T-CPET410 OPERATING SYSTEMS – A Case Study on Server Operating Systems

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Section:

CPE42

I. TITLE: A Case Study on Server Operating Systems

II. INTRODUCTION

Server operating systems are integral for managing resources, enabling communications, and hosting various services for all client devices connected to the network. The setup and configuration of such systems form the foundation of network management and system administration, serving as the basis for secure and efficient IT environments.

This case study examines the process of creating and deploying a functional Windows Server and connecting it to a client device. The study's objectives include configuring a physical client-server connection, exploring server roles, and implementing essential services. Specifically, it covers the configuration of Active Directory Domain Services (ADDS), file sharing, Group Policy Objects (GPO), and folder redirection. Additionally, the study includes setting up a web server using Internet Information Services (IIS), implementing basic authentication, and configuring Secure Sockets Layer (SSL) certificates.

The case study intends to provide a comprehensive understanding of Windows Server functionalities through practical application, emphasizing the importance of role-based configuration and secure communication in a server-client network. The case study also aims to provide a complete guide for setting up a Windows Server as well as the client devices within the network to ensure full compatibility and functionality.

III. OBJECTIVES

The following are the objectives that the students aim to accomplish while conducting the case study:

1. Configure a physical client and server connection using Windows Server
2. Apply the different roles like, ADDS, File Sharing, GPO, and (Folder Redirection – Quiz)
3. Configure the Web Server using IIS.
4. Configure (basic authentication and SSL-Quiz).

IV. SCOPE AND LIMITATION

SCOPE

This case study focuses on the process of setting up a functional Windows Server. The server and the clients will be hosted on laptops, with the server and each client being placed within their own devices. The server operator will then be setting up the following server roles and functions: Active Directory Domain Services, file sharing, Group Policy Objects, folder redirection, web servers using the Internet Information Services, basic authentication, and Secure Socket Layer certificates.

LIMITATION

The case study, while providing a comprehensive guide for setting up and configuring servers, is limited by the following:

-Network & Topology Complexity: The case study utilizes a simple topology composed of one device for the server, three devices for the clients, a switch, and a router. As such, this case study may not apply to more complex network topologies, such as those which involve multiple servers, complex domain structures, or more advanced networking configurations.

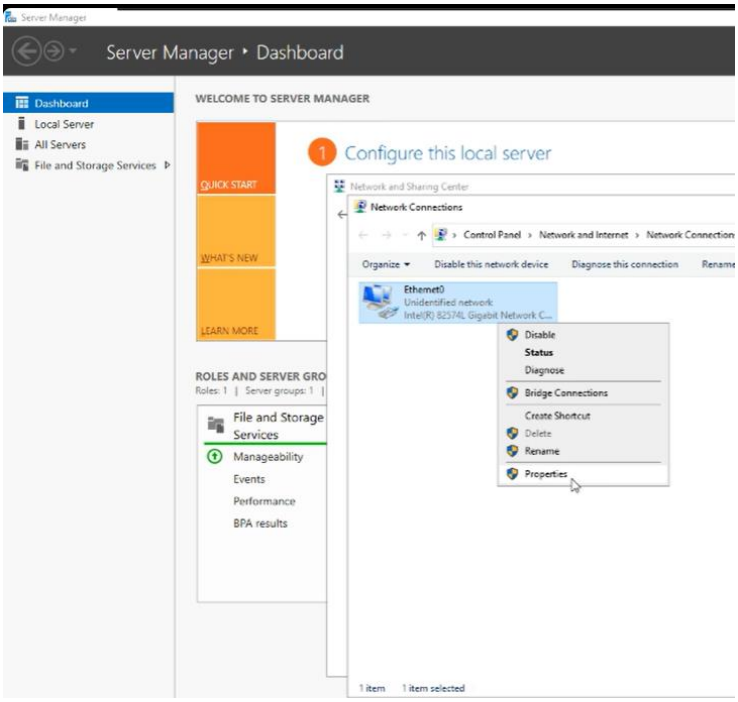
-Scope of Roles: The case study is limited to the installation and application of specific server roles and features. The roes which are to be applied are as follows: Active Directory Domain Services, file sharing, Group Policy Objects, folder redirection, web servers using the Internet Information Services, basic authentication, and Secure Socket Layer certificates.

-Environment: The case study is focused on the configuration of laptops only. This specific setup may not reflect the hardware and software available to other groups as well as those available to enterprises.

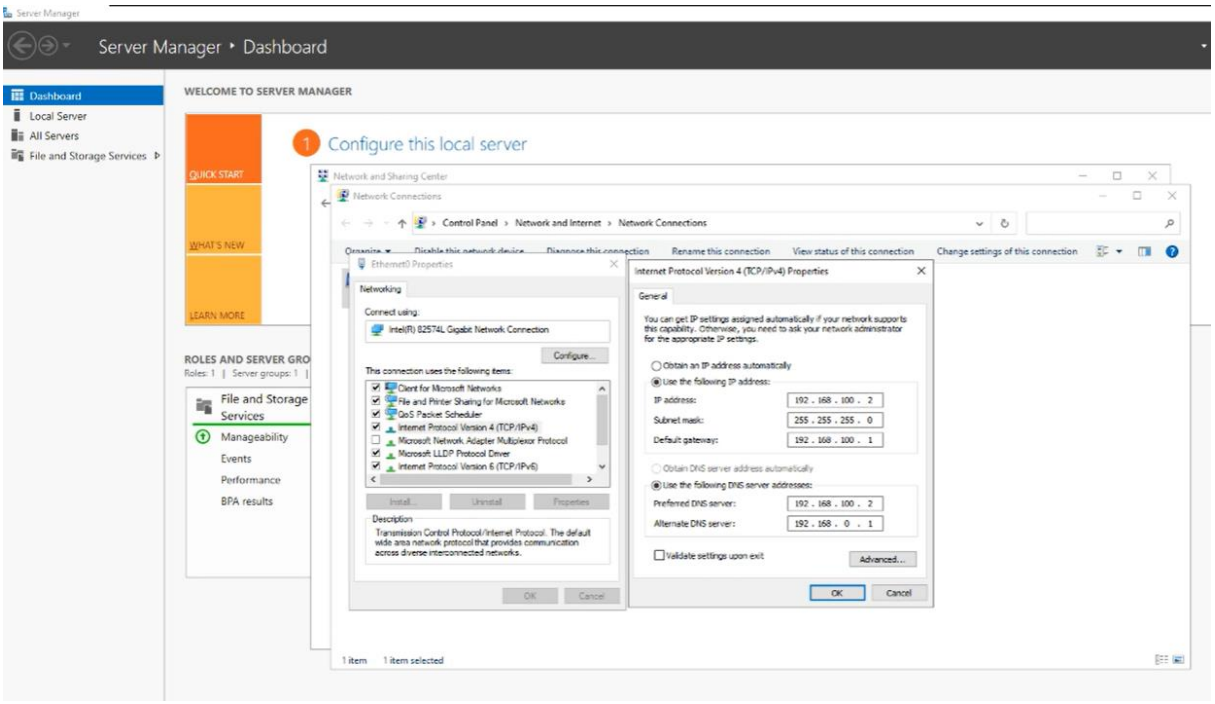
V. OUTPUT SCREEN SHOT

Configure a physical client and server connection using Windows Server

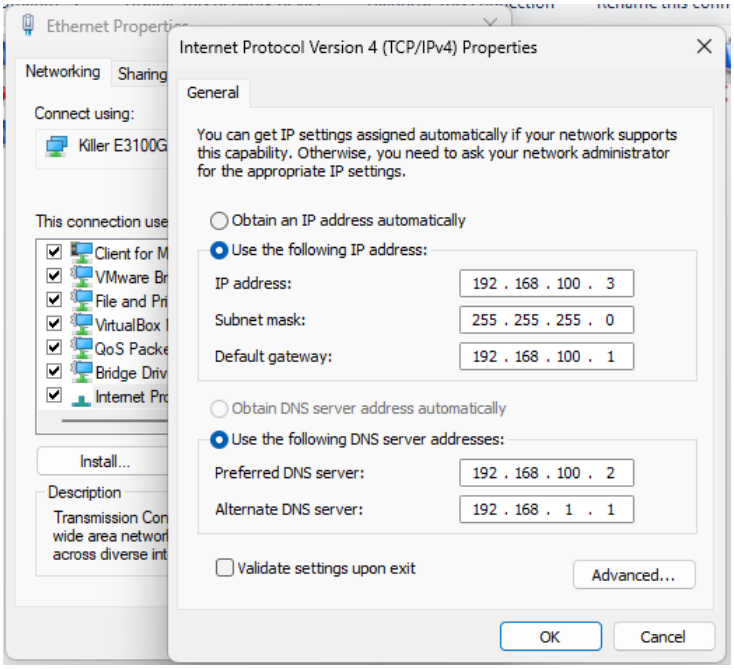
1. Go to the network setting of the Server PC.

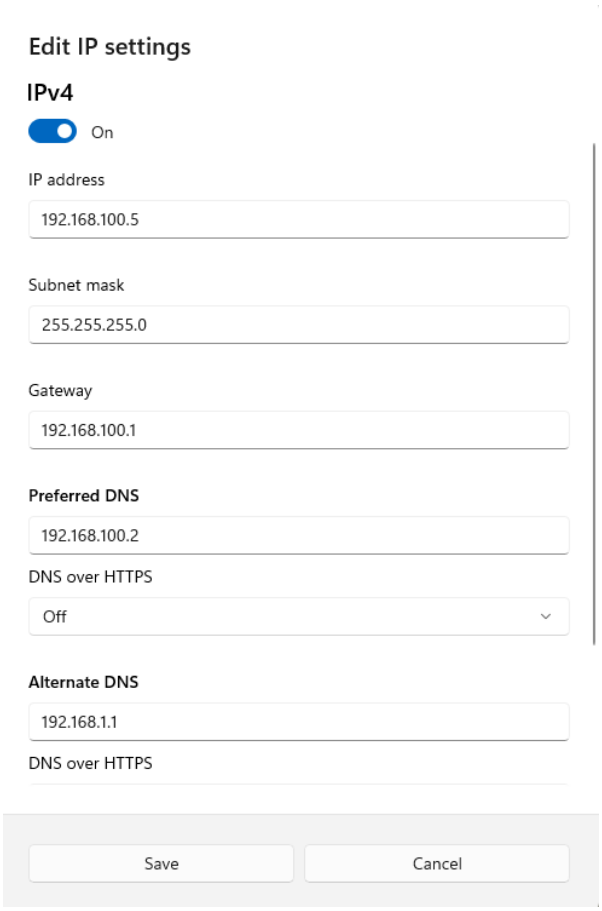


2. Apply the chosen IP addresses of the server.



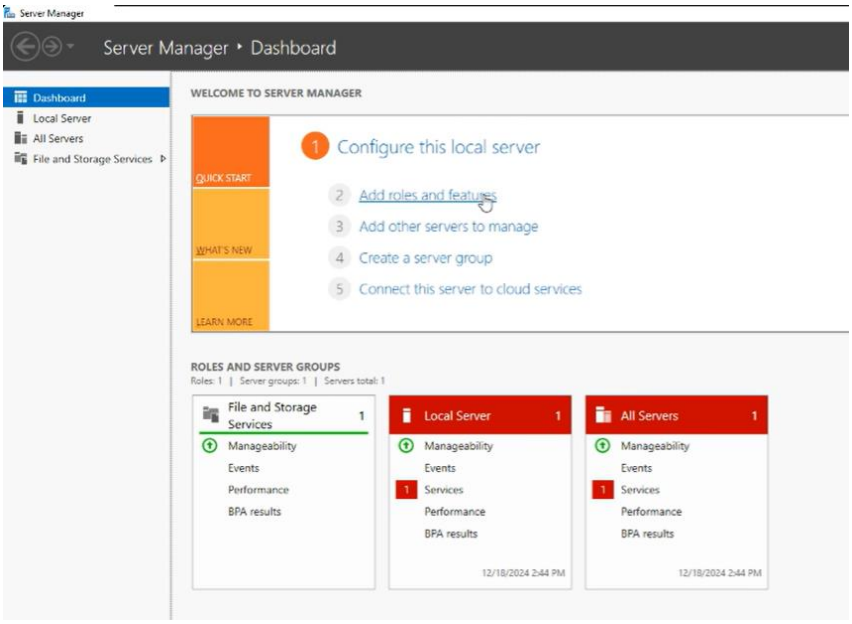
3. Conduct the same procedure with the two physical clients



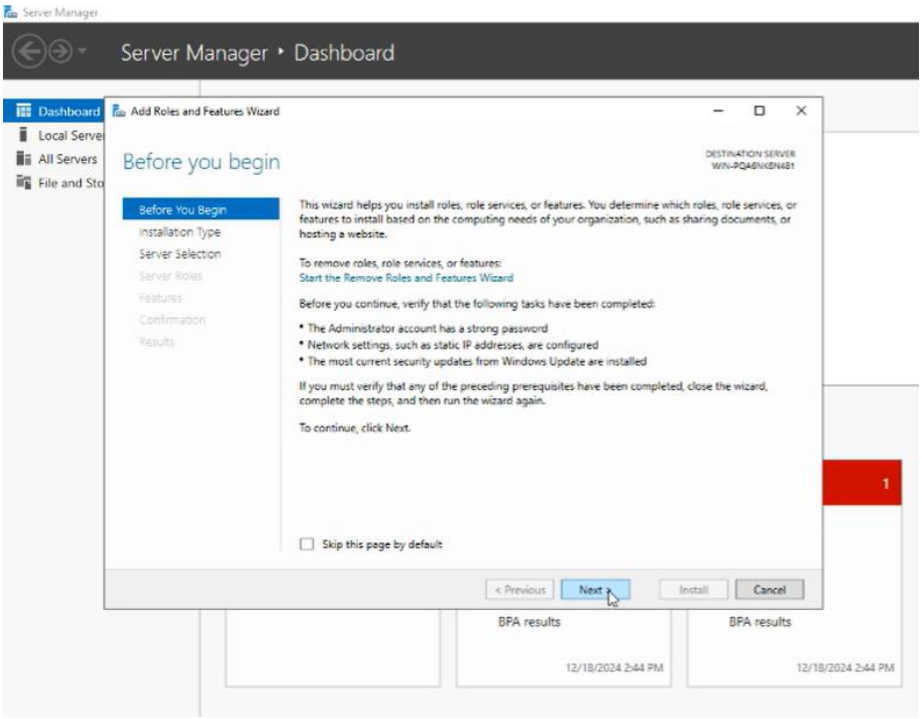


Apply the different roles like, ADDS, File Sharing, GPO, and (Folder Redirection – Quiz)

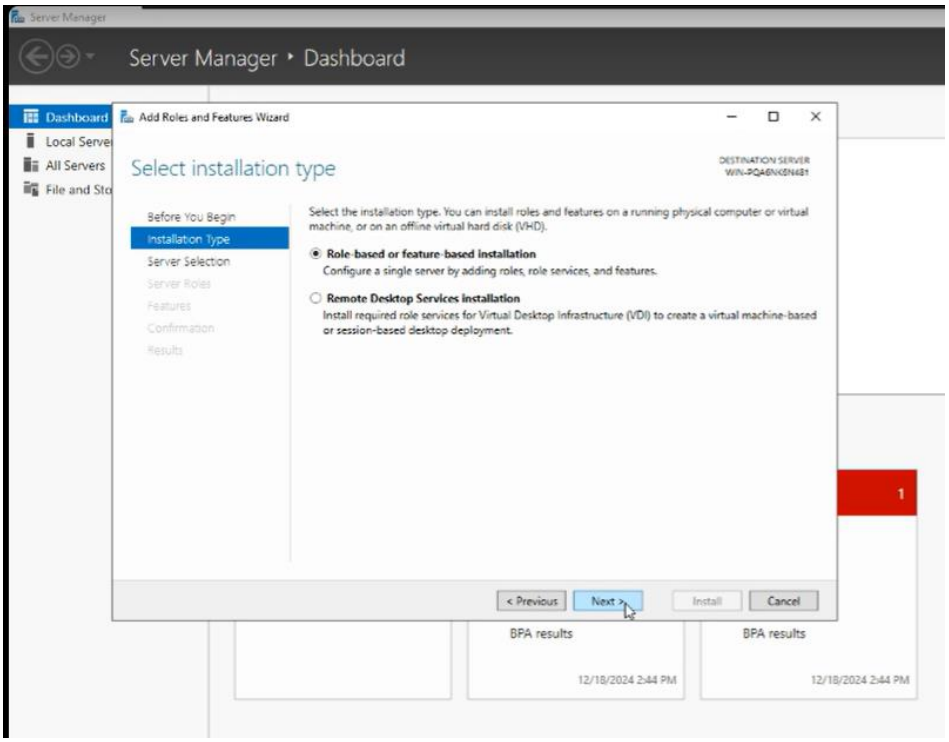
4. Click add roles and features from the server manager.



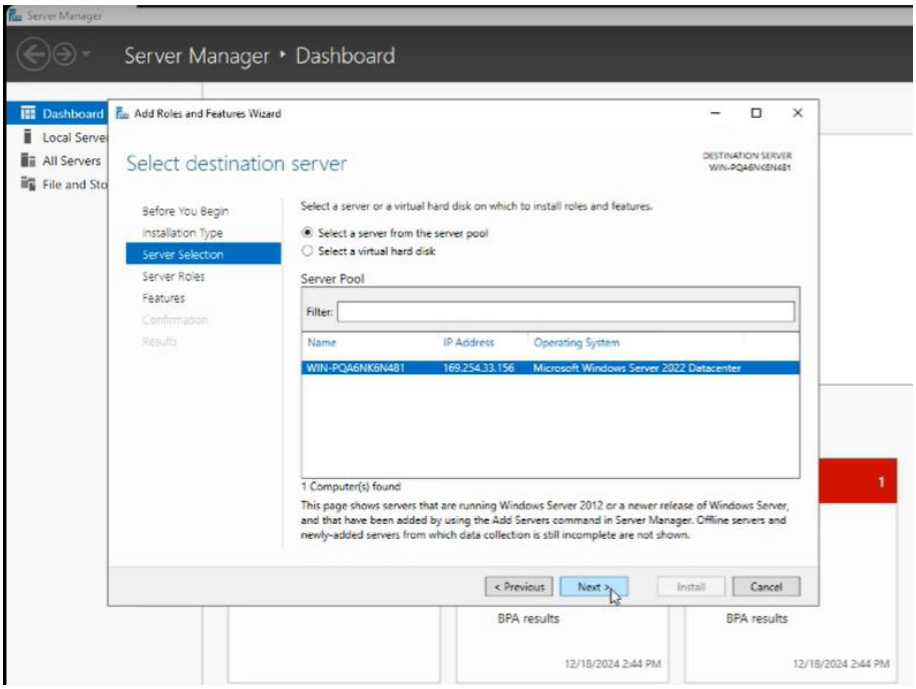
5. Complete the roles and features wizard.



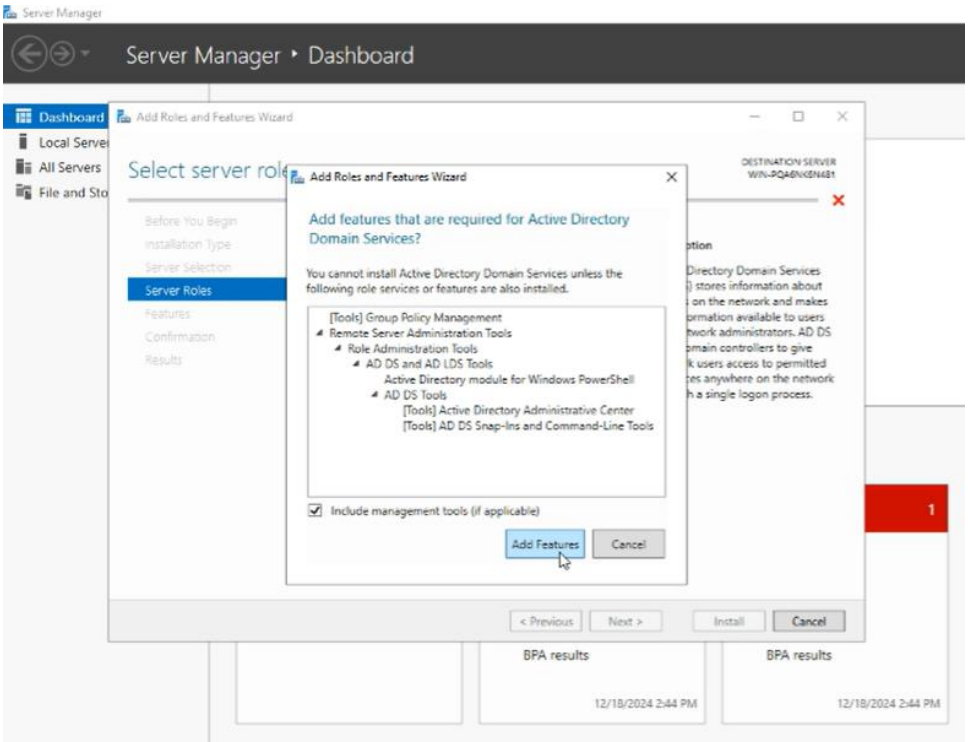
6. Select Role-based or feature-based installation.

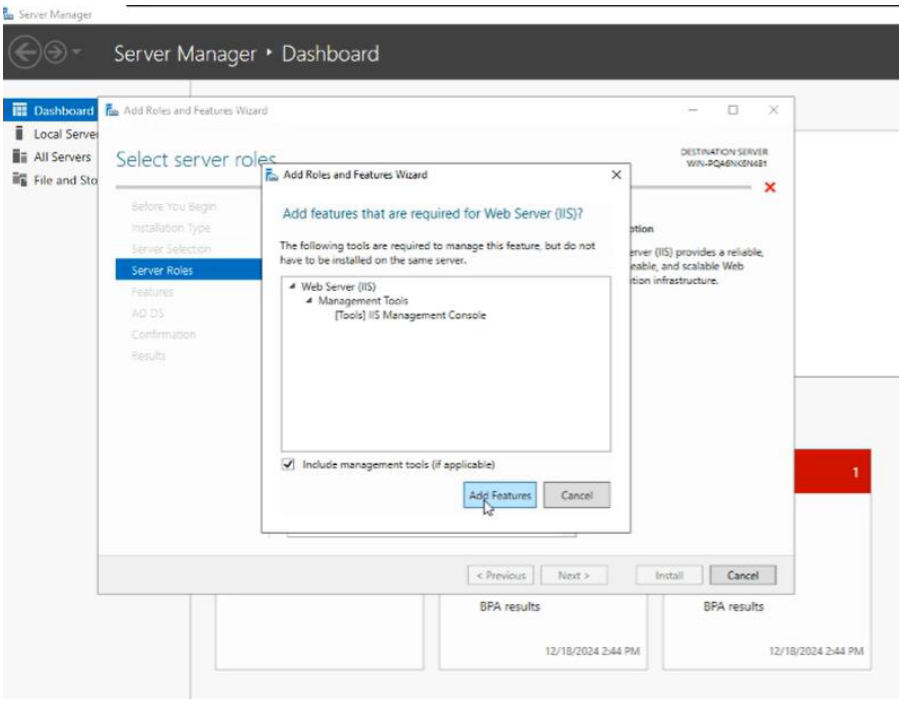


7. Continue with the installation.



8. Add features such as Group Policy Management, IIS, and DNS.




Server Manager
Server Manager ▸ Dashboard
Dashboard
Local Server
All Servers
File and Sto
Add Roles and Features Wizard
Select server roles
DESTINATION SERVER
WIN-PQA6NK6N481
Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Confirmation
Results
Add Roles and Features Wizard
Add features that are required for Web Server (IIS)?
The following tools are required to manage this feature, but do not have to be installed on the same server.
Web Server (IIS)
Management Tools
[Tools] IIS Management Console
Include management tools (if applicable)
Add Features
Cancel
< Previous
Next >
Install
Cancel
BPA results
BPA results
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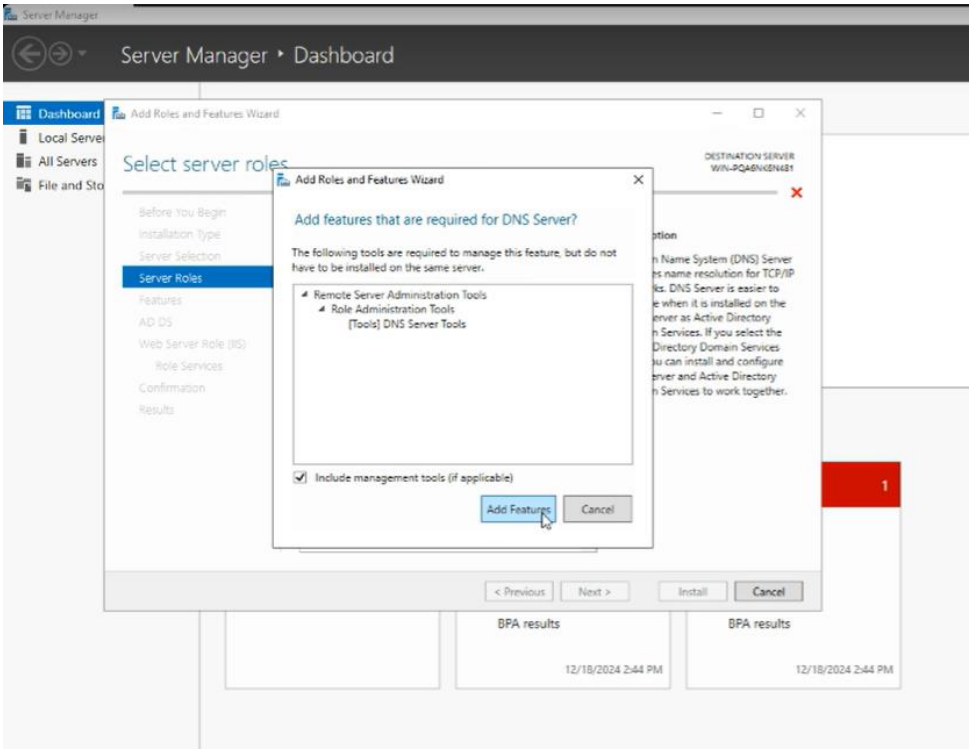
Server Manager
Server Manager ▸ Dashboard
Dashboard
Local Server
All Servers
File and Sto
Add Roles and Features Wizard
Select server roles
DESTINATION SERVER
WIN-PQA6NK6N481
Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Web Server Role (IIS)
Role Services
Confirmation
Results
Add Roles and Features Wizard
Add features that are required for DNS Server?
The following tools are required to manage this feature, but do not have to be installed on the same server.
Remote Server Administration Tools
Role Administration Tools
[Tools] DNS Server Tools
Include management tools (if applicable)
Add Features
Cancel
< Previous
Next >
Install
Cancel
BPA results
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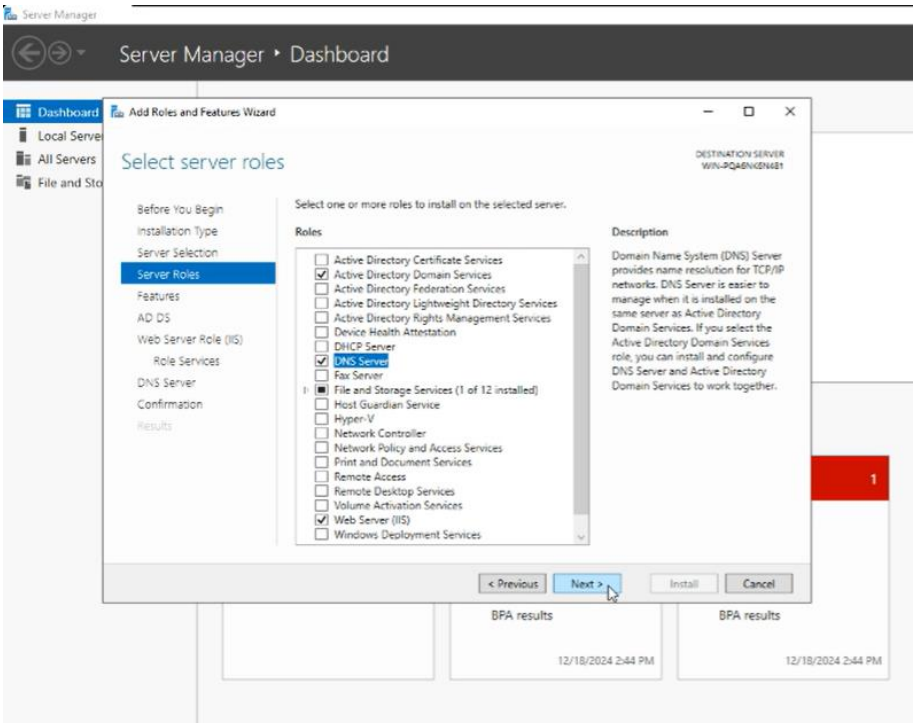
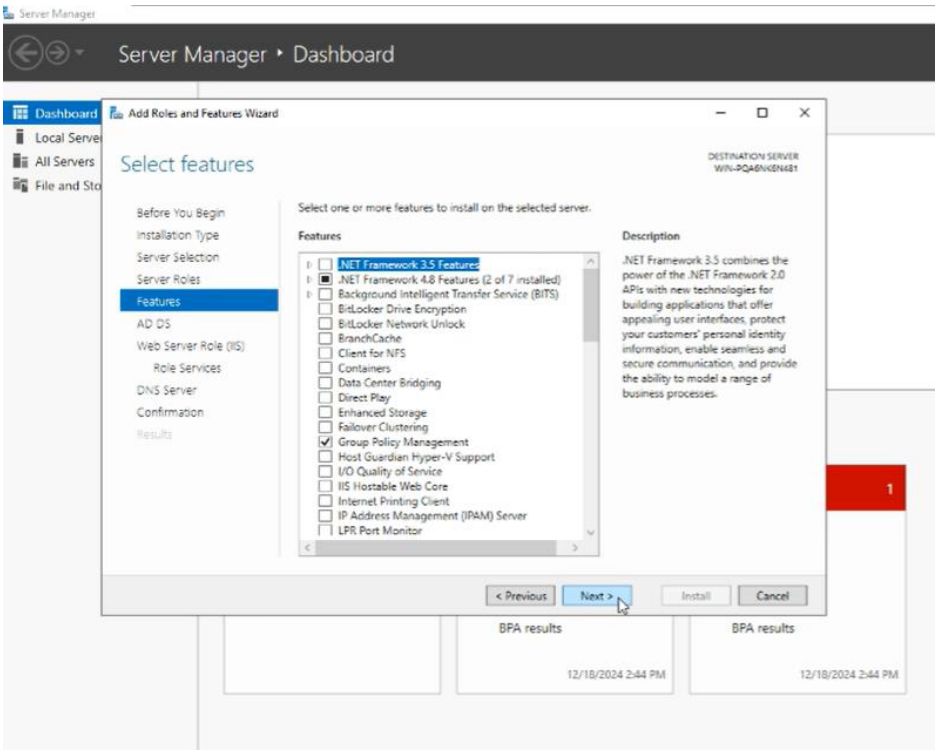
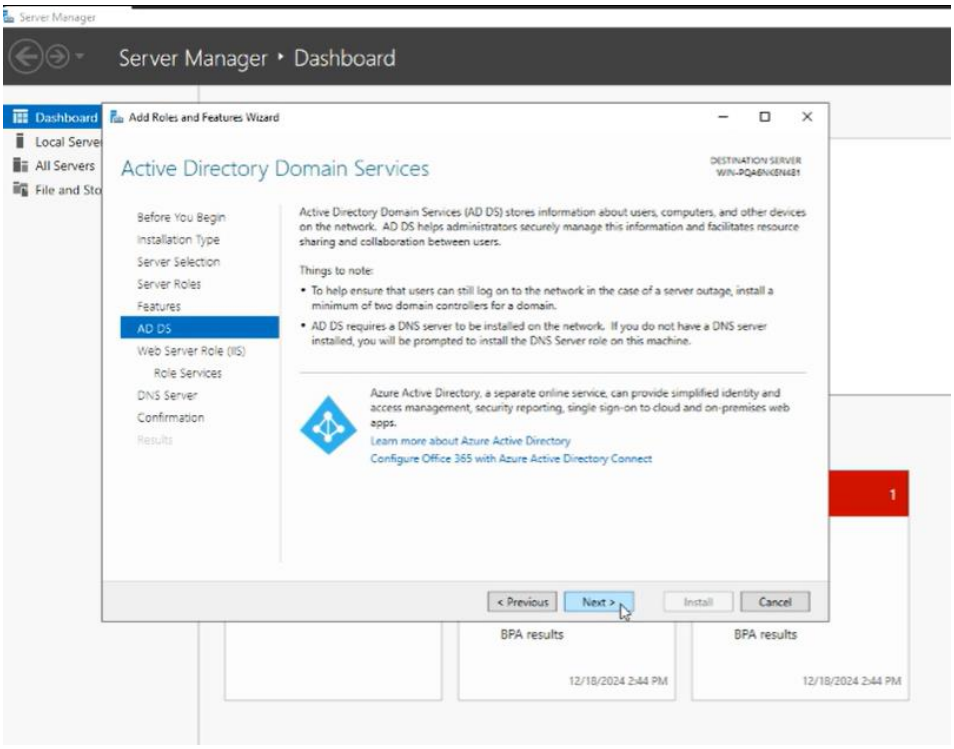




9. Click next after adding the features.


Server Manager
Server Manager • Dashboard
Dashboard
Local Server
All Servers
File and Sto
Add Roles and Features Wizard
Active Directory Domain Services
DESTINATION SERVER
WIN-PQA6NKEN481
Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Web Server Role (IIS)
Role Services
DNS Server
Confirmation
Results
Active Directory Domain Services (AD DS) stores information about users, computers, and other devices on the network. AD DS helps administrators securely manage this information and facilitates resource sharing and collaboration between users.
Things to note:
• To help ensure that users can still log on to the network in the case of a server outage, install a minimum of two domain controllers for a domain.
• AD DS requires a DNS server to be installed on the network. If you do not have a DNS server installed, you will be prompted to install the DNS Server role on this machine.
Azure Active Directory, a separate online service, can provide simplified identity and access management, security reporting, single sign-on to cloud and on-premises web apps.
Learn more about Azure Active Directory
Configure Office 365 with Azure Active Directory Connect
< Previous
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Install
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1
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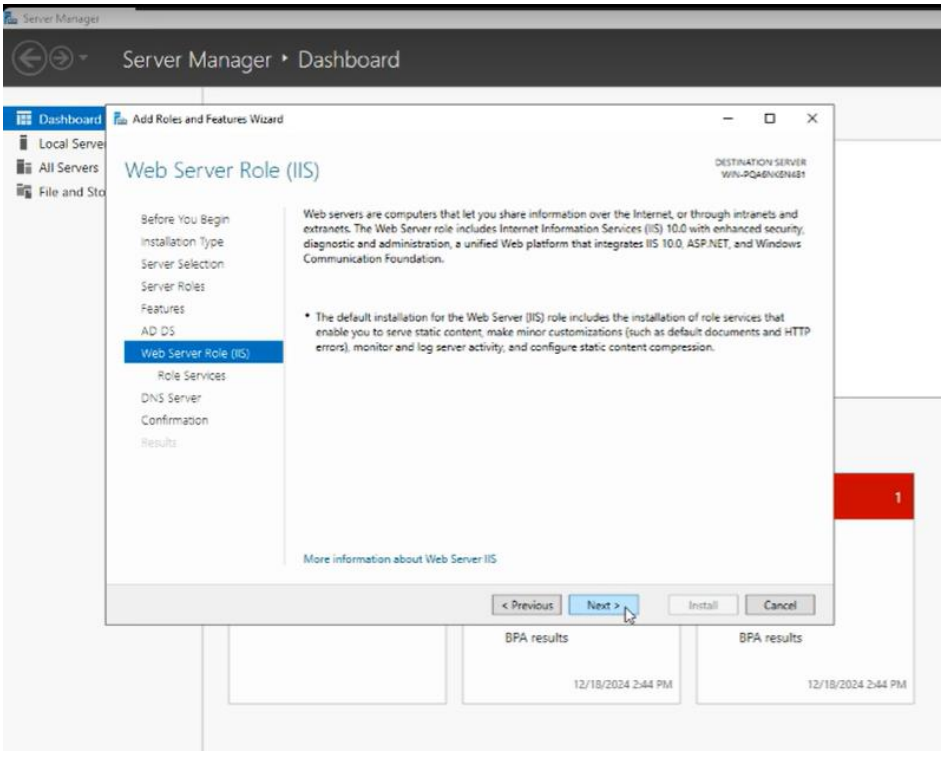
Server Manager
Server Manager • Dashboard
Dashboard
Local Server
All Servers
File and Sto
Add Roles and Features Wizard
Web Server Role (IIS)
DESTINATION SERVER
WIN-PQA6NKEN481
Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Web Server Role (IIS)
Role Services
DNS Server
Confirmation
Results
Web servers are computers that let you share information over the Internet, or through intranets and extranets. The Web Server role includes Internet Information Services (IIS) 10.0 with enhanced security, diagnostic and administration, a unified Web platform that integrates IIS 10.0, ASP.NET, and Windows Communication Foundation.
• The default installation for the Web Server (IIS) role includes the installation of role services that enable you to serve static content, make minor customizations (such as default documents and HTTP errors), monitor and log server activity, and configure static content compression.
More information about Web Server IIS
< Previous
Next >
Install
Cancel
1
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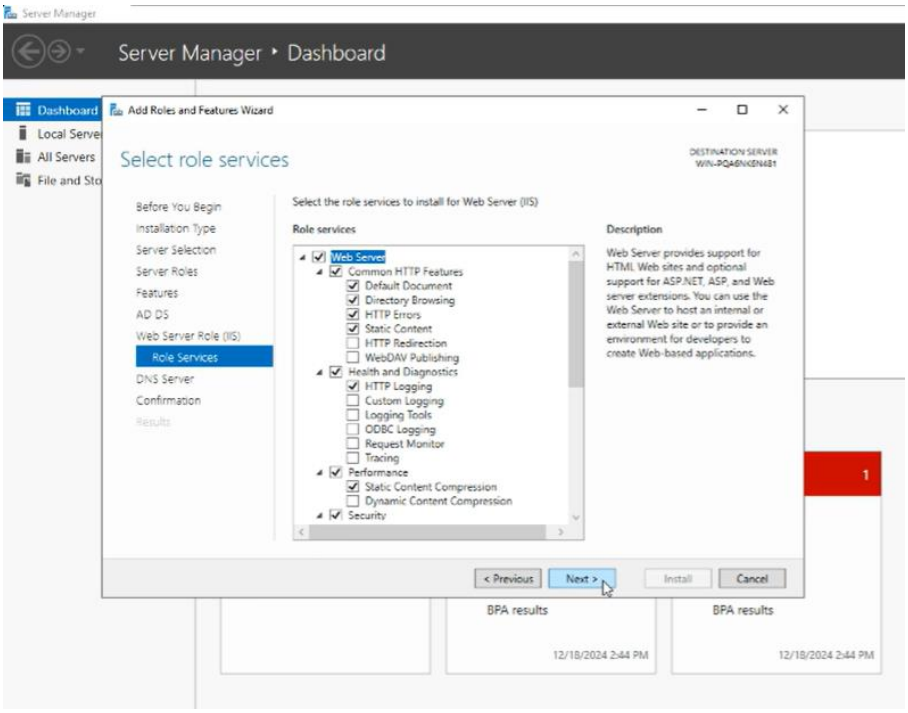
Server Manager
Server Manager • Dashboard
Dashboard
Local Server
All Servers
File and Sto
Add Roles and Features Wizard
Select role services
DESTINATION SERVER
WIN-PQABNKEN481
Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Web Server Role (IIS)
Role Services
DNS Server
Confirmation
Results
Select the role services to install for Web Server (IIS)
Role services
Description
Web Server provides support for HTML Web sites and optional support for ASP.NET, ASP, and Web server extensions. You can use the Web Server to host an internal or external Web site or to provide an environment for developers to create Web-based applications.
Web Server
Common HTTP Features
Default Document
Directory Browsing
HTTP Errors
Static Content
HTTP Redirection
WebDAV Publishing
Health and Diagnostics
HTTP Logging
Custom Logging
Logging Tools
ODBC Logging
Request Monitor
Tracing
Performance
Static Content Compression
Dynamic Content Compression
Security
< Previous
Next >
Install
Cancel
BPA results
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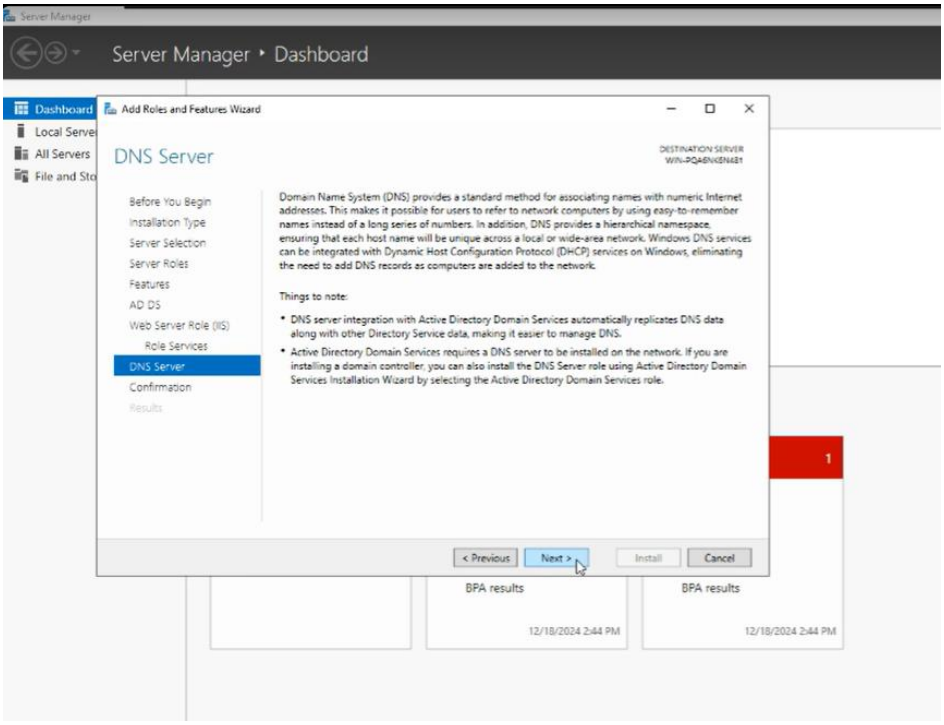
Server Manager
Server Manager • Dashboard
Dashboard
Local Server
All Servers
File and Sto
Add Roles and Features Wizard
DNS Server
DESTINATION SERVER
WIN-PQABNKEN481
Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Web Server Role (IIS)
Role Services
DNS Server
Confirmation
Results
Domain Name System (DNS) provides a standard method for associating names with numeric Internet addresses. This makes it possible for users to refer to network computers by using easy-to-remember names instead of a long series of numbers. In addition, DNS provides a hierarchical namespace, ensuring that each host name will be unique across a local or wide-area network. Windows DNS services can be integrated with Dynamic Host Configuration Protocol (DHCP) services on Windows, eliminating the need to add DNS records as computers are added to the network.
Things to note:
• DNS server integration with Active Directory Domain Services automatically replicates DNS data along with other Directory Service data, making it easier to manage DNS.
• Active Directory Domain Services requires a DNS server to be installed on the network. If you are installing a domain controller, you can also install the DNS Server role using Active Directory Domain Services Installation Wizard by selecting the Active Directory Domain Services role.
< Previous
Next >
Install
Cancel
BPA results
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BPA results
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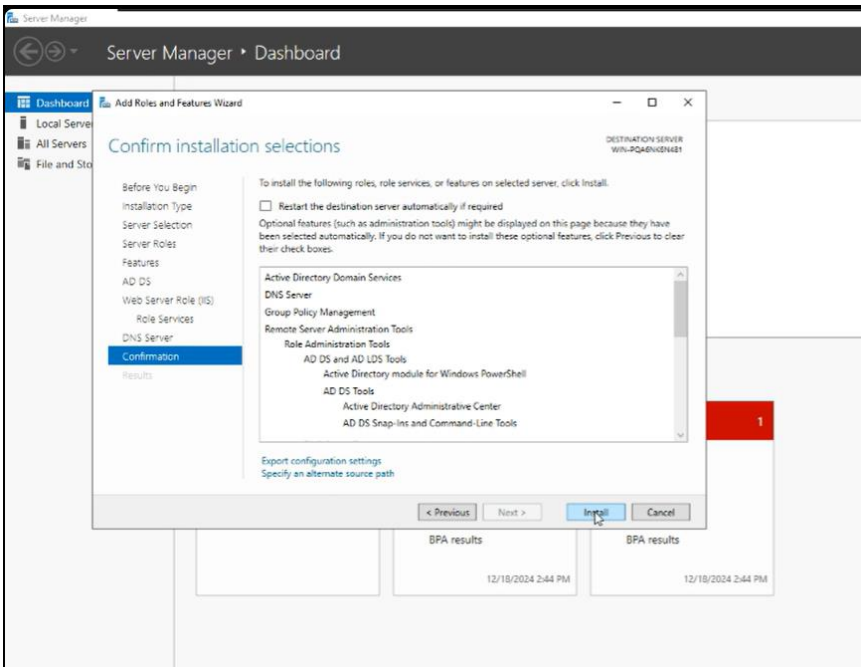
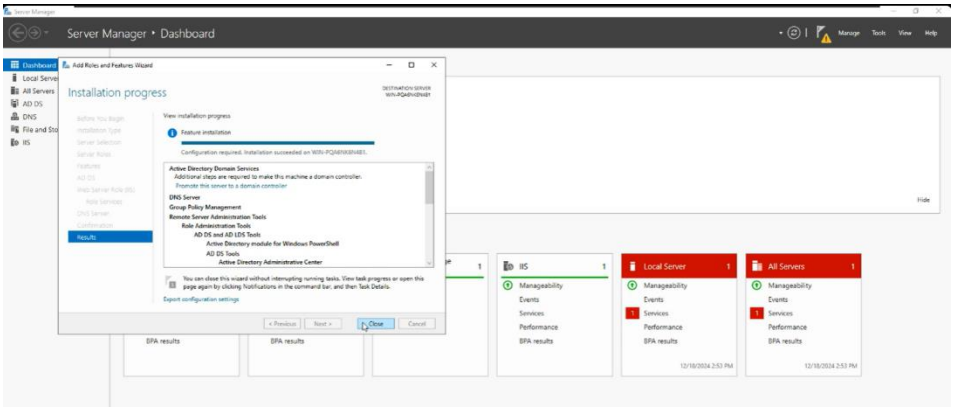
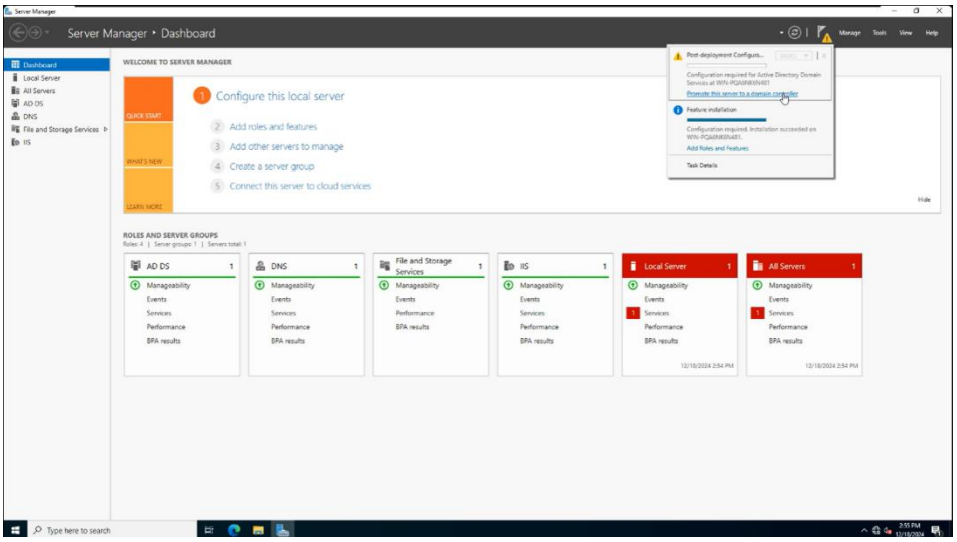
1



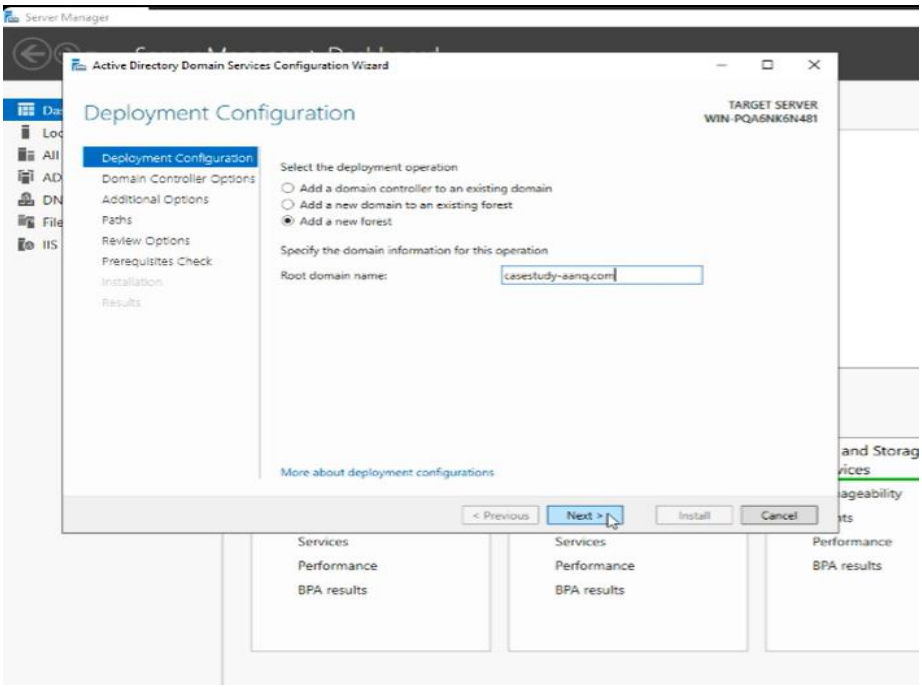
10. The setup is now complete.



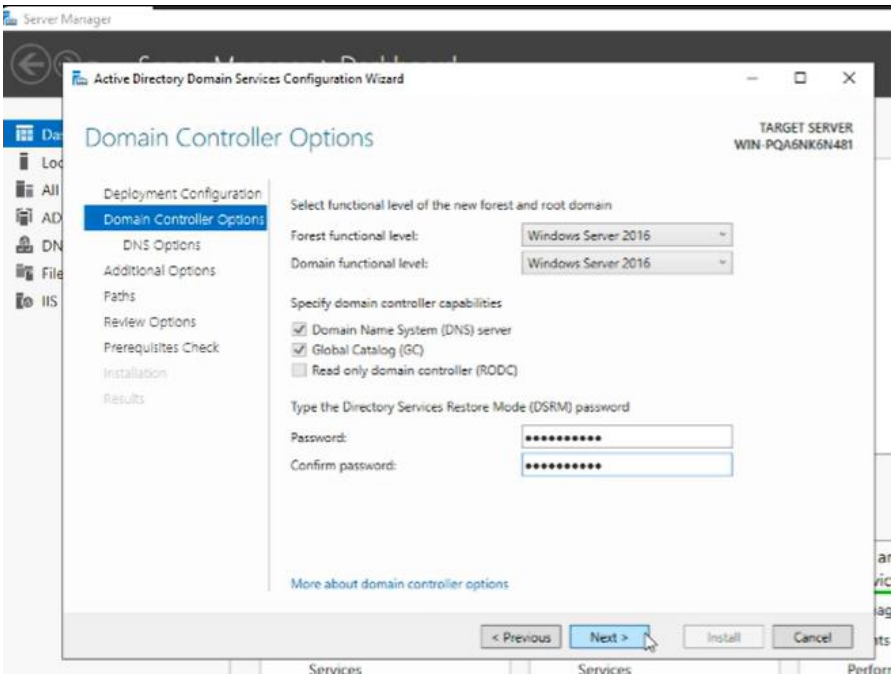
11. Promote the server.

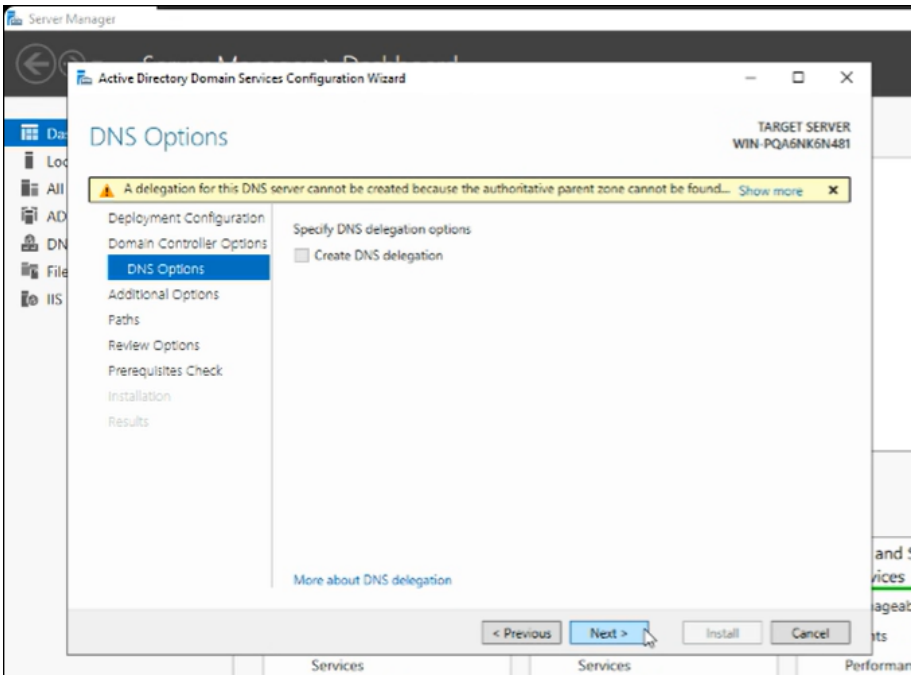


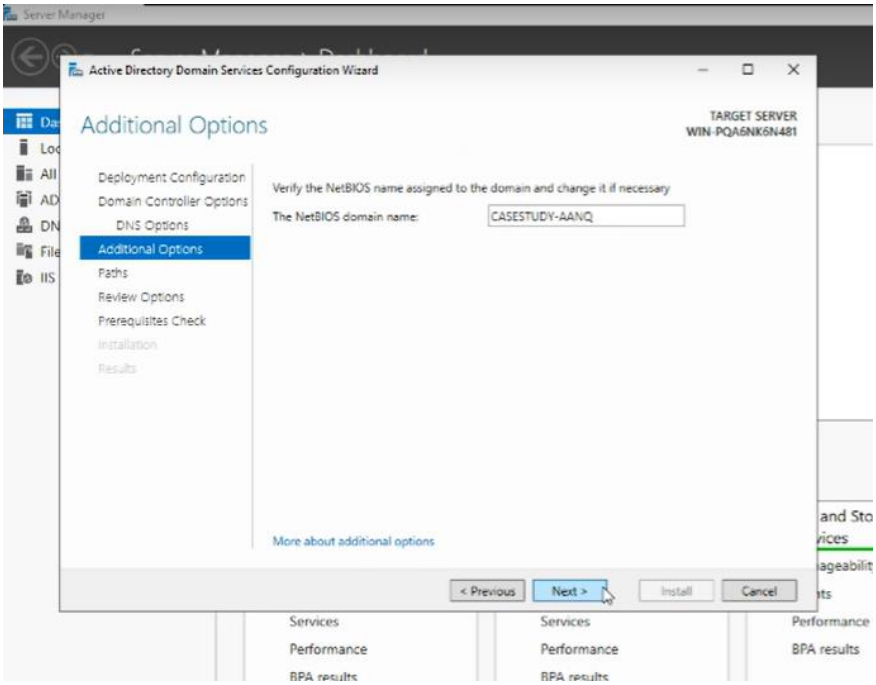
12. Identify the root domain name

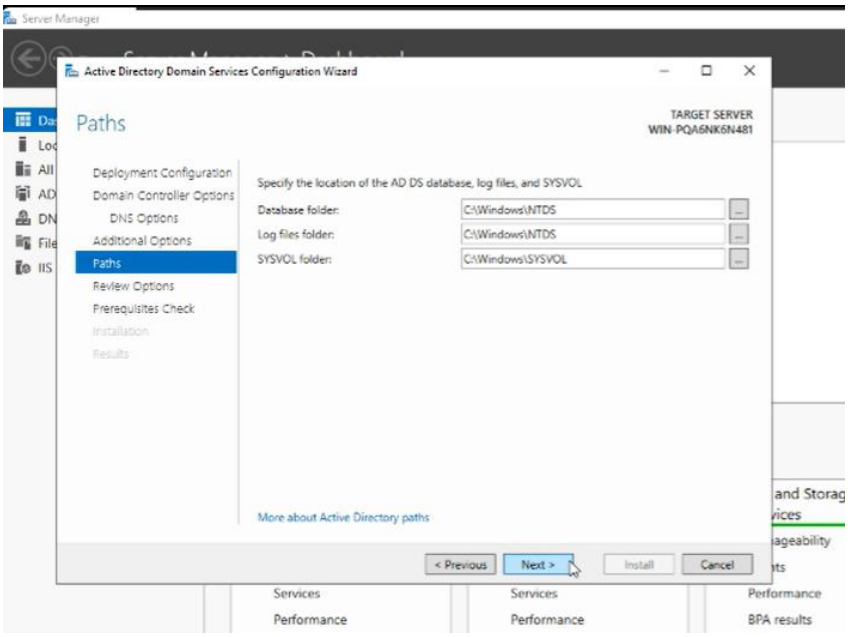


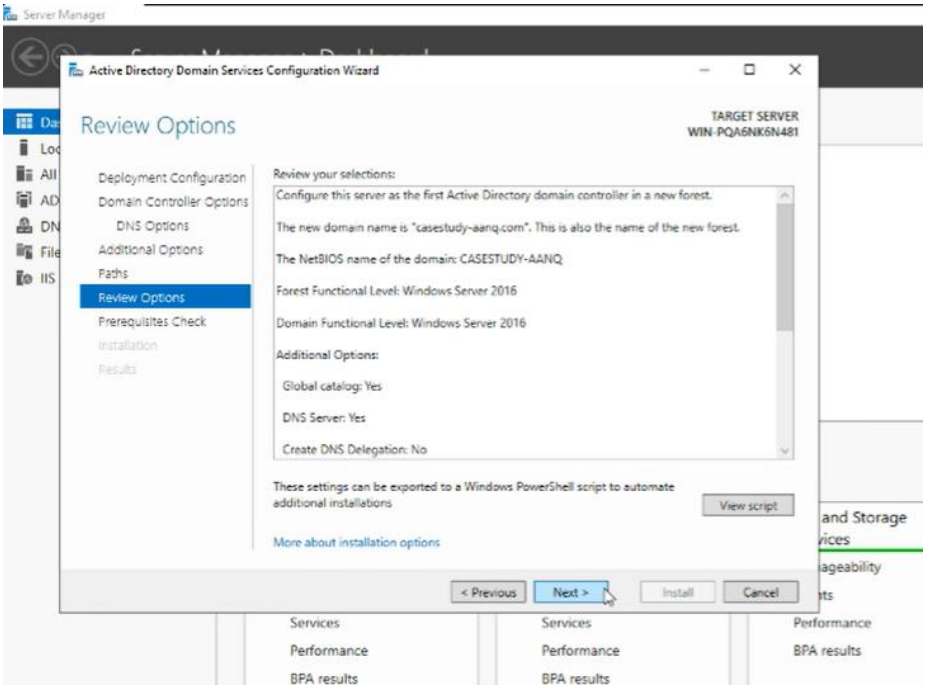
13. Fill out the rest of the setup wizard.



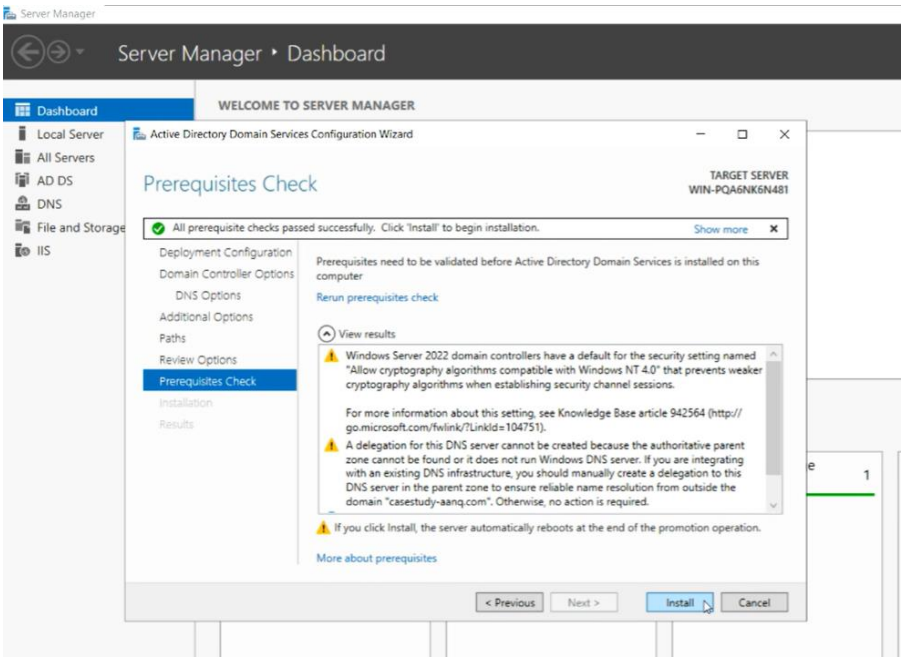

Server Manager
Active Directory Domain Services Configuration Wizard
DNS Options
TARGET SERVER
WIN-PQA6NK6N481
A delegation for this DNS server cannot be created because the authoritative parent zone cannot be found... Show more
Deployment Configuration
Domain Controller Options
DNS Options
Additional Options
Paths
Review Options
Prerequisites Check
Installation
Results
Specify DNS delegation options
Create DNS delegation
More about DNS delegation
< Previous
Next >
Install
Cancel
Services
Services


Server Manager
Active Directory Domain Services Configuration Wizard
Additional Options
TARGET SERVER
WIN-PQA6NK6N481
Deployment Configuration
Domain Controller Options
DNS 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:
CASESTUDY-AANQ
More about additional options
< Previous
Next >
Install
Cancel
Services
Performance
BPA results
Services
Performance
BPA results
Performance
BPA results

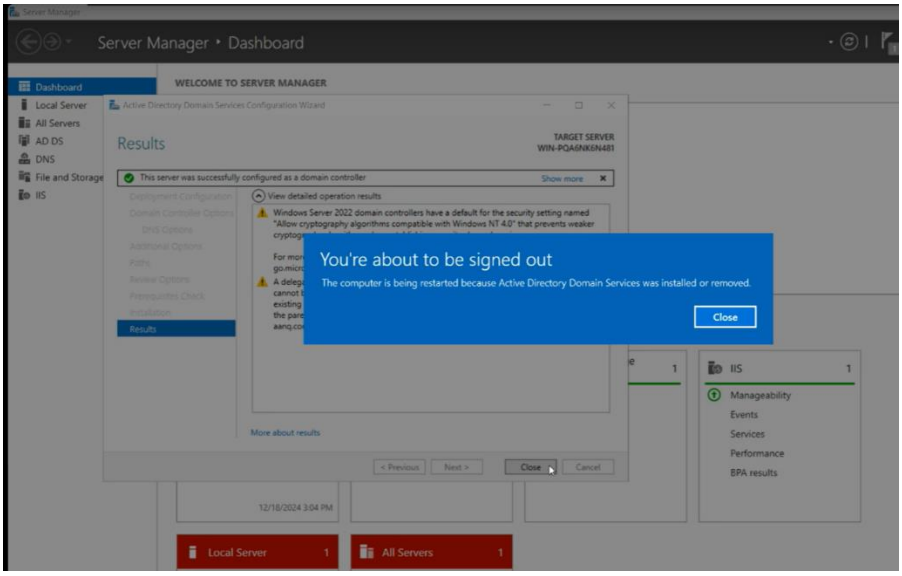


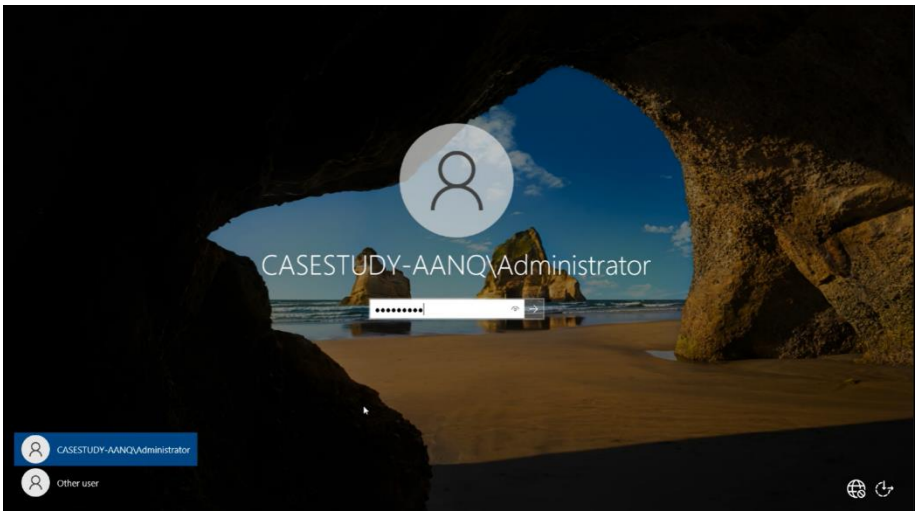


14. At prerequisites check, install the needed features.

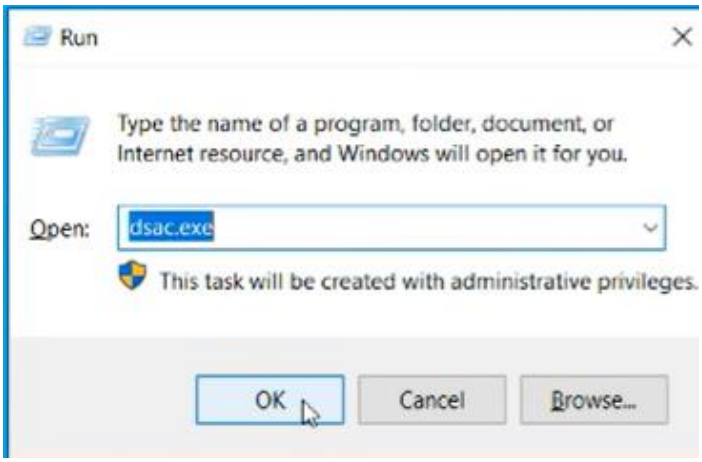


15. Restart the server PC.

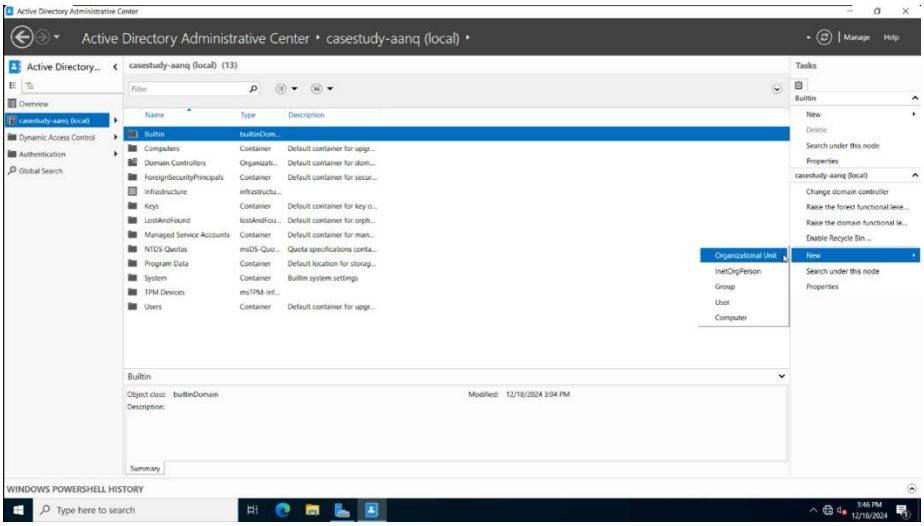




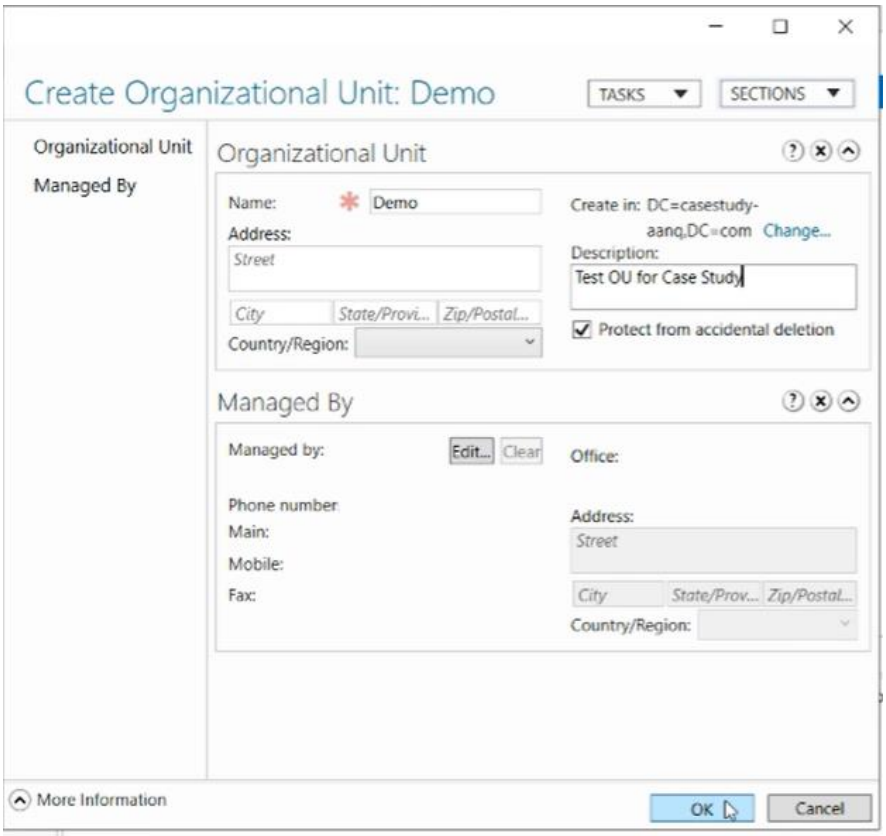
16. After the restart, press Windows + R and type ‘dsac.exe’



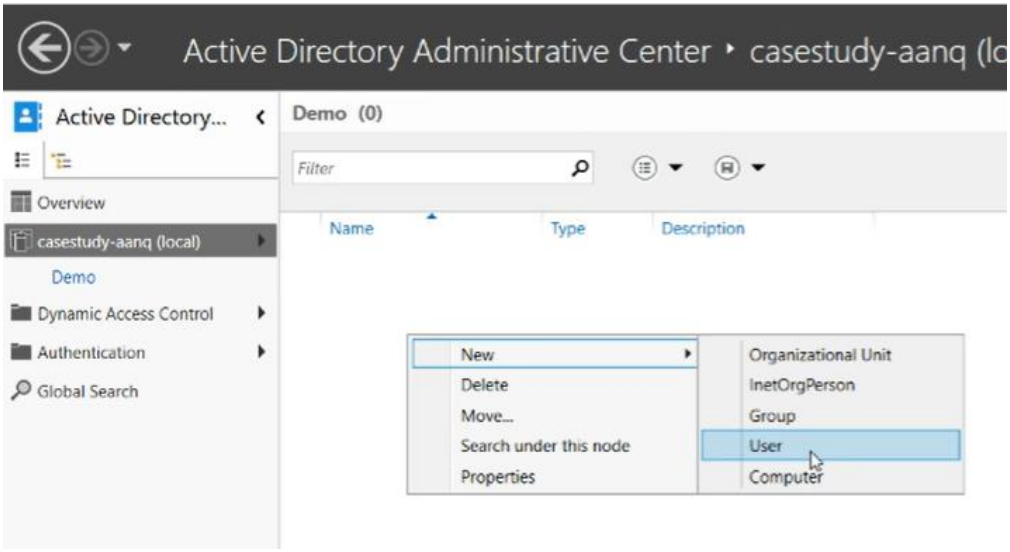
17. Create a new organizational unit.



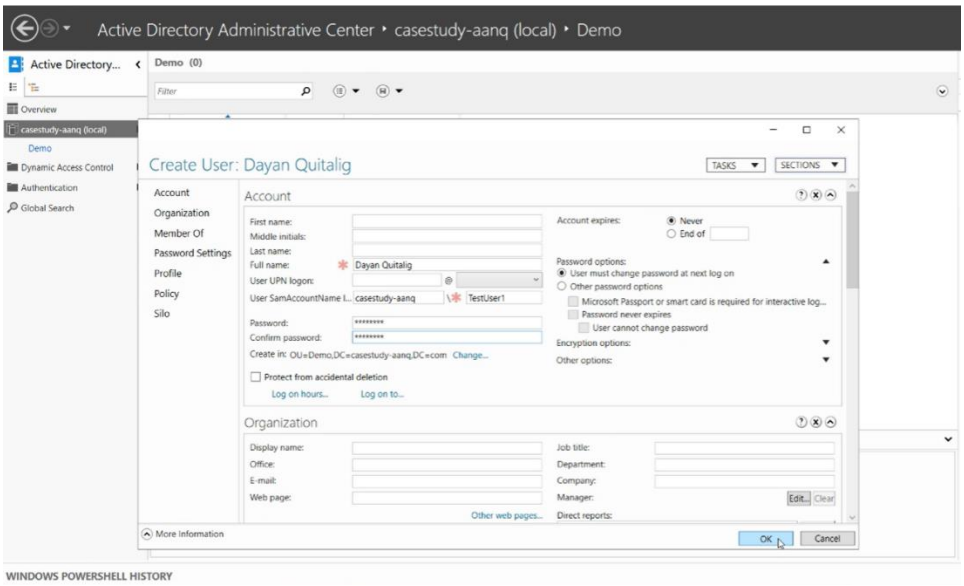
18. Fill out the requirements.

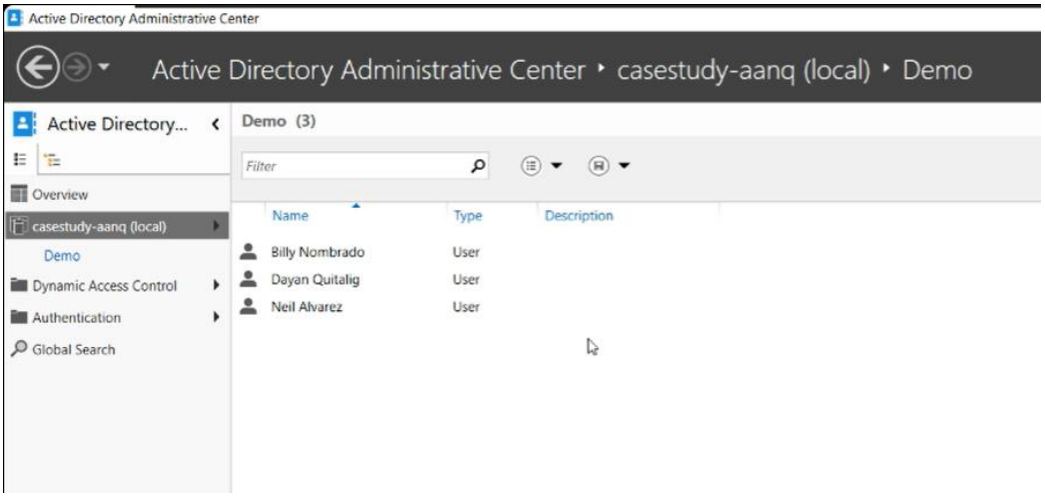


19. After creating the OU, create users who will access the server.

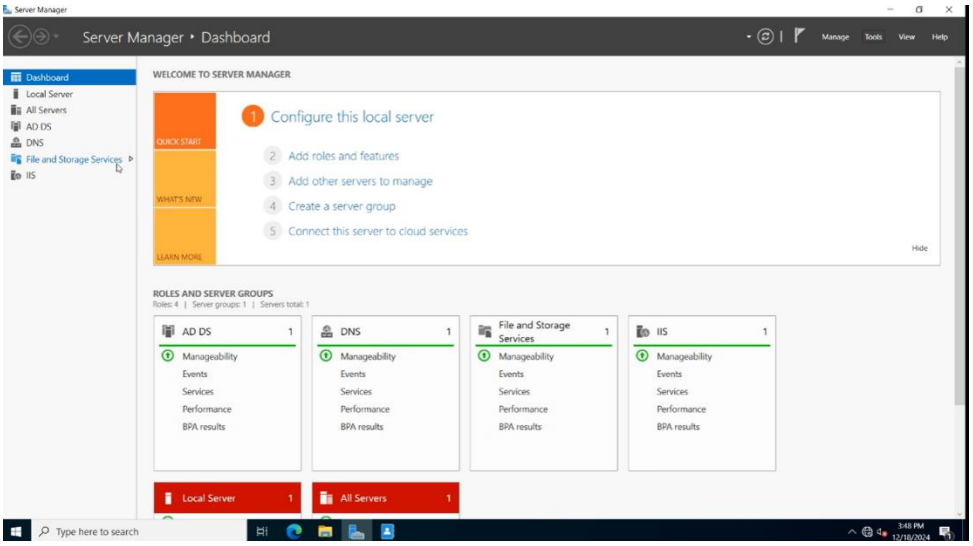


20. Create the credentials for the members of the group.

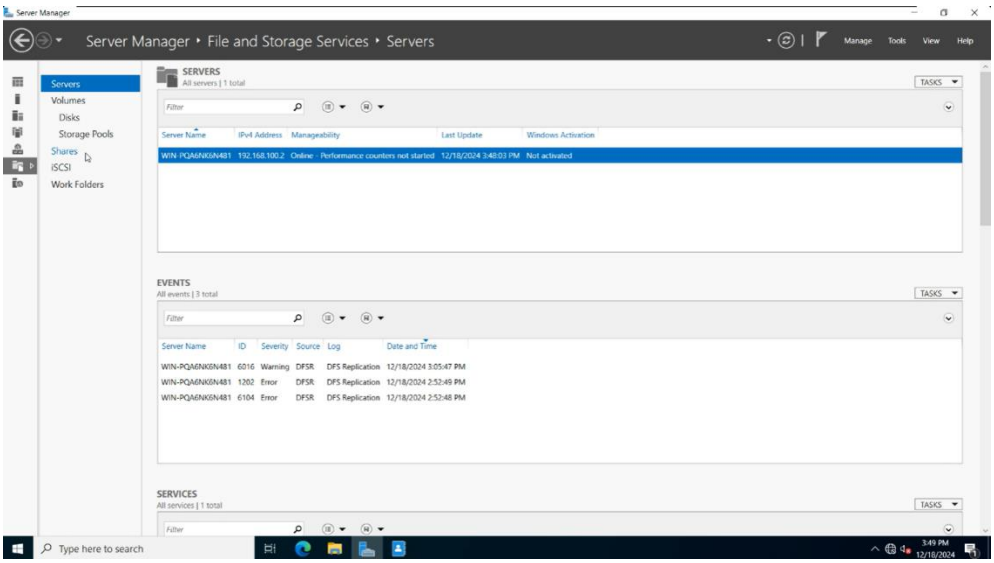




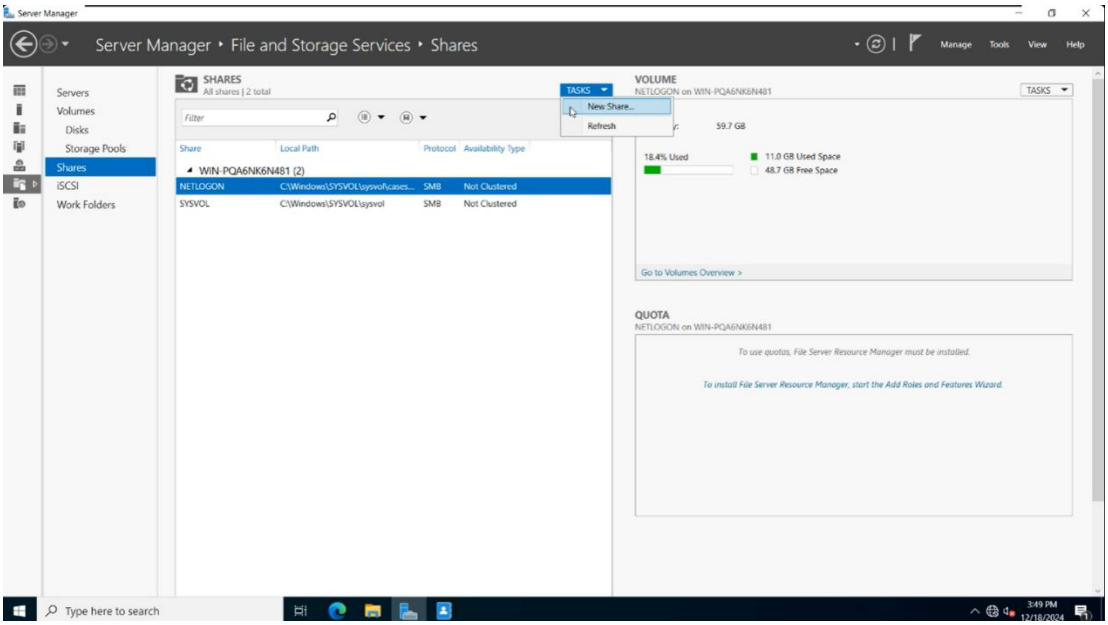
21. After completing the profiles of the users, go to the File and Storage Services.



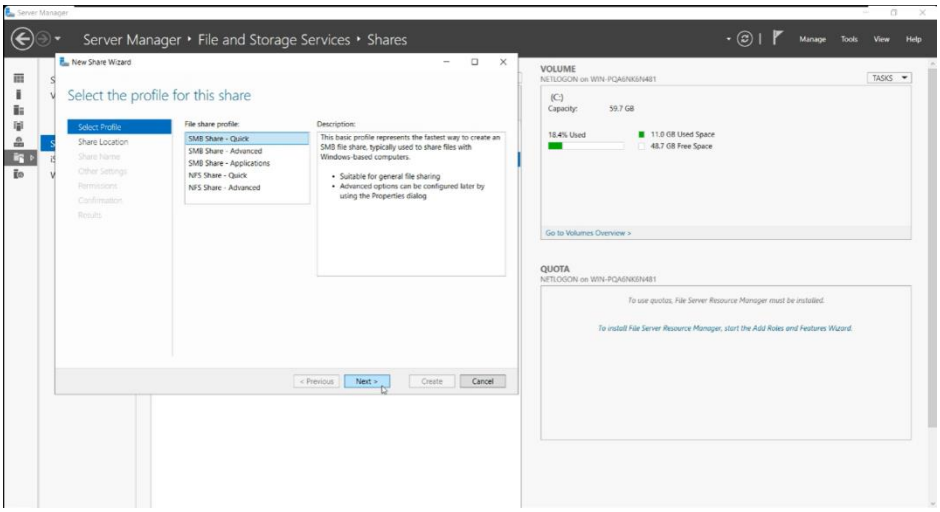
22. Go to the Shares tab.

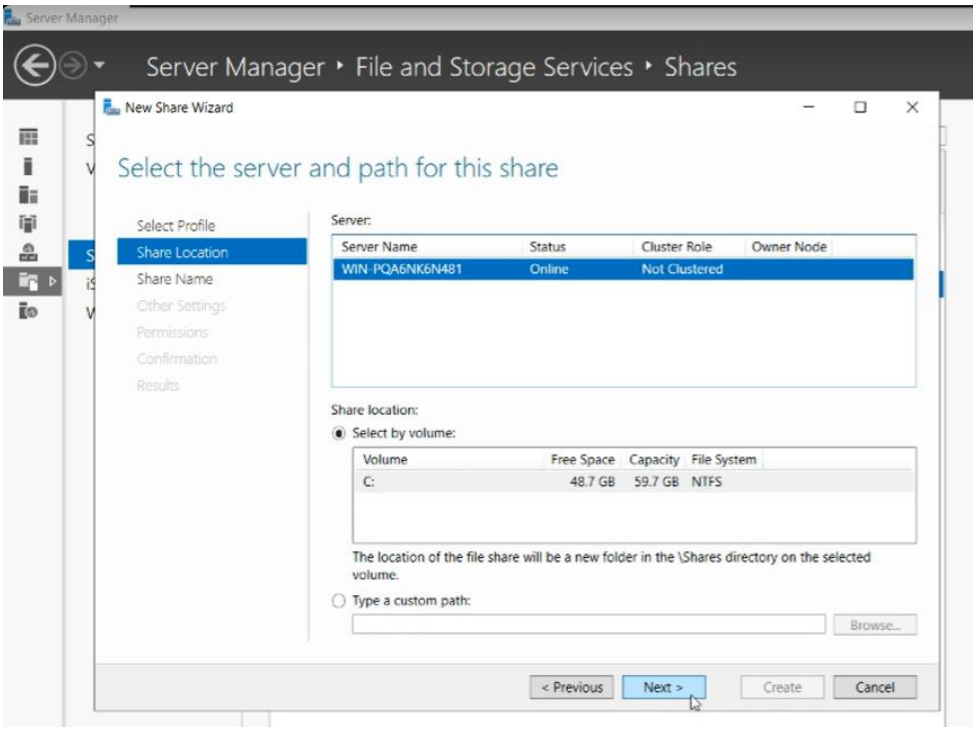


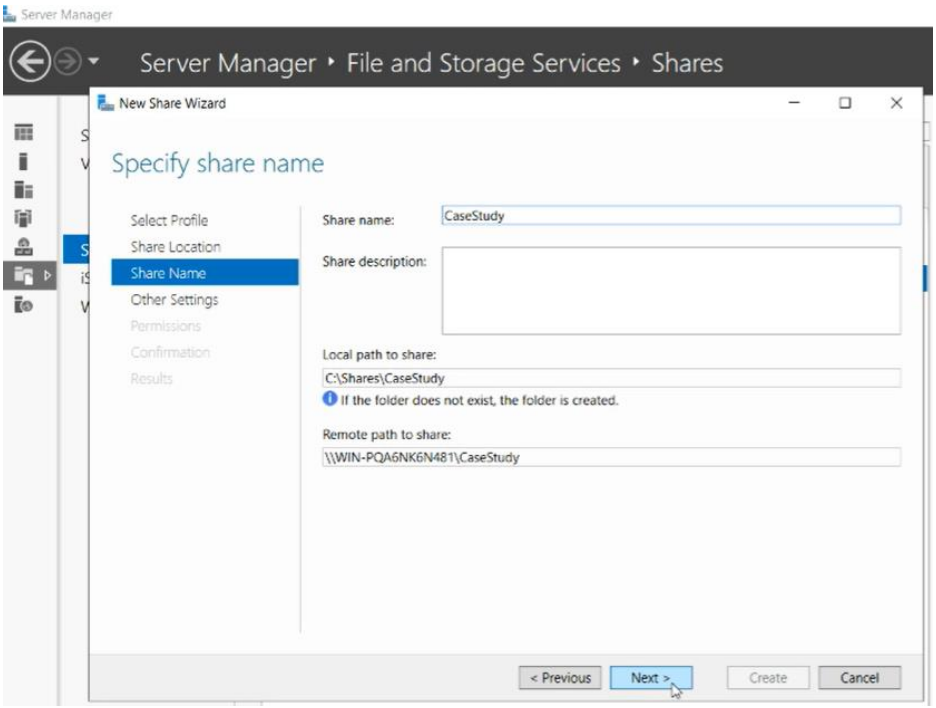
23. Click TASKS and new share

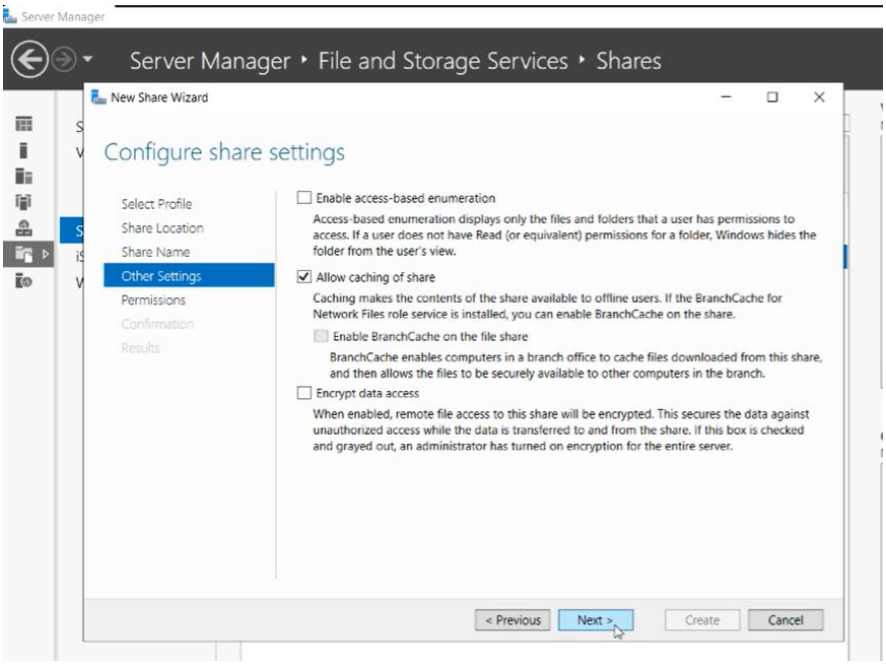


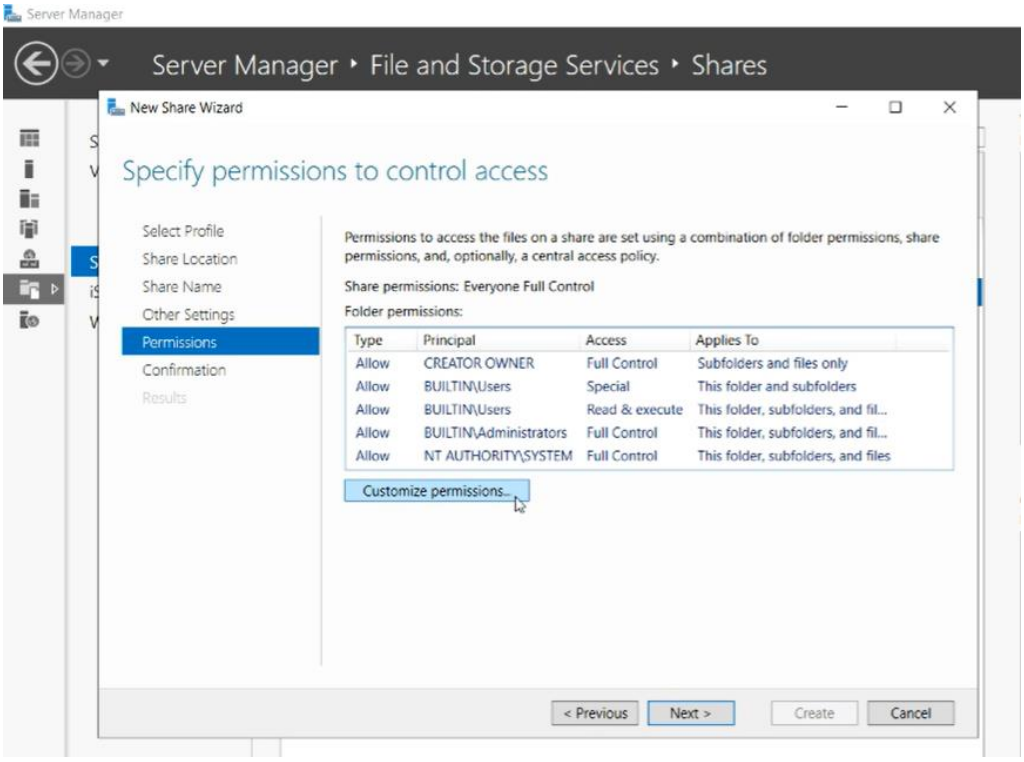
24. Complete the new share wizard.

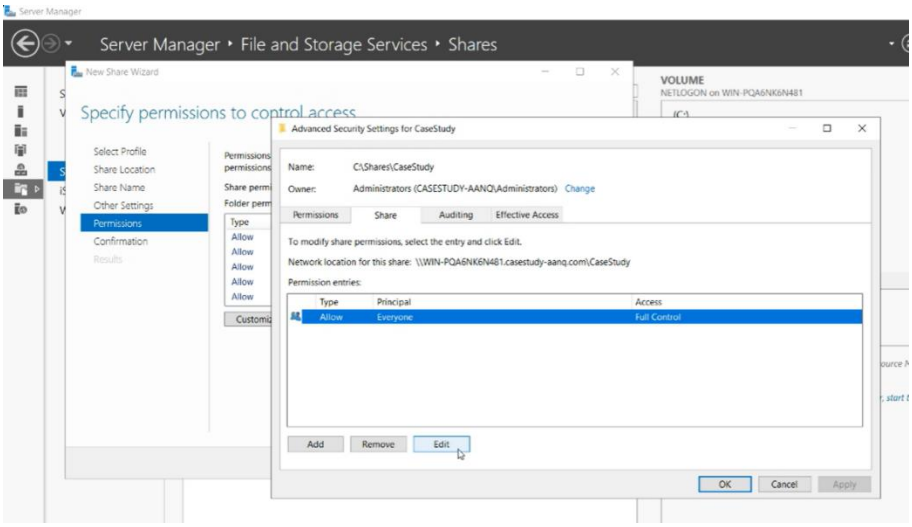


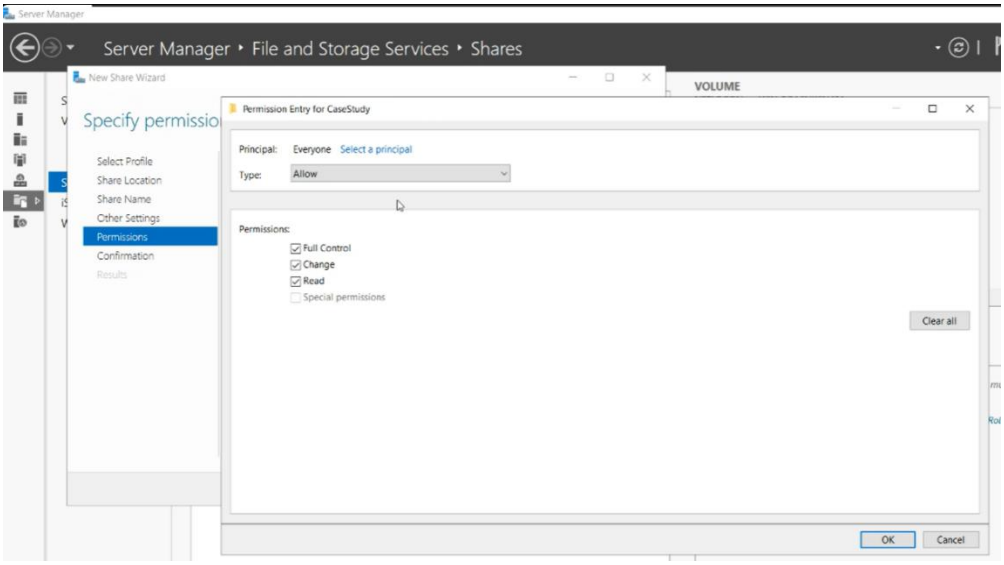

Server Manager
Server Manager ▸ File and Storage Services ▸ Shares
New Share Wizard
Select the server and path for this share
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Server:
Server Name
Status
Cluster Role
Owner Node
WIN-PQA6NK6N481
Online
Not Clustered
Share location:
Select by volume:
Volume
Free Space
Capacity
File System
C:
48.7 GB
59.7 GB
NTFS
The location of the file share will be a new folder in the \Shares directory on the selected volume.
Type a custom path:
Browse...
< Previous
Next >
Create
Cancel

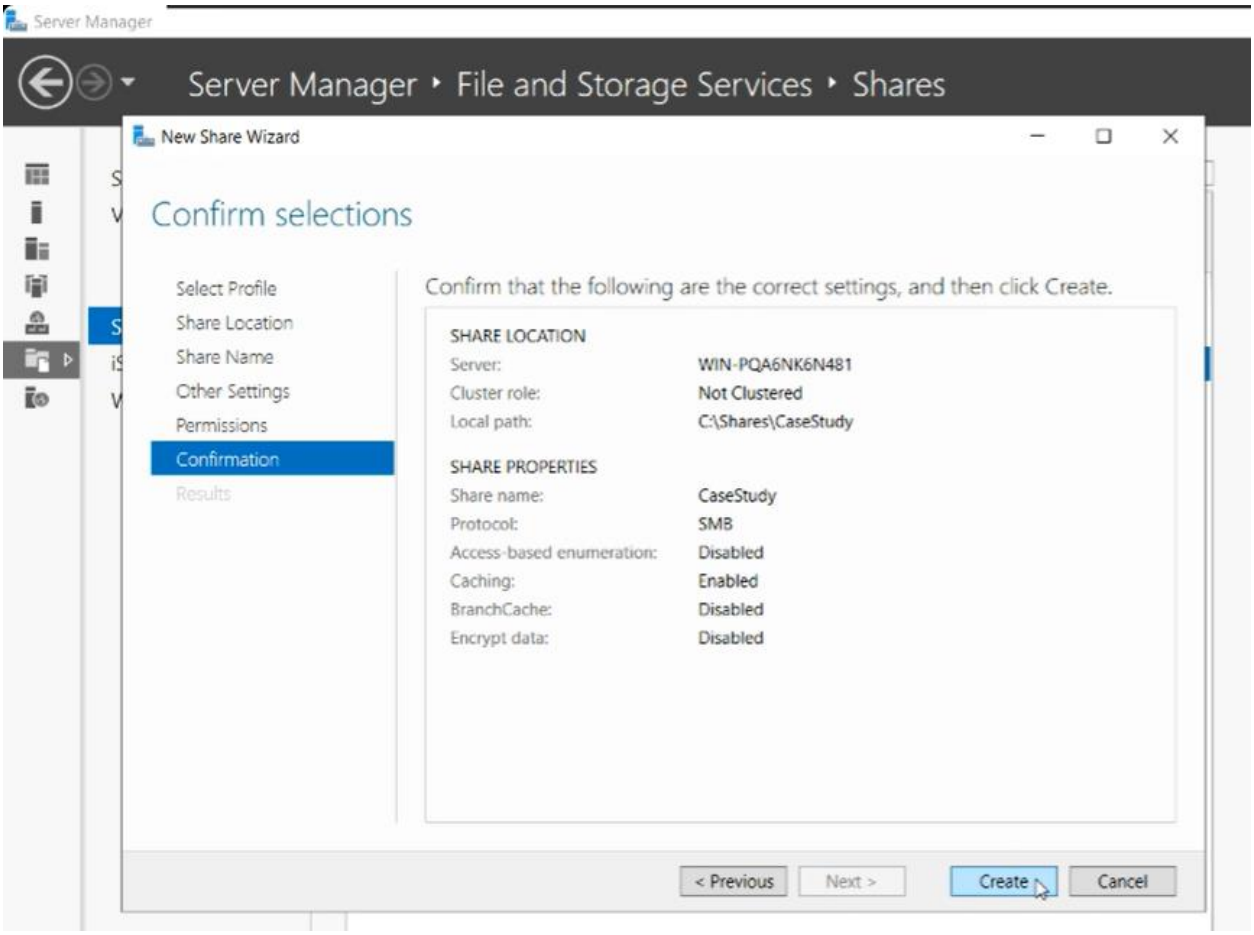

Server Manager
Server Manager ▸ File and Storage Services ▸ Shares
New Share Wizard
Specify share name
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Share name:
CaseStudy
Share description:
Local path to share:
C:\Shares\CaseStudy
If the folder does not exist, the folder is created.
Remote path to share:
\\WIN-PQA6NK6N481\CaseStudy
< Previous
Next >
Create
Cancel

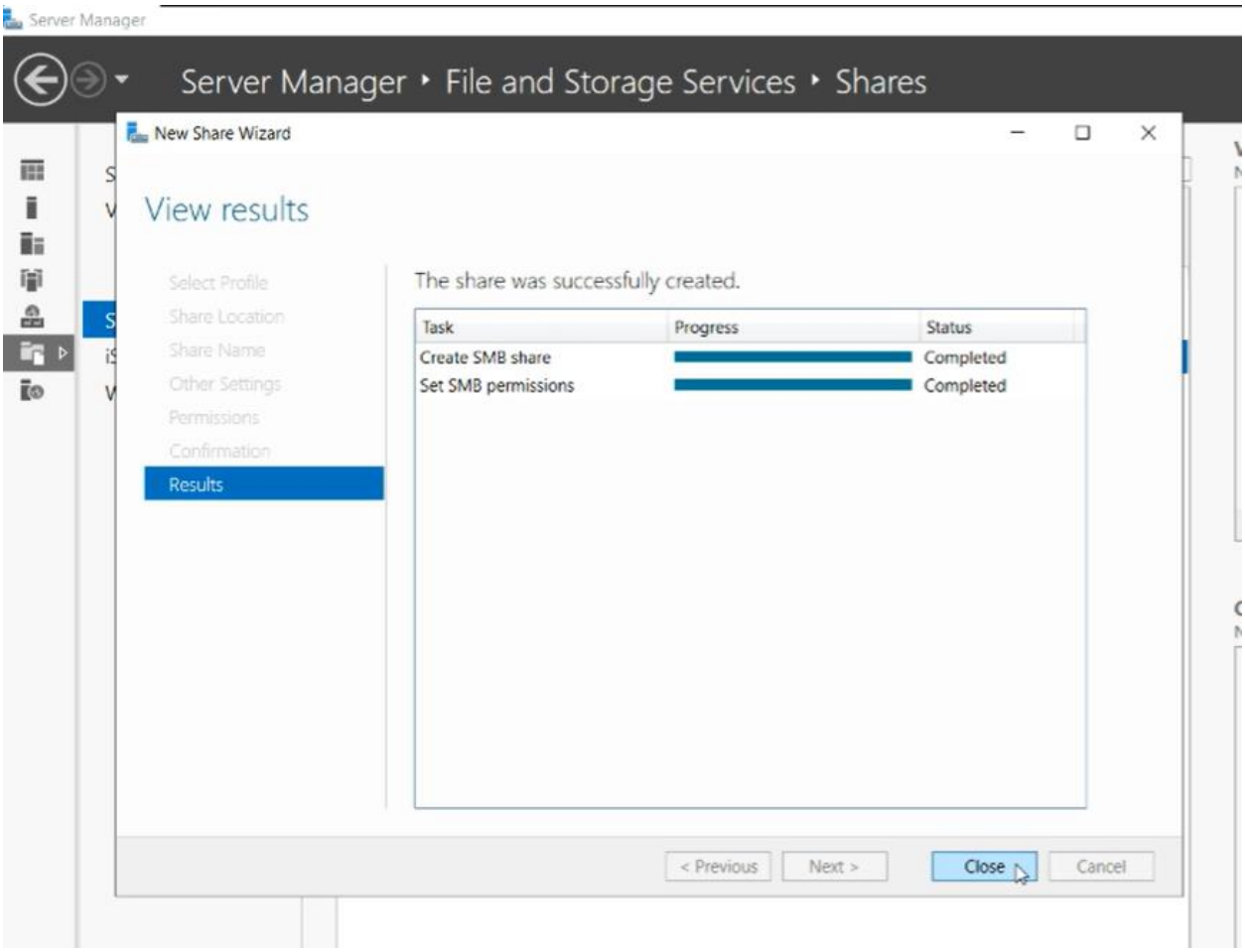

Server Manager
Server Manager ▸ File and Storage Services ▸ Shares
New Share Wizard
Configure share settings
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Enable access-based enumeration
Access-based enumeration displays only the files and folders that a user has permissions to access. If a user does not have Read (or equivalent) permissions for a folder, Windows hides the folder from the user's view.
Allow caching of share
Caching makes the contents of the share available to offline users. If the BranchCache for Network Files role service is installed, you can enable BranchCache on the share.
Enable BranchCache on the file share
BranchCache enables computers in a branch office to cache files downloaded from this share, and then allows the files to be securely available to other computers in the branch.
Encrypt data access
When enabled, remote file access to this share will be encrypted. This secures the data against unauthorized access while the data is transferred to and from the share. If this box is checked and grayed out, an administrator has turned on encryption for the entire server.
< Previous
Next >
Create
Cancel


Server Manager
Server Manager ▸ File and Storage Services ▸ Shares
New Share Wizard
Specify permissions to control access
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Permissions to access the files on a share are set using a combination of folder permissions, share permissions, and, optionally, a central access policy.
Share permissions: Everyone Full Control
Folder permissions:
Type Principal Access Applies To
Allow CREATOR OWNER Full Control Subfolders and files only
Allow BUILTIN\Users Special This folder and subfolders
Allow BUILTIN\Users Read & execute This folder, subfolders, and fil...
Allow BUILTIN\Administrators Full Control This folder, subfolders, and fil...
Allow NT AUTHORITY\SYSTEM Full Control This folder, subfolders, and files
Customize permissions...
< Previous
Next >
Create
Cancel

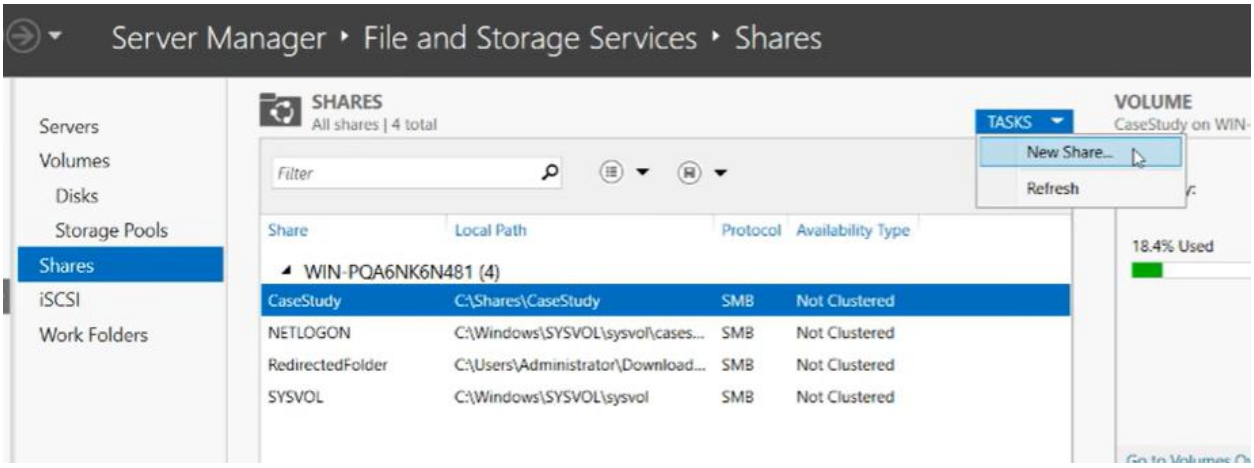

Server Manager
Server Manager ▸ File and Storage Services ▸ Shares
New Share Wizard
Specify permissions to control access
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Advanced Security Settings for CaseStudy
Name: C:\Shares\CaseStudy
Owner: Administrators (CASESTUDY-AANQ\Administrators) Change
Permissions
Share
Auditing
Effective Access
To modify share permissions, select the entry and click Edit.
Network location for this share: \\WIN-PQA6NK6N481.casestudy-aanq.com\CaseStudy
Permission entries:
Type
Principal
Access
Allow
Everyone
Full Control
Add
Remove
Edit
OK
Cancel
Apply
VOLUME
NETLOGON on WIN-PQA6NK6N481

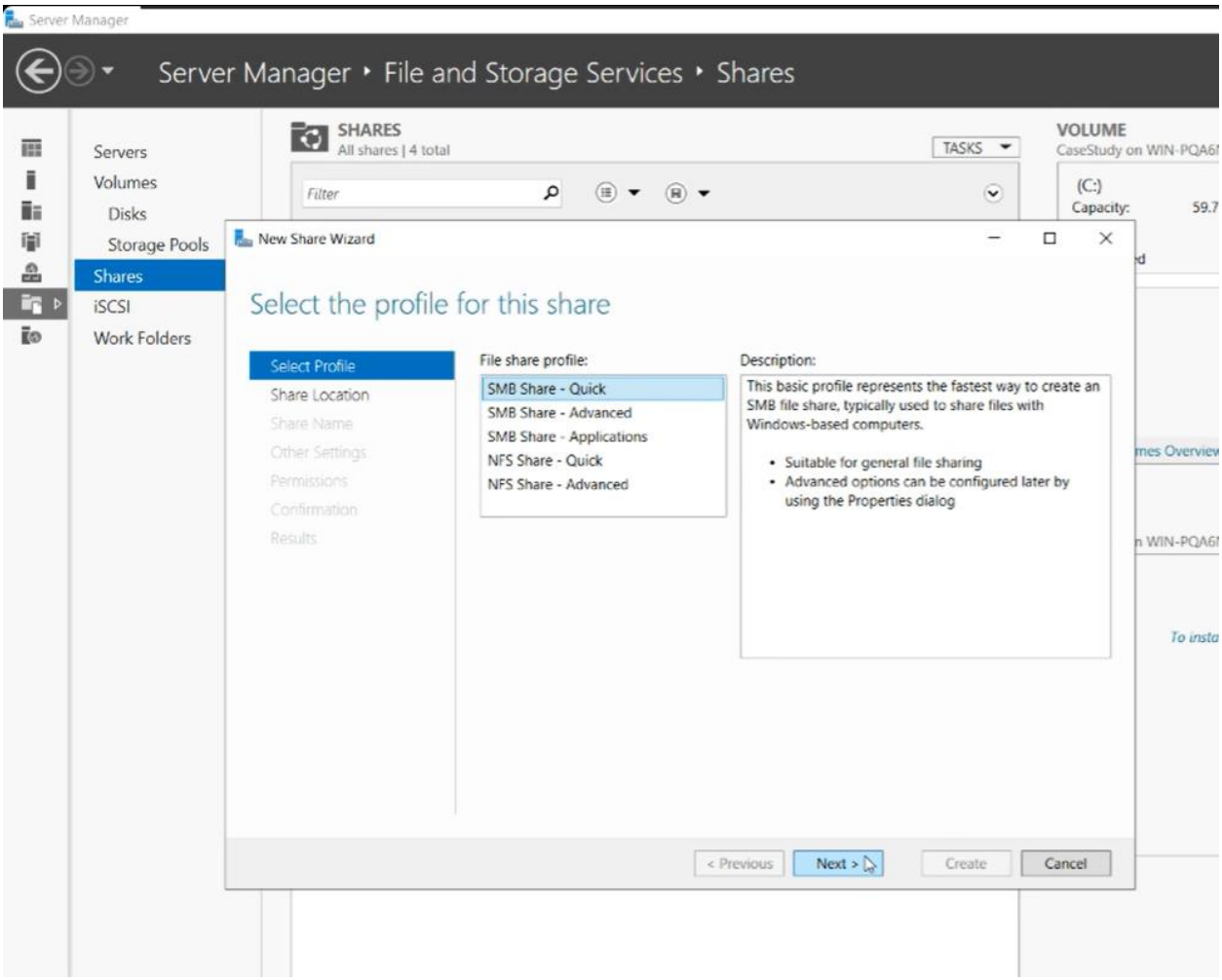

Server Manager
Server Manager ▸ File and Storage Services ▸ Shares
New Share Wizard
Specify permissio
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Permission Entry for CaseStudy
Principal: Everyone Select a principal
Type: Allow
Permissions:
Full Control
Change
Read
Special permissions
Clear all
OK
Cancel
VOLUME

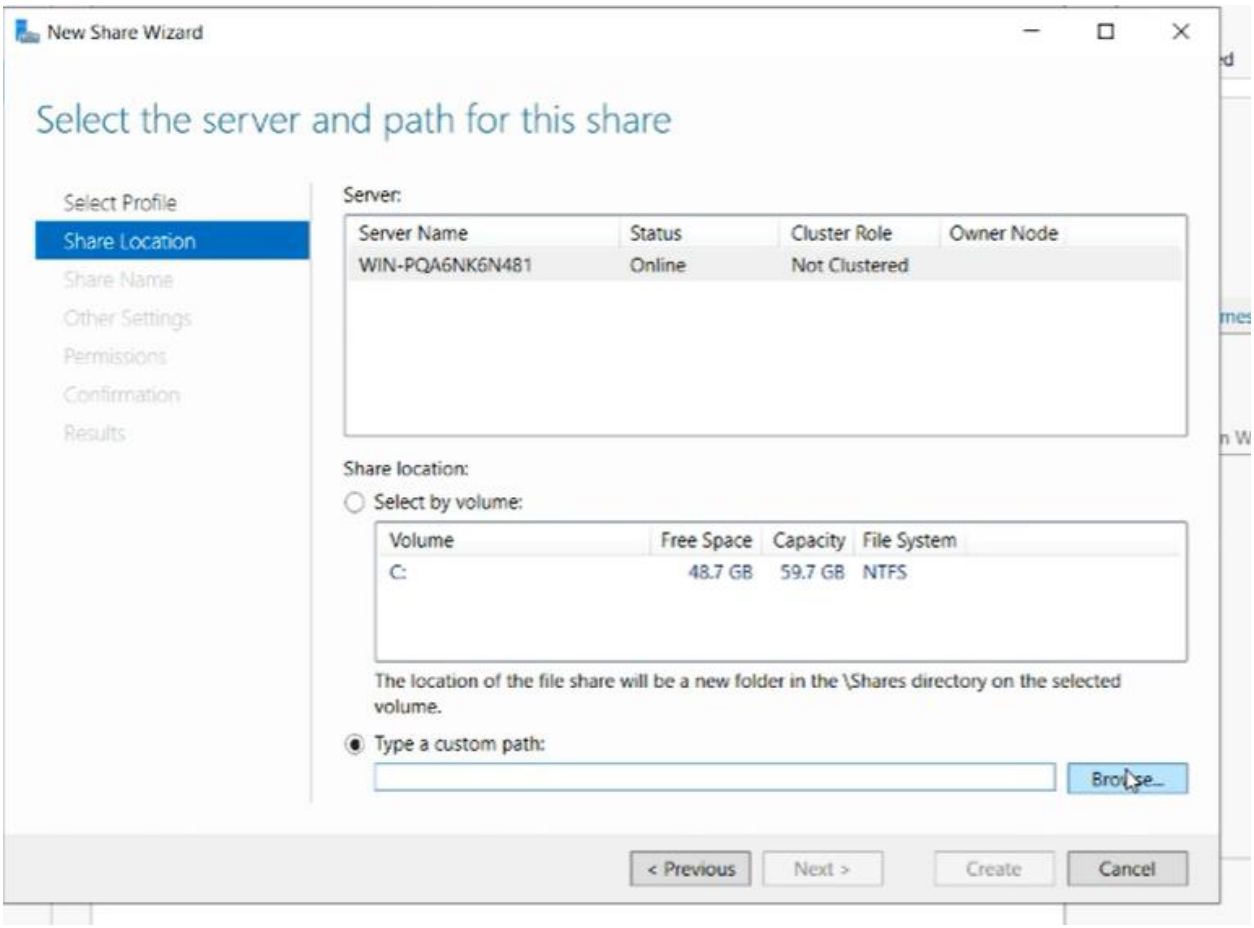

Server Manager
Server Manager ▸ File and Storage Services ▸ Shares
New Share Wizard
Confirm selections
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Confirm that the following are the correct settings, and then click Create.
SHARE LOCATION
Server: WIN-PQA6NK6N481
Cluster role: Not Clustered
Local path: C:\Shares\CaseStudy
SHARE PROPERTIES
Share name: CaseStudy
Protocol: SMB
Access-based enumeration: Disabled
Caching: Enabled
BranchCache: Disabled
Encrypt data: Disabled
< Previous
Next >
Create
Cancel

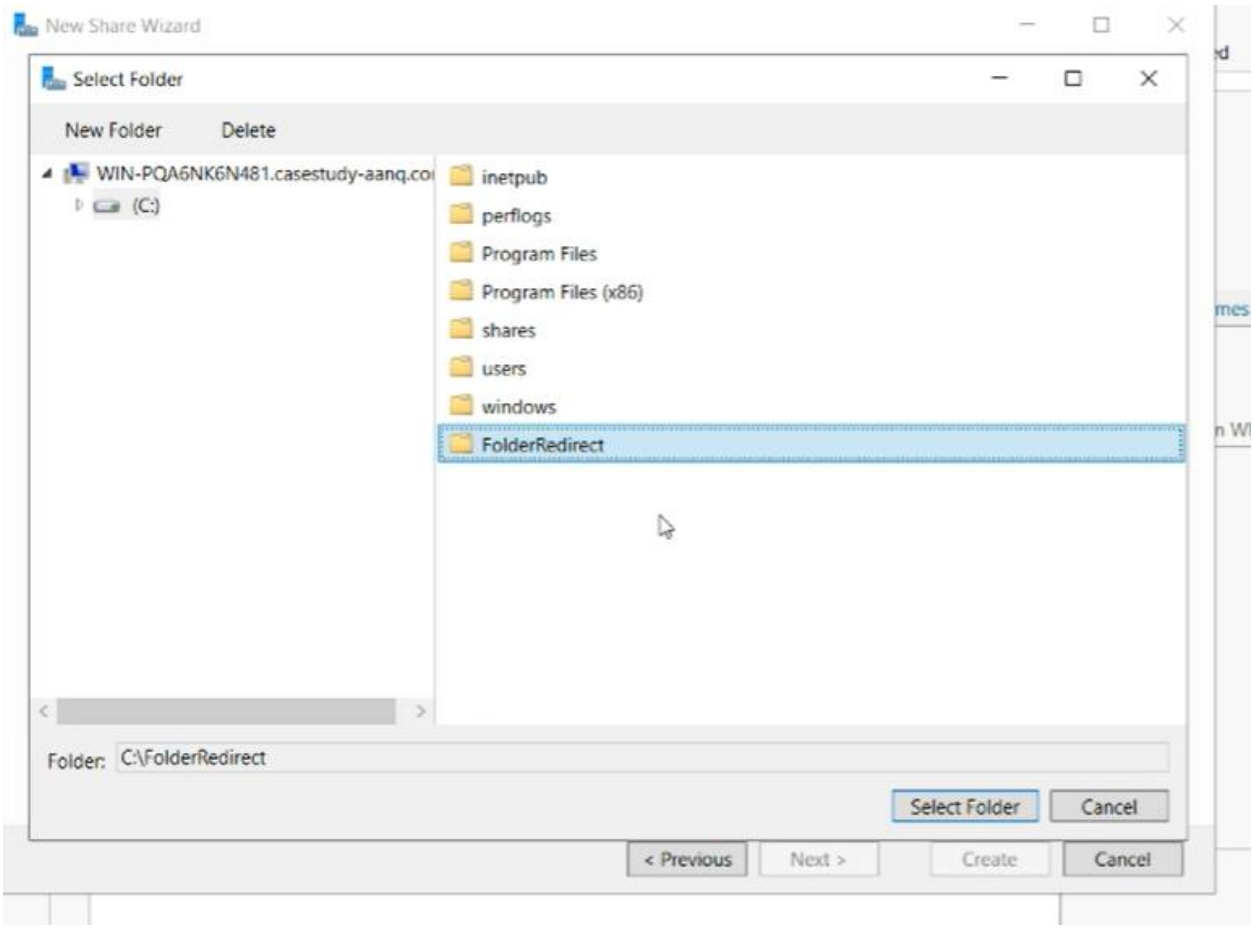


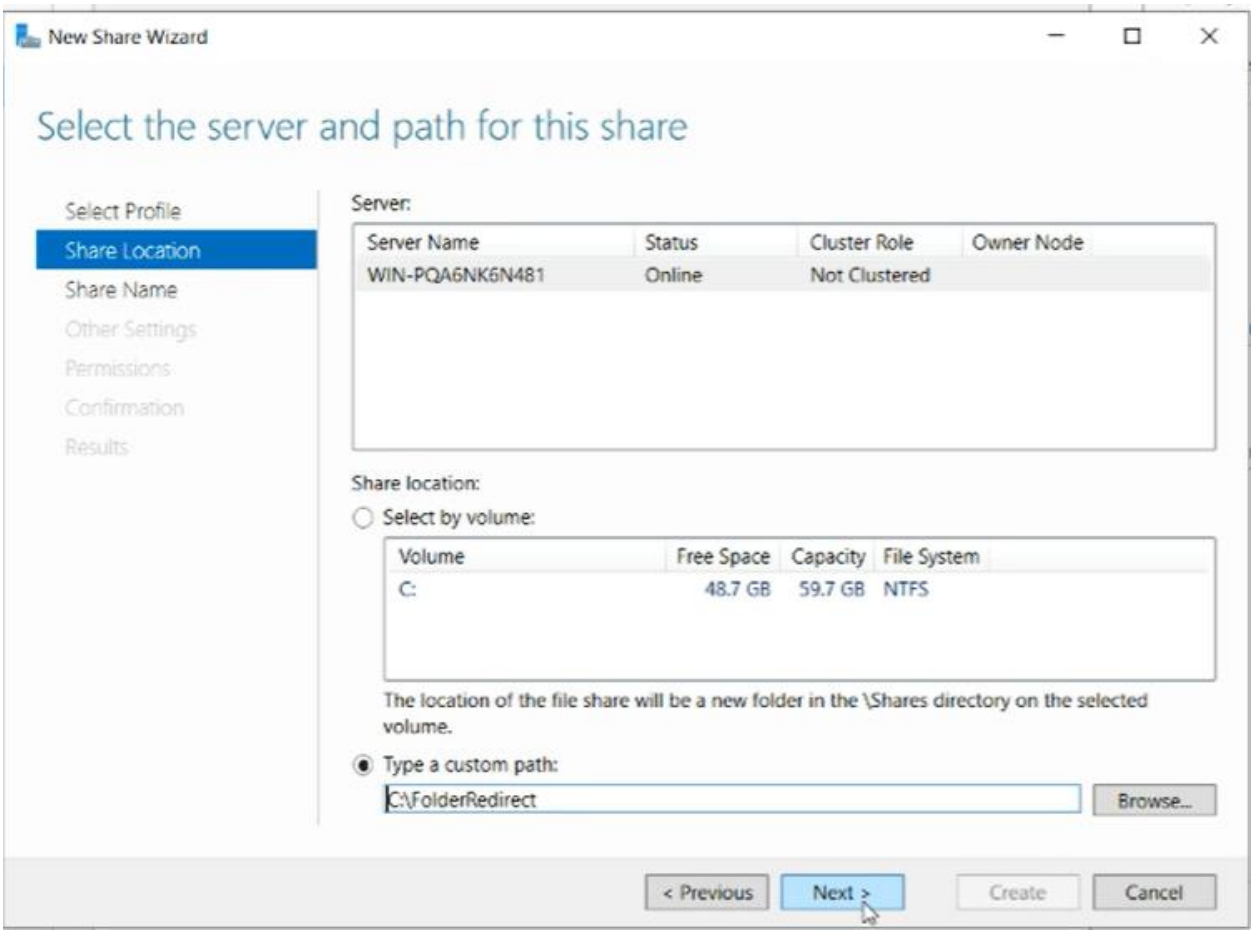
25. After the setup, do another setup for the Folder Redirection, the pictures below are the guides when creating one.

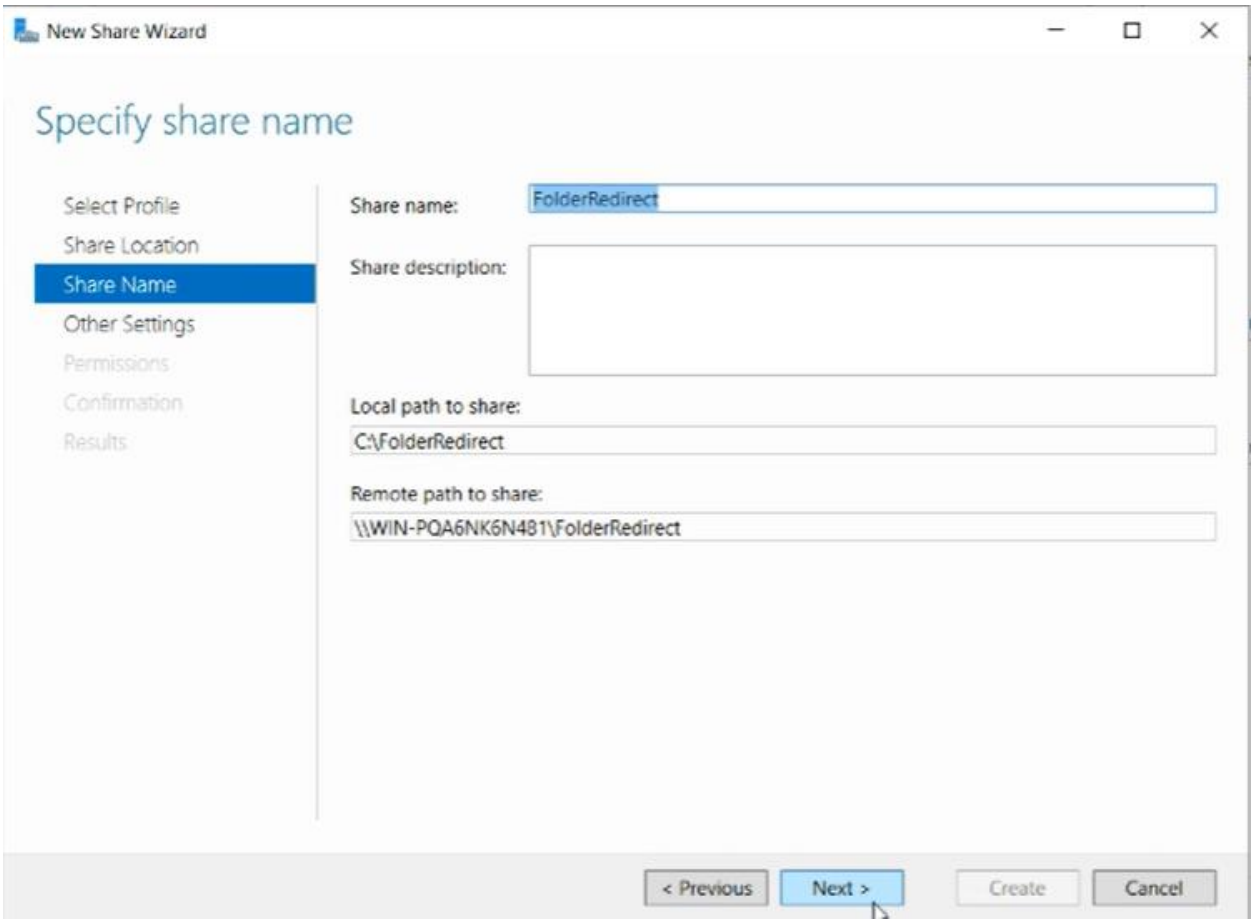


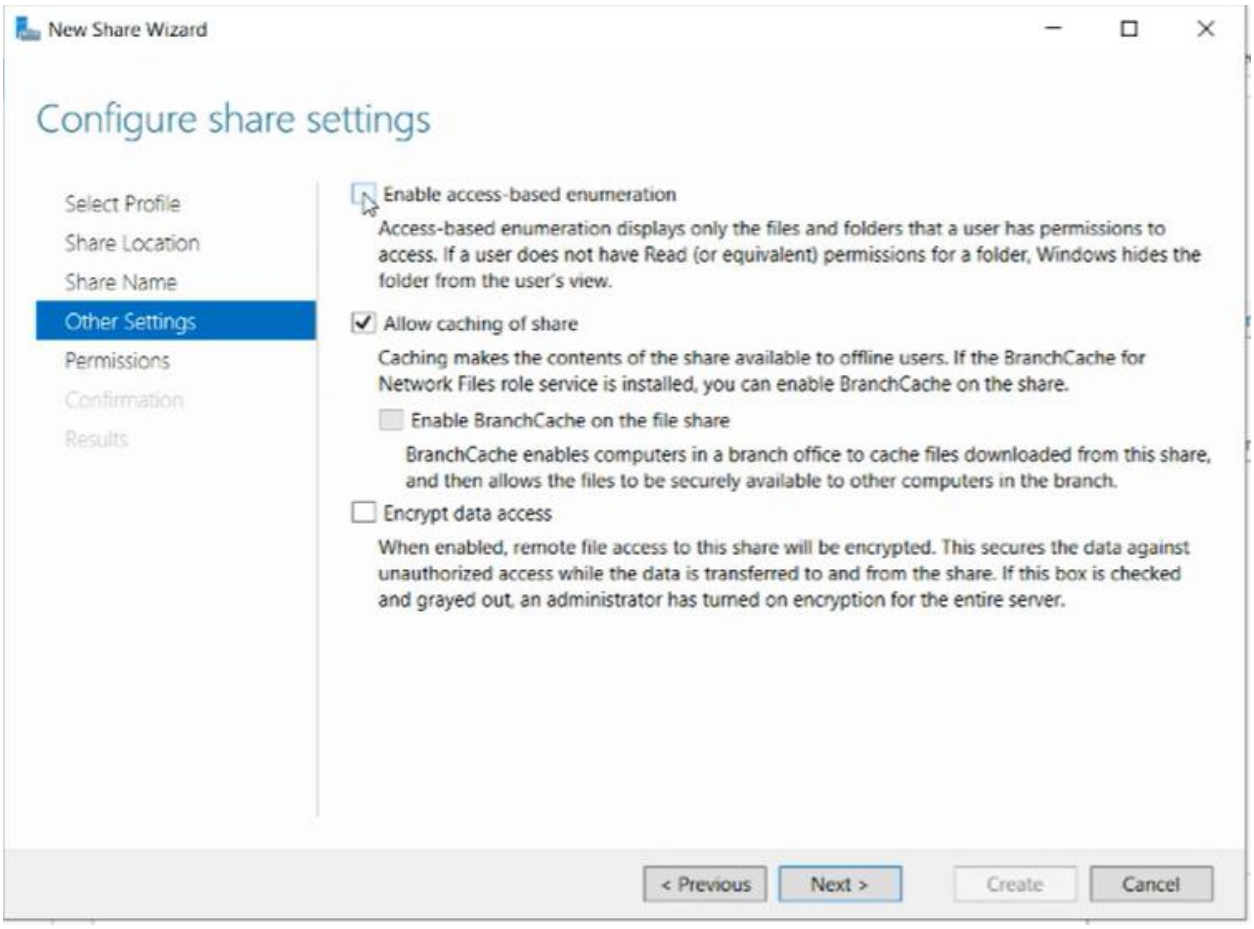

Server Manager
Server Manager ▸ File and Storage Services ▸ Shares
Servers
Volumes
Disks
Storage Pools
Shares
iSCSI
Work Folders
SHARES
All shares | 4 total
TASKS
Filter
VOLUME
CaseStudy on WIN-PQA6
(C:)
Capacity:
New Share Wizard
Select the profile for this share
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
File share profile:
SMB Share - Quick
SMB Share - Advanced
SMB Share - Applications
NFS Share - Quick
NFS Share - Advanced
Description:
This basic profile represents the fastest way to create an SMB file share, typically used to share files with Windows-based computers.
• Suitable for general file sharing
• Advanced options can be configured later by using the Properties dialog
< Previous
Next >
Create
Cancel

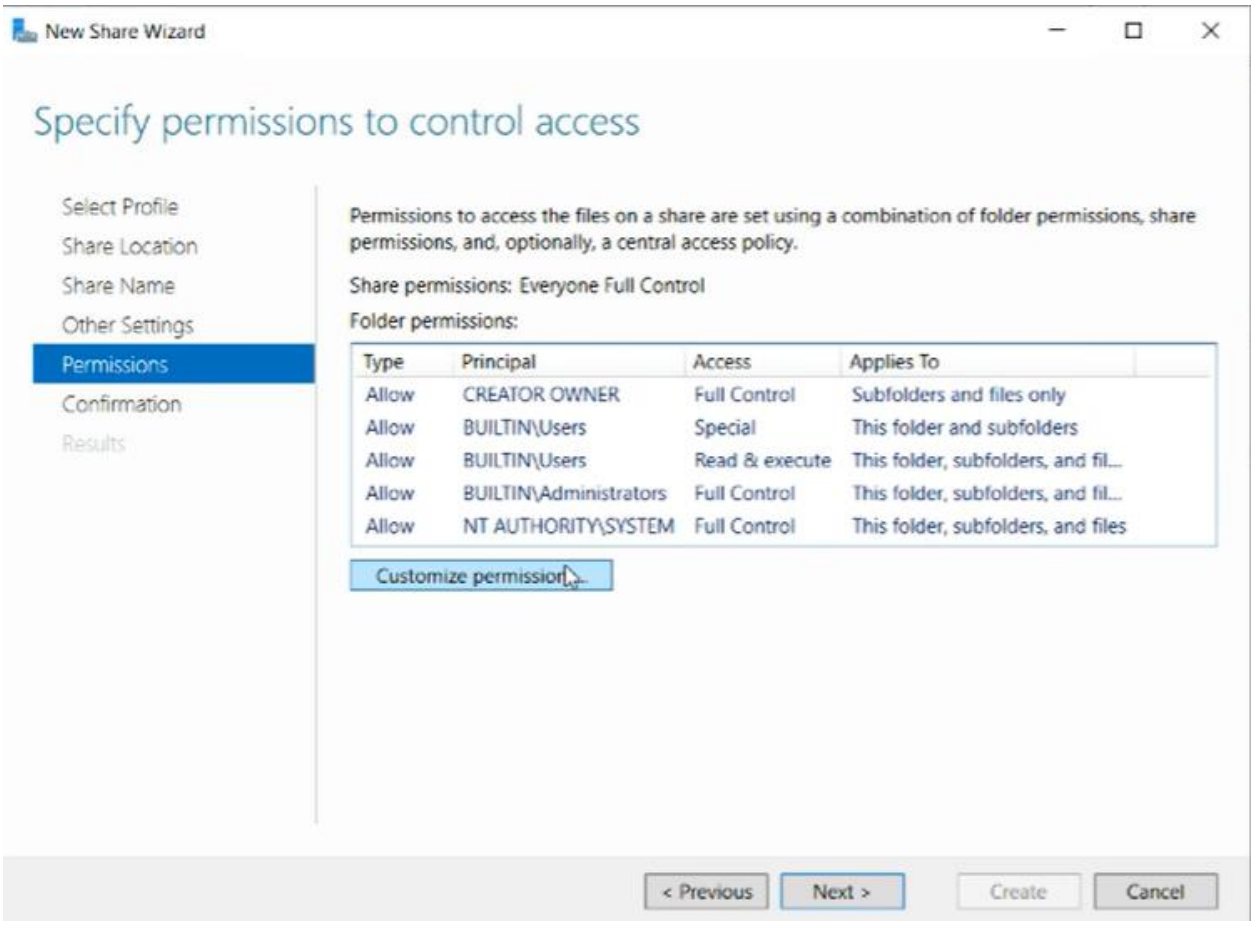

New Share Wizard
Select the server and path for this share
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Server:
Server Name
Status
Cluster Role
Owner Node
WIN-PQA6NK6N481
Online
Not Clustered
Share location:
Select by volume:
Volume
Free Space
Capacity
File System
C:
48.7 GB
59.7 GB
NTFS
The location of the file share will be a new folder in the \Shares directory on the selected volume.
Type a custom path:
Browse...
< Previous
Next >
Create
Cancel

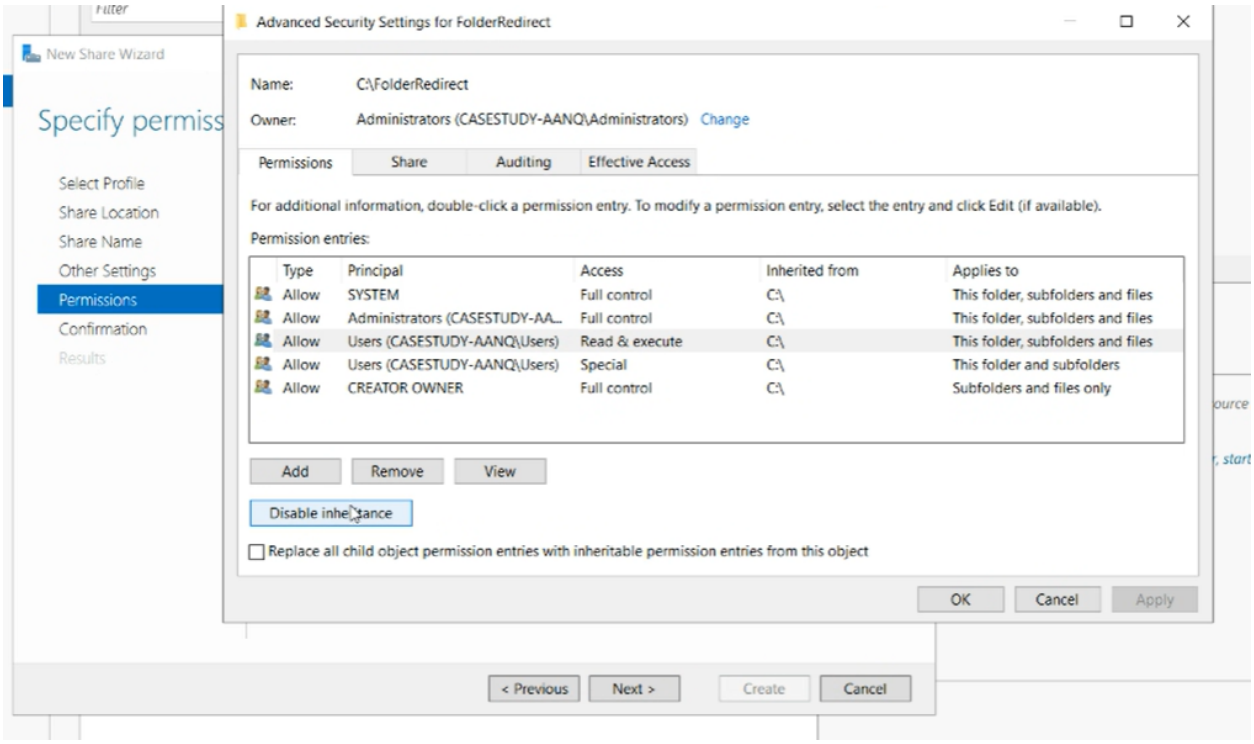

New Share Wizard
Select Folder
New Folder
Delete
WIN-PQA6NK6N481.casestudy-aanq.co
(C:)
inetpub
perflogs
Program Files
Program Files (x86)
shares
users
windows
FolderRedirect
Folder:
C:\FolderRedirect
Select Folder
Cancel
< Previous
Next >
Create
Cancel

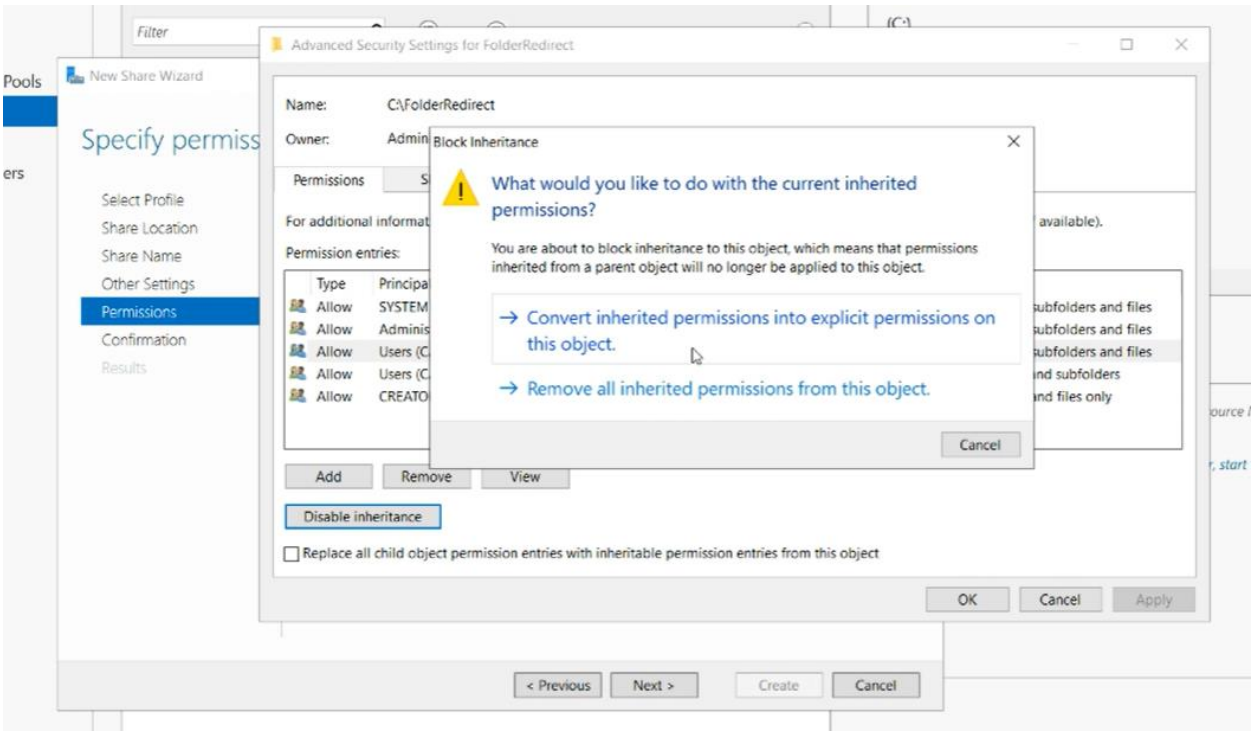

New Share Wizard
Select the server and path for this share
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Server:
Server Name
Status
Cluster Role
Owner Node
WIN-PQA6NK6N481
Online
Not Clustered
Share location:
Select by volume:
Volume
Free Space
Capacity
File System
C:
48.7 GB
59.7 GB
NTFS
The location of the file share will be a new folder in the \Shares directory on the selected volume.
Type a custom path:
C:\FolderRedirect
Browse...
< Previous
Next >
Create
Cancel

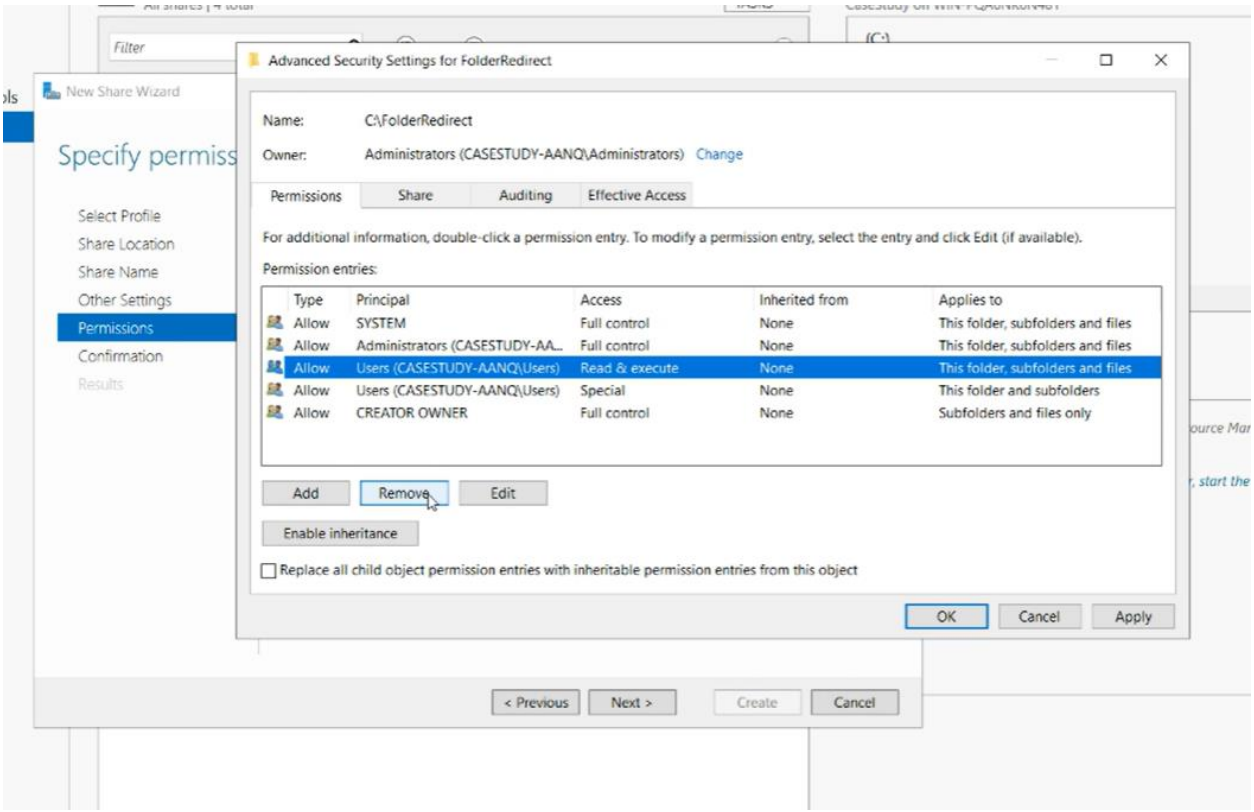

New Share Wizard
Specify share name
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Share name:
FolderRedirect
Share description:
Local path to share:
C:\FolderRedirect
Remote path to share:
\\WIN-PQA6NK6N481\FolderRedirect
< Previous
Next >
Create
Cancel

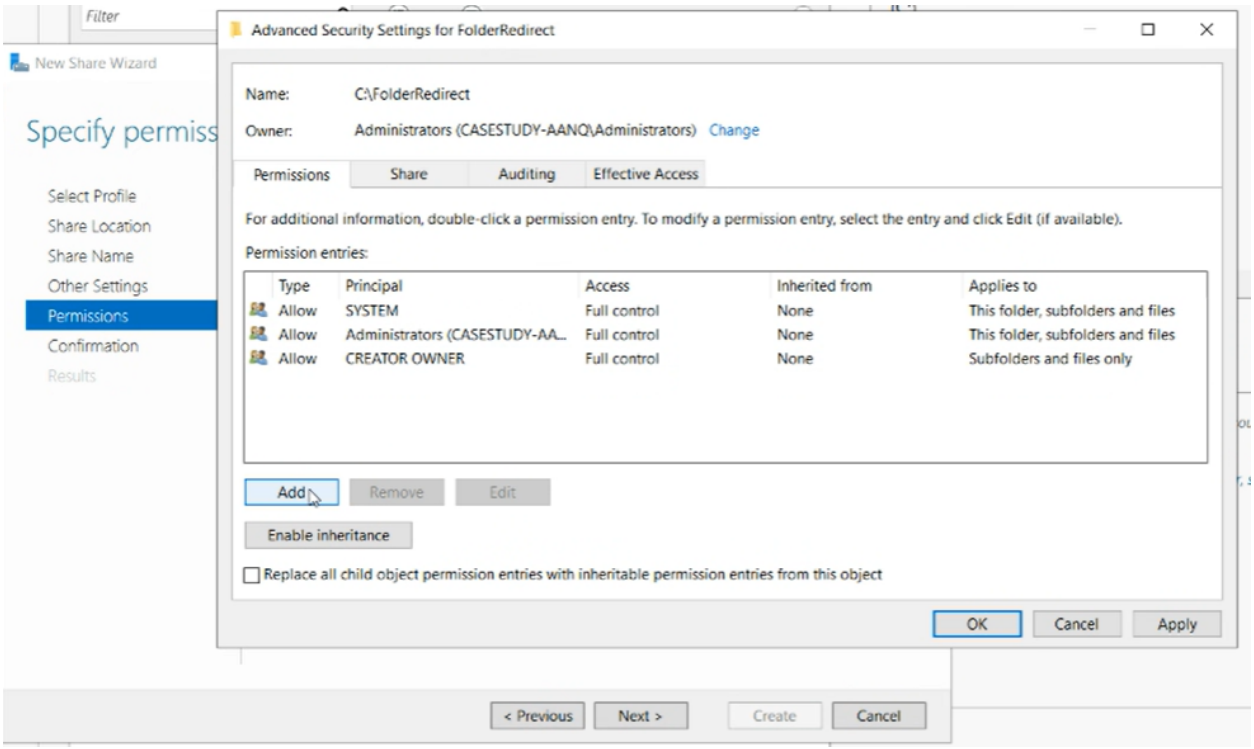

New Share Wizard
Configure share settings
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Enable access-based enumeration
Access-based enumeration displays only the files and folders that a user has permissions to access. If a user does not have Read (or equivalent) permissions for a folder, Windows hides the folder from the user's view.
Allow caching of share
Caching makes the contents of the share available to offline users. If the BranchCache for Network Files role service is installed, you can enable BranchCache on the share.
Enable BranchCache on the file share
BranchCache enables computers in a branch office to cache files downloaded from this share, and then allows the files to be securely available to other computers in the branch.
Encrypt data access
When enabled, remote file access to this share will be encrypted. This secures the data against unauthorized access while the data is transferred to and from the share. If this box is checked and grayed out, an administrator has turned on encryption for the entire server.
< Previous
Next >
Create
Cancel

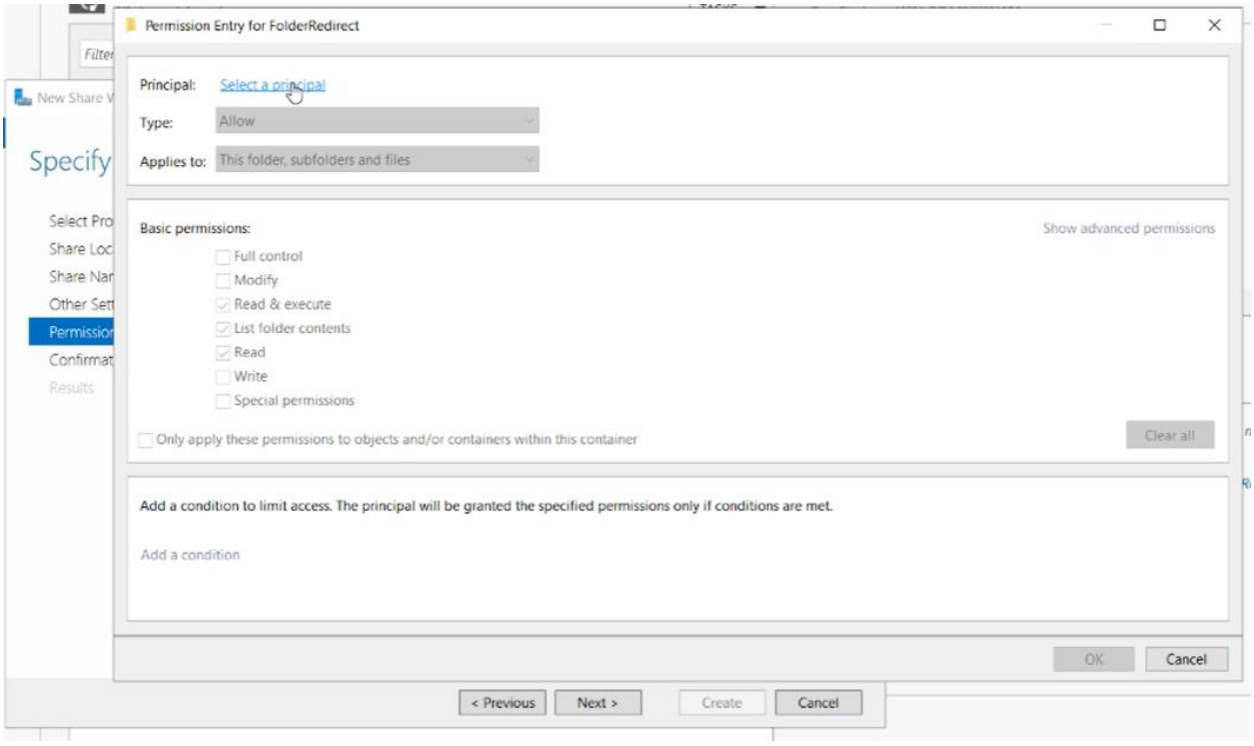

New Share Wizard
Specify permissions to control access
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Permissions to access the files on a share are set using a combination of folder permissions, share permissions, and, optionally, a central access policy.
Share permissions: Everyone Full Control
Folder permissions:
Type Principal Access Applies To
Allow CREATOR OWNER Full Control Subfolders and files only
Allow BUILTIN\Users Special This folder and subfolders
Allow BUILTIN\Users Read & execute This folder, subfolders, and fil...
Allow BUILTIN\Administrators Full Control This folder, subfolders, and fil...
Allow NT AUTHORITY\SYSTEM Full Control This folder, subfolders, and files
Customize permissions...
< Previous
Next >
Create
Cancel


New Share Wizard
Specify permiss
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Advanced Security Settings for FolderRedirect
Name: C:\FolderRedirect
Owner: Administrators (CASESTUDY-AANQ\Administrators) Change
Permissions
Share
Auditing
Effective Access
For additional information, double-click a permission entry. To modify a permission entry, select the entry and click Edit (if available).
Permission entries:
Type Principal Access Inherited from Applies to
Allow SYSTEM Full control C:\ This folder, subfolders and files
Allow Administrators (CASESTUDY-AA... Full control C:\ This folder, subfolders and files
Allow Users (CASESTUDY-AANQ\Users) Read & execute C:\ This folder, subfolders and files
Allow Users (CASESTUDY-AANQ\Users) Special C:\ This folder and subfolders
Allow CREATOR OWNER Full control C:\ Subfolders and files only
Add
Remove
View
Disable inheritance
Replace all child object permission entries with inheritable permission entries from this object
OK
Cancel
Apply
< Previous
Next >
Create
Cancel

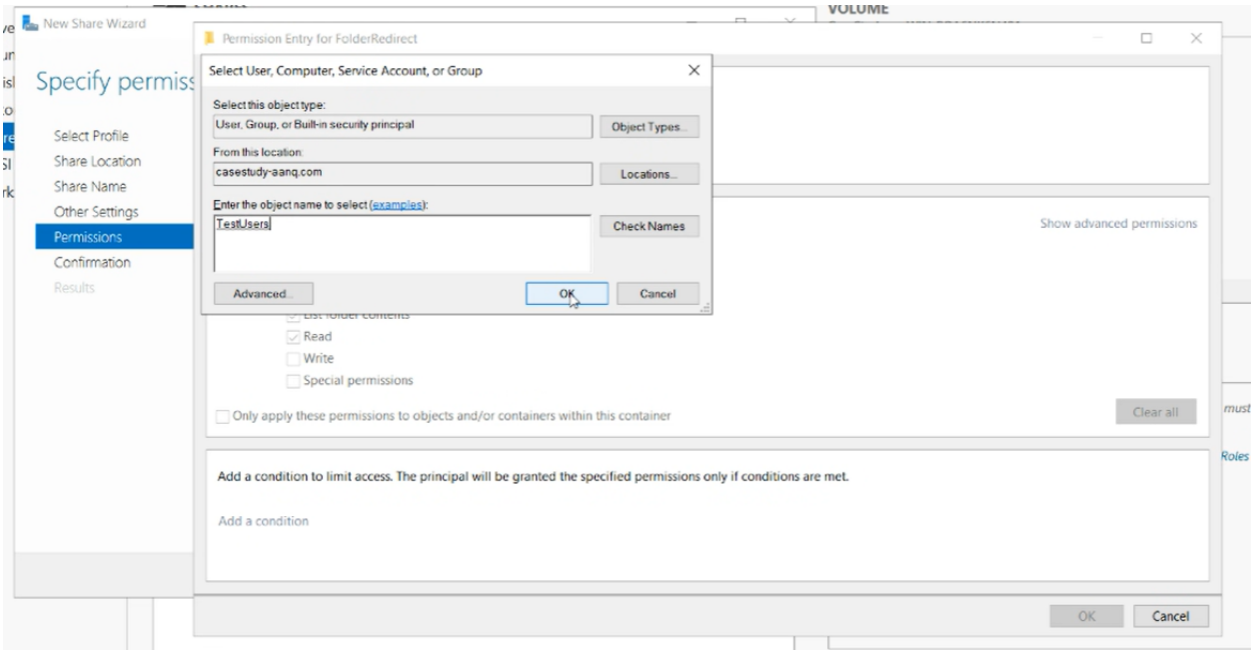

Filter
Advanced Security Settings for FolderRedirect
New Share Wizard
Specify permiss
Name: C:\FolderRedirect
Owner: Admin
Block Inheritance
What would you like to do with the current inherited permissions?
You are about to block inheritance to this object, which means that permissions inherited from a parent object will no longer be applied to this object.
→ Convert inherited permissions into explicit permissions on this object.
→ Remove all inherited permissions from this object.
Cancel
Permissions
For additional informat
Permission entries:
Type Principa
Allow SYSTEM
Allow Adminis
Allow Users (C
Allow Users (C
Allow CREATO
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Add
Remove
View
Disable inheritance
Replace all child object permission entries with inheritable permission entries from this object
OK
Cancel
Apply
< Previous
Next >
Create
Cancel

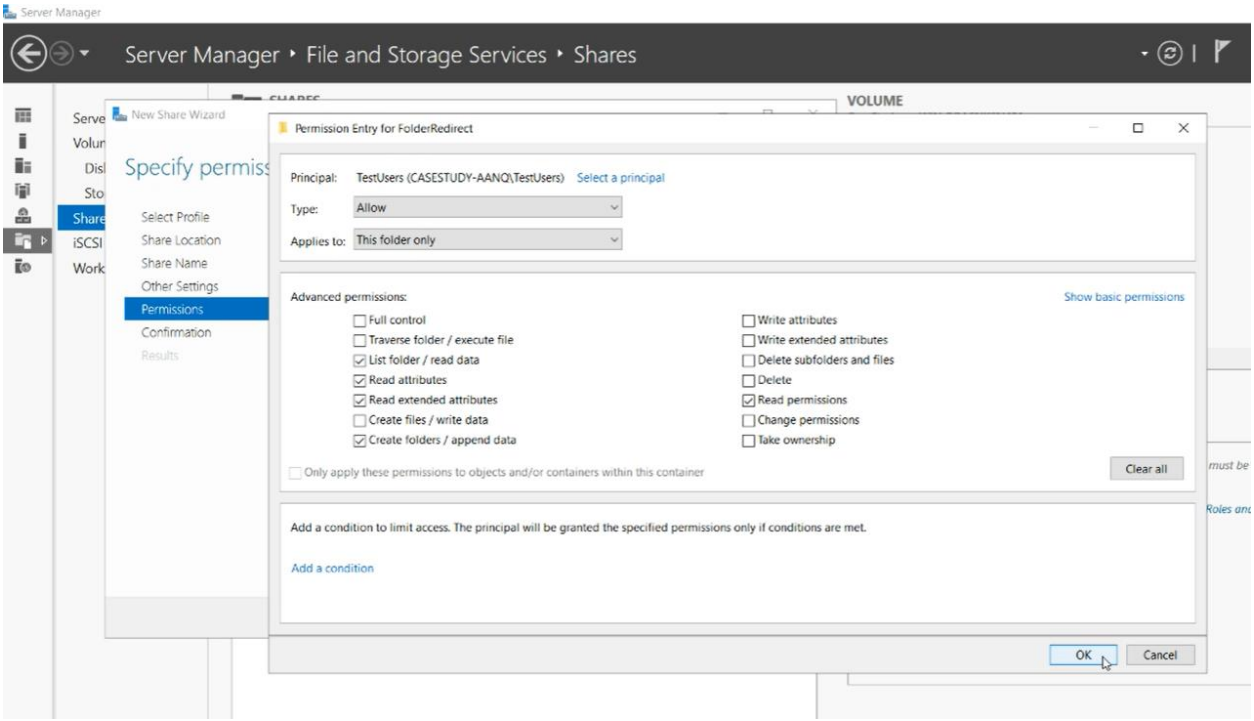

Filter
Advanced Security Settings for FolderRedirect
New Share Wizard
Specify permiss
Name: C:\FolderRedirect
Owner: Administrators (CASESTUDY-AANQ\Administrators) Change
Permissions
Share
Auditing
Effective Access
For additional information, double-click a permission entry. To modify a permission entry, select the entry and click Edit (if available).
Permission entries:
Type Principal Access Inherited from Applies to
Allow SYSTEM Full control None This folder, subfolders and files
Allow Administrators (CASESTUDY-AA... Full control None This folder, subfolders and files
Allow Users (CASESTUDY-AANQ\Users) Read & execute None This folder, subfolders and files
Allow Users (CASESTUDY-AANQ\Users) Special None This folder and subfolders
Allow CREATOR OWNER Full control None Subfolders and files only
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Add
Remove
Edit
Enable inheritance
Replace all child object permission entries with inheritable permission entries from this object
OK
Cancel
Apply
< Previous
Next >
Create
Cancel

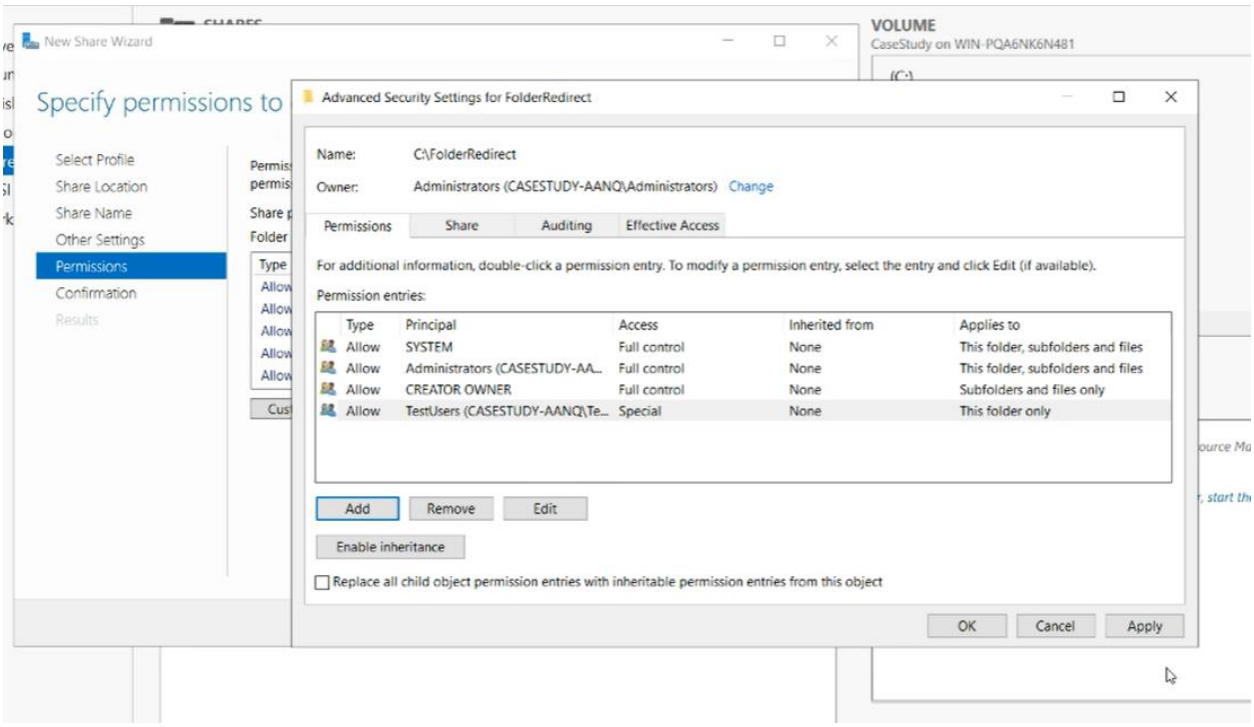

Filter
New Share Wizard
Specify permiss
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Advanced Security Settings for FolderRedirect
Name: C:\FolderRedirect
Owner: Administrators (CASESTUDY-AANQ\Administrators) Change
Permissions
Share
Auditing
Effective Access
For additional information, double-click a permission entry. To modify a permission entry, select the entry and click Edit (if available).
Permission entries:
Type
Principal
Access
Inherited from
Applies to
Allow SYSTEM Full control None This folder, subfolders and files
Allow Administrators (CASESTUDY-AA... Full control None This folder, subfolders and files
Allow CREATOR OWNER Full control None Subfolders and files only
Add
Remove
Edit
Enable inheritance
Replace all child object permission entries with inheritable permission entries from this object
OK
Cancel
Apply
< Previous
Next >
Create
Cancel

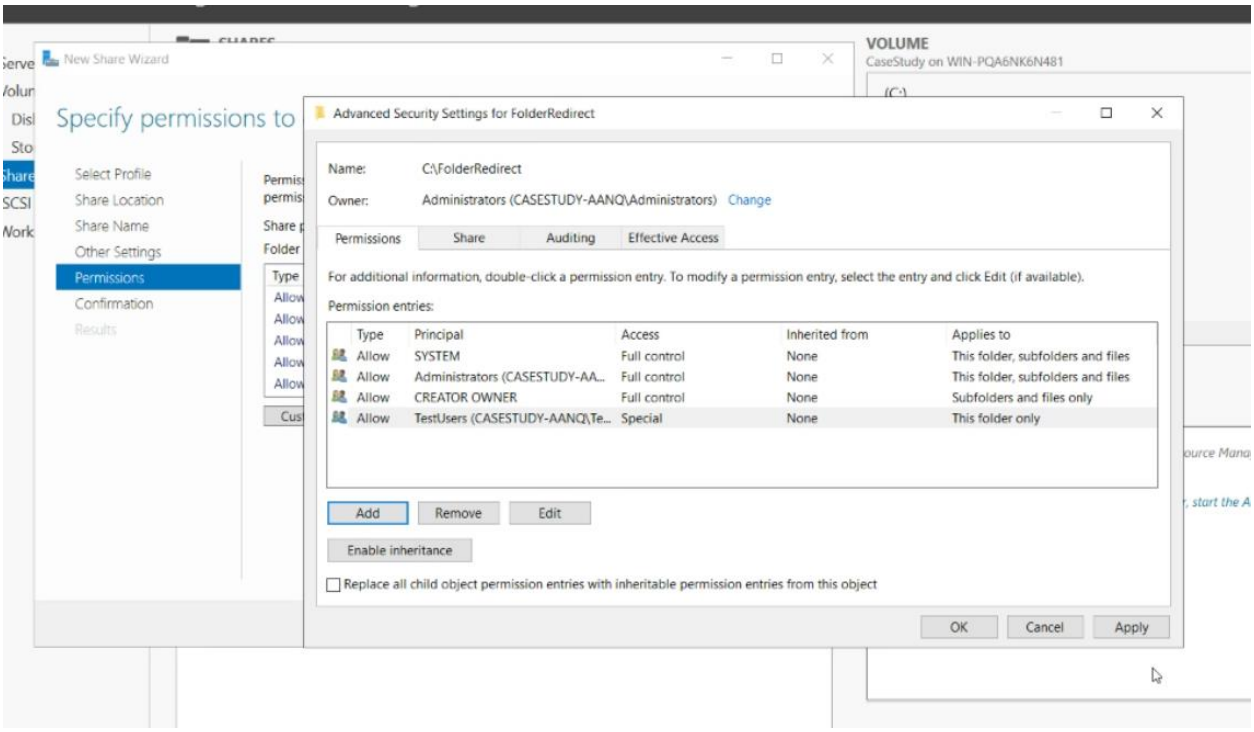

Permission Entry for FolderRedirect
Principal: Select a principal
Type: Allow
Applies to: This folder, subfolders and files
Basic permissions:
Show advanced permissions
Full control
Modify
Read & execute
List folder contents
Read
Write
Special permissions
Only apply these permissions to objects and/or containers within this container
Clear all
Add a condition to limit access. The principal will be granted the specified permissions only if conditions are met.
Add a condition
OK
Cancel
< Previous
Next >
Create
Cancel

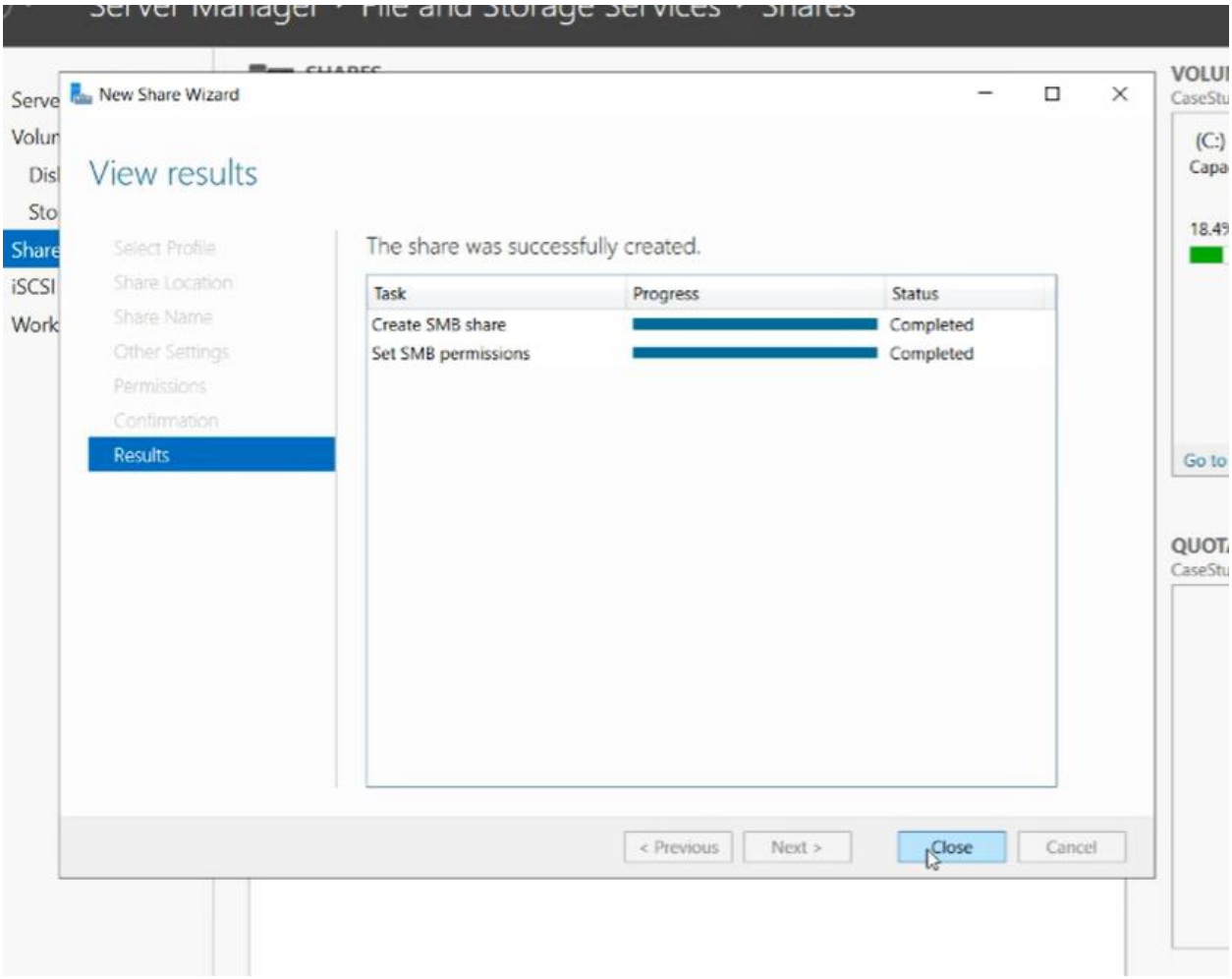
26. In permissions, add the group TestUsers where the clients are situated. The appropriate permissions shall apply when entering the domain of the server.



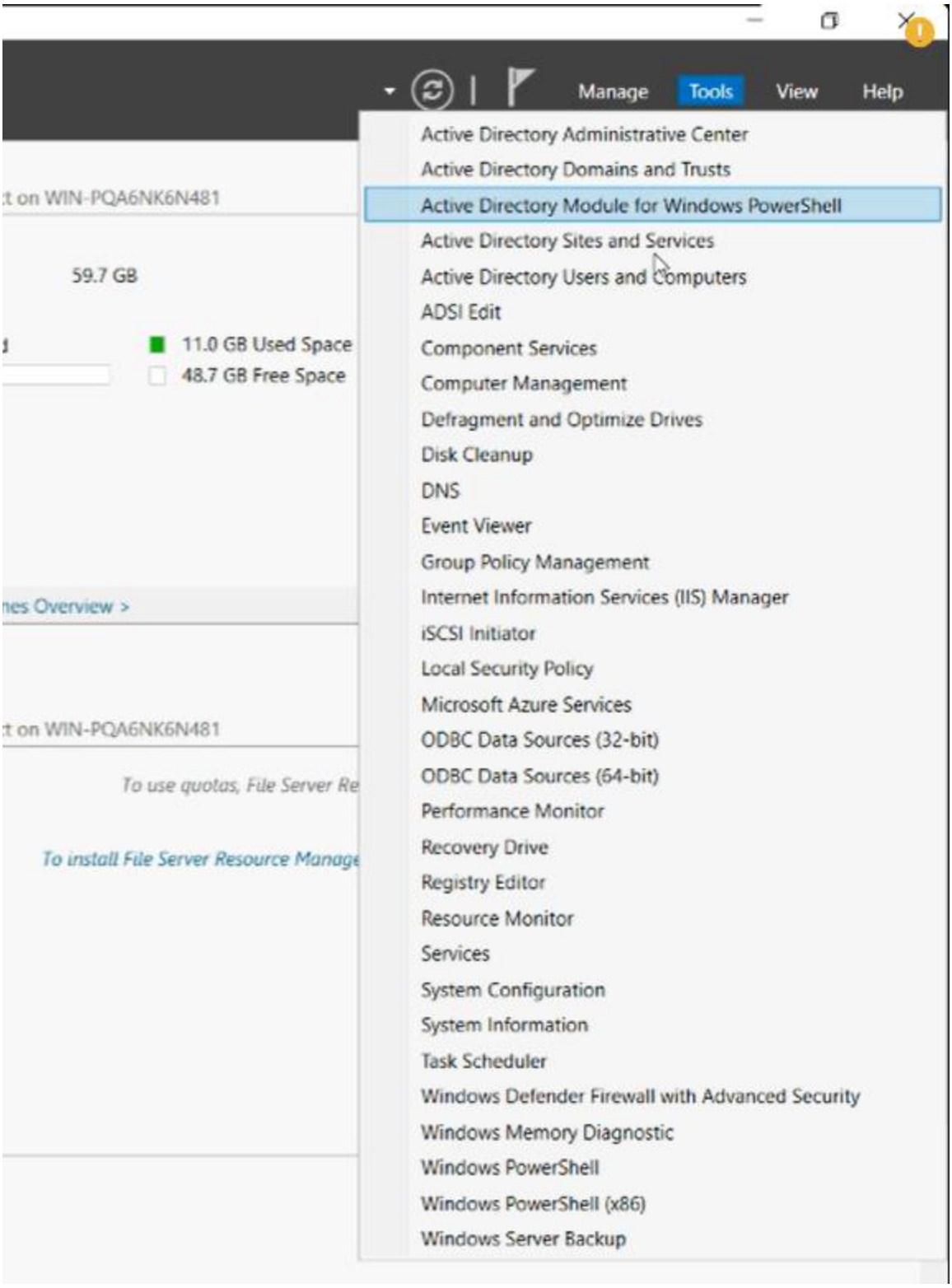



New Share Wizard
Specify permissions to
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Advanced Security Settings for FolderRedirect
Name: C:\FolderRedirect
Owner: Administrators (CASESTUDY-AANQ\Administrators) Change
Permissions
Share
Auditing
Effective Access
For additional information, double-click a permission entry. To modify a permission entry, select the entry and click Edit (if available).
Permission entries:
Type Principal Access Inherited from Applies to
Allow SYSTEM Full control None This folder, subfolders and files
Allow Administrators (CASESTUDY-AA... Full control None This folder, subfolders and files
Allow CREATOR OWNER Full control None Subfolders and files only
Allow TestUsers (CASESTUDY-AANQ\Te... Special None This folder only
Add
Remove
Edit
Enable inheritance
Replace all child object permission entries with inheritable permission entries from this object
OK
Cancel
Apply
VOLUME
CaseStudy on WIN-PQA6NK6N481

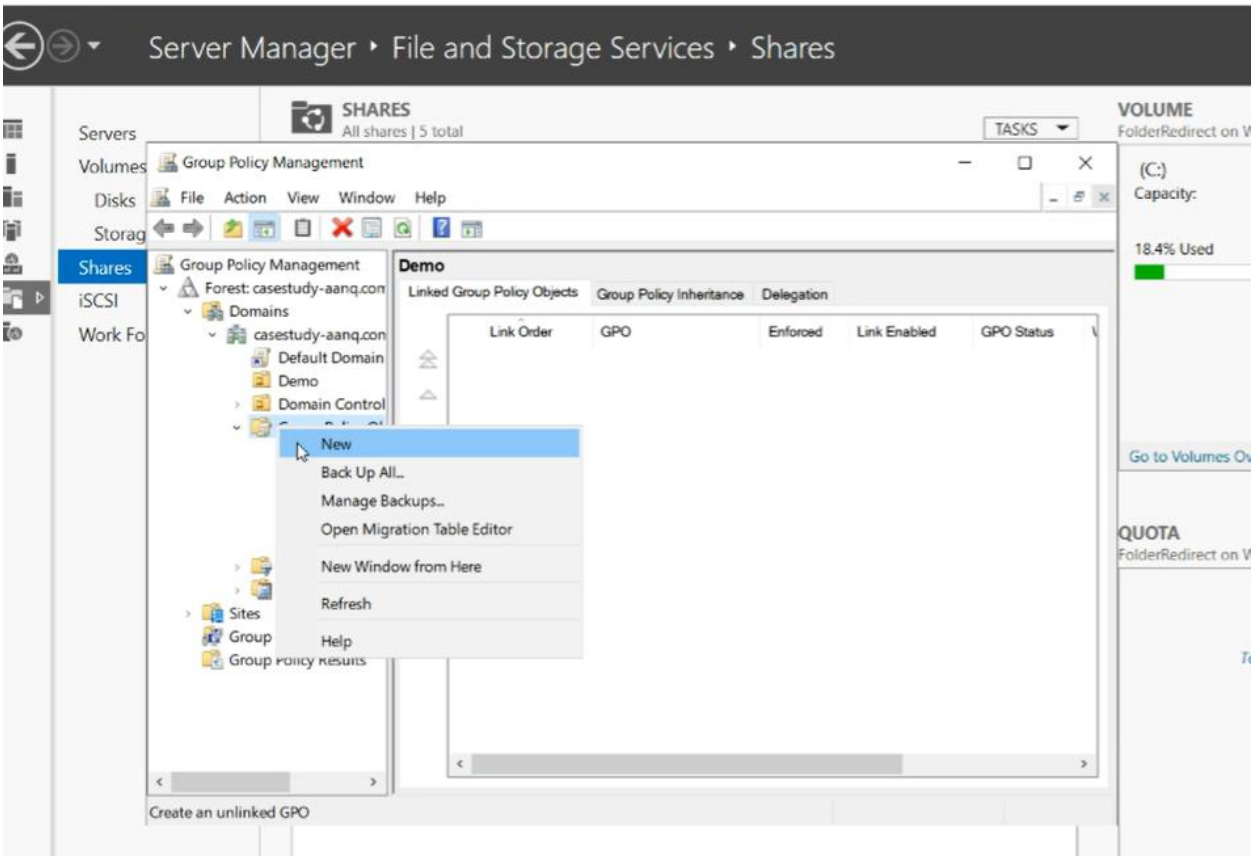

New Share Wizard
Specify permissions to
Select Profile
Share Location
Share Name
Other Settings
Permissions
Confirmation
Results
Advanced Security Settings for FolderRedirect
Name: C:\FolderRedirect
Owner: Administrators (CASESTUDY-AANQ\Administrators) Change
Permissions
Share
Auditing
Effective Access
For additional information, double-click a permission entry. To modify a permission entry, select the entry and click Edit (if available).
Permission entries:
Type Principal Access Inherited from Applies to
Allow SYSTEM Full control None This folder, subfolders and files
Allow Administrators (CASESTUDY-AA... Full control None This folder, subfolders and files
Allow CREATOR OWNER Full control None Subfolders and files only
Allow TestUsers (CASESTUDY-AANQ\Te... Special None This folder only
Add
Remove
Edit
Enable inheritance
Replace all child object permission entries with inheritable permission entries from this object
OK
Cancel
Apply
VOLUME
CaseStudy on WIN-PQA6NK6N481



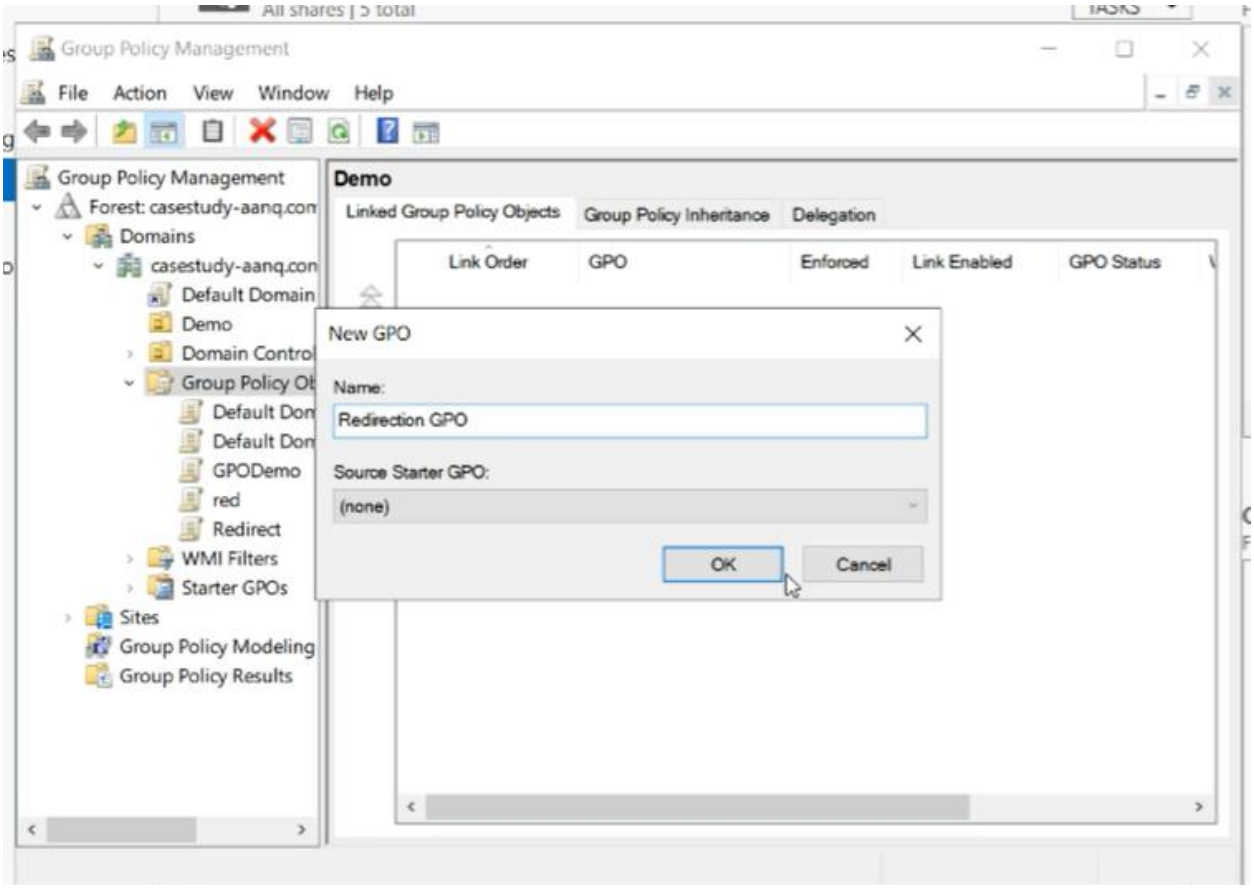
27. After the setup, go to the Active Directory Users and Computers.



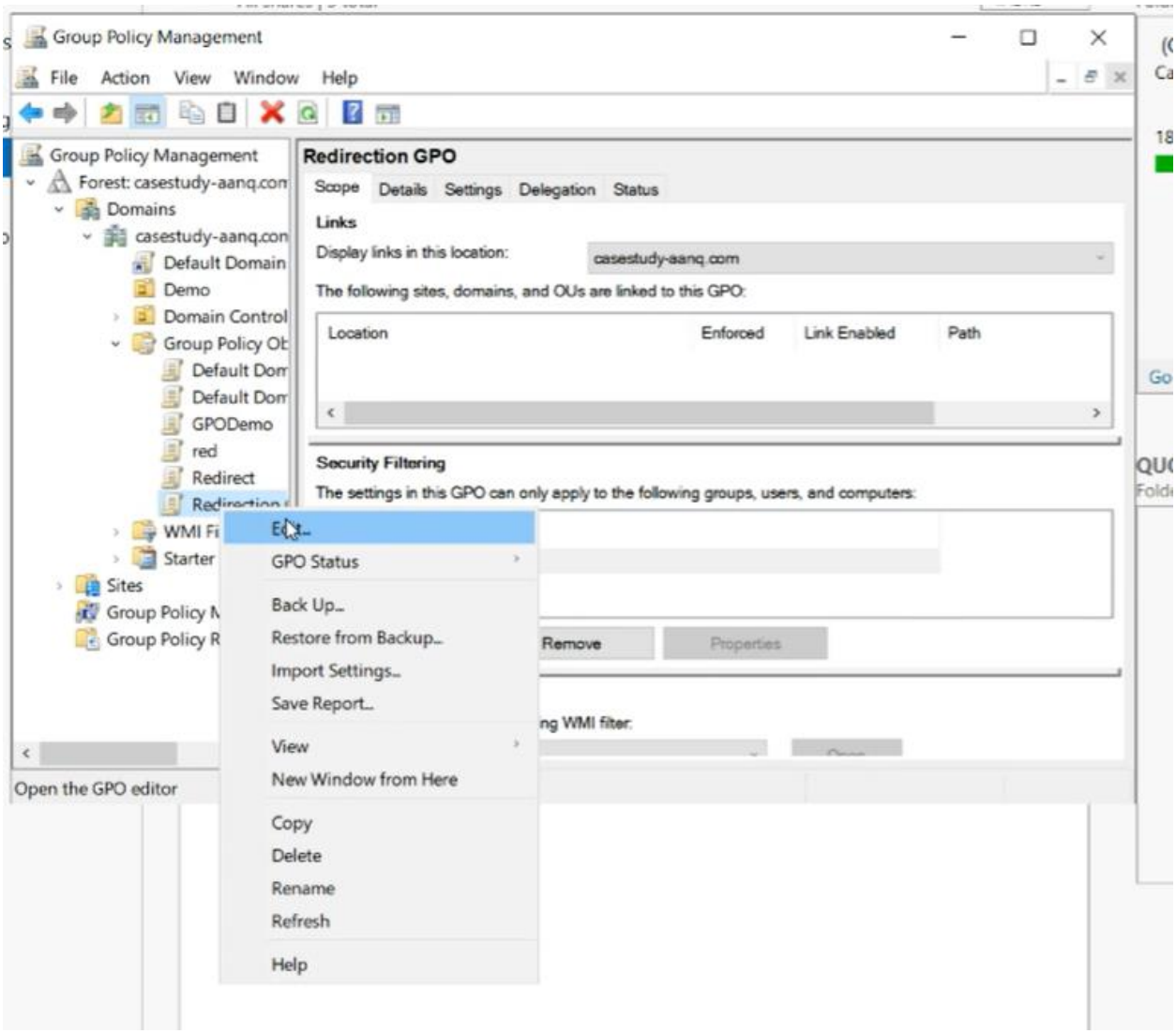
28. Create a new GPO by doing a right click to Group Policy Objects.



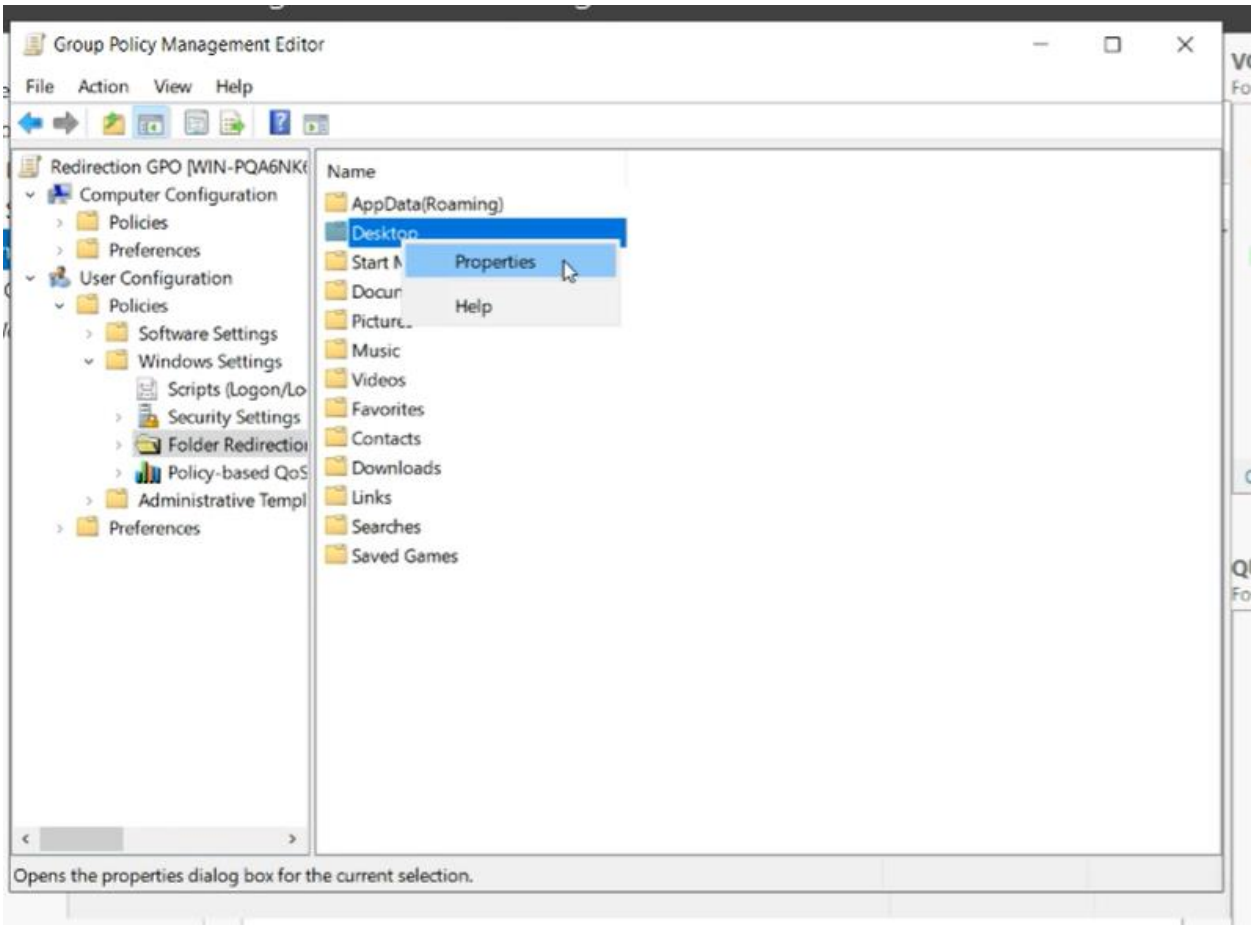
29. Provide the desired name of the new GPO.



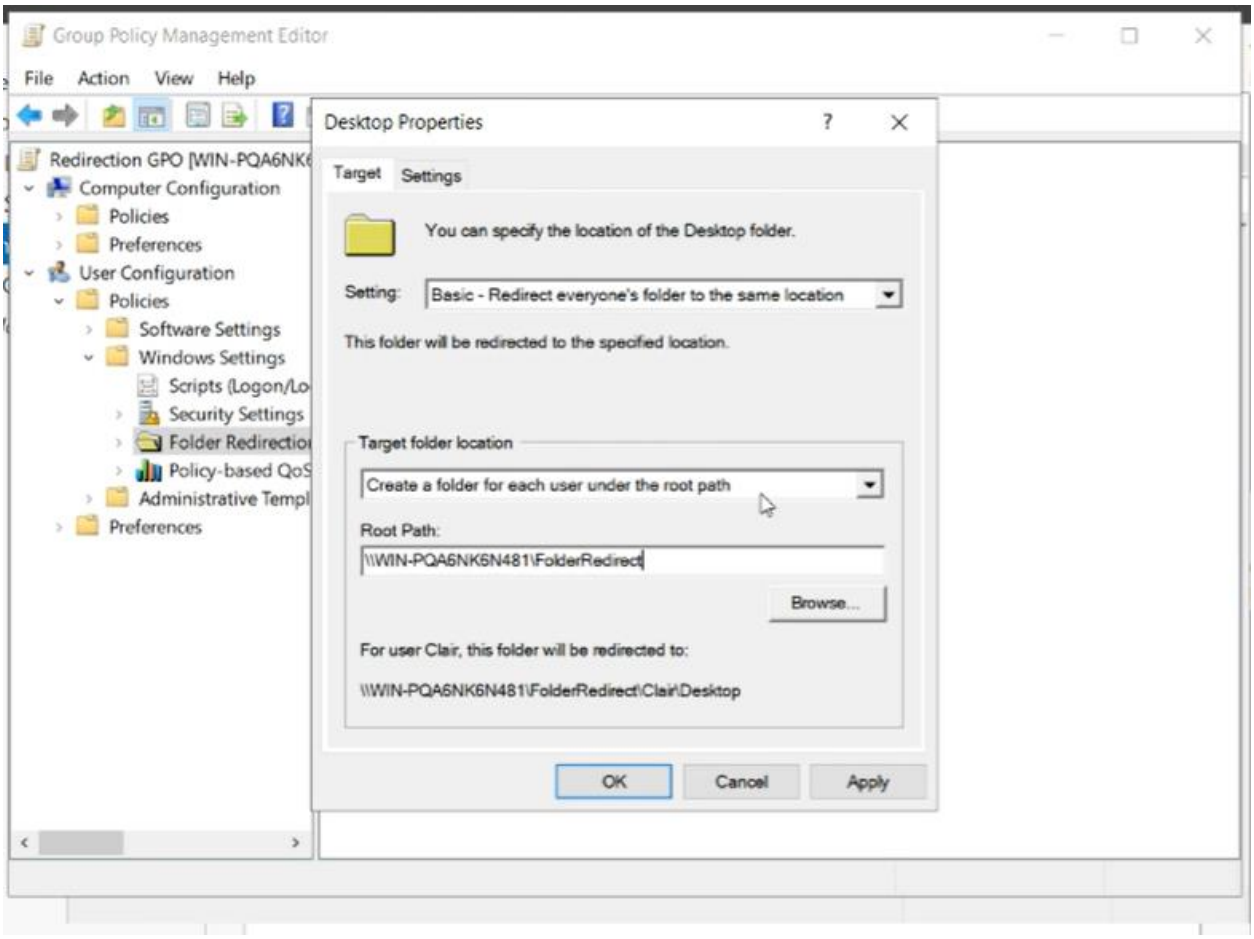
30. After the creation click edit.

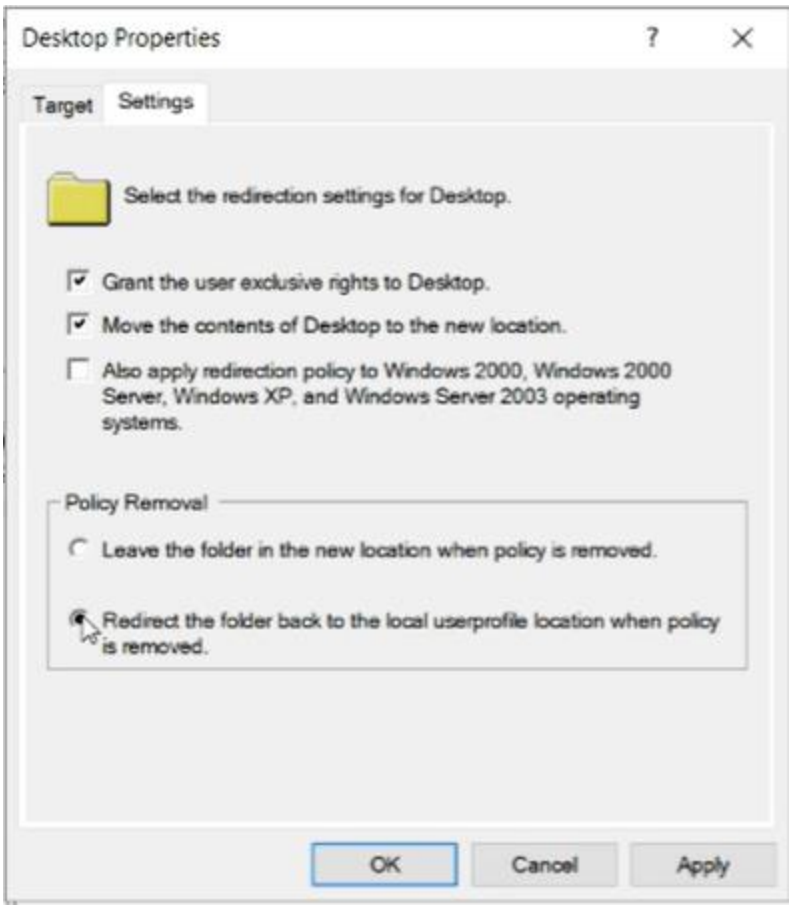


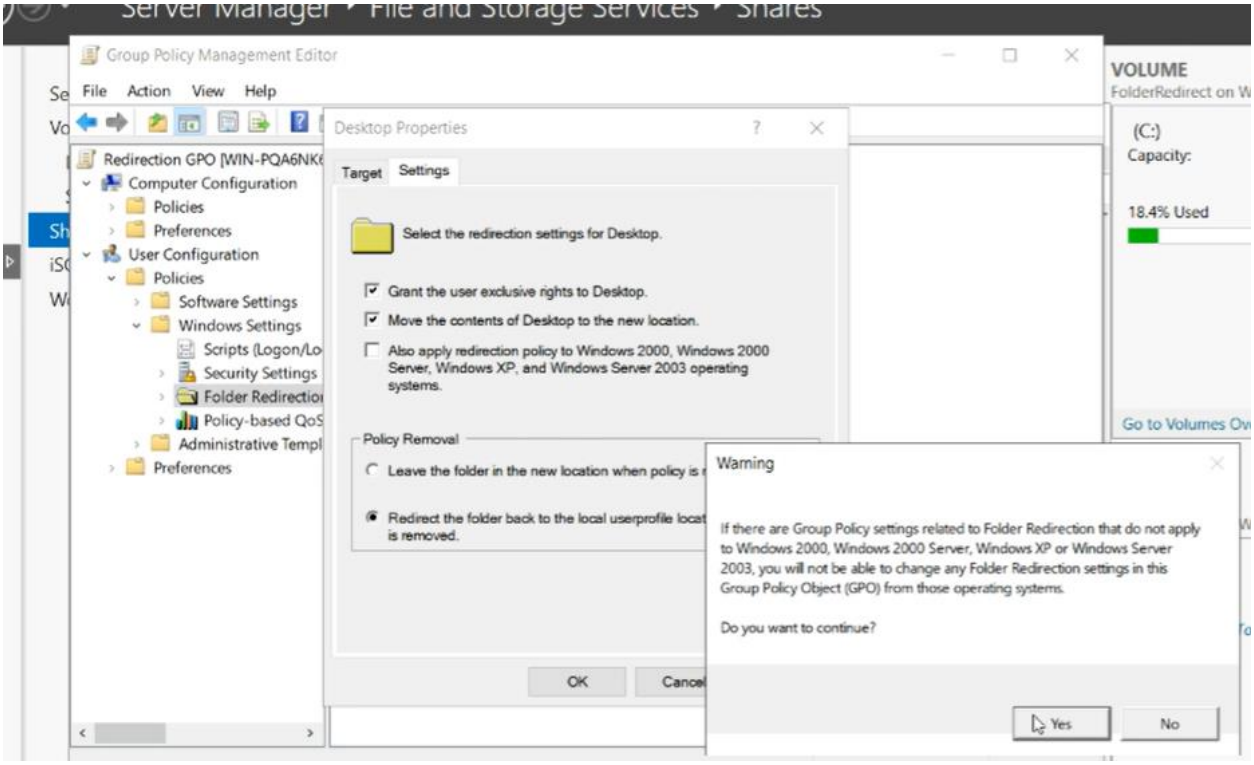
31. Then click the Desktop Properties.



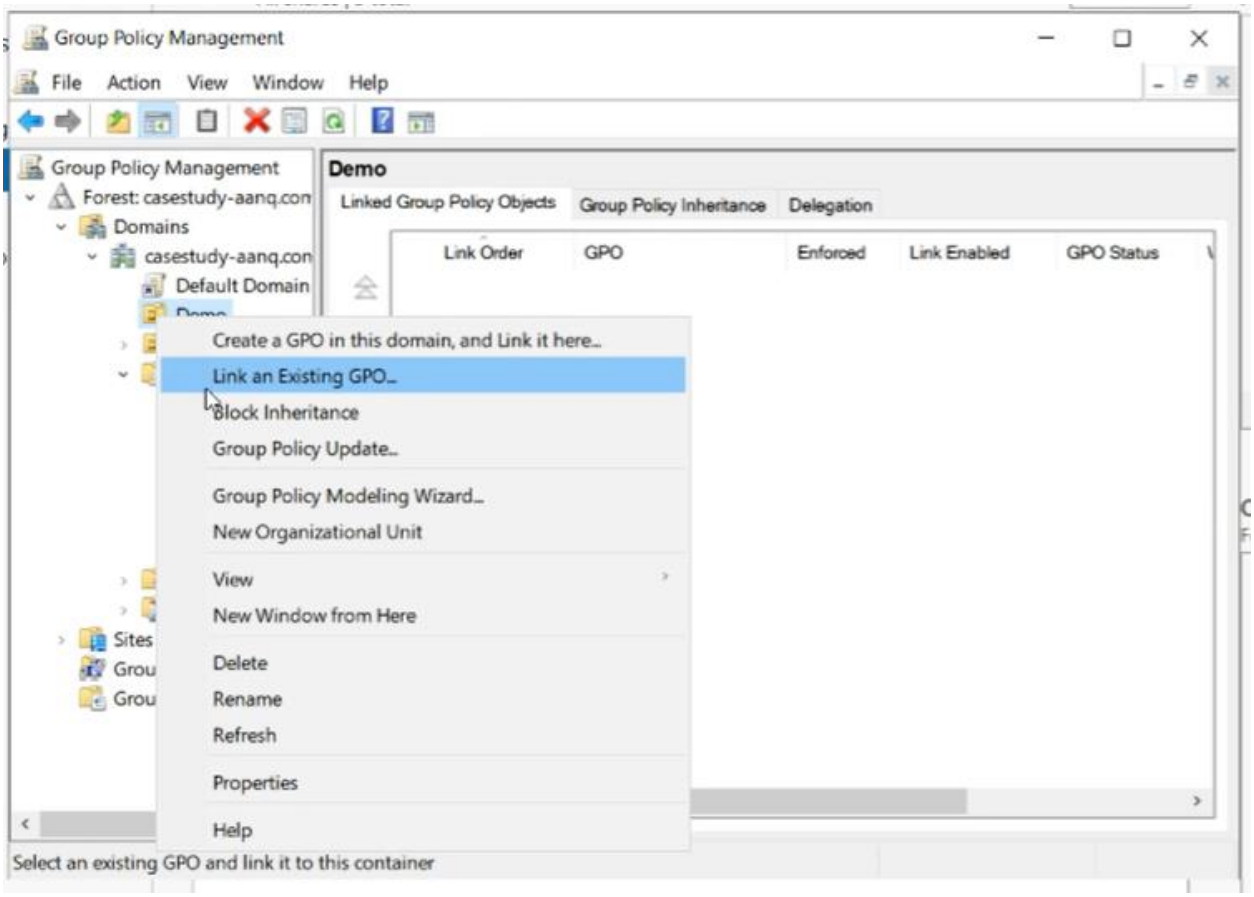
32. Apply the following setting in the setup.


Group Policy Management Editor
File Action View Help
Redirection GPO [WIN-PQA6NK6
Computer Configuration
Policies
Preferences
User Configuration
Policies
Software Settings
Windows Settings
Scripts (Logon/Lo
Security Settings
Folder Redirectio
Policy-based QoS
Administrative Templ
Preferences
Desktop Properties
Target
Settings
You can specify the location of the Desktop folder.
Setting:
Basic - Redirect everyone's folder to the same location
This folder will be redirected to the specified location.
Target folder location
Create a folder for each user under the root path
Root Path:
\\WIN-PQA6NK6N481\FolderRedirect
Browse...
For user Clair, this folder will be redirected to:
\\WIN-PQA6NK6N481\FolderRedirect\Clair\Desktop
OK
Cancel
Apply

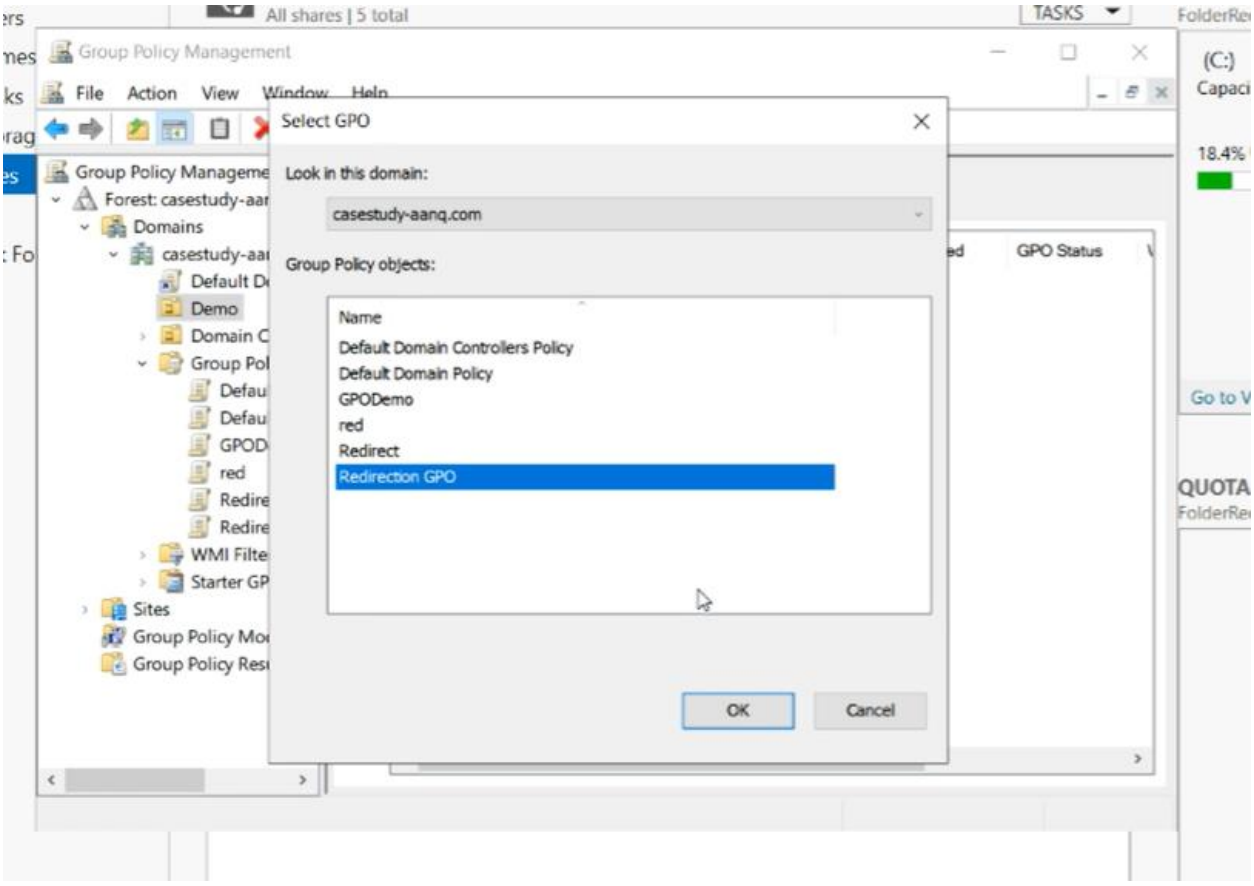

Desktop Properties
Target
Settings
Select the redirection settings for Desktop.
Grant the user exclusive rights to Desktop.
Move the contents of Desktop to the new location.
Also apply redirection policy to Windows 2000, Windows 2000 Server, Windows XP, and Windows Server 2003 operating systems.
Policy Removal
Leave the folder in the new location when policy is removed.
Redirect the folder back to the local userprofile location when policy is removed.
OK
Cancel
Apply


Server Manager
File and Storage Services
Shares
Group Policy Management Editor
File
Action
View
Help
Redirection GPO [WIN-PQA6NK
Computer Configuration
Policies
Preferences
User Configuration
Policies
Software Settings
Windows Settings
Scripts (Logon/Lo
Security Settings
Folder Redirectio
Policy-based QoS
Administrative Templ
Preferences
Desktop Properties
Target
Settings
Select the redirection settings for Desktop.
Grant the user exclusive rights to Desktop.
Move the contents of Desktop to the new location.
Also apply redirection policy to Windows 2000, Windows 2000 Server, Windows XP, and Windows Server 2003 operating systems.
Policy Removal
Leave the folder in the new location when policy is
Redirect the folder back to the local userprofile locat
is removed.
OK
Cancel
Warning
If there are Group Policy settings related to Folder Redirection that do not apply to Windows 2000, Windows 2000 Server, Windows XP or Windows Server 2003, you will not be able to change any Folder Redirection settings in this Group Policy Object (GPO) from those operating systems.
Do you want to continue?
Yes
No
VOLUME
FolderRedirect on W
(C:)
Capacity:
18.4% Used
Go to Volumes Ov

33. Right-click the Demo folder created in number 16 of this guide. Click link an Existing GPO.

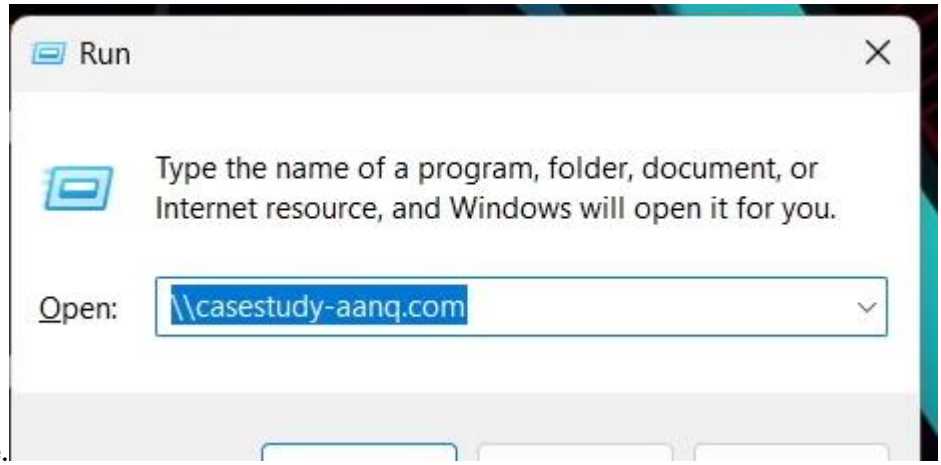


34. Select the newly created Redirection GPO.

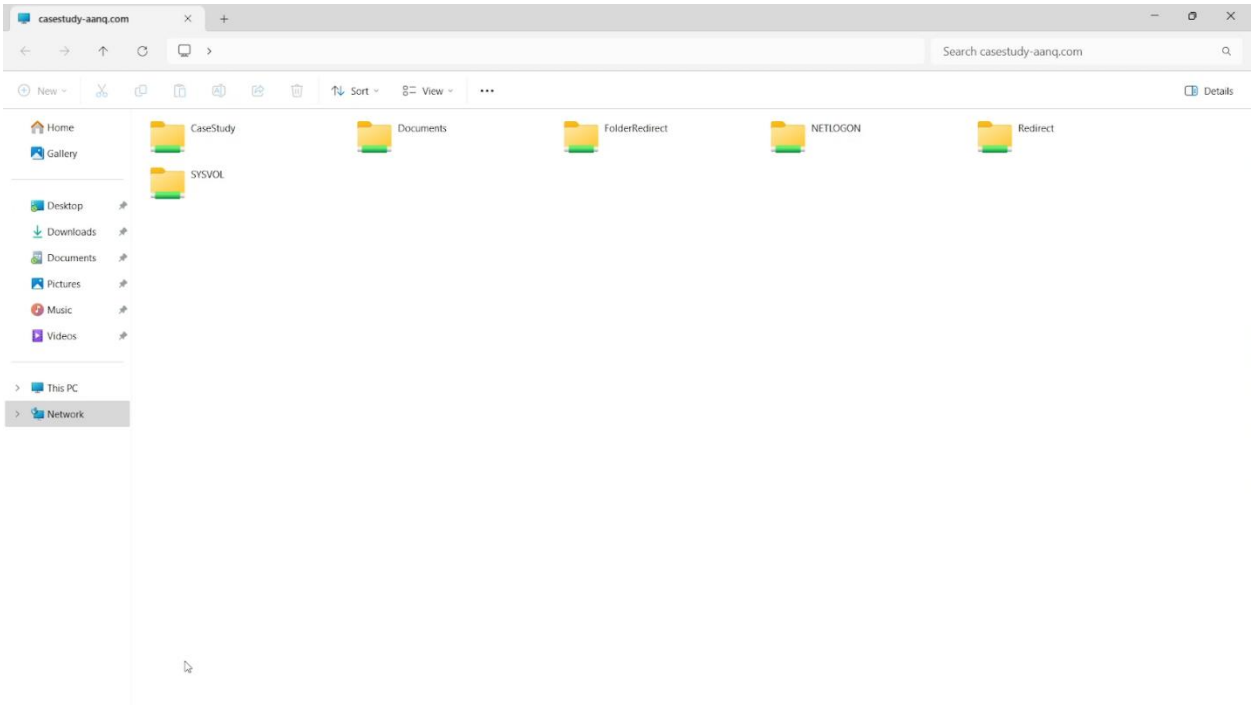


35. So far, the files that were created are CaseStudy folder for file sharing, and FolderRedirect for file redirection.

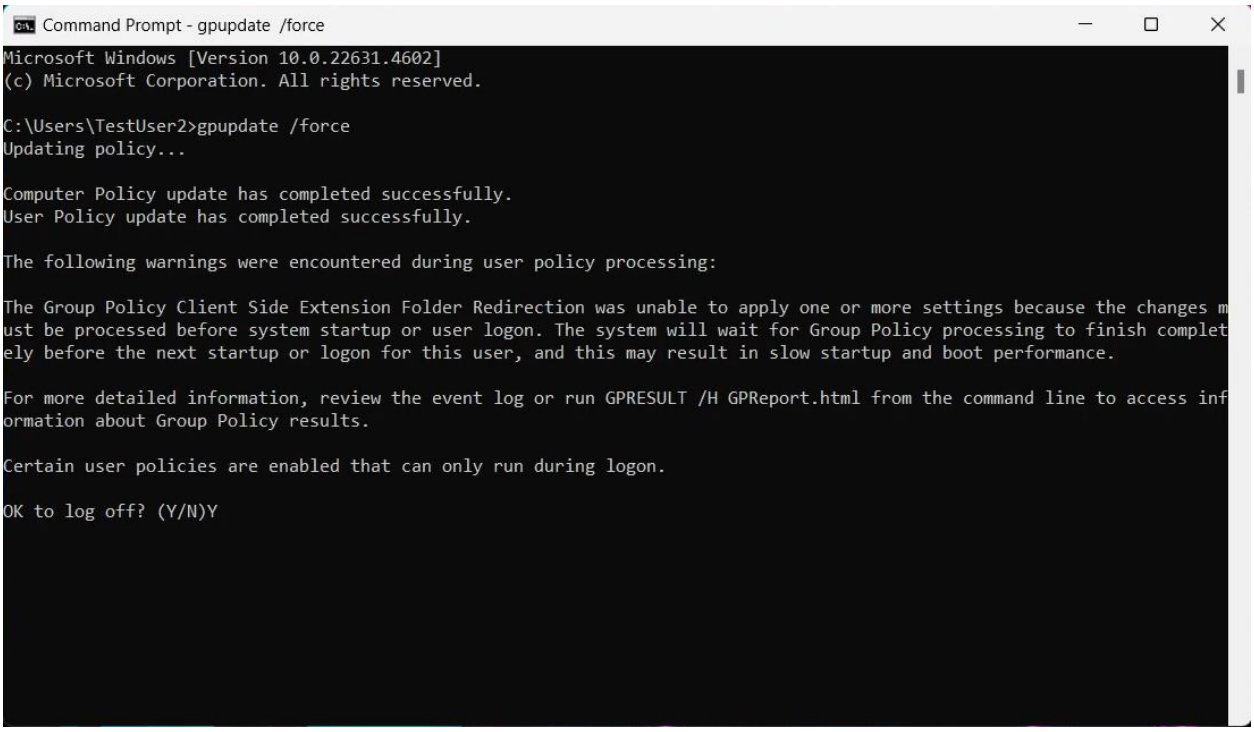
36. After joining the domain as one of its user, the client PC will restart and will be required to enter their credentials based on the domain. Once logged in, click Windows + R and type the domain name.



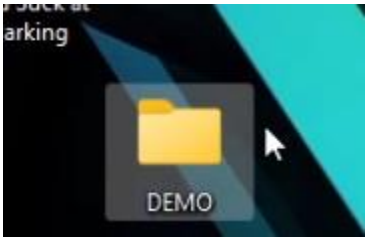
37. The physical client is now connected to the file explorer and its shared folders, specifically the CaseStudy folder.



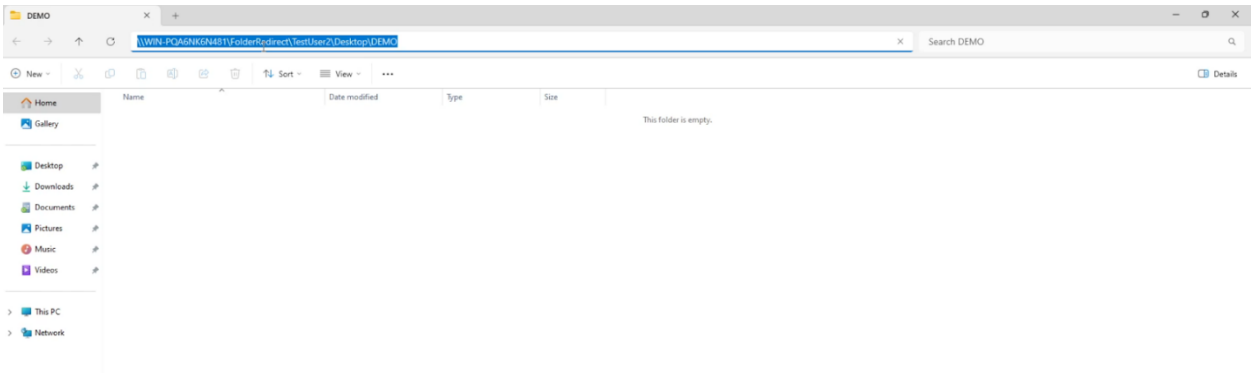
38. To apply the changes of the domain controller the user will enter the ‘gpupdate /force.’ Then the user will enter ‘Y’ to apply the changes, then the client PC will restart.



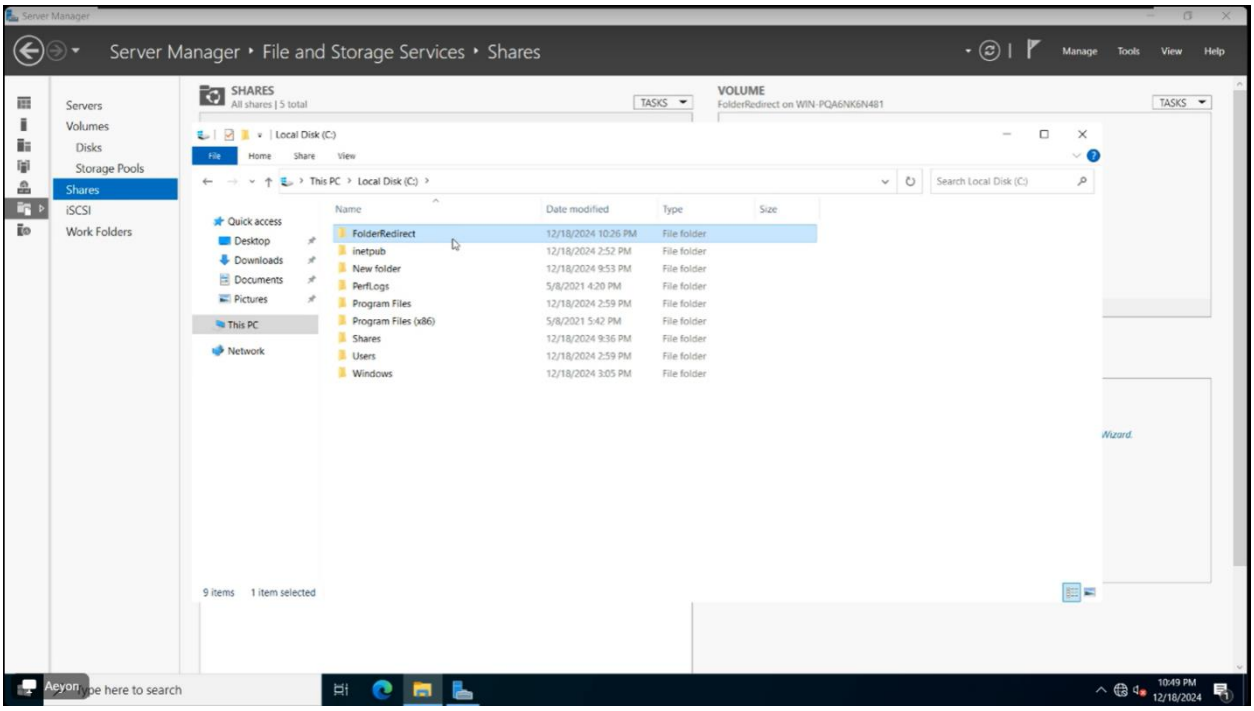
39. The user can create their folder. This time a ‘DEMO’ folder was created on the desktop.



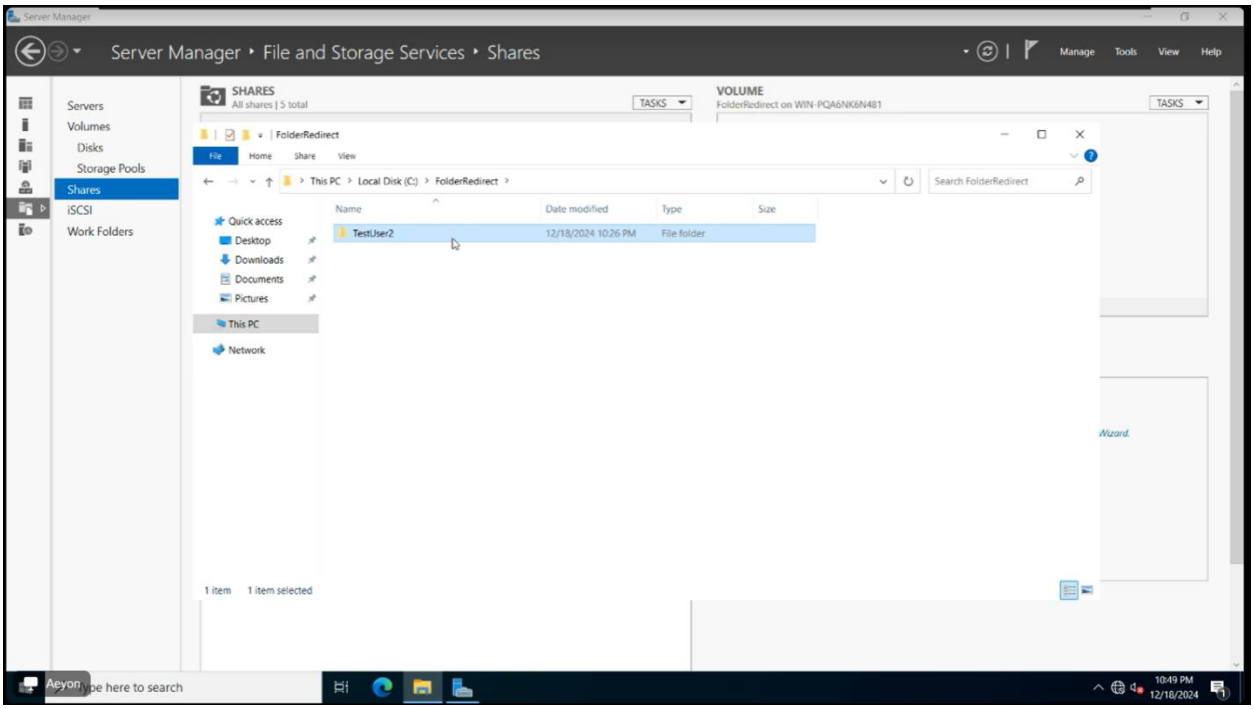
40. Open the folder and check the directory of that said folder to determine if the file redirection is functioning.



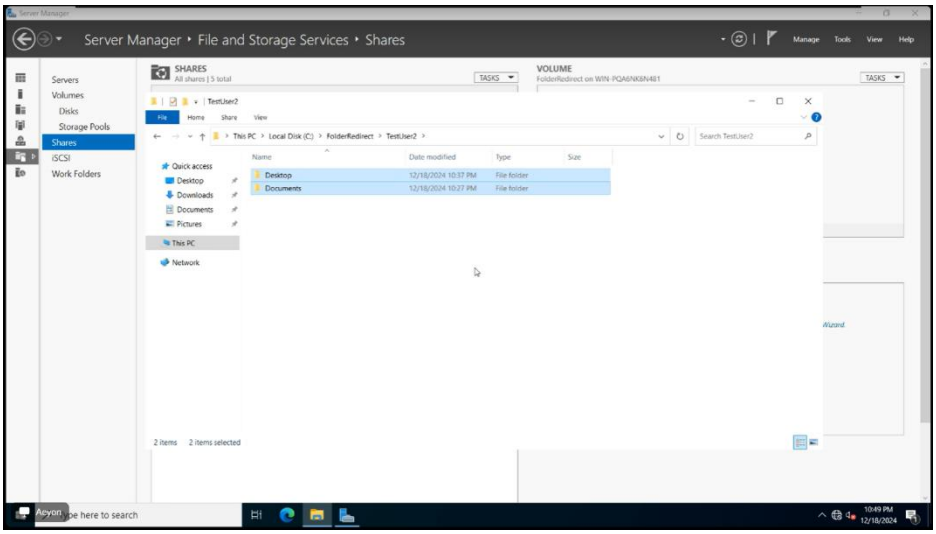
41. The domain controller can check the user's modifications.



42. As seen in the picture below, TestUser2 created their entry. That is the user that created the DEMO folder.

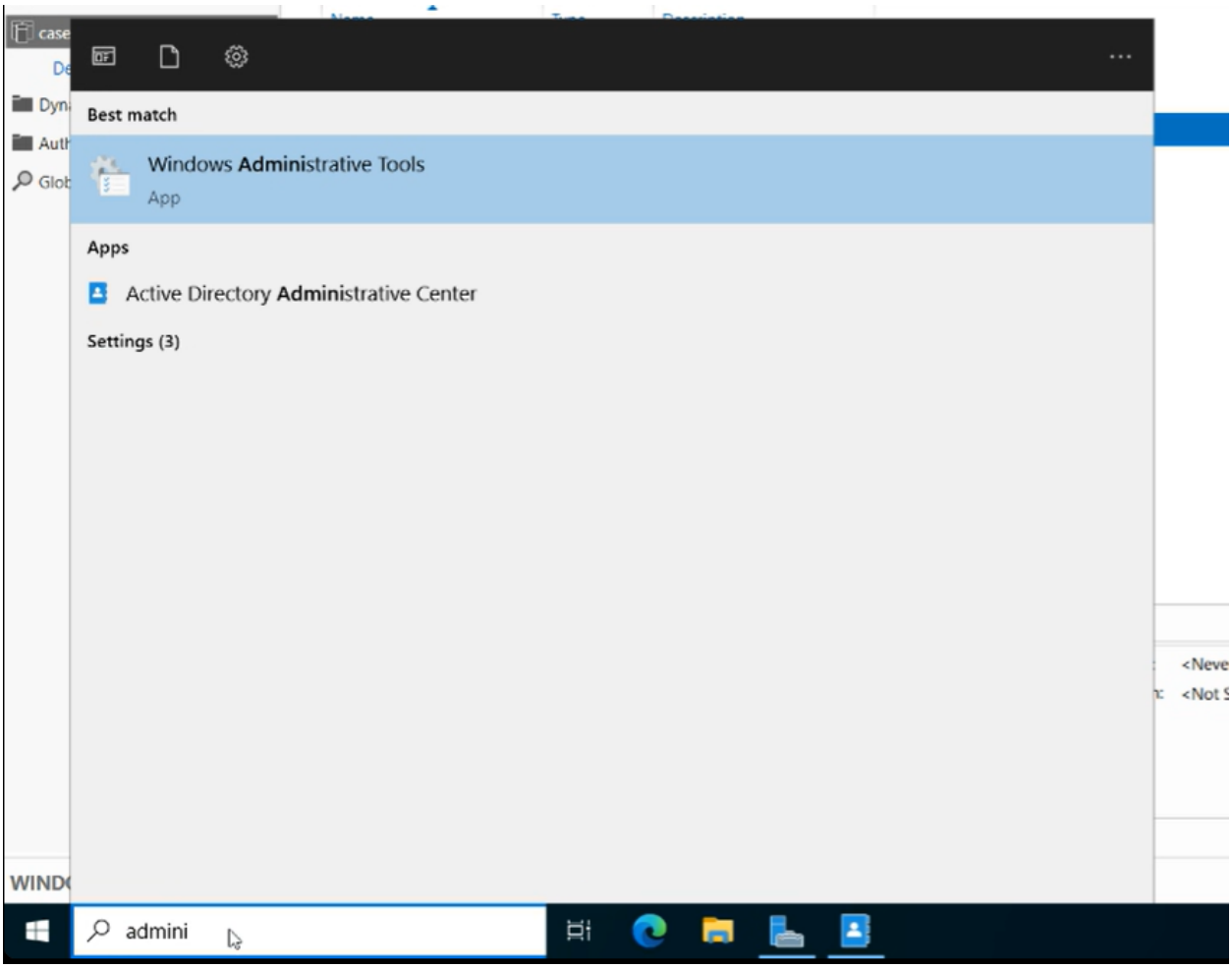


43. The picture below are the ares where the user created some modification/shared folder.

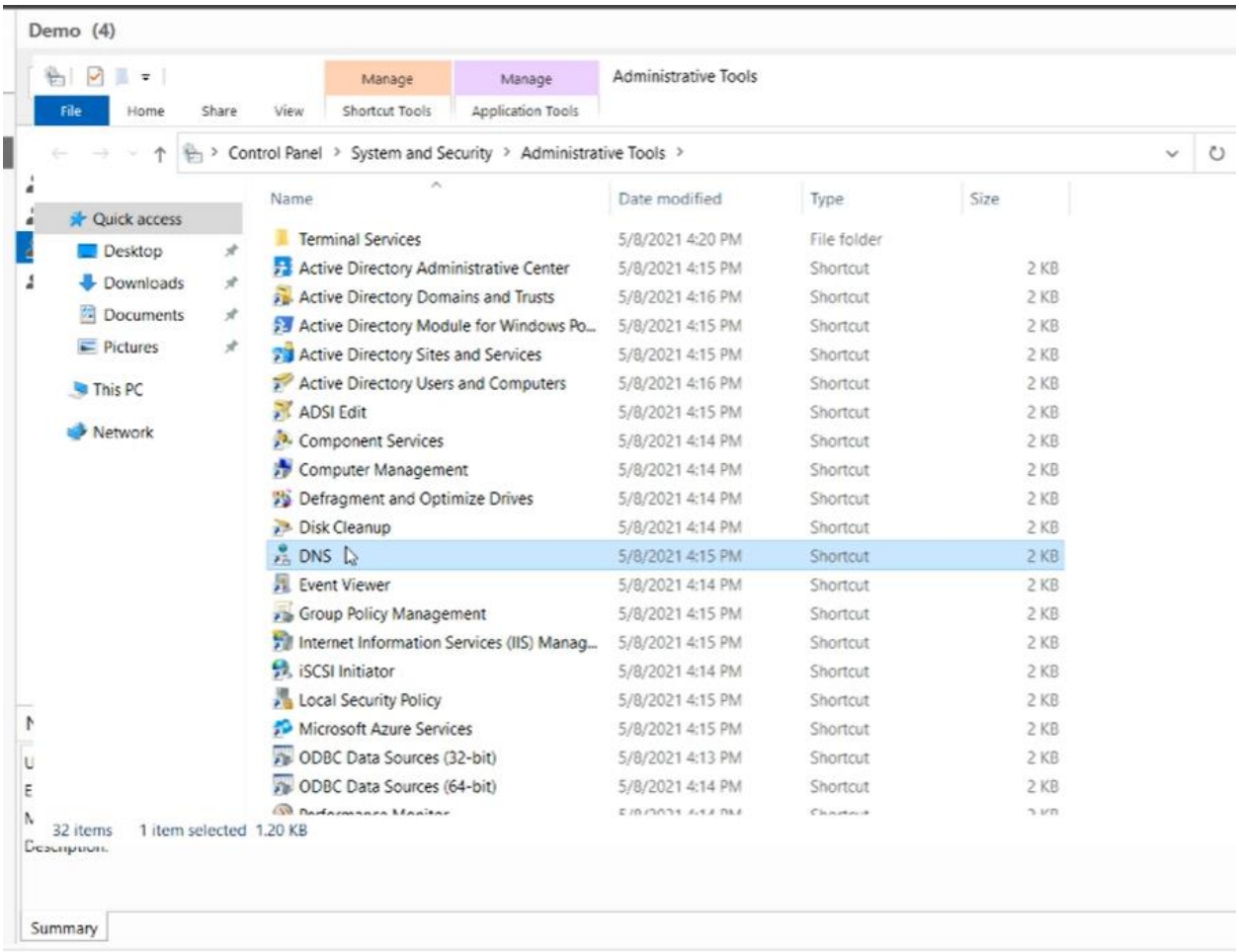


Configure the Web Server using IIS.

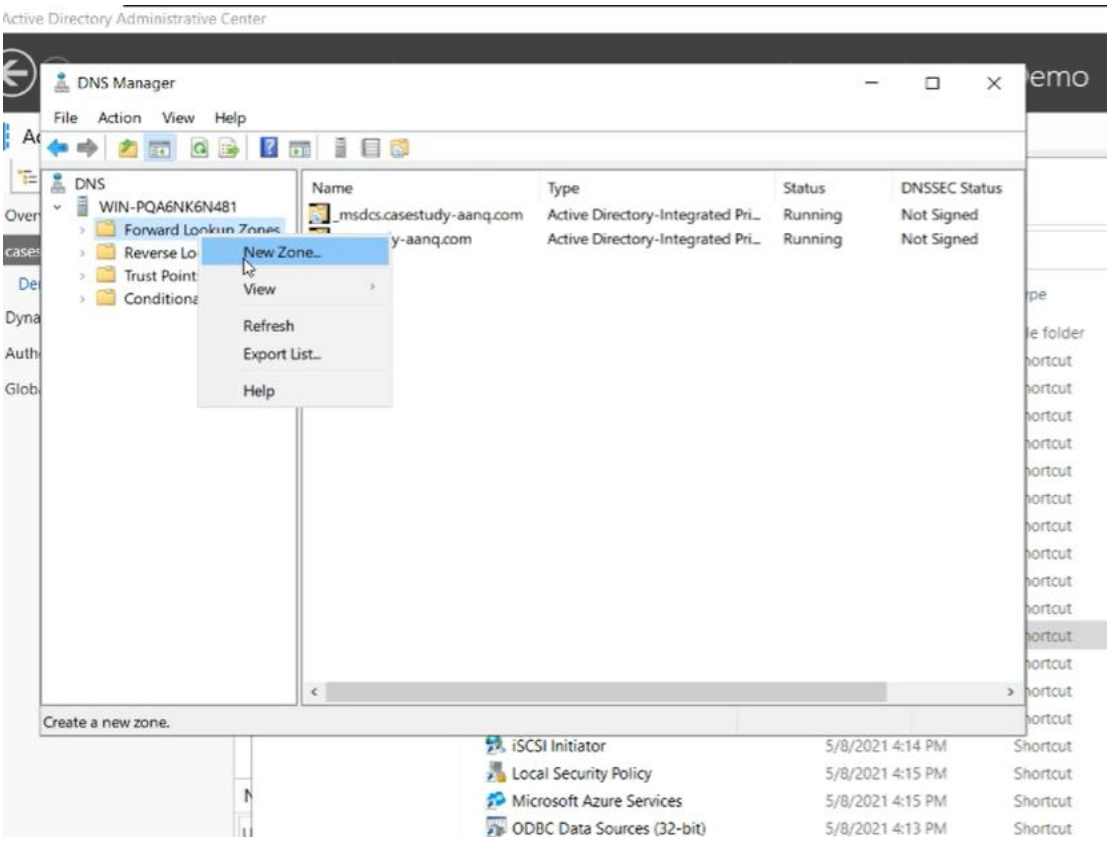
44. Before configuring the IIS, the domain controller must establish its DNS.

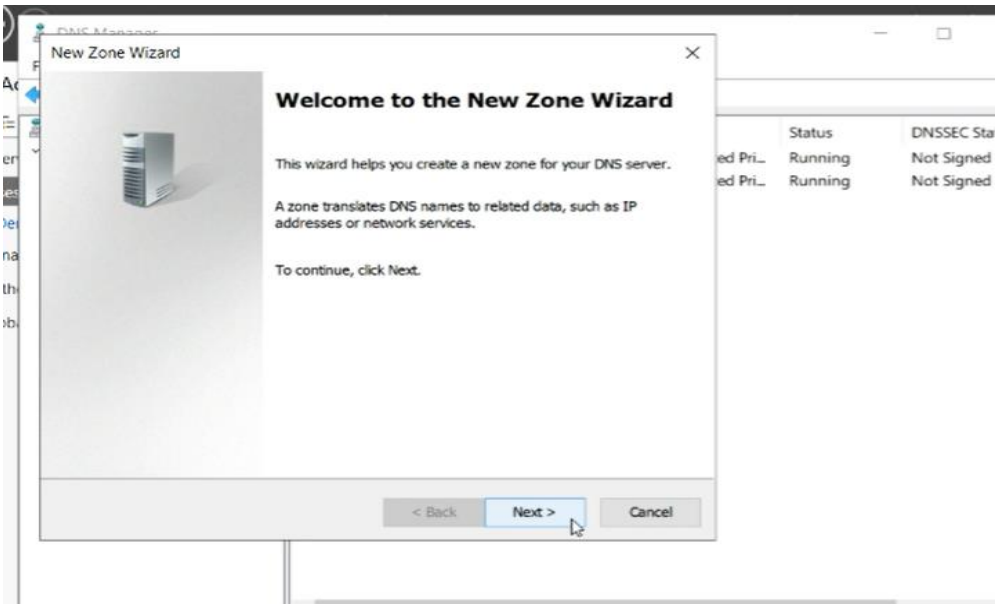


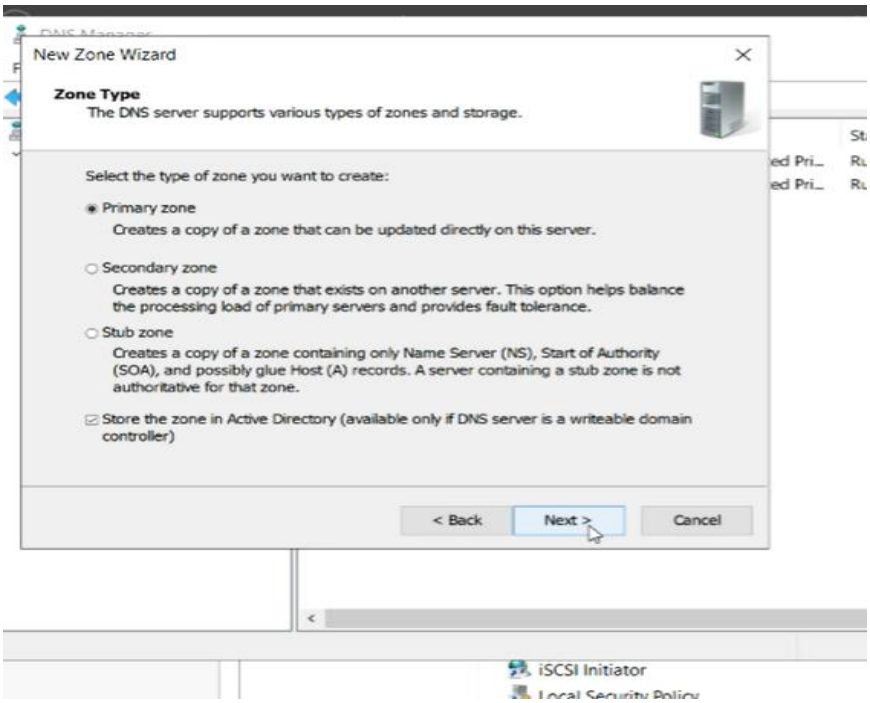
45. The guide below will show the setup needed to do for the DNS.

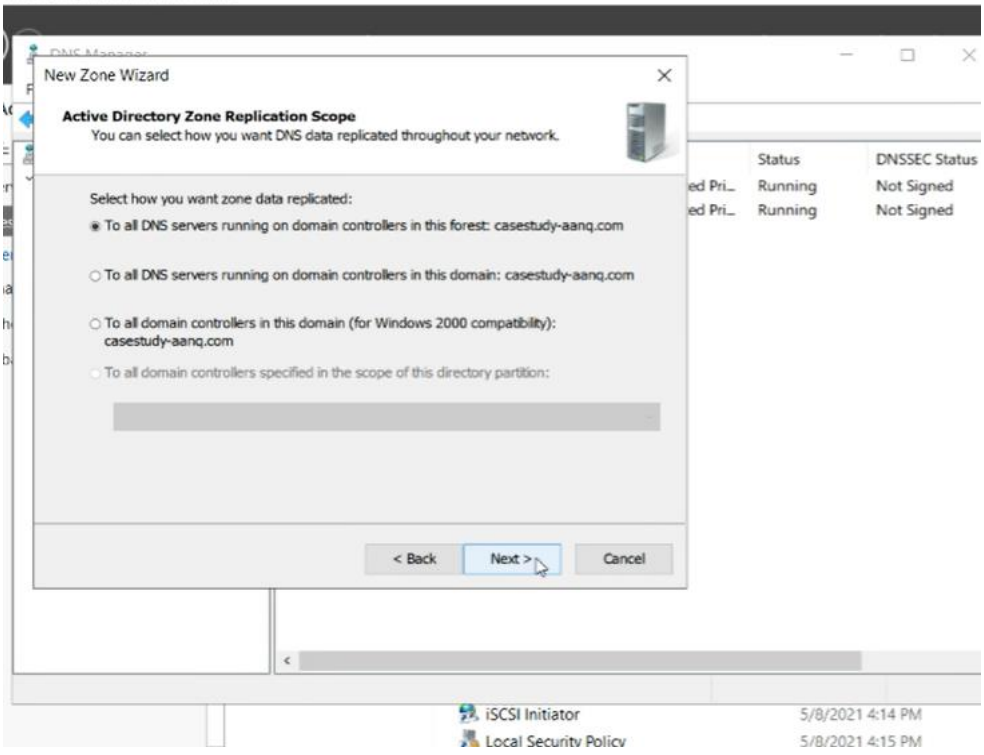

Demo (4)
Manage
Manage
Administrative Tools
File
Home
Share
View
Shortcut Tools
Application Tools
Control Panel > System and Security > Administrative Tools >
Quick access
Desktop
Downloads
Documents
Pictures
This PC
Network
Name
Date modified
Type
Size
Terminal Services 5/8/2021 4:20 PM File folder
Active Directory Administrative Center 5/8/2021 4:15 PM Shortcut 2 KB
Active Directory Domains and Trusts 5/8/2021 4:16 PM Shortcut 2 KB
Active Directory Module for Windows Po... 5/8/2021 4:15 PM Shortcut 2 KB
Active Directory Sites and Services 5/8/2021 4:15 PM Shortcut 2 KB
Active Directory Users and Computers 5/8/2021 4:16 PM Shortcut 2 KB
ADSI Edit 5/8/2021 4:15 PM Shortcut 2 KB
Component Services 5/8/2021 4:14 PM Shortcut 2 KB
Computer Management 5/8/2021 4:14 PM Shortcut 2 KB
Defragment and Optimize Drives 5/8/2021 4:14 PM Shortcut 2 KB
Disk Cleanup 5/8/2021 4:14 PM Shortcut 2 KB
DNS 5/8/2021 4:15 PM Shortcut 2 KB
Event Viewer 5/8/2021 4:14 PM Shortcut 2 KB
Group Policy Management 5/8/2021 4:15 PM Shortcut 2 KB
Internet Information Services (IIS) Manag... 5/8/2021 4:15 PM Shortcut 2 KB
iSCSI Initiator 5/8/2021 4:14 PM Shortcut 2 KB
Local Security Policy 5/8/2021 4:15 PM Shortcut 2 KB
Microsoft Azure Services 5/8/2021 4:15 PM Shortcut 2 KB
ODBC Data Sources (32-bit) 5/8/2021 4:13 PM Shortcut 2 KB
ODBC Data Sources (64-bit) 5/8/2021 4:14 PM Shortcut 2 KB
32 items 1 item selected 1.20 KB
Summary

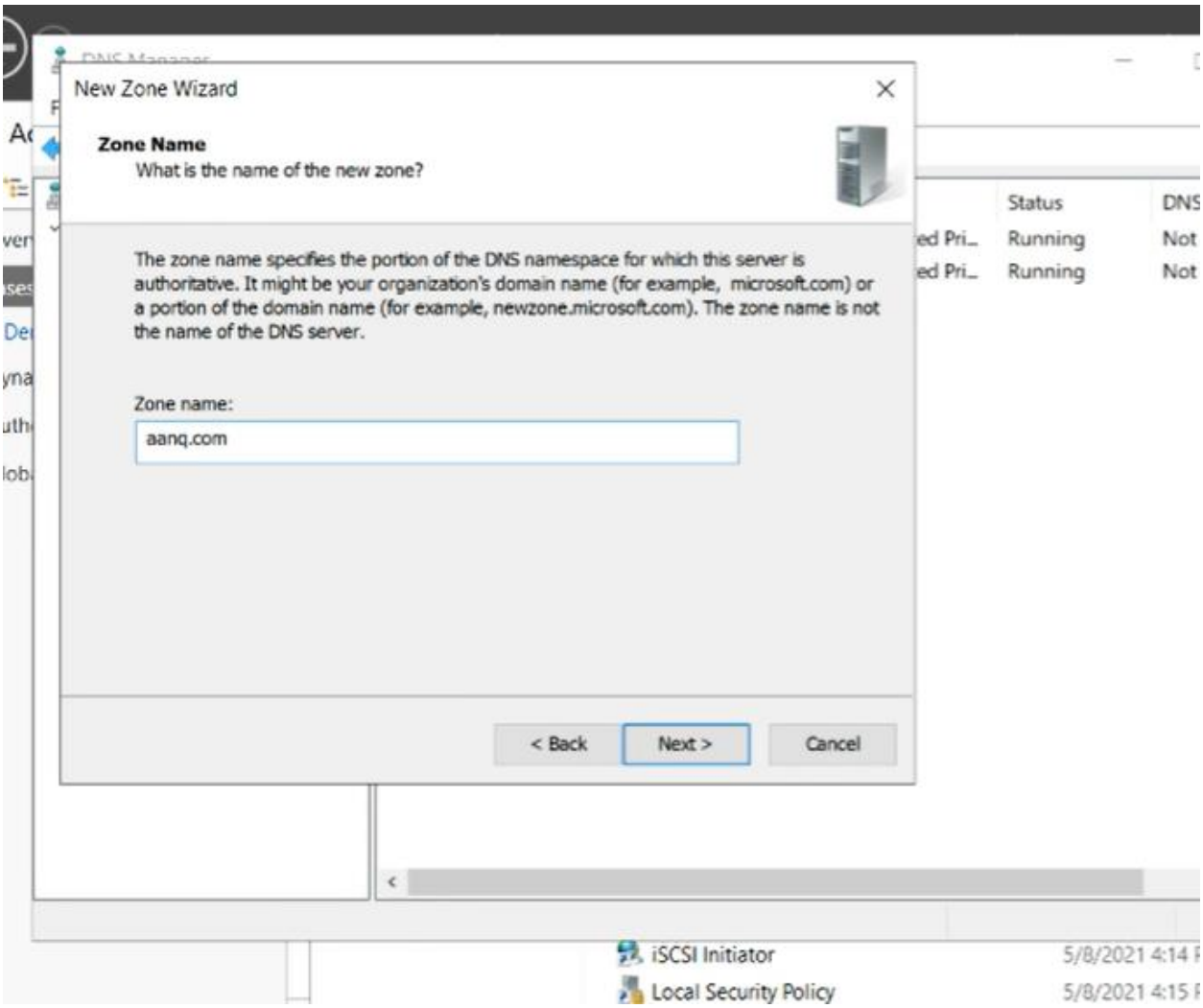
STORY

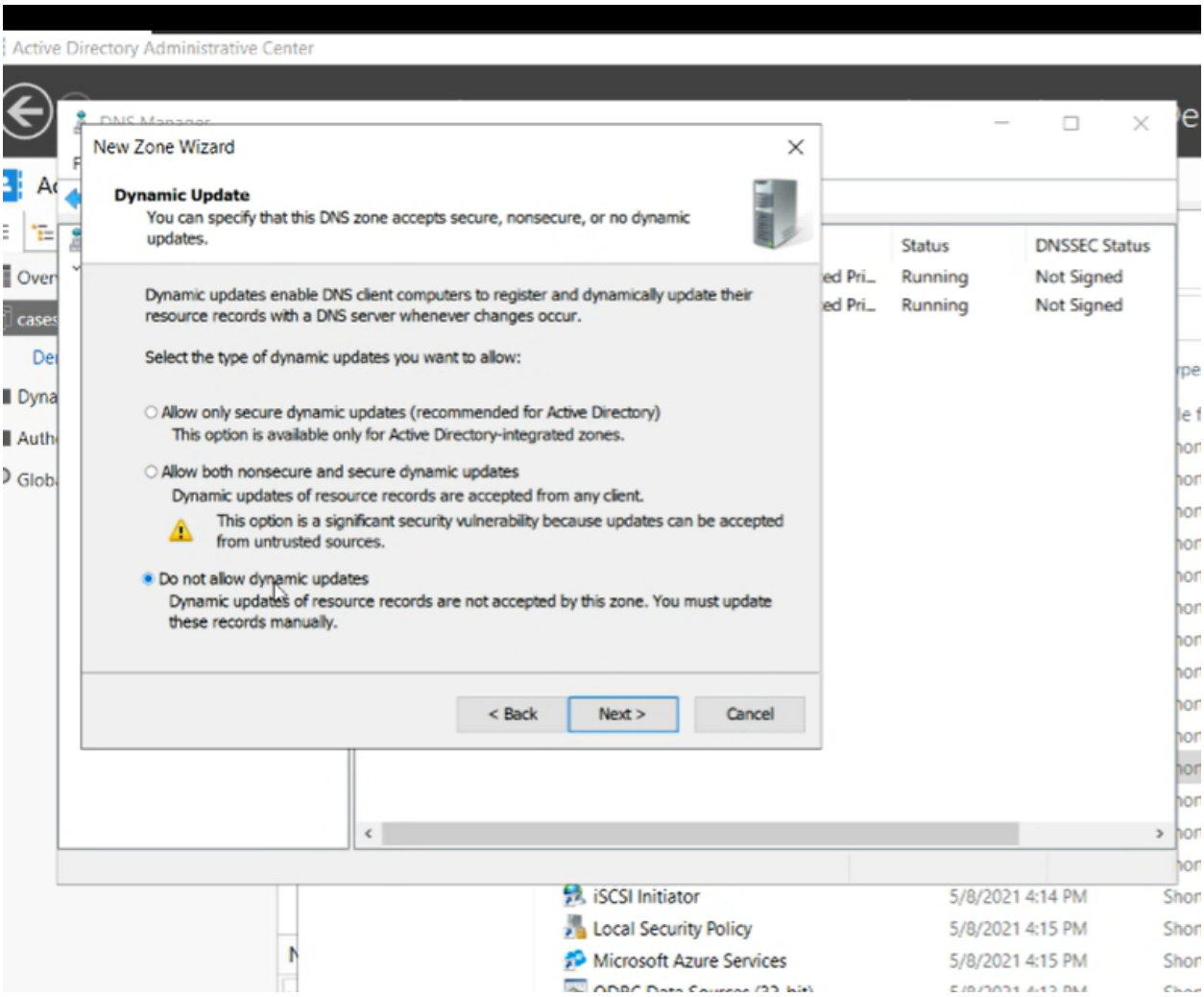

Active Directory Administrative Center
DNS Manager
File Action View Help
DNS
WIN-PQA6NK6N481
Forward Lookup Zones
Reverse Lo
Trust Point
Conditiona
New Zone...
View
Refresh
Export List...
Help
Name
Type
Status
DNSSEC Status
_msdcs.casestudy-aanq.com
Active Directory-Integrated Pri...
Running
Not Signed
y-aanq.com
Active Directory-Integrated Pri...
Running
Not Signed
Create a new zone.
iSCSI Initiator 5/8/2021 4:14 PM Shortcut
Local Security Policy 5/8/2021 4:15 PM Shortcut
Microsoft Azure Services 5/8/2021 4:15 PM Shortcut
ODBC Data Sources (32-bit) 5/8/2021 4:13 PM Shortcut

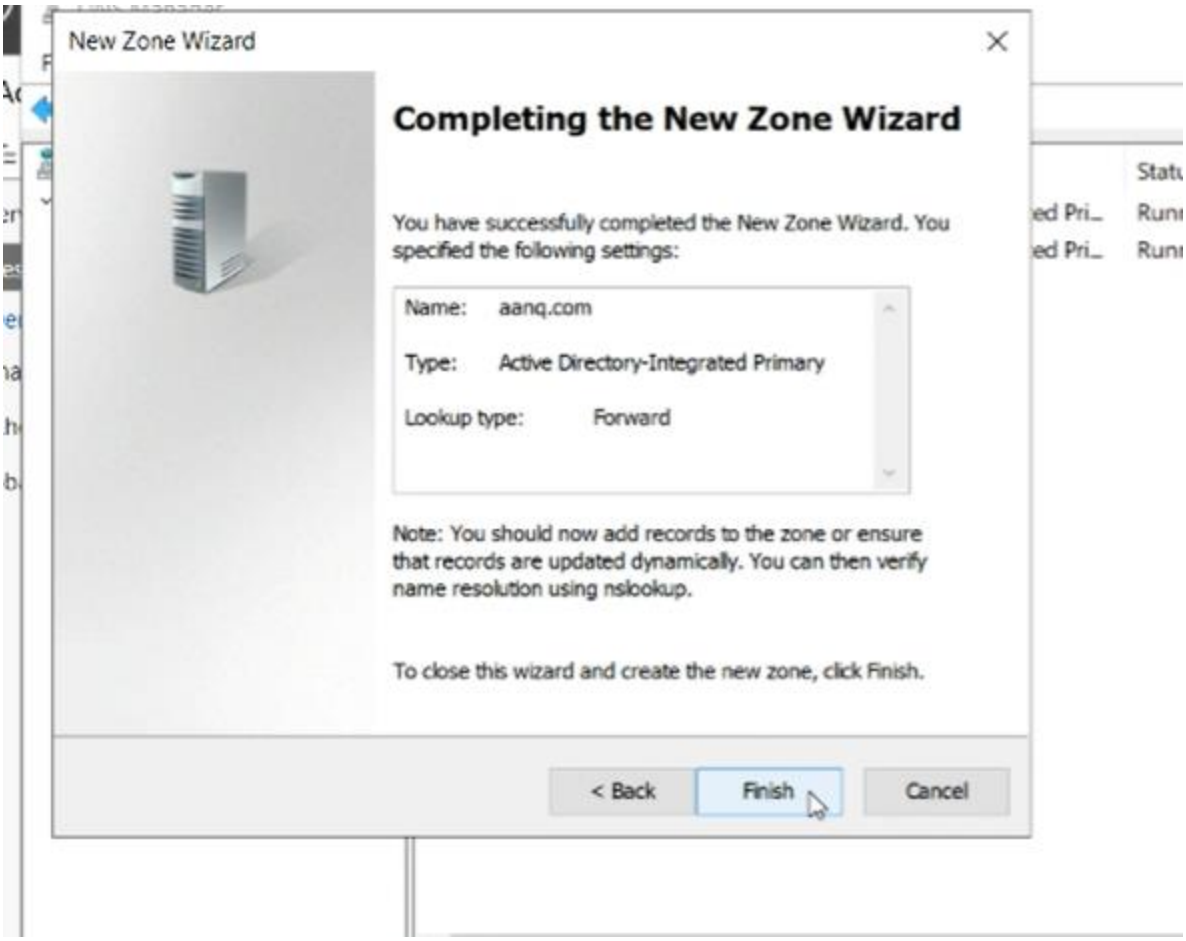

New Zone Wizard
Welcome to the New Zone Wizard
This wizard helps you create a new zone for your DNS server.
A zone translates DNS names to related data, such as IP addresses or network services.
To continue, click Next.
< Back
Next >
Cancel
Status
DNSSEC Sta
Running
Not Signed
Running
Not Signed

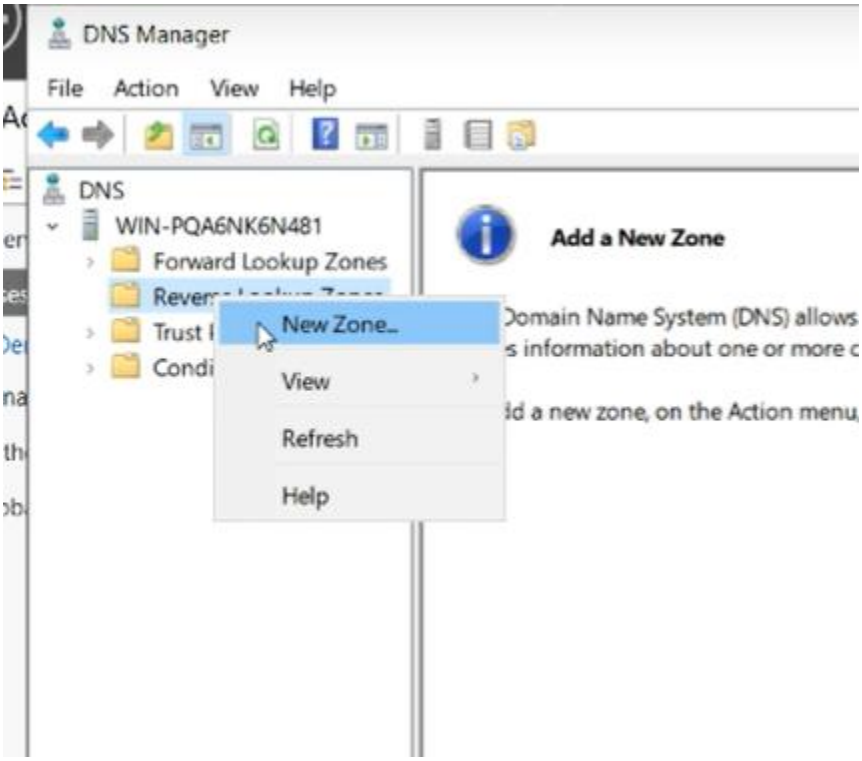

New Zone Wizard
Zone Type
The DNS server supports various types of zones and storage.
Select the type of zone you want to create:
Primary zone
Creates a copy of a zone that can be updated directly on this server.
Secondary zone
Creates a copy of a zone that exists on another server. This option helps balance the processing load of primary servers and provides fault tolerance.
Stub zone
Creates a copy of a zone containing only Name Server (NS), Start of Authority (SOA), and possibly glue Host (A) records. A server containing a stub zone is not authoritative for that zone.
Store the zone in Active Directory (available only if DNS server is a writeable domain controller)
< Back
Next >
Cancel
iSCSI Initiator


New Zone Wizard
Active Directory Zone Replication Scope
You can select how you want DNS data replicated throughout your network.
Select how you want zone data replicated:
To all DNS servers running on domain controllers in this forest: casestudy-aanq.com
To all DNS servers running on domain controllers in this domain: casestudy-aanq.com
To all domain controllers in this domain (for Windows 2000 compatibility): casestudy-aanq.com
To all domain controllers specified in the scope of this directory partition:
< Back
Next >
Cancel
Status
DNSSEC Status
Running
Not Signed
Running
Not Signed
iSCSI Initiator
5/8/2021 4:14 PM
Local Security Policy
5/8/2021 4:15 PM

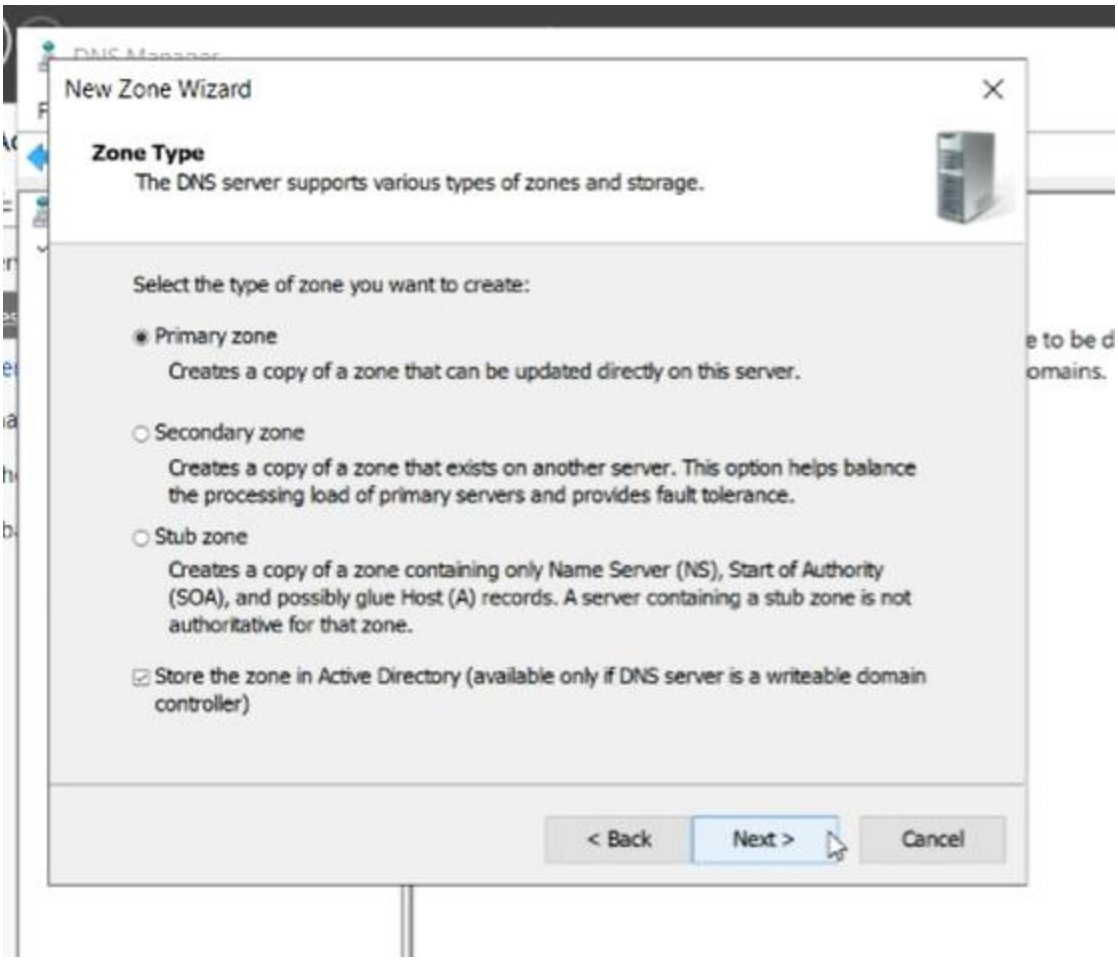

New Zone Wizard
Zone Name
What is the name of the new zone?
The zone name specifies the portion of the DNS namespace for which this server is authoritative. It might be your organization's domain name (for example, microsoft.com) or a portion of the domain name (for example, newzone.microsoft.com). The zone name is not the name of the DNS server.
Zone name:
aanq.com
< Back
Next >
Cancel
Status
Running
Running
iSCSI Initiator
Local Security Policy

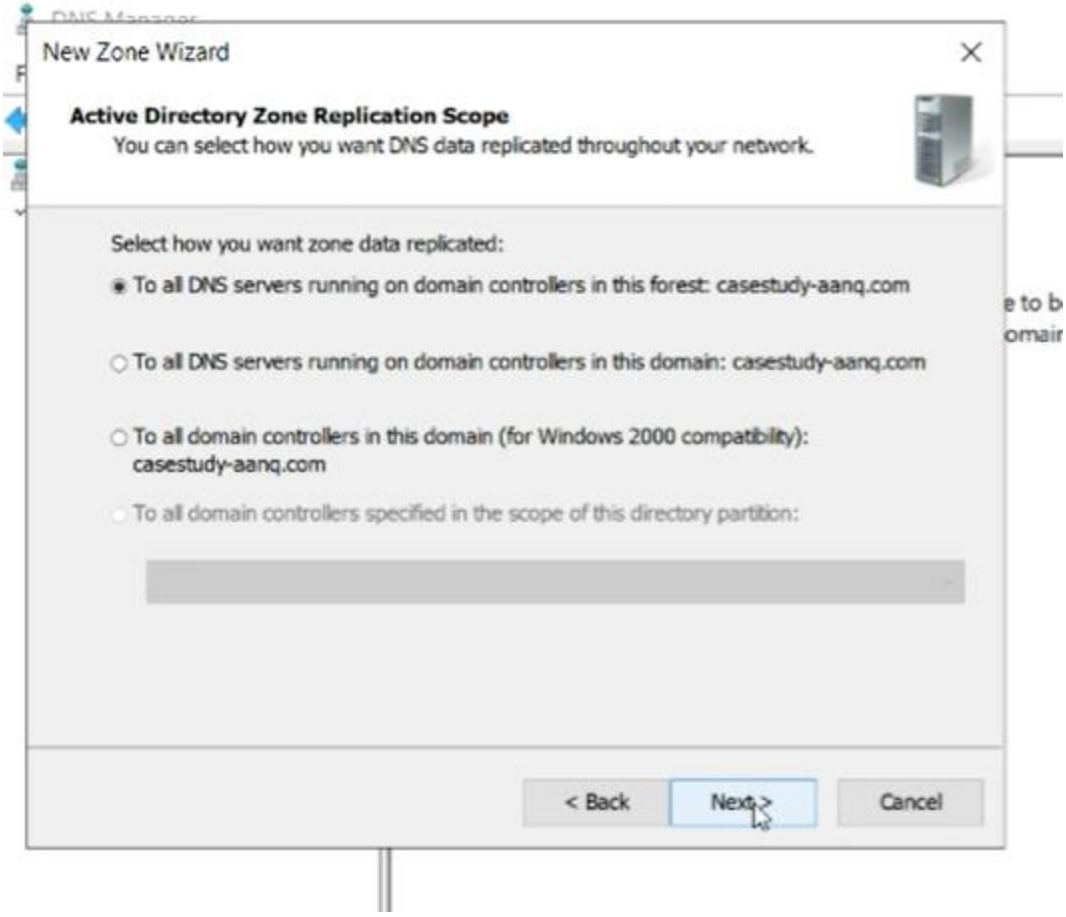

Active Directory Administrative Center
New Zone Wizard
Dynamic Update
You can specify that this DNS zone accepts secure, nonsecure, or no dynamic updates.
Dynamic updates enable DNS client computers to register and dynamically update their resource records with a DNS server whenever changes occur.
Select the type of dynamic updates you want to allow:
Allow only secure dynamic updates (recommended for Active Directory)
This option is available only for Active Directory-integrated zones.
Allow both nonsecure and secure dynamic updates
Dynamic updates of resource records are accepted from any client.
This option is a significant security vulnerability because updates can be accepted from untrusted sources.
Do not allow dynamic updates
Dynamic updates of resource records are not accepted by this zone. You must update these records manually.
< Back
Next >
Cancel
Status
DNSSEC Status
Running
Not Signed
Running
Not Signed
iSCSI Initiator
5/8/2021 4:14 PM
Local Security Policy
5/8/2021 4:15 PM
Microsoft Azure Services
5/8/2021 4:15 PM

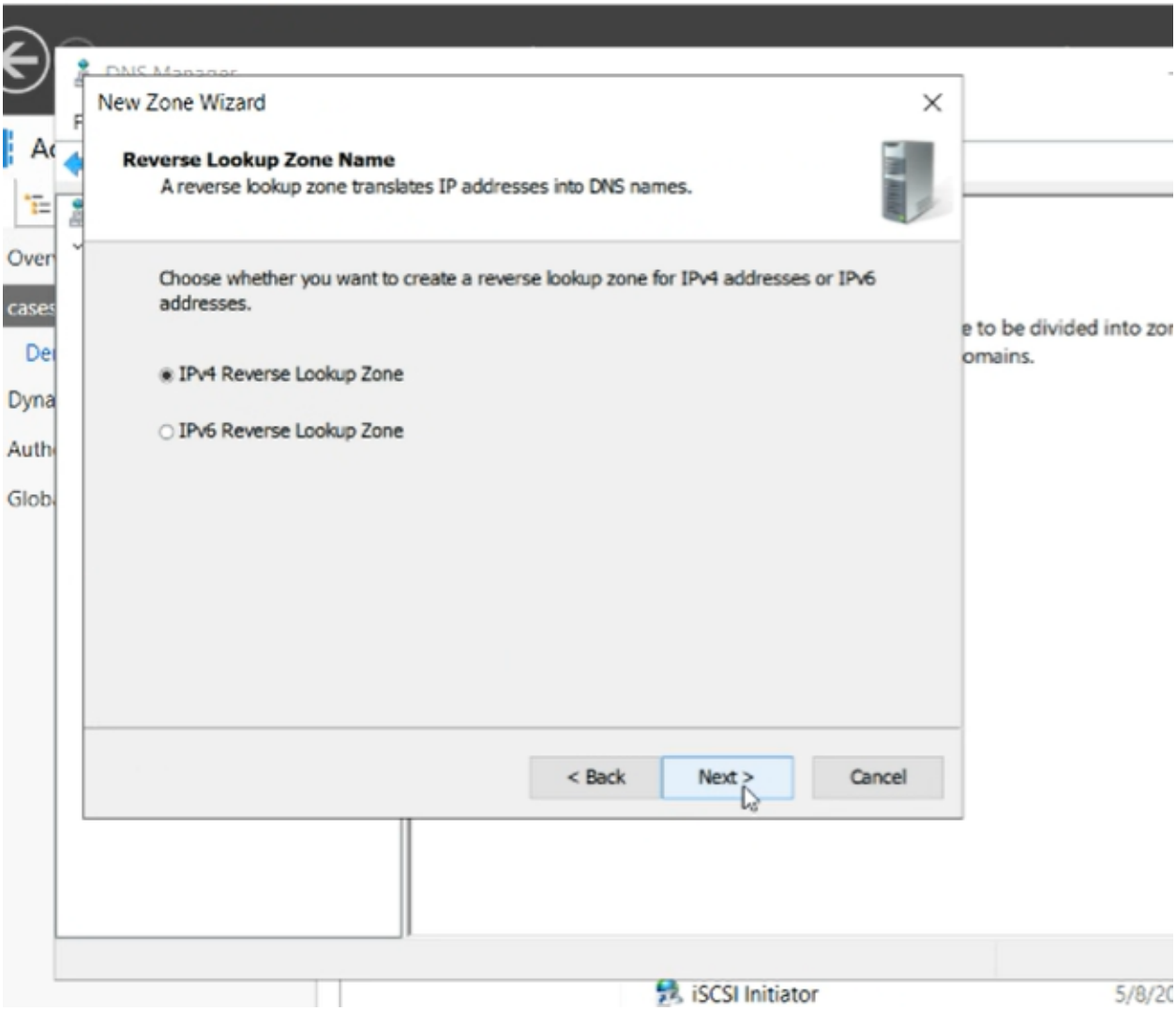

New Zone Wizard
Completing the New Zone Wizard
You have successfully completed the New Zone Wizard. You specified the following settings:
Name: aanq.com
Type: Active Directory-Integrated Primary
Lookup type: Forward
Note: You should now add records to the zone or ensure that records are updated dynamically. You can then verify name resolution using nslookup.
To close this wizard and create the new zone, click Finish.
< Back
Finish
Cancel

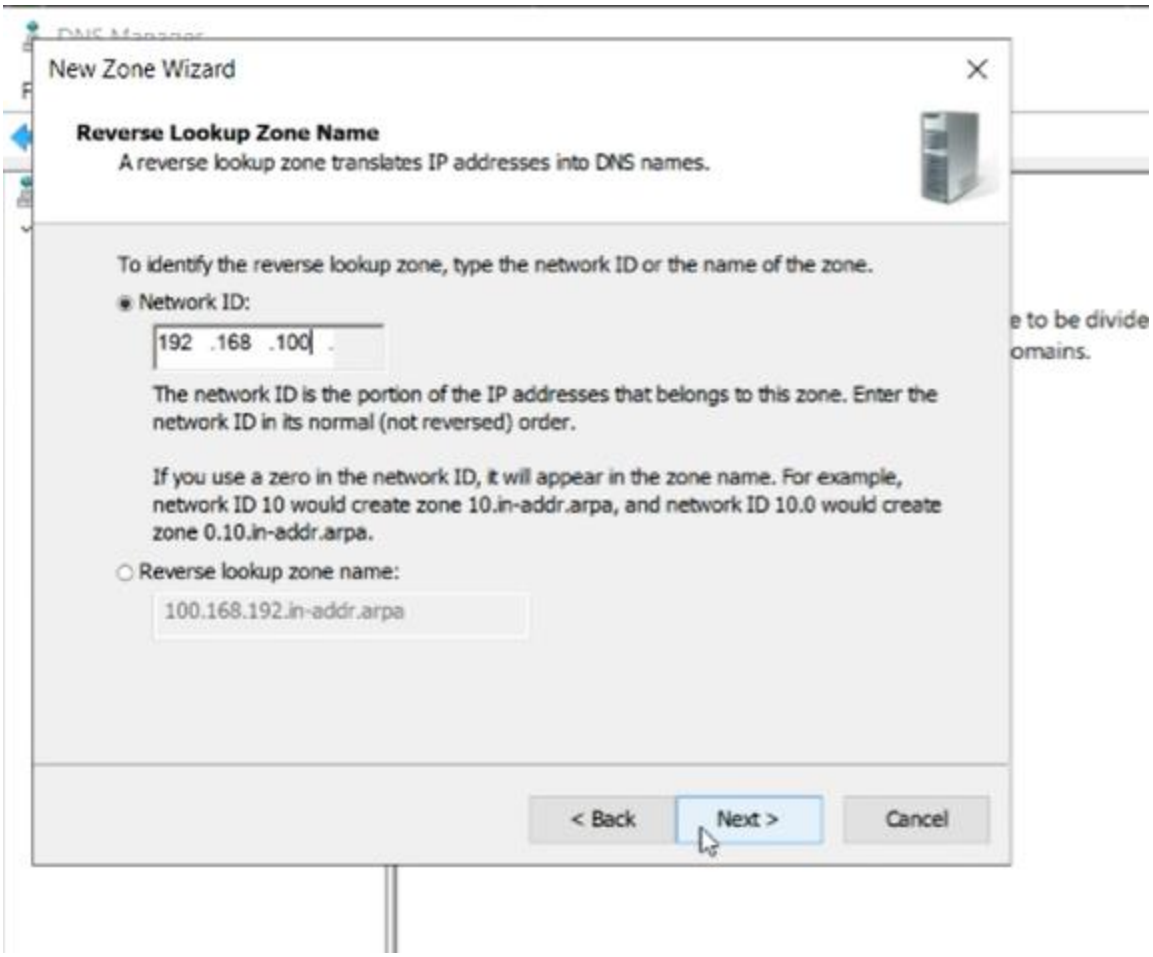

DNS Manager
File Action View Help
DNS
WIN-PQA6NK6N481
Forward Lookup Zones
New Zone...
View
Refresh
Help
Add a New Zone

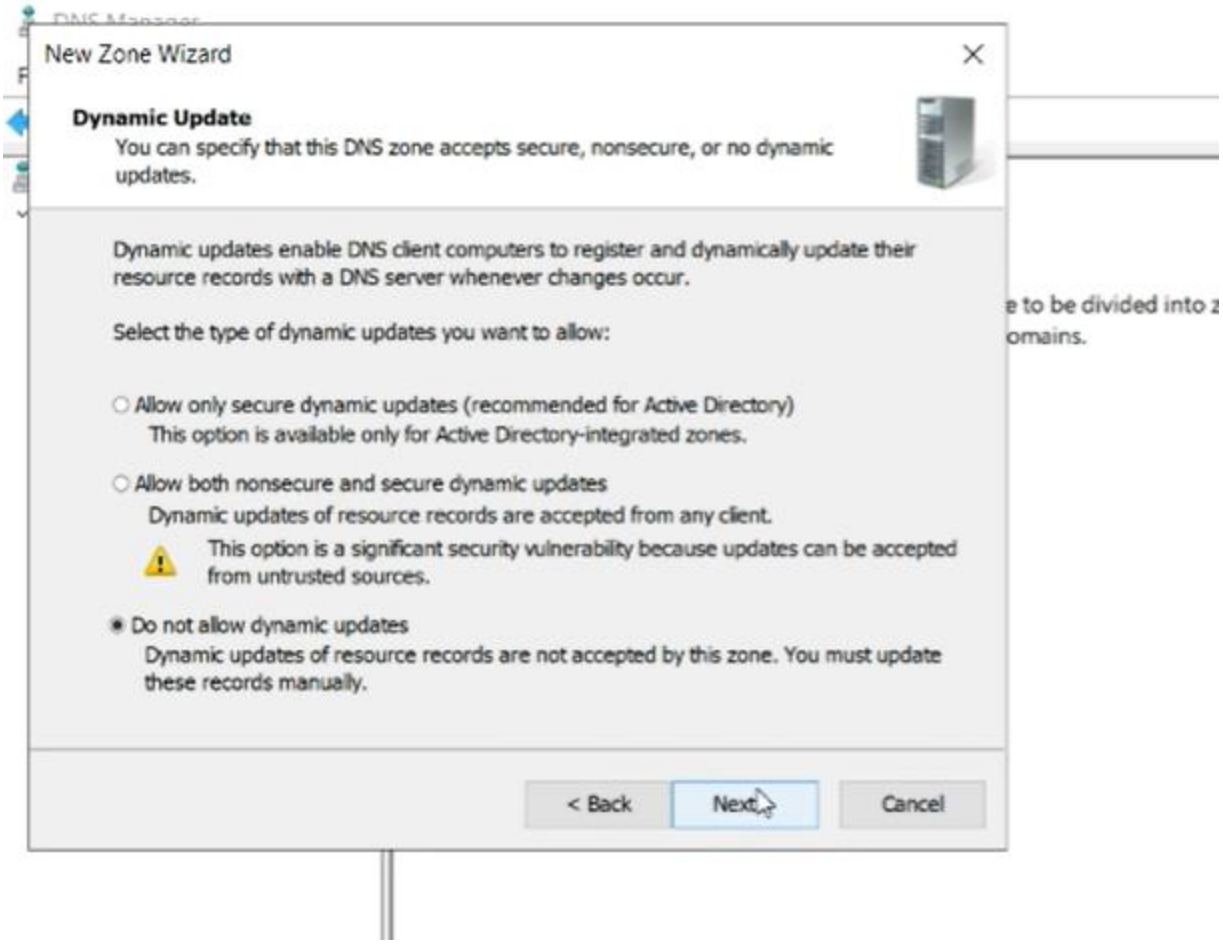

New Zone Wizard
Welcome to the New Zone Wizard
This wizard helps you create a new zone for your DNS server.
A zone translates DNS names to related data, such as IP addresses or network services.
To continue, click Next.
< Back
Next >
Cancel

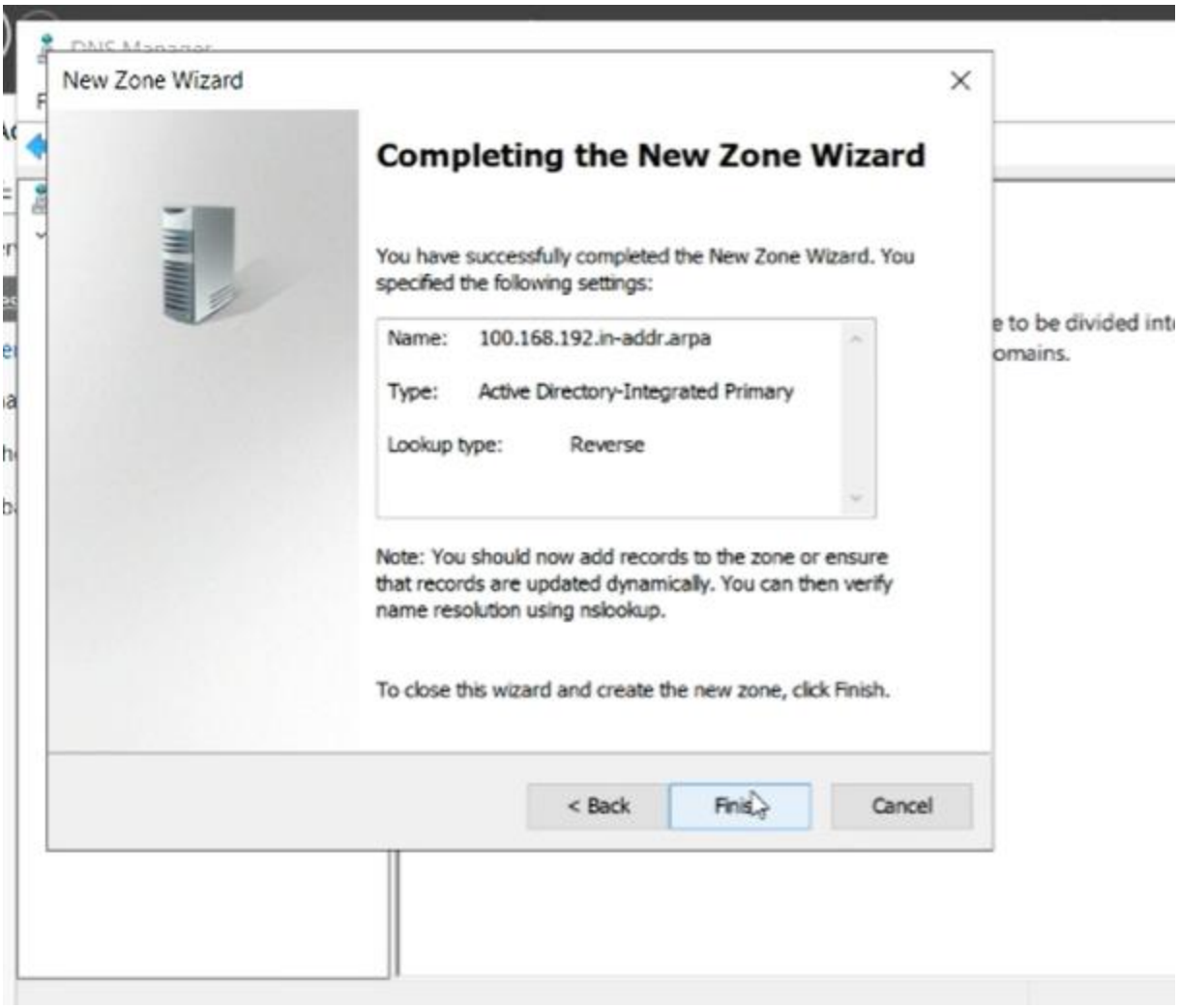

New Zone Wizard
Zone Type
The DNS server supports various types of zones and storage.
Select the type of zone you want to create:
Primary zone
Creates a copy of a zone that can be updated directly on this server.
Secondary zone
Creates a copy of a zone that exists on another server. This option helps balance the processing load of primary servers and provides fault tolerance.
Stub zone
Creates a copy of a zone containing only Name Server (NS), Start of Authority (SOA), and possibly glue Host (A) records. A server containing a stub zone is not authoritative for that zone.
Store the zone in Active Directory (available only if DNS server is a writeable domain controller)
< Back
Next >
Cancel


New Zone Wizard
Active Directory Zone Replication Scope
You can select how you want DNS data replicated throughout your network.
Select how you want zone data replicated:
To all DNS servers running on domain controllers in this forest: casestudy-aanq.com
To all DNS servers running on domain controllers in this domain: casestudy-aanq.com
To all domain controllers in this domain (for Windows 2000 compatibility): casestudy-aanq.com
To all domain controllers specified in the scope of this directory partition:
< Back
Next >
Cancel

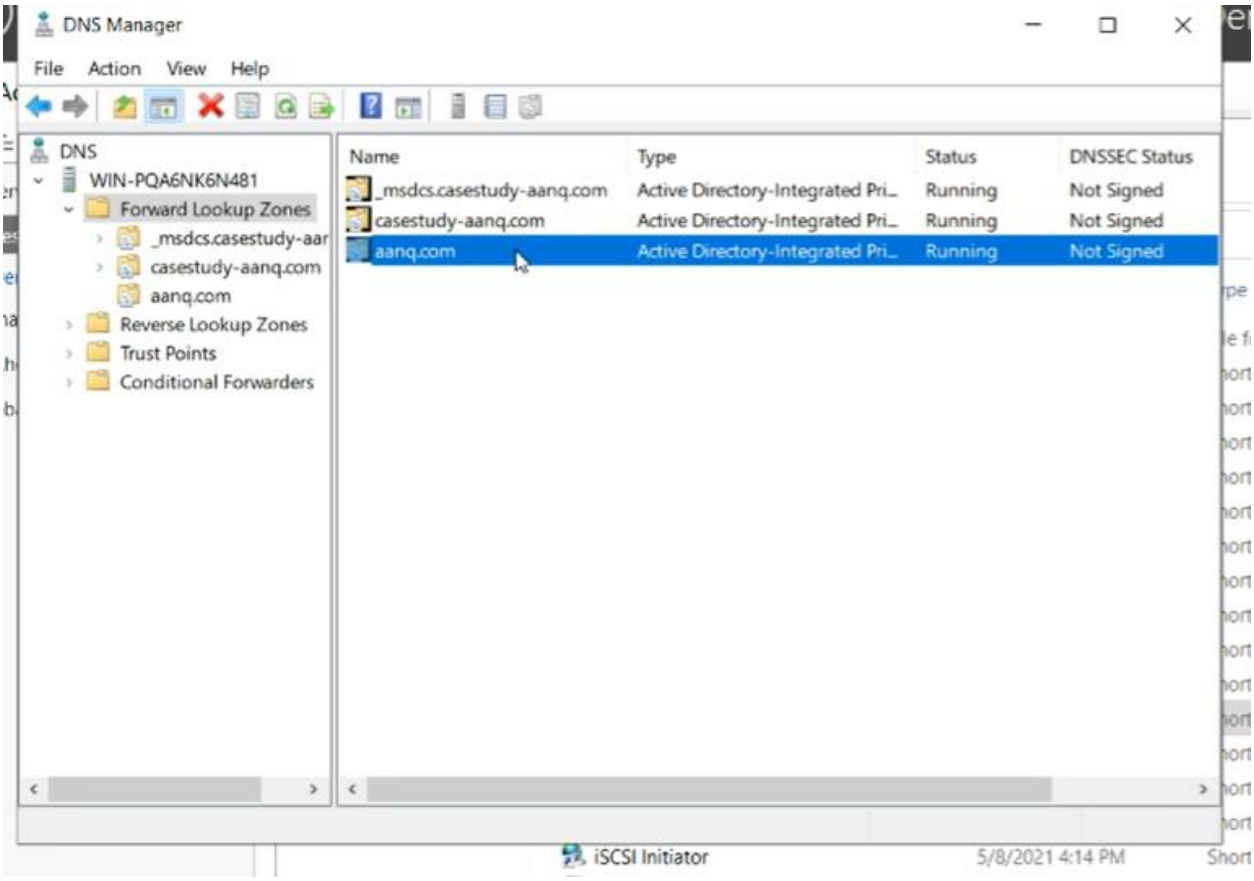

New Zone Wizard
Reverse Lookup Zone Name
A reverse lookup zone translates IP addresses into DNS names.
Choose whether you want to create a reverse lookup zone for IPv4 addresses or IPv6 addresses.
IPv4 Reverse Lookup Zone
IPv6 Reverse Lookup Zone
< Back
Next >
Cancel
iSCSI Initiator


New Zone Wizard
Reverse Lookup Zone Name
A reverse lookup zone translates IP addresses into DNS names.
To identify the reverse lookup zone, type the network ID or the name of the zone.
Network ID:
192 .168 .100
The network ID is the portion of the IP addresses that belongs to this zone. Enter the network ID in its normal (not reversed) order.
If you use a zero in the network ID, it will appear in the zone name. For example, network ID 10 would create zone 10.in-addr.arpa, and network ID 10.0 would create zone 0.10.in-addr.arpa.
Reverse lookup zone name:
100.168.192.in-addr.arpa
< Back
Next >
Cancel

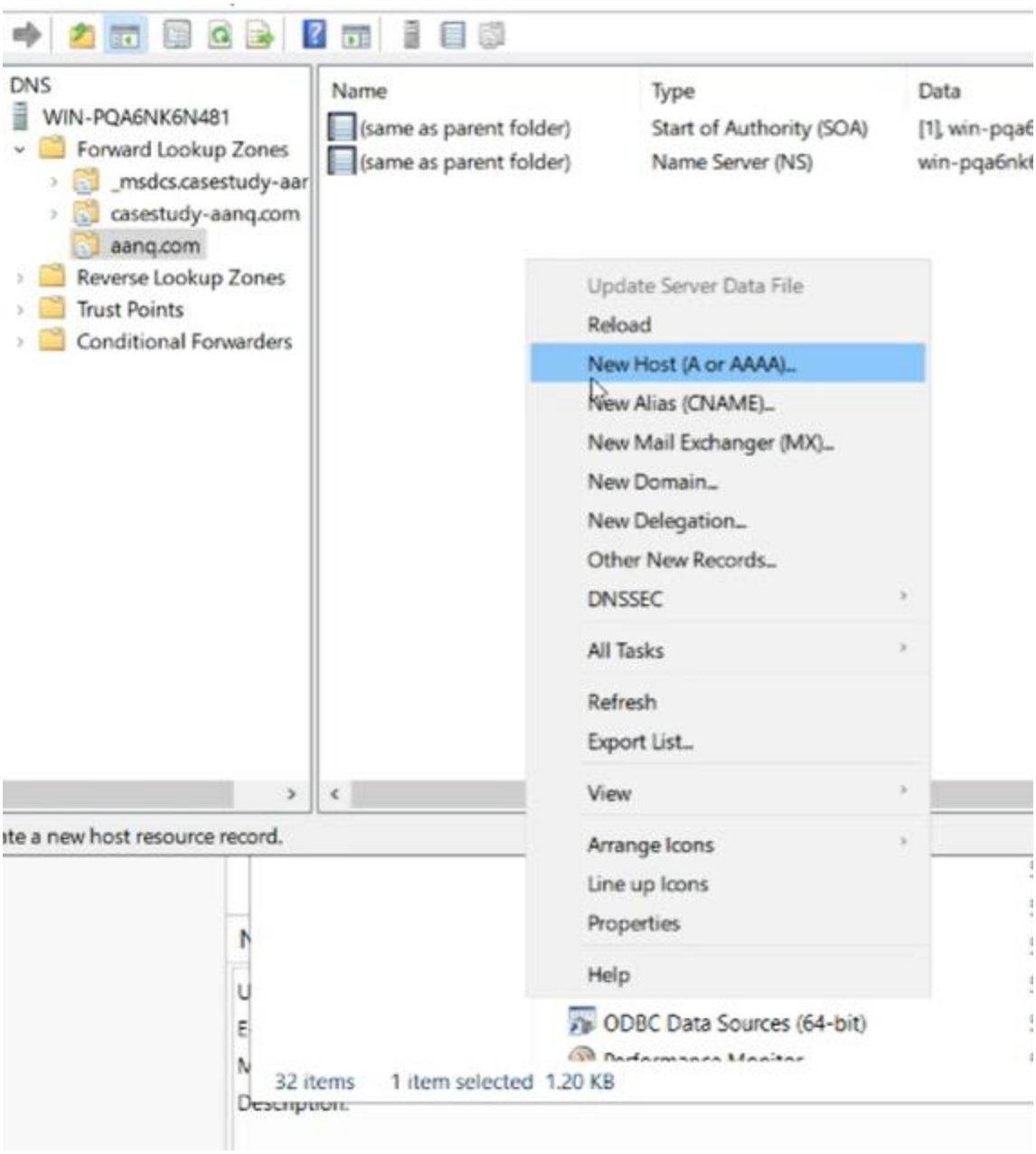

New Zone Wizard
Dynamic Update
You can specify that this DNS zone accepts secure, nonsecure, or no dynamic updates.
Dynamic updates enable DNS client computers to register and dynamically update their resource records with a DNS server whenever changes occur.
Select the type of dynamic updates you want to allow:
Allow only secure dynamic updates (recommended for Active Directory)
This option is available only for Active Directory-integrated zones.
Allow both nonsecure and secure dynamic updates
Dynamic updates of resource records are accepted from any client.
This option is a significant security vulnerability because updates can be accepted from untrusted sources.
Do not allow dynamic updates
Dynamic updates of resource records are not accepted by this zone. You must update these records manually.
< Back
Next
Cancel



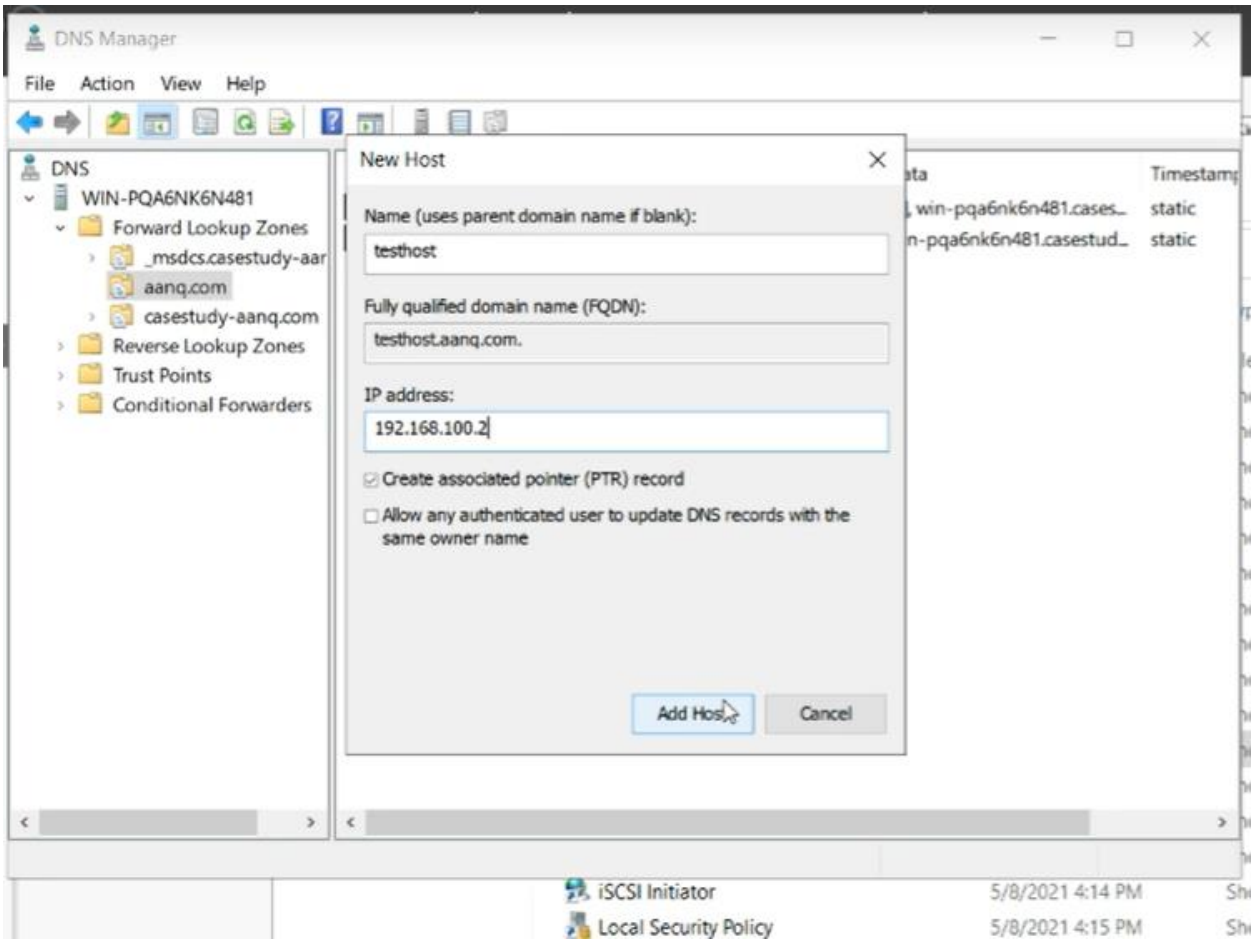
46. Once the setup is successfully created, it will show in the DNS manager.



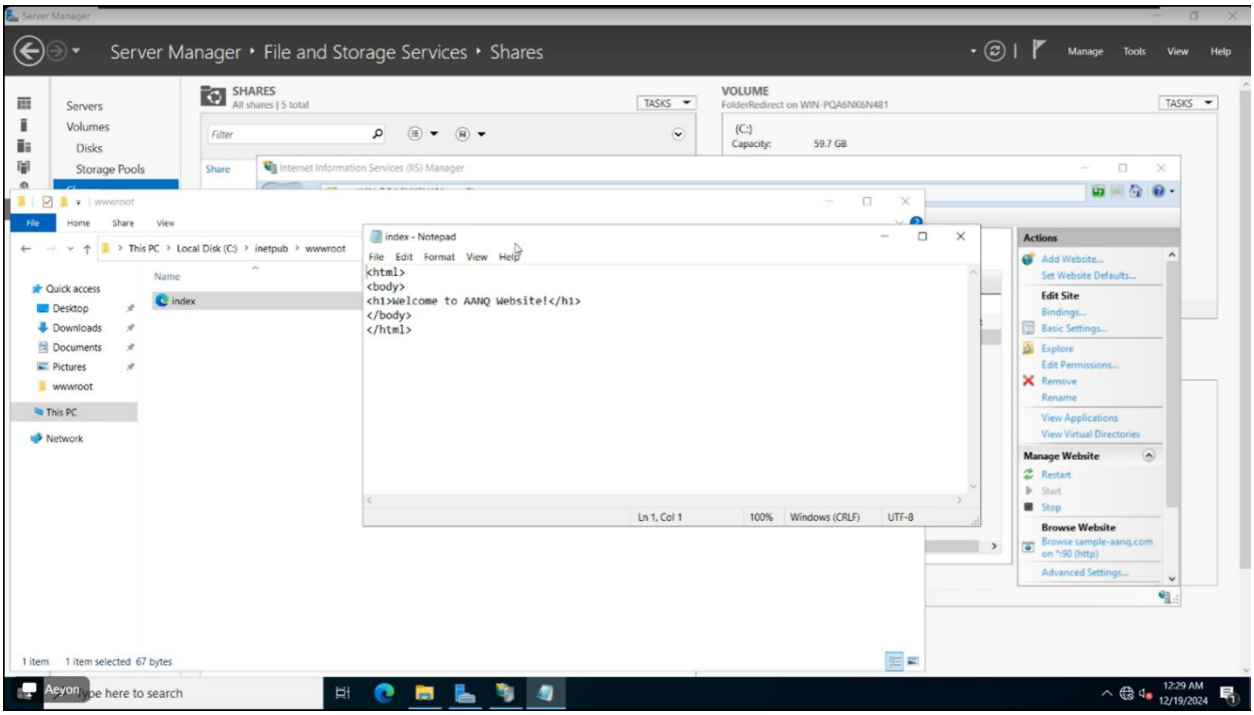
47. Go to the newly created folder in Forward Lookup Zones, then right-click the panel and select New Host.



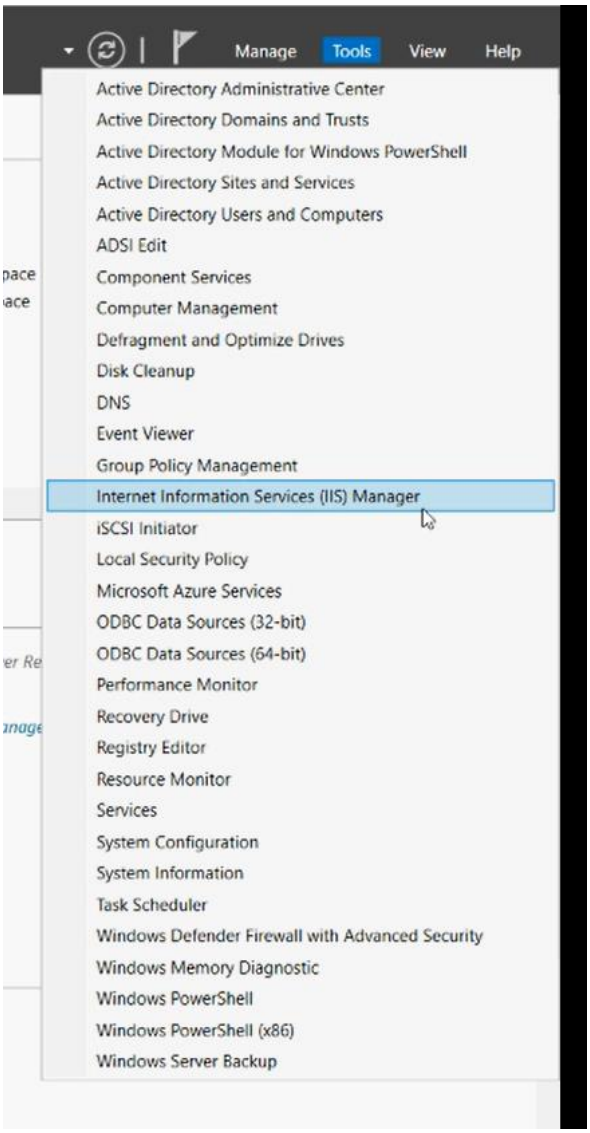
48. Create the host ‘testhost’ with the ip address of the server.



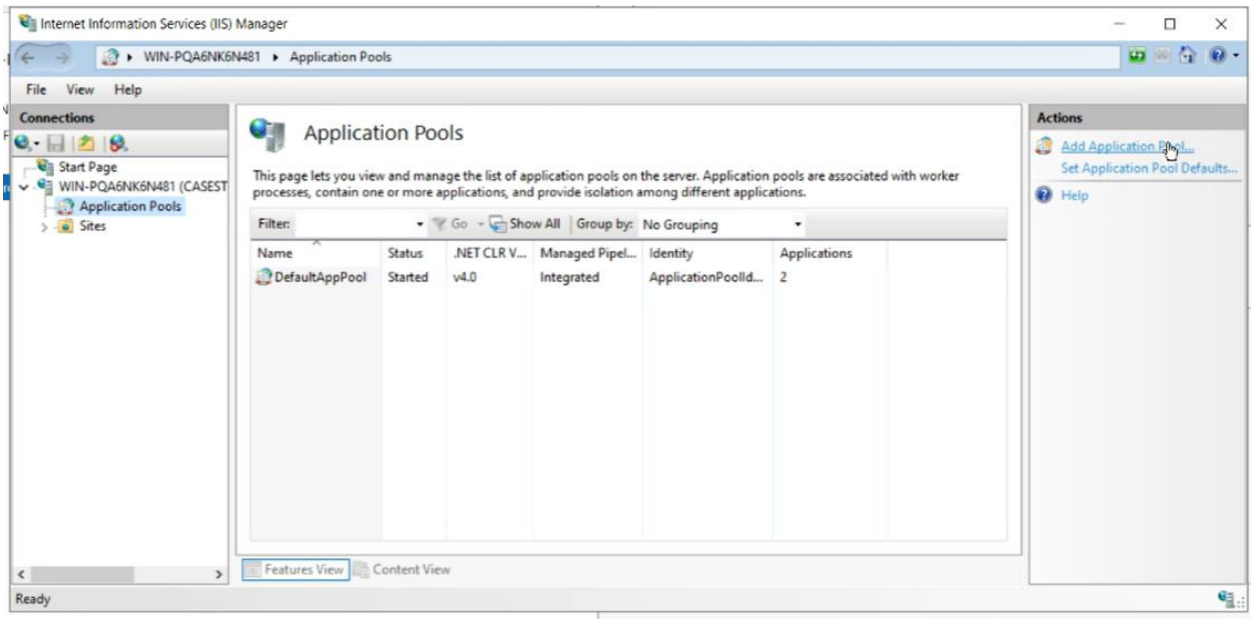
49. Before going to IIS Manager, create an html file first.

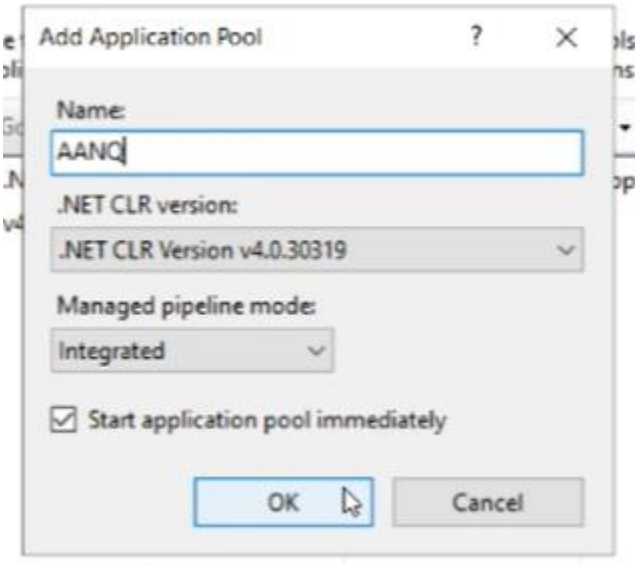


50. After the creation of the html file, the IIS setup can be initiated. Go to IIS manager.

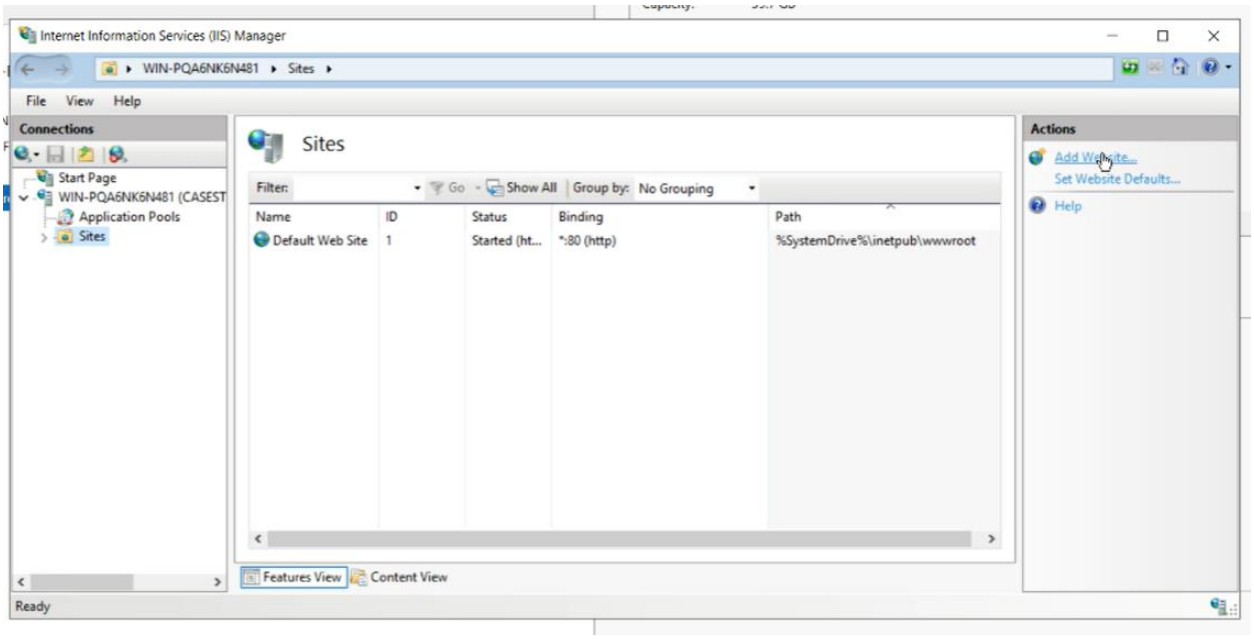


51. In application pools, create a new application pool.

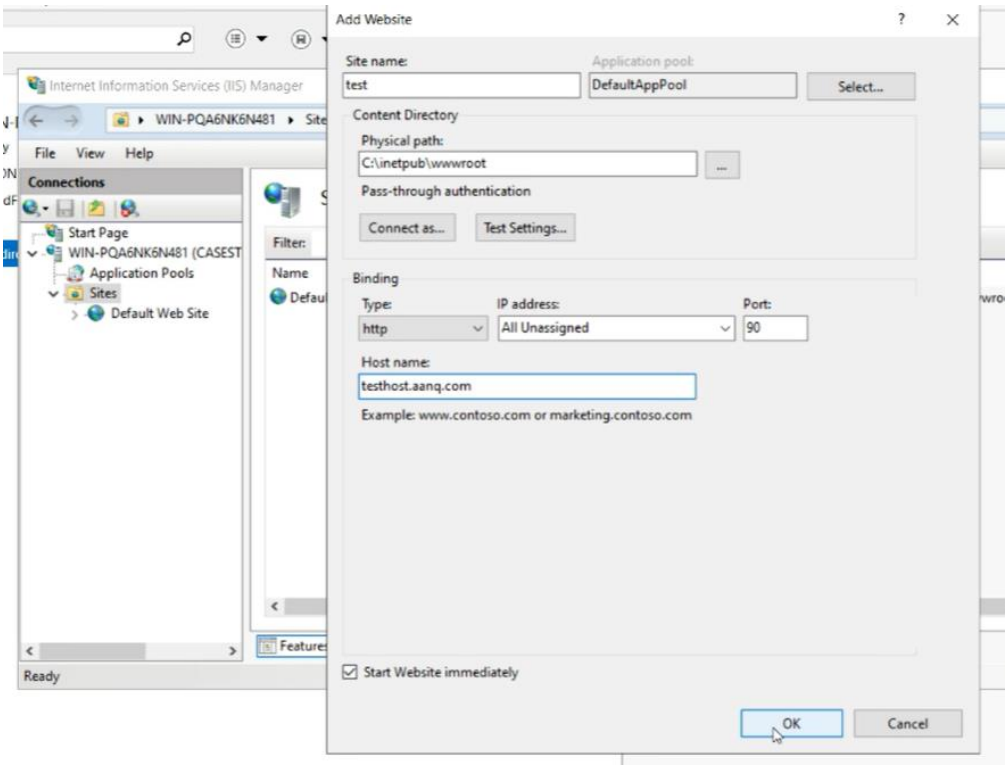




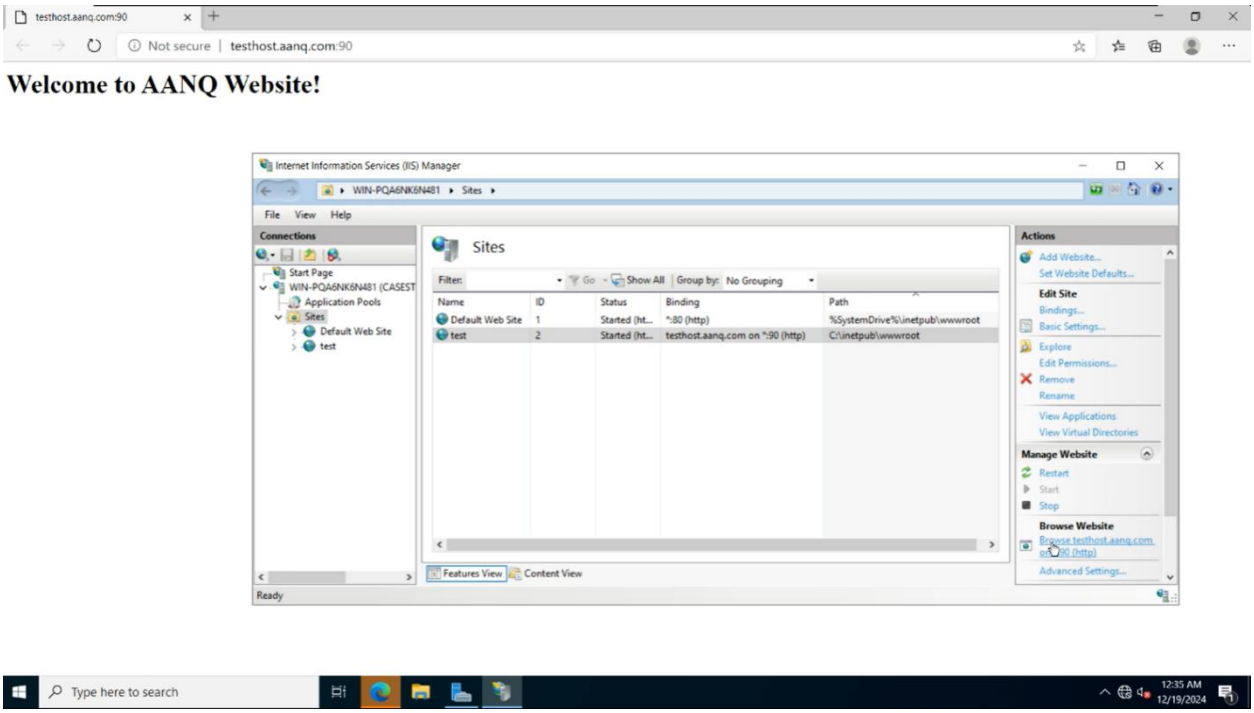
52. In Sites, click Add Website.



53. Put a site name, put the created Application Pool in the said option, put the physical path of the created html file, assign a port, and assign the created host as the hostname of the site.

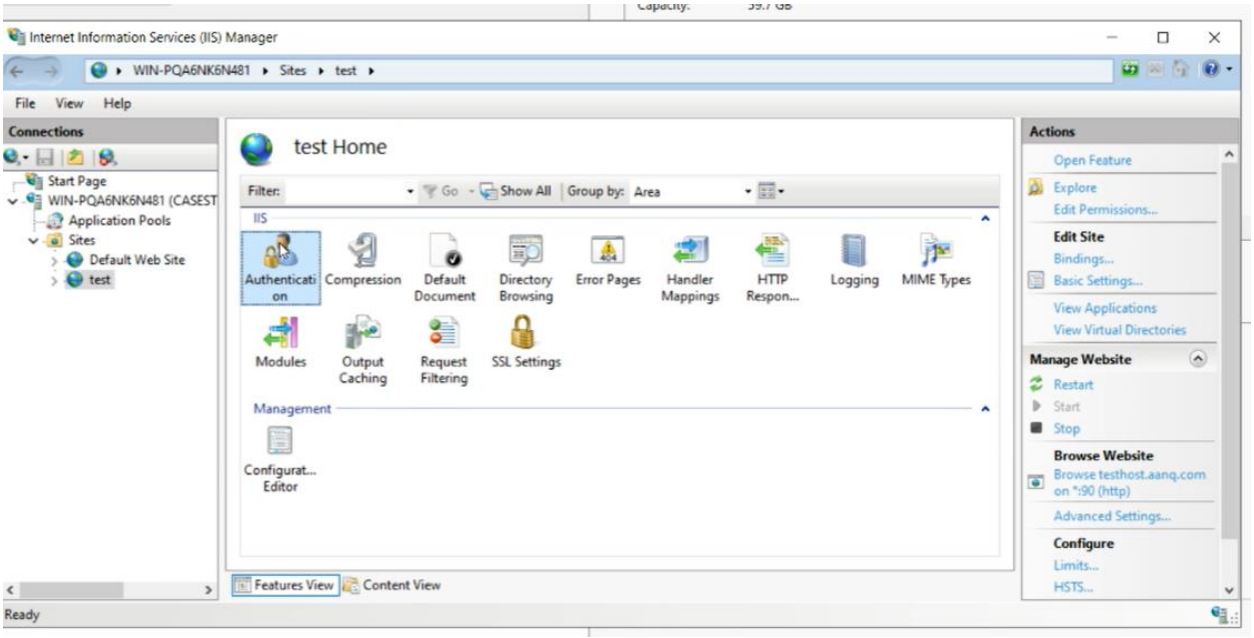


54. Confirm that the website can be browsed and is accessible.

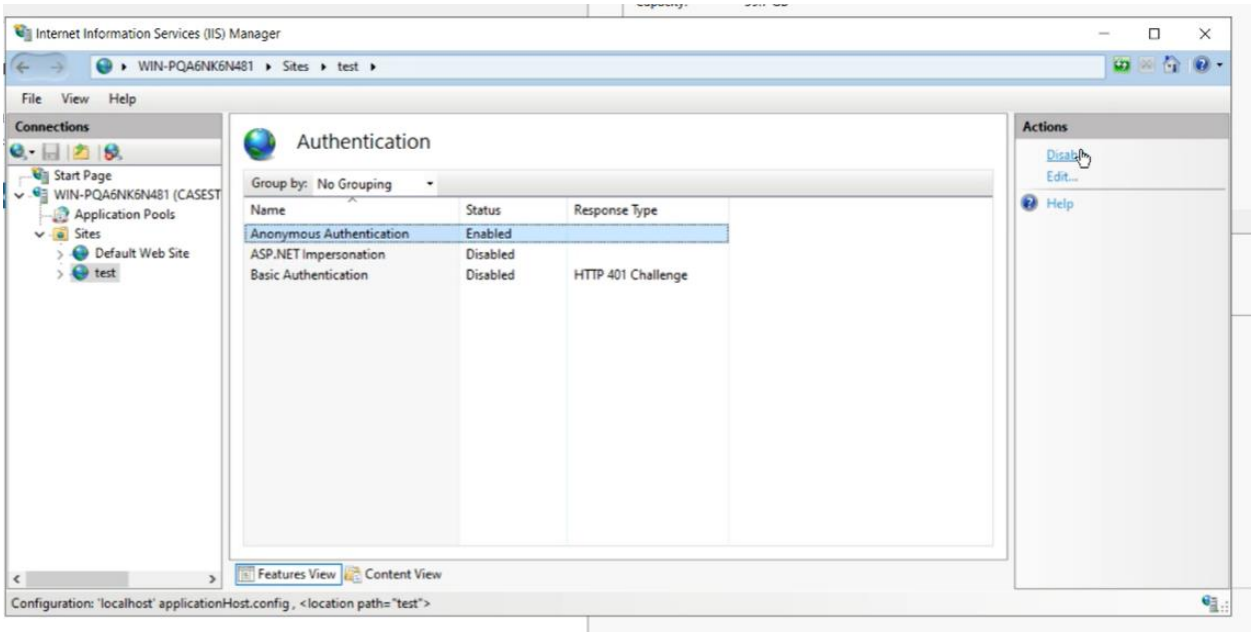


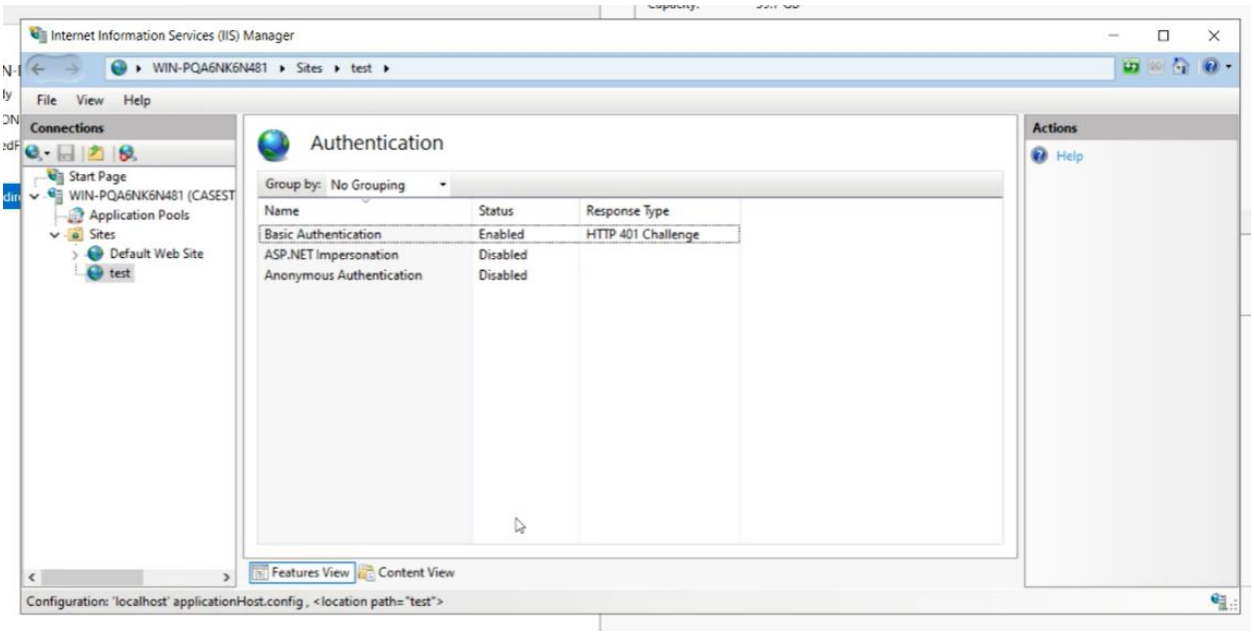
Basic Authentication

55. In the website, click Authentication.



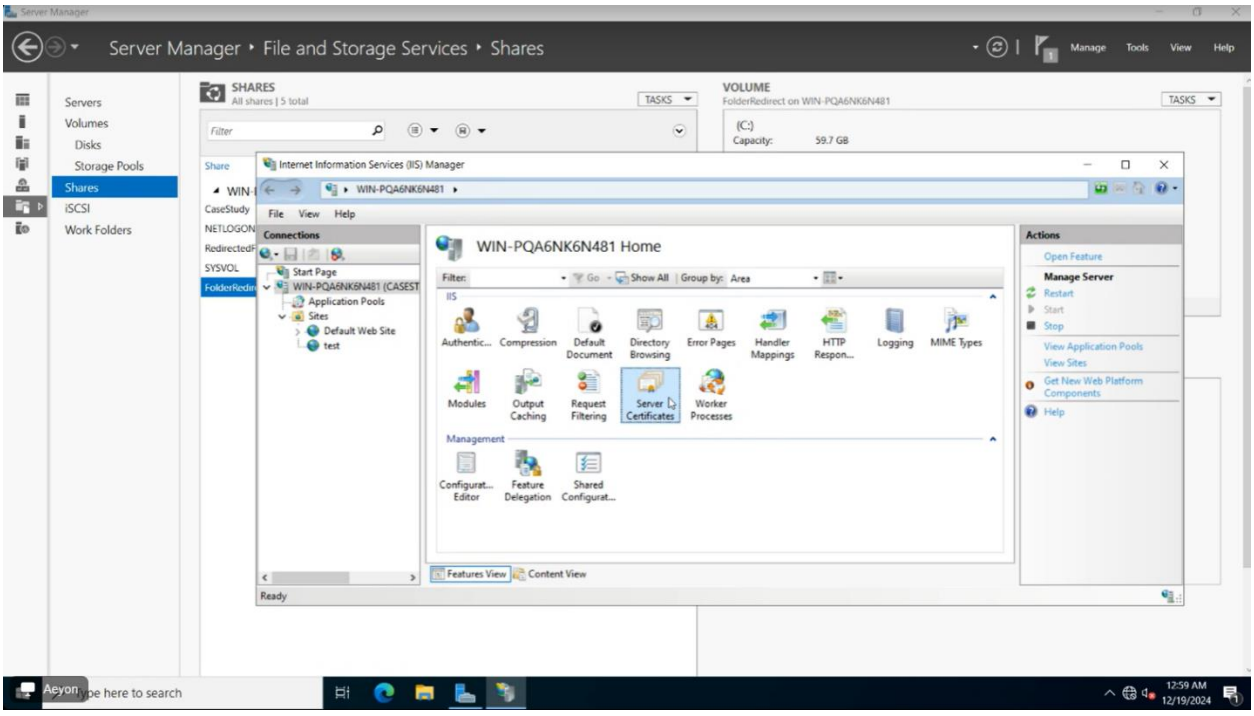
56. Disable the Anonymous Authentication.


Internet Information Services (IIS) Manager
WIN-PQA6NK6N481 ▸ Sites ▸ test ▸
File View Help
Connections
Start Page
WIN-PQA6NK6N481 (CASEST
Application Pools
Sites
Default Web Site
test
Authentication
Group by: No Grouping
Name
Status
Response Type
Anonymous Authentication
Enabled
ASP.NET Impersonation
Disabled
Basic Authentication
Disabled
HTTP 401 Challenge
Actions
Disable
Edit...
Help
Features View
Content View
Configuration: 'localhost' applicationHost.config , <location path="test">
Internet Information Services (IIS) Manager
WIN-PQA6NK6N481 ▸ Sites ▸ test ▸
File View Help
Connections
Start Page
WIN-PQA6NK6N481 (CASEST
Application Pools
Sites
Default Web Site
test
Authentication
Group by: No Grouping
Name
Status
Response Type
Anonymous Authentication
Disabled
ASP.NET Impersonation
Disabled
Basic Authentication
Disabled
HTTP 401 Challenge
Actions
Enable
Edit...
Help
Features View
Content View
Configuration: 'localhost' applicationHost.config , <location path="test">
57. Enable the Basic Authentication.

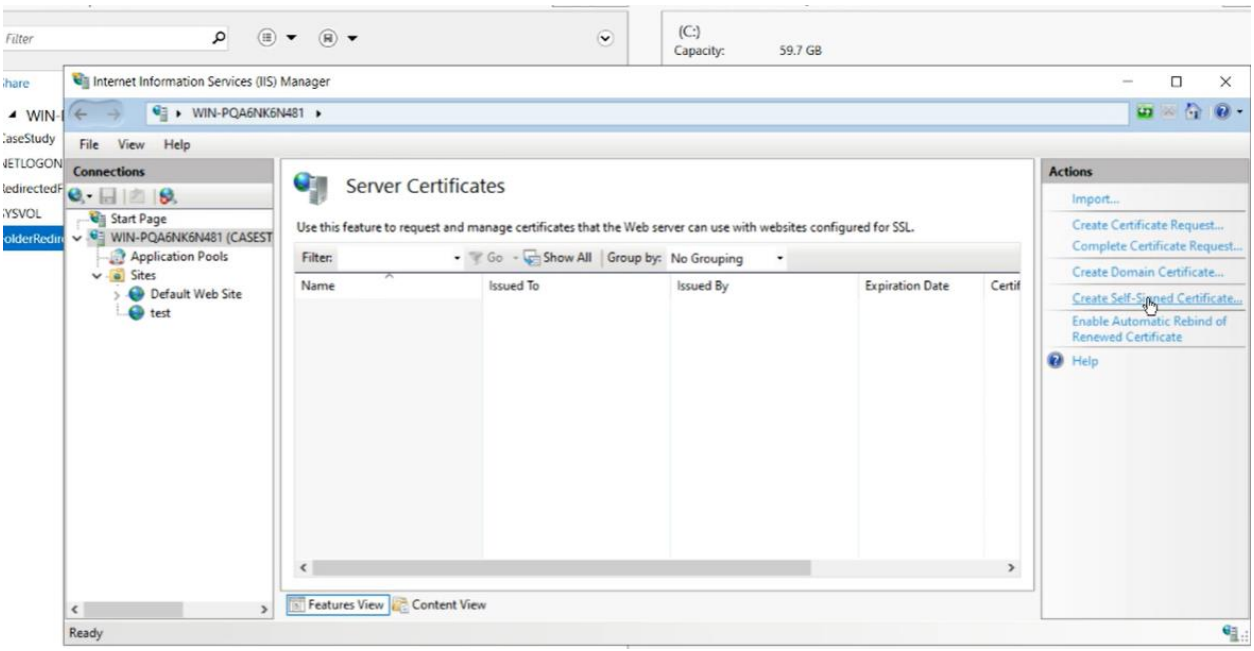


Secure Sockets Layer (SSL)

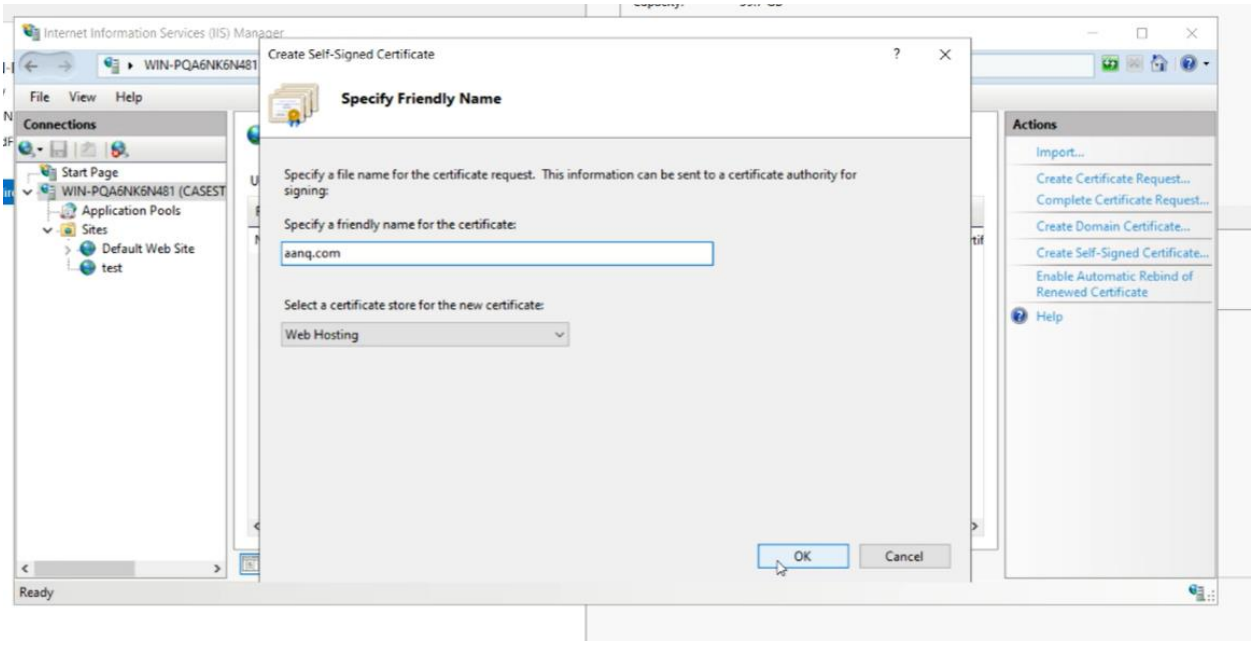
58. In the IIS Manager, click Server Certificates.



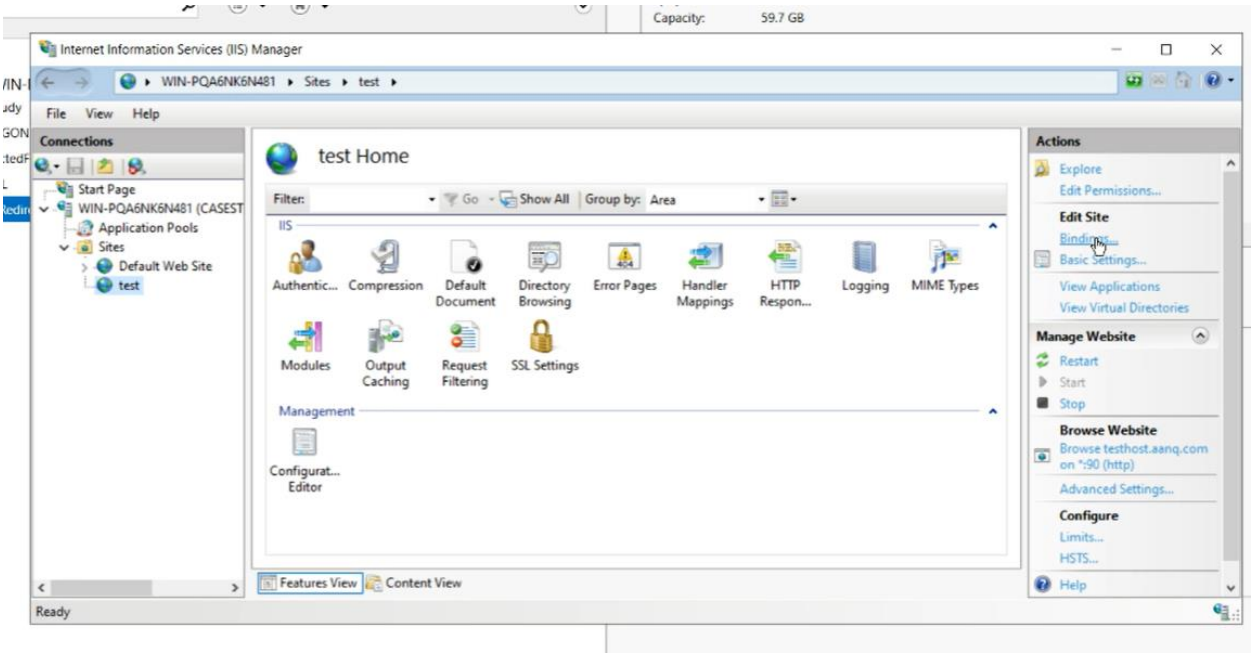
59. Click “Create Self-Signed Certificate”.



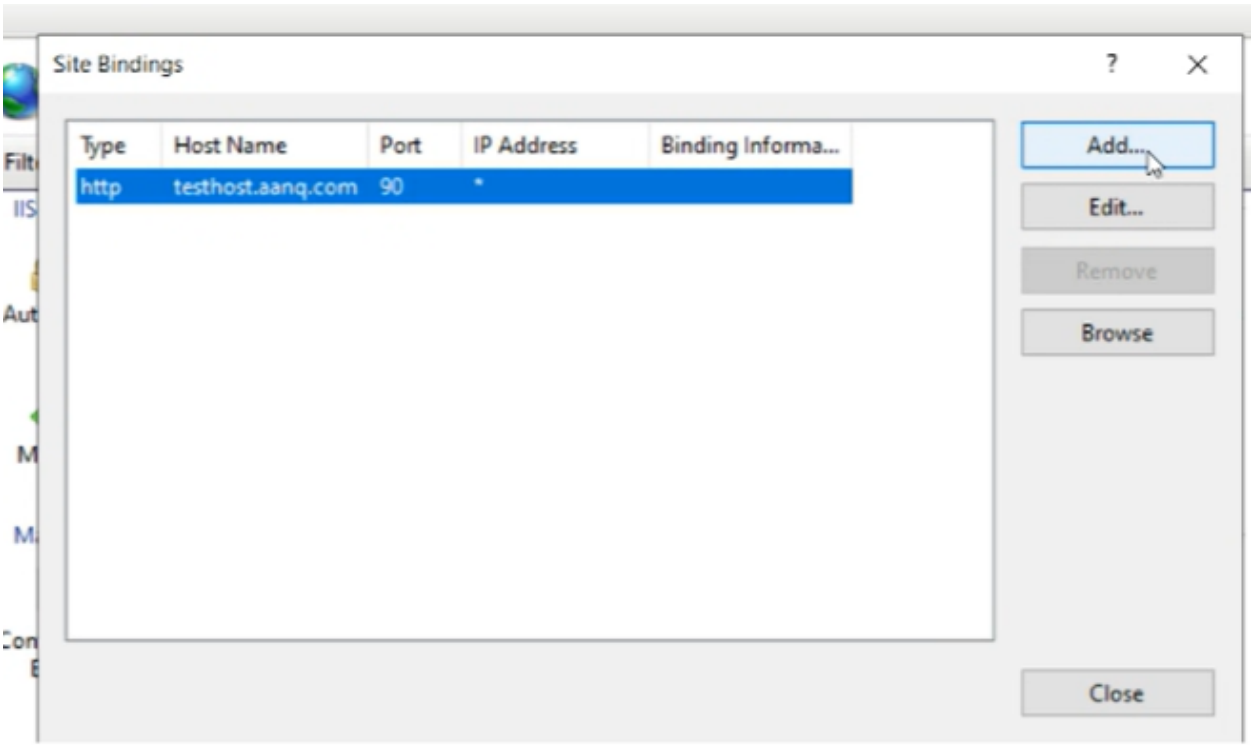
60. Create a name for the certificate and select Web Hosting as its certification store (This was later changed to Personal in the video).



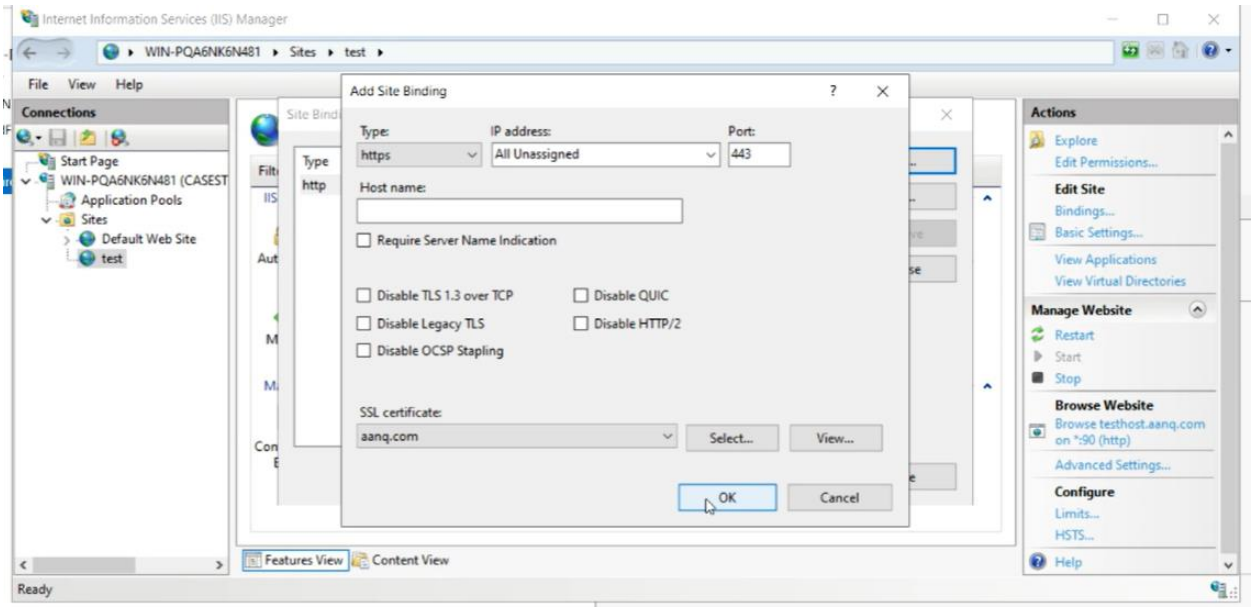
61. Go to the website and click “Bindings”.



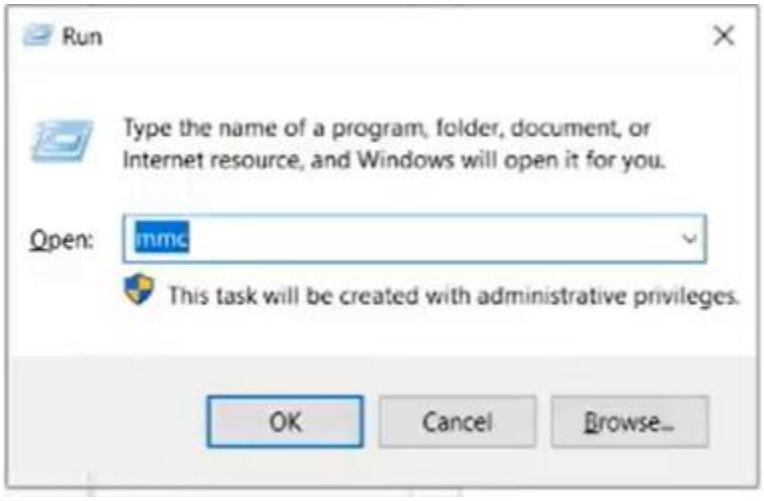
62. Click Add.



63. Choose “https” as type, 443 as port, then attach the created certificate in the SSL certificate section. Click Ok.

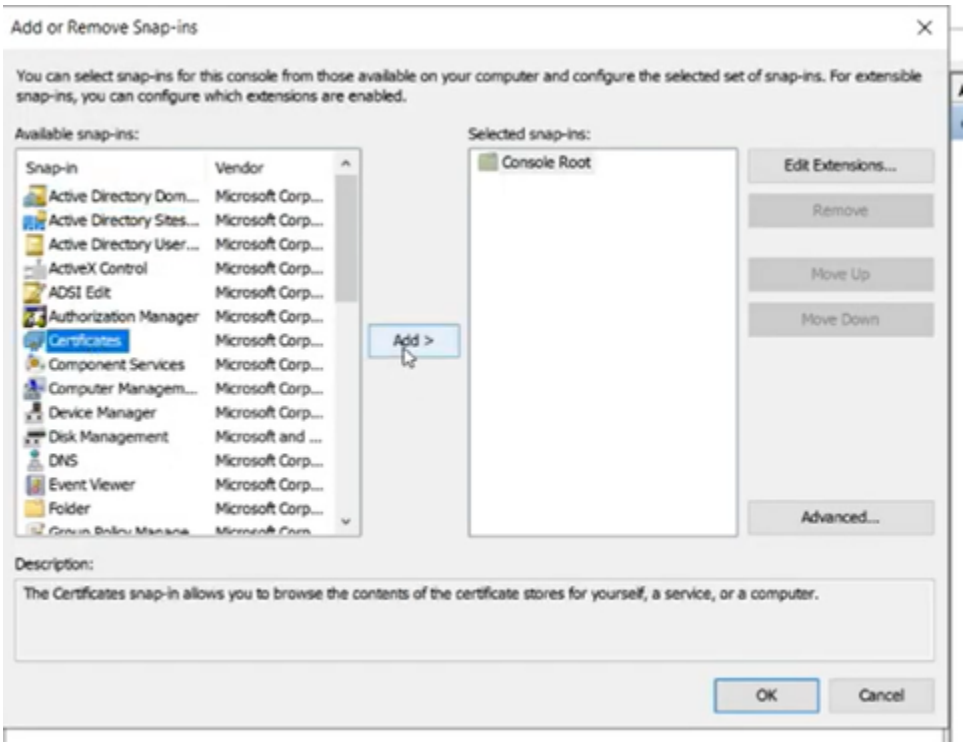


64. Do the Windows + R function, and type mmc to enter the Microsoft Management Console.

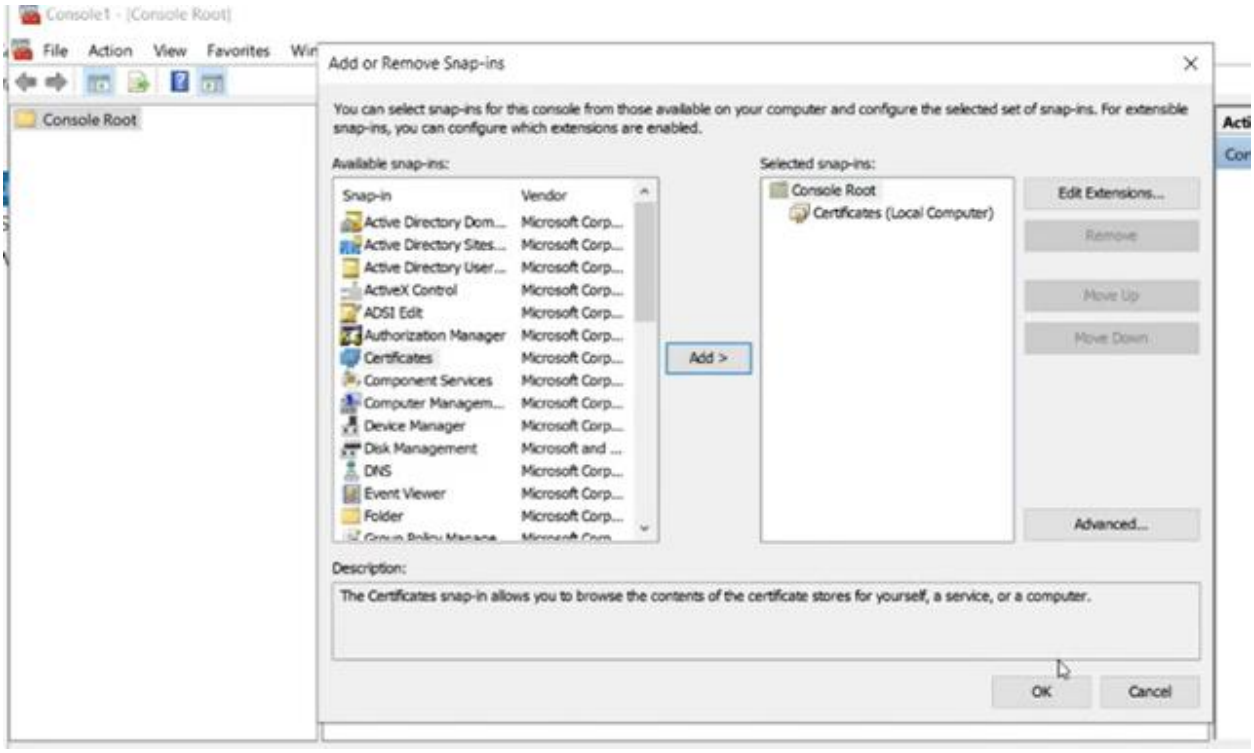


65. Go to File and choose Add/Remove Snap-in...

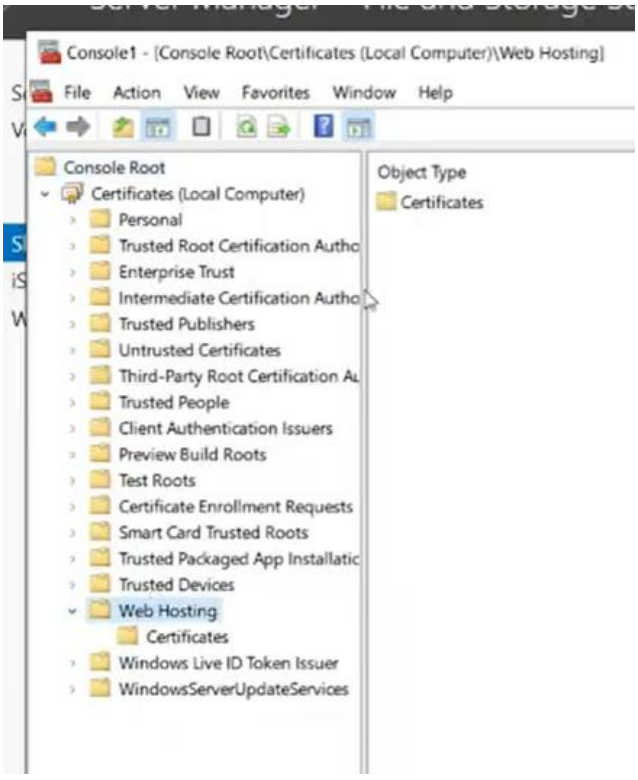
66. Add Certificates to the right panel.



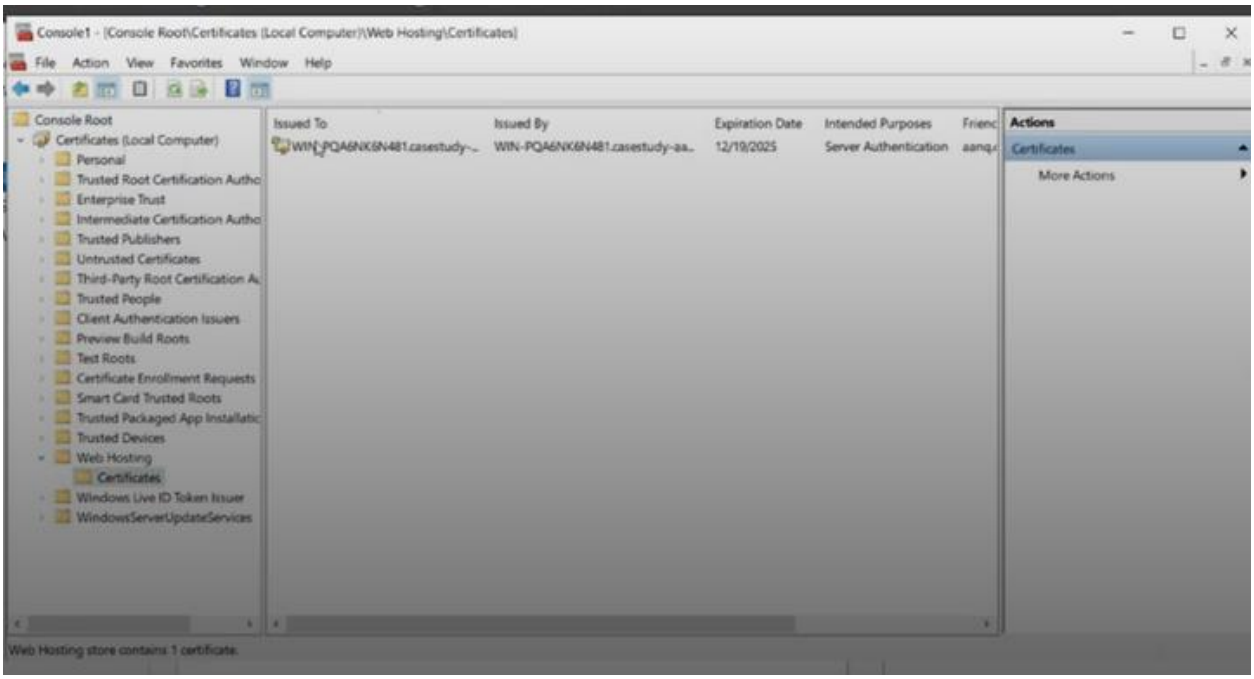
67. Check if the addition is successful.

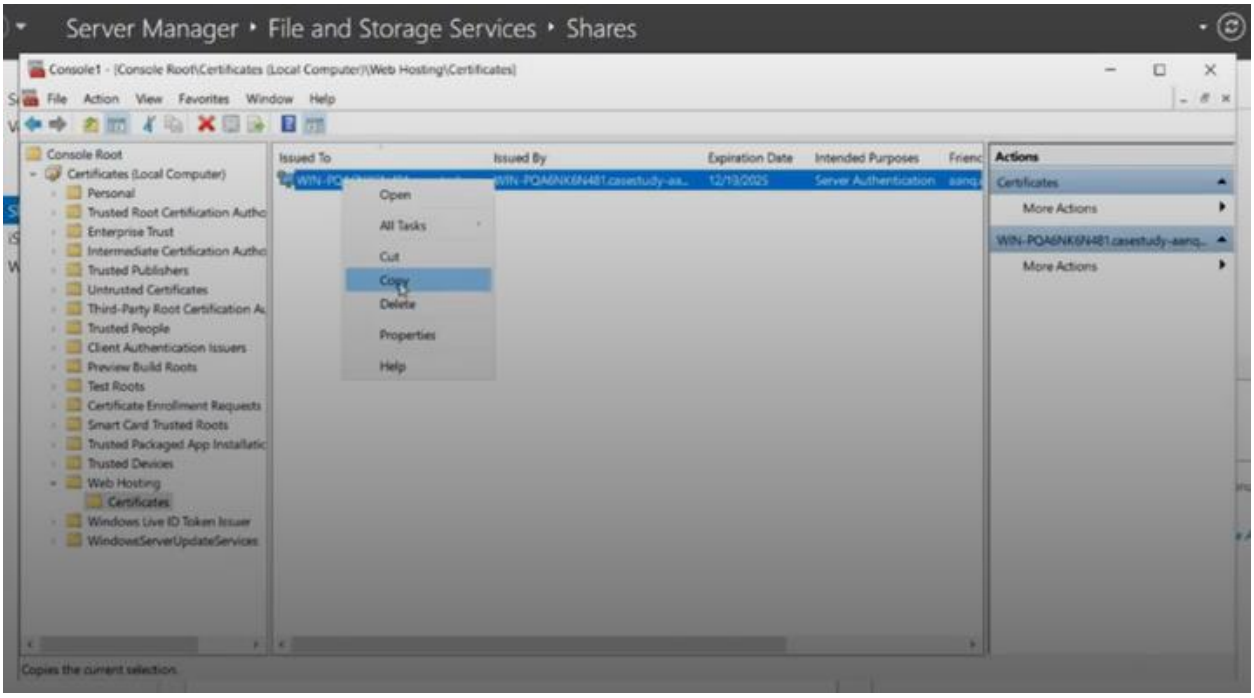


68. After clicking OK, expand the Certificates and go to Web Hosting (this was later changed to personal in the video).

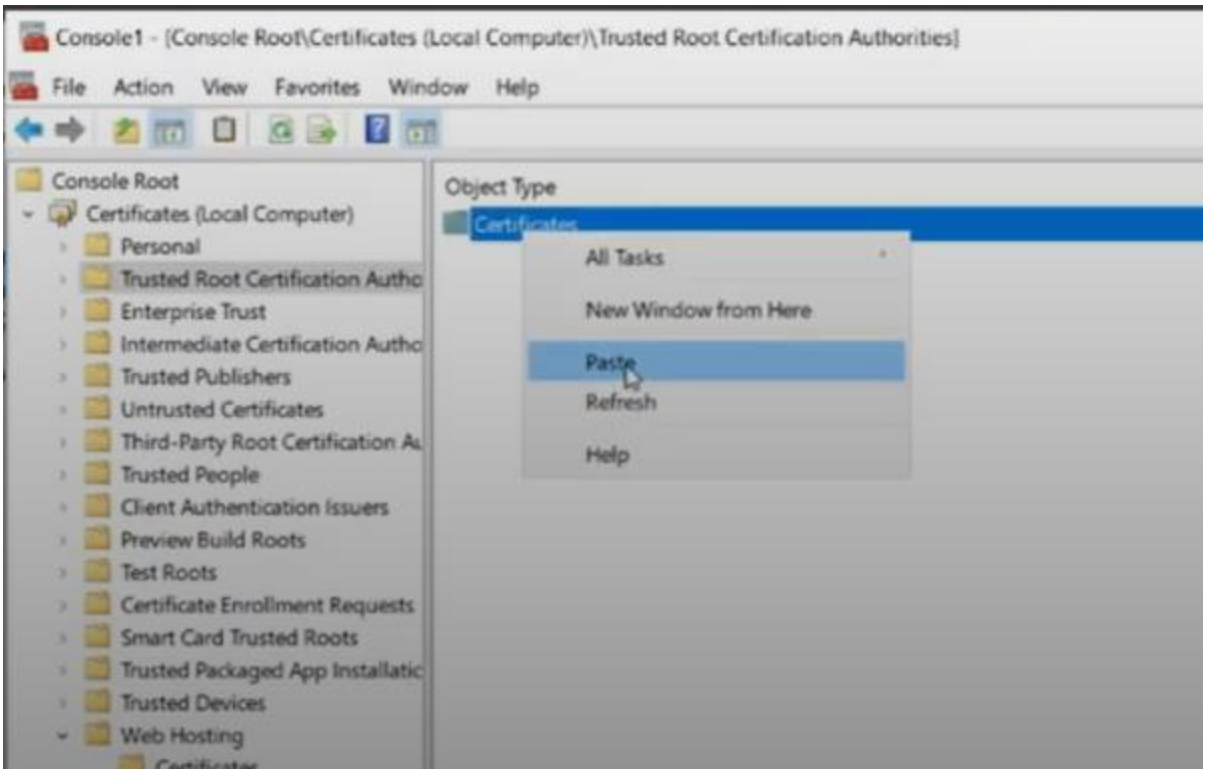


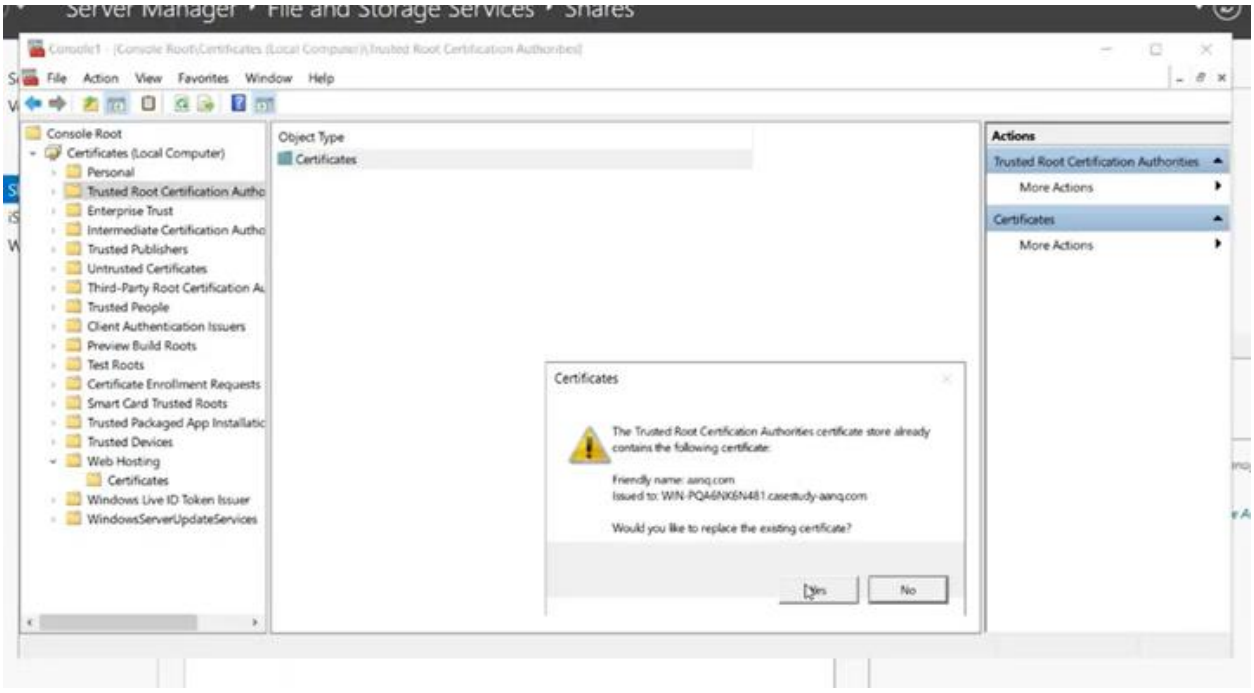
69. Copy the first file that is visible.



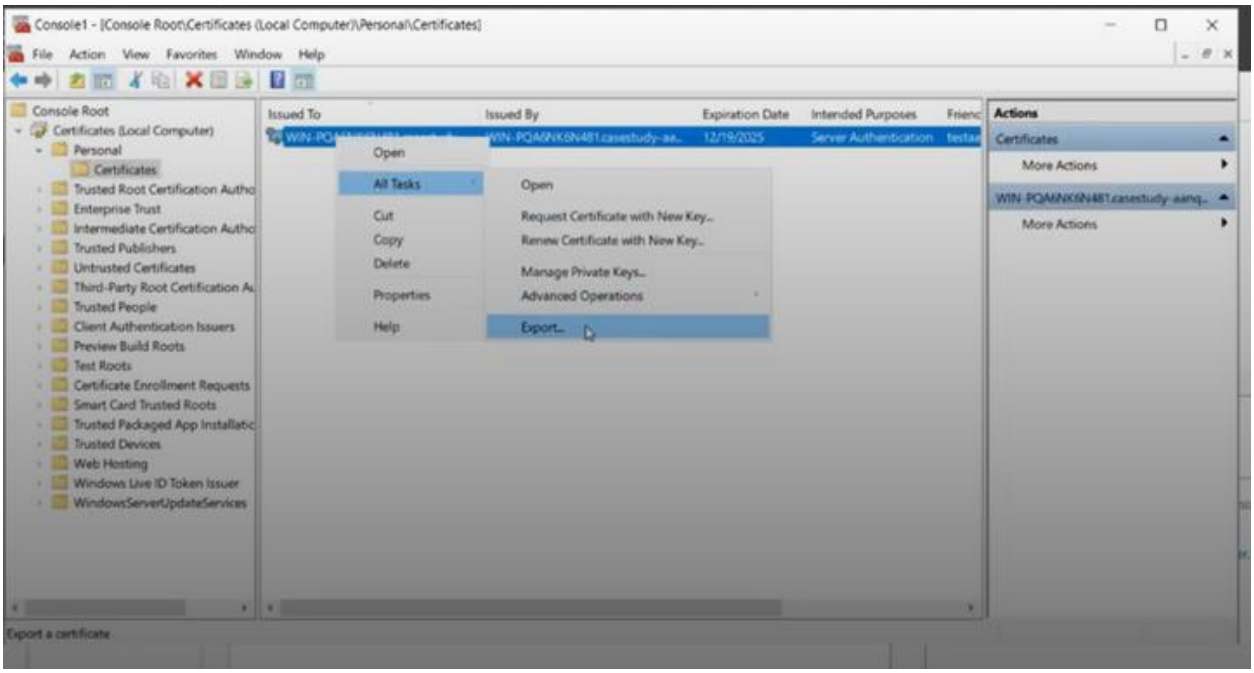


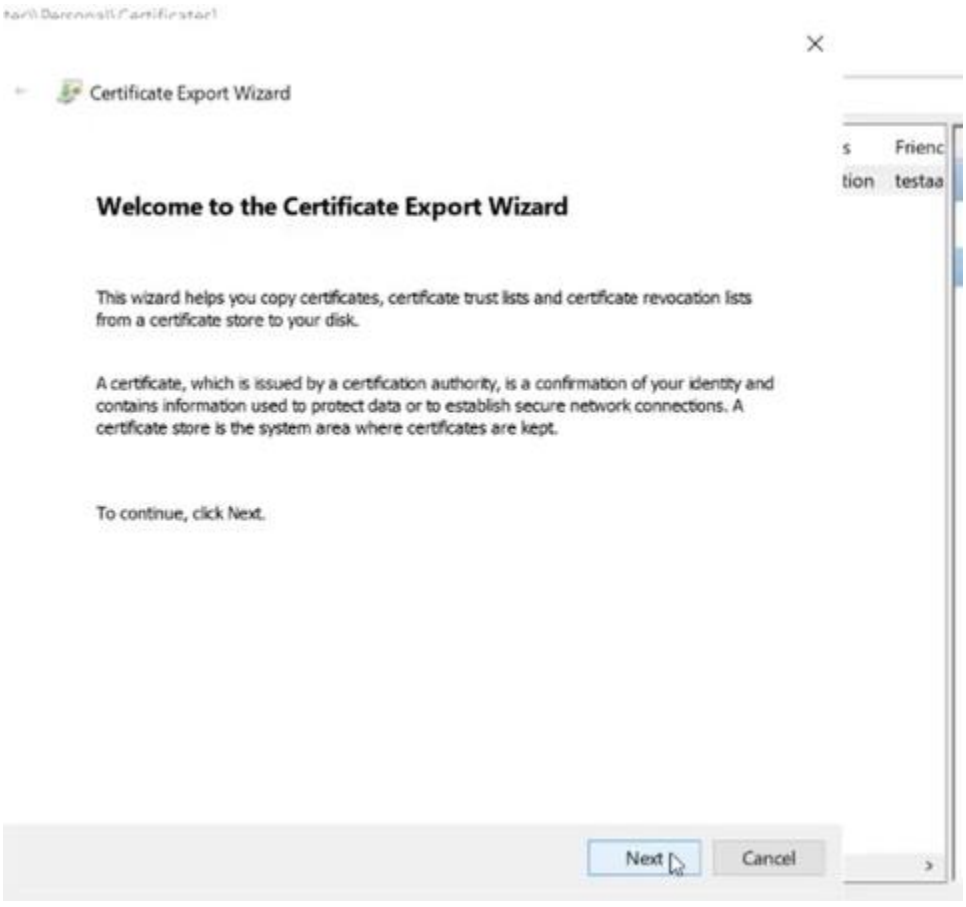
70. Paste the certificate in the Trusted Root Certification Authorities in Certificates folder.

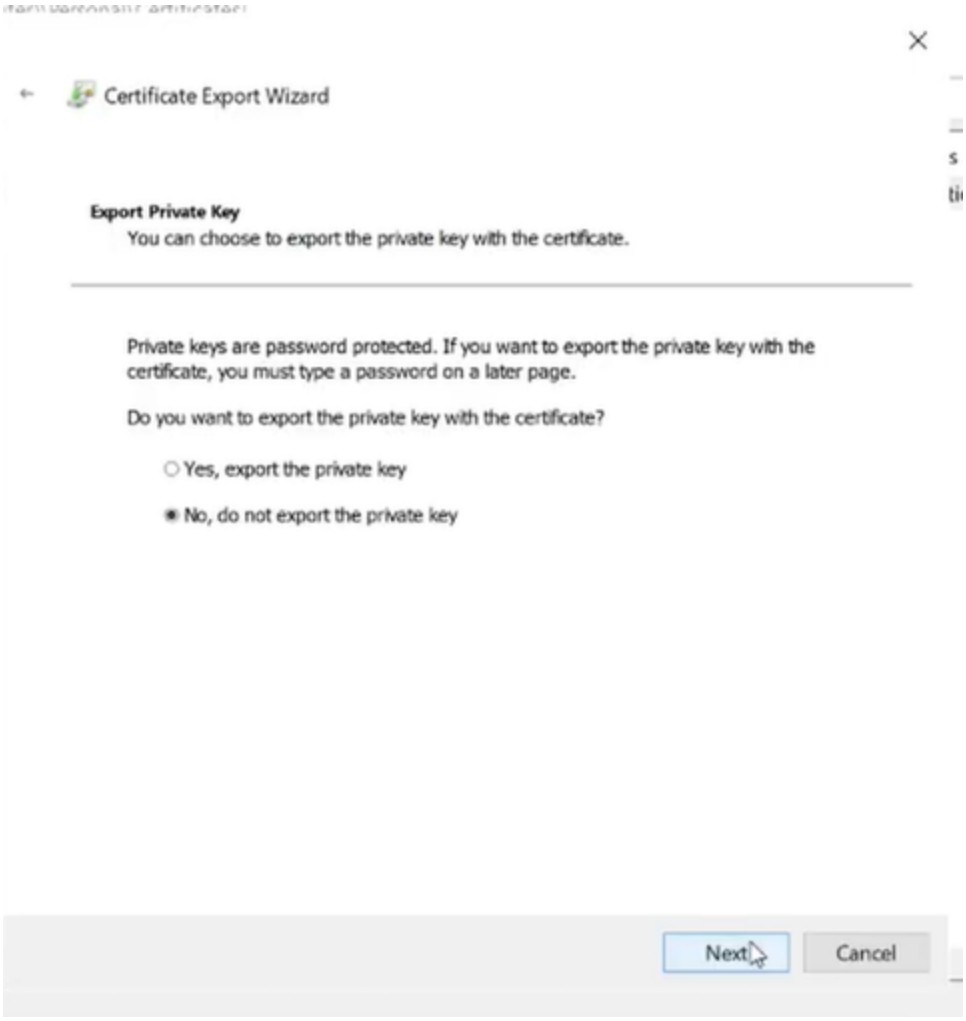


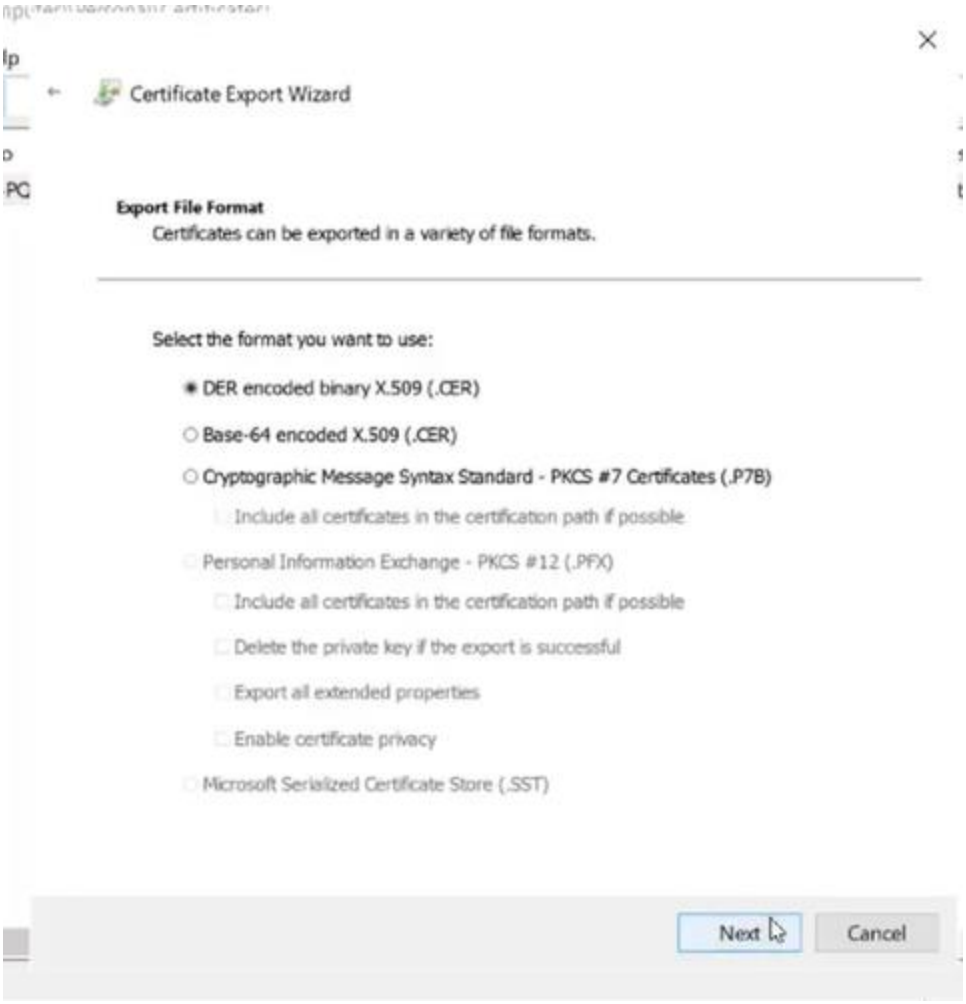


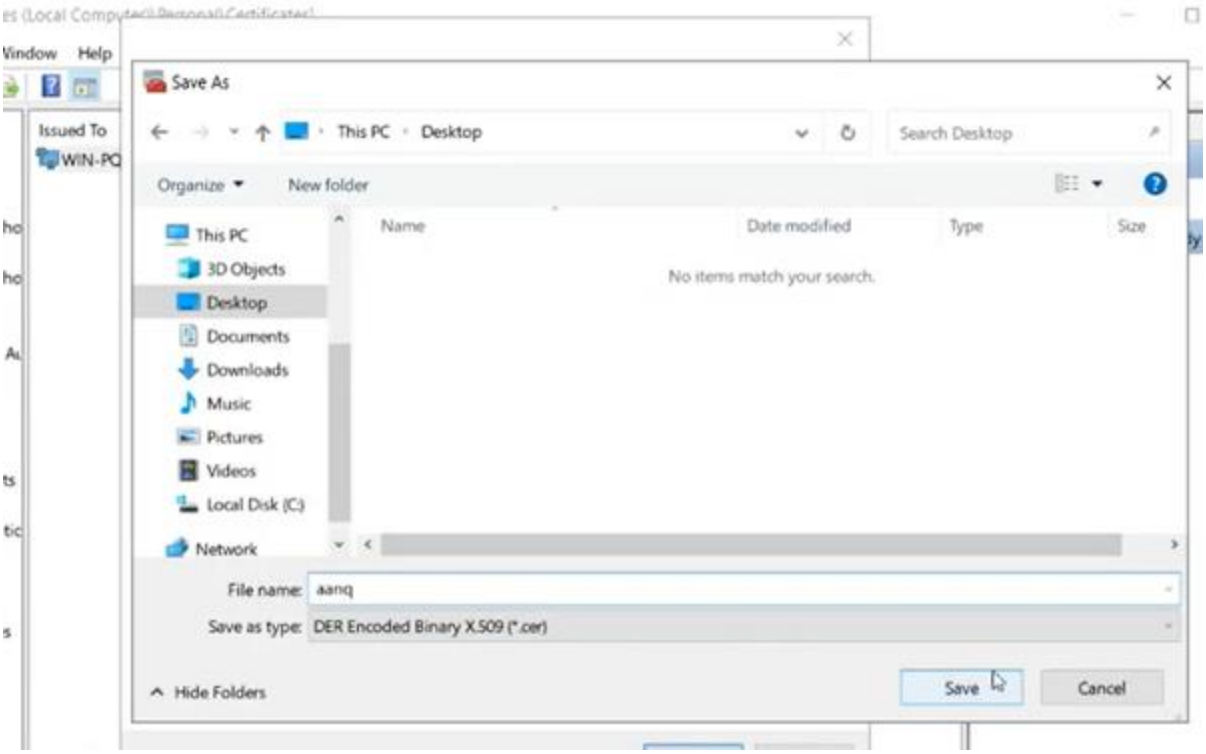
71. Export the certificate for the client. Follow the picture below as a guide to give the client the ssl certificate for secured local hosting.

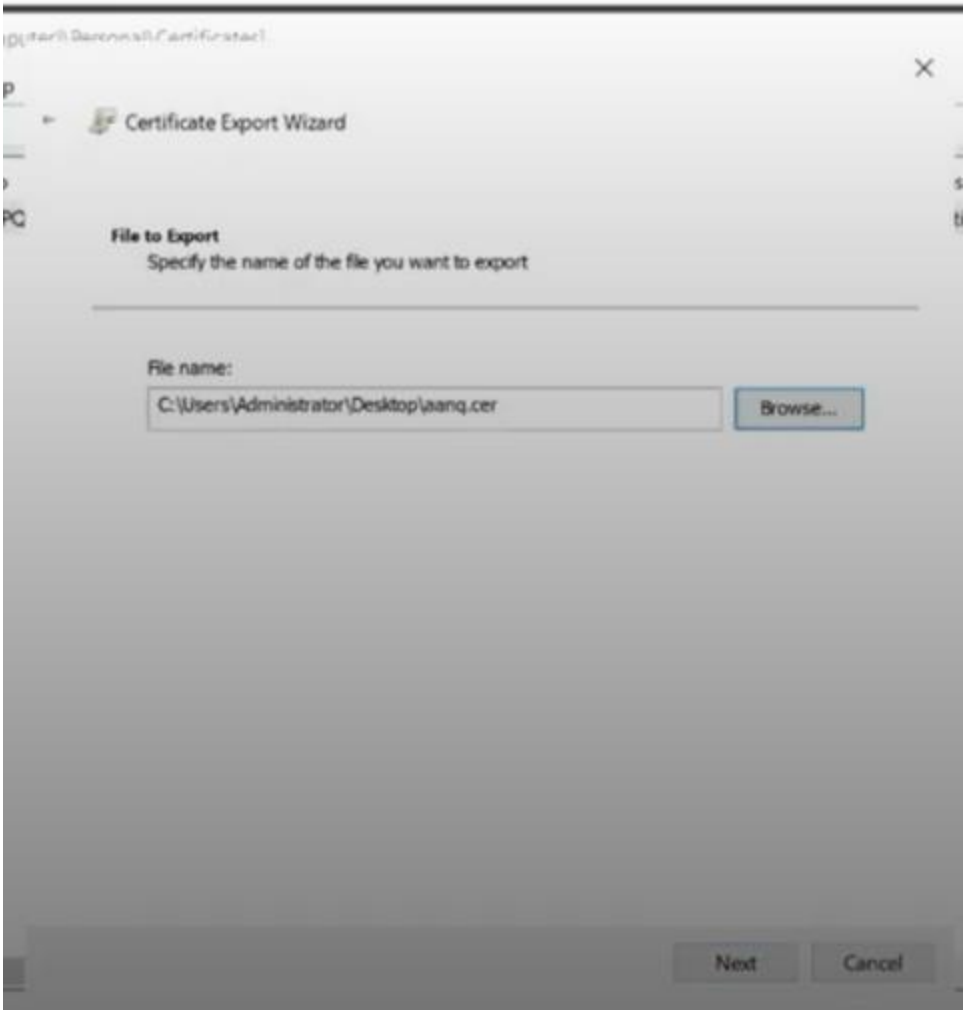

Console1 - [Console Root\Certificates (Local Computer)\Personal\Certificates]
File Action View Favorites Window Help
Console Root
Certificates (Local Computer)
Personal
Certificates
Trusted Root Certification Autho
Enterprise Trust
Intermediate Certification Autho
Trusted Publishers
Untrusted Certificates
Third-Party Root Certification A
Trusted People
Client Authentication Issuers
Preview Build Roots
Test Roots
Certificate Enrollment Requests
Smart Card Trusted Roots
Trusted Packaged App Installatio
Trusted Devices
Web Hosting
Windows Live ID Token Issuer
WindowsServerUpdateServices
Issued To
Issued By
Expiration Date
Intended Purposes
Friendly
12/19/2025
Server Authentication
testaa
Open
All Tasks
Cut
Copy
Delete
Properties
Help
Open
Request Certificate with New Key...
Renew Certificate with New Key...
Manage Private Keys...
Advanced Operations
Export...
Actions
Certificates
More Actions
More Actions
Export a certificate

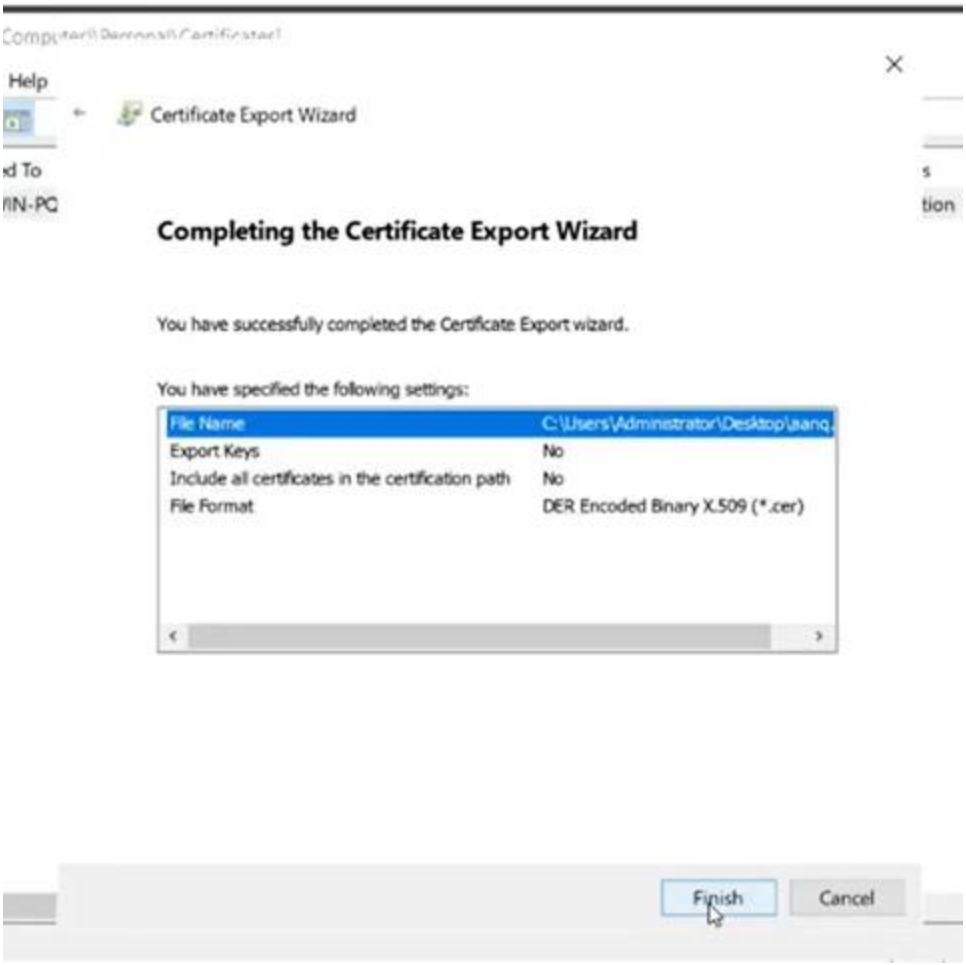

Certificate Export Wizard
Welcome to the Certificate Export Wizard
This wizard helps you copy certificates, certificate trust lists and certificate revocation lists from a certificate store to your disk.
A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.
To continue, click Next.
Next
Cancel

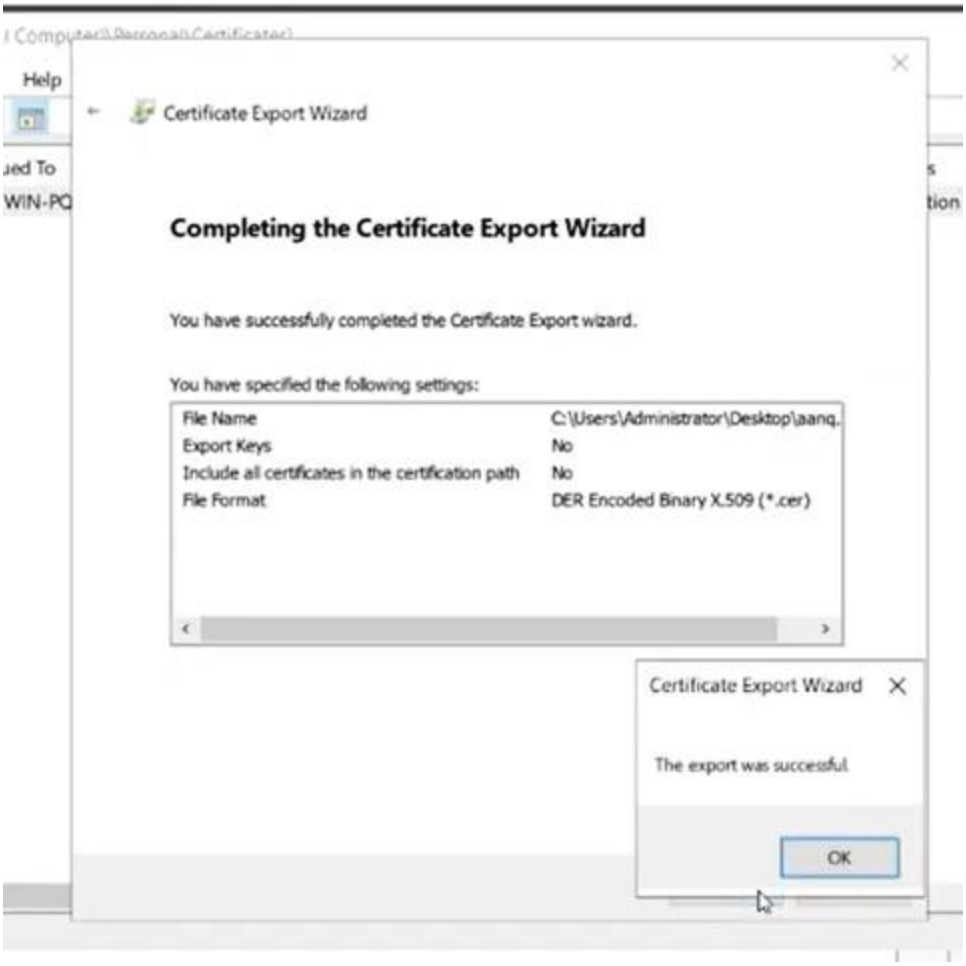

Certificate Export Wizard
Export Private Key
You can choose to export the private key with the certificate.
Private keys are password protected. If you want to export the private key with the certificate, you must type a password on a later page.
Do you want to export the private key with the certificate?
Yes, export the private key
No, do not export the private key
Next
Cancel


Certificate Export Wizard
Export File Format
Certificates can be exported in a variety of file formats.
Select the format you want to use:
DER encoded binary X.509 (.CER)
Base-64 encoded X.509 (.CER)
Cryptographic Message Syntax Standard - PKCS #7 Certificates (.P7B)
Include all certificates in the certification path if possible
Personal Information Exchange - PKCS #12 (.PFX)
Include all certificates in the certification path if possible
Delete the private key if the export is successful
Export all extended properties
Enable certificate privacy
Microsoft Serialized Certificate Store (.SST)
Next
Cancel


Window
Help
Issued To
Save As
This PC
Desktop
Search Desktop
Organize
New folder
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Network
Name
Date modified
Type
Size
No items match your search.
File name:
aanq
Save as type:
DER Encoded Binary X.509 (*.cer)
Hide Folders
Save
Cancel


Certificate Export Wizard
File to Export
Specify the name of the file you want to export
File name:
C:\Users\Administrator\Desktop\aanq.cer
Browse...
Next
Cancel


Help
Certificate Export Wizard
Completing the Certificate Export Wizard
You have successfully completed the Certificate Export wizard.
You have specified the following settings:
File Name
C:\Users\Administrator\Desktop\aanq.
Export Keys
No
Include all certificates in the certification path
No
File Format
DER Encoded Binary X.509 (*.cer)
Finish
Cancel



72. Import the Certificate to the client's machine (through flash drive or similar means) and repeat the pasting process of the imported certificate in the Trusted Root Certification Authorities folder (refer to the video).

73. Confirm if the certificate is visible and acknowledged by the website in the client's side (refer to the video).

VI. SOURCE CODE

```
<html>

<body>

<h1>Welcome to AANQ Website!</h1>

</body>

</html>
```

VII. OBSERVATION AND CONCLUSION

OBSERVATION

The following are the observations that were made while the server, the client and the server roles were set up:

-The topology of the setup was simple, only consisting of 1 laptop which has been set as the server, three laptops set to act as the clients, a switch to connect the laptops to one another, and the router

-The Windows Server operating system was relatively easy to set-up and was user-friendly when it came to setting up roles, so long as there were proper guides that could be referenced. The interfaces and wizards that were included within the system also helped in guiding the processes required to set up the server

-Active Directory Domain Services (ADDS) setup provided effective centralized user management capabilities after proper domain structure planning and configuration

-Group Policy Objects (GPO) implementation demonstrated smooth policy management across all client machines, ensuring consistent security and configuration settings

-Folder redirection functioned efficiently, allowing users to access their data from any client machine while maintaining centralized storage

-After setting up the appropriate roles and features, the roles and features worked as expected on the client software. This method of testing validated the methods used to setup the roles as testing on the server machine does not truly test the ability of the added role or feature to work

-The webpage that was created was successfully displayed after configuring the IIS web server. Features such as basic authentication and the SSL certificate also work on the website once the web server was modified to include such features

-Throughout the implementation of various server roles, system performance remained stable, demonstrating Windows Server's efficient resource management capabilities

CONCLUSION

Based on the case study conducted, the implementation of Windows Server with its various roles and features was successfully accomplished within the scope of our network environment. The setup process, while conducted on basic laptop hardware, effectively demonstrated the fundamental aspects of server administration and client-server relationships.

The Windows Server platform proved to be accessible for learning and implementing server administration tasks, with its interface and role management system facilitating smooth configuration processes. Each implemented role - from Active Directory Domain Services to web server functionality - performed as intended when tested on client machines, validating our setup procedures and configurations.

The successful implementation of security features, including basic authentication and SSL certificates, highlighted the importance and effectiveness of proper security measures in server environments. Despite the limitations in hardware resources and network topology complexity, the case study achieved its educational objectives by providing practical experience in server setup and management, establishing a solid foundation for understanding more advanced server environments and configurations.

VIDEO LINK:
https://drive.google.com/file/d/1MP8POvLLBXvxUMHKXfw7WyNdGbn6t842/view?usp=drivesdk