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I confirm that I understand my coursework needs to be submitted online via Google Classroom 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.

Table of Contents

1.Introduction.....	4
2.Objective of server manager	4
3.Requirement for using window server manager	5
1.Hardware Requirements:.....	5
2. Operating system.....	5
4.Steps for turning on window server manager from virtual box	6
i. Installing window server manager:.....	6
ii. Loading windows on virtual box:.....	6
iii. window fully loaded on virtual box	7
iv. opening window server manager.....	7
v. Changing the default server's name	8
vi. Changing server's name.....	8
vii. Restarting after changing the server name.	9
viii. Enabling remote desktop.	9
ix. Shows warning about firewall.	10
x. Setting up static ip address.	10
xi. Changing the time zone	13
xii. Turning off IE enhanced security and checking for updates.....	16
xiii. Adding user using GUI	18
5. Adding new user using shell	20
xv. Removing a user	21
xvi. strong password using variables as secure strings	21
6.coclusion.....	21
7.References	22

Table of Figure

Figure 1: installing windows server manager.....	6
Figure 2 loading window on virtual box.....	6
Figure 3window fully loaded.....	7
Figure 4 opening window server manager.....	7
Figure 5default server name	8
Figure 6 changing server name	8
Figure 7restarting after changing the server name.....	9
Figure 8 enabling remote desktop.....	9
Figure 9warning about firewall	10
Figure 10 setting up static IP address.....	10
Figure 11 changing the time zione	13
Figure 12 time zone setting.....	16
Figure 13 internet explore enhanced security configuration	17
Figure 14 adding user using GUI	19
Figure 15 new user is added successfully	20

1.Introduction.

A Server Manager is a tool used by system administrators to manage and configure various server roles, services, and applications on a network. It allows for centralized administration, monitoring, and troubleshooting of servers, including hardware configuration, software management, and security settings. The term generally refers to both the software used for managing servers and the process of overseeing their operation in a networked environment.

Server managers are a critical part of enterprise IT infrastructure as they help ensure that servers are running efficiently and securely. They provide tools for tasks like configuring server roles (e.g., web server, database server), monitoring performance, updating systems, and managing user access.

2.Objective of server manager

The primary objectives of a Server Manager include:

- **Centralized Management:** Provides a single interface to manage multiple servers, which simplifies administrative tasks and reduces complexity. For

example, Windows Server Manager can be used to manage both local and remote servers in a network.

- **Server Configuration:** Helps administrators configure server roles and services (e.g., DNS, DHCP, Active Directory, file sharing, etc.). This ensures that servers function according to organizational needs.
- **Performance Monitoring:** Tracks server health and performance metrics like CPU usage, memory usage, disk space, and network traffic. Server Managers allow administrators to respond proactively to potential issues.
- **Security management:** Aids in the administration of encryption methods, firewalls, permissions, and antivirus programs. To maintain the server environment's security, it also helps with the application of security patches and upgrades.
- **Automation:** Automates routine processes like resource allocation, user access control, and backup management. This guarantees constant server operations and lowers the possibility of human error.

3.Requirement for using window server manager

1.Hardware Requirements:

- 1.4 GHz 64-bit processor
- 2 GB RAM minimum (more recommended)
- 32 GB disk space minimum
- Network adapter
- Administrator privileges

2. Operating system: Runs on supported Windows Server editions (e.g., Windows Server 2016, 2019, 2022).

- Requires proper network configuration for managing remote servers.
- Use of secure communication protocols like HTTPS.

4.Steps for turning on window server manager from virtual box

i. Installing window server manager:

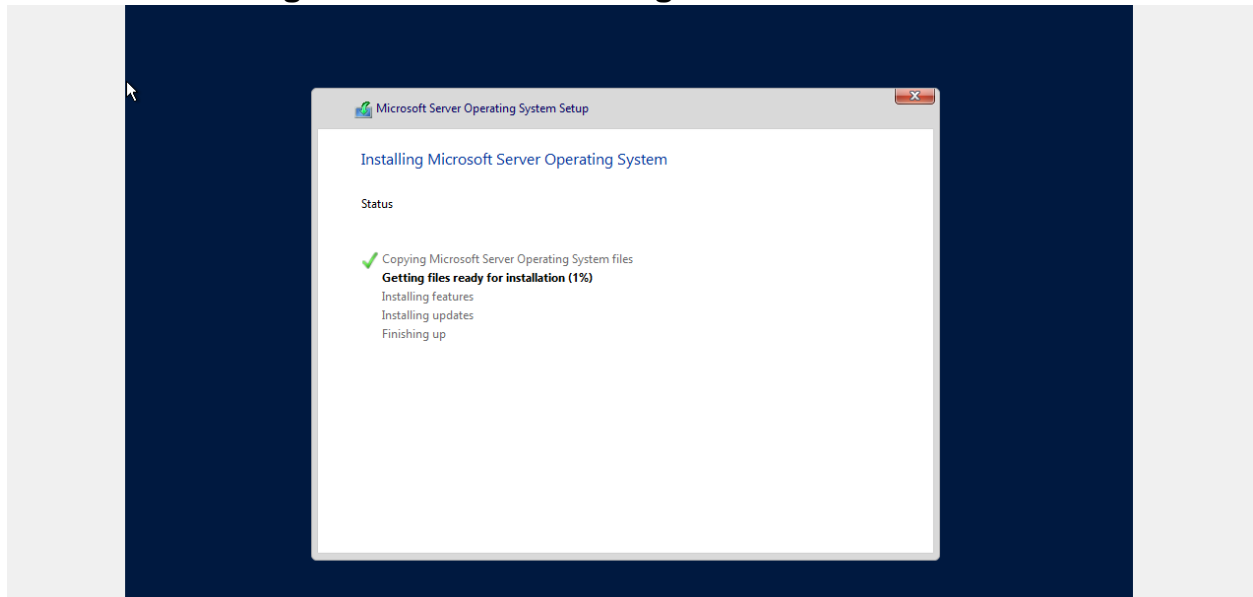


Figure 1: installing windows server manager

ii. Loading windows on virtual box:

It will take some time according to your pc/laptop to load.

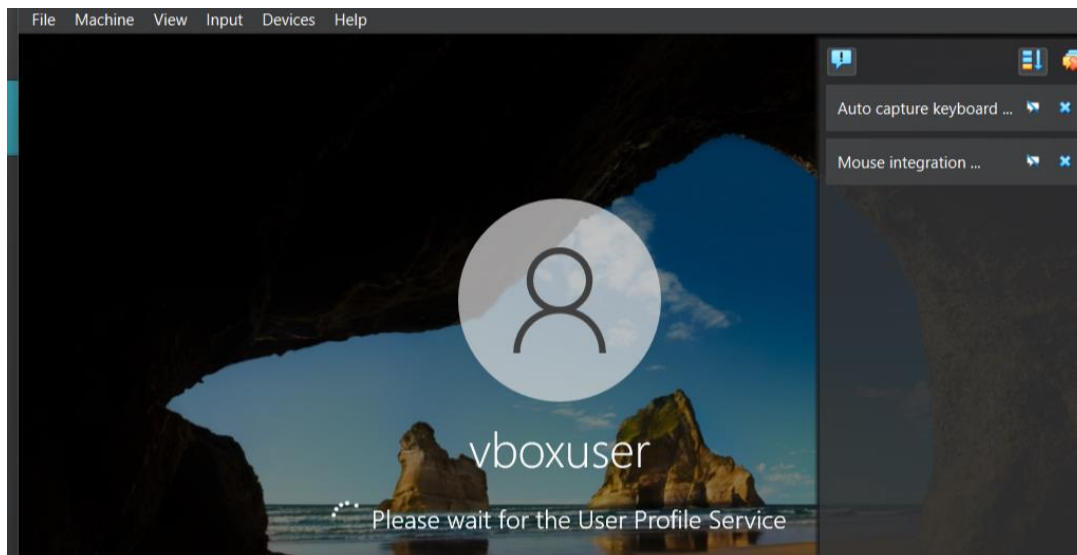


Figure 2 loading window on virtual box

iii. window fully loaded on virtual box

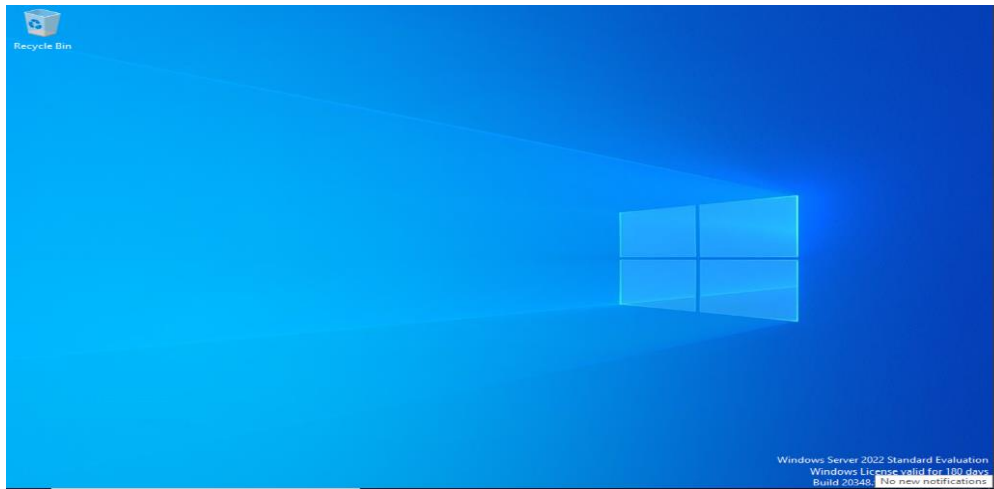


Figure 3 window fully loaded

iv. opening window server manager

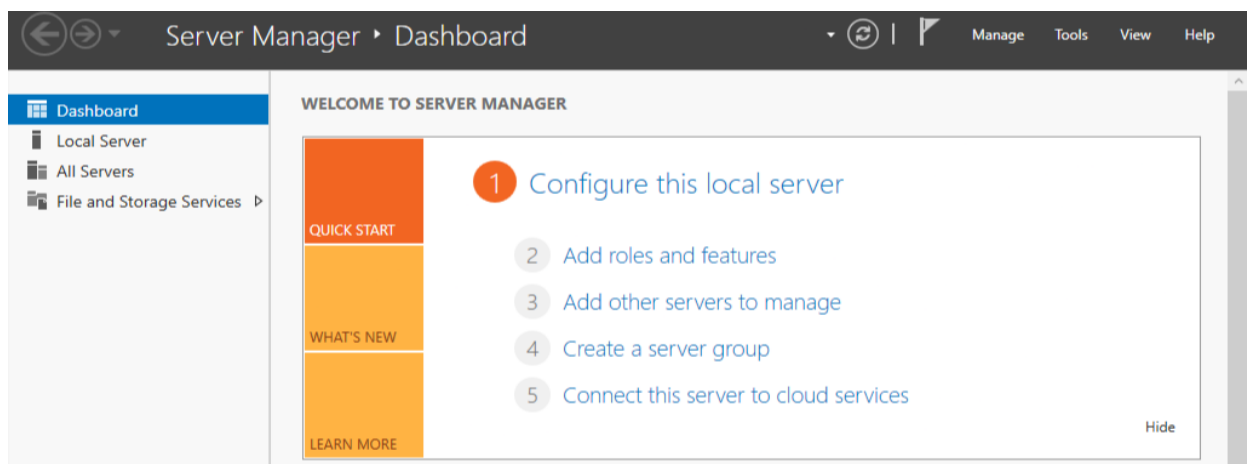
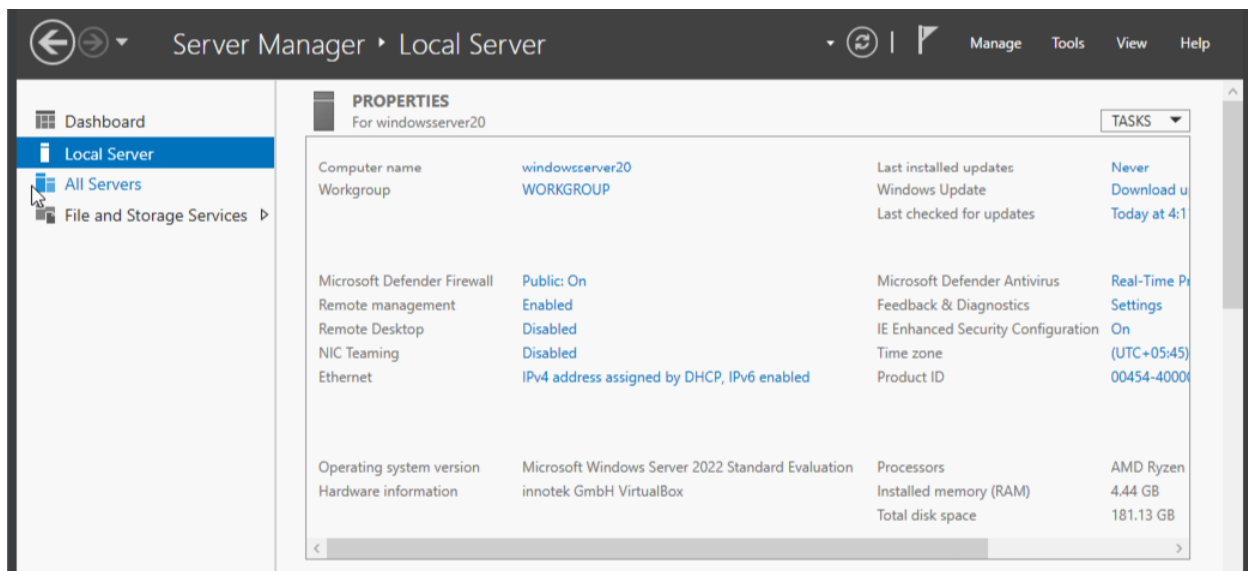
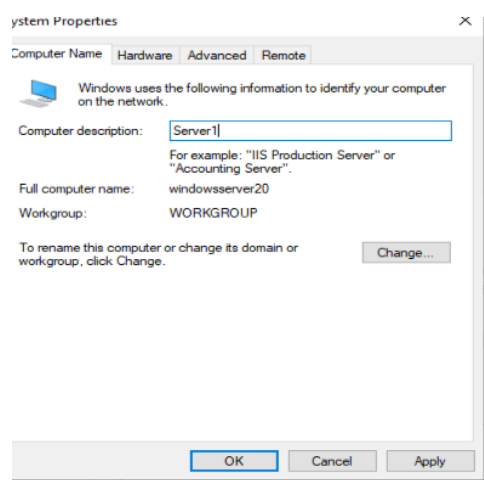


Figure 4 opening window server manager

v. Changing the default server's name*Figure 5 default server name***vi. Changing server's name.***Figure 6 changing server name*

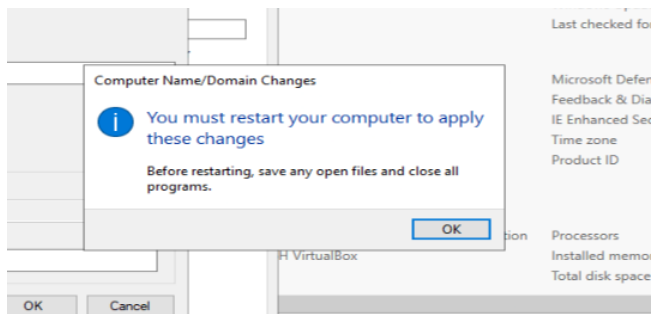
vii. Restarting after changing the server name.

Figure 7 restarting after changing the server name

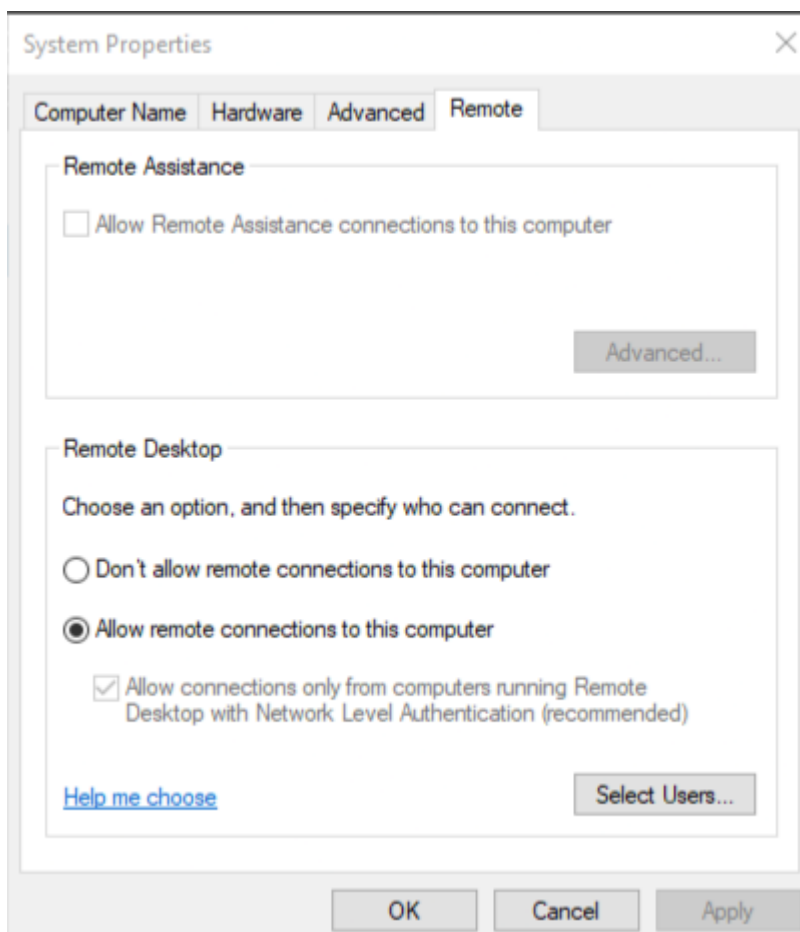
viii. Enabling remote desktop.

Figure 8 enabling remote desktop

ix. Shows warning about firewall.

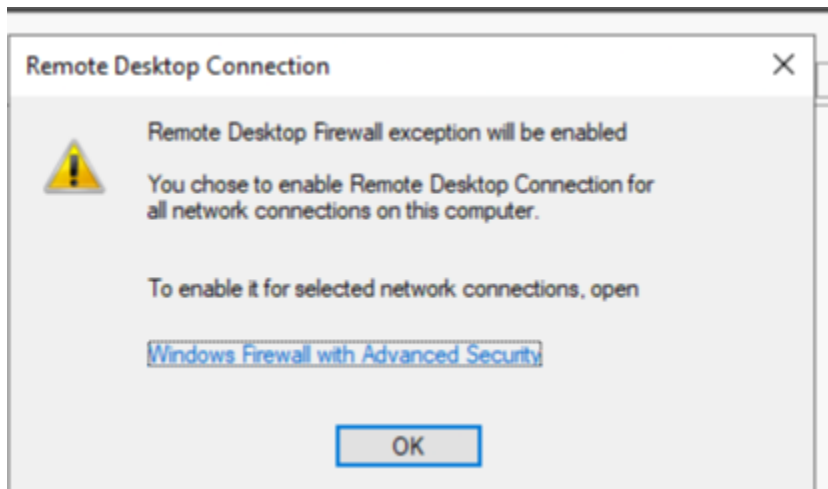


Figure 9 warning about firewall

x. Setting up static ip address.

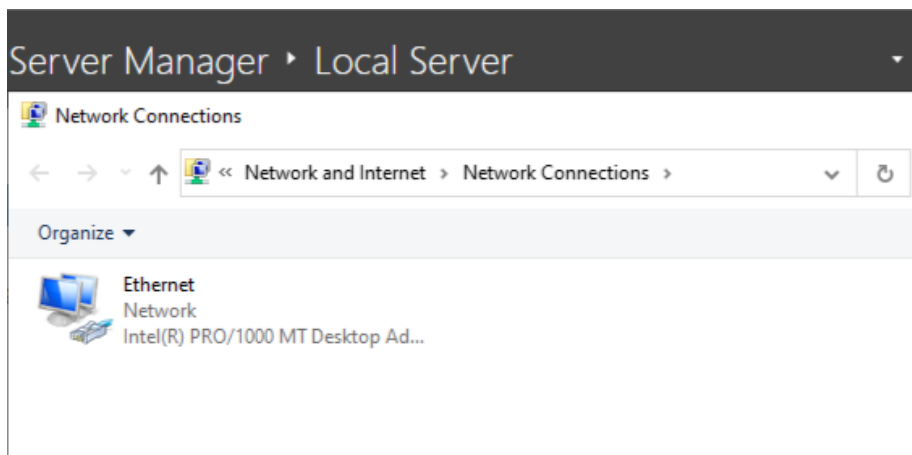
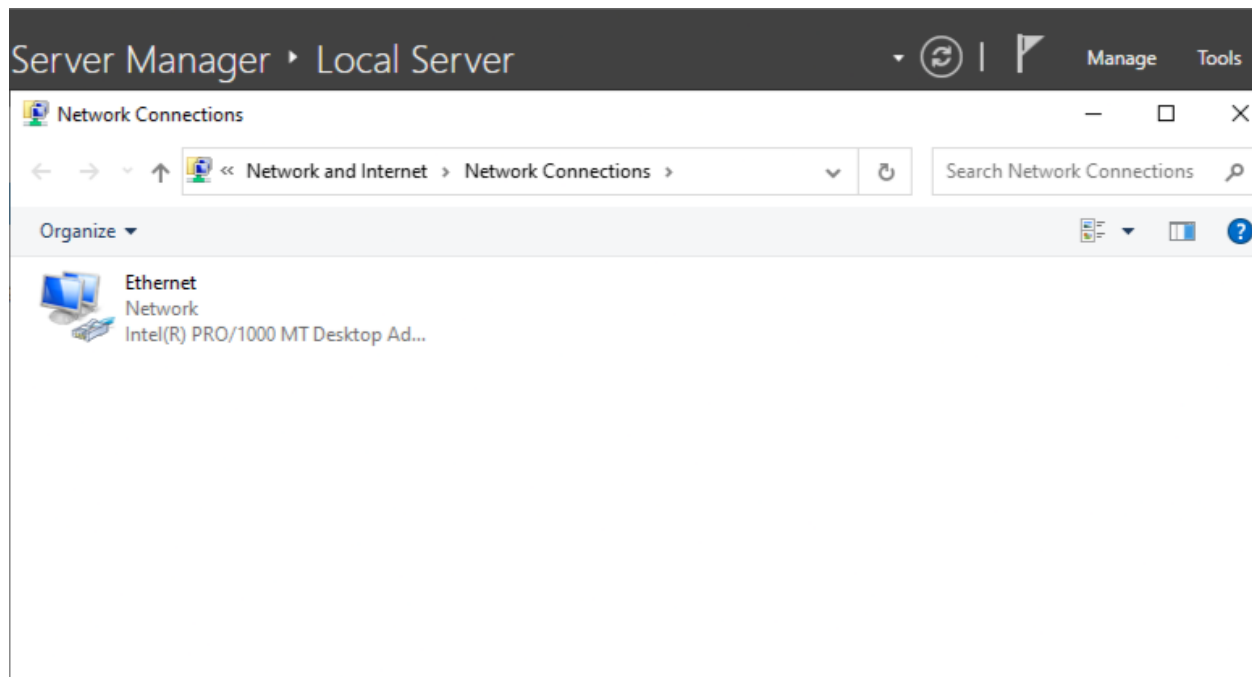
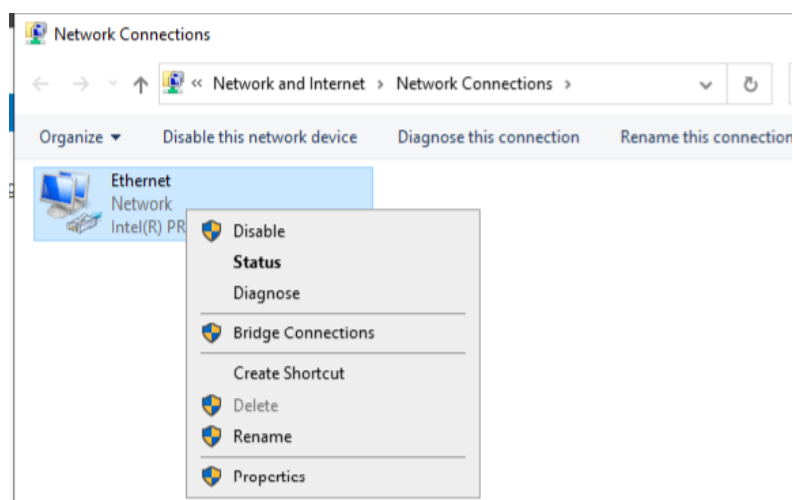


Figure 10 setting up static IP address

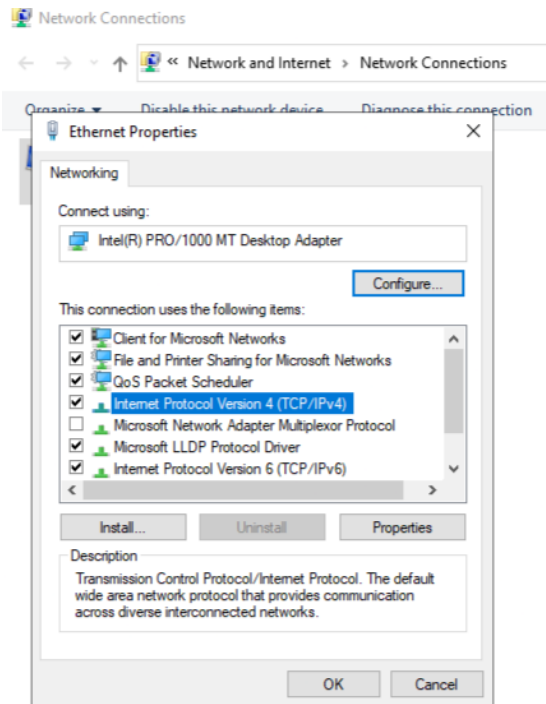
To set an ip address, press the Ethernet button. This shows a list of network adapters connected to the server.



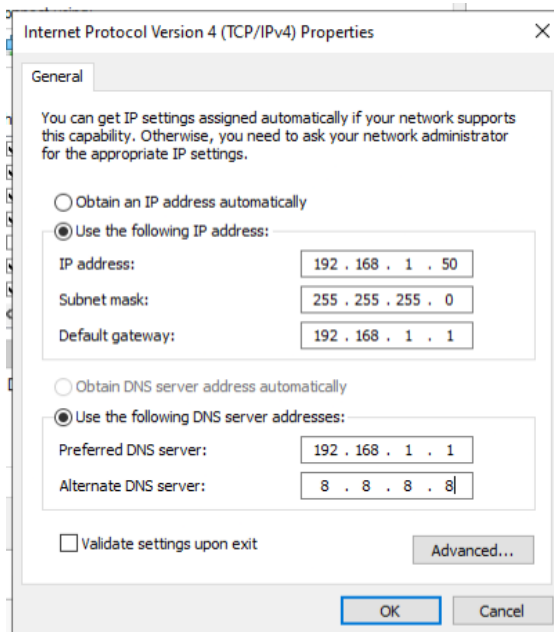
The properties of the adapter is opened by right click on the adapter



From the properties , double click on IPV4 from the list . This will open a new window to enter the Ip.



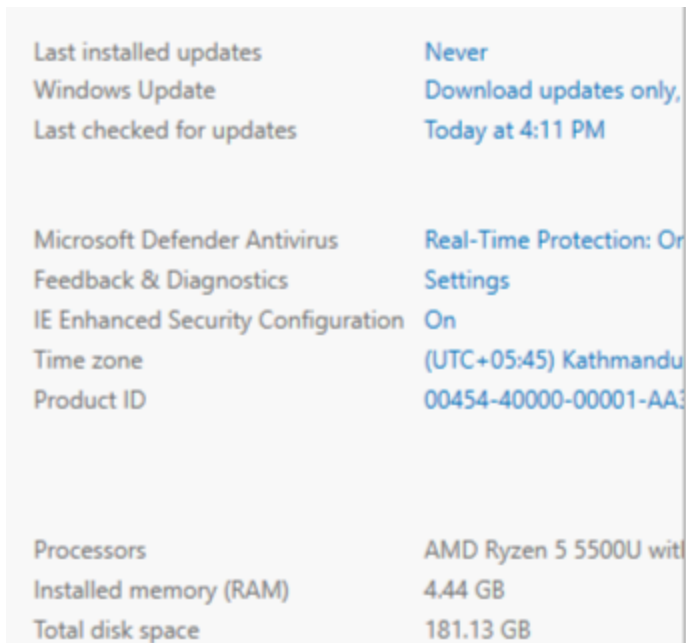
In the new window, enter the IP for the device and also subnet mask, Gateway and Primary and Secondary DNS server address. Static IP is configured successfully.



xi. Changing the time zone

To change the time zone, press on the time zone from the menu on server manager.

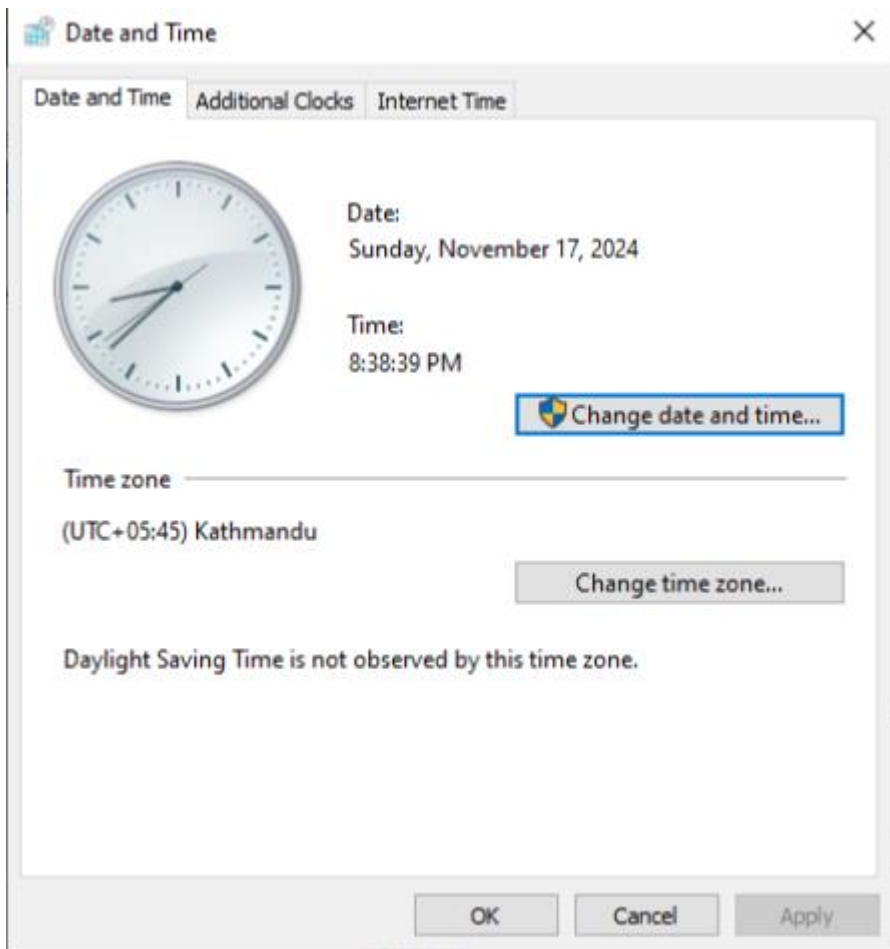
Selecting the correct time zone is important for the server.



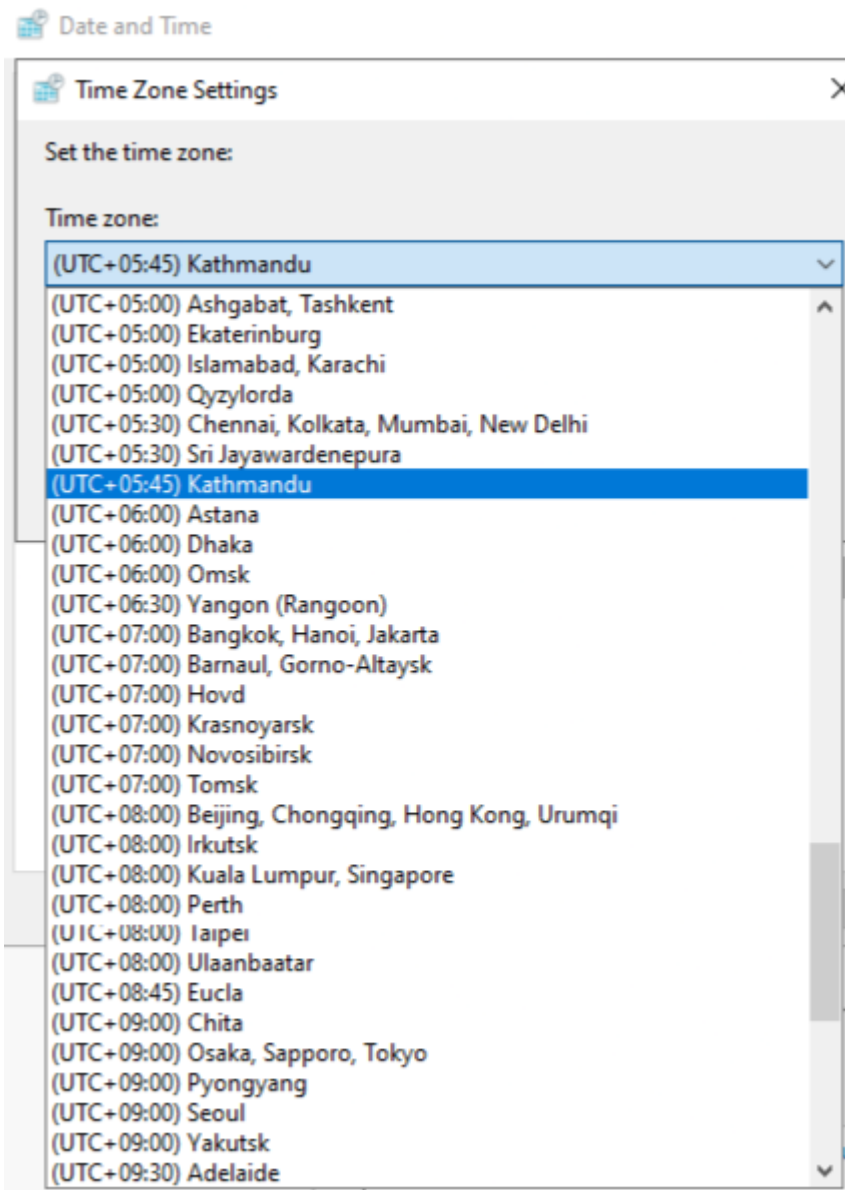
Last installed updates	Never
Windows Update	Download updates only,
Last checked for updates	Today at 4:11 PM
Microsoft Defender Antivirus	Real-Time Protection: On
Feedback & Diagnostics	Settings
IE Enhanced Security Configuration	On
Time zone	(UTC+05:45) Kathmandu
Product ID	00454-40000-00001-AA3
Processors	AMD Ryzen 5 5500U with
Installed memory (RAM)	4.44 GB
Total disk space	181.13 GB

Figure 11 changing the time zone

On the new window, press the change time zone button.



From the drop-down list, select the correct time zone for server, here Kathmandu is selected.



Finally, press the "OK" button.

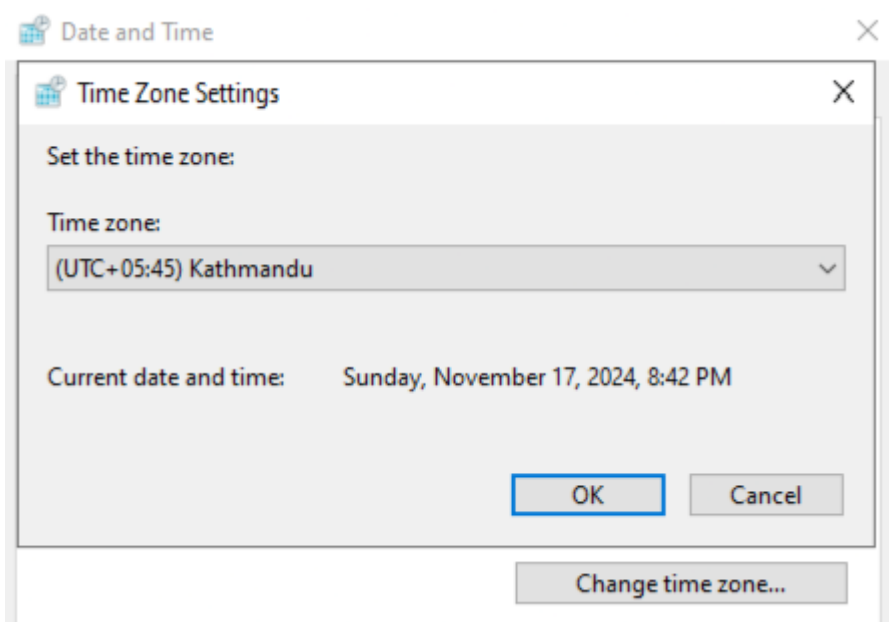


Figure 12 time zone setting

xii. Turning off IE enhanced security and checking for updates

To turn off IE enhanced security from the menu, the IE Enhanced security button is pressed. A new window opens.

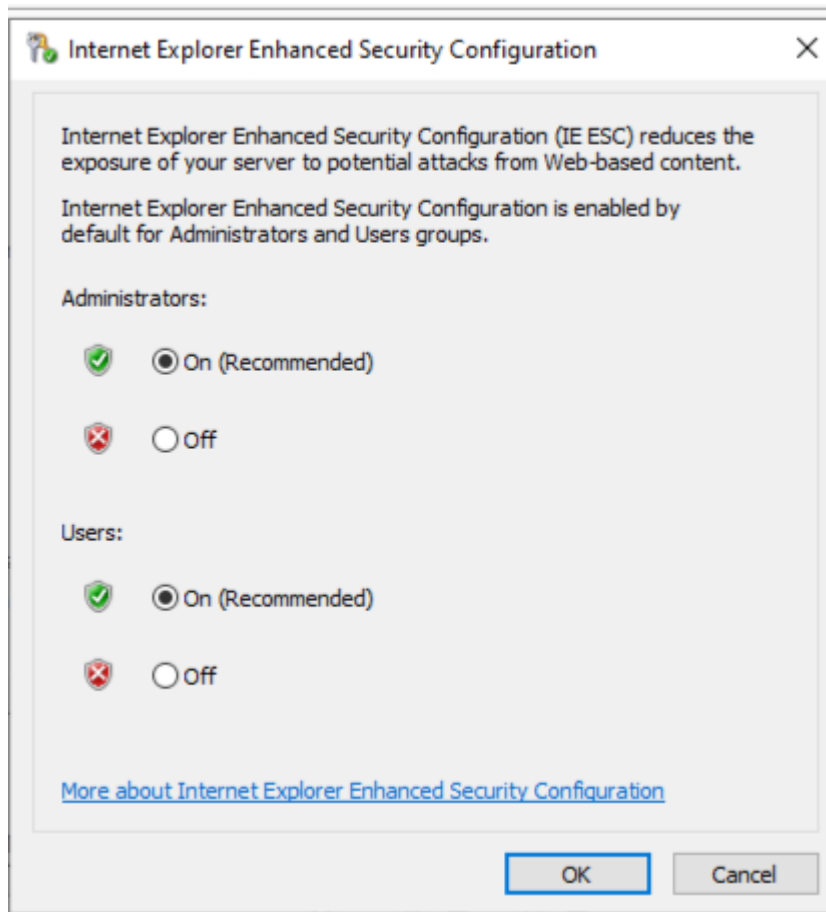
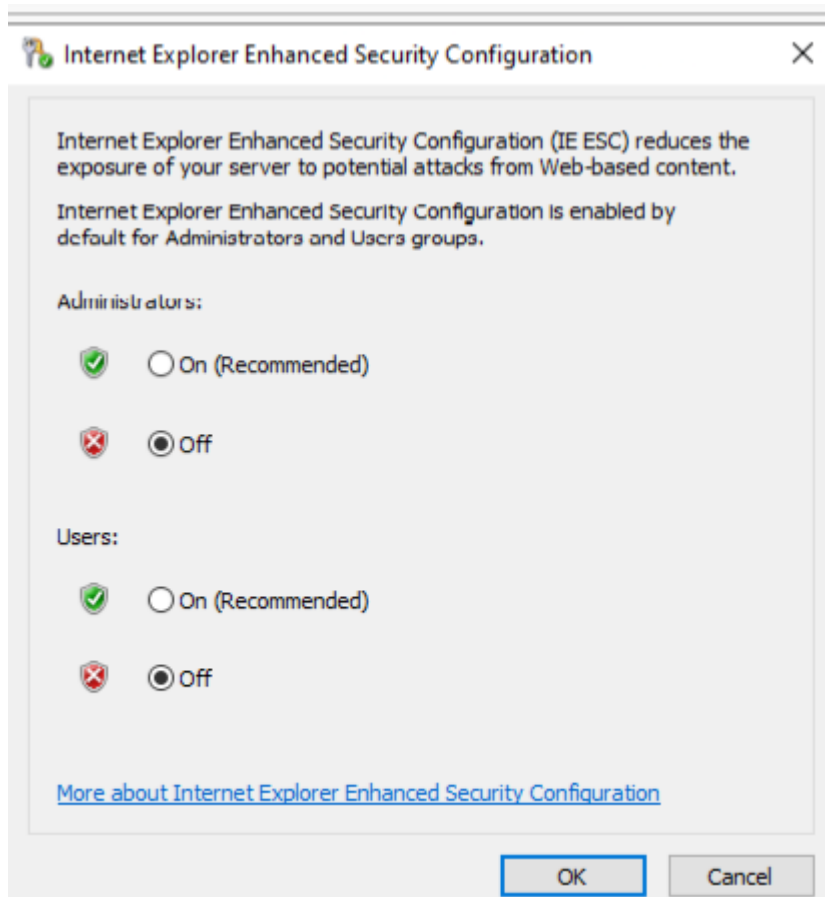


Figure 13 internet explore enhanced security configuration

By default, the security configuration is turned on.

The IE security is turned off for both Admin and User and "OK" is pressed.



For window updates, press the update button and press check for updates, new updates will be downloaded and installed automatically.

Fig

xiii. Adding user using GUI

From the toolbar at the top right of server manager, press tools and from the list select computer management.

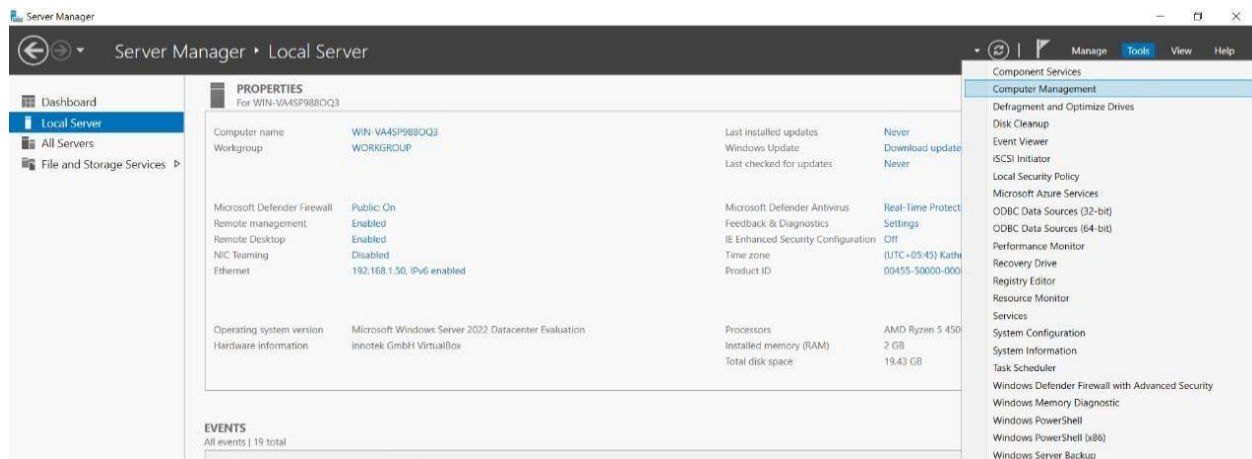
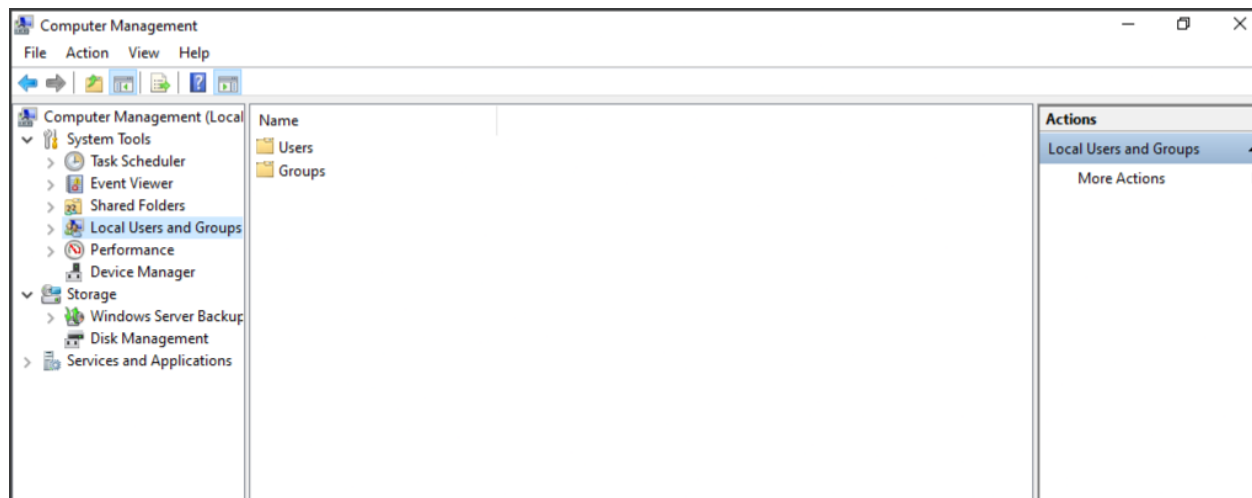


Figure 14 adding user using GUI

Select Local Users and Groups from the list at the left.



Right click on Users and press New User.

Fig

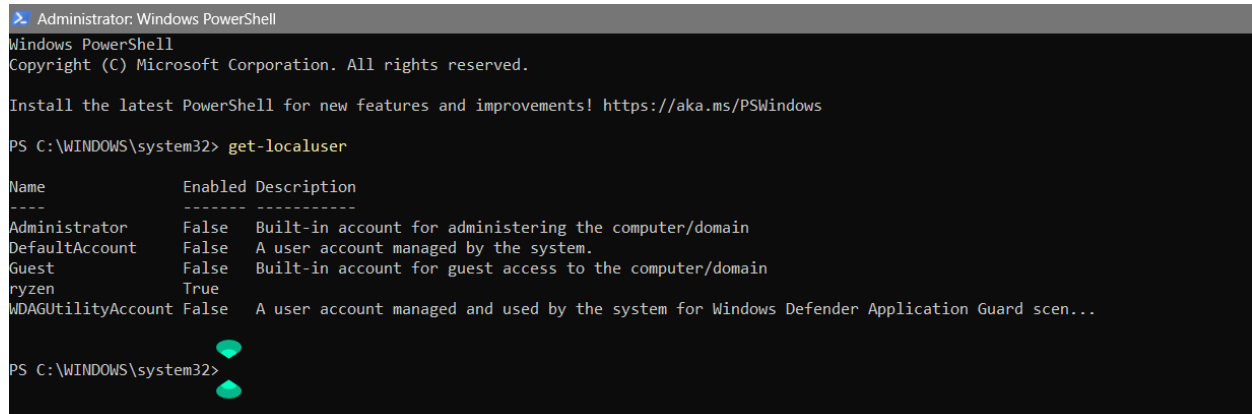
On the new window , enter details on the new user and press create.

Fig

The new user will be added.

5. Adding new user using shell

Open windows PowerShell as an administrator



```

Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\WINDOWS\system32> get-localuser

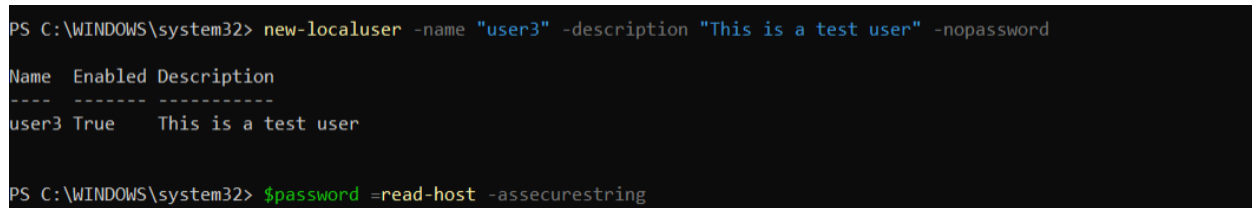
Name                Enabled Description
----                -
Administrator       False  Built-in account for administering the computer/domain
DefaultAccount       False  A user account managed by the system.
Guest                False  Built-in account for guest access to the computer/domain
ryzen                True   A user account managed and used by the system for Windows Defender Application Guard scen...
WDAGUtilityAccount   False  A user account managed and used by the system for Windows Defender Application Guard scen...

PS C:\WINDOWS\system32>

```

Enter the command “get- localuser” to view all the users.

Enter the command “new- Localuser-name ‘username’ -description’ -password ‘password’ “to create new user. In the case,nopassword is given to skip the password.



```

PS C:\WINDOWS\system32> new-localuser -name "user3" -description "This is a test user" -nopassword

Name  Enabled Description
----  -
user3 True   This is a test user

PS C:\WINDOWS\system32> $password =read-host -assecurestring

```

Figure 15 new user is added successfully

The new user is added successfully.

Unlike GUI ,user are not added automatically to the group and require them to be manually added from the shell. The command is add-local group member- group” “group name-member’ username’.

Fig

xv. Removing a user

Removing user is very simple . the command to remove a user using shell is “
remove -local-name ‘username’”

```
PS C:\WINDOWS\system32> new-localuser -name "user3" -description "This is a test user" -nopassword

Name  Enabled Description
----  -
user3 True    This is a test user

PS C:\WINDOWS\system32> $password =read-host -assecurestring
```

Confirming the user is removed.

xvi. strong password using variables as secure strings

```
PS C:\WINDOWS\system32> new-localuser -name "user3" -description "This is a test user" -nopassword

Name  Enabled Description
----  -
user3 True    This is a test user

PS C:\WINDOWS\system32> $password =read-host -assecurestring

PS C:\WINDOWS\system32>
PS C:\WINDOWS\system32> $password =read-host -assecurestring
*****
```

6.coclusion

VirtualBox is a simple and flexible server administration platform that provides notable benefits in terms of resource optimization, flexibility, and cost effectiveness. Its capacity to house several virtual servers on a single physical computer makes deployment easier and improves scalability for a range of operating requirements. Moreover, flexibility in testing and production settings is guaranteed by VirtualBox's interoperability with a range of guest operating systems.

VirtualBox's simple snapshot and rollback features can simplify IT operations, lessen reliance on hardware, and enhance disaster recovery procedures when used for server management.

7.References

1. Oracle VirtualBox Official Documentation. Retrieved from [Oracle Help Center](#).
2. Admin Magazine, "Server-Based VirtualBox." Retrieved from [Admin Magazine](#).
3. VirtualBox Official Site. Retrieved from [VirtualBox.org](#).