Experiment 1

Student Name: Tanmaya Kumar Pani	**UID: 22BCS12986**
Branch: BE-CSE	**Section/Group: KRG-IOT-1-B**
Semester: 6th	**Date of Performance: 11/01/25**
Subject Name: Foundation of Cloud IoT Edge ML Lab	**Subject Code: 22CSP-367**

1. **Aim:**

   Install VirtualBox or VMware Workstation on any operating system and set up various flavors of Linux or Windows as virtual machines.

2. **Objective:**

   The objective is to create a virtualized environment for testing, learning, and development by installing and configuring multiple operating systems on VirtualBox or VMware Workstation.

3. **Procedure:**

- VirtualBox enables flexible virtualization, running multiple independent operating systems simultaneously.

- The hypervisor operates as a Ring 0 kernel service, managing memory, guest context, and hypervisor modules.

- Interrupts are handled by switching execution to another OS using VT-x/AMD-V, with the host scheduling guest processes.

- Device drivers allow guests to access host resources like disks and network controllers.

- Support processes like VBoxSVC run automatically to manage guest VMs launched via the VirtualBox GUI

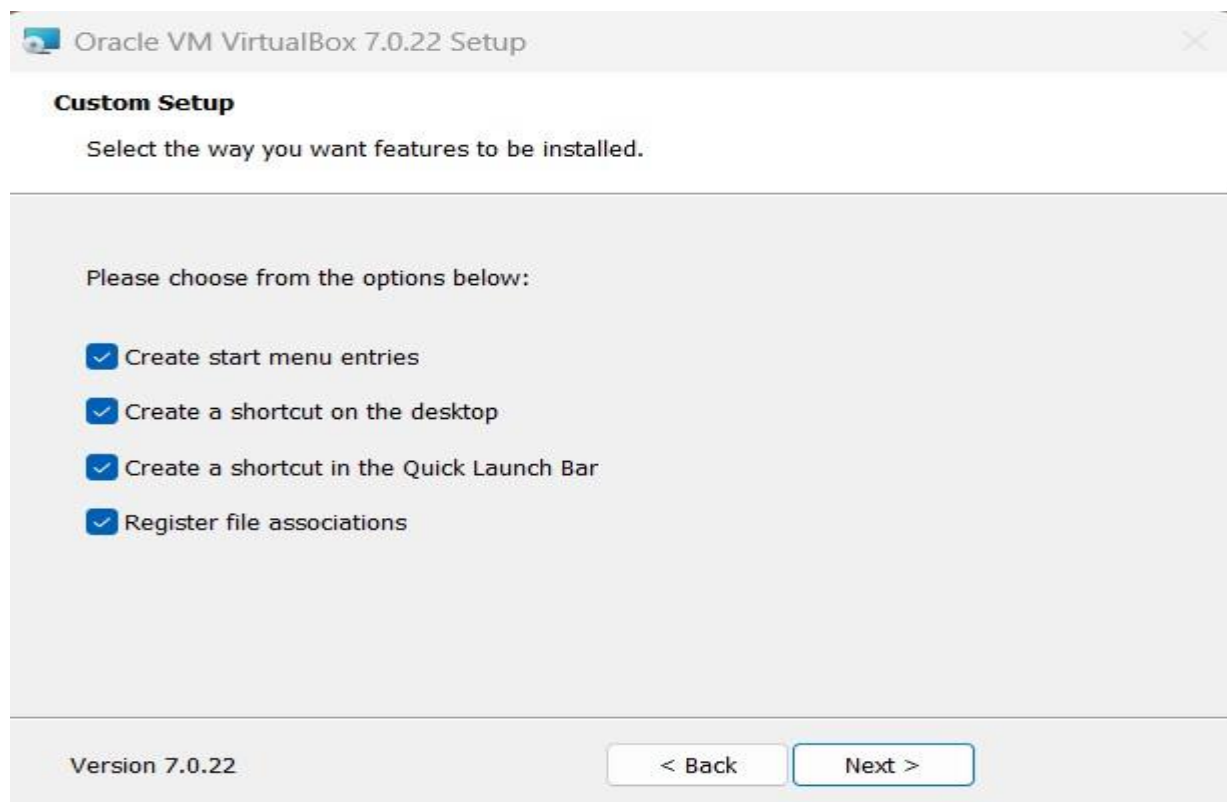**4.** Steps to install Virtual Box:

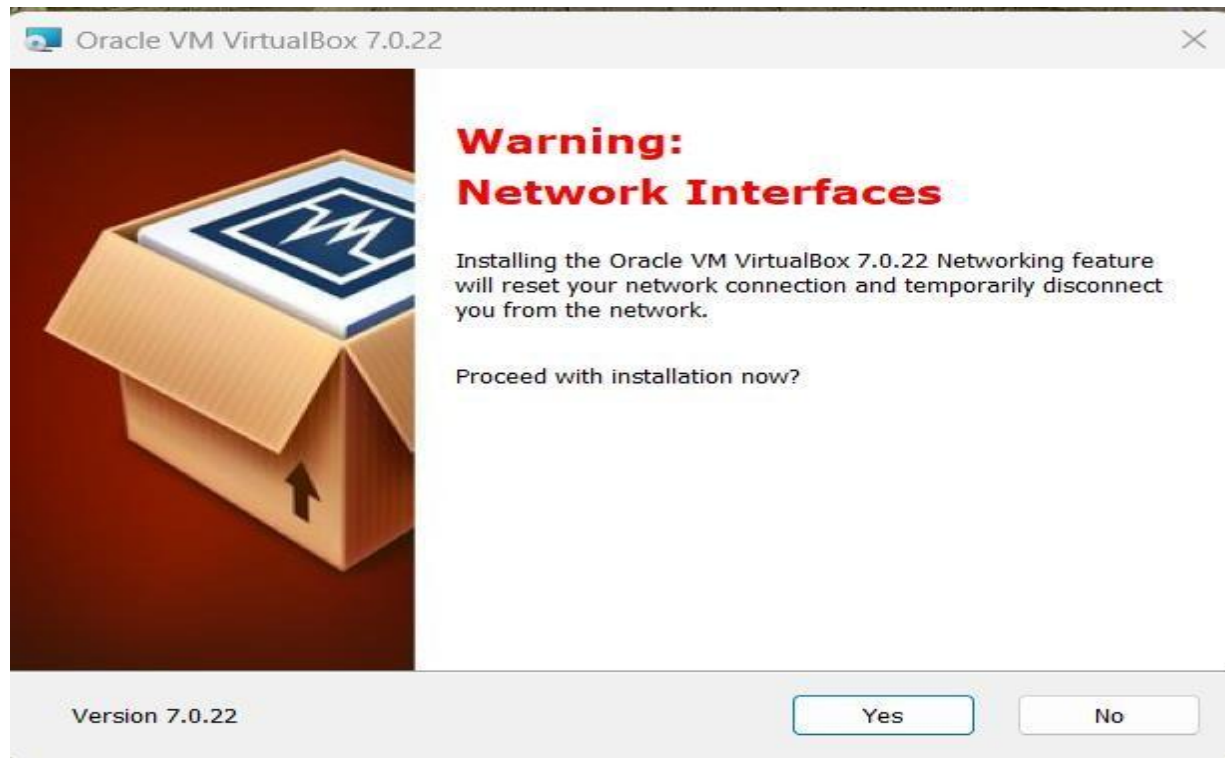- Download the virtual box exe and click the exe file and select next button
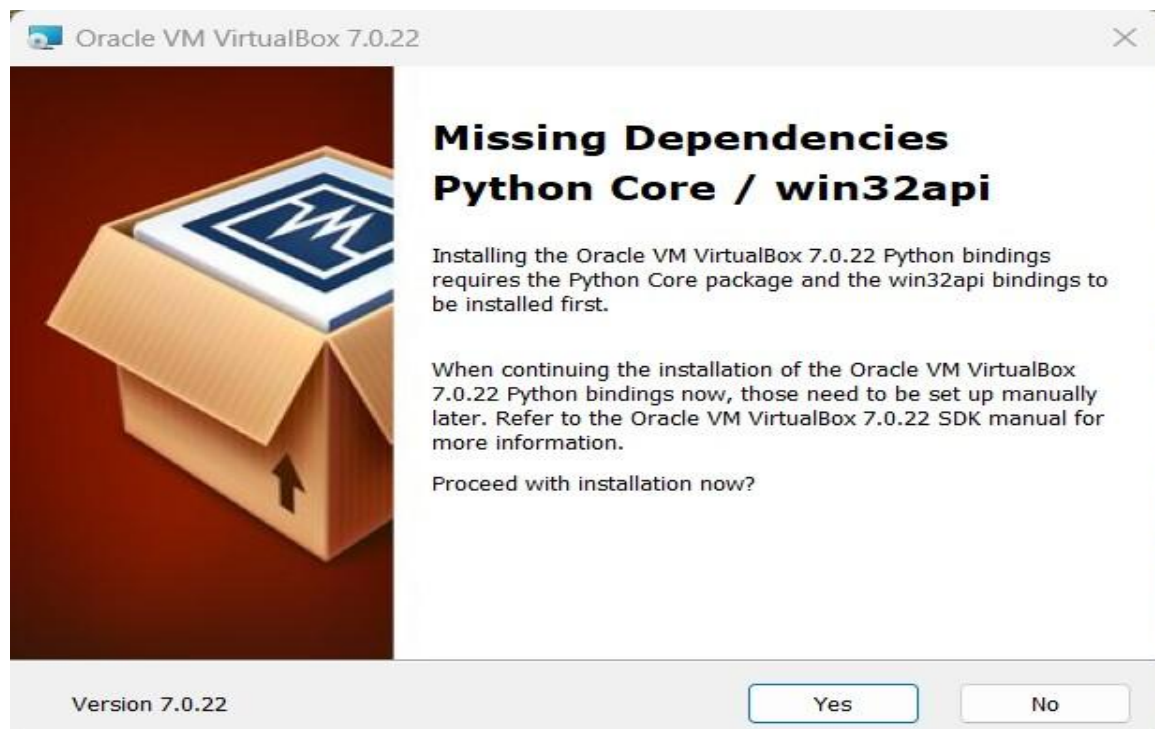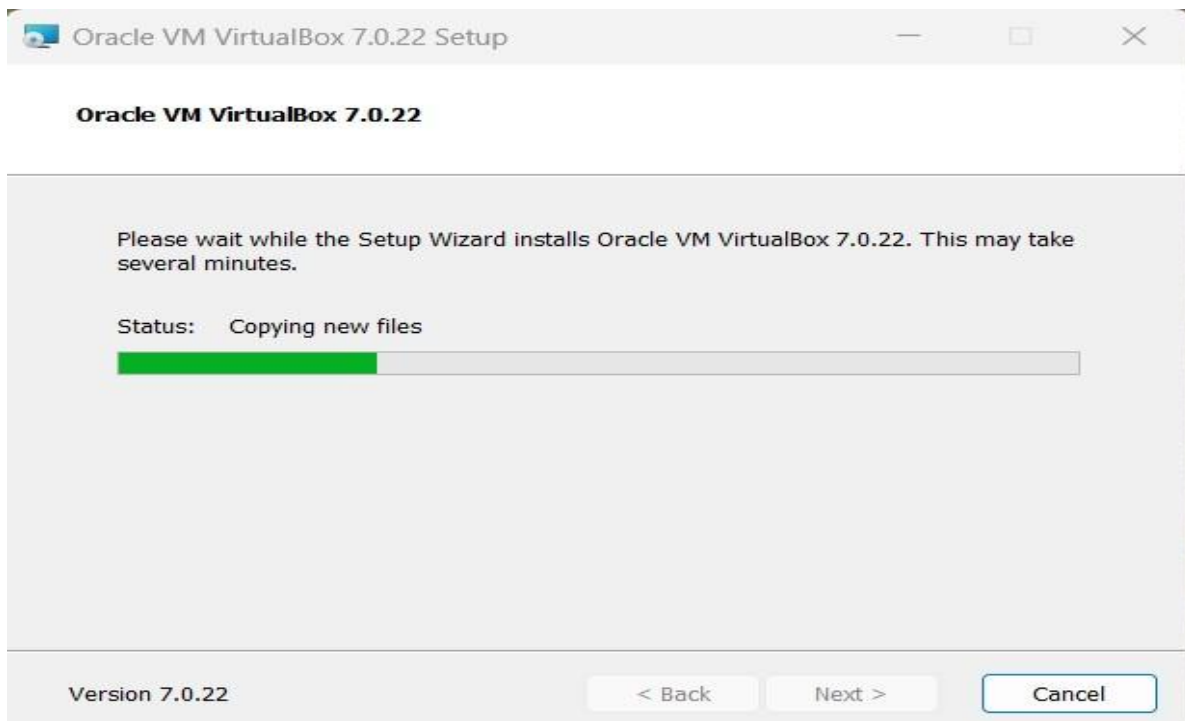

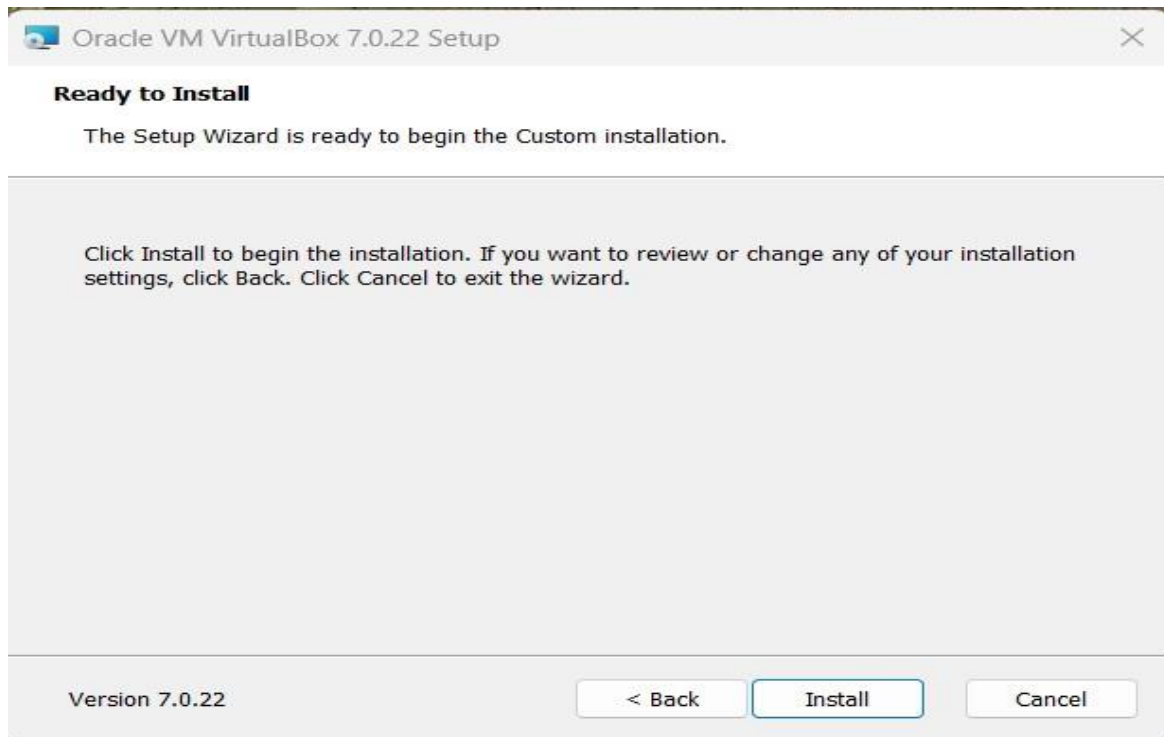- Click the next button
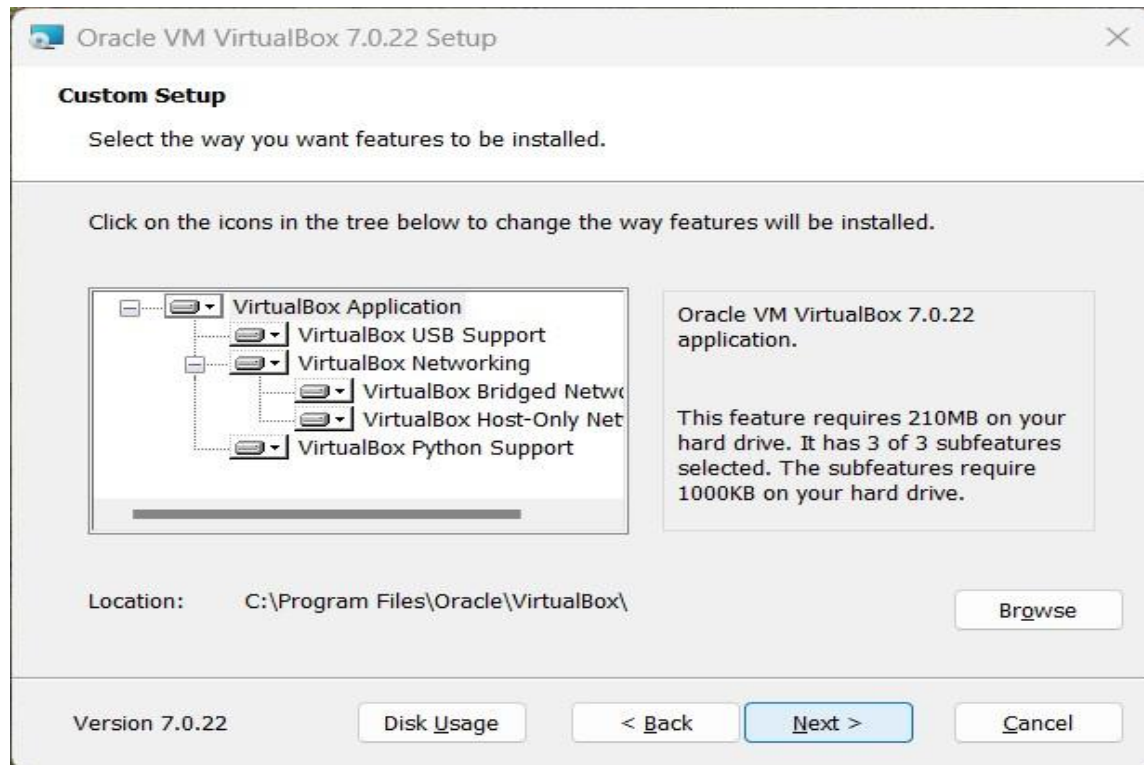
- **Click the next button**

- **Click the yes button**

- **Click the yes button**

- **Click the install button**

- **Click the finish button**

- **Virtual Box icon is visible on desktop now installation is completed.**

5. Output:
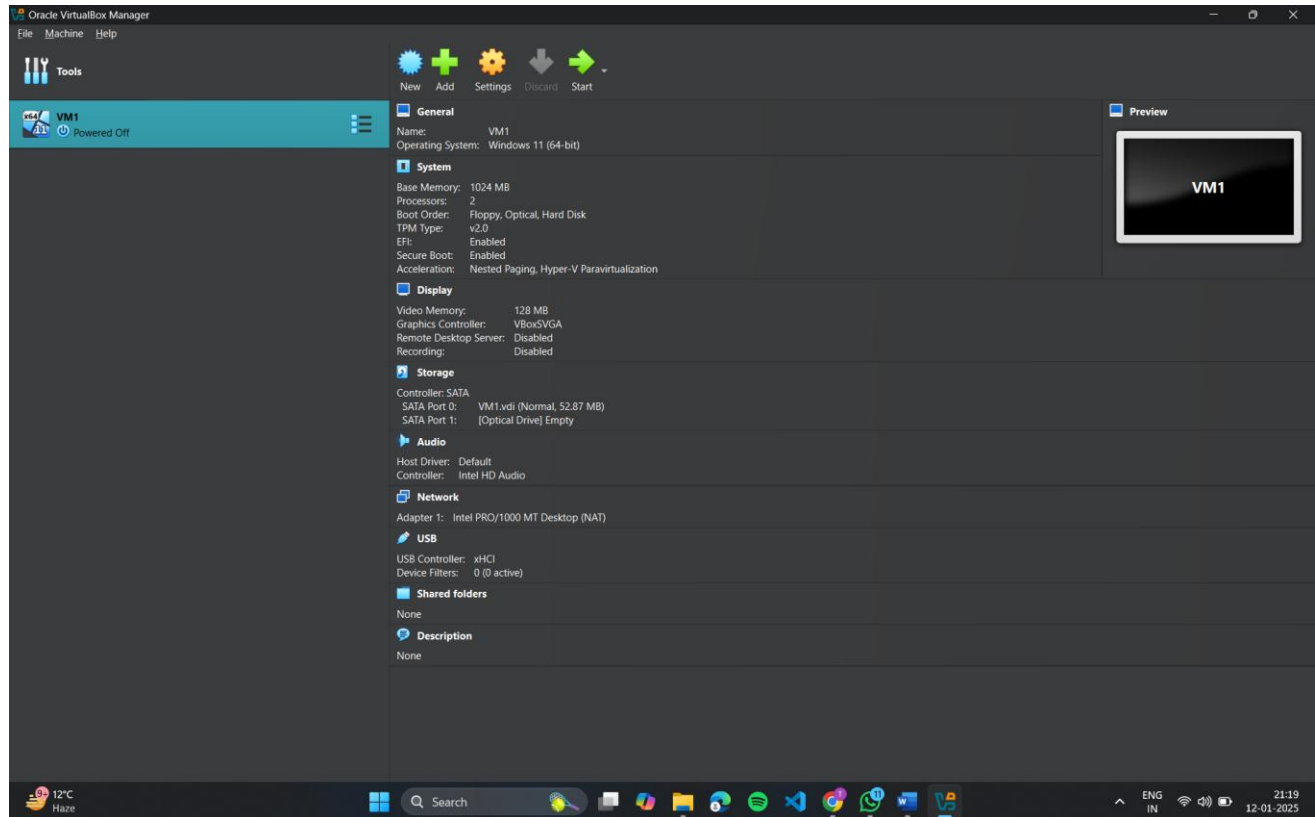
6. Learning Outcome:

- Learn how to install VirtualBox or VMware Workstation on your computer.
- Acquire the skills to create, configure, and manage a virtual machine.
- Familiarize yourself with virtual hardware components, including virtual CPUs, RAM, disks, and network adapters.
- Practice installing different operating systems (Linux/Windows) on virtual machines.
- Understand what virtualization is and how it allows running multiple operating systems on a single physical machine.