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Declaration: I understand that I am required to submit my assignment under the appropriate module page prior to the specified deadline, in order for it to be considered for marking. I acknowledge that any assignment 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 lab report focuses on the practical implementation of hosting a static website on Windows Server 2022 that can be accessed from other computing devices also within the same network and enabling Remote Desktop Connection for efficient server access and management. Hosting websites on a server environment is a foundational skill in server administration, providing the ability to deliver and manage web services effectively.

We are using Windows Server 2022 (Desktop Experience) to practice the process of configuring a server and host a static website. A pre-designed website template, NEOGYM is downloaded from free-css.com. Additionally, Oracle VirtualBox is employed to create and manage the virtual machine hosting the Windows Server. The addition of VirtualBox's Extension Pack ensures enhanced functionality and compatibility within the virtualized environment.

Similarly, for the remote management, Remote Desktop Connection is enabled on the Windows Server. This feature allows the server to be accessed and managed from the host operating system, providing flexibility and an efficient way to administer the server environment remotely.

This setup simulates the server hosting environment, enabling hands-on experience with server configuration, website hosting, and remote server access from other devices. This report documents each step in detail, from preparing the virtual environment to successfully hosting and remotely accessing the Guest OS from Host OS.

2. Objective

The main objectives of this workshop are:

- i. To host static website in guest OS (windows server 2022) and access it from host OS as well as from other computer devices within the same LAN.
- ii. To enable remote desktop features in windows server 2022 and access it from host OS.

3. Required Tools and Concepts

- i. Oracle VirtualBox: to create and manage virtual environments.
- ii. Windows Server 2022 (Desktop Experience) installed in Oracle VirtualBox.
- iii. Download a template from www.free-css.com and extract it. Here, I am using the website 'NEOGYM'.
- iv. Download the Extension pack for virtual box. We need to confirm the version of Virtual box that we have and download the extension pack from the link: <https://download.virtualbox.org/virtualbox/> .

4. Steps of Replicate

4.1 Hosting our static website in Windows Server 2022

First, open the virtual box and select the virtual environment i.e. Windows Server 2022 and then, click on settings.

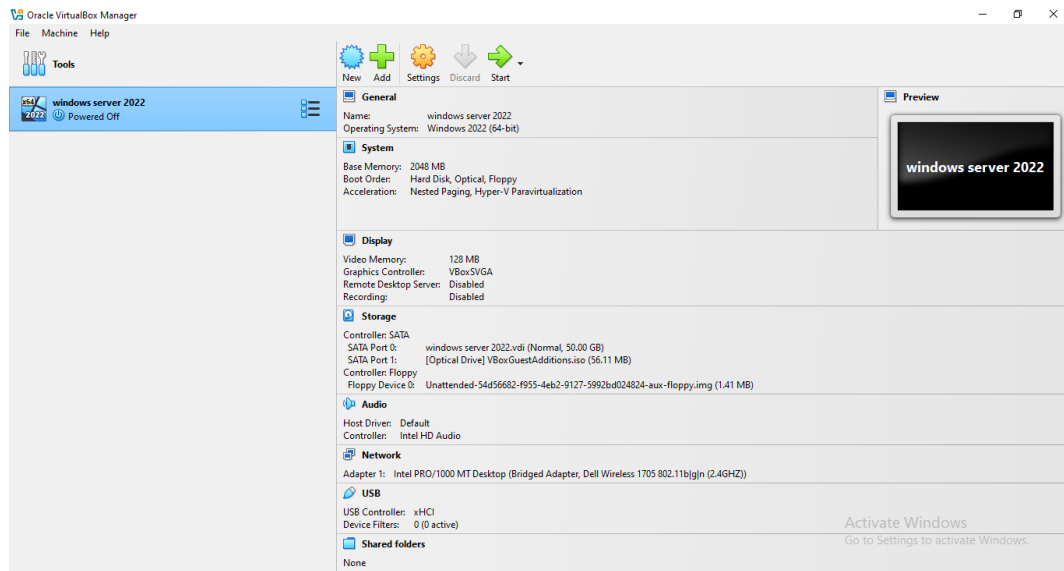


Figure 1: VirtualBox opened

Now, click on network and enable the network adapter. Select Bridged Adapter in 'Attached to' option, then click on OK button.

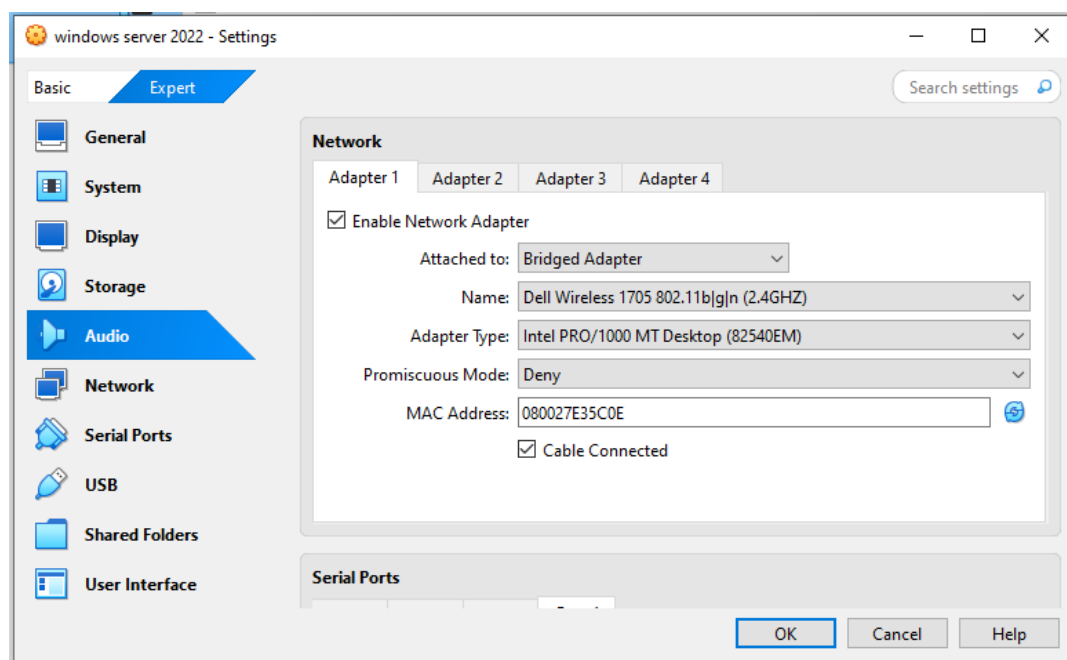


Figure 2: Setting Network Adapter

Run the Windows Server 2022 and keep the files of the website that needs to be hosted, in Local Disk C drive as in the picture below.

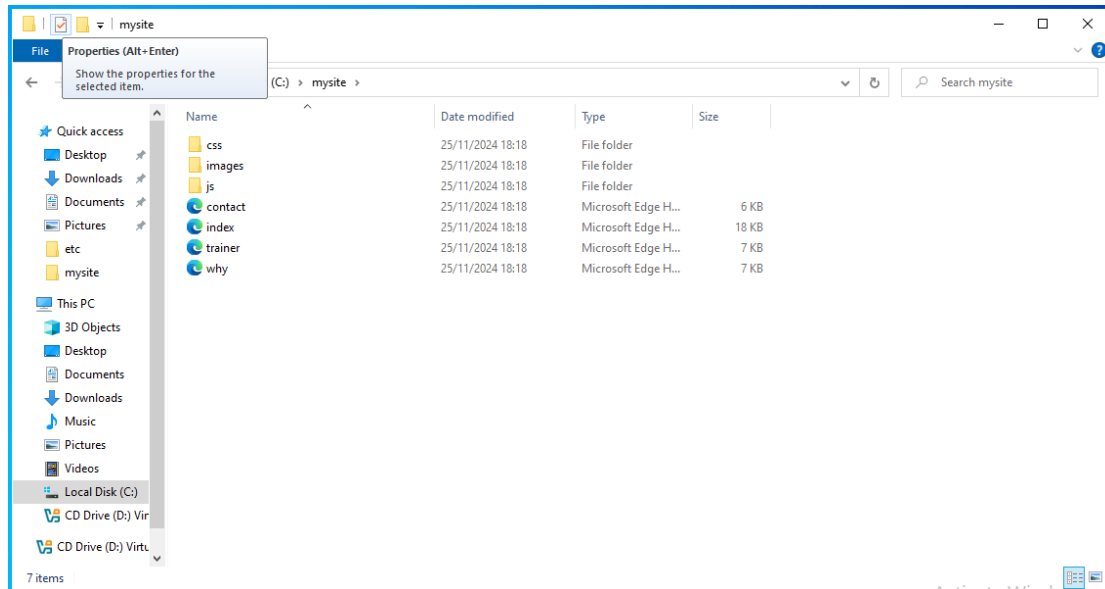


Figure 3: Website files in Local disk C drive

Open run and type inetmgr to open our Internet Information Service.

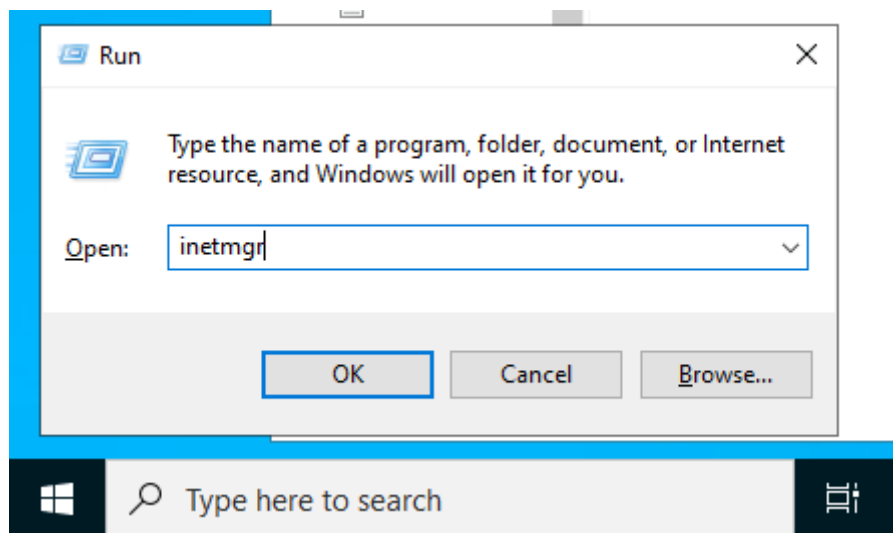


Figure 4: Running inetmgr

From here, we can prepare the setup to host our website.

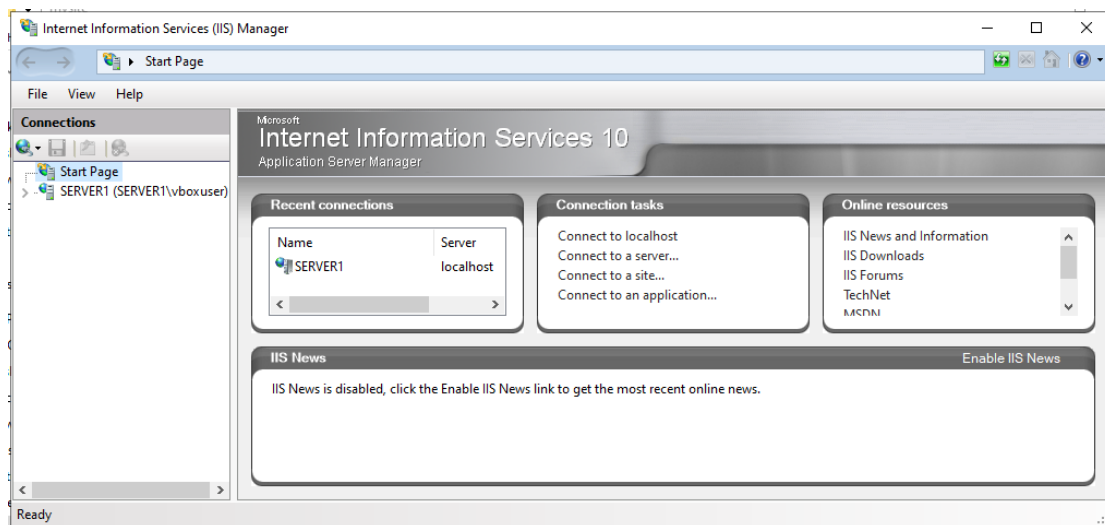


Figure 5: Internet Information Service Manager

Expand the server's name and right click on Sites. Click on the "Add Website" option.

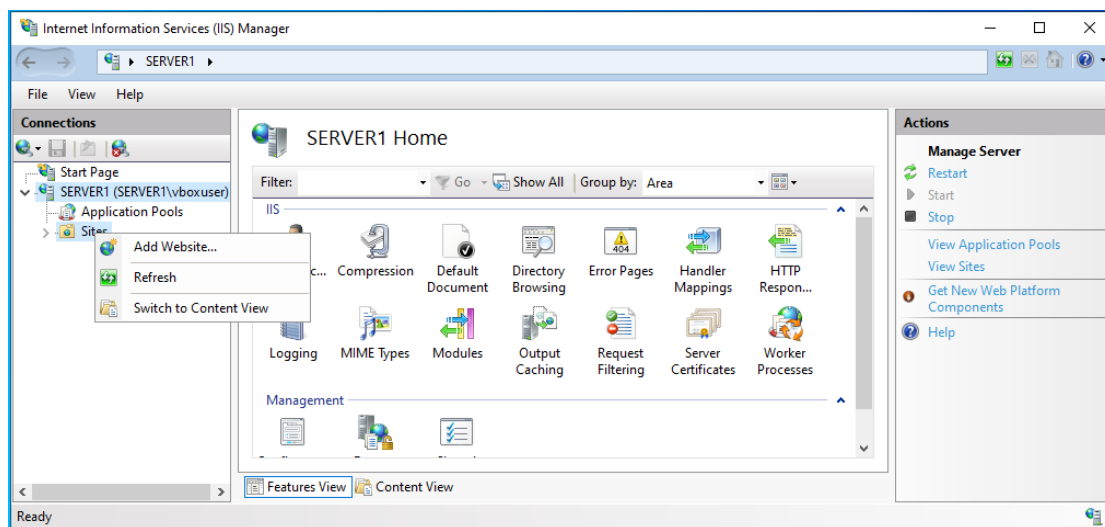


Figure 6: SERVER1 Home

Here, in the new popup window, enter the details.

I am using 'Neogym' as a site name and provided IP address from the drop-down menu. The IP address is different for different networks. Also, the physical path is provided according to the location of the files of website.

Add Website

Site name: Application pool:

Content Directory

Physical path:

Pass-through authentication

Binding

Type:	IP address:	Port:
<input type="text" value="http"/>	<input type="text" value="192.168.1.73"/>	<input type="text" value="80"/>

Host name:

Example: www.contoso.com or marketing.contoso.com

☒ Start Website immediately

Figure 7: Entering details for adding website

After pressing OK button, we can see our site name on the list as shown in picture below:

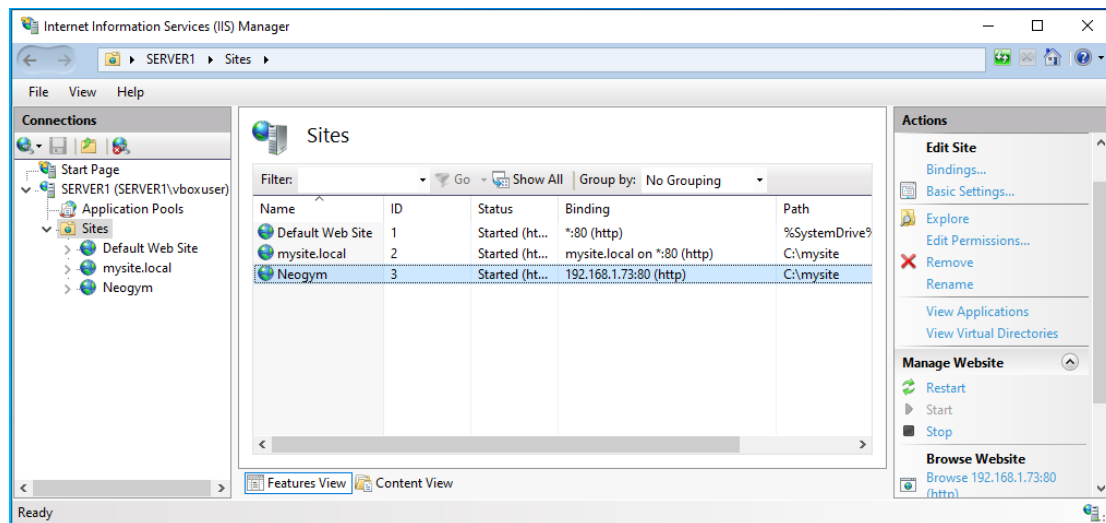


Figure 8: List of available sites

We can see our website is live now:

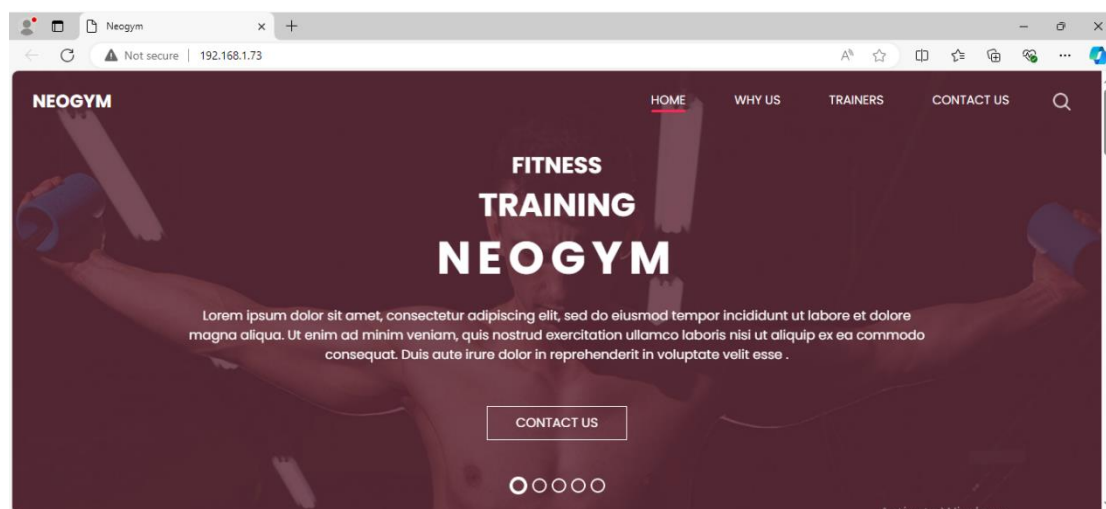


Figure 9: Running site in browser of Windows Server 2022

After typing the IP address of Guest OS in the browser of Host OS, we obtained the following output:

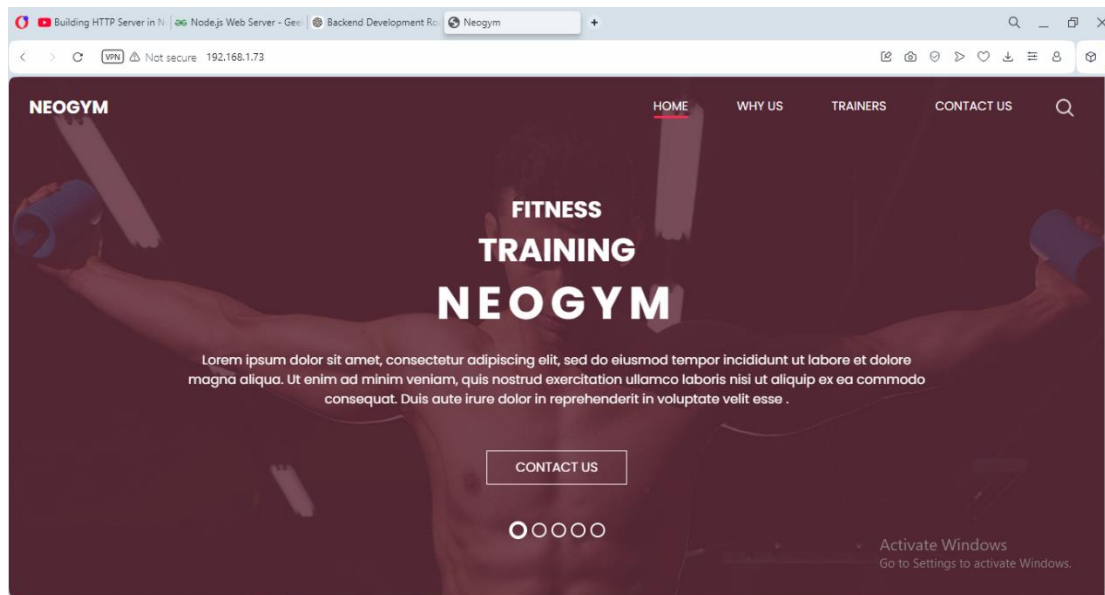


Figure 10: Running site in browser of Host OS

After searching the IP address of Guest OS in the browser of smartphone, we obtained the following output:

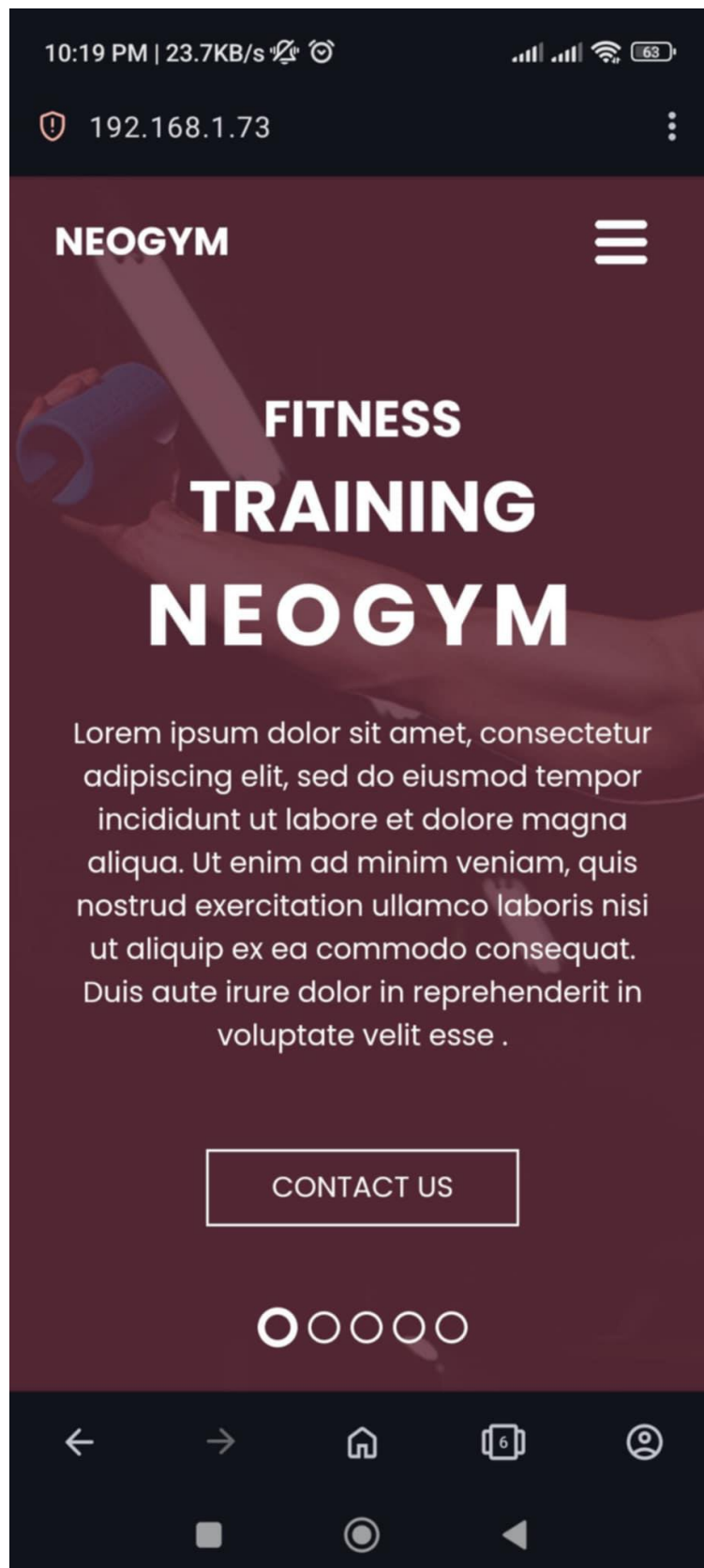


Figure 11: Running site in Smartphone

4.2 Enabling remote desktop features in Windows Server 2022 and accessing it from Host OS

To enable remote desktop features in Windows Server 2022, we need to download the extension pack. First check the version of the VirtualBox we are using. We can check version of virtual box by clicking on Help of Virtual Box manager and then through 'About Virtualbox'.



Figure 12: About VirtualBox, checking version

Now follow the link: <https://download.virtualbox.org/virtualbox/>. It will show the list with different versions. Here, I am using the Virtual box, version 7.1.0.

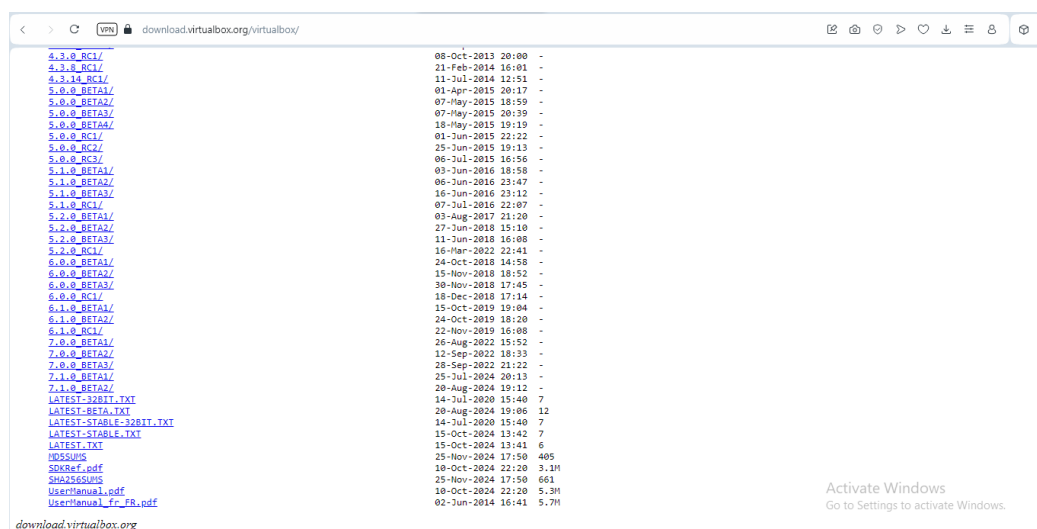


Figure 13: Available VirtualBox extension packs

We need to download the extension pack according to the version of VirtualBox we are using.

Index of /virtualbox/7.1.0_BETA2

Name	Last modified	Size
Parent Directory		
MD5SUMS	20-Aug-2024 19:11	2.1K
Oracle_VirtualBox_Extension_Pack-7.1.0_BETA2-164448.vbox-extpack	20-Aug-2024 18:46	22M
Oracle_VirtualBox_Extension_Pack-7.1.0_BETA2.vbox-extpack	20-Aug-2024 18:46	22M
SDKRef.pdf	20-Aug-2024 18:46	3.1M
SHA256SUMS	20-Aug-2024 19:12	2.9K
UserManual.pdf	20-Aug-2024 18:46	5.4M
VBoxGuestAdditions_7.1.0_BETA2.iso	20-Aug-2024 18:46	57M
VirtualBox-7.1-7.1.0_BETA2_164448_el7-1.x86_64.rpm	20-Aug-2024 18:57	107M
VirtualBox-7.1-7.1.0_BETA2_164448_el8-1.x86_64.rpm	20-Aug-2024 18:57	106M
VirtualBox-7.1-7.1.0_BETA2_164448_el9-1.x86_64.rpm	20-Aug-2024 18:57	104M
VirtualBox-7.1-7.1.0_BETA2_164448_fedora35-1.x86_64.rpm	20-Aug-2024 18:57	104M
VirtualBox-7.1-7.1.0_BETA2_164448_fedora36-1.x86_64.rpm	20-Aug-2024 18:57	104M
VirtualBox-7.1-7.1.0_BETA2_164448_fedora40-1.x86_64.rpm	20-Aug-2024 18:57	104M
VirtualBox-7.1-7.1.0_BETA2_164448_openSUSE153-1.x86_64.rpm	20-Aug-2024 18:57	98M
VirtualBox-7.1.0_BETA2-164448-linux_amd64.run	20-Aug-2024 18:46	116M
VirtualBox-7.1.0_BETA2-164448-Solaris.dmg	20-Aug-2024 18:46	131M
VirtualBox-7.1.0_BETA2-164448-Solaris.p5p	20-Aug-2024 18:46	124M
VirtualBox-7.1.0_BETA2-164448-SunOS.tar.gz	20-Aug-2024 18:46	123M
VirtualBox-7.1.0_BETA2-164448-Win.exe	20-Aug-2024 18:46	106M
VirtualBox-7.1.0_BETA2-164448-macOSArm64.dmg	20-Aug-2024 18:46	126M
VirtualBox-7.1.0_BETA2.tar.bz2	20-Aug-2024 18:46	200M
VirtualBoxSDK-7.1.0_BETA2-164448.zip	20-Aug-2024 18:46	15M
virtualbox-7.1.7.1.0~beta2-164448~Debian~bookworm_amd64.deb	20-Aug-2024 18:05	99M
virtualbox-7.1.7.1.0~beta2-164448~Debian~bullseye_amd64.deb	20-Aug-2024 18:05	99M
virtualbox-7.1.7.1.0~beta2-164448~Debian~buster_amd64.deb	20-Aug-2024 18:05	99M
virtualbox-7.1.7.1.0~beta2-164448~Ubuntu~focal_amd64.deb	20-Aug-2024 18:05	100M
virtualbox-7.1.7.1.0~beta2-164448~Ubuntu~jammy_amd64.deb	20-Aug-2024 18:05	100M
virtualbox-7.1.7.1.0~beta2-164448~Ubuntu~noble_amd64.deb	20-Aug-2024 18:05	90M

[download.virtualbox.org](#)

Figure 14: Downloading extension pack for version 7.1.0

After downloading the extension pack, run virtual box as administrator.

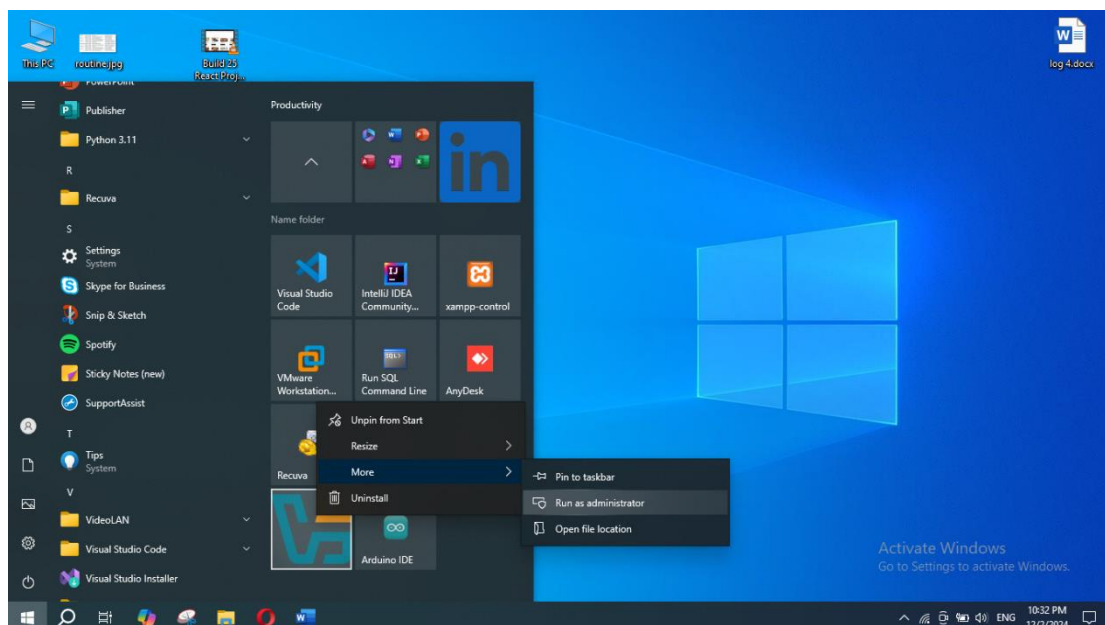


Figure 15: Running VirtualBox as administrator

After the virtual box opens, click on tools.

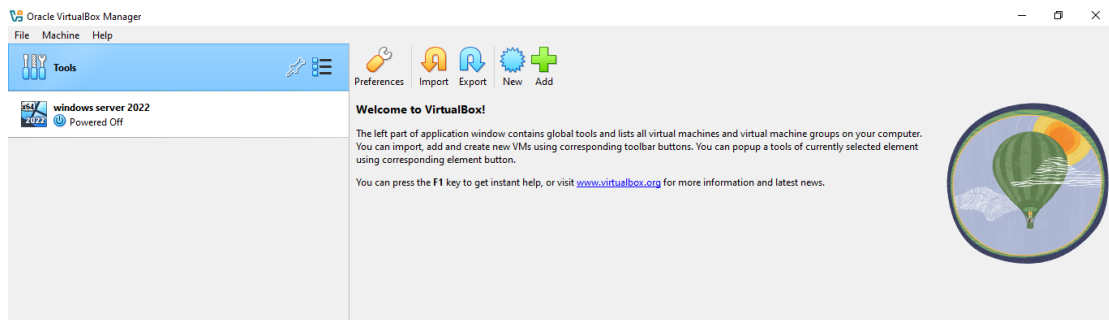


Figure 16: Navigating tools in VirtualBox

Now, click on install button.

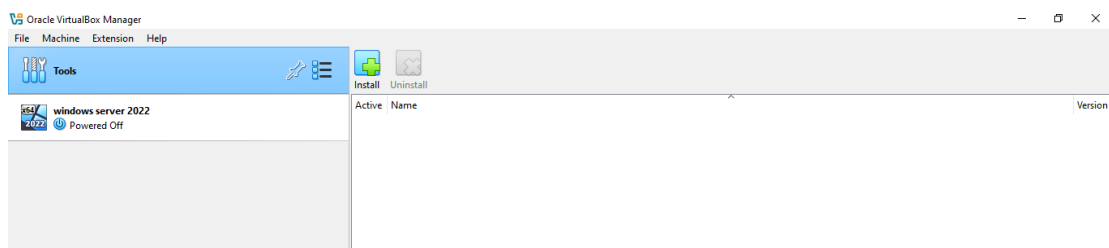


Figure 17: Installing extension pack

A new window will pop up, from where we can install the downloaded extension pack.

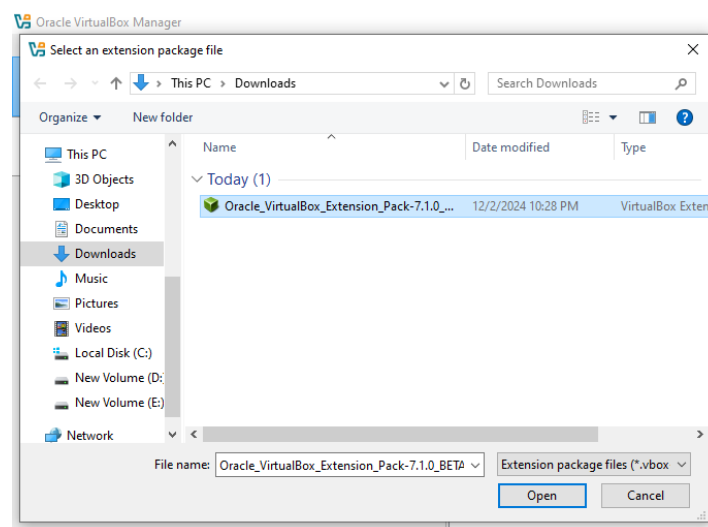


Figure 18: Providing extension pack for installation

Again, click on install to continue.

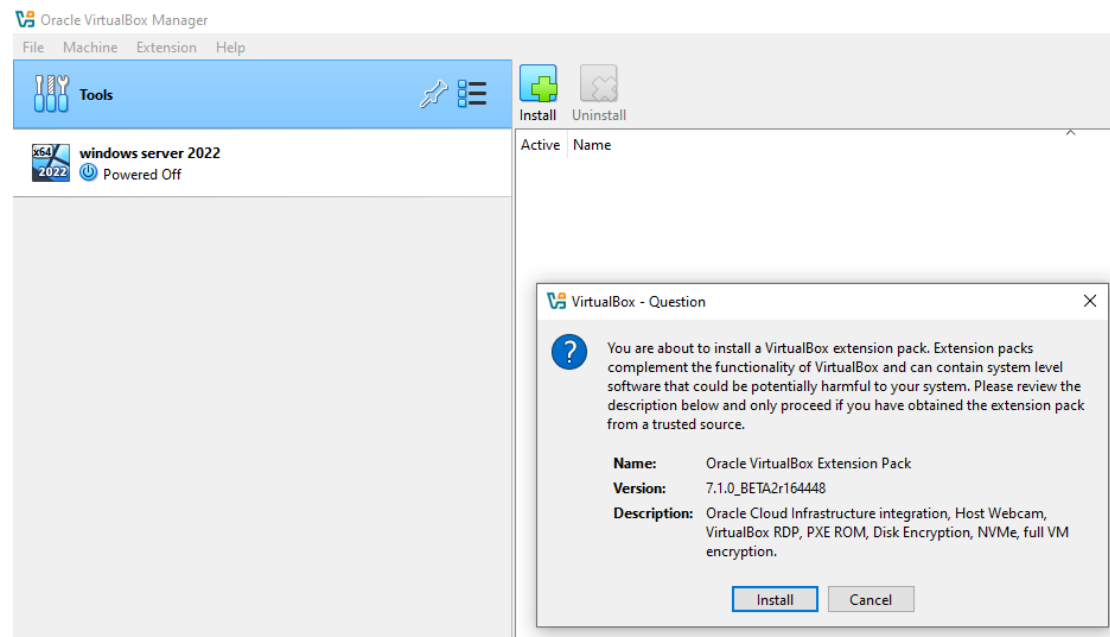


Figure 19: Installation wizard

If we agree to the terms, then the pack will be installed as shown in the picture below.

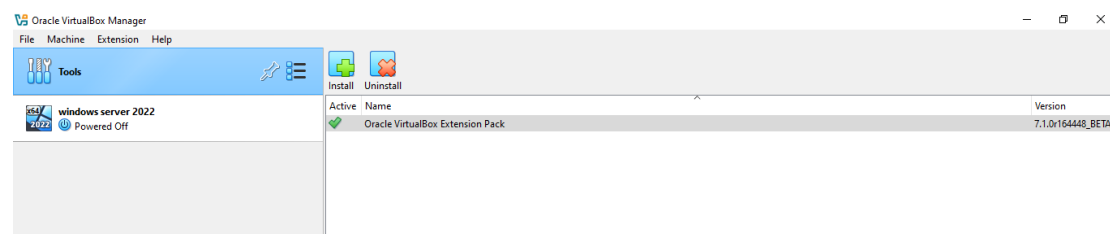


Figure 20: Extension pack installed

Now, close all the tabs, select the Virtual Environment of Windows server 2022 and click on settings.

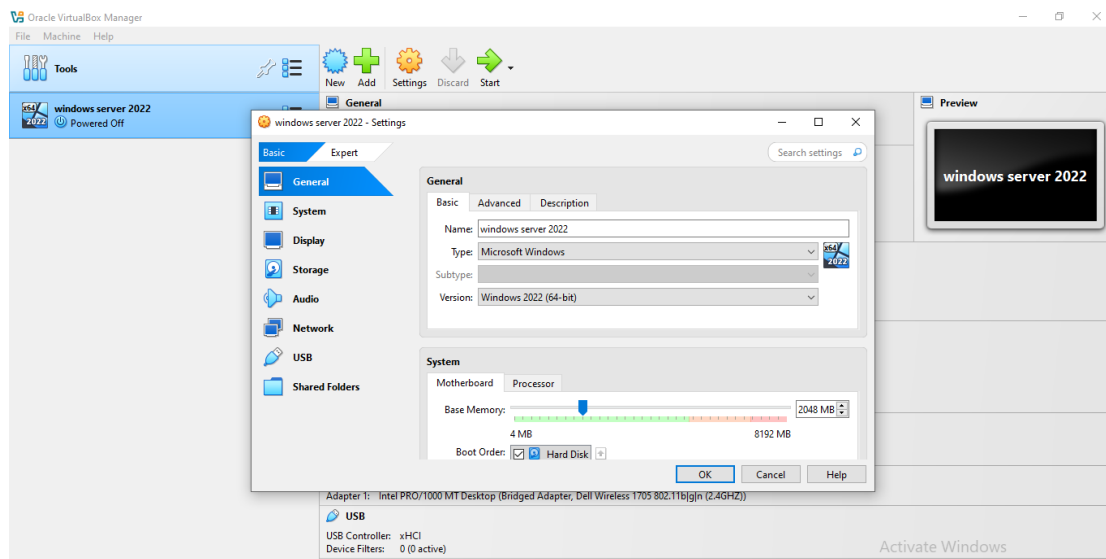


Figure 21: Windows Server 2022, settings

Go to Display tab.

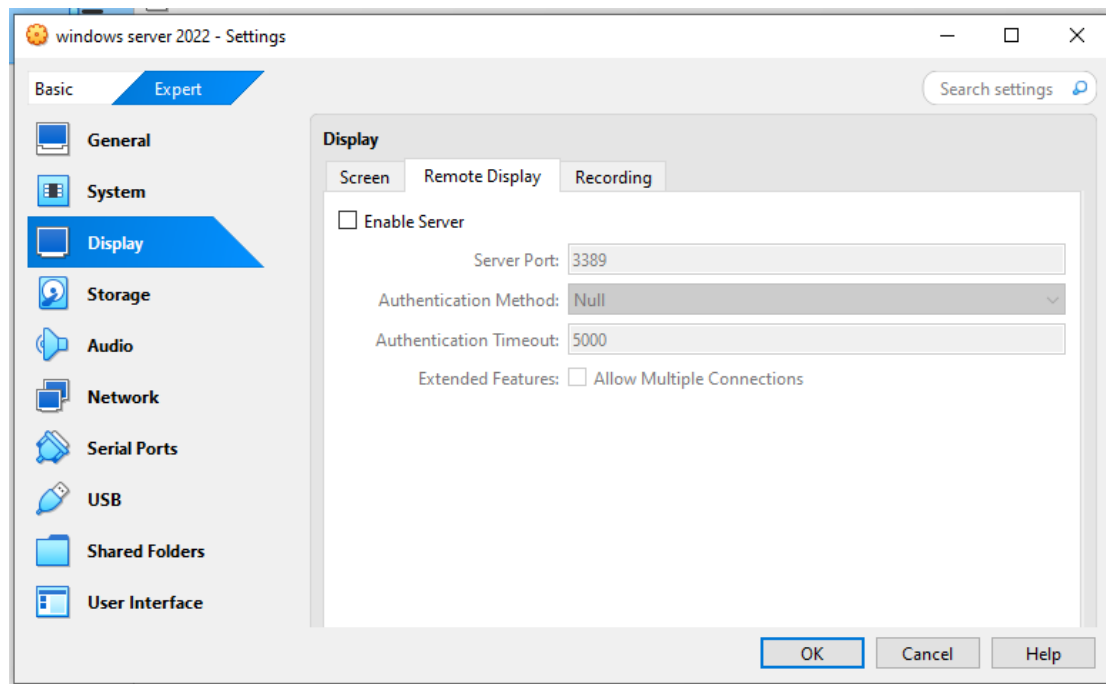


Figure 22: Navigating Remote display options

Tick on Enable the server and click on OK button.

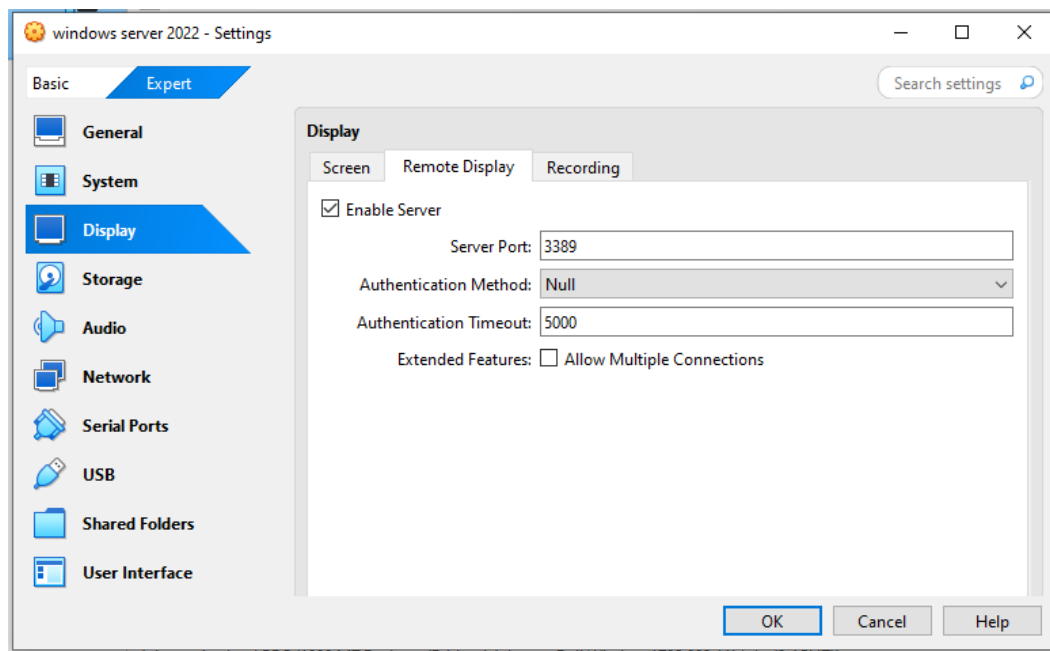


Figure 23: Enabling Remote display

We are using name of Computer, username and password to connect to the Guest OS. To check name of computer, search for 'view your pc name' and note down the name. Also, our username of Guest OS is vboxuser.

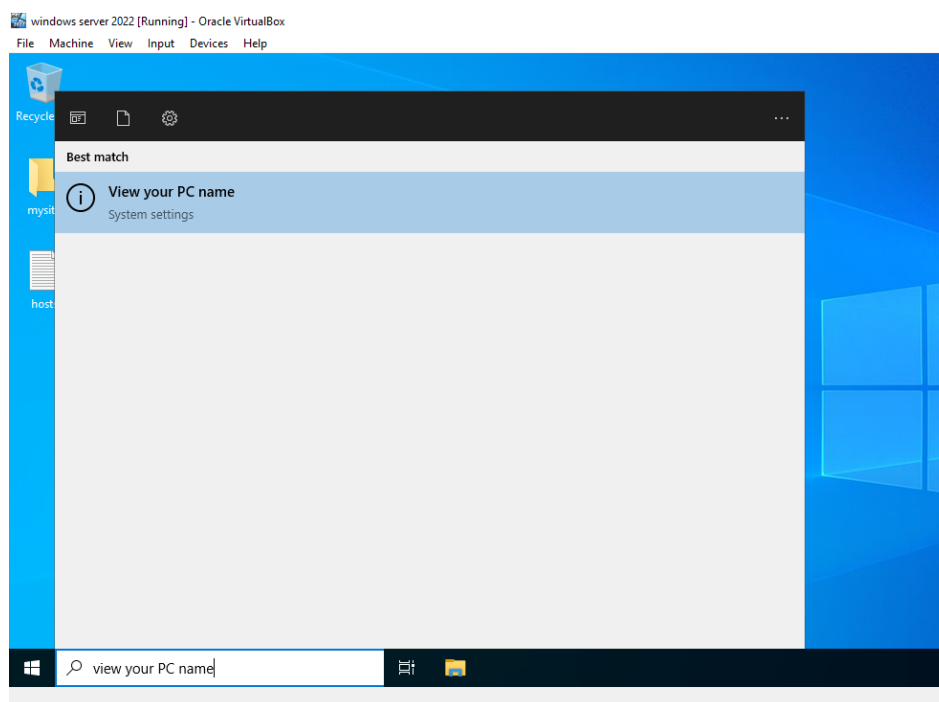


Figure 24: Finding PC/Device name

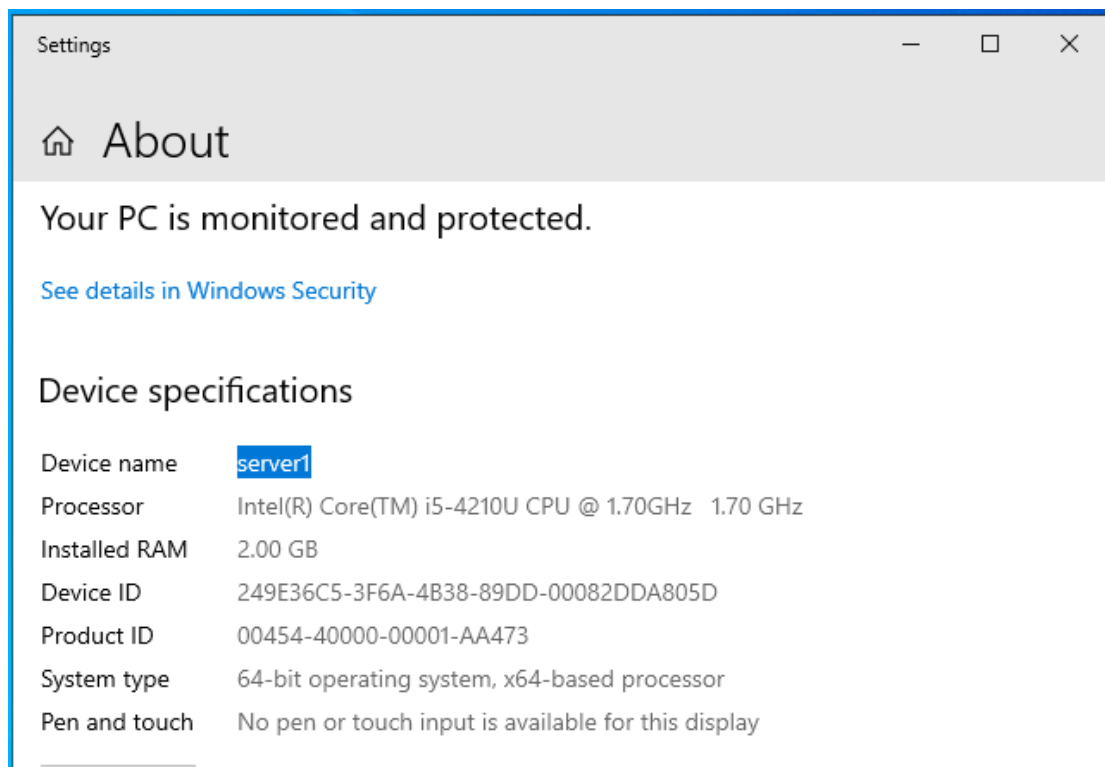


Figure 25: About PC

Now, from the Host OS, open the Remote Desktop Connection platform. Enter the name and username of the computer of which we want to connect to and then click on Connect button.

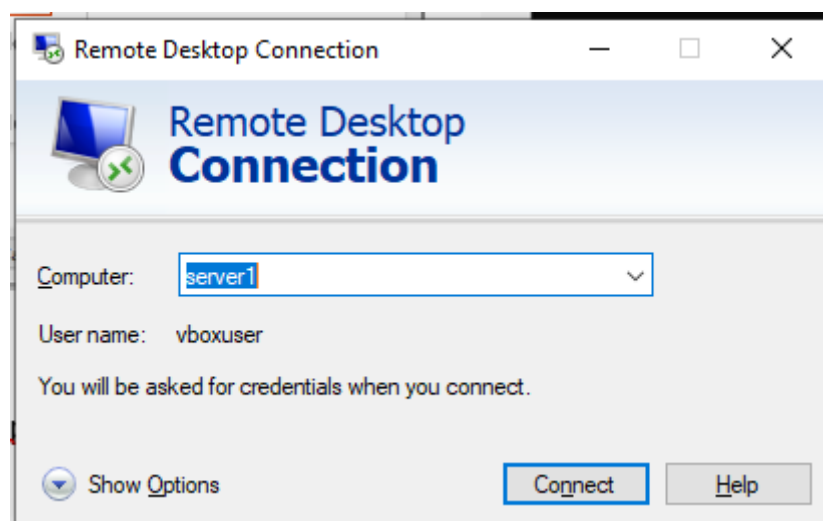


Figure 26: Entering details of Guest OS for connection

Enter the password of the Guest OS and click on OK button.

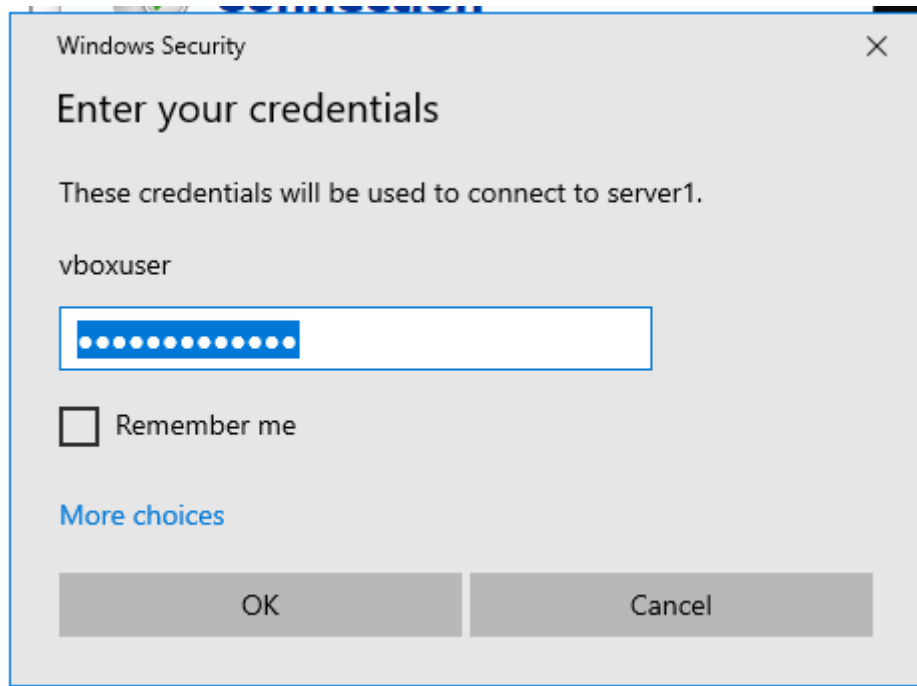


Figure 27: Entering password of Guest OS

We can see, the Guest OS is accessed from the Host OS.

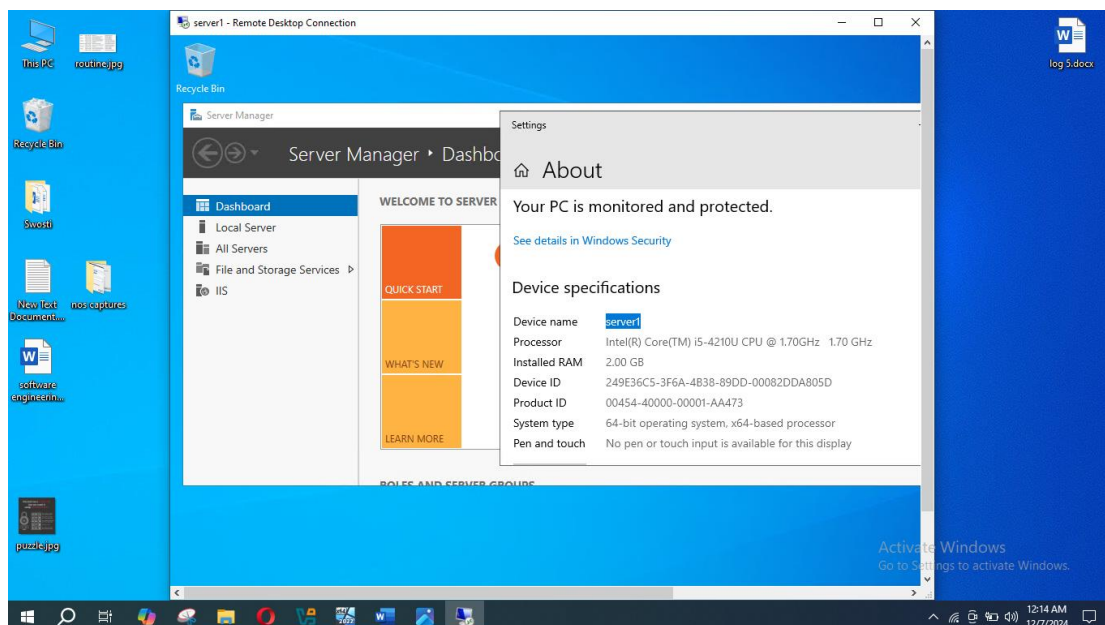


Figure 28: Successful Remote Desktop Connection

5. Conclusion

In this report, the detail process of hosting a static website on Windows Server 2022 within a virtualized environment created using Oracle VirtualBox is demonstrated. By following each steps further, we successfully configured the server, hosted the 'NEOGYM' static website, and verified its accessibility both within the server environment and from the host operating system.

Furthermore, we explored the Remote Desktop Connection feature of Windows Server 2022, which enabled us to access and manage the server remotely. It allows for efficient management of server environments without the need to be physically present at the location of server. By installing and configuring the VirtualBox Extension Pack, we enhanced the virtual machine's capabilities, ensuring compatibility with remote desktop functionalities and improving the overall virtualized experience.

Through this lab, we successfully simulated a professional server environment, gaining insights into the configuration, management, and access of servers and websites in a controlled and flexible virtual environment.

6. Works Cited

- i. <https://www.free-css.com/free-css-templates/page296/neogym>
- ii. <https://download.virtualbox.org/virtualbox/>