Topic: Upgrade installation

• Assignment level basic

1.What is upgrade installation?

Upgrading is the process of replacing a product with a newer version of the same product. In computing and consumer electronics an upgrade is generally a replacement of hardware, software or firmware with a newer or better version, in order to bring the system up to date or to improve its characteristics.

An upgrade installation is a process of installing a newer version of the Windows operating system to replace the existing version. This process involves uninstalling the existing version and then installing the new version in its place, while preserving some of the user's existing files and settings.

A clean install is a software installation in which any previous version is eradicated. The alternative to a clean install is an upgrade, in which elements of a previous version remain. The terms are often heard in reference to operating systems (OSes) and software applications.

An upgrade can save some time – technically, you don't need to back up your PC (although it is strongly recommended). Another advantage that is worth pointing out is you can choose to go back to the previous version if you don't want to keep the new version of the Windows operating system or something goes wrong.

Software updates provide new and improved functionality while addressing existing issues, such as bugs and crashes. And with antivirus updates, the developers often continue to improve their products to keep you safe from new viruses and malware.

2.What is the benefit of upgrade installation?

**Benefits of Regularly Upgrading Your Operating System (OS)**

* Improved security. All software is prone to bugs, and operating systems are no exception. ...
* Access latest features. ...
* Better compatibility. ...
* Boosted device performance. ...
* Reduced costs. ...
* Vendor support. ...
* Increased productivity and efficiency.

**5 reasons why it's important to update your systems regularly:**

* Better security. Old and outdated software is vulnerable to hackers and cyber criminals as updates keep you safe from exploitable holes into your organisation. ...
* Increased efficiency. ...
* Compatibility. ...
* Happier staff and customers. ...
* Reduced costs.

• Assignment level intermediate:

1.Write down the steps of upgrade installation

**Essential Steps In The Software Upgrade Process**

1. Plan. Before you upgrade software, make a plan. ...
2. Do your research. Once you have a plan, research the available upgrades. ...
3. Obtain the necessary permissions. Before you upgrade software, make sure you have the necessary permissions. ...
4. Backup your data. ...
5. Test the upgrade.

• Assignment level advance.

1-Do a practical to upgrade from windows 8 to windows 10.

Yes , we are complete done a practical to upgrade from window8 to window 10 .

If you do a clean installation for the upgrade, it will remove everything on the system drive. If you do an in-place Windows 8.1 upgrade to Windows 10, you should lose nothing. But the upgrade is a big and time-consuming process, things can go wrong.

If you've downloaded the Media Creation Tool on the machine you plan to upgrade, and you plan to upgrade that PC and only that PC, you can choose the Upgrade This PC Now option. That option installs the most recent version of Windows 10. It typically takes about an hour, depending on your hardware.

An upgrade moves your PC from a previous version of Windows—such as Windows 7 or Windows 8.1—to Windows 10. An upgrade can take place on your existing device, though Microsoft recommends using Windows 10 on a new PC to take advantage of the latest features and security improvements.

The process will take about 2 hours, depending on the speed of the internet connection. After Windows 10 is downloaded, click Start the upgrade now in the Windows Update window to begin installation.

Topic: Partition & Formatting

• Assignment level Basic

1. What is partitioning?

A partition is a logical division of a hard disk that is treated as a separate unit by operating systems ([OSes](https://www.techtarget.com/whatis/definition/operating-system-OS)) and [file systems](https://www.techtarget.com/searchstorage/definition/file-system). The OSes and file systems can manage information on each partition as if it were a distinct [hard drive](https://www.techtarget.com/searchstorage/definition/hard-disk-drive). This allows the drive to operate as several smaller sections to improve efficiency, although it reduces usable space on the hard disk because of additional overhead from multiple OSes.

A disk partition manager allows system administrators to create, resize, delete and manipulate partitions, while a partition [table](https://www.techtarget.com/whatis/definition/table) logs the location and size of the partition. Each partition appears to the OS as a distinct logical disk, and the OS reads the partition table before any other part of the disk.

Once a partition is created, it is formatted with a file system such as:

* [NTFS](https://www.techtarget.com/searchwindowsserver/definition/NTFS) on Windows drives;
* FAT32 and exFAT for [removable drives](https://www.techtarget.com/searchdatabackup/definition/removable-media);
* HFS Plus (HFS+) on Mac computers; or
* Ext4 on [Linux](https://www.techtarget.com/searchdatacenter/definition/Linux-operating-system).

Data and files are then written to the file system on the partition. When users boot the OS in a computer, a critical part of the process is to give control to the first [sector](https://www.techtarget.com/searchstorage/definition/sector) on the hard disk. This includes the partition table that defines how many partitions will be formatted on the hard disk, the size of each partition and the address where each disk partition begins. The sector also contains a program that reads the boot sector for the OS and gives it control so that the rest of the OS can be loaded into [random access memory](https://www.techtarget.com/searchstorage/definition/RAM-random-access-memory).

to divide into parts or shares. b. : to divide (a place, such as a country) into two or more territorial units having separate political status. 2. : to separate or divide by a partition (such as a wall)

Database partitioning (also called data partitioning) refers to breaking the data in an application's database into separate pieces, or partitions. These partitions can then be stored, accessed, and managed separately.

Memory partitioning is the system by which the memory of a computer system is divided into sections for use by the resident programs. These memory divisions are known as partitions. There are different ways in which memory can be partitioned: fixed, variable, and dynamic partitioning.

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A partition is a logical division of a hard disk that is treated as a separate unit by operating systems ([OSes](https://www.techtarget.com/whatis/definition/operating-system-OS)) and [file systems](https://www.techtarget.com/searchstorage/definition/file-system). The OSes and file systems can manage information on each partition as if it were a distinct [hard drive](https://www.techtarget.com/searchstorage/definition/hard-disk-drive). This allows the drive to operate as several smaller sections to improve efficiency, although it reduces usable space on the hard disk because of additional overhead from multiple OSes.

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3. What is format?

To format a drive ([hard disk](https://www.lifewire.com/what-is-a-hard-disk-drive-2618152), floppy disk, [flash drive](https://www.lifewire.com/what-is-a-flash-drive-2625794), etc.) means to prepare the chosen [partition](https://www.lifewire.com/what-is-a-partition-2625958) on the drive to be used by an [operating system](https://www.lifewire.com/operating-systems-2625912) by deleting all the data and setting up a [file system](https://www.lifewire.com/what-is-a-file-system-2625880).

The most popular file system to support Windows is [NTFS](https://www.lifewire.com/ntfs-file-system-2625948), but [FAT32](https://www.lifewire.com/what-is-file-allocation-table-fat-2625877) is also sometimes used.

In Windows, formatting a partition is usually done from the [Disk Management](https://www.lifewire.com/disk-management-2625863) tool. You can also format a drive using the [format command](https://www.lifewire.com/format-command-2618091) in a command line interface like [Command Prompt](https://www.lifewire.com/command-prompt-2625840), or with a [free disk partition software tool](https://www.lifewire.com/free-disk-partition-software-tools-2624950).

## Resources on Formatting

Formatting can't usually be done by accident, so you shouldn't worry that you'll delete all your files by mistake. However, you should be cautious when formatting anything and be sure you know what you're doing.

Here are some common things you might do related to formatting:

* [Format a Hard Drive in Windows](https://www.lifewire.com/how-to-format-a-hard-drive-2626077)
* [Format a Hard Drive From the Command Prompt](https://www.avoiderrors.com/format-hard-drive-using-command-prompt/)
* [Format the C Drive](https://www.lifewire.com/how-to-format-c-drive-2626123)
* [Format an SSD](https://www.lifewire.com/format-ssd-5184623)
* [Format the C Drive From a System Repair Disc](https://www.lifewire.com/how-to-format-c-from-a-system-repair-disc-2626108)
* [Format an SD Card in Windows](https://www.lifewire.com/format-sd-card-using-windows-4128719)
* [Partition a Hard Drive in Windows](https://www.lifewire.com/how-to-partition-a-hard-drive-2626081)
* [Completely Erase a Hard Drive](https://www.lifewire.com/how-to-completely-erase-a-hard-drive-2626173)

Some devices like cameras will let you format the storage through the device itself. It's similar to how you can format a hard drive using a computer—the same thing is possible with some digital cameras and maybe even gaming consoles or other devices that might need their hard drive formatted.

• Assignment level Intermediate:

1. Do a Practical of mbr partition

Yes , we are complete done a practical of mbr partition .

The Master Boot Record (MBR) is the information in the first sector of a [hard disk](https://www.techtarget.com/searchstorage/definition/hard-disk-drive) or a [removable drive](https://www.techtarget.com/searchdatabackup/definition/removable-media). It identifies how and where the system's operating system ([OS](https://www.techtarget.com/whatis/definition/operating-system-OS)) is located in order to be booted (loaded) into the computer's main storage or random access memory ([RAM](https://www.techtarget.com/searchstorage/definition/RAM-random-access-memory)).

The MBR also includes a program that reads the [boot sector](https://www.techtarget.com/whatis/definition/boot-sector) record of the [partition](https://www.techtarget.com/searchstorage/definition/partition) containing the OS to be booted. In turn, that record contains a program that loads the rest of the OS into RAM.

## Understanding the Master Boot Record

Simply put, the MBR is a boot sector category that provides information about the hard disk partitions. It also provides information about the OS so it can be loaded for the system boot. The MBR contains programs that determine which partition on the hard disk is used for the system boot. Without the MBR, the system is unable to start.

The MBR is about 512 [bytes](https://www.techtarget.com/searchstorage/definition/byte). As the first sector of the hard disk, it has a specific address: Cylinder 0, Head 0, Sector 1. It is created in [Windows](https://www.techtarget.com/searchwindowsserver/definition/Windows) and [DOS](https://www.techtarget.com/searchsecurity/definition/DOS) systems when the hard drive is partitioned. However, it is not located within a partition, which is why nonpartitioned storage mediums, like [floppy disks](https://www.techtarget.com/searchstorage/definition/diskette), do not contain an MBR. The MBR can function as a chain boot loader independently of the OS.

The MBR is sometimes called the partition sector or the master partition table because it includes a table that locates each partition on the storage media or hard disk drive. Other common names include sector zero, master boot block and master partition boot sector.

## How the Master Boot Record works

When the system is powered on, it runs the [BIOS](https://www.techtarget.com/whatis/definition/BIOS-basic-input-output-system) program stored in the [read-only memory](https://www.techtarget.com/whatis/definition/read-only-memory-ROM). The BIOS contains the code to locate and execute the MBR in order to locate various hard disk partitions and load the OS.

Initially, the BIOS program evaluates the system hardware and checks the available boot devices containing an MBR. It then reads the first sector to 0000:7C00H and determines if the final signature is 55AAH. Next, it transfers control to the MBR to boot the OS. If the final signature does not match, the BIOS looks for additional bootable devices. If no devices are found, the OS does not boot, and the user receives an error message.

To identify the system partition, the MBR boot code uses that partition's volume boot code. It then uses the partition's boot sector to start the OS and boot the system. If the instructions are not carried out -- say because the MBR is missing -- the computer does not start.

2. Do a Practical of gpt partition .

Yes , we are complete done a practical of gpt partition .

A GPT partition, or GUID Partition Table partition, is a type of partition that allows for larger disk capacities and more partitions than the older MBR (Master Boot Record) partition. GPT partitions use a unique disk identifier, called a GUID, which allows for better disk management and recovery options.

The "GPT" partition style is a method of organizing data on a hard drive or other storage device. It stands for "GUID Partition Table," and it is a newer, more modern method of partitioning than the older "MBR" (Master Boot Record) method.

GPT has several advantages over MBR, including the ability to support disks larger than 2 TB, the ability to have more than four primary partitions, and the ability to recover more easily from certain types of disk errors. However, some older computers may not be able to boot from a GPT-formatted disk, so it may be necessary to use the MBR partition style instead.

To change the partition style of a hard drive, you will need to use a utility that can repartition the drive. One such utility is "diskpart," which is a command-line utility built into Windows. To use it, follow these steps:

1. Open a command prompt window as an administrator (by right-clicking on the command prompt icon and selecting "Run as administrator").
2. At the command prompt, type "diskpart" and press Enter.
3. At the "DISKPART>" prompt, type "list disk" and press Enter. This will list all the disks currently connected to the computer.
4. Identify the disk that you want to modify, and type "select disk X" (replacing X with the number of the disk you want to modify). Press Enter.
5. Type "clean" and press Enter. This will erase all data on the disk and prepare it for repartitioning.
6. Type "convert gpt" and press Enter to convert the disk to the GPT partition style.

Keep in mind that these steps will erase all data on the disk, so make sure you have backed up any important files before proceeding.

• Assignment level Advance:

* 1. Do a practical using cmd.

Yes , we are complete done a practical of using cmd .

1. Step 1: Click Start. ...
2. Step 2: In the Search Box Type Cmd. ...
3. Step 3: Press Enter. ...
4. Step 4: Type- Dir Then Press Enter. ...
5. Step 5: Type- Cd Desktop and Press Enter. ...
6. Step 6: Type- Mkdir YourName Then Press Enter.

2. covert a partition to gpt by cmd.

**Tip 1.** **Convert MBR to GPT Using DiskPart Tool**

1. Type CMD in the Search box.
2. Open Command Prompt, type DiskPart, and press Enter.
3. Type list disk and press Enter. (
4. Type select disk X. (
5. Now type clean and press Enter.
6. Type convert gpt and press Enter..

**To complete the disk conversion by using Disk Management, follow these steps.**

1. Back up or move the data on the MBR disk prior to conversion.
2. Delete all partitions and volumes on the MBR disk. ...
3. Select and hold (or right-click) the MBR disk to convert to the GPT format, and select Convert to GPT Disk.

3. Format a partition using cmd.

1. STEP 1: Open Command Prompt As Administrator. Opening the command prompt. ...
2. STEP 2: Use Diskpart. ...
3. STEP 3: Type List Disk. ...
4. STEP 4: Select the Drive to Format. ...
5. STEP 5: Clean the Disk. ...
6. STEP 6: Create Partition Primary. ...
7. STEP 7: Format the Drive. ...
8. STEP 8: Assign a Drive Letter.

**Using Command Prompt**

1. From the Start menu, open the Run dialog box or you can Press the "Window + R" key to open the RUN window.
2. Type "diskpart" and press enter key.
3. Type "list volume" and press the enter button.
4. Type "select volume <number>" and press enter key. ...
5. Type "format fs = <File System> quick"

Topic: Transferring Files

• Assignment level Basic

1. What is transferring Files?

File transfer refers to the exchange of data files between computer systems.

“File transfer is the process of copying or moving a file from one computer to another over a network or internet connection. It enables sharing, transferring or transmitting a file or a logical data object between different users and/or computers both locally and remotely.” [1](https://www.ibm.com/topics/file-transfer#citation1)

Data files may be structured or unstructured — including documents, multimedia, graphics, text and PDFs. They can be shared using download or upload and transmitted inside or outside the enterprise.

File transfer is usually governed by a communications protocol, a set of rules that defines how information is transmitted between computers in a network. File transfer protocol (FTP), transmission control protocol (TCP) and hypertext transfer protocol (HTTP) are examples of common standards used today.

File transfer refers to the exchange of data files between computer systems. According to Techopedia: “File transfer is the process of copying or moving a file from one computer to another over a network or internet connection.

2-What are the ways of transferring files?

You can transfer files from other systems to OnDemand servers using a variety of methods. Each method results in a different set of possible outputs. Some methods produce output that cannot be used by ACIF. Methods commonly used to transfer files from other systems to OnDemand servers and produce output that ACIF can use are:

* Physical media (such as tape)
* PC file transfer program
* FTP
* Download

Conventional file transfer programs cannot correctly handle the combination of variable-length files, which contain bytes that cannot be translated from their original representation to ASCII, and may also contain machine control characters, mixed line data and structured fields, or special code points that have no standard mapping.

The best solution is to either NFS-mount the file, or write a small filter program on the host system that appends the two-byte record length to each record and transfer the binary file.

Generally, NFS-mounted files are not translated. However, NFS includes a two-byte binary record length as a prefix for variable-length records. (Check your NFS implementation; you may have to use special parameters.)

ACIF treats a file that contains only structured fields (MO:DCA or AFP data stream or LIST3820) as a special case. You can always transfer such a file as a binary file with no special record separator, and ACIF can always read it because structured fields are self-defining, containing their own length; ACIF handles print files and print resources (form definitions, fonts, page segments, overlays, and so on) in the same way.

* [**Physical media**](https://www.ibm.com/docs/en/SSEPCD_9.5.0/com.ibm.ondemand.ir.doc/dodir016.htm)
* [**PC file transfer program**](https://www.ibm.com/docs/en/SSEPCD_9.5.0/com.ibm.ondemand.ir.doc/dodir017.htm)  
  You may transfer files from other systems to OnDemand servers by using an implementation of the most common PC file transfer program (IND$FILE). You may also transfer files from a host to a personal computer.
* [**FTP**](https://www.ibm.com/docs/en/SSEPCD_9.5.0/com.ibm.ondemand.ir.doc/dodir018.htm)  
  From most systems, FTP works similarly to PC file transfer, and most of the same options are provided.
* [**Download**](https://www.ibm.com/docs/en/SSEPCD_9.5.0/com.ibm.ondemand.ir.doc/dodir019.htm)  
  You can use Download to transmit a print data set from the JES spool to file systems on OnDemand servers.

• Assignment level Intermediate:

1. How do we transfer files from one system to another?

**Here are the five most common methods you can try for yourself.**

1. Cloud storage or web data transfers. ...
2. SSD and HDD drives via SATA cables. ...
3. Basic cable transfer. ...
4. Use software to speed up your data transfer. ...
5. Transfer your data over WiFi or LAN. ...
6. Using an external storage device or flash drives.

Another way to share files across operating systems is to use network file sharing, which allows you to create a local network of devices and share files among them. This method requires that the devices are connected to the same router or network switch, either wirelessly or with an Ethernet cable.

2-Types of file transferring media .

Two types of file transferring media .

FTP and Secure FTP (SFTP) are among the most widely used methods of file transfer. Part of the appeal is that they are simple to use and often free or inexpensive. Transfer is usually done by way of an FTP web site that most anyone can access. The technology works well if an organization has an occasional need to send non-sensitive files, but when used more broadly it can put them at risk.

Recent research shows that more than 400 million files from FTP servers are publicly available online [6](https://www.ibm.com/topics/file-transfer#citation6). When files are exposed, FTP does not log security violations or authenticate users — basic capabilities needed to help detect and stop breaches or cyber threats. The technology also sends files on a first-come, first-served basis. As such, organizations can’t prioritize critical transfers or respond as quickly to business needs.

To get beyond the hidden costs and risks of FTP, more enterprises are choosing secure and scalable file transfer software.

• Assignment level Advanced:

1-Do a practical to transfer files from one system to another via network.

Yes , we are complete a practical to transfer files from one system to another via network .

There are a few ways to transfer files between two computers that are connected to the same internet or Wi-Fi connection. Here are a few options:

1. **File Sharing**: You can use the built-in file sharing feature of your operating system to share a folder on one computer, and then access that folder from the other computer. This is a simple and easy way to transfer files.
2. **Cloud Storage**: You can use a cloud storage service, such as Google Drive or Dropbox, to upload the files to the cloud, and then download them to the other computer. This is a good option if you need to transfer large files, or if you want to keep a copy of the files in the cloud for safekeeping.
3. **USB Drive**: You can use a USB drive to transfer files. Simply copy the files to the USB drive on one computer, and then plug it into the other computer to copy the files over.
4. **Email**: You can email the files as attachments to yourself and then download them on the other computer. This is a good option for small files.
5. **Remote Desktop**: You can use a remote desktop software like TeamViewer to connect to the other computer and directly transfer the files.

2-DO a practical to transfer data from one hard disk to another.

Yes , we are complete done a practical to transfer data from one hard disk to another .

Transferring data from one hard drive to another is essential to ensure that all of your necessary data is preserved when replacing an old hard drive with a new one. This guide will provide you with step-by-step instructions on **how to transfer data from one hard drive to another**, as well as tips on migrating OS to SSD/HDD. Following these instructions, you can quickly copy the data from an old hard drive to a new one without errors. So keep reading to explore more on hard drive clonning.

Yes, you can transfer data from one hard drive to another. This can be done using various methods, including external hard drive connections, storage media (such as USB flash drives), and online cloud storage services.  Depending on the type of data being transferred and the size of the data, one of these methods may be more suitable than another. For example, transferring large files could take a long time over a USB connection but might be much faster if done via an online cloud storage service. So if you are looking for a way on how to transfer files from one hard drive to another, keep reading .

Topic: Administrative tools

• Assignment Level Basic

1. What are administrative tools?

Administrative Tools is the collective name for several advanced tools in Windows that are used mainly by system administrators.

It's available in [Windows 10](https://www.lifewire.com/windows-10-2626217), [Windows 8](https://www.lifewire.com/windows-8-2626235), [Windows 7](https://www.lifewire.com/windows-7-2626265), [Windows Vista](https://www.lifewire.com/windows-vista-2626311), [Windows XP](https://www.lifewire.com/windows-xp-2626354), and Windows Server operating system. [Windows 11](https://www.lifewire.com/windows-11-5188930) calls these tools Windows Tools.

Below is a list of programs you'll find in Administrative Tools, complete with summaries, which versions of Windows they appear in, and links to more details about the programs, if we have any.

The programs can be used to schedule a test of your computer's [memory](https://www.lifewire.com/what-is-random-access-memory-ram-2618159), manage advanced aspects of users and groups, format [hard drives](https://www.lifewire.com/what-is-a-hard-disk-drive-2618152), configure Windows [services](https://www.lifewire.com/what-is-a-service-4107276), change how the operating system starts, and much, much more.

Since it's a [Control Panel applet](https://www.lifewire.com/control-panel-applet-2625831), it can be accessed via [Control Panel](https://www.lifewire.com/control-panel-2625841). To find it, first, [open Control Panel](https://www.lifewire.com/how-to-open-control-panel-2625782) and then choose **Administrative Tools**.

This suite of tools is basically a folder that contains shortcuts to other parts of Windows where the tools are actually located. Double-clicking or double-tapping one of these shortcuts will start that tool.

In other words, Administrative Tools itself doesn't *do* anything. It is just a location that stores shortcuts to related programs that are actually stored in the *Windows* folder.

Most of the available programs are snap-ins for the Microsoft Management Console (MMC).

2. What is the use of administrative tools?

The programs can be used to schedule a test of your computer's [memory](https://www.lifewire.com/what-is-random-access-memory-ram-2618159), manage advanced aspects of users and groups, format [hard drives](https://www.lifewire.com/what-is-a-hard-disk-drive-2618152), configure Windows [services](https://www.lifewire.com/what-is-a-service-4107276), change how the operating system starts, and much, much more.

Since it's a [Control Panel applet](https://www.lifewire.com/control-panel-applet-2625831), it can be accessed via [Control Panel](https://www.lifewire.com/control-panel-2625841). To find it, first, [open Control Panel](https://www.lifewire.com/how-to-open-control-panel-2625782) and then choose **Administrative Tools**.

The tools available in Administrative Tools can also be accessed through the special GodMode folder, but that's only useful if you've already [enabled GodMode](https://www.lifewire.com/god-mode-windows-4154662).

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Most of the available programs are snap-ins for the Microsoft Management Console (MMC).

It allows the admin to manage several parameters of the operating system for quick troubleshooting. Some of the most commonly used Windows 10 admin tools are as follows: Defragment and Optimize Drives - Disk fragmentation occurs when a file is broken up into pieces to fit on the disk.