



Course Name: Information and Communication Technologies Lab

Lab # 7: Understanding the Operating System: Windows Vs Linux (Ubuntu)

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Objectives:

- To develop understanding of the basic features (GUI, Functionality etc.) of Windows 10 and Linux (Ubuntu)
- To be able to install Linus operating system

Lab Tasks:

Practical Task 1:

Write the 5-default applications name in Ubuntu?

1. Fire fox.
2. Libre office.
3. Rythmbox.
4. Nautilus
5. Tweaks

Practical Task 2:

Install Ubuntu alongside the Windows operating systems.

1. Download Ubuntu.
2. Create a Bootable USB Drive and transfer ubuntu in it.
3. Connect the USB drive to the Laptop or Device you are using.
4. Access BIOS/UEFI Settings.
5. Change Boot Order.
6. Start Ubuntu Installation.
7. Partition Disk.
8. Configure Settings.
9. Install Ubuntu.
10. Reboot.
11. Choose Operating System in the boot menu (Ubuntu or Windows)

Practical Task 3:

What is Cortana in Windows 10 and how to activate it.

Cortana is a virtual assistant in Windows 10 that helps with tasks like setting reminders, searching, and managing your schedule. To activate it, click the **Search bar**, type "Cortana," and enable it in **Cortana & Search settings**. Sign in with your Microsoft account if required. You can use it by clicking the microphone icon or saying "Hey Cortana" (if voice activation is on).

Practical Task 4:

What is Virtual Desktop in windows and how to add it?

It means having multiple screens which have different windows running in them. This is mostly used for organizing your work separately. Use **Windows+Ctrl+D** to add different windows and then manage your tasks in each window.

Practical Task 5:

Using user management settings create password protected new users both in Windows 10 and Ubuntu?

Windows 10:

- Open **Settings > Accounts > Family & other users**.
- Click **Add someone else to this PC** under "Other users."
- Follow the prompts to create a new user and set a password.
- Save the account, and it will be password protected.

Ubuntu:

Press **CTRL+ALT+T** to open the terminal, then use the user add command then set passwords.

Practical Task 6:

How can we check IP address assigned to the PC both in Windows 10 and Ubuntu?

Windows:

Open command prompt and enter command **ipconfig**, this will display your ip.

Ubuntu:

Open terminal and enter command “**ifconfig**”, this will show all network interference info along with ip address.

Post Lab Activity

Task #1:

Can we use MS Office in Ubuntu?

We cannot use Microsoft Office directly on Ubuntu, but alternative applications like **LibreOffice** are available.

Task #2:

What is Libre Office in Ubuntu? How many applications it includes also describe their functionalities?

LibreOffice is a free, open-source office suite that provides tools similar to Microsoft Office, including Writer (Word), Calc (Excel), and Impress (PowerPoint). It is fully compatible with Ubuntu and can open and save Microsoft Office file formats, making it a great choice for productivity tasks on Linux systems.

Task #3:

i) Create a Bootable USB with Ubuntu and Windows operating System separately.

Bootable for Ubuntu:

- Download the **Ubuntu ISO** file from the official website.
- Install a tool like **Rufus** or **Etcher** on your computer.
- Insert a USB drive (minimum 8GB), open the tool, and select the Ubuntu ISO file.
- Click **Start** to create a bootable Ubuntu USB.

Bootable for Windows:

- Download the Windows ISO file from Microsoft's official site.
- Use Rufus or the Media Creation Tool to load the ISO onto a USB drive.
- Insert a USB, select the Windows ISO in the tool, and click Start to create a bootable Windows USB.

ii) What is a Virtual Machine. Use VirtualBox and install Ubuntu on it.

A virtual machine (VM) is a software-based simulation of a computer that runs operating systems and applications independently of the physical hardware.

How to Install Ubuntu on VirtualBox:

1. Download and install **VirtualBox** on your computer.
2. Open VirtualBox and click **New** to create a new VM.
3. Set a name (e.g., Ubuntu), select **Linux** as the type, and allocate memory (at least 2GB).
4. Create a virtual hard drive and choose the Ubuntu ISO as the startup disk.
5. Start the VM, follow the Ubuntu installation steps, and complete the setup.

Task #4:

What is the terminal and DOS?

The **terminal** is a text-based interface used to run commands in operating systems like Linux and macOS. **DOS** (Disk Operating System) is an old command-line operating system used in early personal computers, where users typed commands to control the system.

Task #5:

What is the short key to opening the terminal in Ubuntu and DOS in Windows?

- Ubuntu: Press **Ctrl + Alt + T** to open the terminal.
- Windows (DOS): Press **Windows + R**, type **cmd**, and press **Enter** to open the Command Prompt

Conclusion:

Through the tasks, I learned how to create bootable USB drives for both Ubuntu and Windows, enabling easy installation of these operating systems. I also gained an understanding of how to use VirtualBox to install Ubuntu on a virtual machine. These tasks helped us understand setting up OS and using command-line interfaces.