Report on Virtual Systems Installation: Oracle VM VirtualBox & Hyper-V

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1. Introduction

This report details the step-by-step installation and configuration of Oracle VM VirtualBox and Microsoft Hyper-V, along with screenshots documenting the process. Virtualization

technology enables users to create and manage multiple operating systems on a single machine, improving resource utilization and efficiency.

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2. Overview of Virtualization

Virtualization allows multiple virtual machines (VMs) to run on a single physical machine. Some benefits include:

Efficient resource management

Easy testing and development

Improved security and isolation

The two virtualization tools we installed are:

Oracle VM VirtualBox – A free and open-source hypervisor for running VMs.

Microsoft Hyper-V – A built-in Windows hypervisor for virtualization.

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3. Installation of Oracle VM VirtualBox

3.1 System Requirements

Operating System: Windows/Linux/Mac

RAM: Minimum 4GB (Recommended: 8GB+)

Storage: 10GB+ free space

3.2 Installation Steps

1. Download Oracle VM VirtualBox from the official website.

2. Run the installer and follow the installation wizard.

3. Enable virtualization in the BIOS (if disabled).

4. After installation, launch VirtualBox.

3.3 Screenshots of the Installation Process

(Insert screenshots of downloading, installing, and launching VirtualBox here.)

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4. Installation of Microsoft Hyper-V

4.1 System Requirements

Windows 10 Pro, Enterprise, or Windows Server

Minimum 4GB RAM

Virtualization enabled in BIOS

4.2 Enabling Hyper-V

1. Open Control Panel > Programs and Features > Turn Windows Features On or Off.

2. Check Hyper-V and its subcomponents.

3. Restart the computer to apply changes.

4.3 Screenshots of the Hyper-V Installation

(Insert images showing the enabling of Hyper-V in Windows features and restarting the system.)

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5. Configuration and Setup

5.1 Creating a Virtual Machine in VirtualBox

1. Open VirtualBox and click New.

2. Set VM name, type (Linux/Windows), and memory size.

3. Create a virtual hard disk and select VDI, VMDK, or VHD format.

4. Configure CPU, RAM, and storage settings.

5. Attach an ISO file and start the VM.

5.2 Creating a Virtual Machine in Hyper-V

1. Open Hyper-V Manager.

2. Click New > Virtual Machine.

3. Set VM name, generation, and memory size.

4. Attach a virtual hard disk and ISO image.

5. Start the VM and install the operating system.

5.3 Screenshots of VM Creation

(Insert images of creating VMs in VirtualBox and Hyper-V.)

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6. Running Virtual Machines

After configuring VMs, we powered them on.

Installed Ubuntu Server inside VirtualBox.

Installed Windows Server in Hyper-V.

Verified network settings and performance.

Screenshots of Running VMs

(Insert images of Ubuntu running in VirtualBox and Windows Server running in Hyper-V.)

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7. Challenges and Solutions

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8. Conclusion

The installation and setup of Oracle VM VirtualBox and Microsoft Hyper-V were successfully completed. We created and ran virtual machines, troubleshooting various issues along the way. This report provides a detailed guide on setting up virtualization environments for future reference.

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9. References

Official VirtualBox Documentation: https://www.virtualbox.org/wiki/Documentation

Microsoft Hyper-V Guide: https://docs.microsoft.com/en-us/virtualization/hyper-v-on-windows