



**VIRTUAL
MACHINE**

Virtual Machine Setup

&

Configuration Plan

OVERVIEW

This project involves setting up a virtual machine environment using virtualization software (Virtual-box), installing multiple operating systems, and managing the VMs effectively.

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Windows Server

Installing & Configuring Servers

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Test Reports

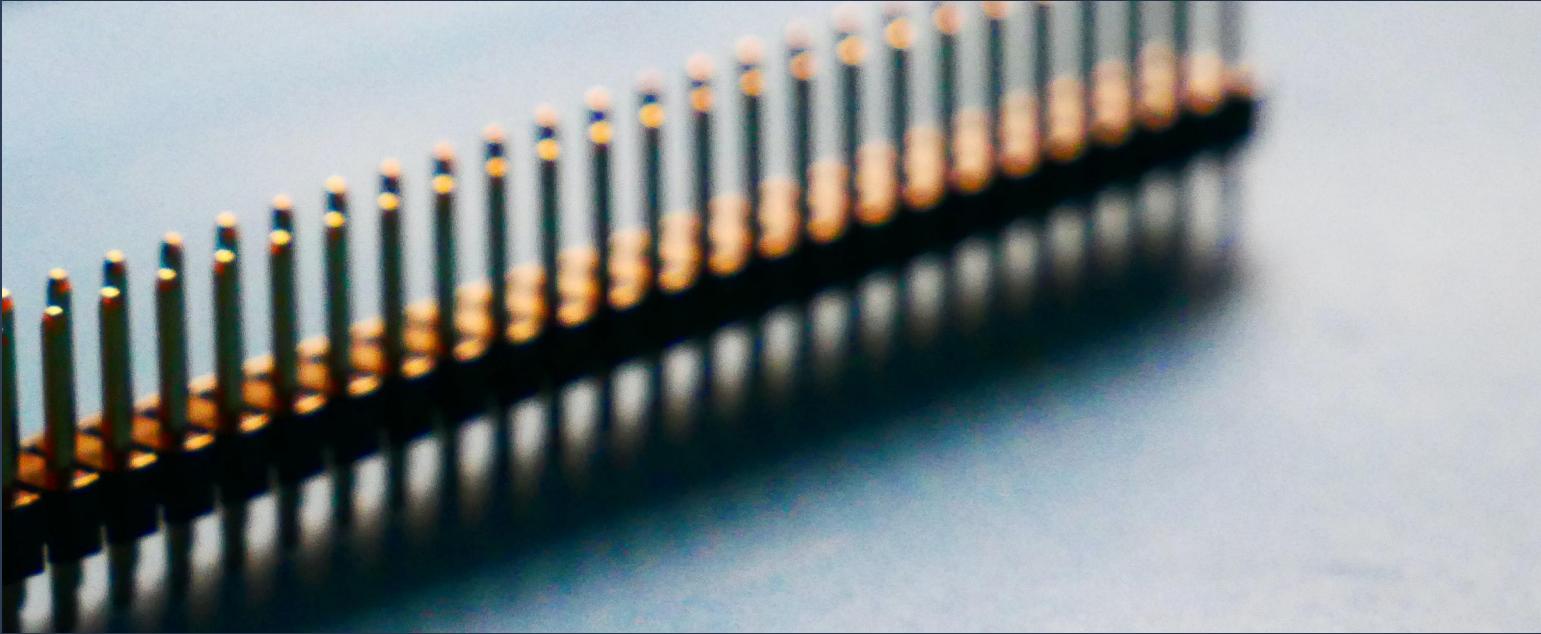
Issues & Solutions

01



Virtual Box

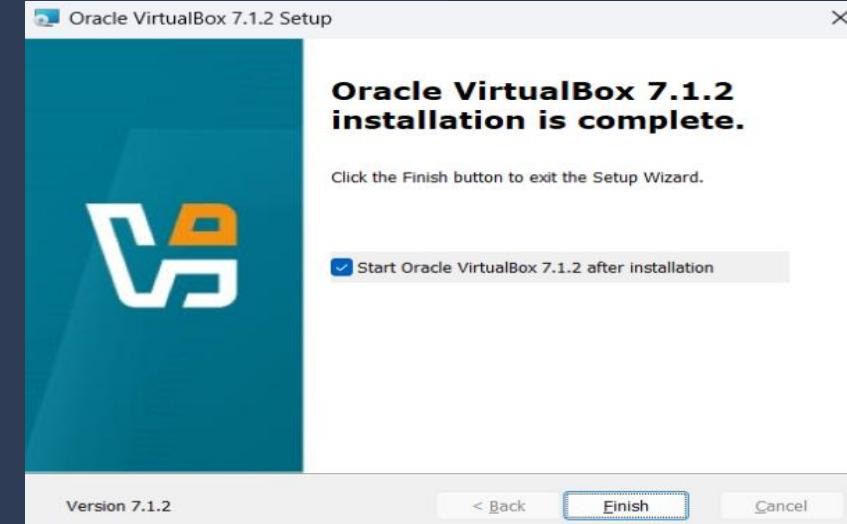
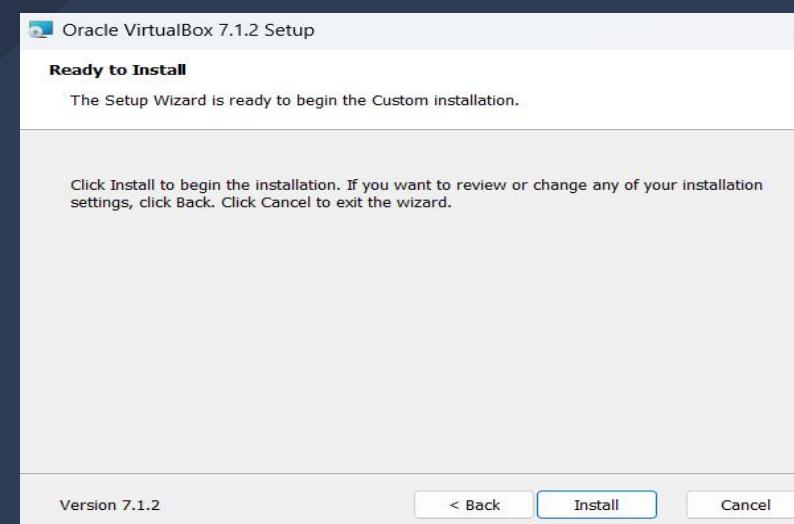
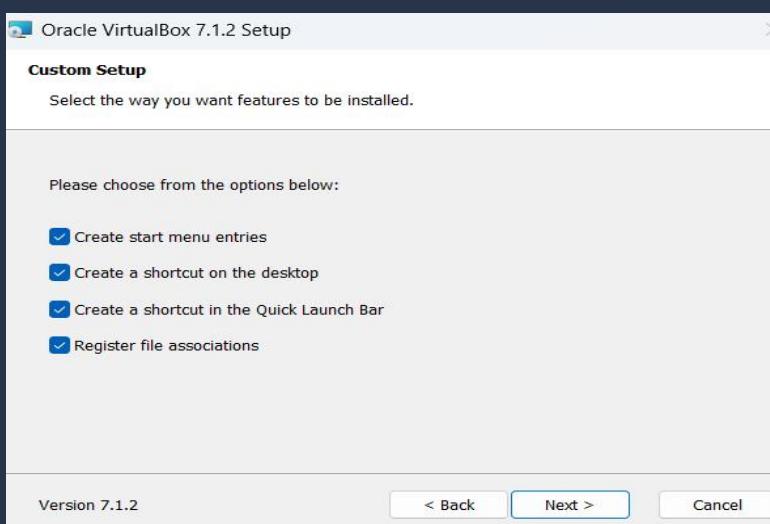
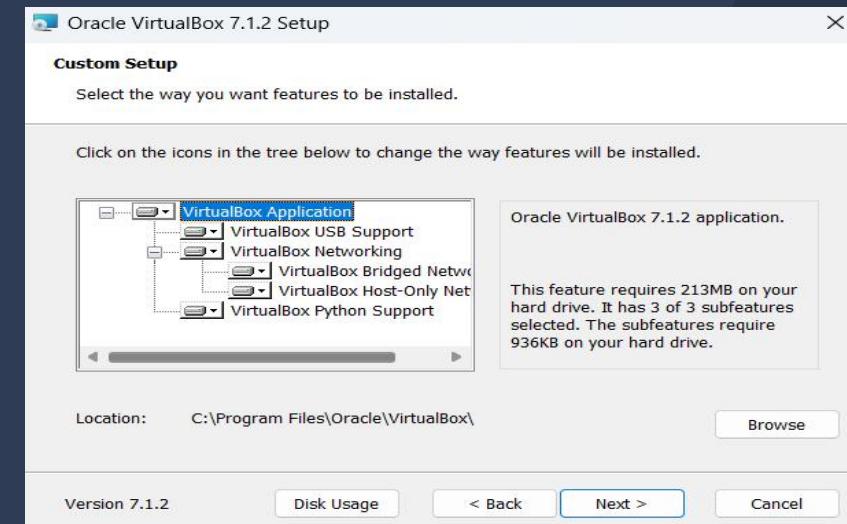
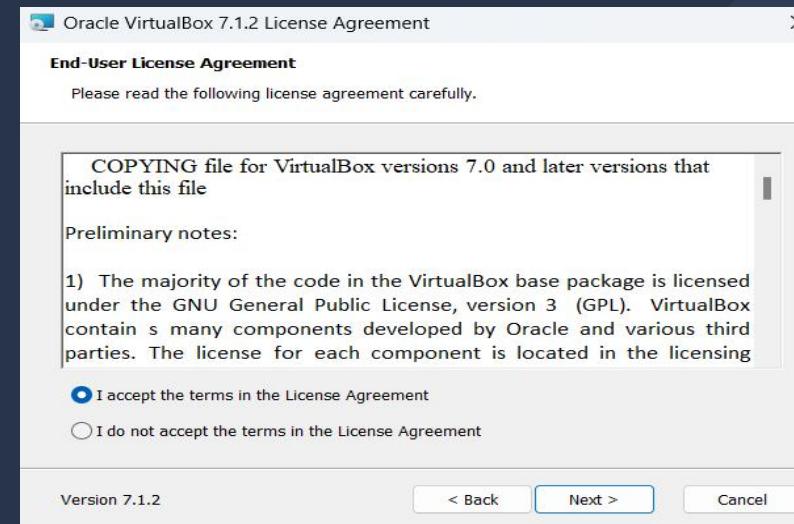
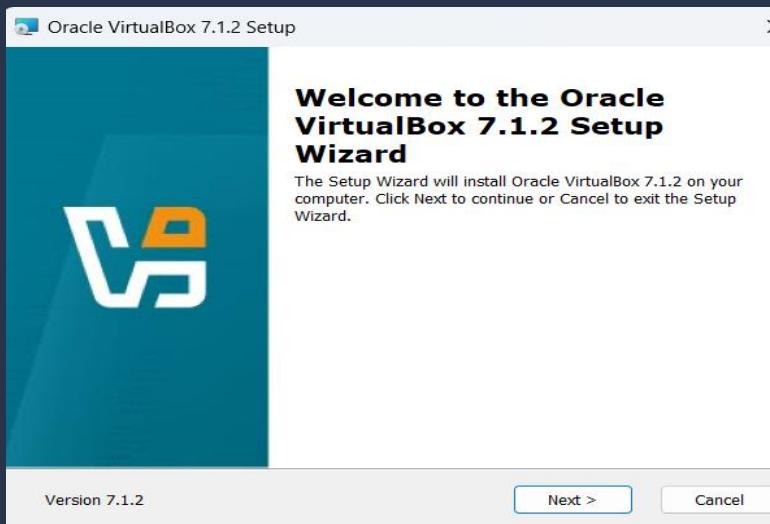
Downloading & Installing



Download VirtualBox from the official website.

<https://www.virtualbox.org/wiki/Downloads>

Install Virtual Box.

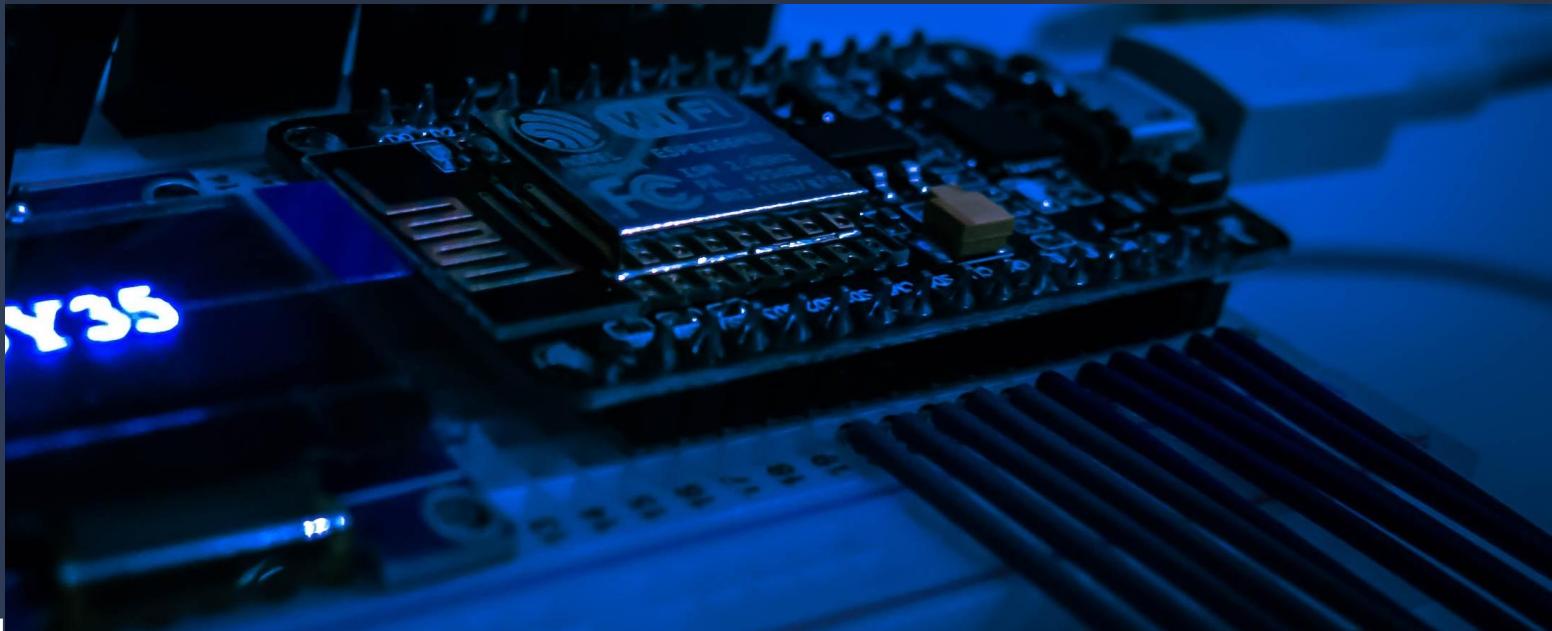


02



Ubuntu

- Installing & Configuring
- Using Ubuntu Commands



Download Ubuntu Image.

Ubuntu 22.04.1 LTS

The latest LTS version of Ubuntu, for desktop PCs and laptops. LTS stands for long-term support — which means five years of free security and maintenance updates, guaranteed until April 2027.

[Ubuntu 22.04 LTS release notes](#)

Recommended system requirements:

- 2 GHz dual-core processor or better
- Internet access is helpful
- 4 GB system memory
- Either a DVD drive or a USB port for the installer media
- 25 GB of free hard drive space



[Download](#)

For other versions of Ubuntu Desktop including torrents, the network installer, a list of local mirrors and past releases see our [alternative downloads](#).

Ubuntu 22.10

The latest version of the Ubuntu operating system for desktop PCs and laptops, Ubuntu 22.10 comes with nine months of security and maintenance updates, until July 2023.

Recommended system requirements are the same as for Ubuntu 22.04 LTS.

[Ubuntu 22.10 release notes](#)



[Download](#)

For other versions of Ubuntu Desktop including torrents, the network installer, a list of local mirrors and past releases see our [alternative downloads](#).

Create a new VM.

Oracle VM VirtualBox Manager

File Machine Help



Welcome to VirtualBox!

The left part of application window contains global tools and lists all virtual machines and virtual machine groups on your computer. You can import, add and create new VMs using corresponding toolbar buttons. You can popup a tools of currently selected element using corresponding element button.

You can press the F1 key to get instant help, or visit www.virtualbox.org for more information and latest news.



Create Virtual Machine

Virtual machine Name and Operating System

Please choose a descriptive name and destination folder for the new virtual machine. The name you choose will be used throughout VirtualBox to identify this machine. Additionally, you can select an ISO image which may be used to install the guest operating system.

Name:

Folder:

ISO Image:

Edition:

Type: Linux

Version: Ubuntu (64-bit)

Skip Unattended Installation

Detected OS type: Ubuntu (64-bit). This OS type can be installed unattendedly. The install will start after this wizard is closed.

Help

Expert Mode

Back

Next

Cancel

Create Virtual Machine

Unattended Guest OS Install Setup

You can configure the unattended guest OS install by modifying username, password, and hostname. Additionally you can enable guest additions install. For Microsoft Windows guests it is possible to provide a product key.

Username and Password

Username:

Password:

Repeat Password:

Additional Options

Product Key: #####-#####-#####-#####-#

Hostname: Ubuntu 22.10

Domain Name: myguest.virtualbox.org

Install in Background

Guest Additions

Guest Additions ISO:

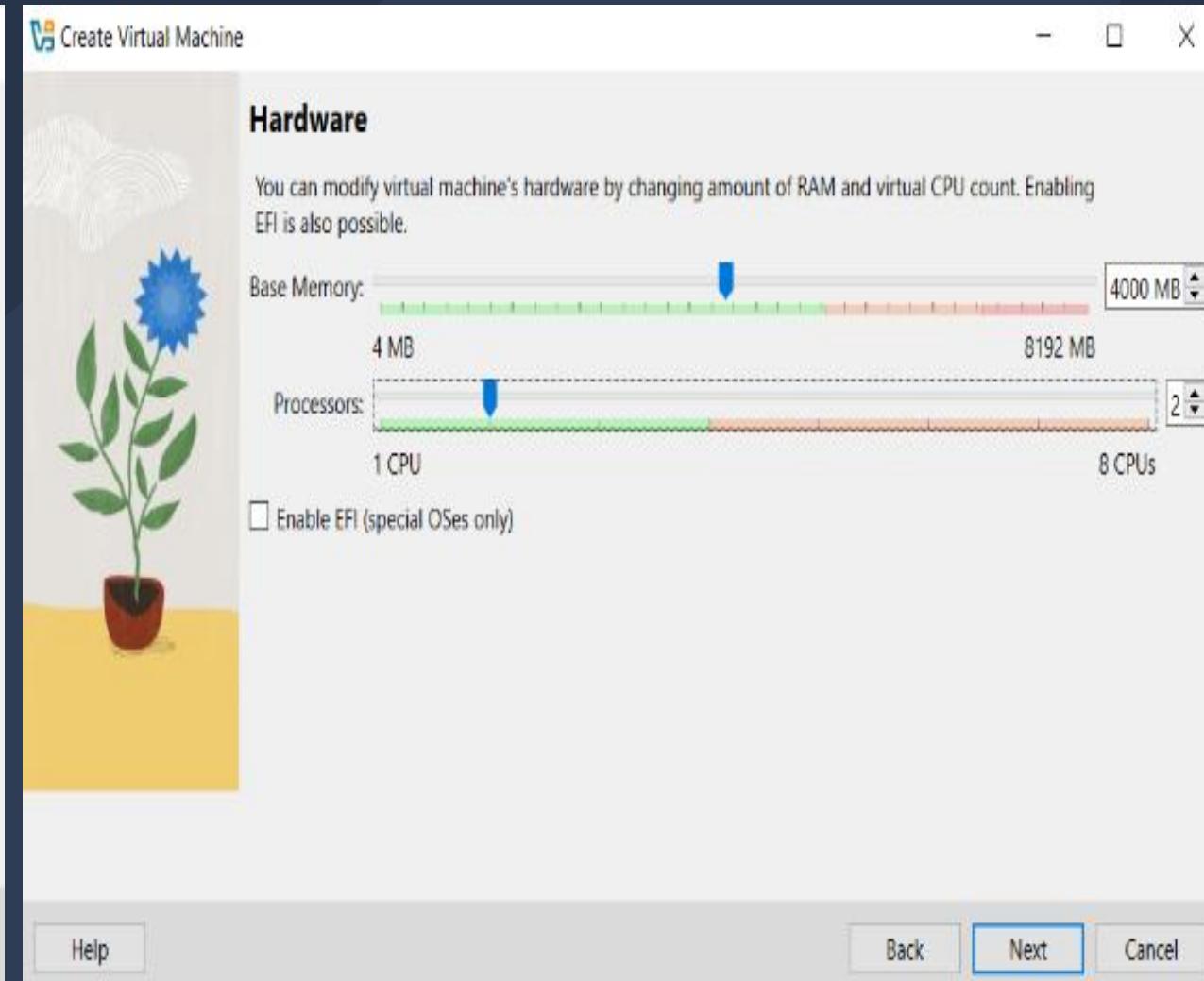
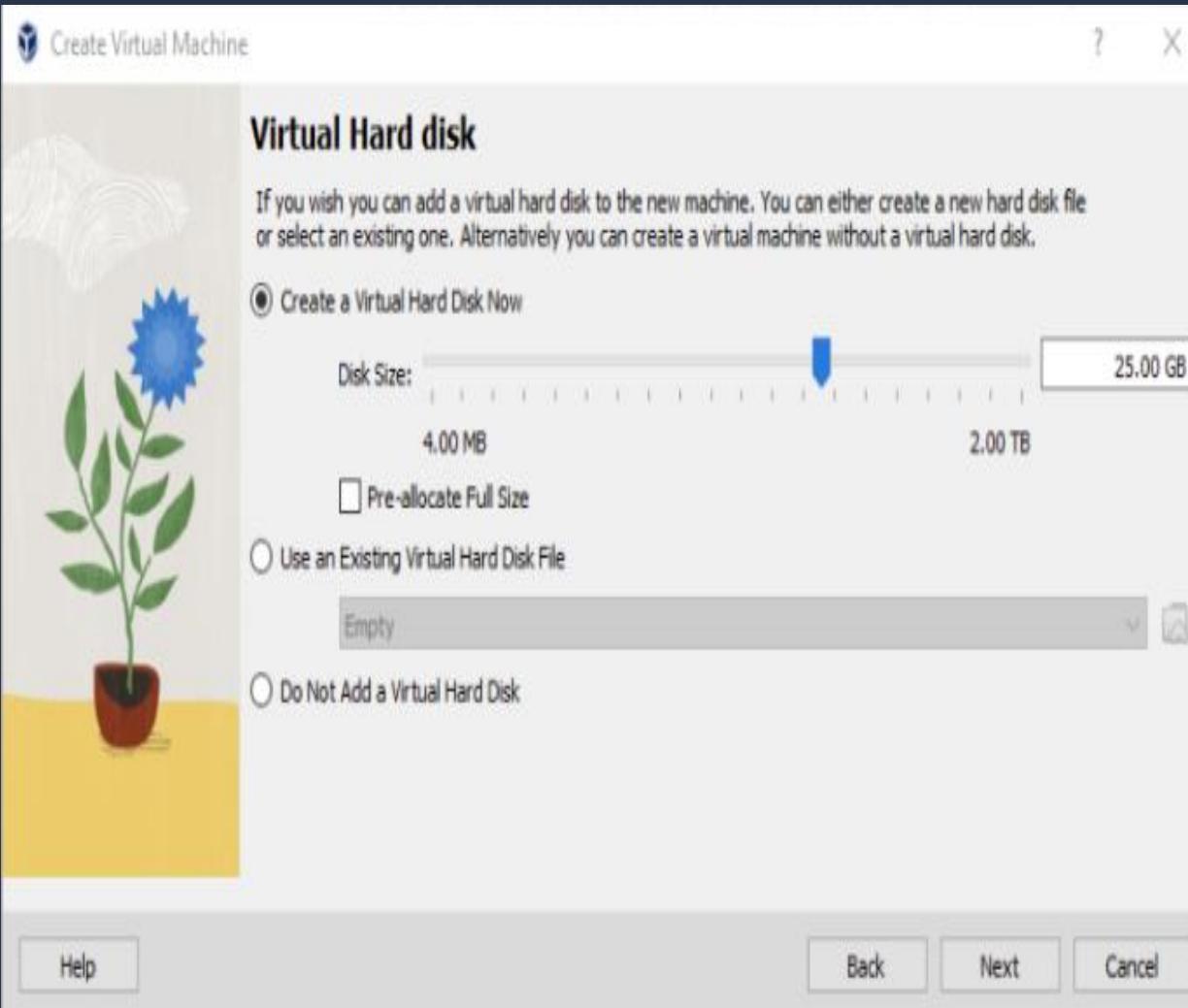
Help

Back

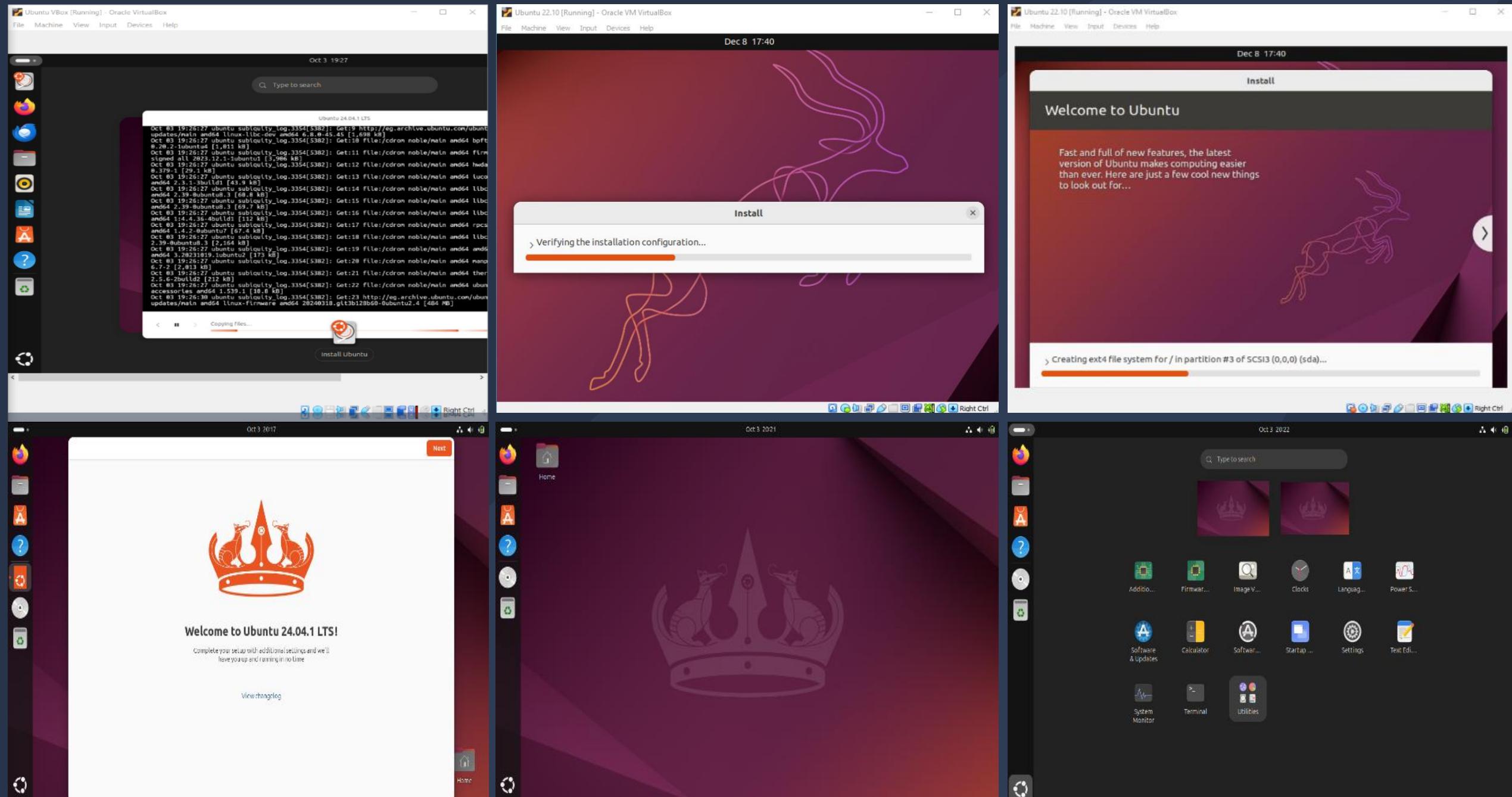
Next

Cancel

Allocate appropriate resources (CPU, RAM, Disk Space).



Install the image



Using Ubuntu Commands

To add user: "adduser [nameuser]"

```
Ubuntu_VBox [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Oct 18 22:40
ubuntu@Ubuntu-VBox: $ sudo useradd M.Dahroug
```

```
Ubuntu_VBox [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Oct 18 22:43
ubuntu@Ubuntu-VBox: $ cat /etc/passwd
```

```
Oct 18 22:44
ubuntu@Ubuntu-VBox: ~
systemd-timesync:x:996:996:system Time Synchronization:/usr/sbin/nologin
dhcpcd:x:100:65534:DHCP Client Daemon,,,:/usr/lib/dhcpcd/bin/false
messagebus:x:101:101::/nonexistent:/usr/sbin/nologin
syslog:x:102:102::/nonexistent:/usr/sbin/nologin
systemd-resolve:x:991:991:systemd Resolver:/usr/sbin/nologin
uuidd:x:103:103::/run/uuid:/usr/sbin/nologin
usbmux:x:104:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
tss:x:105:105:TPM software stack,,,:/var/lib/tpm:/bin/false
systemd-oom:x:990:990:systemd Userspace OOM Killer:/usr/sbin/nologin
kernoops:x:106:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
whoopsie:x:107:109::/nonexistent:/bin/false
dnsmasq:x:999:65534:dnsmasq:/var/lib/misc:/usr/sbin/nologin
avahi:x:108:111:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
tcpdump:x:109:112::/nonexistent:/usr/sbin/nologin
sssd:x:110:113:sssd system user,,,:/var/lib/sssd:/usr/sbin/nologin
speech-dispatcher:x:111:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
cups-pk-helper:x:112:114:user for cups-pk-helper service,,,:/nonexistent:/usr/sbin/nologin
fwupd-refresh:x:989:989:Firmware update daemon:/var/lib/fwupd:/usr/sbin/nologin
saned:x:113:116::/var/lib/saned:/usr/sbin/nologin
geoclue:x:114:117::/var/lib/geoclue:/usr/sbin/nologin
cups-browsed:x:115:114::/nonexistent:/usr/sbin/nologin
hplip:x:116:7:HPLIP system user,,,:/run/hplip:/bin/false
gnome-remote-desktop:x:988:988:GNOME Remote Desktop:/var/lib/gnome-remote-desktop:/usr/sbin/nologin
polkitd:x:987:987:User for polkitd:/usr/sbin/nologin
rtkit:x:117:119:RealtimeKit,,,:/proc:/usr/sbin/nologin
colord:x:118:120:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
gnome-initial-setup:x:119:65534::/run/gnome-initial-setup:/bin/false
gdm:x:120:121:Gnome Display Manager:/var/lib/gdm3:/bin/false
nm-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
ubuntu:x:1000:1000:ubuntu:/home/ubuntu:/bin/bash
M.Dahroug:x:1001:1001:/home/M.Dahroug:/bin/sh
```

To make a new file: "echo \$null >> [filename]"

A screenshot of a Linux desktop environment in Oracle VirtualBox. The desktop has a dark theme with icons for various applications like a browser, file manager, and terminal. A terminal window is open with the command "echo \"this is ubuntu\" >> file.txt" entered. The terminal title is "Ubuntu_VBox [Running] - Oracle VirtualBox". The date and time at the top right are Oct 18 22:54.

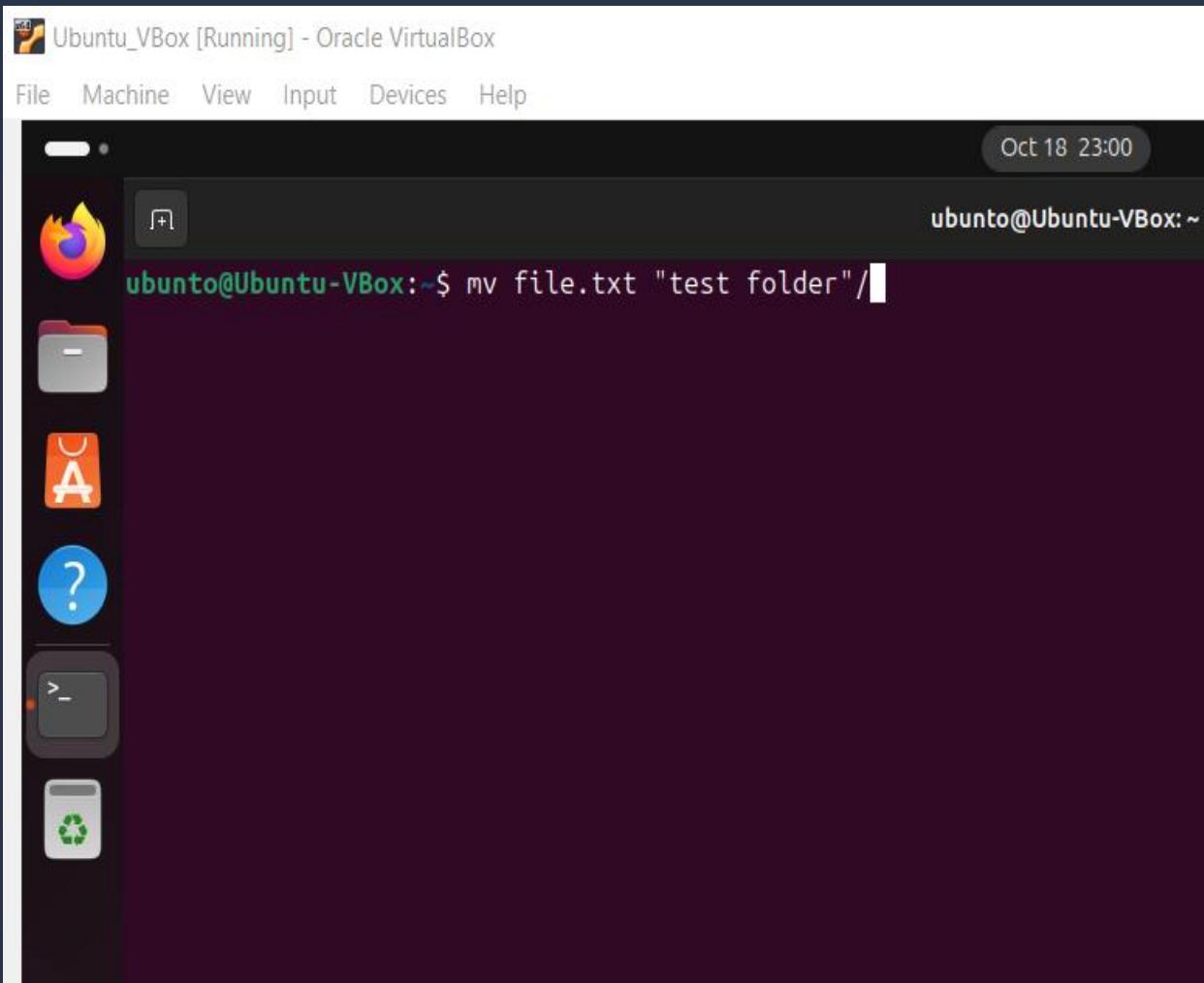
A screenshot of the same Linux desktop environment. The terminal window now shows the output of the command "ls", which includes "file.txt" among other directory contents. An orange arrow points from the left image to the "file.txt" entry in the ls output. The terminal title is "Ubuntu_VBox [Running] - Oracle VirtualBox". The date and time at the top right are Oct 18 22:55.

To make a new folder: "mkdir [foldername]"

A screenshot of a Linux desktop environment in Oracle VirtualBox. A terminal window is open with the command "mkdir "test folder"" entered. The terminal title is "Ubuntu_VBox [Running] - Oracle VirtualBox". The date and time at the top right are Oct 18 22:57.

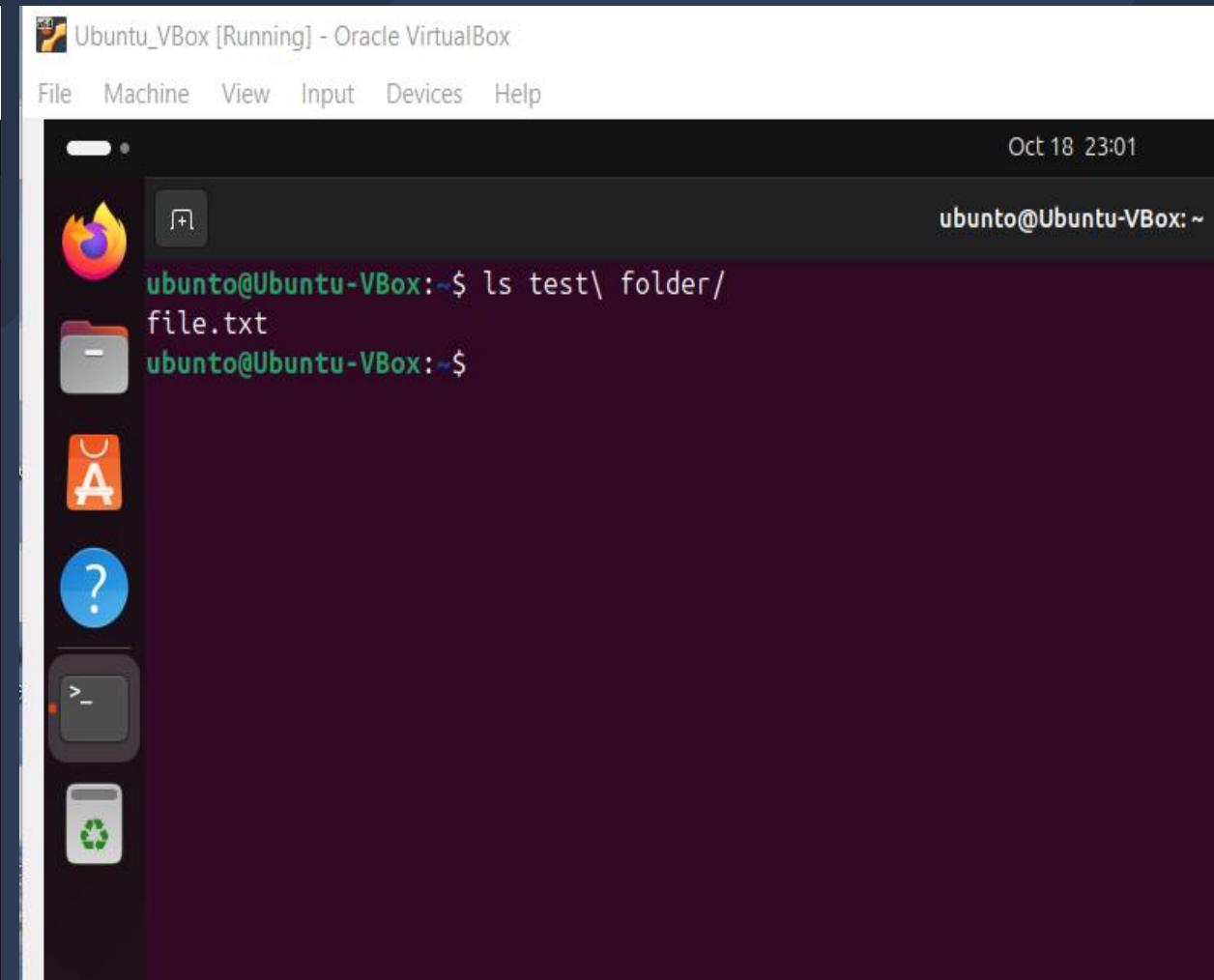
A screenshot of the same Linux desktop environment. The terminal window now shows the output of the command "ls", which includes "file.txt" and the newly created folder "test folder". An orange arrow points from the left image to the "test folder" entry in the ls output. The terminal title is "Ubuntu_VBox [Running] - Oracle VirtualBox". The date and time at the top right are Oct 18 22:59.

To move the file within a new folder: "mv [filename] [newplace]"



A screenshot of a Linux desktop environment, likely Ubuntu, running in Oracle VirtualBox. The desktop has a dark theme with icons for various applications like a browser, file manager, and terminal. A terminal window is open with the command:

```
ubuntu@Ubuntu-VBox:~$ mv file.txt "test folder"/
```



A screenshot of the same Linux desktop environment. The terminal window shows the result of the previous command:

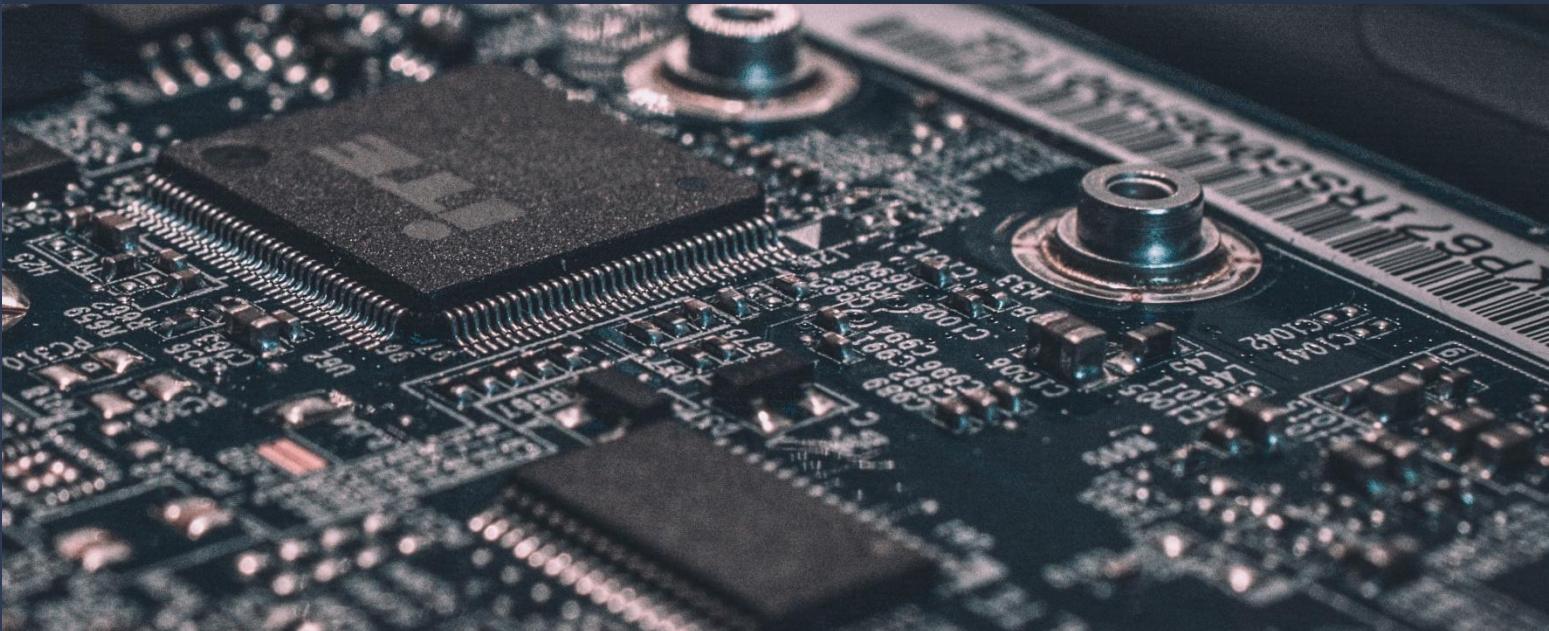
```
ubuntu@Ubuntu-VBox:~$ ls test\ folder/
file.txt
ubuntu@Ubuntu-VBox:~$
```



03

Windows Server

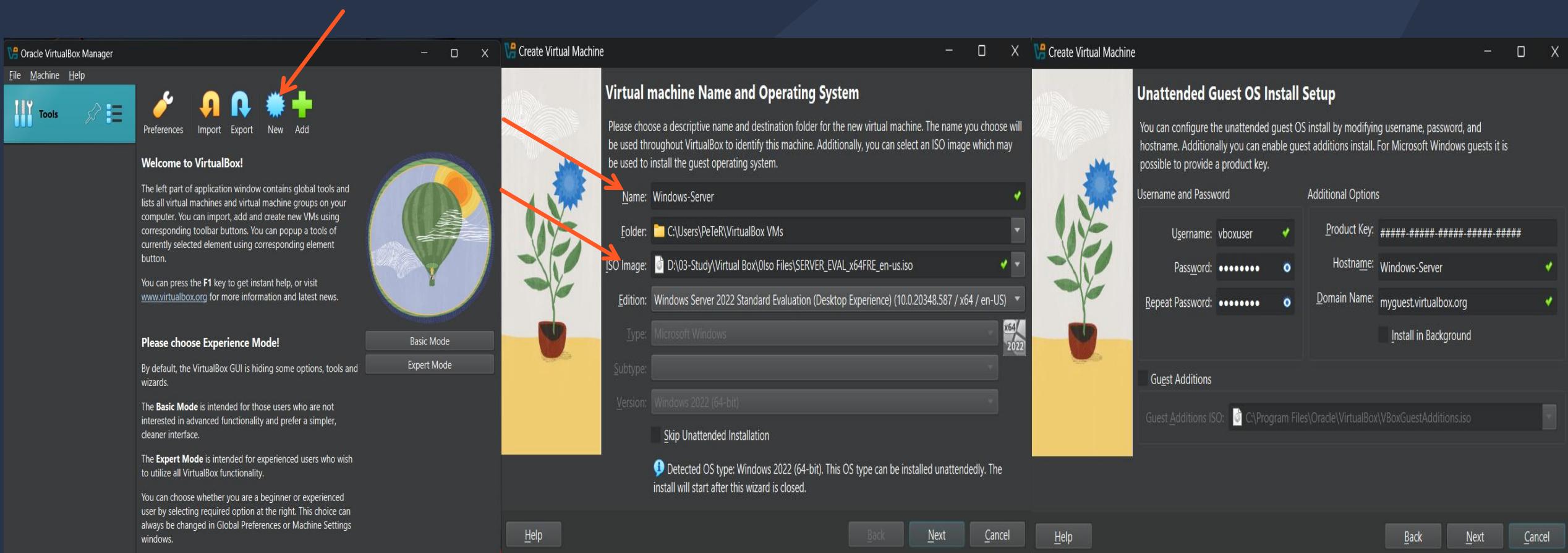
- Installing & Configuring
- Backup Configuration



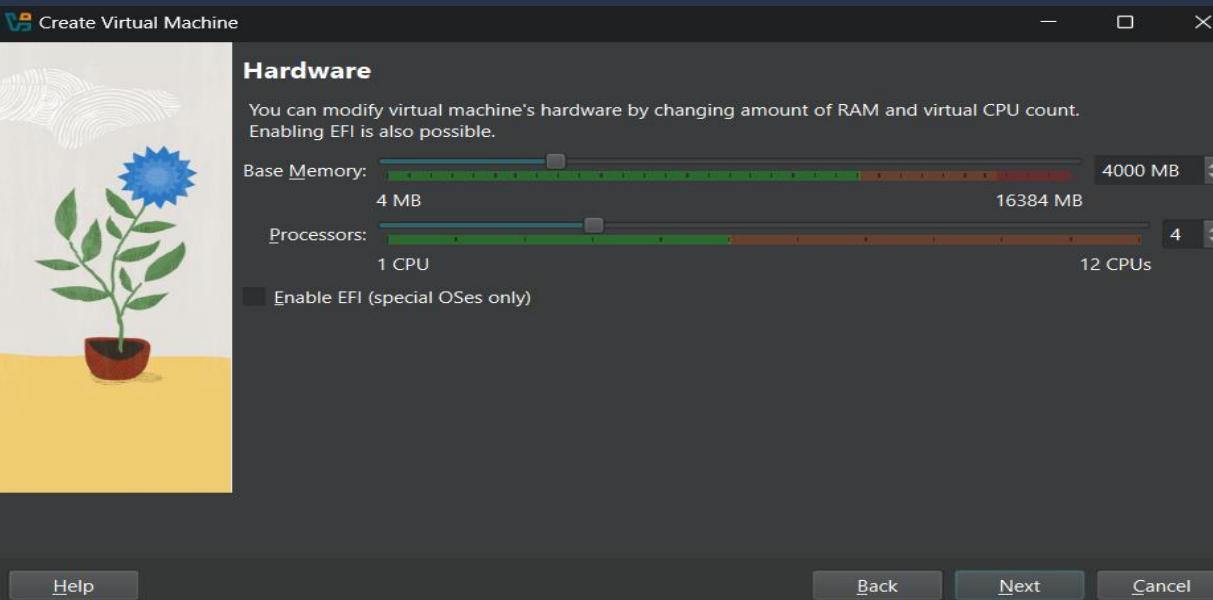
Download Windows Server Image.

<https://www.microsoft.com/en-us/evalcenter/download-windows-server-2022>

Create a new VM.



Allocate appropriate resources (CPU, RAM, Disk Space).

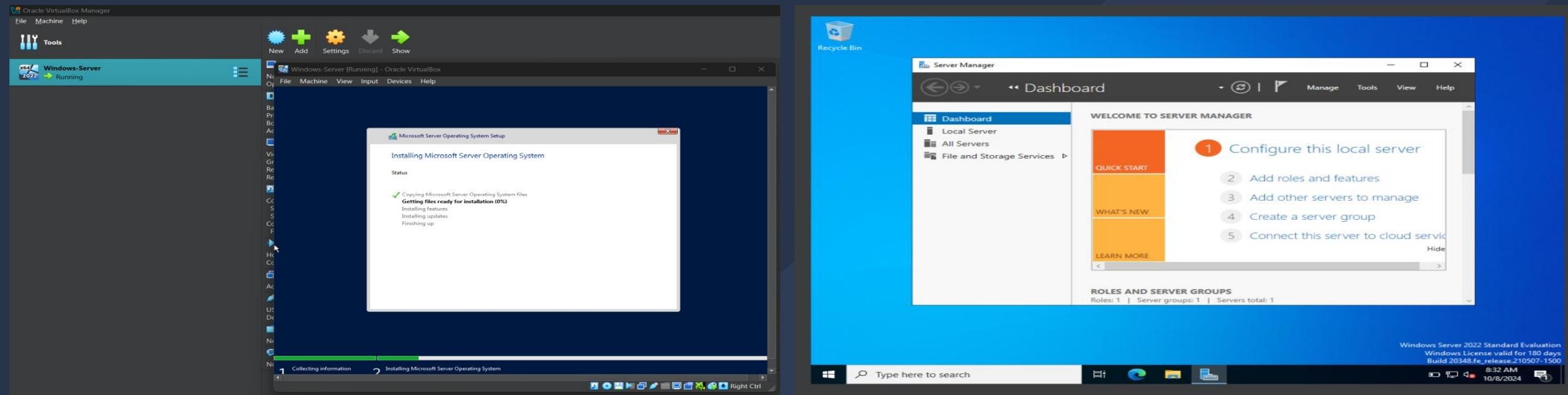


The screenshot shows the 'Create Virtual Machine' dialog box with the title 'Summary'. It provides a summary of the chosen configuration for the new virtual machine. The configuration table includes:

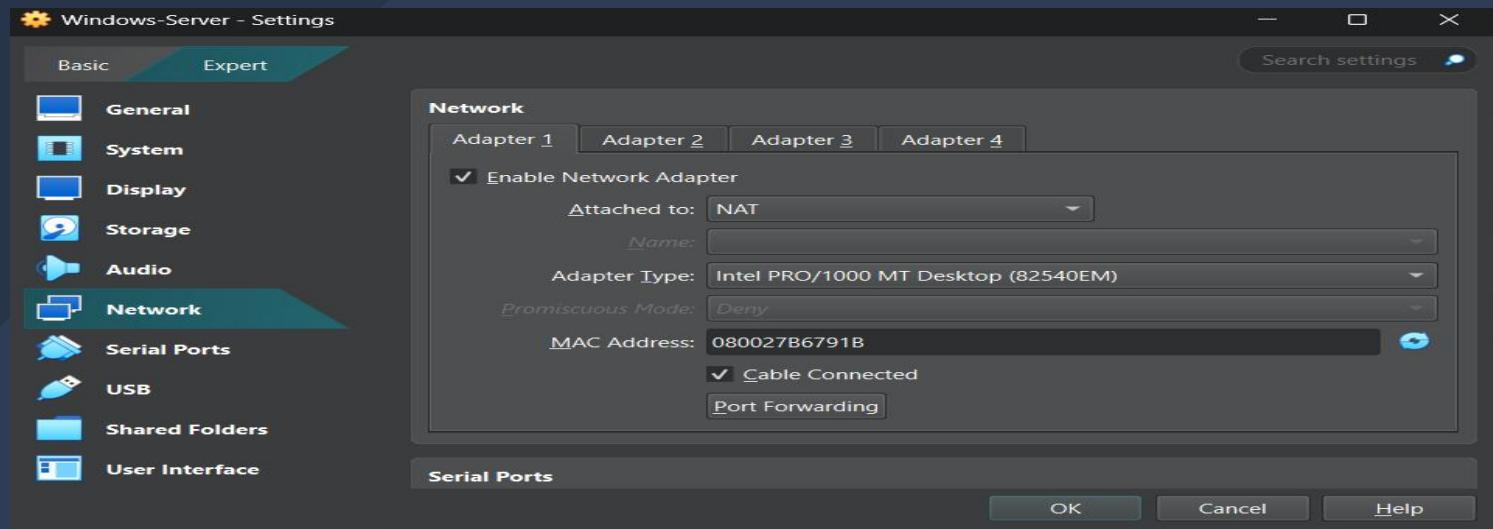
Machine Name and OS Type	
Machine Name	Windows-Server
Machine Folder	D:/03-Study/Virtual Box/Windows-Server
ISO Image	D:/03-Study/Virtual Box/0Iso Files/SERVER_EVAL_x64FRE_en-us.iso
Guest OS Type	Windows 2022 (64-bit)
Skip Unattended Install	false
Unattended Install	
Username	vboxuser
Product Key	false
Hostname/Domain Name	Windows-Server.myguest.virtualbox.org
Install in Background	false
Install Guest Additions	false
Hardware	
Base Memory	4000
Processor(s)	4
EFI Enable	false
Disk	

At the bottom, there are 'Help', 'Back', 'Finish', and 'Cancel' buttons. The background features a potted plant icon.

Install the image

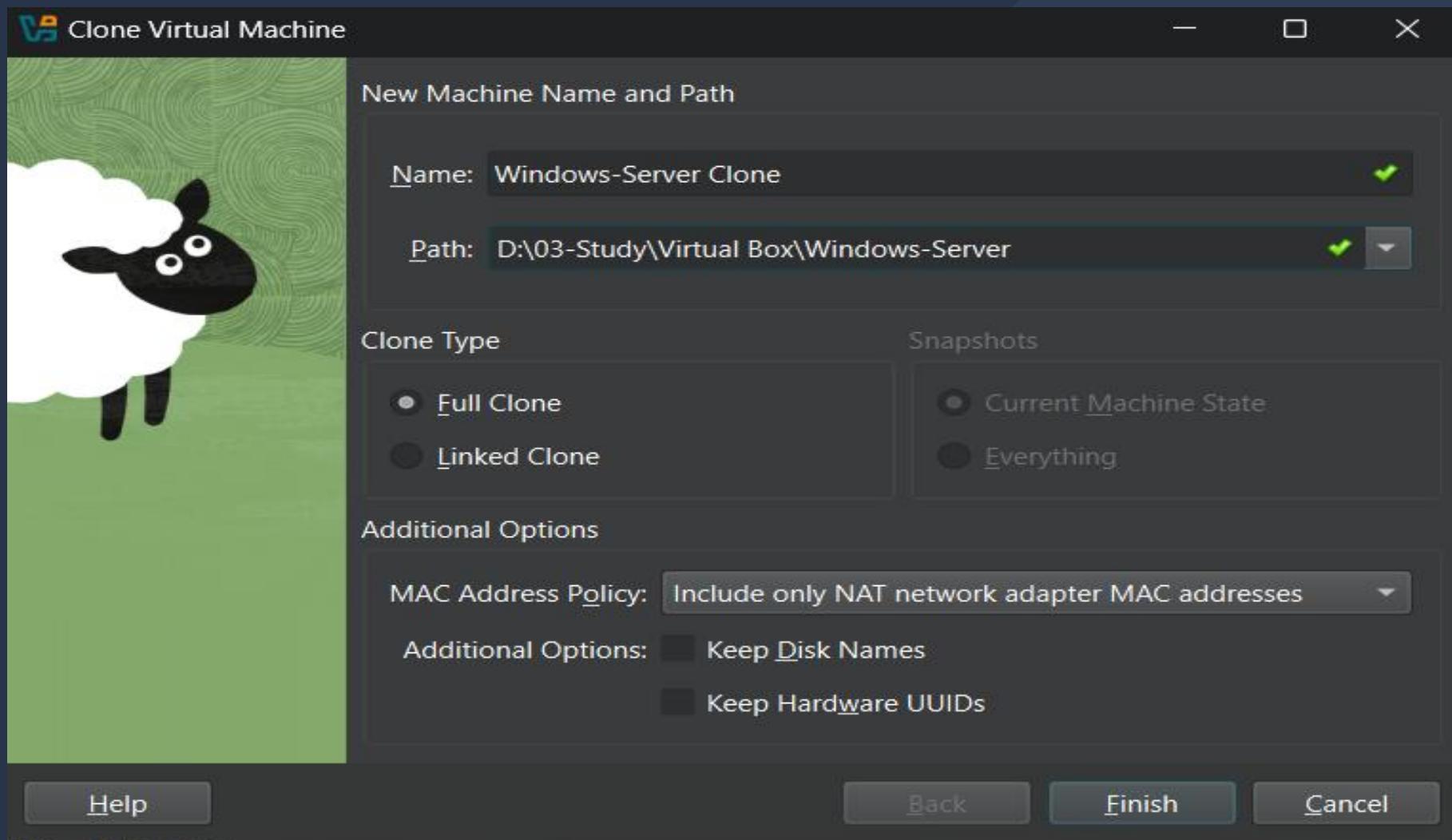


Configure Network

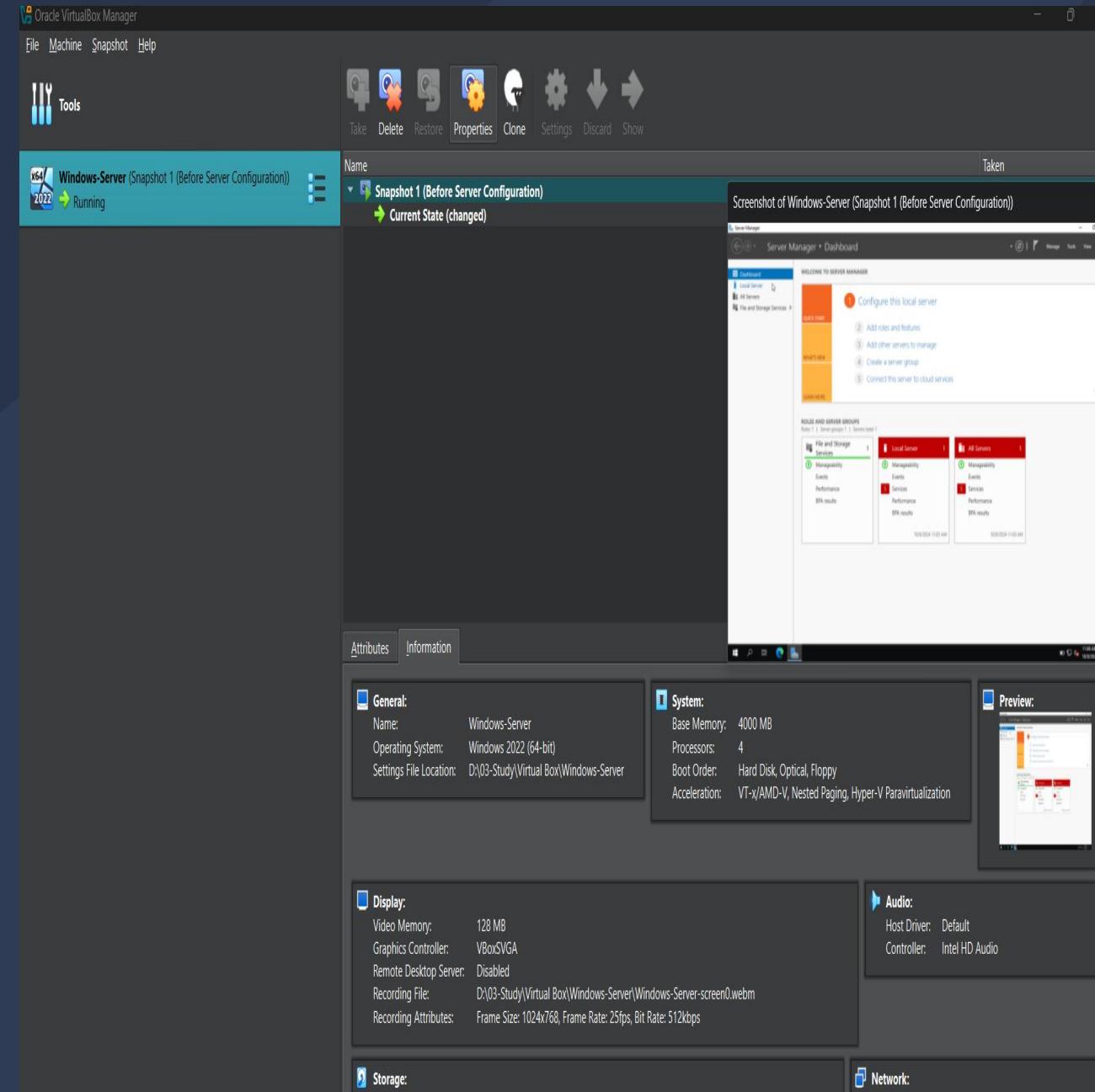
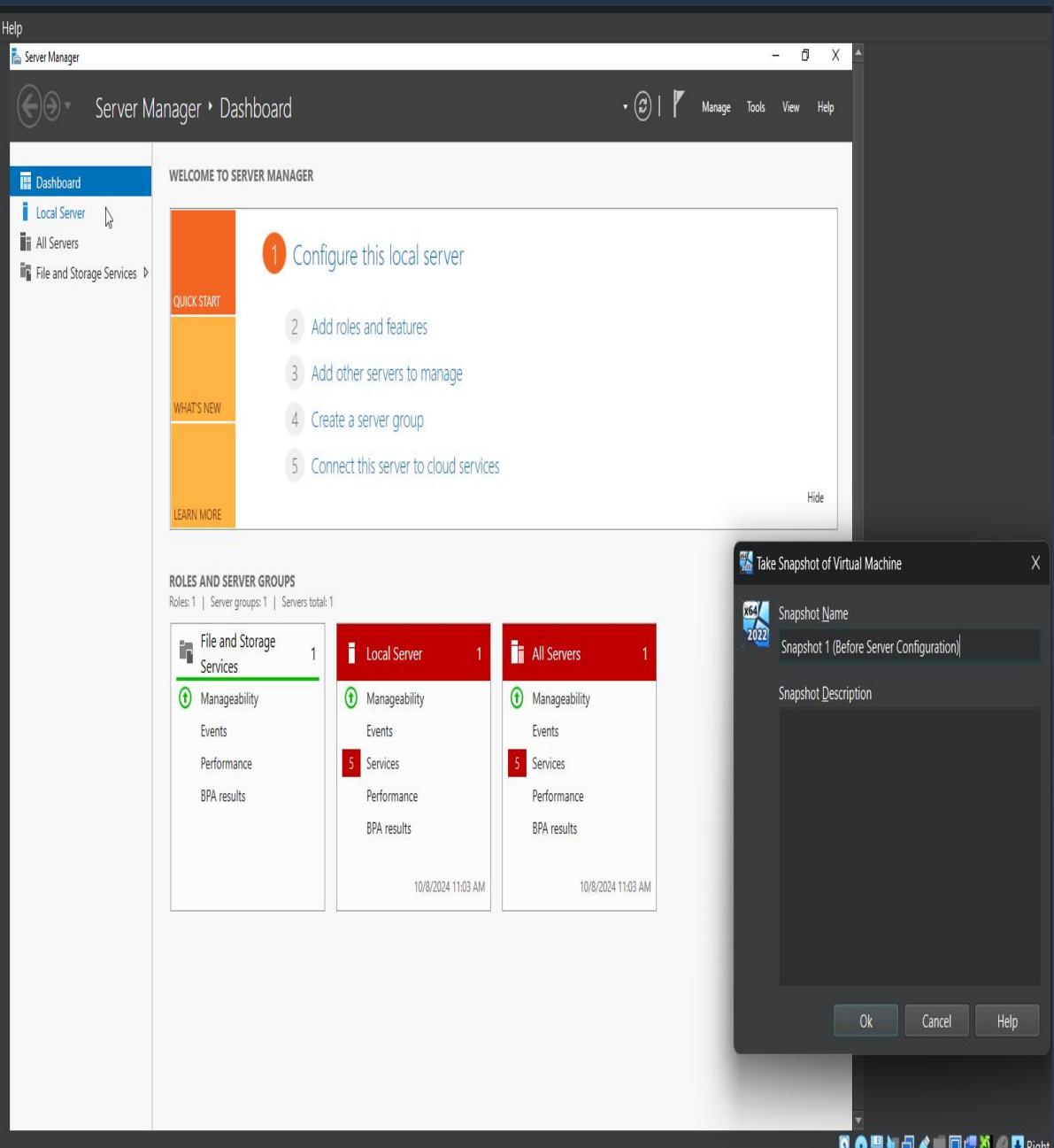


Configuration Backup

using Clone



using Snapshots

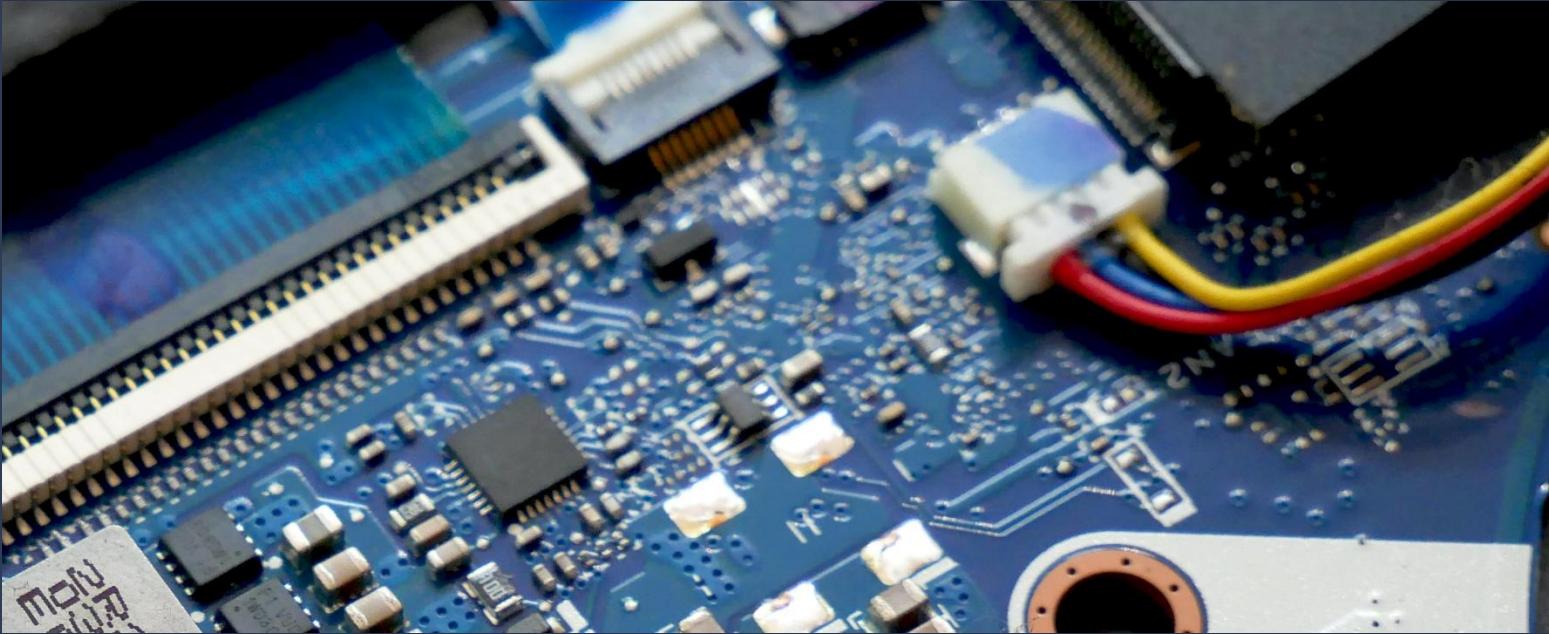




04

Windows Server

Installing & Configuring Servers



Active Directory

WindowsServer2022(Running) - Oracle VirtualBox

Server Manager

Server Manager • Dashboard

WELCOME TO SERVER MANAGER

1 Configure this local server

- 1 Add roles and features
- 2 Add other servers to manage
- 3 Create a server group
- 4 Connect this server to cloud services

QUICK START

WHAT'S NEW

LEARN MORE

ROLES AND SERVER GROUPS

Roles: 2 | Server groups: 1 | Servers total: 1

- AD DS 1
 - Manageability
 - Events
 - Services
 - Performance
 - BPA results
- File and Storage Services 1
 - Manageability
 - Events
 - Services
 - Performance
 - BPA results
- Local Server 1
 - Manageability
 - Events
 - Services
 - Performance
 - BPA results
- All Servers 1
 - Manageability
 - Events
 - Services
 - Performance
 - BPA results

Add Roles and Features Wizard

Before you begin

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

DESTINATION SERVER
WindowsServer20.projectcx.com

This wizard helps you install roles, role services, or features. You determine which roles, role services, or features to install based on the computing needs of your organization, such as sharing documents, or hosting a website.

To remove roles, role services, or features:
Start the Remove Roles and Features Wizard

Before you continue, verify that the following tasks have been completed:

- The Administrator account has a strong password
- Network settings, such as static IP addresses, are configured
- The most current security updates from Windows Update are installed

If you must verify that any of the preceding prerequisites have been completed, close the wizard, complete the steps, and then run the wizard again.

To continue, click Next.

Skip this page by default

< Previous Next > Install Cancel

Windows Server 2022 Oracle VirtualBox Manager Screenshots and I more WindowsServer2022(RI)

10:59 AM 10/13/2024 11:59 AM 13-Oct-24

Add Roles and Features Wizard

Select installation type

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

DESTINATION SERVER
WindowsServer20.projectcx.com

Select the installation type. You can install roles and features on a running physical computer or virtual machine, or on an offline virtual hard disk (VHD).

Role-based or feature-based installation
Configure a single server by adding roles, role services, and features.

Remote Desktop Services installation
Install required role services for Virtual Desktop Infrastructure (VDI) to create a virtual machine-based or session-based desktop deployment.

< Previous Next > Install Cancel

Add Roles and Features Wizard

Select destination server

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

DESTINATION SERVER
WindowsServer20.projectcx.com

Select a server or a virtual hard disk on which to install roles and features.

Select a server from the server pool

Select a virtual hard disk

Server Pool

Filter: []

Name	IP Address	Operating System
WindowsServer20.project... 10.0.2.15	10.0.2.15	Microsoft Windows Server 2022 Standard Evaluation

1 Computer(s) found

This page shows servers that are running Windows Server 2012 or a newer release of Windows Server, and that have been added by using the Add Servers command in Server Manager. Offline servers and newly-added servers from which data collection is still incomplete are not shown.

< Previous Next > Install Cancel

Select Server Roles & Add Features

Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results

Select one or more roles to install on the selected server.

Roles	Description
Active Directory Certificate Services	Active Director (AD DS) stores objects on the this information and network and uses domain controllers to network users resources anywhere through a single
Active Directory Domain Services	
Active Directory Federation Services	
Active Directory Lightweight Directory Services	
Active Directory Rights Management Services	
Device Health Attestation	
DHCP Server	
DNS Server	
Fax Server	
File and Storage Services (1 of 12 installed)	
Host Guardian Service	
Hyper-V	
Network Controller	
Network Policy and Access Services	
Print and Document Services	
Remote Access	
Remote Desktop Services	
Volume Activation Services	
Web Server (IIS)	
Windows Deployment Services	

< Previous Next >

Add Roles and Features Wizard

Add features that are required for Active Directory Domain Services?

You cannot install Active Directory Domain Services unless the following role services or features are also installed.

- [Tools] Group Policy Management
- Remote Server Administration Tools
 - Role Administration Tools
 - AD DS and AD LDS Tools
 - Active Directory module for Windows PowerShell
 - AD DS Tools
 - [Tools] Active Directory Administrative Center
 - [Tools] AD DS Snap-Ins and Command-Line Tools

Include management tools (if applicable)

Add Features Cancel

Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Confirmation
Results

DESTINATION SERVER
WindowsServer20

Installation progress

View installation progress

i Feature installation

Installation started on WindowsServer20

Active Directory Domain Services
Group Policy Management
Remote Server Administration Tools
Role Administration Tools
AD DS and AD LDS Tools
Active Directory module for Windows PowerShell
AD DS Tools
Active Directory Administrative Center
AD DS Snap-Ins and Command-Line Tools

 You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.

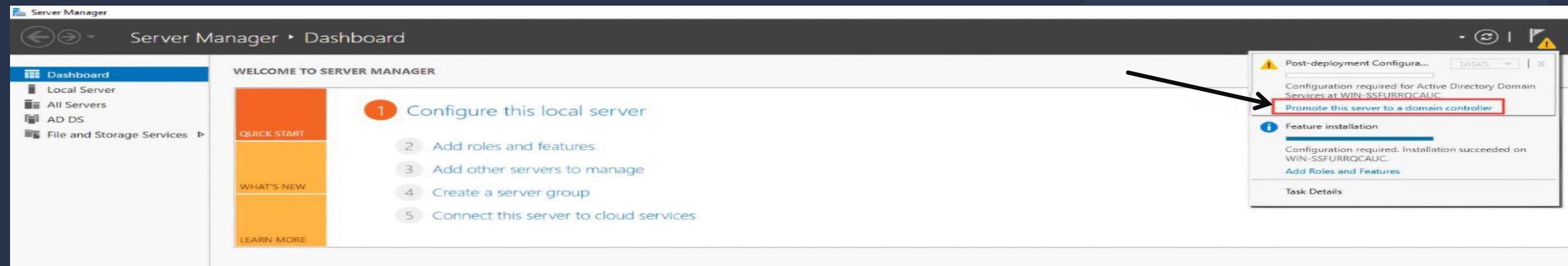
Export configuration settings

< Previous Next >

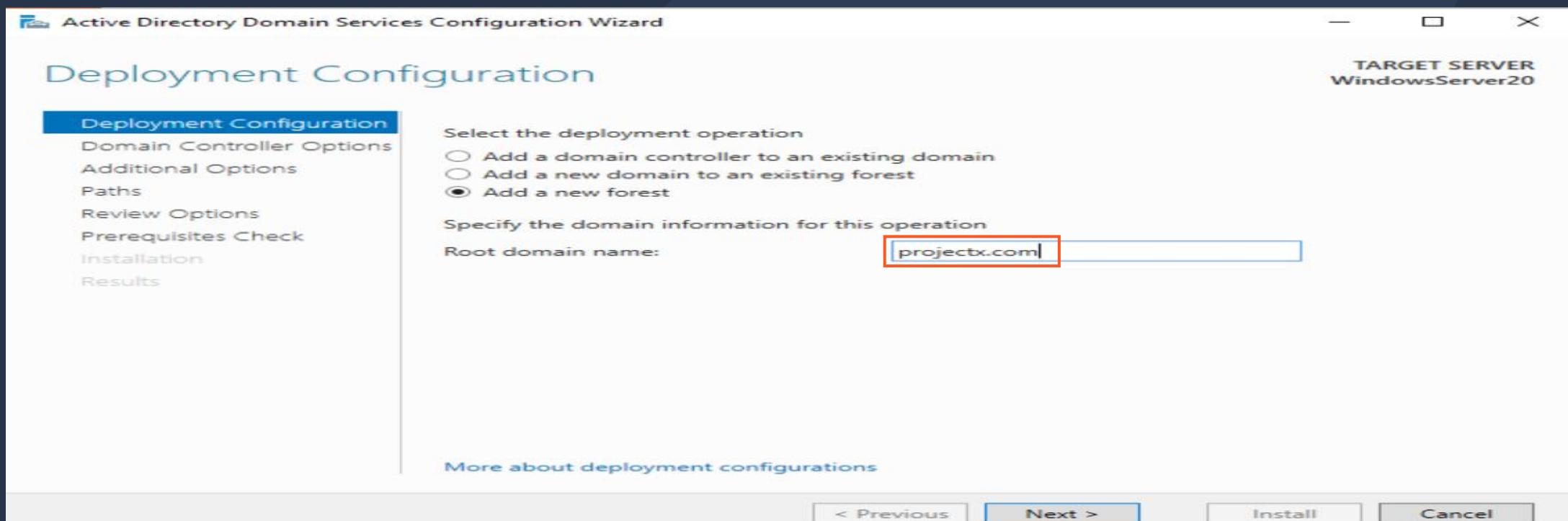
Close Cancel

Configure Active Directory Domain Services

Click on notification panel & select "Promote this server to a domain controller"



Add a Forest



Active Directory Domain Services Configuration Wizard

Domain Controller Options

TARGET SERVER WindowsServer20

Deployment Configuration
Domain Controller Options
Additional Options
Paths
Review Options
Prerequisites Check
Installation
Results

Select functional level of the new forest and root domain

Forest functional level: Windows Server 2016
Domain functional level: Windows Server 2016

Specify domain controller capabilities

Domain Name System (DNS) server
 Global Catalog (GC)
 Read only domain controller (RODC)

Type the Directory Services Restore Mode (DSRM) password

Password: Confirm password:

[More about domain controller options](#)

< Previous Next > Install Cancel

Additional Options

TARGET SERVER WindowsServer20

Deployment Configuration
Domain Controller Options
Additional Options
Paths
Review Options
Prerequisites Check
Installation
Results

Verify the NetBIOS name assigned to the domain and change it if necessary

The NetBIOS domain name: PROJECTX

[More about additional options](#)

< Previous Next > Install Cancel

Active Directory Domain Services Configuration Wizard

Paths

TARGET SERVER WindowsServer20

Deployment Configuration
Domain Controller Options
Additional Options
Paths
Review Options
Prerequisites Check
Installation
Results

Specify the location of the AD DS database, log files, and SYSVOL

Database folder: C:\Windows\NTDS
Log files folder: C:\Windows\NTDS
SYSVOL folder: C:\Windows\SYSVOL

[More about Active Directory paths](#)

< Previous Next > Install Cancel

Review Options

TARGET SERVER WindowsServer20

Deployment Configuration
Domain Controller Options
Additional Options
Paths
Review Options
Prerequisites Check
Installation
Results

Review your selections:

Configure this server as the first Active Directory domain controller in a new forest.
The new domain name is "projectx.com". This is also the name of the new forest.
The NetBIOS name of the domain: PROJECTX
Forest Functional Level: Windows Server 2016
Domain Functional Level: Windows Server 2016
Additional Options:
Global catalog: Yes
DNS Server: No
Database folder: C:\Windows\NTDS

These settings can be exported to a Windows PowerShell script to automate additional installations

[View script](#)

[More about installation options](#)

< Previous Next > Install Cancel

Active Directory Domain Services Configuration Wizard

Prerequisites Check

TARGET SERVER WindowsServer20

All prerequisite checks passed successfully. Click 'Install' to begin installation.

Deployment Configuration
Domain Controller Options
Additional Options
Paths
Review Options
Prerequisites Check
Installation
Results

Prerequisites need to be validated before Active Directory Domain Services is installed on this computer

Rerun prerequisites check

View results

Windows Server 2022 domain controllers have a default for the security setting named "Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography algorithms when establishing security channel sessions.

For more information about this setting, see Knowledge Base article 942564 (<http://go.microsoft.com/fwlink/?LinkId=104751>).

Prerequisites Check Completed

All prerequisite checks passed successfully. Click 'Install' to begin installation.

If you click Install, the server automatically reboots at the end of the promotion operation.

More about prerequisites

Deployment Configuration
Domain Controller Options
Additional Options
Paths
Review Options
Prerequisites Check
Installation
Results

Progress

Starting

View detailed operation results

Windows Server 2022 domain controllers have a default for the security setting named "Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography algorithms when establishing security channel sessions.

For more information about this setting, see Knowledge Base article 942564 (<http://go.microsoft.com/fwlink/?LinkId=104751>).

Server Manager

Local Server

Dashboard Local Server All Servers AD DS File and St... PROPERTIES For WindowsServer20 Computer name WindowsServer20 projectx.com Microsoft Defender Firewall Domain: On Enabled Remote management Disabled Remote Desktop Disabled NIC Teaming Disabled Ethernet IPv4 address assigned by DHCP, IPv6 enabled Operating system version Microsoft Windows Server 2022 Standard Evaluation Hardware information innotek GmbH VirtualBox

Manage Tools View Help

Tasks

Shut Down Local Server Windows PowerShell Computer Management Active Directory Administrative Center Active Directory Domains and Trusts Active Directory Module for Windows PowerShell Active Directory Sites and Services **Active Directory Users and Computers** ADSI Edit Dcdiag.exe Dsac1s.exe Dsdbutil.exe Dsmgmt.exe Gpfixup.exe Ldp.exe Netdom.exe Nltest.exe Ntdsutil.exe Repadmin.exe W32tm.exe Refresh

Active Directory Users and Computers

File Action View Help

Active Directory Users and Com Saved Queries projectx.com Name Type Description

projectx.com Domain Folder to store yo

Builtin Computers Domain Controllers ForeignSecurityPrincipal Managed Service Account Users

Windows Server 2022 Standard Evaluation Windows License valid for 180 days Build 20348_fe_release_210507-1500

1:06 PM 10/13/2024

Creating user from Active Directory

Active Directory Users and Computers

File Action View Help

Active Directory Users and Com > Saved Queries > projectx.com > Builtin > Computers > Domain Controllers > ForeignSecurityPrincipals > Managed Service Accounts > Users

Name	Type	Description
Administrator	User	Built-in account for ad...
Allowed RO...	Security Group...	Members in this group c...
Cert Publish...	Security Group...	Members of this group ...
Cloneable D...	Security Group...	Members of this group t...
Denied ROD...	Security Group...	Members in this group c...
Domain Ad...	Security Group...	Designated administrato...
Domain Co...	Security Group...	All workstations and ser...
Domain Con...	Security Group...	All domain controllers i...
Domain Gue...	Security Group...	All domain guests
Domain Users	Security Group...	All domain users
Enterprise A...	Security Group...	Designated administrato...
Enterprise K...	Security Group...	Members of this group ...
Enterprise R...	Security Group...	Members of this group ...
Group Polic...	Security Group...	Members in this group c...
Guest	User	Built-in account for gue...
Key Admins	Security Group...	Members of this group ...
Protected Us...	Security Group...	Members of this group ...
RAS and IAS ...	Security Group...	Servers in this group can...
Read-only D...	Security Group...	Members of this group ...
Schema Ad...	Security Group...	Designated administrato...
Server	User	

Delegate Control...
Find...
New >
All Tasks >
Refresh
Export List...
View >
Arrange Icons >
Line up Icons
Properties
Help

Computer
Contact
Group
InetOrgPerson
msDS-KeyCredential
msDS-ResourcePropertyList
msDS-ShadowPrincipalContainer
msImaging-PSPs
MSMQ Queue Alias
Printer
User
Shared Folder

Create a new object...

Active Directory Users and Computers

File Action View Help

New Object - User

Create in: projectx.com/Users

Name	Type	Description
peter	User	Built-in account for user peter

First name: peter Initials:

Last name:

Full name: peter

User logon name: peter @projectx.com

User logon name (pre-Windows 2000): PROJECTX\peter

< Back Next > Cancel

When you click Finish, the following object will be created:

Full name: peter
User logon name: peter@projectx.com
The user must change the password at next logon.

< Back Finish Cancel

Active Directory Users and Computers

File Action View Help

New Object - User

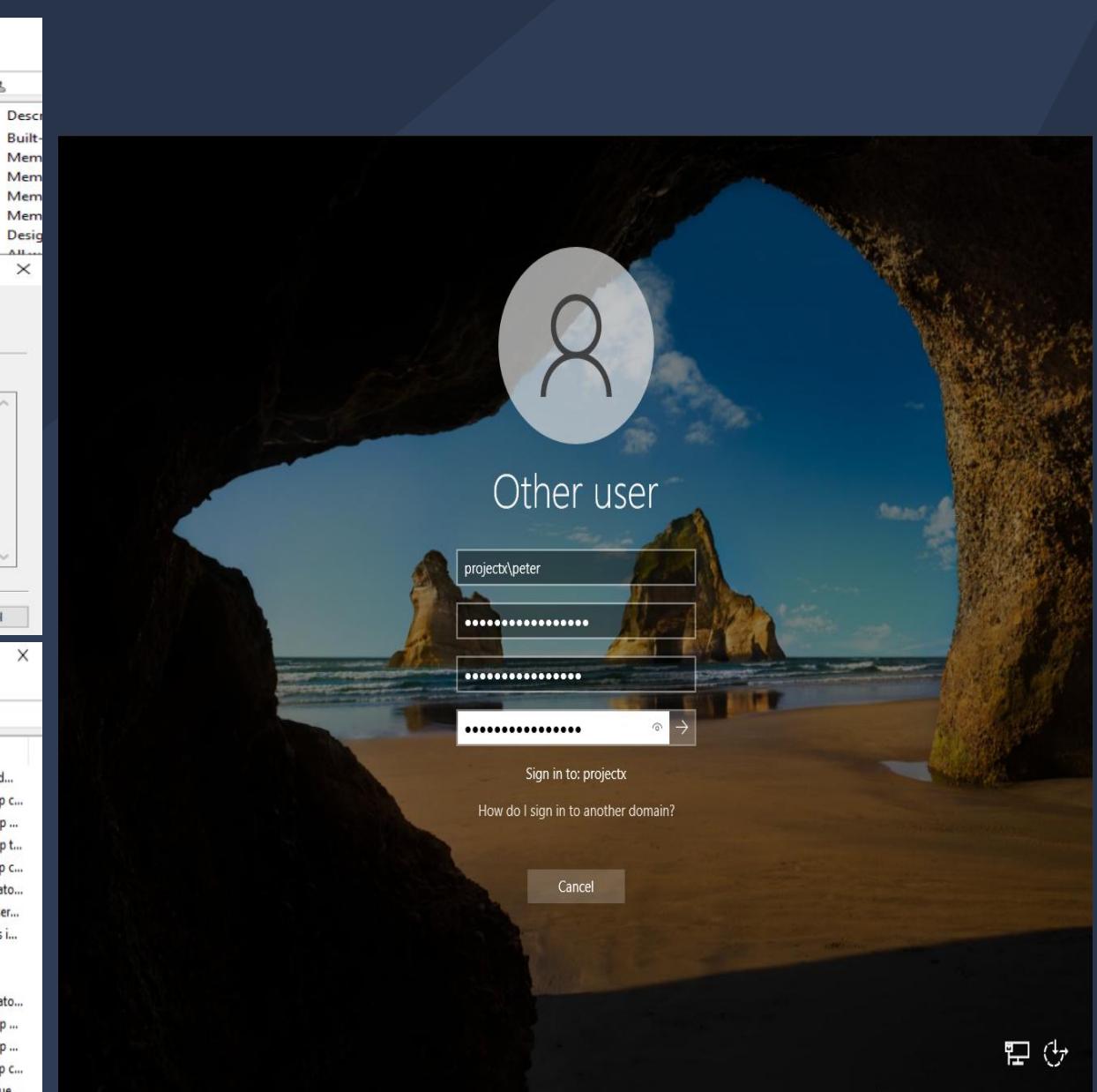
Create in: projectx.com/Users

Name	Type	Description
peter	User	Built-in account for user peter

Password: Confirm password:

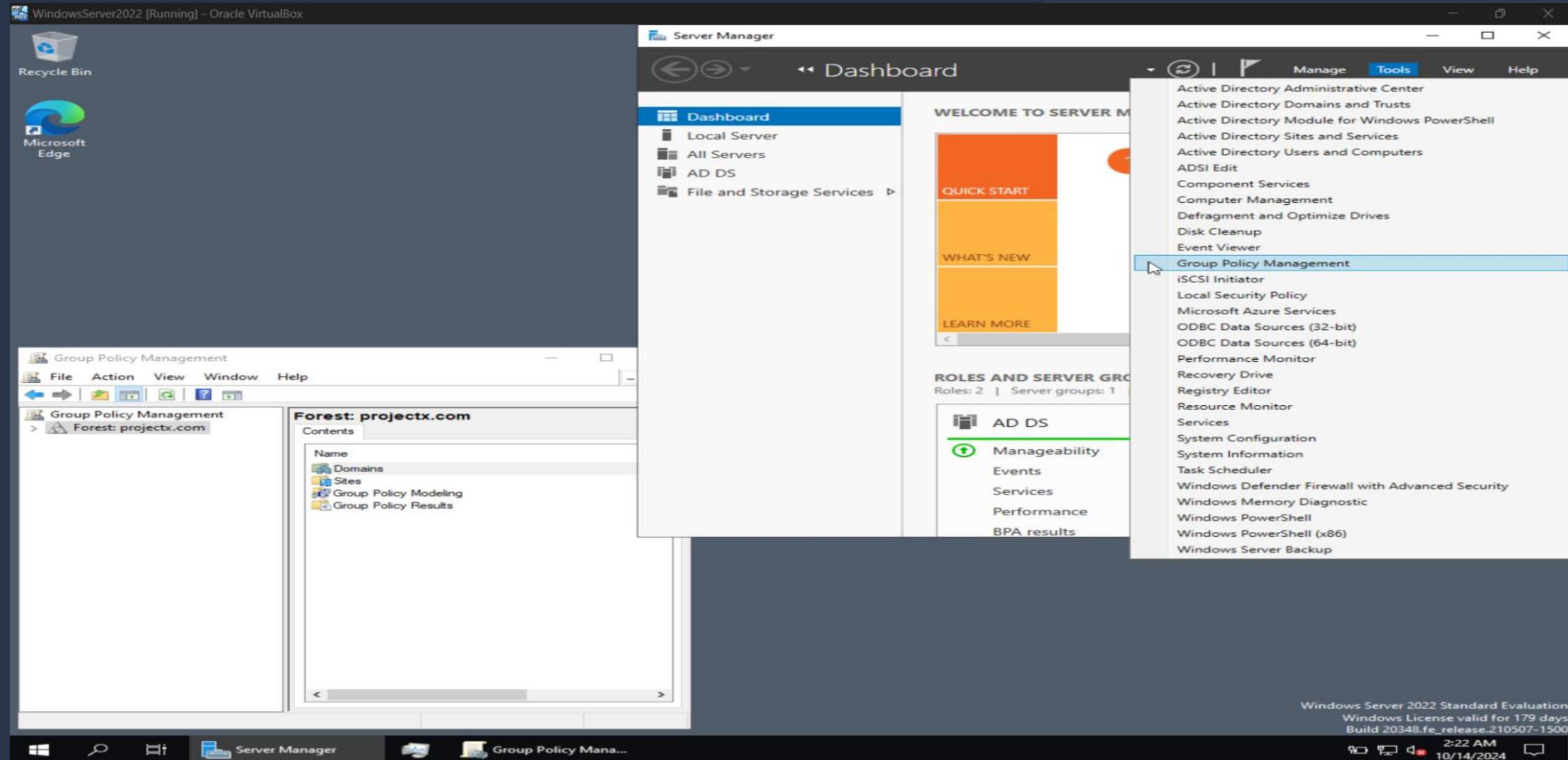
User must change password at next logon
 User cannot change password
 Password never expires
 Account is disabled

< Back Next > Cancel

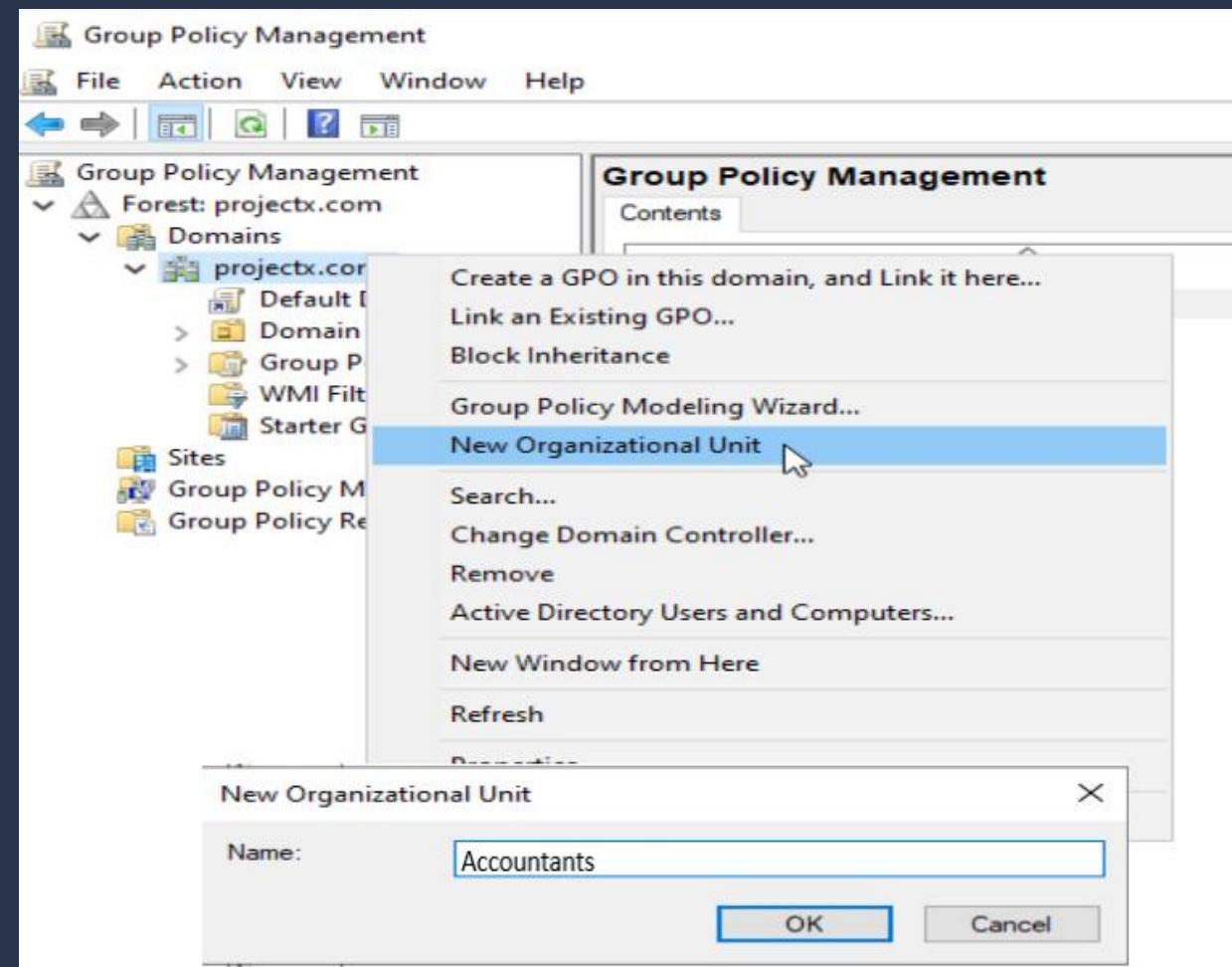


Configuring Policies

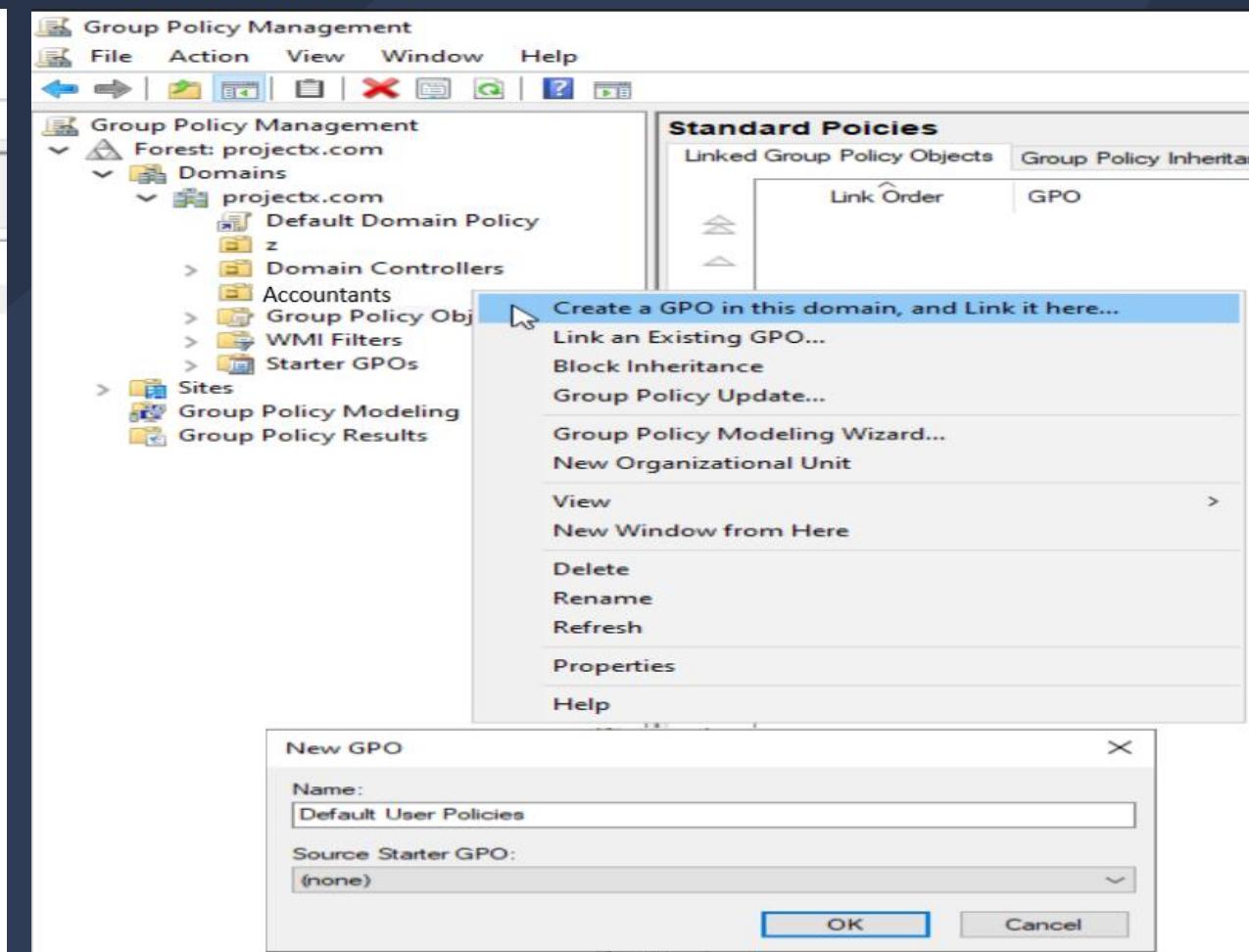
Select tools then group policy management



Right-click on projectx.com "whatever domain has been created", then select new OU



Right-click on Standard Policies "OU created", then select create a GPO



Right-click on User Rights Assignment & Configure policies

The screenshot illustrates the process of configuring User Rights Assignment in Group Policy Management and Group Policy Management Editor.

Group Policy Management: Shows the navigation pane with "Forest: projectx.com" and "Domains". Under "Domains", "projectx.com" is expanded, showing "Default Domain Policy", "Domain Controllers", "Standard Policies", and "Default User Policies". The "Default User Policies" node is selected. The main pane displays the "Default User Policies" configuration with tabs for "Scope", "Details", "Settings", and "Delegation". It shows a table of linked sites, domains, and OUs, with "Standard Policies" listed under "Location".

Group Policy Management Editor: Shows the navigation pane with "Computer Configuration" selected, expanded to show "Policies", "Windows Settings", "Name Resolution Policy", "Security Settings", "Local Policies", and "Audit Policy". "User Rights Assignment" is highlighted under "Local Policies". The main pane displays a list of User Rights assignments, each with a "Policy Setting" column. Three specific rights are highlighted with red boxes and arrows pointing to them:

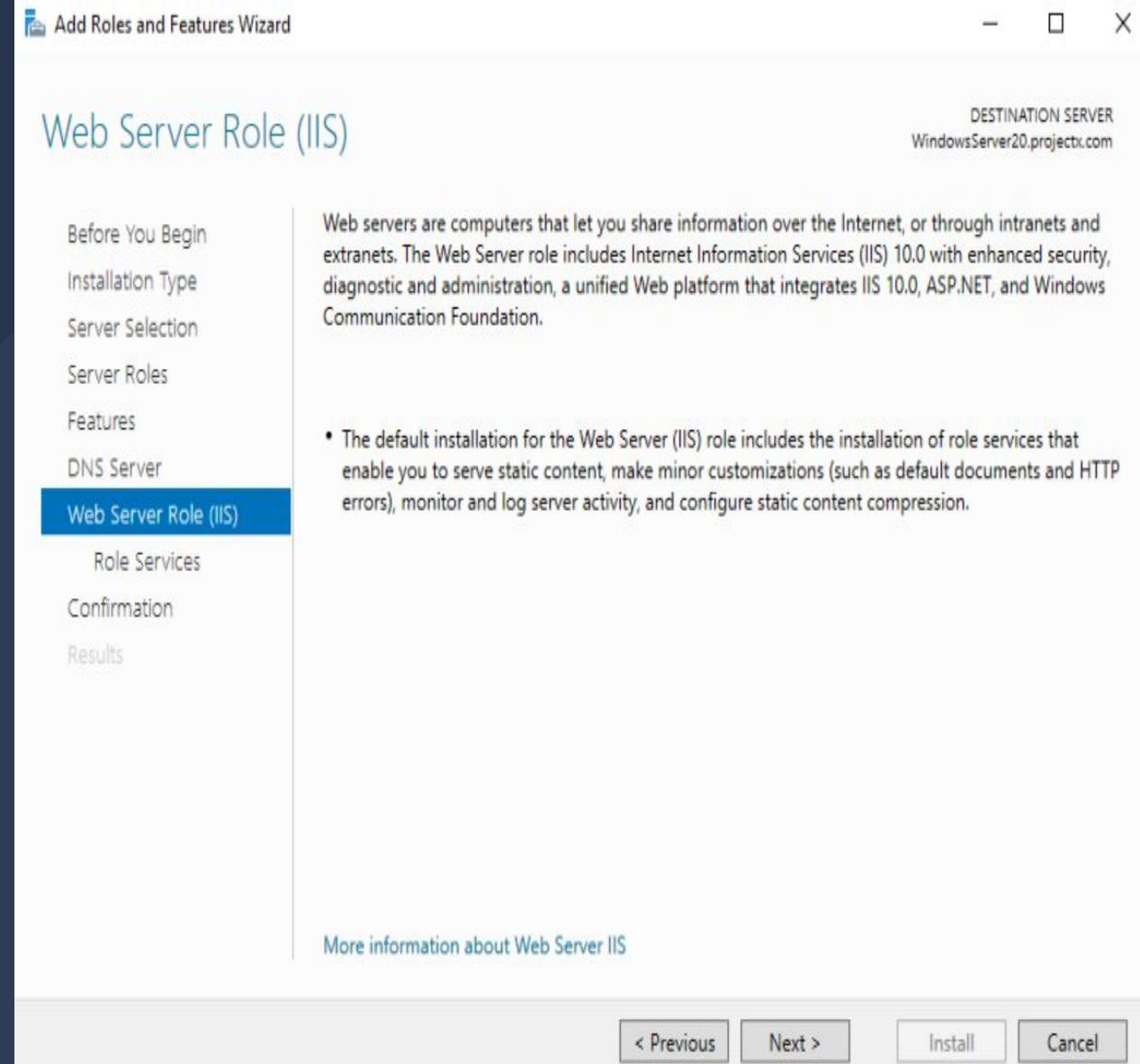
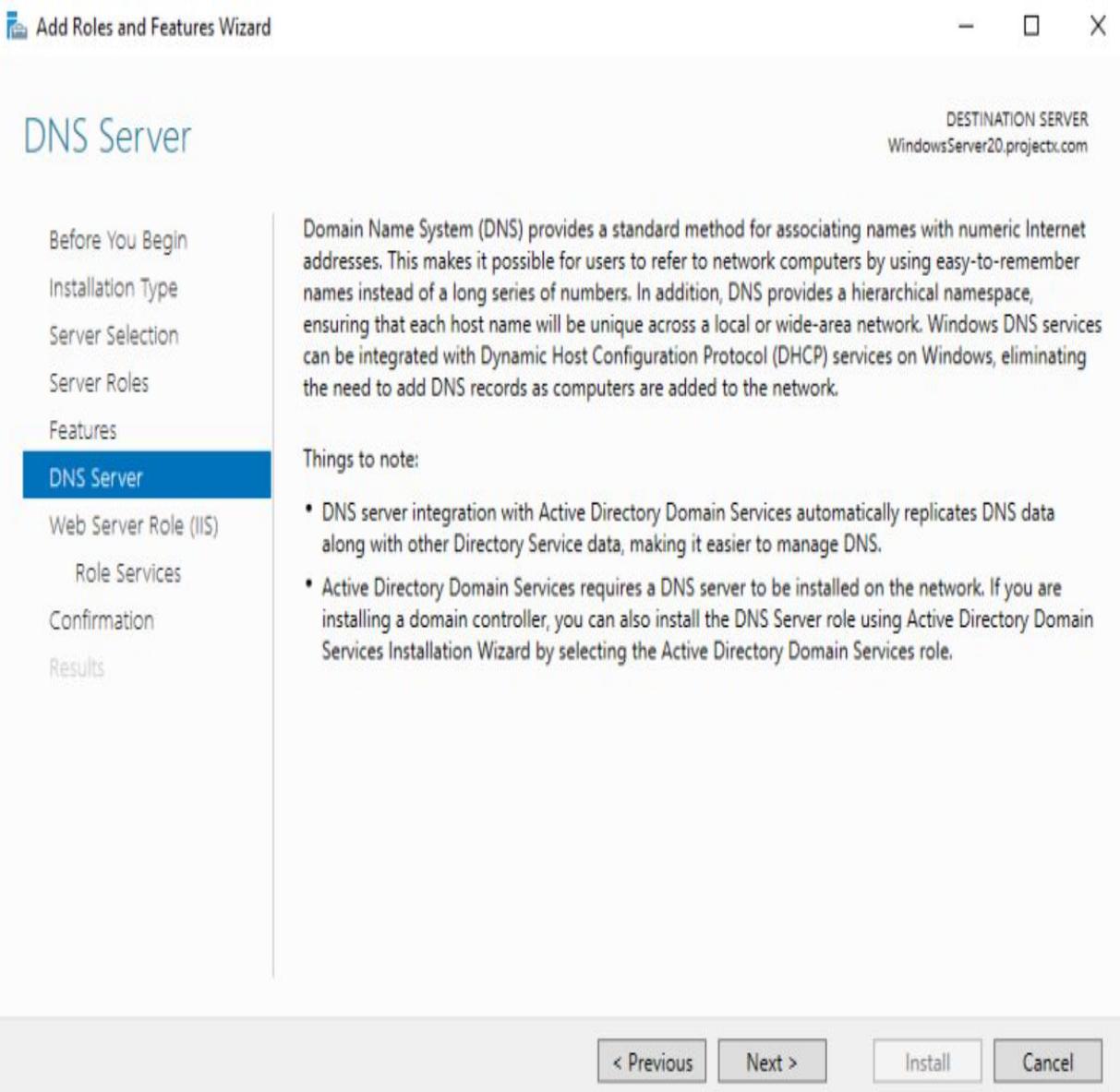
Policy	Policy Setting
Access Credential Manager as a trusted caller	Not Defined
Access this computer from the network	PROJECTX\Domain Users
Act as part of the operating system	Not Defined
Add workstations to domain	Not Defined
Adjust memory quotas for a process	Not Defined
Allow log on locally	Authenticated Users, Administrators
Allow log on through Remote Desktop Services	Not Defined
Back up files and directories	Administrators
Bypass traverse checking	Not Defined
Change the system time	Not Defined
Change the time zone	Not Defined
Create a pagefile	Not Defined
Create a token object	Not Defined
Create global objects	Not Defined
Create permanent shared objects	Not Defined
Create symbolic links	Not Defined
Debug programs	Not Defined
Deny access to this computer from the network	Not Defined
Deny log on as a batch job	Not Defined
Deny log on as a service	Not Defined
Deny log on locally	Not Defined
Deny log on through Remote Desktop Services	Not Defined
Enable computer and user accounts to be trusted for delegation	Not Defined
Force shutdown from a remote system	Not Defined
Generate security audits	Not Defined
Impersonate a client after authentication	Not Defined
Increase a process working set	Not Defined
Increase scheduling priority	Not Defined
Load and unload device drivers	Not Defined
Lock pages in memory	Not Defined
Log on as a batch job	Not Defined
Log on as a service	Not Defined

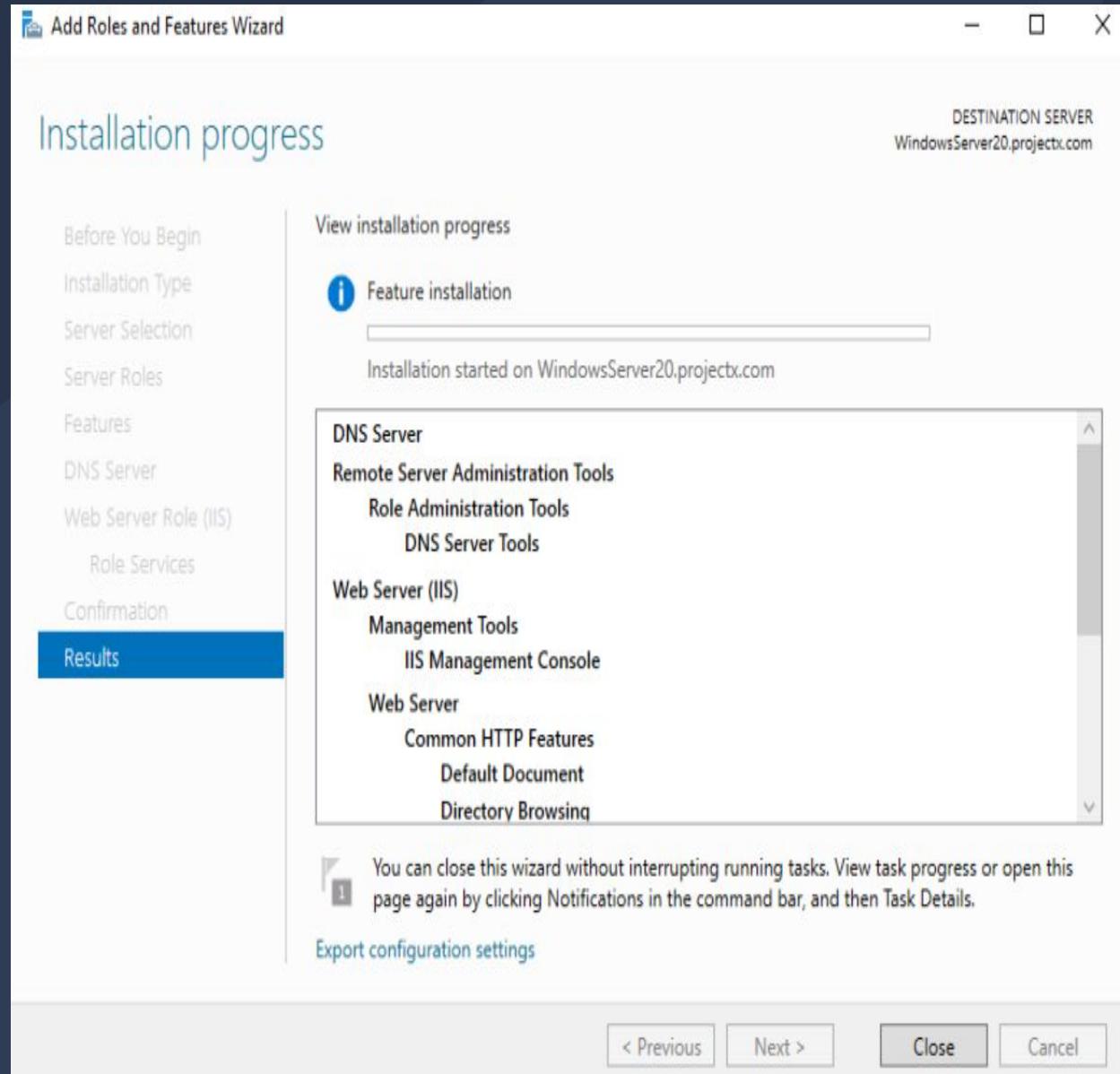
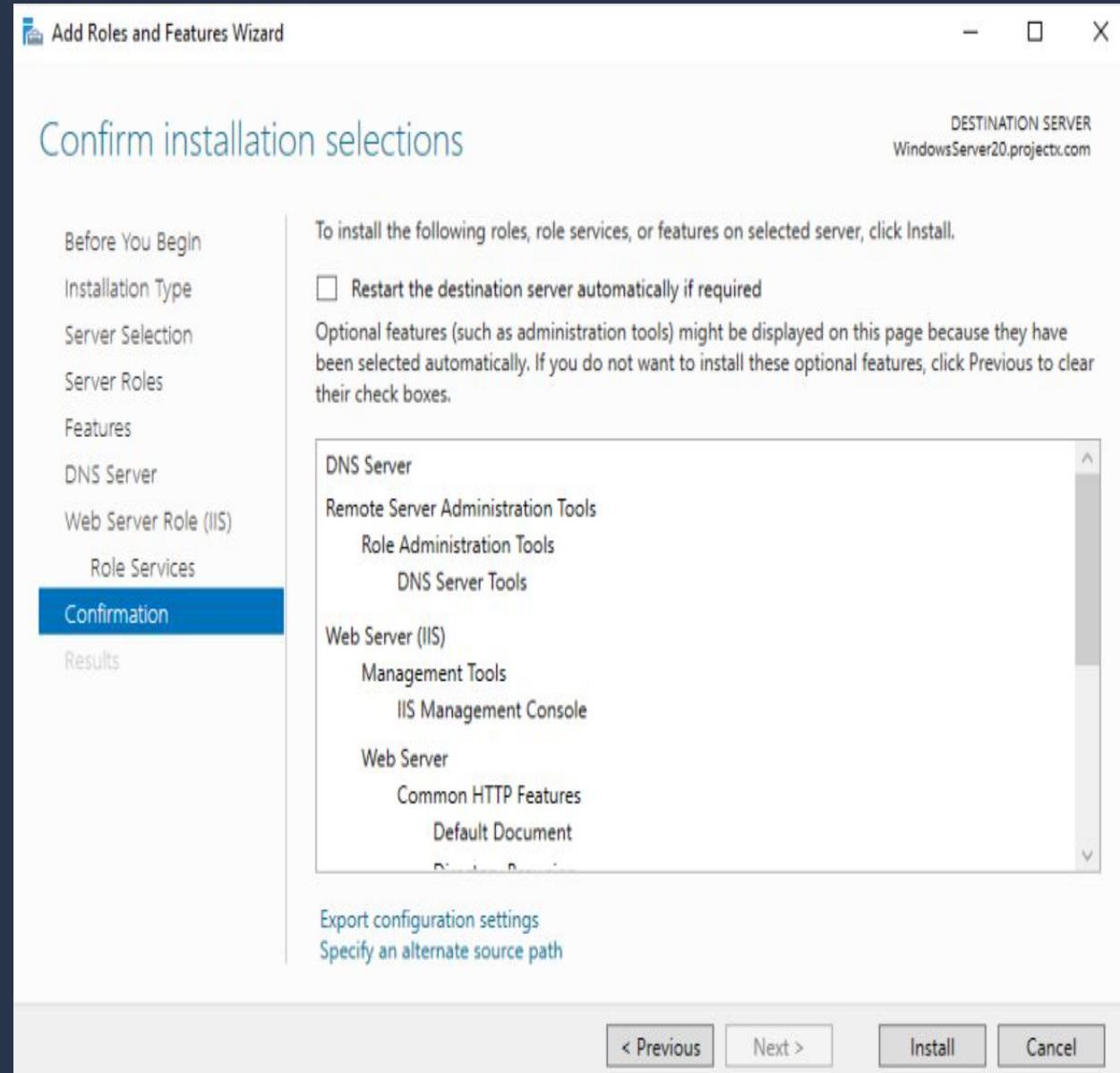
Installing DNS Server & WEB Server

The screenshot illustrates the 'Add Roles and Features Wizard' process across four main stages:

- Select installation type:** Shows the choice between 'Role-based or feature-based installation' (selected) and 'Remote Desktop Services installation'. The destination server is WindowsServer20.projectx.com.
- Select destination server:** Shows the selection of a server from a pool. 'Select a server from the server pool' is chosen, and the result shows one computer found: WindowsServer20.projectx.com (IP 10.0.2.15, Microsoft Windows Server 2022 Standard Evaluation).
- Select server roles:** Shows the selection of server roles. Under 'Roles', 'Web Server Role (IIS)' is selected. The destination server is WindowsServer20.projectx.com. A detailed description of Web Server (IIS) is provided, stating it provides a reliable, manageable, and scalable Web application infrastructure. The 'File and Storage Services' role is also listed as installed.
- Add features that are required for DNS Server?** Shows the required tools for managing the DNS feature. Under 'Local Server', 'DNS Server' is selected. Tools required include 'Remote Server Administration Tools' and 'Role Administration Tools [Tools] DNS Server Tools'. A checkbox for 'Include management tools (if applicable)' is checked.
- Add features that are required for Web Server (IIS)?** Shows the required tools for managing the Web Server (IIS) feature. Under 'Local Server', 'Web Server (IIS)' is selected. Tools required include 'Web Server (IIS)' and 'Management Tools [Tools] IIS Management Console'. A checkbox for 'Include management tools (if applicable)' is checked.

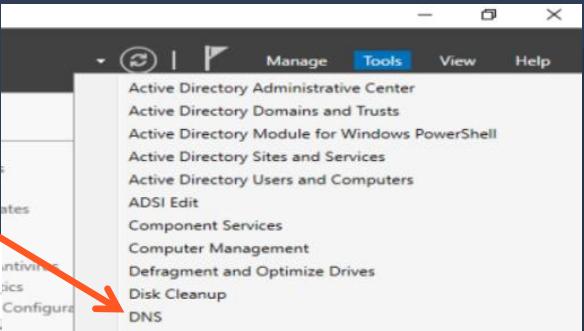
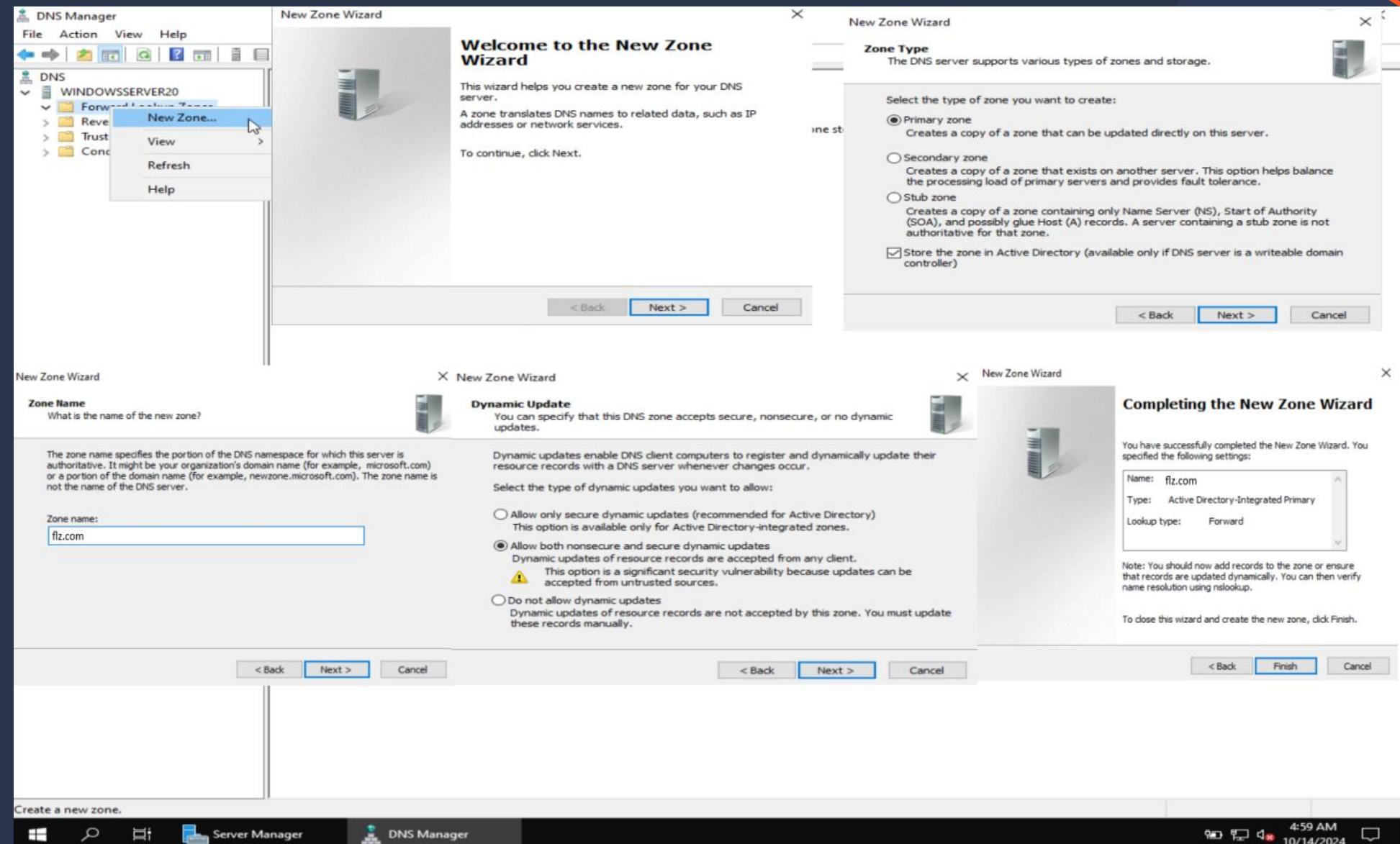
Server roles & features





Configuring DNS

Right-click on Forward Lookup Zones, then select New Zone



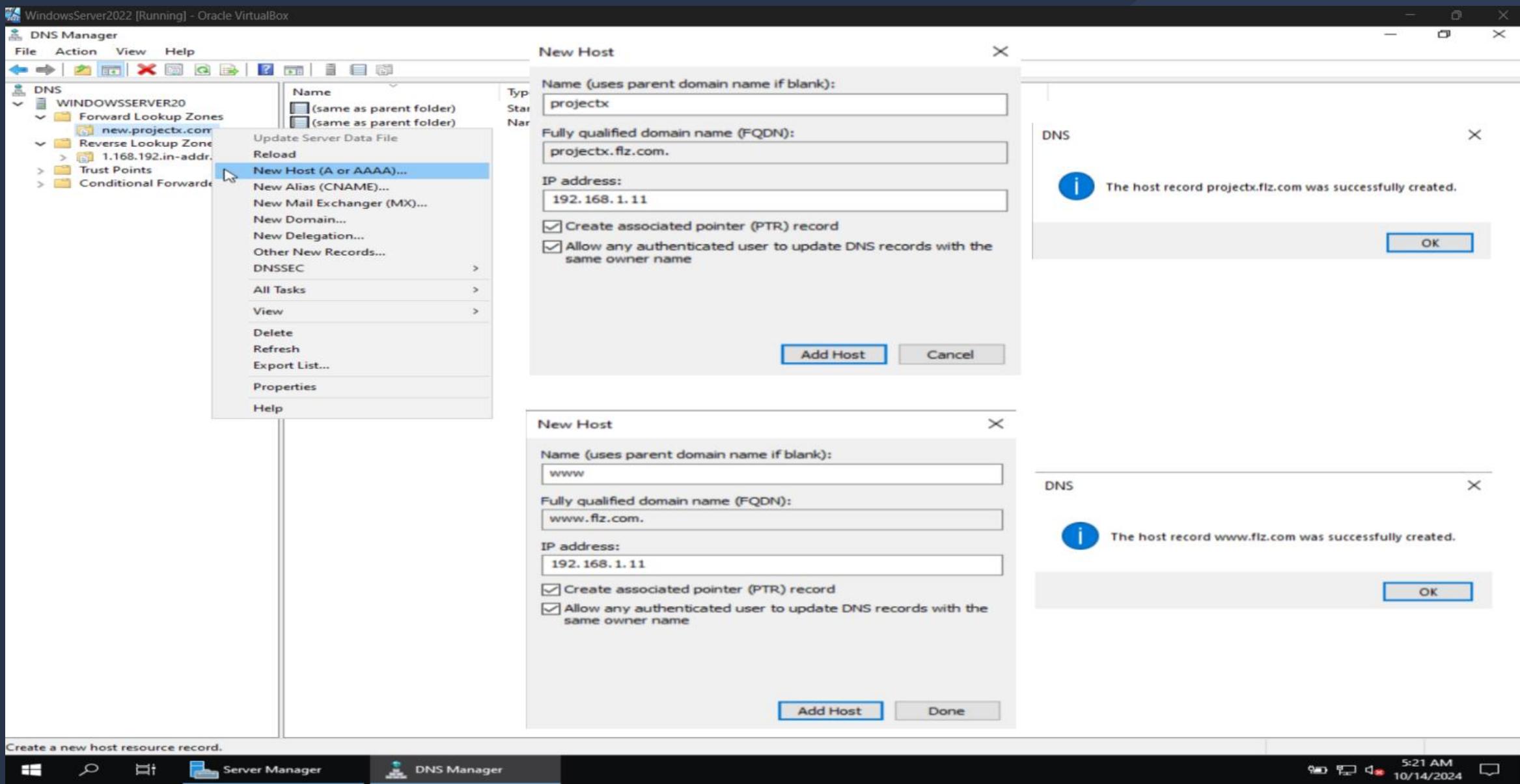
Right-click on Reverse Lookup Zones, then select New Zone

The screenshot illustrates the process of creating a new reverse lookup zone in the Windows Server DNS Manager. It shows five windows from the 'New Zone Wizard' series:

- Welcome to the New Zone Wizard**: Describes the wizard's purpose of creating a new zone for DNS server. It lists 'Forward Lookup Zones' (new.projectbx.com) and 'Reverse Lookup Zones' (selected). Buttons: < Back, Next >, Cancel.
- Zone Type**: Explains zone types: Primary zone (selected), Secondary zone, and Stub zone. It includes a note about storing the zone in Active Directory. Buttons: < Back, Next >, Cancel.
- Reverse Lookup Zone Name**: Explains what a reverse lookup zone does. It shows options for IPv4 and IPv6. Buttons: < Back, Next >, Cancel.
- Reverse Lookup Zone Name**: Specific to reverse zones, asking for the network ID. It shows 'Network ID:' set to '192.168.' and 'Reverse lookup zone name:' set to '1.168.192.in-addr.arpa'. Buttons: < Back, Next >, Cancel.
- Dynamic Update**: Allows specifying dynamic update settings. It shows 'Allow both nonsecure and secure dynamic updates' selected. Buttons: < Back, Next >, Cancel.
- Completing the New Zone Wizard**: Summarizes the settings: Name '1.168.192.in-addr.arpa', Type 'Active Directory-Integrated Primary', and Lookup type 'Reverse'. It includes a note about adding records and a 'Finish' button. Buttons: < Back, Finish, Cancel.

The taskbar at the bottom shows the Server Manager and DNS Manager icons. The system tray indicates the date and time as 10/14/2024 at 5:13 AM.

Right-click on the created zone, then select New Host



DNS Manager

File Action View Help

DNS

WINDOWS SERVER 20

Forward Lookup Zones flz.com

Reverse Lookup Zones 1.168.192.in-addr.arpa

Trust Points Conditional Forwarders

Name	Type	Data	Timestamp
(same as parent folder)	Start of Authority (SOA)	[11], windowsserver20.pro...	static
(same as parent folder)	Name Server (NS)	windowsserver20.projectx....	static
projectx	Host (A)	192.168.1.11	static
www	Host (A)	192.168.1.11	static

DNS Manager

File Action View Help

DNS

WINDOWS SERVER 20

Forward Lookup Zones flz.com

Reverse Lookup Zones 1.168.192.in-addr.arpa

Trust Points Conditional Forwarders

Name	Type	Data	Timestamp
(same as parent folder)	Start of Authority (SOA)	[11], windowsserver20.pro...	static
(same as parent folder)	Name Server (NS)	windowsserver20.projectx....	static
192.168.1.11	Pointer (PTR)	www.flz.com.	static
192.168.1.11	Pointer (PTR)	projectx.flz.com.	static

Administrator: Windows PowerShell

Windows PowerShell

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

PS C:\Users\administrator> ping www.flz.com

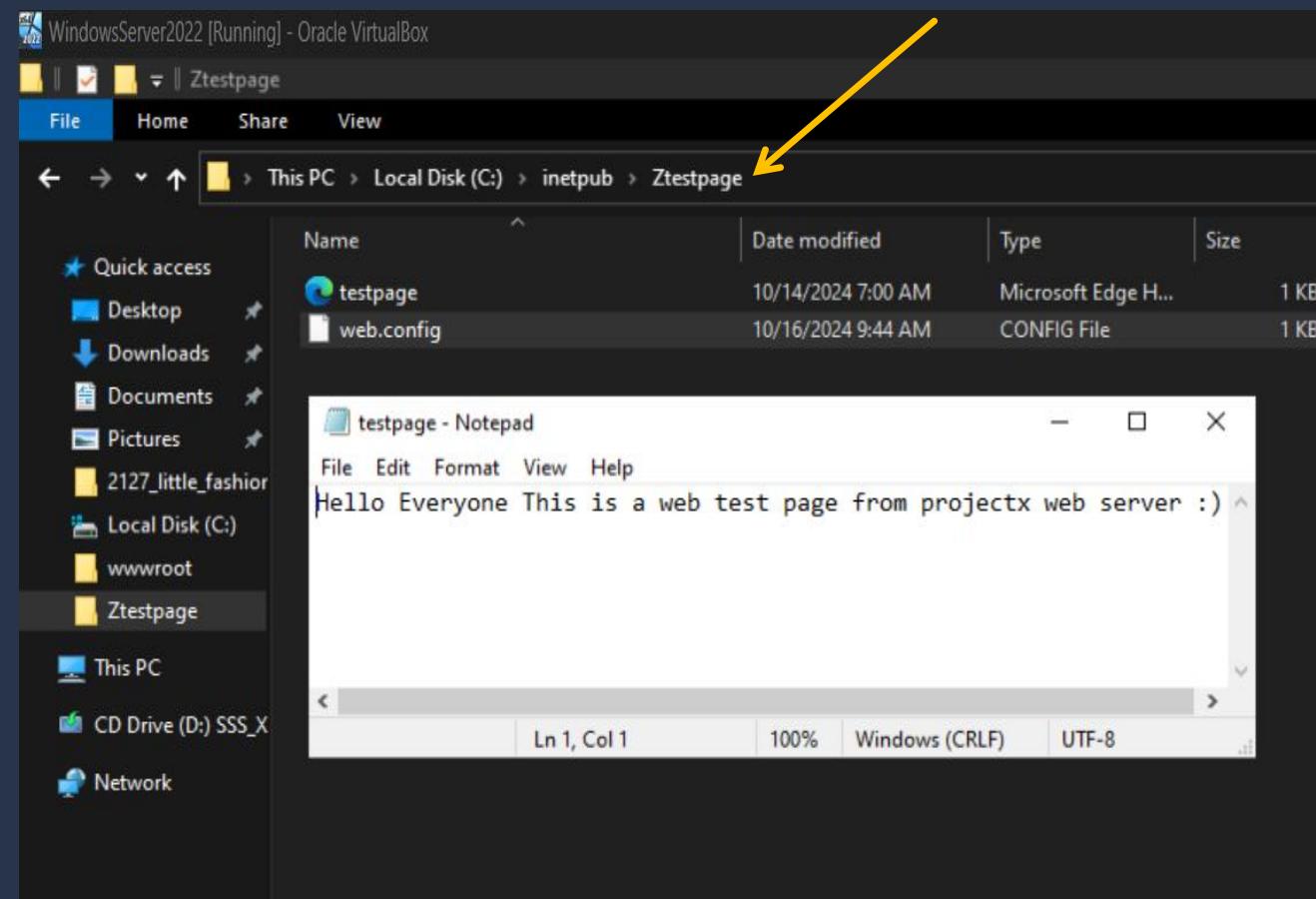
```
Pinging www.flz.com [192.168.1.11] with 32 bytes of data:
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

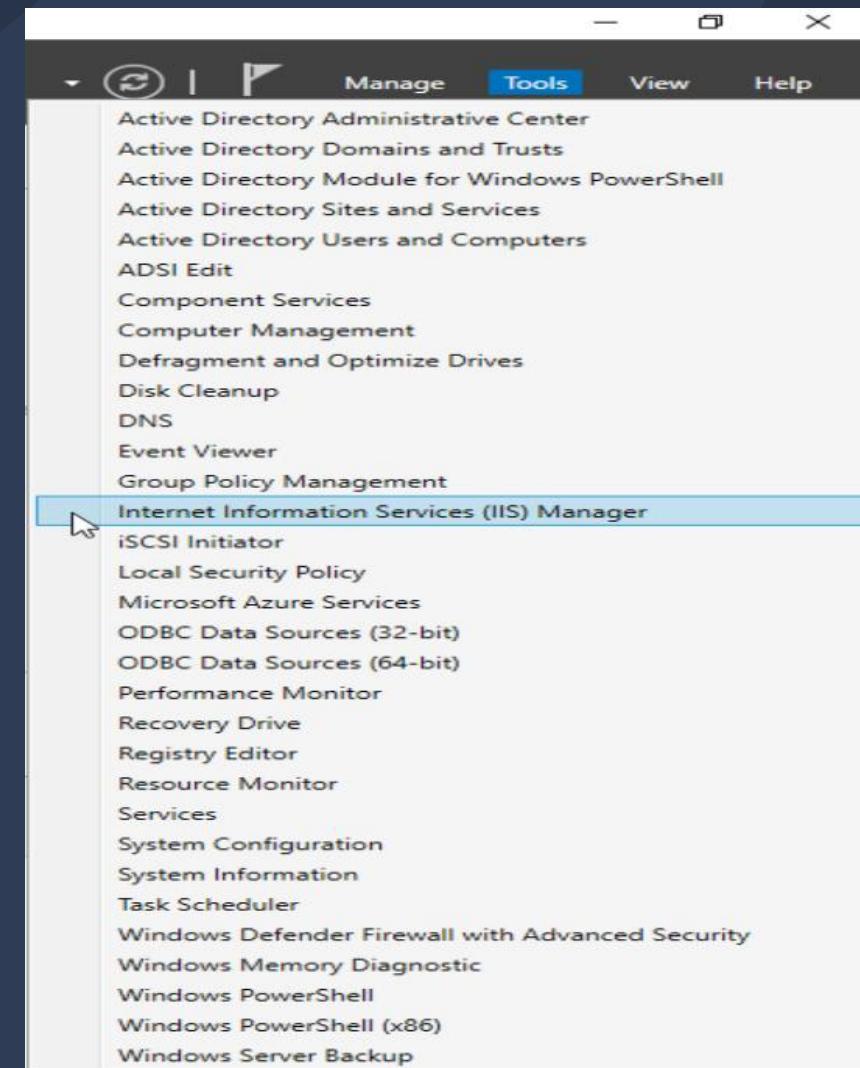
PS C:\Users\administrator>

Create Website

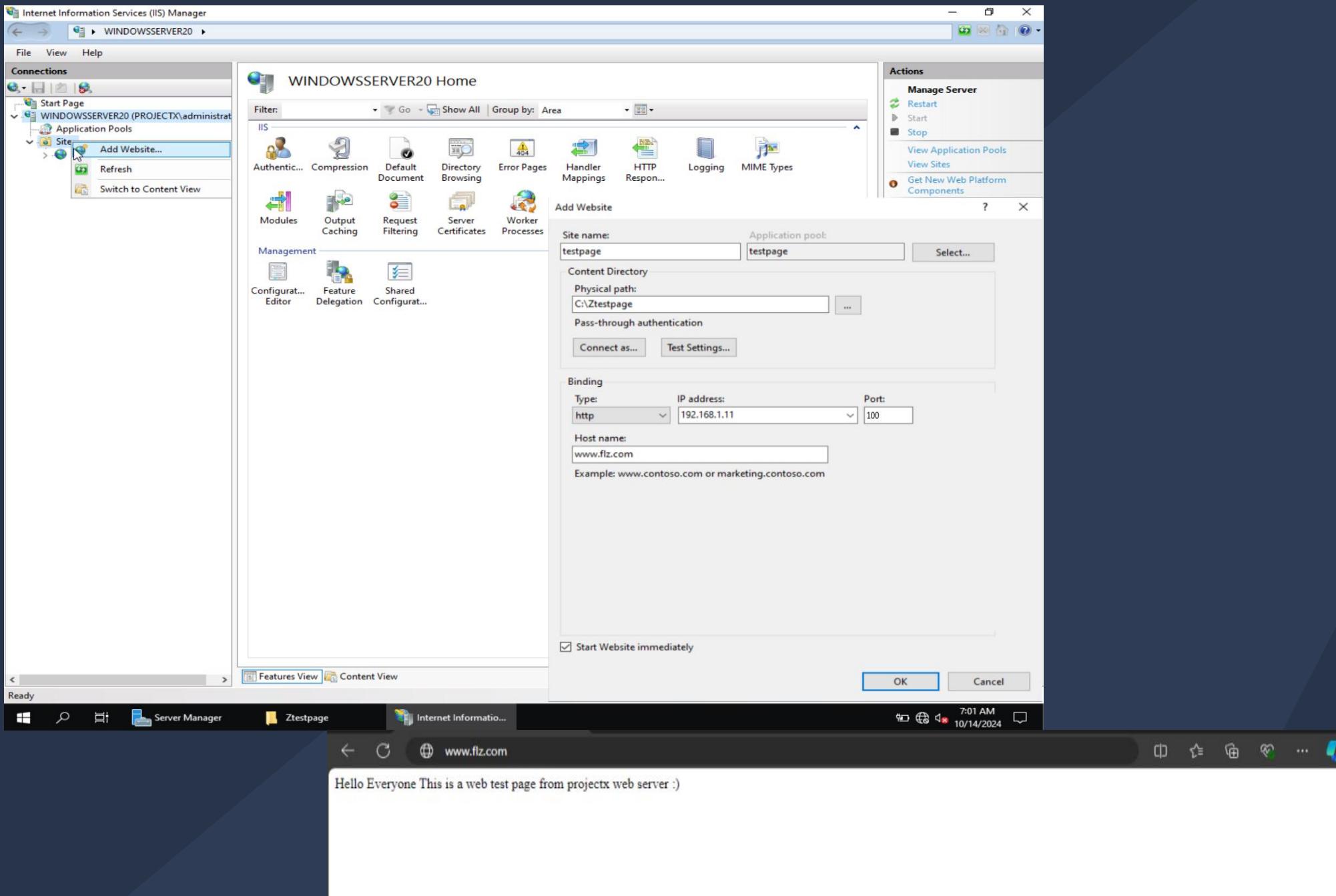
Create a document file & save it as html file in the path below " ISS Manger Path"



Open Server Manger, select tools , select IIS Manger



Right-click on sites, then select add website, then fill the data required





- Dashboard
- Local Server
- All Servers
- AD DS
- DNS
- File and Storage Services
- IIS



1 Configure this local server

- 2 Add roles and features
- 3 Add other servers to manage
- 4 Create a server group
- 5 Connect this server to cloud services

[Hide](#)

ROLES AND SERVER GROUPS

Roles: 4 | Server groups: 1 | Servers total: 1

AD DS 1	DNS 1	File and Storage Services 1
Manageability	Manageability	Manageability
Events	Events	Events
Services	Services	Services
Performance	Performance	Performance
BPA results	BPA results	BPA results
IIS 1	Local Server 1	All Servers 1
Manageability	Manageability	Manageability
Events	Events	Events
Services	Services	Services
Performance	Performance	Performance
BPA results	BPA results	BPA results

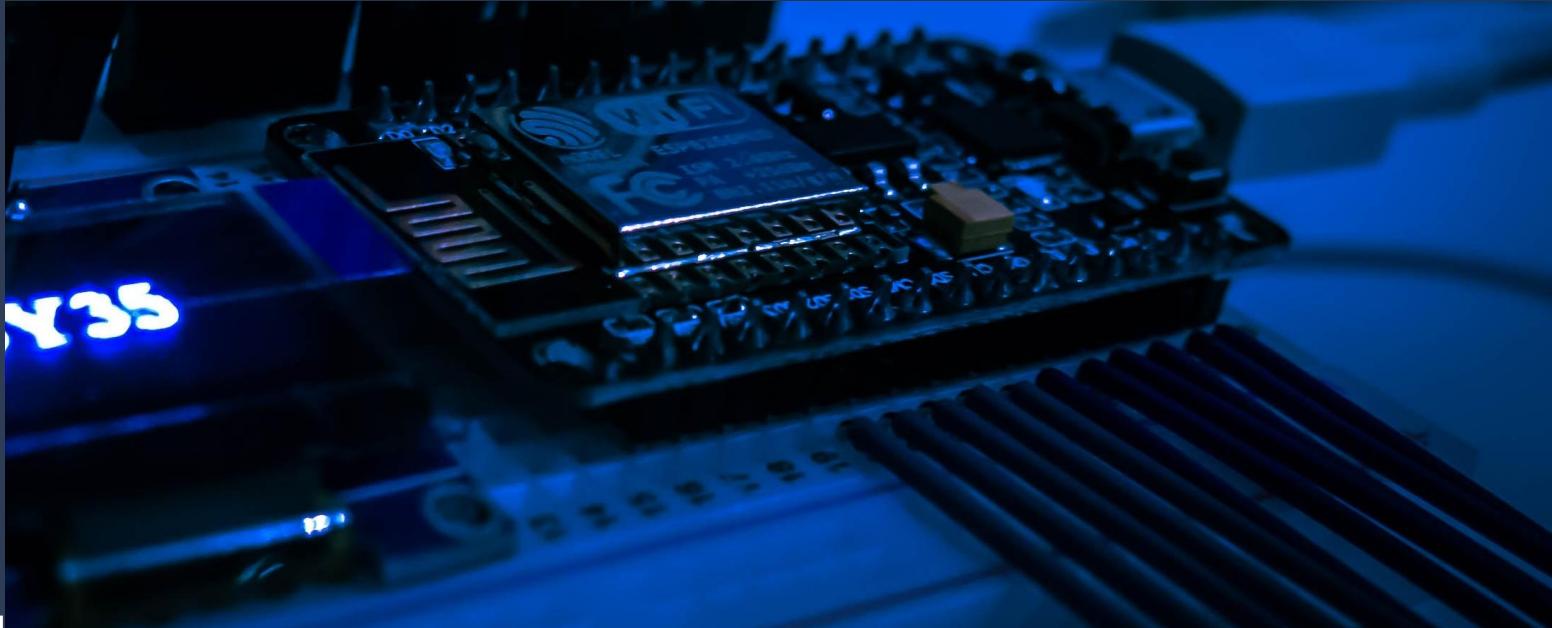


05



Test Reports

Issues & Solutions



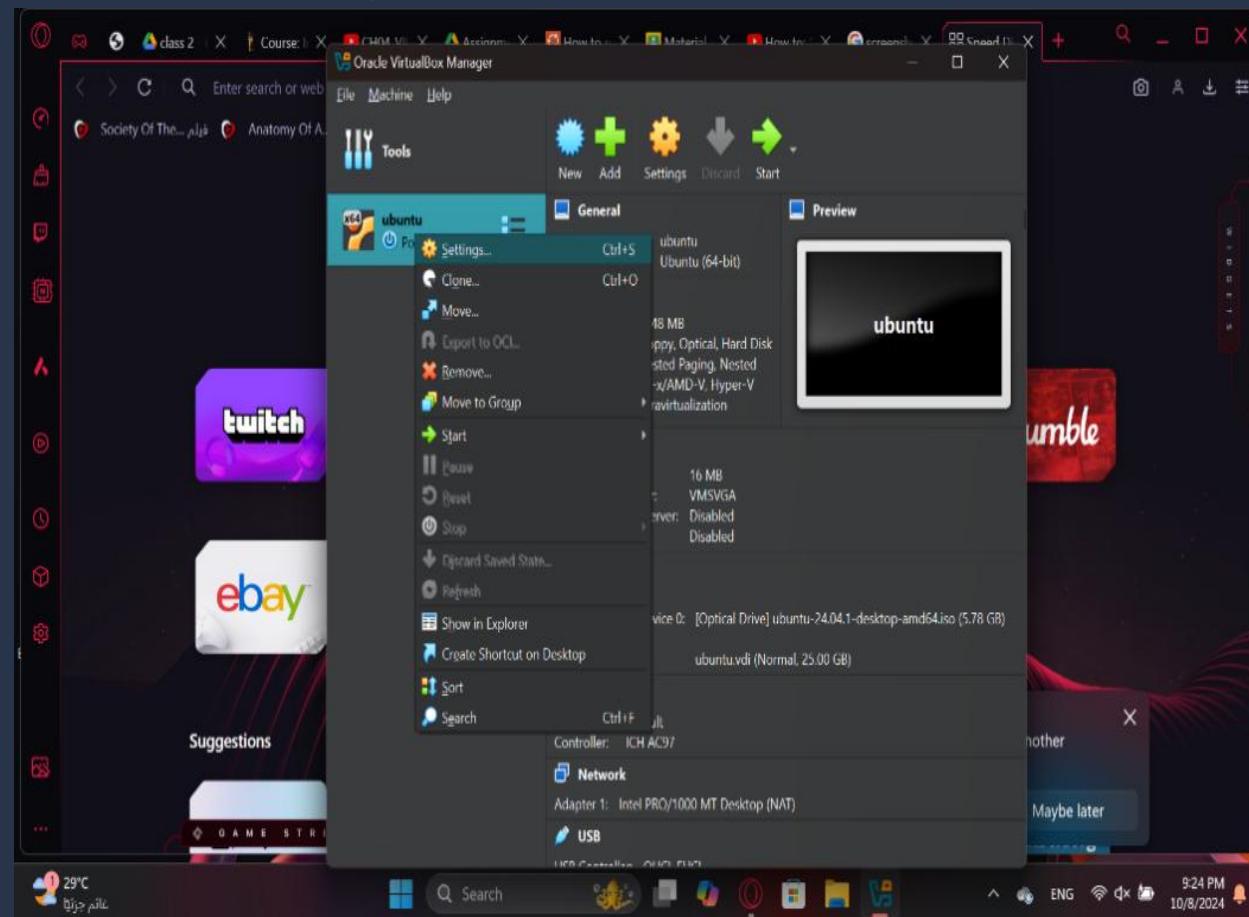
Issue 1

Backscreen: when run the ubuntu from the VBOX displays a backscreen

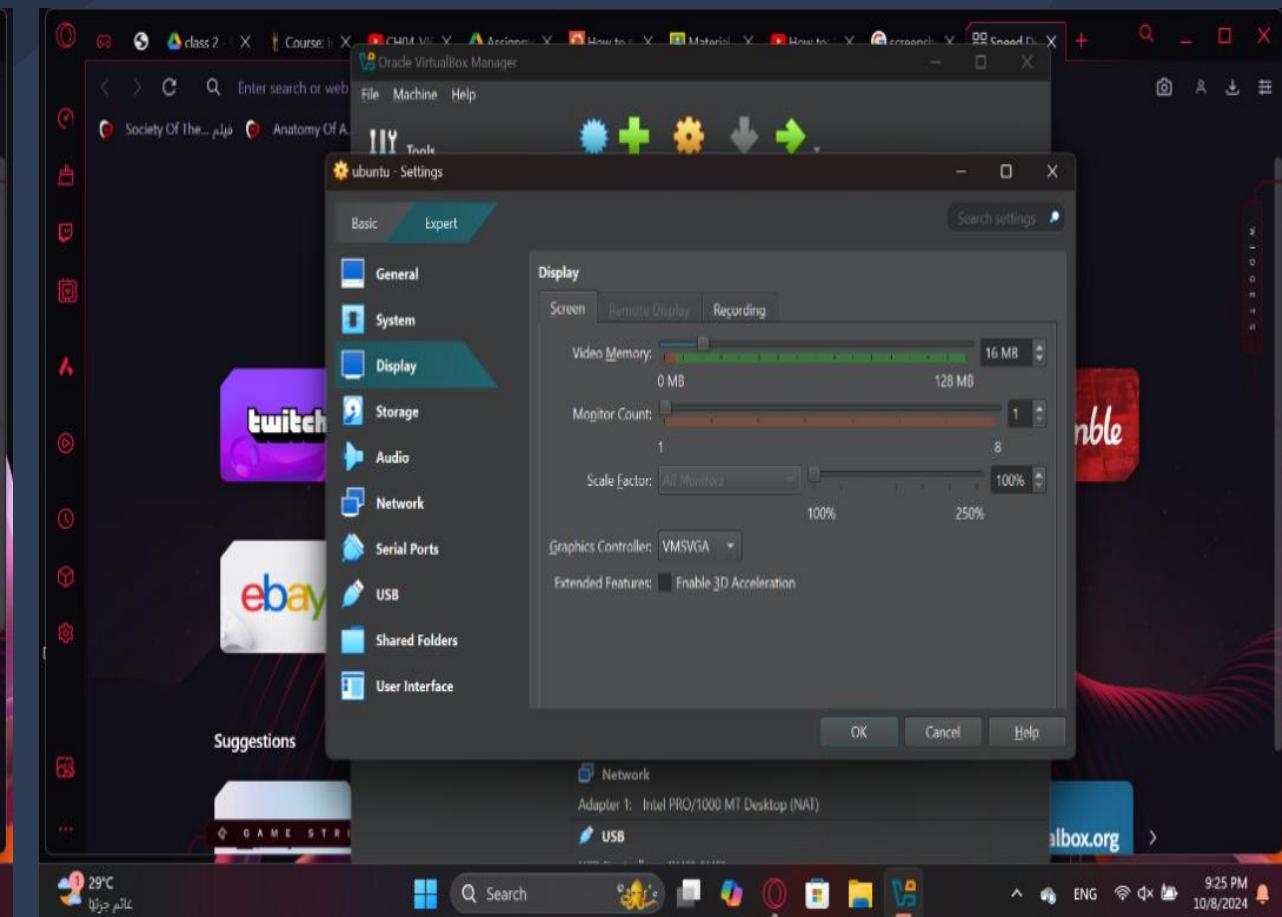
Solution

increase the video memory to 50 or 60 MB then the ubuntu will work properly

ubuntu settings



display then increase video memory to 50 or 60 MB



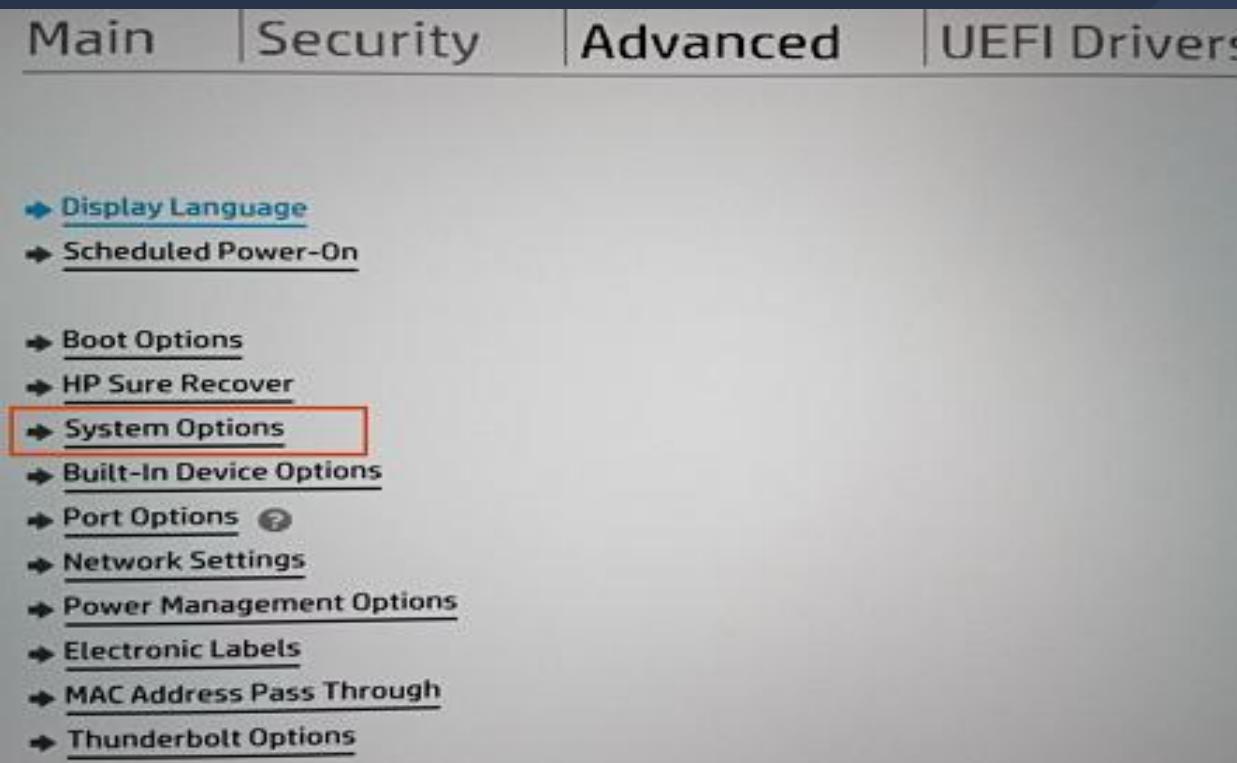
Issue 2

Error message that AMD-V is and VTx is disabled.

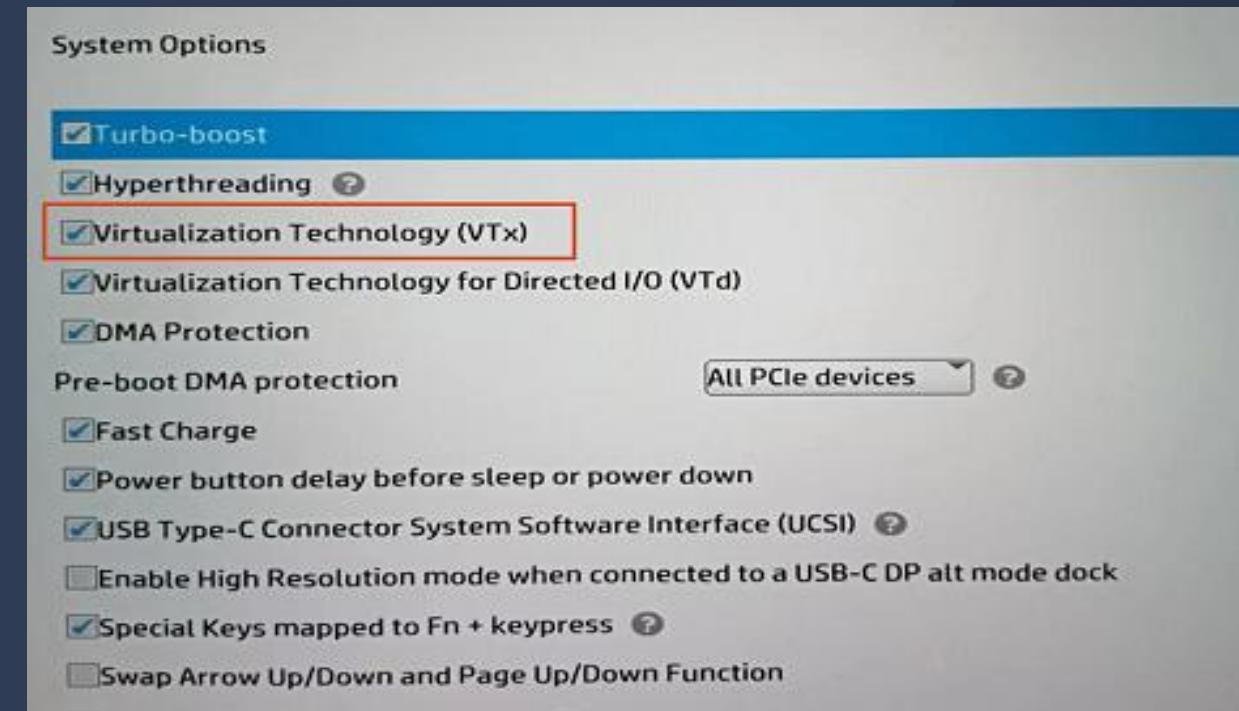
Solution

enable the AMD-V AND vtx from the BIOS.

1-enter the bios of your device then click advanced.
2-from advanced select system options.



In the System Options window, select the Virtualization Technology (VTx) box.

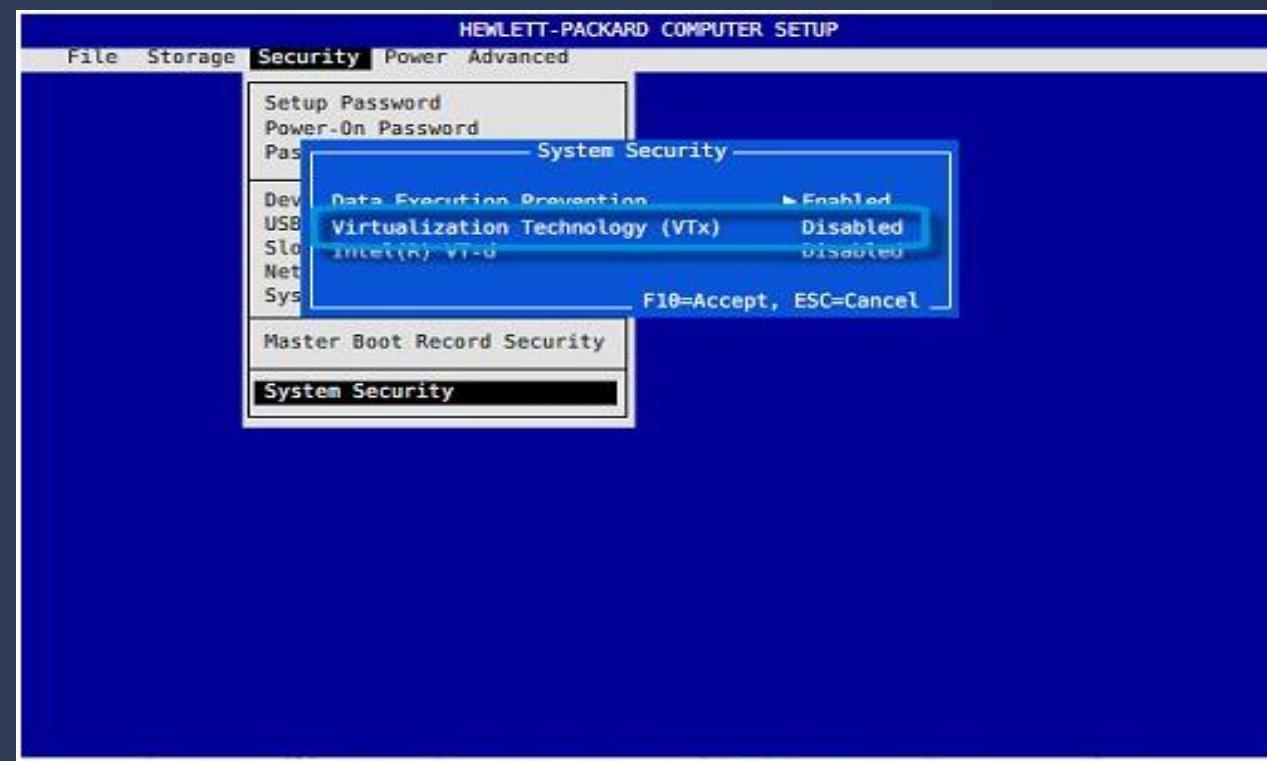


Press f10 to save your changes and exit BIOS.

Enable Virtualization Technology

In the BIOS Under the Security tab, use the up and down arrows to select USB Security, and then press enter.

Use the up and down arrows to select Virtualization Technology (VTx), and then use the left and right arrows to select either Enabled or Disabled.



Issue 3

error invalid setting detected Not enough memory is left for the host operation system
VirtualBox

Solution

allocate enough RAM and CPU minimum 2GB more is better

Issue 4

VirtualBox Version Compatibility

Solution

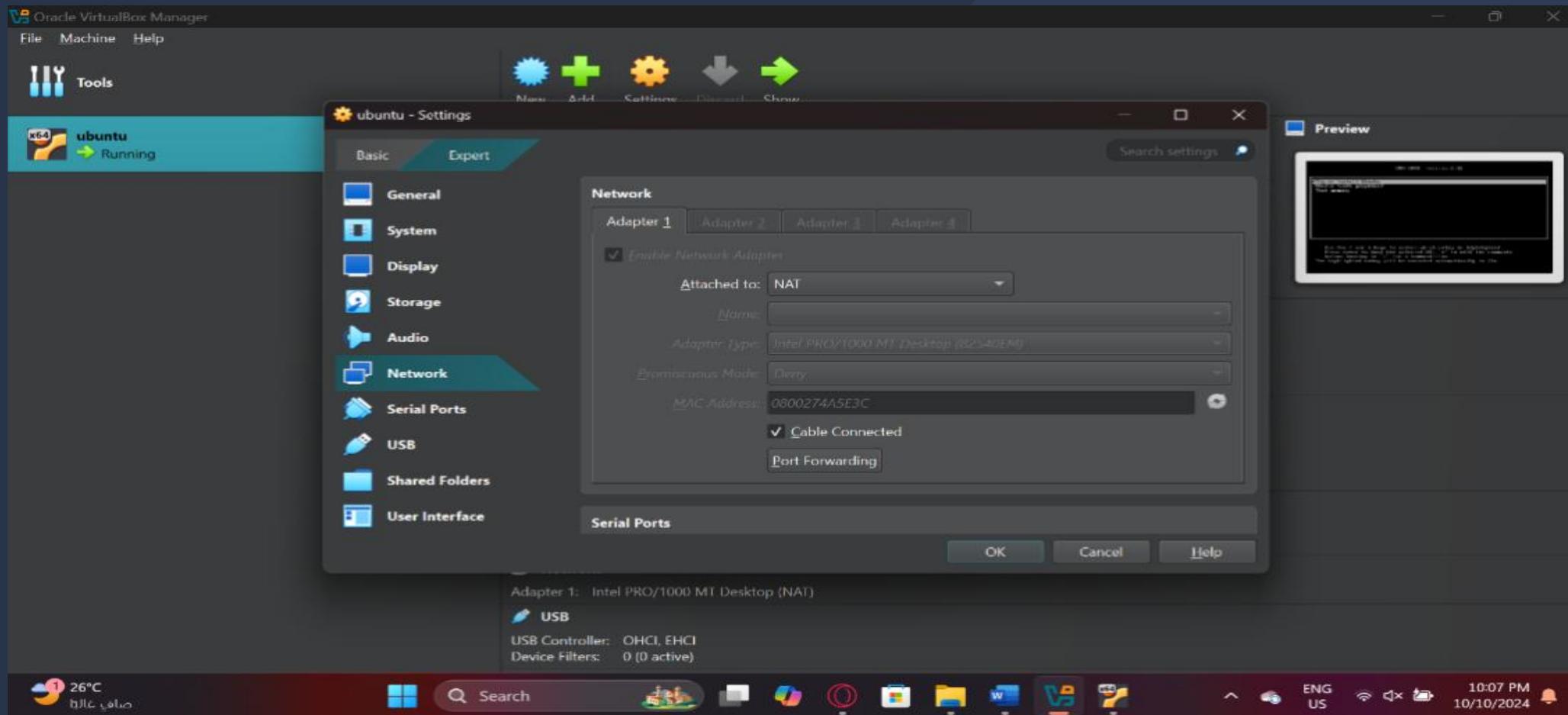
Ensure you are using the latest version of VirtualBox. Compatibility issues can arise with older versions.

Issue 5

If you have network problems

Solution

Ensure the network adapter is set to "NAT" or "Bridged" in the VM settings. You may also need to configure the firewall settings on your host machine



Issue 6

Website error loading

The screenshot shows a browser window titled "WindowsServer2022 [Running] - Oracle VirtualBox" with the URL "IIS 10.0 Detailed Error - 403.14 - www.flz.com". The address bar also shows "Not secure". The main content is an "HTTP Error 403.14 - Forbidden" page. It states: "The Web server is configured to not list the contents of this directory." Below this, under "Most likely causes:", it lists: "A default document is not configured for the requested URL, and directory browsing is not enabled on the server." Under "Things you can try:", it provides steps to enable directory browsing via IIS Manager and to check configuration files. A "Detailed Error Information" section shows the following details:

Module	DirectoryListingModule	Requested URL	http://www.flz.com:80/
Notification	ExecuteRequestHandler	Physical Path	C:\Ztestpage
Handler	StaticFile	Logon Method	Anonymous
Error Code	0x00000000	Logon User	Anonymous

Under "More Information:", it explains the error occurs when no document is specified in the URL, no default document is specified, and directory listing is not enabled. It includes a link to "View more information".

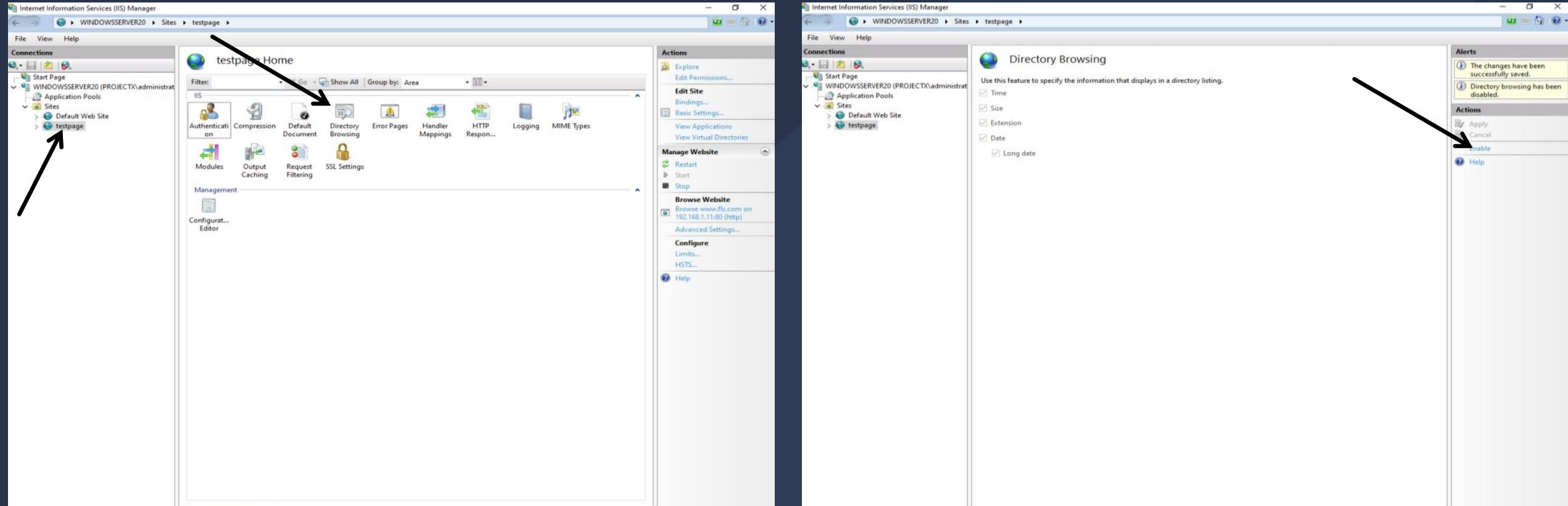
At the bottom, the taskbar shows icons for Server Manager, Ztestpage, Internet Information..., and IIS 10.0 Detailed Err... The system tray shows the date and time as 7:04 AM, 10/14/2024.

Solution

Ensure to enable Directory Browsing

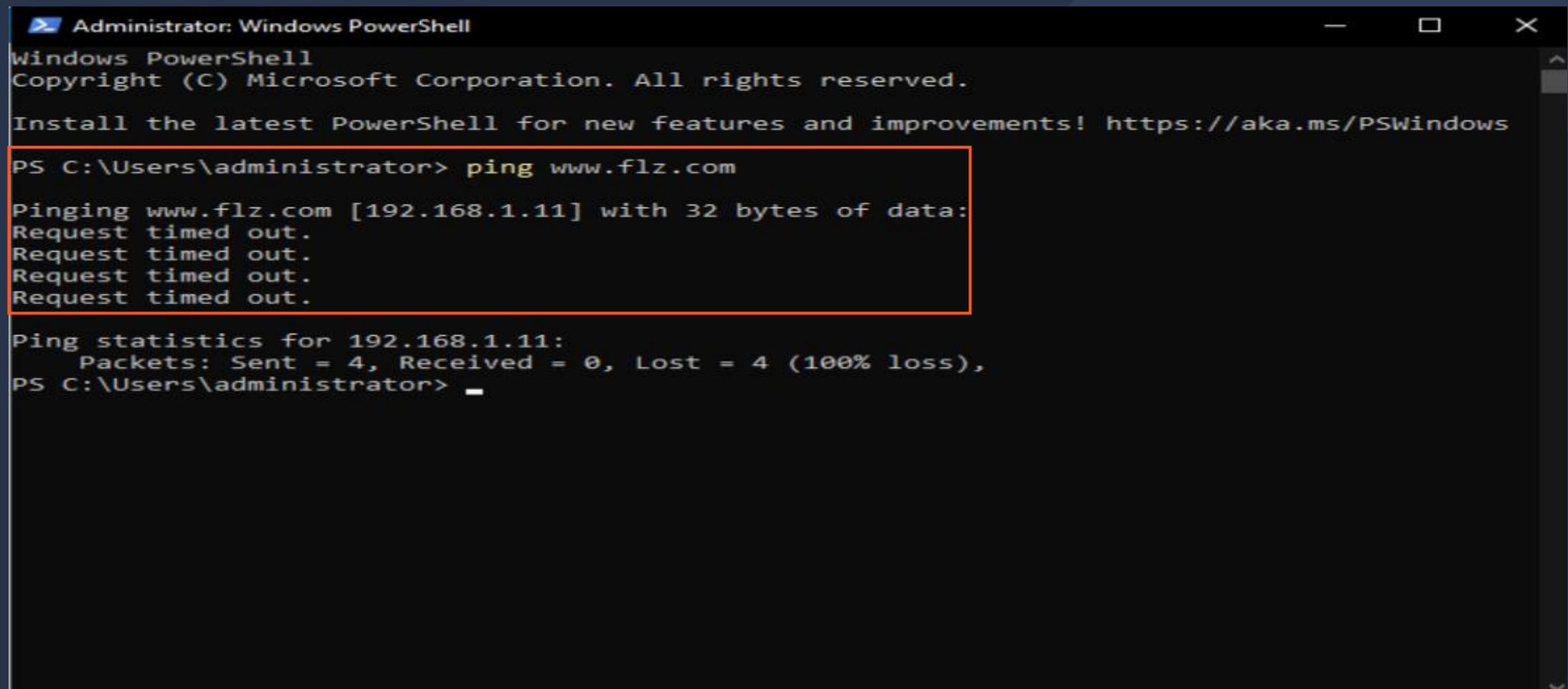
Right-click on the website created, then select Directory Browsing

Click on enable



Issue 7

Host name & Domain name are not replying



Administrator: Windows PowerShell

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

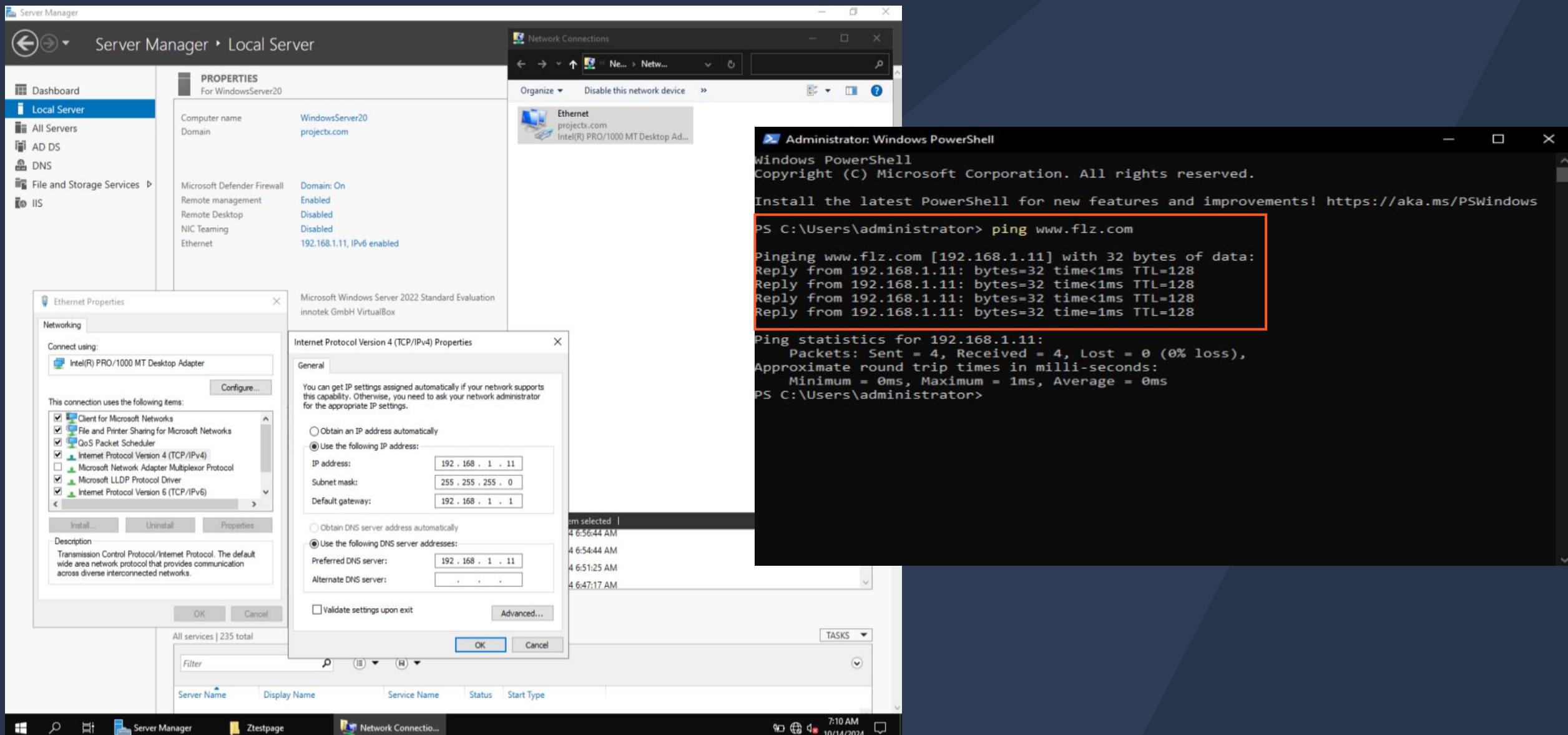
```
PS C:\Users\administrator> ping www.flz.com

Pinging www.flz.com [192.168.1.11] with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.11:
  Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
PS C:\Users\administrator> -
```

Solution

Ensure to configure your network settings

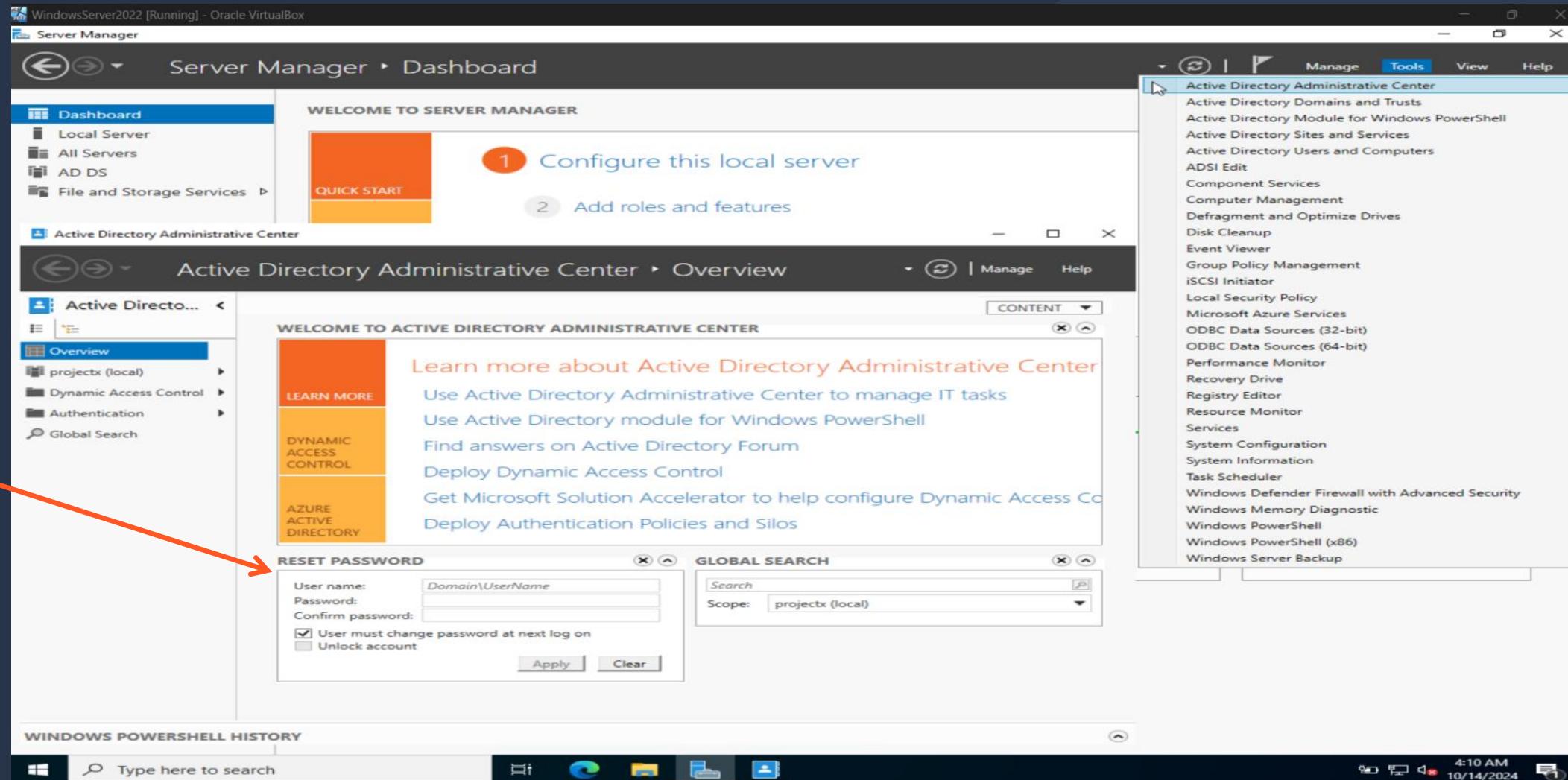


Issue 8

Server users forgot their passwords

Solution

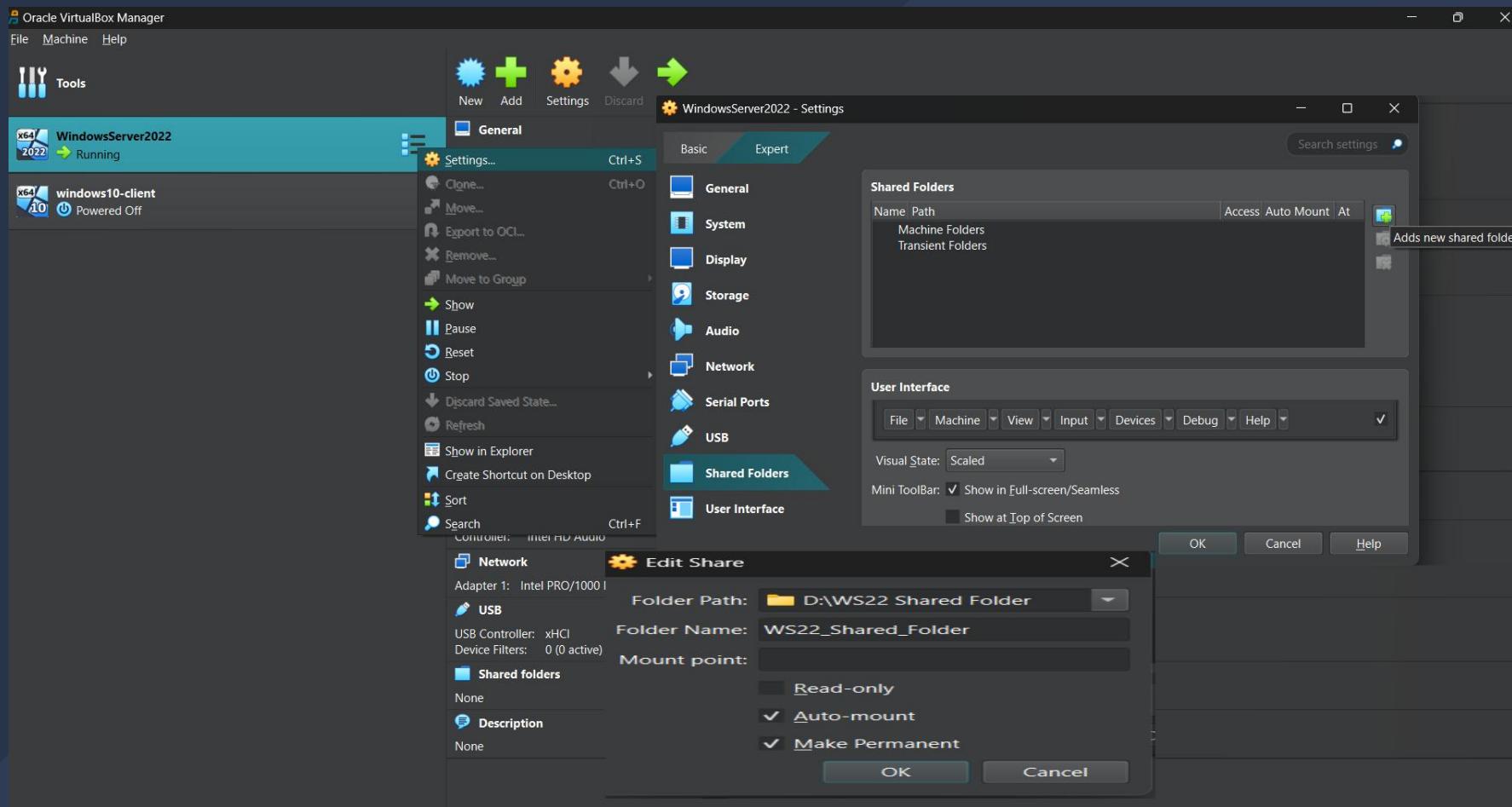
Select tools, then click-on active directory administrative center



Useful Tips

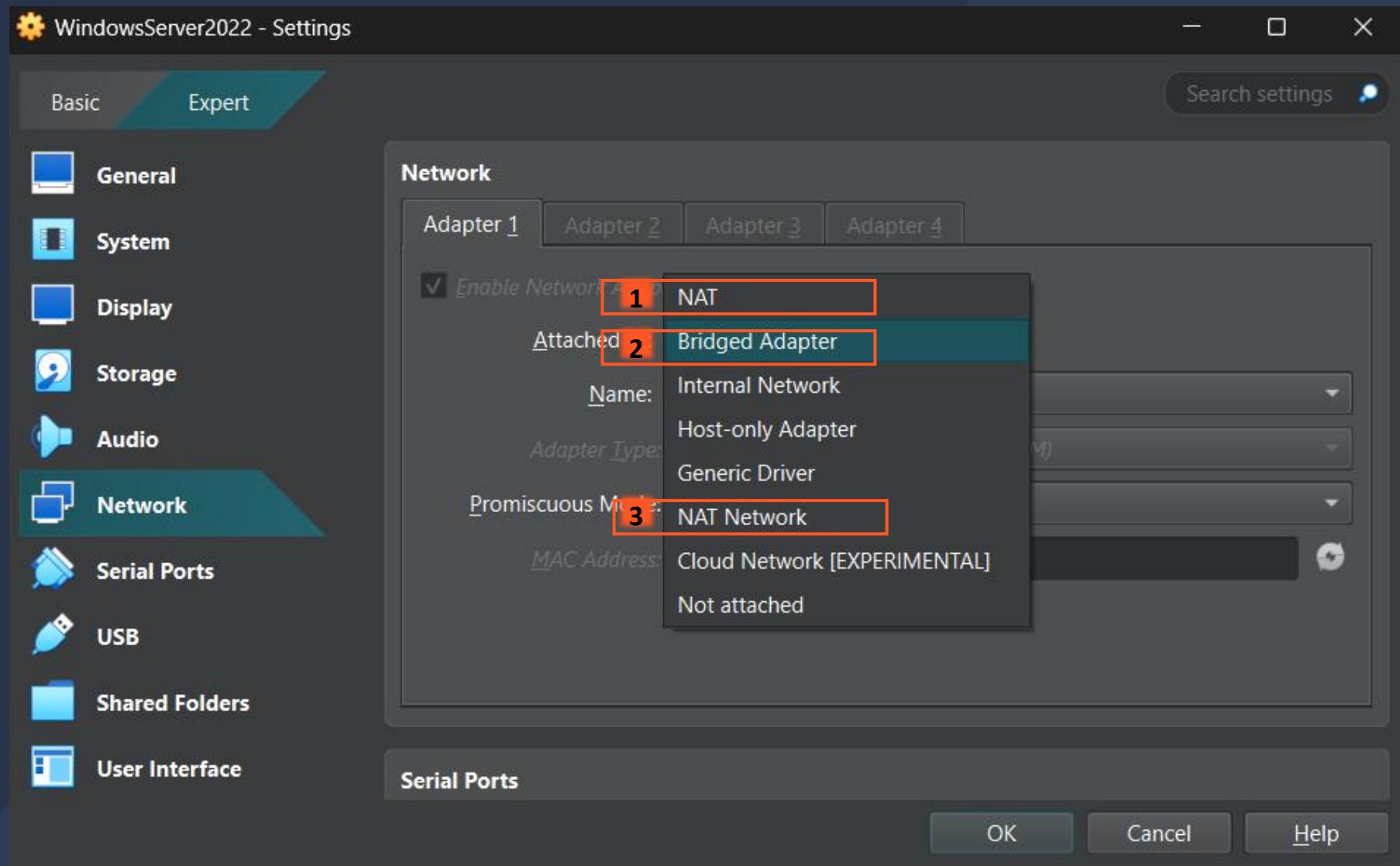
Sharing Folders from your own OS to virtual OS

- ✓ Right click on OS intended to share folders with
- ✓ Select settings, then shared folders
- ✓ Fill required data



OS Network Failure

Choose between one of the following adapters & your network will work properly



THANKS



ts

ts

ts

ts

ts