

Q1. Define operating system.

Ans. An operating system is a software that manages computer hardware and provides a platform for running software applications.

Q2. Define Server operating system.

Ans. A server operating system is software designed to manage and facilitate the functions of a server, it acts as an interface between server and users in a network.

Q3. Write two differences between desktop operating system and Server Operating System

Ans. 1. User Interaction: Desktop OS is specifically designed for an individual system, where as Server OS is designed to provide services for users within a network

2. Resource Allocation: Desktop OS allocates resources for interactive tasks, GUI's, whereas Server OS efficiently manages resources for reliability, scalability, to run server applications and services.

Q4. Define BIOS

Ans. BIOS (Basic Input/Output System) is firmware that initializes computer hardware during startup and provides system functions.

Q5. What is the need of BIOS?

Ans. The BIOS is needed to initialize a computer's hardware components during startup.

Q6. Define UEFI

Ans. UEFI (Unified Extensible Firmware Interface) is a replacement for BIOS that offers enhanced hardware initialization, system boot, and operating system interaction.

Q7. What is the need of UEFI?

Ans. UEFI is needed to modernize firmware interfaces, support larger capacities, enhance security, and improve system boot and initialization processes.

Q8. Define Global Partitioning Table.

Ans. The Global Partitioning Table (GPT) is a modern disk partitioning scheme used for partitioning data on storage devices.

Q9. What is Master Boot Record?

Ans. The Master Boot Record (MBR) is a traditional disk partitioning scheme used to boot and manage data on a storage device.

Q10. When is the support for windows server 2012 ends?

Ans. Support for Windows Server 2012 ends on October 10, 2023. That means after this date, there will be no more security updates or technical support from Microsoft for Windows Server 2012.

Q11. What is the file system supported by windows operating system.

Ans. Windows Supports NTFS, FAT32, exFAT, ReFS File Systems

Q12. What is the file system supported by Linux operating system

Ans. Linux Supports Ext, Ext2, Ext3, Ext4, JFS, ReiserFS, XFS, btrfs, and swap

Q13. What are the partitions created during the installation of Linux operating system?

Ans. The partitions created during the installation of Linux operating system are: boot, root, swap and home

Exercise

Q1. Write the steps to create a bootable installation media drive

Steps:-

1. Connect media drive to system (whose size should be more than 8 GB).
2. We need rufus software to make a bootable media drive → install rufus software from browser.
3. Open rufus application
4. Dialog box of rufus software appears with options → Drive properties, format options etc.
5. Select the iso file from select option.
6. Set the partition scheme as GPT.
7. Click on Start option.
8. Then the process starts and the media drive is made bootable to the selected OS successfully.

Q2. Write the steps to install the windows server 2022 operating system.

Steps:-

1. First install windows 2022 OS.
2. After making pen drive bootable press f11 key while system is booting, to enter into boot priority menu.
3. Select the pen drive name.
4. Microsoft window will be opened, Select the language and click install now.
5. After, it shows a list of windows 2022 server operating systems, select the windows server 2022 Standard Evaluation (Desktop experience).
6. Now accept the license terms → next.
7. Choose custom option since we are not doing an upgrade of operating system.
Now partition window appears, in there → Delete all available partitions.
8. If you want to create new partitions click on new option. Select size of the partition and click apply.
9. If you want to create few more partitions repeat the above process.
10. Installation process starts and after completion click on “restart now”.
11. After restarting, → sign in.
12. Windows server 2022 OS is installed successfully.

Q3. Write the steps to install the cent operating system.

Steps:-

Install the Cent OS server version from the browser.

First, to install the OS → make the pen drive bootable.

Making pen drive bootable:-

1. Download the required softwares like rufus, yumi etc.
2. Install and open rufus
3. A dialog box containing Drive properties and format options opens.
4. In Drive properties, click on select option and choose the cent OS ISO file (Partition scheme:-GPT).
5. Click on start → A dialog box opens about USB warning.
6. Click on continue and next usb is made bootable.
7. Restart the system & while restarting, to enter into BIOS settings press any of the keys → Del, F12, F11 . From BIOS settings → from Boot menu select the boot priority → first priority as your USB .
8. Save changes & exit.
9. Click on → Install cent OS.
10. Cent OS , first select language & set date location and time.
11. Select installation location on screen and select the disk for cent OS & click on software installation
And select option GUI & server.
12. The disk is formatted and cent OS is installed.
13. Click on Begin installation. Next, we get user settings, from here create user and set root password
14. After setting user name and password we get centos is successfully installed & ready to use, then click on reboot option. (Initial setup).
15. A dialog box will open with license, accept it and click finish.
16. Then, you get login interface, enter password and click enter.
17. Then OS is installed successfully and opened.

Q4. Write the steps to install the Ubuntu operating system on virtual Machine.**Steps:-**

1. First install the latest version of Ubuntu from browser.
2. Next, install virtual machine for windows from browser.
3. Now click on virtual machine, a dialog box will open.
4. Then click "new".
5. Now enter a name for virtual machine, choose "Type" which is Linux and choose "version" as
6. Ubuntu (64-bit) and click next.
7. Now "Memory size" dialog box will open and allocate the memory space & click next.
8. Choose "Create Virtual Hard Disk Now" and click on create.
9. Then select Virtual Disk Image (VDI) & click next.
10. Select "dynamically allocated" and click next.
11. Now allocate the storage space for OS and click create.
12. Next go to settings and select required resources for OS.
13. Select ISO file and click ok.
14. Click on the created VM (Ubuntu).
15. Click on start and choose Install Ubuntu, then Ubuntu is opened in virtual box.
16. Now choose language, keyboard layout & click continue.
17. Next select normal installation & click continue.
18. Select installation type as erase disk and install Ubuntu, & specify location.
19. Now enter your name and password and click install now.
20. Now it asks for restart, once you restart your system, the Ubuntu is successfully installed in virtual machine.

Q5. Write the steps to create root, boot swap and home partitions in Ubuntu operating system.**Steps:-**

To create root, boot, swap, and home partitions on an Ubuntu operating system, you can follow these steps:

Important: Before proceeding with partitioning, make sure you have a backup of your important data. Partitioning can lead to data loss if not done correctly.

1. Boot from the Ubuntu Installation Media:

Insert the Ubuntu installation media (USB or DVD) into your computer and boot from it. You should see the Ubuntu installation screen.

2. Start the Ubuntu Installer:

Once the installation media boots up, select "Install Ubuntu" to begin the installation process.

3. Choose Language and Keyboard Layout:

Select your preferred language and keyboard layout for the installation.

4. Connect to the Internet:

If you have an internet connection, you can choose to connect during the installation process. This will allow you to download updates and additional software while installing Ubuntu.

5. Allocate Disk Space - Choose "Something Else":

When you reach the "Installation Type" screen, select the option "Something else" to manually configure the partitions.

6. Identify Your Disk:

You will see a list of available disks and their partitions. Identify the disk on which you want to install Ubuntu. Be cautious and make sure you are selecting the correct disk.

7. Create the Boot Partition:

The boot partition is usually a small partition to store essential boot files. To create it, select the free space and click on the "+" icon. Create a partition with the following settings:

- Size: 500 MB (or more if you prefer)
- Use as: "EFI System Partition"
- Mount point: /boot/efi (this is the standard location for EFI system partitions)

8. Create the Swap Partition:

The swap partition is used as virtual memory when the RAM is full. It is recommended to have a swap partition, especially if your system has limited RAM. To create it, select the free space and click on the "+" icon. Create a partition with the following settings:

- Size: Recommended size is equal to the amount of RAM you have (e.g., if you have 4GB of RAM, make the swap partition 4GB)

- Use as: "swap area"

9. Create the Root Partition:

The root partition will hold the Ubuntu operating system files. To create it, select the free space and click on the "+" icon. Create a partition with the following settings:

- Size: Recommended minimum is around 20 GB, but you can allocate more if you have enough disk space.

- Use as: "Ext4 journaling file system"

- Mount point:

10. Create the Home Partition:

The home partition will be used to store user files and data. Having a separate home partition makes it easier to upgrade or reinstall Ubuntu without losing your personal data. To create it, select the free space and click on the "+" icon. Create a partition with the following settings:

- Size: Allocate the remaining space on the disk, or choose a custom size as per your preference.

- Use as: "Ext4 journaling file system"

- Mount point: /home

11. Check the Partition Summary:

Review the partition table to ensure everything is correct. Double-check the sizes and mount points before proceeding.

12. Finish the Installation:

Click "Install Now" to proceed with the installation. You will be asked to confirm the changes. After confirming, the Ubuntu installer will format the partitions and begin the installation process.

13. Complete the Installation:

Follow the on-screen instructions to complete the installation. This includes setting your timezone, creating a user account, and setting a password.

14. Reboot:

Once the installation is complete, you can reboot your computer and enjoy your newly installed Ubuntu system with the custom partition setup.

Q6. Write the steps to three drives during the installation of windows operating system

Steps:-

1. If you want to create new partitions click on new option.
2. Select size of the partition.
3. Click on apply.
4. Repeat the above process, for more partitions.
5. Click next, then partitions are created successfully.