4ITRC2 Operating System Lab

Lab Assignment 1

Aim: To install and study Ubuntu OS

To Perform :- Install VMware or Virtual Box and Ubuntu over Window OS

To Submit :-

1.Introduction :-

Linux:- Developed by Linus Torvalds in 1991, the Linux operating system is a powerful and flexible open-source software platform. It acts as the basis for a variety of devices, such embedded systems, cell phones, servers, and personal computers. Linux, that's well-known for its reliability, safety, and flexibility, allows users to customize and improve their environment to suit specific needs. The first version of Linux was Linux 0.01, released in September 1991, and the current version is 6.14-rc6 as of March 9, 2025.

Ubuntu :- Ubuntu is based on the Debian Linux open supply running system. It was launched in 2004 and gained a reputation for its unfastened open-source and person-friendly running system. South African entrepreneur Mark Shuttleworth started the Ubuntu project with the idea of more Linux distributions. He founded Canonical Ltd. In 2004, he worked with a group of Debian developers to create the Ubuntu project. The first version of Ubuntu was 4.10, codenamed "Warty Warthog", released in October 2004. The current version of Ubuntu is 24.10, codenamed "Oracular Oriole"

2.Features of Ubuntu :-

1. Open-Source & Free

- Ubuntu is free to use, modify, and distribute, making it an excellent choice for individuals and organizations.

2. User-Friendly Interface

- The GNOME desktop environment provides an intuitive and modern interface, making it easy for beginners.

3. Secure & Stable

- Regular security updates and built-in firewall & encryption features enhance security.
- Long-Term Support (LTS) versions receive updates for 5 years.

4. Software & Package Management

- Comes with the **A**PT package manager and Snap package system for easy software installation.
- Access to thousands of applications via the Ubuntu Software Center.

5. Customizability

- Users can modify themes, extensions, and layouts using tools like GNOME Tweaks.
- Supports multiple desktop environments (KDE, XFCE, LXDE, etc.).

6. Lightweight & Efficient

- Runs well on older hardware with Ubuntu flavors like Xubuntu (XFCE) and Lubuntu (LXDE).

7. Developer-Friendly

- Comes with pre-installed tools like GCC, Python, Git, and Docker.
- Supports cloud computing, AI, and containerization technologies.

8. Strong Community Support

- A large community provides forums, tutorials, and extensive documentation for troubleshooting.

9. Multi-Platform Support

- Available for desktops, servers, IoT devices, and cloud platforms.

3.Difference Between UBUNTU and Window OS?

WINDOWS	UBUNTU
Windows operating system is developed by Microsoft. Developed in November 1985 and Windows 10 released on July 2015.	Ubuntu operating system is Developed by Canonical Ltd developed in October 2004
Windows operating system belongs to Windows NT family.	Ubuntu operating system belongs to Linux family.
It is a closed source software.	It is an open source software.
Users need to have a valid and authenticated license to use it.	Users need not to have a license to use it.
Users can go through Ubuntu's source code to learn and modify it.	Users can't go through window's source code to learn and modify it.
Kernel type of Windows is Hybrid.	Kernel type of Ubuntu is Monolithic.
Windows has less customizable options than Ubuntu.	Ubuntu has more customizable options than Windows.
Cost of this software is paid.	Cost of this software is free.
It is less privacy-focused than Ubuntu.	It is more privacy-focused than Windows 10.
Its user Community is ordinary users and game players.	Its user community professional developers.
Windows is very easy to learn and start with as compared to Ubuntu.	Ubuntu is not easy to learn and start with as compared to windows as it mainly works with commands.
Programming is easy but not as easy as it is in Ubuntu.	Programming is quit easy in Ubuntu.
It's performance is less than the performance of Ubuntu.	It's performance is better than Windows.