

Pre-Skill Task:

1. **What is VirtualBox, and what is its purpose in the context of virtualization?**

VirtualBox is a free and open-source virtualization software that allows you to run multiple operating systems on a single physical machine simultaneously.

2. **What are the benefits of using virtualization for running operating systems?**

Virtualization allows for efficient resource utilization, easy testing of different OS environments, and isolation of different systems on a single hardware platform.

3. **Can you provide a step-by-step guide on how to install VirtualBox on a specific operating system?**

To install VirtualBox on Windows, download the installer from the official website, run the executable, follow the installation wizard, and complete the setup.

4. **What are the minimum system requirements for running VirtualBox effectively?**

Minimum requirements include a 64-bit processor, 4GB of RAM, and at least 10GB of disk space, though more is recommended for better performance.

5. **How do you create a new virtual machine in VirtualBox? Explain the necessary steps.**

Open VirtualBox, click "New," enter the VM name, choose the OS type, allocate memory, create a virtual hard disk, and follow the prompts to finish setup.

Viva questions:

1. **Describe the process of downloading the Kali Linux ISO image and selecting the appropriate version.**

Visit the Kali Linux official website and download the ISO image, choosing the appropriate version based on your system architecture (64-bit or 32-bit) and use case (desktop or light version).

2. **What are the recommended settings for a virtual machine running Kali Linux in terms of memory allocation, CPU, and storage?**

Allocate at least 2GB of RAM, 2 CPU cores, and a minimum of 20GB of storage space to ensure smooth performance of Kali Linux in VirtualBox.

3. **What is the significance of enabling virtualization features in the computer's BIOS settings?**

Enabling virtualization (Intel VT-x/AMD-V) in the BIOS allows VirtualBox to efficiently run virtual machines by utilizing the CPU's hardware-assisted virtualization capabilities.

4.Explain the network configuration options available in VirtualBox and their implications for a virtual machine running Kali Linux.

Network options include NAT (default, allows internet access), Bridged (VM shares host's network adapter), and Host-Only (isolates the VM within a local network); each impacts how the VM interacts with other devices and the internet.

5.How do you mount the Kali Linux ISO image to the virtual machine and initiate the installation process?

In VirtualBox, go to the VM's settings, navigate to the "Storage" tab, attach the Kali Linux ISO under the optical drive, and start the VM to boot from the ISO and begin the installation process.