Department of Computer Science & Engineering

Server Administration Complete Lab Assignment

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Abstract:

In this document I will walk you through,

1. Installing and configuring Nano Server
• Installing Nano Server
• Completing post-installation tasks on Nano Server
• Performing remote management

2. Configuring local storage
• Creating and managing volumes
• Resizing volumes
• Managing virtual hard disks

3. Implementing Storage Spaces
• Creating a Storage Space
• Installing Data Deduplication
• Configuring Data Deduplication

4. Installing and configuring containers
• Installing and configuring Windows Server containers by using Windows PowerShell
• Installing and configuring Windows Server containers by using Docker Installing

5. Deploying and administering AD DS
• Deploying AD DS
• Deploying domain controllers by performing domain controller cloning
• Administering AD DS

6. Managing AD DS objects
• Creating and managing groups in AD DS
• Creating and configuring user accounts in AD DS

7. Administering AD DS
• Delegate administration for OUs
• Creating and modifying AD DS objects

8. Domain and trust management in AD DS
• Implementing forest trusts
• Implementing child domains in AD DS

9. Implementing AD DS sites and replication
• Modifying the default site
• Creating additional sites and subnets
• Configuring AD DS replication |
• Monitoring and troubleshooting AD DS replication

10. Implementing a Group Policy infrastructure
• Creating and configuring GPOs
• Managing GPO scope

11. Troubleshooting Group Policy infrastructure
• Verify GPO application
• Troubleshooting GPOs

12. Implementing WSUS and deploying updates
• Implementing WSUS
• Configuring update settings
• Approving and deploying an update by using WSUS

- Installation of Windows Server 2016
- Installation of Windows Server Core
- Installation of Nano Server

1. Installation of Windows Server 2016

Step-1

Choose the machine whether it is physically or virtually.

Step-2

Download the Windows Server 2016 from the official site.

Step-3

Based on the step-1 go ahead, now we are going to install it on a virtual machine.

Step-4

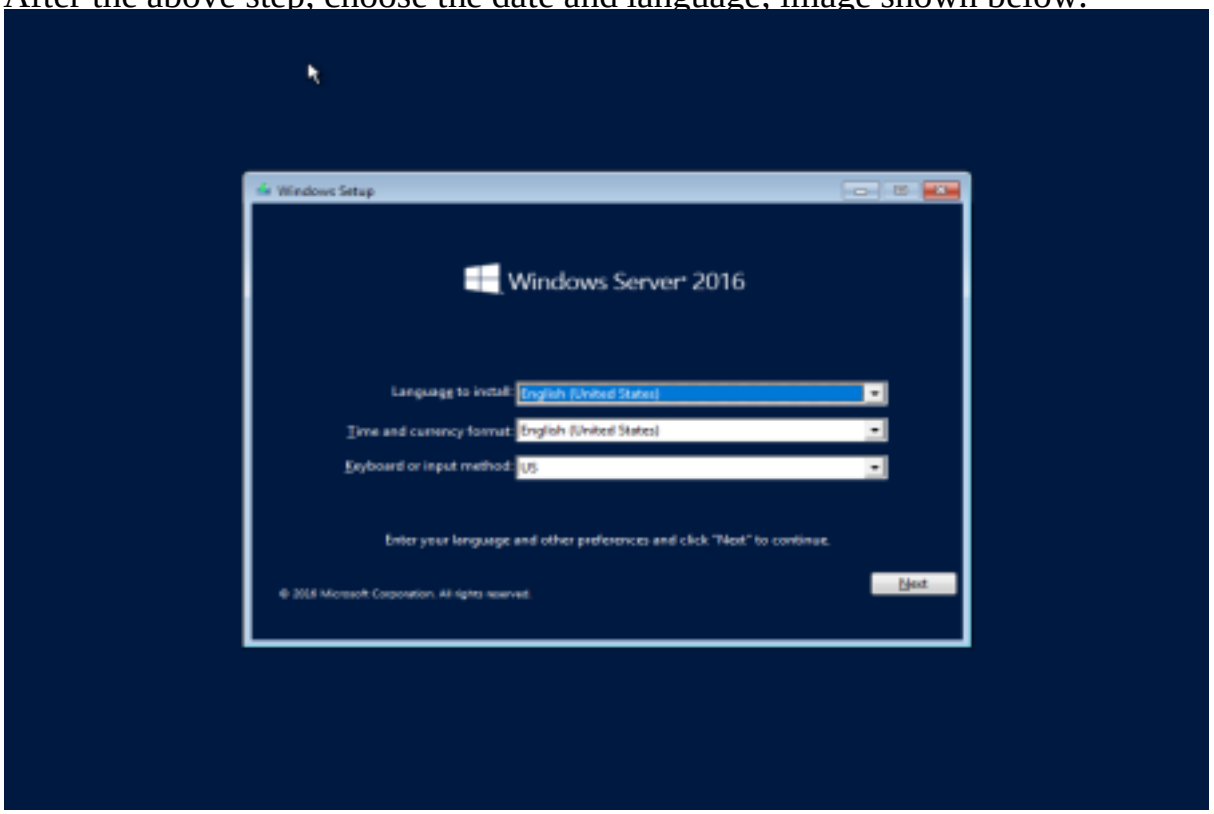
Import the Windows Server 2016 OS into a virtual

machine. Step-5

Start the virtual machine, when you start the machine it will show **loading files** progress, image shown below.

Step-6

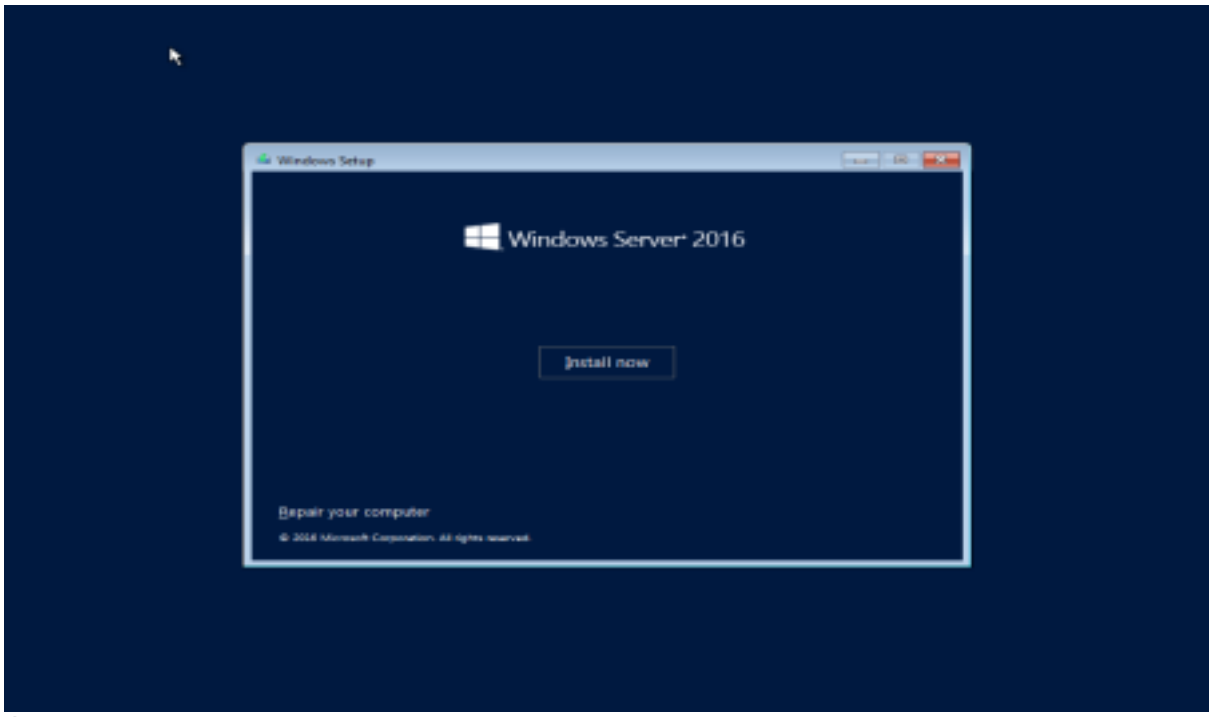
After the above step, choose the date and language, image shown below.



Click the **Next** button.

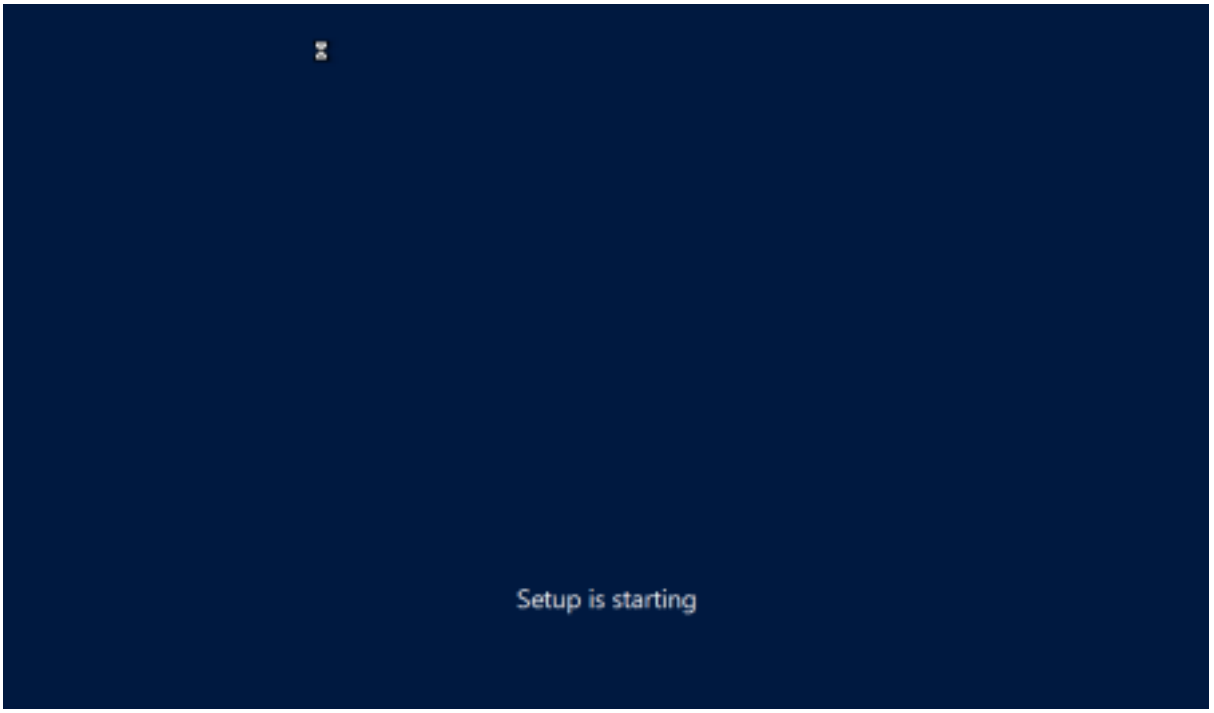
Step-6

After the above step,click on **install now** button, image shown below.



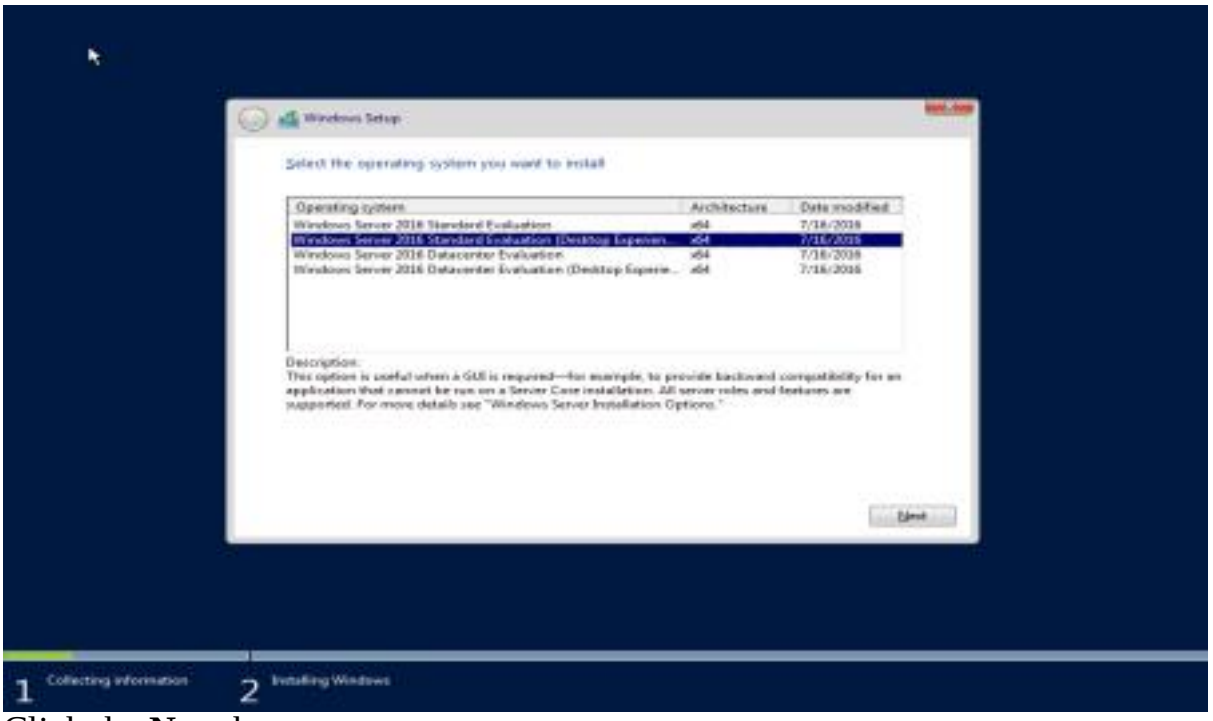
Step-7

After the above step windows server will start to **Setup** the OS image shown below.



Step-8

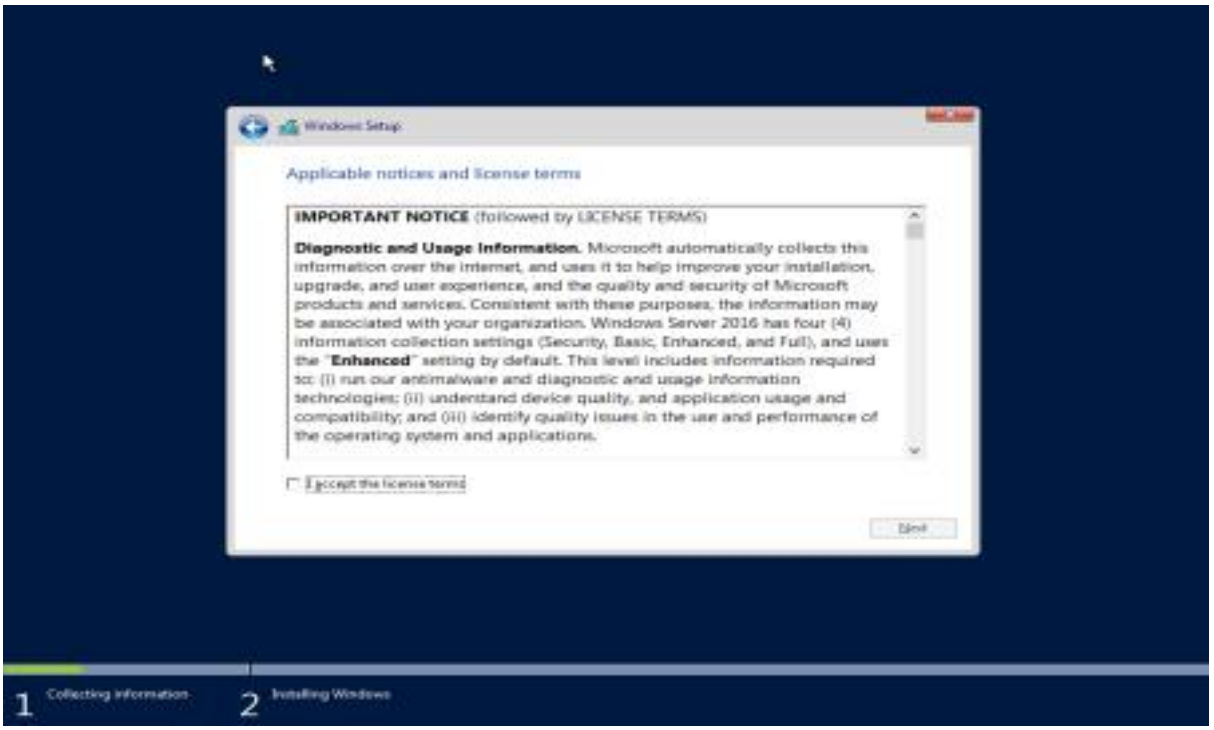
After the above ,**Select the OS edition** you want to install, image shown below.



Click the **Next** button.

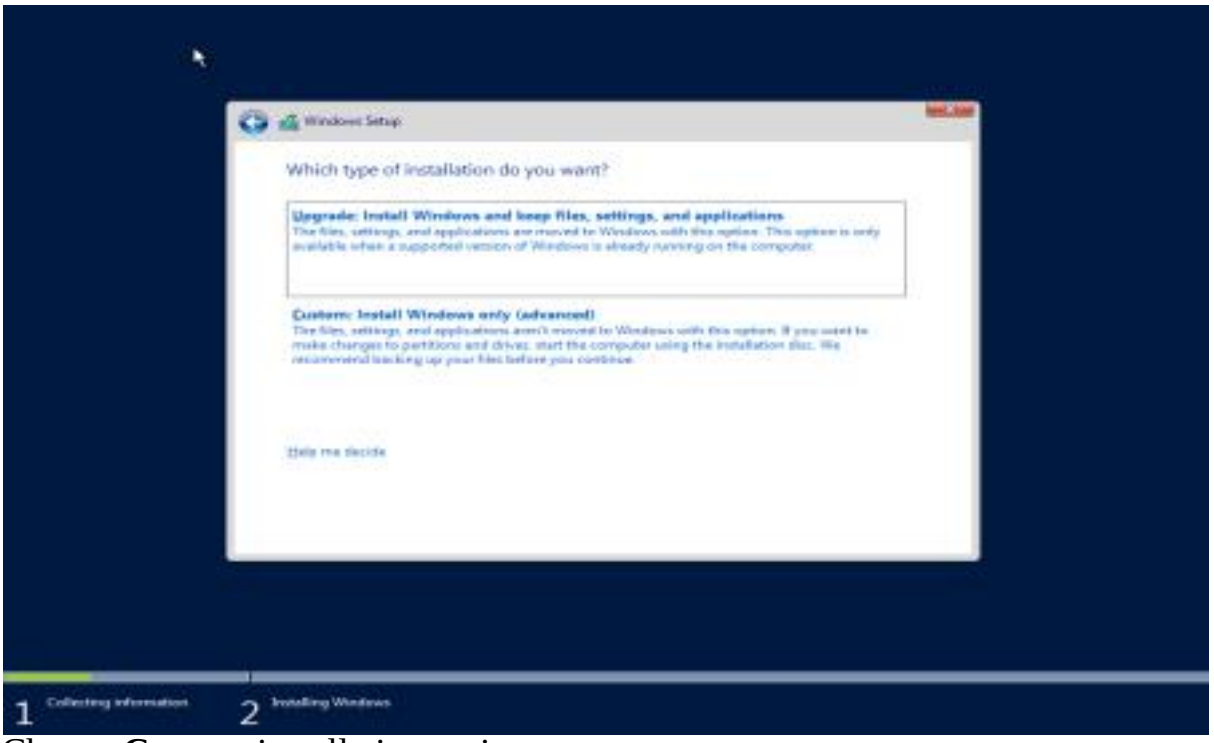
Step-9

After the above step, **Accept the license terms**, image shown below.



Step-10

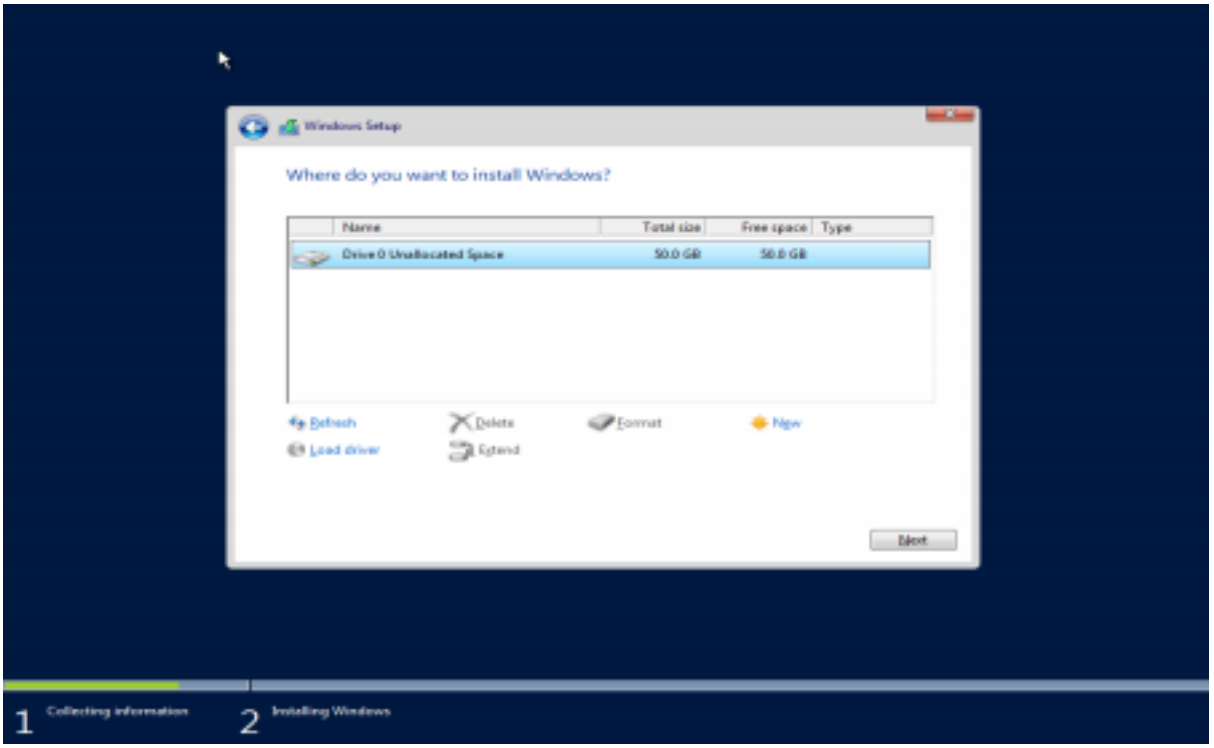
Choose the installation mode, image shown below.



Choose **Custom** installation option.

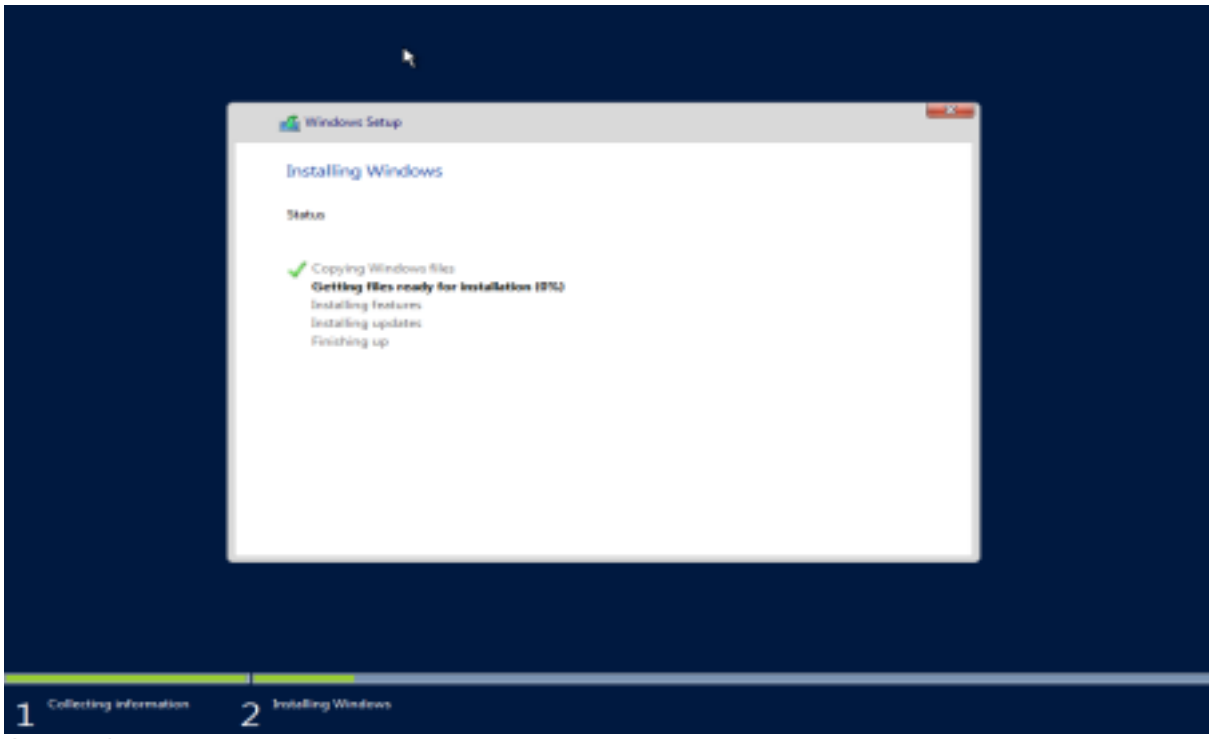
Step-11

Choose the disk you want to install the OS, image shown below.



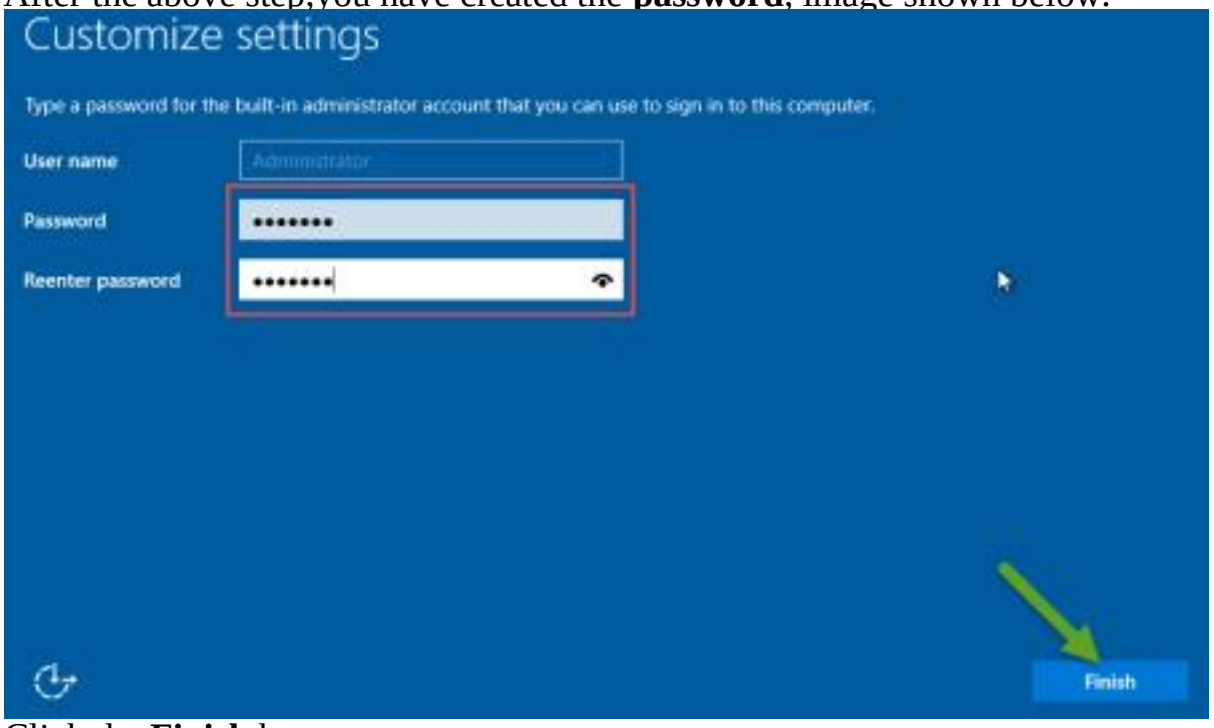
Step-12

After above step,OS will start to install on virtual machine,image shown below.



Step-13

After the above step,you have created the **password**, image shown below.



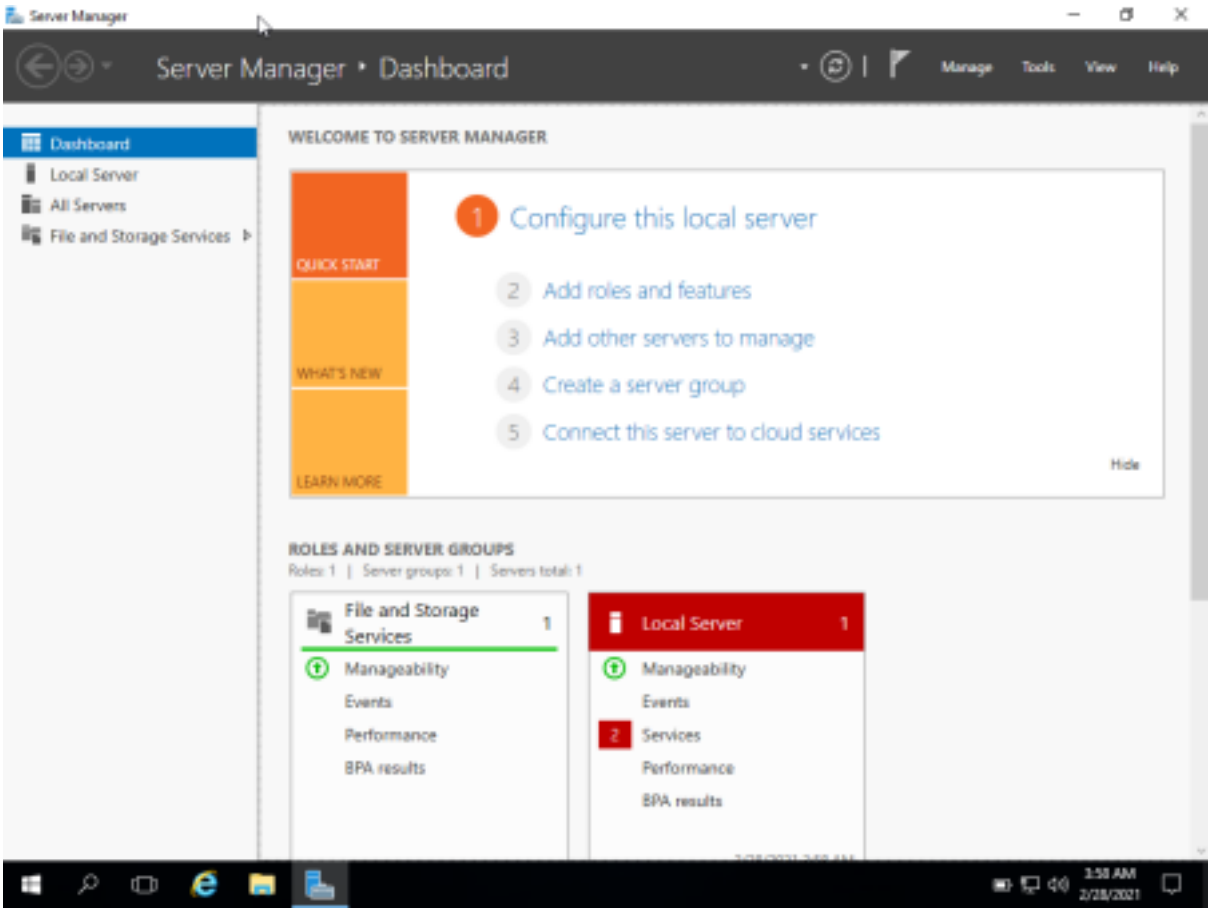
Click the **Finish** button.

Step-13

After the above step, you will see the image shown below, press **Ctrl+Alt+Delete**.

Finally,

Congratulations, you have completed the installation process.
Dashboard of **Server Manager.**



Thank you

2.Installation of Windows Server Core

Now we are going to install the **Windows Server Core** edition.

Definition:

- Server Core is a minimalistic Windows Server installation option.
- It is fully Command Line Interface(CLI).
- Installation process is the same as before we have seen.
- Half of the process remains the same.

Used for:

- When you finish installing Server Core on a system and sign in for the first time, you'r in for a bit of a surprise.
- The main difference between the Server with Desktop Experience ● installation option and Server Core is that Server Core does not include the following GUI shell packages:

Microsoft-Windows-Server-Shell-Package

Microsoft-Windows-Server-Gui-Mgmt-Package

Microsoft-Windows-Server-Gui-RSAT-Package

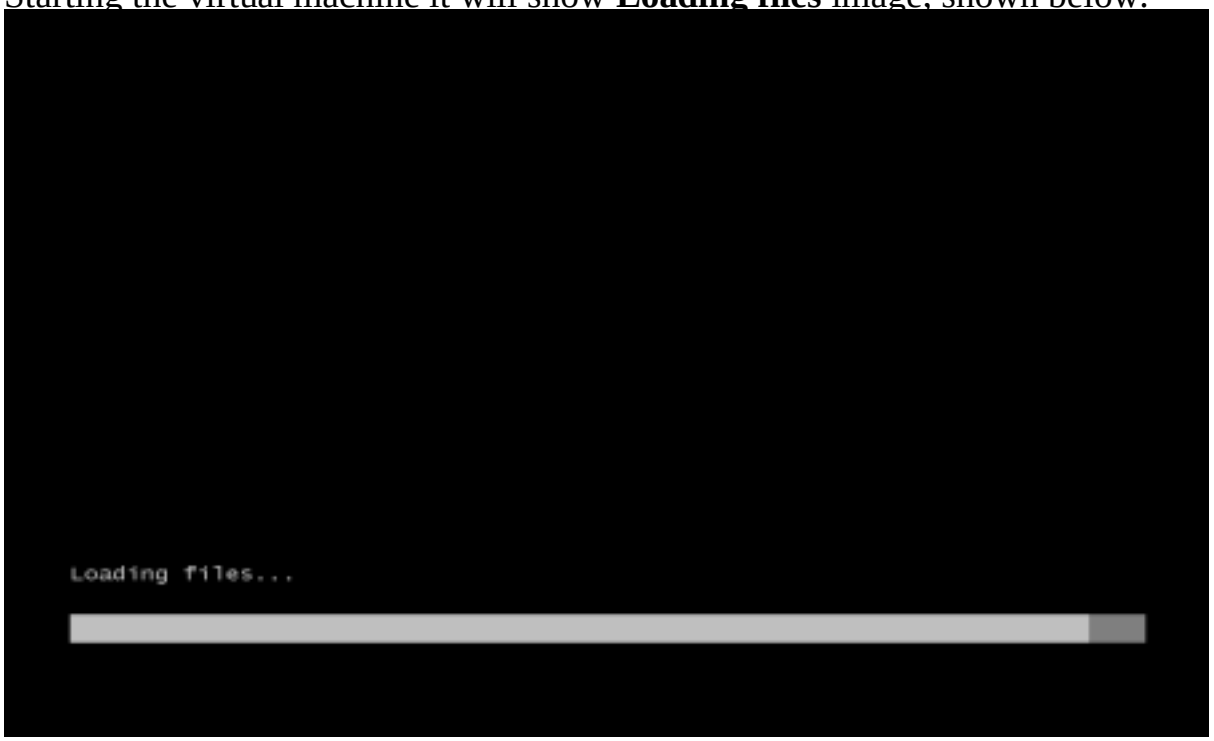
Microsoft-Windows-Cortana-PAL-Desktop-Package

In other words, there is no desktop in Server Core, by design. While maintaining the capabilities required to support traditional business applications and role-based workloads, Server Core does not have a traditional desktop interface.

Instead, Server Core is designed to be managed remotely through the command line, PowerShell, or a GUI tool (like RSAT or Windows Admin Center). Find the installation process below given instruction and screenshots.

Step-1

Starting the virtual machine it will show **Loading files** image, shown below.



Step-2

Choose the date and language.

Step-3

Click the on **Install now** button.

Step-4

Look carefully we have chosen **Windows Server Datacenter Evaluation**.

Click the **Next** button.

Step-5

Accept the license terms, image shown below.

Step-6

Choose the installation mode, image shown below

Step-7

The OS will start to install on virtual machine,image shown below.

Step-8

Windows Server Core **getting started**, image shown below.

Step-9

As i mentioned earlier Windows Server Core is fully Command Line Interface. You need to change password before signing in,image shown below, click **ok.**

Step-10

After changing your password again click the **Ok** option, image shown below.

Step-11

This is the First window after completing the installation process.

Learn some basic commands to work on this OS.

Congratulations again, you have completed the installation process.

Thank you

3.Installation Windows Nano Server

Now we are going to install the **Windows Nano Server** edition.

Definition:

- Nano Server is a remotely administered server operating system optimized for private clouds and datacenters.
- It is similar to Windows Server in Server Core mode, but significantly smaller.
- has no local logon capability, and only supports 64-bit applications, tools.

Used for:

- Nano Server can also be used as a host server for cloud-based applications.
- as a server running Internet Information Services (IIS) or some other Windows-supported web server, or as a domain name system (DNS) server.

Installation process:

To install the Windows Nano Server we need some spefic commands, given below. Step-1

Change the directory using (cd command) to locate Windows Server ISO Image.

Step-2

Locate folder using D:\> **cd NanoServer**

Step-3

```
Import-Module .\NanoServerImageGenerator -Verbose
```

Step-4

```
Set-ExecutionPolicy RemoteSigned
```

Step-5

We have to write some more commands

```
New-NanoServer
-Deployement Guest
-Edition Standard
-MediaPath D:\
-TargetPath C:\VHD\Nano01.VHD
-InterfaceNameOrIndex Ethernet
-Ipv4Address 10.10.10.75
-Ipv4SubnetMask 255.0.0.0
-Ipv4Gateway 10.10.10.14
```

Step-6

Now Windows Server files will be copying.

This process will take 5-10 mins.

Step-7

Creat Hyper-v.

Screenshot shown below.

Congratulations again, you have completed the installation process of Windows Nano Server.

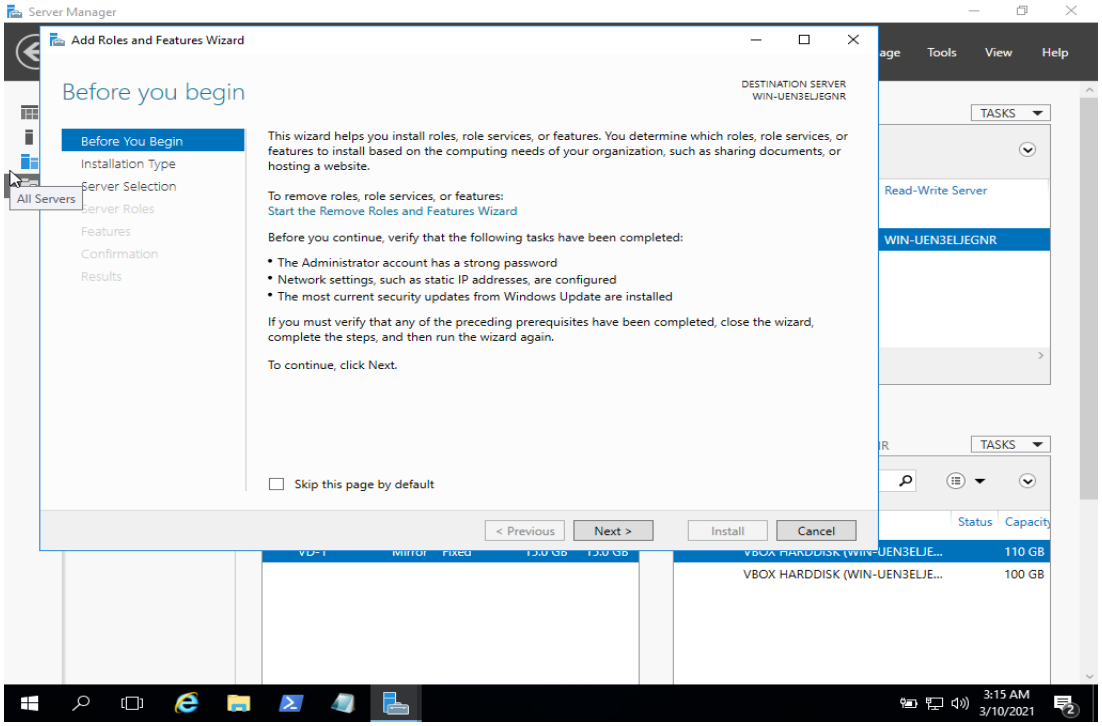
Lab-3

Implementing Storage Spaces

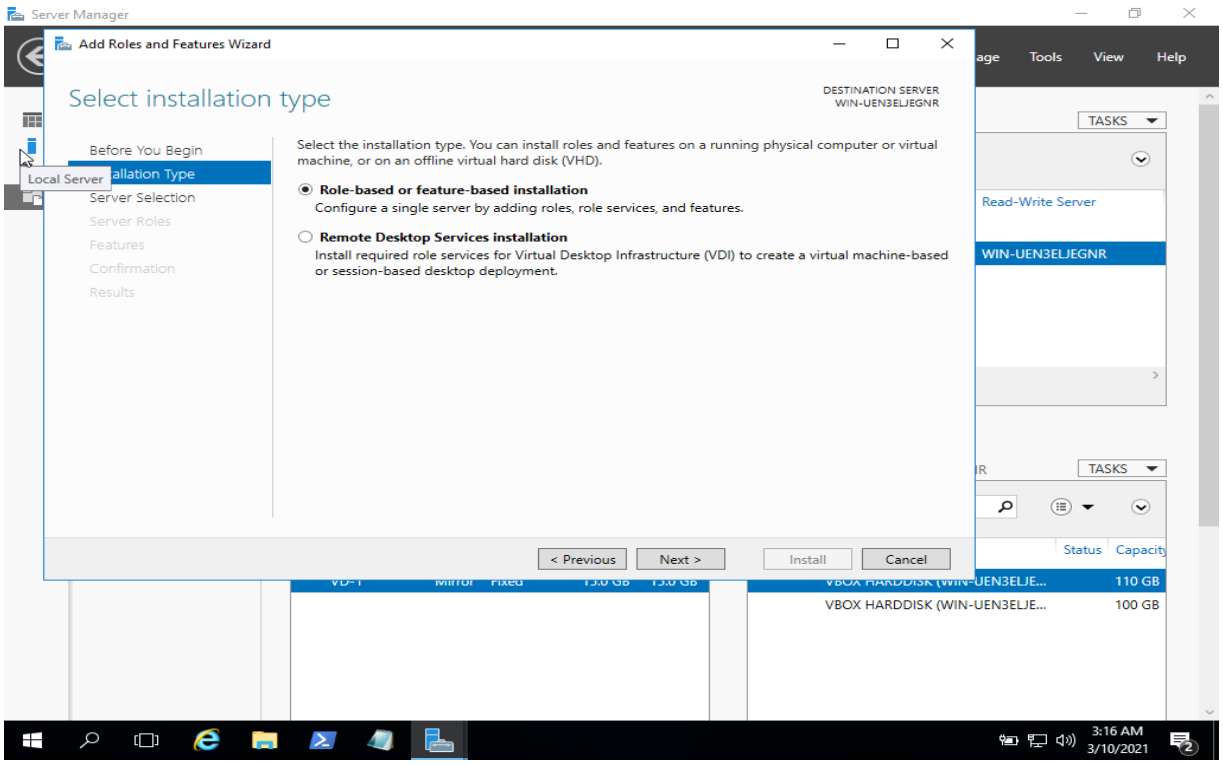
Aim:

Creating a Storage Space
Installing Data Deduplication
Configuring Data Deduplication

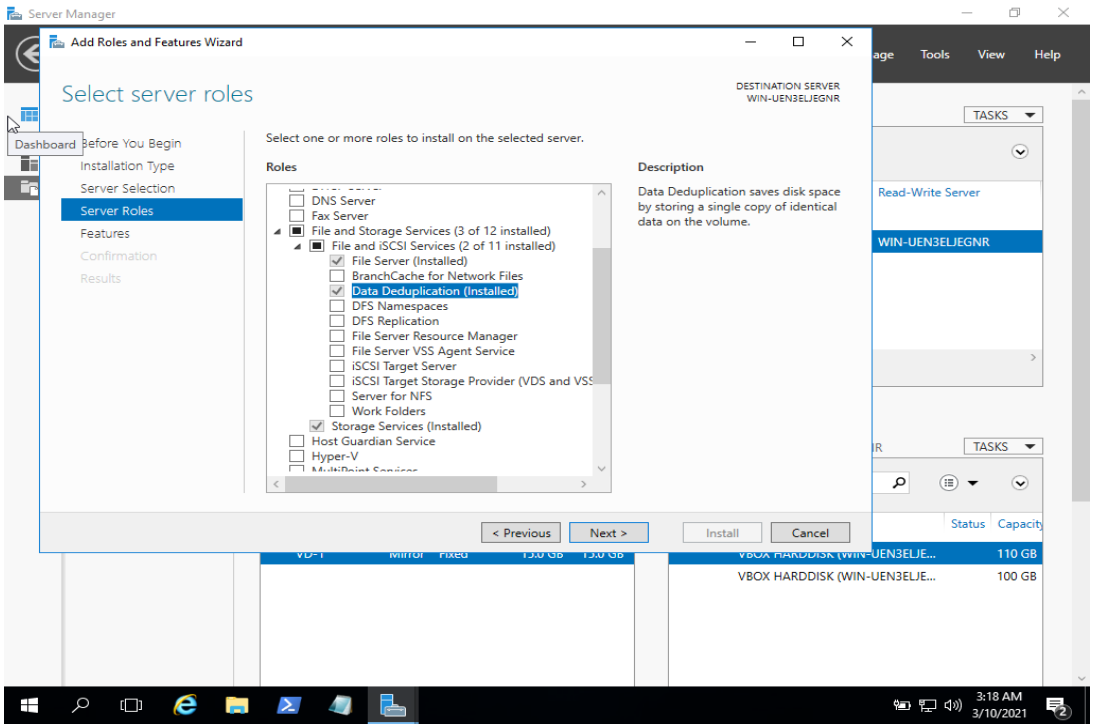
Step-1


Server Manager
Add Roles and Features Wizard
Before you begin
DESTINATION SERVER
WIN-UEN3ELJEGNR
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
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
All Servers
Tools
View
Help
TASKS
Read-Write Server
WIN-UEN3ELJEGNR
Status
Capacity
VBOX HARDDISK (WIN-UEN3ELJE...
110 GB
VBOX HARDDISK (WIN-UEN3ELJE...
100 GB
3:15 AM
3/10/2021

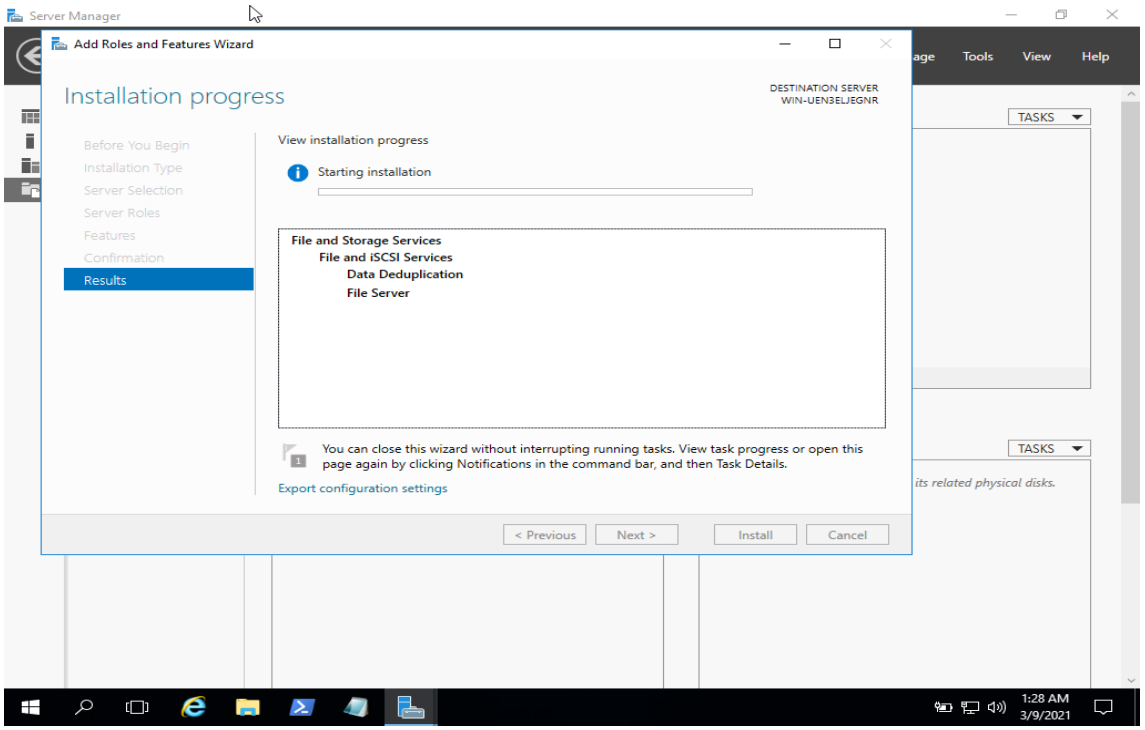
Step-2


Server Manager
Add Roles and Features Wizard
Select installation type
DESTINATION SERVER
WIN-UEN3ELJEGNR
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
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
Local Server
Tools
View
Help
TASKS
Read-Write Server
WIN-UEN3ELJEGNR
Status
Capacity
VBOX HARDDISK (WIN-UEN3ELJE...
110 GB
VBOX HARDDISK (WIN-UEN3ELJE...
100 GB
3:16 AM
3/10/2021

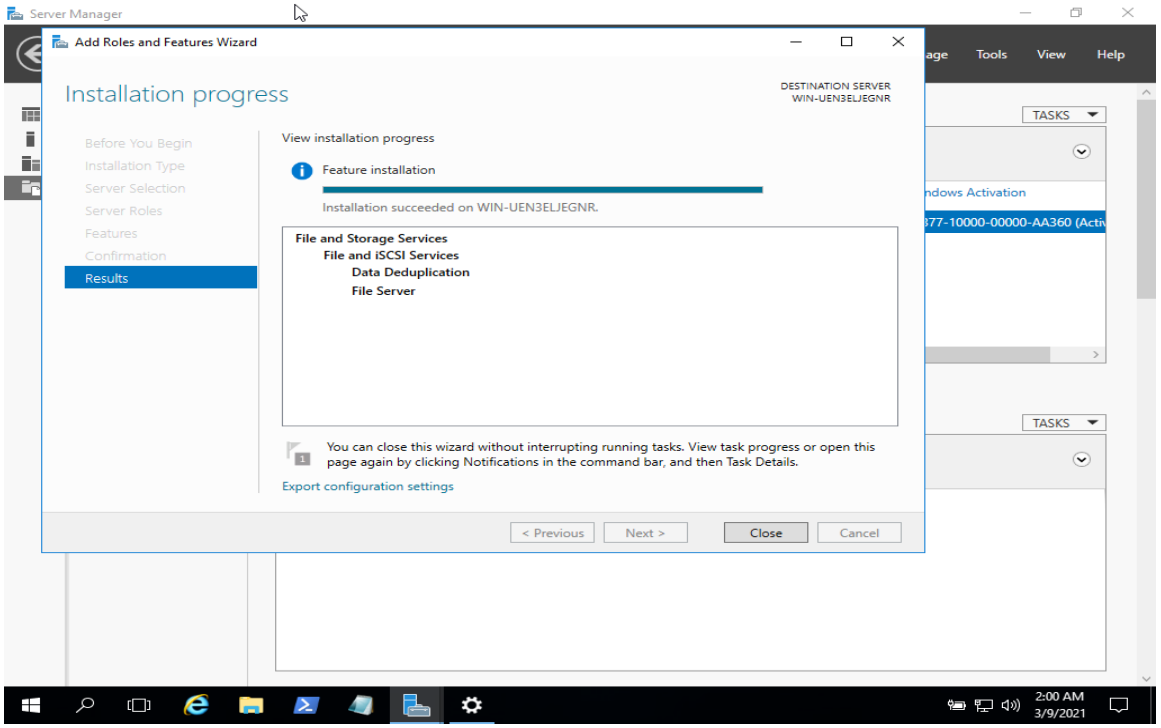
Step-4


Server Manager
Add Roles and Features Wizard
Select server roles
DESTINATION SERVER
WIN-UEN3ELJEGNR
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
Select one or more roles to install on the selected server.
Roles
DNS Server
Fax Server
File and Storage Services (3 of 12 installed)
File and iSCSI Services (2 of 11 installed)
File Server (Installed)
BranchCache for Network Files
Data Deduplication (Installed)
DFS Namespaces
DFS Replication
File Server Resource Manager
File Server VSS Agent Service
iSCSI Target Server
iSCSI Target Storage Provider (VDS and VSS
Server for NFS
Work Folders
Storage Services (Installed)
Host Guardian Service
Hyper-V
Description
Data Deduplication saves disk space by storing a single copy of identical data on the volume.
< Previous
Next >
Install
Cancel
Tools
View
Help
TASKS
Read-Write Server
WIN-UEN3ELJEGNR
Status
Capacity
VBOX HARDDISK (WIN-UEN3ELJE...
110 GB
VBOX HARDDISK (WIN-UEN3ELJE...
100 GB
3:18 AM
3/10/2021

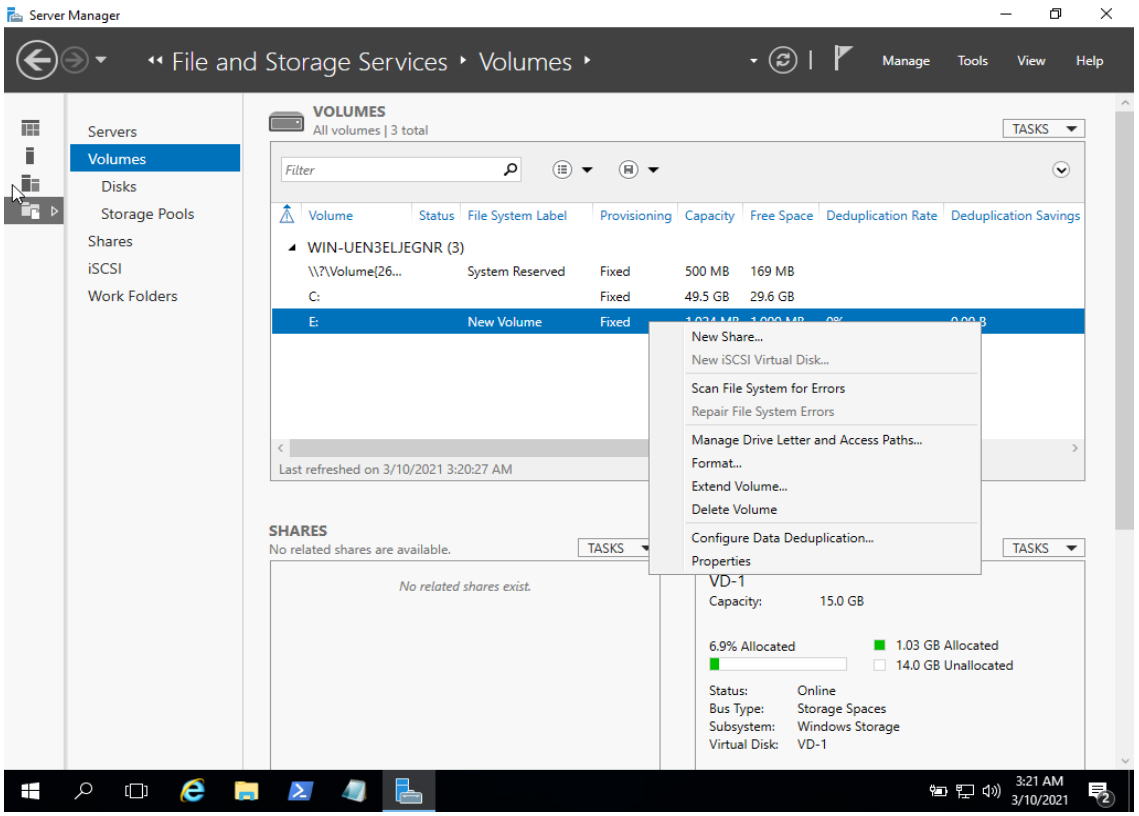
Step-5


Server Manager
Add Roles and Features Wizard
Installation progress
DESTINATION SERVER
WIN-UEN3ELJEGNR
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
View installation progress
Starting installation
File and Storage Services
File and iSCSI Services
Data Deduplication
File Server
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 >
Install
Cancel
Tools
View
Help
TASKS
TASKS
its related physical disks.
1:28 AM
3/9/2021

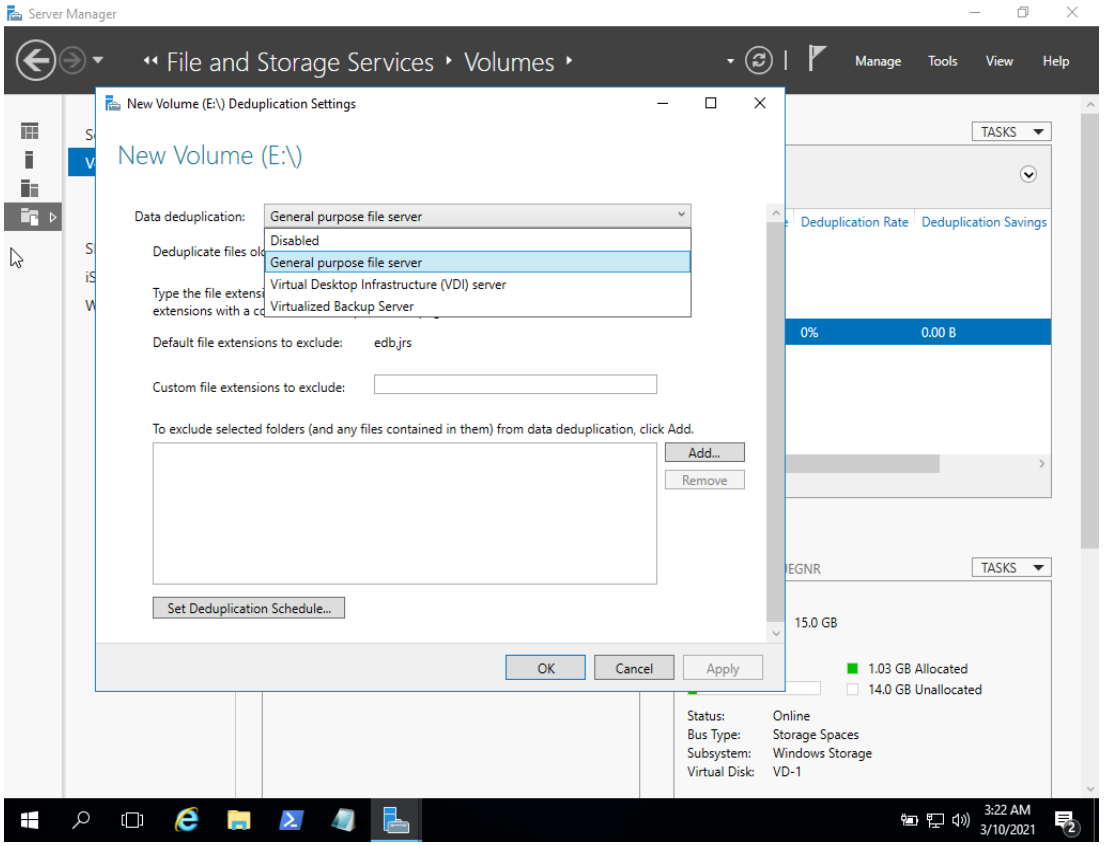
Step-6

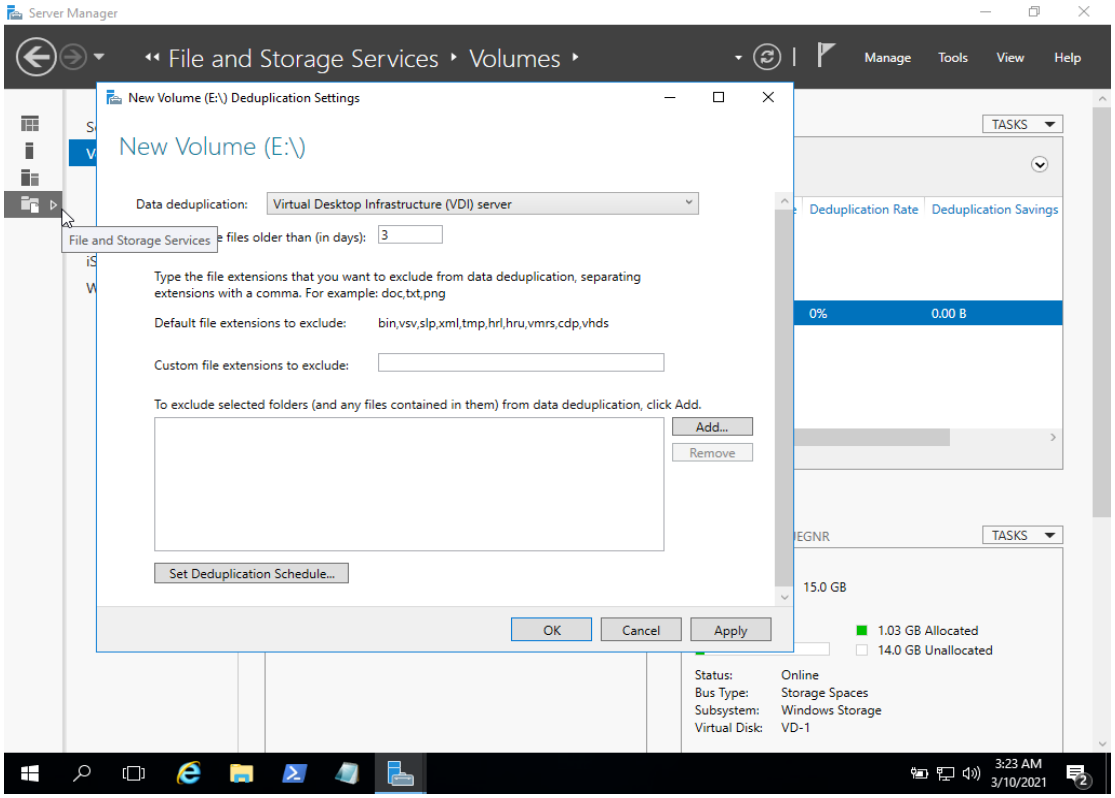

Server Manager
Add Roles and Features Wizard
Installation progress
DESTINATION SERVER
WIN-UEN3ELJEGNR
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
View installation progress
Feature installation
Installation succeeded on WIN-UEN3ELJEGNR.
File and Storage Services
File and iSCSI Services
Data Deduplication
File Server
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
Tools
View
Help
TASKS
2:00 AM
3/9/2021

Step-7


Server Manager
File and Storage Services ▸ Volumes ▸
Manage
Tools
View
Help
Servers
Volumes
Disks
Storage Pools
Shares
iSCSI
Work Folders
VOLUMES
All volumes | 3 total
TASKS
Filter
Volume
Status
File System Label
Provisioning
Capacity
Free Space
Deduplication Rate
Deduplication Savings
WIN-UEN3ELJEGNR (3)
\\?\Volume{26...
System Reserved
Fixed
500 MB
169 MB
C:
Fixed
49.5 GB
29.6 GB
E:
New Volume
Fixed
Last refreshed on 3/10/2021 3:20:27 AM
New Share...
New iSCSI Virtual Disk...
Scan File System for Errors
Repair File System Errors
Manage Drive Letter and Access Paths...
Format...
Extend Volume...
Delete Volume
Configure Data Deduplication...
Properties
SHARES
No related shares are available.
TASKS
No related shares exist.
VD-1
Capacity:
15.0 GB
6.9% Allocated
1.03 GB Allocated
14.0 GB Unallocated
Status:
Online
Bus Type:
Storage Spaces
Subsystem:
Windows Storage
Virtual Disk:
VD-1
3:21 AM
3/10/2021

Step-8


Server Manager
File and Storage Services ▸ Volumes ▸
Manage
Tools
View
Help
New Volume (E:\) Deduplication Settings
New Volume (E:\)
Data deduplication:
General purpose file server
Disabled
General purpose file server
Virtual Desktop Infrastructure (VDI) server
Virtualized Backup Server
Deduplicate files old
Type the file extensi
extensions with a co
Default file extensions to exclude:
edb,jrs
Custom file extensions to exclude:
To exclude selected folders (and any files contained in them) from data deduplication, click Add.
Add...
Remove
Set Deduplication Schedule...
OK
Cancel
Apply
TASKS
Deduplication Rate
Deduplication Savings
0%
0.00 B
TASKS
15.0 GB
1.03 GB Allocated
14.0 GB Unallocated
Status: Online
Bus Type: Storage Spaces
Subsystem: Windows Storage
Virtual Disk: VD-1
3:22 AM
3/10/2021

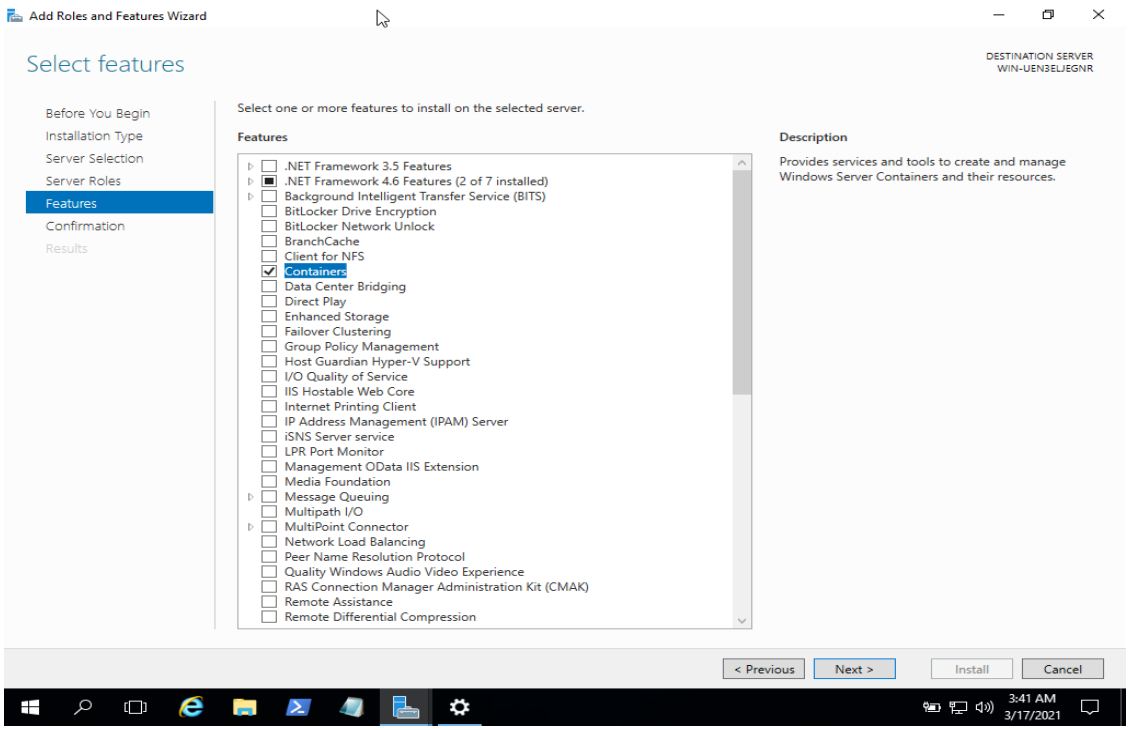


Lab –4

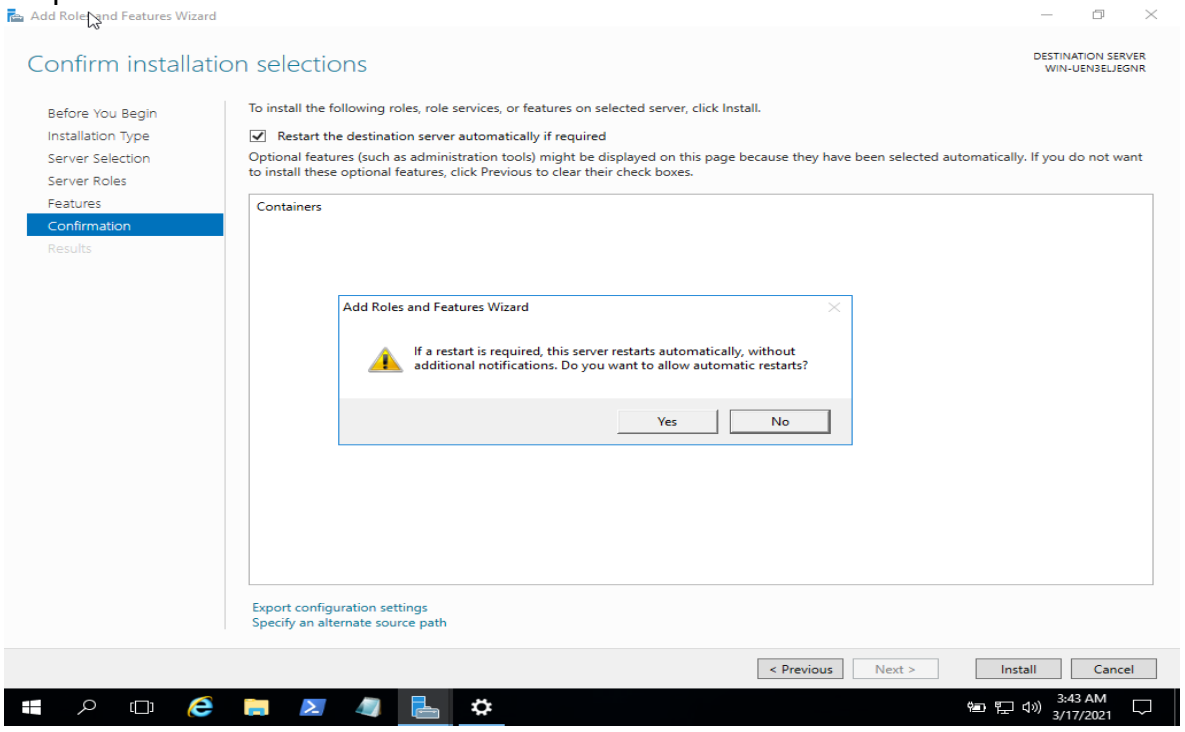
Aim:

Installing and configuring Windows Server containers by using Windows PowerShell Installing and configuring Windows Server containers by using Docker Installin

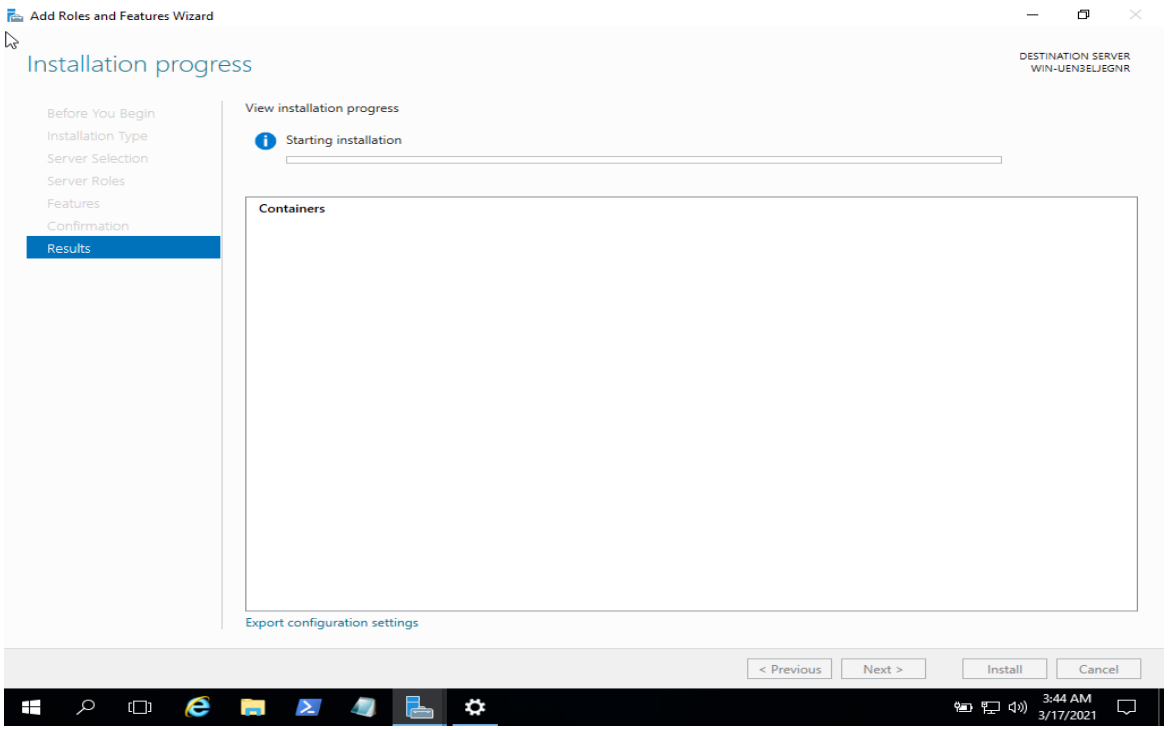
Step-1


Add Roles and Features Wizard
Select features
DESTINATION SERVER
WIN-UEN3ELJEGNR
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
Select one or more features to install on the selected server.
Features
.NET Framework 3.5 Features
.NET Framework 4.6 Features (2 of 7 installed)
Background Intelligent Transfer Service (BITS)
BitLocker Drive Encryption
BitLocker Network Unlock
BranchCache
Client for NFS
Containers
Data Center Bridging
Direct Play
Enhanced Storage
Failover Clustering
Group Policy Management
Host Guardian Hyper-V Support
I/O Quality of Service
IIS Hostable Web Core
Internet Printing Client
IP Address Management (IPAM) Server
iSNS Server service
LPR Port Monitor
Management OData IIS Extension
Media Foundation
Message Queuing
Multipath I/O
MultiPoint Connector
Network Load Balancing
Peer Name Resolution Protocol
Quality Windows Audio Video Experience
RAS Connection Manager Administration Kit (CMAK)
Remote Assistance
Remote Differential Compression
Description
Provides services and tools to create and manage Windows Server Containers and their resources.
< Previous
Next >
Install
Cancel
3:41 AM
3/17/2021

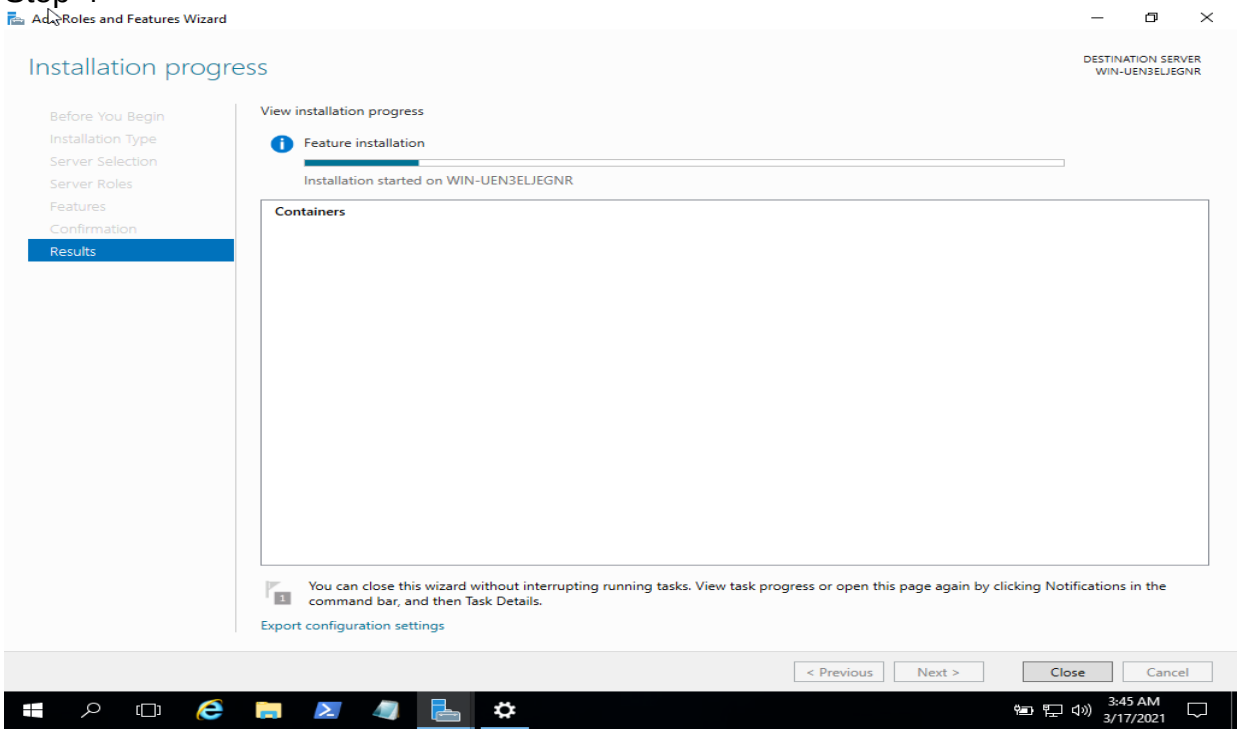
Step-2


Add Roles and Features Wizard
Confirm installation selections
DESTINATION SERVER
WIN-UEN3ELJEGNR
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
To install the following roles, role services, or features on selected server, click Install.
Restart the destination server automatically if required
Optional features (such as administration tools) might be displayed on this page because they have been selected automatically. If you do not want to install these optional features, click Previous to clear their check boxes.
Containers
Add Roles and Features Wizard
If a restart is required, this server restarts automatically, without additional notifications. Do you want to allow automatic restarts?
Yes
No
Export configuration settings
Specify an alternate source path
< Previous
Next >
Install
Cancel
3:43 AM
3/17/2021

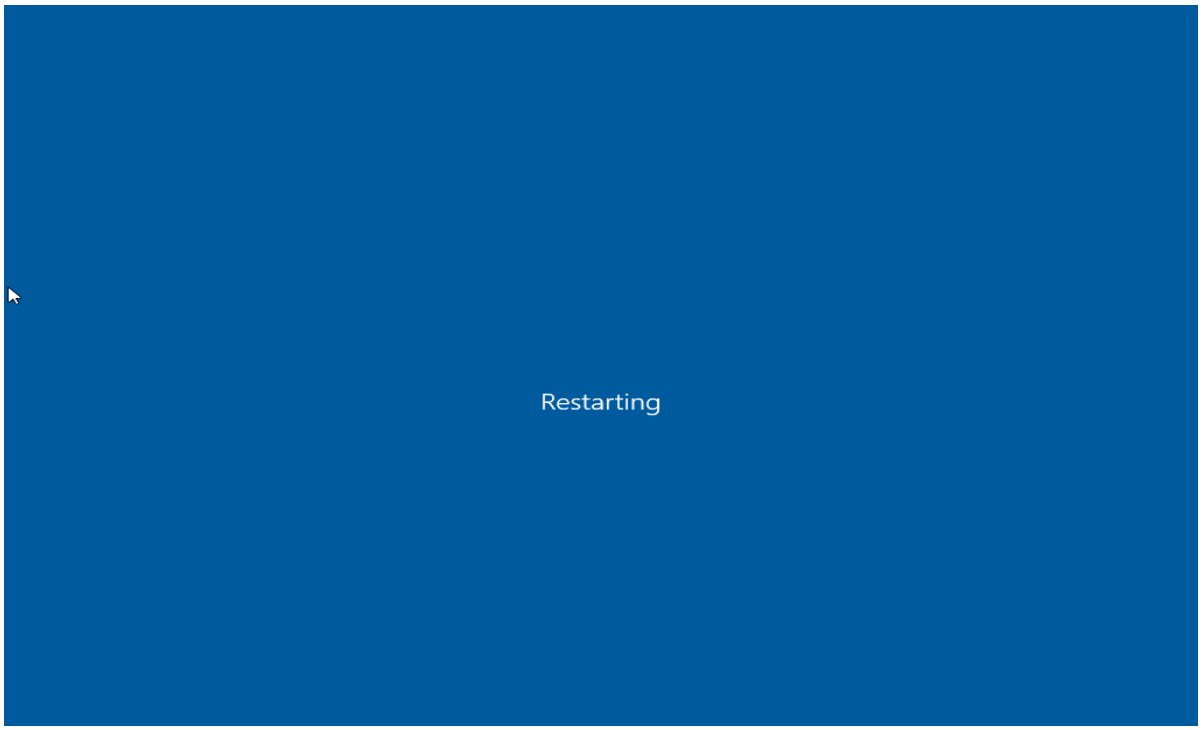
Step-3


Add Roles and Features Wizard
Installation progress
DESTINATION SERVER
WIN-UEN3ELJEGNR
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
View installation progress
Starting installation
Containers
Export configuration settings
< Previous
Next >
Install
Cancel
3:44 AM
3/17/2021

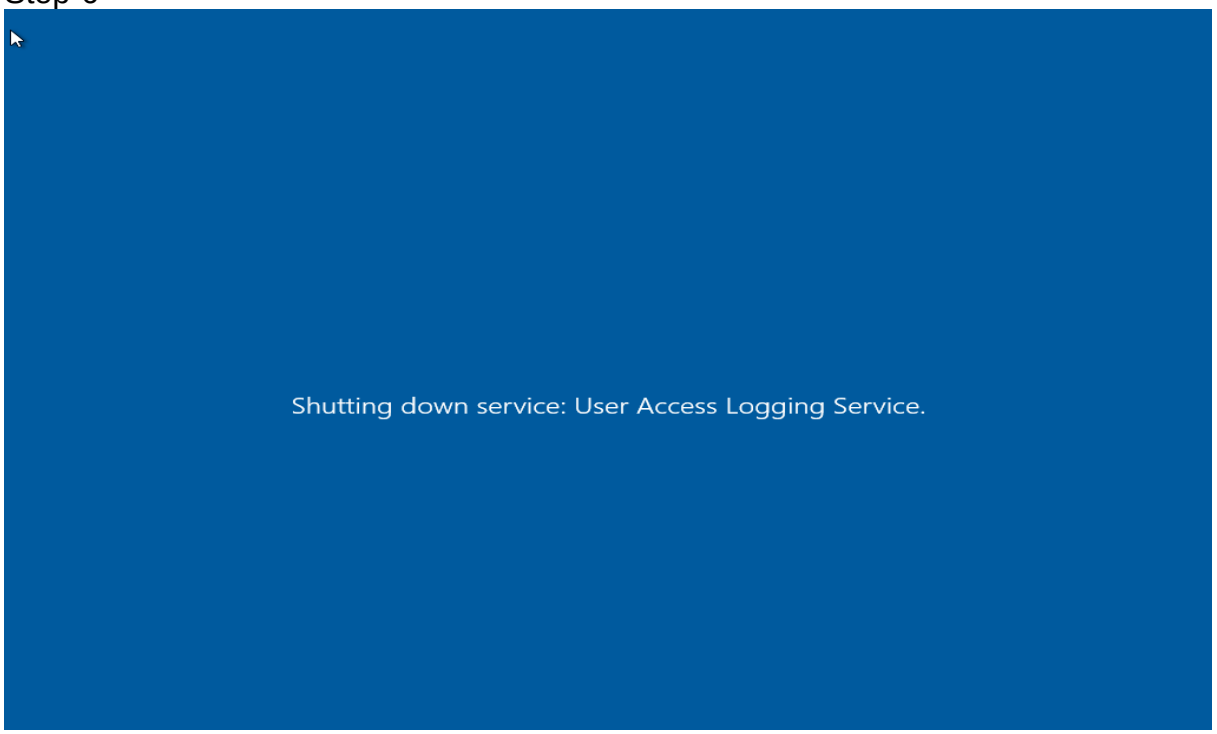
Step-4


Add Roles and Features Wizard
Installation progress
DESTINATION SERVER
WIN-UEN3ELJEGNR
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
View installation progress
Feature installation
Installation started on WIN-UEN3ELJEGNR
Containers
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
3:45 AM
3/17/2021

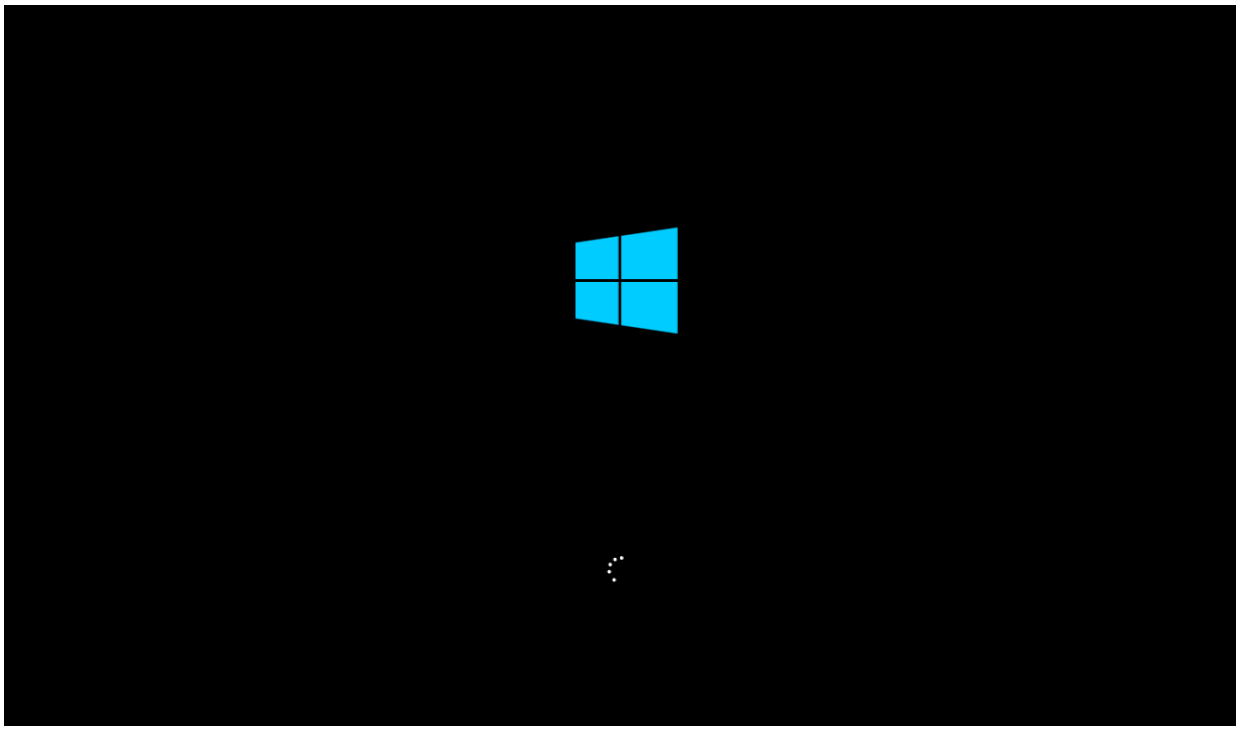
Step-5


Restarting

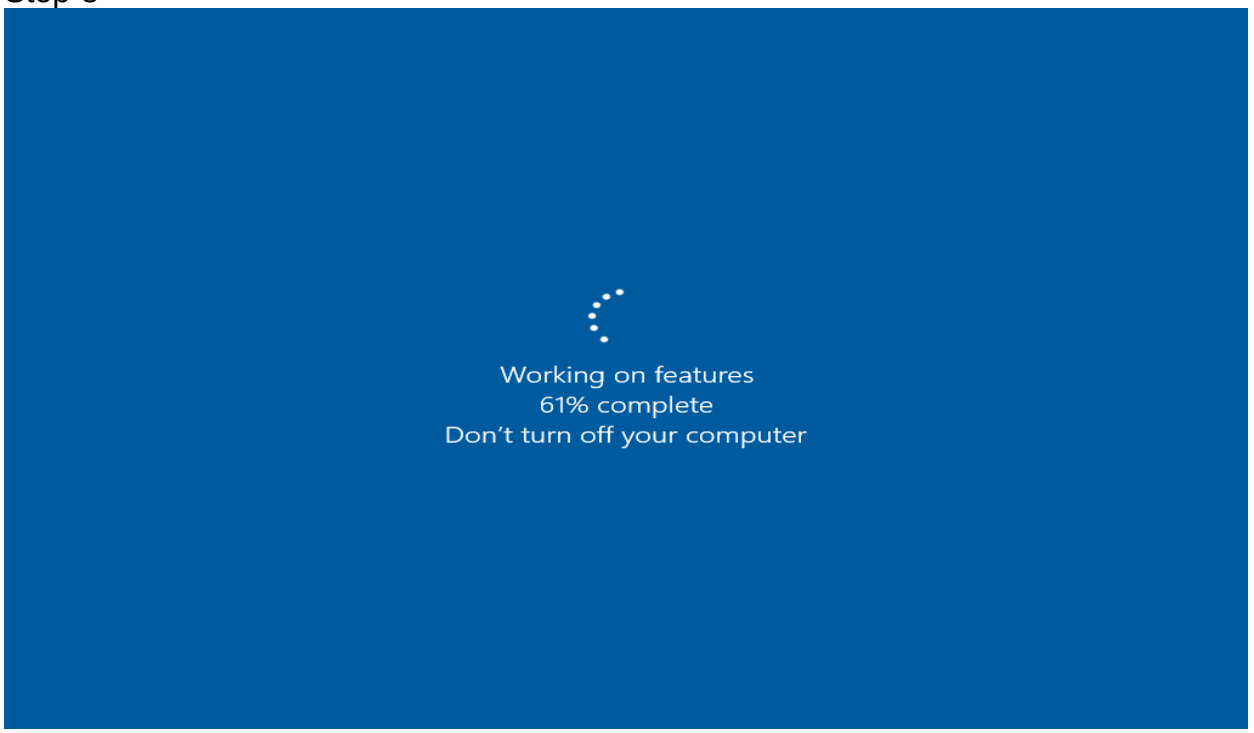
Step-6


Shutting down service: User Access Logging Service.

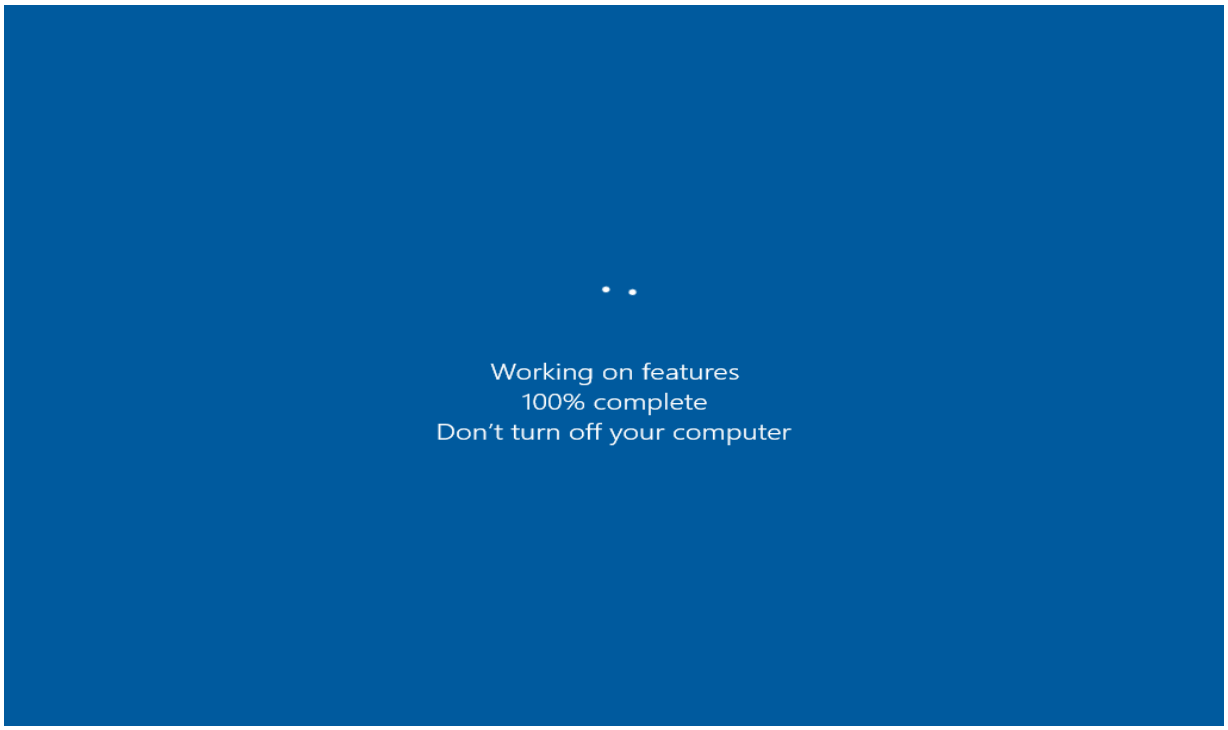
Step-7



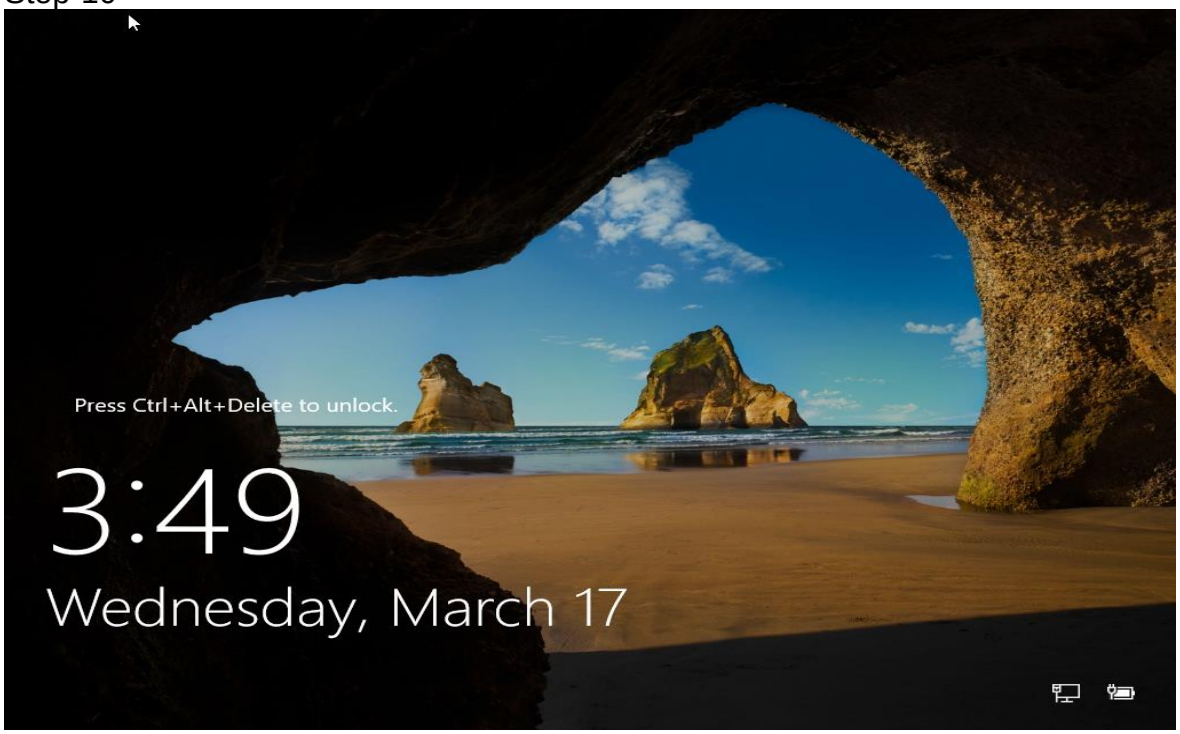
Step-8


Working on features
61% complete
Don't turn off your computer

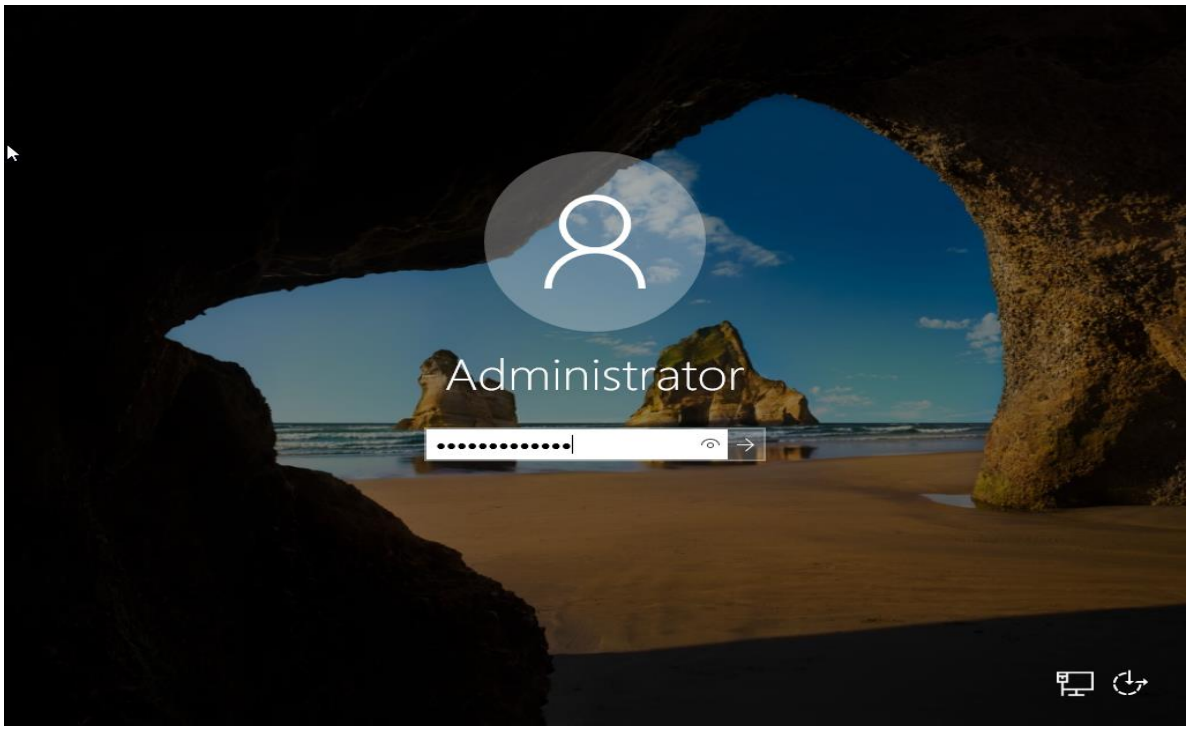
Step-9



Step-10



Step-11



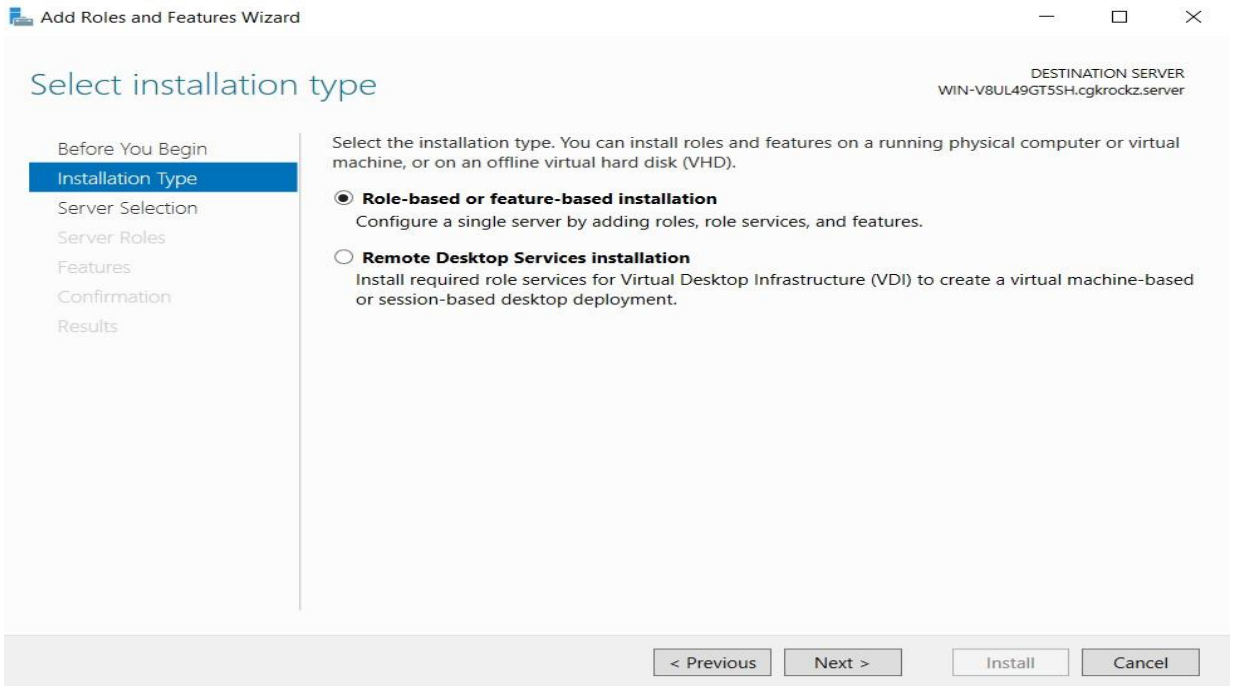
Step-12

Lab - 5

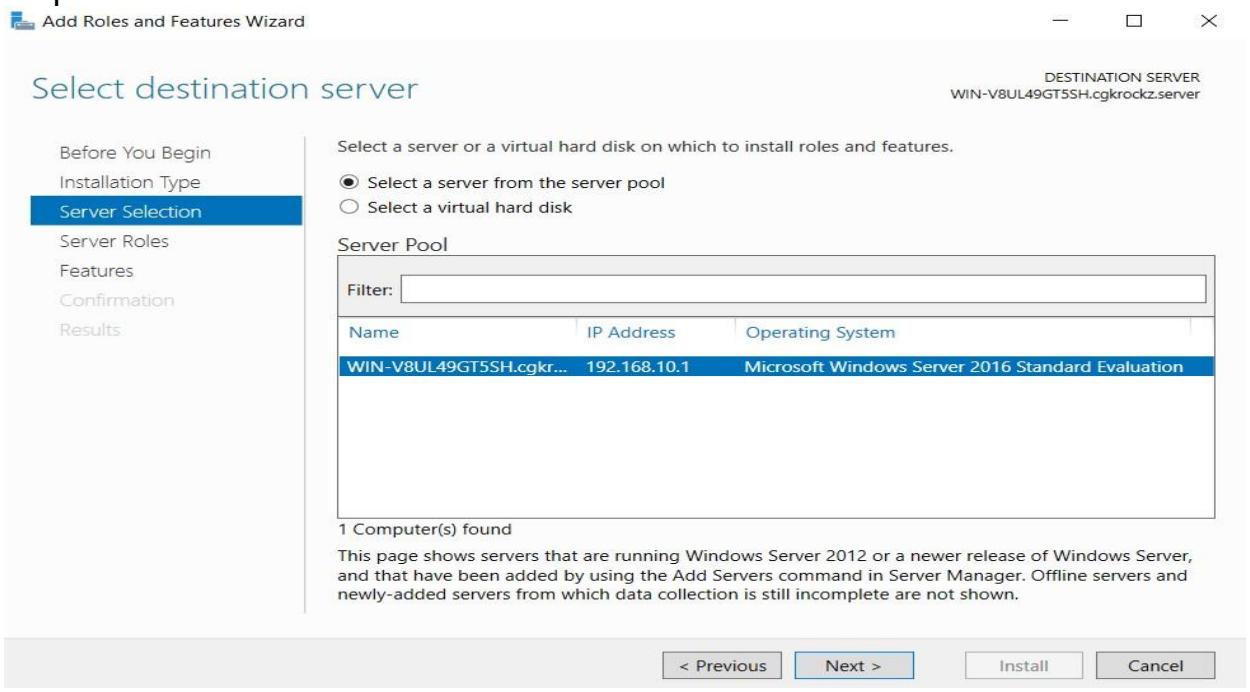
Deploying and administering AD DS

Aim:
Deploying AD DS
Deploying domain controllers by performing domain controller cloning
Administering AD DS

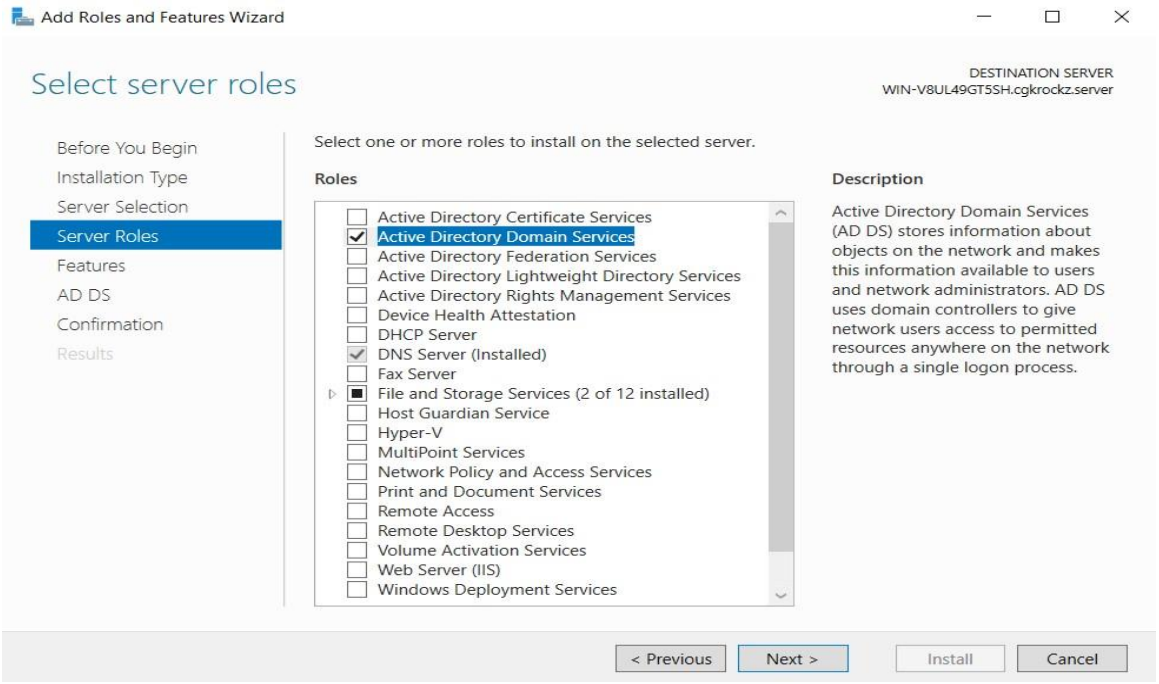
Step-1


Add Roles and Features Wizard
Select installation type
DESTINATION SERVER
WIN-V8UL49GT5SH.cgkrockz.server
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
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

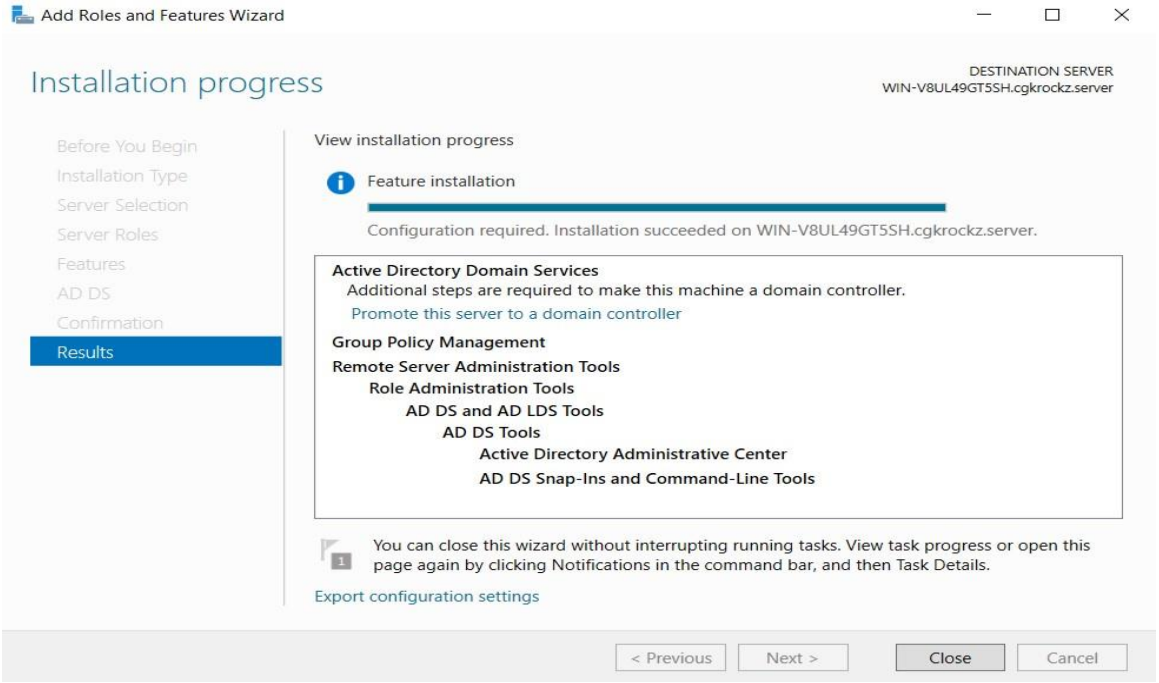
Step-2


Add Roles and Features Wizard
Select destination server
DESTINATION SERVER
WIN-V8UL49GT5SH.cgkrockz.server
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
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
WIN-V8UL49GT5SH.cgkr...
192.168.10.1
Microsoft Windows Server 2016 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

Step-3


Add Roles and Features Wizard
Select server roles
DESTINATION SERVER
WIN-V8UL49GT5SH.cgkrockz.server
Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Confirmation
Results
Select one or more roles to install on the selected server.
Roles
Active Directory Certificate Services
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 (Installed)
Fax Server
File and Storage Services (2 of 12 installed)
Host Guardian Service
Hyper-V
MultiPoint Services
Network Policy and Access Services
Print and Document Services
Remote Access
Remote Desktop Services
Volume Activation Services
Web Server (IIS)
Windows Deployment Services
Description
Active Directory Domain Services (AD DS) stores information about objects on the network and makes this information available to users and network administrators. AD DS uses domain controllers to give network users access to permitted resources anywhere on the network through a single logon process.
< Previous
Next >
Install
Cancel

Step-4


Add Roles and Features Wizard
Installation progress
DESTINATION SERVER
WIN-V8UL49GT5SH.cgkrockz.server
Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Confirmation
Results
View installation progress
Feature installation
Configuration required. Installation succeeded on WIN-V8UL49GT5SH.cgkrockz.server.
Active Directory Domain Services
Additional steps are required to make this machine a domain controller.
Promote this server to a domain controller
Group Policy Management
Remote Server Administration Tools
Role Administration Tools
AD DS and AD LDS Tools
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

Lab – 8

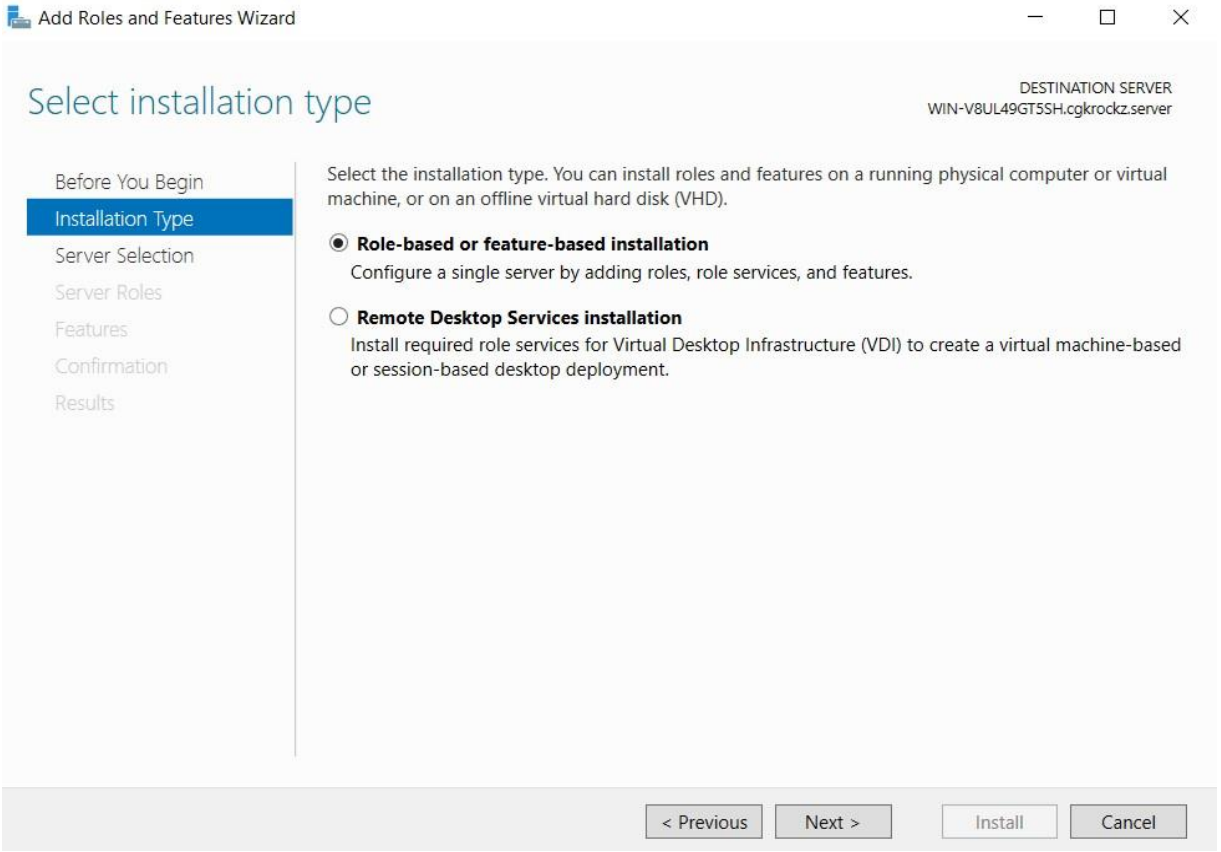
Domain and trust management in AD DS

Aim:

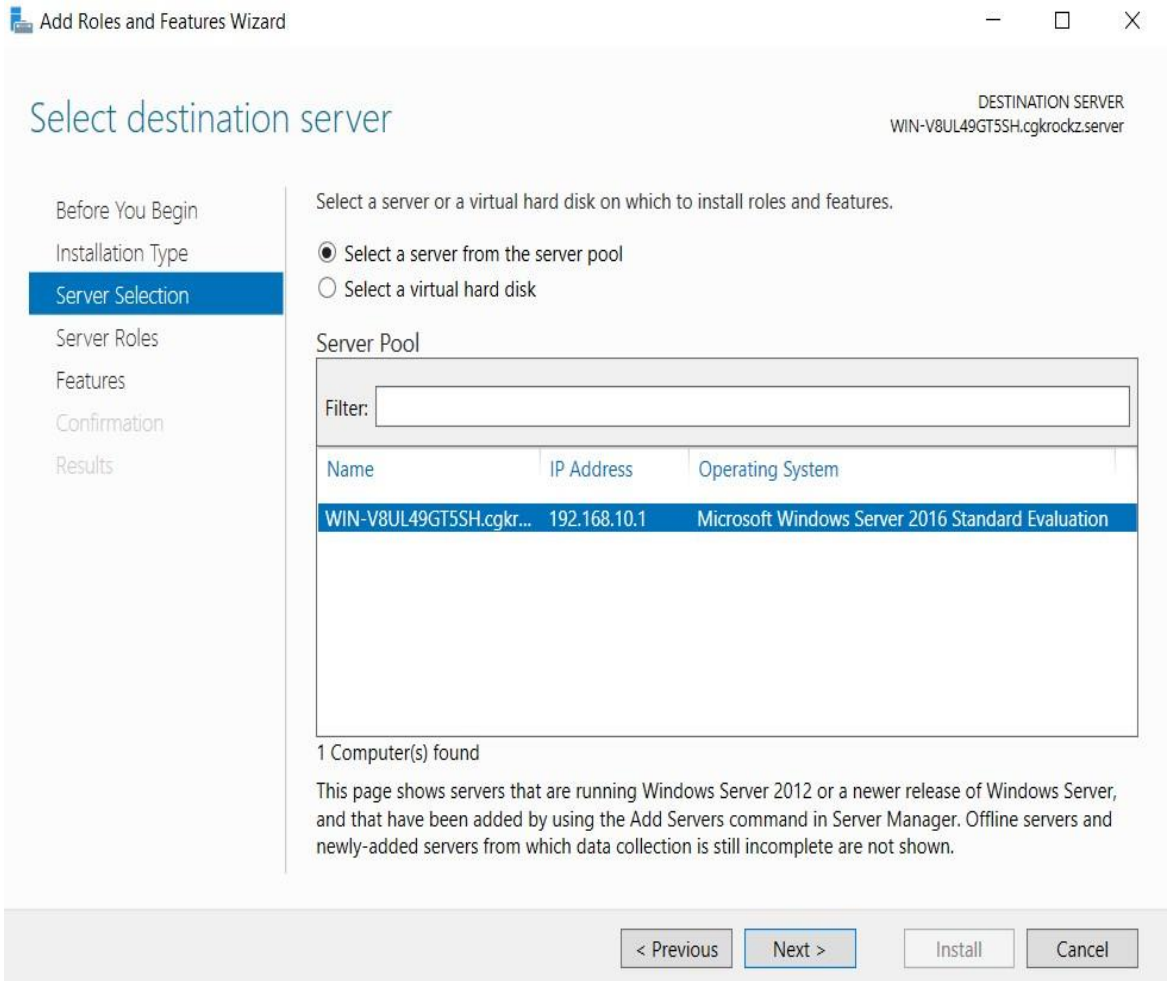
Implementing forest trusts

• Implementing child domains in AD DS

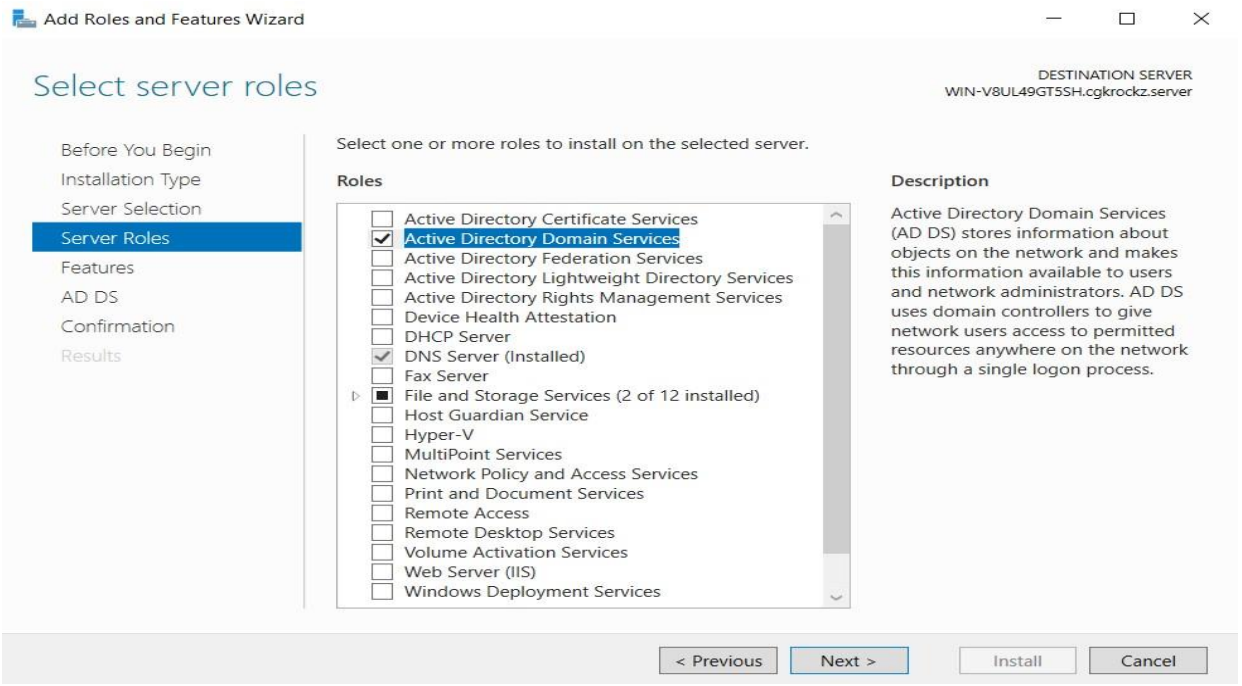
Step-1



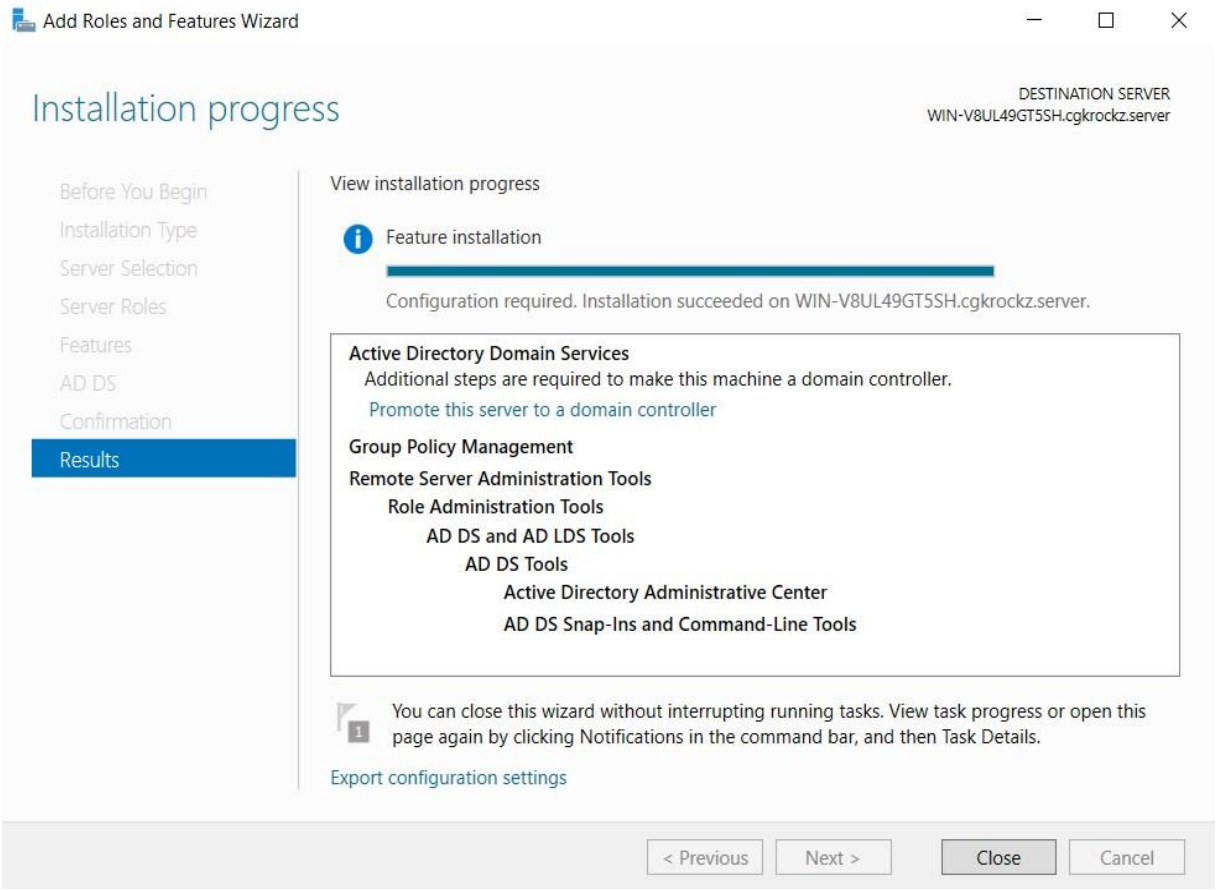
Step-2


Add Roles and Features Wizard
Select destination server
DESTINATION SERVER
WIN-V8UL49GT5SH.cgkrockz.server
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
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
WIN-V8UL49GT5SH.cgkr...
192.168.10.1
Microsoft Windows Server 2016 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

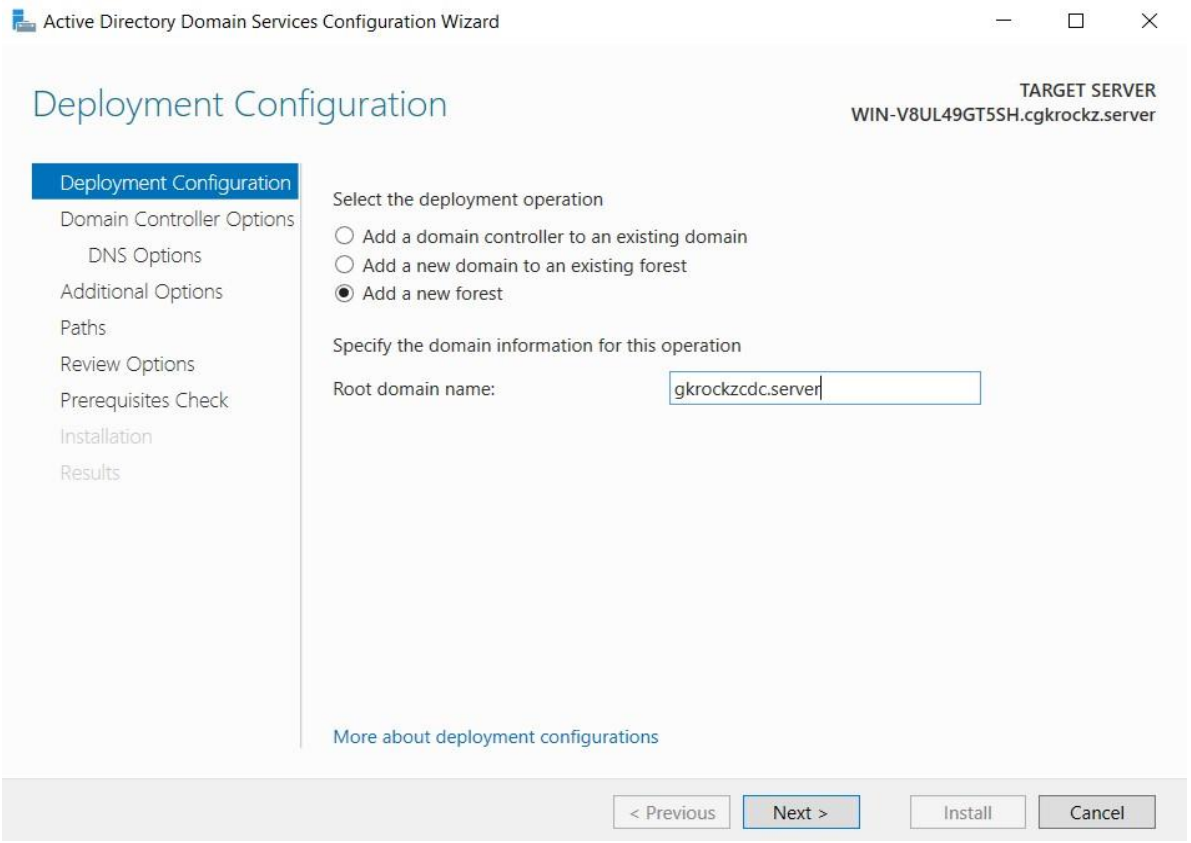
Step-3


Add Roles and Features Wizard
Select server roles
DESTINATION SERVER
WIN-V8UL49GT5SH.cgkrockz.server
Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Confirmation
Results
Select one or more roles to install on the selected server.
Roles
Active Directory Certificate Services
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 (Installed)
Fax Server
File and Storage Services (2 of 12 installed)
Host Guardian Service
Hyper-V
MultiPoint Services
Network Policy and Access Services
Print and Document Services
Remote Access
Remote Desktop Services
Volume Activation Services
Web Server (IIS)
Windows Deployment Services
Description
Active Directory Domain Services (AD DS) stores information about objects on the network and makes this information available to users and network administrators. AD DS uses domain controllers to give network users access to permitted resources anywhere on the network through a single logon process.
< Previous
Next >
Install
Cancel

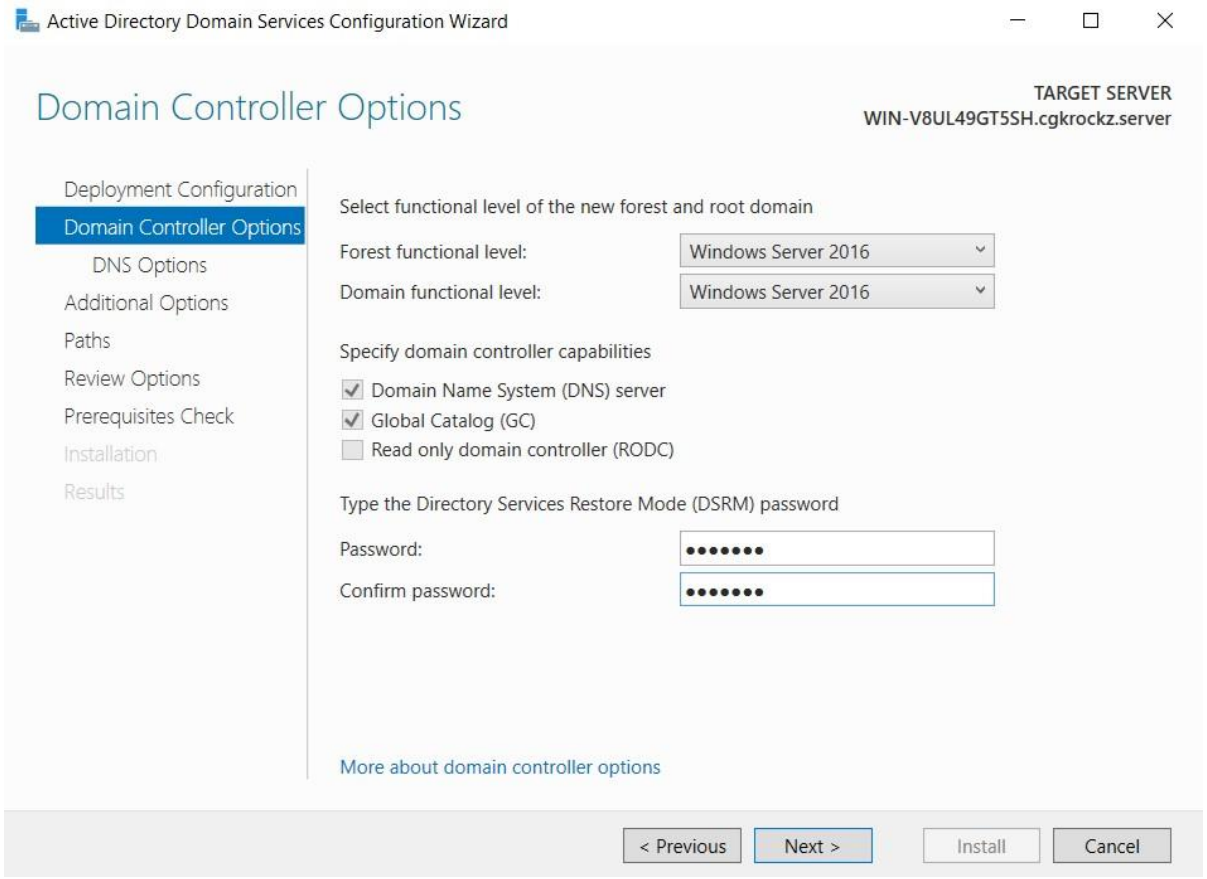
Step-4


Add Roles and Features Wizard
Installation progress
DESTINATION SERVER
WIN-V8UL49GT5SH.cgkrockz.server
Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Confirmation
Results
View installation progress
Feature installation
Configuration required. Installation succeeded on WIN-V8UL49GT5SH.cgkrockz.server.
Active Directory Domain Services
Additional steps are required to make this machine a domain controller.
Promote this server to a domain controller
Group Policy Management
Remote Server Administration Tools
Role Administration Tools
AD DS and AD LDS Tools
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

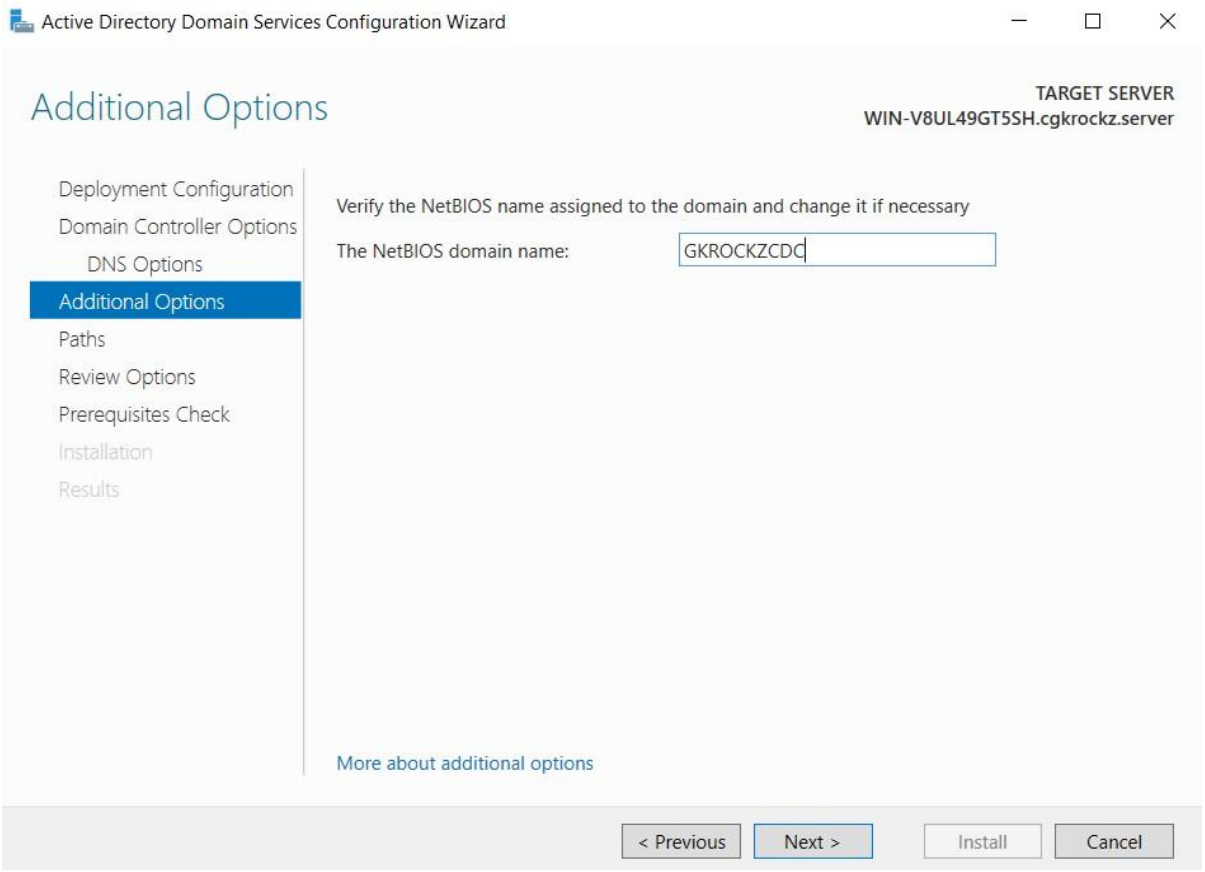
Step-5


Active Directory Domain Services Configuration Wizard
Deployment Configuration
TARGET SERVER
WIN-V8UL49GT5SH.cgkrockz.server
Deployment Configuration
Domain Controller Options
DNS Options
Additional Options
Paths
Review Options
Prerequisites Check
Installation
Results
Select the deployment operation
Add a domain controller to an existing domain
Add a new domain to an existing forest
Add a new forest
Specify the domain information for this operation
Root domain name:
gkrockzcdc.server
More about deployment configurations
< Previous
Next >
Install
Cancel

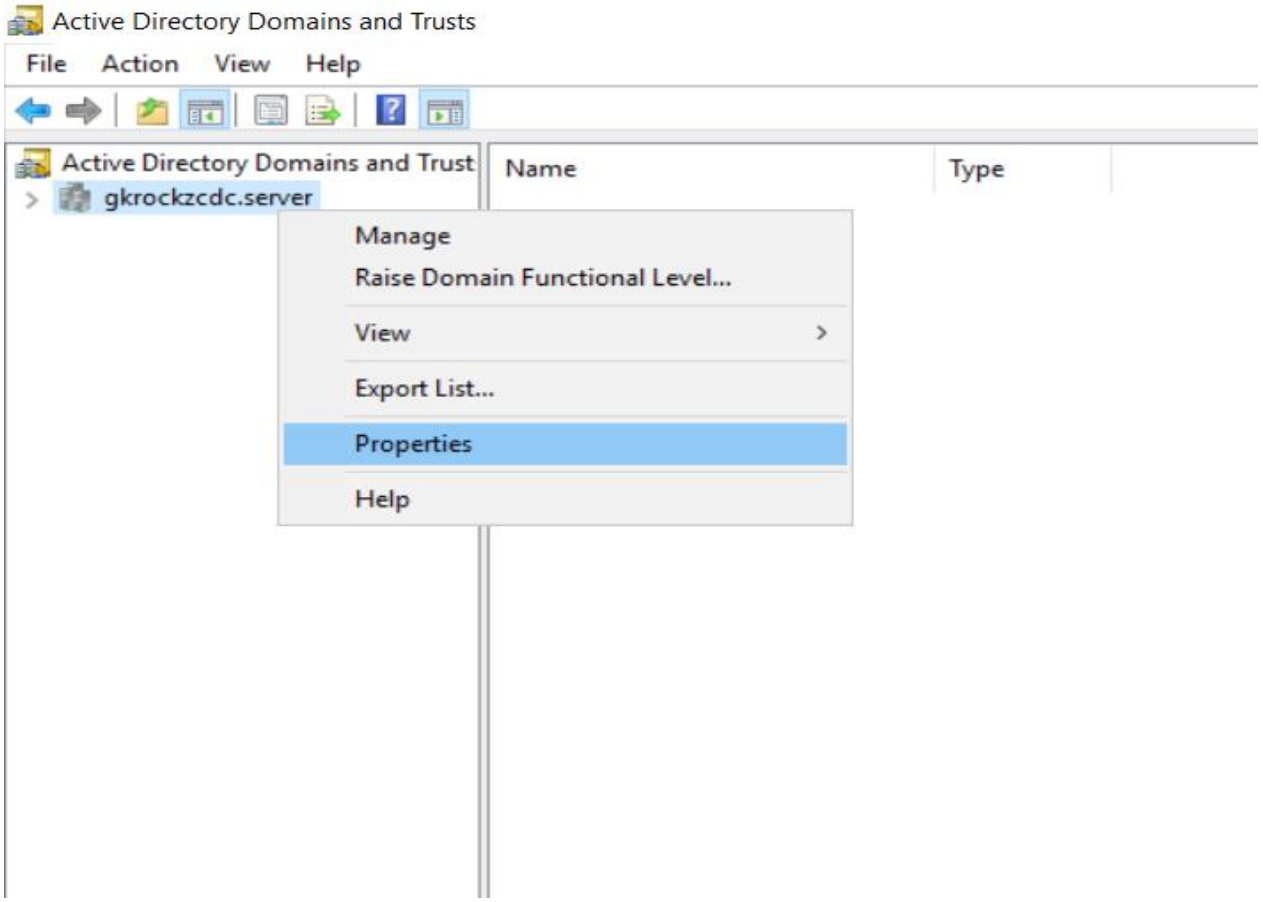
Step-6


Active Directory Domain Services Configuration Wizard
Domain Controller Options
TARGET SERVER
WIN-V8UL49GT5SH.cgkrockz.server
Deployment Configuration
Domain Controller Options
DNS 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

Step-7


Active Directory Domain Services Configuration Wizard
Additional Options
TARGET SERVER
WIN-V8UL49GT5SH.cgkrockz.server
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:
GKROCKZCDC
More about additional options
< Previous
Next >
Install
Cancel

Step-8


Active Directory Domains and Trusts
File
Action
View
Help
Active Directory Domains and Trust
gkrockzcdc.server
Name
Type
Manage
Raise Domain Functional Level...
View
Export List...
Properties
Help

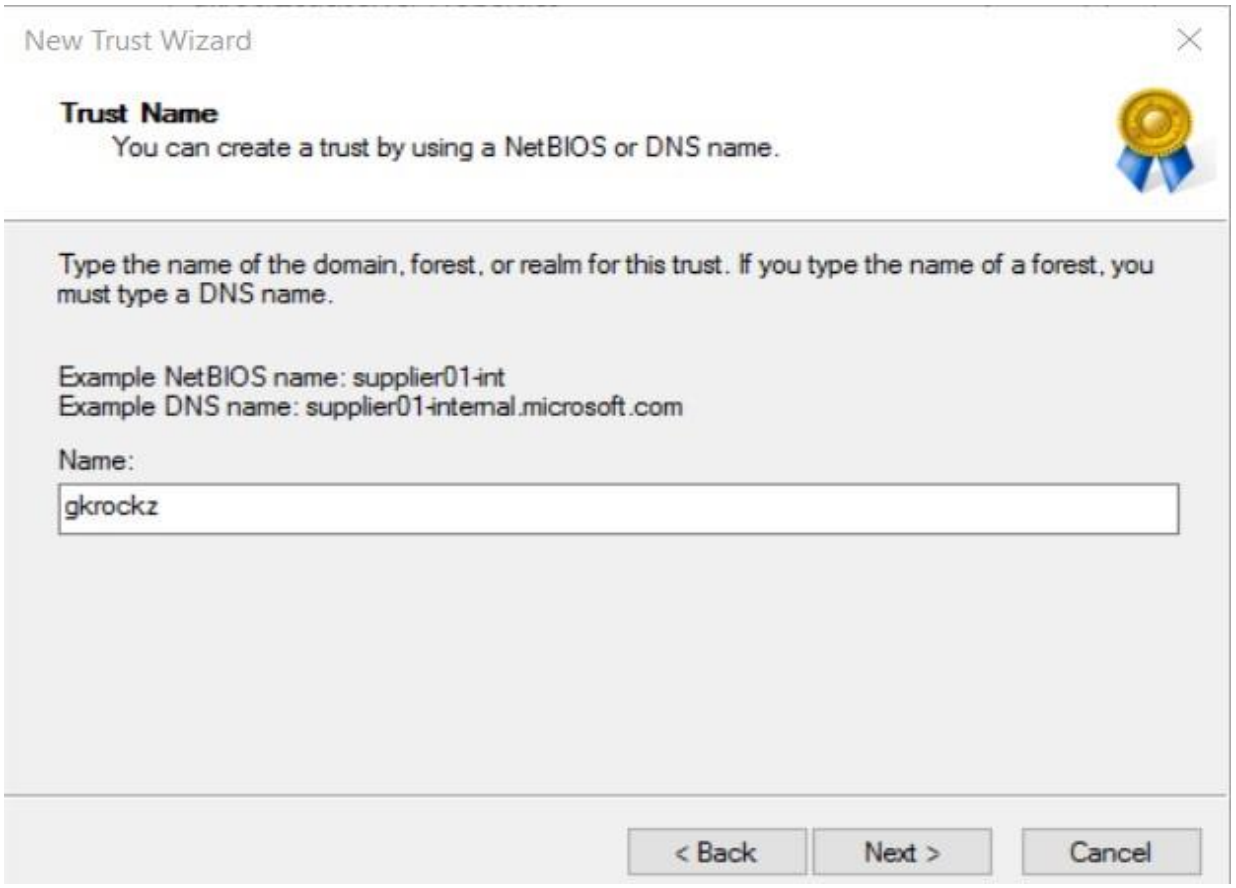
Step-9


New Trust Wizard
Welcome to the New Trust Wizard
This wizard helps you create a trust between this domain and any of the following:
A Windows domain in this forest or in another forest.
A Windows NT 4.0 domain.
A Kerberos V5 realm trust.
Another forest.
A trust is a relationship that enables users in one domain, forest, or realm to be authenticated in a specified domain, forest, or realm.
To continue, click Next.
< Back
Next >
Cancel

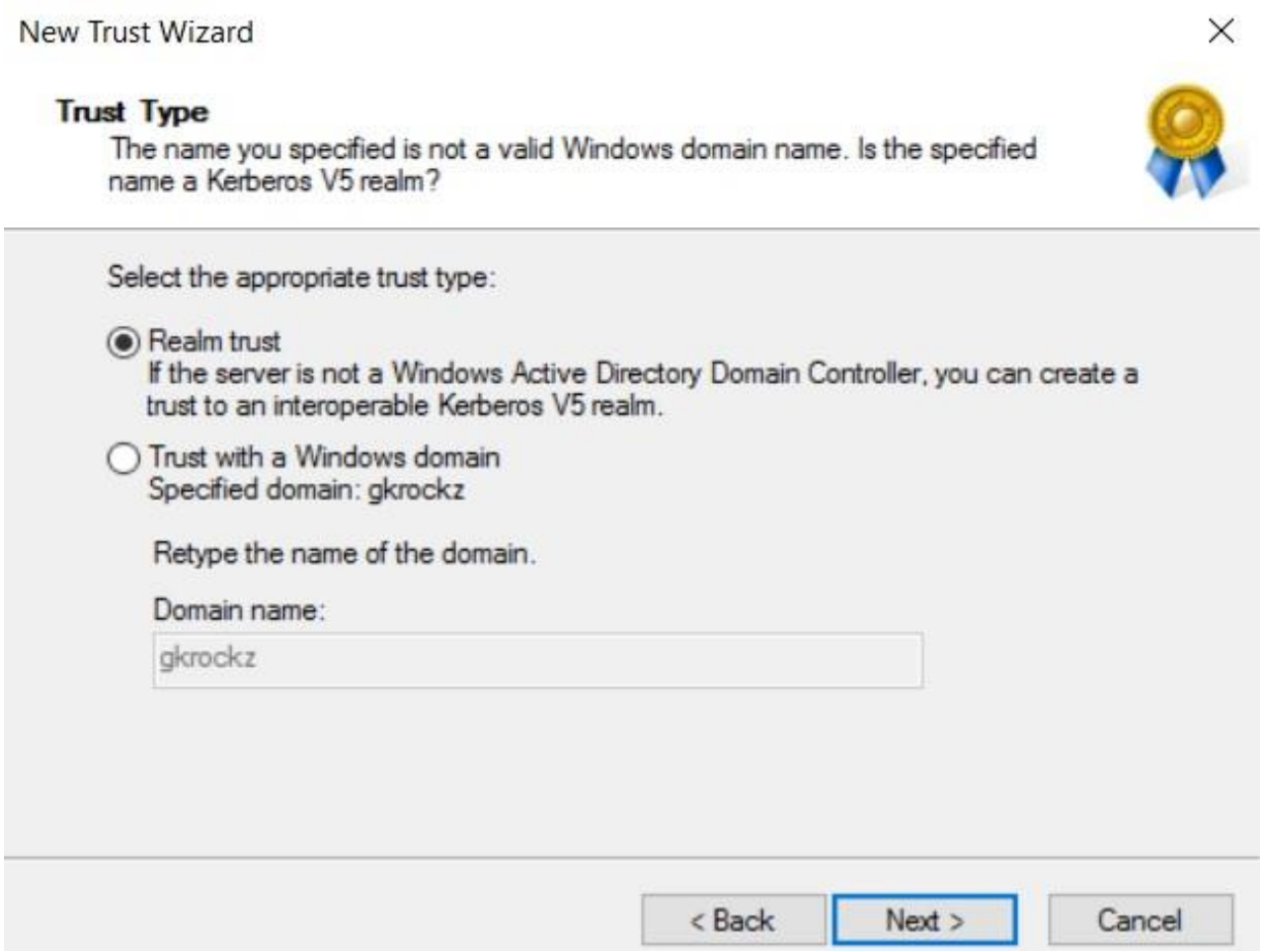
Step-10


New Trust Wizard
Welcome to the New Trust Wizard
This wizard helps you create a trust between this domain and any of the following:
A Windows domain in this forest or in another forest.
A Windows NT 4.0 domain.
A Kerberos V5 realm trust.
Another forest.
A trust is a relationship that enables users in one domain, forest, or realm to be authenticated in a specified domain, forest, or realm.
To continue, click Next.
< Back
Next >
Cancel

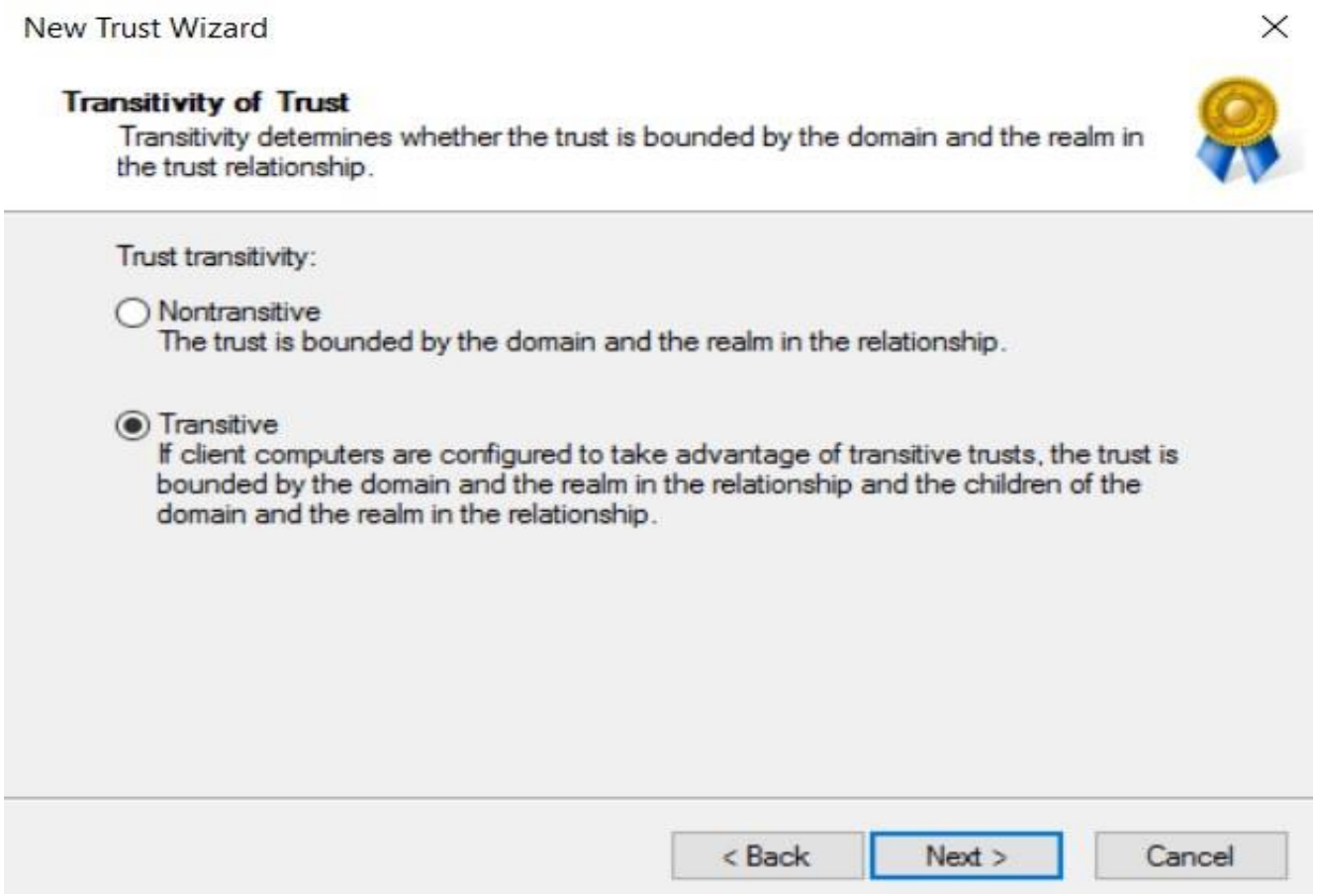
Step-11


New Trust Wizard
Trust Name
You can create a trust by using a NetBIOS or DNS name.
Type the name of the domain, forest, or realm for this trust. If you type the name of a forest, you must type a DNS name.
Example NetBIOS name: supplier01-int
Example DNS name: supplier01-internal.microsoft.com
Name:
gkrockz
< Back
Next >
Cancel

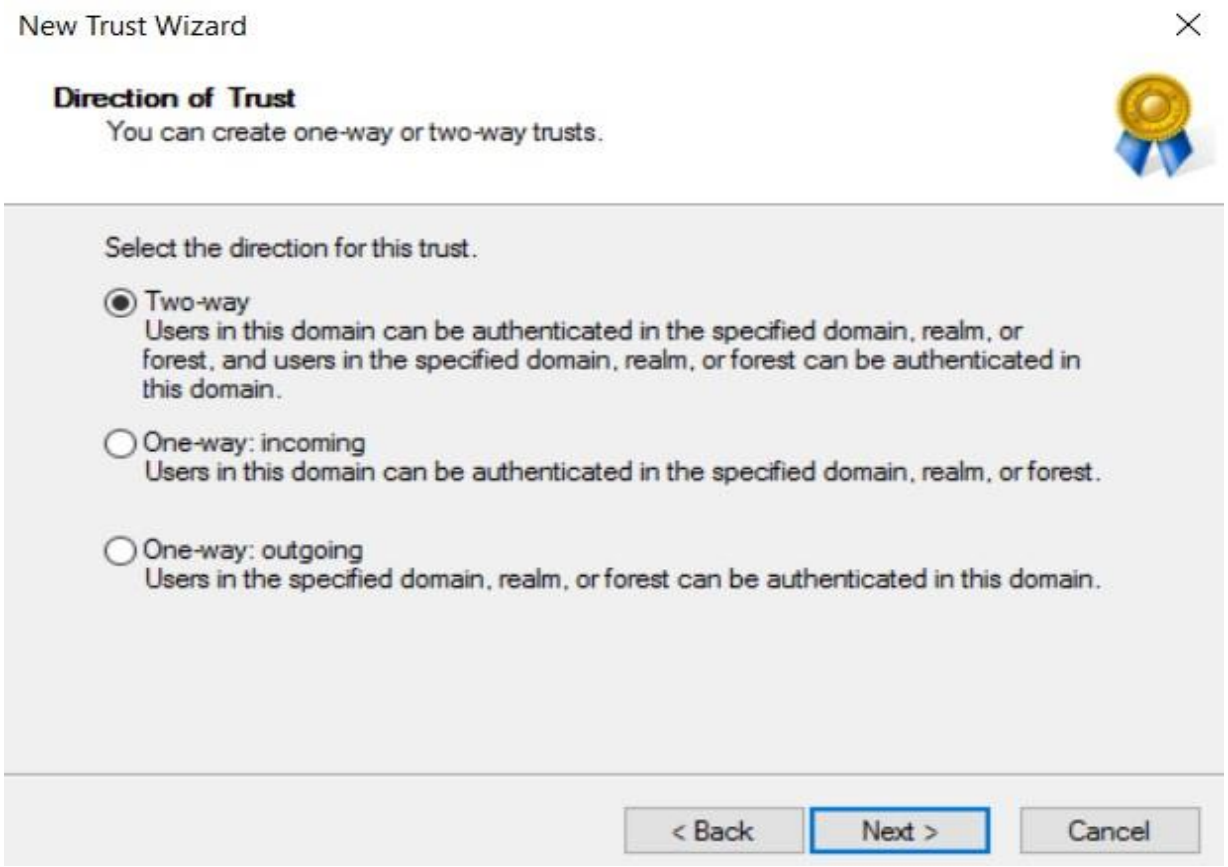
Step-12


New Trust Wizard
Trust Type
The name you specified is not a valid Windows domain name. Is the specified name a Kerberos V5 realm?
Select the appropriate trust type:
Realm trust
If the server is not a Windows Active Directory Domain Controller, you can create a trust to an interoperable Kerberos V5 realm.
Trust with a Windows domain
Specified domain: gkrockz
Retype the name of the domain.
Domain name:
gkrockz
< Back
Next >
Cancel

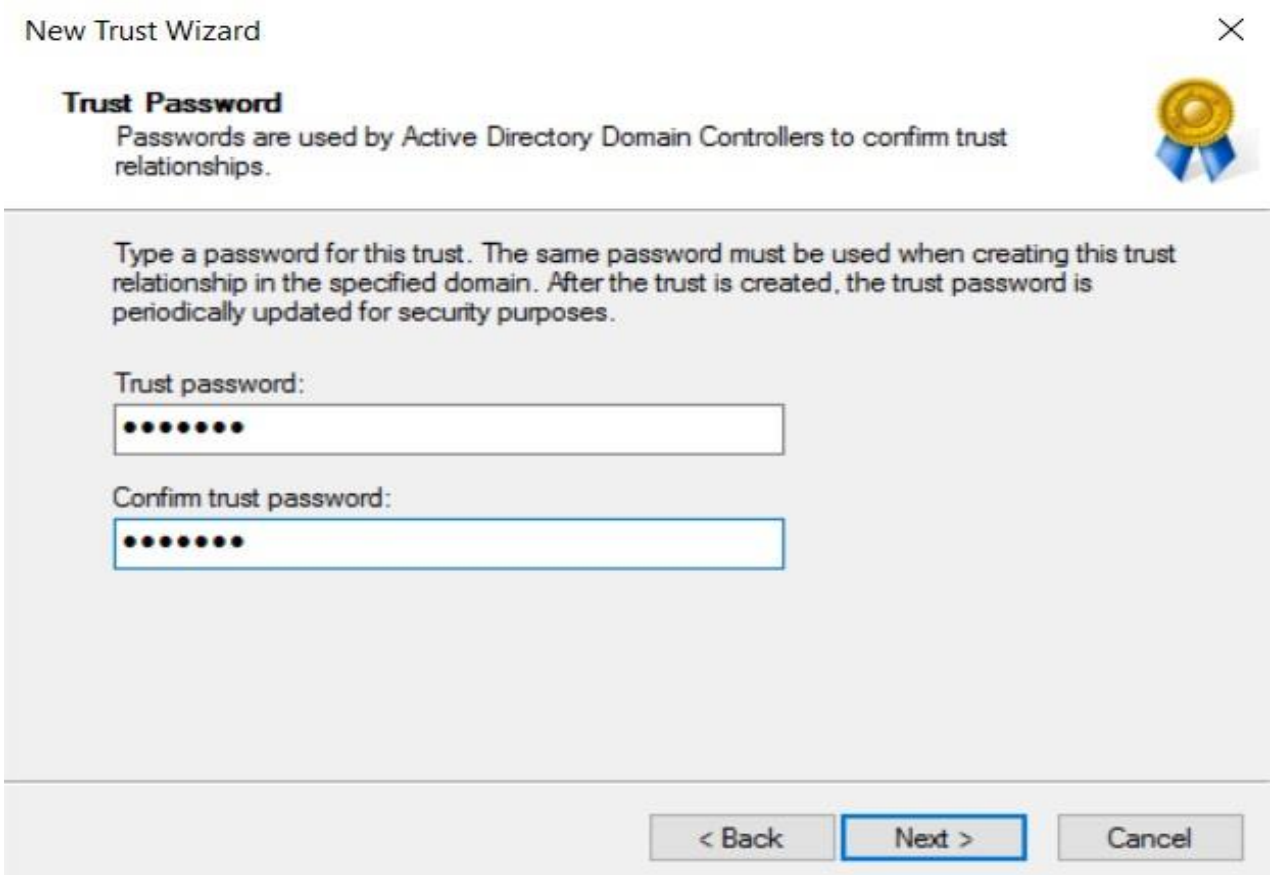
Step-13


New Trust Wizard
Transitivity of Trust
Transitivity determines whether the trust is bounded by the domain and the realm in the trust relationship.
Trust transitivity:
Nontransitive
The trust is bounded by the domain and the realm in the relationship.
Transitive
If client computers are configured to take advantage of transitive trusts, the trust is bounded by the domain and the realm in the relationship and the children of the domain and the realm in the relationship.
< Back
Next >
Cancel

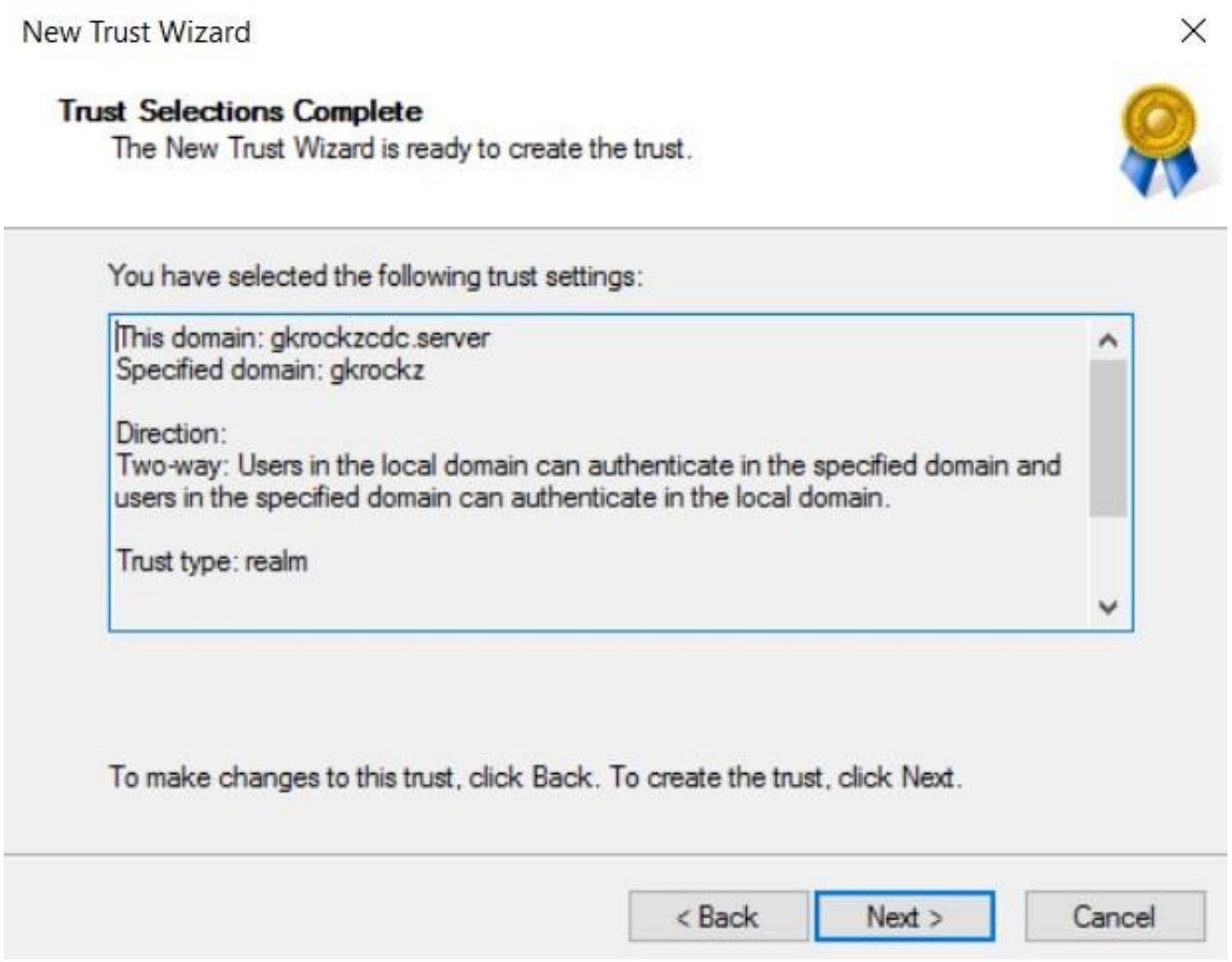
Step-14


New Trust Wizard
Direction of Trust
You can create one-way or two-way trusts.
Select the direction for this trust.
Two-way
Users in this domain can be authenticated in the specified domain, realm, or forest, and users in the specified domain, realm, or forest can be authenticated in this domain.
One-way: incoming
Users in this domain can be authenticated in the specified domain, realm, or forest.
One-way: outgoing
Users in the specified domain, realm, or forest can be authenticated in this domain.
< Back
Next >
Cancel

Step-15


New Trust Wizard
Trust Password
Passwords are used by Active Directory Domain Controllers to confirm trust relationships.
Type a password for this trust. The same password must be used when creating this trust relationship in the specified domain. After the trust is created, the trust password is periodically updated for security purposes.
Trust password:
Confirm trust password:
< Back
Next >
Cancel

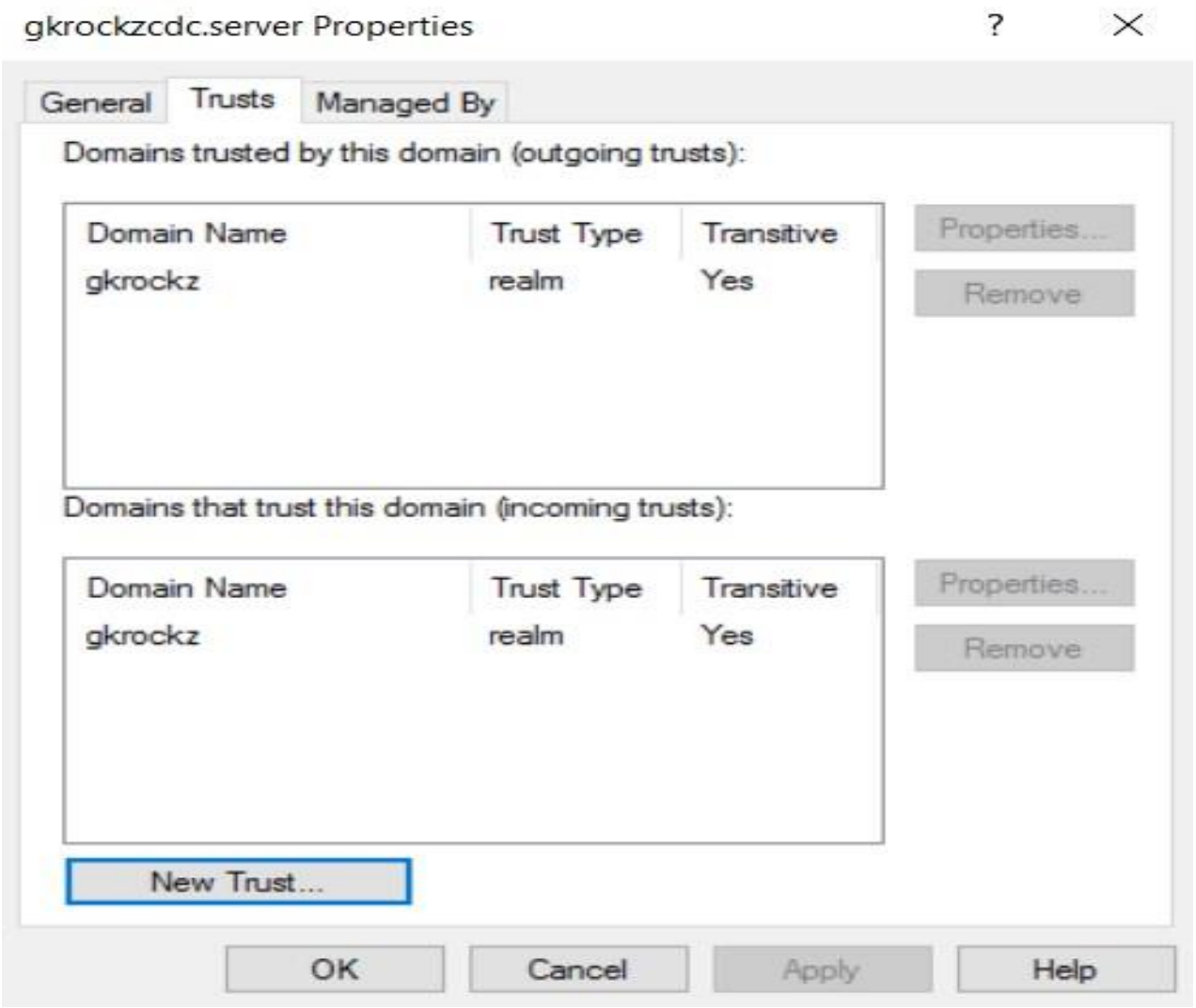
Step-16


New Trust Wizard
Trust Selections Complete
The New Trust Wizard is ready to create the trust.
You have selected the following trust settings:
This domain: gkrockzcdc.server
Specified domain: gkrockz
Direction:
Two-way: Users in the local domain can authenticate in the specified domain and users in the specified domain can authenticate in the local domain.
Trust type: realm
To make changes to this trust, click Back. To create the trust, click Next.
< Back
Next >
Cancel

Step-17


New Trust Wizard
Completing the New Trust Wizard
You have successfully completed the New Trust Wizard.
Status of changes:
Trust relationship created successfully.
Specified domain: gkrockz
Direction:
Before this trust can function, it must also be created in the other domain. Ensure that the same trust password is used in both domains.
To close this wizard, click Finish.
< Back
Finish
Cancel

Step-18



Lab – 9

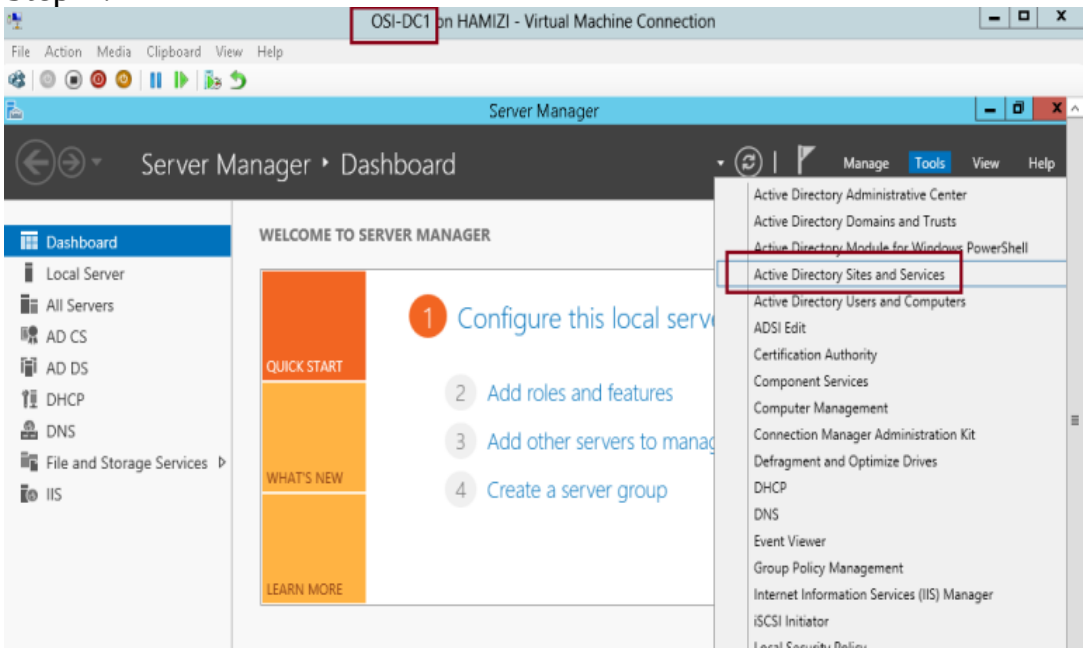
Implementing AD DS sites and replicatio

Aim:

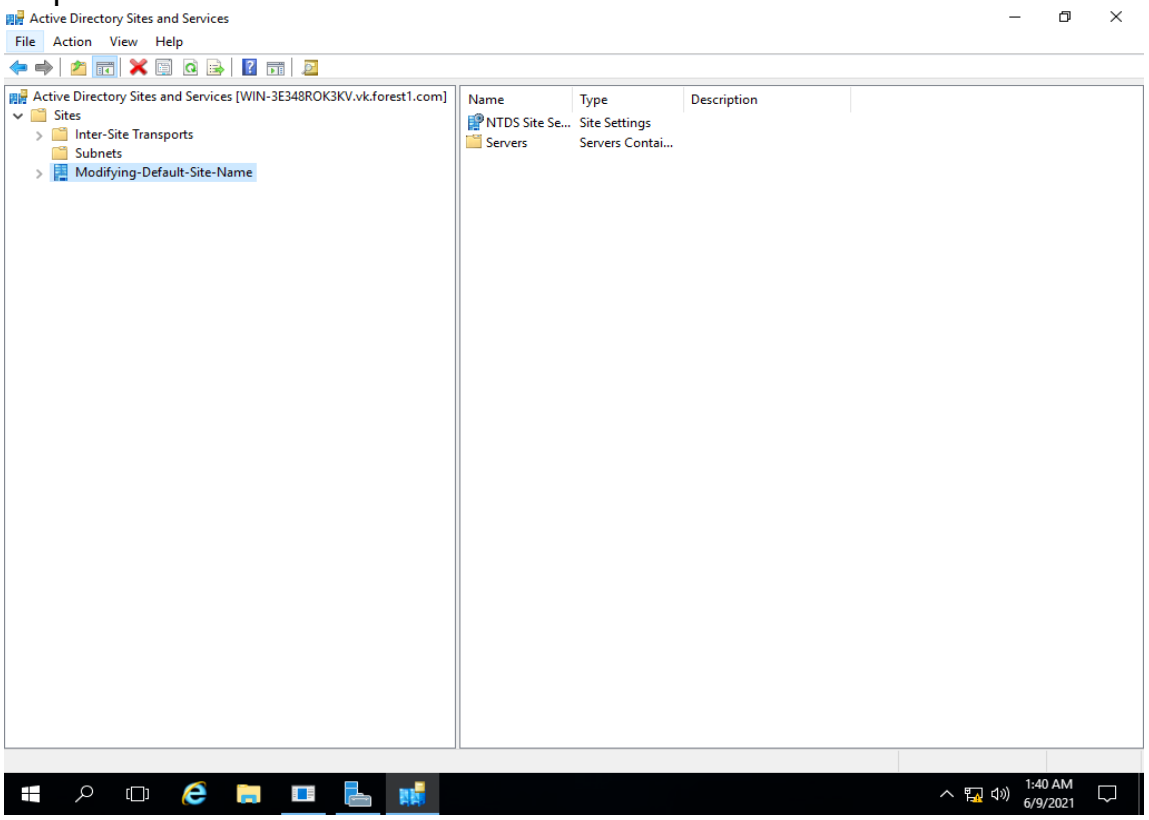
• Modifying the default site

• Creating additional sites and subnets
• Configuring AD DS replication
• Monitoring and troubleshooting AD DS replicatio

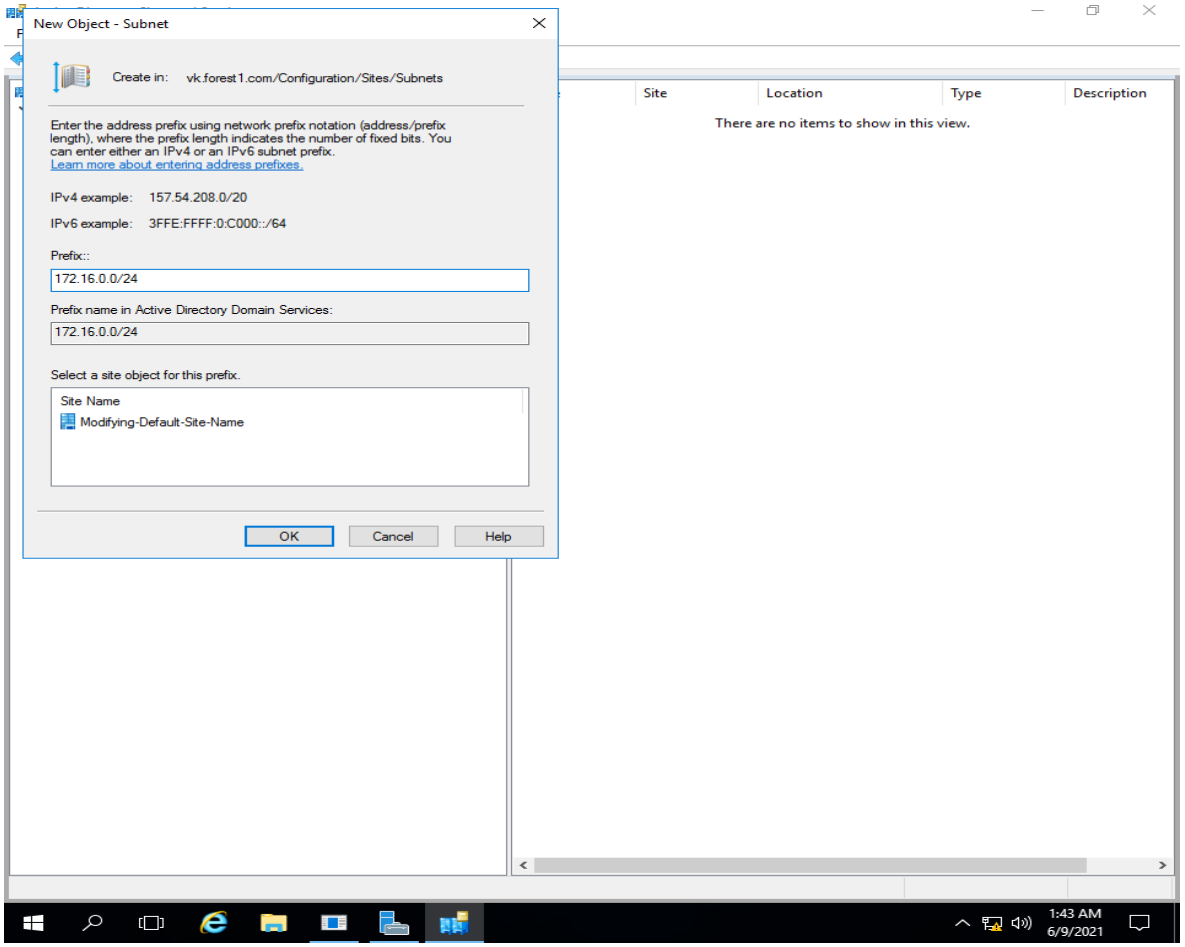
Step-1:



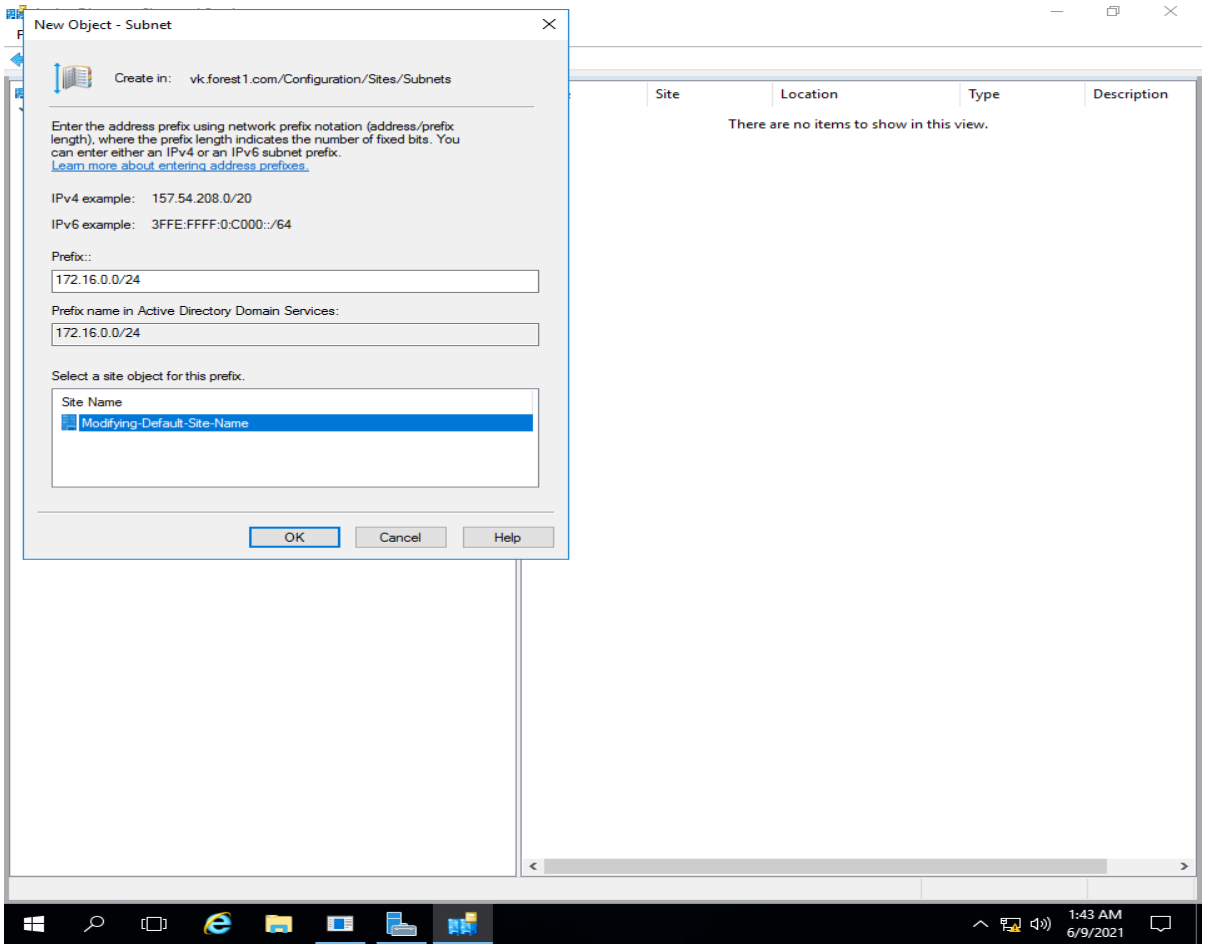
Step-2:



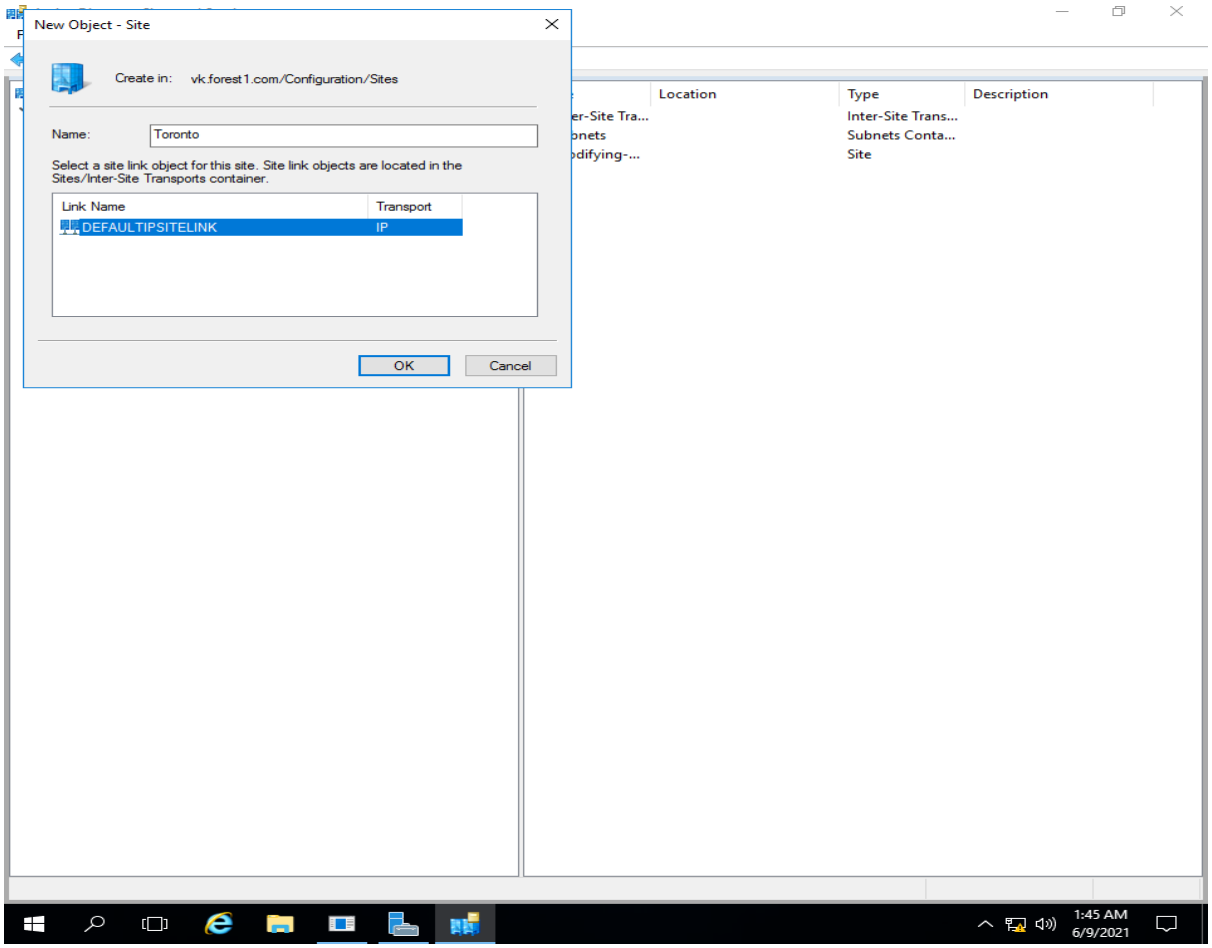
Step-3


New Object - Subnet
Create in: vk.forest1.com/Configuration/Sites/Subnets
Enter the address prefix using network prefix notation (address/prefix length), where the prefix length indicates the number of fixed bits. You can enter either an IPv4 or an IPv6 subnet prefix.
Learn more about entering address prefixes.
IPv4 example: 157.54.208.0/20
IPv6 example: 3FFE:FFFF:0:C000::/64
Prefix::
172.16.0.0/24
Prefix name in Active Directory Domain Services:
172.16.0.0/24
Select a site object for this prefix.
Site Name
Modifying-Default-Site-Name
OK
Cancel
Help
Site
Location
Type
Description
There are no items to show in this view.
1:43 AM
6/9/2021

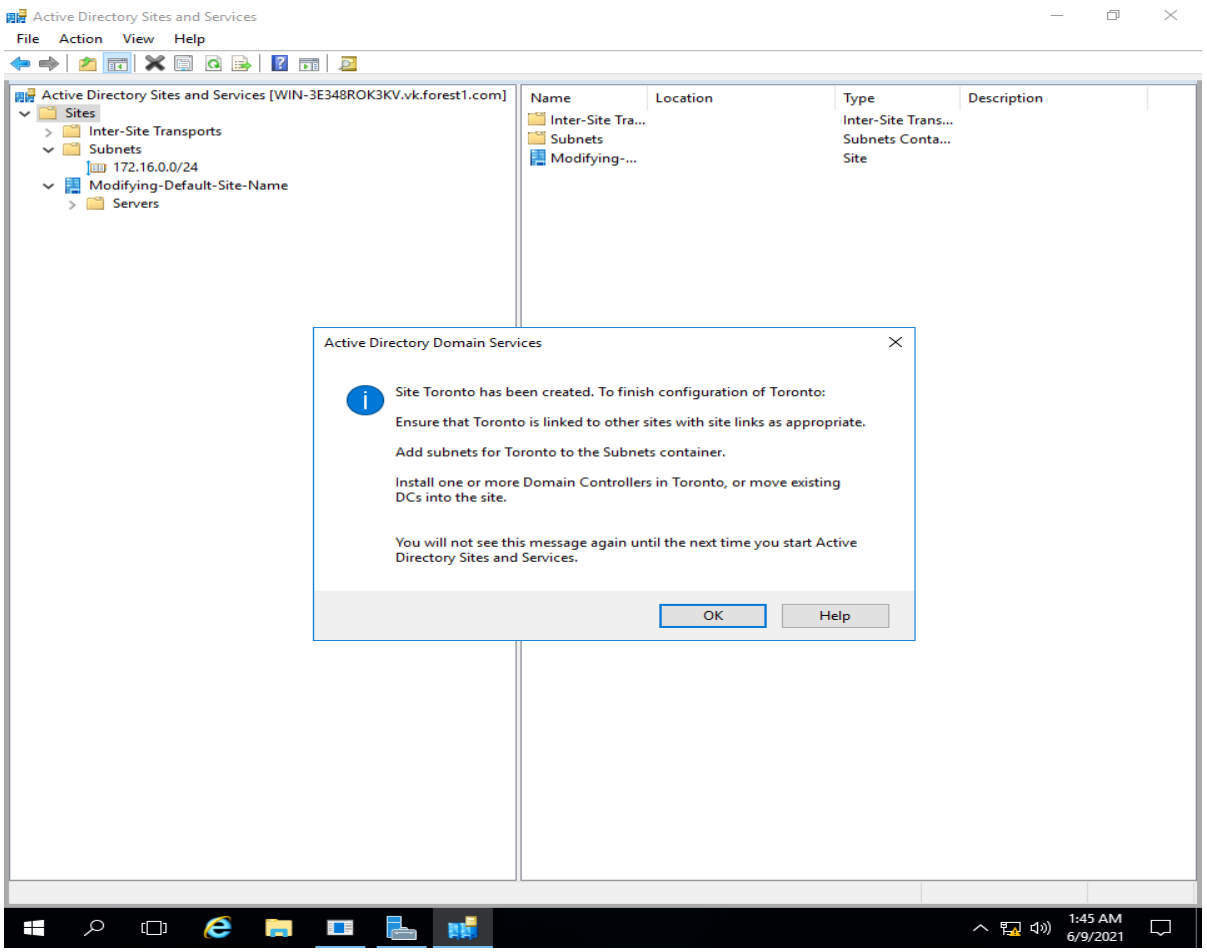
Step-4


New Object - Subnet
Create in: vk.forest1.com/Configuration/Sites/Subnets
Enter the address prefix using network prefix notation (address/prefix length), where the prefix length indicates the number of fixed bits. You can enter either an IPv4 or an IPv6 subnet prefix.
Learn more about entering address prefixes.
IPv4 example: 157.54.208.0/20
IPv6 example: 3FFE:FFFF:0:C000::/64
Prefix::
172.16.0.0/24
Prefix name in Active Directory Domain Services:
172.16.0.0/24
Select a site object for this prefix.
Site Name
Modifying-Default-Site-Name
OK
Cancel
Help
Site
Location
Type
Description
There are no items to show in this view.
1:43 AM
6/9/2021

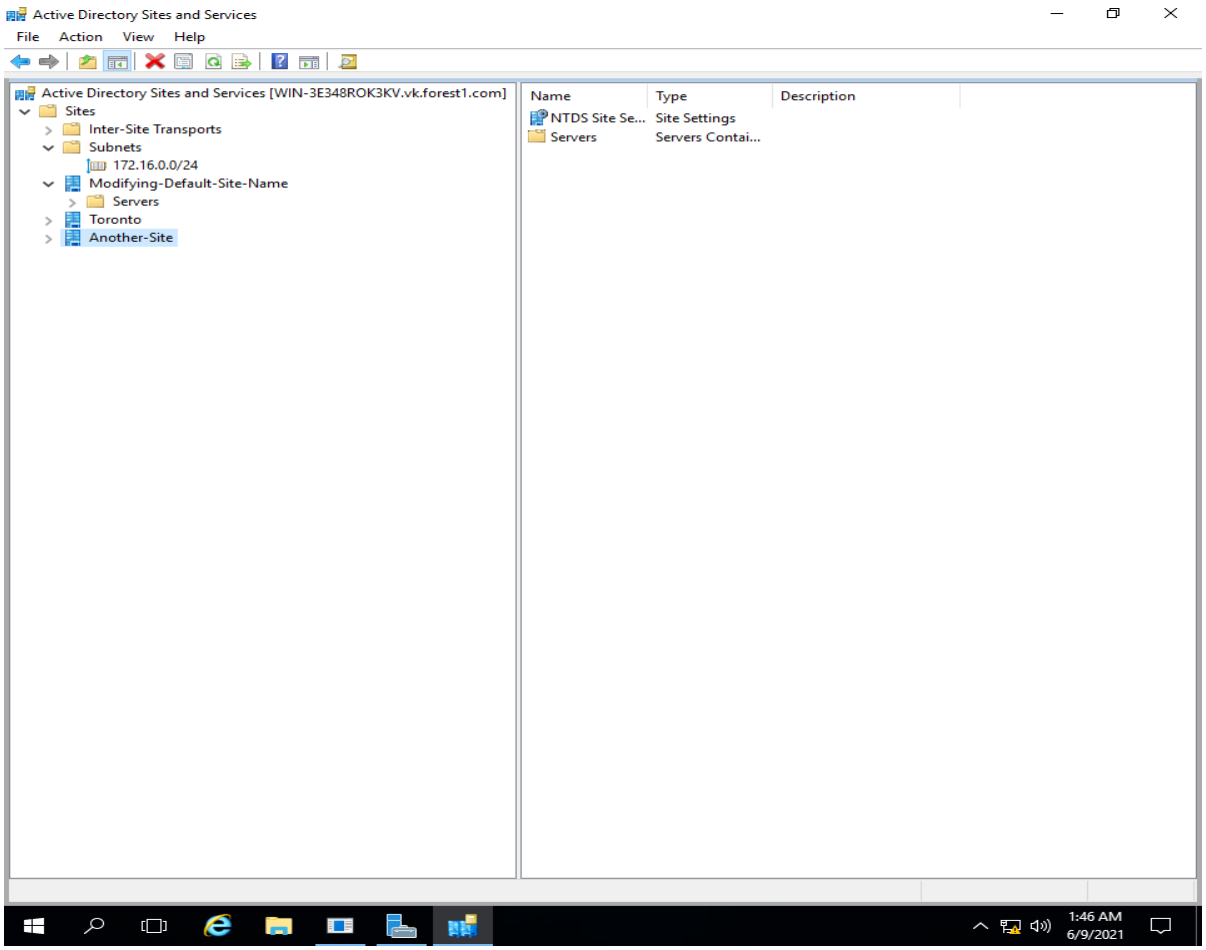
Step-5


New Object - Site
Create in: vk.forest1.com/Configuration/Sites
Name: Toronto
Select a site link object for this site. Site link objects are located in the Sites/Inter-Site Transports container.
Link Name
Transport
DEFAULTIPSITELINK
IP
OK
Cancel
Location
Type
Description
Inter-Site Trans...
Subnets Conta...
Site
1:45 AM
6/9/2021

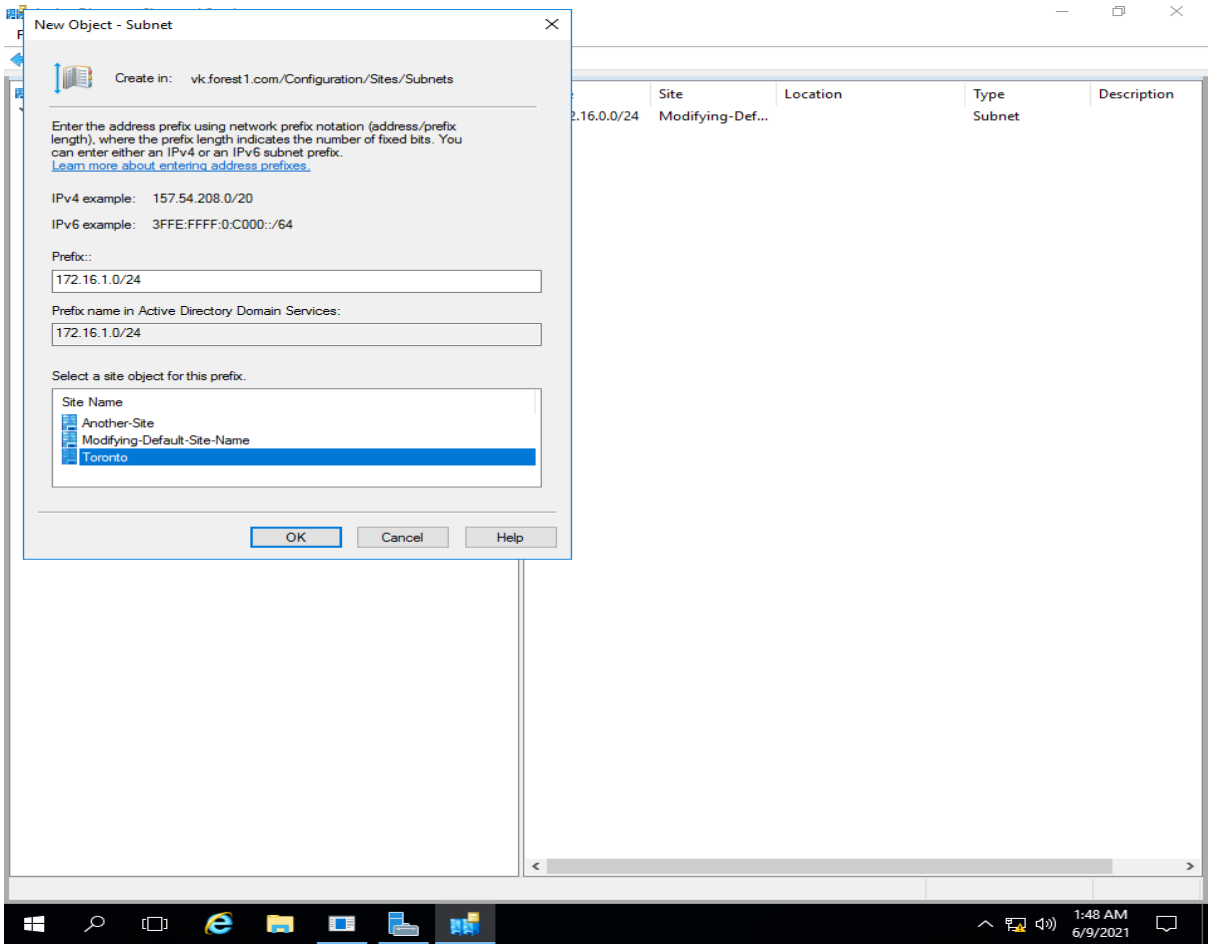
Step-6


Active Directory Sites and Services
File Action View Help
Active Directory Sites and Services [WIN-3E348ROK3KV.vk.forest1.com]
Sites
Inter-Site Transports
Subnets
172.16.0.0/24
Modifying-Default-Site-Name
Servers
Name
Location
Type
Description
Inter-Site Tra...
Inter-Site Trans...
Subnets
Subnets Conta...
Modifying-...
Site
Active Directory Domain Services
Site Toronto has been created. To finish configuration of Toronto:
Ensure that Toronto is linked to other sites with site links as appropriate.
Add subnets for Toronto to the Subnets container.
Install one or more Domain Controllers in Toronto, or move existing DCs into the site.
You will not see this message again until the next time you start Active Directory Sites and Services.
OK
Help
1:45 AM
6/9/2021

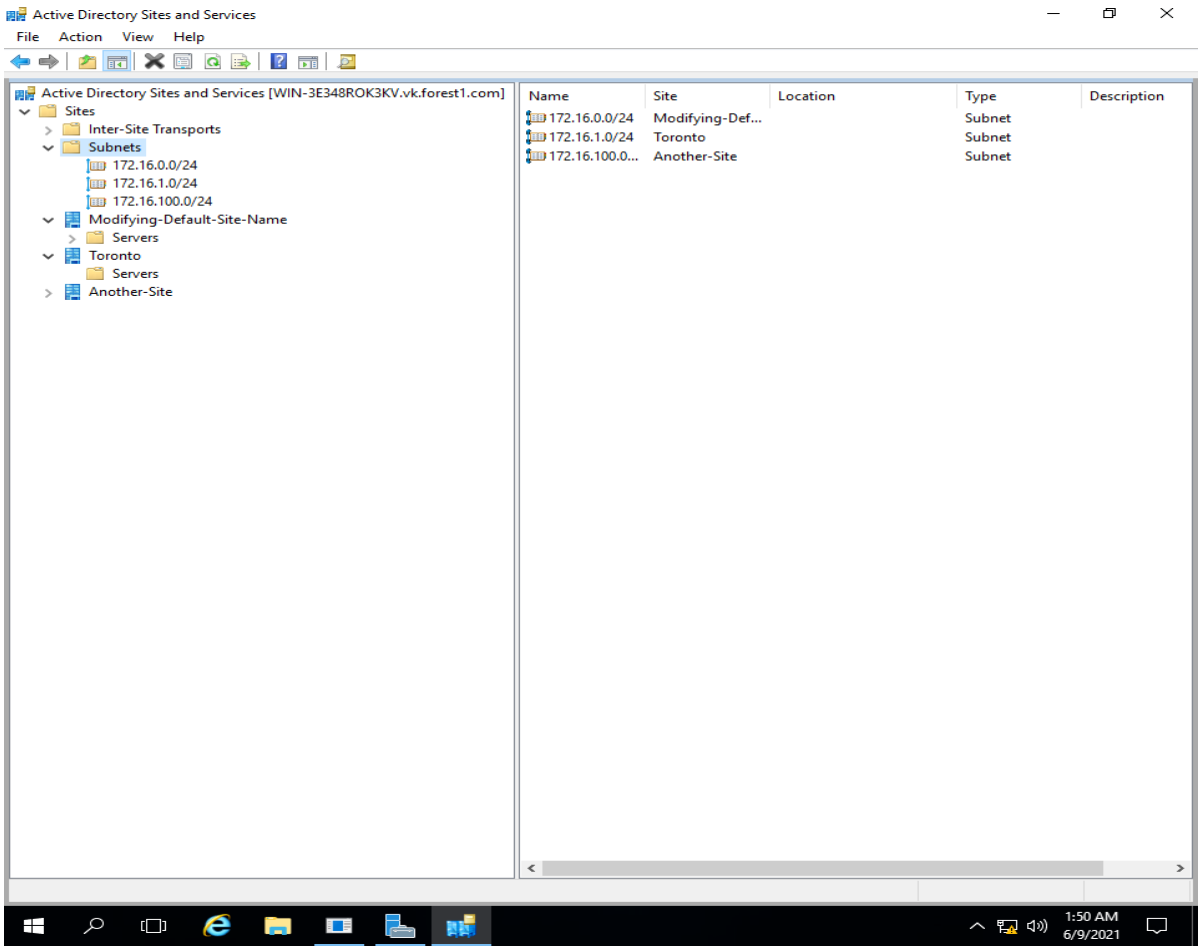
Step-7


Active Directory Sites and Services
File Action View Help
Active Directory Sites and Services [WIN-3E348ROK3KV.vk.forest1.com]
Sites
Inter-Site Transports
Subnets
172.16.0.0/24
Modifying-Default-Site-Name
Servers
Toronto
Another-Site
Name
Type
Description
NTDS Site Se...
Site Settings
Servers
Servers Contai...
1:46 AM
6/9/2021

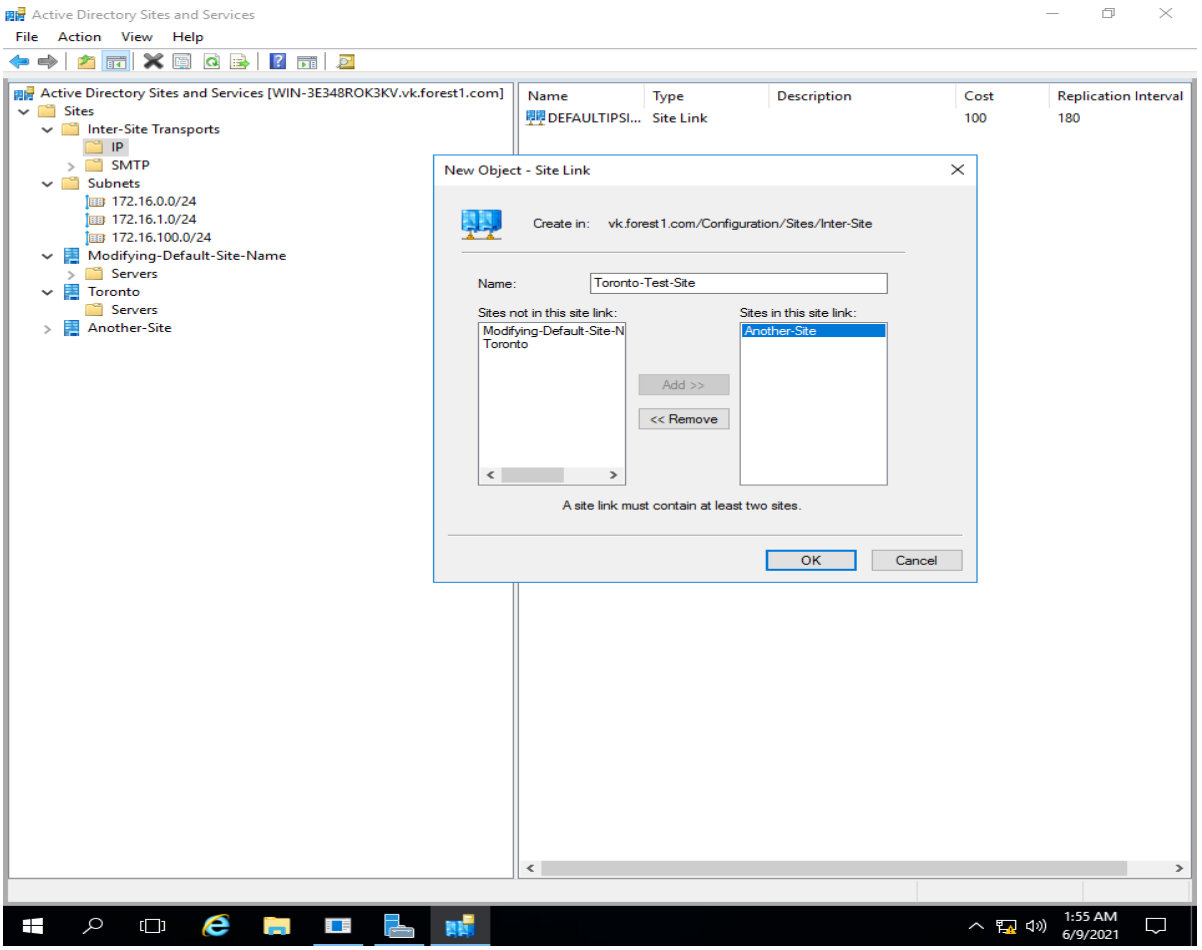
Step-8


New Object - Subnet
Create in: vk.forest1.com/Configuration/Sites/Subnets
Enter the address prefix using network prefix notation (address/prefix length), where the prefix length indicates the number of fixed bits. You can enter either an IPv4 or an IPv6 subnet prefix.
Learn more about entering address prefixes.
IPv4 example: 157.54.208.0/20
IPv6 example: 3FFE:FFFF:0:C000::/64
Prefix::
172.16.1.0/24
Prefix name in Active Directory Domain Services:
172.16.1.0/24
Select a site object for this prefix.
Site Name
Another-Site
Modifying-Default-Site-Name
Toronto
OK
Cancel
Help
Site
Location
Type
Description
Modifying-Def...
Subnet
1:48 AM
6/9/2021

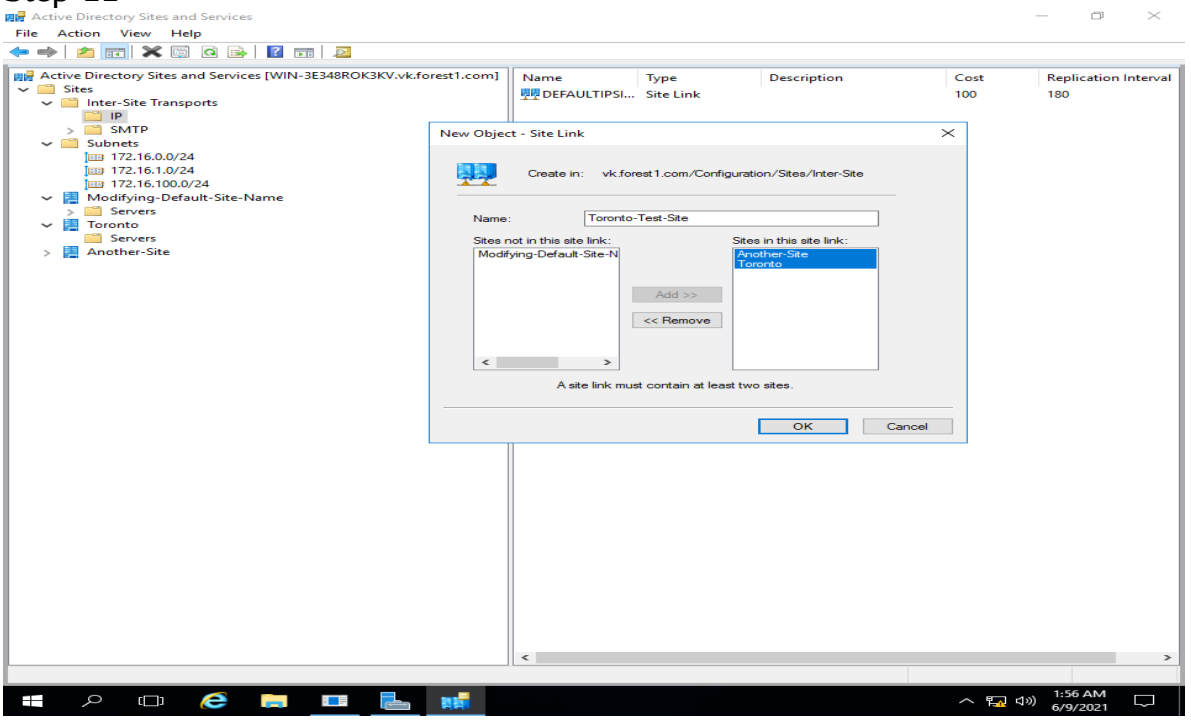
Step-9


Active Directory Sites and Services
File Action View Help
Active Directory Sites and Services [WIN-3E348ROK3KV.vk.forest1.com]
Sites
Inter-Site Transports
Subnets
172.16.0.0/24
172.16.1.0/24
172.16.100.0/24
Modifying-Default-Site-Name
Servers
Toronto
Servers
Another-Site
Name
Site
Location
Type
Description
172.16.0.0/24
Modifying-Def...
Subnet
172.16.1.0/24
Toronto
Subnet
172.16.100.0...
Another-Site
Subnet
1:50 AM
6/9/2021

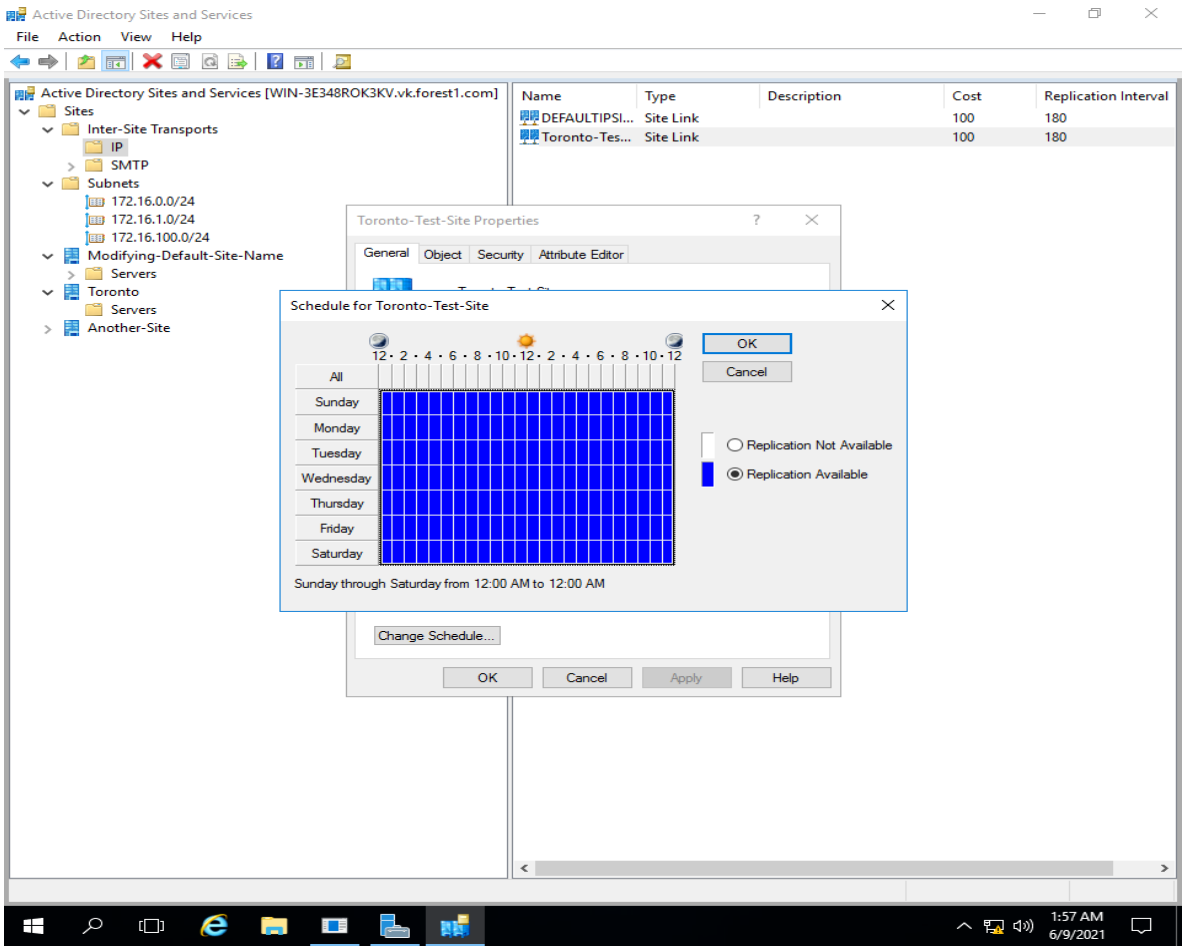
Step-10



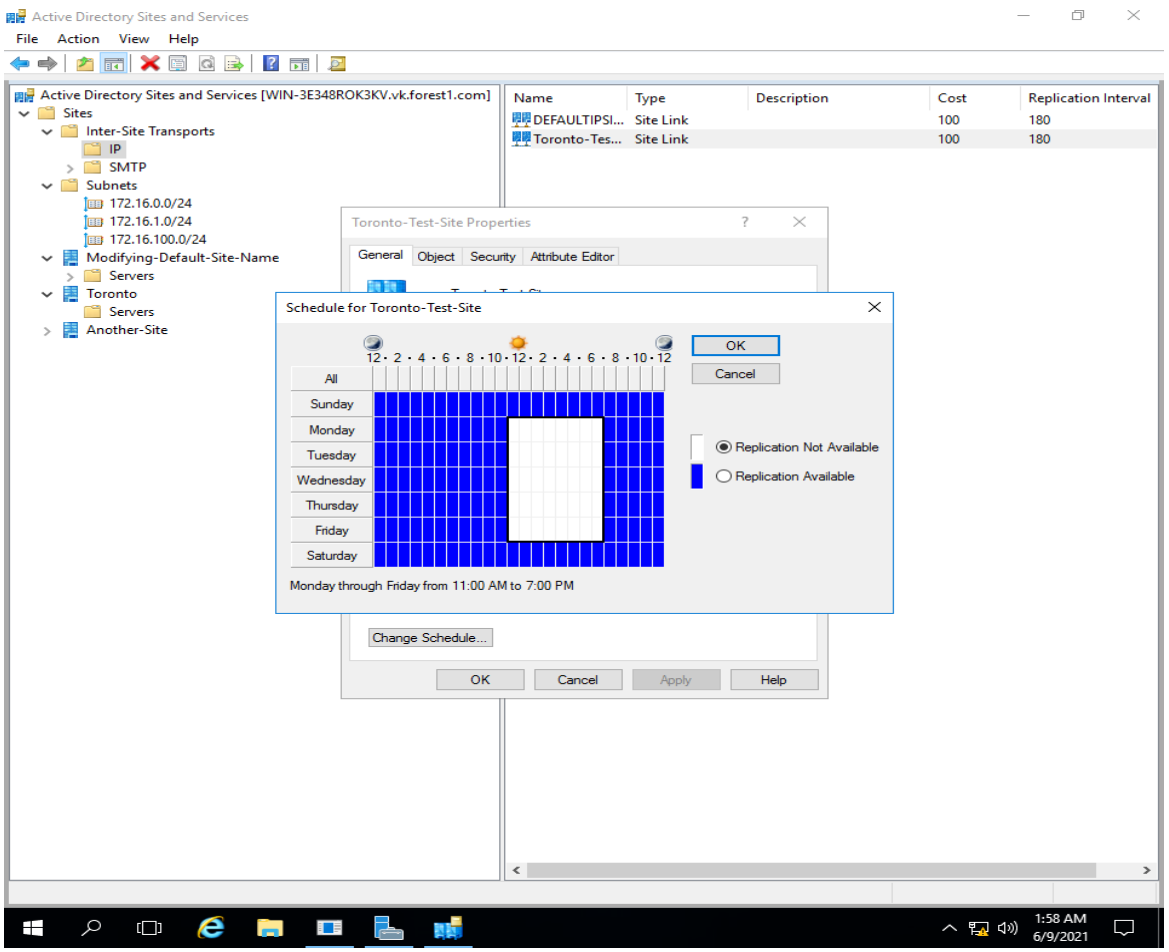
Step-11



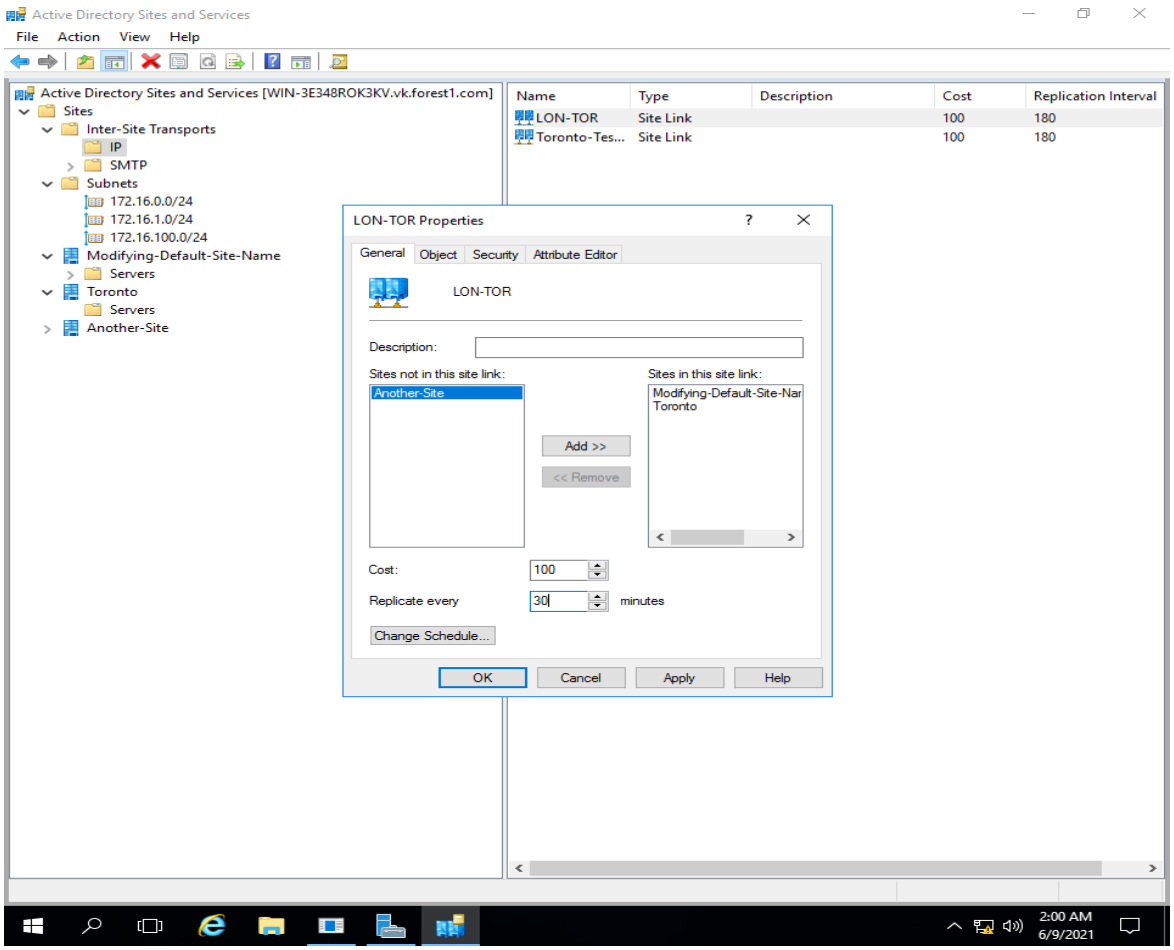
Step-12


Active Directory Sites and Services
File Action View Help
Active Directory Sites and Services [WIN-3E348ROK3KV.vk.forest1.com]
Sites
Inter-Site Transports
IP
SMTP
Subnets
172.16.0.0/24
172.16.1.0/24
172.16.100.0/24
Modifying-Default-Site-Name
Servers
Toronto
Servers
Another-Site
Name Type Description Cost Replication Interval
DEFAULTIPSI... Site Link 100 180
Toronto-Tes... Site Link 100 180
Toronto-Test-Site Properties
General Object Security Attribute Editor
Schedule for Toronto-Test-Site
12 · 2 · 4 · 6 · 8 · 10 · 12 · 2 · 4 · 6 · 8 · 10 · 12
All
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
OK
Cancel
Replication Not Available
Replication Available
Sunday through Saturday from 12:00 AM to 12:00 AM
Change Schedule...
OK Cancel Apply Help
1:57 AM
6/9/2021

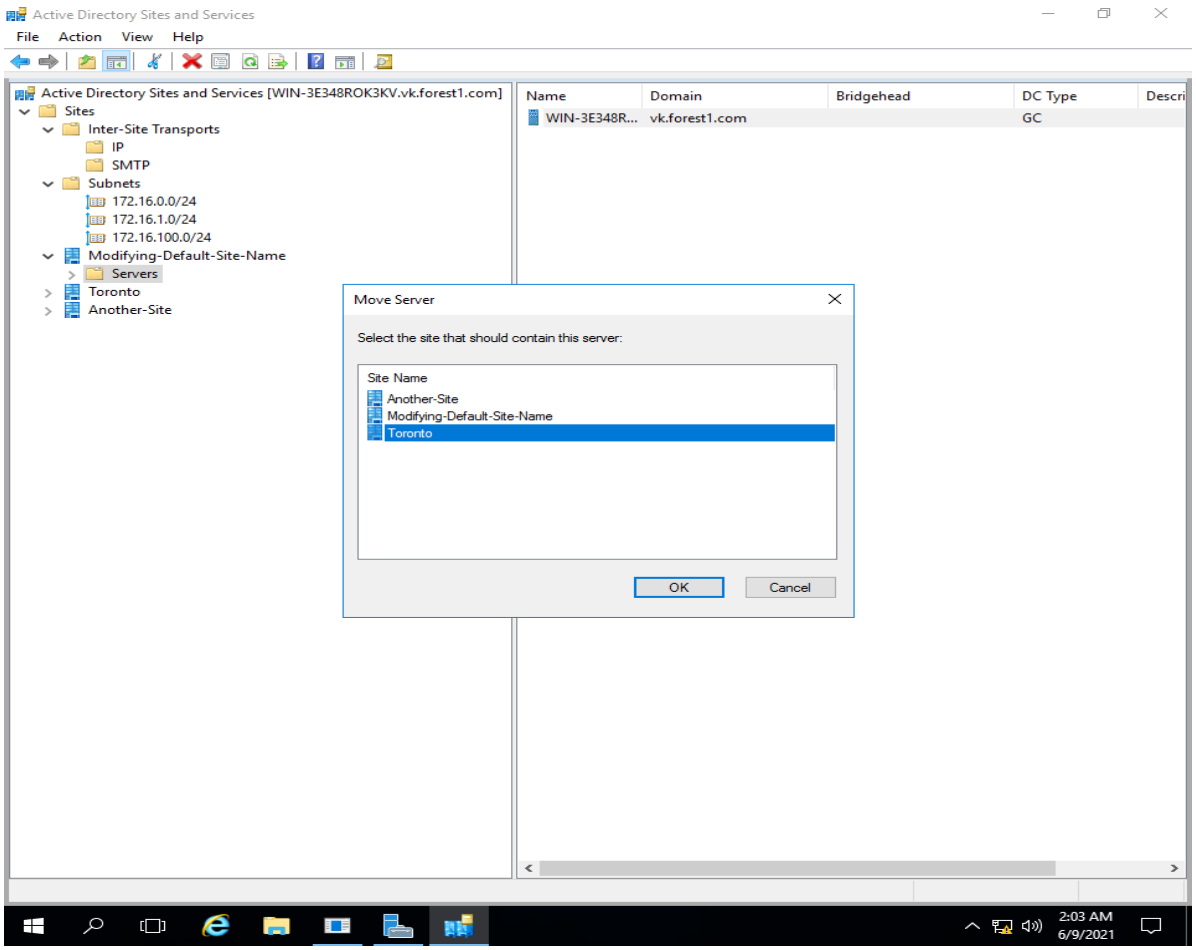
Step-13


Active Directory Sites and Services
File Action View Help
Active Directory Sites and Services [WIN-3E348ROK3KV.vk.forest1.com]
Sites
Inter-Site Transports
IP
SMTP
Subnets
172.16.0.0/24
172.16.1.0/24
172.16.100.0/24
Modifying-Default-Site-Name
Servers
Toronto
Servers
Another-Site
Name Type Description Cost Replication Interval
DEFAULTIPSI... Site Link 100 180
Toronto-Tes... Site Link 100 180
Toronto-Test-Site Properties
General Object Security Attribute Editor
Schedule for Toronto-Test-Site
12 2 4 6 8 10 12 2 4 6 8 10 12
All
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
OK
Cancel
Replication Not Available
Replication Available
Monday through Friday from 11:00 AM to 7:00 PM
Change Schedule...
OK Cancel Apply Help
1:58 AM
6/9/2021

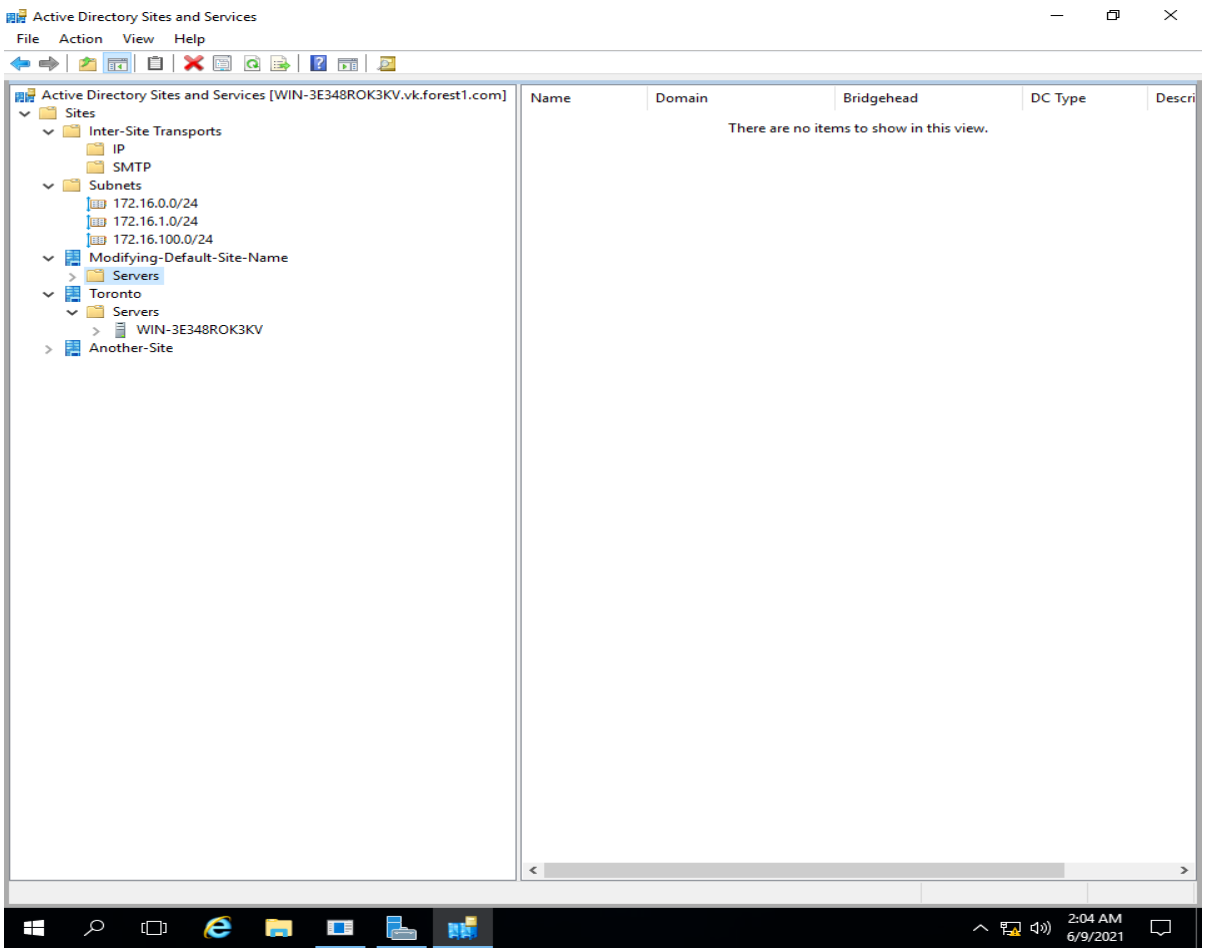
Step-14


Active Directory Sites and Services
File Action View Help
Active Directory Sites and Services [WIN-3E348ROK3KV.vk.forest1.com]
Sites
Inter-Site Transports
IP
SMTP
Subnets
172.16.0.0/24
172.16.1.0/24
172.16.100.0/24
Modifying-Default-Site-Name
Servers
Toronto
Servers
Another-Site
Name Type Description Cost Replication Interval
LON-TOR Site Link 100 180
Toronto-Tes... Site Link 100 180
LON-TOR Properties
General Object Security Attribute Editor
LON-TOR
Description:
Sites not in this site link:
Another-Site
Add >>
<< Remove
Sites in this site link:
Modifying-Default-Site-Nar
Toronto
Cost: 100
Replicate every 30 minutes
Change Schedule...
OK Cancel Apply Help
2:00 AM
6/9/2021

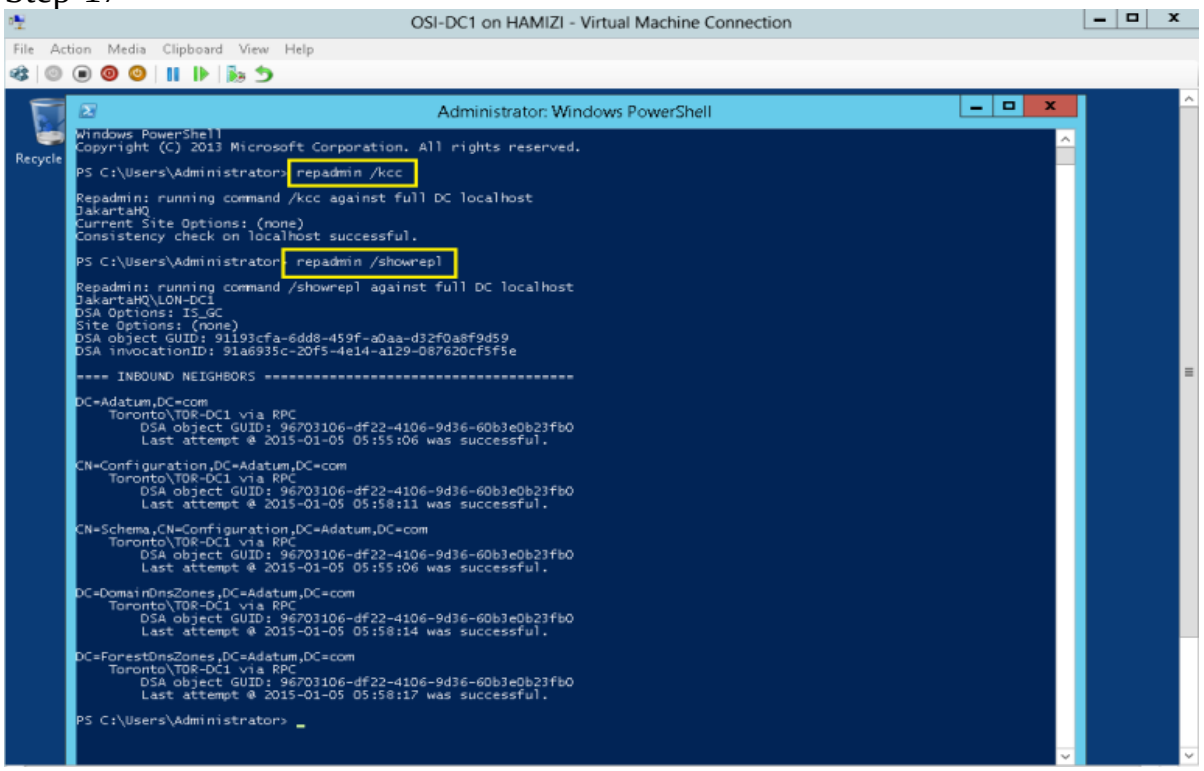
Step-15


Active Directory Sites and Services
File Action View Help
Active Directory Sites and Services [WIN-3E348ROK3KV.vk.forest1.com]
Sites
Inter-Site Transports
IP
SMTP
Subnets
172.16.0.0/24
172.16.1.0/24
172.16.100.0/24
Modifying-Default-Site-Name
Servers
Toronto
Another-Site
Name
Domain
Bridgehead
DC Type
Descri
WIN-3E348R...
vk.forest1.com
GC
Move Server
Select the site that should contain this server:
Site Name
Another-Site
Modifying-Default-Site-Name
Toronto
OK
Cancel
2:03 AM
6/9/2021

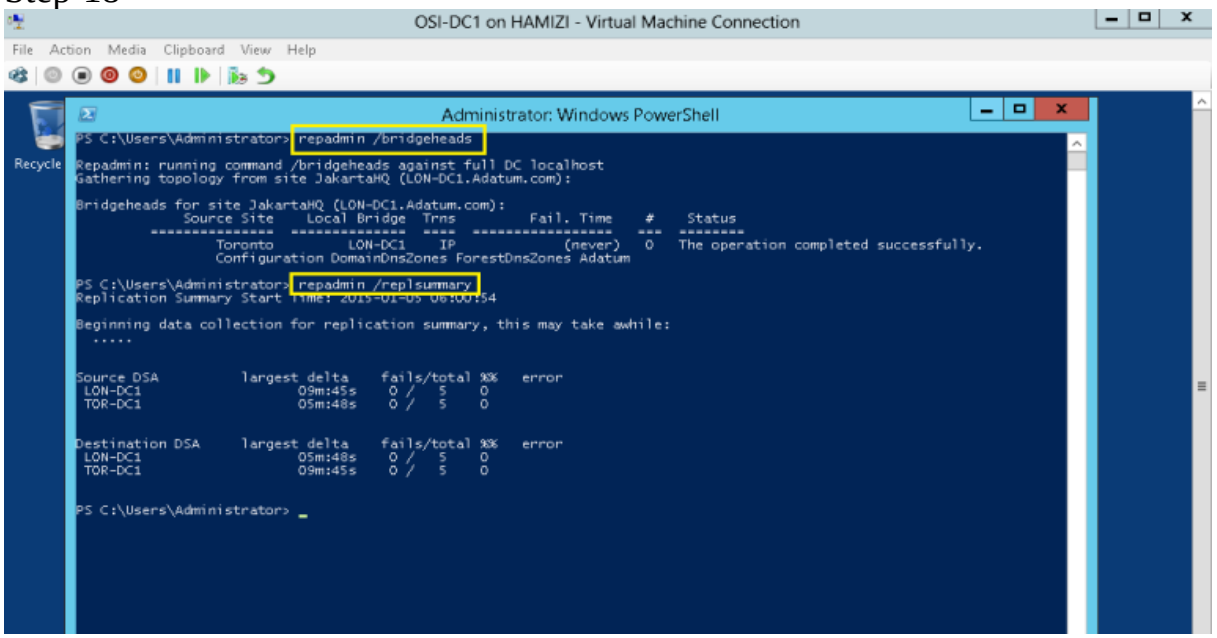
Step-16


Active Directory Sites and Services
File Action View Help
Active Directory Sites and Services [WIN-3E348ROK3KV.vk.forest1.com]
Sites
Inter-Site Transports
IP
SMTP
Subnets
172.16.0.0/24
172.16.1.0/24
172.16.100.0/24
Modifying-Default-Site-Name
Servers
Toronto
Servers
WIN-3E348ROK3KV
Another-Site
Name
Domain
Bridgehead
DC Type
Descri
There are no items to show in this view.
2:04 AM
6/9/2021

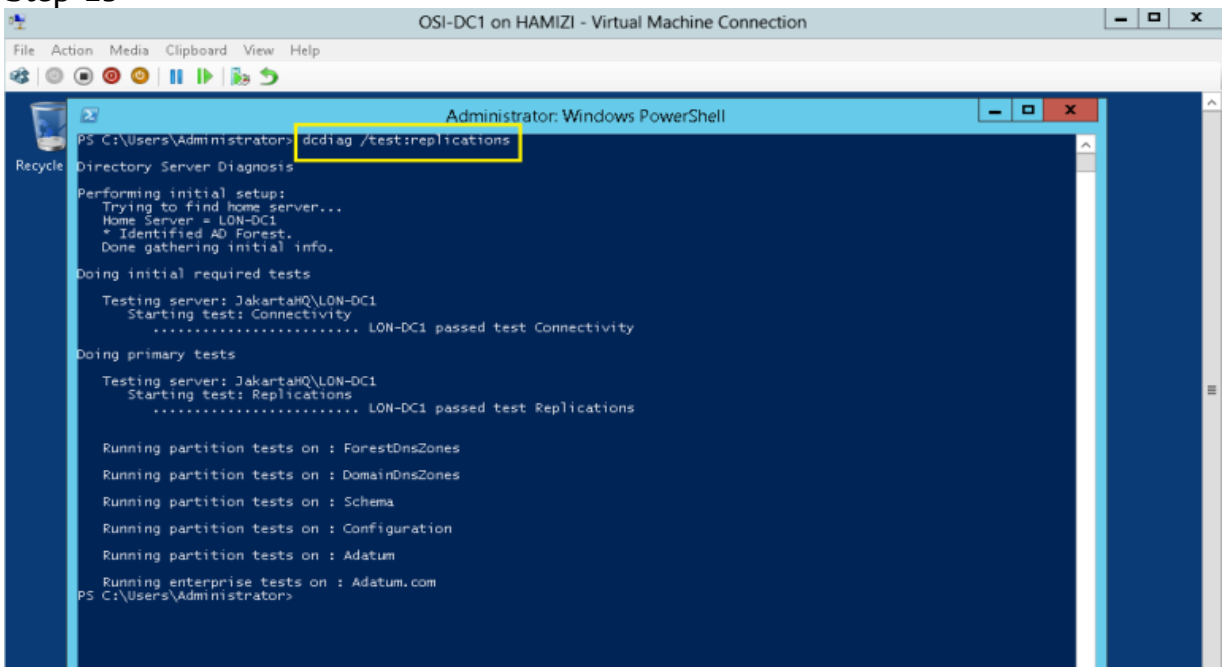
Step-17


OSI-DC1 on HAMIZI - Virtual Machine Connection
File Action Media Clipboard View Help
Recycle
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) 2013 Microsoft Corporation. All rights reserved.
PS C:\Users\Administrator> repadmin /kcc
Repadmin: running command /kcc against full DC localhost
DakartaHQ
Current Site Options: (none)
Consistency check on localhost successful.
PS C:\Users\Administrator> repadmin /showrepl
Repadmin: running command /showrepl against full DC localhost
DakartaHQ\LON-DC1
DSA Options: IS_GC
Site Options: (none)
DSA object GUID: 91193cfa-6dd8-459f-a0aa-d32f0a8f9d59
DSA invocationID: 91a6935c-20f5-4e14-a129-087620cf5f5e
==== INBOUND NEIGHBORS ====
DC=Adatum,DC=com
Toronto\TOR-DC1 via RPC
DSA object GUID: 96703106-df22-4106-9d36-60b3e0b23fb0
Last attempt @ 2015-01-05 05:55:06 was successful.
CN=Configuration,DC=Adatum,DC=com
Toronto\TOR-DC1 via RPC
DSA object GUID: 96703106-df22-4106-9d36-60b3e0b23fb0
Last attempt @ 2015-01-05 05:58:11 was successful.
CN=Schema,CN=Configuration,DC=Adatum,DC=com
Toronto\TOR-DC1 via RPC
DSA object GUID: 96703106-df22-4106-9d36-60b3e0b23fb0
Last attempt @ 2015-01-05 05:55:06 was successful.
DC=DomainDnsZones,DC=Adatum,DC=com
Toronto\TOR-DC1 via RPC
DSA object GUID: 96703106-df22-4106-9d36-60b3e0b23fb0
Last attempt @ 2015-01-05 05:58:14 was successful.
DC=ForestDnsZones,DC=Adatum,DC=com
Toronto\TOR-DC1 via RPC
DSA object GUID: 96703106-df22-4106-9d36-60b3e0b23fb0
Last attempt @ 2015-01-05 05:58:17 was successful.
PS C:\Users\Administrator>

Step-18



Step-19



Lab – 10

Implementing a Group Policy infrastructure

Aim:

• Creating and configuring GPOs
• Managing GPO sc

Lab – 11

Troubleshooting Group Policy infrastructure

Aim:

• Verify GPO application
• Troubleshooting GPOs

Lab-12

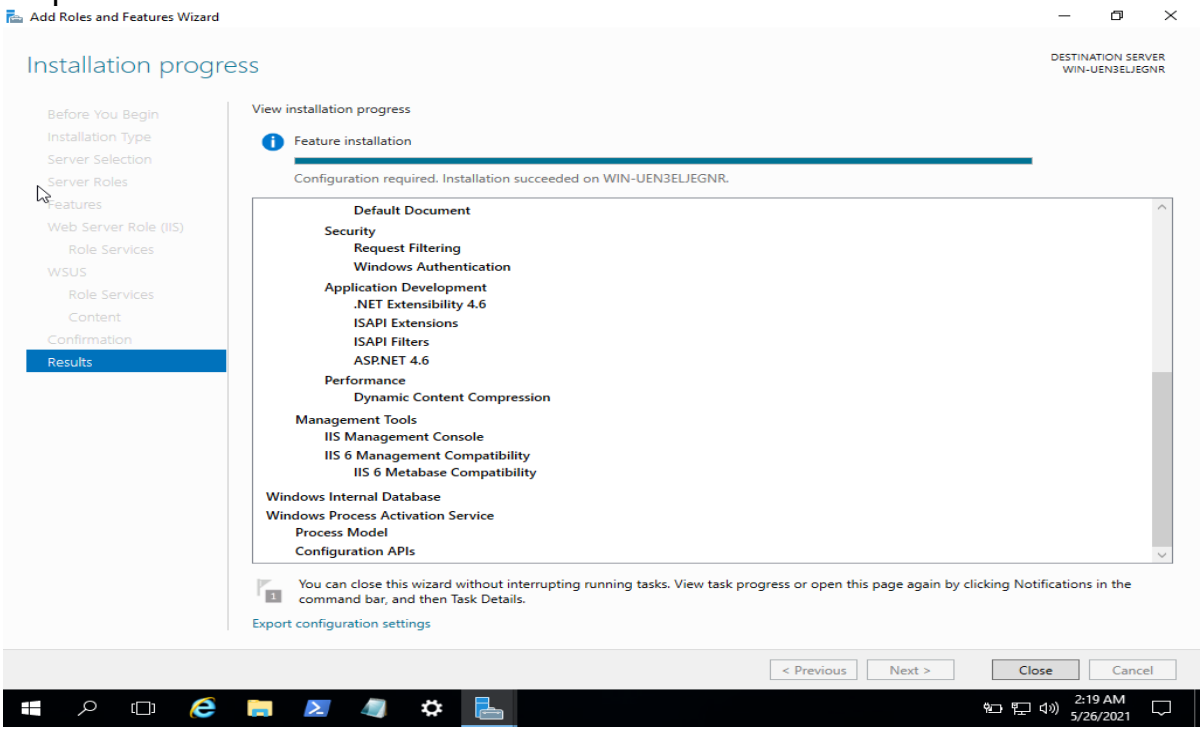
Implementing WSUS and deploying updates

Aim:

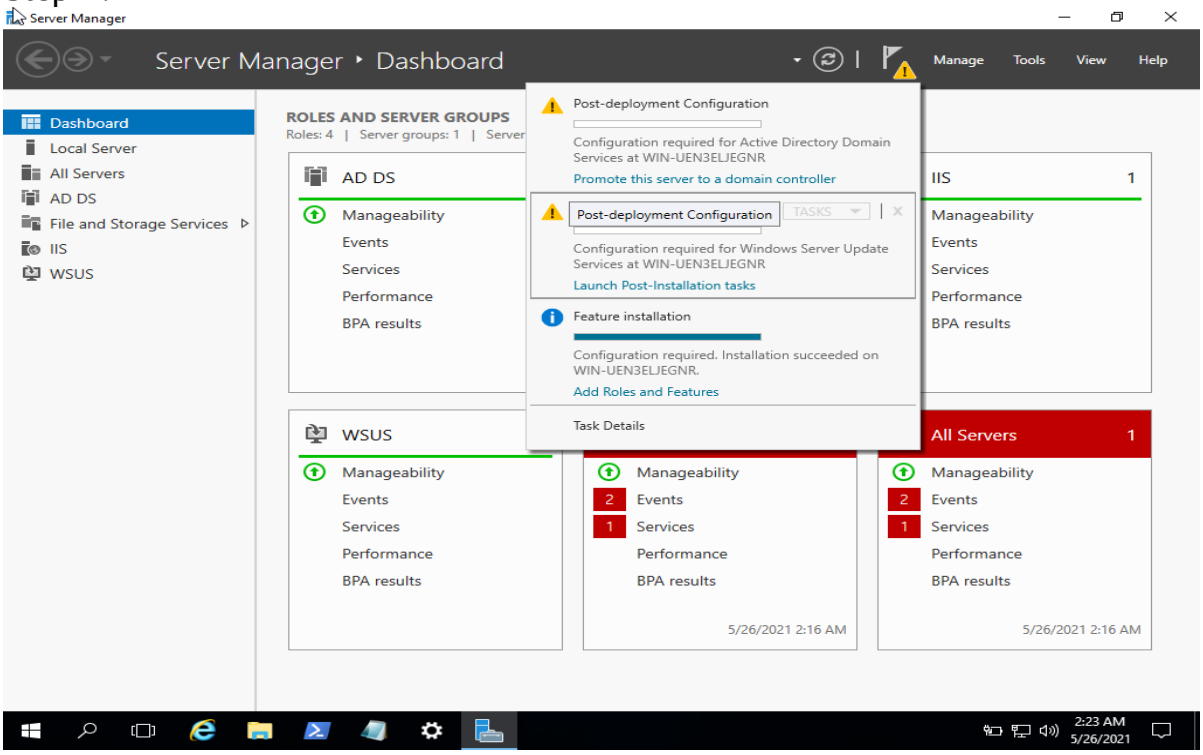
°Implementing WSUS
°Configuring update settings

• Approving and deploying an update by using WSUS

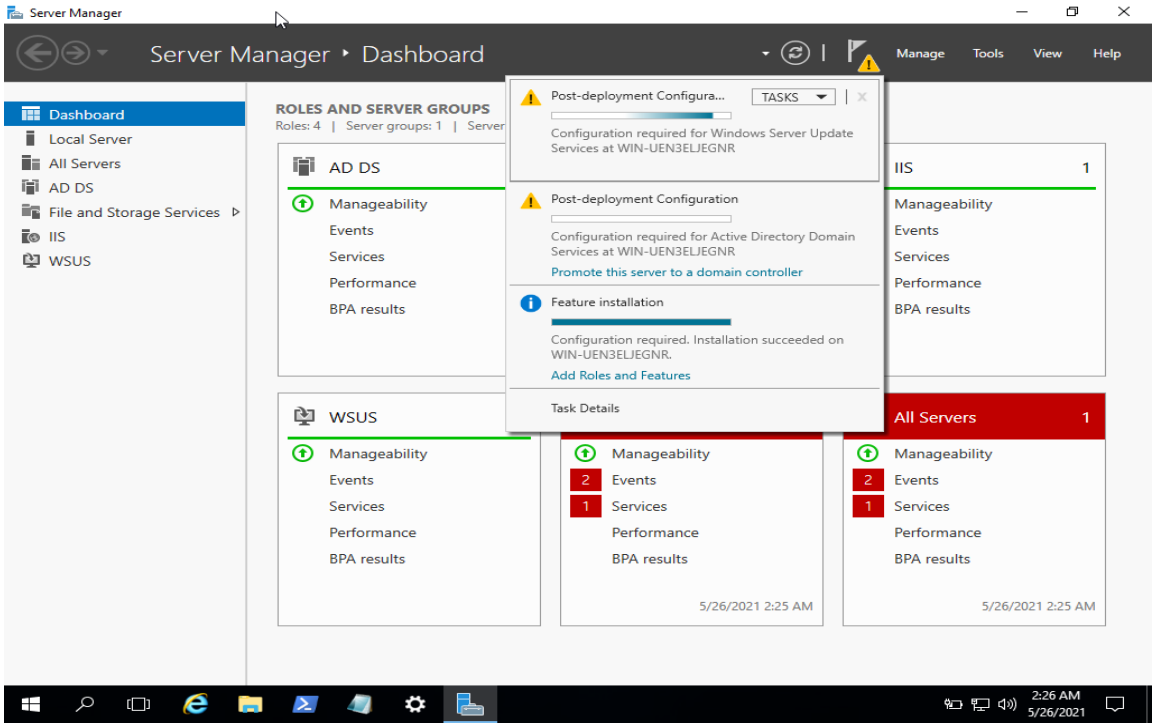
Step-1:



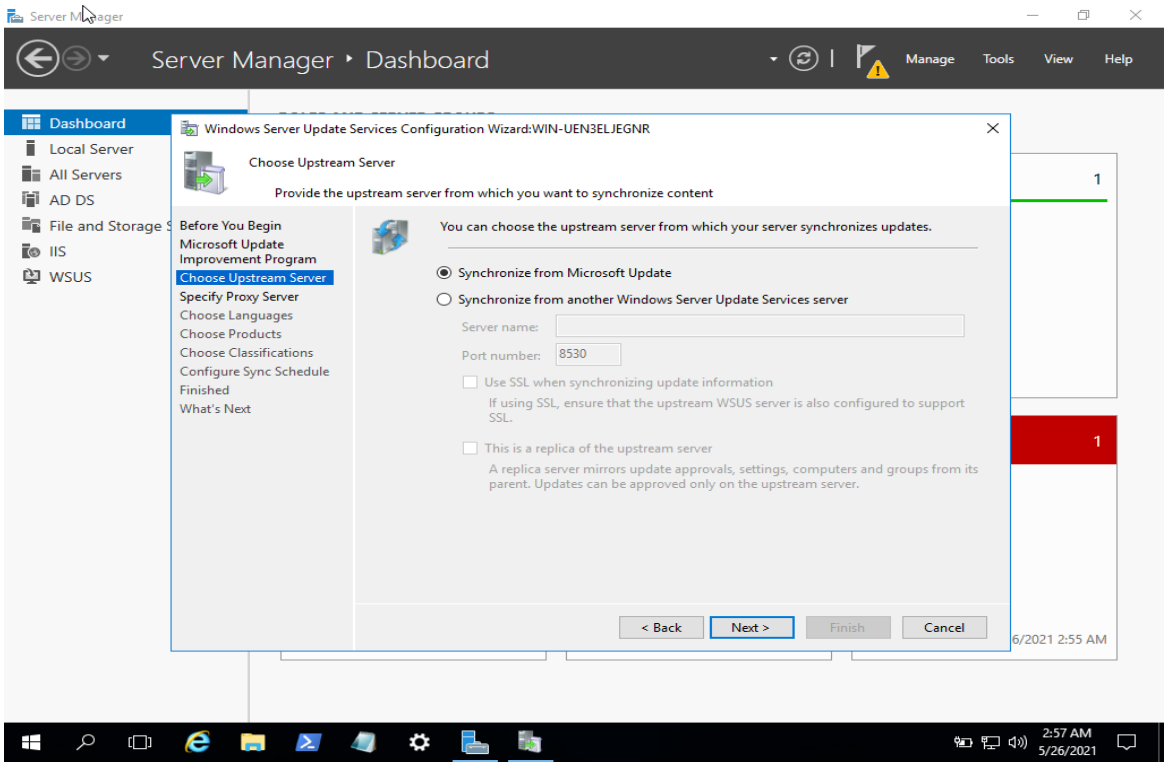
Step-2:



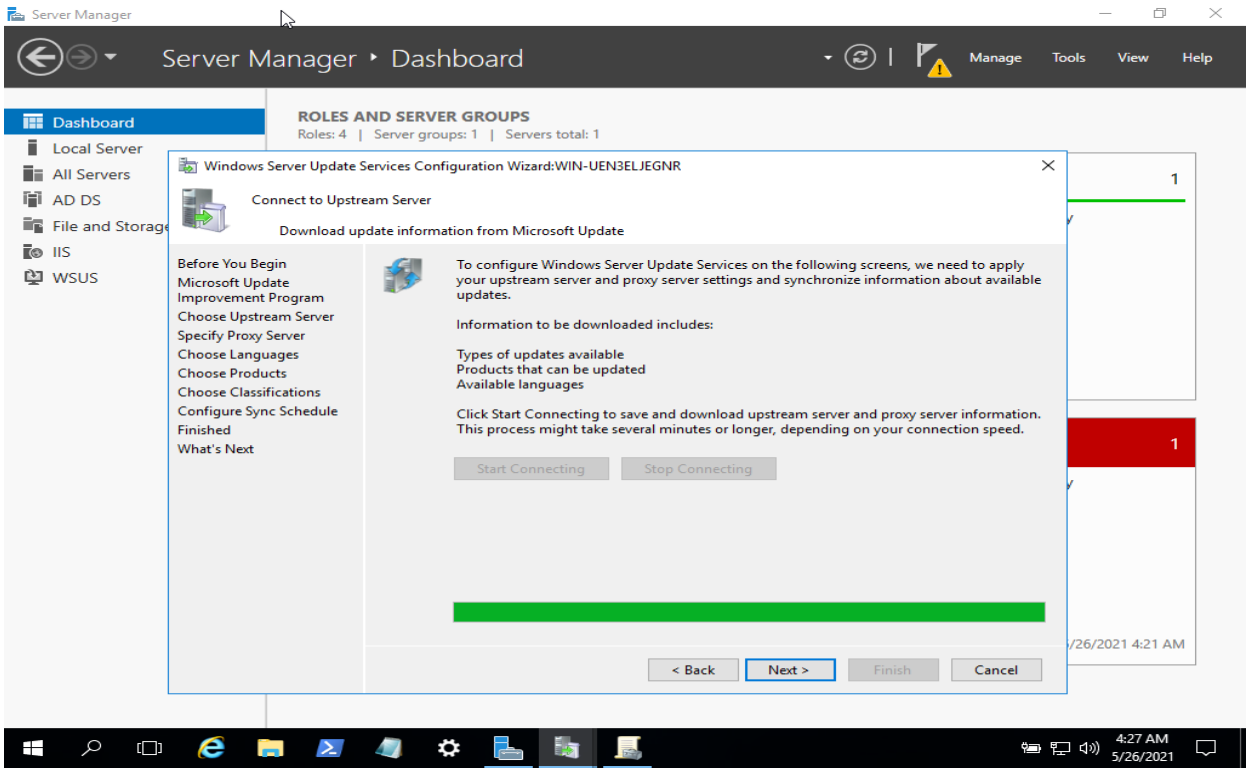
Step-3


Server Manager
Server Manager ▸ Dashboard
Manage
Tools
View
Help
Dashboard
Local Server
All Servers
AD DS
File and Storage Services
IIS
WSUS
ROLES AND SERVER GROUPS
Roles: 4 | Server groups: 1 | Server
AD DS
Manageability
Events
Services
Performance
BPA results
IIS 1
Manageability
Events
Services
Performance
BPA results
Post-deployment Configura...
TASKS
Configuration required for Windows Server Update Services at WIN-UEN3ELJEGNR
Post-deployment Configuration
Configuration required for Active Directory Domain Services at WIN-UEN3ELJEGNR
Promote this server to a domain controller
Feature installation
Configuration required. Installation succeeded on WIN-UEN3ELJEGNR.
Add Roles and Features
Task Details
WSUS
Manageability
Events
Services
Performance
BPA results
Manageability
2 Events
1 Services
Performance
BPA results
5/26/2021 2:25 AM
All Servers 1
Manageability
2 Events
1 Services
Performance
BPA results
5/26/2021 2:25 AM
2:26 AM
5/26/2021

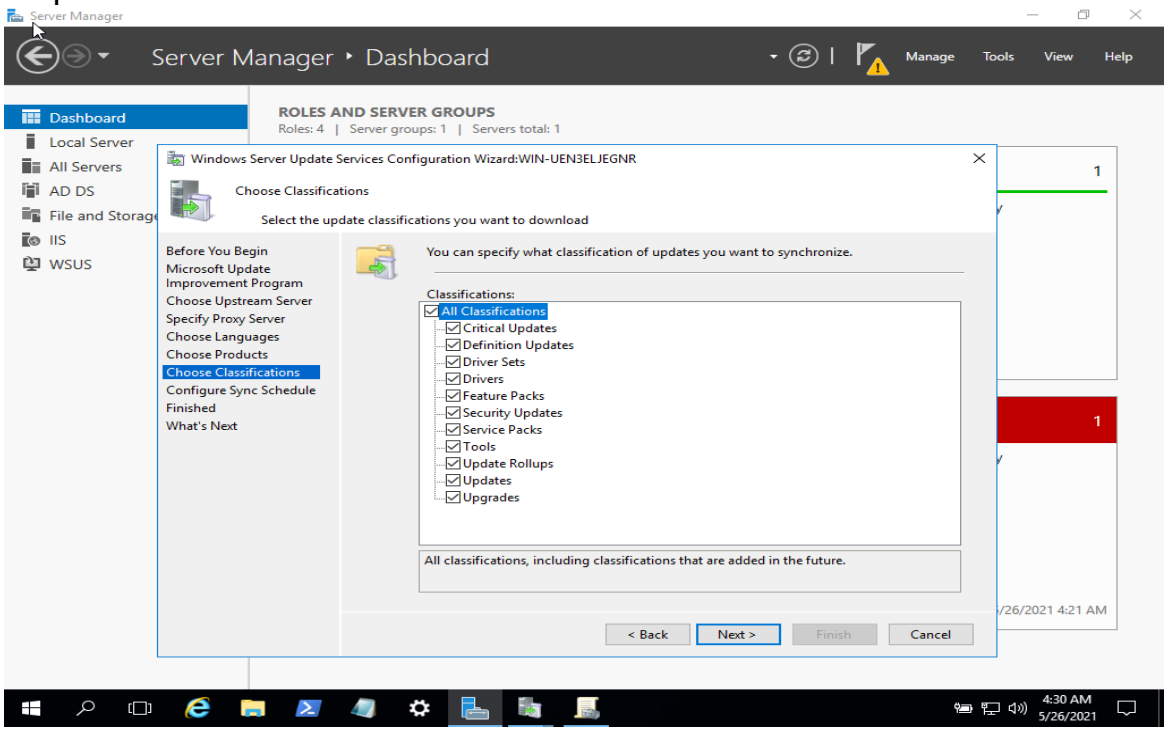
Step-4


Server Manager
Server Manager ▸ Dashboard
Manage
Tools
View
Help
Dashboard
Local Server
All Servers
AD DS
File and Storage
IIS
WSUS
Windows Server Update Services Configuration Wizard:WIN-UEN3ELJEGNR
Choose Upstream Server
Provide the upstream server from which you want to synchronize content
Before You Begin
Microsoft Update Improvement Program
Choose Upstream Server
Specify Proxy Server
Choose Languages
Choose Products
Choose Classifications
Configure Sync Schedule
Finished
What's Next
You can choose the upstream server from which your server synchronizes updates.
Synchronize from Microsoft Update
Synchronize from another Windows Server Update Services server
Server name:
Port number: 8530
Use SSL when synchronizing update information
If using SSL, ensure that the upstream WSUS server is also configured to support SSL.
This is a replica of the upstream server
A replica server mirrors update approvals, settings, computers and groups from its parent. Updates can be approved only on the upstream server.
< Back
Next >
Finish
Cancel
6/2021 2:55 AM
2:57 AM
5/26/2021

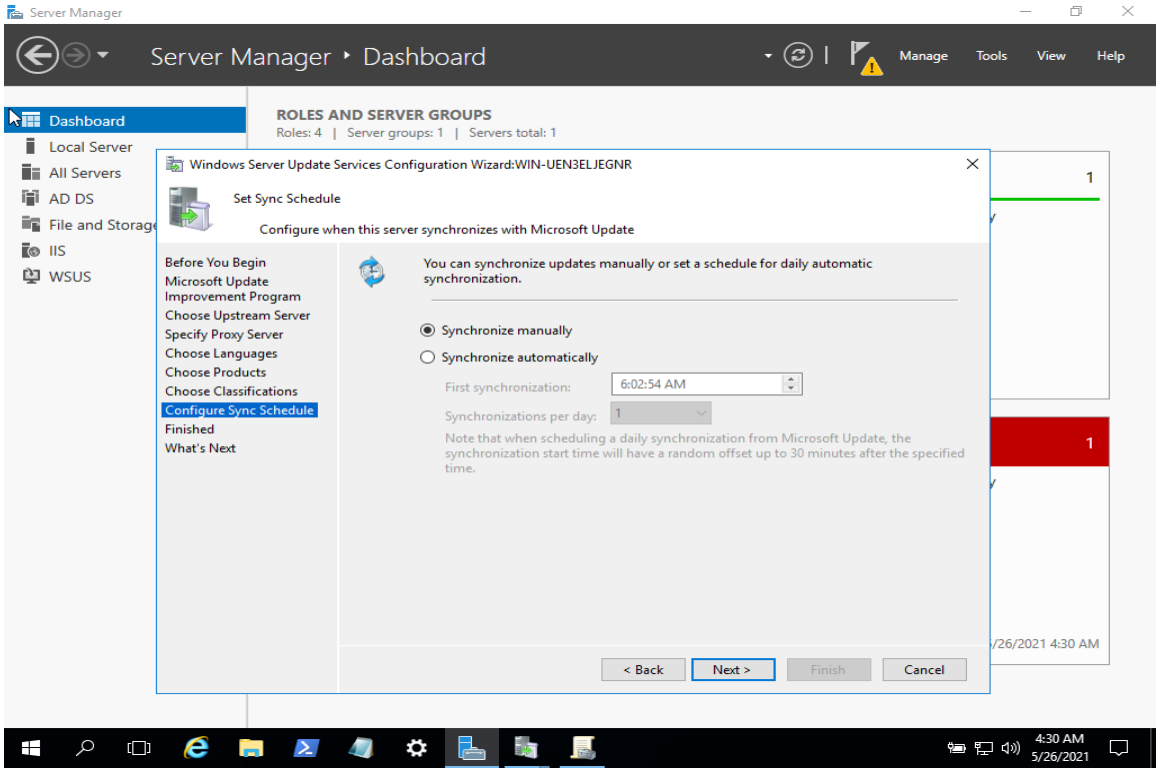
Step-5:


Server Manager
Server Manager ▸ Dashboard
Manage
Tools
View
Help
Dashboard
Local Server
All Servers
AD DS
File and Storage
IIS
WSUS
ROLES AND SERVER GROUPS
Roles: 4 | Server groups: 1 | Servers total: 1
Windows Server Update Services Configuration Wizard:WIN-UEN3ELJEGNR
Connect to Upstream Server
Download update information from Microsoft Update
Before You Begin
Microsoft Update Improvement Program
Choose Upstream Server
Specify Proxy Server
Choose Languages
Choose Products
Choose Classifications
Configure Sync Schedule
Finished
What's Next
To configure Windows Server Update Services on the following screens, we need to apply your upstream server and proxy server settings and synchronize information about available updates.
Information to be downloaded includes:
Types of updates available
Products that can be updated
Available languages
Click Start Connecting to save and download upstream server and proxy server information. This process might take several minutes or longer, depending on your connection speed.
Start Connecting
Stop Connecting
< Back
Next >
Finish
Cancel
1
1
/26/2021 4:21 AM
4:27 AM
5/26/2021

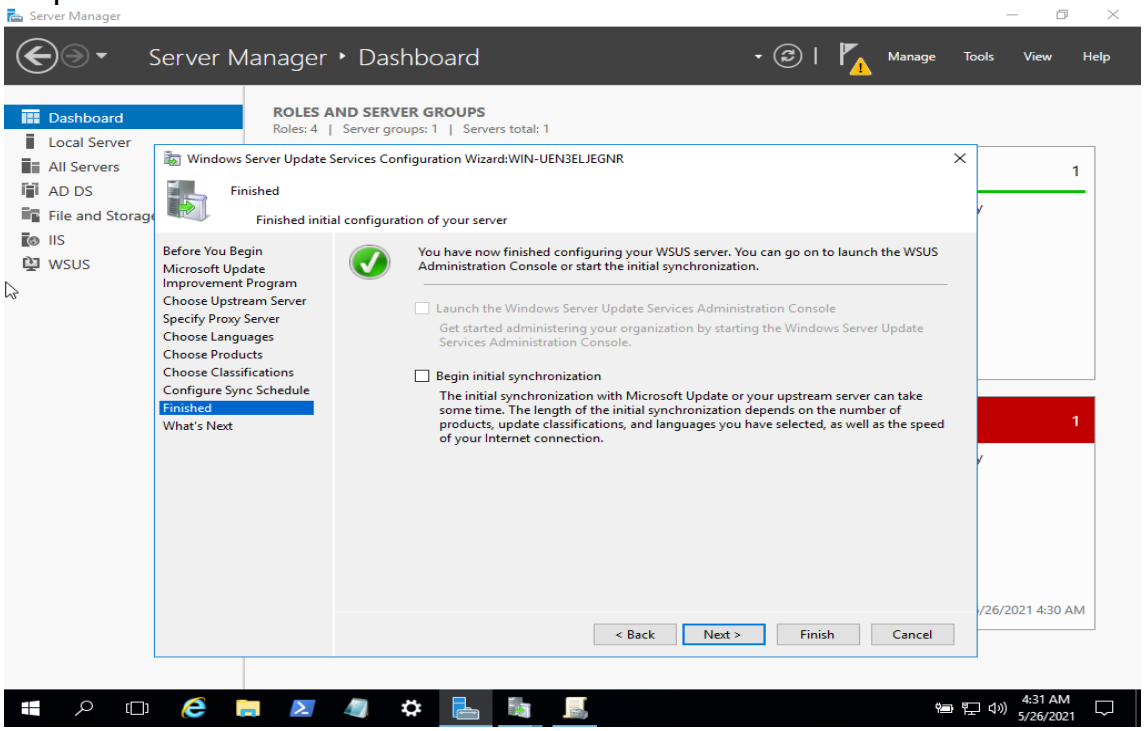
Step-6:


Server Manager
Server Manager ▸ Dashboard
Manage
Tools
View
Help
Dashboard
Local Server
All Servers
AD DS
File and Storage
IIS
WSUS
ROLES AND SERVER GROUPS
Roles: 4 | Server groups: 1 | Servers total: 1
Windows Server Update Services Configuration Wizard:WIN-UEN3ELJEGNR
Choose Classifications
Select the update classifications you want to download
Before You Begin
Microsoft Update Improvement Program
Choose Upstream Server
Specify Proxy Server
Choose Languages
Choose Products
Choose Classifications
Configure Sync Schedule
Finished
What's Next
You can specify what classification of updates you want to synchronize.
Classifications:
All Classifications
Critical Updates
Definition Updates
Driver Sets
Drivers
Feature Packs
Security Updates
Service Packs
Tools
Update Rollups
Updates
Upgrades
All classifications, including classifications that are added in the future.
< Back
Next >
Finish
Cancel
1
1
/26/2021 4:21 AM
4:30 AM
5/26/2021

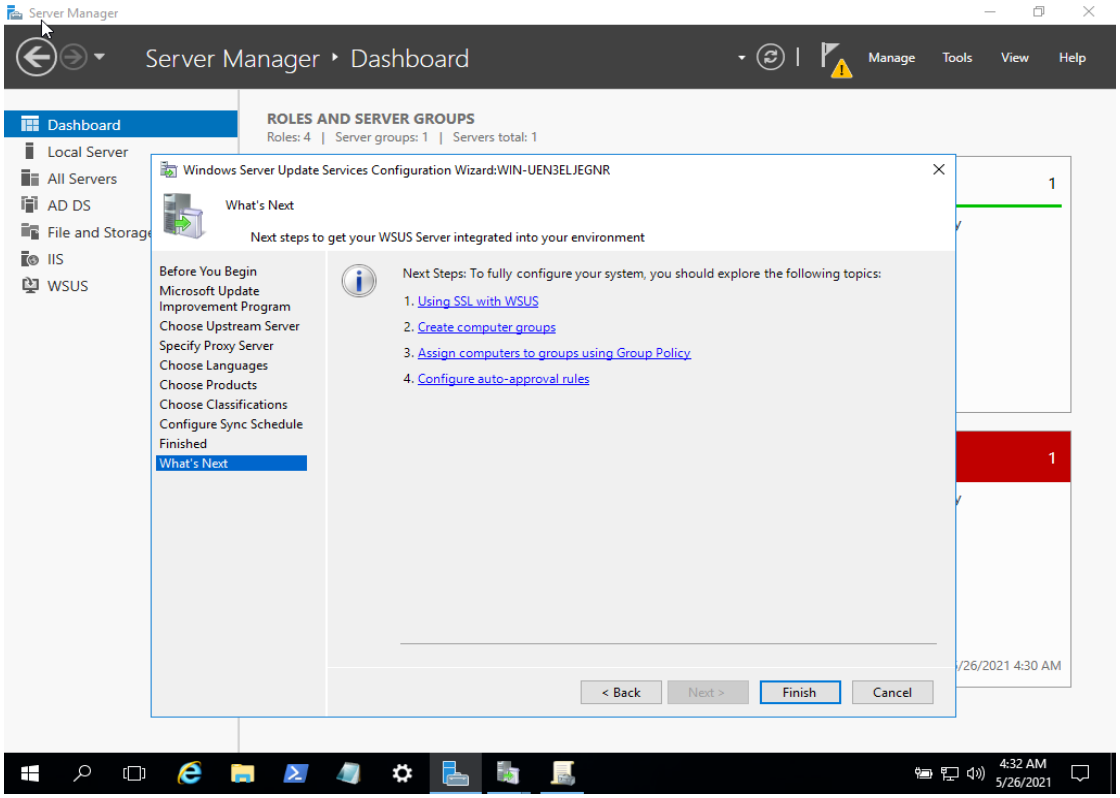
Step-7:


Server Manager
Server Manager ▸ Dashboard
Manage
Tools
View
Help
Dashboard
Local Server
All Servers
AD DS
File and Storage
IIS
WSUS
ROLES AND SERVER GROUPS
Roles: 4 | Server groups: 1 | Servers total: 1
Windows Server Update Services Configuration Wizard:WIN-UEN3ELJEGNR
Set Sync Schedule
Configure when this server synchronizes with Microsoft Update
Before You Begin
Microsoft Update Improvement Program
Choose Upstream Server
Specify Proxy Server
Choose Languages
Choose Products
Choose Classifications
Configure Sync Schedule
Finished
What's Next
You can synchronize updates manually or set a schedule for daily automatic synchronization.
Synchronize manually
Synchronize automatically
First synchronization:
6:02:54 AM
Synchronizations per day:
1
Note that when scheduling a daily synchronization from Microsoft Update, the synchronization start time will have a random offset up to 30 minutes after the specified time.
< Back
Next >
Finish
Cancel
4:30 AM
5/26/2021

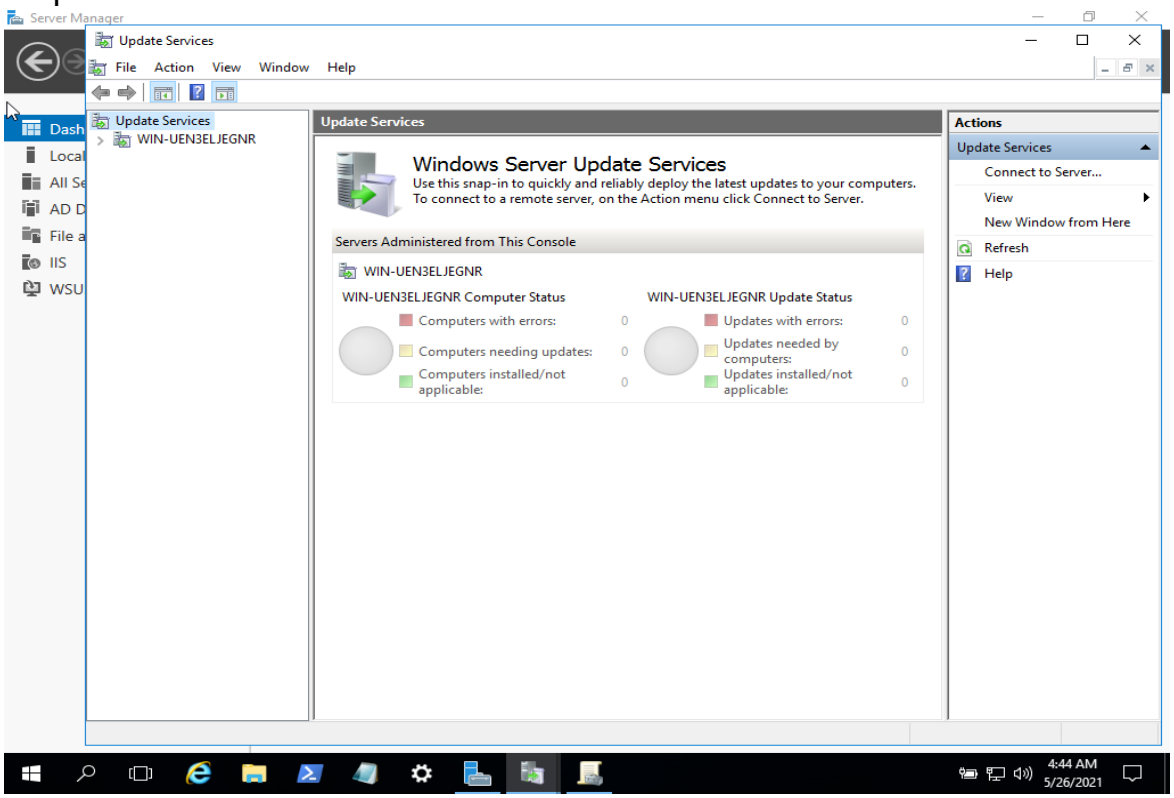
Step-8:


Server Manager
Server Manager ▸ Dashboard
Manage
Tools
View
Help
Dashboard
Local Server
All Servers
AD DS
File and Storage
IIS
WSUS
ROLES AND SERVER GROUPS
Roles: 4 | Server groups: 1 | Servers total: 1
Windows Server Update Services Configuration Wizard:WIN-UEN3ELJEGNR
Finished
Finished initial configuration of your server
Before You Begin
Microsoft Update Improvement Program
Choose Upstream Server
Specify Proxy Server
Choose Languages
Choose Products
Choose Classifications
Configure Sync Schedule
Finished
What's Next
You have now finished configuring your WSUS server. You can go on to launch the WSUS Administration Console or start the initial synchronization.
Launch the Windows Server Update Services Administration Console
Get started administering your organization by starting the Windows Server Update Services Administration Console.
Begin initial synchronization
The initial synchronization with Microsoft Update or your upstream server can take some time. The length of the initial synchronization depends on the number of products, update classifications, and languages you have selected, as well as the speed of your Internet connection.
< Back
Next >
Finish
Cancel
4:31 AM
5/26/2021

Step-9:


Server Manager
Server Manager ▸ Dashboard
Manage
Tools
View
Help
Dashboard
Local Server
All Servers
AD DS
File and Storage
IIS
WSUS
ROLES AND SERVER GROUPS
Roles: 4 | Server groups: 1 | Servers total: 1
Windows Server Update Services Configuration Wizard:WIN-UEN3ELJEGNR
What's Next
Next steps to get your WSUS Server integrated into your environment
Before You Begin
Microsoft Update Improvement Program
Choose Upstream Server
Specify Proxy Server
Choose Languages
Choose Products
Choose Classifications
Configure Sync Schedule
Finished
What's Next
Next Steps: To fully configure your system, you should explore the following topics:
1. Using SSL with WSUS
2. Create computer groups
3. Assign computers to groups using Group Policy
4. Configure auto-approval rules
< Back
Next >
Finish
Cancel
1
1
/26/2021 4:30 AM
4:32 AM
5/26/2021

Step-10:


Server Manager
Update Services
File
Action
View
Window
Help
Update Services
WIN-UEN3ELJEGNR
Update Services
Windows Server Update Services
Use this snap-in to quickly and reliably deploy the latest updates to your computers.
To connect to a remote server, on the Action menu click Connect to Server.
Servers Administered from This Console
WIN-UEN3ELJEGNR
WIN-UEN3ELJEGNR Computer Status
Computers with errors: 0
Computers needing updates: 0
Computers installed/not applicable: 0
WIN-UEN3ELJEGNR Update Status
Updates with errors: 0
Updates needed by computers: 0
Updates installed/not applicable: 0
Actions
Update Services
Connect to Server...
View
New Window from Here
Refresh
Help
4:44 AM
5/26/2021