• Assignment level Intermediate:

1. List out the administrative tools.

The tools are located in the folder C:\Windows\System32\ or its subfolders.

These tools were included in previous versions of Windows. The associated documentation for each tool can help you use them. The following list provides links to documentation for each tool.

* [Component Services](https://learn.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/cc731901(v=ws.11))
* [Computer Management](https://support.microsoft.com/topic/how-to-use-computer-management-in-windows-xp-d5872f93-4498-f4dd-3a34-36d6f569924f)
* [Defragment and Optimize Drives](https://support.microsoft.com/windows/ways-to-improve-your-computer-s-performance-c6018c78-0edd-a71a-7040-02267d68ea90)
* [Disk Cleanup](https://support.microsoft.com/windows/disk-cleanup-in-windows-8a96ff42-5751-39ad-23d6-434b4d5b9a68)
* [Event Viewer](https://learn.microsoft.com/en-us/previous-versions/windows/it-pro/windows-2000-server/cc938674(v=technet.10))
* [iSCSI Initiator](https://learn.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/ee338476(v=ws.10))
* [Local Security Policy](https://learn.microsoft.com/en-us/previous-versions/tn-archive/dd277395(v=technet.10))
* [ODBC Data Sources](https://learn.microsoft.com/en-us/sql/odbc/admin/odbc-data-source-administrator)
* [Performance Monitor](https://learn.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/cc749115(v=ws.11))
* [Print Management](https://learn.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/cc731857(v=ws.11))
* [Recovery Drive](https://support.microsoft.com/windows/create-a-recovery-drive-abb4691b-5324-6d4a-8766-73fab304c246)
* [Registry Editor](https://learn.microsoft.com/en-us/windows/win32/sysinfo/registry)
* [Resource Monitor](https://learn.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/dd883276(v=ws.10))
* [Services](https://learn.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/cc772408(v=ws.11))
* [System Configuration](https://learn.microsoft.com/en-us/troubleshoot/windows-client/performance/system-configuration-utility-troubleshoot-configuration-errors)
* [System Information](https://learn.microsoft.com/en-us/previous-versions/windows/it-pro/windows-2000-server/cc957818(v=technet.10))
* [Task Scheduler](https://learn.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/cc766428(v=ws.11))
* [Windows Firewall with Advanced Security](https://learn.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/cc754274(v=ws.11))
* [Windows Memory Diagnostic](https://learn.microsoft.com/en-us/previous-versions/technet-magazine/cc745953(v=msdn.10))

1. What is disk management tools.

Disk management tools are [utility software](https://www.toppr.com/guides/computer-science/computer-fundamentals/software-concepts/utility-software/) that is used to manage data on disk by performing various functions on it. Moreover, they perform functions like partitioning devices, manage drives, disk checking, disk formatting, etc. Furthermore, there are various types of disk management tools like disk checkers, disk cleaners, and disk analyzers.

We also call these tools as **disk utility**. Utility Software or system utilities is a type of system software that helps in the proper and smooth functioning of a computer system. Moreover, they assist the operating system to manage, organize, maintain, and optimize the functioning of a computer system. Examples of disk management tools are MiniTool Partition Wizard, Paragon Partition Manager, etc.

**Basic Functions of Disk Management Tools**

The disk utility basically takes care of the computer disk system. It performs all the tasks which are necessary to keep the functioning of the disk smooth. Some basic functions that these tools perform are as follows:

* Partitioning of the disk
* Formatting the disk
* Changing disk’s name
* Shrinking a disk partition
* Extending a disk partition
* Deleting a disk partition
* Changing the file system of a driver

• Assignment Level Advanced

1. Do a practical to delete a driver and reinstall it from administrative tools.

Yes , we are complete a practical to delete a driver and reinstall it from administratie tools

Before uninstalling a device, we recommend physically unplugging the device from the system. If the device is uninstalled before it is unplugged, the operating system may rediscover the device and reinstall drivers for it in the time between the uninstall and unplugging the device.

First, open Settings (you can do this using the Windows+I keyboard shortcut) and type Remove. Select **Add or remove programs**. If the device or driver package that you wish to remove appears in the list of programs, select uninstall.

If your device or driver package does not appear in the list, you'll need to use Device Manager to uninstall the device. If that device is the only device using the driver package, then the driver package can also be removed via Device Manager. To launch Device Manager, select the Start button, type Device Manager, and press Enter.

Then follow these steps:

1. Select the View menu and turn on **Show Hidden Devices**.
2. Expand the node that represents the type of device that you want to uninstall, right-click the device entry for the device you want to uninstall, and select **Uninstall**.
3. On the **Confirm Device Removal** dialog box, if you wish to remove the driver package in addition to uninstalling the device, select the **Delete the driver software for this device** option. When ready to complete the operation, select **OK**.

You may also need to restart the computer.

2. Do a practical to delete a partition and again create it with administrative tool

Yes , we are complete a practical to delete a partition and again create it with administrative tools .

To create a partition or volume (the two terms are often used interchangeably) on a hard disk, you must be logged in as an administrator, and there must be either unallocated disk space or free space within an extended partition on the hard disk.

If there is no unallocated disk space, you can create some by shrinking an existing partition, deleting a partition, or by using a third-party partitioning program.

To create and format a new partition (volume)

1. Open Computer Management by selecting the **Start**  button. The select **Control Panel** > **System and Security**> **Administrative Tools**, and then double-click **Computer Management**.
2. In the left pane, under **Storage**, select **Disk Management**.
3. Right-click an unallocated region on your hard disk, and then select **New Simple Volume**.
4. In the **New Simple Volume Wizard**, select **Next**.
5. Enter the size of the volume you want to create in megabytes (MB) or accept the maximum default size, and then select **Next**.
6. Accept the default drive letter or choose a different drive letter to identify the partition, and then select **Next**.
7. In the **Format Partition** dialog box, do one of the following:
   * If you don't want to format the volume right now, select **Do not format this volume**, and then select **Next**.
   * To format the volume with the default settings, select **Next**.
8. Review your choices, and then select **Finish**.

## To format an existing partition (volume)

**Warning:**Formatting a volume will destroy any data on the partition. Be sure to back up any data you want to save before you begin.

1. Open Computer Management by selecting the **Start**  button. The select **Control Panel** > **System and Security**> **Administrative Tools**, and then double-click **Computer Management**.
2. In the left pane, under **Storage**, select **Disk Management**.
3. Right-click the volume that you want to format, and then select **Format**.
4. To format the volume with the default settings, in the **Format** dialog box, select **OK**, and then select **OK** again.

3. Do a practical to create user with administrative tool.

Yes , we are complete done a practical to create user with administrative tool .

Log in to the Windows AD domain server. Choose **Start** > **Administrative Tools** > **Active Directory Users and Computers**.

The **Active Directory Users and Computers** page is displayed.

Create a user.

* 1. In the **Active Directory Users and Computers** dialog box, right-click **Users**.
  2. Choose **New** > **User**

Enter the domain user information.

The user information includes **First name**, **Last name**, **Initials**, and **User logon name**. **User logon name** is used for AD domain login and authentication.

Click **Next** after the user information is configured

Enter and confirm the user password. Deselect **User must change password at next logon**. Click **Next**.

**Finish** after you confirm the user information.

Return to the **Active Directory Users and Computers** dialog box.

Topic: Windows Feature.

• Assignment Level Base

1-What is windows features?

The Windows operating system is the most famous and common operating system. It is developed by Microsoft and was first released in the year 1985. Basically, windows provide a Graphical User Interface, multitasking, support for many peripheral devices, file explorer, command prompt, task manager, an AI-powered bot called Cortana, etc. Windows have Microsoft Office which became the most common and popular office suite. Windows provide several editions to the users but the common ones are Windows Home and Professional.

Major features include- start menu, task manager, taskbar, Cortana, file explorer, MS Paint, Browser, control panel, etc. The advantages of the Windows operating system are- that the majority of the users use Windows, it has programming and gaming support, clean and lucid GUI, and Microsoft Office support.

• Assignment level Intermediate

* 1. List out the windows features.

Windows is a graphical operating system whose development was done by Microsoft. Windows operating system offers users distinctive features such as :

* Users can view or store their files.
* Users are allowed to run the software.
* Users can play games as well as watch videos.
* Windows Operating System can be connected to the Internet.

The major motive of launching the Windows Operating System was to provide home computing along with professional uses.

The very first version of the Windows operating system was introduced by Microsoft as 1.0. It was released for home computing and professional services in 1985. Later, Microsoft launched different versions of the Windows operating system.

2. What is the use of IIS?

Internet Information Services, also known as IIS, is a Microsoft web server that runs on Windows operating system and is used to exchange static and dynamic web content with internet users. IIS can be used to host, deploy, and manage web applications using technologies such as ASP.NET and PHP.

Before we discuss the applications of IIS, what is an IIS server exactly? IIS uses various protocols for communication and data exchange with remote clients or computers, such as HTTP, SMTP, and [FTP](https://www.solarwinds.com/server-application-monitor/use-cases/ftp-monitoring). As a core Windows product, IIS comes integrated with [Windows Server](https://www.solarwinds.com/server-application-monitor/use-cases/windows-monitor) and runs on Windows OS. You can use third-party utilities to run IIS over [Linux](https://www.solarwinds.com/server-application-monitor/use-cases/linux-server-management-software) and macOS, but it often offers less stability and poor performance.

Outlined below are typical ways to use Microsoft IIS server:

* **Website hosting:** IIS application server can host enterprise web applications, websites, and WCF services. Nearly 30% of the websites run over IIS.
* **Logging:** [IIS server logs](https://www.loggly.com/solution/iis-log-analyzer/) contain critical information about your server and website, including usage patterns, performance issues, etc. Analyzing these log files helps you identify and troubleshoot problems quickly.
* **Request Filtering:** Microsoft IIS server provides a Request Filtering module to scan and filter potentially dangerous client requests. You can apply appropriate traffic filtering rules based on parameters such as file extensions, URL length, and maximum string size.
* **Native support:** IIS natively supports the Microsoft .NET framework and libraries, allowing developers to quickly build, deploy, and [manage ASP.NET web applications](https://www.solarwinds.com/server-application-monitor/use-cases/microsoft-net-monitor) on IIS.

• Assignment level Advance:

1. Do a practical to re install IIS with windows feature.

Yes , we are complete done a practical to re install iis with windows feature .

1. Open Server Manager > Manage > Add Roles and Features > select the server hostname > Next.
2. Add the Server Role: Web Server (IIS), confirm configuration matches Common Requirements from Carbon Black App Control Documentation -> Server OER.
3. Click Next and wait for install to complete. Reboot if prompted.
4. Do a practical to install dotnet framework 3.5 with Windows feature

Yes , we are complete done a practical to install donate frame work 3.5 with window feature .

**Installing .** **NET Framework 3.5**

1. From the Start menu or Quick Launch toolbar, select Server Manager. The Server Manager page opens, as shown in Figure 2 . ...
2. Select Features in the navigation tree, and then click Add Features in the right pane. ...
3. Expand . ...
4. Click Install. ...
5. Click Close.

3. Do a practical to disable internet explorer in windows feature.

Yes , we are complete done a practical to disable internet explorer in window feature .

**On client systems, follow these steps to disable internet explorer by using Optional Features in Control Panel:**

1. Select Start > Settings.
2. Select Apps.
3. Select Optional features.
4. In the list of installed features, find Internet Explorer 11, select it, and then select Uninstall.
5. Restart the computer when prompted to reboot.

Topic: Backup & Restore

• Assignment level Basic:

* 1. What is backup?

Backup refers to the copying of physical or virtual files or databases to a secondary location for preservation in case of equipment failure or catastrophe. The process of backing up data is pivotal to a successful disaster recovery plan.

Enterprises back up data they deem to be vulnerable in the event of buggy software, data corruption, hardware failure, malicious hacking, user error or other unforeseen events. Backups capture and synchronize a [point-in-time snapshot](https://www.techtarget.com/searchstorage/definition/point-in-time-snapshot-PIT-snapshot) that is then used to return data to its previous state.

Backup and recovery testing examines an organization's practices and technologies for data security and data replication. The goal is to ensure rapid and reliable data retrieval should the need arise. The process of retrieving backed-up data files is known as file restoration.

The terms data backup and data protection are often used interchangeably, although data protection encompasses the broader goals of business continuity, data security, [information lifecycle management](https://www.techtarget.com/searchstorage/definition/information-life-cycle-management) and prevention of malware and computer viruses.

## The importance of data backup

Data backups are among the most important infrastructure components in any organization because they help guard against data loss. Backups provide a way of restoring deleted files or recovering a file when it is accidentally overwritten.

In addition, backups are usually an organization's best option for recovering from a ransomware attack or from a major data loss event, such as a fire in the data center.

2. What is Restore?

Alternatively called a **system restore**, **restore** is reverting a computer back to its original configuration or an earlier copy. See our [factory settings](https://www.computerhope.com/jargon/f/factsett.htm) definition for full information and related links.

**Restore** describes recovering lost or old data from a [backup](https://www.computerhope.com/jargon/b/backup.htm).

**Restoring** is taking a [window](https://www.computerhope.com/jargon/w/window.htm) that was [minimized](https://www.computerhope.com/jargon/m/minimize.htm) and enlarging it back to [maximized](https://www.computerhope.com/jargon/m/maximize.htm) or its "Normal" size. Restore also refers to taking a maximized window and reducing it to a "Normal" size. In [Microsoft Windows](https://www.computerhope.com/jargon/w/windows.htm), this action can be carried out using the three-button menu (shown right) found in the upper-right corner of a window.

3. What is the need of backup ?

Backup and recovery describes the process of creating and storing copies of data that can be used to protect organizations against data loss. This is sometimes referred to as operational recovery. Recovery from a backup typically involves restoring the data to the original location, or to an alternate location where it can be used in place of the lost or damaged data.

A proper backup copy is stored in a separate system or medium, such as tape, from the primary data to protect against the possibility of data loss due to primary hardware or software failure.

## WHY BACKUP AND RECOVERY IS IMPORTANT

The purpose of the backup is to create a copy of data that can be recovered in the event of a primary data failure. Primary data failures can be the result of hardware or software failure, data corruption, or a human-caused event, such as a malicious attack (virus or malware), or accidental deletion of data. Backup copies allow data to be restored from an earlier point in time to help the business recover from an unplanned event.

Storing the copy of the data on separate medium is critical to protect against primary data loss or corruption. This additional medium can be as simple as an external drive or USB stick, or something more substantial, such as a disk storage system, cloud storage container, or tape drive. The alternate medium can be in the same location as the primary data or at a remote location. The possibility of weather-related events may justify having copies of data at remote locations.

For best results, backup copies are made on a consistent, regular basis to minimize the amount data lost between backups. The more time passes between backup copies, the more potential for data loss when recovering from a backup. Retaining multiple copies of data provides the insurance and flexibility to restore to a point in time not affected by data corruption or malicious attacks.

• Assignment level Intermediate.

1 - What are the tools of backup?

When selecting a backup tool, compatibility, features, ease of use, and cost should all be taken into consideration. For instance, the tool should support your operating system, file system, applications, and data formats. Additionally, it should offer features such as encryption, compression, scheduling, verification, logging, and reporting. It should also be easy to install, configure, use, and manage. Finally, the backup tool should fit your budget and provide good value for money. Examples of backup tools include rsync, tar, zip, dd, Bacula, Amanda, Duplicity, Time Machine, Windows Backup and Restore as well as cloud-based services like Google Drive, Dropbox and OneDrive.

2 - How do we restore?

Use System restore to make restore points when you install a new app, driver, or Windows update, and when you create a restore point manually. Restoring won’t affect your personal files, but it will remove apps, drivers, and updates installed after the restore point was made. To go back to a restore point:

1. Select the **Start** button, then type **control panel** in the search box next to the Start button on the taskbar and select **Control Panel** (Desktop app) from the results.
2. Search Control Panel for **Recovery**, and select**Recovery** > **Open System Restore**> **Next**.
3. Choose the restore point related to the problematic app, driver, or update, and then select **Next** > **Finish**.
   1. - How to create a restore point ?

In the search box on the taskbar, type **Create a restore point**, and select it from the list of results.

On the **System Protection**tab in **System Properties,**select **Create.**

Type a description for the restore point, and then select **Create.**