Module Code & Module Title

Level 5

Assessment Type

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Submitted To: Mr. Prashant Adhikari

I confirm that I understand my proposal needs to be submitted online via College's MST PORTAL under the relevant module page before the deadline for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.

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1.Introduction:

In this workshop, participants will learn how to set up and host static website on windows server 2022 guest operating system to act as a web server. The hosted static server will be accessible from both host operating systems and other devices within the Local Area Network. (LAN). Windows server is an powerful platform that supports web hosting through internet information Services (IIS). IIS is a web server role that allows hosting of websites and web applications. The primary operating system running on your computer is HOST OS. And the virtual machine (VM) running windows Server 2022 is GUEST OS.

2.Objective:

The main Objective of this workshop is to host static websites on in guest OS which is Window server 2022 and access it from host OS as well as other computer devices within the same LAN.

Another objective of this workshop is to enable remote desktop features in windows server 2022 and access it from host OS.

3.Required tools and concepts:

I. Software Components:

a. Windows server 2022: Windows Server 2022 is an operating system where the website will be hosted.

b. internet information Services (IIS): Internet information services is an inbuilt web server role in windows server. It handles HTTP/HTTPS requests.

c. Web Browser: Web browser is where we test the hosting of websites (e.g., Edge browser, Google Chrome, Firefox).

II. Network Setup:

Static Ip Address: Assign a fixed Ip to the windows Server for consistent LAN access.

Subnet Configuration: Ensure host and guest are in the same subnet to facilitate LAN communication.

Static Website Components

- **HTM Files:** Core structure of your website.
- **CSS Files:** For styling the website.
- **JavaScript Files:** For adding interactivity (if needed)
- Any other static assets (e.g., images, fonts)

III. Firewall and security

Config Firewall: it allows HTTP (Port 80) and HTTPS (Port 443) traffic

User Permession: Setting up correct file permission to ensure IIS can serve the static files.

IV. Additional Tools:

Code Editor: For editing static website files.(e.g., Notepad++ and other)

4. Steps of Replicate:

I. Opening virtual Box and selecting virtual environment.

Open Virtual Box and select the virtual environment. After selecting the virtual environment, select the “Setting” button.

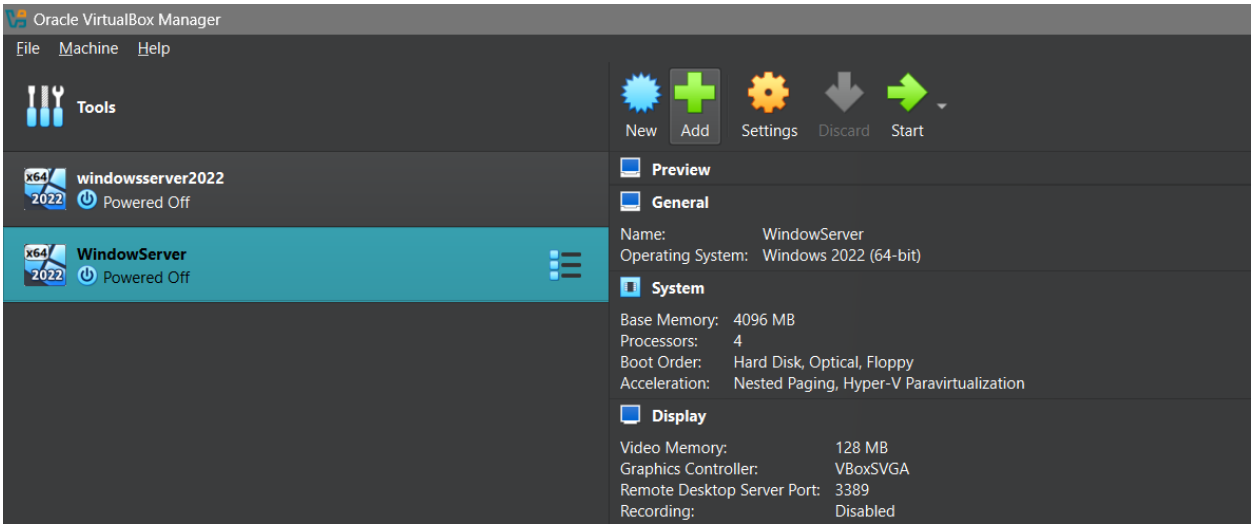

Figure 1: Selecting Virtual Environment

II. Selecting Bridge Adapter

Now click on Network and Under network select Bridge Adapter in Attached

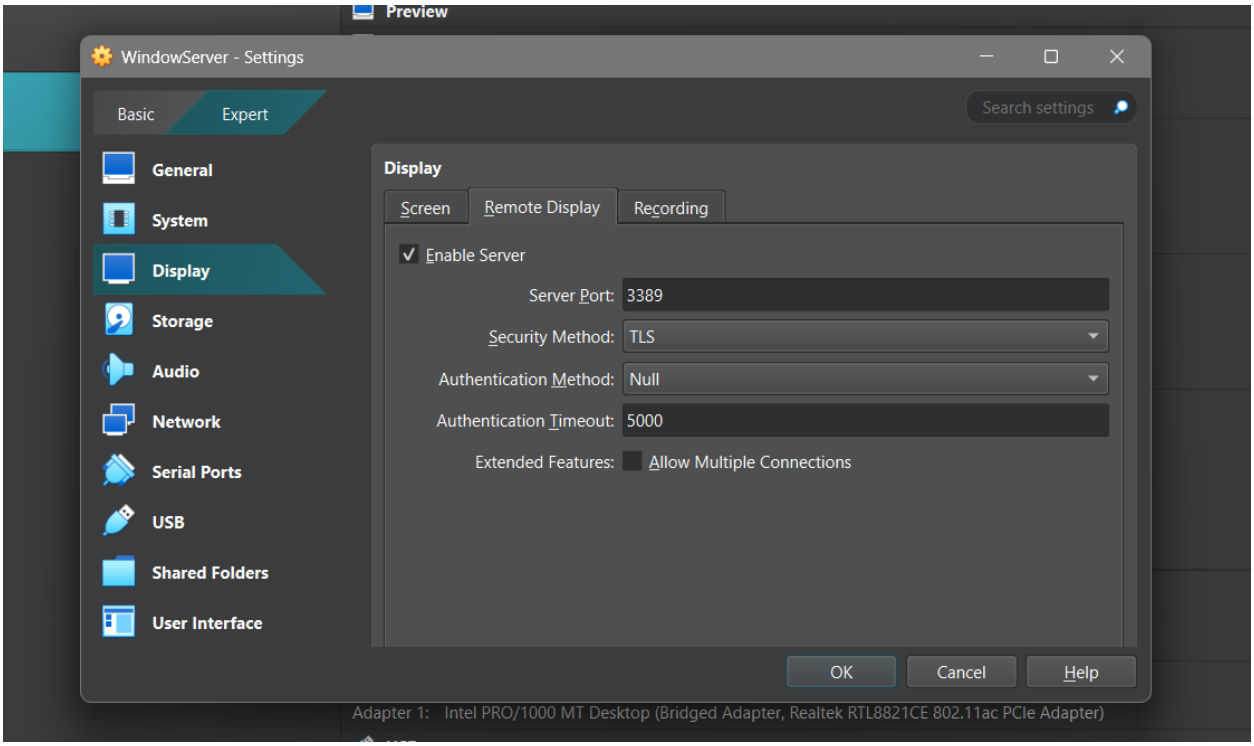

Figure 2: Selecting Bridge Adapter

To option on the right side. Now click on OK button and run our Windows Server 2022.

III. Placing website file in Disk C

As like from last workshop place your website files in Local Disk C drive in Windows Server 2022 as on following picture.

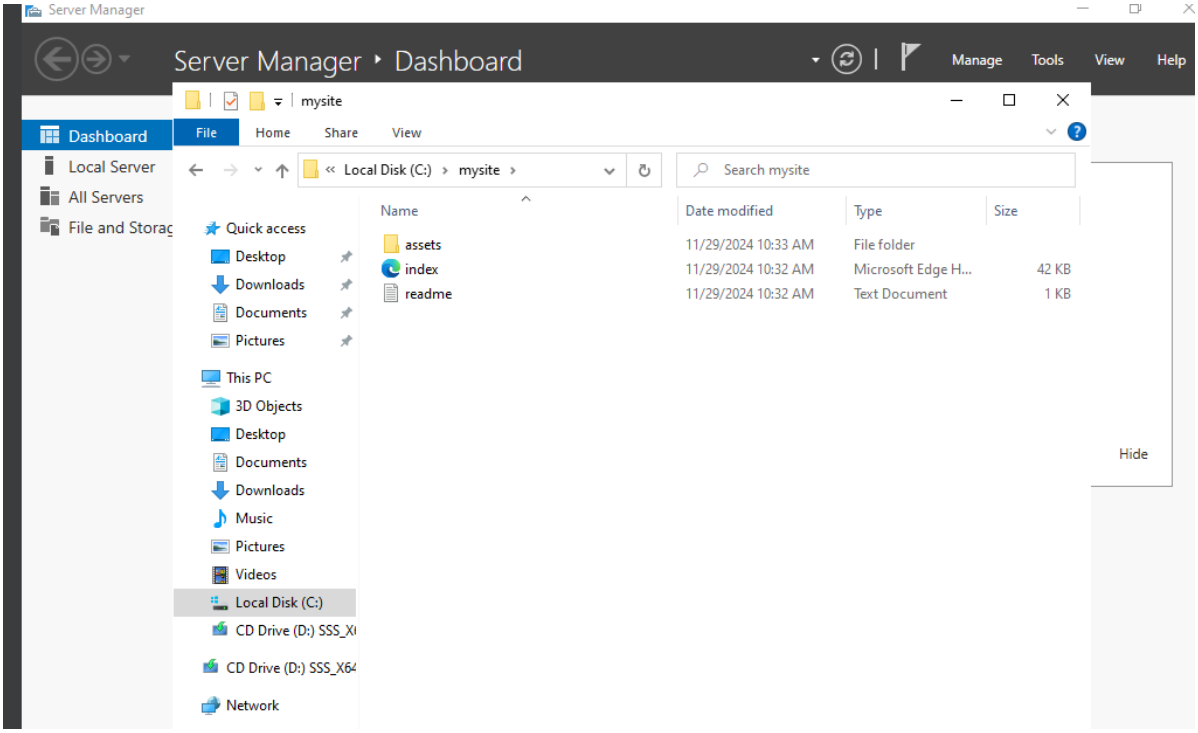

Figure 3:Plcaing Website in Disk C

IV. Opening internet information service (IIS)

Open run the type “inetmgr”. It will open our internet information Service from where we can set up hosting.

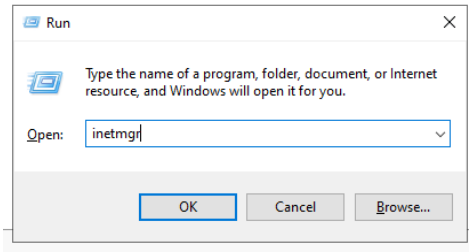

Figure 4:Opening IIS

V. Adding Websites

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

Option like in the last workshop.

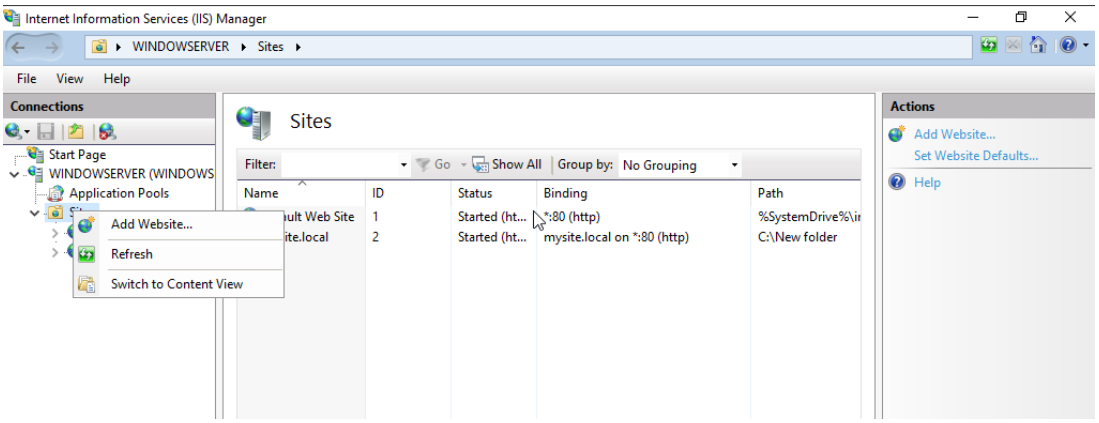

Figure 5: Adding Website

VI. Adding website Details and IP Address

Now we need to add details of our website as follows:

- Under Site name give any name you desire.
- Under Physical path give path to the folder where our website files are located.
- Under IP address select the given IP address from the drop-down option.

[Note: Whenever you change your network, like from home to college, your IP address will be changed and need to change it in order to get access]

Leave other options default and click on “OK”.

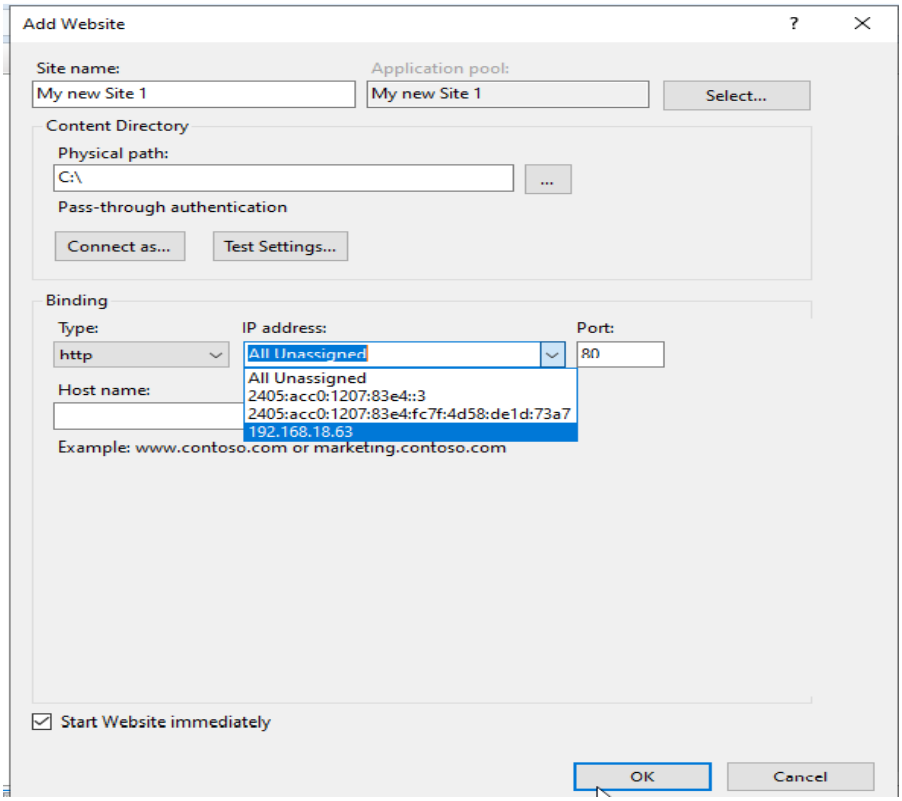

Figure 6: Adding Website details and IP Address

VII. Browsing the Site with IP Address

Now we can see our site name on the list. Now let’s browse our site by clicking on “Browse” followed by your IP address on the right side. This will open our website in browser.

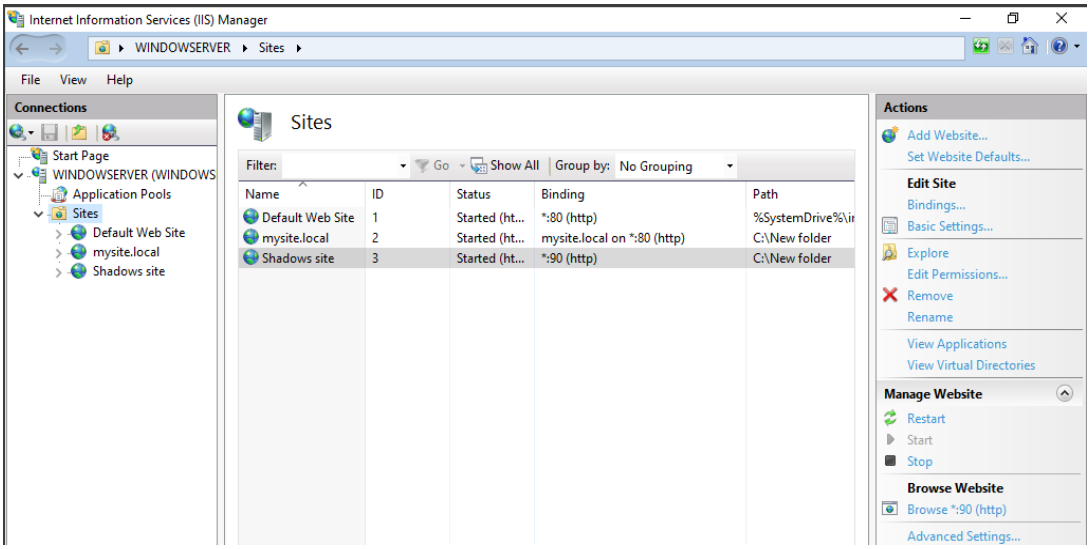

Figure 7: Site with IP address

We can see our website is live now:

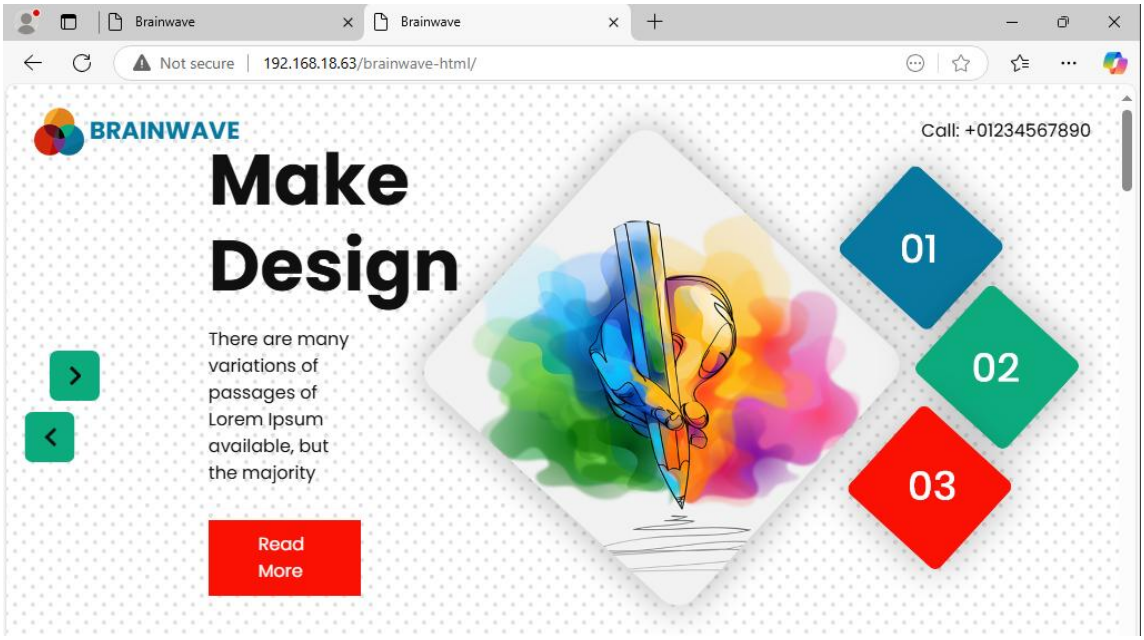

Figure 8: Website with IP address runs

VIII.Accessing website from Host Operating System (OS)

Type the IP address of Guest OS in the browser of the Host OS and see if your website is accessible from Host OS or not.

IX. Downloading Extension Pack for virtual box

Also open the website from your smartphone by typing IP address of Guest OS and see if it is accessible from your phone or not.

[Note: Your phone and server must be on same network]

Now let's connect our windows server from Host OS also using remote connection.

Considering the VM'S above setting now we are heading towards remote connection to Guest OS from the Host OS

Requirements: We need to download the Extension pack for virtual box. First confirm the version of virtual box that you have and download the extension pack from the following link: https://download.virtualbox.org/virtualbox/

Select the right version of the virtual box that you have.

Figure 9:Selecting Right version for Extension

In my case my version is 7.1.4. You can check the version of your virtual box by clicking on Help on virtual Box manager and then click on About VirtualBox.

After clicking on your version of link, click on the extpacks as on following pic and download it

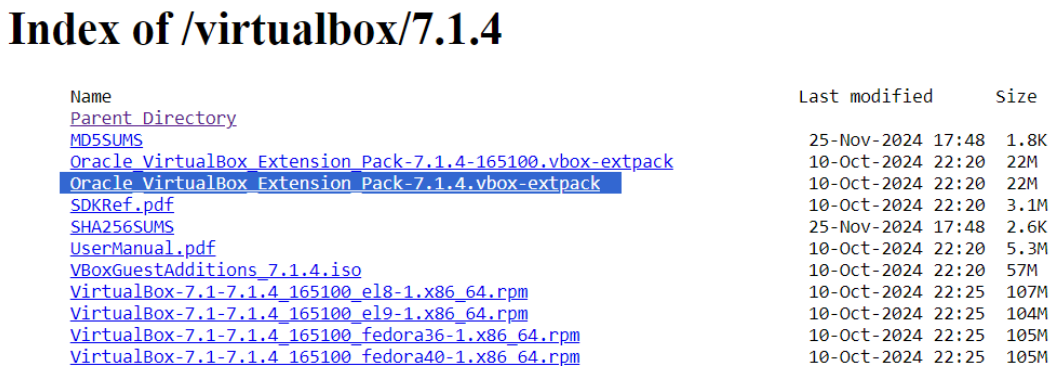

Figure 10: Downloading Extension pack

After downloading the extension pack. Follow the following steps:

5. Steps After Downloading Virtual Box Extension

Step1; Opening Virtual Box as Administrator

Close all the VMS running including Virtual Box. And open VirtualBox with **"Run as Administrator".**

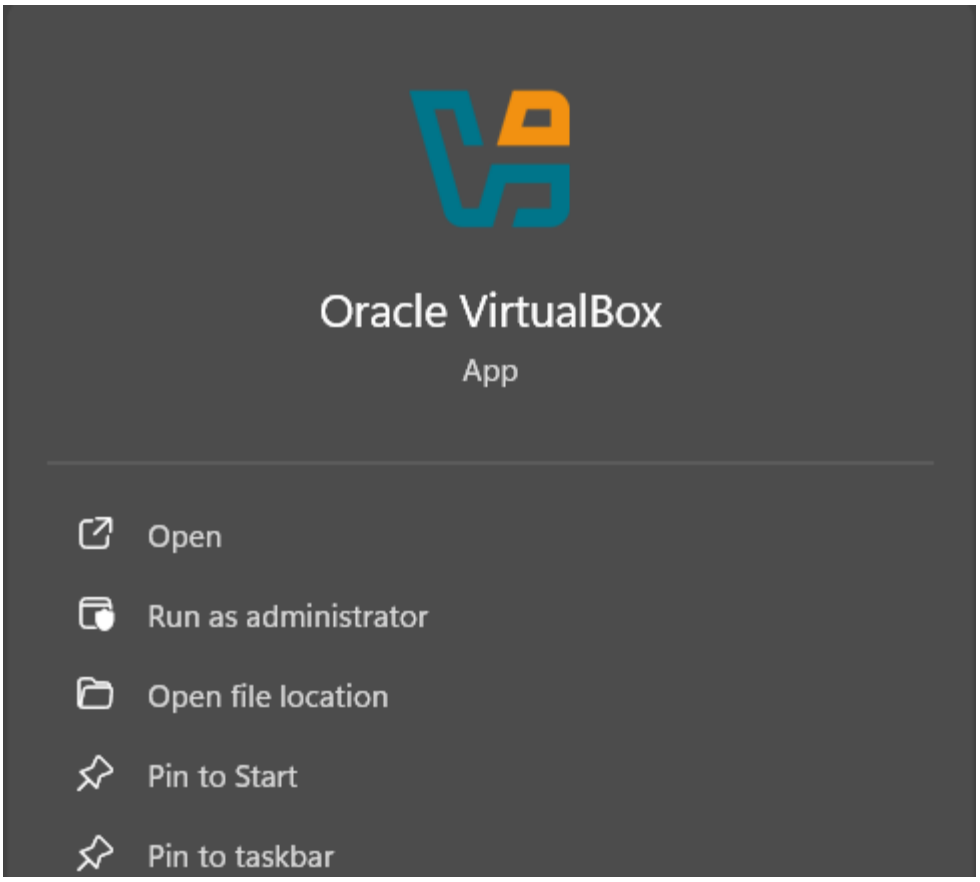

Figure 11: Running Virtual box as Administrator

Step 2; Opening Tools and Preferences

Click on “Tools” which is on top. After then, click on Preferences.

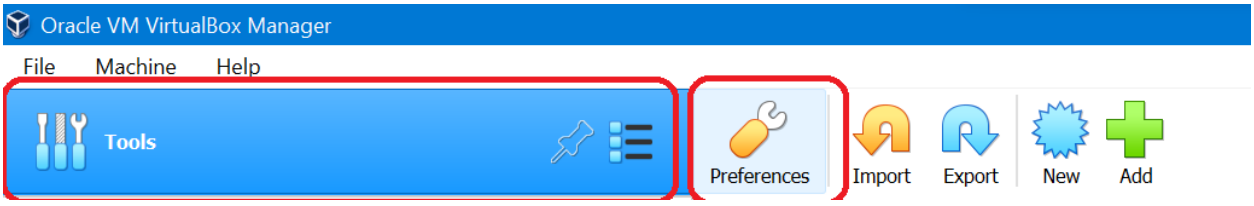

Figure 12:Opening tools and preferences

Step 3; Clicking on Extension tab

Now click on Extension tab and press green add (+) icon which is on the right side

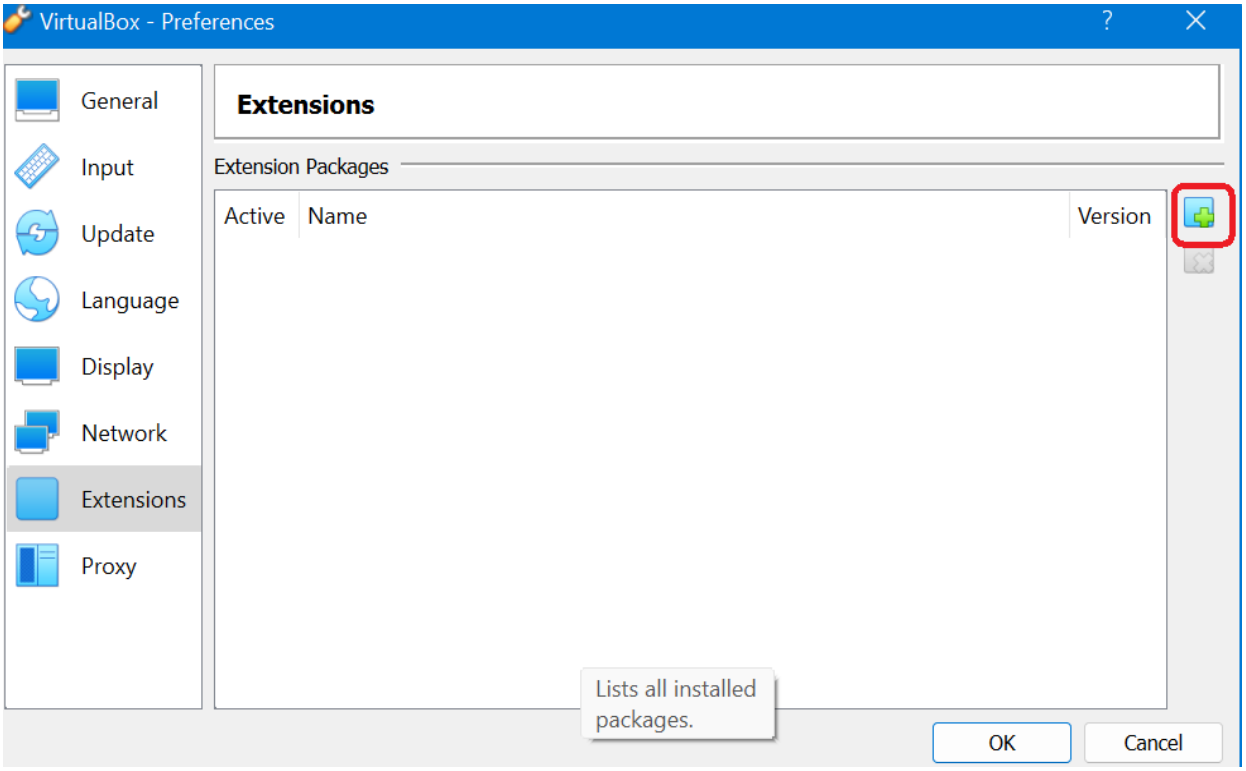

Figure 13 : Clicking on Extension tab

Step 4; Navigating downloaded extension pack

It will open a dialogue box. Navigate to the extension pack file that we have to downloaded earlier and select that, after selecting that click on install.

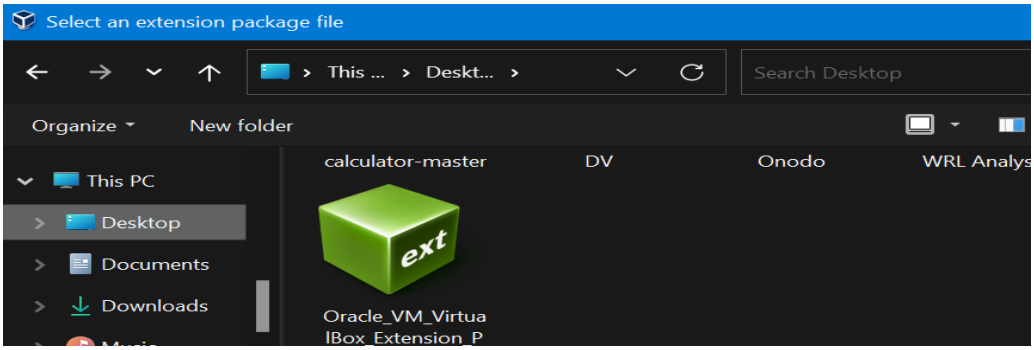

Figure 14: Navigating Downloaded Extension Pack

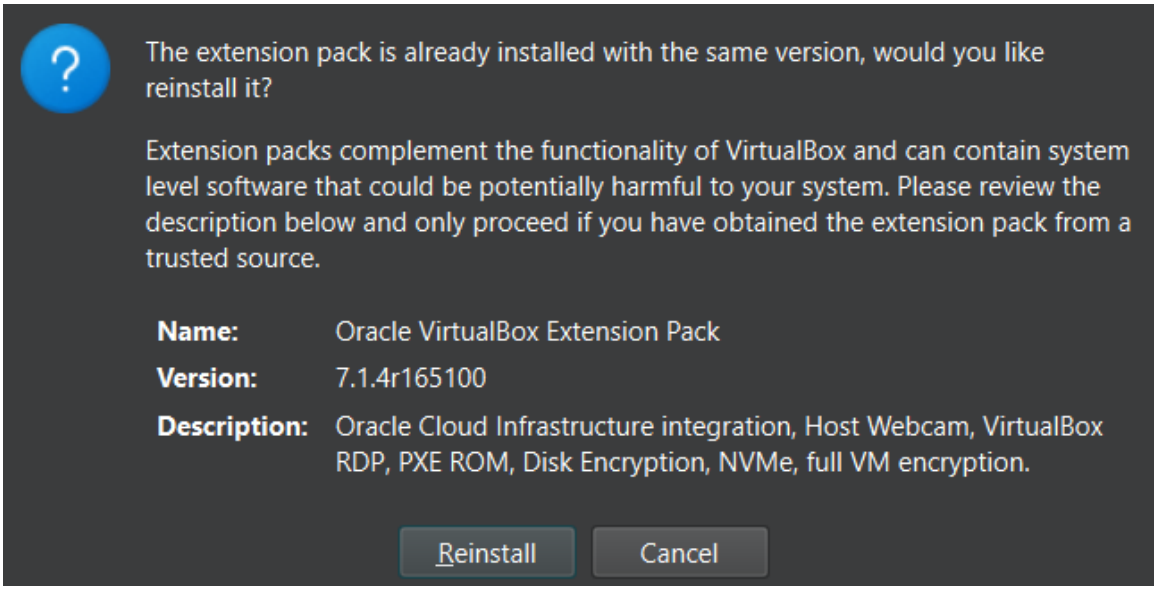

Figure 15: Extension pack successfully installed

Step 5; Selecting Virtual Environment

Now close the tab and select the server 2022 virtual Environment and click on Settings.

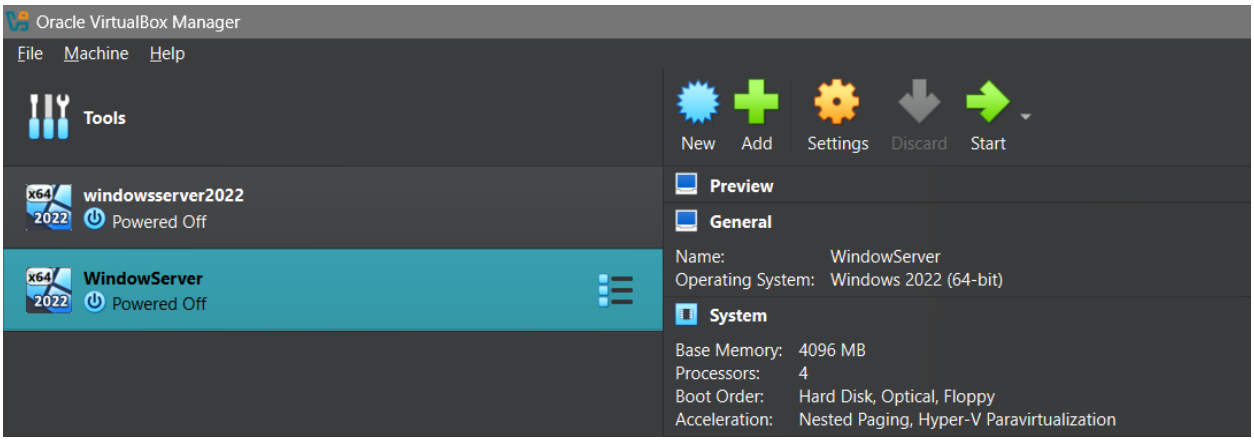

Figure 16: Selecting Virtual Environment

Step 6: Enabling Server

Click on Display and click on Remote Display and click on Enable Server and click OK.

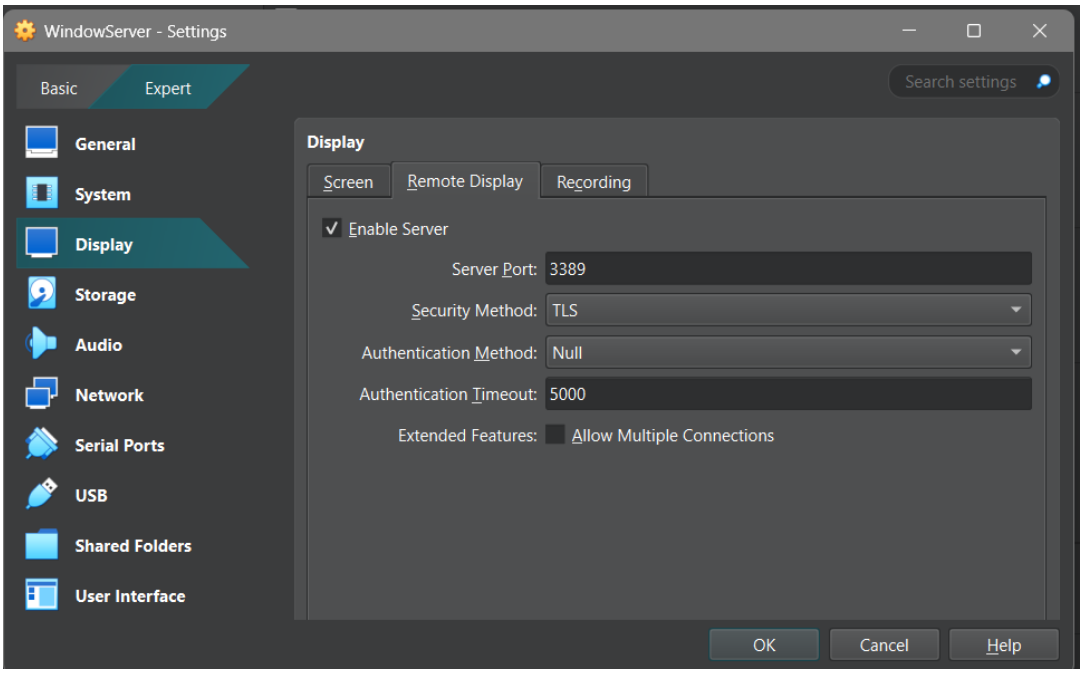

Figure 17: Enabling Server

Step 7; Seeing Ip Address of Guest OS

Now start our windows server 2022 and see your IP address of your Guest OS.

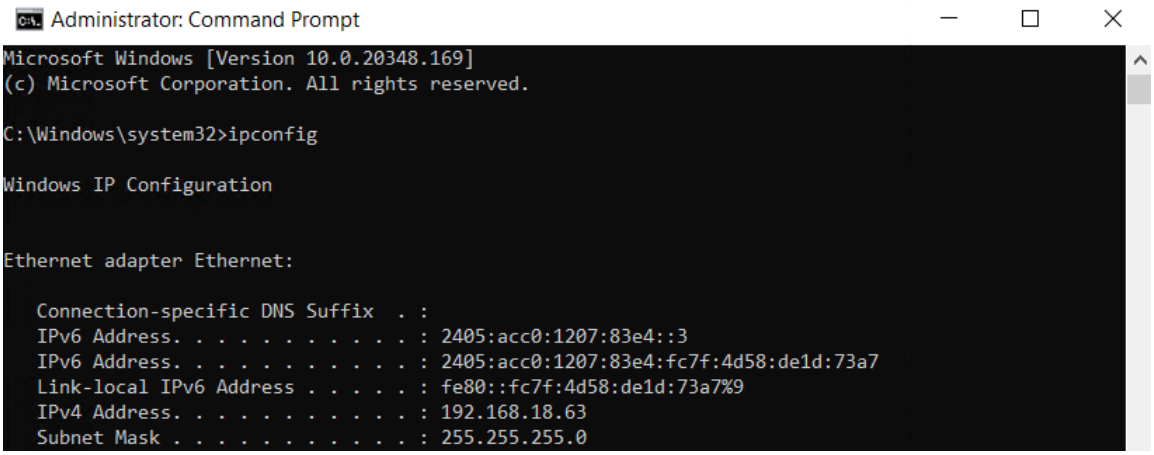

Figure 18: Ip address of Guest OS

Step 8; Opening remote Desktop in Host OS

Open Remote Desktop connection from Host OS and insert IP of Guest OS and click on connect.

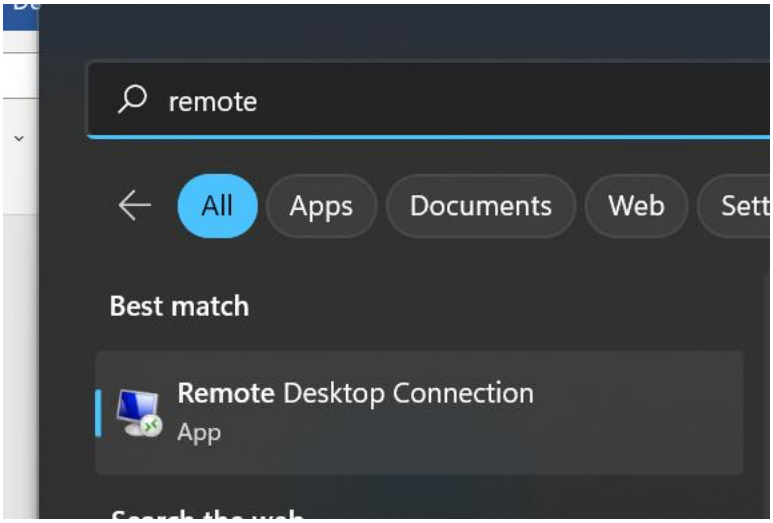

Figure 19: Opening remote desktop on host OS

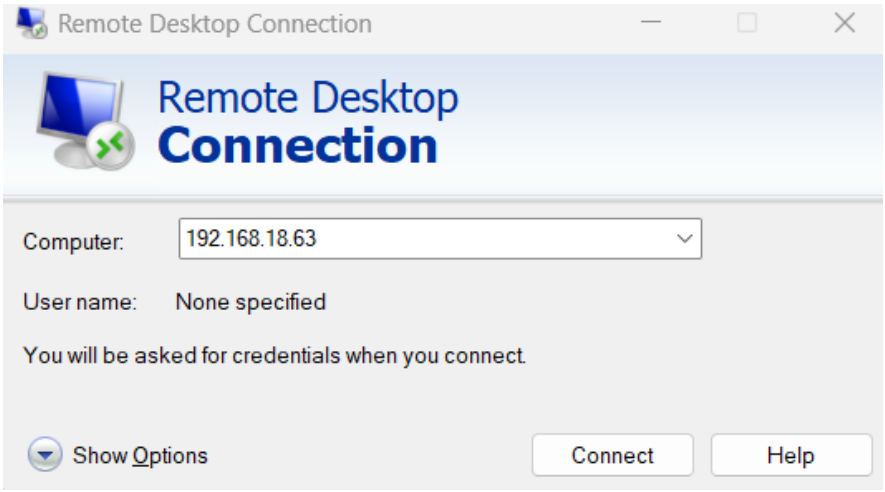

Figure 20: Entering IP address on RDC

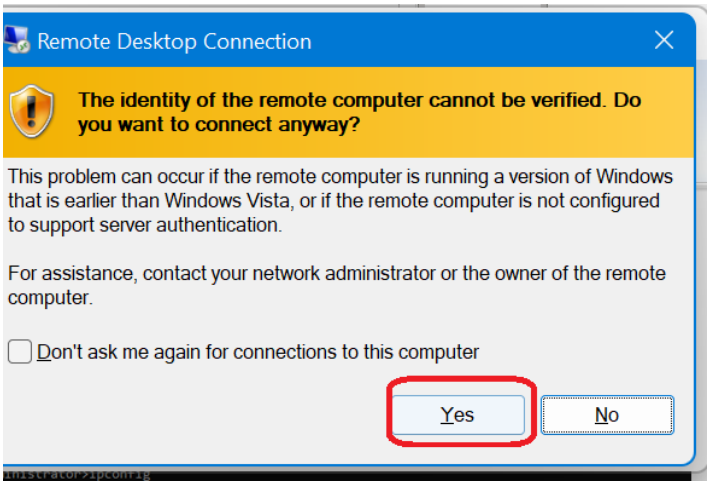

Figure 21: Warning about connection to Host OS

Step 9: Accessing Guest OS from Host OS using remote desktop

Boom. Now we are able to access our Guest OS from Host OS using a remote Desktop.

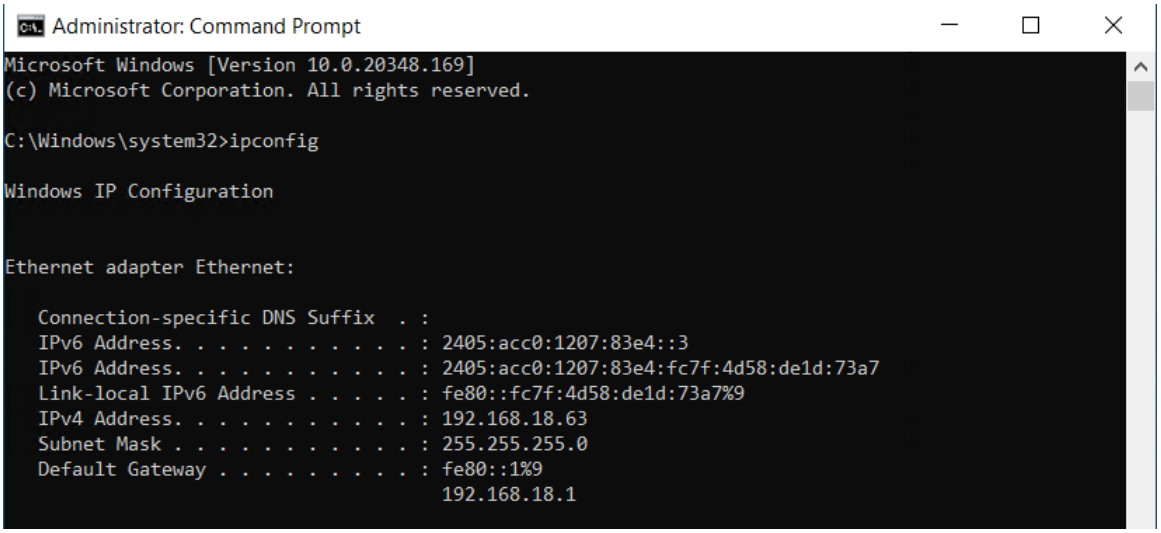

Figure 22: Guest OS accessed from Host OS

6. Conclusion:

Hosting static website on windows server 2022 combines the essential elements of networking, web technologies and server manager. The main aim of this workshop is to config Guest OS to Host OS using remote desktop connection, hosting and managing website within a Local Area Network (LAN). Participants learn to setup and server configuration, network accessibility, file management and security.

This workshop is to understand web hosting, network configuration, and server management. The participants can create a secure and accessible web server within a Local Area Network (LAN)

7. References:

References from College Academic Materials

Tanenbaum's "Computer Networks"