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(इस्लिंग्टन कलेज)

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*I confirm that I understand my coursework needs to be submitted online via MST Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.*

## **Aim**

The workshop is all about walking you through how to set up Active Directory Domain Services (AD DS) on a Windows Server 2022. You'll learn step-by-step how to create a domain controller for a new forest and make sure everything is set up and working correctly.

## **Objective**

The main goal of this logbook was to guide you through installing AD DS, setting up roles and features, promoting the server, configuring DNS settings, and creating the first domain controller for a new forest on Windows Server 2022—all using PowerShell commands.

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## Steps Required

Step 1 – Open the server Manager by logging in as an administrator to Windows server 2022. Select the Add Roles and Features & option.

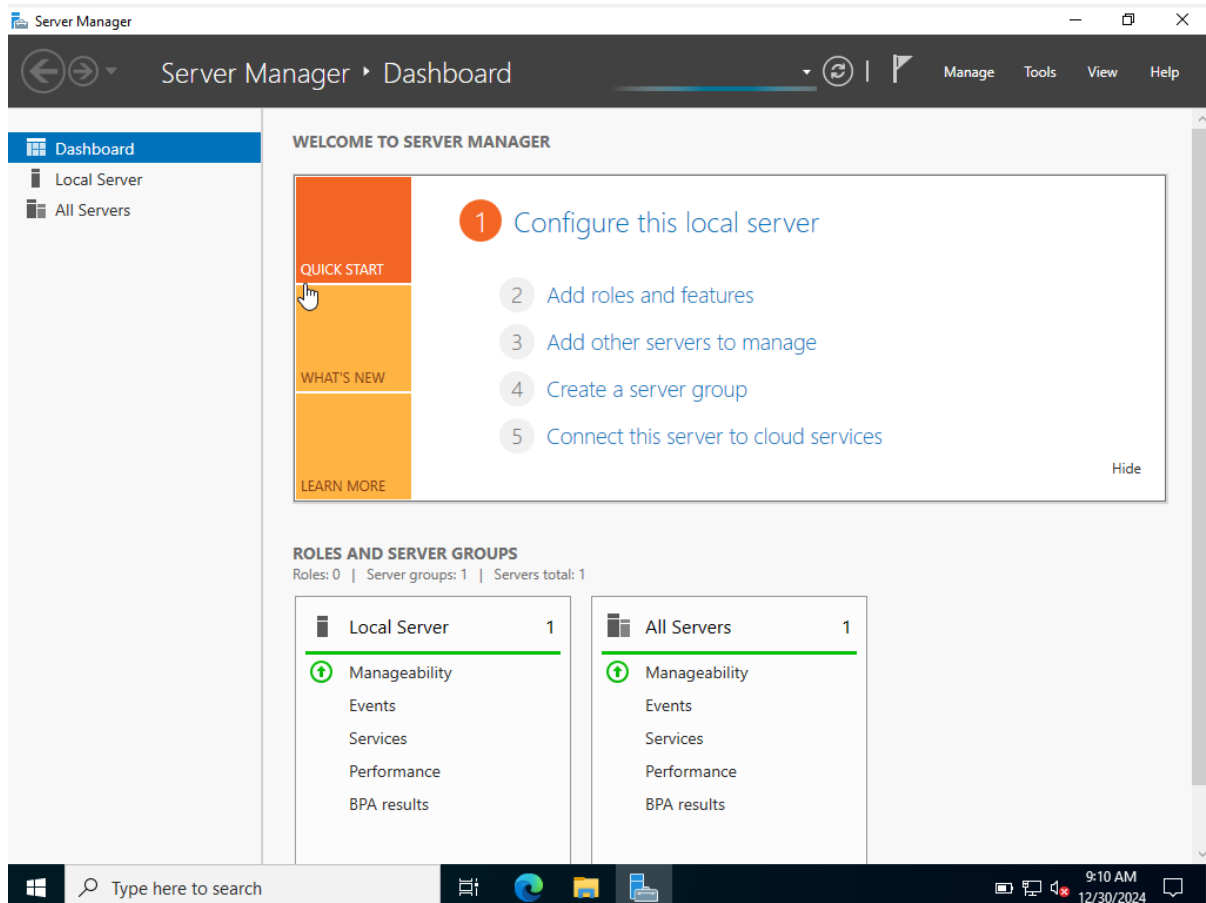


Figure 1: Select the Add Roles and Features & option

Step 2 - The Add Roles and Features Wizard will then open before you begin page. Now click on the Next button.

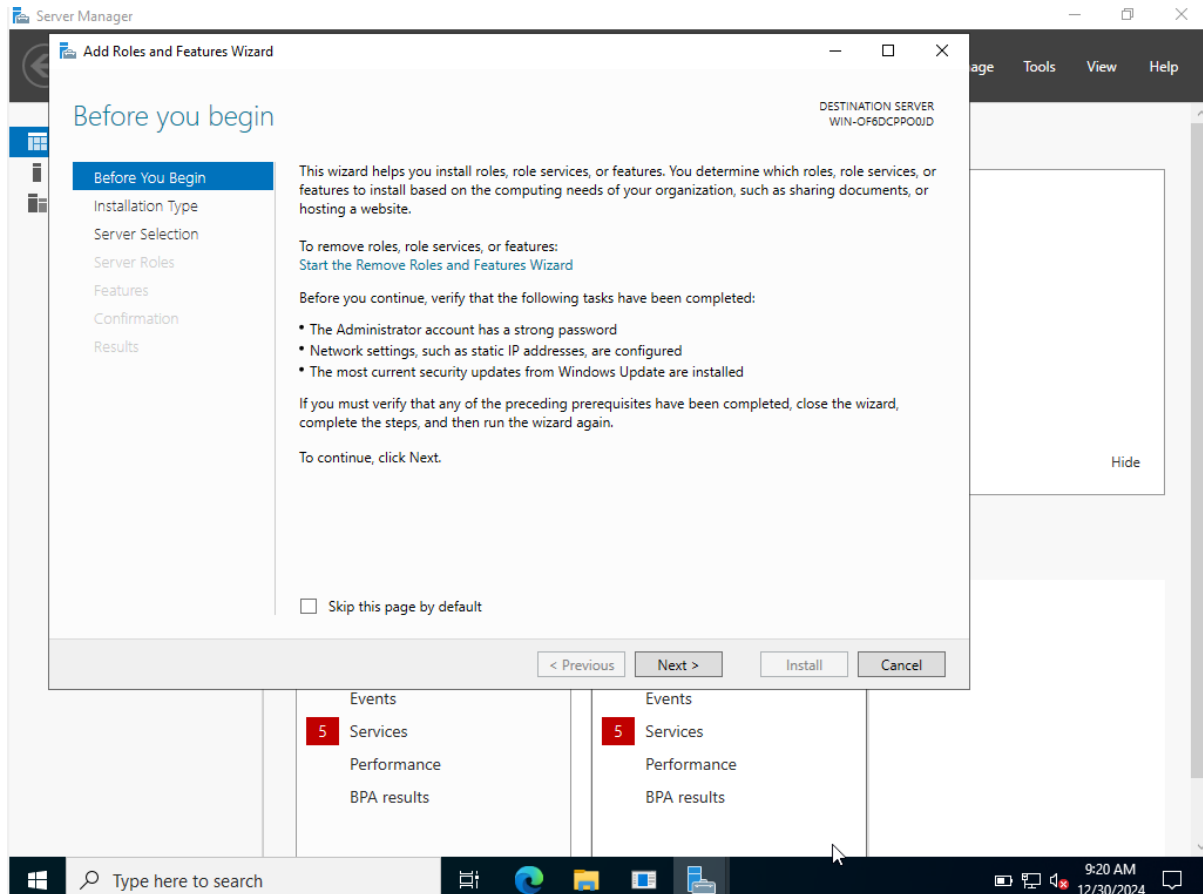


Figure 2: click on the Next button

Step 3 - After reviewing the installation type press the Next button.

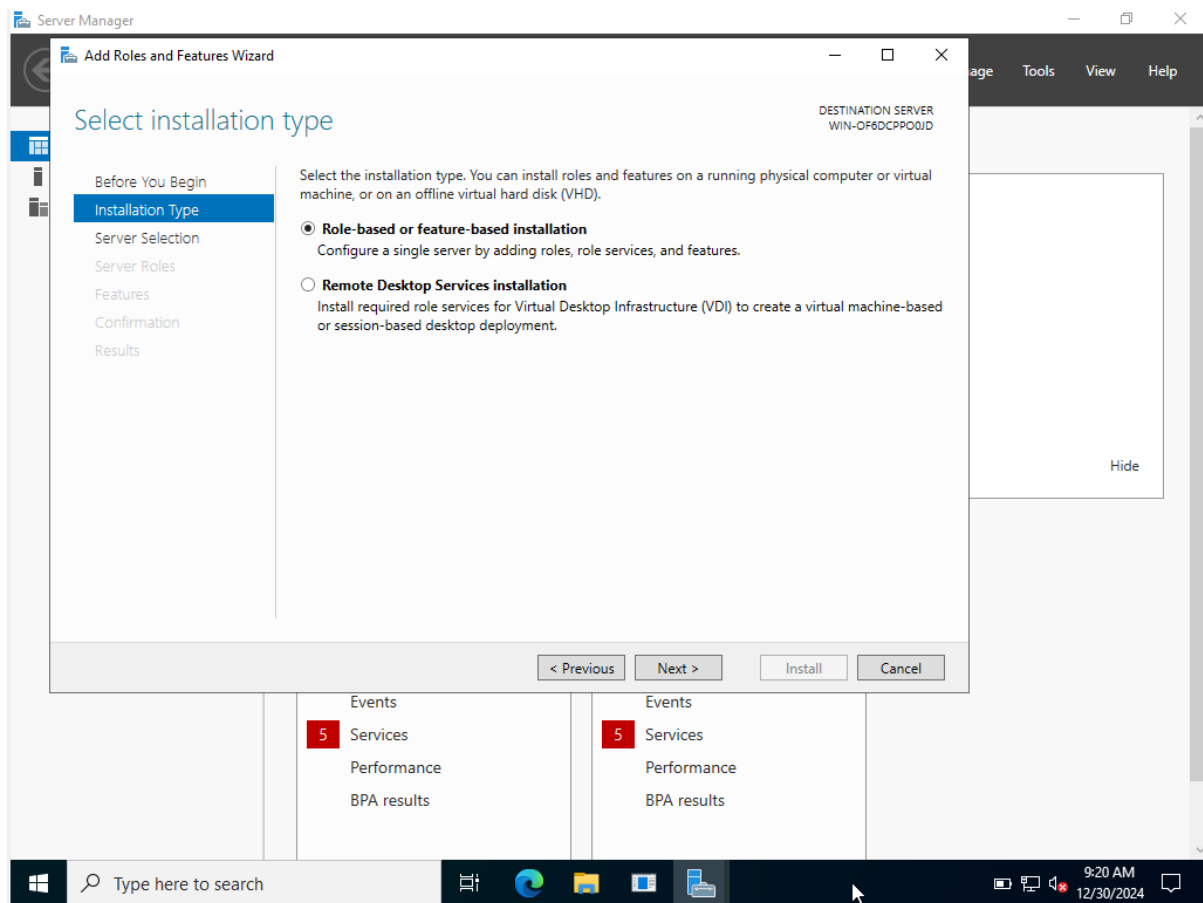


Figure 3: After reviewing the installation type press the Next button

## Step 4 - Select destination a server from the server pool.

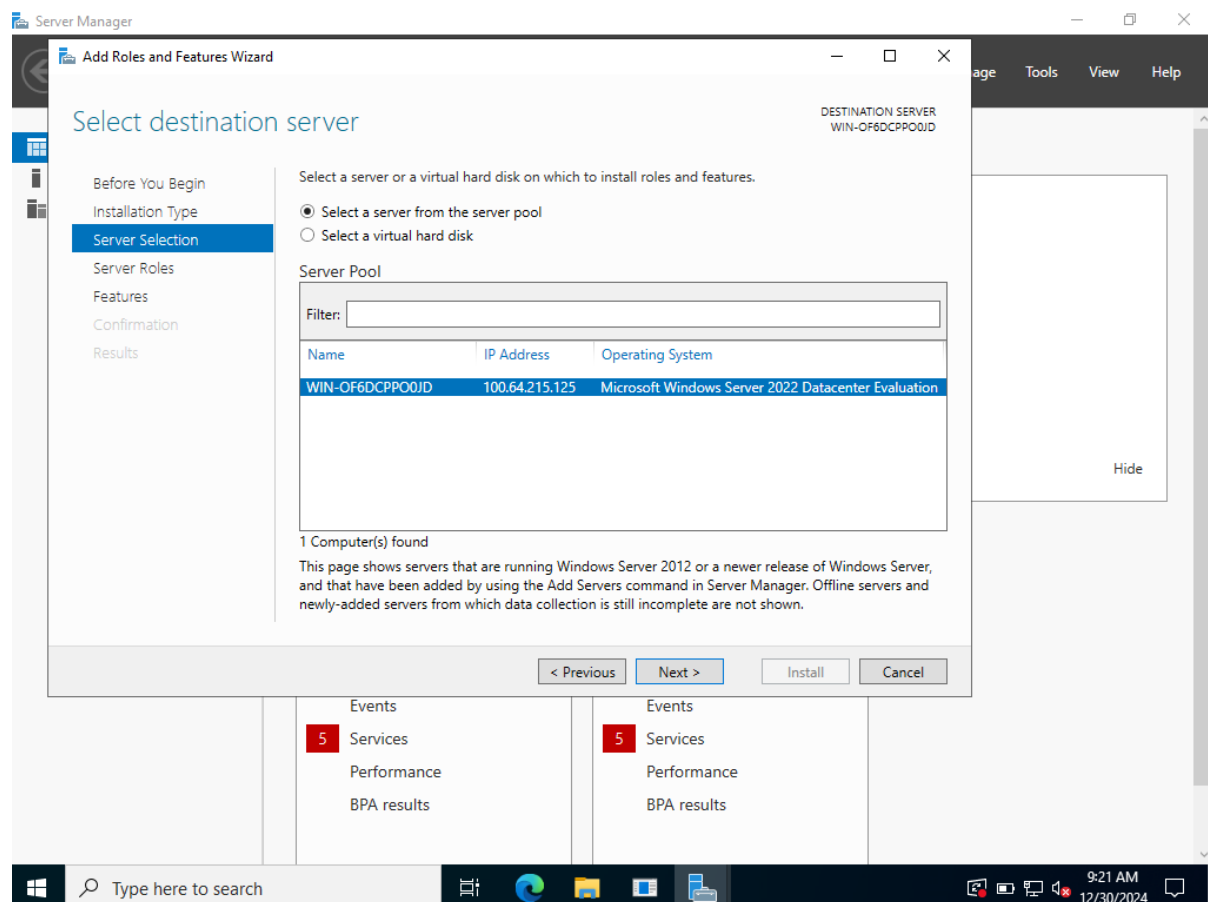


Figure 4: Select destination a server from the server pool



Step 5 - Select Active Directory Domain Services and click on the Next button.

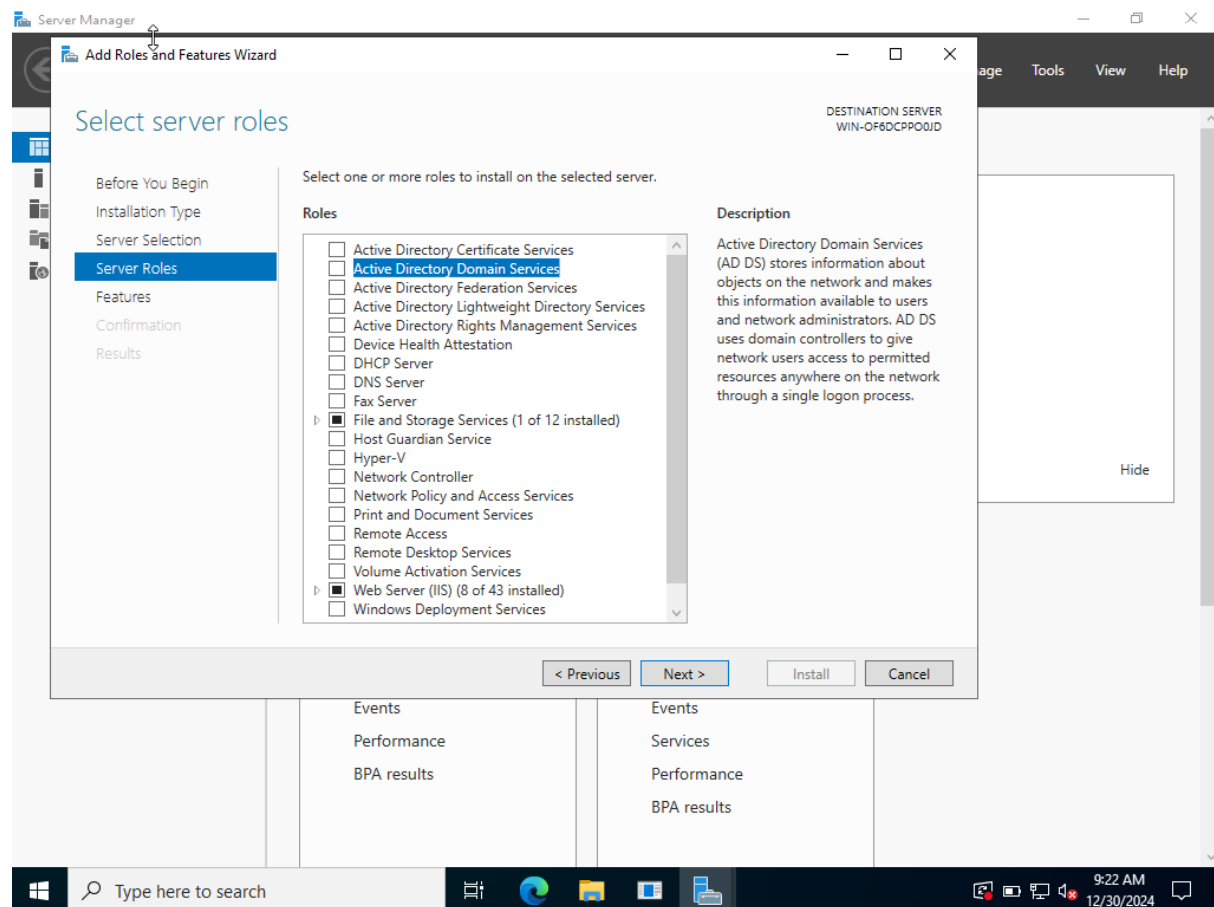


Figure 5: Select Active Directory Domain Services and click on the Next button

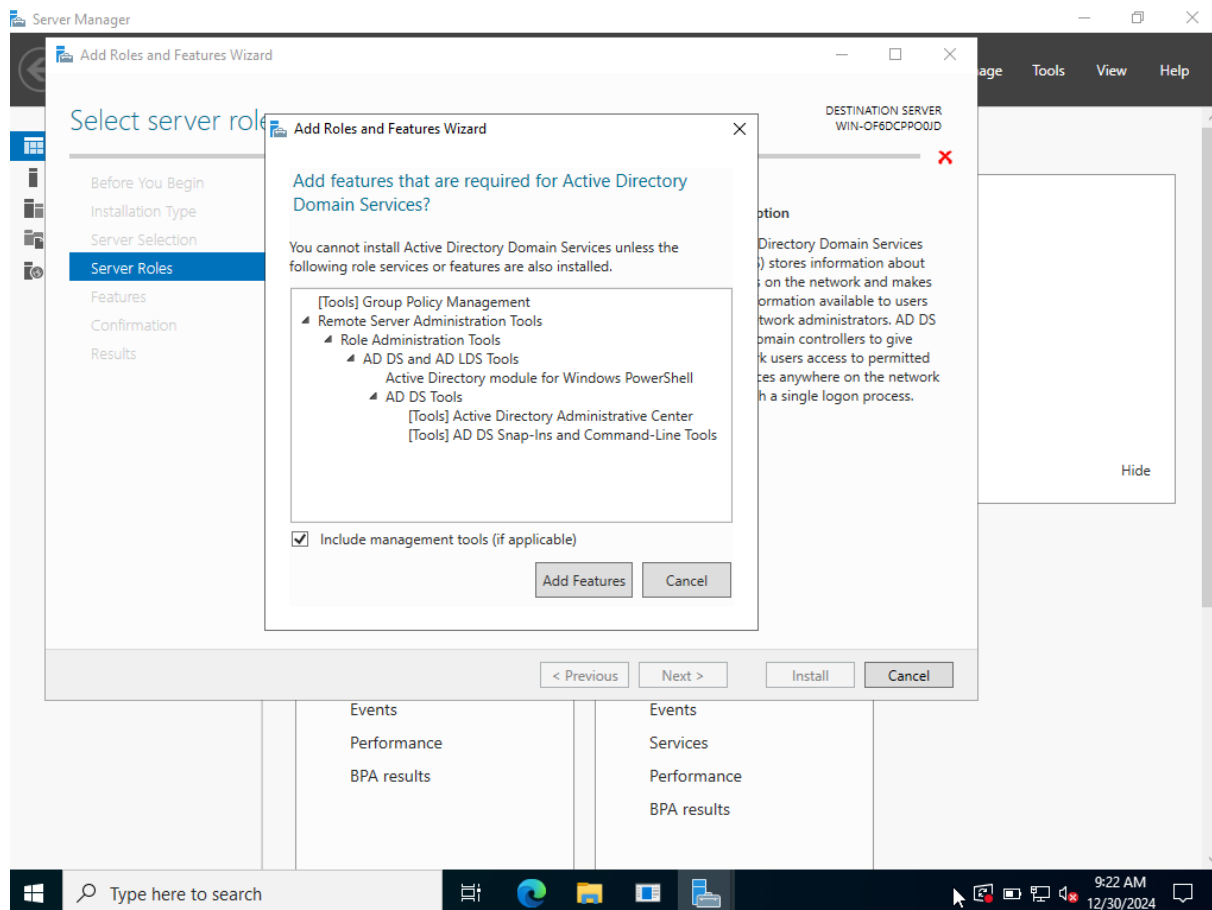


Figure 6: Click on add feature

Step 6 - Select NET Framework 3.5 features and Group Policy Manager and click on the Next button.

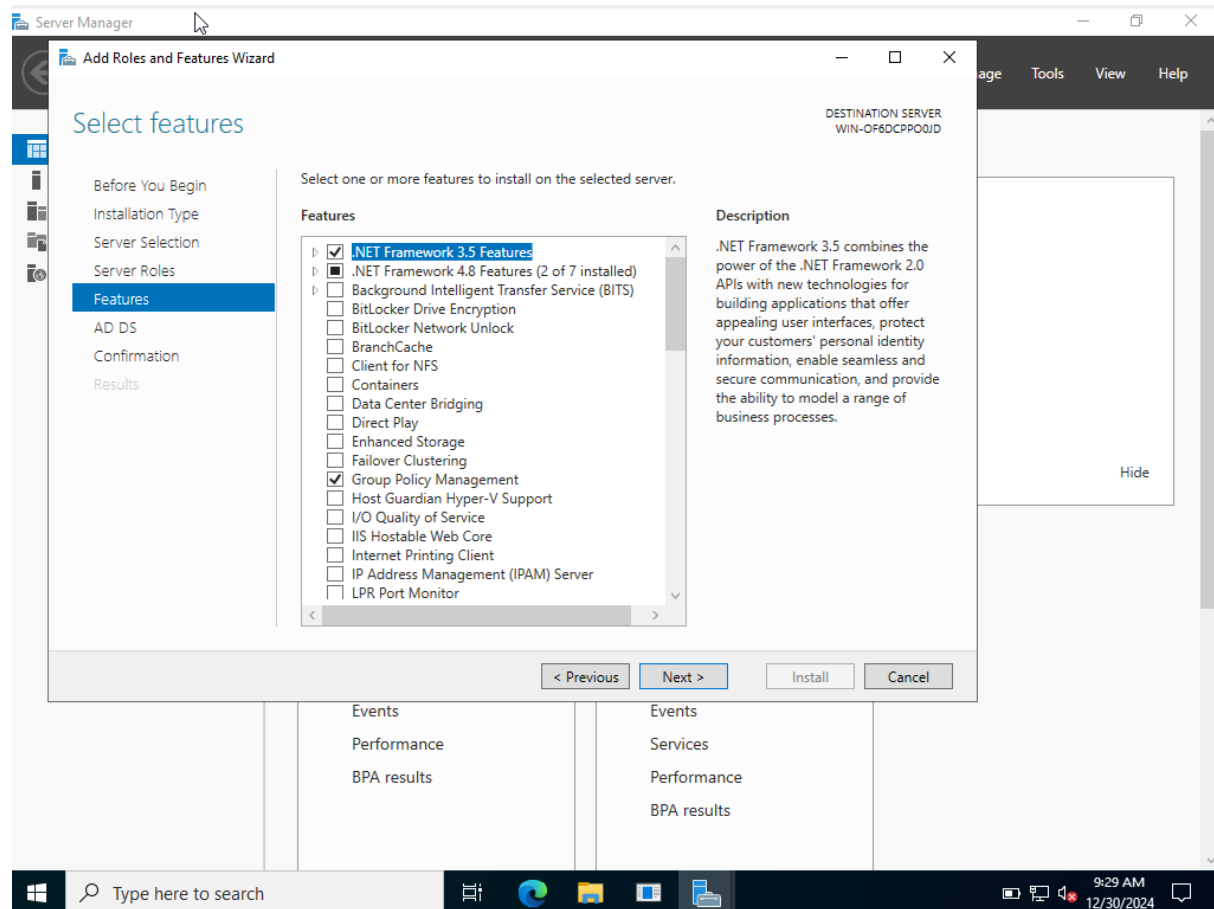


Figure 7: Select NET Framework 3.5 features and Group Policy Manager

Step 7 - Click on the install button to start the installation.

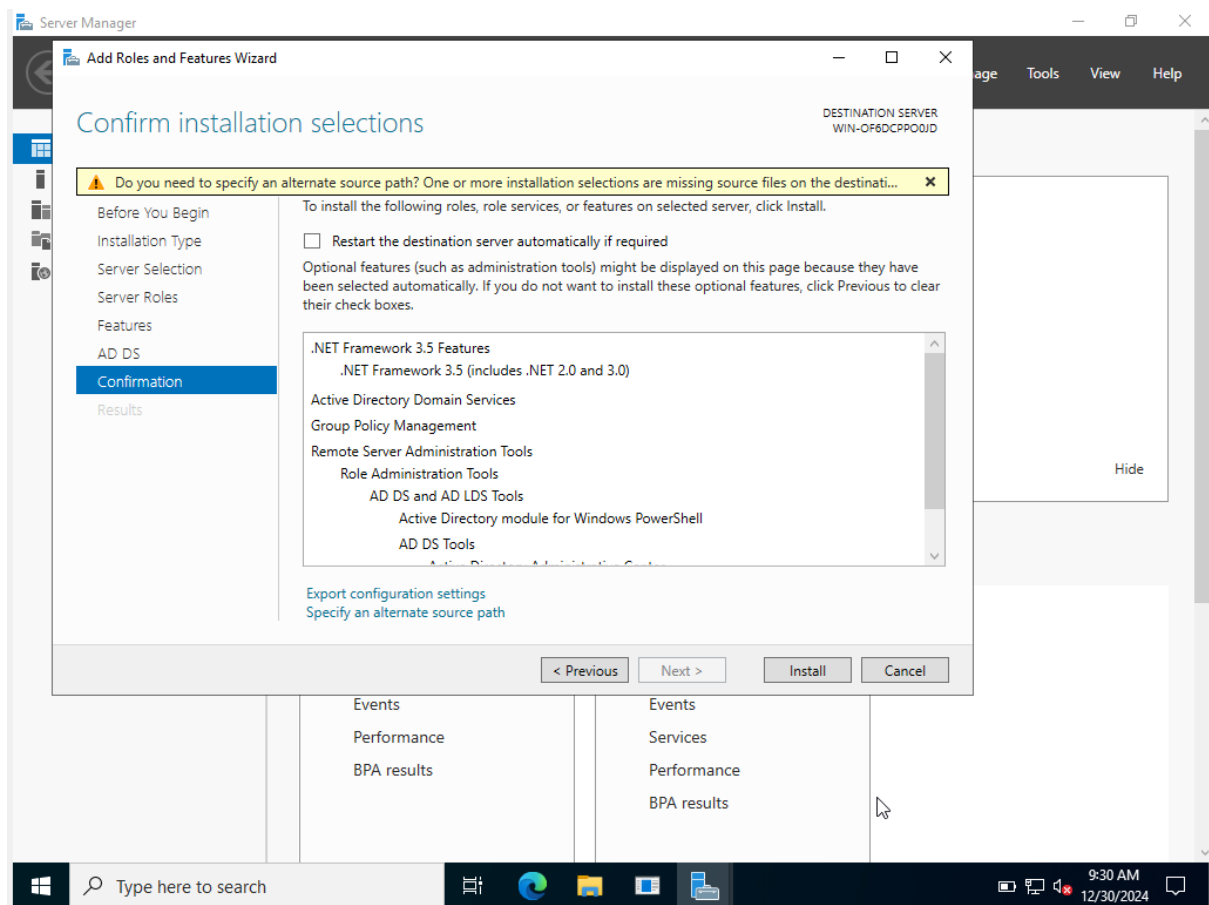


Figure 8: Click on the install button to start the installation.

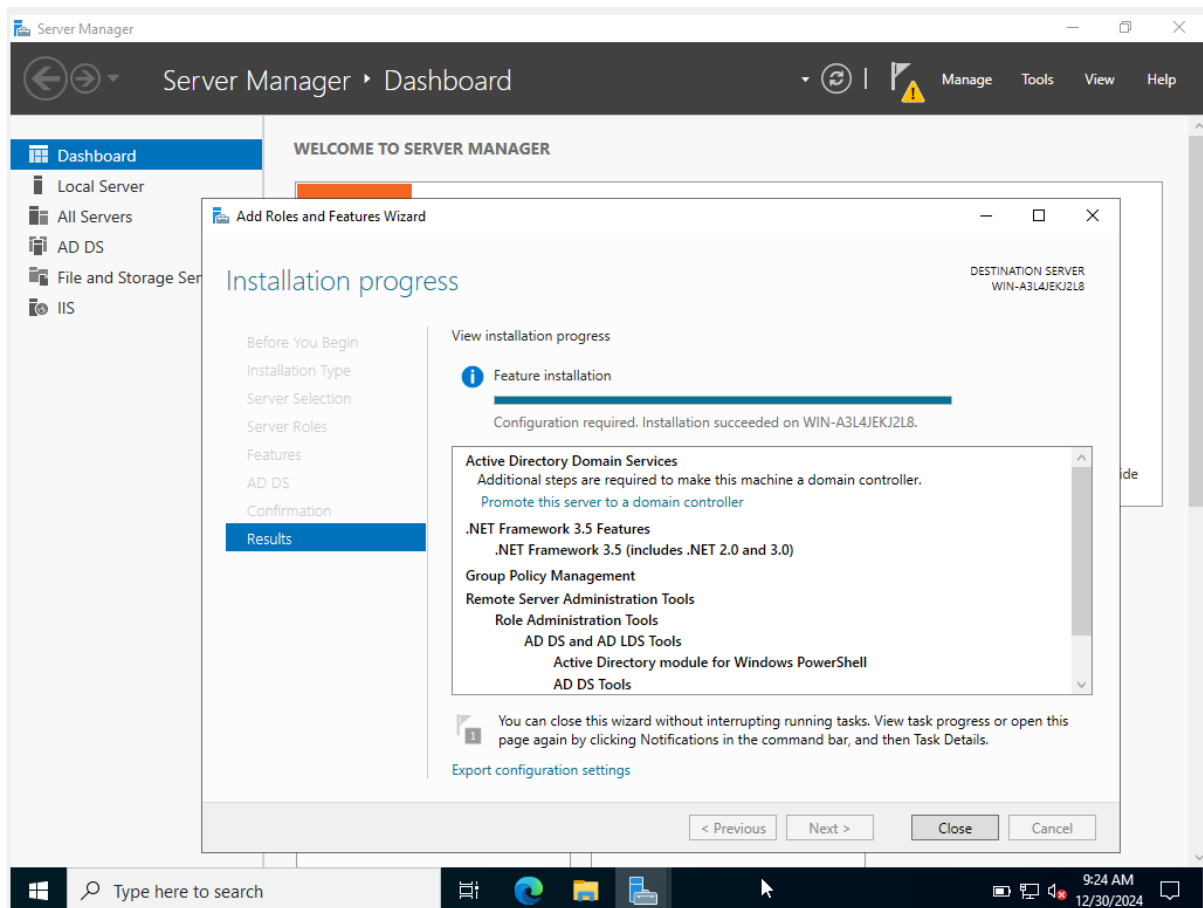


Figure 9: Click on Close

Step 8 - After Pressing the Close button. This is the page that you should view.

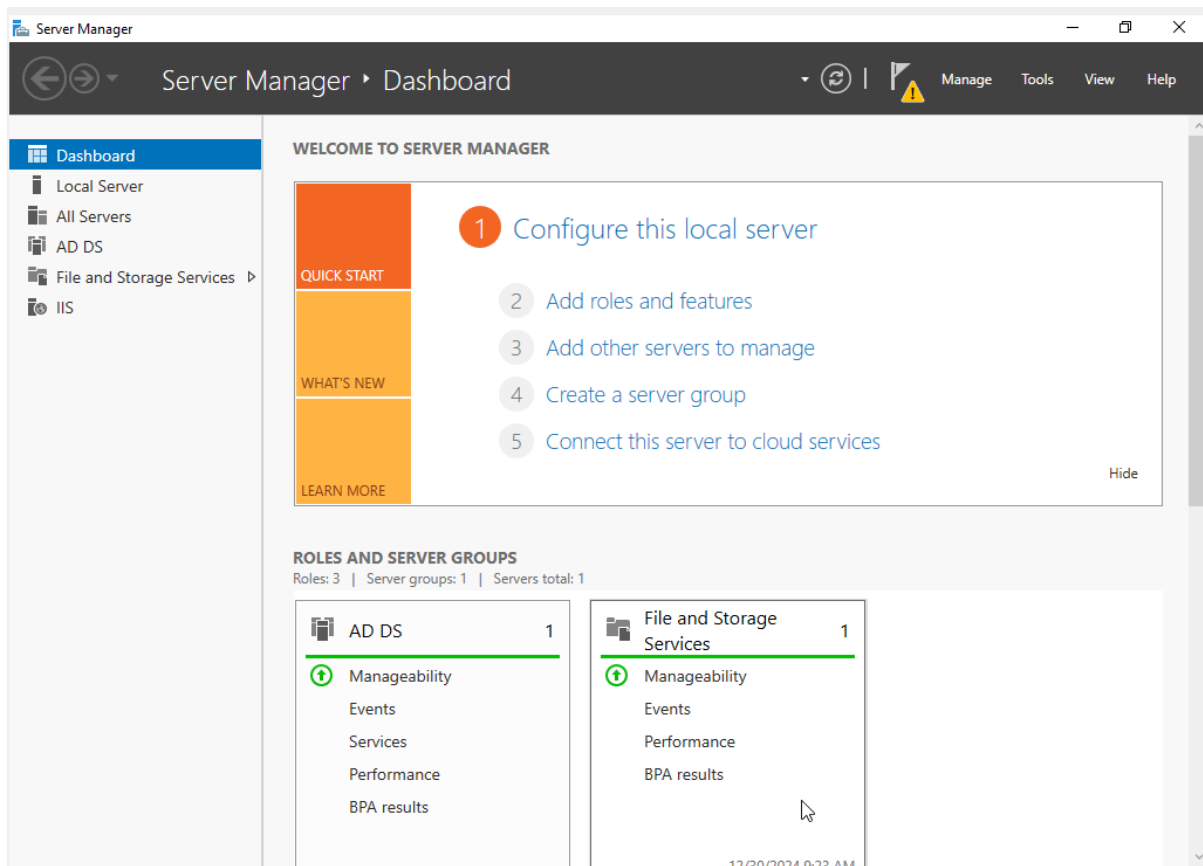


Figure 10: After Pressing the Close button; dashboard should be viewed

Step 9 - Click the Promote this server to domain controller button.

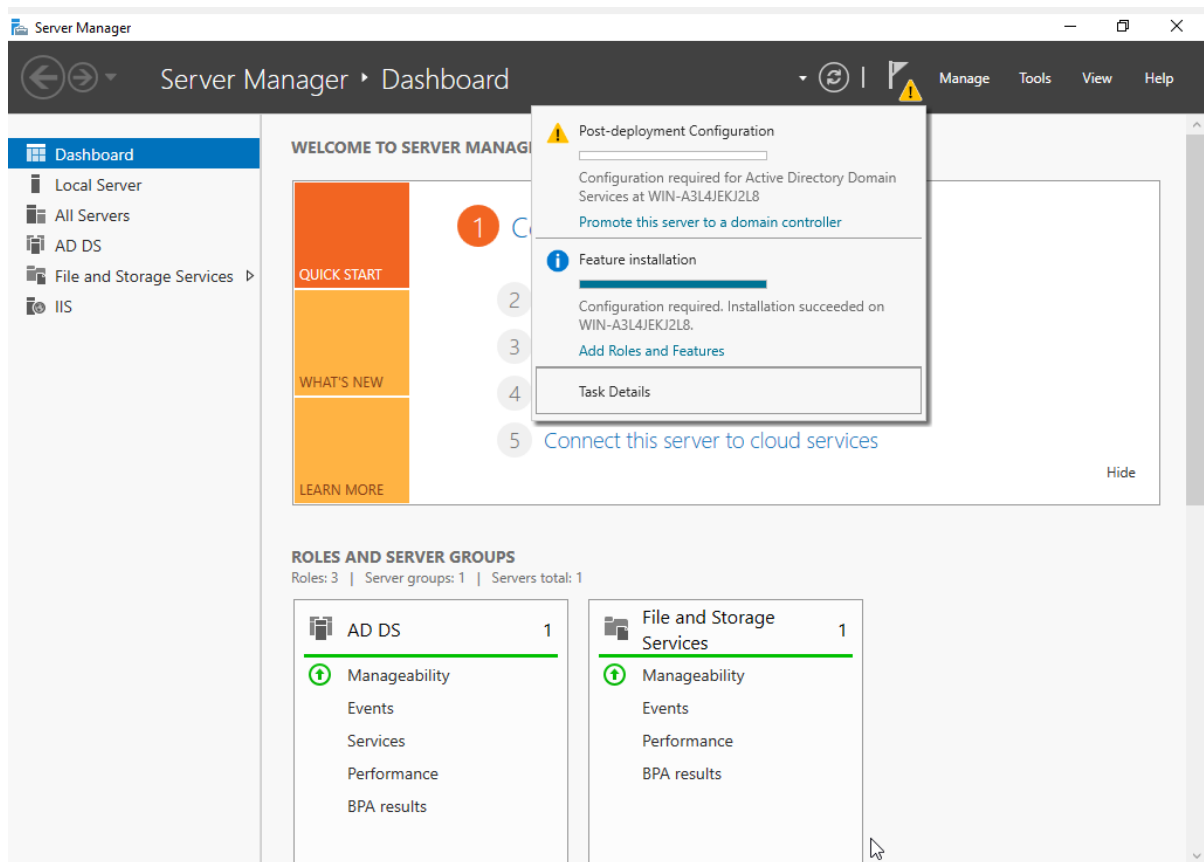


Figure 11: Click the Promote this server to domain controller button.

Step 10 - Select add a new forest, define your domain name and click on the Next button.

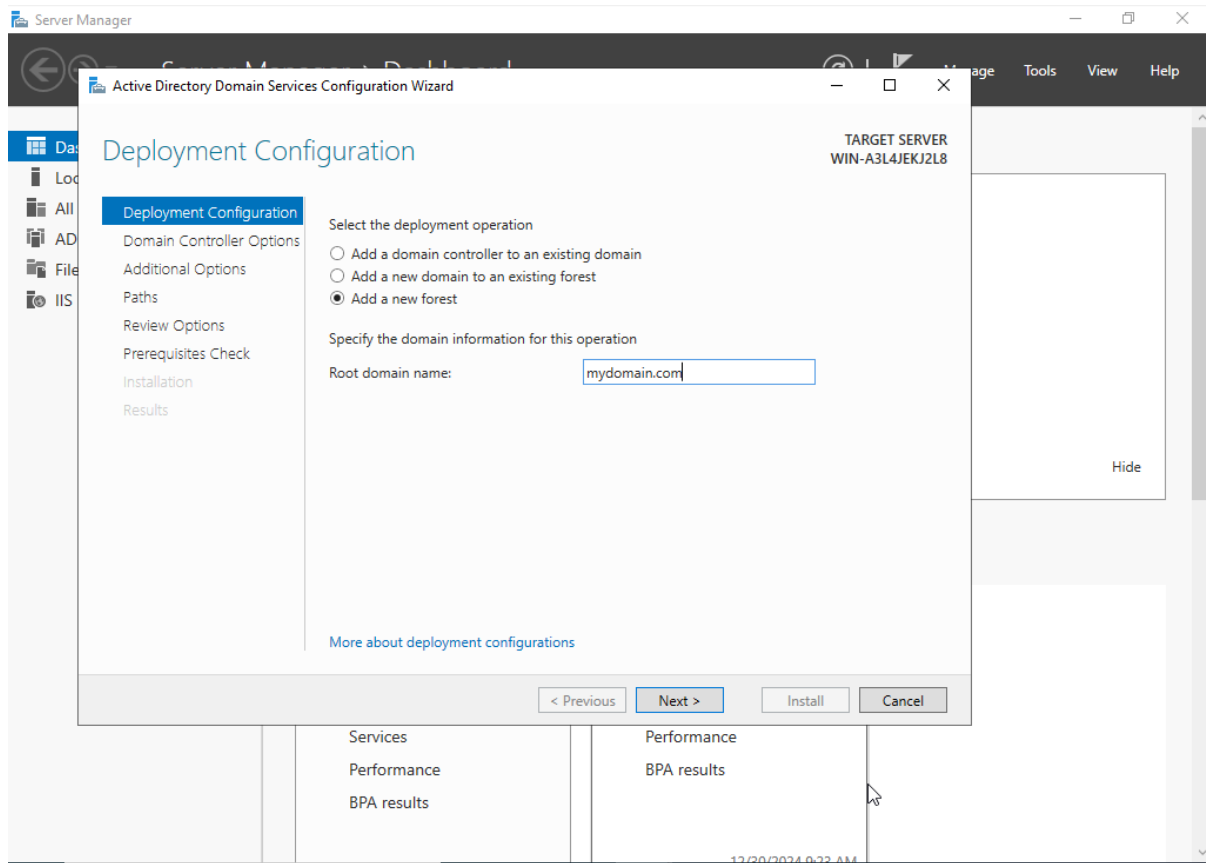


Figure 12: Defining domain name and click on the Next button.



Step 11 - Click the Next button after entering your directory restore mode password.

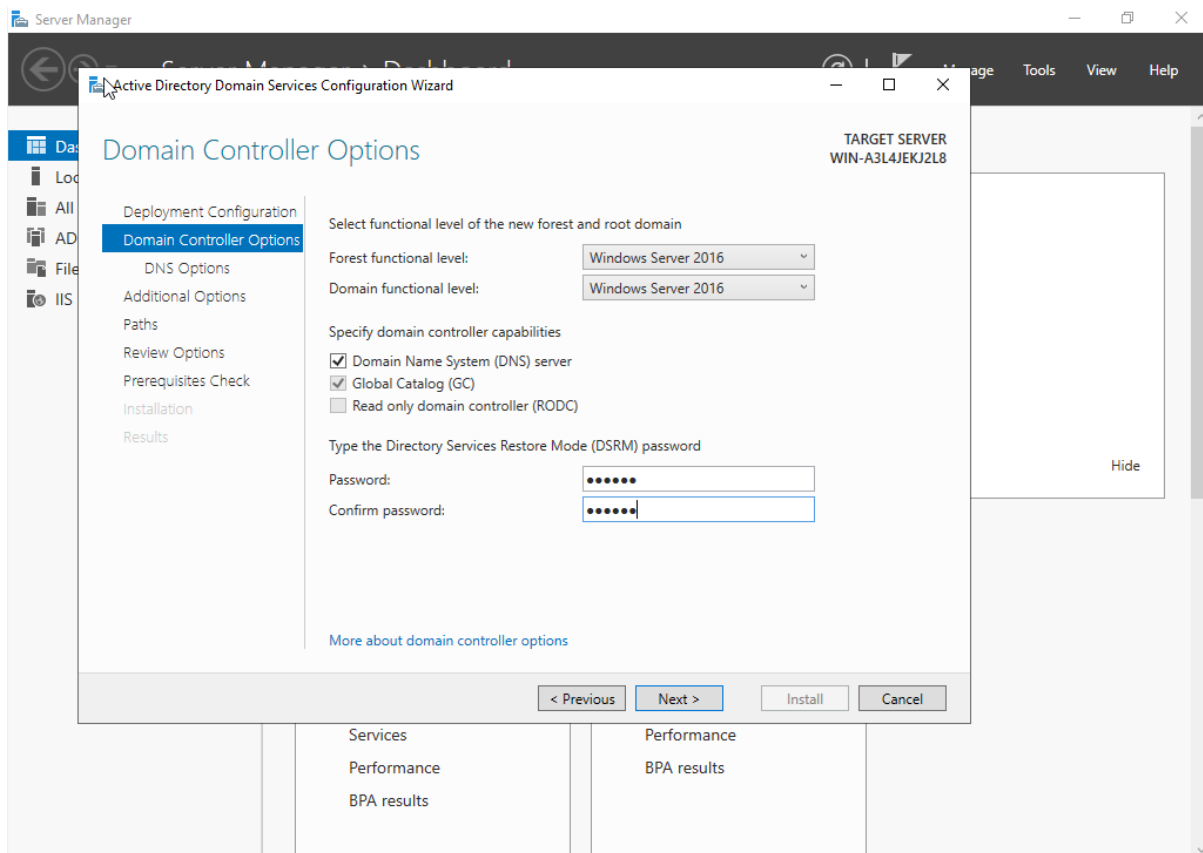


Figure 13: Enter directory restore mode password and click next button.

Step 12 - Leave the default settings alone and press the Next button.

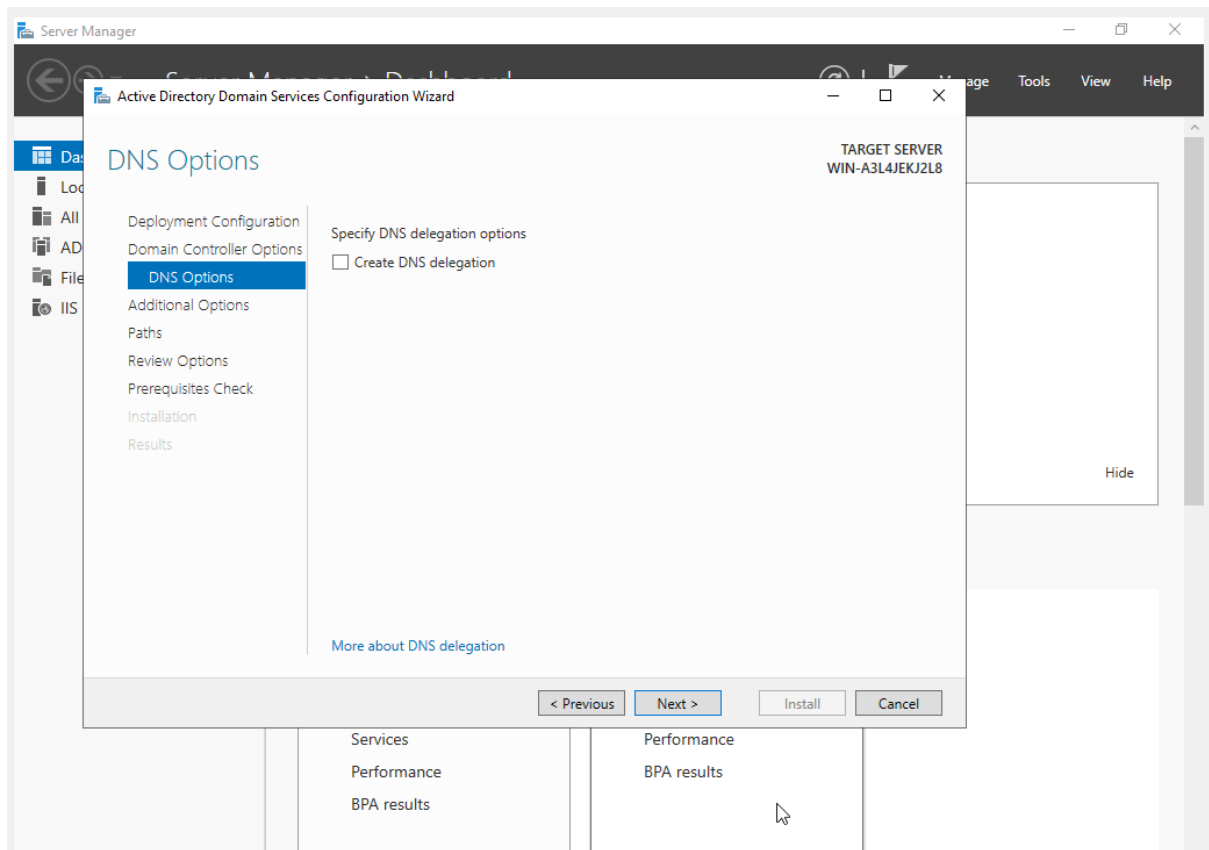


Figure 14: Leave the default settings alone and press the Next button

Step 13 - Set your NetBIOS name and then press the Next button.

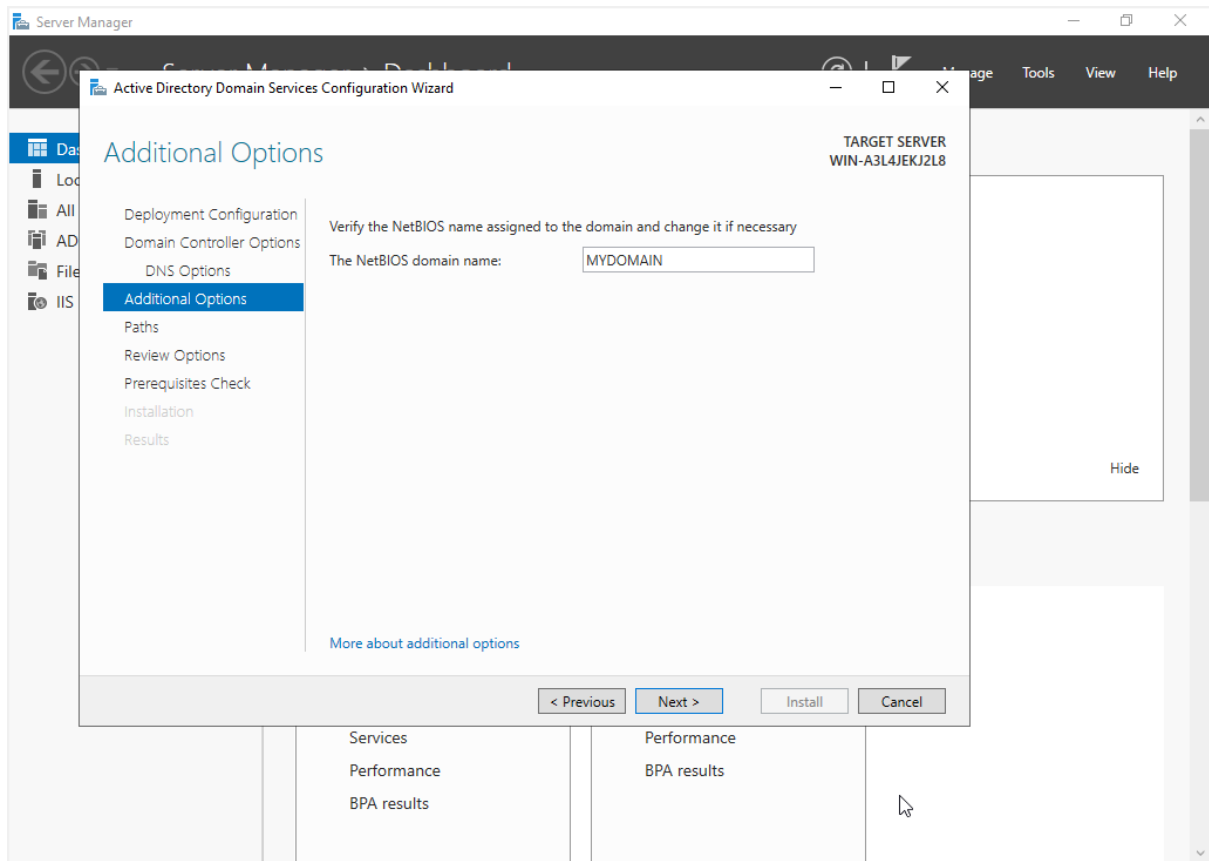


Figure 15: Set NetBIOS name

Step 14 - Define AD DS database path location. Leave the default path alone and press the Next button.

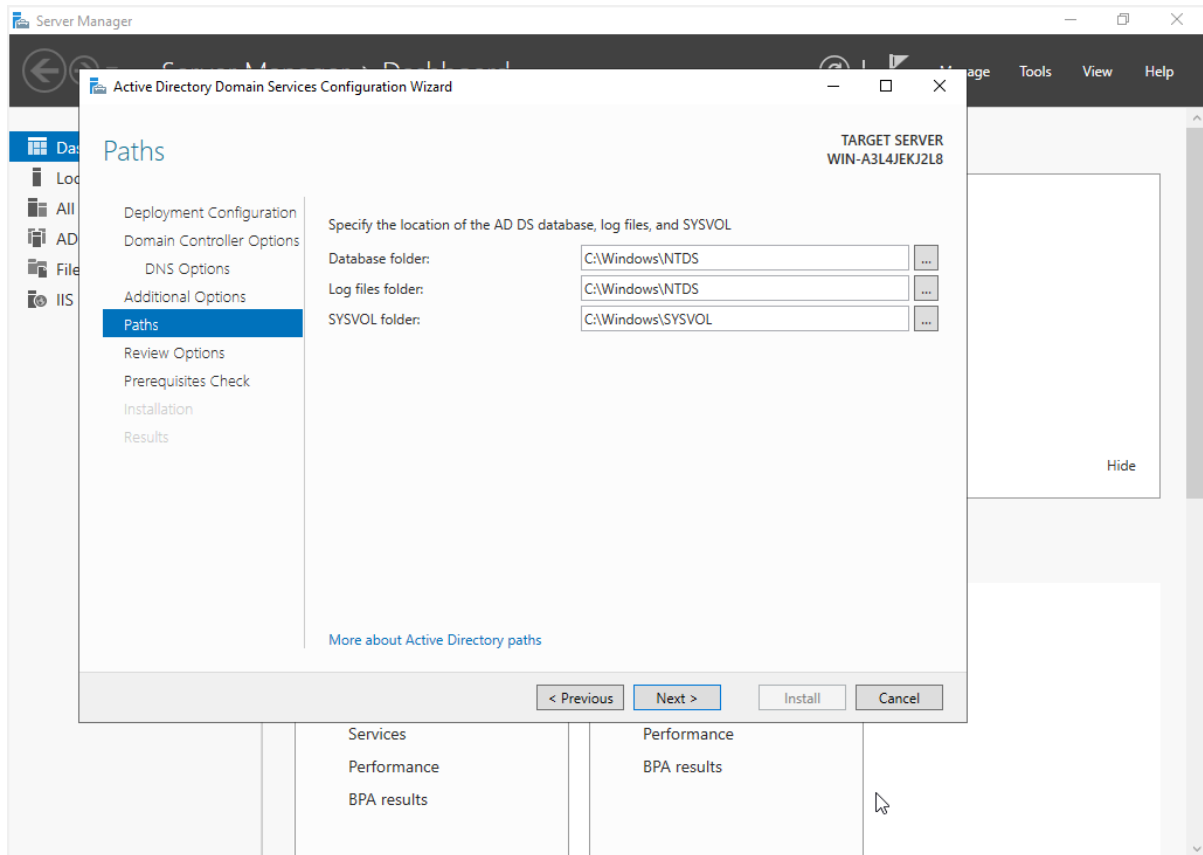


Figure 16: Add AD DS database path location

Step 15 - Go over all the settings and then click the Next button.

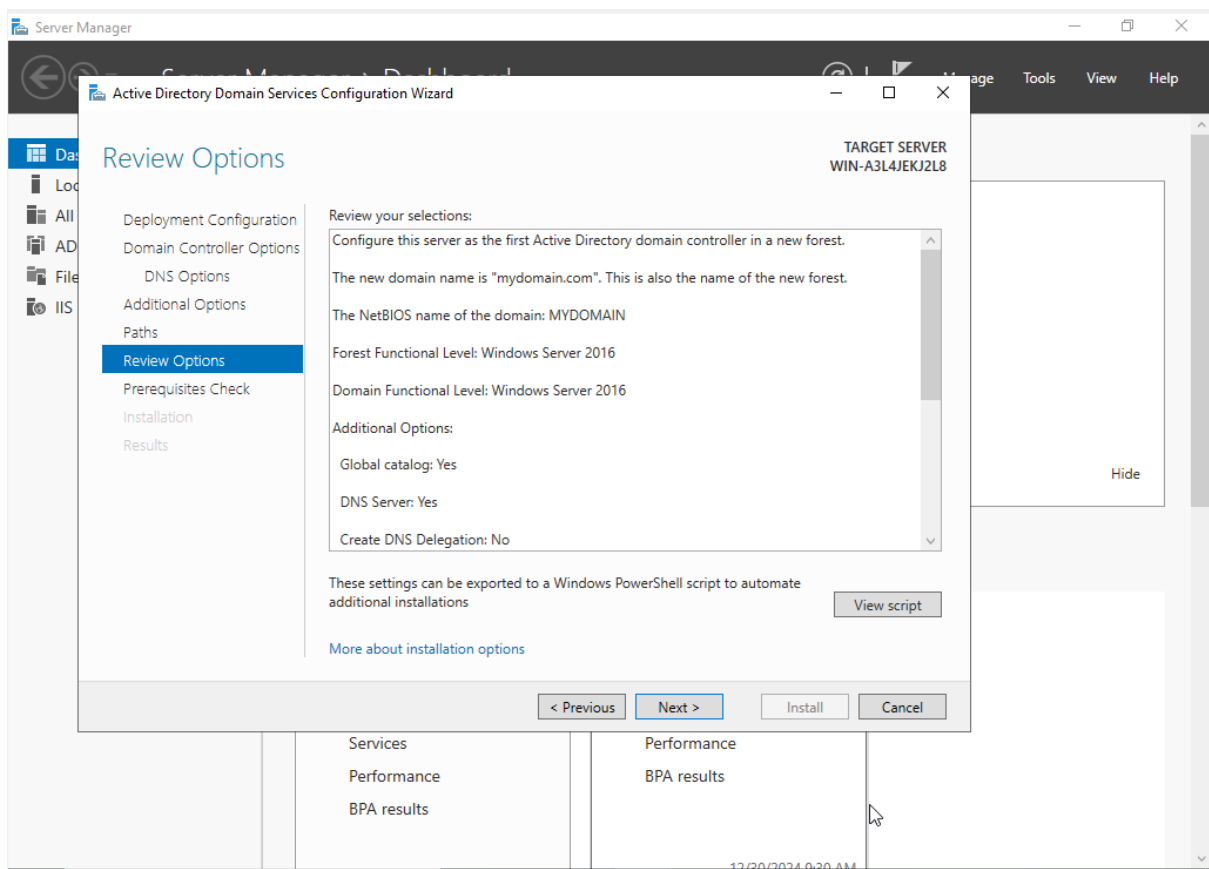


Figure 17: click the Next button

Step 16 - Once all prerequisite checks have been completed successfully, click the Install button.

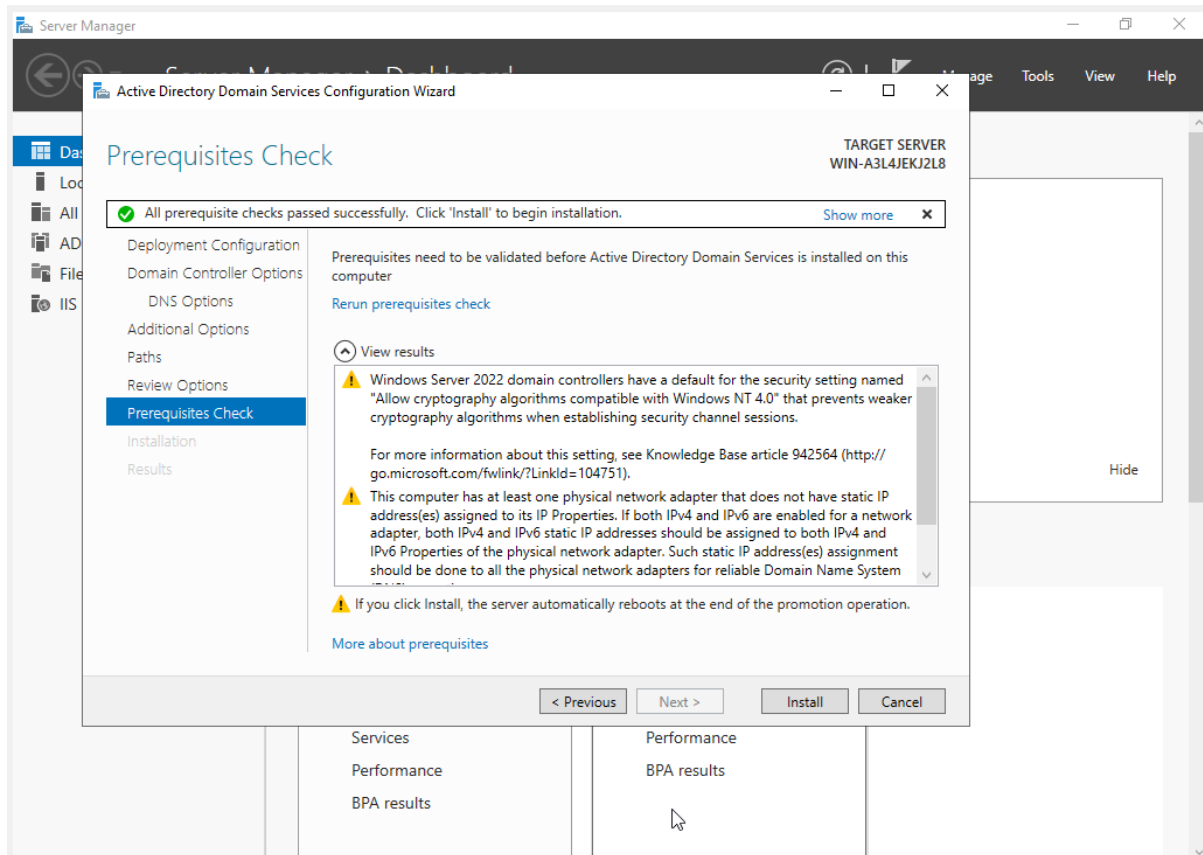


Figure 18: click the Install button.

Step 17 - After the installation is complete, your computer will restart itself.

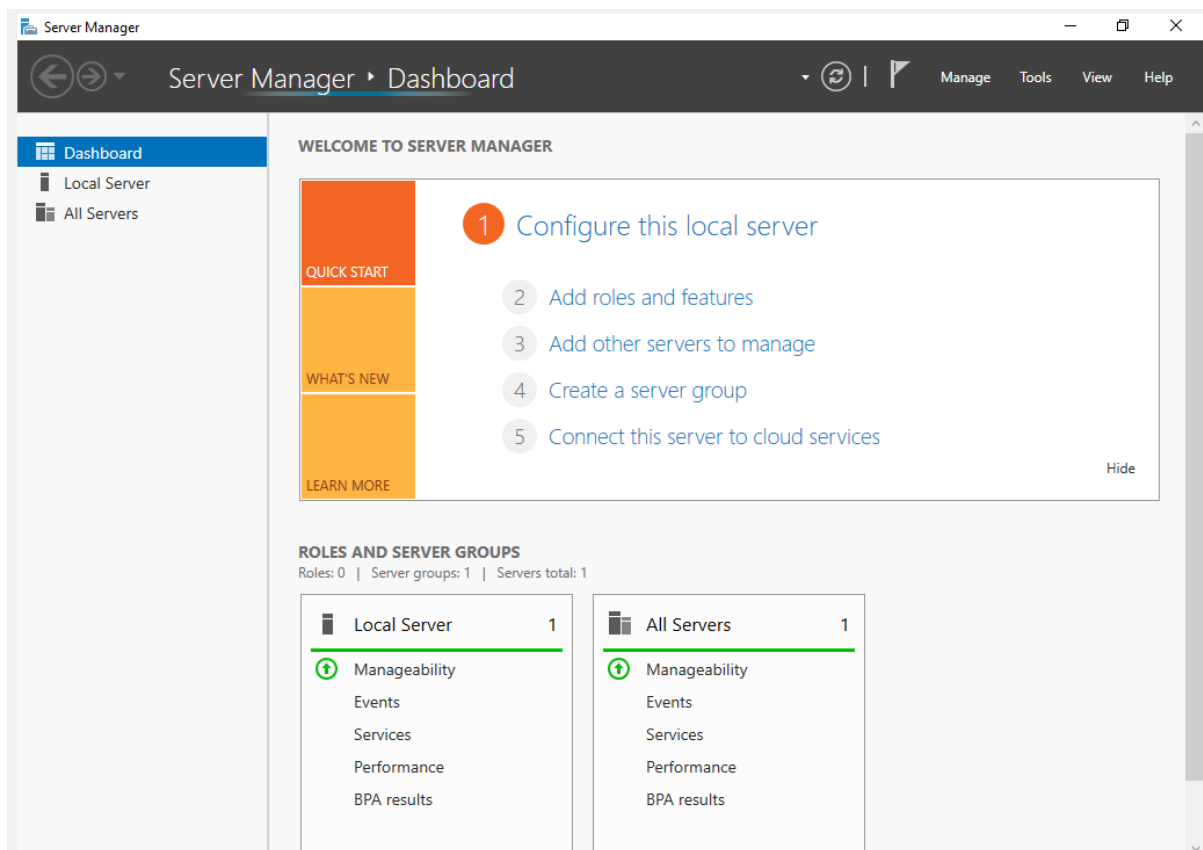


Figure 19: After the installation computer restart

Step 18 - Open Windows PowerShell and run `Get-Service adws,kdc,netlogon,dns` command.

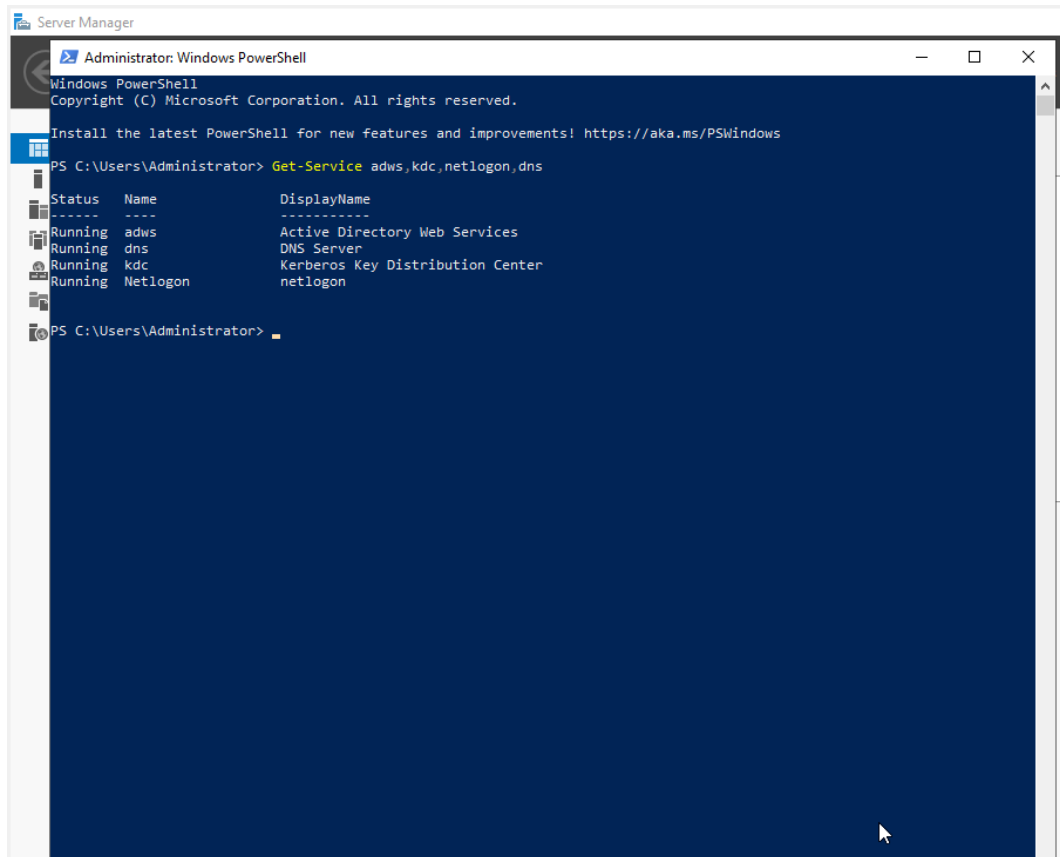
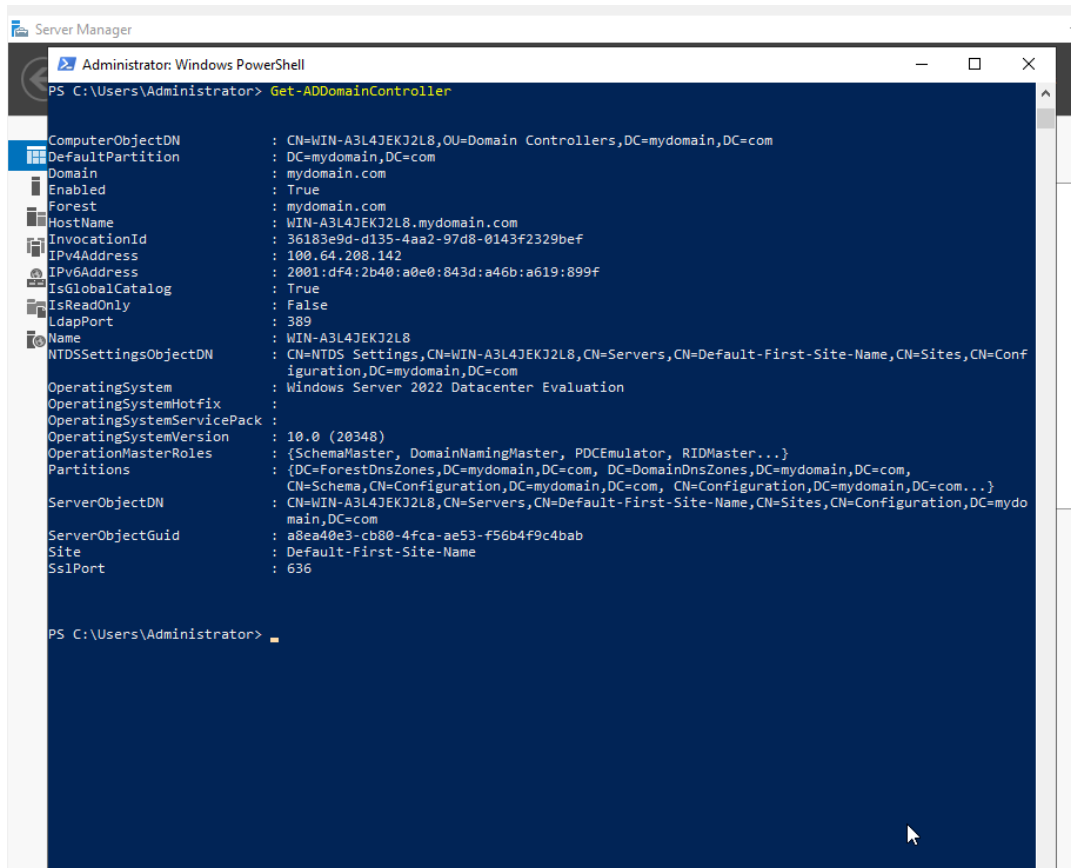


Figure 20: Run `Get-Service adws, kdc, netlogon, dns` command



Step 19 - Use Get-ADDomainController command to see the domain controller's complete configuration details.



The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell" with the command `Get-ADDomainController` executed. The output displays detailed configuration information for a domain controller named "WIN-A3L4JEKJ2L8".

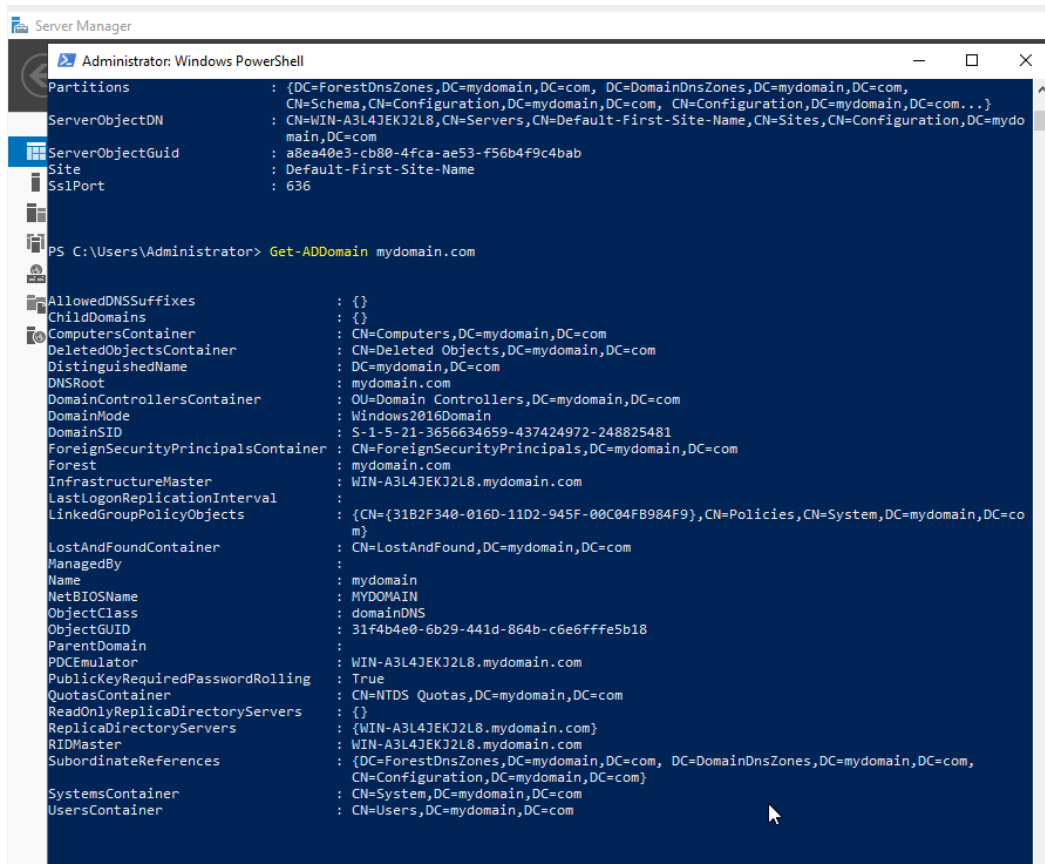
```
PS C:\Users\Administrator> Get-ADDomainController

ComputerObjectDN      : CN=WIN-A3L4JEKJ2L8,OU=Domain Controllers,DC=mydomain,DC=com
DefaultPartition      : DC=mydomain,DC=com
Domain                : mydomain.com
Enabled               : True
Forest                : mydomain.com
HostName              : WIN-A3L4JEKJ2L8.mydomain.com
InvocationId          : 36183e9d-d135-4aa2-97d8-0143f2329bef
IPv4Address           : 100.64.208.142
IPv6Address           : 2001:df4:2b40:a0e0:843d:a46b:a619:899f
IsGlobalCatalog       : True
IsReadOnly            : False
LdapPort              : 389
Name                  : WIN-A3L4JEKJ2L8
NTDSSettingsObjectDN  : CN=NTDS Settings,CN=WIN-A3L4JEKJ2L8,CN=Servers,CN=Default-First-Site-Name,CN=Sites,CN=Configuration,DC=mydomain,DC=com
OperatingSystem       : Windows Server 2022 Datacenter Evaluation
OperatingSystemHotfix : 
OperatingSystemServicePack : 
OperatingSystemVersion : 10.0 (20348)
OperationMasterRoles  : {SchemaMaster, DomainNamingMaster, PDCEmulator, RIDMaster...}
Partitions             : {DC=ForestDnsZones,DC=mydomain,DC=com, DC=DomainDnsZones,DC=mydomain,DC=com, CN=Schema,CN=Configuration,DC=mydomain,DC=com, CN=Configuration,DC=mydomain,DC=com...}
ServerObjectDN        : CN=WIN-A3L4JEKJ2L8,CN=Servers,CN=Default-First-Site-Name,CN=Sites,CN=Configuration,DC=mydomain,DC=com
ServerObjectGuid       : a8ea40e3-cb80-4fca-ae53-f56b4f9c4bab
Site                  : Default-First-Site-Name
SslPort               : 636

PS C:\Users\Administrator>
```

Figure 21: Use Get-ADDomainController command

Step 20 - Use the Get-ADDomain mydomain.com command to obtain comprehensive information about your domain.



The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell". The command prompt shows the command `Get-ADDomain mydomain.com` being executed. The output is a list of domain-related properties and their values, including:

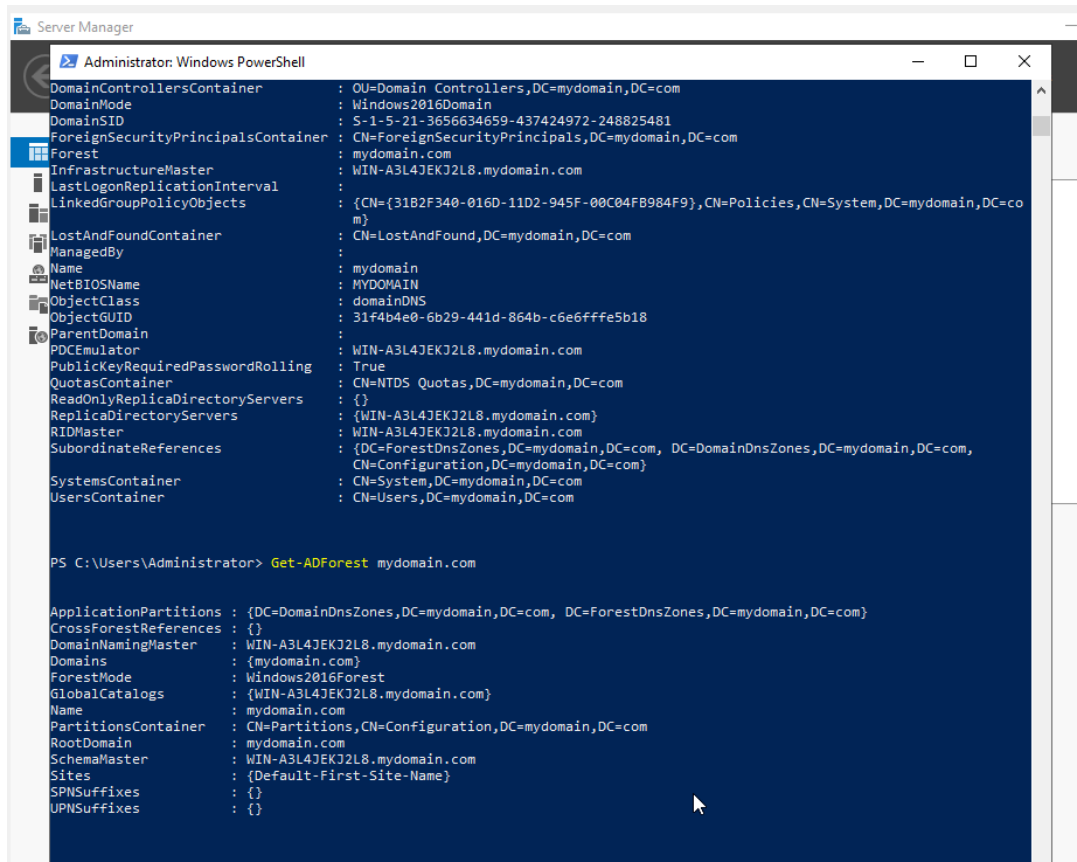
```
Partitions : {DC=ForestDnsZones,DC=mydomain,DC=com, DC=DomainDnsZones,DC=mydomain,DC=com,
CN=Schema,CN=Configuration,DC=mydomain,DC=com, CN=Configuration,DC=mydomain,DC=com...}
ServerObjectDN : CN=WIN-A3L4JEKJ2L8,CN=Servers,CN=Default-First-Site-Name,CN=Sites,CN=Configuration,DC=mydo
main,DC=com
ServerObjectGuid : a8ea40e3-cb80-4fca-ae53-f56b4f9c4bab
Site : Default-First-Site-Name
SslPort : 636

PS C:\Users\Administrator> Get-ADDomain mydomain.com

AllowedDNSSuffixes : {}
ChildDomains : {}
ComputersContainer : CN=Computers,DC=mydomain,DC=com
DeletedObjectsContainer : CN=Deleted Objects,DC=mydomain,DC=com
DistinguishedName : DC=mydomain,DC=com
DNSRoot : mydomain.com
DomainControllersContainer : OU=Domain Controllers,DC=mydomain,DC=com
DomainMode : Windows2016Domain
DomainSID : S-1-5-21-3656634659-437424972-248825481
ForeignSecurityPrincipalsContainer : CN=ForeignSecurityPrincipals,DC=mydomain,DC=com
Forest : mydomain.com
InfrastructureMaster : WIN-A3L4JEKJ2L8.mydomain.com
LastLogonReplicationInterval :
LinkedGroupPolicyObjects : {CN={3182F340-016D-11D2-945F-00C04FB984F9},CN=Policies,CN=System,DC=mydomain,DC=com}
LostAndFoundContainer : CN=LostAndFound,DC=mydomain,DC=com
ManagedBy :
Name : mydomain
NetBIOSName : MYDOMAIN
ObjectClass : domainDNS
ObjectGUID : 31f4b4e0-6b29-441d-864b-c6e6fffe5b18
ParentDomain :
PDCEmulator : WIN-A3L4JEKJ2L8.mydomain.com
PublicKeyRequiredPasswordRolling : True
QuotasContainer : CN=NTDS Quotas,DC=mydomain,DC=com
ReadOnlyReplicaDirectoryServers : {}
ReplicaDirectoryServers : {WIN-A3L4JEKJ2L8.mydomain.com}
RIDMaster : WIN-A3L4JEKJ2L8.mydomain.com
SubordinateReferences : {DC=ForestDnsZones,DC=mydomain,DC=com, DC=DomainDnsZones,DC=mydomain,DC=com,
CN=Configuration,DC=mydomain,DC=com}
SystemsContainer : CN=System,DC=mydomain,DC=com
UsersContainer : CN=Users,DC=mydomain,DC=com
```

Figure 22: Use the Get-ADDomain mydomain.com command

Step 21 - Use the following command to view the details of your Active Directory Forest: `Get-ADForest mydomain.com`



The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell". The window displays the output of the `Get-ADForest mydomain.com` command. The output is divided into two sections. The first section lists various Active Directory objects and their values, such as `DomainControllersContainer`, `DomainMode`, `DomainSID`, `ForeignSecurityPrincipalsContainer`, `Forest`, `InfrastructureMaster`, `LastLogonReplicationInterval`, `LinkedGroupPolicyObjects`, `LostAndFoundContainer`, `ManagedBy`, `Name`, `NetBIOSName`, `ObjectClass`, `ObjectGUID`, `ParentDomain`, `PDCEmulator`, `PublicKeyRequiredPasswordRolling`, `QuotasContainer`, `ReadOnlyReplicaDirectoryServers`, `ReplicaDirectoryServers`, `RIDMaster`, `SubordinateReferences`, `SystemsContainer`, and `UsersContainer`. The second section shows the output of the `Get-ADForest mydomain.com` command, which includes properties like `ApplicationPartitions`, `CrossForestReferences`, `DomainNamingMaster`, `Domains`, `ForestMode`, `GlobalCatalogs`, `Name`, `PartitionsContainer`, `RootDomain`, `SchemaMaster`, `Sites`, `SPNSuffixes`, and `UPNSuffixes`.

```
DomainControllersContainer : OU=Domain Controllers,DC=mydomain,DC=com
DomainMode                 : Windows2016Domain
DomainSID                  : S-1-5-21-3656634659-437424972-248825481
ForeignSecurityPrincipalsContainer : CN=ForeignSecurityPrincipals,DC=mydomain,DC=com
Forest                     : mydomain.com
InfrastructureMaster       : WIN-A3L4JEKJ2L8.mydomain.com
LastLogonReplicationInterval : {CN={31B2F340-0160-11D2-945F-00C04FB984F9},CN=Policies,CN=System,DC=mydomain,DC=com}
LinkedGroupPolicyObjects   : {CN=LostAndFound,DC=mydomain,DC=com}
LostAndFoundContainer      : CN=LostAndFound,DC=mydomain,DC=com
ManagedBy                 : 
Name                       : mydomain
NetBIOSName                : MYDOMAIN
ObjectClass                 : domainDNS
ObjectGUID                 : 31f4b4e0-6b29-441d-864b-c6e6ffe5b18
ParentDomain               : 
PDCEmulator                : WIN-A3L4JEKJ2L8.mydomain.com
PublicKeyRequiredPasswordRolling : True
QuotasContainer            : CN=NTDS Quotas,DC=mydomain,DC=com
ReadOnlyReplicaDirectoryServers : {}
ReplicaDirectoryServers    : {WIN-A3L4JEKJ2L8.mydomain.com}
RIDMaster                  : WIN-A3L4JEKJ2L8.mydomain.com
SubordinateReferences       : {DC=ForestDnsZones,DC=mydomain,DC=com, DC=DomainDnsZones,DC=mydomain,DC=com,
CN=Configuration,DC=mydomain,DC=com}
SystemsContainer           : CN=System,DC=mydomain,DC=com
UsersContainer              : CN=Users,DC=mydomain,DC=com

PS C:\Users\Administrator> Get-ADForest mydomain.com

ApplicationPartitions : {DC=DomainDnsZones,DC=mydomain,DC=com, DC=ForestDnsZones,DC=mydomain,DC=com}
CrossForestReferences : {}
DomainNamingMaster    : WIN-A3L4JEKJ2L8.mydomain.com
Domains               : {mydomain.com}
ForestMode             : Windows2016Forest
GlobalCatalogs        : {WIN-A3L4JEKJ2L8.mydomain.com}
Name                  : mydomain.com
PartitionsContainer    : CN=Partitions,CN=Configuration,DC=mydomain,DC=com
RootDomain             : mydomain.com
SchemaMaster           : WIN-A3L4JEKJ2L8.mydomain.com
Sites                 : {Default-First-Site-Name}
SPNSuffixes            : {}
UPNSuffixes           : {}
```

Figure 23: Use `Forest: Get-ADForest mydomain.com` command