

Assignment – 3

Deadline: 08/Aug/2025

VMware & Oracle VirtualBox

1: Introduction to Virtualization

Objective: Understand virtualization, hypervisors, and virtual machine architecture

Tasks:

- Define Type-1 and Type-2 hypervisors with examples.
- Compare VMware and VirtualBox features.
- Draw the architecture of a virtualized system.

Deliverables: Hand written report with diagrams and comparison table.

2: Installation of VirtualBox and VMware

Objective: Install both hypervisors and explore the UI

Tasks:

- Install **Oracle VirtualBox** and **VMware Workstation Player** on your system.
- Explore settings: virtual networking, storage, and display.
- Note differences in setup options.

Deliverables: show setup on your PC in lab + summary report.

3: Create and Configure a Virtual Machine

Objective: Set up a VM with custom configurations

Tasks:

- Create a new VM (e.g., Ubuntu or Windows 10) on both platforms.
- Allocate RAM, CPU cores, and virtual disk space.
- Use ISO file to install the guest OS.

Deliverables: show setup on your PC in lab + VM screenshots + Configuration details + OS boot proof.

4: Install Guest Additions / VMware Tools

Objective: Improve integration between host and guest

Tasks:

- Install **VirtualBox Guest Additions** or **VMware Tools**.
- Enable shared folders and copy-paste between host and guest.
- Enable 3D acceleration (if supported).

Deliverables: Proof of drag-and-drop, shared folders, and full-screen mode on your PC and report

5: Cloning and Snapshots

Objective: Learn about VM cloning and state management

Tasks:

- Create a snapshot before making changes (e.g., installing a software).
- Clone a VM (full clone or linked clone).
- Revert to snapshot and compare states.

Deliverables: Snapshots timeline + state before/after comparison on your PC and report

6: Performance Monitoring

Objective: Analyze VM performance

Tasks:

- Use **Task Manager** / **top** inside the VM.
- Monitor CPU, memory, and disk usage during load.
- Compare performance between VirtualBox and VMware for the same VM.

Deliverables: Performance charts + Observation table in report

7: Virtualization and Cloud

Objective: Show how virtualization supports cloud

Tasks:

- Write a report: "How virtualization enables cloud services".
- Install **Docker**, in a VM.
- Deploy a small app to simulate a cloud environment.

Deliverables: Mini cloud app setup in VM + written report.
