LONDON METROPOLITAN UNIVERSITY

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Declaration: I understand that I am required to submit my coursework through My Secondary Teacher under the appropriate module page prior to the specified deadline, in order for it to be considered for marking. I acknowledge that any coursework submitted after the deadline will be deemed as a non-submission and will not be marked, resulting in a score of zero.

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1. Introduction

This report includes details of the installation of Windows Server 2022 using Oracle VirtualBox, a popular virtualization tool. Virtualization technology allows a single physical machine to run multiple virtual environments, maximizing resource utilization and enabling isolated testing and development environments. VirtualBox, developed by Oracle, is an open-source hypervisor that supports a wide range of operating systems and provides a convenient platform for experimenting with server installations without requiring dedicated hardware.

Windows Server 2022 includes advanced security features like hybrid cloud capabilities, and an optional Desktop Experience GUI for administrators who prefer a visual interface over command-line interaction. These updates address modern challenges like cybersecurity threats and cloud integration. Using VirtualBox to install Windows Server 2022 allows administrators to set up and test server environments, optimize configurations, and explore features within a virtualized environment.

We still need this technology since Windows Server remains essential for enterprises that rely on Microsoft applications and require strong integration with Azure. While alternatives like Linux-based servers like Ubuntu Server, Red Hat etc. are also available, but they often lack native support for Microsoft enterprise applications. Virtualization itself has alternatives as well, such as VMware and Microsoft Hyper-V, but VirtualBox remains a versatile, free option mostly used for testing and small-scale deployments.

Windows Server works seamlessly Microsoft applications. One of its main advantages is the Desktop Experience, which provides a user-friendly interface, making it easier to navigate and manage. Windows Server also integrates well with Microsoft’s cloud platform, Azure, making it simple to manage both cloud and local resources together. It includes advanced security features to protect against modern cyber threats. However, Windows Server can be costly, with high licensing fees that may be a challenge for smaller organizations. Its Desktop Experience version can also use up a lot of system

resources, which may slow down lower-powered machines. Additionally, it's closed source, so it doesn't allow for much customization.

On the other hand, Linux Server is known for being cost-effective and highly customizable. Versions of Linux server like Ubuntu Server are free to use, and as open-source software, Linux allows administrators to tailor it to specific needs. Linux is efficient and uses fewer resources, making it a good choice for high-performance environments. It's also highly stable and secure, with a large community that quickly updates it to fix any issues. However, Linux has a steeper learning curve, especially because many versions require command-line skills, which can be difficult for beginners. Compatibility with certain software is also limited, and while there are workarounds, they may not perform as well as native support. Lastly, while free options are widely available, enterprise-level support usually comes only with paid versions, such as Red Hat Enterprise Linux.

2. Objective

The objective of this lab is to install and configure both Windows Server 2022 Standard Evaluation (10.0.20348.169) and Windows Server 2022 Standard Evaluation (Desktop Experience 10.0.20348.169) within Oracle VirtualBox, to gain experience with different server configurations and understand the distinctions between a GUI-enabled and a core server environment.

3. Required Tools

Oracle VirtualBox: It is a virtualization software that is used to create and manage virtual environments.

Windows Server 2022 Standard Evaluation ISOs for both versions is necessary.

Understanding of Virtual Machine Basics like Knowledge of virtualization, virtual disks, and network configurations.

4. Steps to replicate

a. Installing Windows Server 2022 Standard Evaluation (10.0.20348.169)

i. Open virtual box, go to “Machine” in the menu and click on “New”. Then the following dialog box will be displayed.

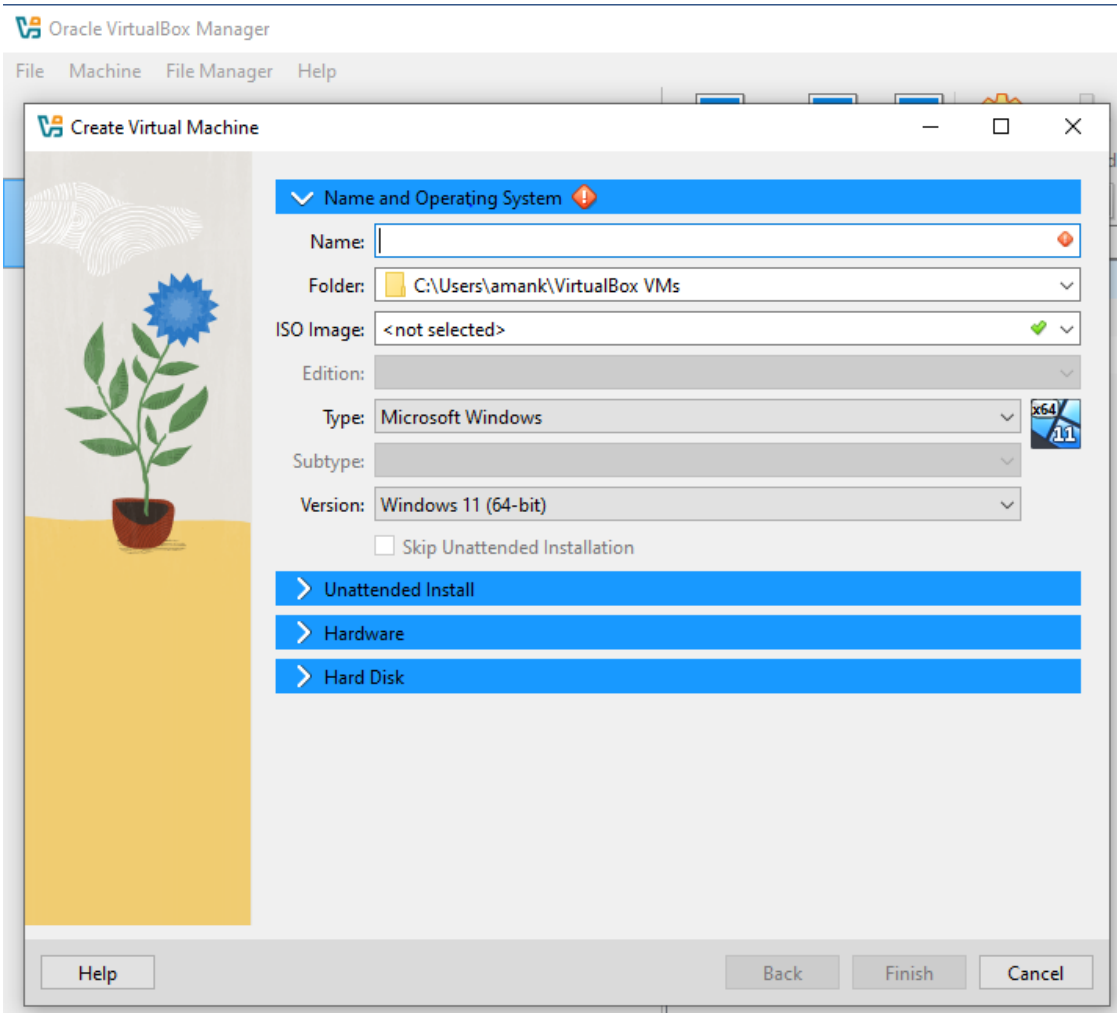

Figure 1: Initial dialog box

ii. Type the name for the server and select the iso image file where it is kept or downloaded previously. Also, we selected the edition “Windows Server 2022 Standard Evaluation (10.0.20348.169)”.

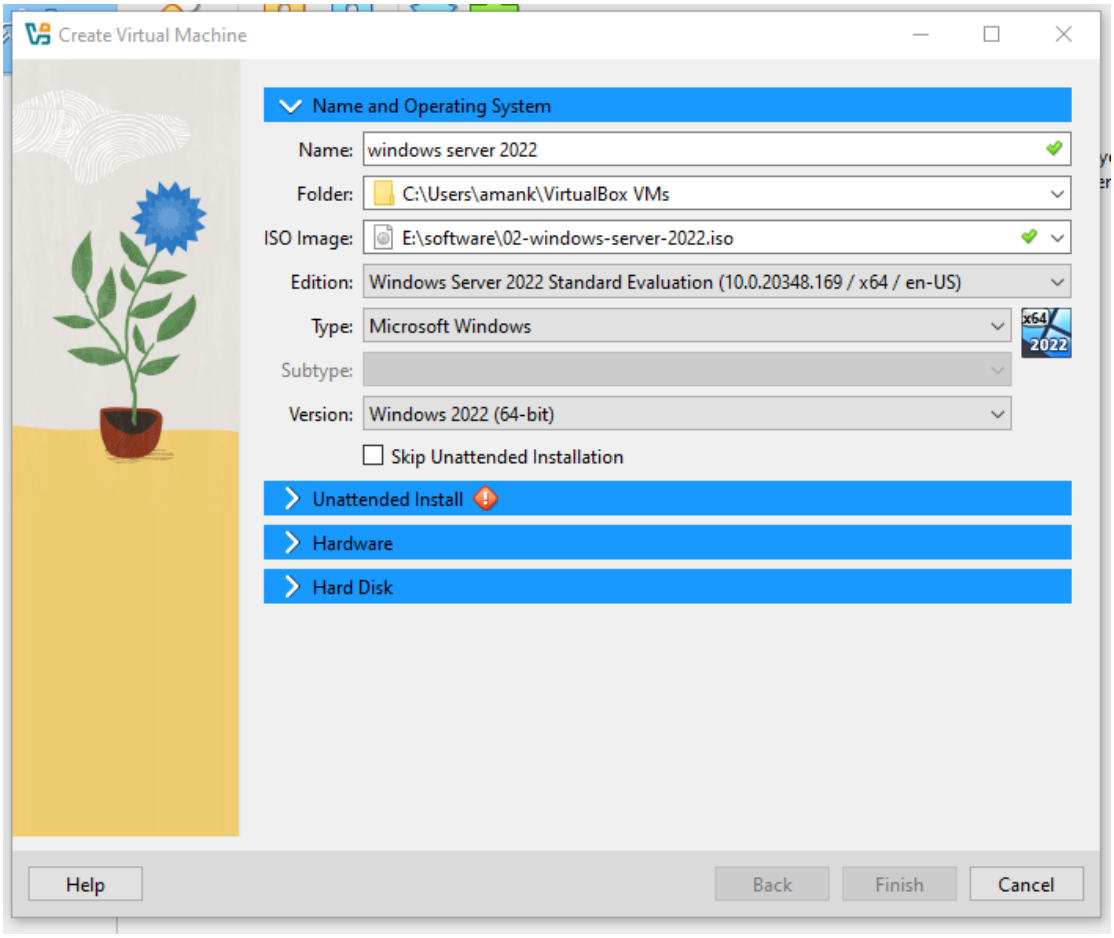

Figure 2: Edition of server selected

iii. We filled the required parameters, Username, setting password, Hostname and domain name as per the requirements as follows.

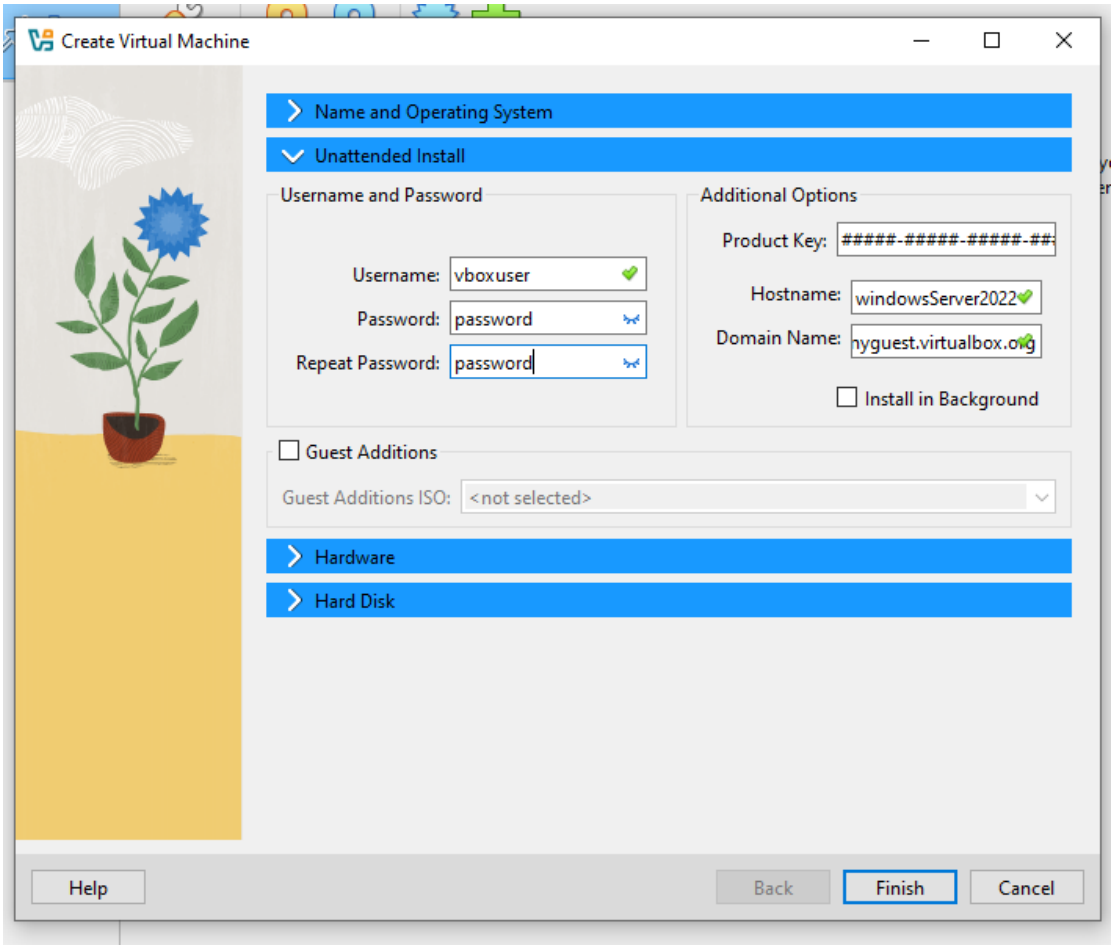

Figure 3: Setting username and password

iv. The base memory and number of processors can be allocated as per the workload and use cases. At least 2 GB RAM and 50 GB disk space is recommended to allot.

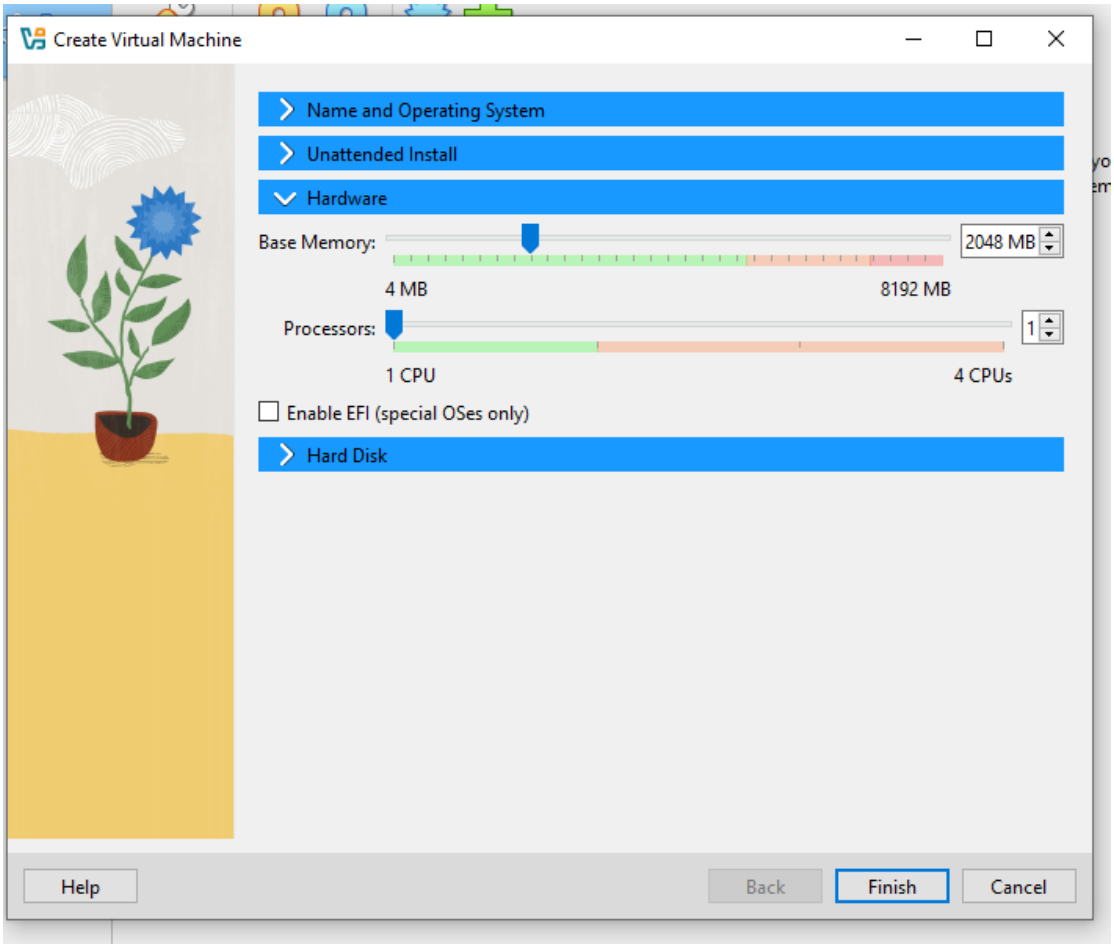

Figure 4: Base memory and number of processors allocated

v. Now, allot the memory size for the virtual hard disk and the location where it is to be installed.

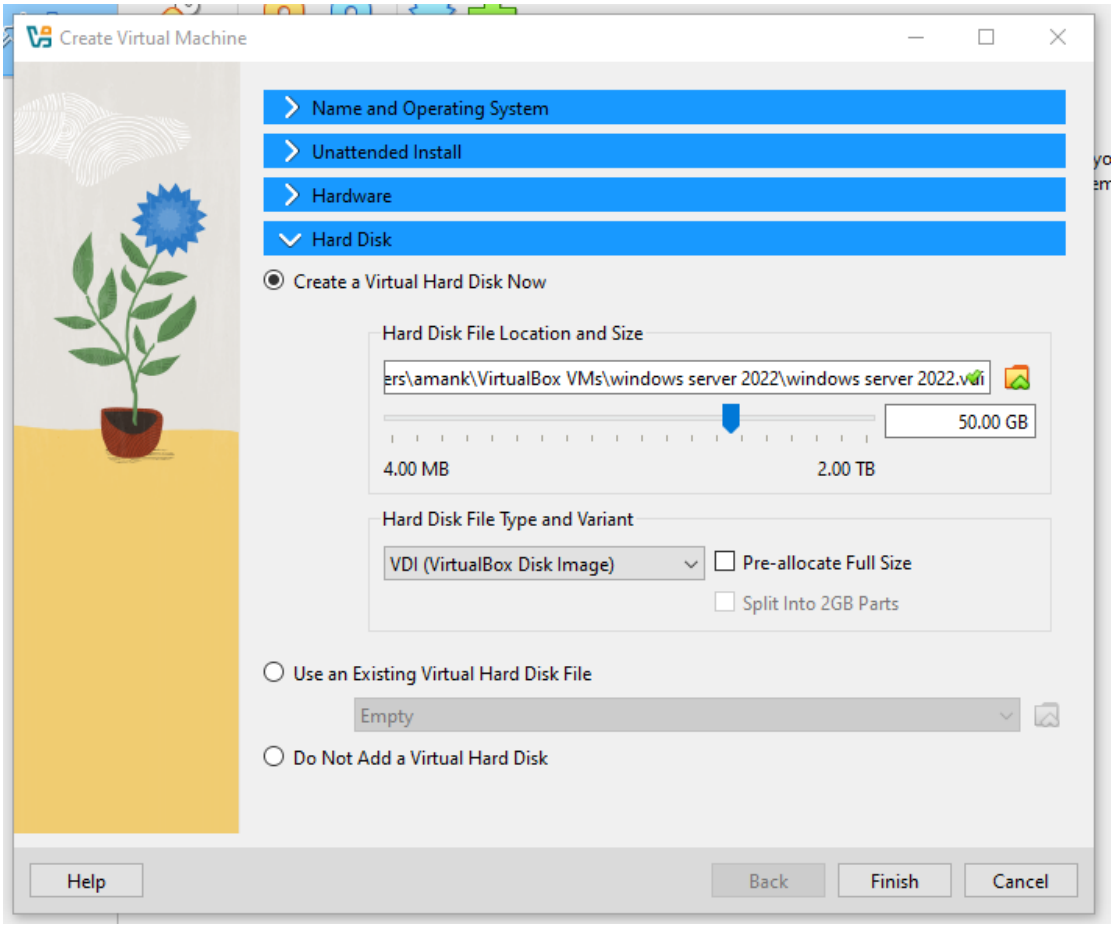

Figure 5: Virtual disk size allocated

vi. After clicking the “Finish” option the installation for the Microsoft Server Operating System will start as shown in the pictures below:

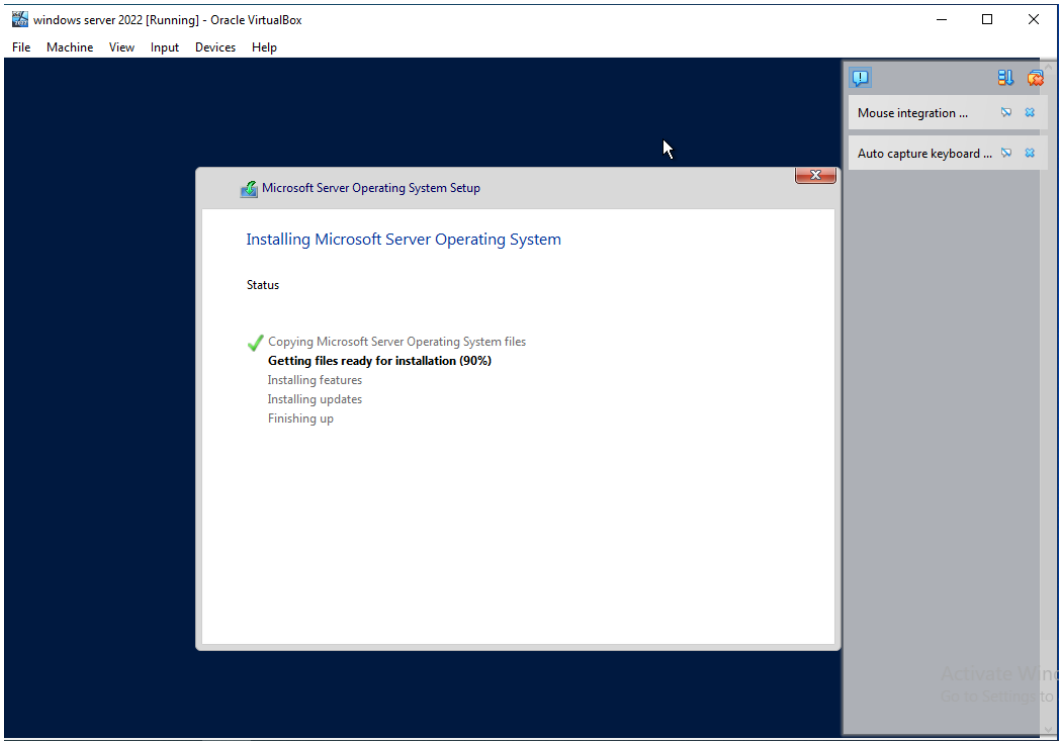

Figure 6: Installation running

vii. After the installation is complete, the following dialog box will display. We should have the knowledge of command line to operate this

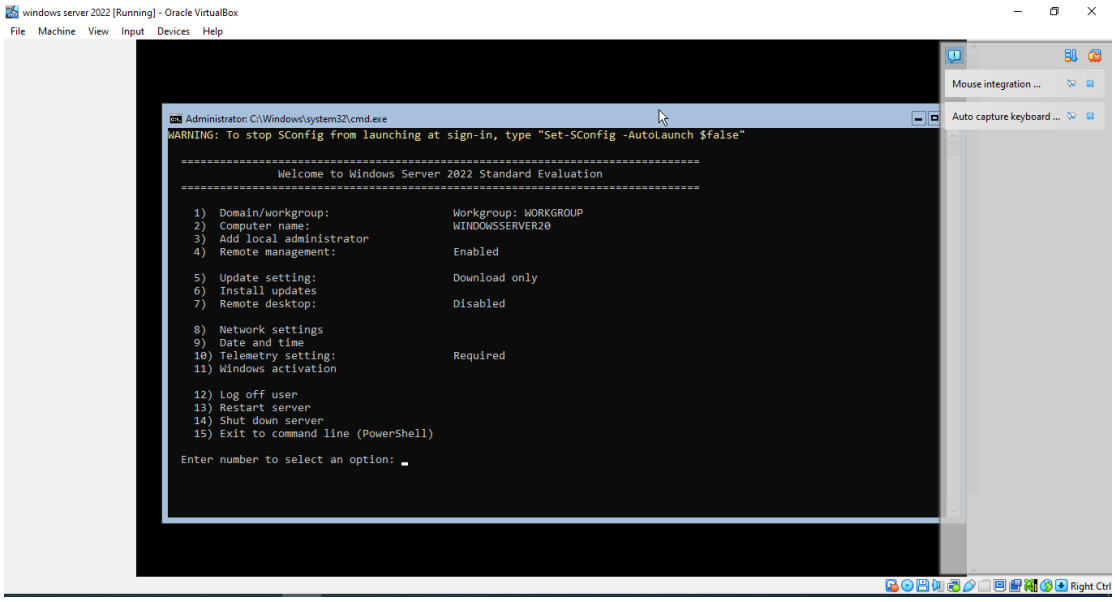

Figure 7: Administrator command line interface of server

b. Installing Windows Server 2022 Standard Evaluation (Desktop Experience) (10.0.20348.169)

We can install the Desktop Experience also that provides the graphical interface which might need less knowledge of command line. For this we can install it by following the following steps:

i. Remove the previously existing installation by deleting the virtual disk then, open virtual box, go to “Machine” in the menu and click on “New”. Then the following dialog box will be displayed.

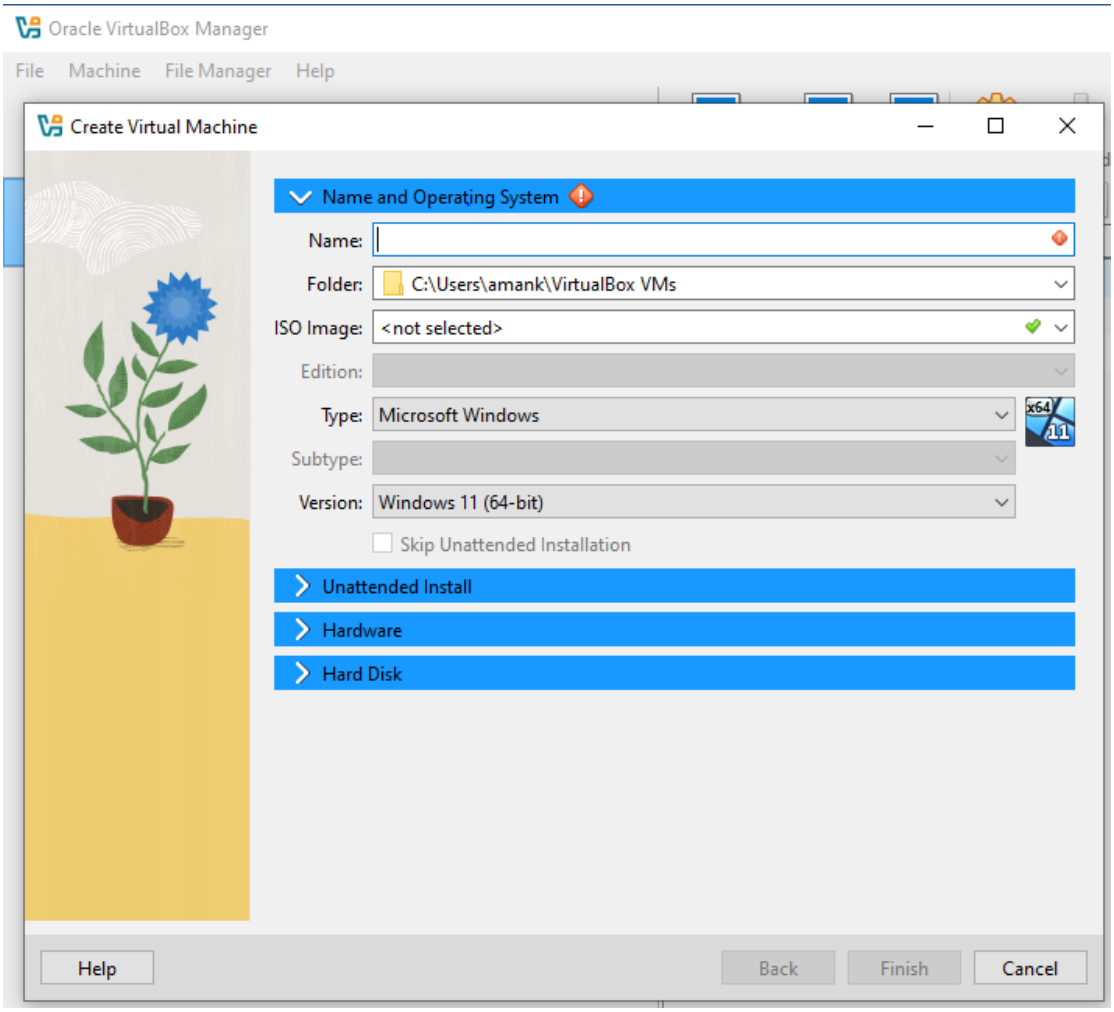

Figure 8: Initial dialog box

ii. Type the name for the server and select the iso image file where it is kept or downloaded previously. Also, we selected the edition “Windows Server 2022 Standard Evaluation (Desktop Experience) (10.0.20348.169)”.

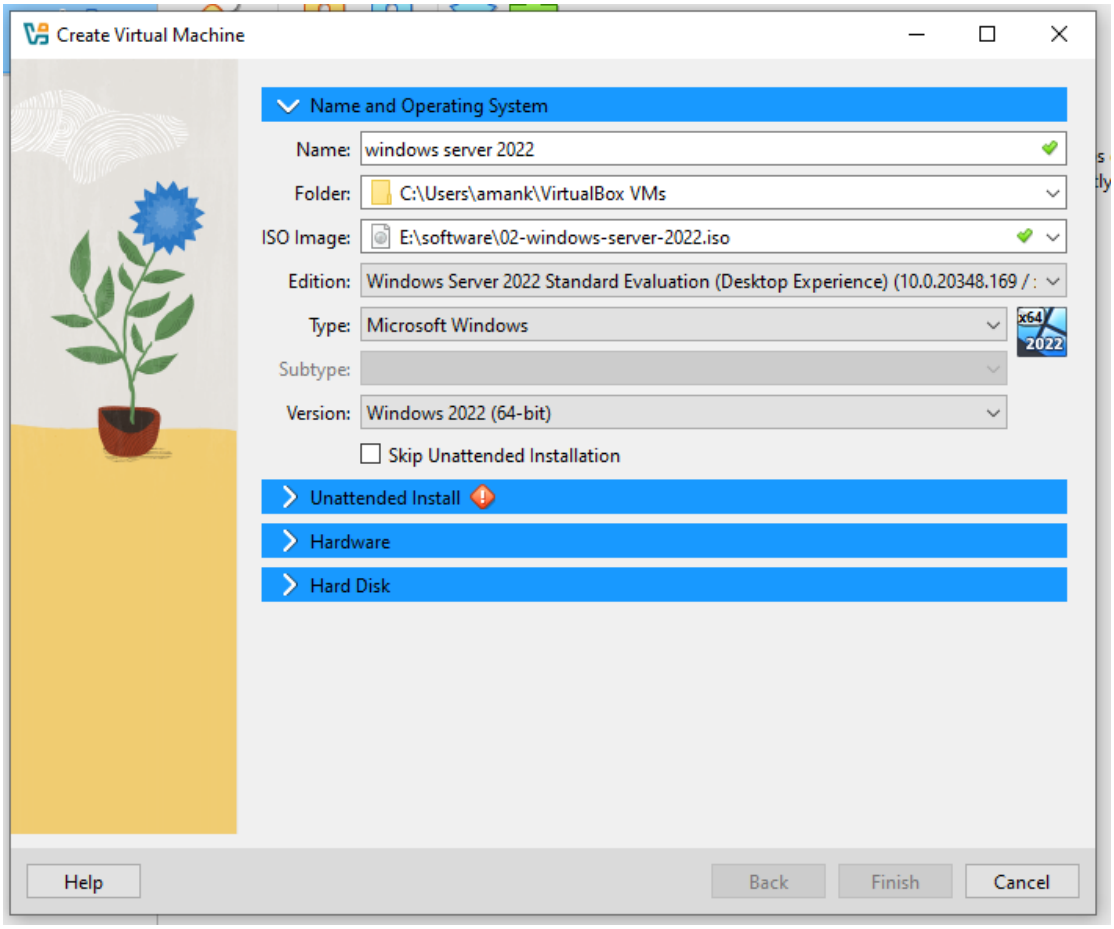

Figure 9: ISO file and Edition of Server selected

iii. We filled the required parameters, Username, setting password, Hostname and domain name as per the requirements.

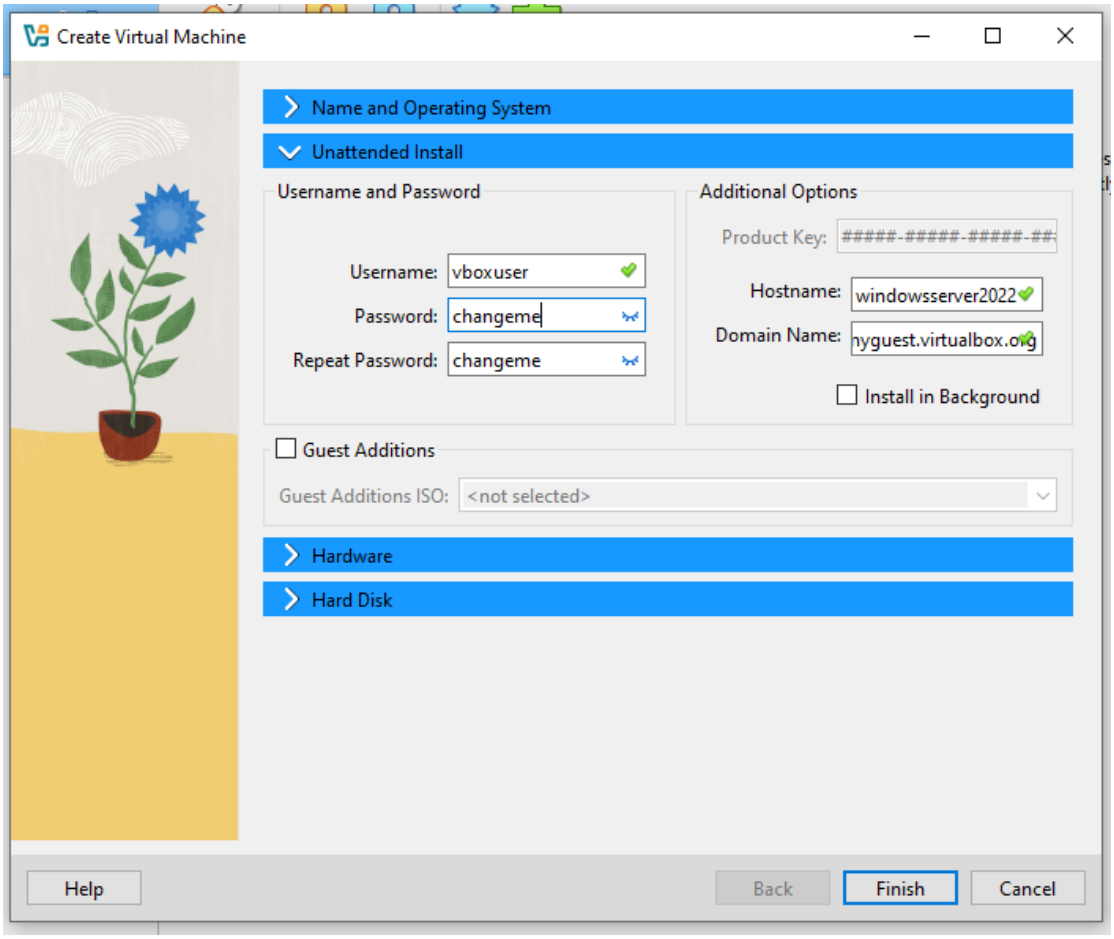

Figure 10: Setting username and password

iv. The base memory and number of processors can be allocated as per the workload and use cases. At least 2 GB RAM and 50 GB disk space is recommended to allot.

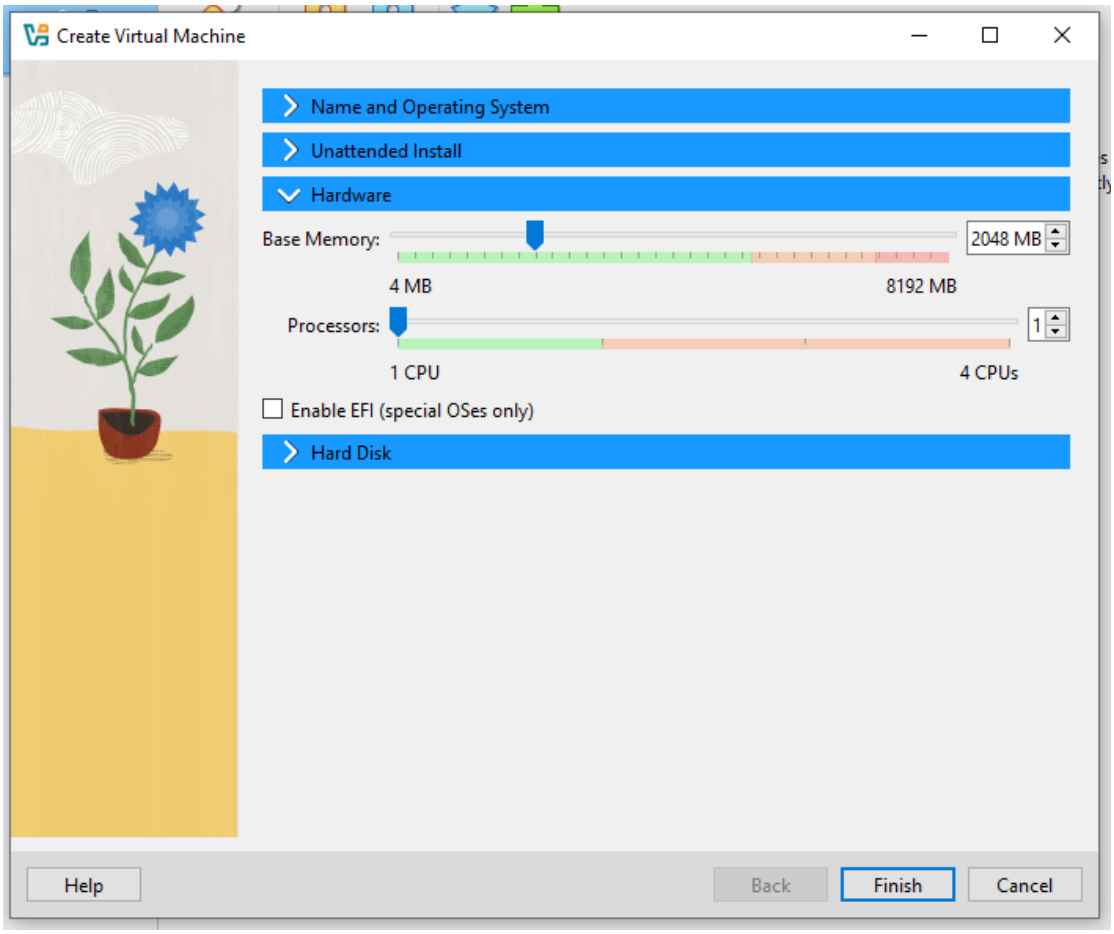

Figure 11: Base memory allocated

v. Now, allot the memory size for the virtual hard disk and the location where it is to be installed.

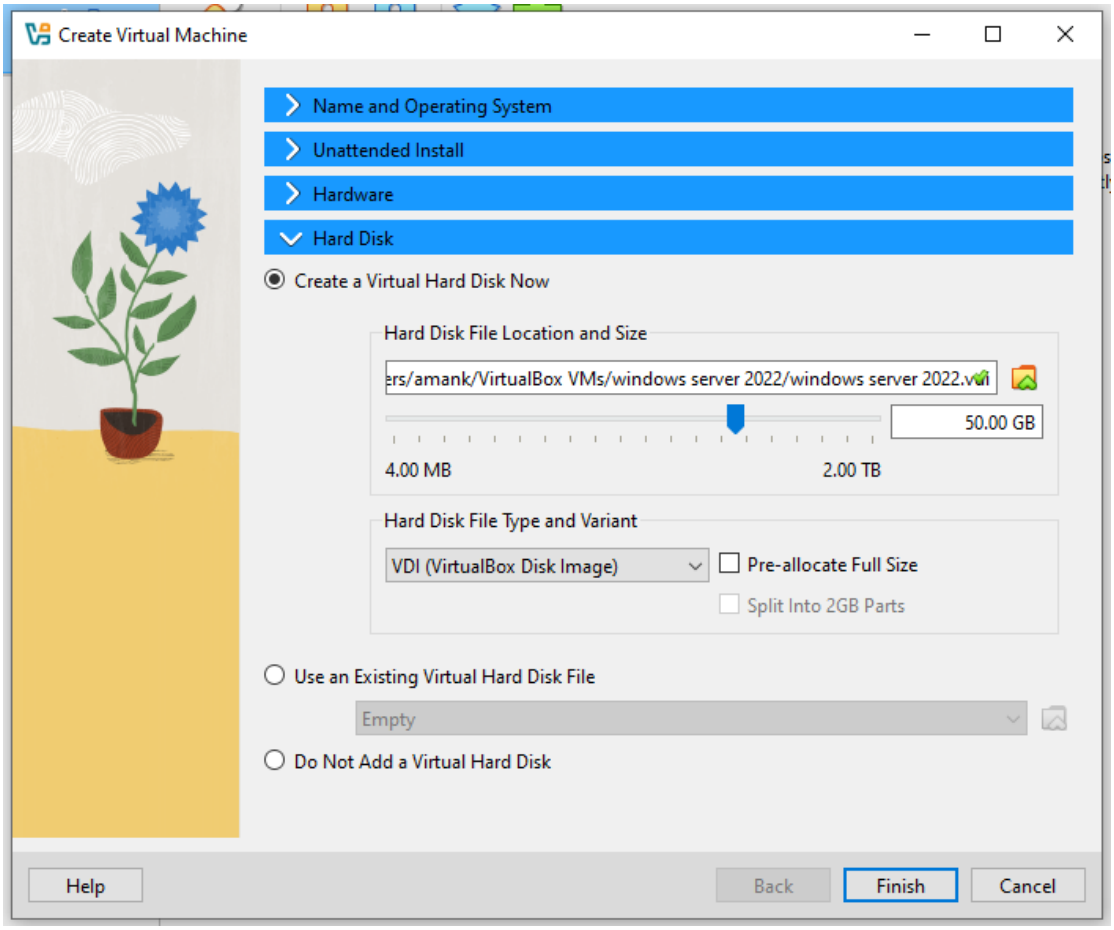

Figure 12: Creating virtual hard disk

vi. After clicking the “Finish” option, the installation will start.

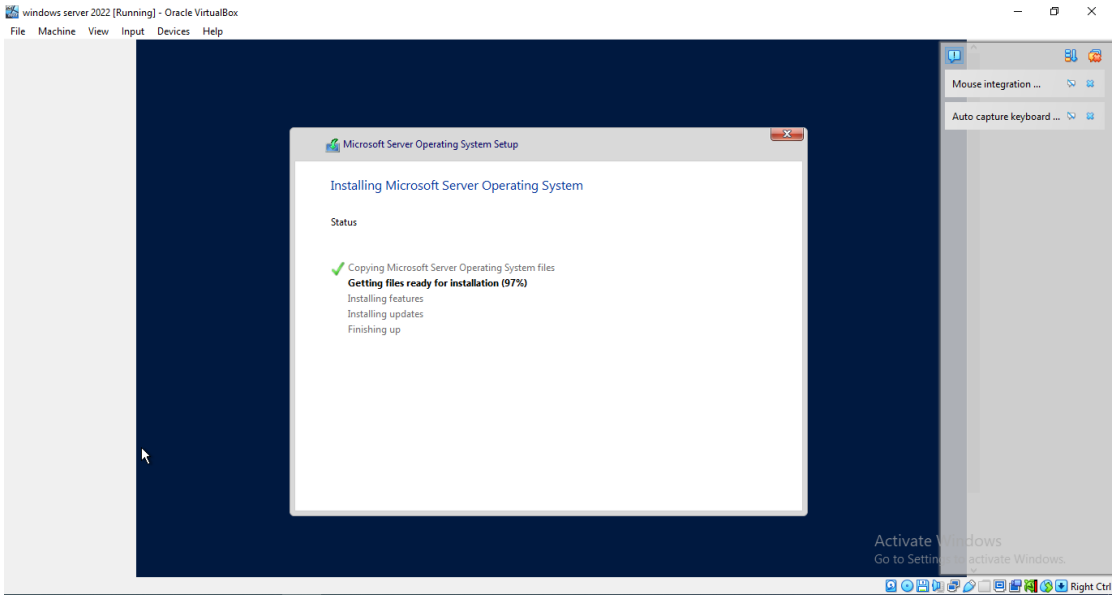

Figure 13: Installation running

vii. The following dialog box will appear after the installation is completed. We can click on “Start” to log in to the Desktop Experience version.

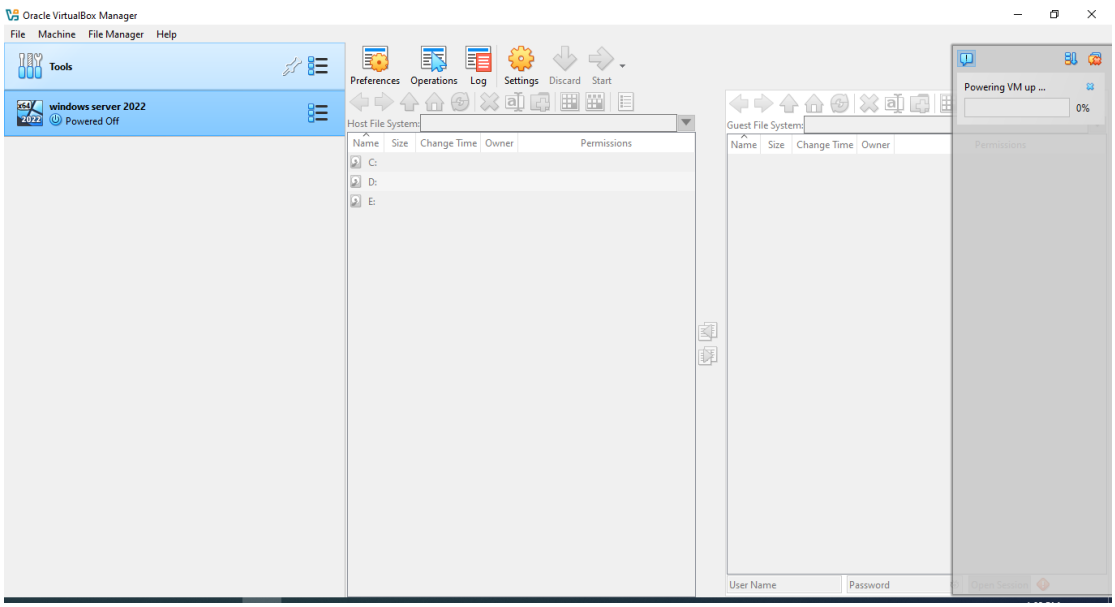

Figure 14: Installation completed

viii. After logging in, we can access Server Manager to verify system information and the following dialog boxes can be obtained.

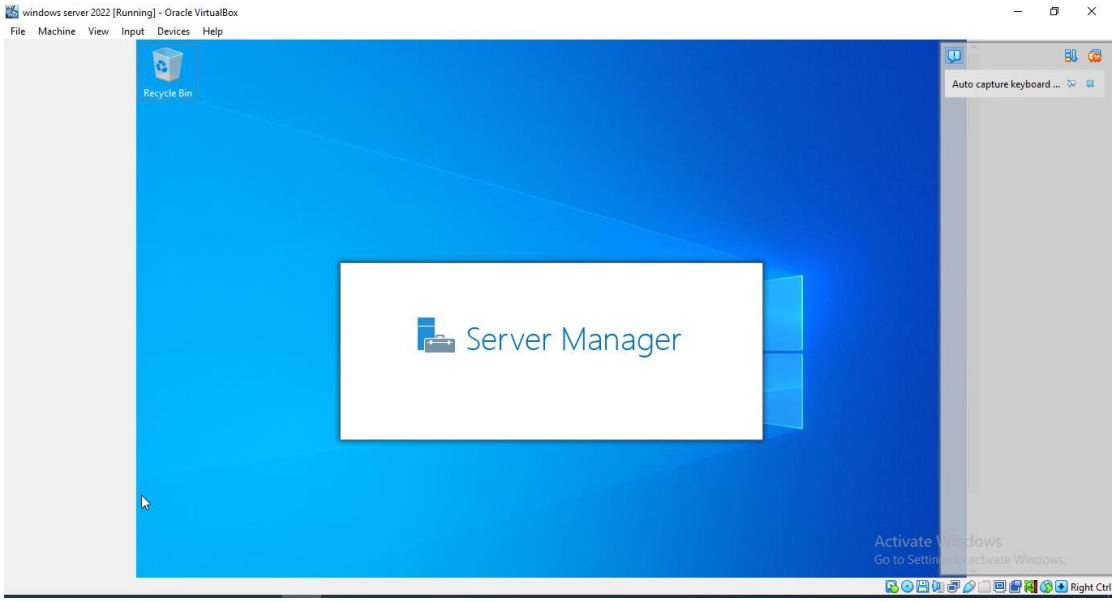

Figure 15: Turned on

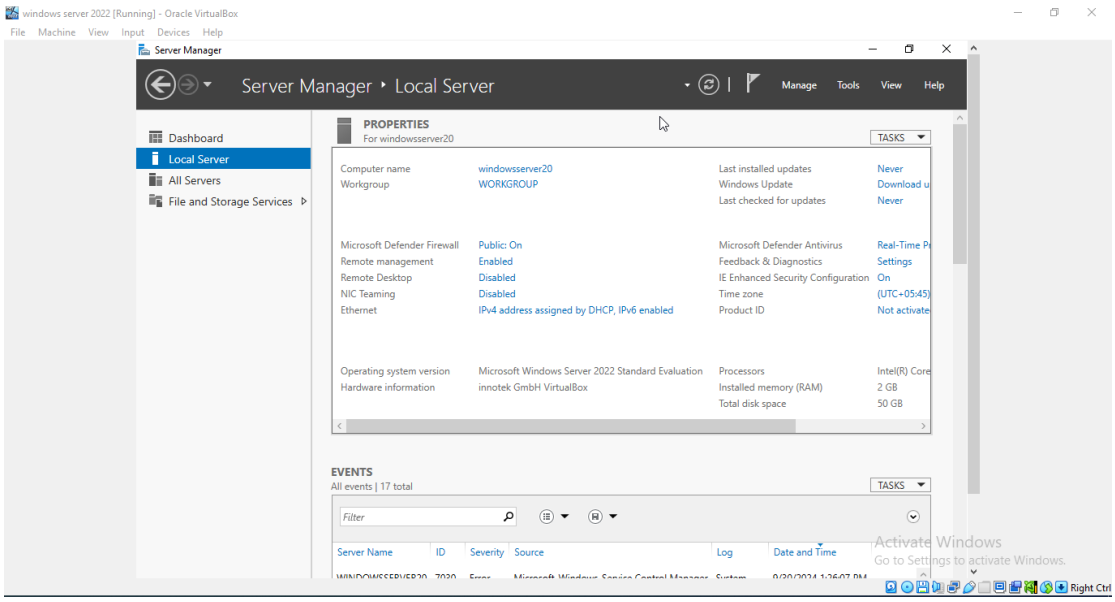

Figure 16: Local servers

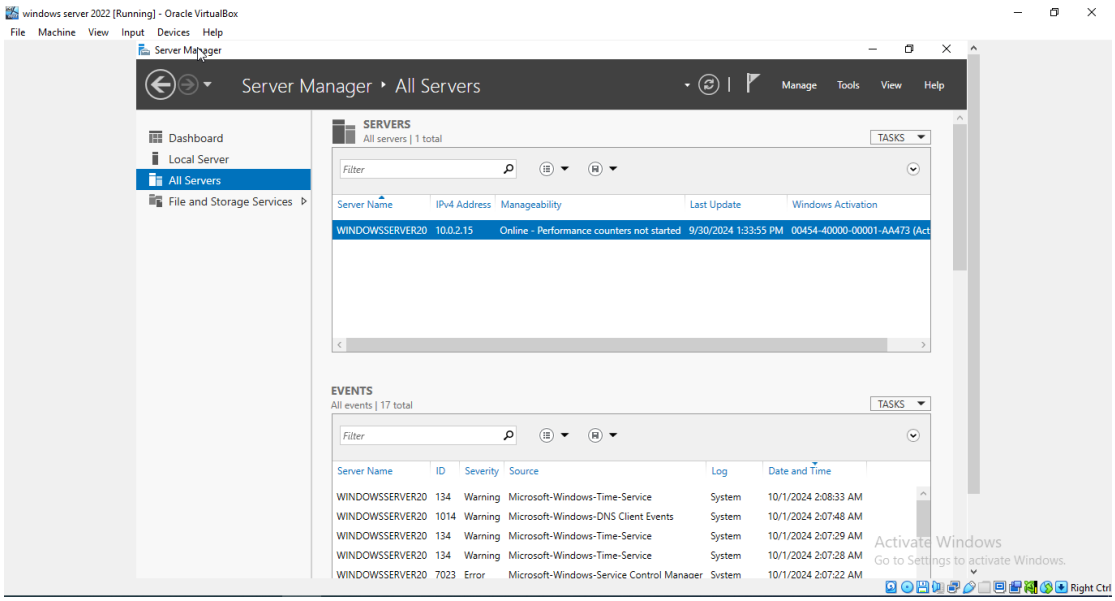

Figure 17: All servers

5. Conclusion

The installation and configuration of both Windows Server 2022 Standard Evaluation (10.0.20348) and Windows Server 2022 Standard Evaluation (Desktop Experience) provided insight into different server configurations. The core version is resource-efficient but limited in its interface, whereas Desktop Experience offers a familiar GUI, which is advantageous for tasks requiring visual management. Through this process, familiarity with VirtualBox, ISO handling, and initial server configuration was achieved, supporting further exploration of Windows Server's features.