



Network Operating System – CT5052

Assessment Type

Logbook 5

Semester

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I confirm that I understand my coursework needs to be submitted online via my secondary teacher under the relevant module page before the deadline in order 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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Introduction

The goal of this course was to use virtual machine tools, such as the UTM hypervisor, to set up and administer a Windows Server 2022 operating system. By mimicking a machine with particular resources, these technologies generate a virtual environment that enables you to run operating systems that aren't built into your computer. VMware, Parallels Desktop, and Oracle VirtualBox are more well-known virtual machine programs.

Windows Server 2022 is an operating system developed by Microsoft that acts as a server to host websites, share files, and manage networking, among other cloud-related services. It features advanced security, excellent containerization for the .NET platform, smaller installation image sizes, and easier network policy setup.

In the workshop, Remote Desktop Protocol (RDP) was used to manage the server remotely. The server hosted a static website using Windows Server 2022 and was made accessible both locally on the network and remotely through Remote Desktop on macOS. This demonstrated how to remotely manage and use a server effectively.

Objectives

- **Deploying and Hosting a Static Website:** Set up a virtual machine running Windows Server 2022 and use Internet Information Services (IIS) to host a simple static website.
- **Configuring Remote Desktop Access:** Enable and configure Remote Desktop Protocol (RDP) for secure remote access to the Windows Server 2022 operating system from another device.
- **Accessing the Website on a Local Network:** Ensure the static website is accessible to all devices connected to the same local area network (LAN), showcasing practical resource sharing and network connectivity.

Required Tools and Concepts

Following tools are required to static web hosting and make remote desktop connection.

Hardware:

64GB storage minimum requirment

8GB RAM recommended

1.4ghz 64bit processor

Network Access

Software:

VirtualBox Extension Pack or Windows app

Hypervisor to run OS in virtual enviroment.

Windows Server 2022 ISO file for creating the guest OS.

Concepts:

Understanding of network basics LAN, IP addresses, and network adapters,

Internet Information Services (IIS)

Remote Desktop Protocol (RDP)

Step 1: Opening Virtual Box.

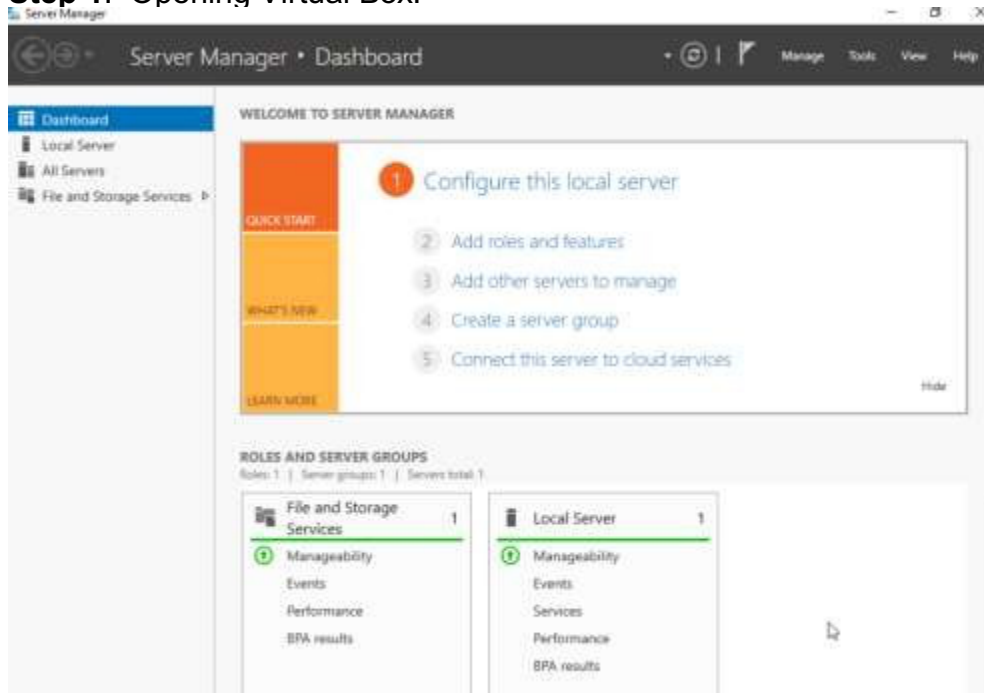


Figure 1 Opening VM

Step 2: Now clicking on Network and under network select Bridged Adapter in Attached to option on right side.

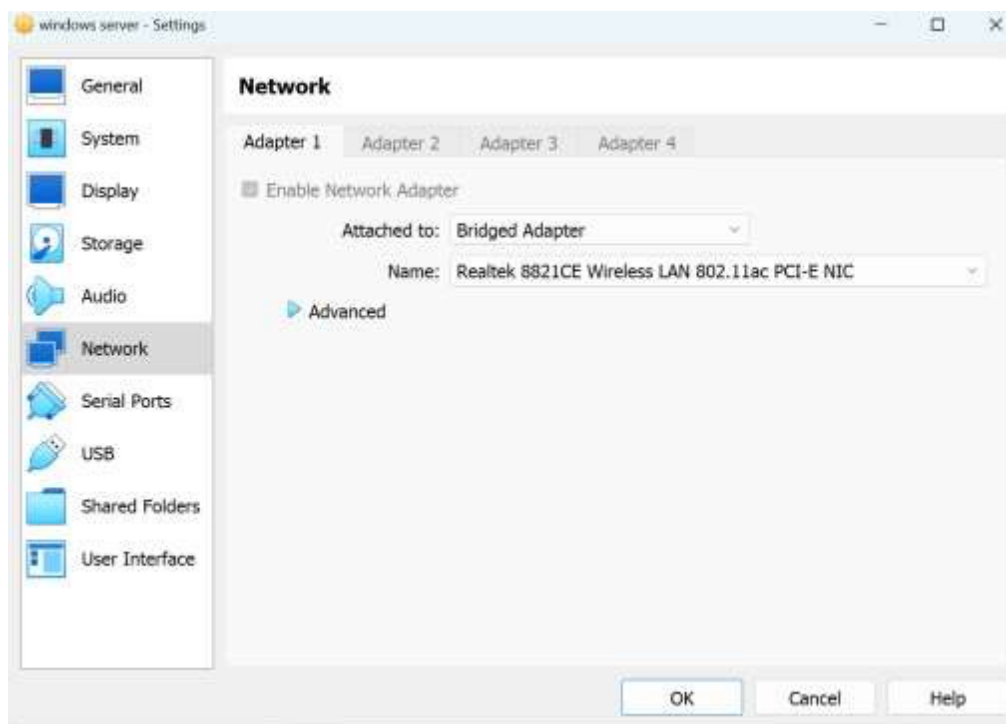


Figure 2 Clicking the Network

Step 3: Just like in the previous workshop, we need to store our website files on Windows Server 2022's Local Disk C disk.

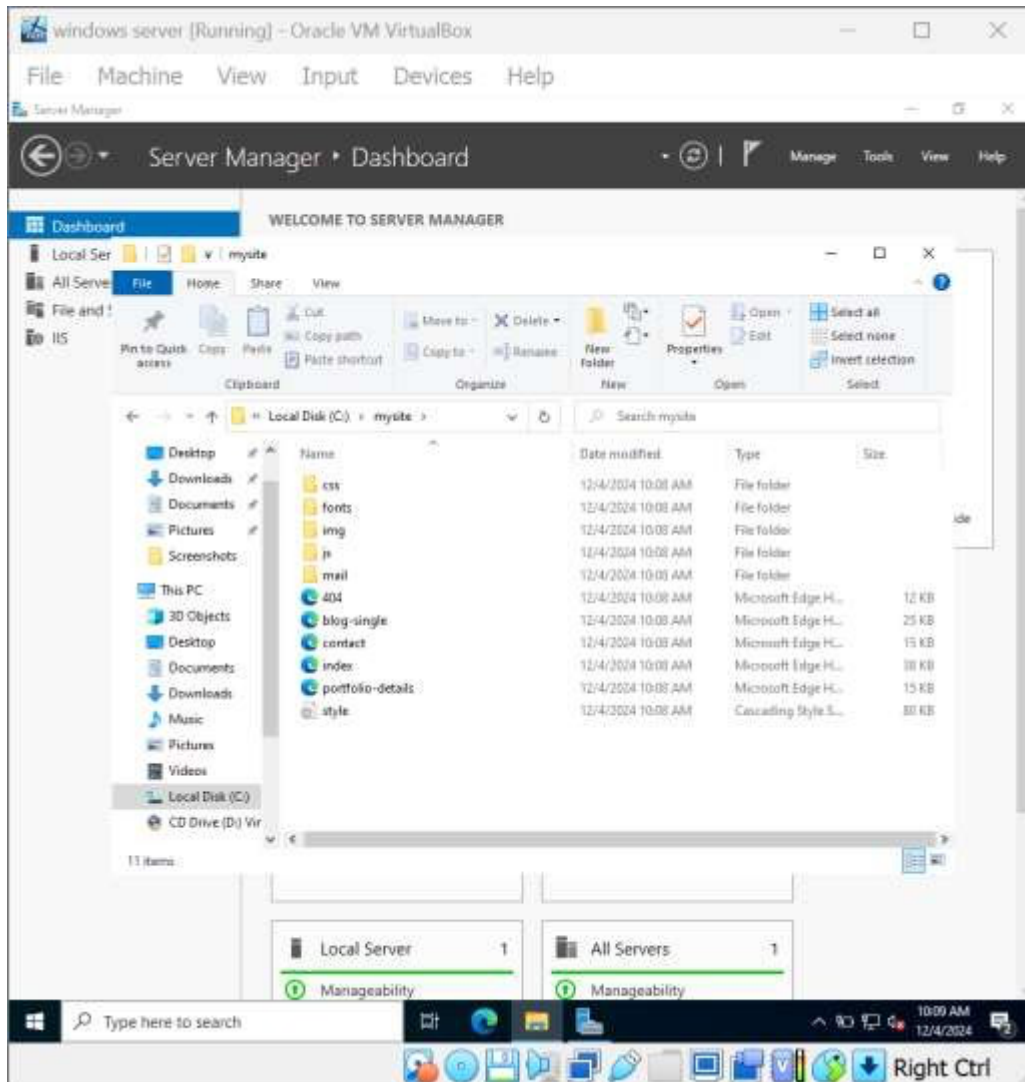


Figure 3 Local disk C

Step 4: Now we must open run and type "inetmgr". It will open our Internet Information Service from where we can setup hosting.

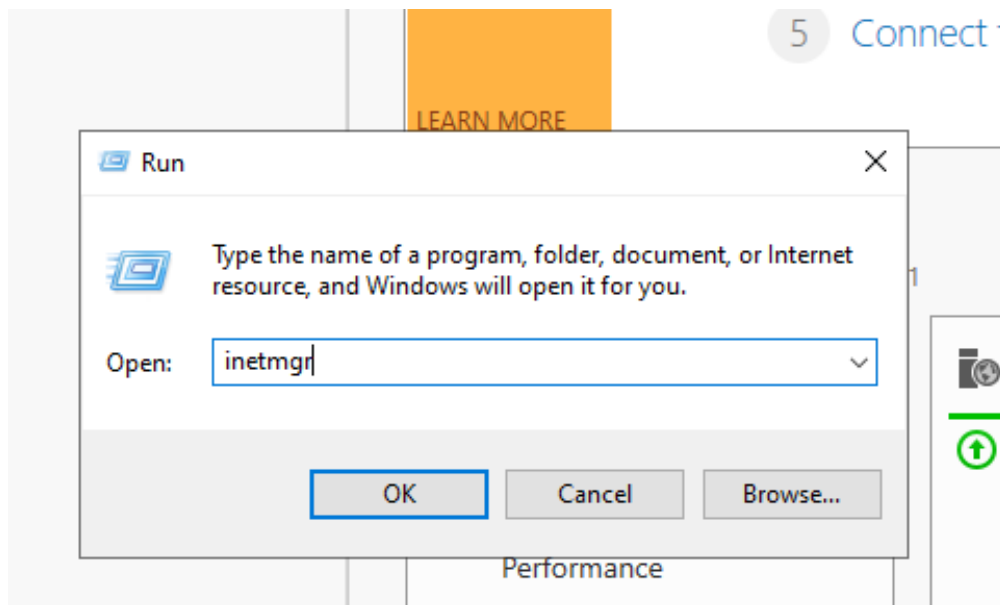


Figure 4 Opening Run and Typing inetmgr

Step 5: As in the last workshop, expand the server name, right-click on "Sites," and select the "Add Website" option.

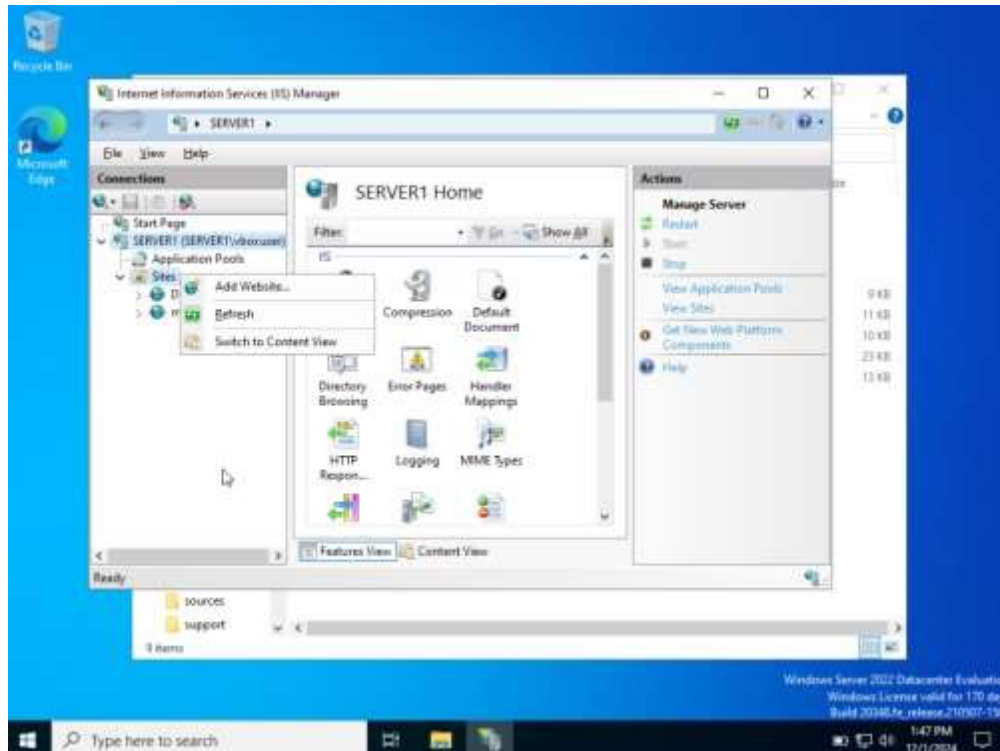


Figure 5 Expanding the Server

Step 6: Now we need to add details of our website.

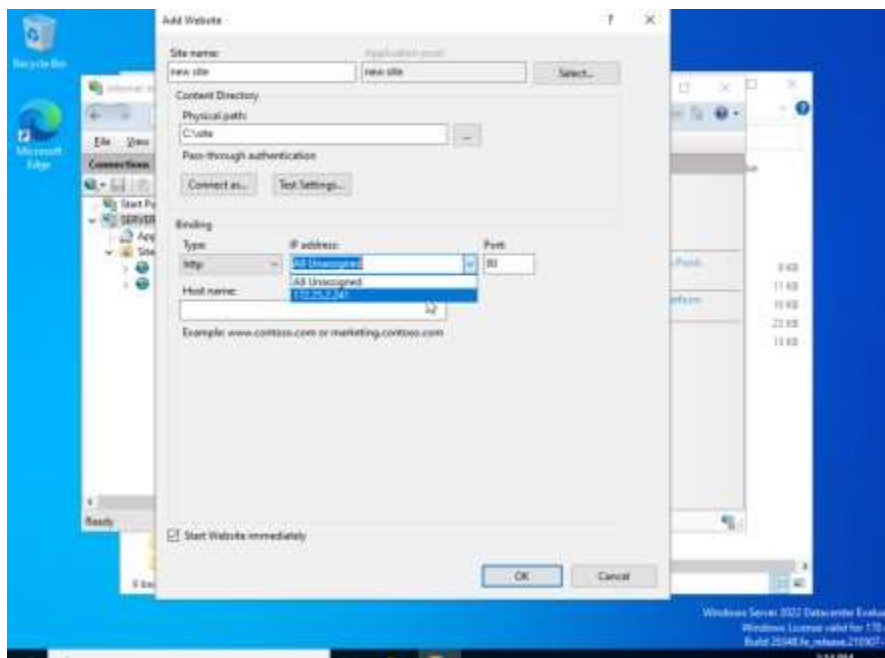


Figure 6 Filling Details in the site

Step 7: The name of our website is now visible on the list. By selecting "Browse" and then our IP address on the right, we may explore our website. This will launch a browser window with our website.

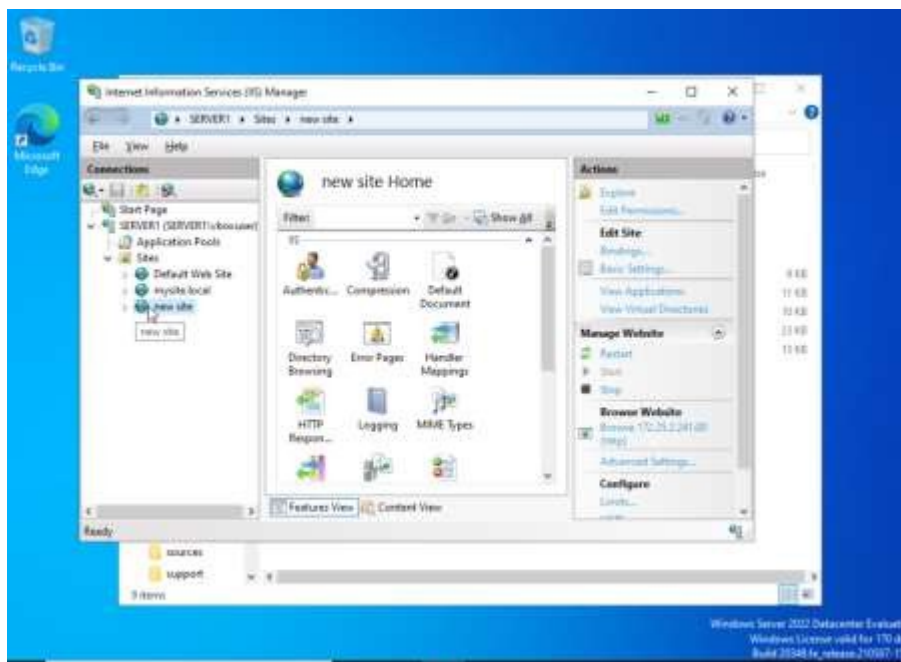


Figure 7 Seeing Site name

Step 8: We can see our website is live now:

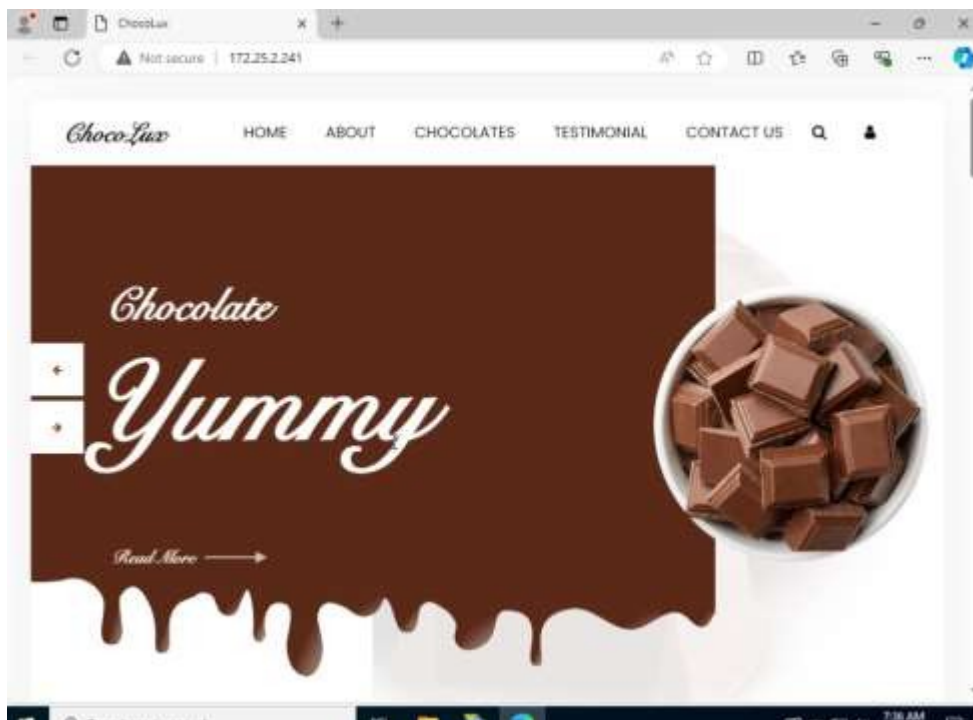


Figure 8 Website is running

Step 9: make sure Remote Management and Remote Desktop features are enabled and get the IP address of the port.



Figure 9 Ensuring the remote desktop

Step 10: In the windows app, Open PC Desktop Connection from Host OS and insert IP of Guest OS and click on Connect.

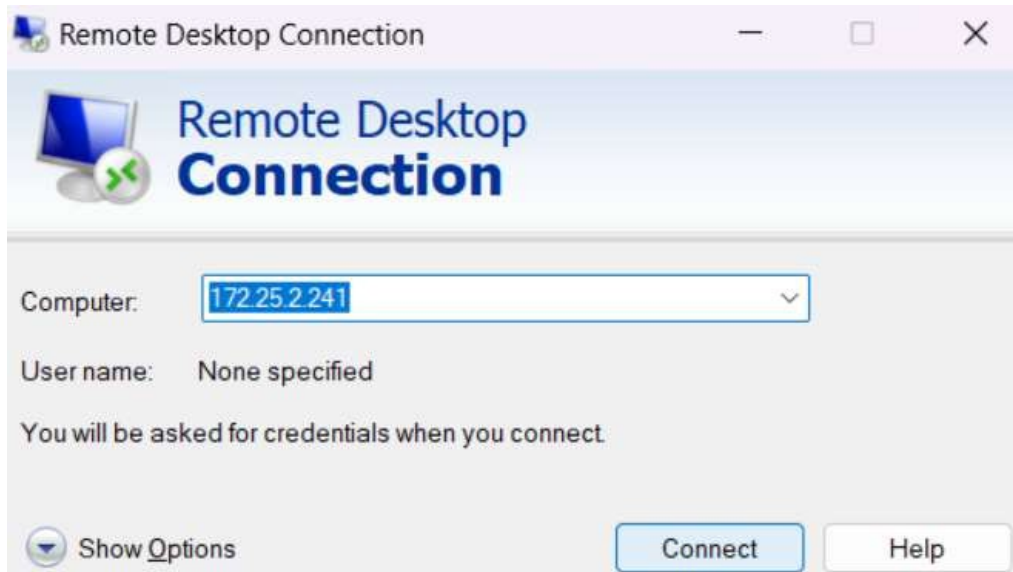


Figure 10 Entering Details on Windows App

Step 11: Insert logging details of User in the guestOS

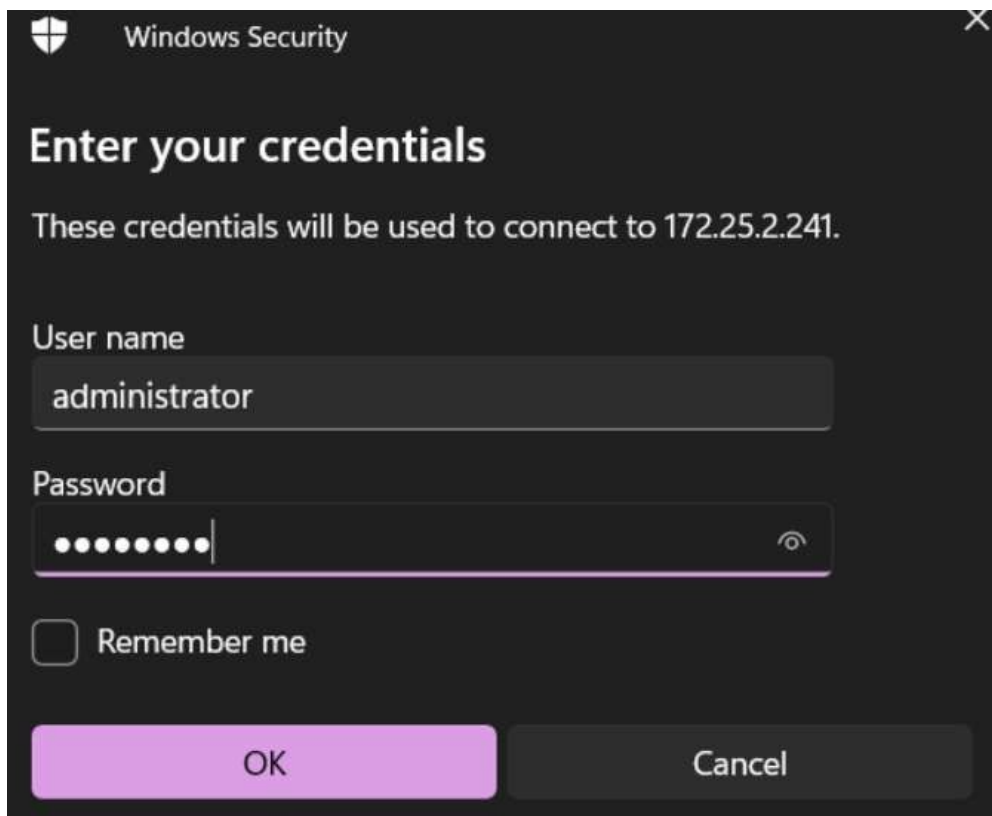


Figure 11 Inserting the details in guestOS.

Step 12: Running the server in guestOS.

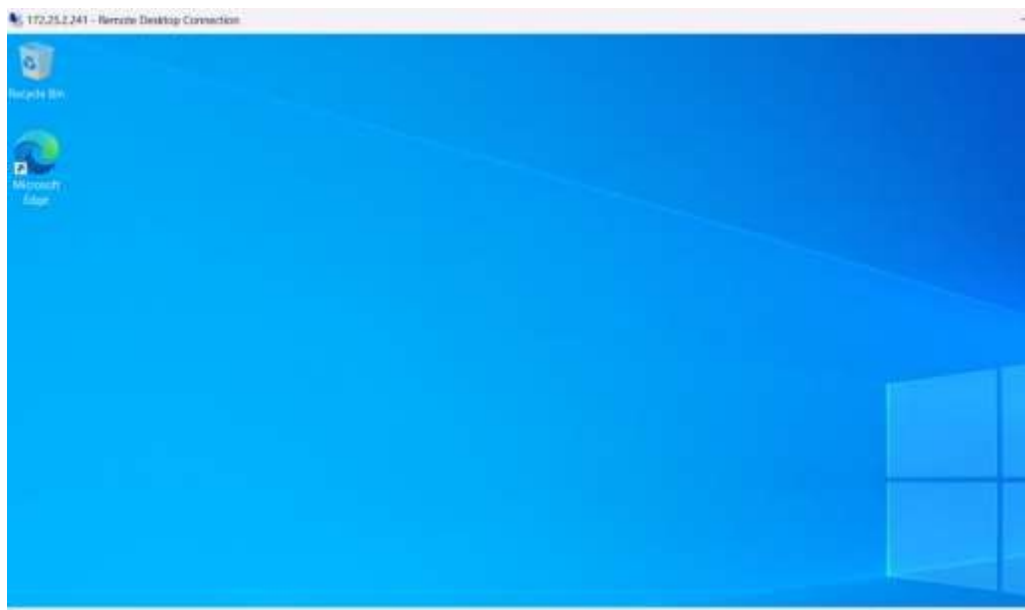


Figure 12 Running the server in guestOS

Step 13: Boom. Now we are able to access our Guest OS from Host OS using Remote Desktop.

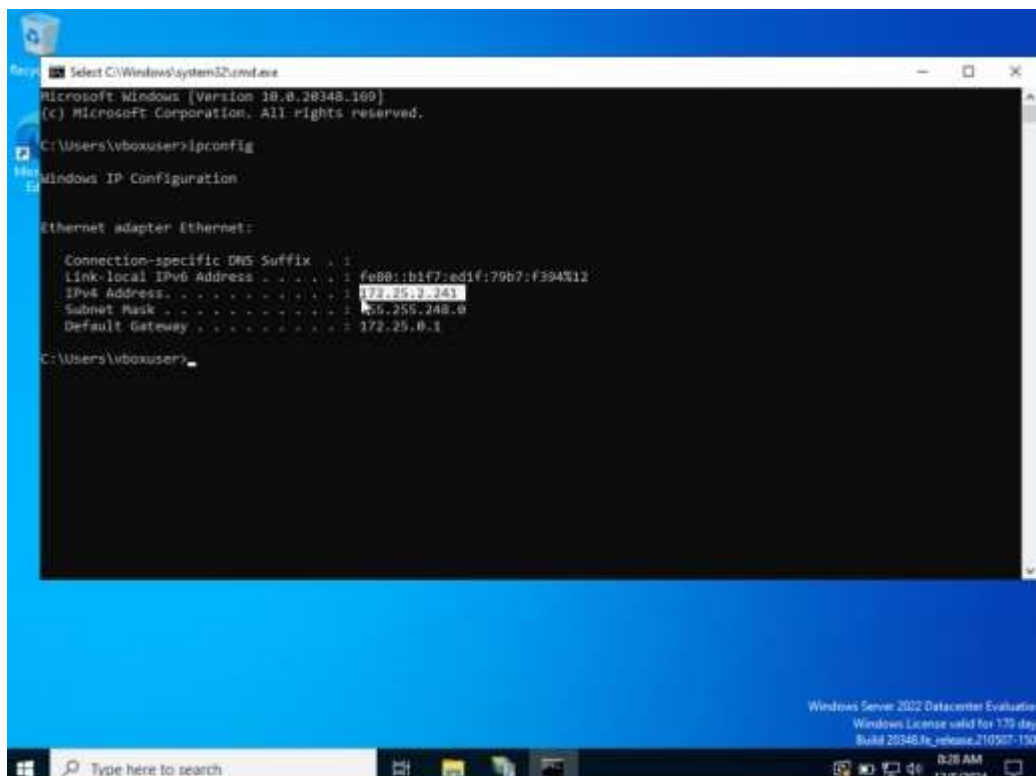


Figure 13 Able to access GuestOs

Conclusion

This workshop demonstrated the process of hosting a static website in a virtualized environment using Windows Server 2022. By running the server OS on a hypervisor, we created an isolated virtual setup for web hosting and enabled RDP for remote server management. These steps highlighted the practical capabilities of tools like VirtualBox and other hypervisors.

Through this hands-on experience, we gained essential skills in network administration and web hosting, providing a solid foundation for more advanced configurations. The hosted website was successfully made accessible within the local network and browsed using mobile devices. Additionally, using RDP, we efficiently accessed and managed the Windows Server operating in the virtual environment, showcasing its utility for secure and smooth remote management.