



Virtual Machine Creation using Virtual Box

Virtualization and Cloud Computing

Abstract

[Create and configure multiple Virtual Machines (VMs) using VirtualBox, establish a network between them, and deploy a microservice-based application across the connected VMs.]

Purushothaman S
g24ai1024@iitj.ac.in

Subject: Virtualization and Cloud Computing

Assignment No: I

Submitted By: Purusothaman S

Student Id: G24AI1042

e-mail: g24ai1042@iitj.ac.in

Institute: Indian Institute of Technology Jodhpur

Submitted To: Assistant Professor, Dr. Sumit Karla

Table of Contents

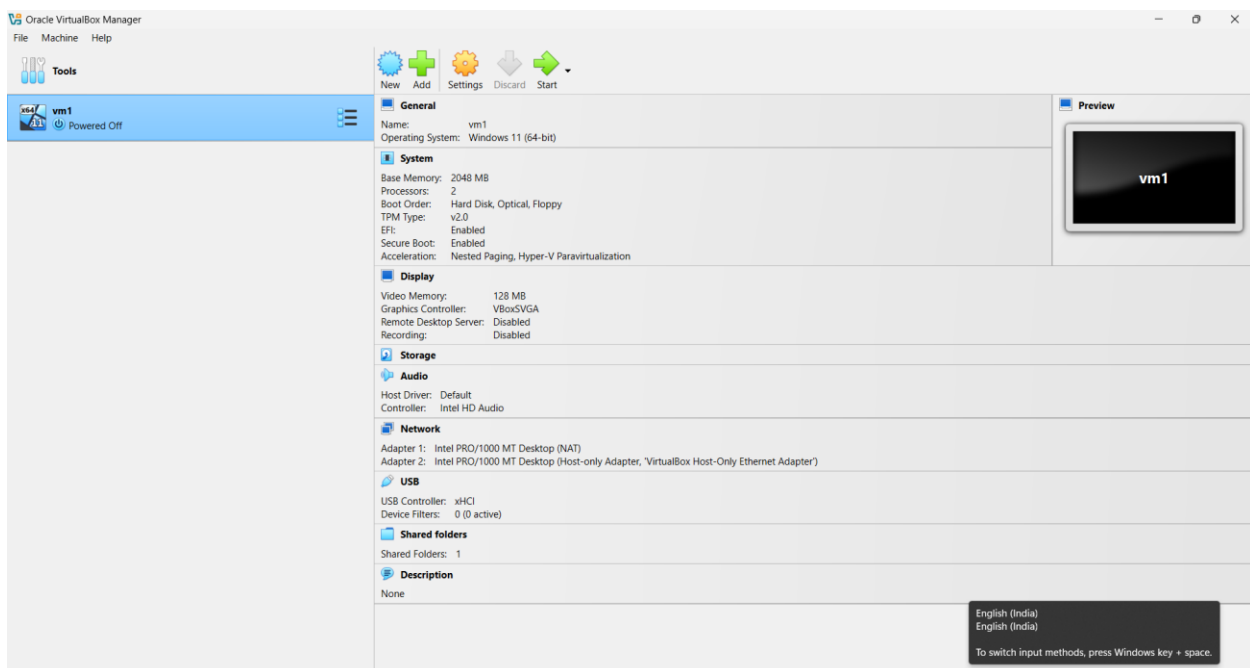
Introduction.....	3
Virtual Machine Creation	3
Establishing Network Connection	4
Installation of Node.js and Visual Studio Code.....	5
Running a Simple JavaScript Function.....	6
Conclusion	7
Reference	7

Introduction

This Assignment outlines the process of creating a virtual machine using VirtualBox with a Windows 11 ISO image, and installing Node.js and Visual Studio Code on the Virtual machine to run a simple JavaScript function and establishing a network connection between the virtual machine and the host machine.

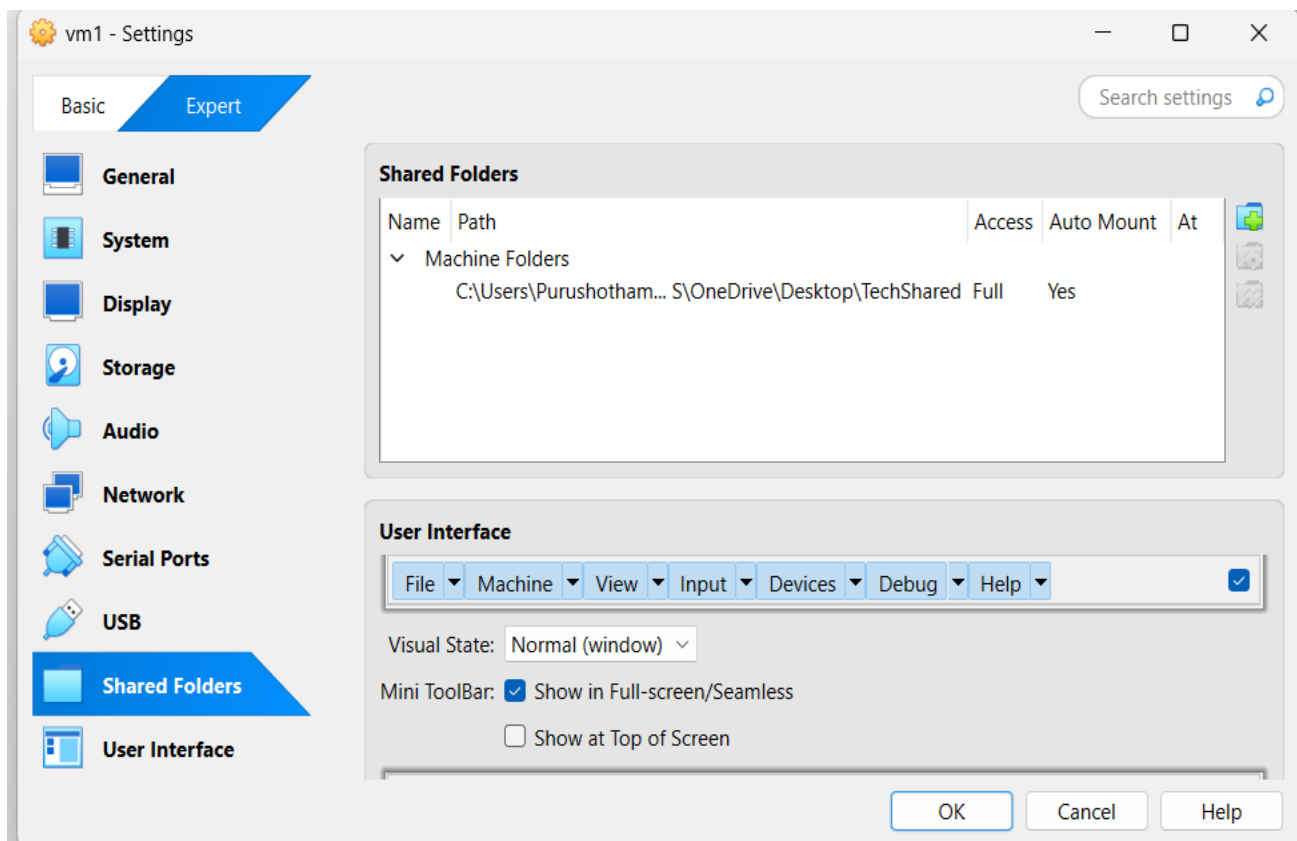
Virtual Machine Creation

- Downloaded the Windows 11 ISO image from the official Microsoft website.
- Installed Oracle VM VirtualBox on the host machine.
- Created a new virtual machine with the following specifications:
 - Name: Windows 11 VM
 - Type: Microsoft Windows
 - Version: Windows 11 (64-bit)
 - RAM Allocation: 2GB (Recommended: 8GB for better performance)
 - Virtual Hard Disk: 30GB dynamically allocated VDI (Virtual Disk Image)
- Mounted the Windows 11 ISO image and installed Windows 11 on the virtual machine.



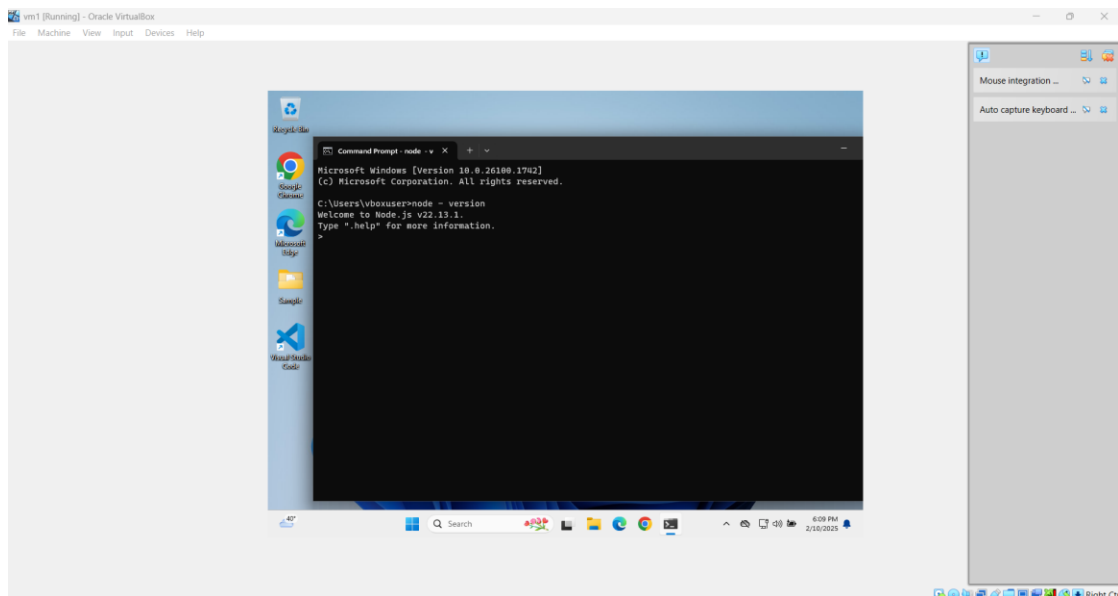
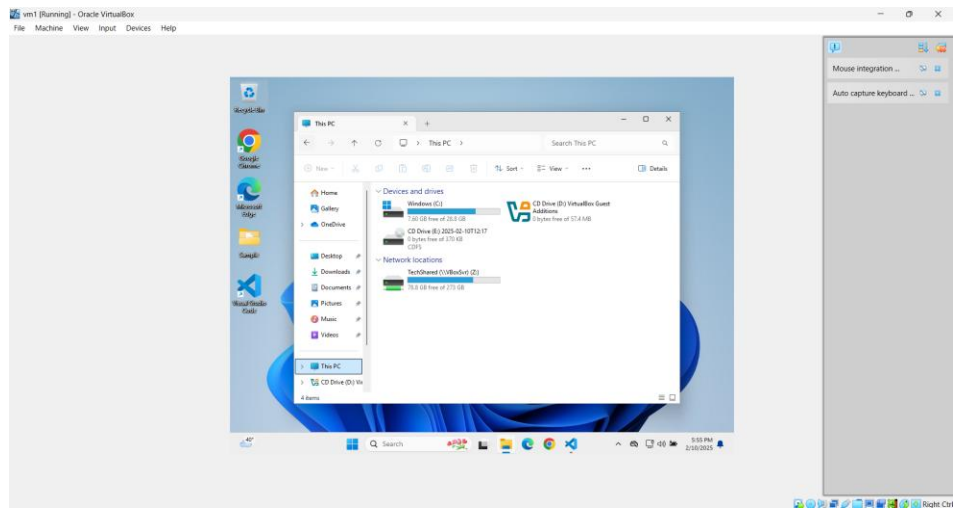
Establishing Network Connection

- Configured the network adapter in VirtualBox settings:
 - Selected "Bridged Adapter" to allow the VM to use the same network as the host machine.
 - Alternatively, used "NAT" with port forwarding for internet access and local connectivity.
- Verified network connectivity using the ping command from the virtual machine to the host machine.
- And Using the Shared Folders, we created the shared network between the virtual machine and the host machine



Installation of Node.js and Visual Studio Code

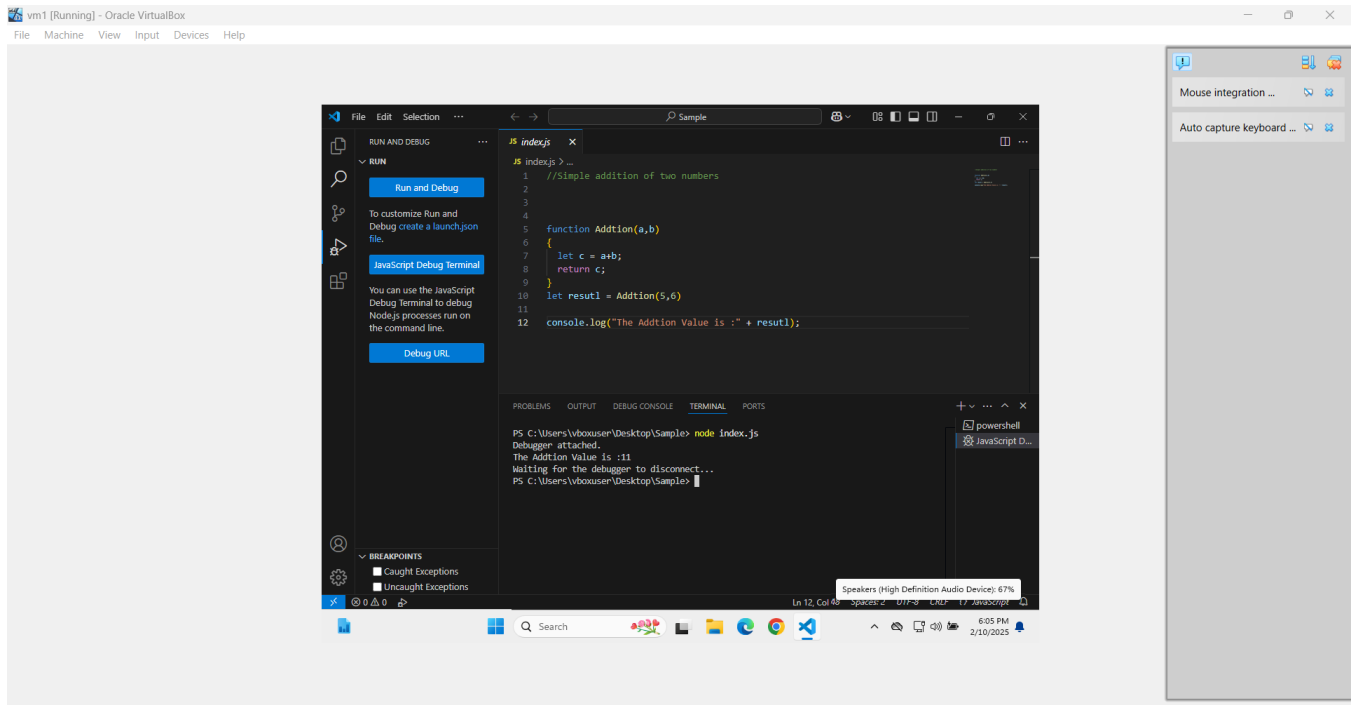
- Downloaded the latest stable version of Node.js from the official Node.js website and installed it on the VM.
- Verified installation by running the following commands in Command Prompt:
- `node -v`
- Downloaded and installed Visual Studio Code from the official Microsoft website.
- Installed necessary extensions for JavaScript development in VS Code.



Running a Simple JavaScript Function

- Created a new JavaScript file (script.js) with the following content:
- ```
function Addition (a, b) {
 let c = a + b;
 return c
}

let Result = Addition (6, 5);
console.log ("The Addition Value is :" + Result);
```
- Opened the terminal in Visual Studio Code and executed the script using Node.js:
- `node script.js`
- Verified successful execution by observing the output "The Addition Value is : 11" in the terminal.



**Conclusion** The virtual machine was successfully created and configured with Windows 11 using VirtualBox. Network connectivity was established between the host and the virtual machine. Node.js and Visual Studio Code were installed, and a simple JavaScript function was executed successfully. This setup enables efficient software development within the virtualized environment.

## References

- [VirtualBox Documentation](#)
- [Microsoft Windows 11 Download](#)
- [Node.js Official Website](#)
- [Visual Studio Code](#)