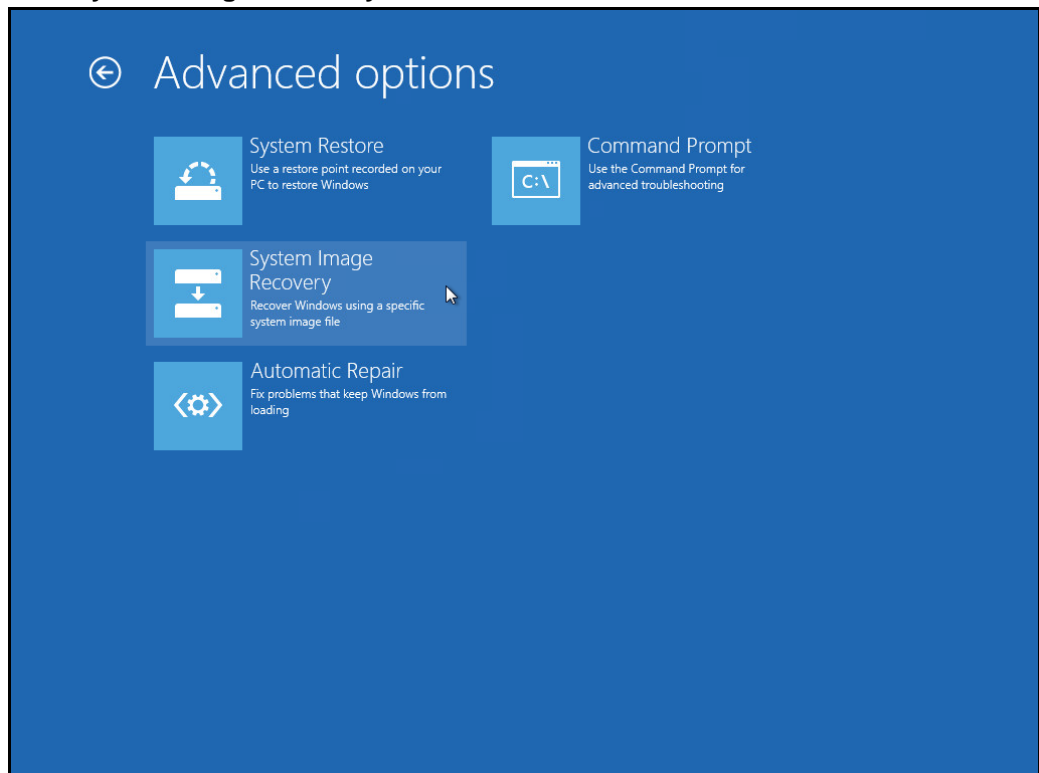
1. Click **Troubleshoot**.



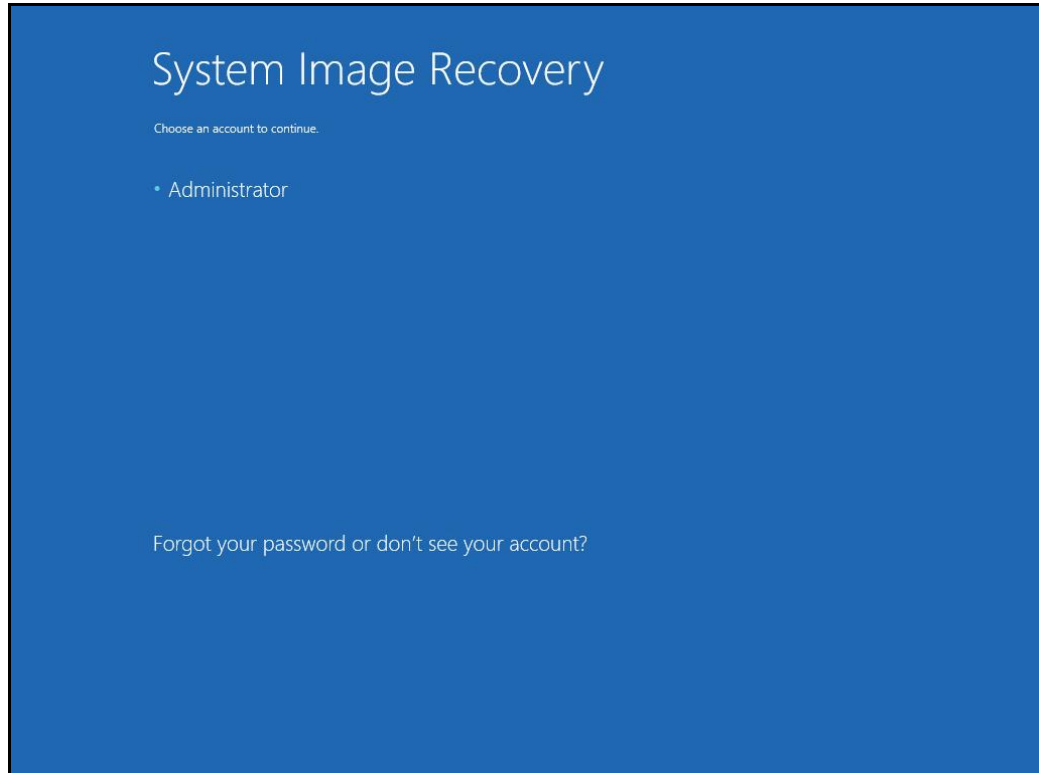
2. Click **Advanced options**.



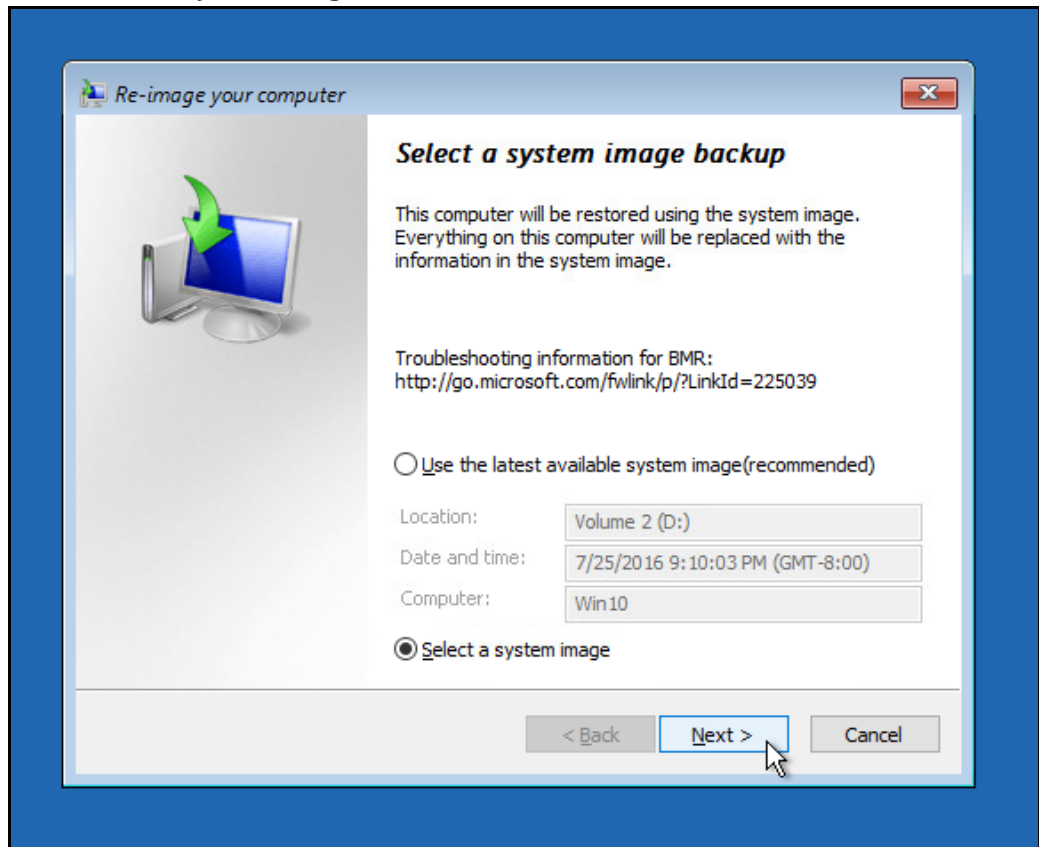
3. Click **System Image Recovery**.



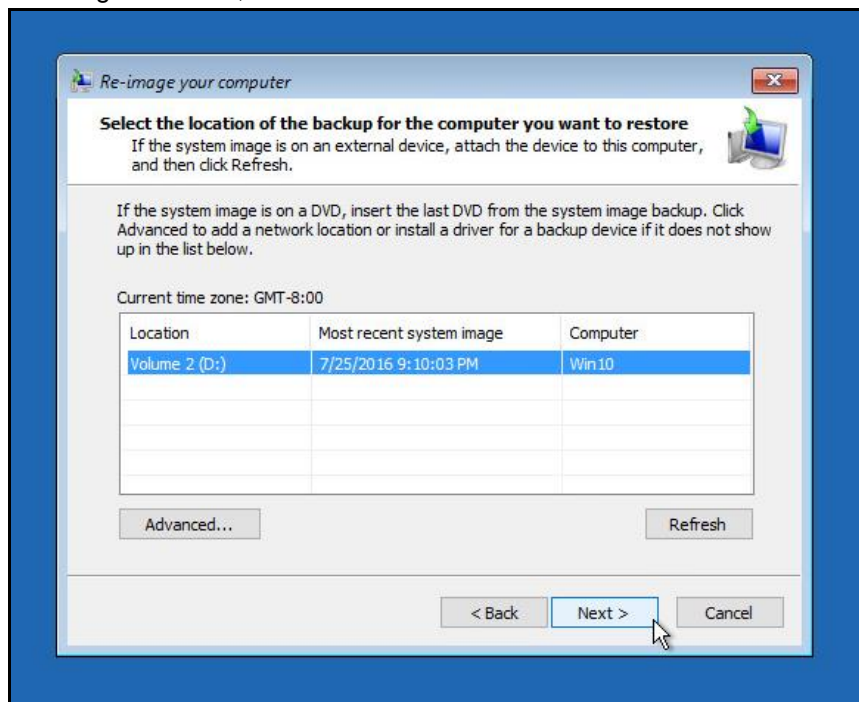
4. Login with an administrative account, by clicking on **Administrator**.



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



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.

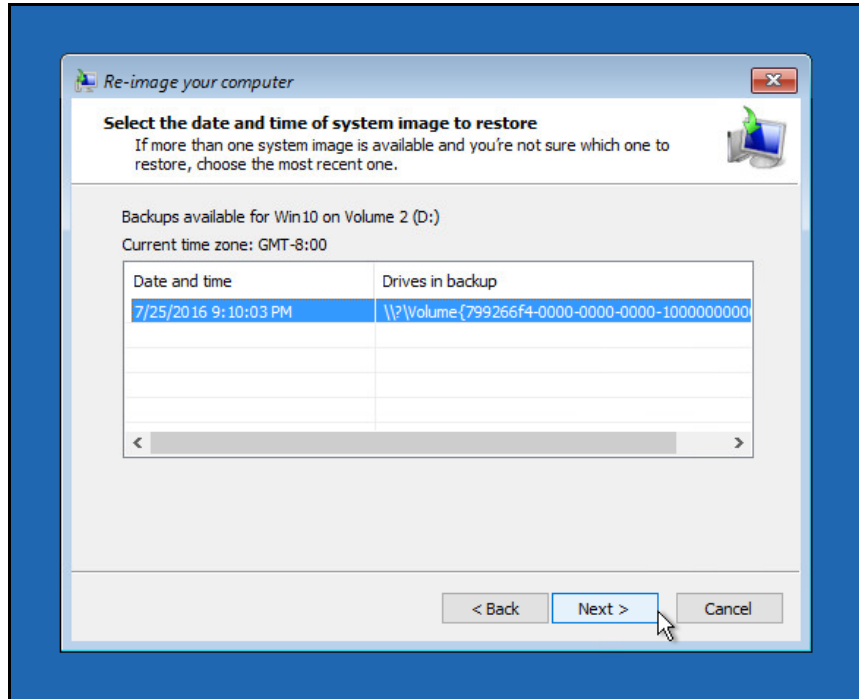
To install a driver, the driver must be located on the local system. You cannot install a driver from the network.

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.

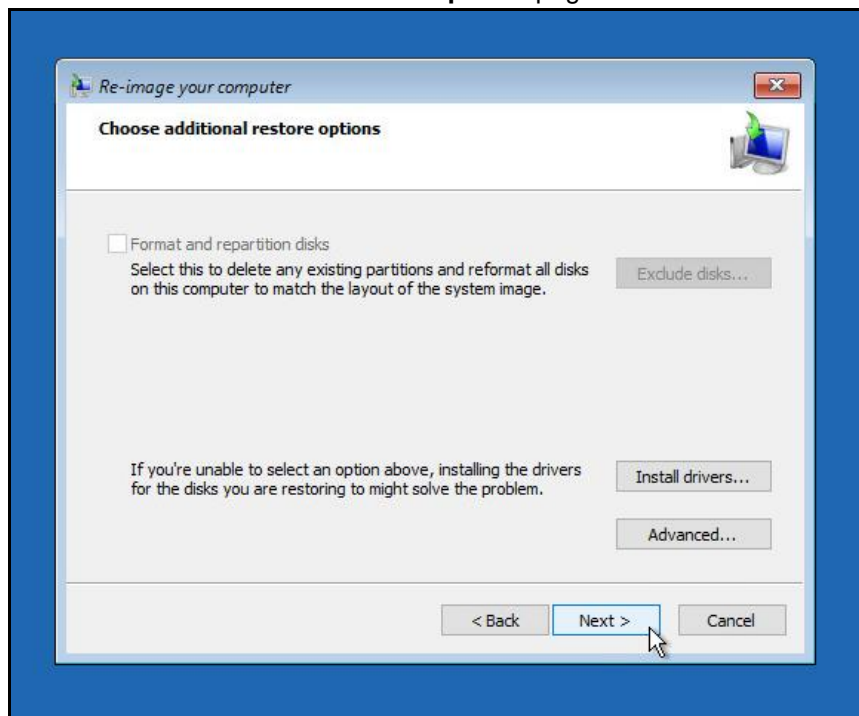
For domain environment, if the backup storage location is on a computer that is a member of that domain, then the computer containing the storage location should be on the IPsec boundary, to be accessible by non domain computer.

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.

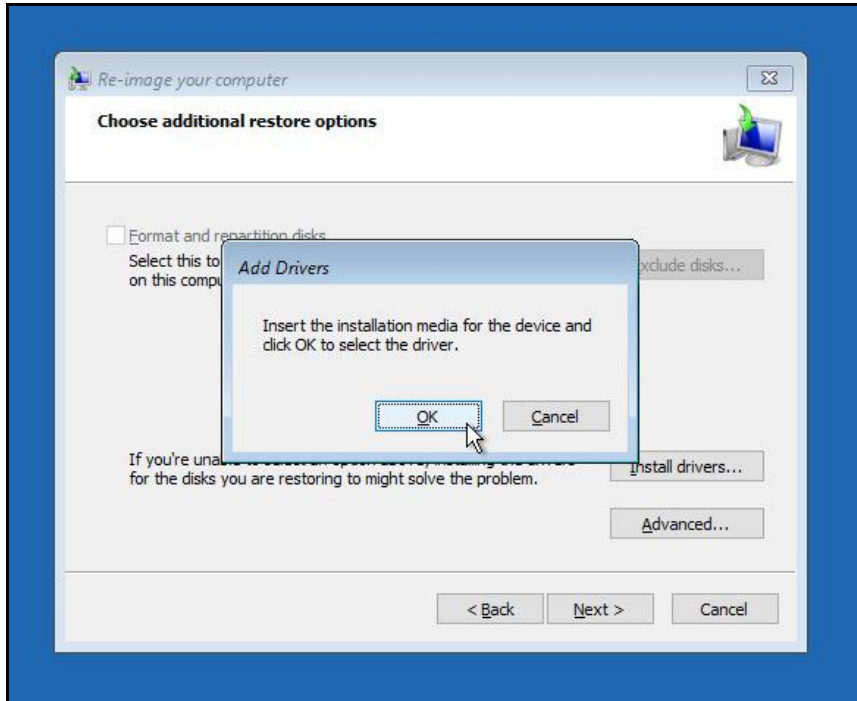
7. Select the system image to restore.



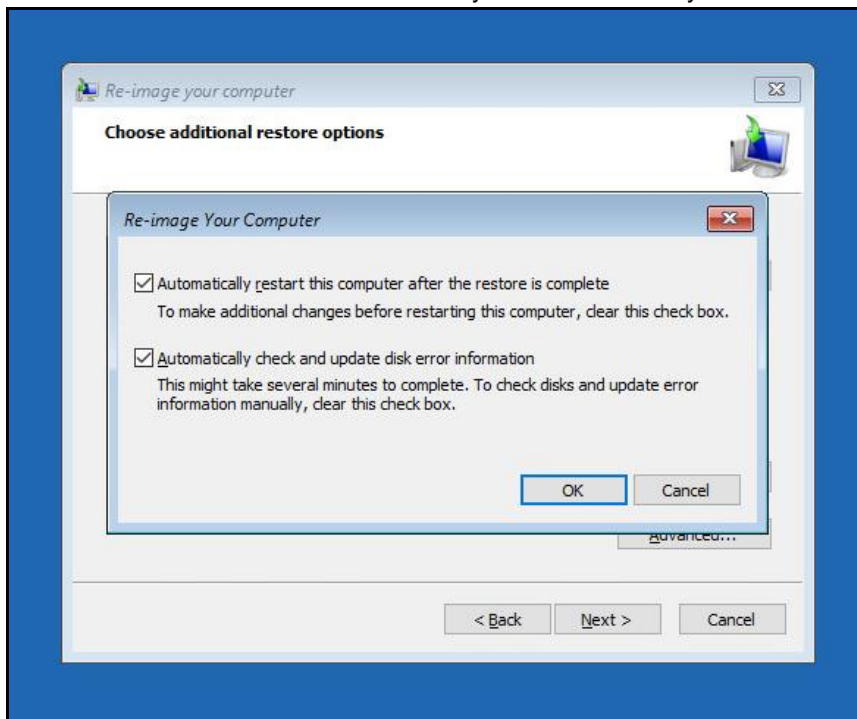
8. On the **Choose additional restore options** page.



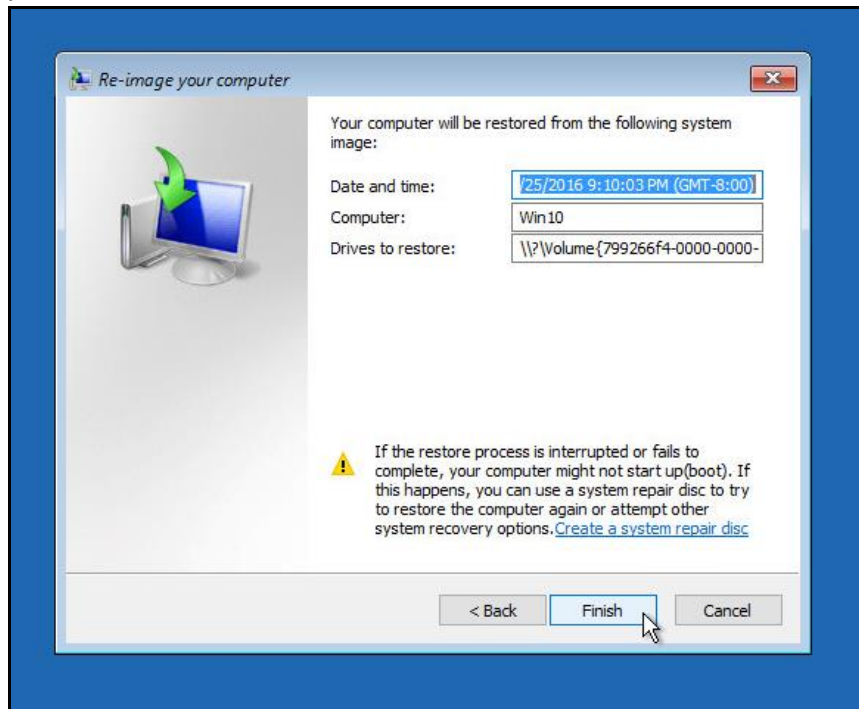
Click **Install drivers** to install device drivers for the hardware that you are recovering to.



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.

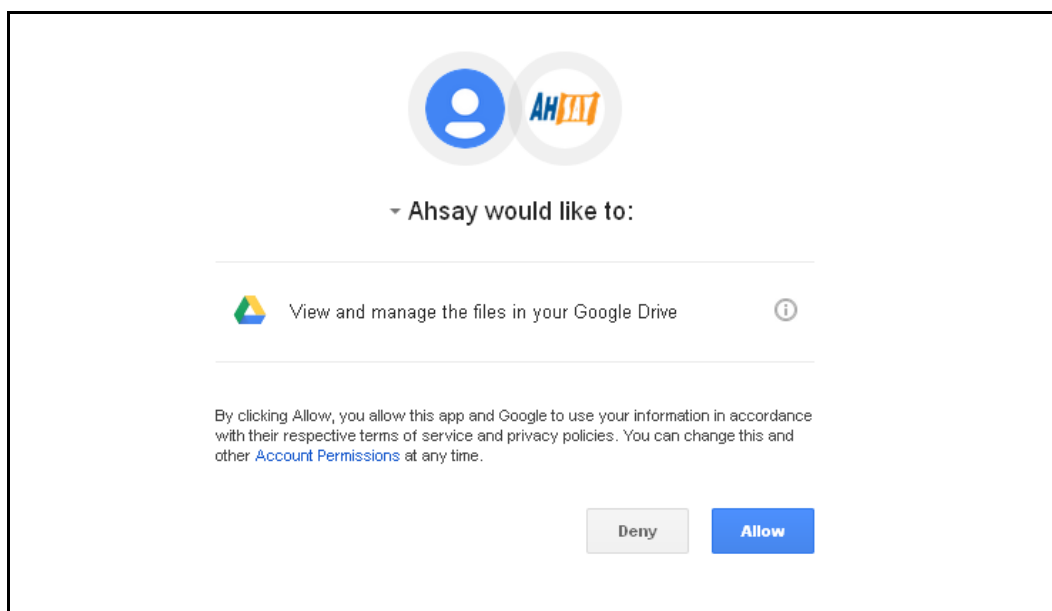
Appendix

Appendix A Cloud Storage as Backup Destination:

For most cloud storage provider (e.g. Dropbox, Google Drive ... etc.), you need to allow access 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 the following KB article:

<https://forum.ahsay.com/viewtopic.php?f=169&t=14049>

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

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: <https://forum.ahsay.com>

Documentation

Documentations for all Ahsay products are available at:

https://www.ahsay.com/jsp/en/home/index.jsp?pageContentKey=ahsay_downloads_documentation_guides

You can send us suggestions for improvements or report on issues in the documentation, by contacting us at:

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

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