LAB 1: INSTALLING AND CONFIGURING UBUNTU OS ON VMWARE

Objective:

To install and configure the Ubuntu operating software as a virtual environment using VMWare and learn the basic Linux terminal commands.

Theory:

VMware

VMware is a popular virtualization software that lets users create and run multiple virtual machines on a single physical computer. It simulates complete hardware environments, allowing different operating systems to run safely and independently. Because virtual machines can be easily created or removed without affecting the host system, VMware is widely used for learning, testing, and development.

Ubuntu

Ubuntu is a widely used open-source operating system based on Linux, known for its stability, security, and ease of use. It provides both a graphical interface and a powerful terminal, making it suitable for beginners as well as advanced users. With strong community support and regular updates, Ubuntu is ideal for learning Linux and performing development tasks on physical or virtual machines.

Steps to install and configure Ubuntu on VMware

1. Download the Ubuntu ISO file and install VMware Workstation.
2. Open VMware Workstation and press on 'Create a New Virtual Machine'.
3. Select the Installer Disc Image (ISO) file i.e. the Ubuntu ISO file.
4. Set up your username and password and select location to store the Virtual Machine files.
5. Allocate disk space, memory and processors.
6. Finish the configuration process, after which VMware will boot Ubuntu.
7. Click on Try and Install Ubuntu.
8. Complete Installation

Different Commands on the Linux Terminal:

pwd: Shows the path of the folder/directory you are currently in. For example:

pwd - /home/user/Desktop

ls: Shows all the folders and files in the directory you are currently in. For example:

ls - Desktop Documents Downloads Pictures

cd: Moves from one directory to another. For example:

cd Desktop – Moves you to the Desktop

Mkdir: Creates a new directory. For example:

Mkdir Hello - Creates a folder/directory named Hello

Rmdir: Removes an empty directory. For example:

Rmdir Hello – Removes the empty folder Hello

Rm – Deletes files or directories. For example:

Rm Hello – Removes the directory Hello

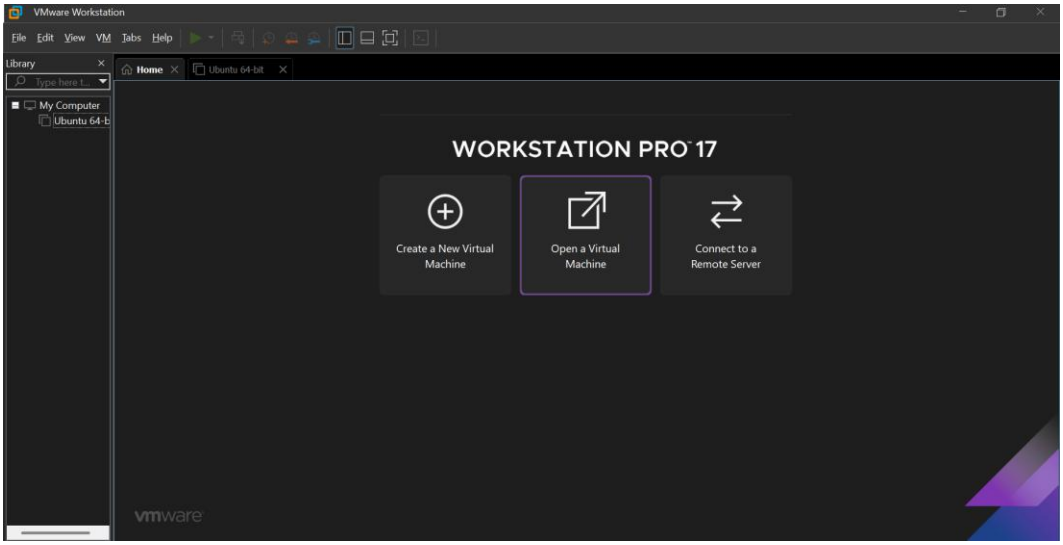
Touch: Creates a blank file For example:

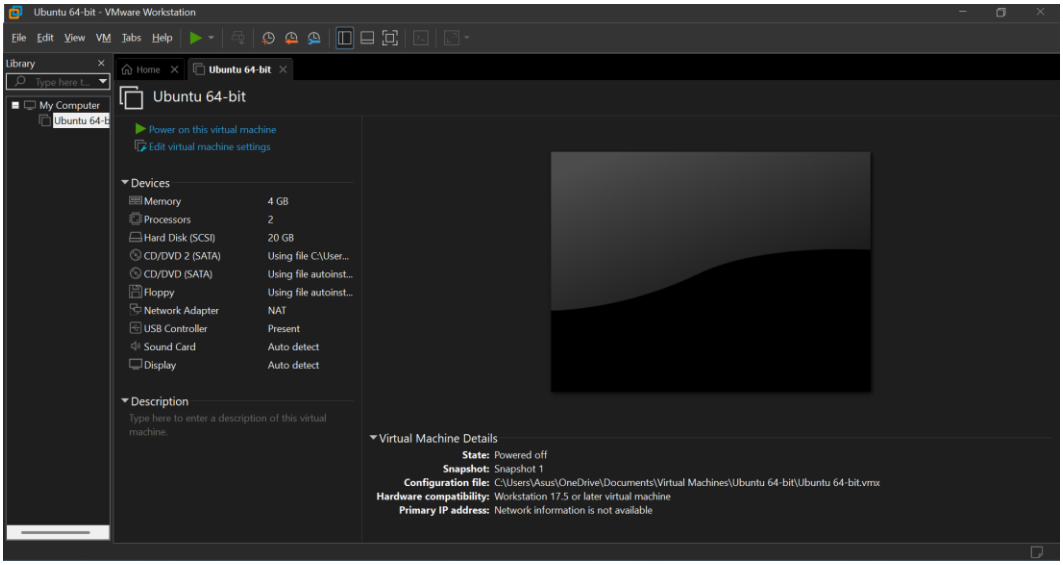
touch hello.txt – Creates a blank file named hello.txt

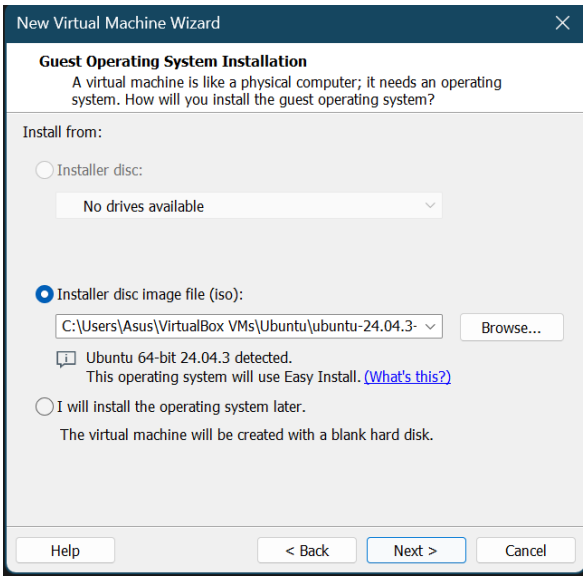
Echo: Displays variables or text on the screen.

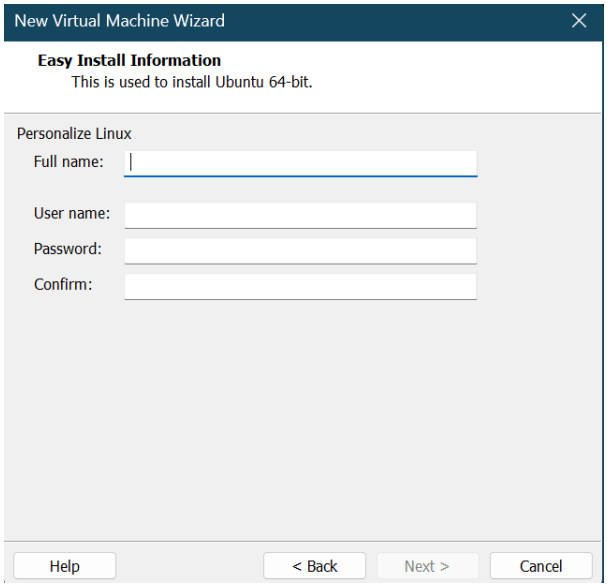
Echo "Hello World!" – Displays 'Hello World'

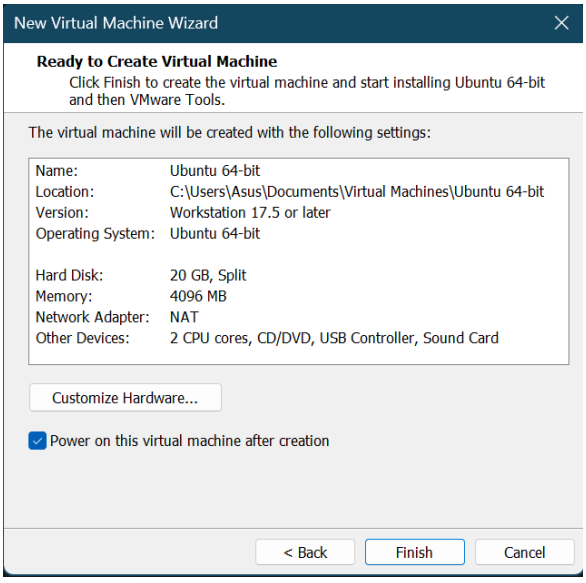
Lab Screenshots




Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Home
Ubuntu 64-bit
Ubuntu 64-bit
Power on this virtual machine
Edit virtual machine settings
Devices
Memory 4 GB
Processors 2
Hard Disk (SCSI) 20 GB
CD/DVD 2 (SATA) Using file C:\User...
CD/DVD (SATA) Using file autoinst...
Floppy Using file autoinst...
Network Adapter NAT
USB Controller Present
Sound Card Auto detect
Display Auto detect
Description
Type here to enter a description of this virtual machine.
Virtual Machine Details
State: Powered off
Snapshot: Snapshot 1
Configuration file: C:\Users\Asus\OneDrive\Documents\Virtual Machines\Ubuntu 64-bit\Ubuntu 64-bit.vmx
Hardware compatibility: Workstation 17.5 or later virtual machine
Primary IP address: Network information is not available


New Virtual Machine Wizard
Guest Operating System Installation
A virtual machine is like a physical computer; it needs an operating system. How will you install the guest operating system?
Install from:
Installer disc:
No drives available
Installer disc image file (iso):
C:\Users\Asus\VirtualBox VMs\Ubuntu\ubuntu-24.04.3-
Browse...
Ubuntu 64-bit 24.04.3 detected.
This operating system will use Easy Install. (What's this?)
I will install the operating system later.
The virtual machine will be created with a blank hard disk.
Help
< Back
Next >
Cancel


New Virtual Machine Wizard
Easy Install Information
This is used to install Ubuntu 64-bit.
Personalize Linux
Full name:
User name:
Password:
Confirm:
Help
< Back
Next >
Cancel


New Virtual Machine Wizard
Ready to Create Virtual Machine
Click Finish to create the virtual machine and start installing Ubuntu 64-bit and then VMware Tools.
The virtual machine will be created with the following settings:
Name: Ubuntu 64-bit
Location: C:\Users\Asus\Documents\Virtual Machines\Ubuntu 64-bit
Version: Workstation 17.5 or later
Operating System: Ubuntu 64-bit
Hard Disk: 20 GB, Split
Memory: 4096 MB
Network Adapter: NAT
Other Devices: 2 CPU cores, CD/DVD, USB Controller, Sound Card
Customize Hardware...
Power on this virtual machine after creation
< Back
Finish
Cancel

```
aarzan-shakya@aarzan-shakya-VMware-Virtual-Platform:~/dav$ mkdir lab1
aarzan-shakya@aarzan-shakya-VMware-Virtual-Platform:~/dav$ ls
bca  lab1  lab2  lab3
aarzan-shakya@aarzan-shakya-VMware-Virtual-Platform:~/dav$ cd lab1
aarzan-shakya@aarzan-shakya-VMware-Virtual-Platform:~/dav/lab1$ S
```

```
aarzan-shakya@aarzan-shakya-VMware-Virtual-Platform:~/dav/lab1$ head hello.txt
Hello this is the 1st lab of Operating System.
this is line 2.
This is line 3.
.
.
.
.
.
.This is line 10
```

```
aarzan-shakya@aarzan-shakya-VMware-Virtual-Platform: ~/dav/lab1
aarzan-shakya@aarzan-shakya-VMware-Virtual-Platform:~$ cd dav/lab1
aarzan-shakya@aarzan-shakya-VMware-Virtual-Platform:~/dav/lab1$ tail hello.txt
This is line 3.
.
.
.
.
.
.This is line 10
.
.This is line 12
```

```
aarzan-shakya@aarzan-shakya-VMware-Virtual-Platform:~/dav/lab1$ nl hello.txt
     1  Hello this is the 1st lab of Operating System.
     2  this is line 2.
     3  This is line 3.
     4  .
     5  .
     6  .
     7  .
     8  .
     9  .
    10  .This is line 10
    11  .
    12  .This is line 12
```

Conclusion:

In this lab, we successfully installed Ubuntu on a VMware virtual machine and explored the basic commands of the Linux terminal. We practiced commands like ls, cd, mkdir, head, tail, and nl helping us in navigating and managing files within a Linux environment. The lab provided a practical understanding of virtualization, OS installation using an ISO image.