

Ahsay Online Backup Manager v9

Microsoft System Backup and Restore Guide

Ahsay Systems Corporation Limited

27 January 2023

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Revision History

Date	Descriptions	Version
25 January 2022	<ul style="list-style-type: none">▪ Ch 1.2 – modified the system architecture diagram▪ Ch. 3, 4, & 5 – updated the screenshots▪ Ch. 2, 4, & Appendix – updated the links	9.1.0.0
7 March 2022	<ul style="list-style-type: none">▪ Ch. 4.1 – updated note for Migrate Data	9.1.0.0
27 January 2023	<ul style="list-style-type: none">▪ Ch. 5.2 – updated restore instructions	9.5.2.0

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1 Overview

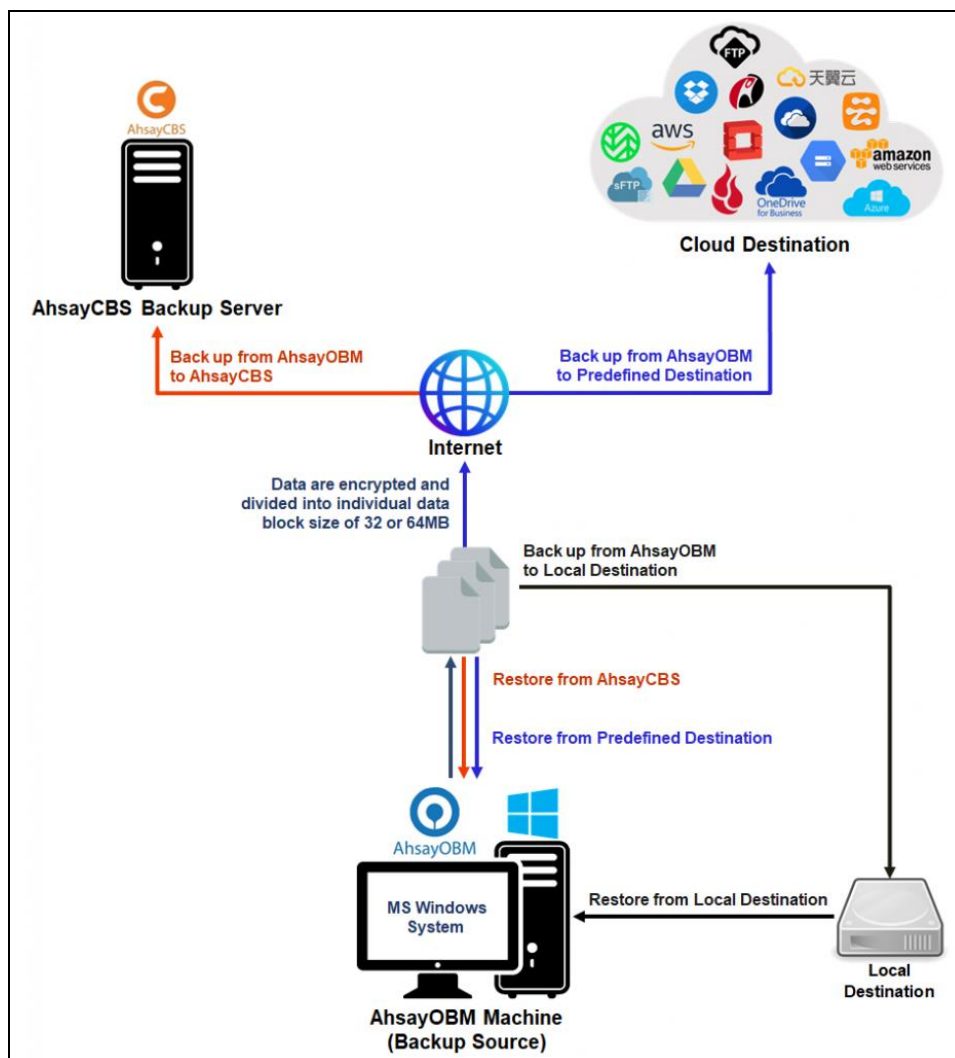
1.1 What is this software?

Ahsay brings you specialized client backup software, namely AhsayOBM, to provide a comprehensive backup solution for your MS Windows System backup. 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.

1.2 System Architecture

The following high-level system architecture diagram illustrates the major elements involved in the backup process of a MS Windows System backup with AhsayOBM and AhsayCBS.

In this user guide, we will focus on the software installation, as well as the end-to-end backup and restore process using the AhsayOBM as a client backup software.



2 Preparing for Backup and Restore

2.1 Hardware Requirement

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

[FAQ: Ahsay Hardware Requirement List \(HRL\) for version 9.1 or above](#)

2.2 Software Requirement

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

[FAQ: Ahsay Software Compatibility List \(SCL\) for version 9.1 or above](#)

2.3 Antivirus Exclusion Requirement

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

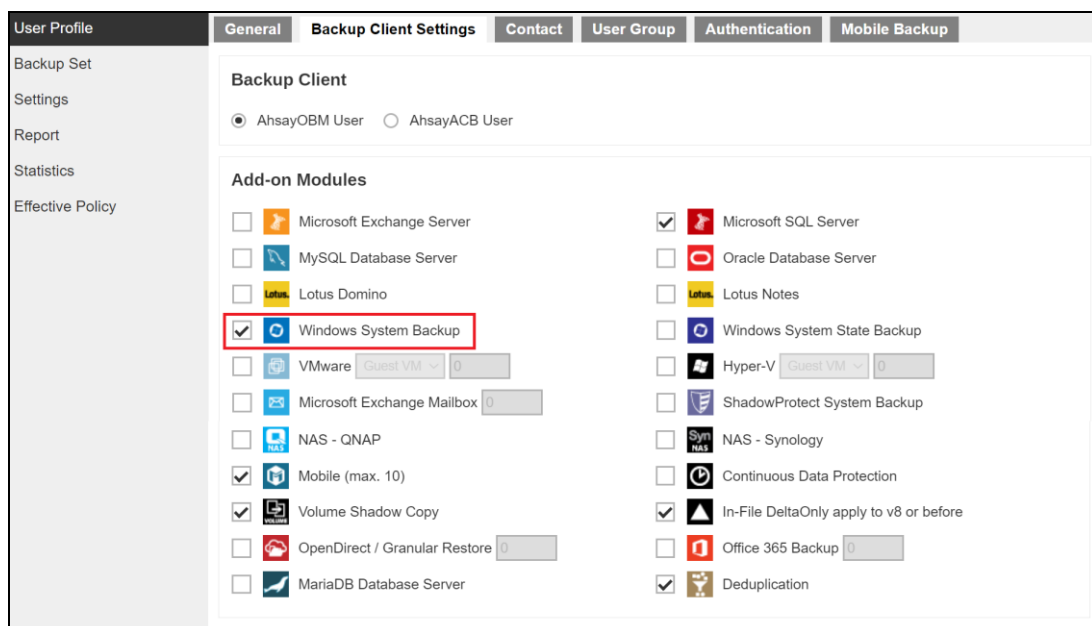
[FAQ: Suggestion on antivirus exclusions to improve performance of Ahsay software on Windows](#)

2.4 AhsayOBM Installation

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

2.5 AhsayOBM Add-on Module Configuration

Make sure that the **Windows System Backup** add-on module is enabled in your AhsayOBM user account. Please contact your service provider for more details



2.6 Backup Quota Requirement

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

2.7 Java Heap Size

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

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

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

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

2.8 License Requirement

AhsayOBM licenses are calculated on a per device basis:

- ▶ To back up users with 1 backup client computer (e.g. 1 AhsayOBM installed), 1 AhsayOBM license is required.
- ▶ To back up users with multiple backup client computers, the number of AhsayOBM licenses required is equal to the number of devices. For example, if there are 10 users to be backed up with 3 backup client computers, then 30 AhsayOBM licenses are required. Please contact your backup service provider for more details.

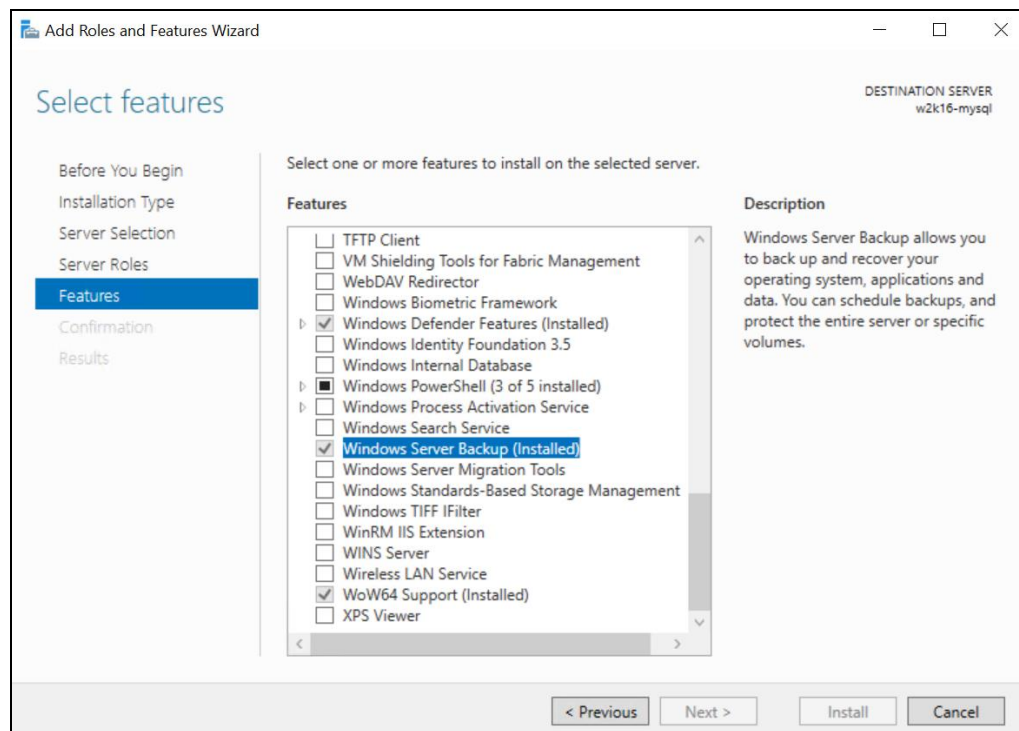
2.9 Windows Requirement

Windows Server Backup (WSB) Features

The following Windows Server Backup features must be installed on the computer to be backed up:

- Windows Server Backup
- Command line Tool
- Windows PowerShell

This can be confirmed in the Server Manager. These features can be added by selecting **Add Roles and Features**.



Windows Account Permission

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

System Volume

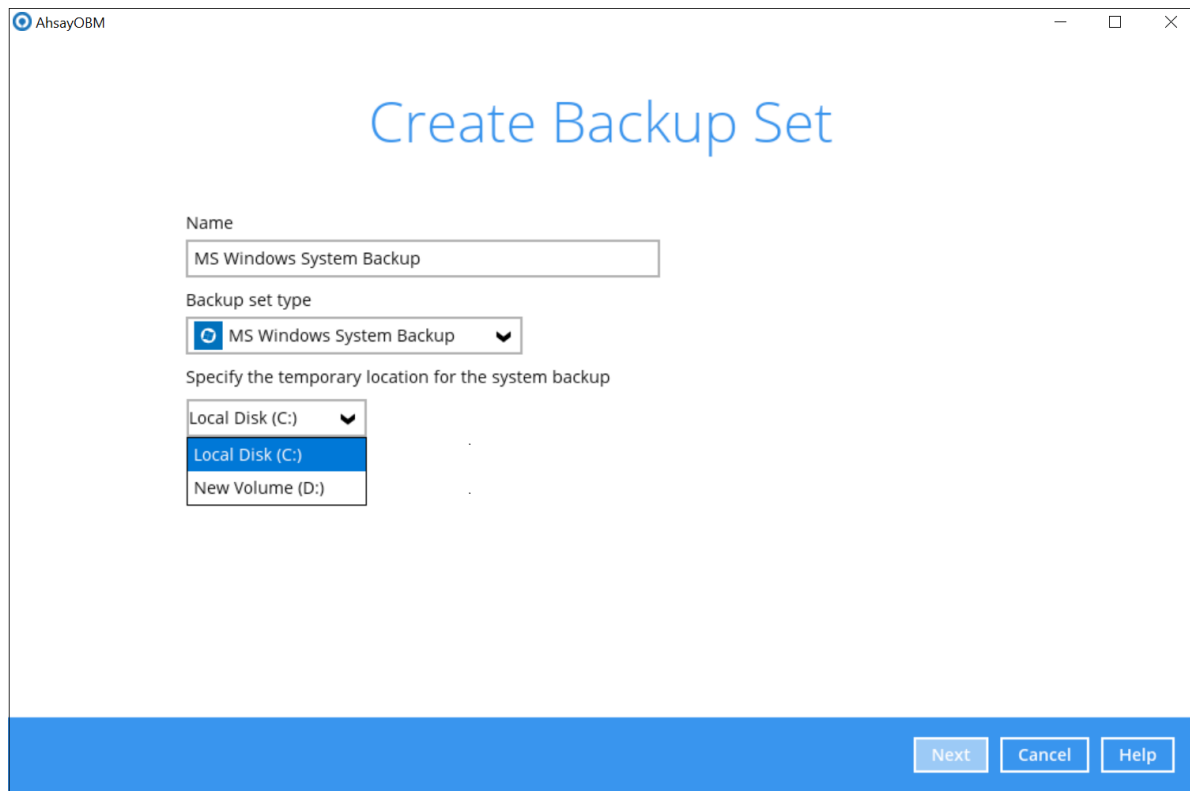
The system volume must be formatted with NTFS.

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.

2.10 Temporary Volume

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



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:)
New Volume (D:)

Next Cancel Help

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

The machine requires an additional drive to accommodate the spooling of the System State image file. As you can on our sample screenshot above, we have two (2) drives in total, Local Disk C: and New Volume D:

If the machine has only one (1) drive, then one of the following options will need to be implemented to create the temporary volume.

- A USB drive needs to be connected
- The existing C: drive will need to be repartitioned to create an additional drive, i.e. D:
- An extra physical drive will need to be installed
- Set up a network drive (the least preferred option as it will affect the backup performance)

For more details about the restrictions, please refer to the following link:

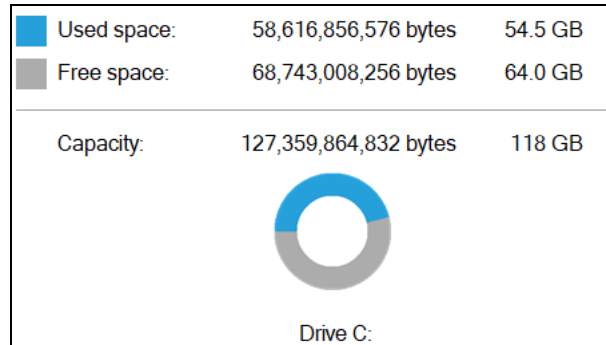
[FAQ: Restrictions on the temporary storage location for the Windows System State and System backup image file](#)

❶ 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.*



❷ 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.*

2.11 Best Practices and Recommendations

The following are some best practices or recommendations that we strongly recommend, before you start any Microsoft System backup and restore:

1 Temporary Directory Folder Location

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 temporary storage location is highly recommended to be set on a directory with sufficient free disk space and located to another location other than Drive C: (e.g. Drive E:).

AhsayOBM

MS Windows System...

General

Source

Backup Schedule

Destination

Show advanced settings

General

Name

MS Windows System Backup

Owner

w2k16-mysql

Windows System Backup

Specify the temporary location for the system backup

New Volume (D:)

Windows User Authentication

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

w2k16-mysql

User name

Administrator

Password

Delete this backup set

Save Cancel Help

NOTE

Kindly note that for Windows Server 2008 or newer releases, the restriction on temporary volume (Ch 2.10) must also be considered.

2 Backup Destination

To provide maximum data protection and flexible restore options, it is recommended to configure:

- At least one offsite or cloud destination
- At least one local destination for fast recovery

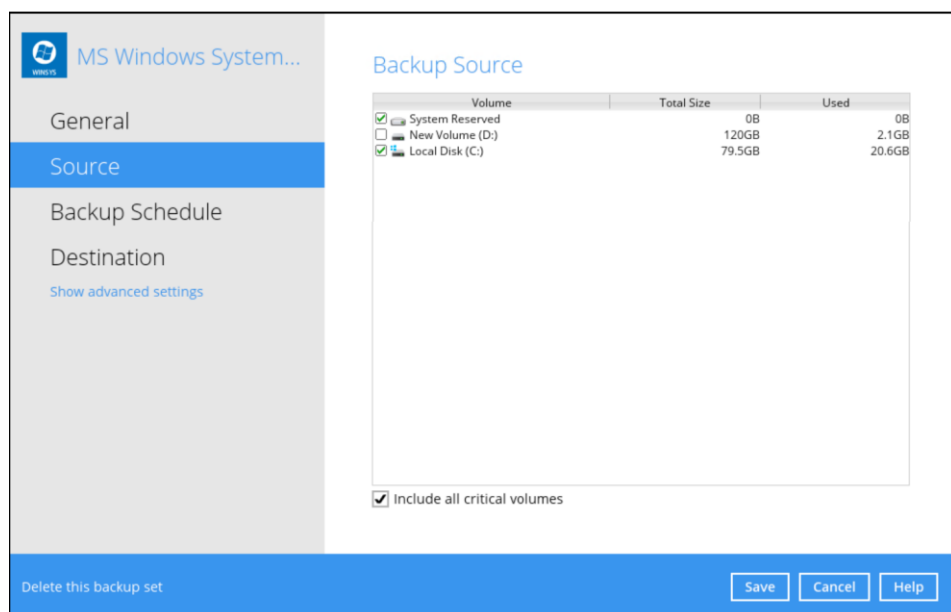
3 Backup Frequency

MS Windows System backup should be performed at least once per week.

Performance Recommendations

Consider the following best practices for optimized performance of the backup operations:

- Enable schedule backup jobs when system activity is low to achieve the best possible performance.
- Perform test restores periodically to ensure your backup is set up and performed properly. Performing recovery test can also help identify potential issues or gaps in your recovery plan. 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
- 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.

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.

❶ **Restore to Alternate Computer**

You can restore a system backup to the same physical computer from which the system backup was created, or to a different computer that has the same make, model, and configuration (identical hardware). Microsoft does not support restoring a system backup from one computer to a second computer of a different make, model, or hardware configuration.

Please refer to the following article for more details:

<http://support.microsoft.com/kb/249694>

❷ **Periodic Backup Schedule**

The periodic backup schedule should be reviewed regularly to ensure that the interval is sufficient to handle the data volume on the machine. Over time, data usage pattern may change on a production server, i.e. the number of new files created, the number of files which are updated/deleted, and new users may be added etc.

Consider the following key points to efficiently handle backup sets with periodic backup schedule.

- ❶ Hardware – to achieve optimal performance, compatible hardware requirements is a must. Ensure you have the backup machine's appropriate hardware specifications to accommodate frequency of backups
 - so that the data is always backed up within the periodic backup interval
 - so that the backup frequency does not affect the performance of the production server.
- ❷ Network – make sure to have enough network bandwidth to accommodate the volume of data within the backup interval.
- ❸ Retention Policy - also make sure to consider the retention policy settings and retention area storage management which can grow because of the changes in the backup data for each backup job.

2.12 Restore Considerations

Please consider the following before performing a MS System 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>

3 Configuring a Microsoft Windows System Backup Set


3.1 Create a Microsoft Windows System Backup Set

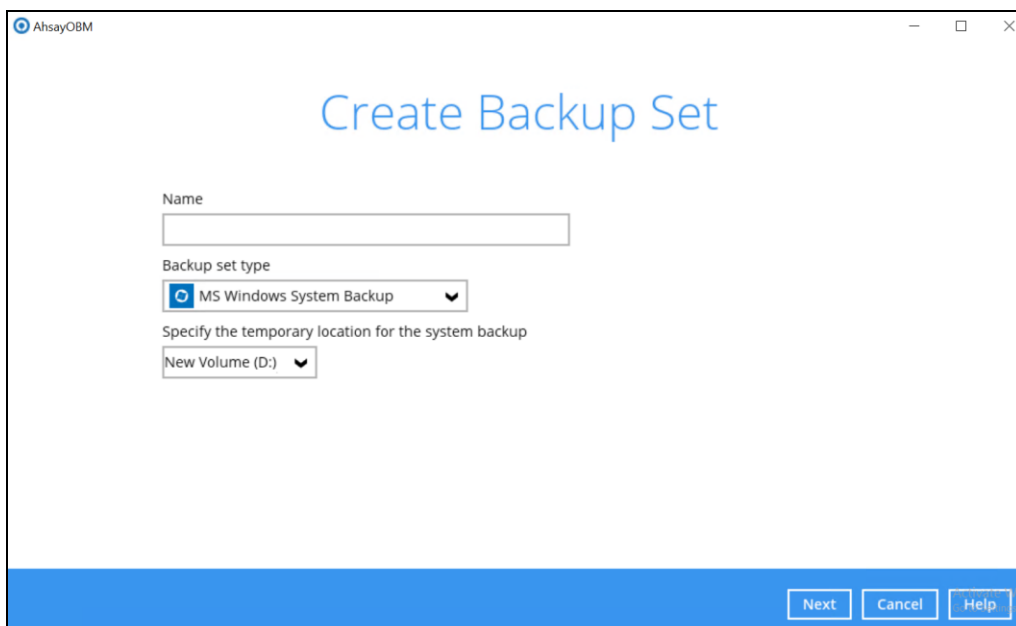
1. Log in to AhsayOBM.

For instructions on how to do this please refer to [Chapter 8](#) of the AhsayOBM v9 Quick Start Guide for Windows.

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

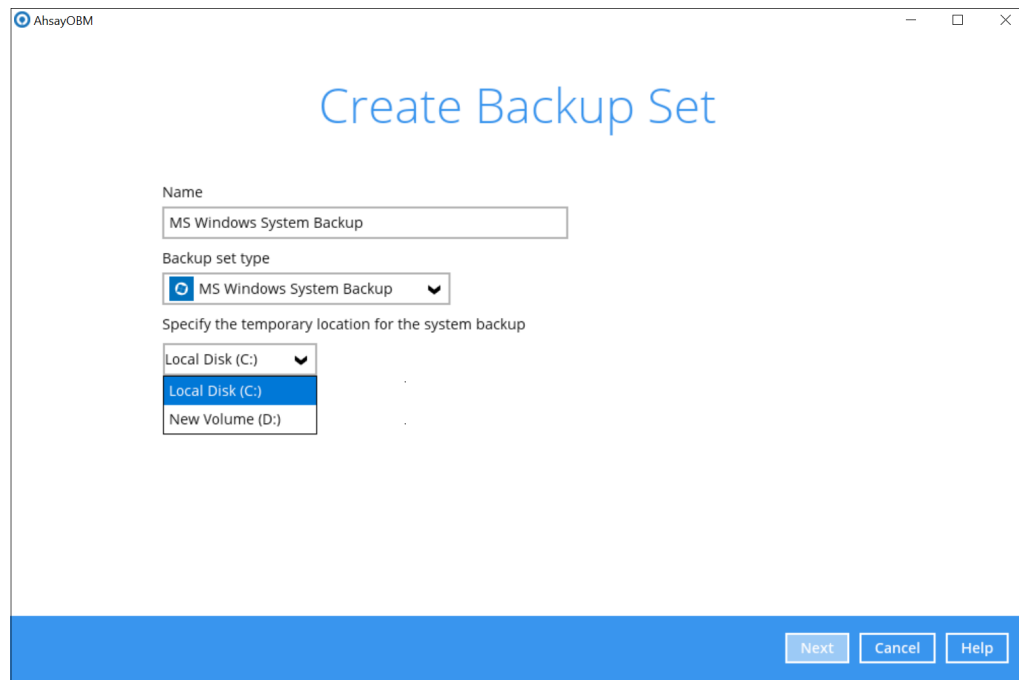


3. Create a MS Windows System backup set by clicking  next to **Add new backup set**.
4. Select **MS Windows System Backup** as the **Backup set type**; then enter a **Name** for your backup set.

A screenshot of the 'Create Backup Set' dialog box in the AhsayOBM application. The dialog has a title bar with the AhsayOBM logo and window controls. The main content area has the title 'Create Backup Set' in blue. Below the title, there is a 'Name' label followed by a text input field. Then, a 'Backup set type' label followed by a dropdown menu showing 'MS Windows System Backup' with a blue icon. Below that, a label 'Specify the temporary location for the system backup' followed by a dropdown menu showing 'New Volume (D:)'. At the bottom right, there are three buttons: 'Next', 'Cancel', and 'Help'.

5. 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

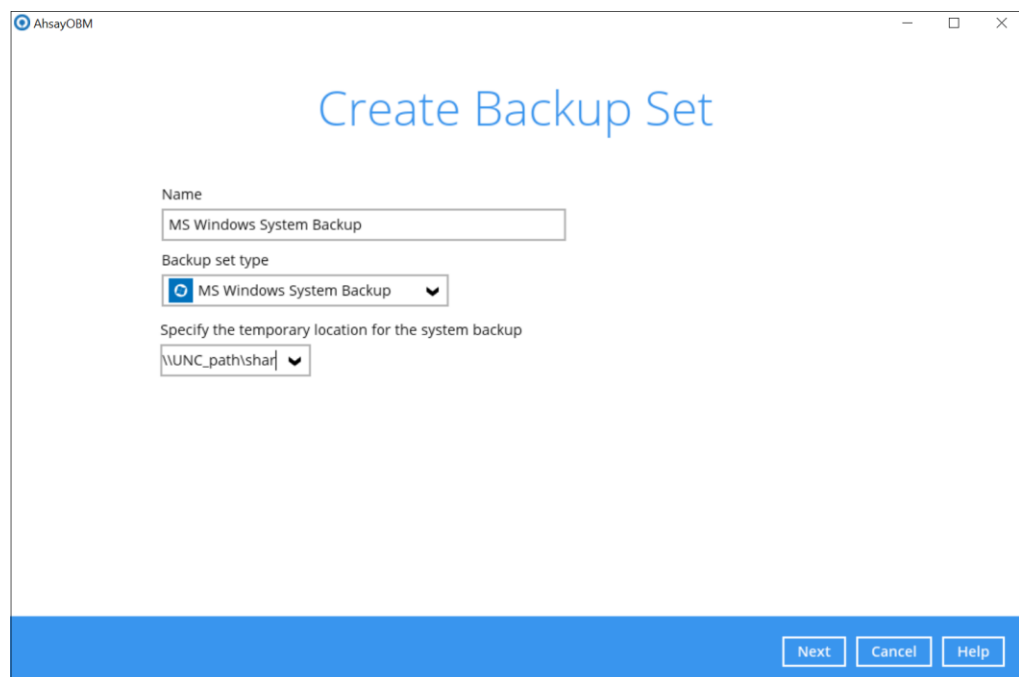
Specify the temporary location for the system backup

Local Disk (C:) ▼
Local Disk (C:)
New Volume (D:)

Next Cancel Help

Or

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



AhsayOBM

Create Backup Set

Name
MS Windows System Backup

Backup set type
MS Windows System Backup

Specify the temporary location for the system backup

\\UNC_path\share ▼

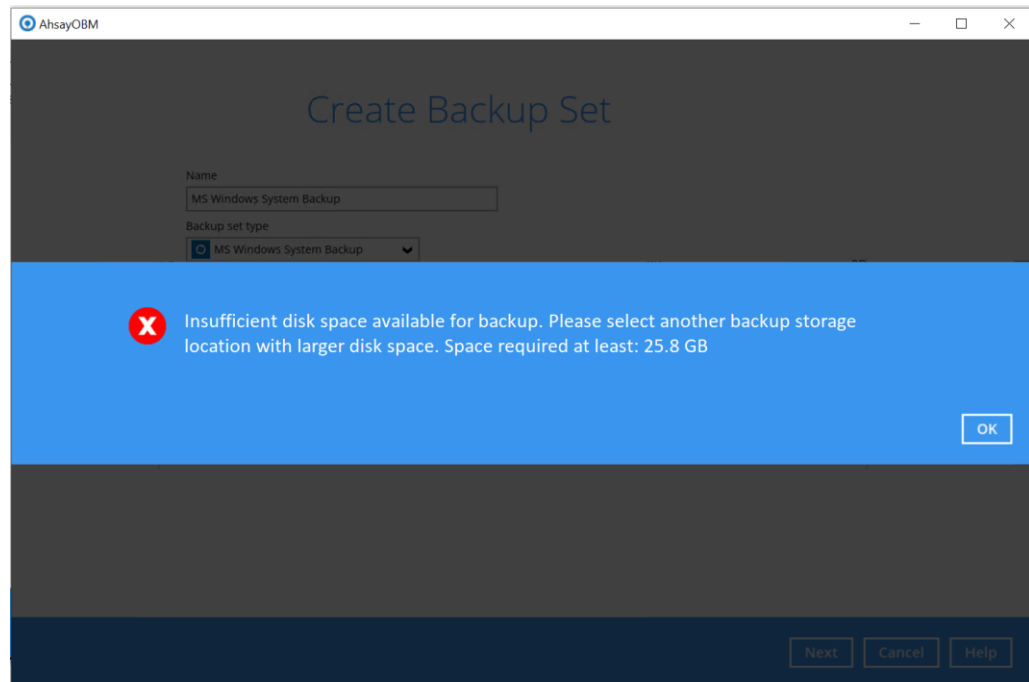
Next Cancel Help

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

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

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

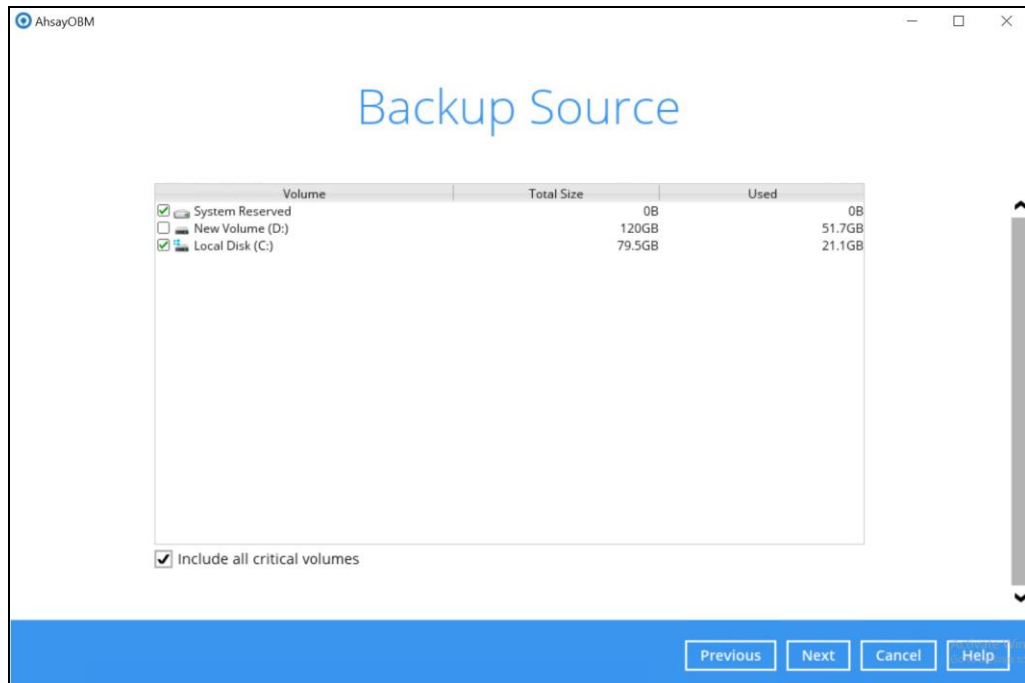
Click **Next** to proceed.



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

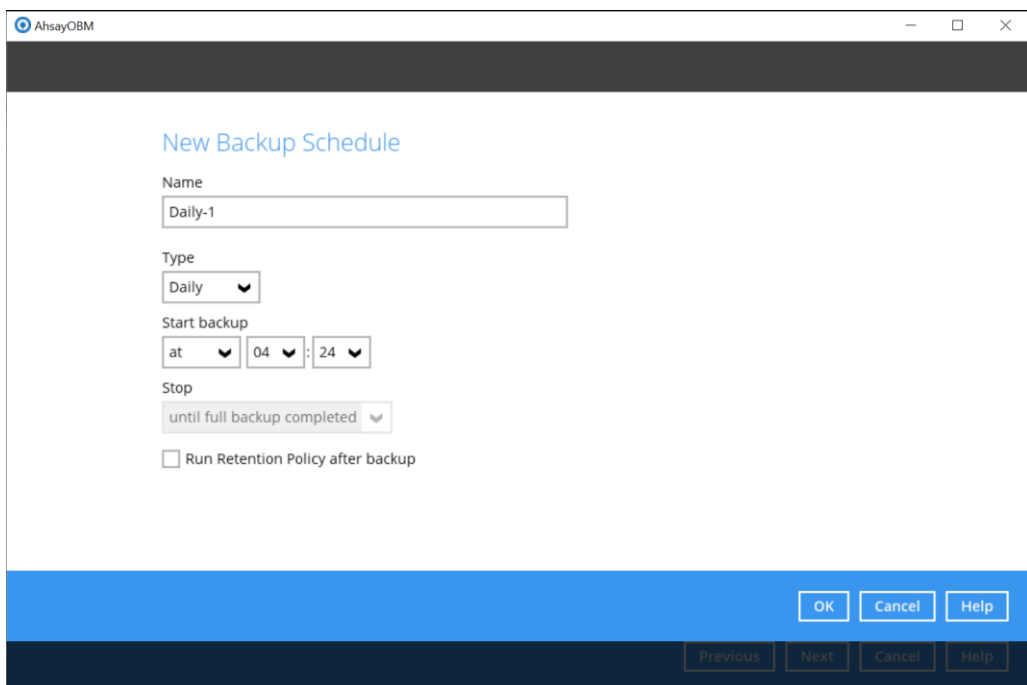
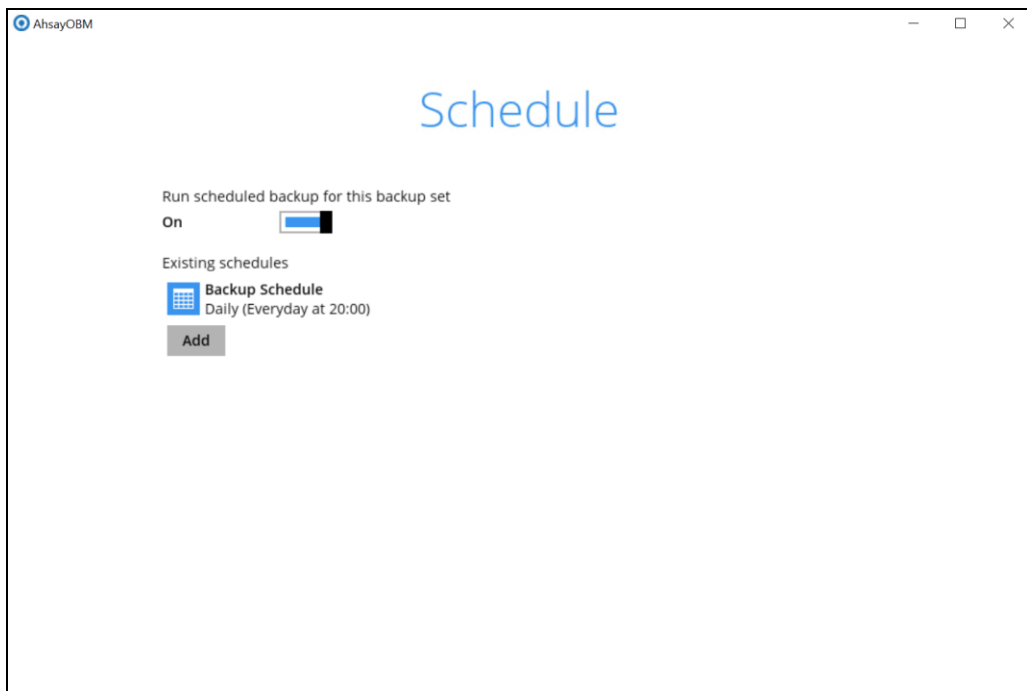
6. In the Backup Source menu, select the volume(s) which you would like to backup.

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.

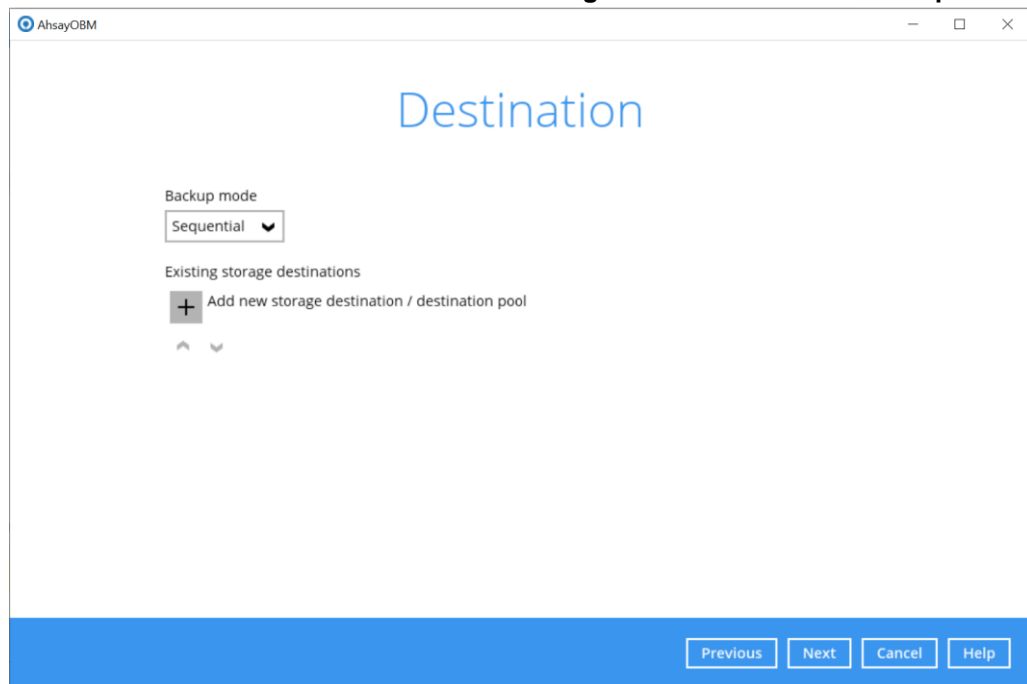


Click **Next** to proceed.

7. 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.



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

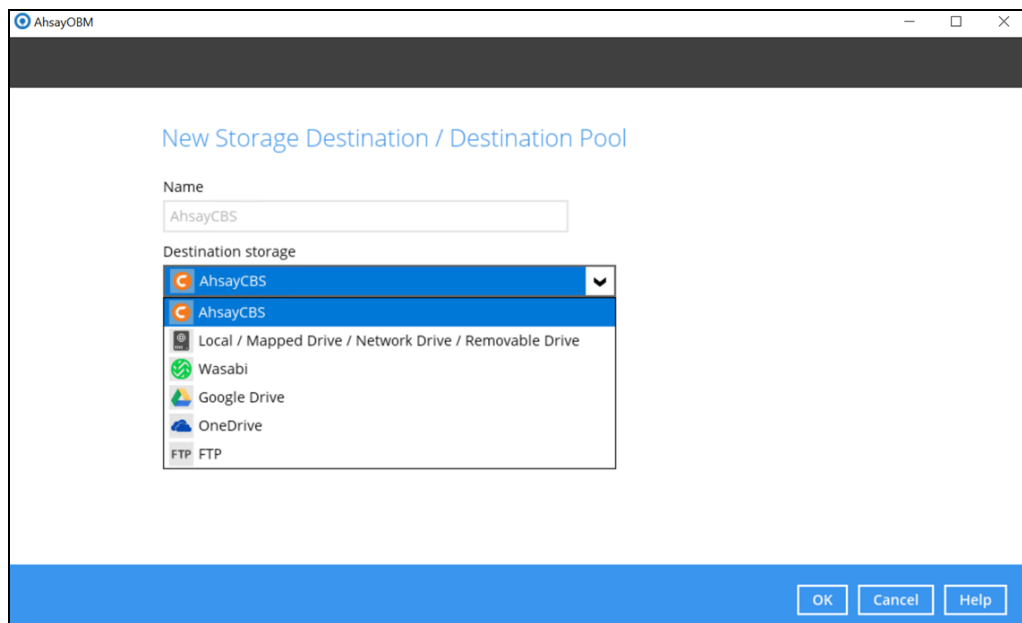


Note: For more details on Backup Destination, refer to this link

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

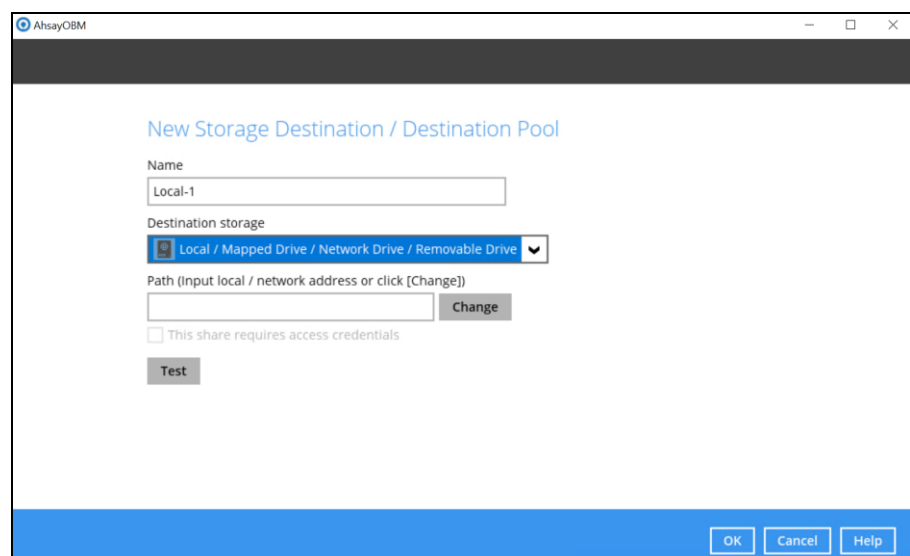
For more details on configuration of cloud storage as backup destination, refer to the [Appendix A](#) section in this guide.

9. Select the Destination storage.

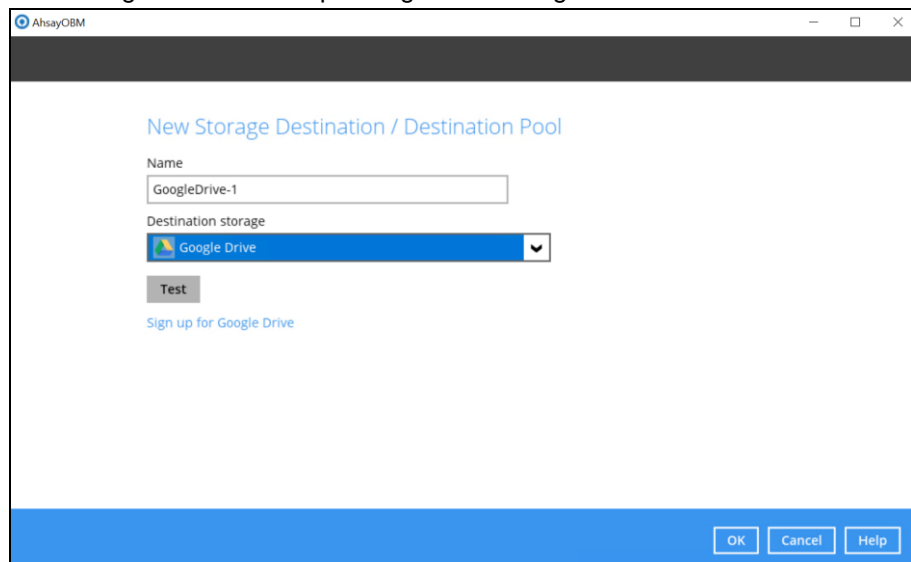


You can choose a storage combination of the Local/Mapped drive/Removable Drive, Cloud storage or FTP. Click **OK** to proceed when you are done with the settings.

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



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



AhsayOBM

New Storage Destination / Destination Pool

Name
GoogleDrive-1

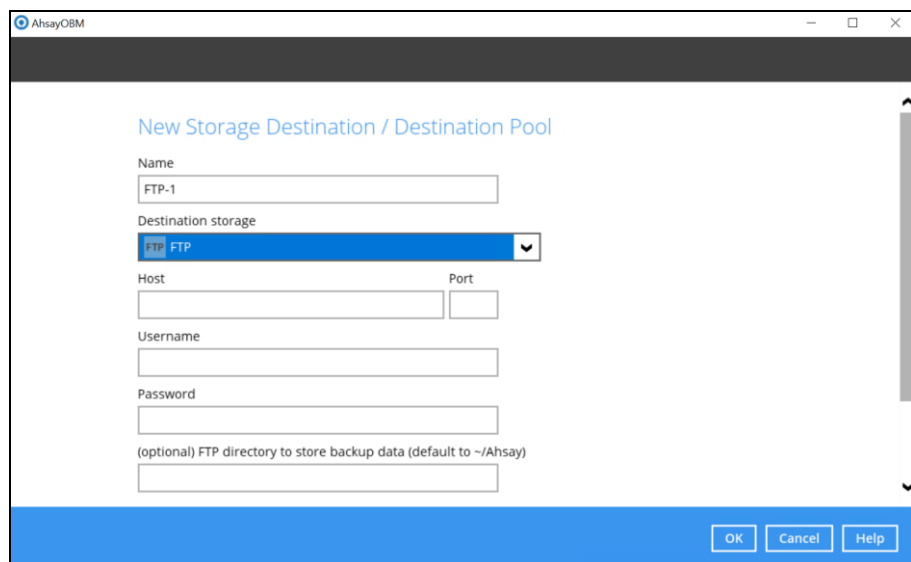
Destination storage
Google Drive

Test

[Sign up for Google Drive](#)

OK Cancel Help

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



AhsayOBM

New Storage Destination / Destination Pool

Name
FTP-1

Destination storage
FTP



Host Port

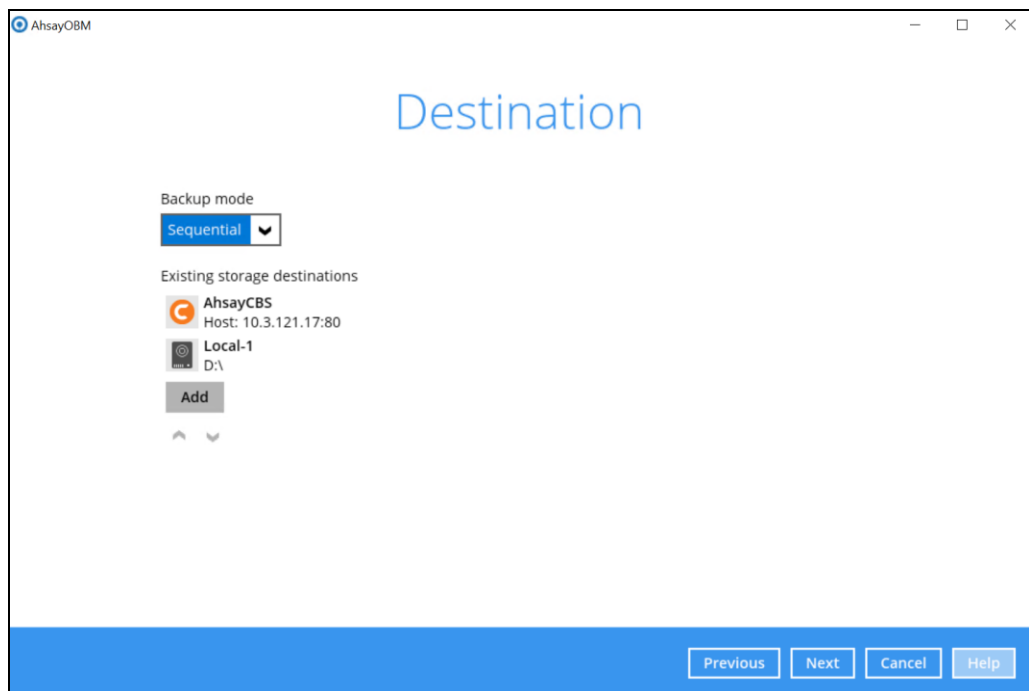
Username

Password

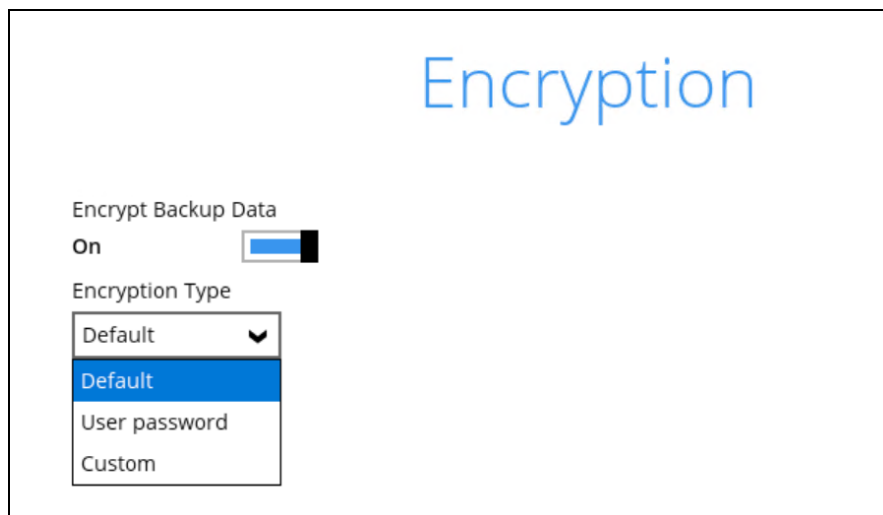
(optional) FTP directory to store backup data (default to ~/Ahsay)

OK Cancel Help

10. 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.



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



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

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

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

Encryption

Encrypt Backup Data
On ☐

Encryption Type
Custom ▼

Algorithm
AES ▼

Encryption key

Re-enter encryption key

Method
☐ ECB ☒ CBC

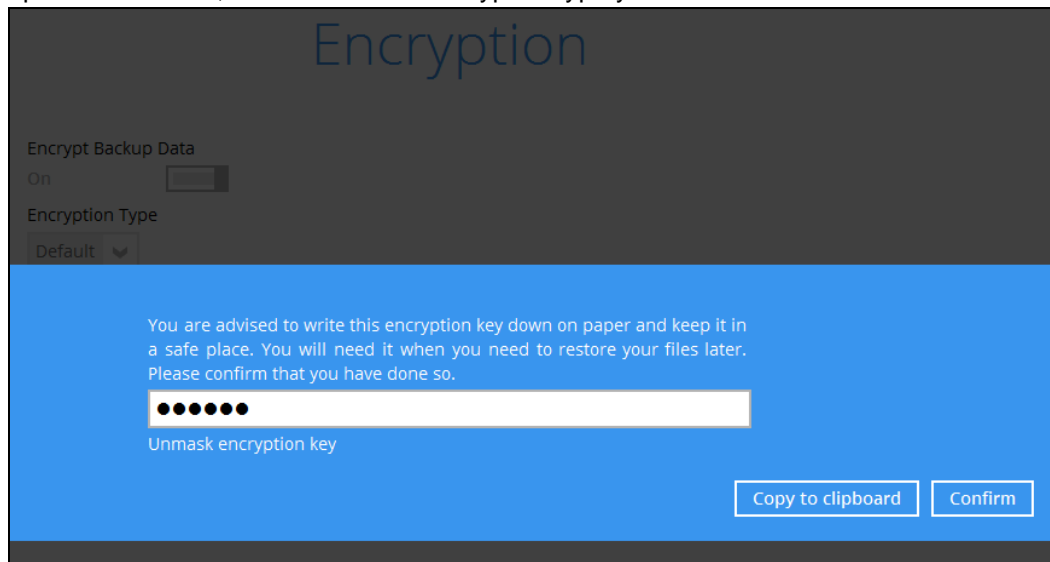
Key length
☐ 128-bit ☒ 256-bit

Note: For best practice on managing your encryption key, refer to the following wiki article.

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

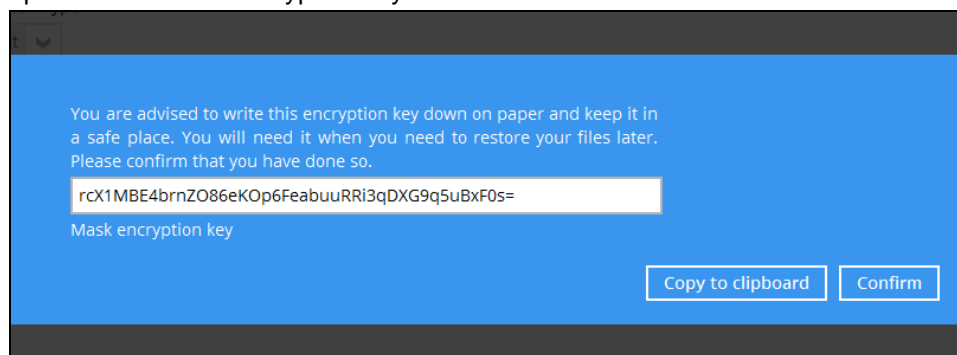
Click **Next** when you are done setting.

12. 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.



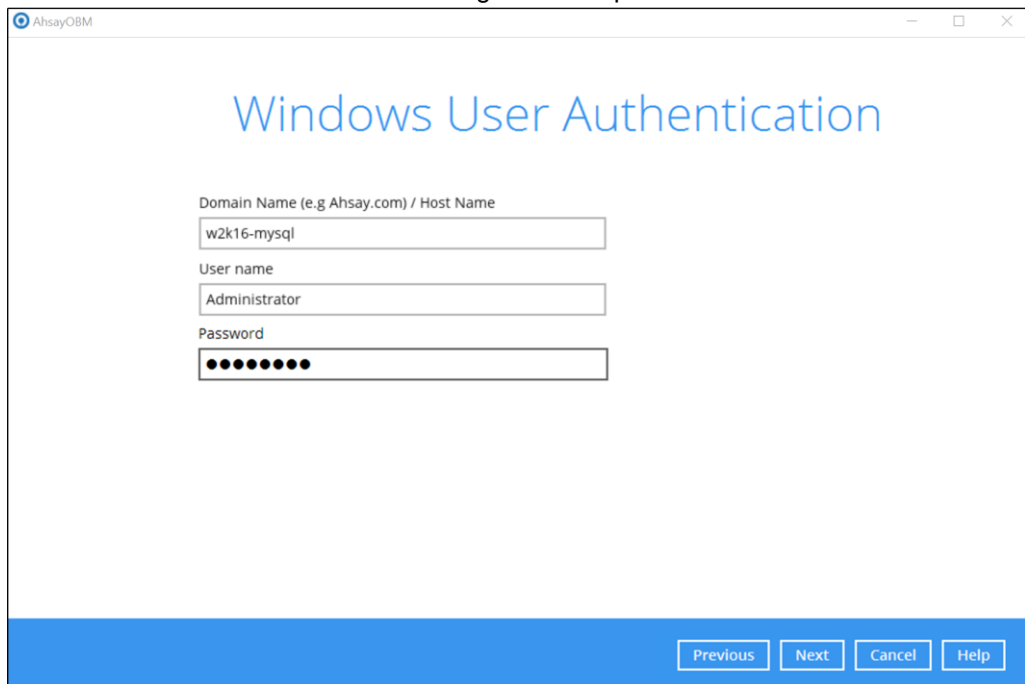
The pop-up window has the following three options to choose from:

- **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.

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



AhsayOBM

Windows User Authentication

Domain Name (e.g. Ahsay.com) / Host Name
w2k16-mysql

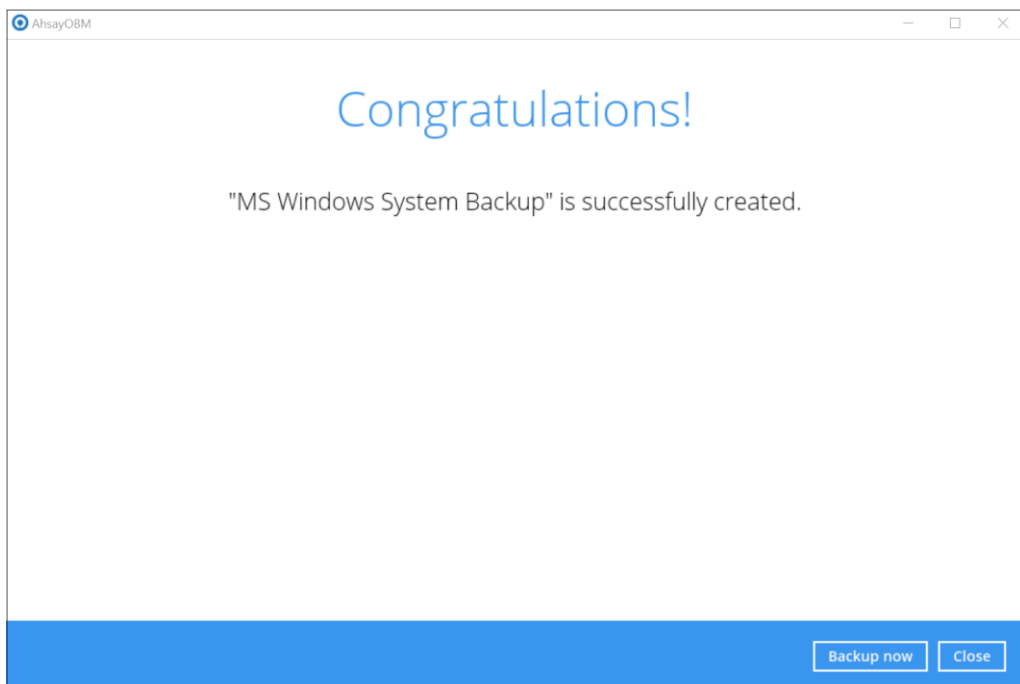
User name
Administrator

Password
●●●●●●●●

Previous Next Cancel Help

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

14. Click **Next** to create the backup set.
15. The following screen is displayed when the new MS Windows System backup set is created successfully.



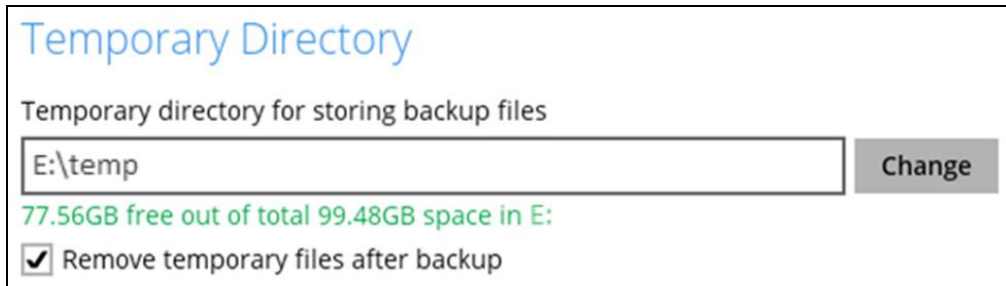
AhsayOBM

Congratulations!

"MS Windows System Backup" is successfully created.

Backup now Close

16. It is highly recommended to set the temporary directory to another location other than Drive C: (e.g. Drive E:). To do this, go to **Backup Sets > Others > Temporary Directory** and click the **Change** button to browse for another location.



Temporary Directory

Temporary directory for storing backup files

E:\temp Change

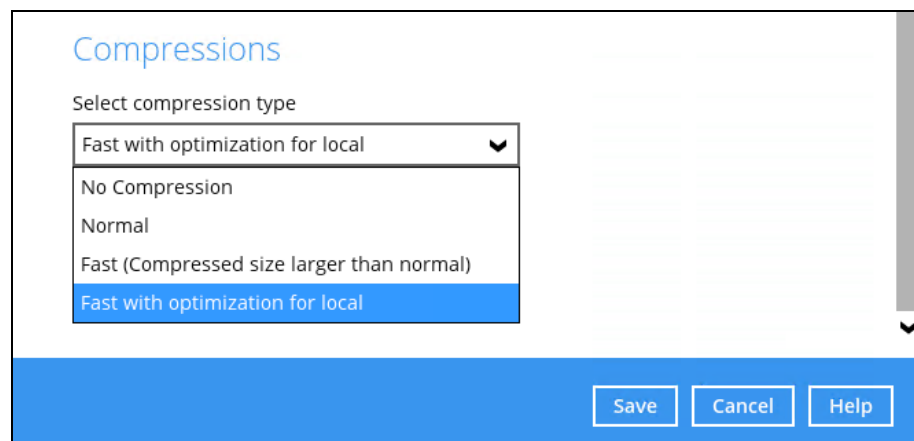
77.56GB free out of total 99.48GB space in E:

☒ Remove temporary files after backup

17. Optional: Select your preferred **Compression** type. By default, the compression type is Fast with optimization for local.

Go to **Others > Compressions**, then select from the following:

- No Compression
- Normal
- Fast (Compressed size larger than normal)
- Fast with optimization for local



Compressions

Select compression type

Fast with optimization for local ▼

No Compression

Normal

Fast (Compressed size larger than normal)

Fast with optimization for local

Save Cancel Help

4 Running a Backup

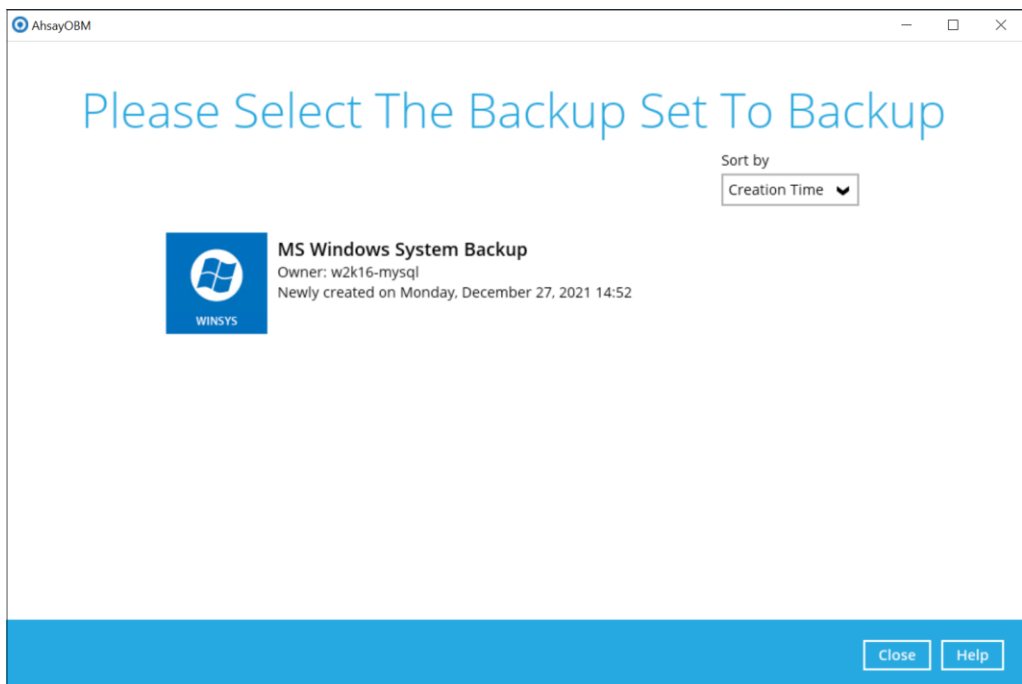
4.1 Start a Manual Backup

To read about the **Overview on the Backup Process**, please refer to [Chapter 12](#) of the AhsayOBM v9 Quick Start Guide for Windows.

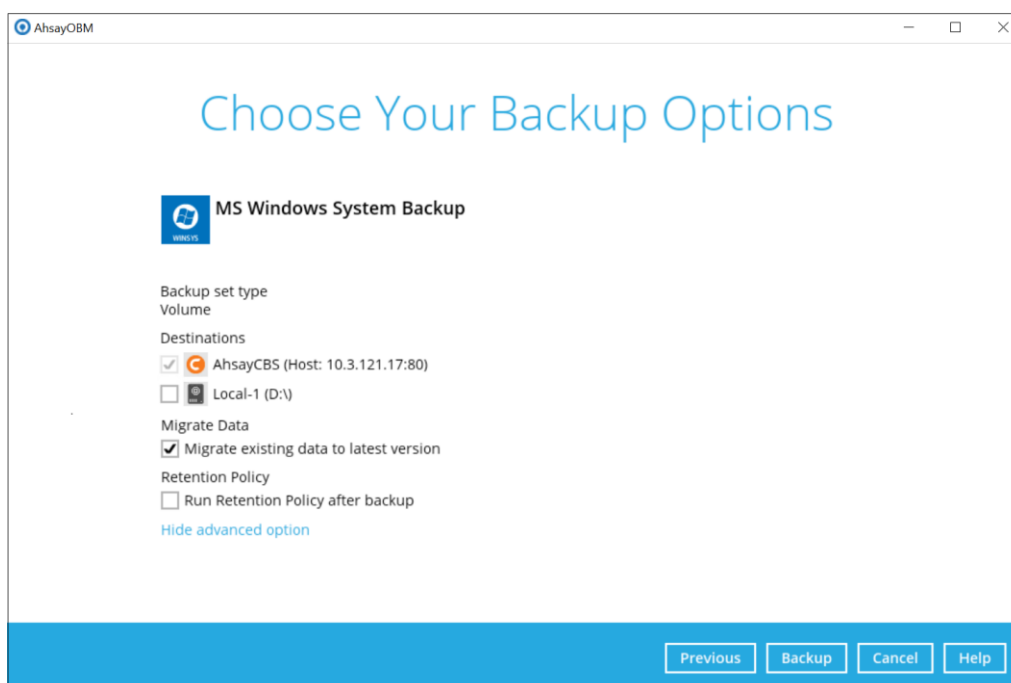
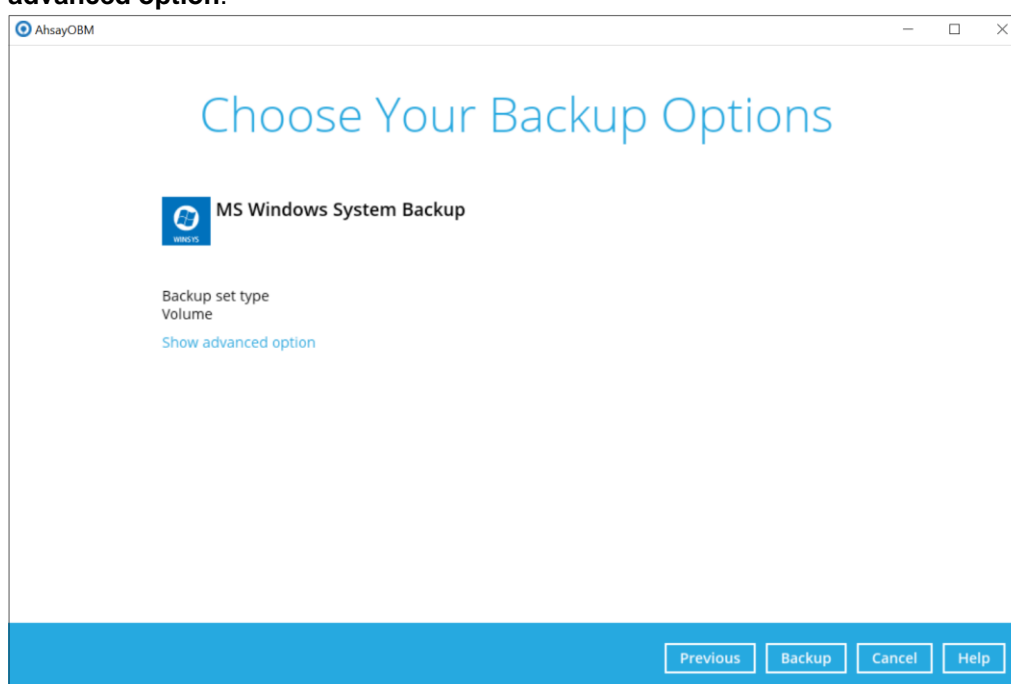
1. Click the **Backup** icon on the main interface of AhsayOBM.



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



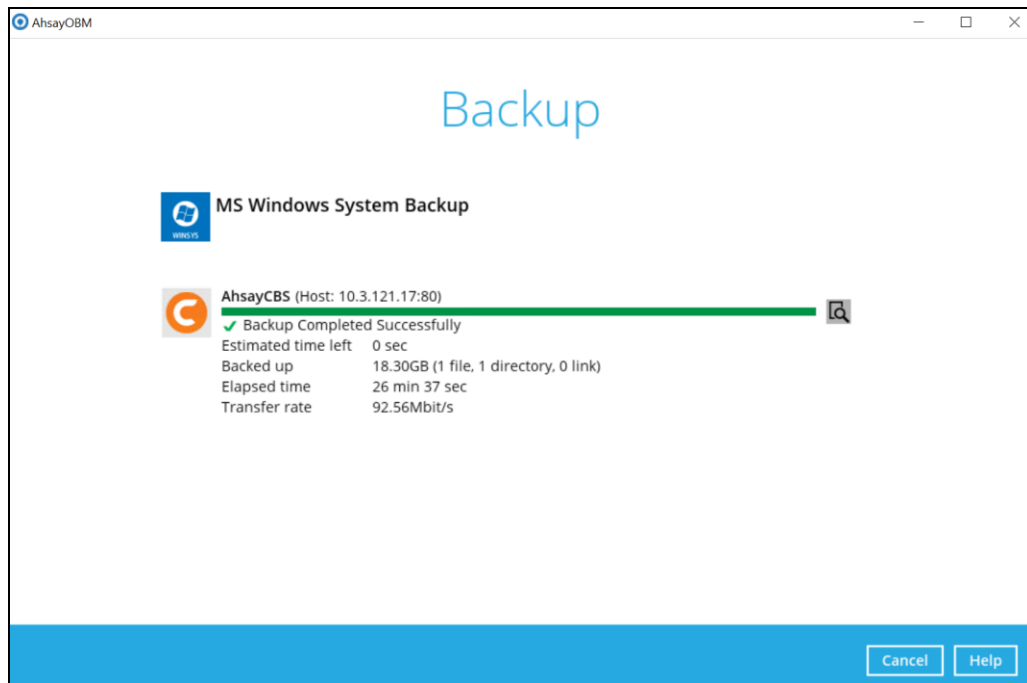
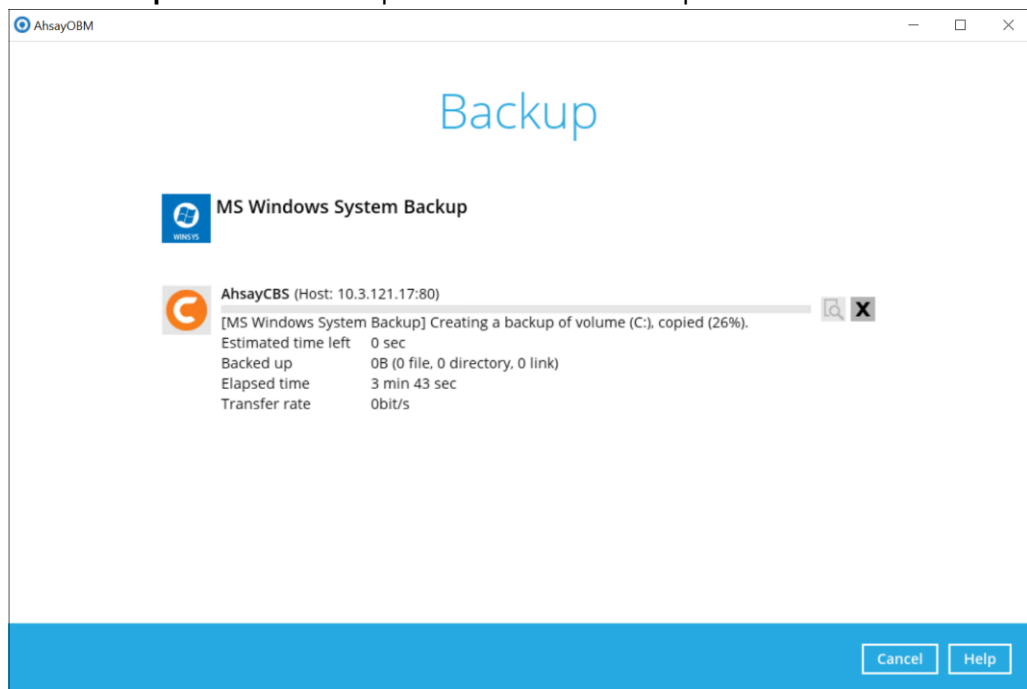
3. If you would like to modify the Destinations and Retention Policy Settings, click **Show advanced option**.




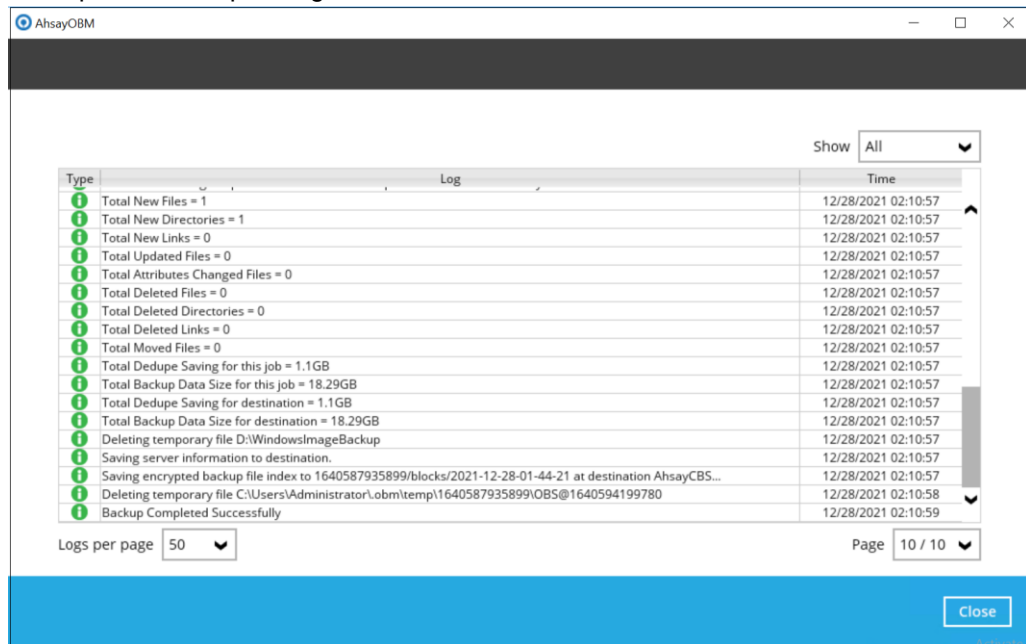
NOTE

The **Migrate Data** option will only be displayed if Deduplication is enabled for the backup set. When the Migrate Data option is enabled, the existing data will be migrated to the latest version during a backup job. Backup job(s) for backup sets with Migrate Data enabled may take longer to finish. For more information about this feature, refer to [AhsayCBS v9 New Features Supplemental document](#).

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.

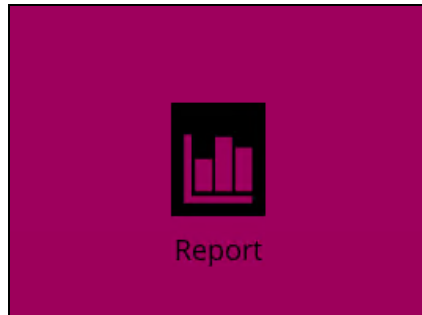


Type	Log	Time
i	Total New Files = 1	12/28/2021 02:10:57
i	Total New Directories = 1	12/28/2021 02:10:57
i	Total New Links = 0	12/28/2021 02:10:57
i	Total Updated Files = 0	12/28/2021 02:10:57
i	Total Attributes Changed Files = 0	12/28/2021 02:10:57
i	Total Deleted Files = 0	12/28/2021 02:10:57
i	Total Deleted Directories = 0	12/28/2021 02:10:57
i	Total Deleted Links = 0	12/28/2021 02:10:57
i	Total Moved Files = 0	12/28/2021 02:10:57
i	Total Dedupe Saving for this job = 1.1GB	12/28/2021 02:10:57
i	Total Backup Data Size for this job = 18.29GB	12/28/2021 02:10:57
i	Total Dedupe Saving for destination = 1.1GB	12/28/2021 02:10:57
i	Total Backup Data Size for destination = 18.29GB	12/28/2021 02:10:57
i	Deleting temporary file D:\WindowsImageBackup	12/28/2021 02:10:57
i	Saving server information to destination.	12/28/2021 02:10:57
i	Saving encrypted backup file index to 1640587935899/blocks/2021-12-28-01-44-21 at destination AhsayCBS...	12/28/2021 02:10:57
i	Deleting temporary file C:\Users\Administrator\Local\temp\1640587935899\OBS@1640594199780	12/28/2021 02:10:58
i	Backup Completed Successfully	12/28/2021 02:10:59

Logs per page 50 Page 10 / 10

Close

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

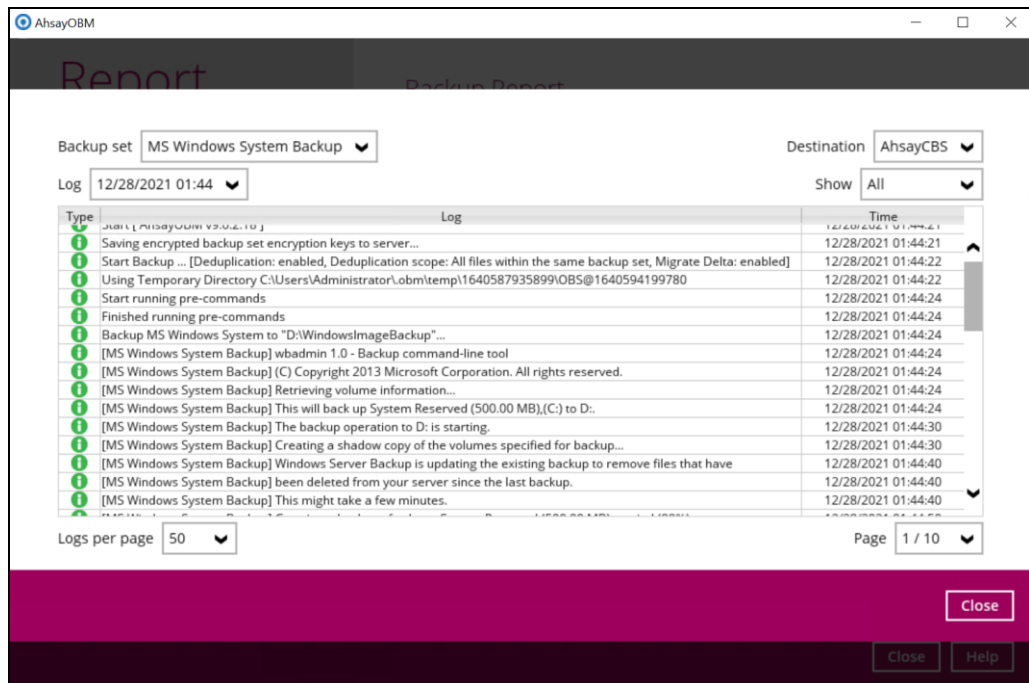


In this Backup Report screen, you can see the backup set with corresponding destination, completion date and time, and status.

Backup set	Destination	Completion	Status
MS Windows System ...	AhsayCBS	Today 02:10	Completed
MS Windows System ...	Local-1	Today 01:39	Interrupted
MS Windows System ...	AhsayCBS	Today 01:39	Interrupted
BackupSet-1	AhsayCBS	12/24/2021 13:36	Completed

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.

Backup set	Destination	Completion	Status
MS Windows System Backup	AhsayCBS	12/28/2021 01:44	Completed successfully



You can also search for backup reports from a specific period of date. Click the **Go** button to generate the available reports.

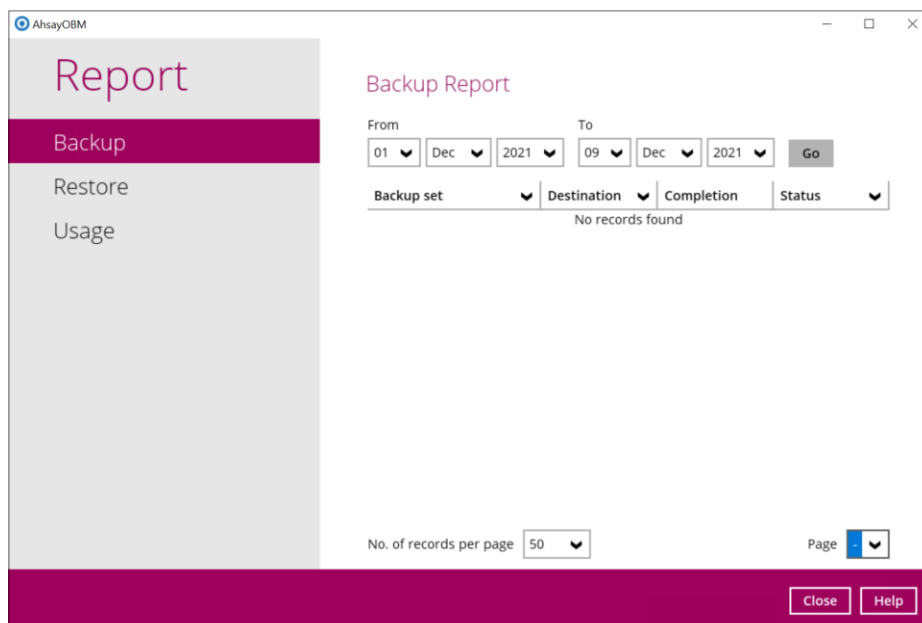
From To

01 Dec 2021 28 Dec 2021 Go

A message of **No records found** will be displayed if there are no backup created on the specified date ranges.

From To

01 Dec 2021 09 Dec 2021 Go

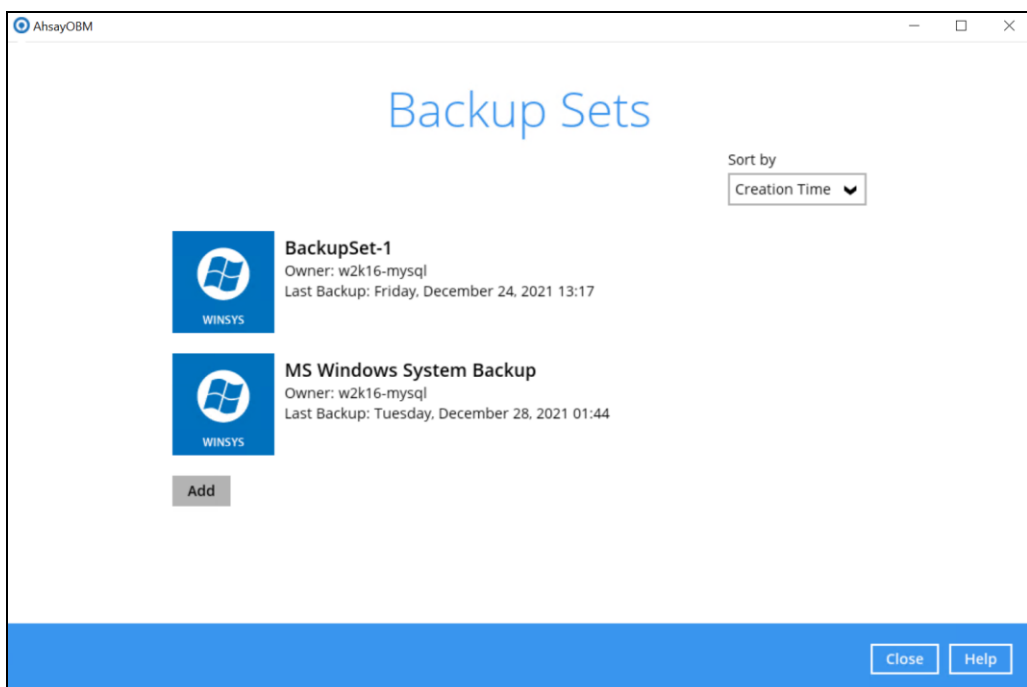


4.2 Configure Backup Schedule for Automated Backup

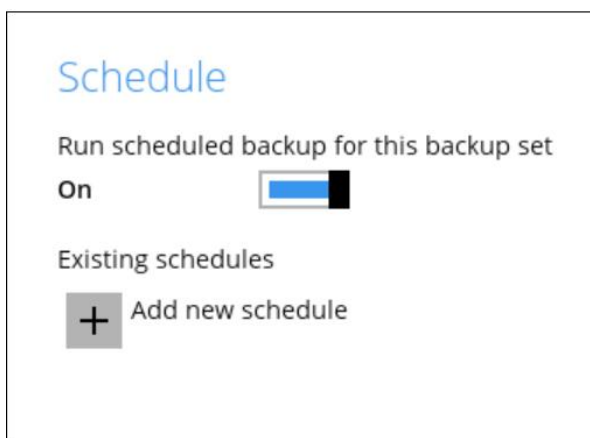
1. Click the **Backup Sets** icon on the main interface of AhsayOBM.



2. All backup sets will be listed. Select the backup set that you would like to create a backup schedule for.



3. Go to the **Backup Schedule** tab. If the **Run scheduled backup for this backup set** option is off, switch it **On**. Existing schedules will be listed if there is any. Click the **Add** button to add a new backup schedule.



4. The New Backup Schedule window will appear.

New Backup Schedule

Name
Daily-1

Type
Daily

Start backup
at 13:00

Stop
until full backup completed

☐ Run Retention Policy after backup

5. In the New Backup Schedule window, configure the following backup schedule settings.

- **Name** – the name of the backup schedule.
- **Type** – the type of backup schedule. There are four (4) different types of backup schedule: Daily, Weekly, Monthly and Custom.
 - **Daily** – the time of the day or interval in minutes/hours which the backup job will run.

New Backup Schedule

Name
Daily-1

Type
Daily

Start backup
at 15:41

Stop
until full backup completed

☒ Run Retention Policy after backup

- **Weekly** – the day of the week and the time of the day or interval in minutes/hours which the backup job will run.

New Backup Schedule

Name
Weekly-1

Type
Weekly

Backup on these days of the week
☐ Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☒ Sat

Start backup
 at 23 : 00

Stop
 until full backup completed

☒ Run Retention Policy after backup

- **Monthly** - the day of the month and the time of that day which the backup job will run.

New Backup Schedule

Name
Monthly-1

Type
Monthly

Backup on the following day every month
☒ Day Last ☐ First Sunday

Start backup at
 23 : 00 on the selected days

Stop
 until full backup completed

☒ Run Retention Policy after backup

- **Custom** – a specific date and the time of that date which the backup job will run.

• **Start backup** – the start time of the backup job.

- **at** – this option will start a backup job at a specific time.
- **every** – this option will start a backup job in intervals of minutes or hours.

• **Stop** – the stop time of the backup job. This only applies to schedules with start backup “at” and is not supported for periodic backup schedule (start backup “every”)

- **until full backup completed** – this option will stop a backup job once it is complete. This is the configured stop time of the backup job by default.
- **after (defined no. of hrs.)** – this option will stop a backup job after a certain number of hours regardless of whether the backup job has completed or not. This can range from 1 to 24 hrs.

The number of hours must be enough to complete a backup of all files in the backup set. For small files in a backup, if the number of hours is not enough to back up all files, then the outstanding files will be backed up in the next backup job. However, if the backup set contains large files, this may result in partially backed up files.

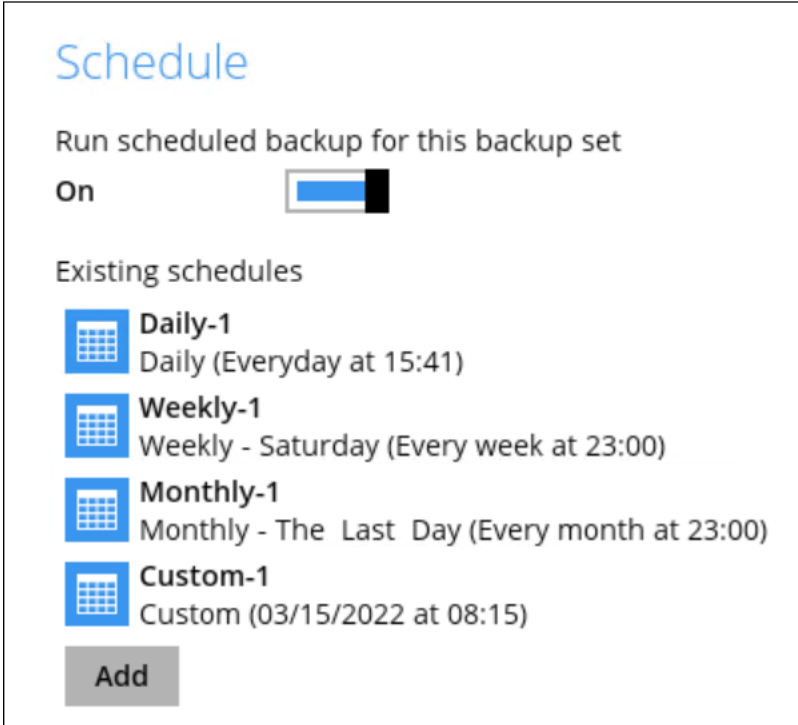
For example, if a backup has 100GB file size which will take approximately 15 hours to complete on your environment, but you set the “stop” after 10 hours, the file will be partially backed up and cannot be restored. The next backup will upload the files from scratch again.

The partially backed up data will have to be removed by running the data integrity check.

As a general rule, it is recommended to review this setting regularly as the data size on the backup machine may grow over time.

- ❶ **Run Retention Policy after backup** – if enabled, the AhsayOBM will run a retention policy job to remove files from the backup destination(s) which have exceeded the retention policy after performing a backup job. To save hard disk quote in the long run, it is recommended to enable this option.

As an example, the four types of backup schedules may look like the following:



6. Click **Save** to confirm your settings once done.

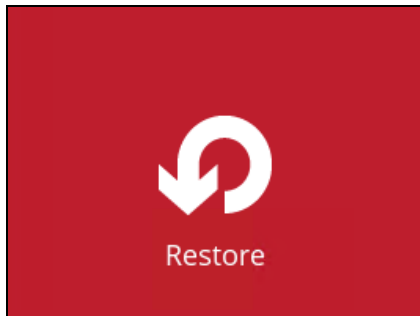
5 Restore with a Microsoft Windows System Backup Set

5.1 Login to AhsayOBM

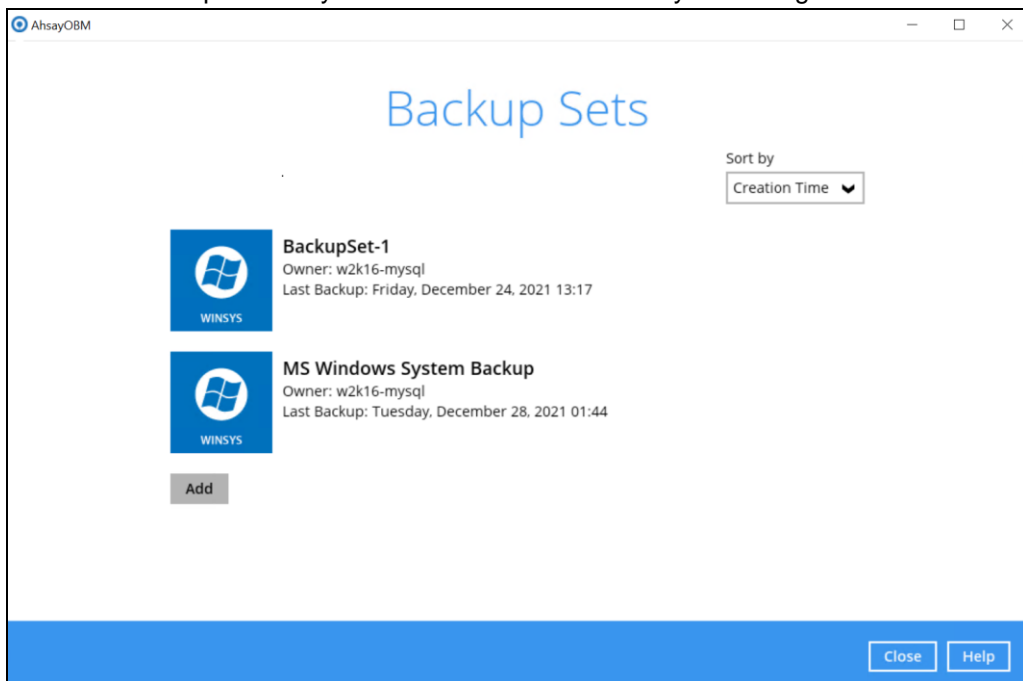
Login to the AhsayOBM application according to the instruction provided in [Chapter 8](#) of the AhsayOBM v9 Quick Start Guide for Windows.

5.2 Restore the System Image

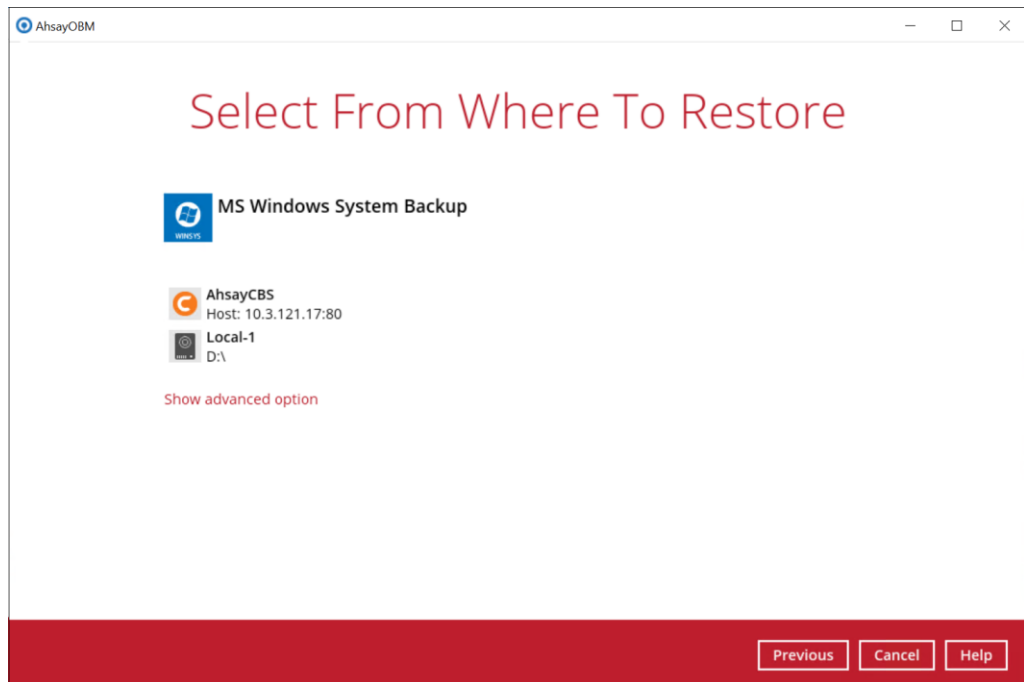
1. Click the **Restore** icon on the main interface of AhsayOBM.



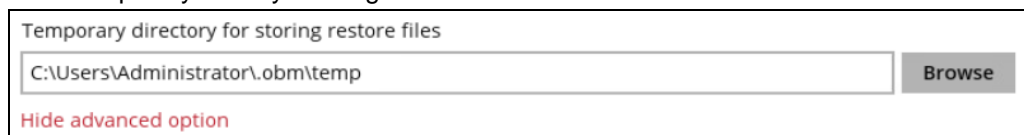
2. Select the backup set that you would like to restore the system image from.



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



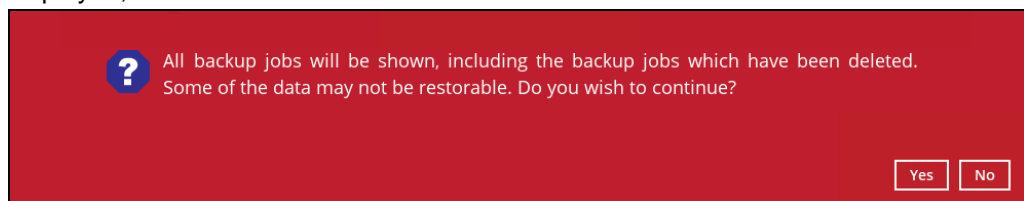
You may configure the **Temporary directory for storing restore files** by clicking **Show advanced option**. This will allow you to select the directory that will be used to store temporary files by clicking the **Browse** button.



4. Tick **Show backup job(s) outside retention** if you want all backup jobs to be displayed, even the deleted ones.

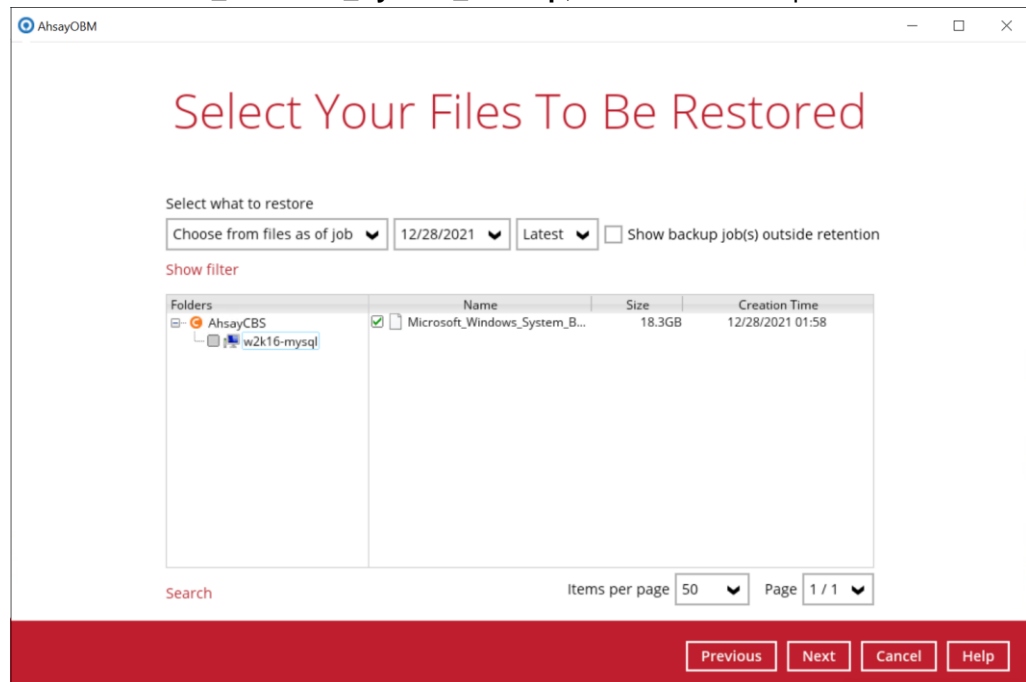
☐ Show backup job(s) outside retention

Once ticked, this message will be displayed. Click **Yes** if you want all backup jobs to be displayed, otherwise click **No**.

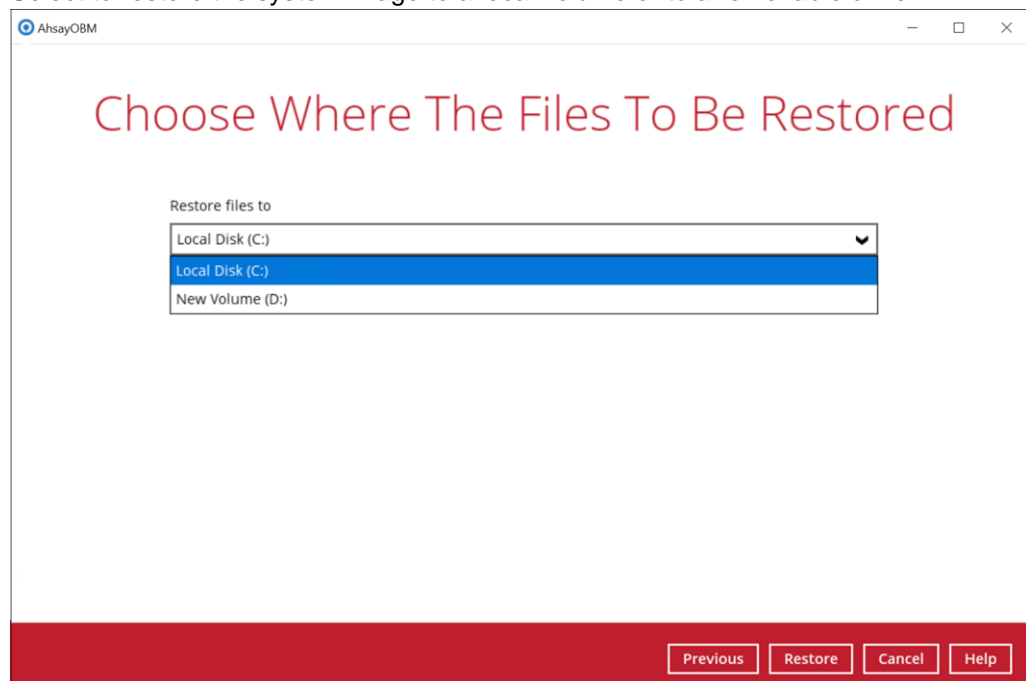


5. Select to restore from a specific backup job, or the latest job available from the **Select what to restore** drop down menu.

Select **Microsoft_Windows_System_Backup**, then click **Next** to proceed.



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



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

Choose Where The Files To Be Restored

Restore files to

New Volume (D:)

Show advanced option

Choose Where The Files To Be Restored

Restore files to

New Volume (D:)

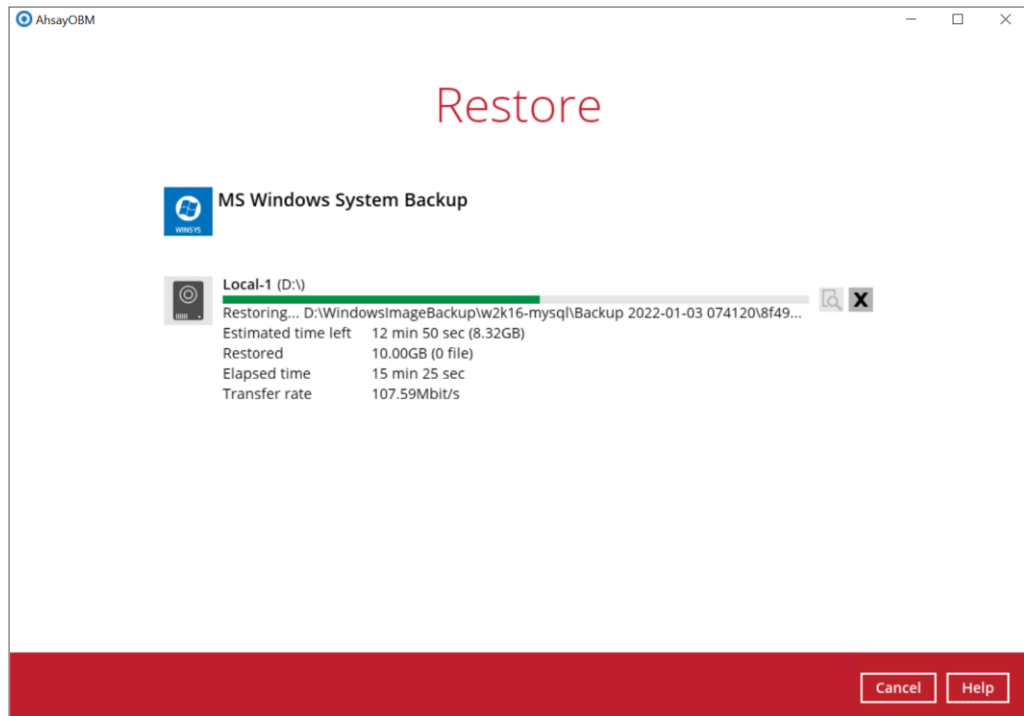
☐ Verify checksum of in-file delta files during restore

Hide advanced option

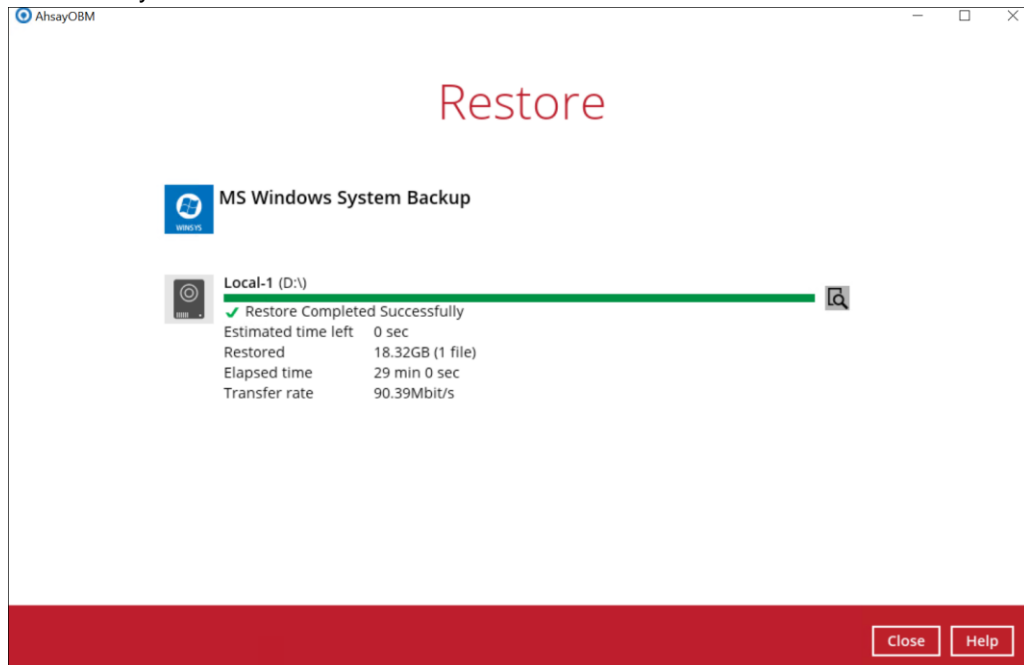
🔍 Verify checksum of in-file delta files during restore

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.

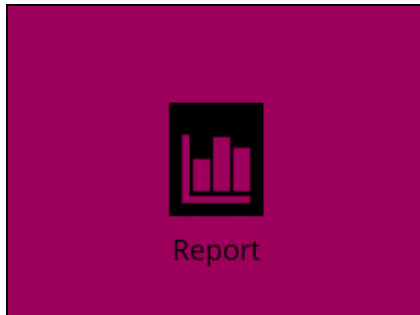
7. Click **Restore** to start the restoration.



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



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.

The screenshot shows the AhsayOBM interface. On the left is a sidebar with "Report", "Backup", "Restore" (highlighted), and "Usage". The main area is titled "Restore Report". It features date pickers for "From" (22 Dec 2021) and "To" (04 Jan 2022), a "Go" button, and a table of backup sets.

Backup set	Destination	Job	Status
MS Windows S...	Local-1	Today 06:42	Completed
MS Windows S...	AhsayCBS	12/28/2021 14:03	Failed

At the bottom, there are controls for "No. of records per page" (set to 50) and "Page" (1 / 1), along with "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.

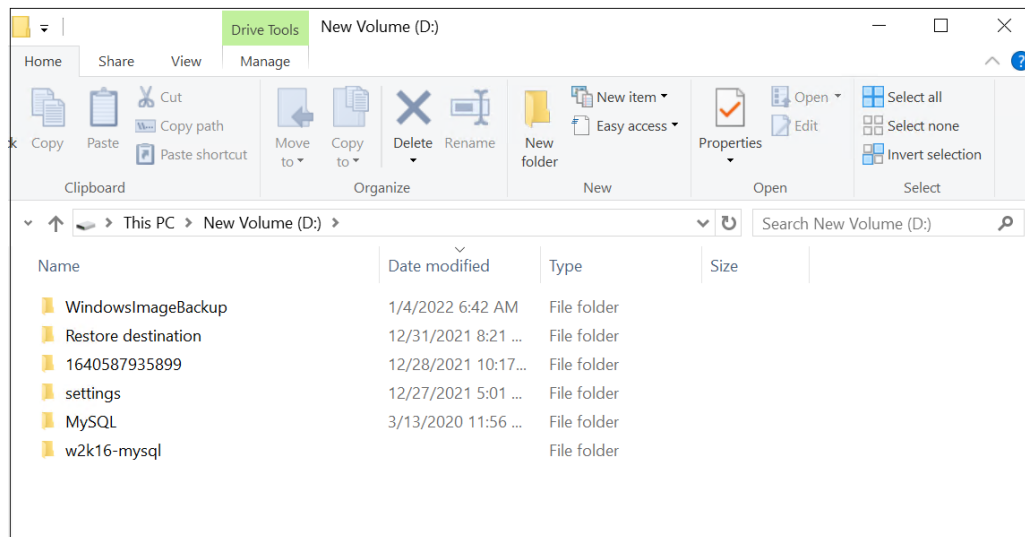
This screenshot is similar to the previous one, but with a summary popup window open. The popup displays details for the "MS Windows System Backup" job.

Restore Report Summary:

- Backup set: MS Windows System Backup
- Destination: Local-1
- Job: 01/04/2022 06:42
- Time: Today 06:42 - 07:11 (CST)
- Status: Completed successfully
- Downloaded files*: 1 (18.3GB)
- * Unit = No of files (Download size)

A "View log" button is located at the bottom of the popup. The background table and sidebar remain the same as in the previous screenshot.

9. 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.

10. 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.

11. Continue to the next section of the guide.

5.3 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: 12/28/2021 10:29 AM  
Backup target: 1394/USB Disk labeled New Volume (D:)  
Version identifier: 12/28/2021-10:29  
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:

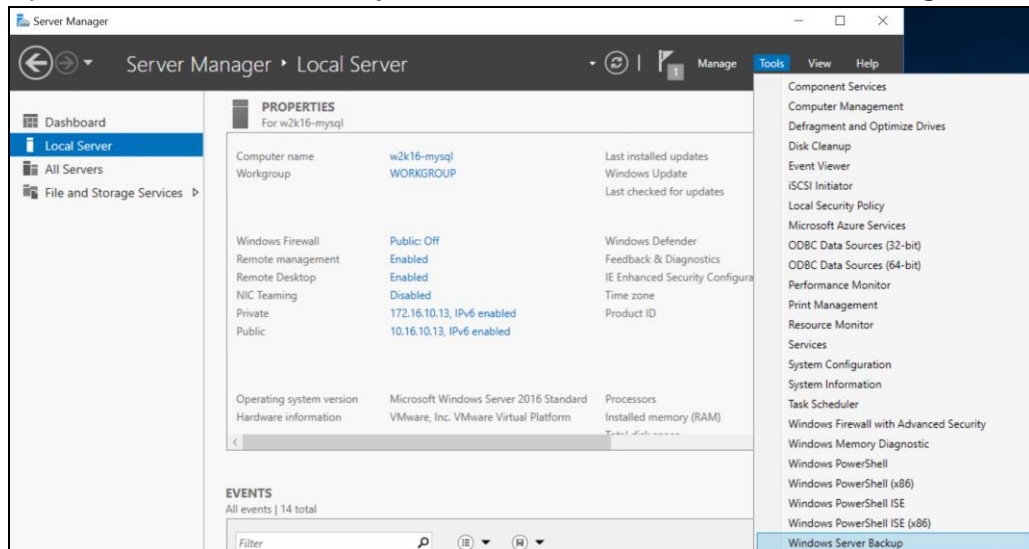
- ▶ [Recover Files and Folders](#)
- ▶ [Recover Application and Data](#)
- ▶ [Recover Volumes](#)
- ▶ [Recover the Operating System or Full System](#)
- ▶ [Recover the Full System \(Non-Server Platforms\)](#)

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

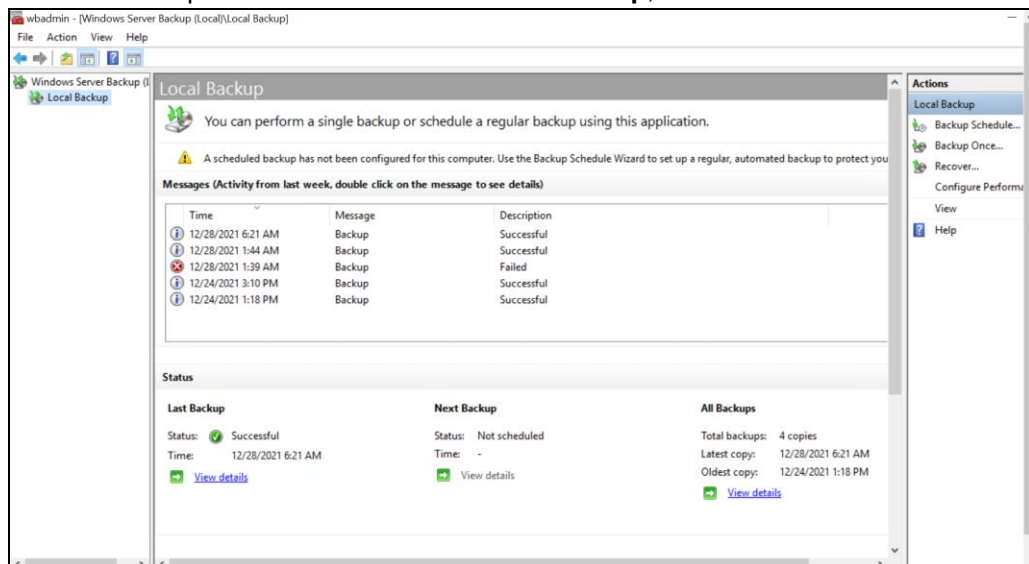
5.3.1 Recover Files and Folders

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

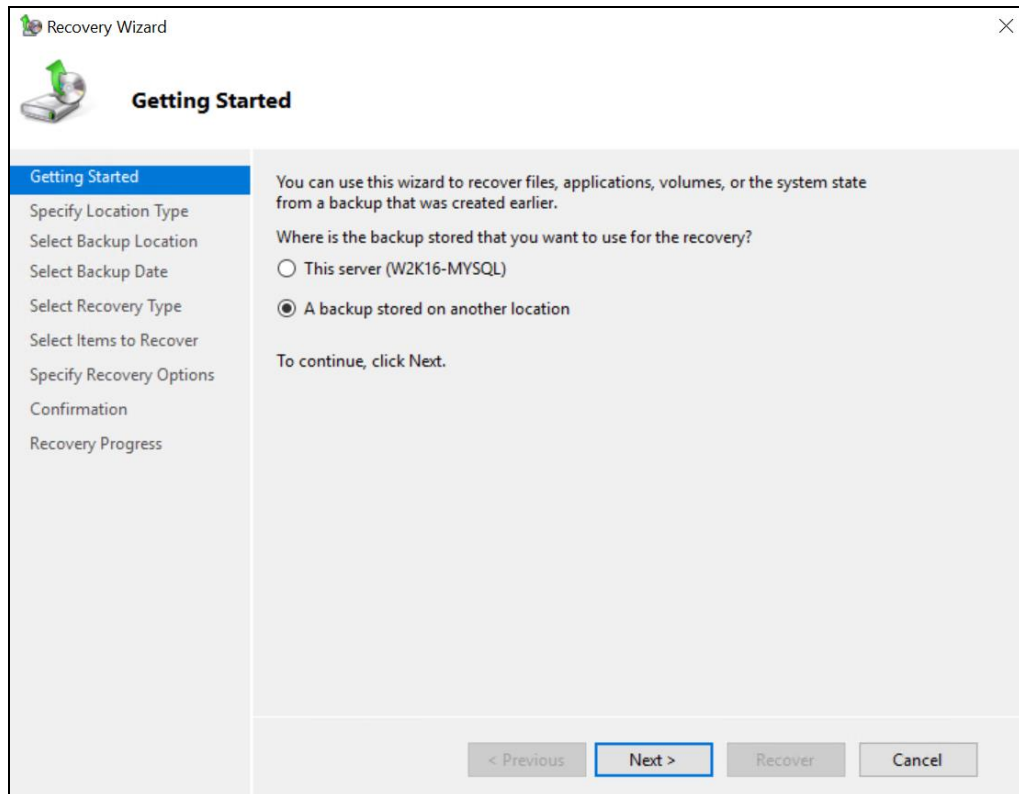
1. Open **Windows Server Backup** from **Administrative Tools** or **Server Manager**.



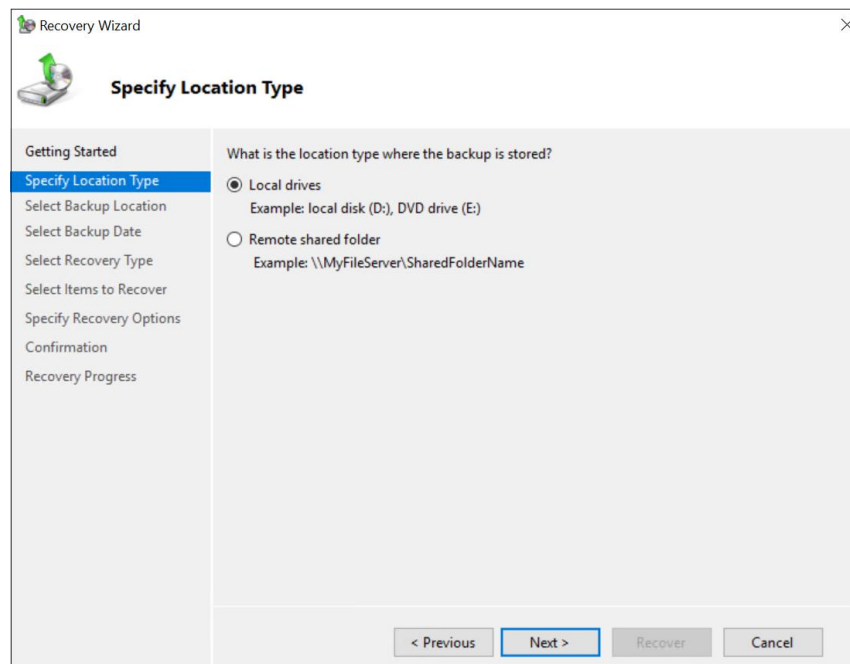
2. In the **Actions** panel under **Windows Server Backup**, click **Recover...**



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.

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, there are three fields: 'Backup location:' with a dropdown menu showing 'Temp1 (E:)', 'Total space in location:' with the value '60.00 GB', and 'Free space in backup location:' with the value '30.46 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' 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, there is a label 'Server:' followed by a list box containing the text 'w2k16-mysql'. 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: 12/24/2021 1:18 PM
- Newest available backup: 12/30/2021 3:41 PM
- Available backups: Select the date of a backup to use for recovery. Backups are available for dates shown in bold.

A calendar for December 2021 is shown, with the date 31 (Friday) selected. To the right of the calendar, the 'Backup date' is set to 12/30/2021, and the 'Time' is set to 3:41 PM. 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 **Files and folders**.

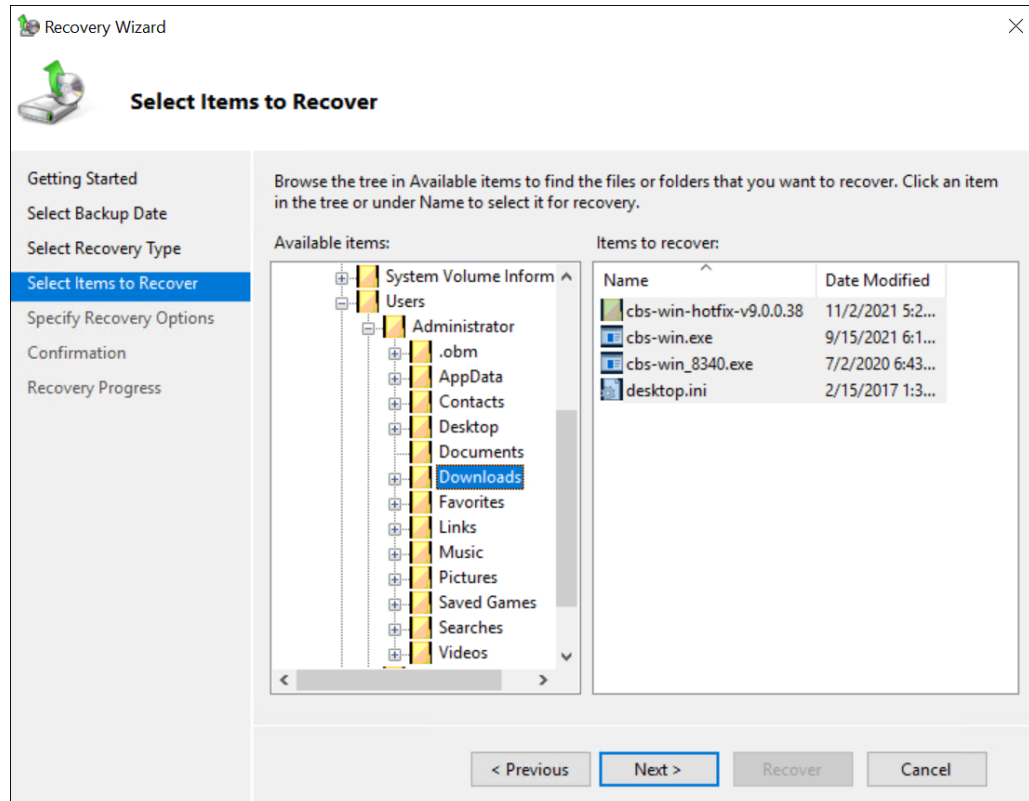
The screenshot shows the 'Select Recovery Type' page of the Recovery Wizard. The left sidebar contains a list of steps: Getting Started, Select Backup Date, **Select Recovery Type** (highlighted), Select Items to Recover, Specify Recovery Options, Confirmation, and Recovery Progress. The main area displays 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 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. On the left is a sidebar with steps: Getting Started, Select Backup Date, Select Recovery Type, Select Items to Recover, **Specify Recovery Options** (highlighted), Confirmation, and Recovery Progress. The main area is divided into sections: 'Recovery destination' with radio buttons for 'Original location' and 'Another location' (selected), a text box containing 'D:\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'; 'Security settings' with a checked box for 'Restore access control list (ACL) permissions to the file or folder being recovered'; and a warning icon with text: 'File recovery to a non-NTFS target volume might fail due to unsupported file properties.' At the bottom are buttons: '< Previous', 'Next >', 'Recover', and 'Cancel'.

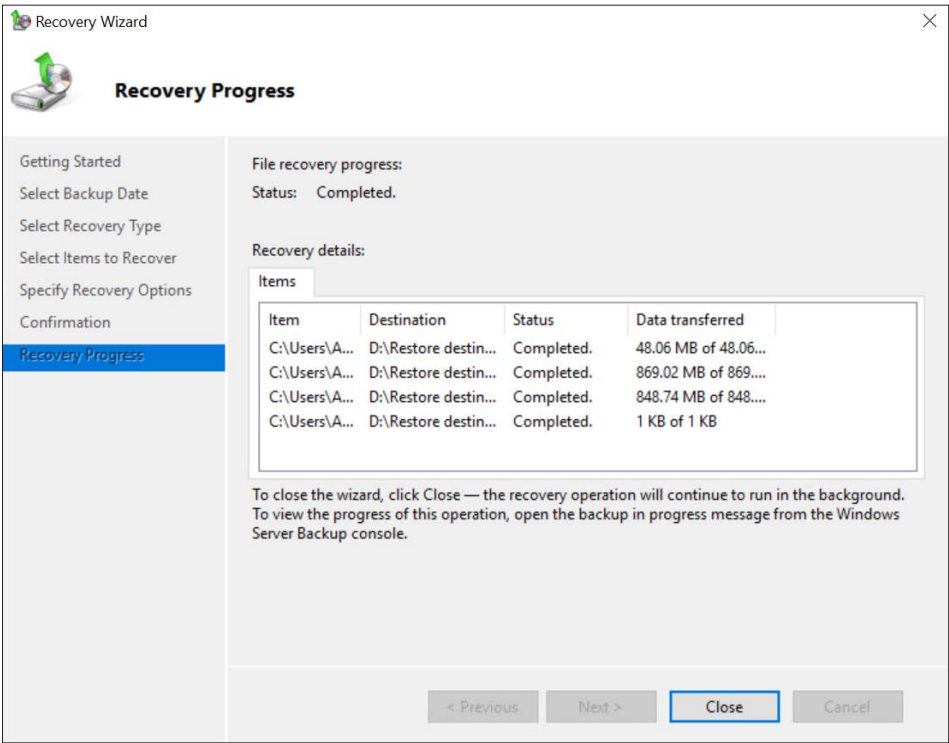
Modify the **When this wizard finds items in the backup that are already in the recovery destination** setting, and the **Security settings** if necessary.

Click **Next** to proceed.

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

The screenshot shows the 'Confirmation' window of the Recovery Wizard. The sidebar is the same as the previous window, with 'Confirmation' highlighted. The main area shows: 'From backup: 12/30/2021 3:41 PM'; 'Recovery items:' followed by a list of four files in a text box: 'C:\Users\Administrator\Downloads\cbs-win-hotfix-v9.0.0.38', 'C:\Users\Administrator\Downloads\cbs-win.exe', 'C:\Users\Administrator\Downloads\cbs-win_8340.exe', and 'C:\Users\Administrator\Downloads\desktop.ini'; 'Recovery destination: D:\Restore destination'; 'Recovery option: Create copies of recovered files'; and 'Security settings: Recover'. At the bottom are buttons: '< Previous', 'Next >', 'Recover' (highlighted), and 'Cancel'.

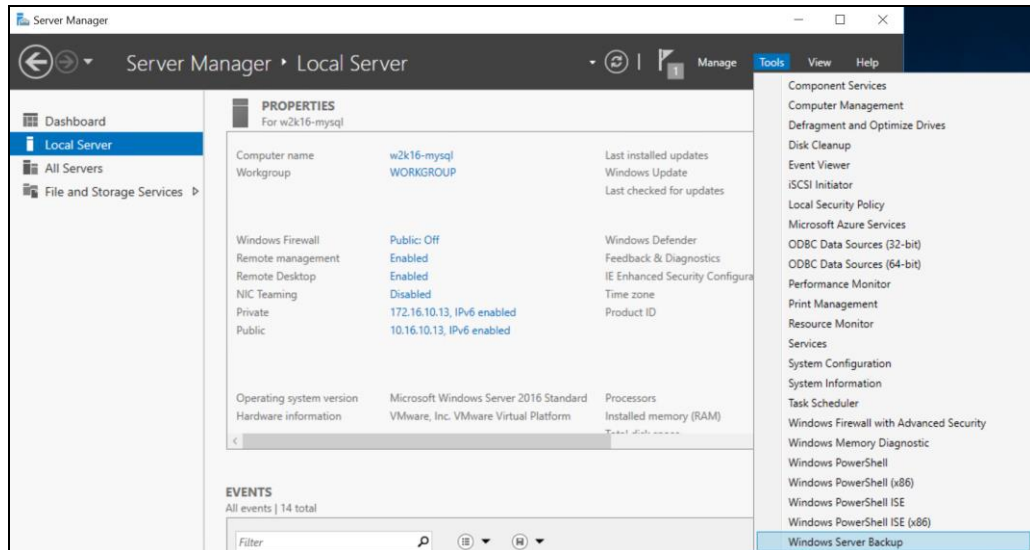
12. On the **Recovery progress** page, the status and result of the recovery operation are displayed.



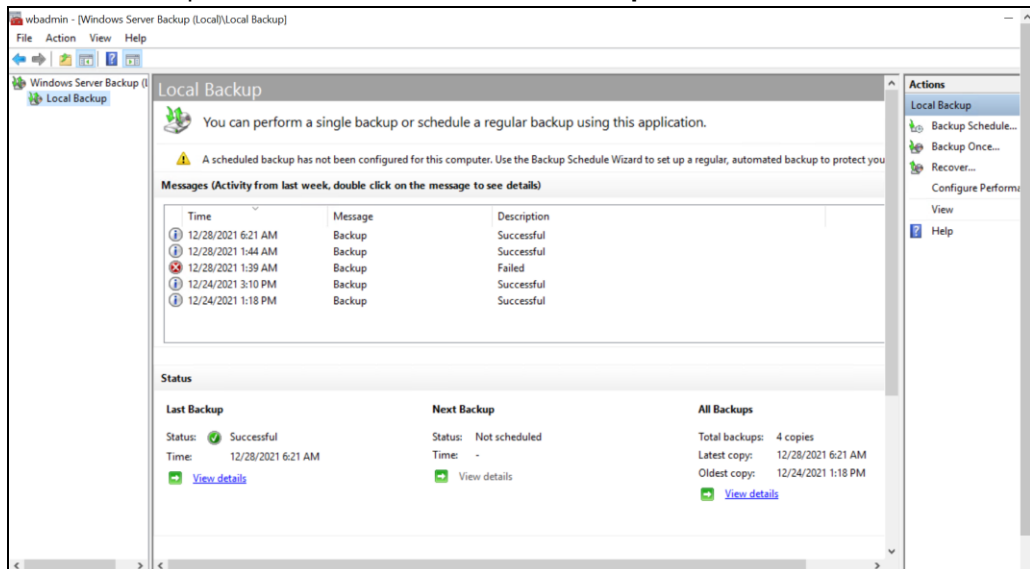
5.3.2 Recover Applications and Data

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

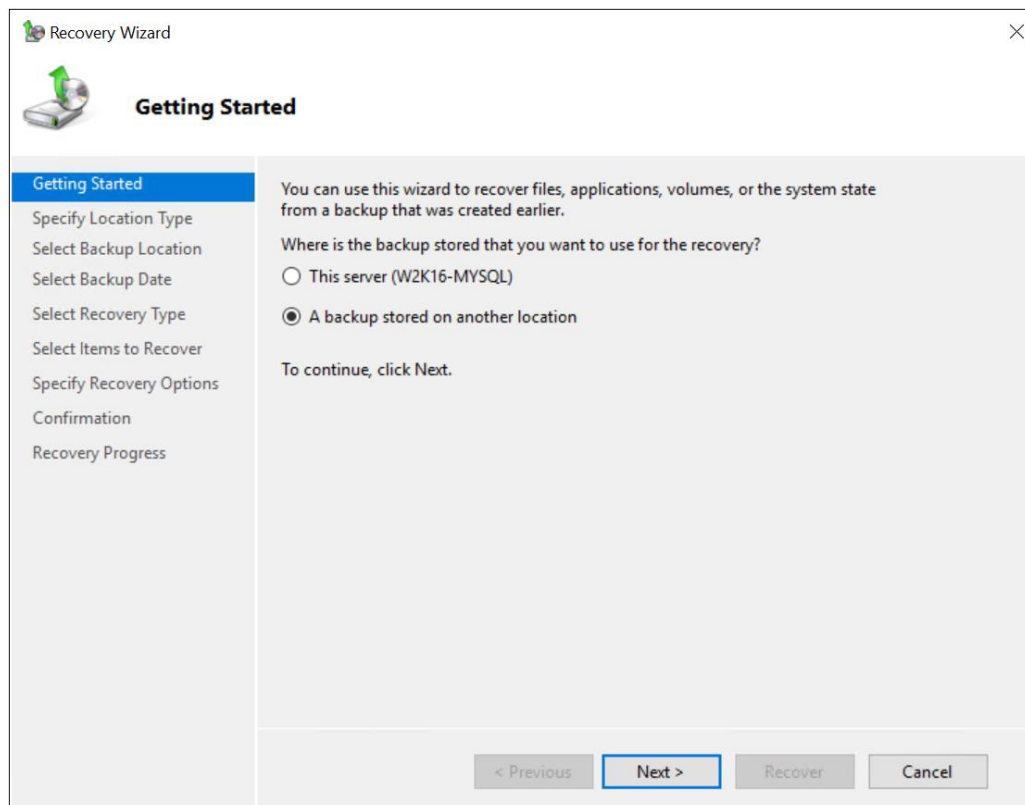
1. Open **Windows Server Backup** from Administrative Tools or Server Manager.



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
 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.

The screenshot shows the 'Specify Location Type' page of the Recovery Wizard. The left sidebar contains a list of steps: Getting Started, Specify Location Type (highlighted), Select Backup Location, Select Backup Date, Select Recovery Type, Select Items to Recover, Specify Recovery Options, Confirmation, and Recovery Progress. The main area is titled 'Specify Location Type' and contains the question 'What is the location type where the backup is stored?'. There are two radio button options: 'Local drives' (selected) with the example 'local disk (D:), DVD drive (E:)', and 'Remote shared folder' with the example '\\MyFileServer\SharedFolderName'. At the bottom, there are four buttons: '< Previous' (highlighted), 'Next >', 'Recover', and 'Cancel'.

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

The screenshot shows the 'Select Backup Location' page of the Recovery Wizard. 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 is titled 'Select Backup Location' and contains the instruction: '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 are three rows of information: '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, there are four buttons: '< Previous', 'Next >' (highlighted), '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.

Recovery Wizard

Select Server

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

Please select which server's data you would like to recover.

Server:

w2k16-mysql

< Previous Next > Recover Cancel

7. 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: 12/24/2021 1:18 PM
Newest available backup: 12/30/2021 3:41 PM

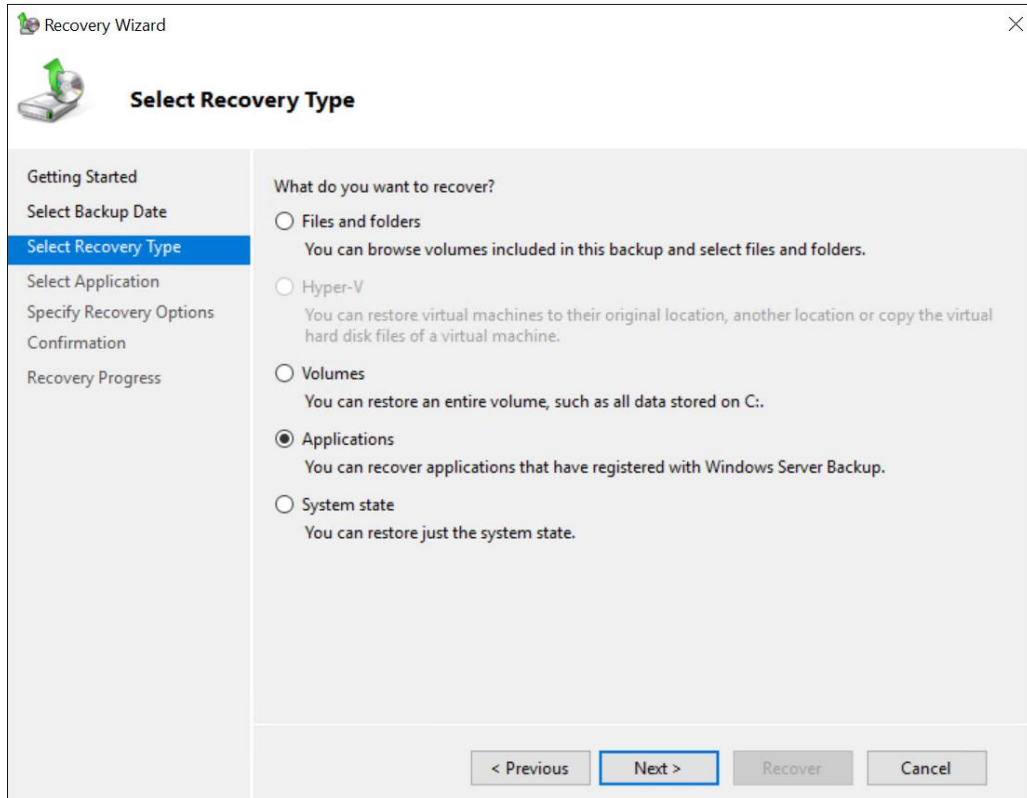
Available backups
Select the date of a backup to use for recovery. Backups are available for dates shown in bold.

December 2021						
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: 12/30/2021
Time: 3:41 PM
Recoverable items: [Bare metal recover...](#)

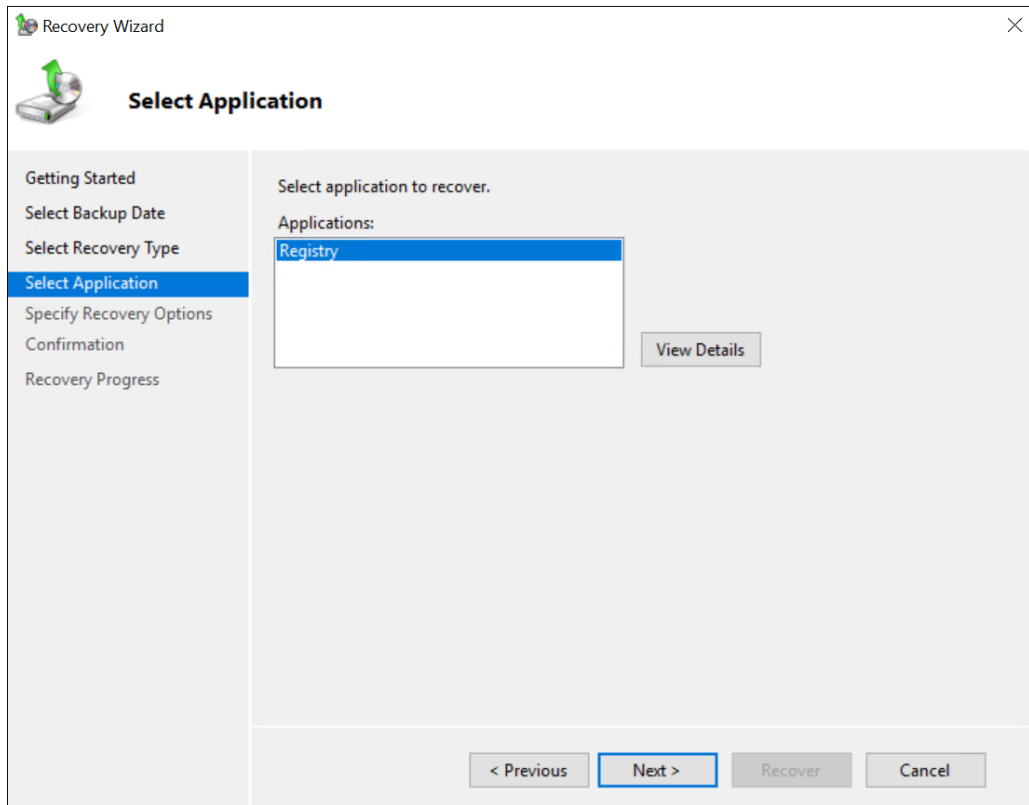
< Previous Next > Recover Cancel

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



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

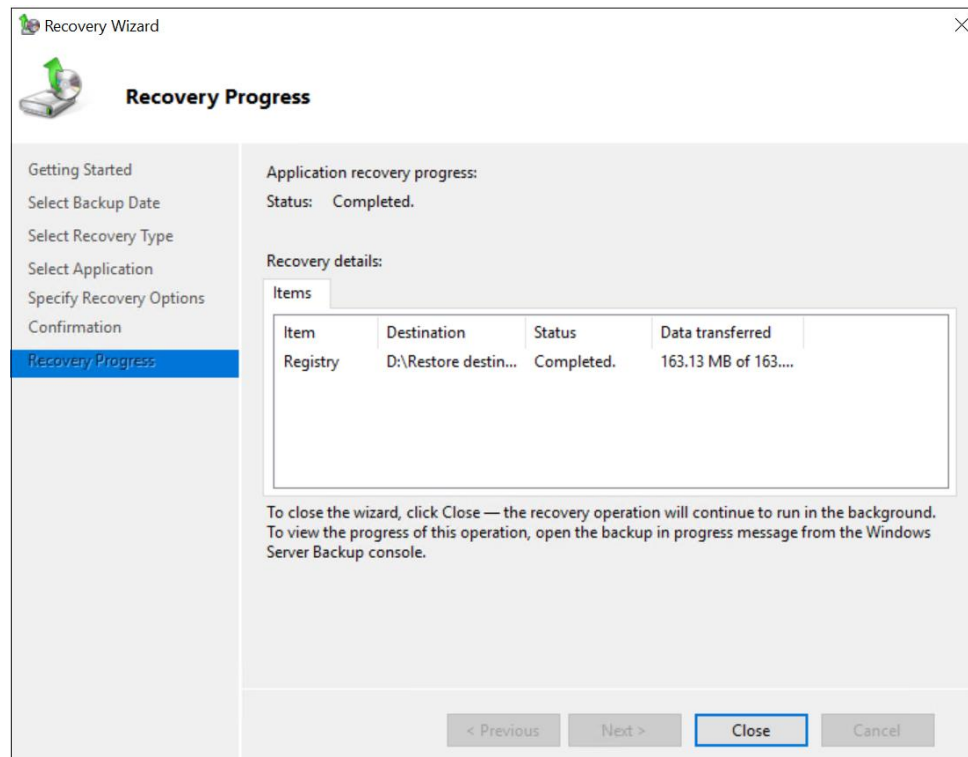
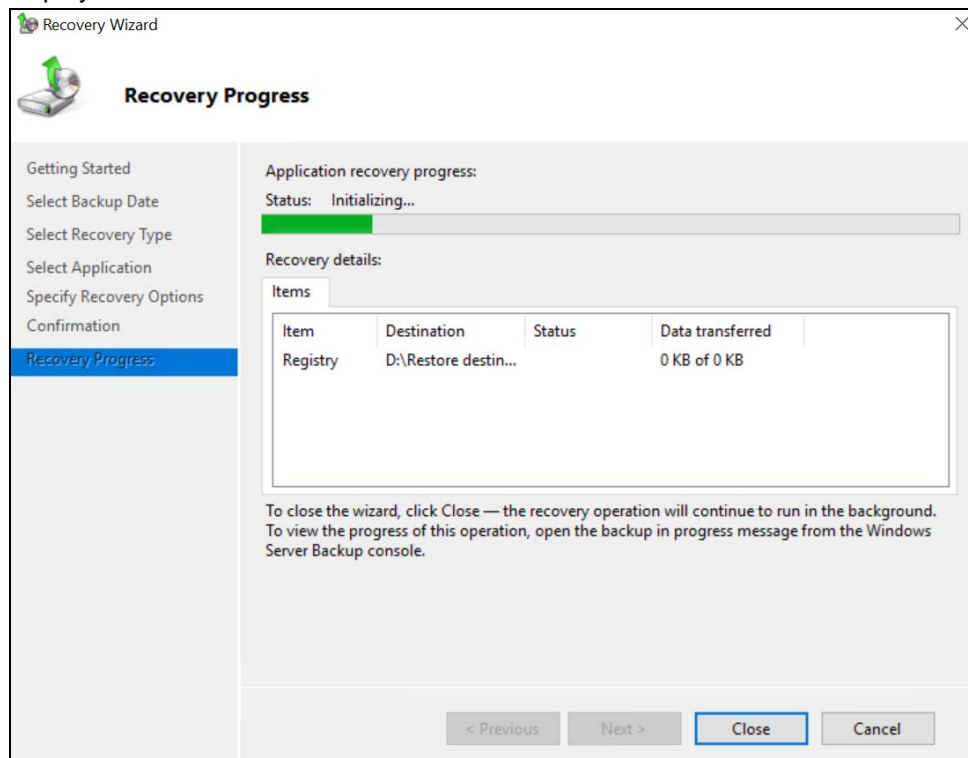
10. On the **Specify Recovery Options** page, select **Recover to another location**. Type the path to the location or click **Browse** to select it.

The screenshot shows the 'Specify Recovery Options' page of the Recovery Wizard. On the left, a navigation pane lists the steps: Getting Started, Select Backup Date, Select Recovery Type, Select Items to Recover, Specify Recovery Options (highlighted), Confirmation, and Recovery Progress. The main area is titled 'Specify Recovery Options' and contains three sections: 'Recovery destination' with radio buttons for 'Original location' and 'Another location' (selected), a text box with 'D:\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 text state: 'File recovery to a non-NTFS target volume might fail due to unsupported file properties.' At the bottom are buttons for '< Previous', 'Next >', 'Recover', and 'Cancel'.

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

The screenshot shows the 'Confirmation' page of the Recovery Wizard. The navigation pane on the left highlights 'Confirmation'. The main area is titled 'Confirmation' and displays the backup details: 'From backup: 12/30/2021 3:41 PM' and 'Recovery items: Registry'. A large empty box is provided for additional notes. At the bottom, it shows 'Recovery destination: D:\Restore destination' and buttons for '< Previous', 'Next >', 'Recover' (highlighted), and 'Cancel'.

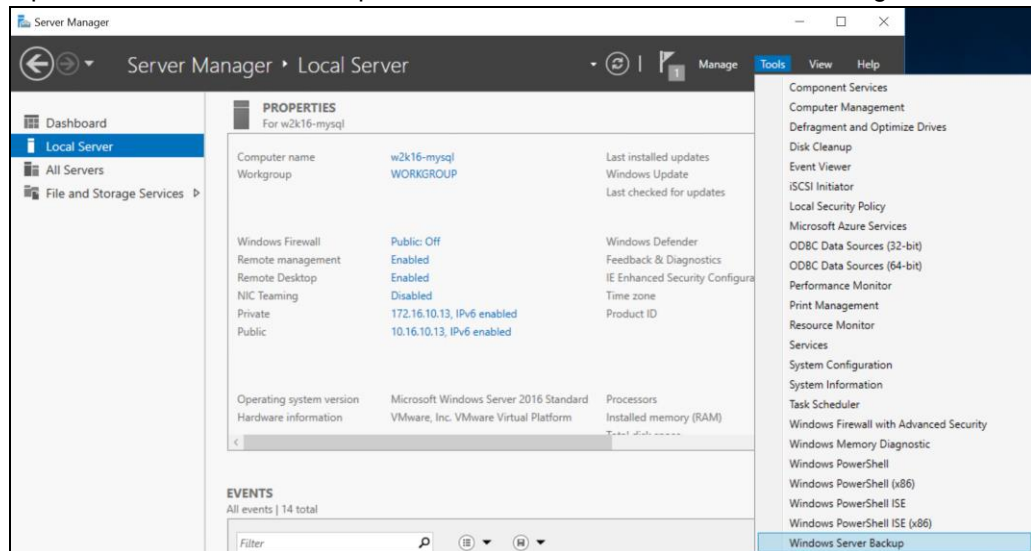
12. On the **Recovery progress** page, the status and result of the recovery operation is displayed.



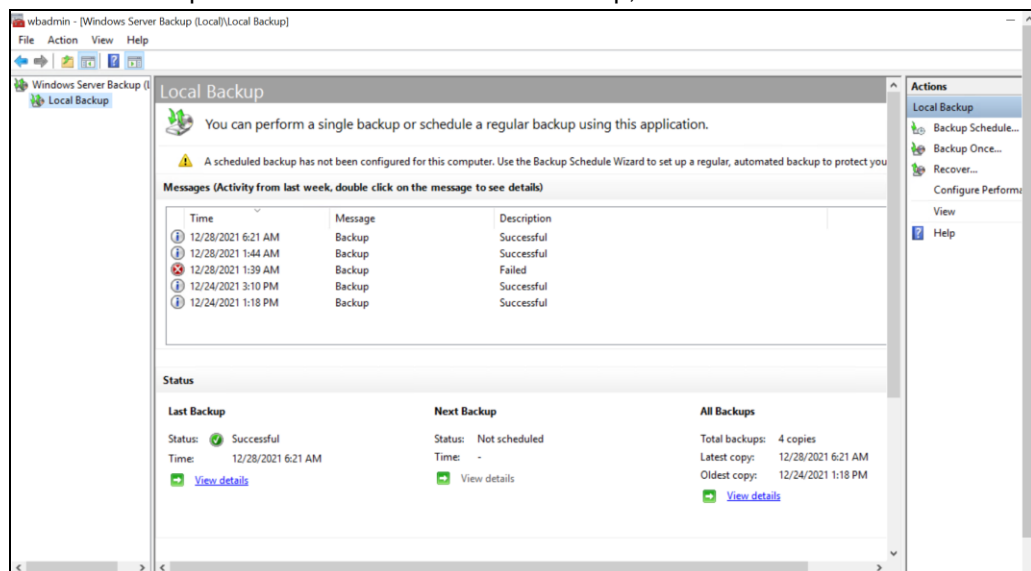
5.3.3 Recover Volumes

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

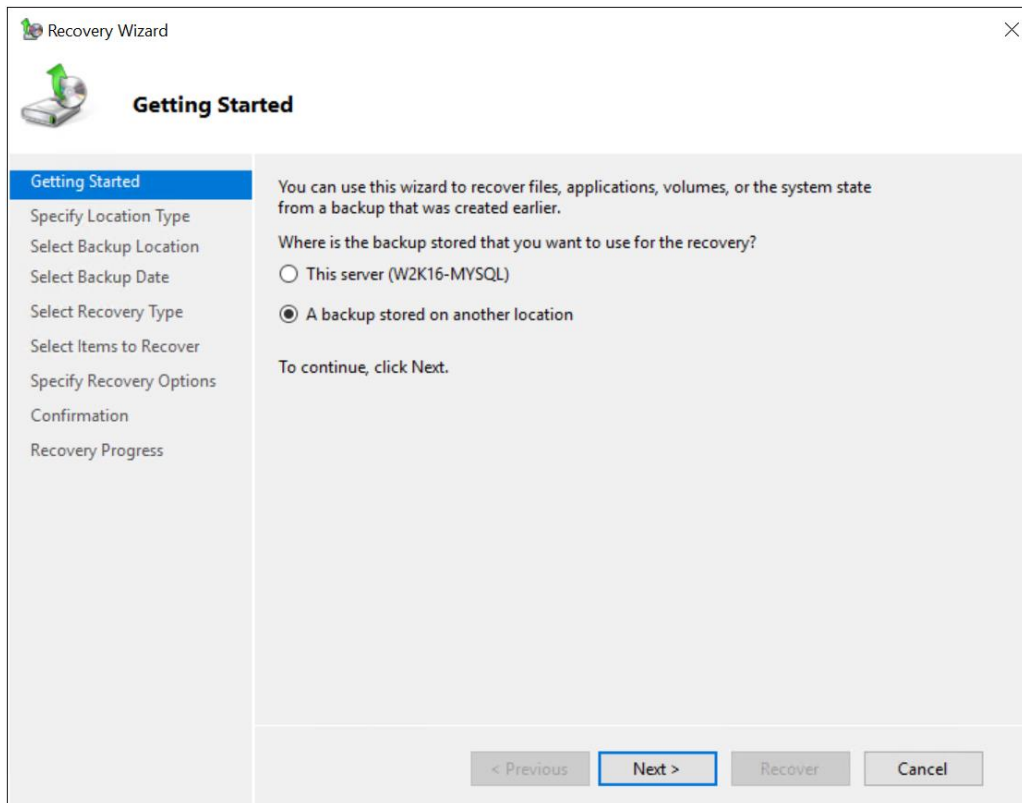
1. Open Windows Server Backup from Administrative Tools or Server Manager.



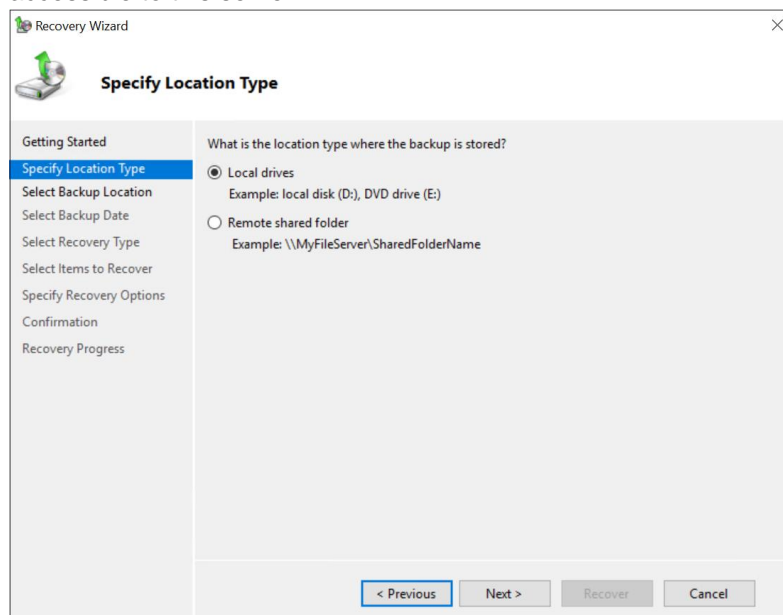
2. In the **Actions** panel under Windows Server Backup, click **Recover**.



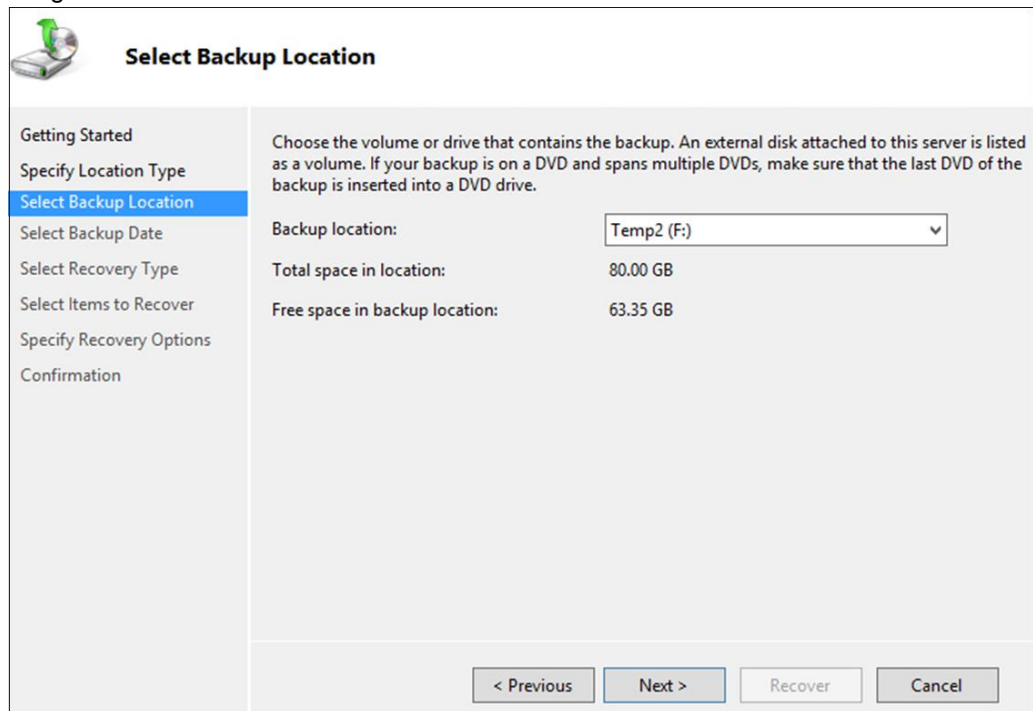
- On the **Getting Started** page, select **A backup stored on another location**, then click **Next**.



- 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.



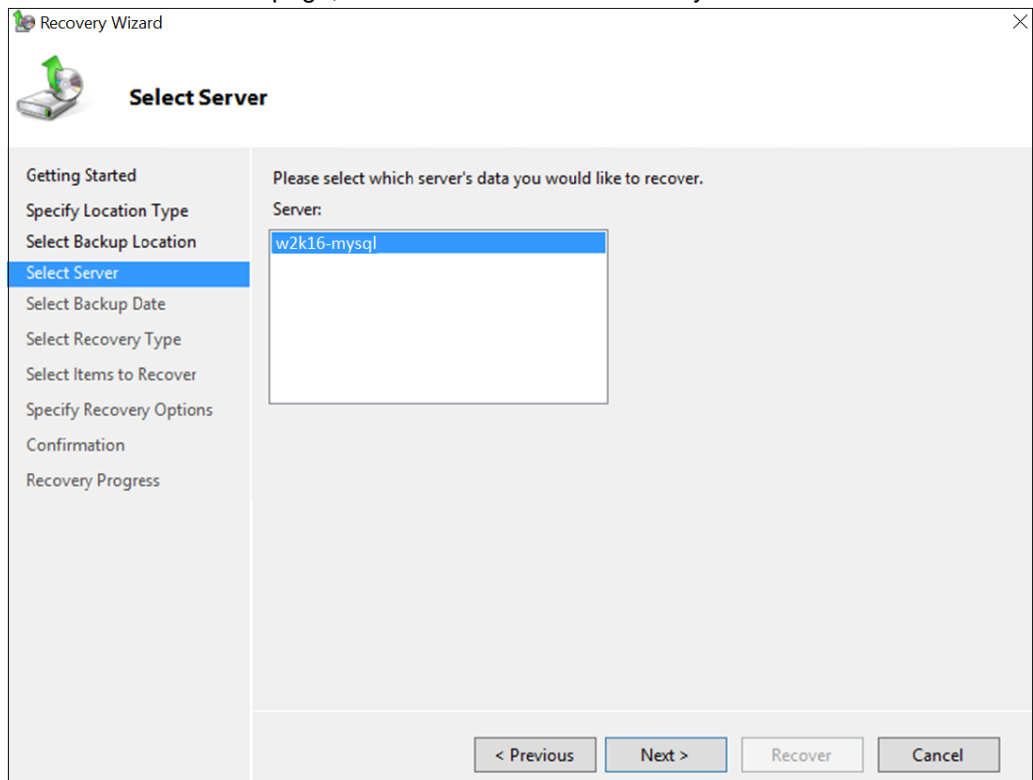
5. On the **Select Backup Location** page, select the volume that contains the system image file.



The screenshot shows the 'Select Backup Location' page of the Recovery Wizard. On the left is a navigation pane with the following steps: Getting Started, Specify Location Type, **Select Backup Location** (highlighted), Select Backup Date, Select Recovery Type, Select Items to Recover, Specify Recovery Options, and Confirmation. The main area has a title bar with a disk icon and the text 'Select Backup Location'. Below the title bar, it says: '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.' There are two rows of information: 'Backup location:' with a dropdown menu showing 'Temp2 (F:)', and 'Total space in location:' with the value '80.00 GB'. Below that, 'Free space in backup location:' is shown as '63.35 GB'. At the bottom right 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 'Select Server' page of the Recovery Wizard. The title bar says 'Recovery Wizard' and 'Select Server'. The left navigation pane has the following 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 disk icon and the text 'Select Server'. Below the title bar, it says: 'Please select which server's data you would like to recover.' There is a label 'Server:' followed by a list box containing the text 'w2k16-mysql'. At the bottom right 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

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: 12/24/2021 1:18 PM
Newest available backup: 12/30/2021 3:41 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: 12/30/2021
Time: 3:41 PM
Recoverable items: [Bare metal recover...](#)

< Previous Next > Recover Cancel

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

Recovery Wizard

Select Recovery Type

Getting Started
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.

< 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.

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
<input type="checkbox"/> System Reserved	0.34 GB			
<input checked="" type="checkbox"/> Local disk (C:)	39.66 GB	Temp1 (E:)		

< 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.

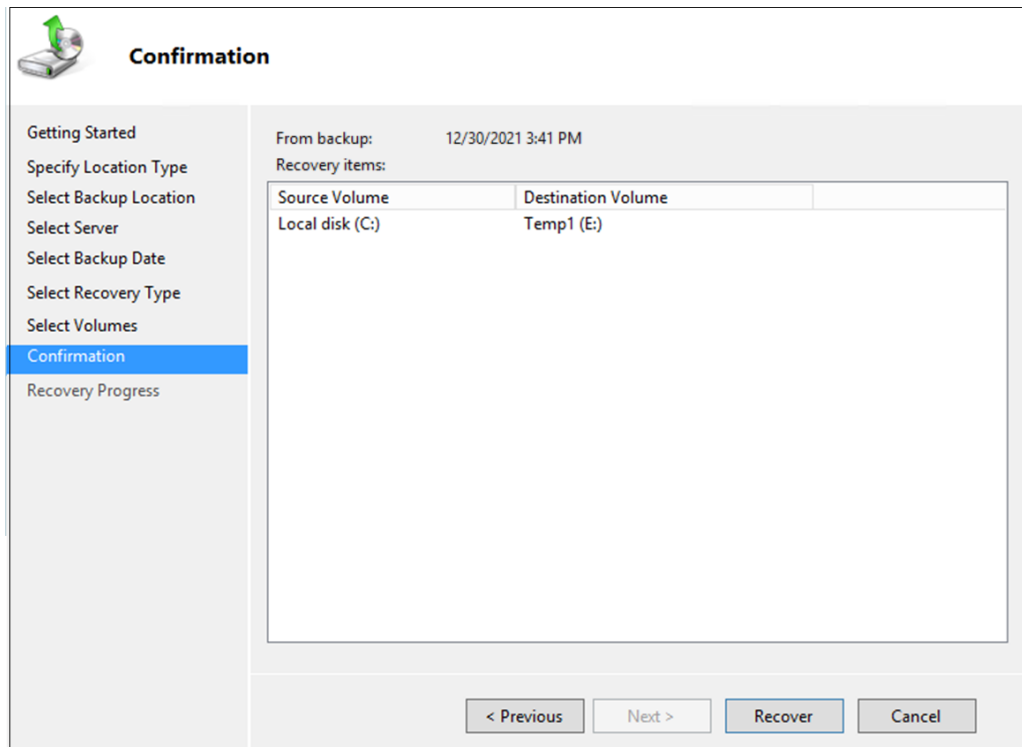
 Data on the volume(s) that you are recovering to will be lost.
Volume(s): Temp1 (E:)

Note: If the recovered volume contains applications, you will need to recover those applications separately after you recover the volume.

Are you sure you want to continue with the recovery operation?

Yes No

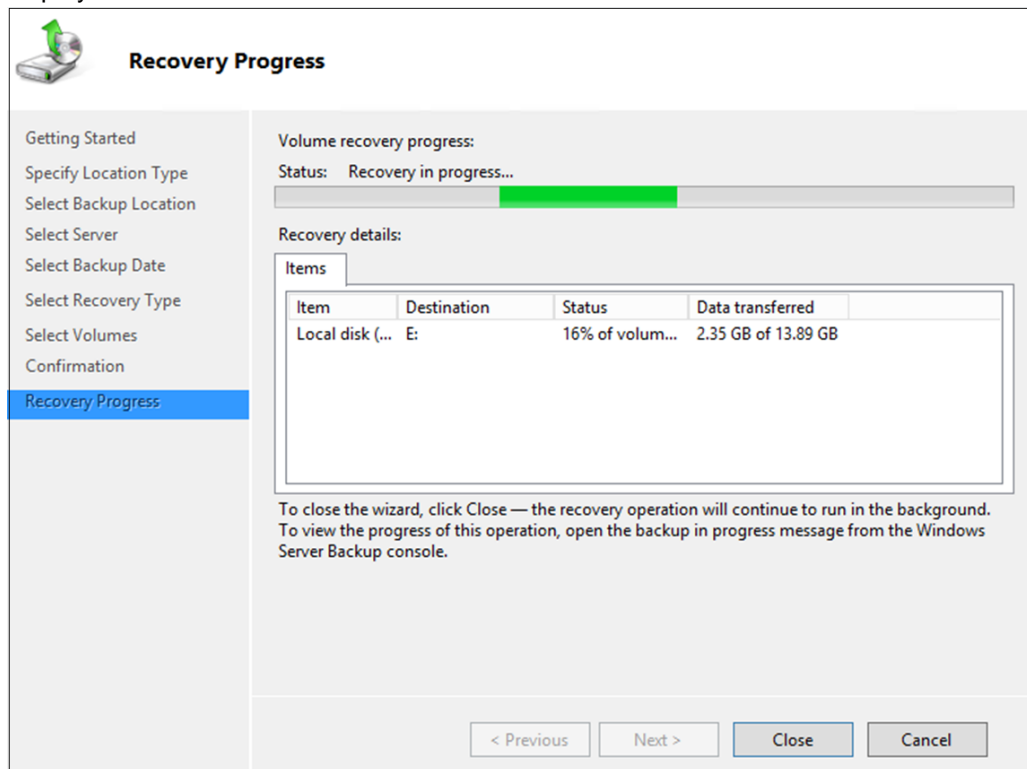
10. On the **Confirmation** page, review the details, and then click **Recover** to restore the volume.



The image shows a software window titled "Confirmation" with a green upward arrow icon. On the left is a sidebar with a list of steps: "Getting Started", "Specify Location Type", "Select Backup Location", "Select Server", "Select Backup Date", "Select Recovery Type", "Select Volumes", "Confirmation" (highlighted in blue), and "Recovery Progress". The main area displays "From backup: 12/30/2021 3:41 PM" and "Recovery items:" above a table. The table has two columns: "Source Volume" and "Destination Volume". It contains one row with "Local disk (C:)" under Source Volume and "Temp1 (E:)" under Destination Volume. At the bottom right are four buttons: "< Previous", "Next >", "Recover" (highlighted in blue), and "Cancel".

Source Volume	Destination Volume
Local disk (C:)	Temp1 (E:)

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



Recovery Progress

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

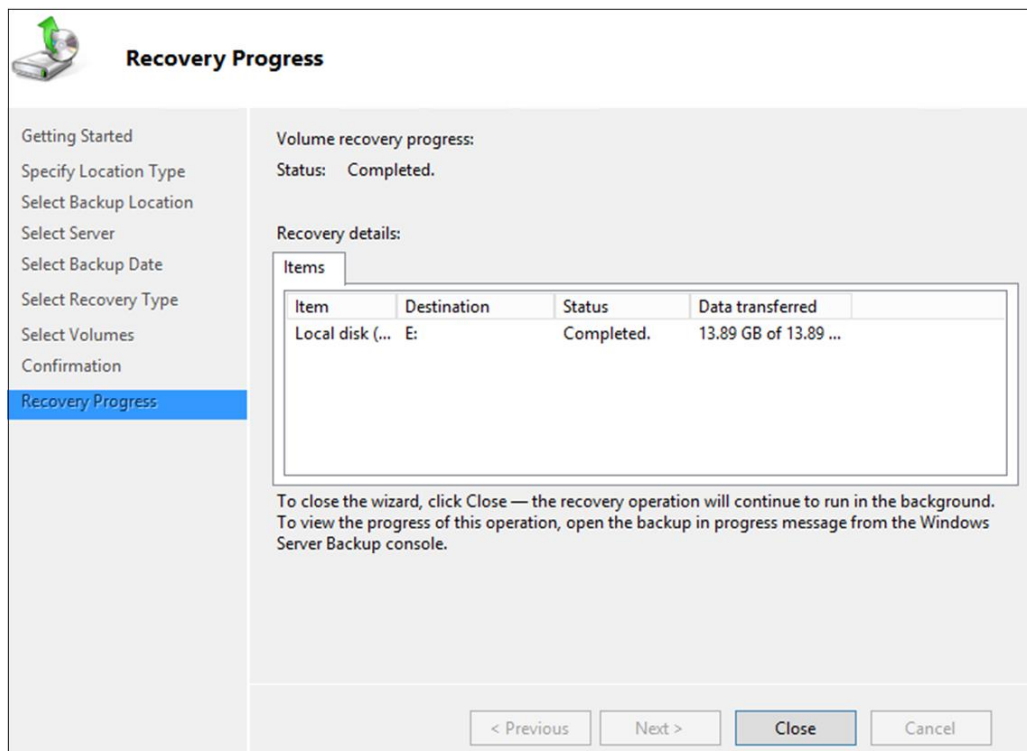
Volume recovery progress:
Status: Recovery in progress...

Recovery details:

Item	Destination	Status	Data transferred
Local disk (...)	E:	16% of volum...	2.35 GB of 13.89 GB

To close the wizard, click Close — the recovery operation will continue to run in the background.
To view the progress of this operation, open the backup in progress message from the Windows Server Backup console.

< Previous Next > **Close** Cancel



Recovery Progress

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

Volume recovery progress:
Status: Completed.

Recovery details:

Item	Destination	Status	Data transferred
Local disk (...)	E:	Completed.	13.89 GB of 13.89 ...

To close the wizard, click Close — the recovery operation will continue to run in the background.
To view the progress of this operation, open the backup in progress message from the Windows Server Backup console.

< Previous Next > **Close** Cancel

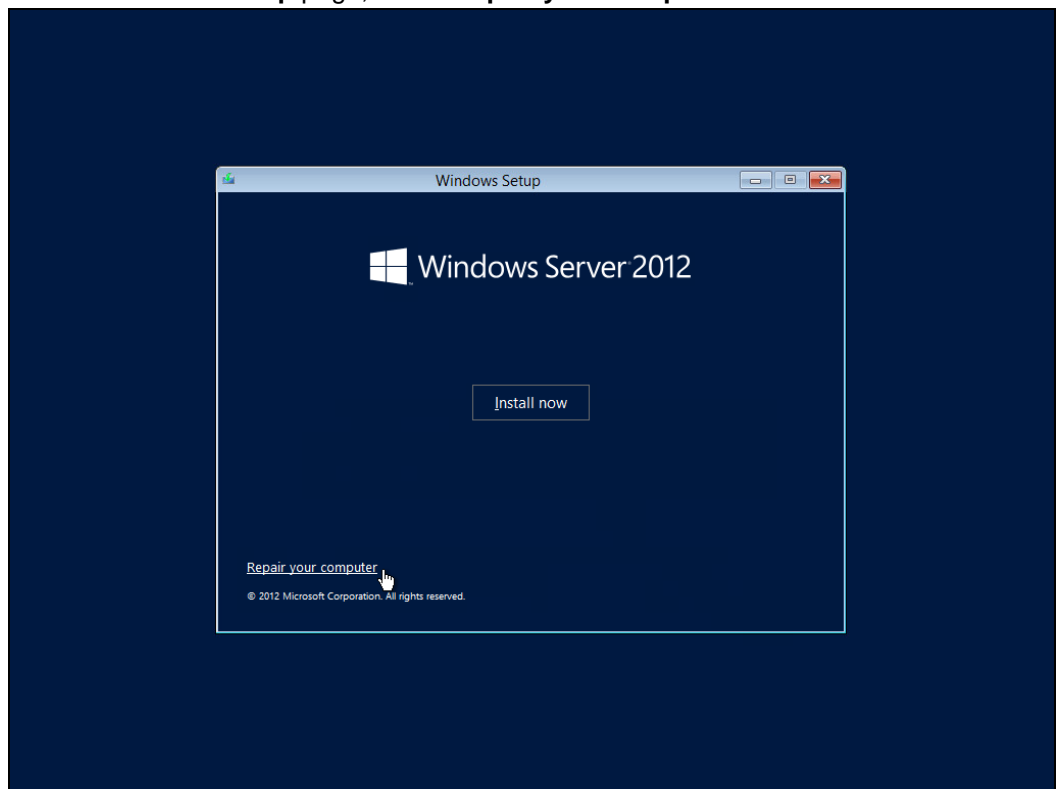
5.3.4 Recover Operating System or Full System

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

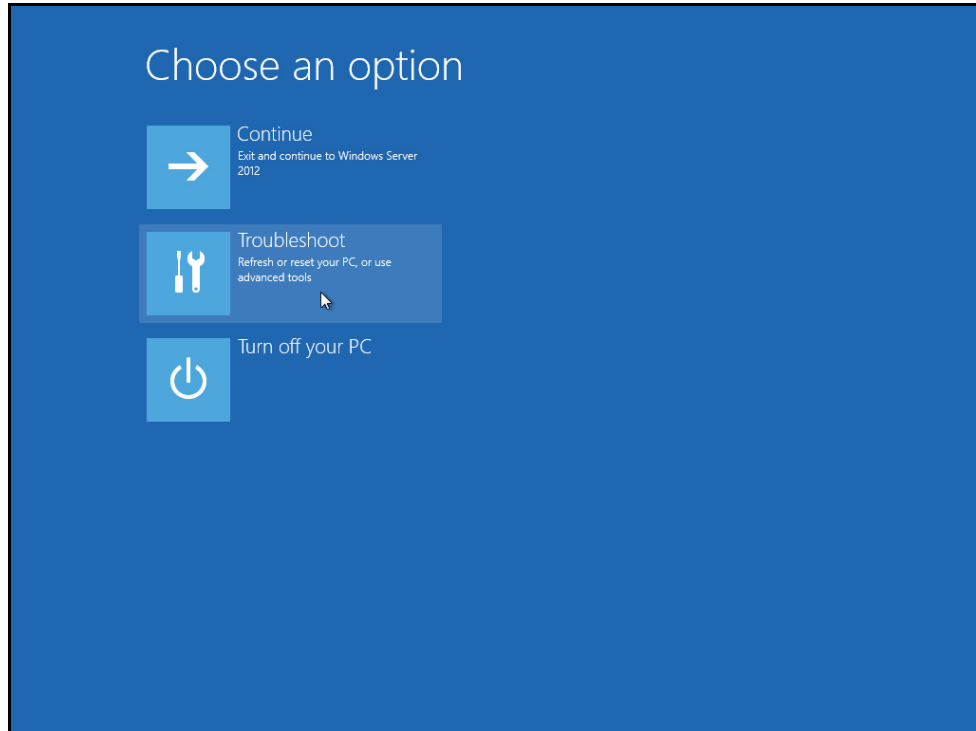
Note: For instructions specific to recovering Active Directory Domain Services, refer to the following: <http://go.microsoft.com/fwlink/?LinkId=143754>

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**.

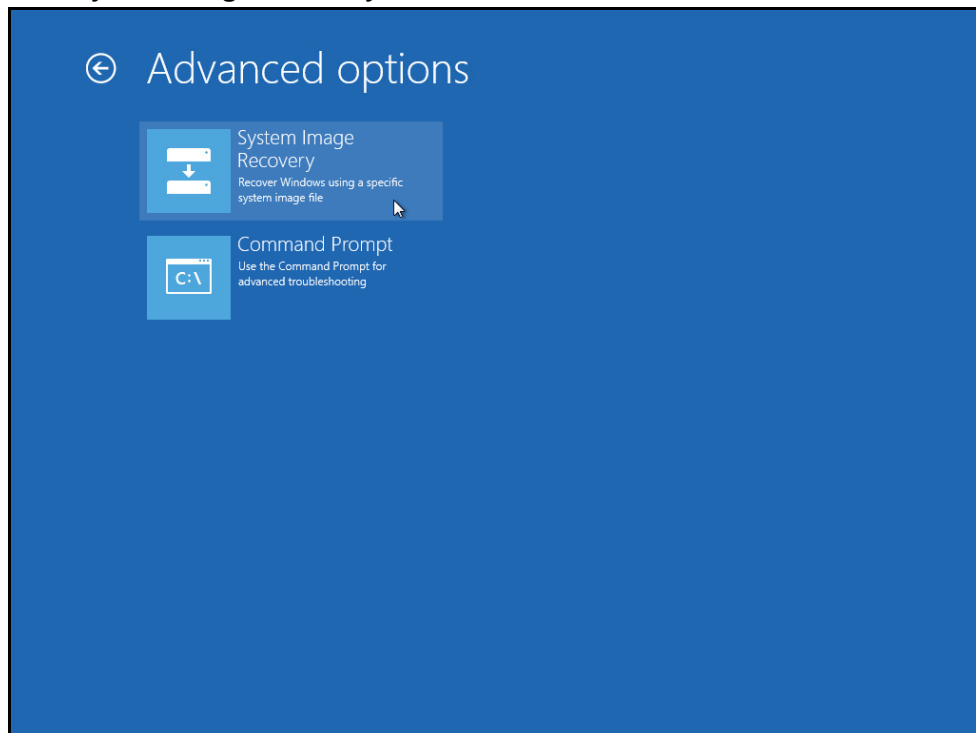


2. On the **Choose an option** page, click **Troubleshoot**.



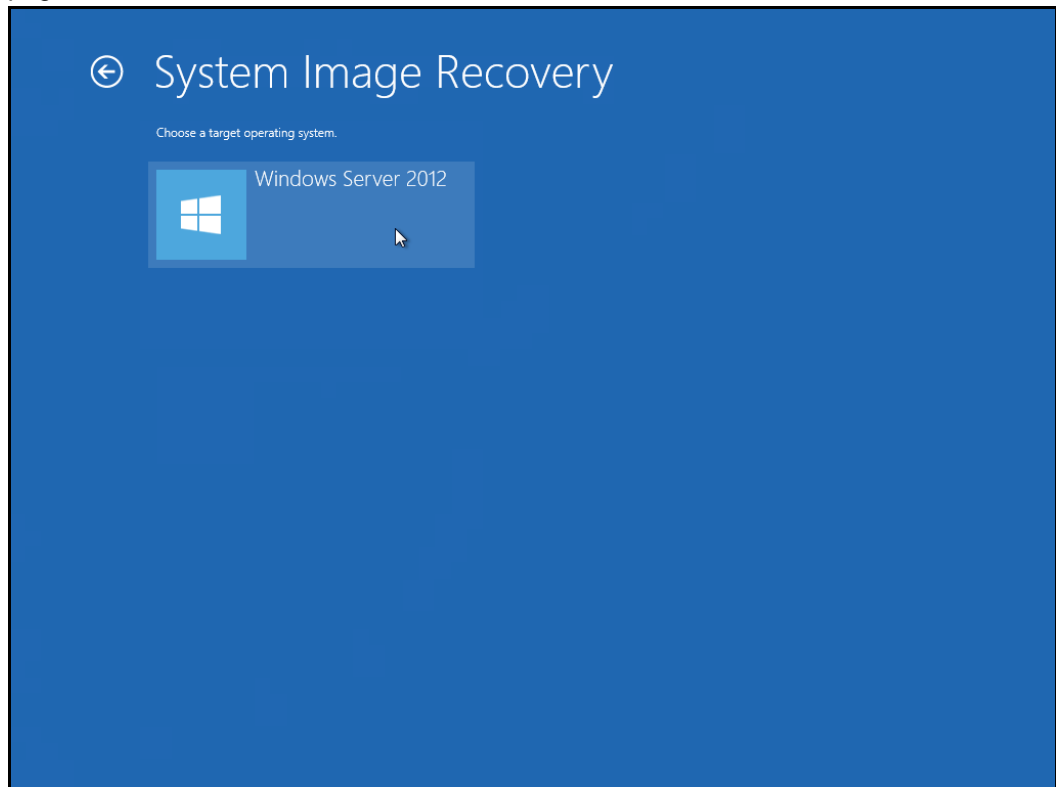
Note: This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

3. Click **System Image Recovery**.



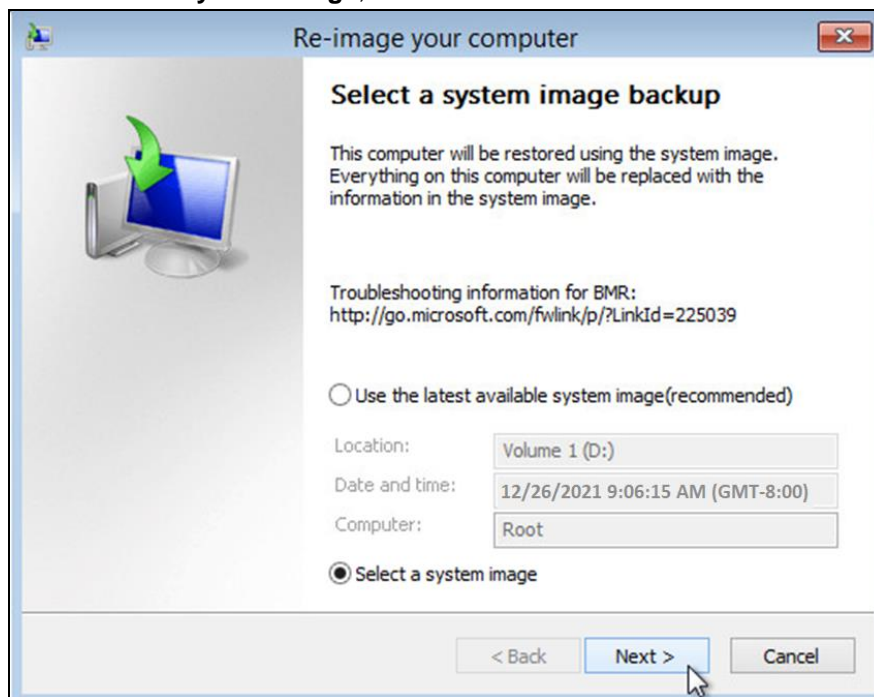
Note: This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

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

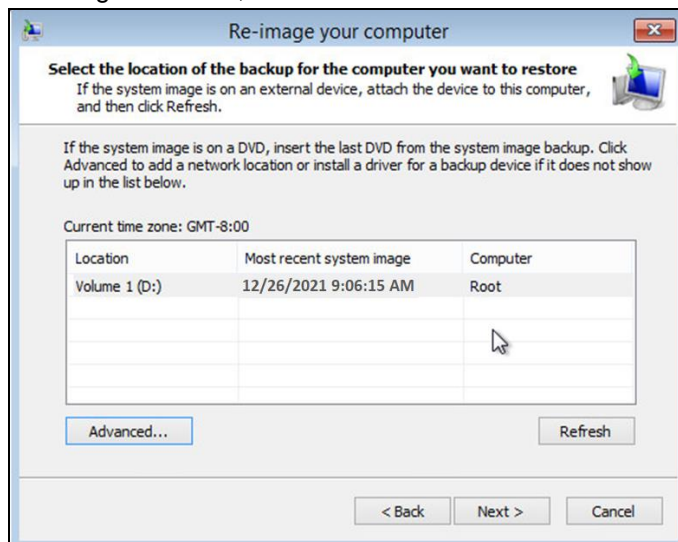


Note: This screen will only be displayed when you are recovering a Windows 2012 / 2012 R2 Server.

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.

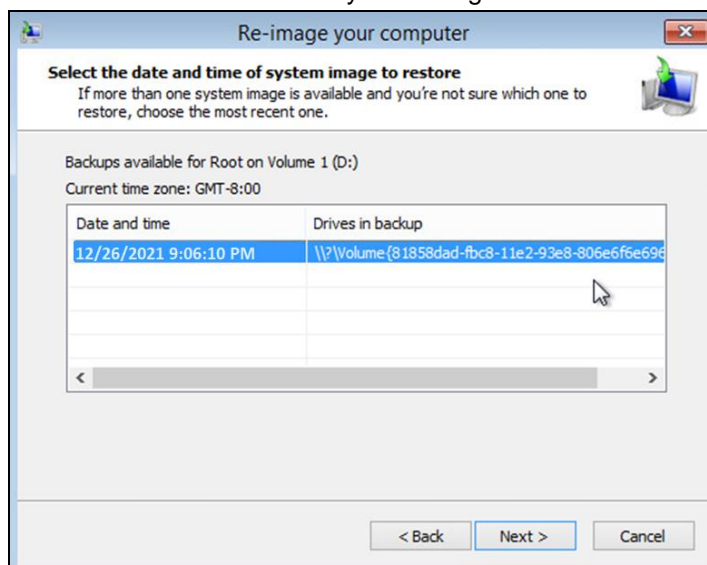
To install a driver, the driver must be located on the local system. You cannot install a driver from the network.

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

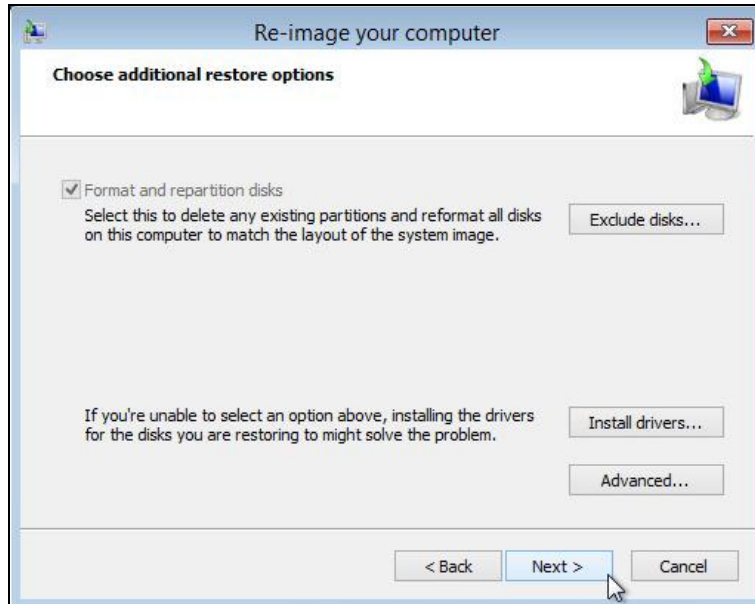
For domain environment, if the backup storage location is on a computer that is a member of that domain, then the computer containing the storage location should be on the IPsec boundary, to be accessible by non-domain computer.

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.

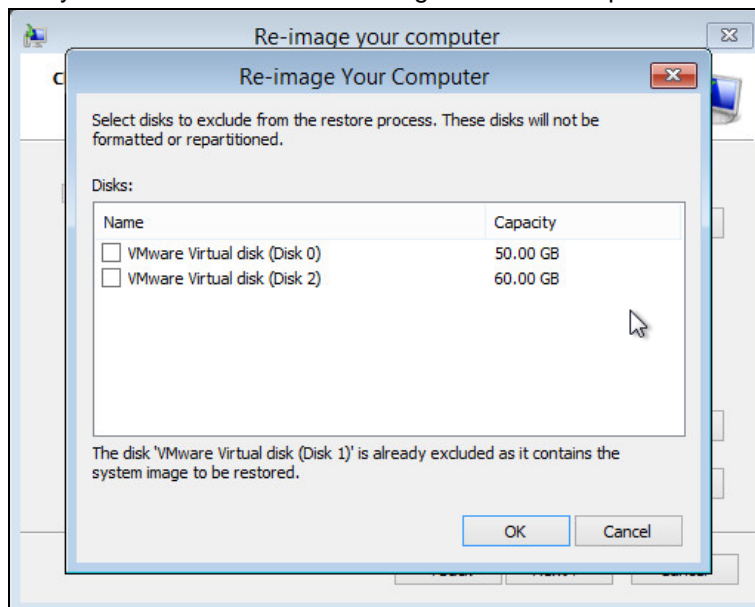


8. On the **Choose additional restore options** page



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

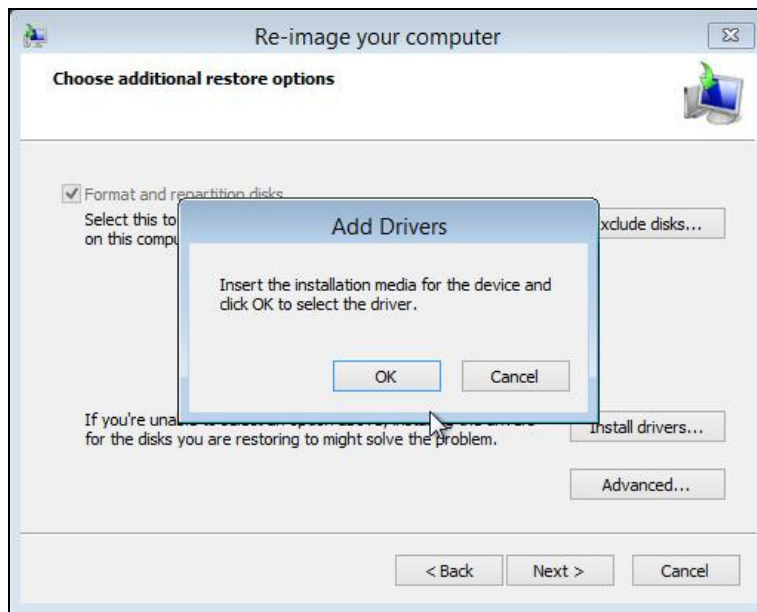
Click the **Exclude disks** button, then select the check boxes associated with any disks that you want to exclude from being formatted and partitioned.



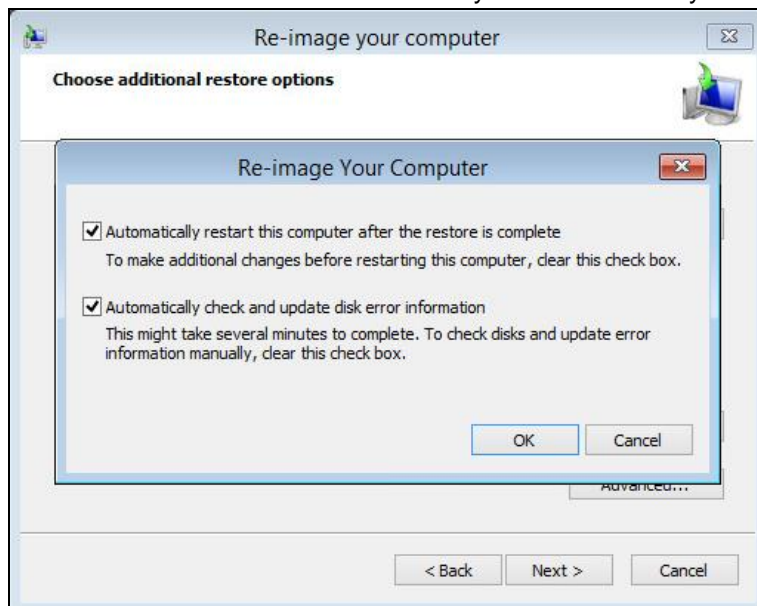
Note: The disk that contains the backup that you are using is automatically excluded.

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).

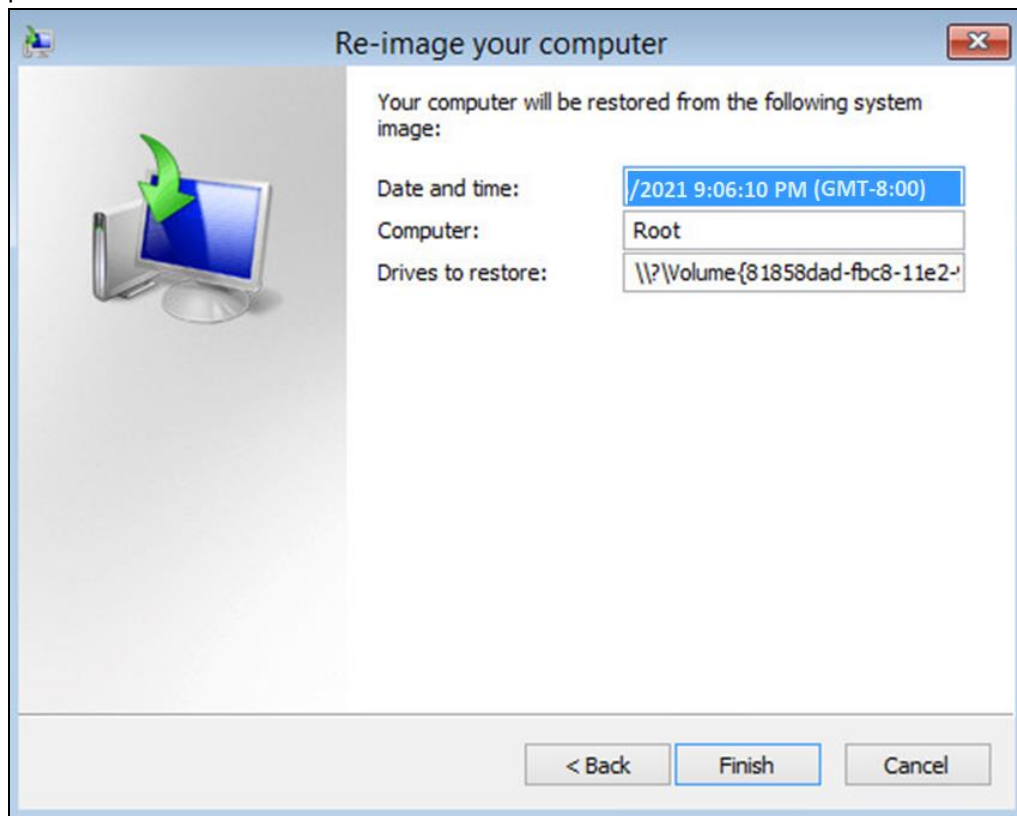
Click **Install drivers** to install device drivers for the hardware that you are recovering to.



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.

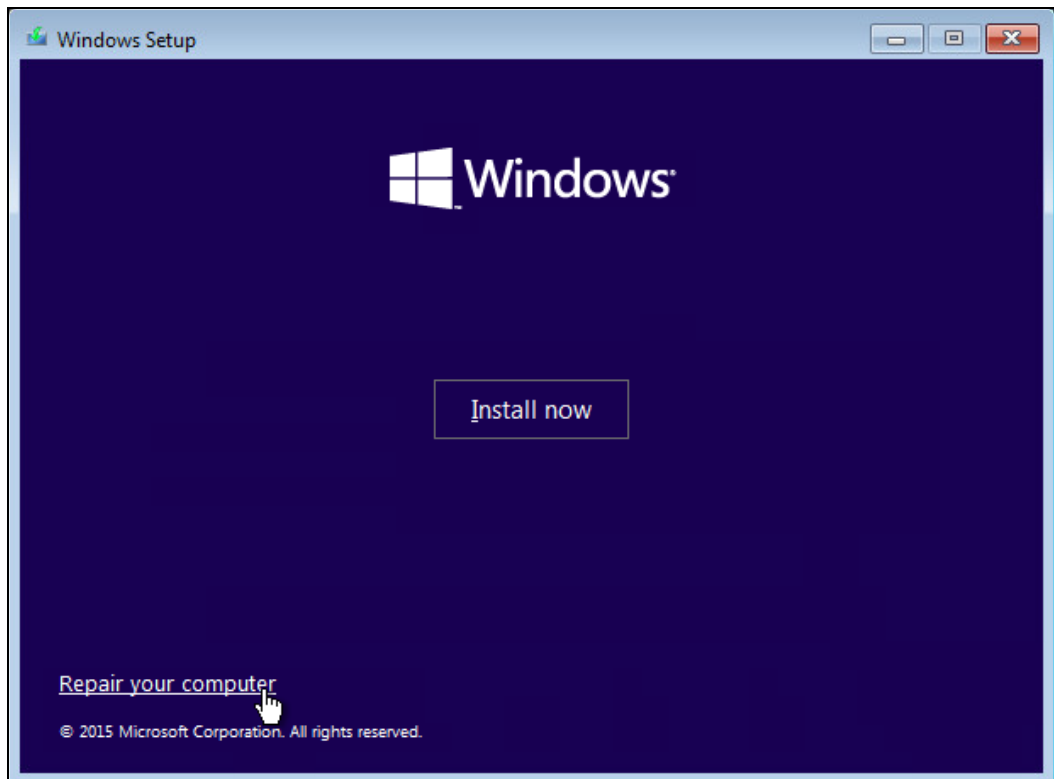
5.3.5 Recover a Full System (Non Server Platforms)

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**.

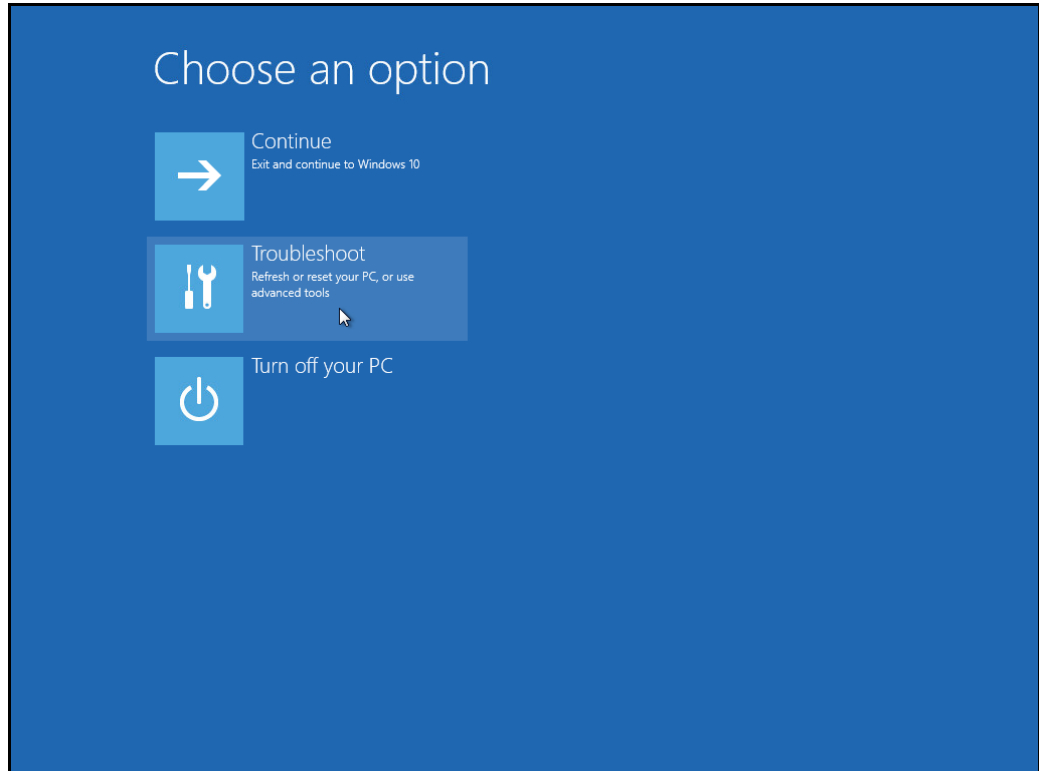


- ▶ Starting Windows in safe mode

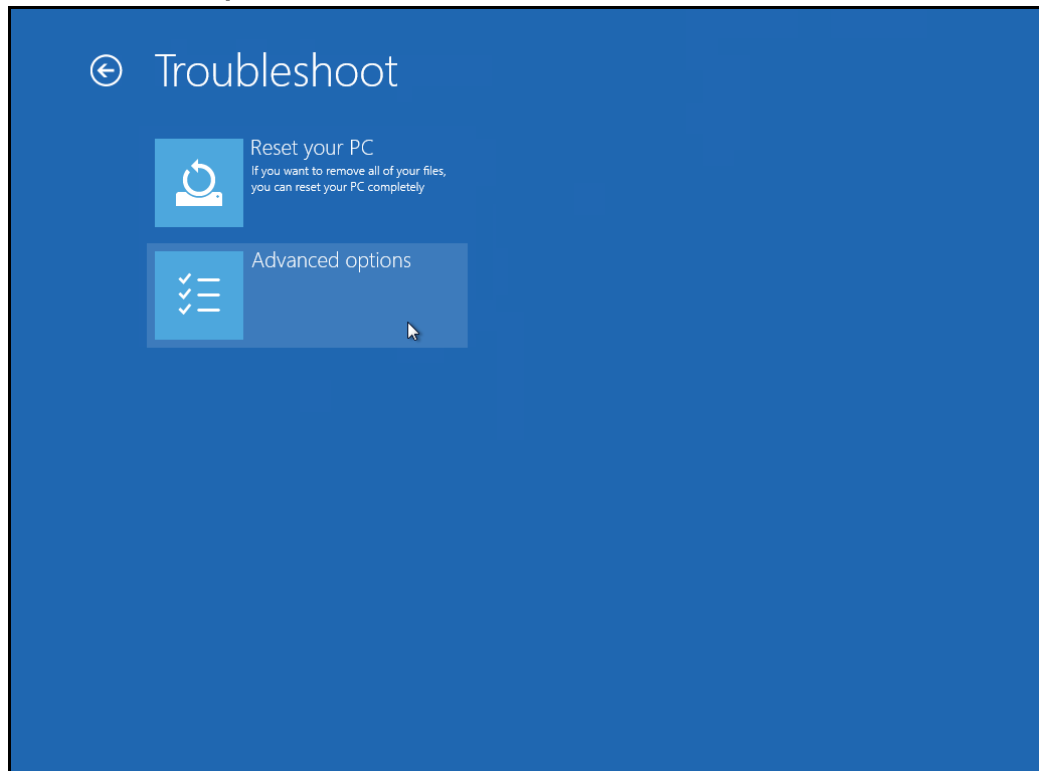
Press the **Power** button at the Windows login screen, in the Start menu, or in the Setting screen. Then press and hold the SHIFT key on the keyboard and click **Restart**.

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

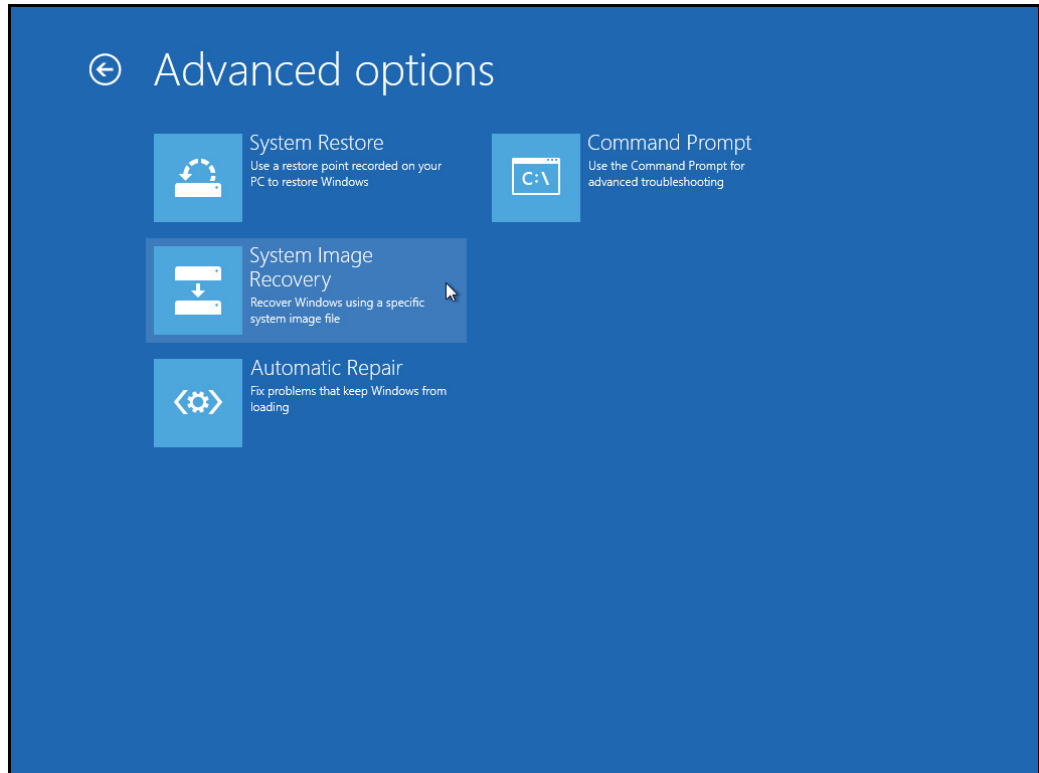
1. Click **Troubleshoot**.



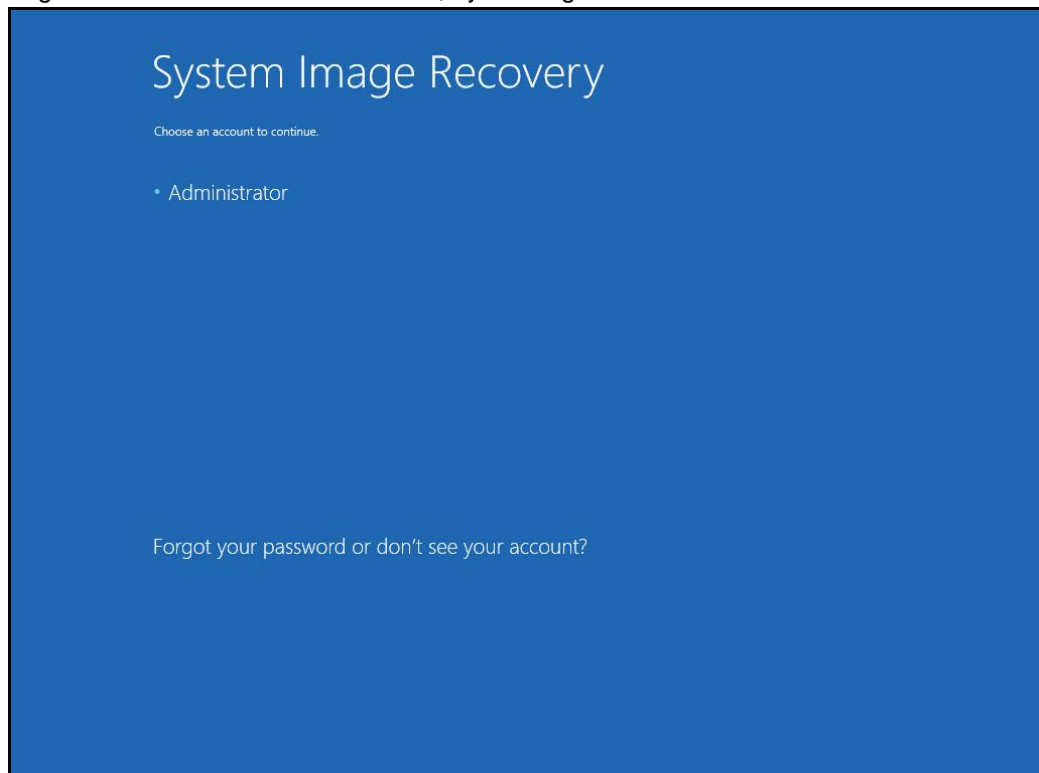
2. Click **Advanced options**.



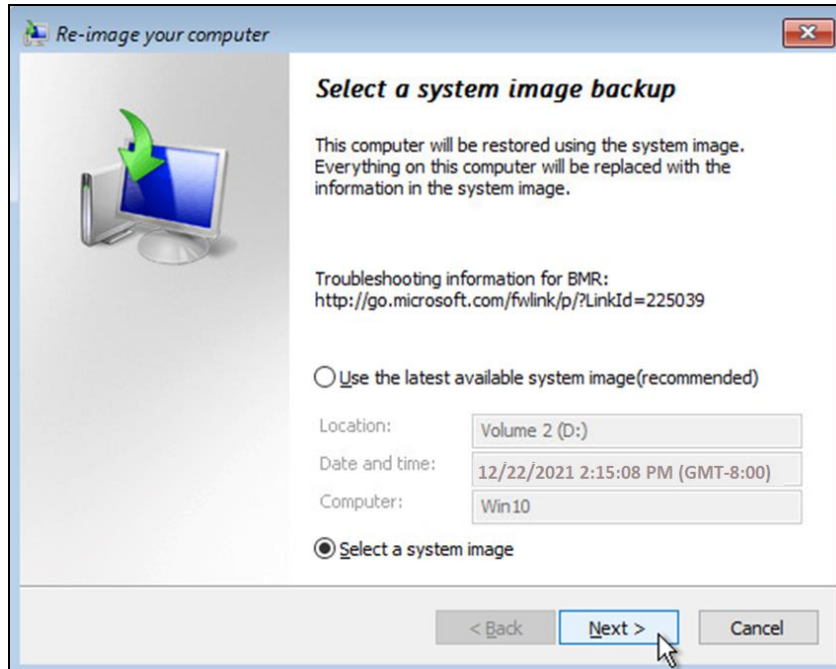
3. Click **System Image Recovery**.



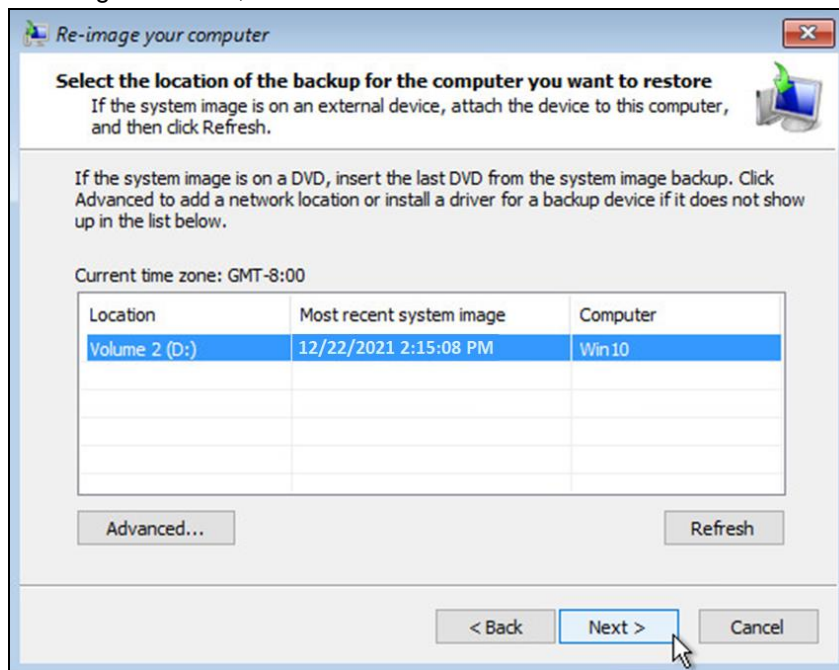
4. Login with an administrative account, by clicking on **Administrator**.



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.

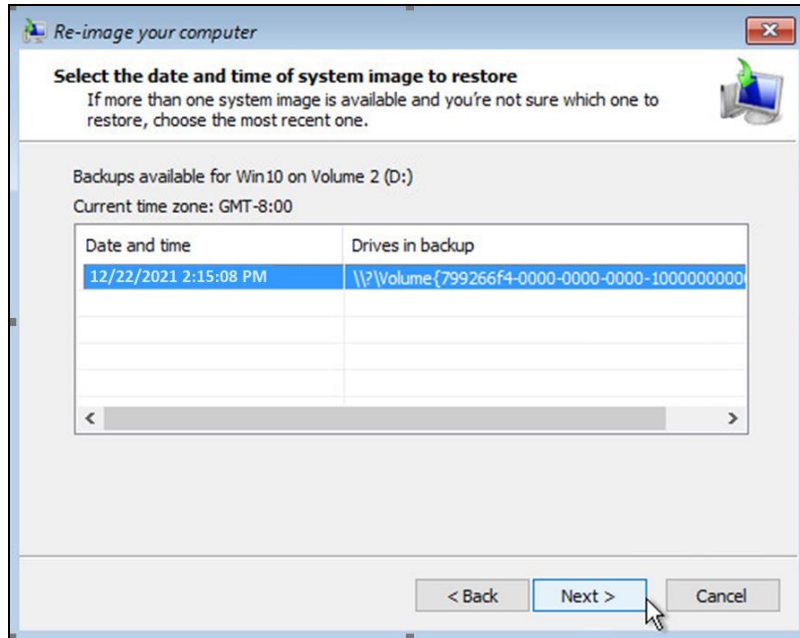
To install a driver, the driver must be located on the local system. You cannot install a driver from the network.

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

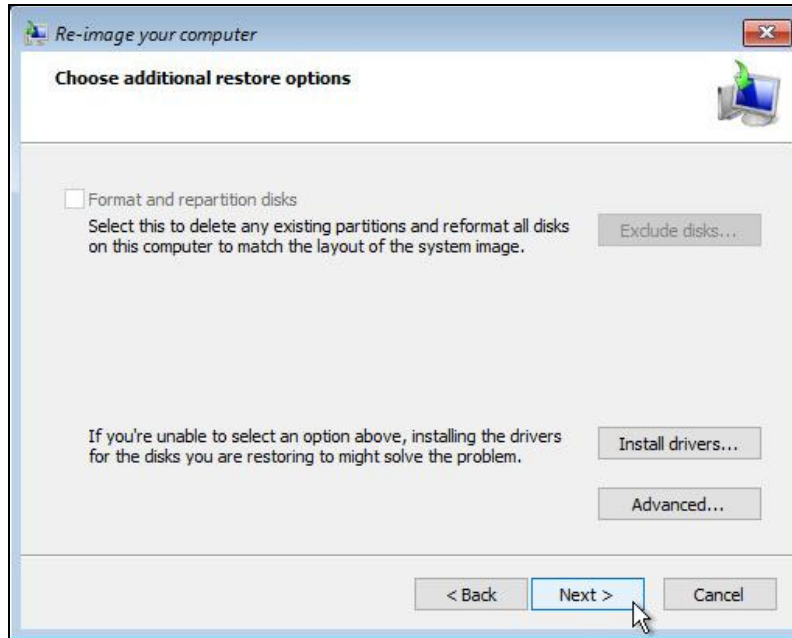
For domain environment, if the backup storage location is on a computer that is a member of that domain, then the computer containing the storage location should be on the IPsec boundary, to be accessible by non-domain computer.

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.

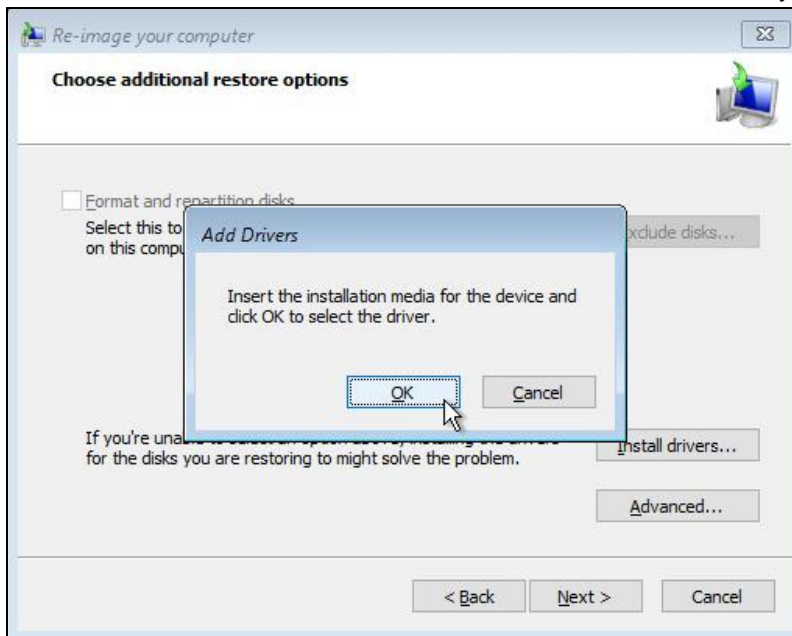
7. Select the date and time of system image to restore.



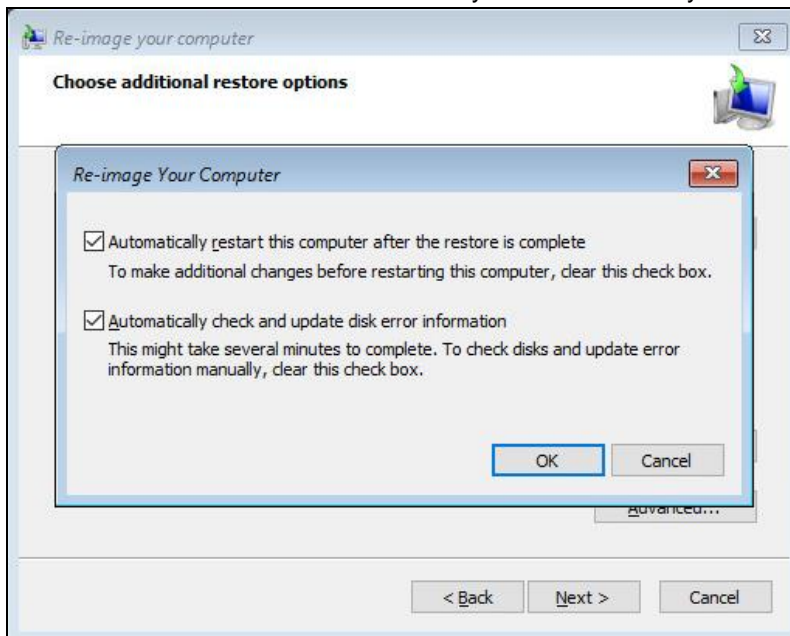
8. On the **Choose additional restore options** page.



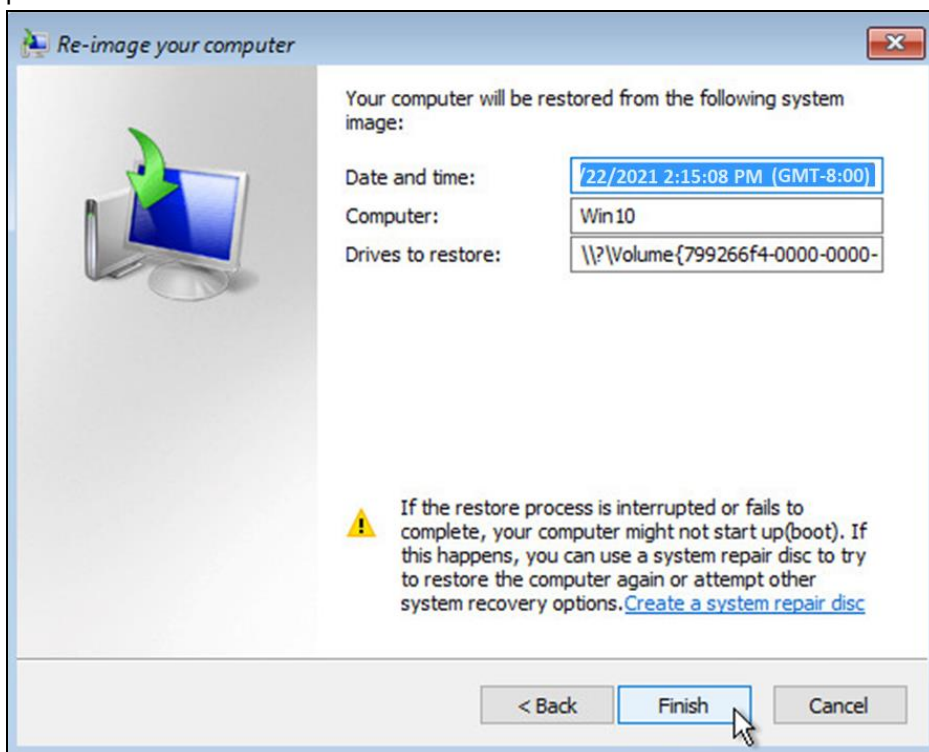
Click **Install drivers** to install device drivers for the hardware that you are recovering to.



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.

6 Contact Ahsay

6.1 Technical Assistance

To contact Ahsay support representatives for technical assistance, visit the Partner Portal:

<https://www.ahsay.com/partners/>

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

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

6.2 Documentation

Documentations for all Ahsay products are available at:

https://www.ahsay.com/jsp/en/downloads/ahsay-downloads_documentation_guides.jsp

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

<https://www.ahsay.com/partners/>

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

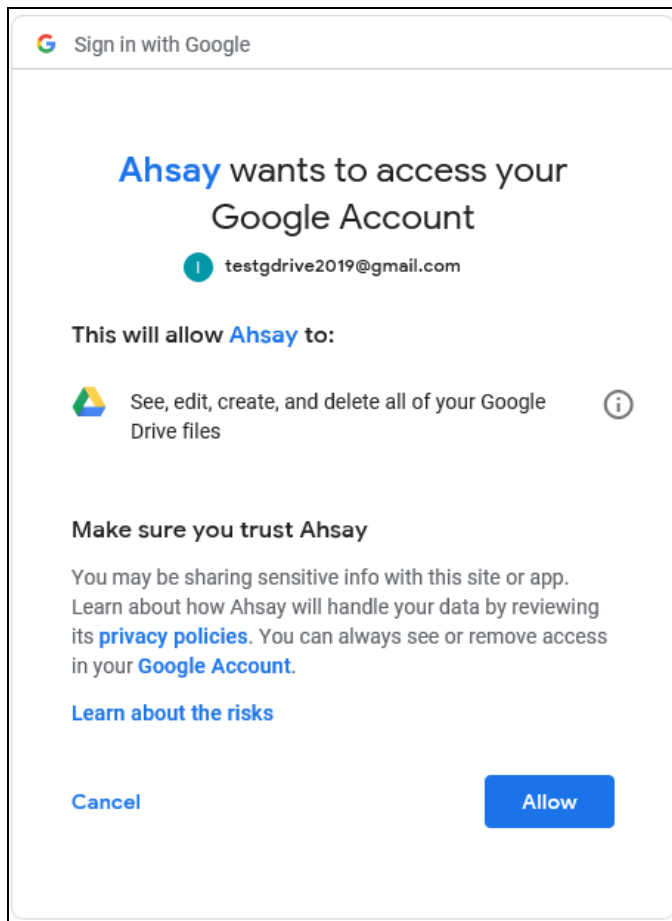
Appendix

Appendix A Cloud Storage as Backup Destination:

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

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

Click Allow to permit AhsayOBM to access the cloud storage:



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

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

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

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

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