Lab no: 2 ***Date:2024/09/18***

Title: OS installation in a virtual machine using Oracle VM VirtualBox

Objectives:

- To become familiar with setting up and configuring virtual machines
- To understand process of installing and operating and operating system within a virtual environment

Background Theory:

Oracle VM VirtualBox is a cross-platform virtualization software that enables users to create and run virtual machines on a host system. It is widely used for testing, development, and learning purposes, providing an environment where multiple operating systems can run simultaneously on a single physical machine.

VirtualBox supports a variety of guest operating systems, including Ubuntu, a popular and user-friendly Linux distribution. Ubuntu is based on Debian and is known for its ease of use, regular updates, and strong community support. It is widely used for both desktop and server environments, making it a top choice for development, testing, and production deployments.

Key features of VirtualBox include:

- Resource allocation controls for CPU, memory, and storage.
- Networking options like NAT, Bridged Adapter, and Host-Only Adapter for simulating network scenarios.

Procedure:

1. Install Oracle VM VirtualBox:

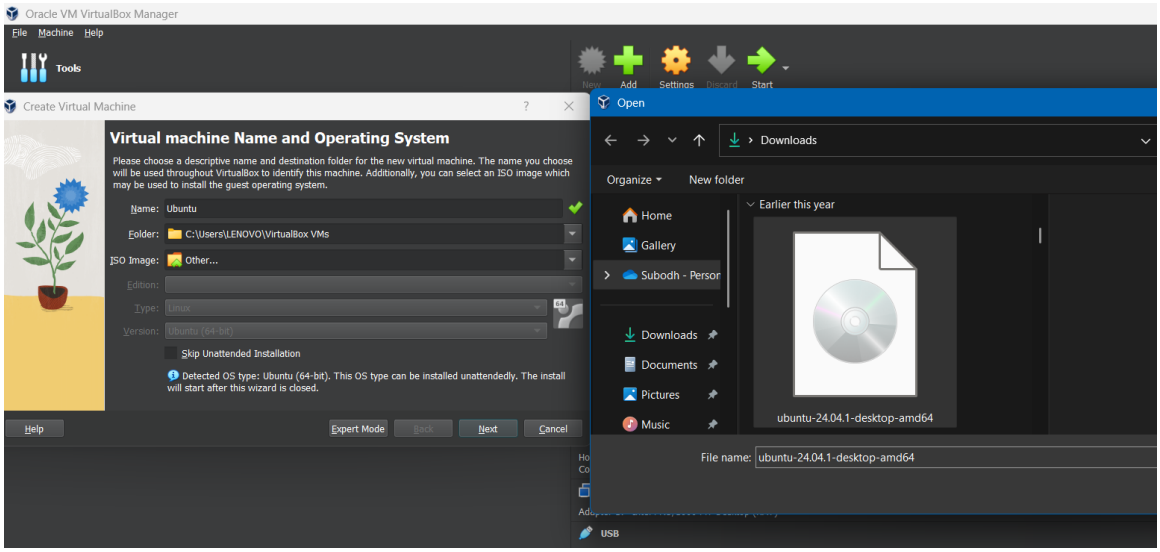
- Download and install Oracle VM VirtualBox from the official website.
- Follow the installation prompts to install the virtual box on your host operating system.

2. Download Ubuntu ISO image:

- Visit the official Ubuntu website ***"https://ubuntu.com/download"*** to download Ubuntu ISO image.
- Select the version of Ubuntu you want to install and download the ISO file.

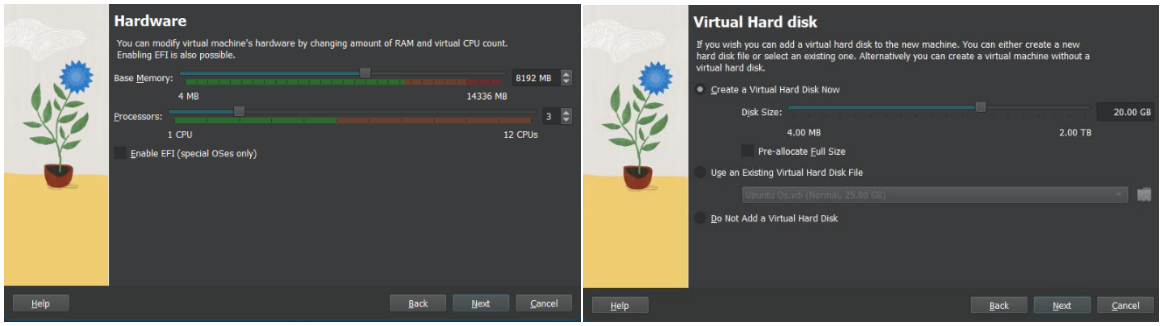
3. Create a New Virtual Machine:

- Open Oracle VM VirtualBox.
- Click ***New*** to create a new virtual machine.
- Name your VM and select ***Linux*** as the type and ***Ubuntu*** as the version.
- Choose ISO and browse to the downloaded ***Ubuntu ISO*** file.



4. Configure the Virtual Machine:

- Choose the amount of memory and number of processors.
- Create a virtual hard disk of at least 20 GB (recommended for Ubuntu).
- Click ***Finish*** to create the virtual machine.



5. Start and Install Ubuntu:

- Start the newly created virtual machine from the dashboard and click ***Start.***
- The virtual machine will boot from the Ubuntu ISO, and the Ubuntu installation process will begin.

6. Install Ubuntu:

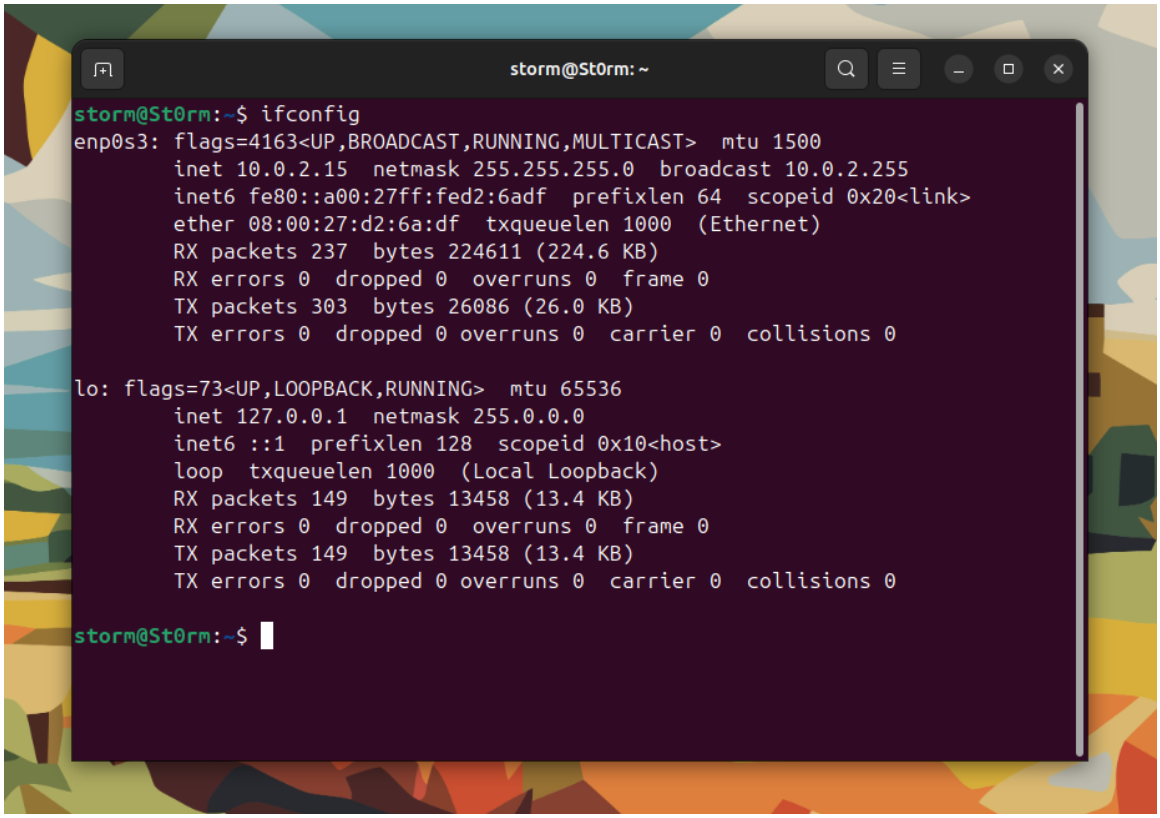
- Choose the preferred language and click ***Continue.***
- Choose ***Normal Installation*** (recommended) and check the option to install third party software.
- Enter your name, computer name, username and password.

7. Complete the setup:

- After the VM reboots, Ubuntu will finish its initial configuration. Follow any remaining setup steps, such as configuring network settings or creating additional user account.
- Log in using the username and password you created during installation.

8. Test basic network commands:

- Once Ubuntu is installed and you have logged in, test the network functionality using basic network commands like ***"ipconfig"***



Discussions:

In this demonstration, Oracle VM VirtualBox was used to create a virtual machine for installing Ubuntu, providing a practical environment to simulate and test operating systems. The installation process involved configuring the virtual machine, allocating resources, and setting up Ubuntu as the guest operating system. This approach allows for safe experimentation without impacting the host system.

Conclusion:

Using Oracle VM VirtualBox to install Ubuntu in a virtual machine successfully demonstrated the process of setting up and operating a virtual environment. The hands-on experience provided insights into system configuration, resource management, and operating system installation. The testing of basic network commands further enriched the learning experience by showcasing how to verify and troubleshoot network connectivity within the Ubuntu environment. This practice is crucial for understanding real-world networking and system administration tasks.