

Com Port: 214 (172.16.214.*/24)

| Servers | IP details | Subnet mask | Default Gateway | Primary DNS Server |
|-----------|---------------|---------------|-----------------|--------------------|
| Aagam-DC1 | 172.16.214.30 | 255.255.255.0 | 172.16.214.1 | 142.156.150.112 |
| Shah-DC1 | 172.16.214.31 | 255.255.255.0 | 172.16.214.1 | 142.156.150.112 |
| Shah-S1 | 172.16.214.32 | 255.255.255.0 | 172.16.214.1 | 172.16.214.31 |
| Shah-S2 | 172.16.214.33 | 255.255.255.0 | 172.16.214.1 | 172.16.214.31 |
| Cluster | 172.16.214.34 | 255.255.255.0 | | |

VM Links

| Servers | VM Links |
|-----------|---|
| Aagam-DC1 | https://wfd-vcenter001.conestogac.on.ca/ui/webconsole.html?vmId=vm-123738&vmName=Aagam-DC1&numMksConnections=0&serverGuid=6ea79d3e-d131-46b6-abcb-8e3379f5344&locale=en-US |
| Shah-DC1 | https://wfd-vcenter001.conestogac.on.ca/ui/webconsole.html?vmId=vm-123739&vmName=Shah-DC1&numMksConnections=0&serverGuid=6ea79d3e-d131-46b6-abcb-8e3379f5344&locale=en-US |
| Shah-S1 | https://wfd-vcenter001.conestogac.on.ca/ui/webconsole.html?vmId=vm-123760&vmName=Shah-S1&numMksConnections=0&serverGuid=6ea79d3e-d131-46b6-abcb-8e3379f5344&locale=en-US |
| Shah-S2 | https://wfd-vcenter001.conestogac.on.ca/ui/webconsole.html?vmId=vm-123761&vmName=Shah-S2&numMksConnections=0&serverGuid=6ea79d3e-d131-46b6-abcb-8e3379f5344&locale=en-US |

Part 1: Active Directory Domains and Trusts

- 1) Create two Domains in their own forests with one domain controller in each domain.
Please use the below names.

Domain 1: Firstname.local → Aagam.local

DC Server Name: Firstname-DC1 → Aagam-DC1

IP Address: 172.16.214.30

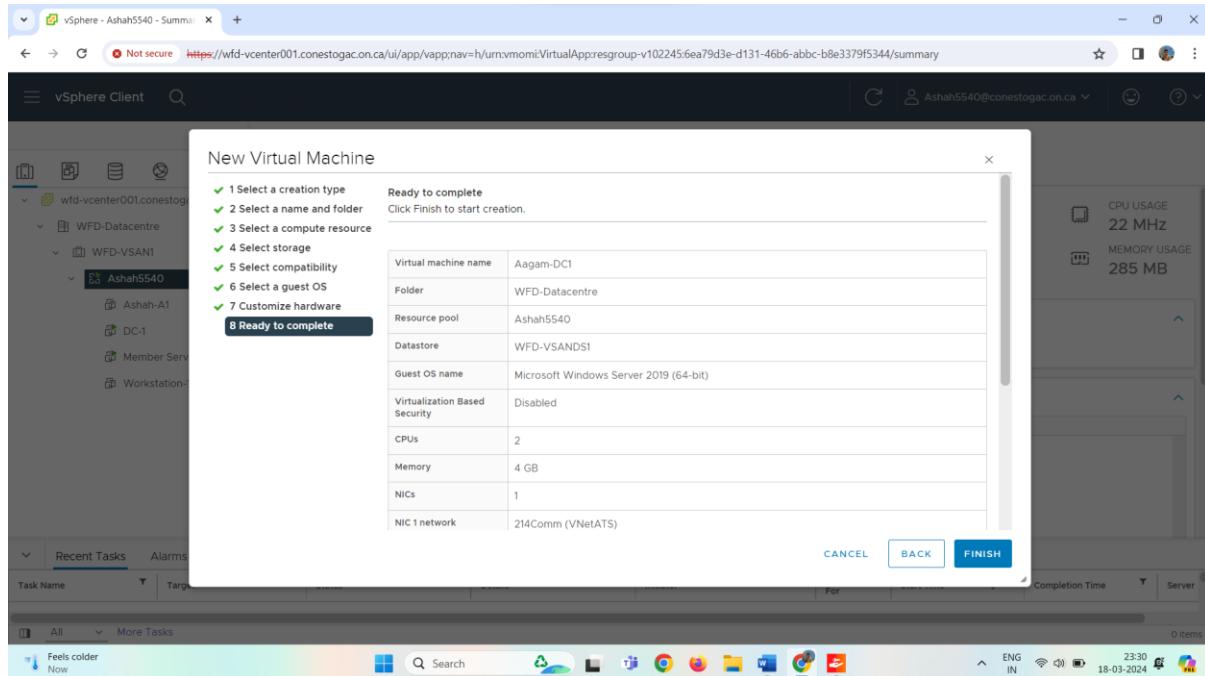
Domain 2: Lastname.local → Shah.local

DC Server name: Lastname-DC1 → Shah-DC1

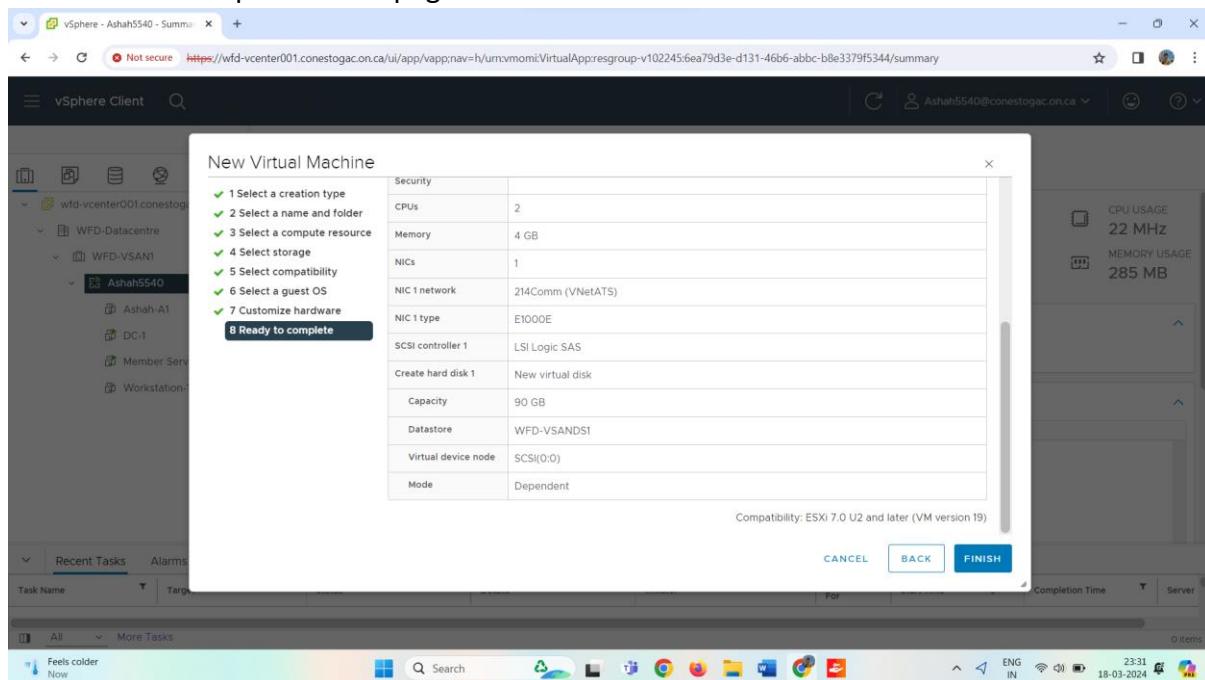
IP Address: 172.16.214.31

Assign a static IP address to each from your COM port range.

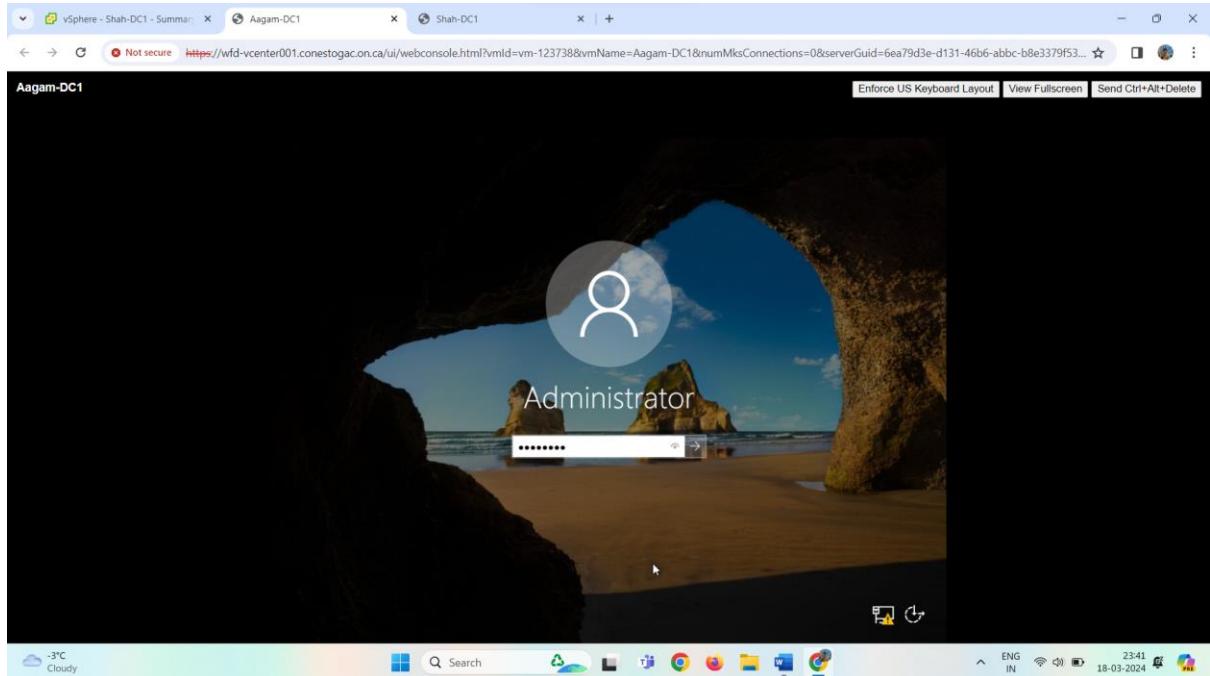
Virtual machine specification for DC1 (Aagam-DC1) installation.



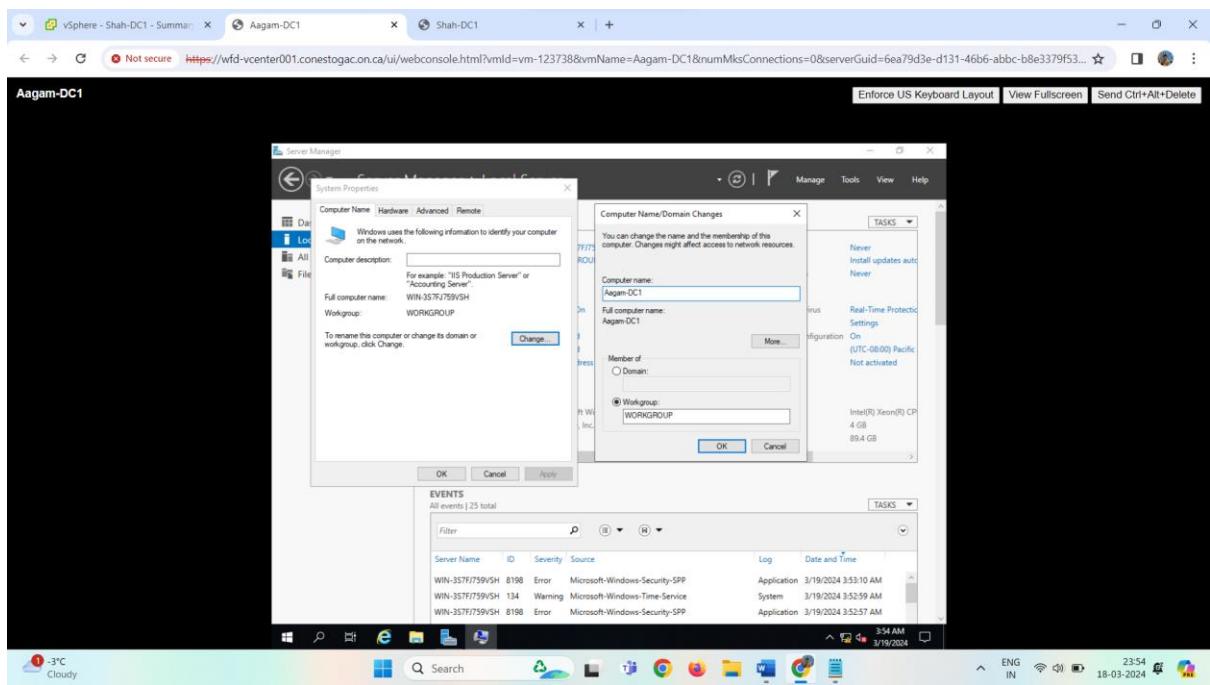
Virtual Machine specification page 2 for DC1 installation



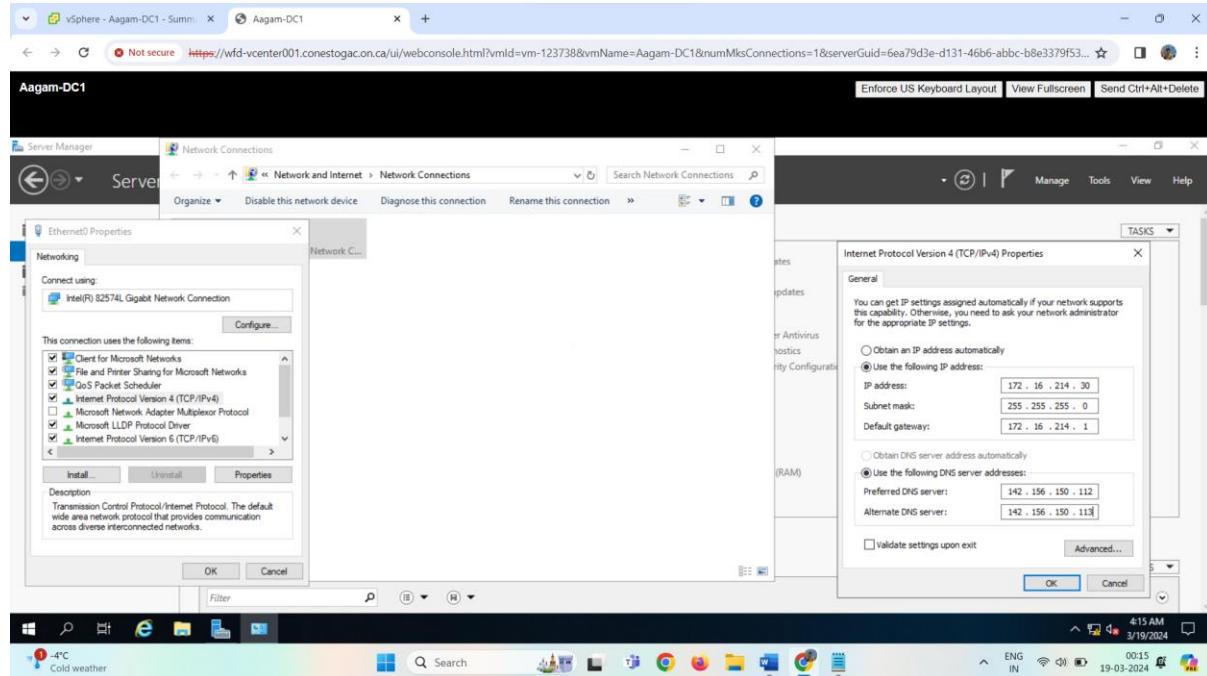
Completing installation of VM and installing Windows server on VM for DC1



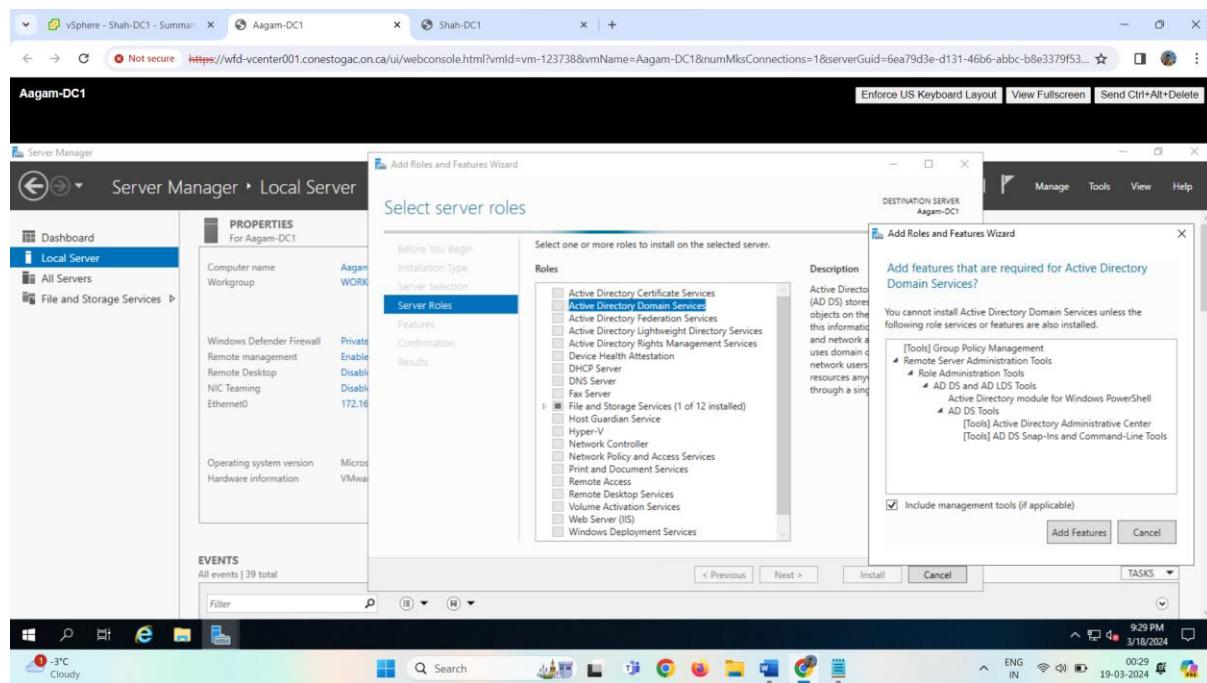
Changing Server name to Aagam-DC1



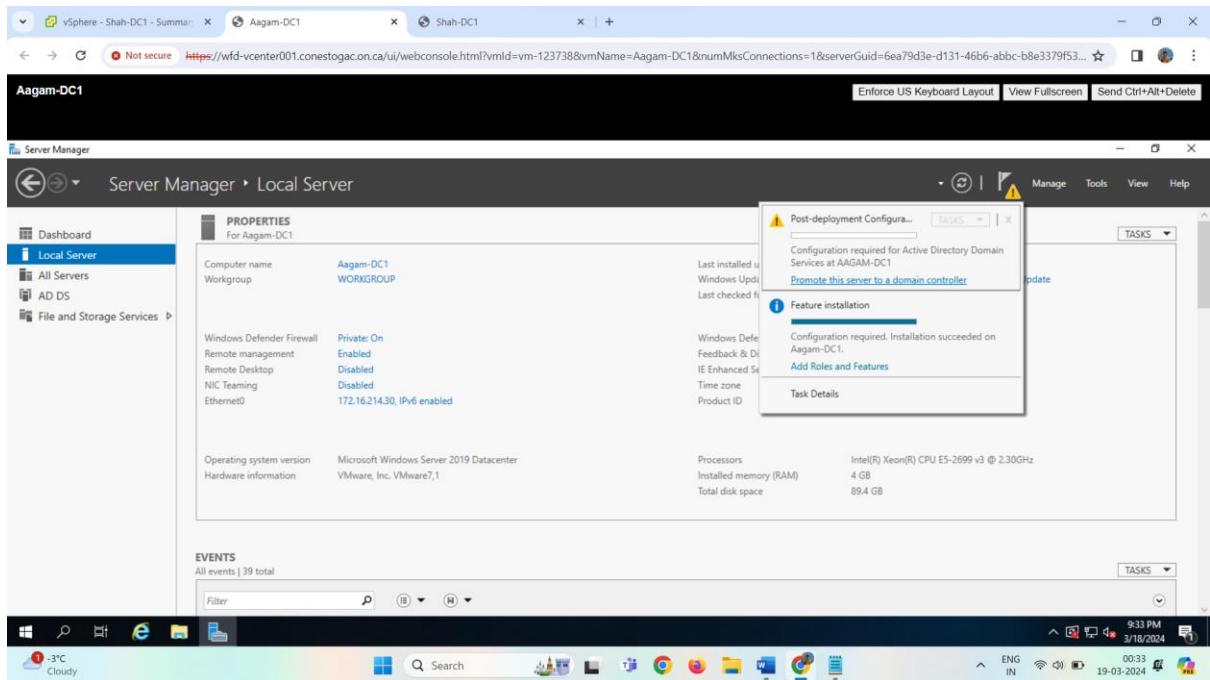
Providing IP to the Aagam-DC1 as IP 172.16.214.30



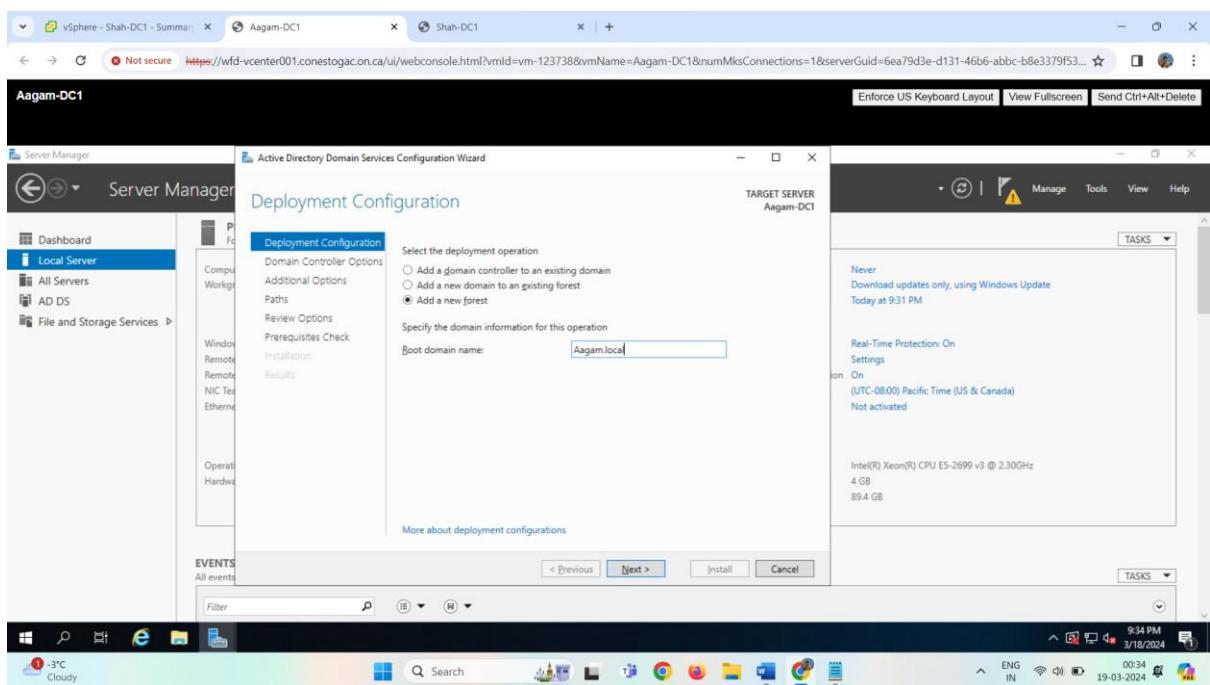
Adding ADDS roles and features to the Server (Aagam-DC1)



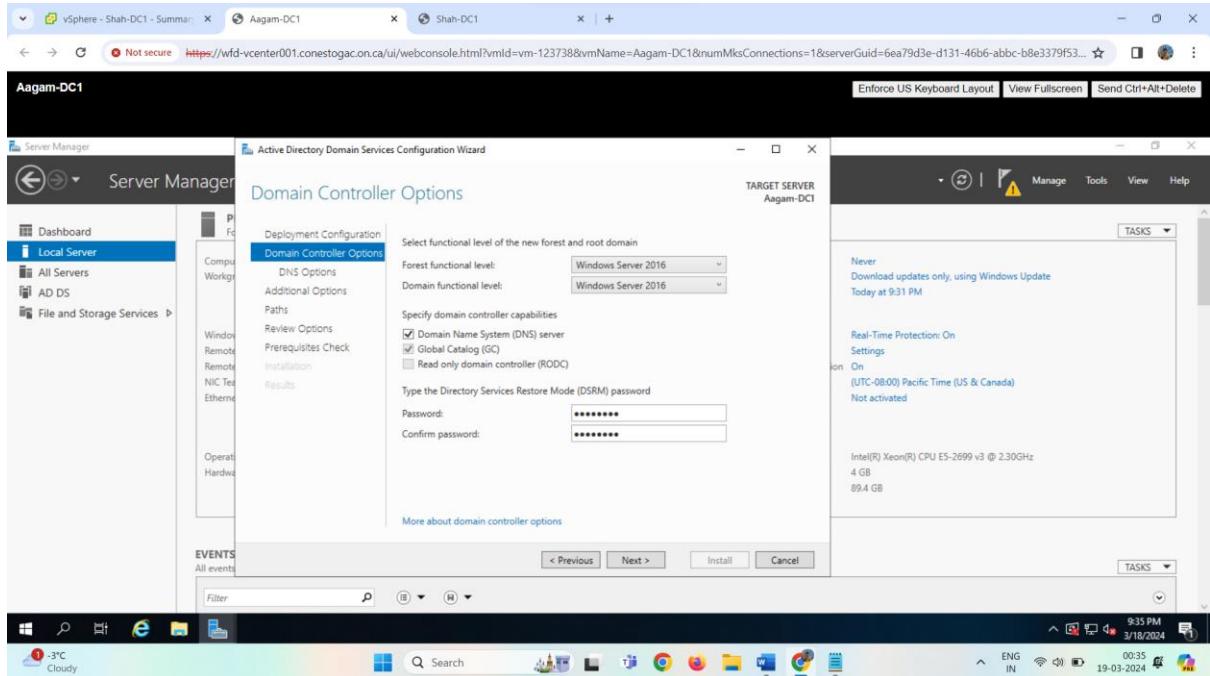
Promoting Server to Domain Controller



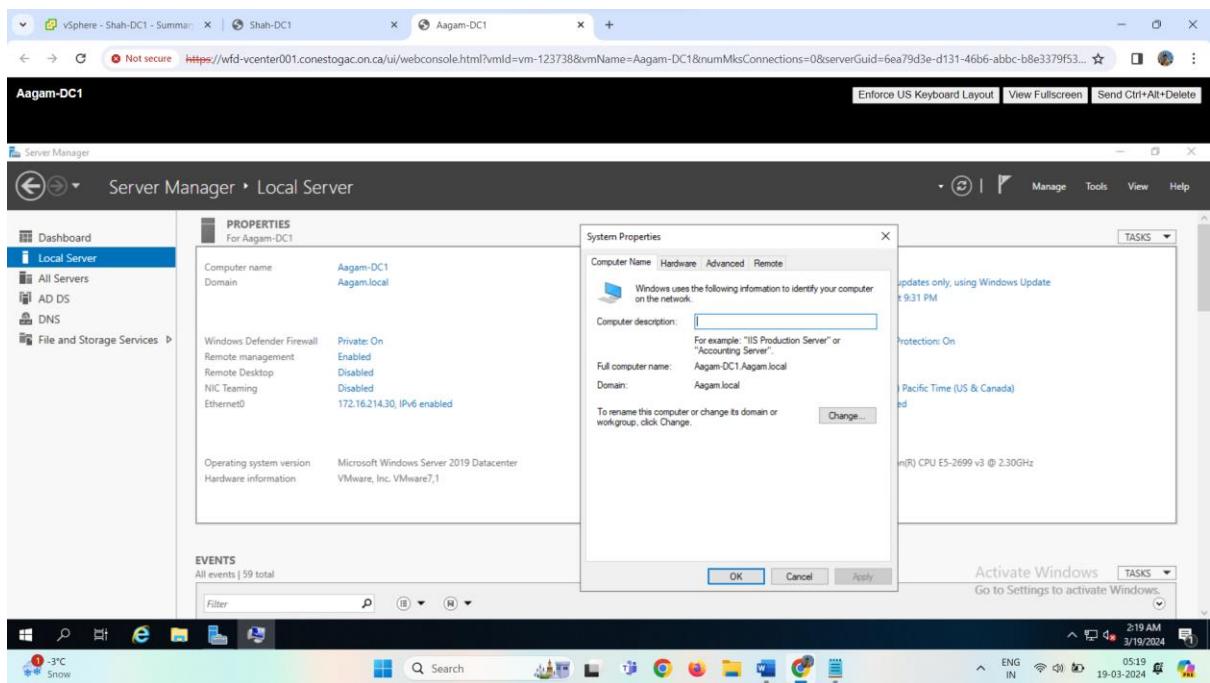
Creating a new forest and providing root domain name as Aagam.local



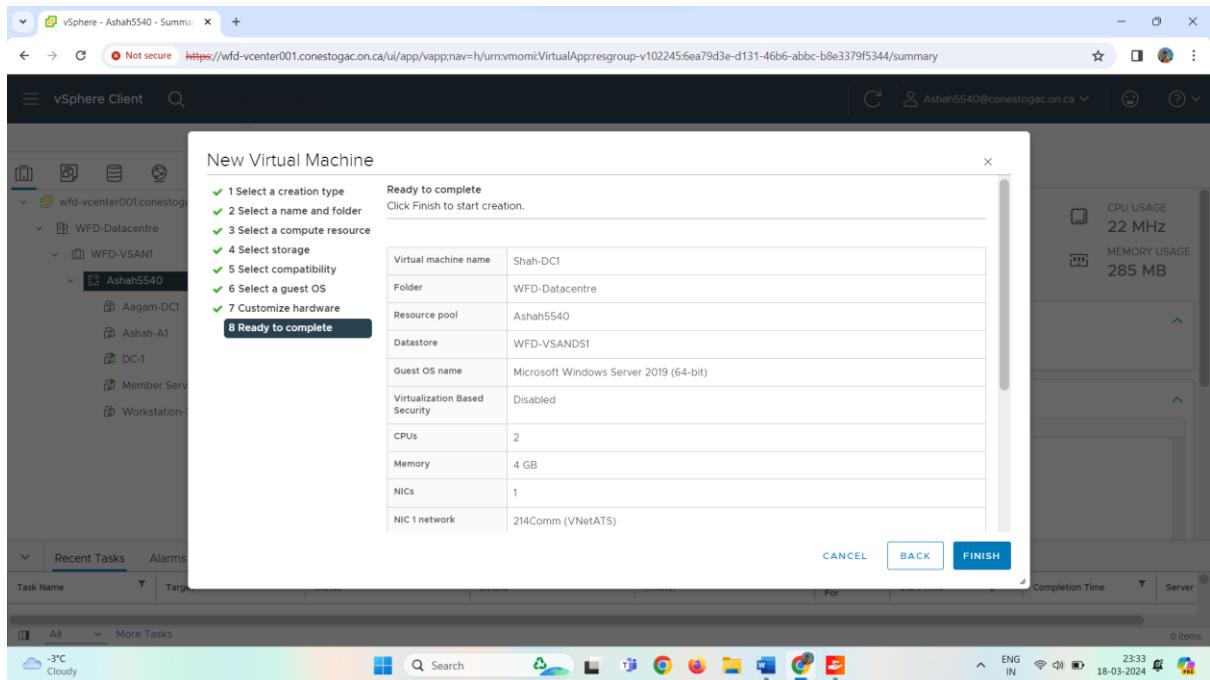
Providing password for DSRM as Secret55



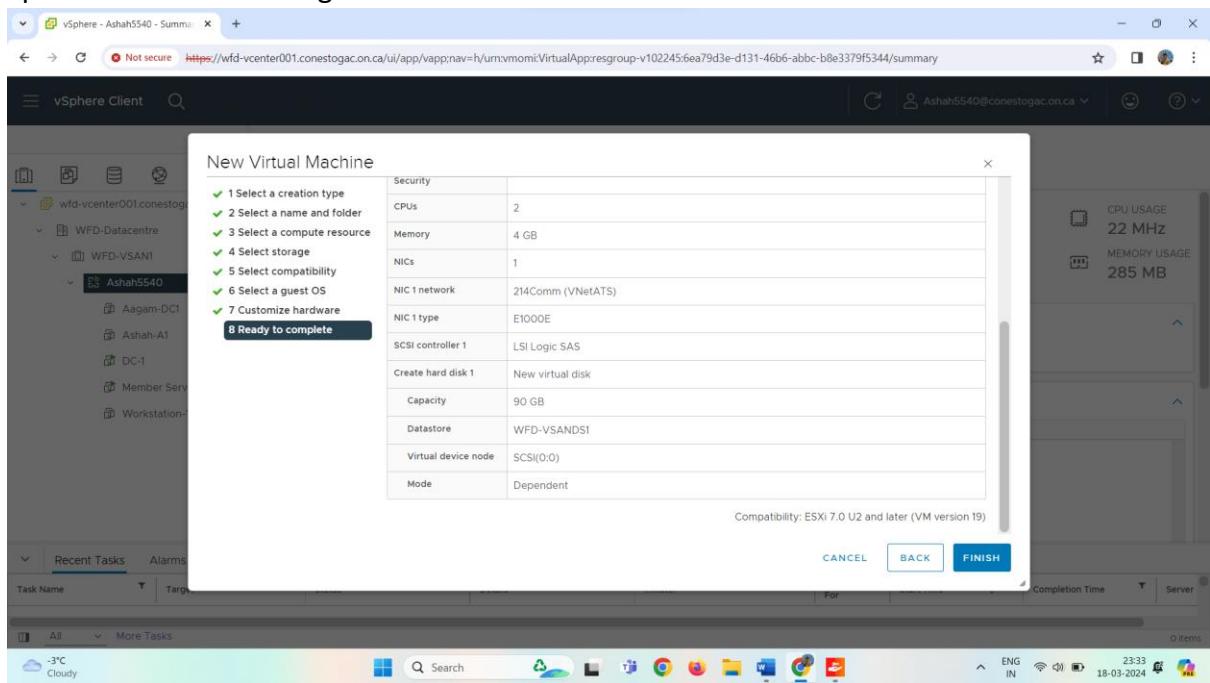
Adding Domain Controller to the domain name: Aagam.local



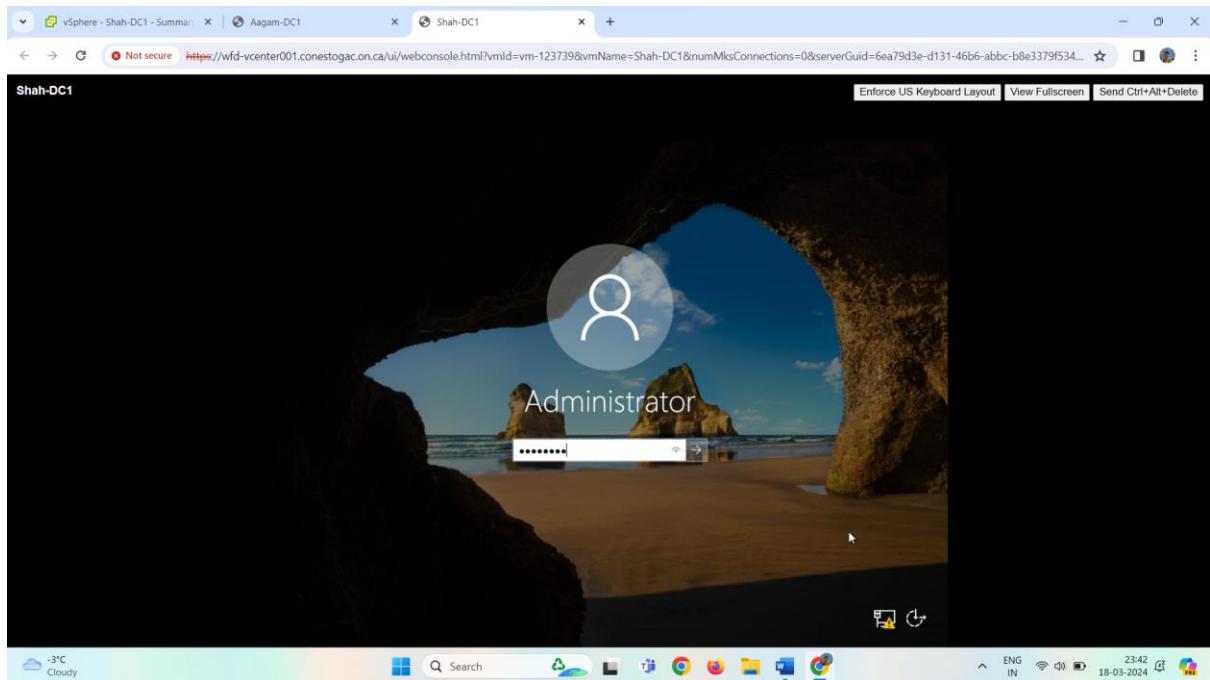
Creating VM for Server for another domain controller. i.e Shah-DC1



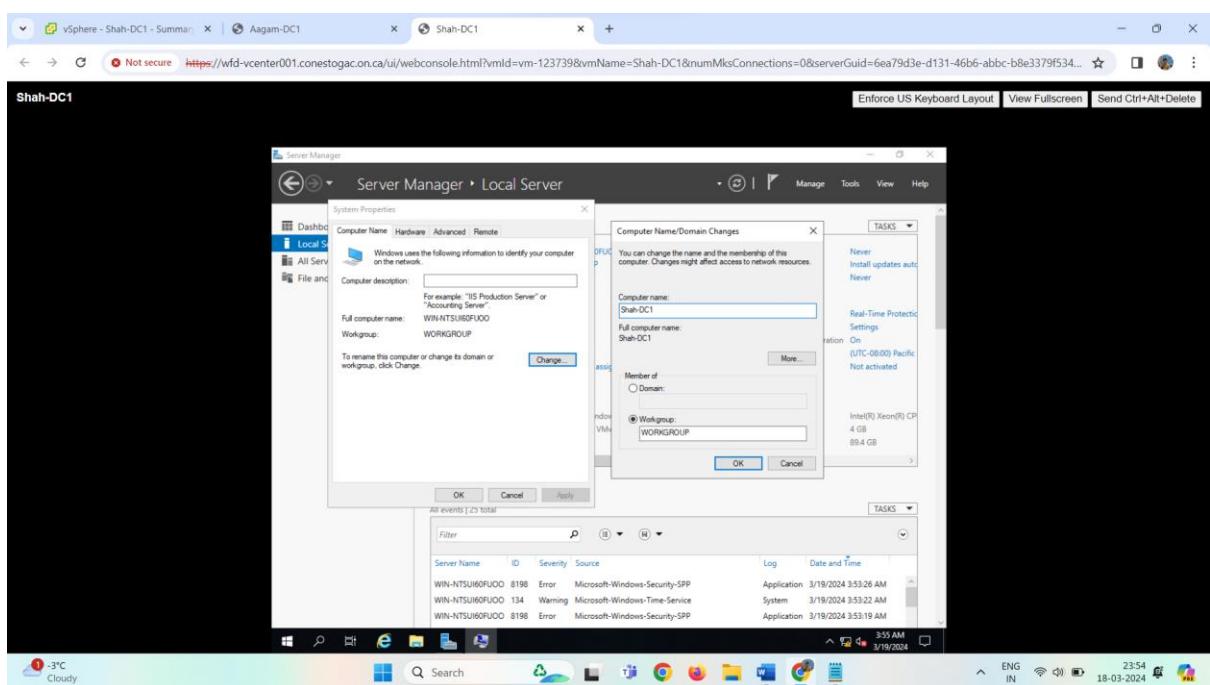
Specifications of creating a new VM



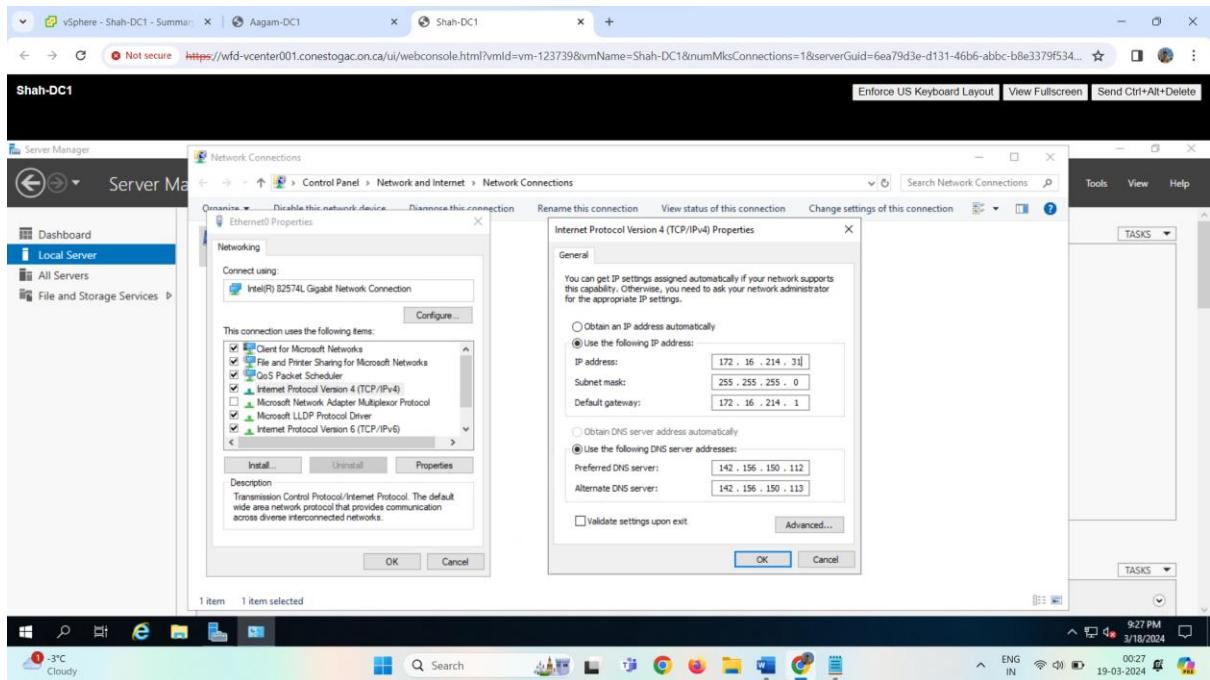
Configured Windows server on newly installed VM for Shah-DC1



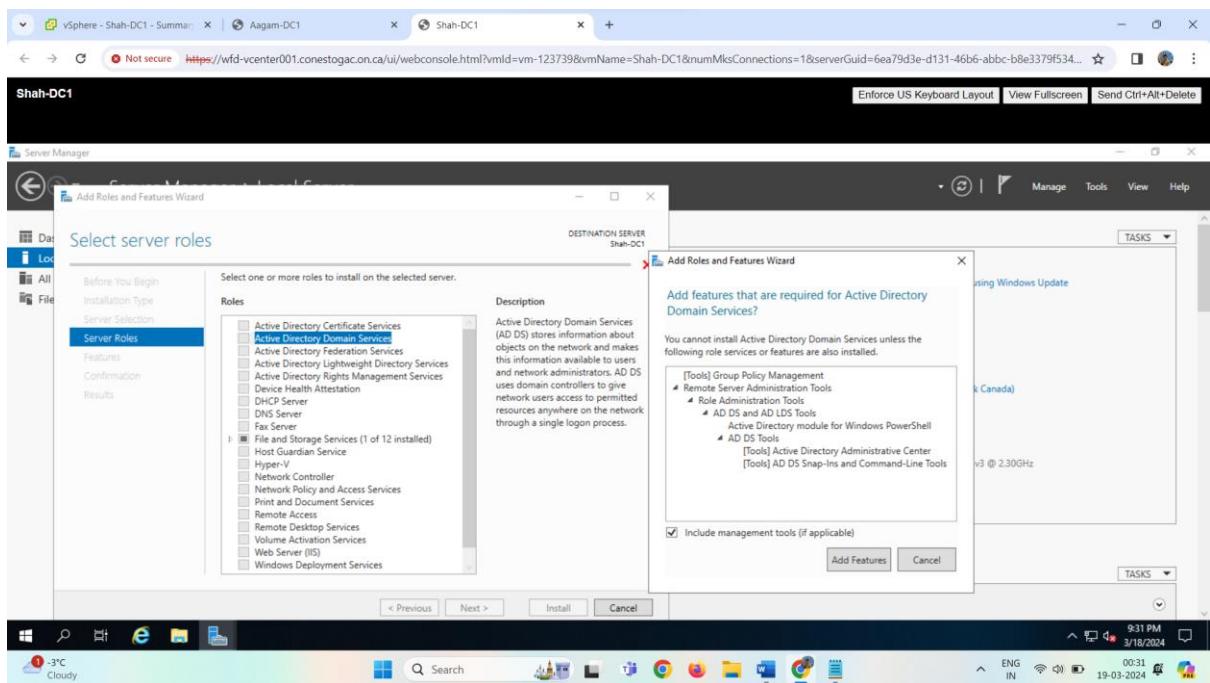
Giving a relevant name to newly installed server as SHAH-DC1



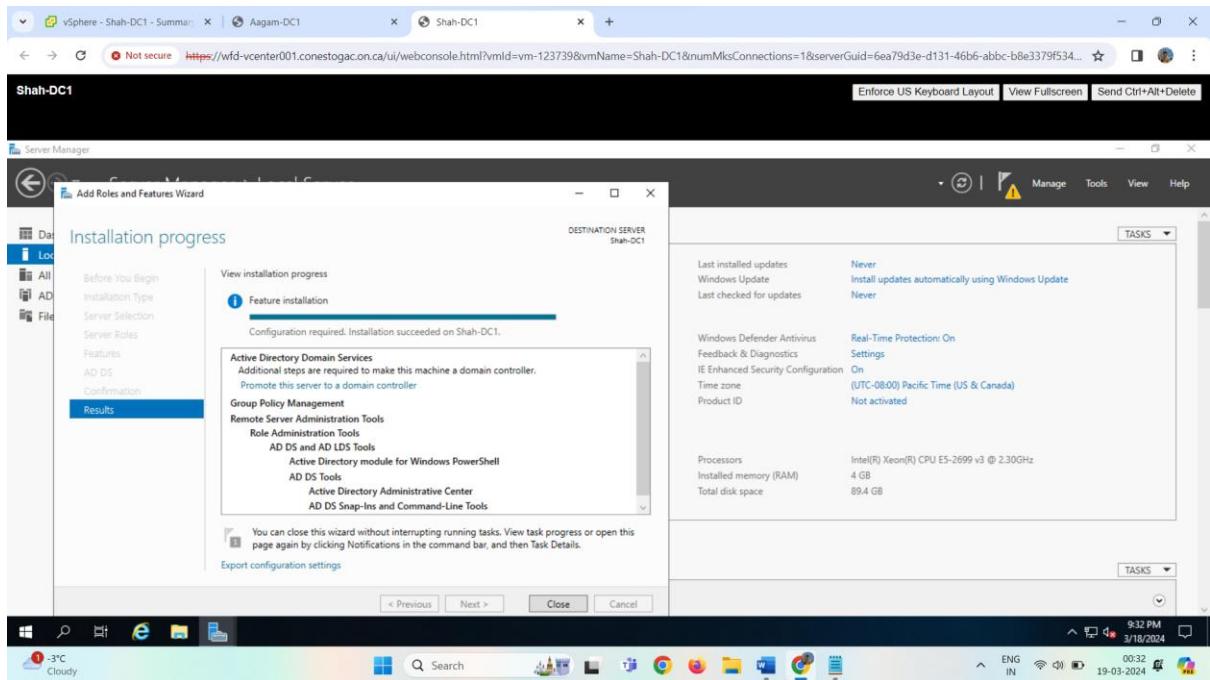
Configuring IP details of SHAH-DC1 as 172.16.214.31 from com port 214.



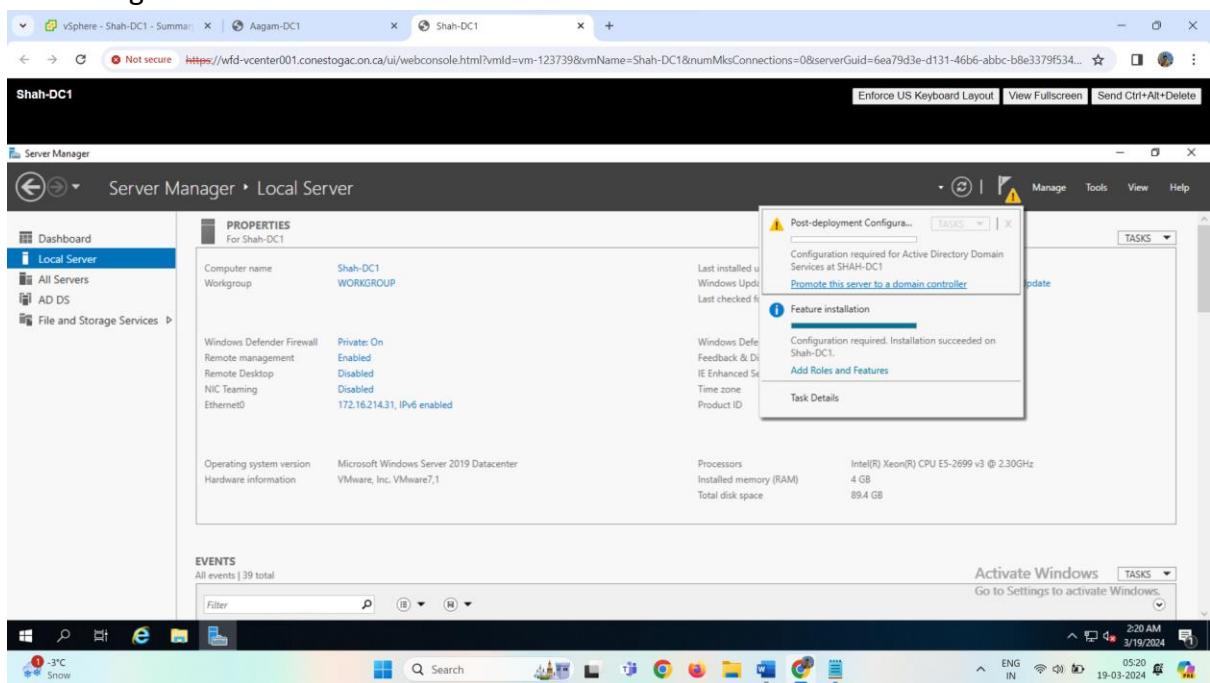
Adding ADDS Features to the Server for creating new forest.



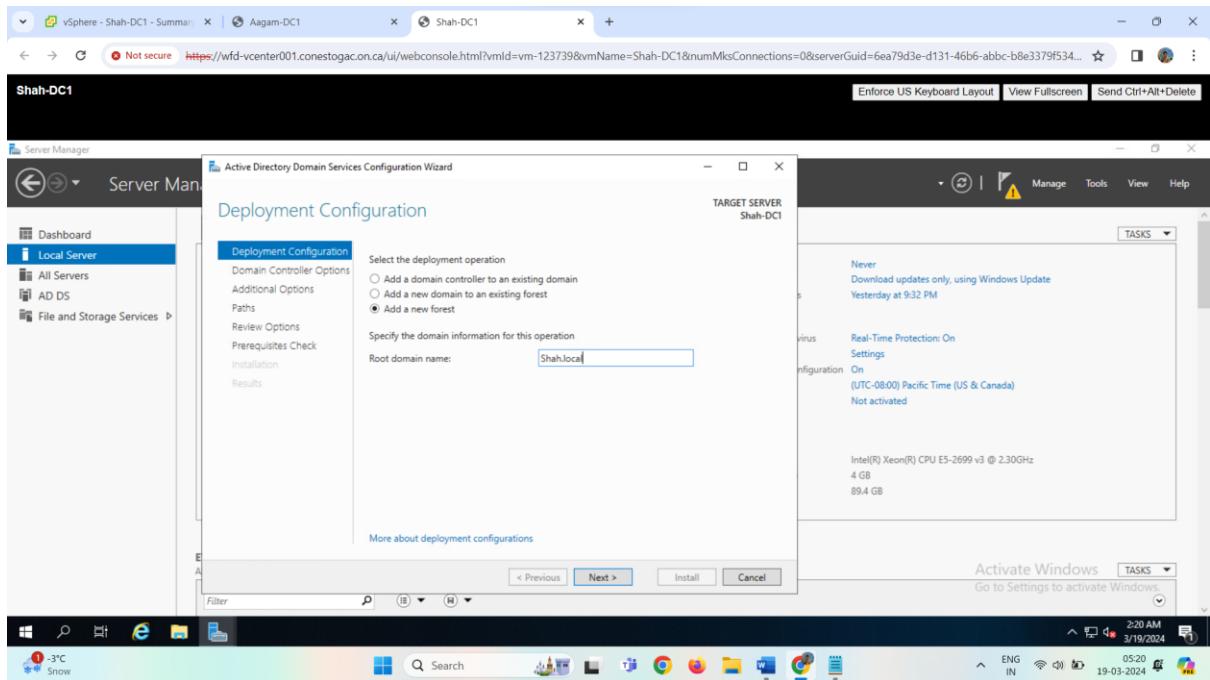
Completing feature installation of ADDS on the server.



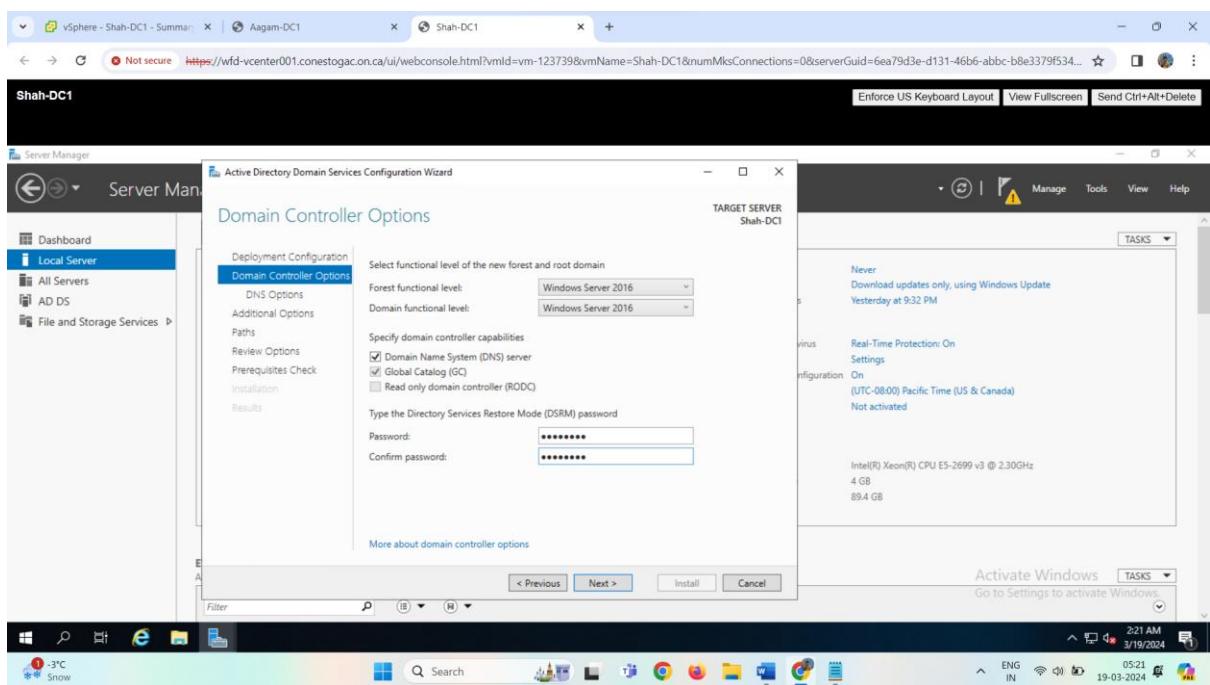
Promoting Server SHAH-DC1 to Domain Controller.



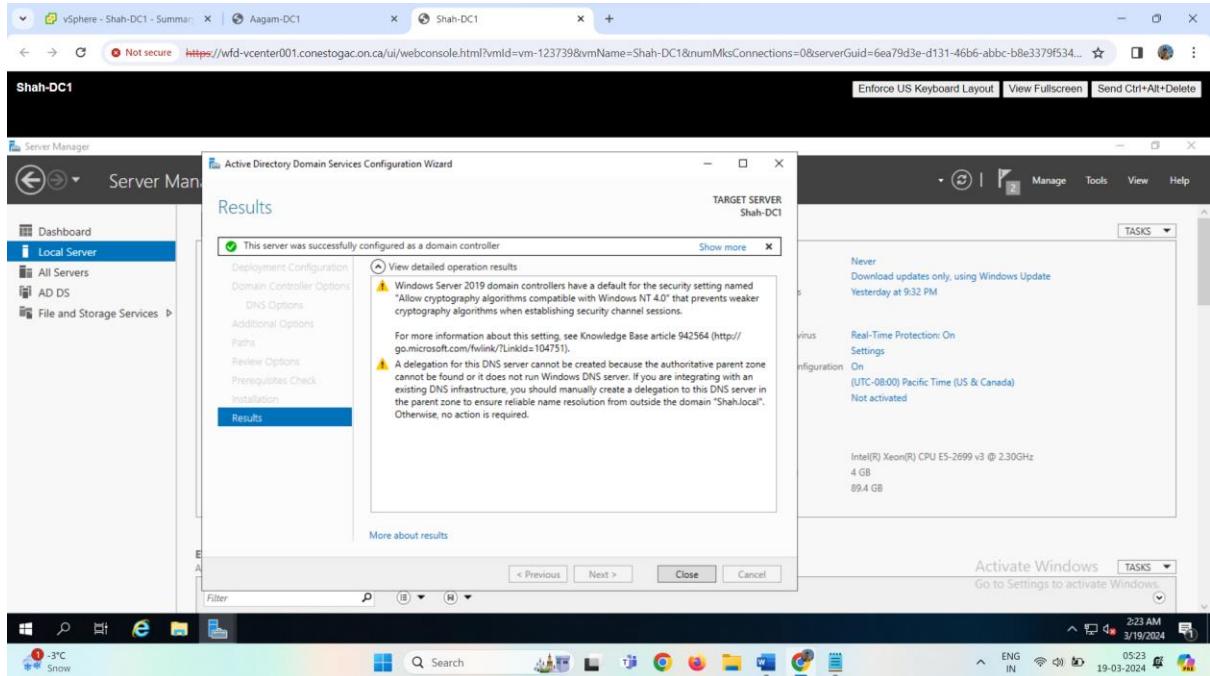
Creating a new forest as Shah.local on SHAH-DC1



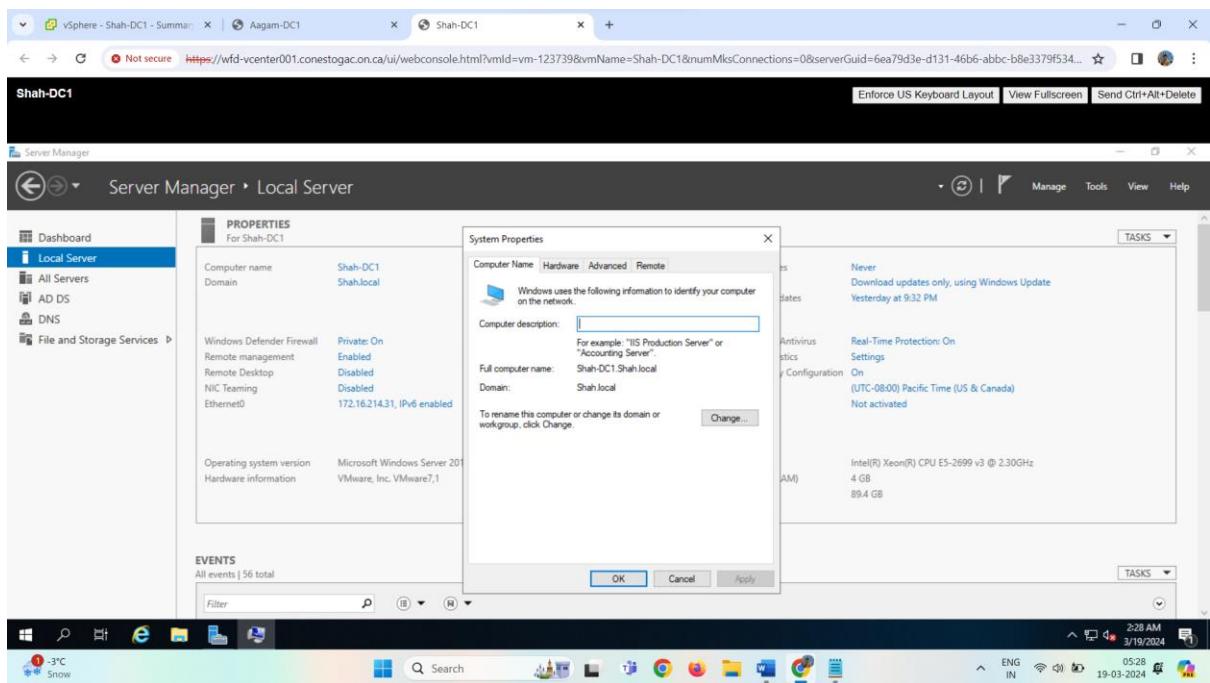
Providing passing as Secret55 for SDRM



Successfully installing ADDS feature on server SHAH-DC1

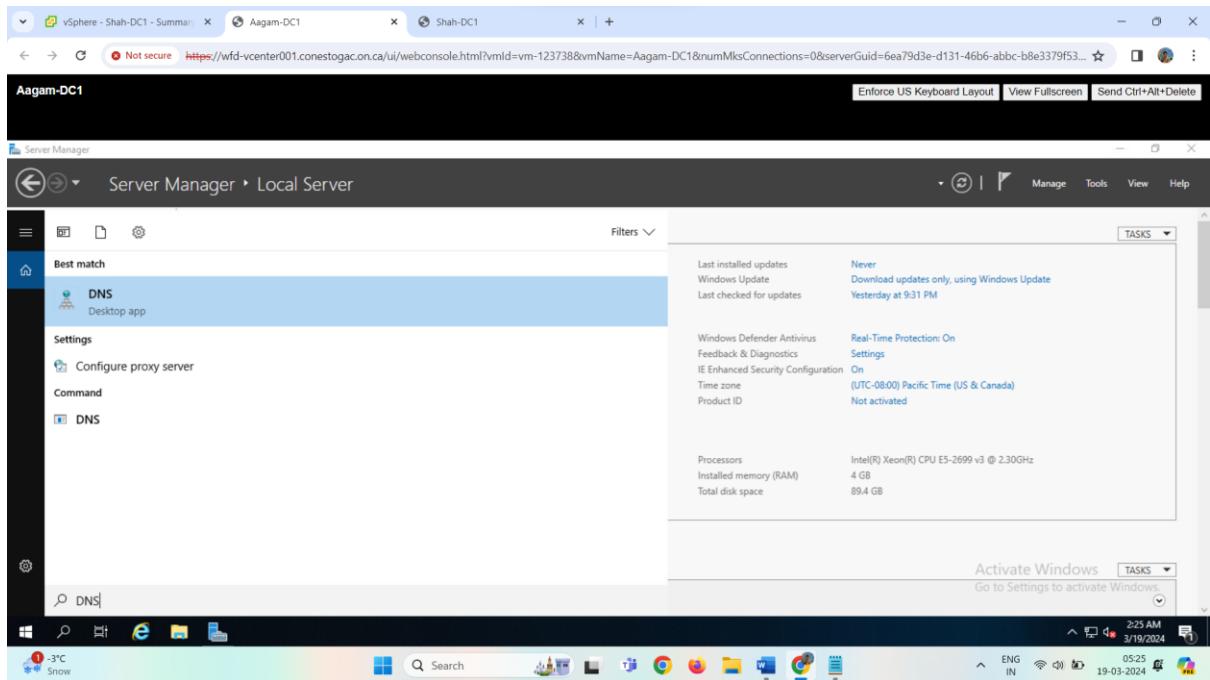


Adding the server to the Domain: Shah.local

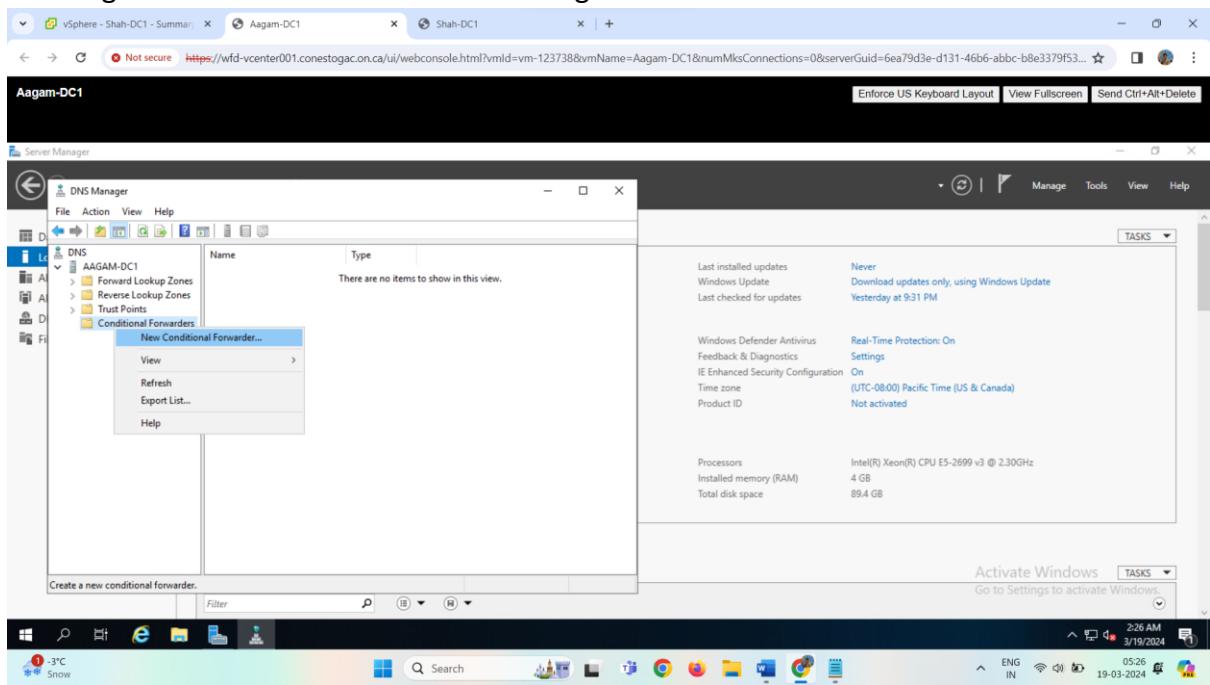


2) Create a two-way trust between the two domains.

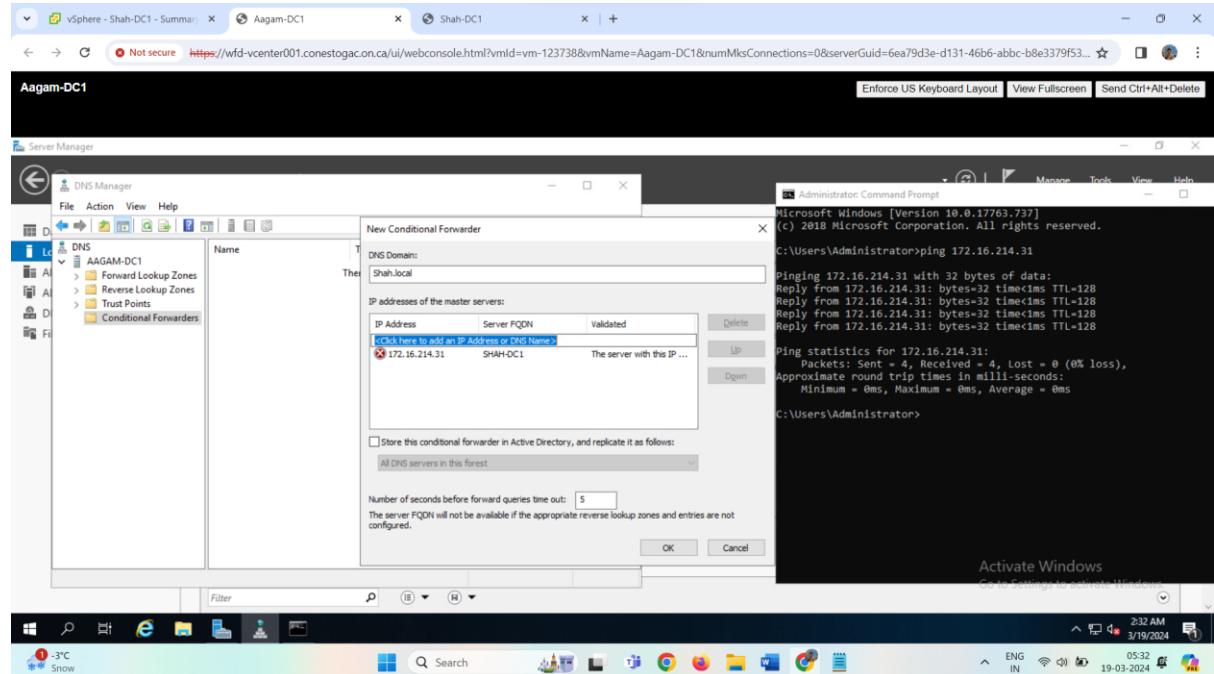
To create trust between domains need to open DNS app.



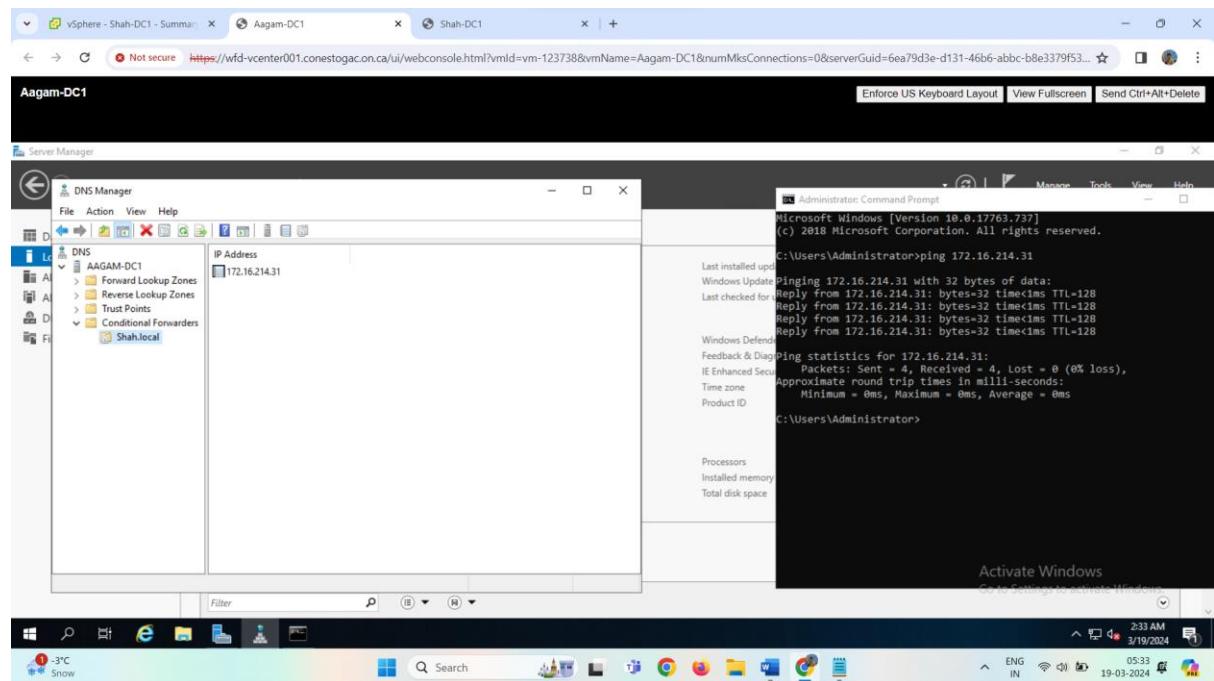
Creating a new Conditional Forwarder in Aagam-DC1 to build trust with another domain.



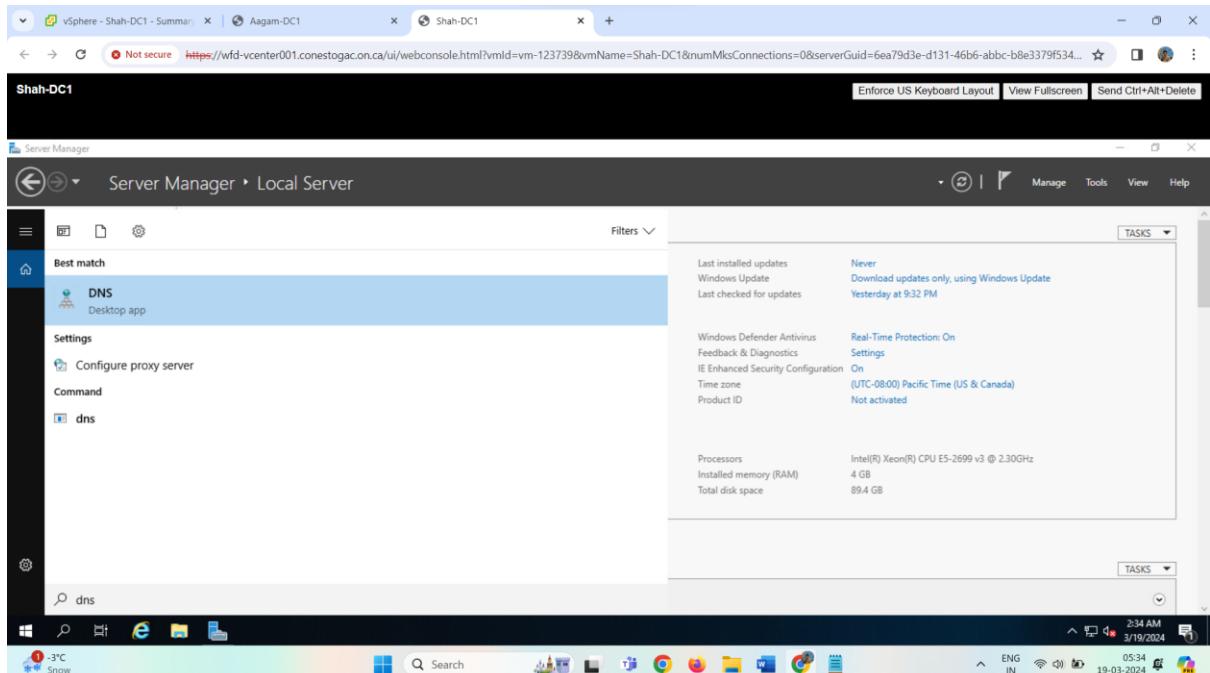
Adding Domain Shah.local with IP: 172.16.214.31



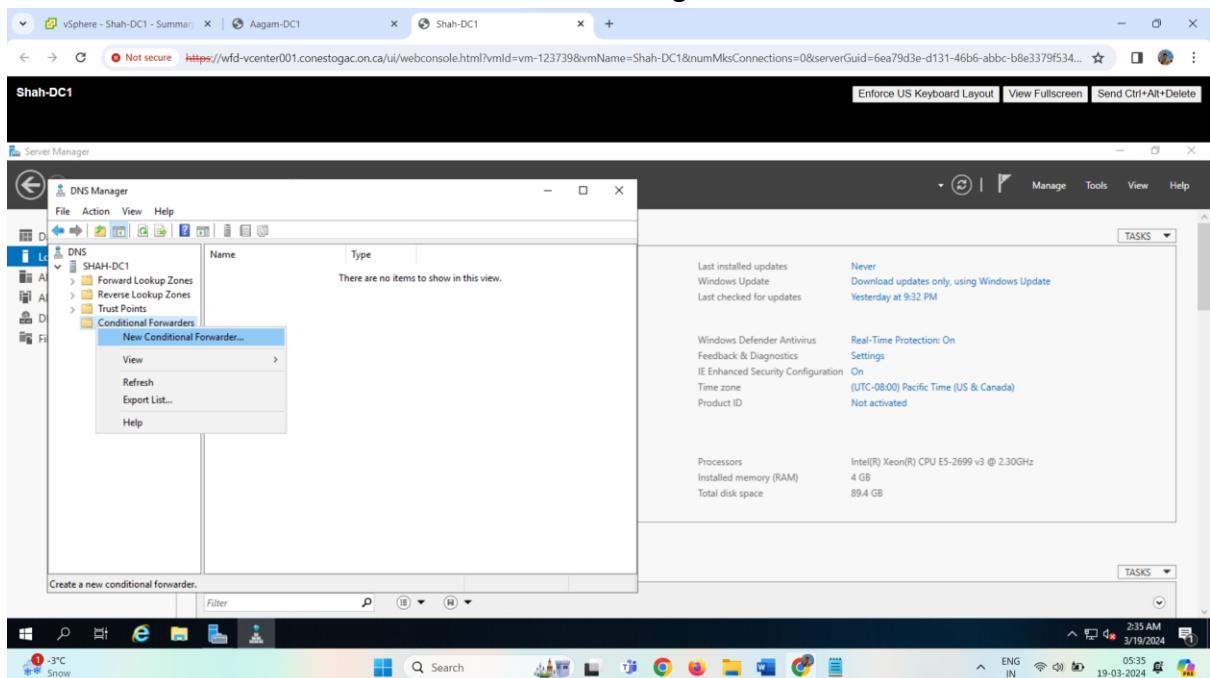
Successfully adding domain name Shah.local (172.16.214.31) in Aagam-DC1 for building Trust.



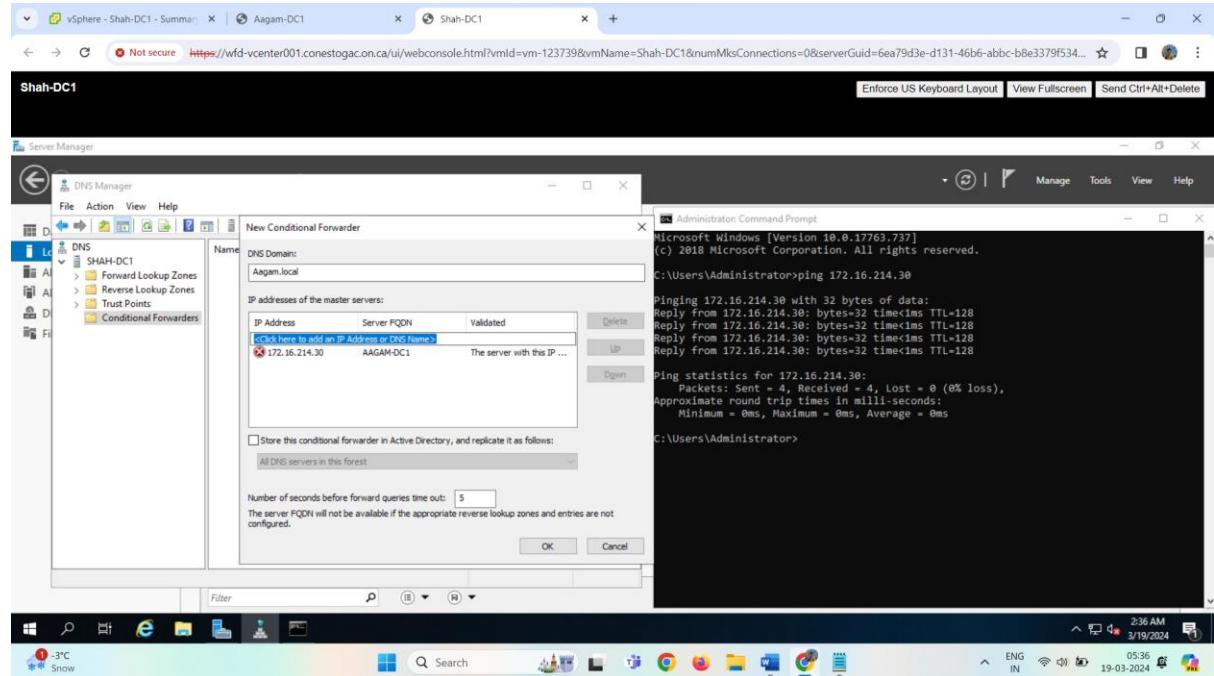
Open DNS app to build trust between domains in SHAH-DC1



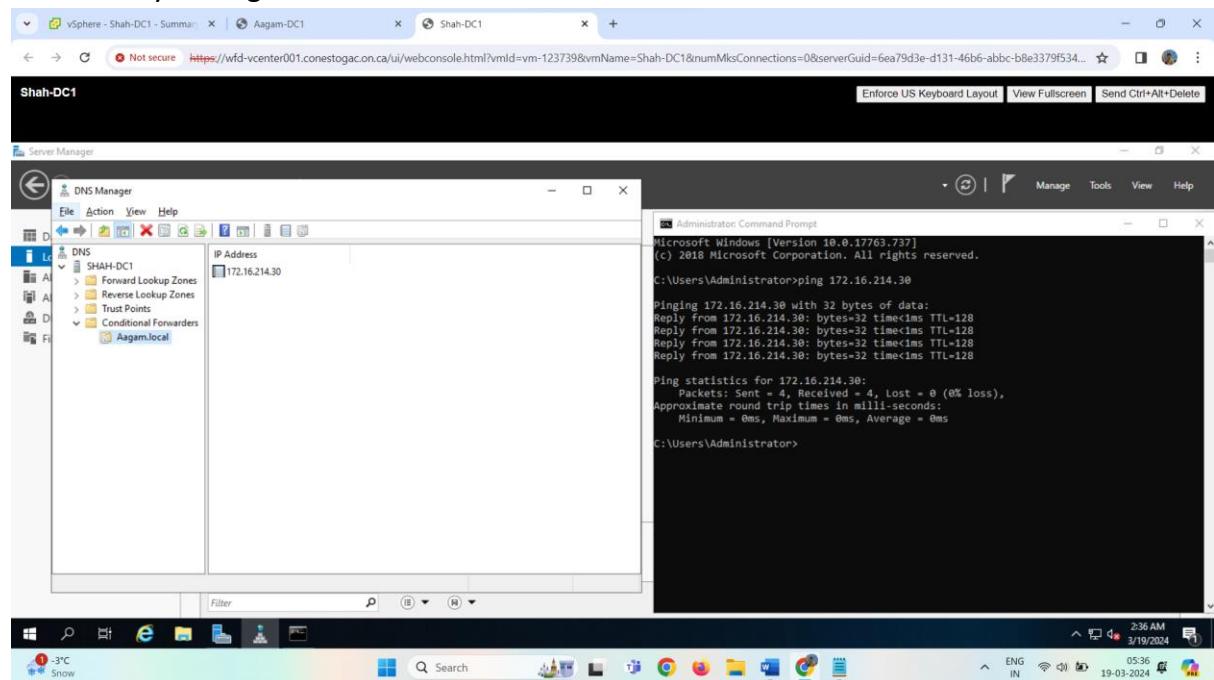
New conditional forwarder to be created to add Aagam.local domain in SHAH-DC1



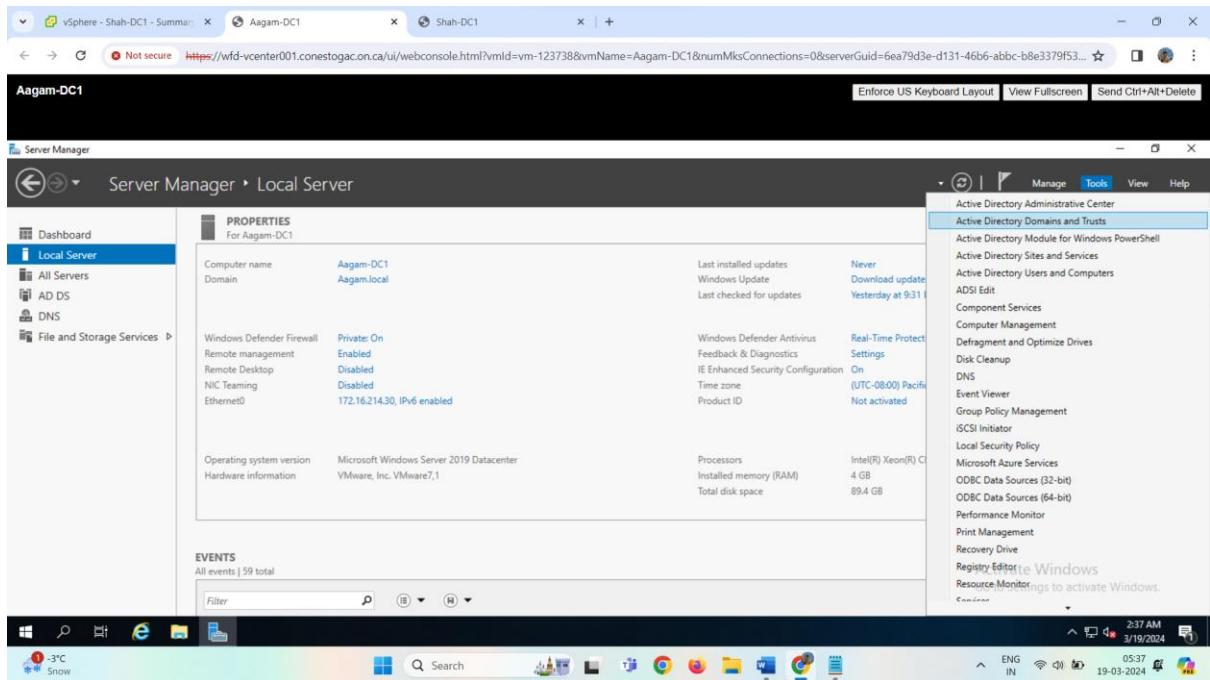
Configuring domain name with IP in DNS app on SHAH-DC1 server



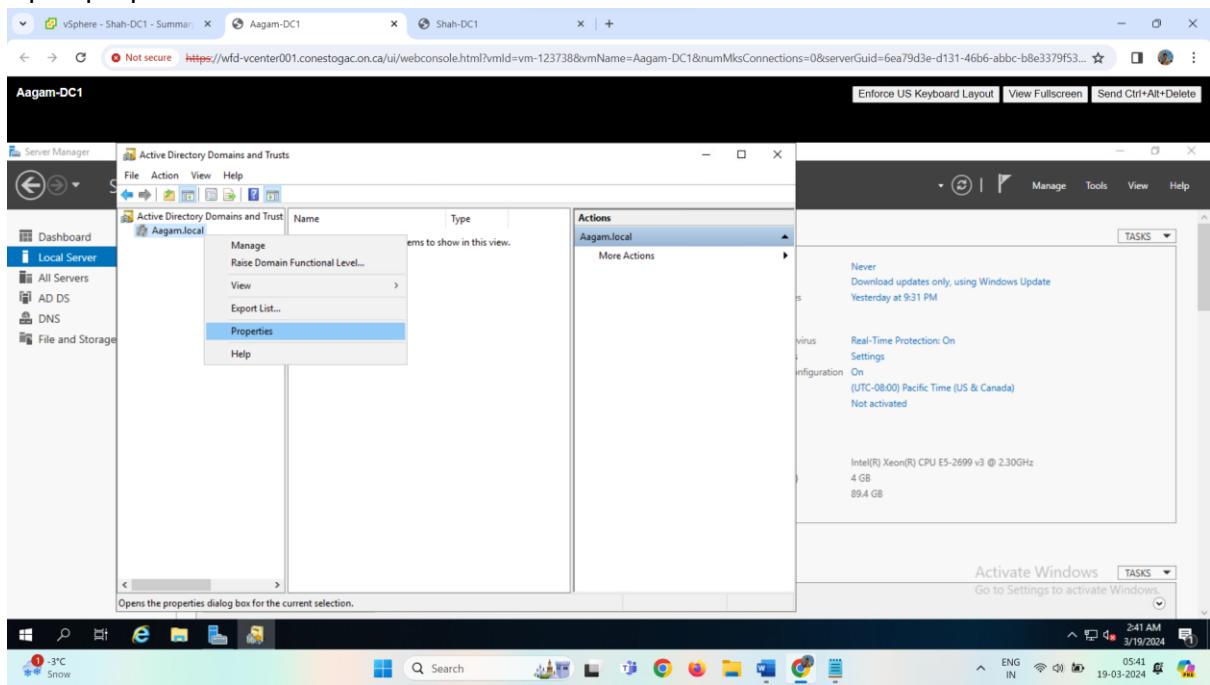
Successfully adding new conditional forwarder in SHAH-DC1.



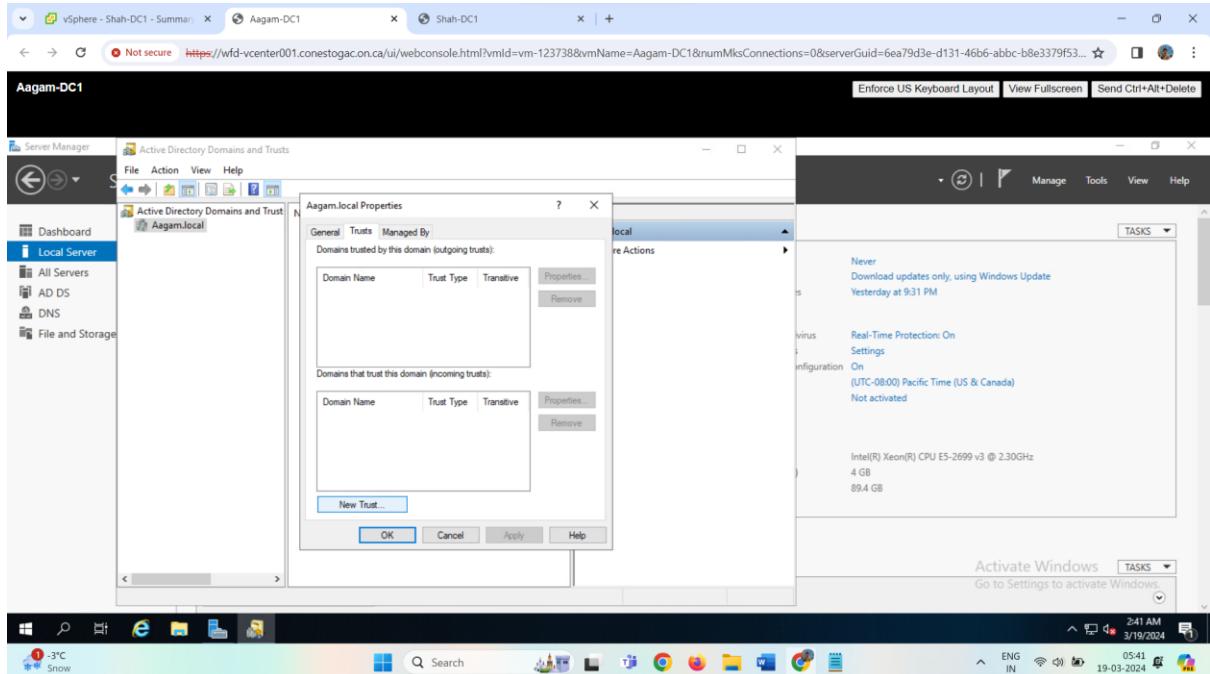
To build trust need to open feature Active Directory Domains and Trusts.



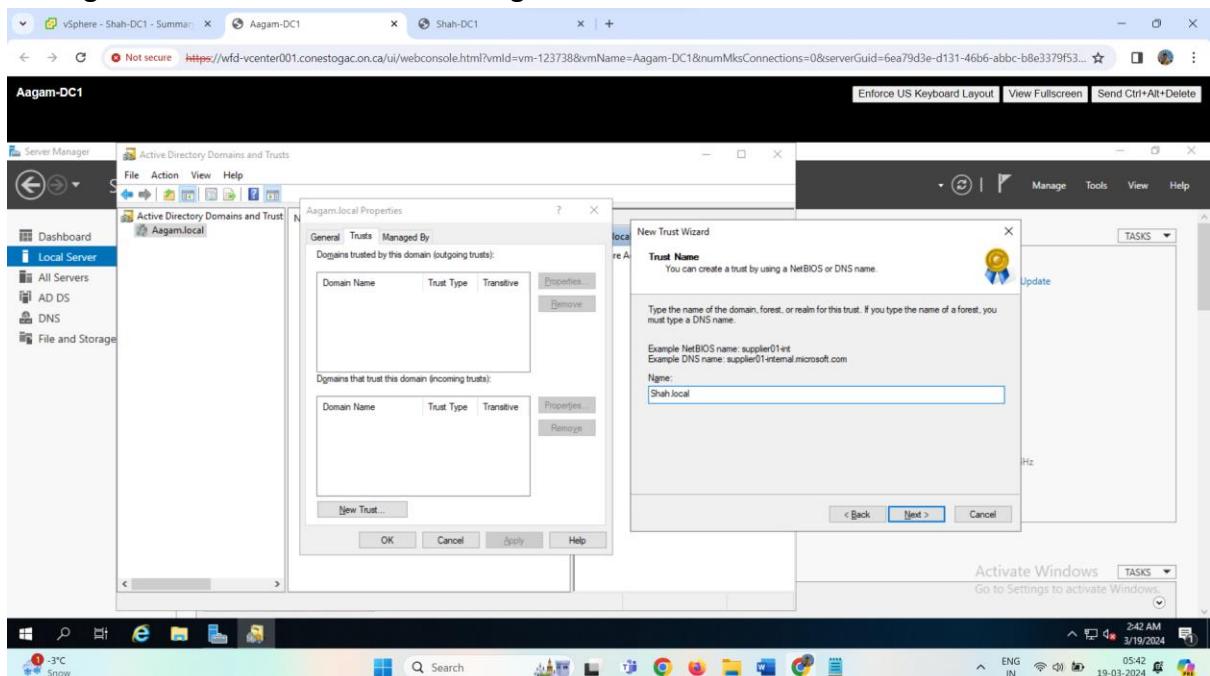
Open properties to add new trust.



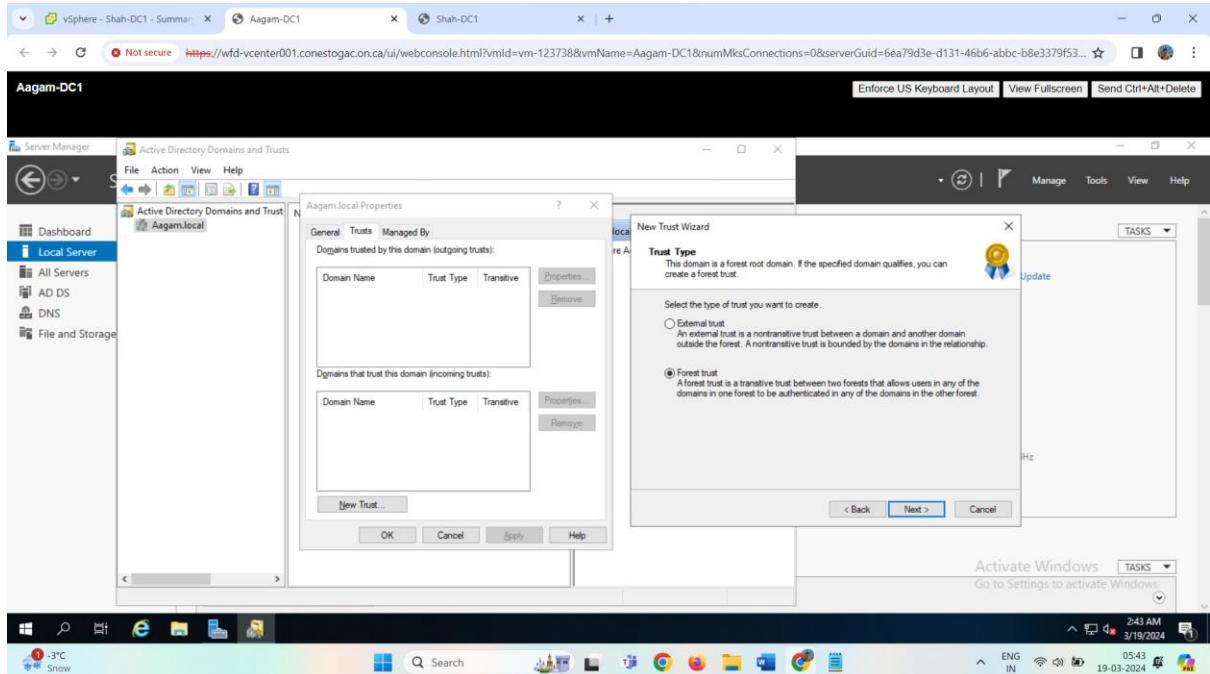
Open properties to add new trust.



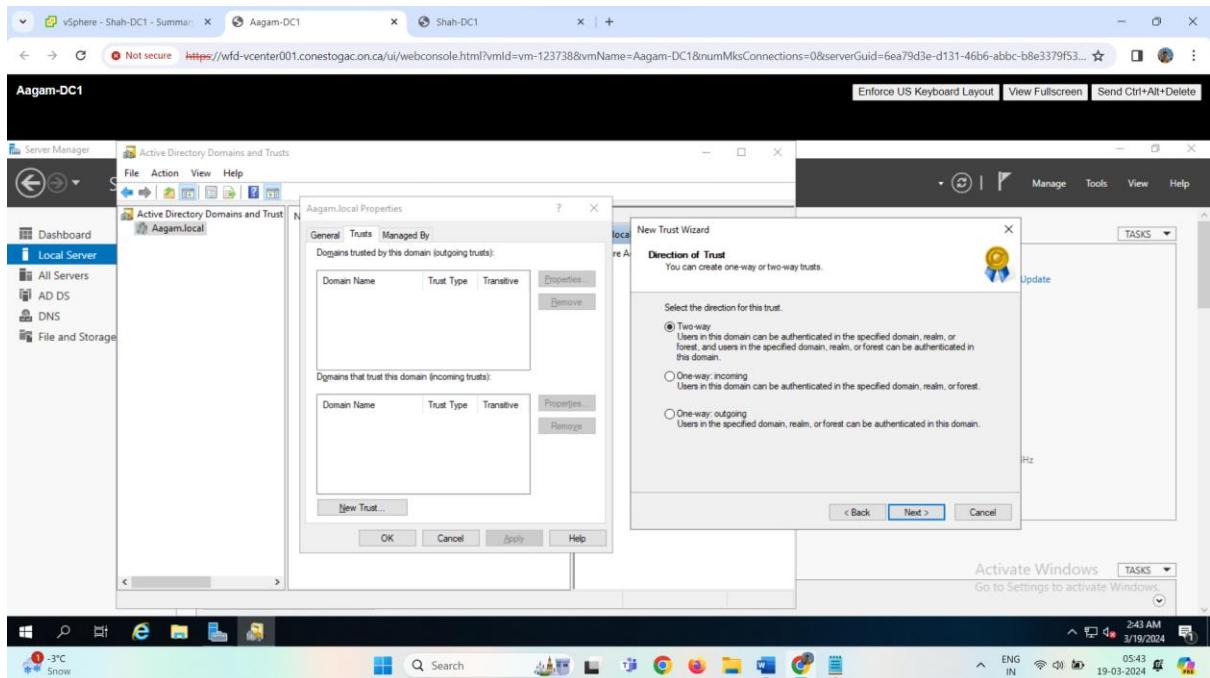
Adding Shah.local as a new trust on Aagam-DC1 server.



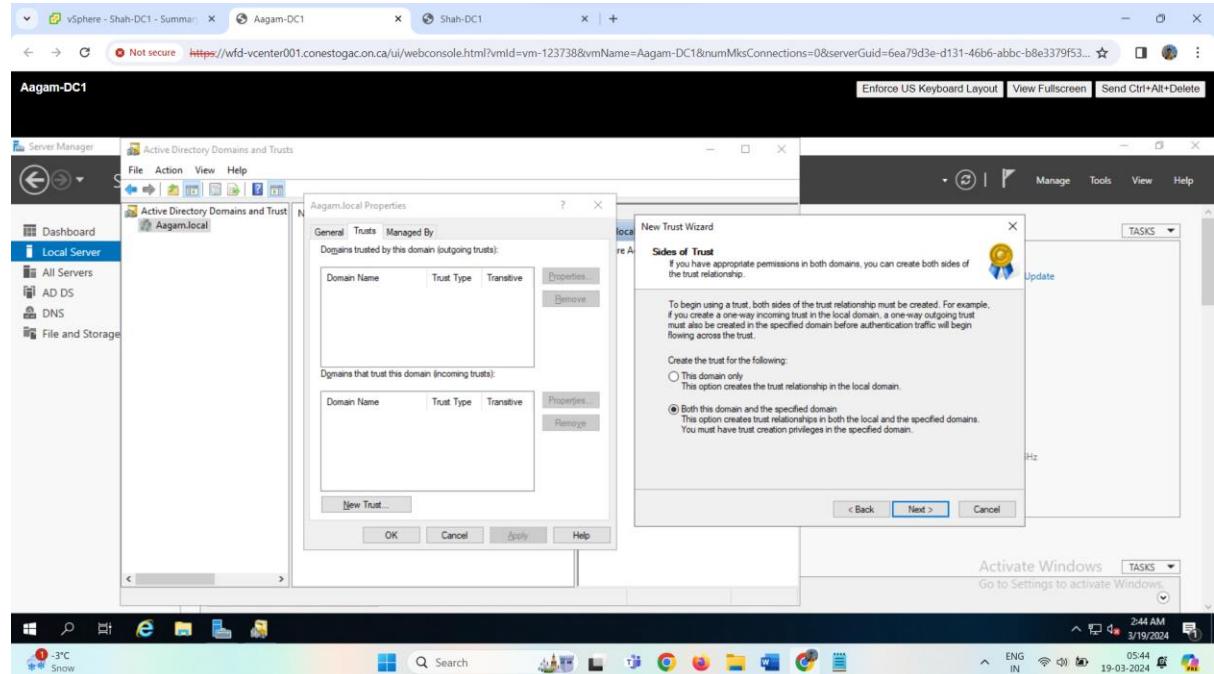
Select Forest Trust to create forest-level trust



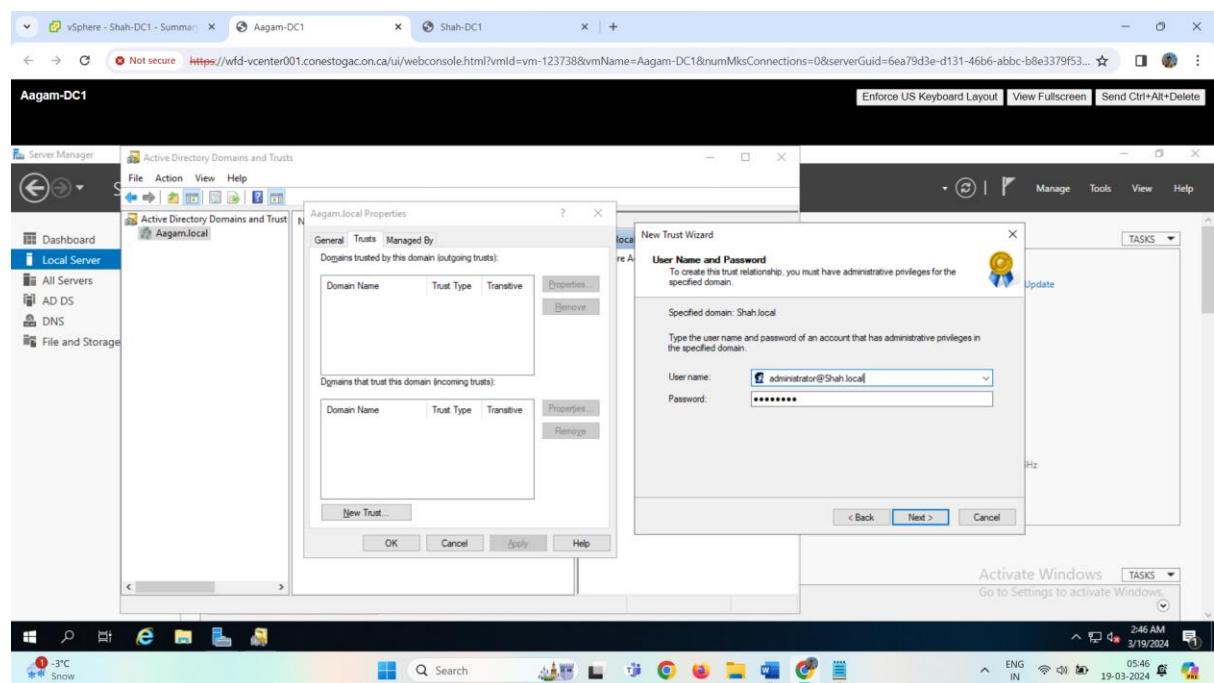
Selecting the direction of trust as two-way trust.



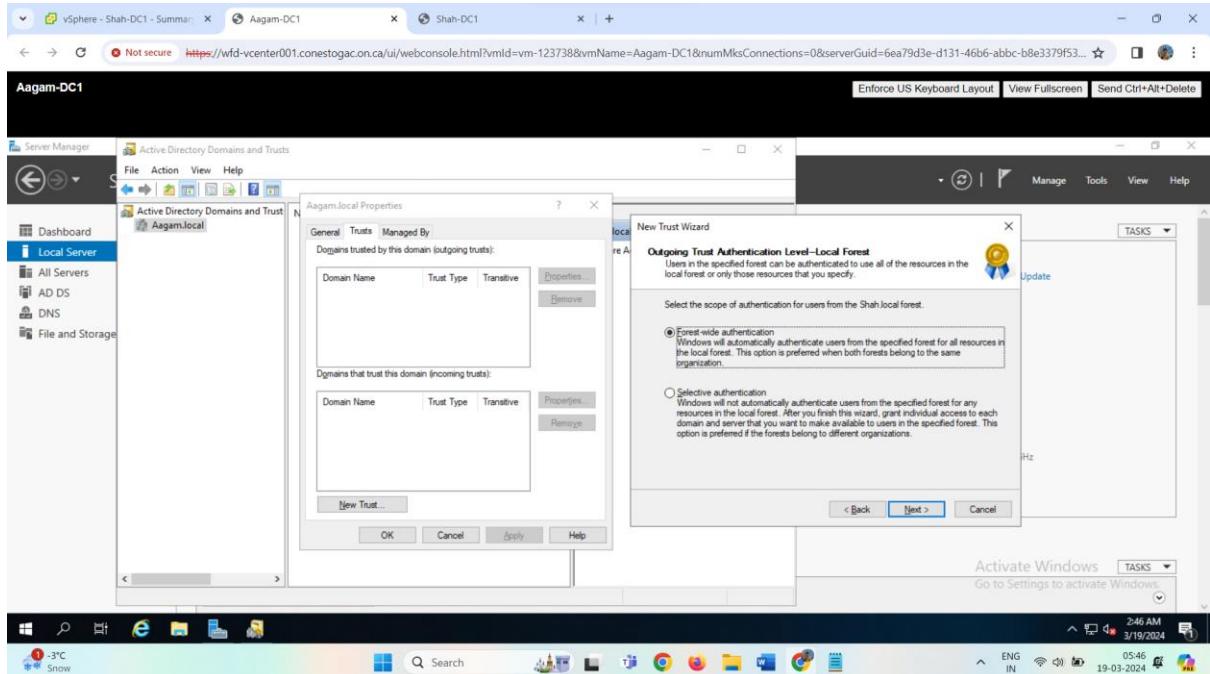
Selecting the option as both the domain and the specified domain.



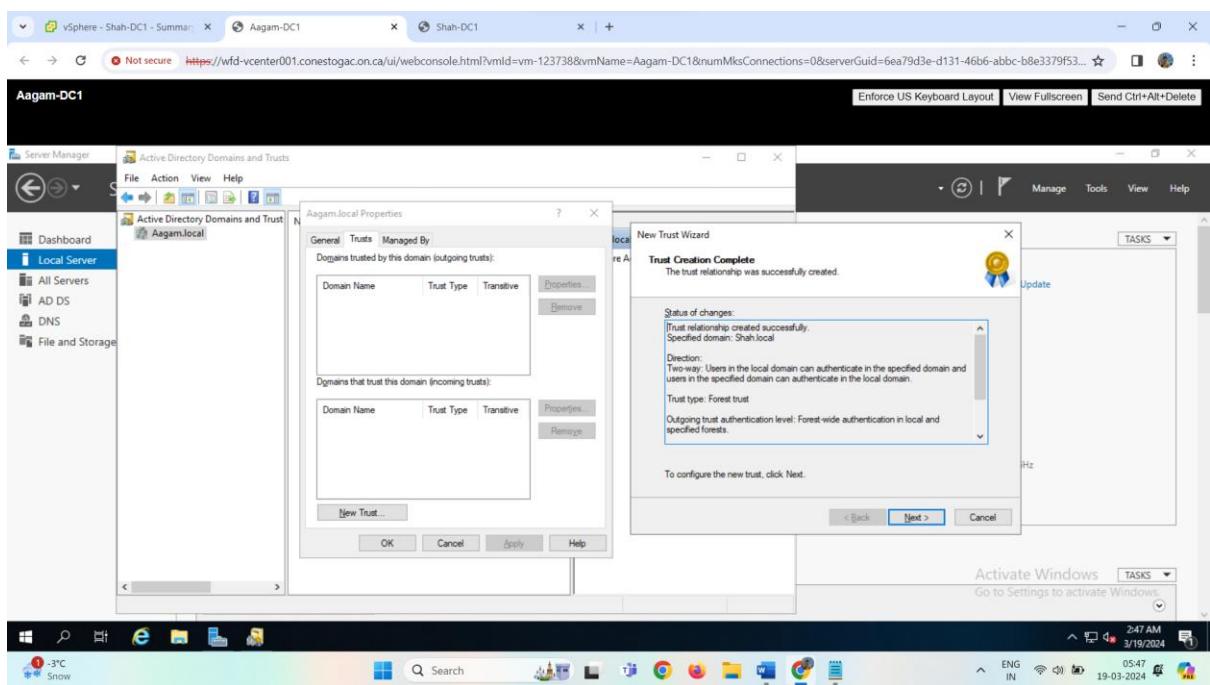
Providing username and password of the domain that needs to be added.



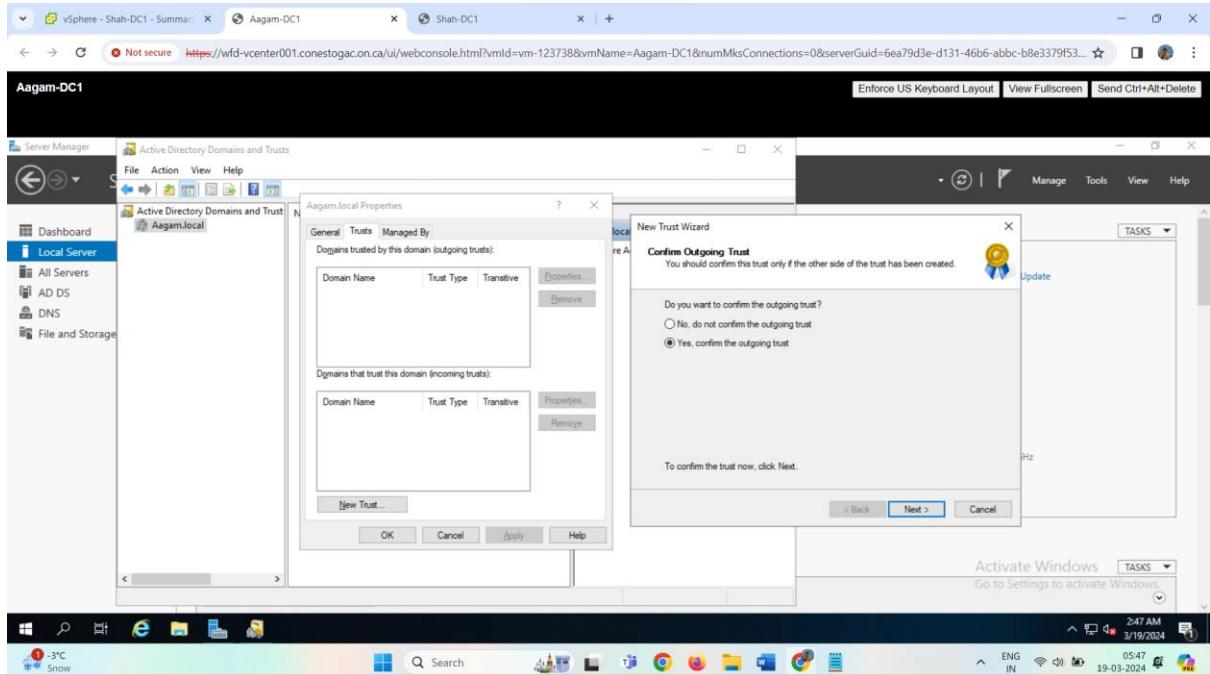
Selecting the option as a forest with authentication



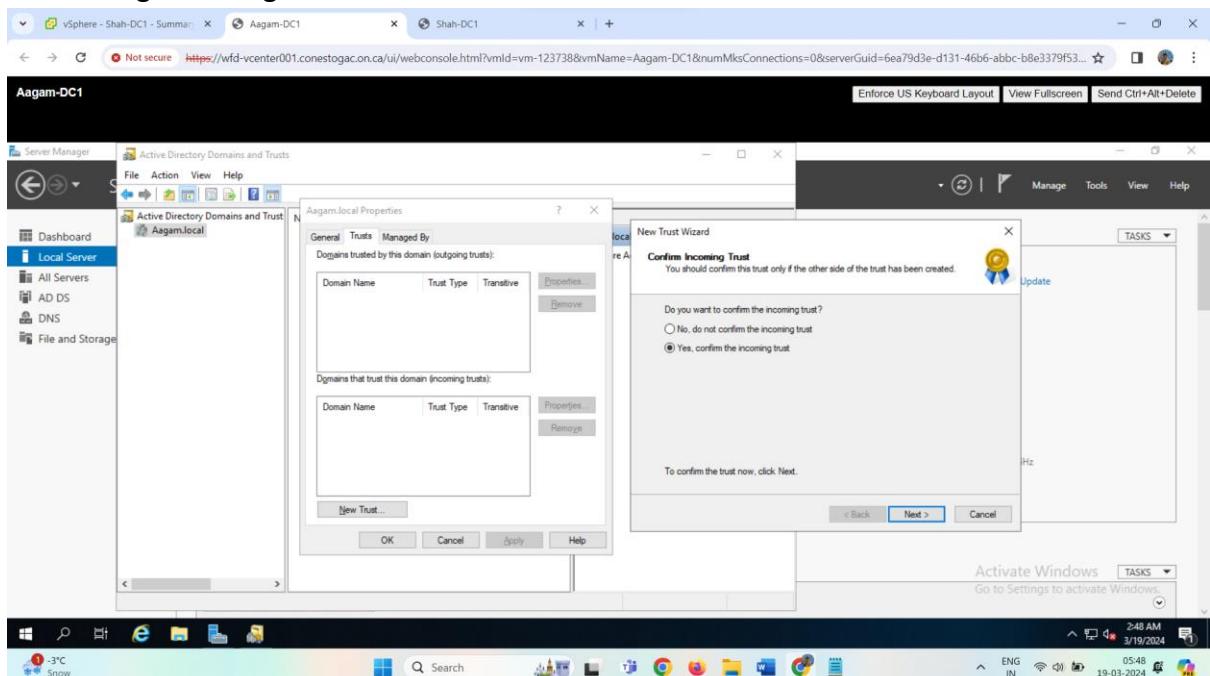
Successfully completing Trust selection options between domains.



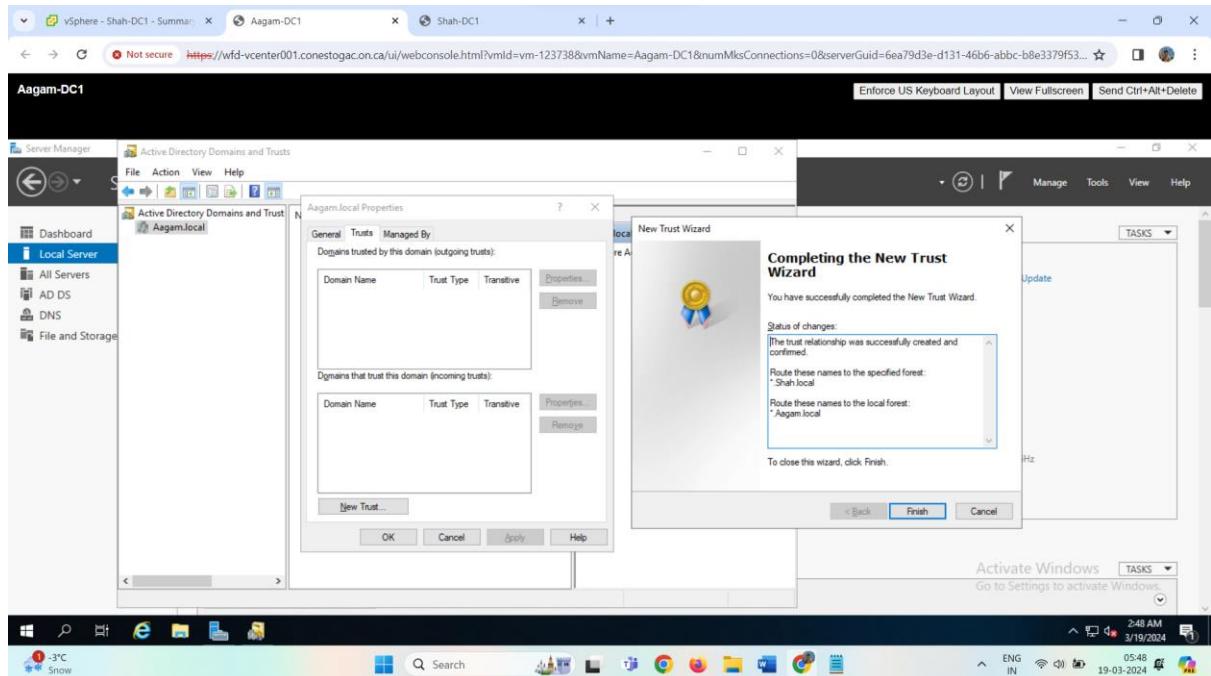
Confirming outgoing trust as Yes



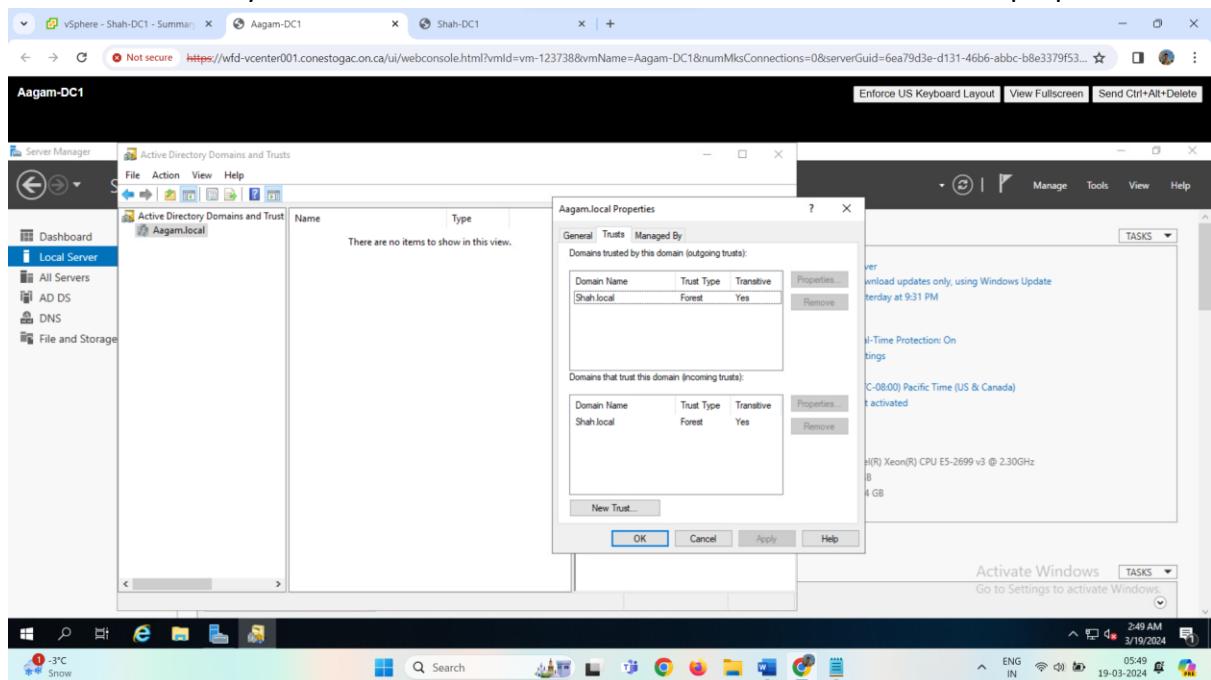
Confirming incoming trust as Yes



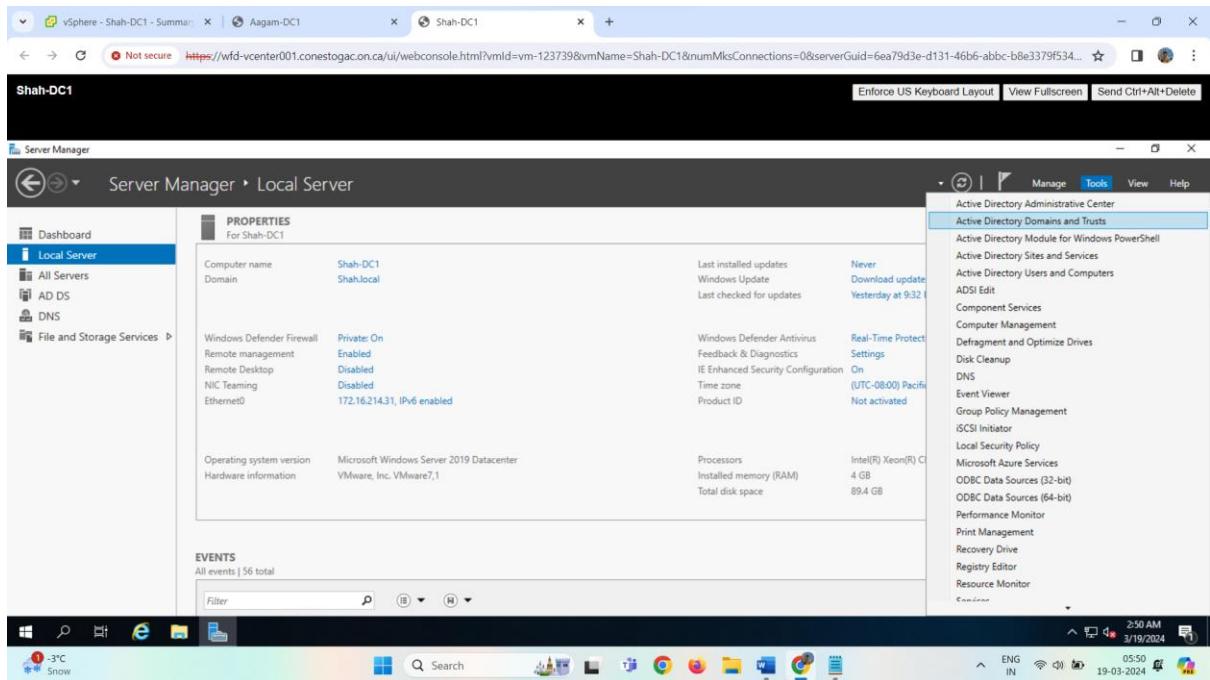
Completing the new trust wizard by selecting finish.



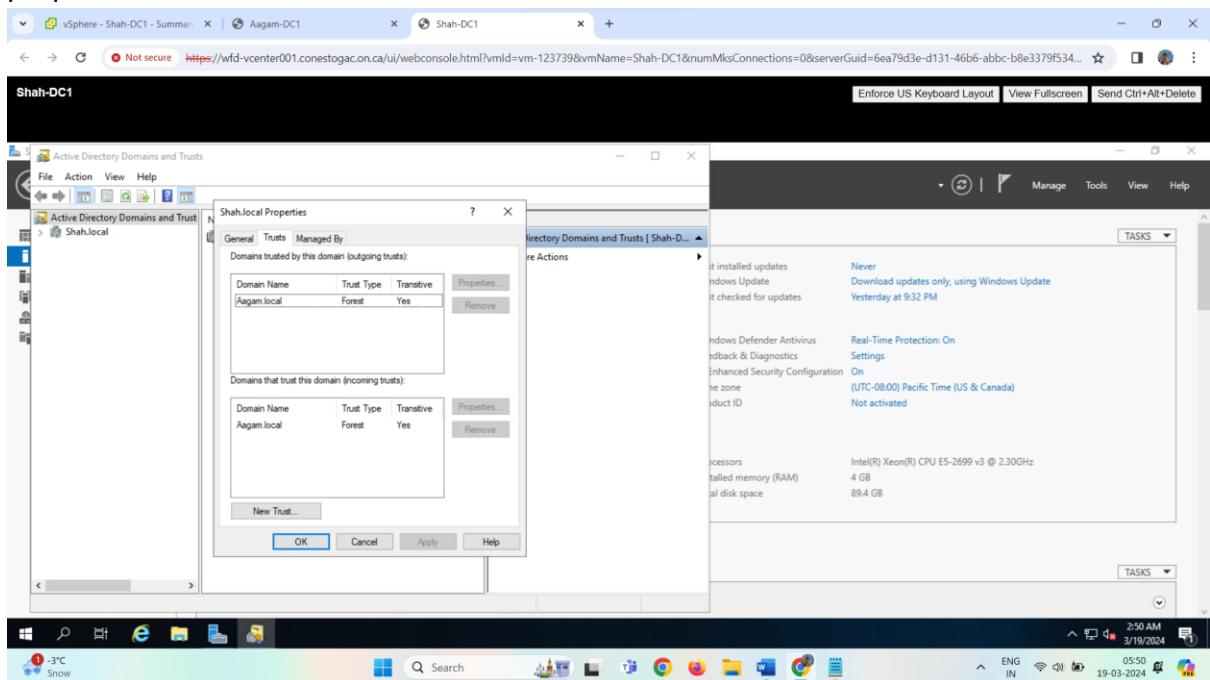
Once trust is built you will be able to see the domain name added to domain properties.



Following the same steps performed in Aagam-DC1 on Shah-DC1 to check trust build.

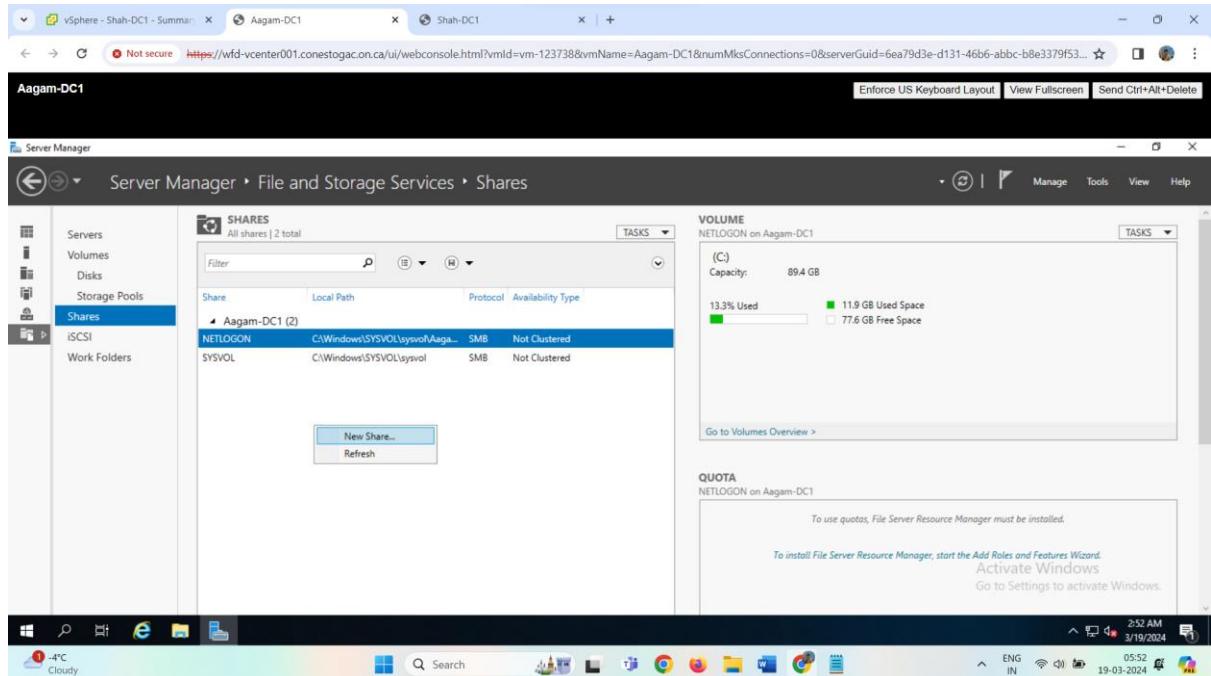


If trust is successfully built it will automatically show the domain name in the domain properties

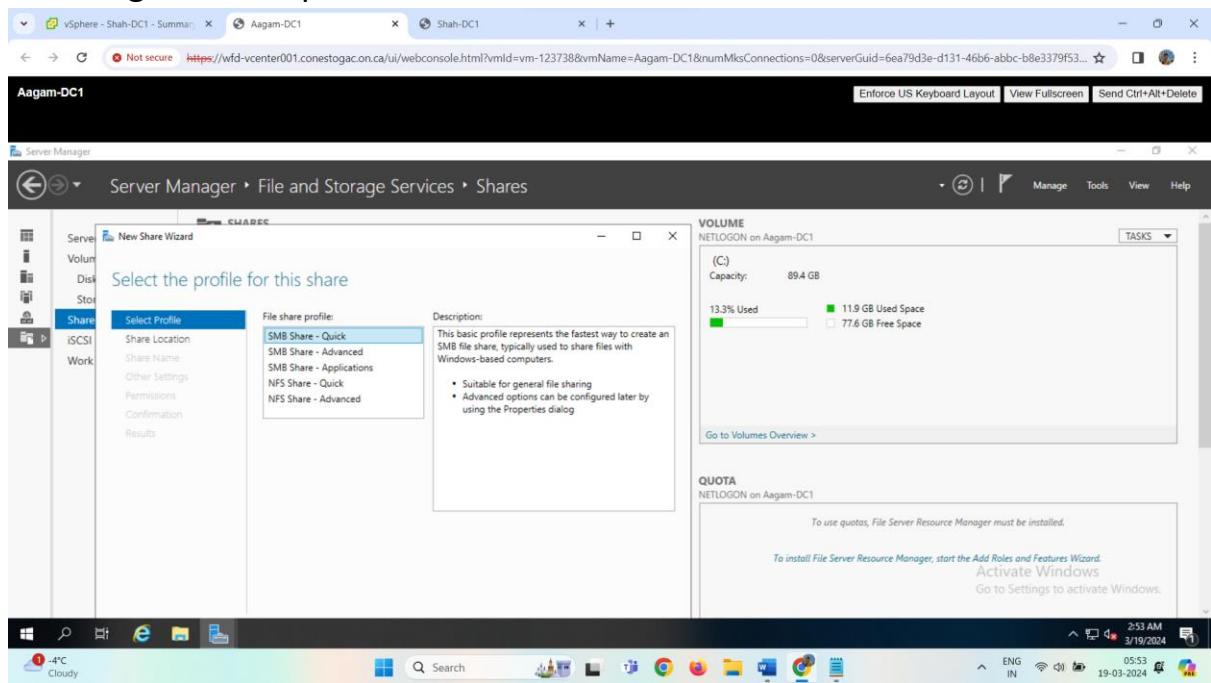


- 3) Show the two-way trust is working by adding a user to a share located on the opposite domain. Example being a share called “Files” on **Firstname-DC1**. Assign modify permissions to administrator@lastname.local.

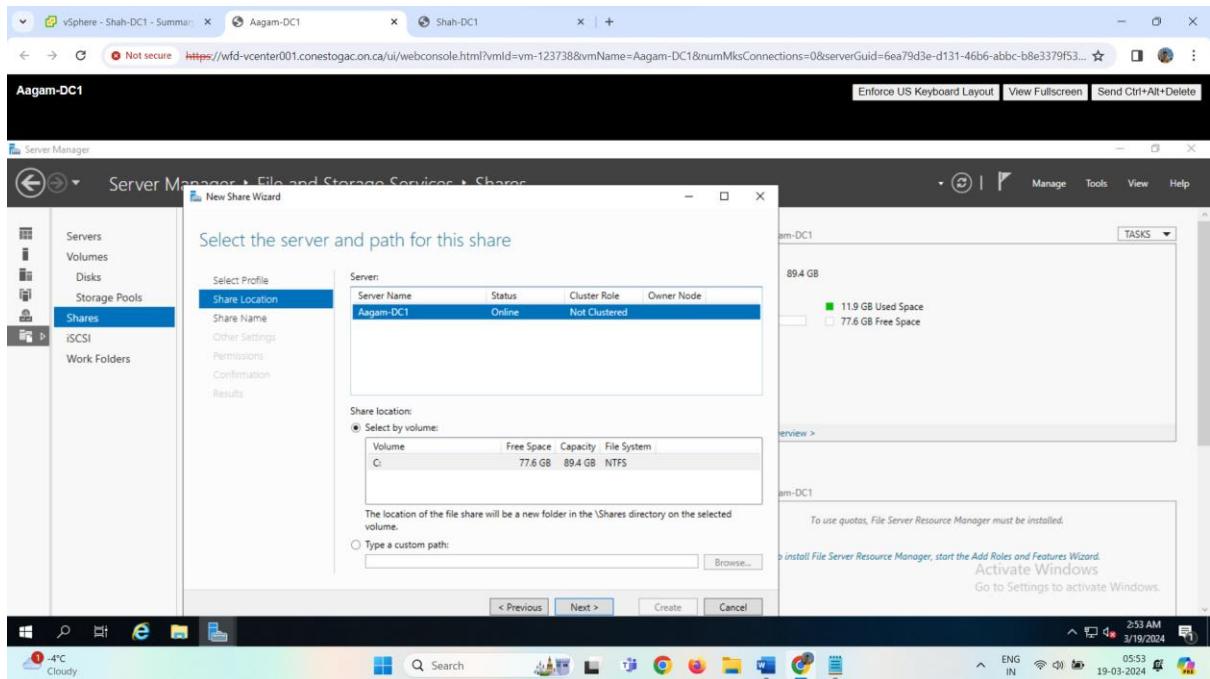
Creating a new share in Aagam-Shah which will be accessible from other domains on which trust is built i.e. Shah.local domain should be able to access.



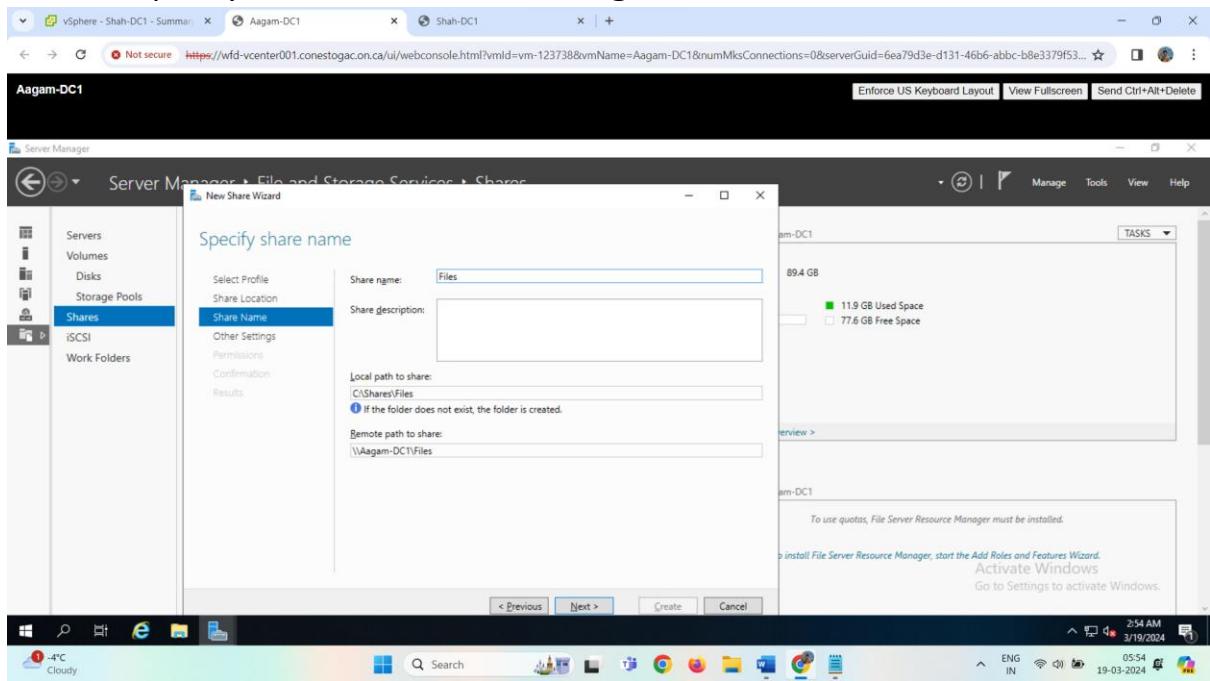
Selecting file share profile as SMB Share-Quick



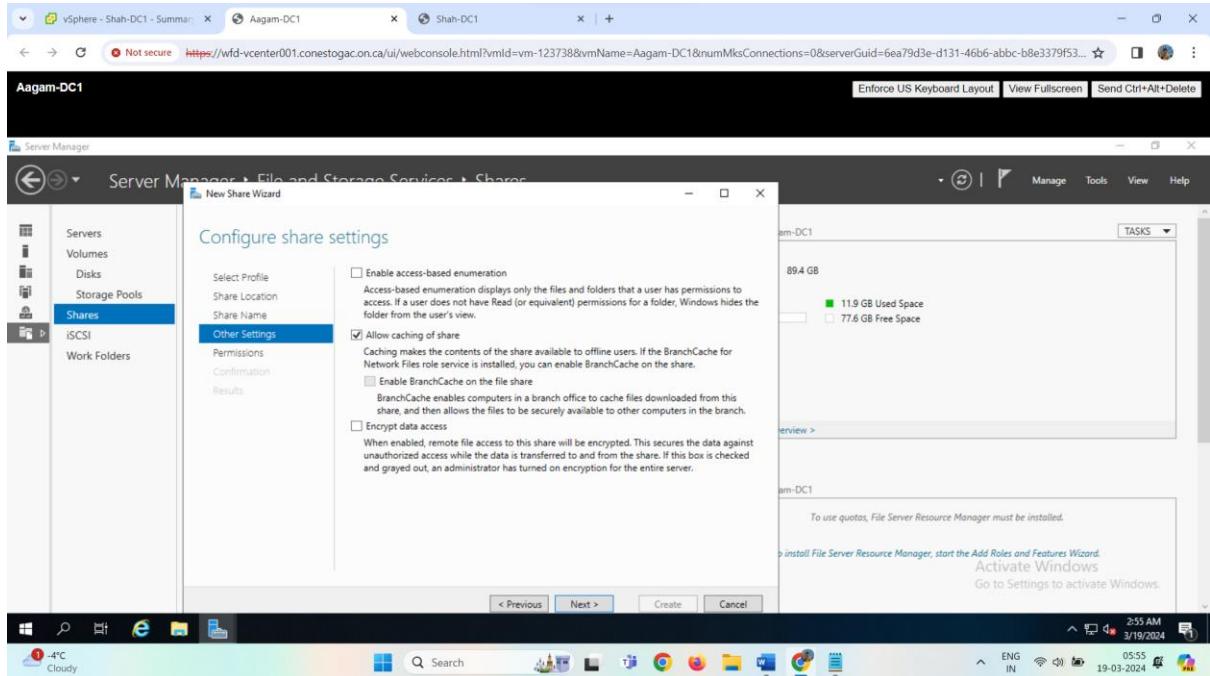
Selecting the server and path for this share.



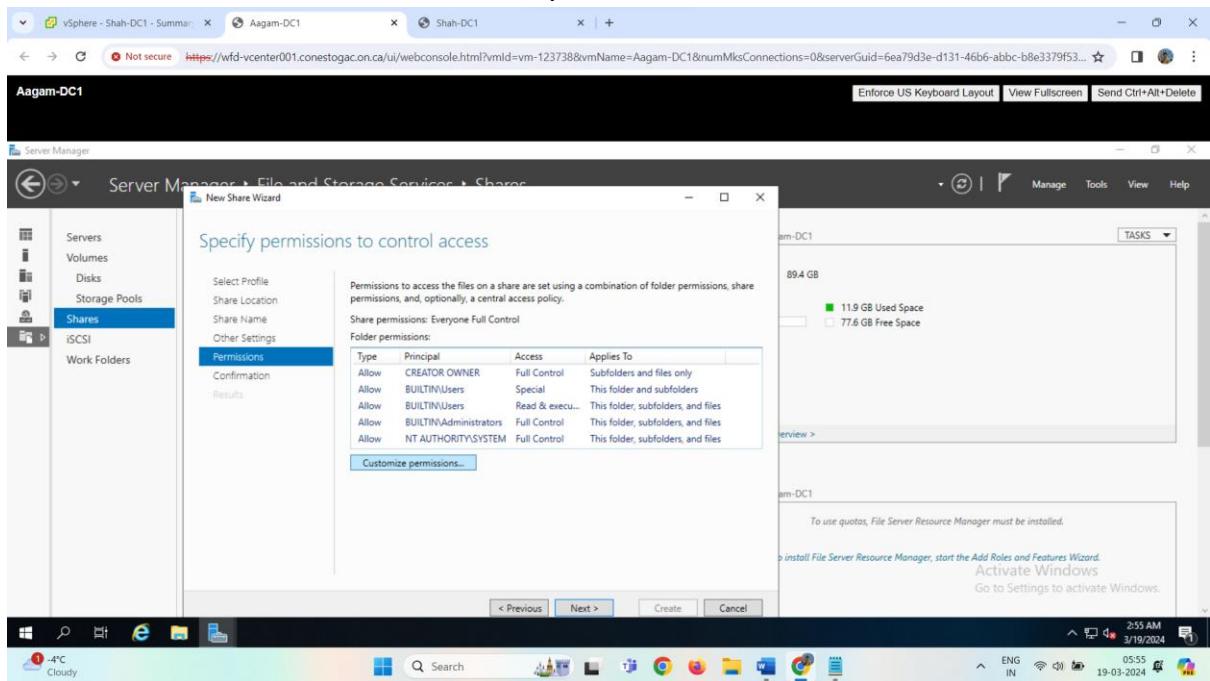
Need to specify the share name as \\Aagam-DC1\Files



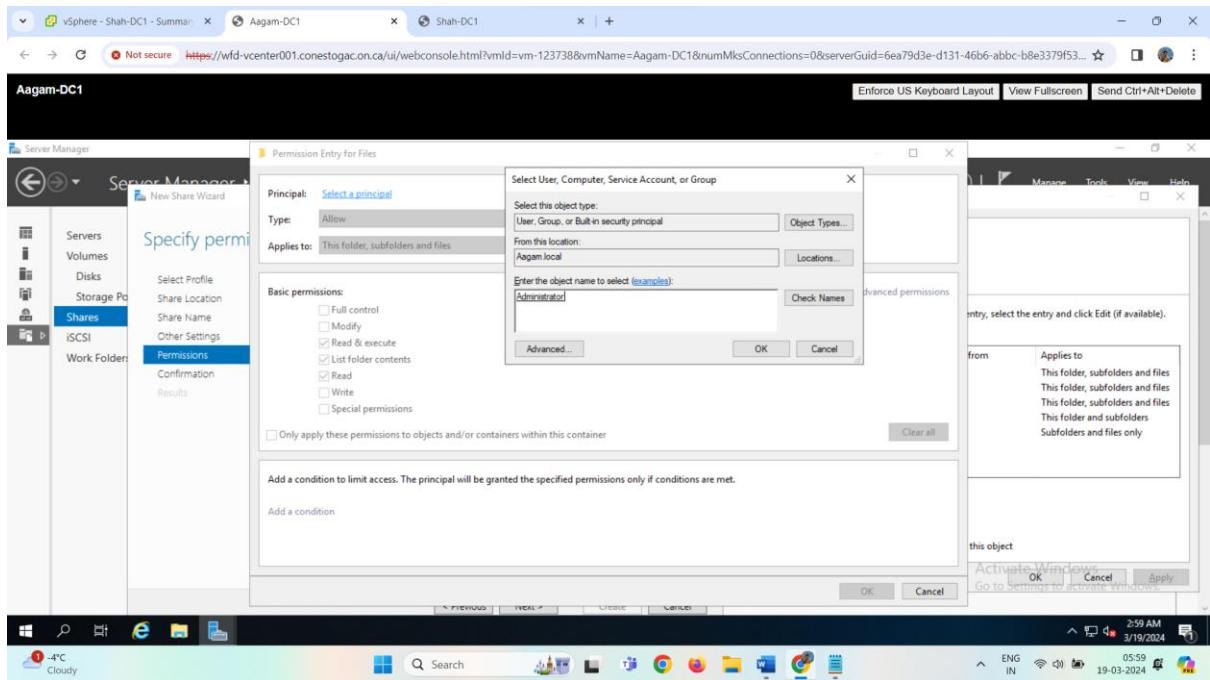
Configuring share settings to allow caching of share.



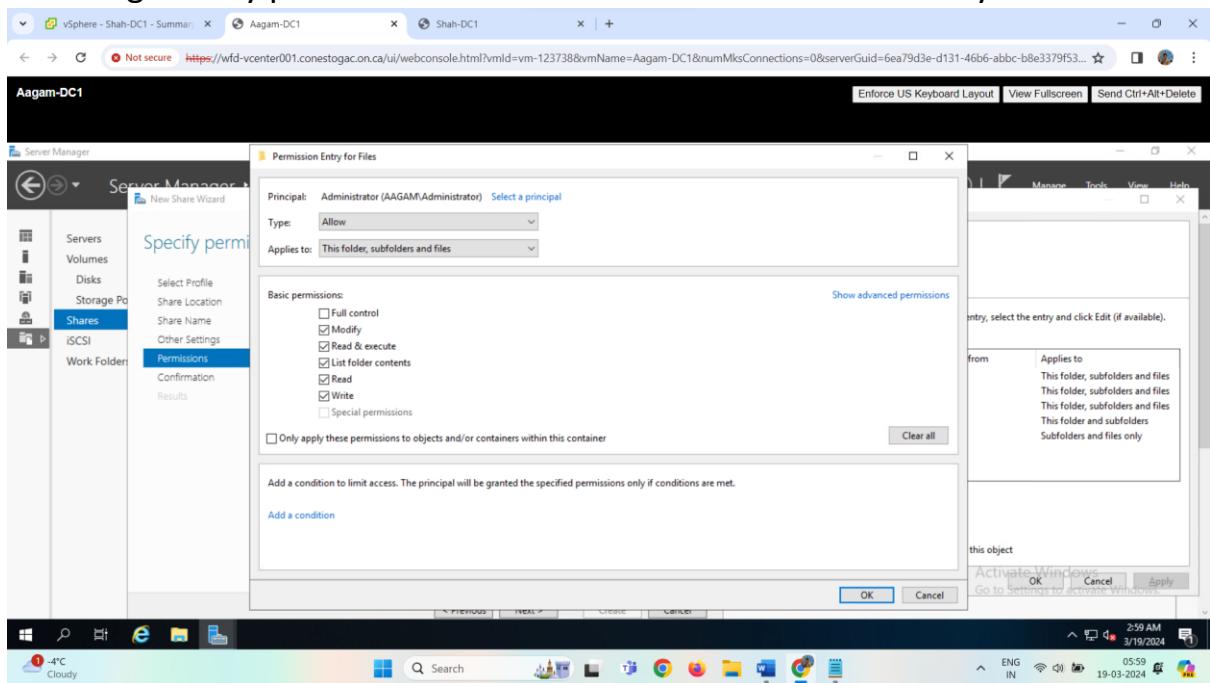
To add a user to need to customize permissions



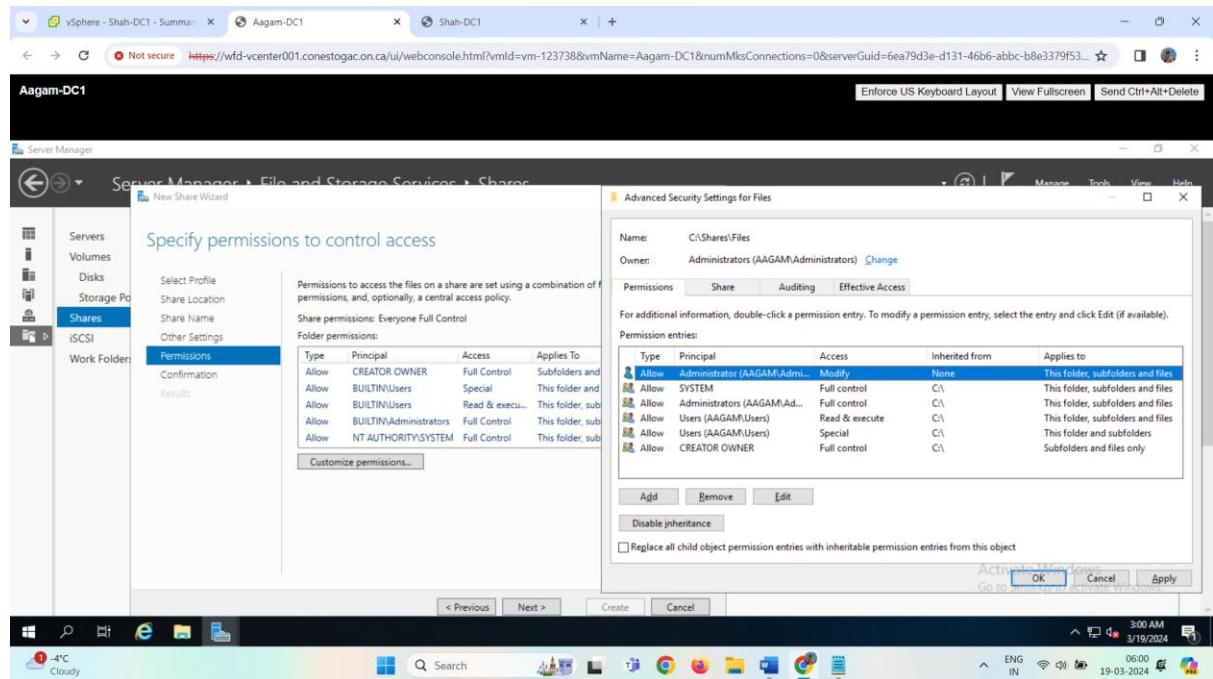
Adding user as Administrator in Permission entry for newly created file share to access “Files”



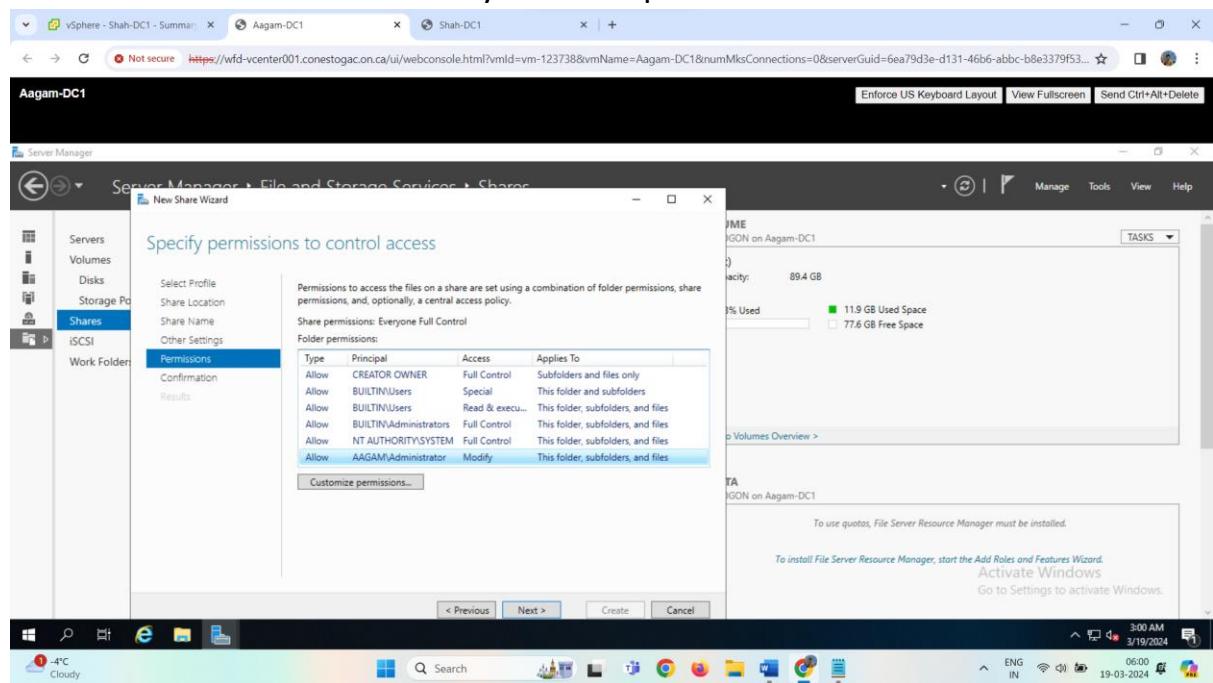
Selecting Modify permission to allow users with access to modify.



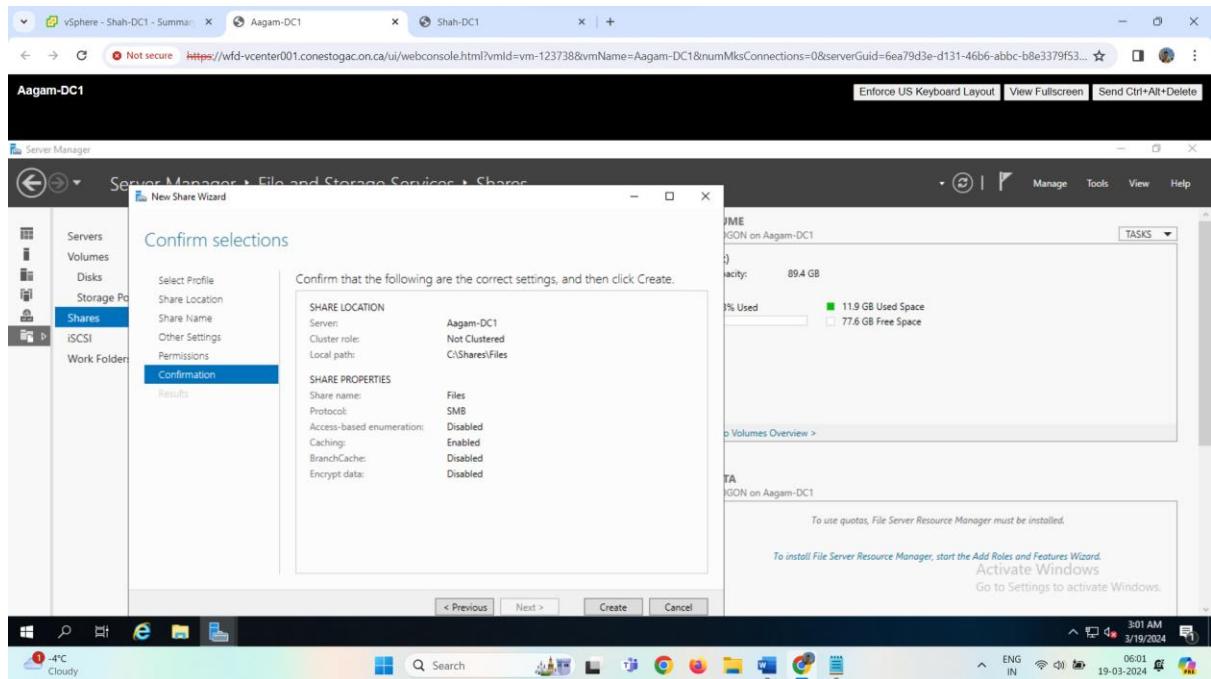
Successfully customizing permissions and allowing modify access to user.



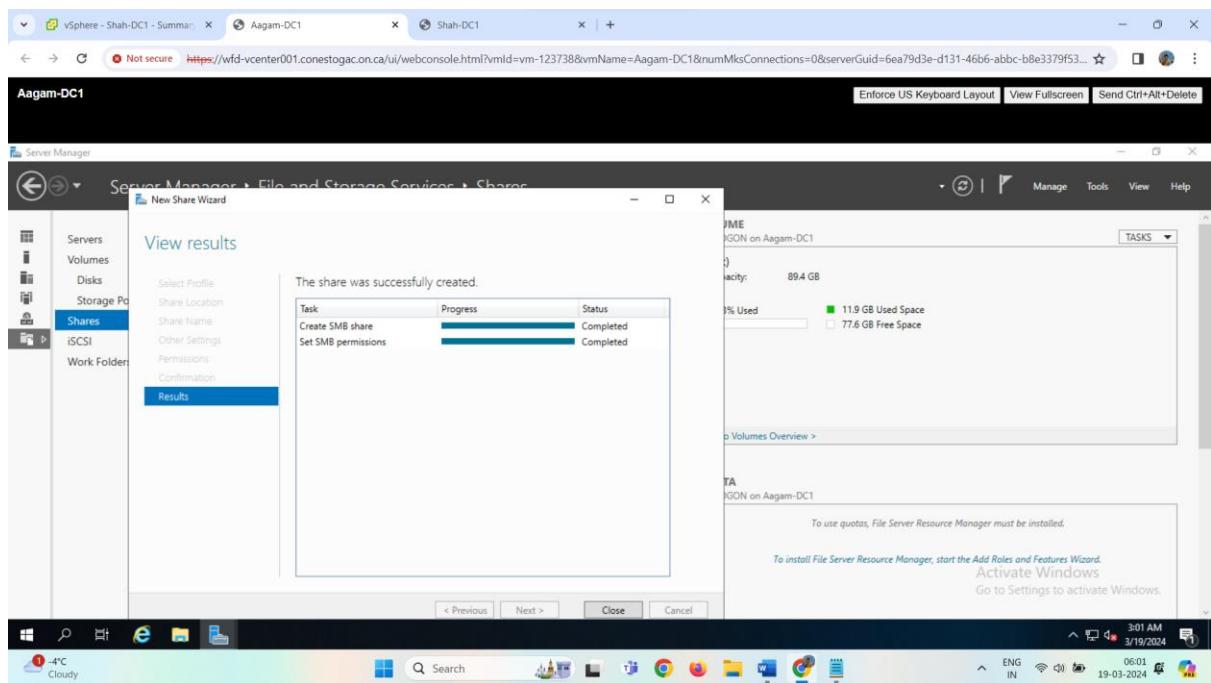
Below screenshot shows modify access is provided to the user "Administrator"



Confirming selections for a newly created file share.



The final result of created file share.



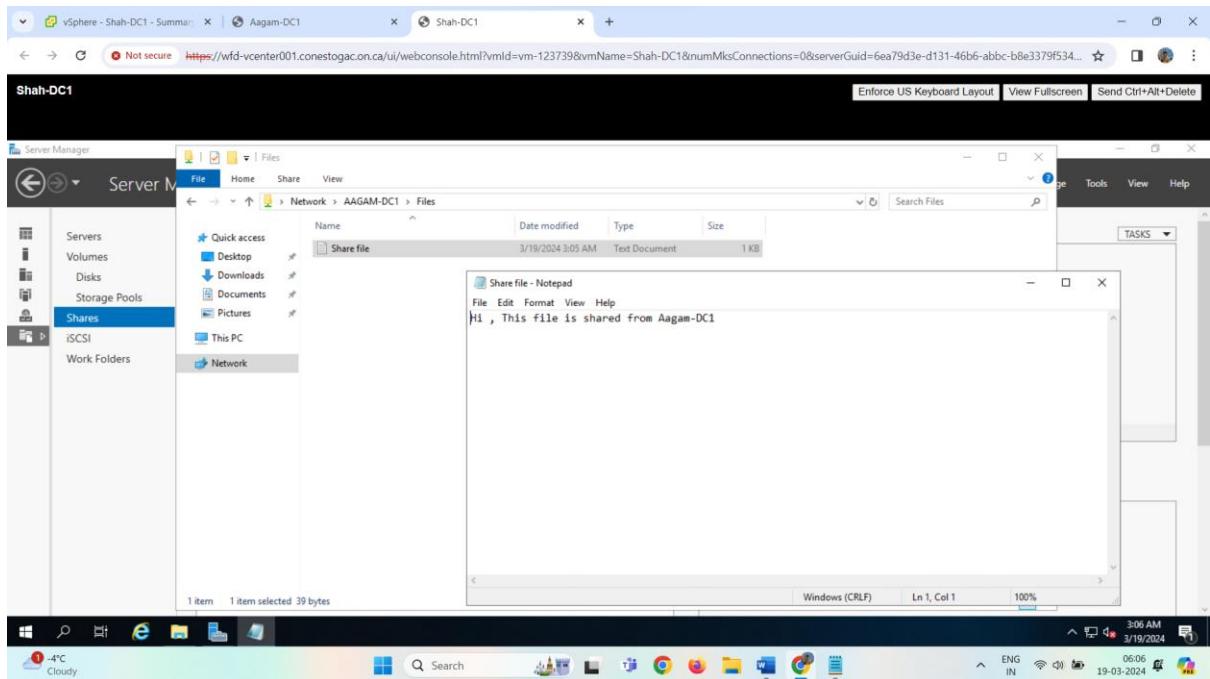
In the Shares section, it will show the new file share created.

The screenshot shows the Windows Server 2024 File and Storage Services interface. The 'Shares' tab is active, displaying three shares: NETLOGON, SYSVOL, and Files. The 'VOLUME' section shows the C: drive with 89.4 GB capacity, 13.3% used, and 77.6 GB free space. The 'QUOTA' section indicates that File Server Resource Manager must be installed. The taskbar at the bottom shows the date and time as 3/19/2024 06:01 AM.

Checking in the Network from Shah-DC1 can access AAGAM-DC1

The screenshot shows the Windows Server 2024 Network interface. The 'Network' tab is active, displaying a list of computers: AAGAM-DC1, ASHAH-A1, ASHAH-HW10, and SHAH-DC1. The taskbar at the bottom shows the date and time as 3/19/2024 06:03 AM.

Files are accessible by user from Shah-DC1



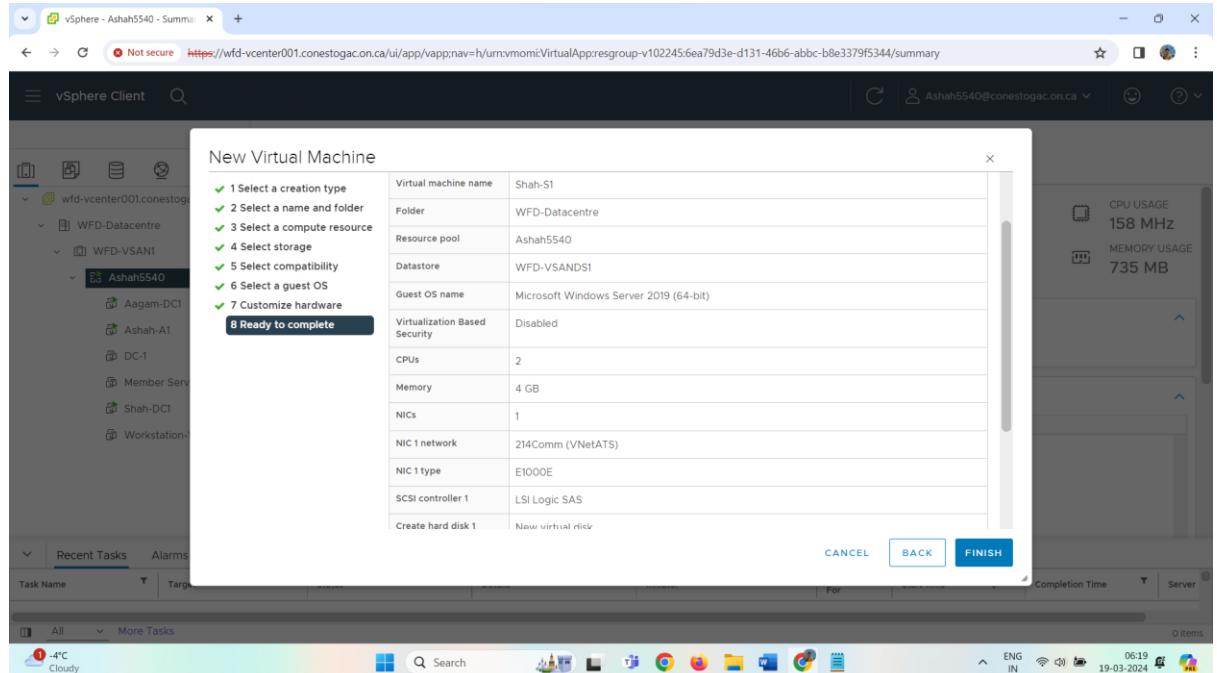
Part 2: NLB (Network Load Balancing)

- 1) Install two Member Servers and add them to your domain Lastname.local. Assigning them static IP addresses from your COM port range. Please use the below names.

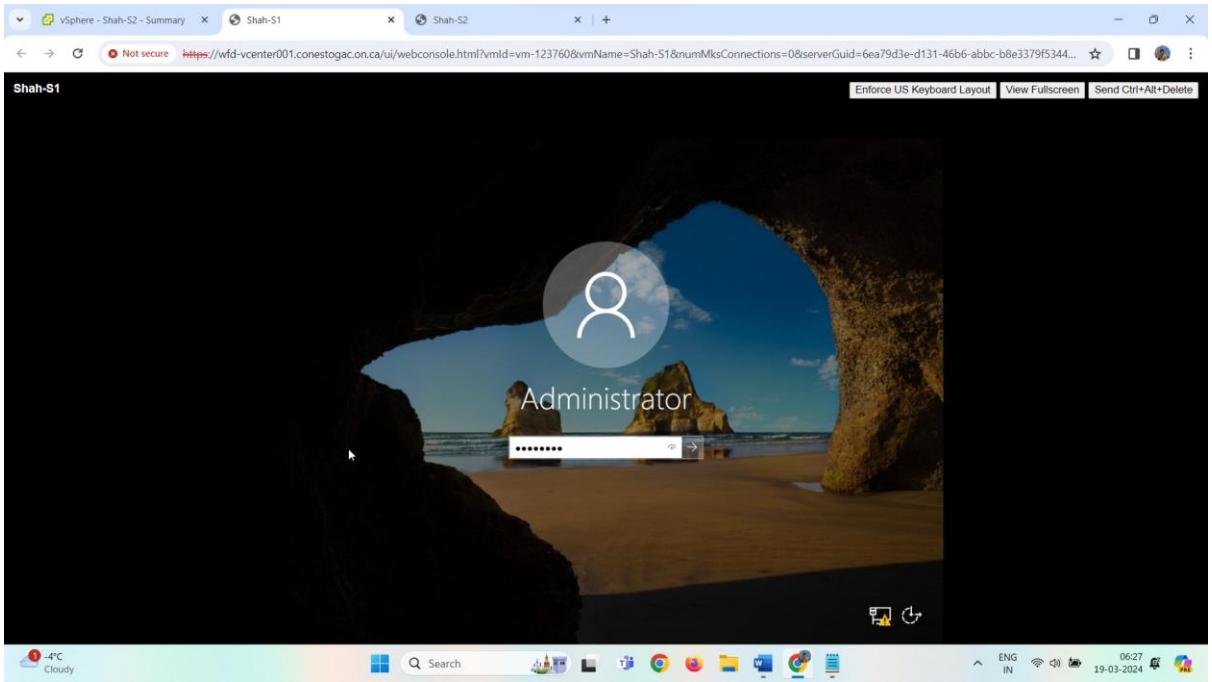
Lastname-S1 → Shah-S1

Lastname-S2 → Shah-S2

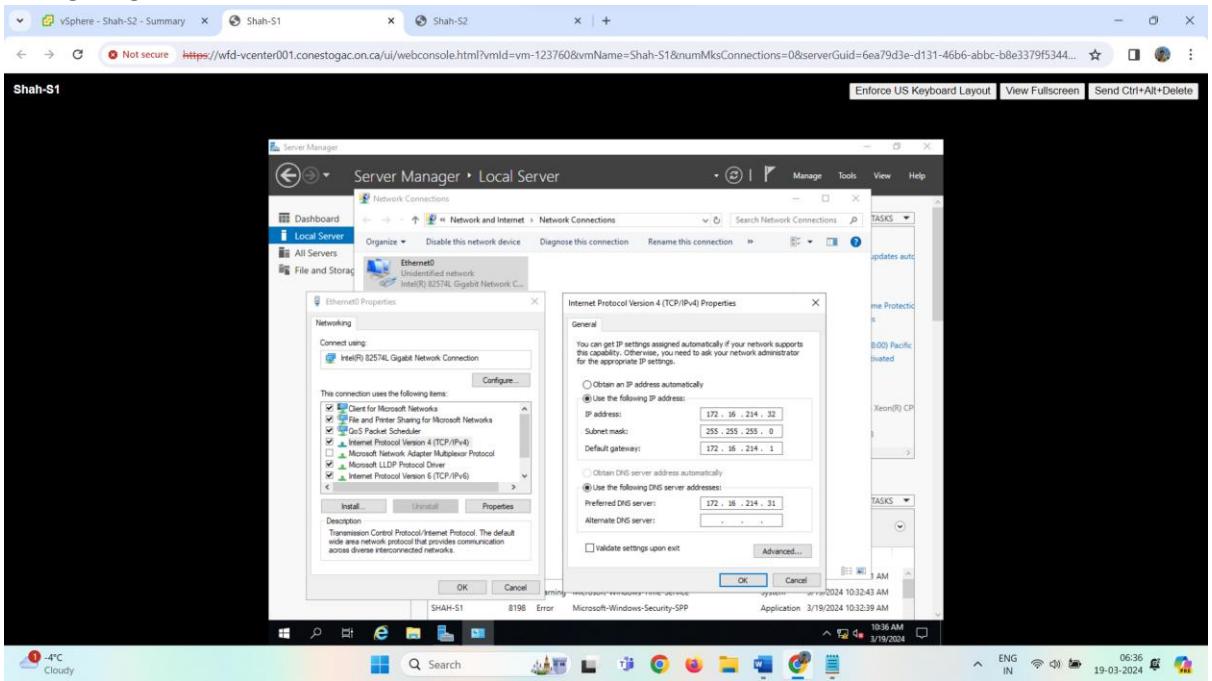
Specification of VM creation for Shah-S1



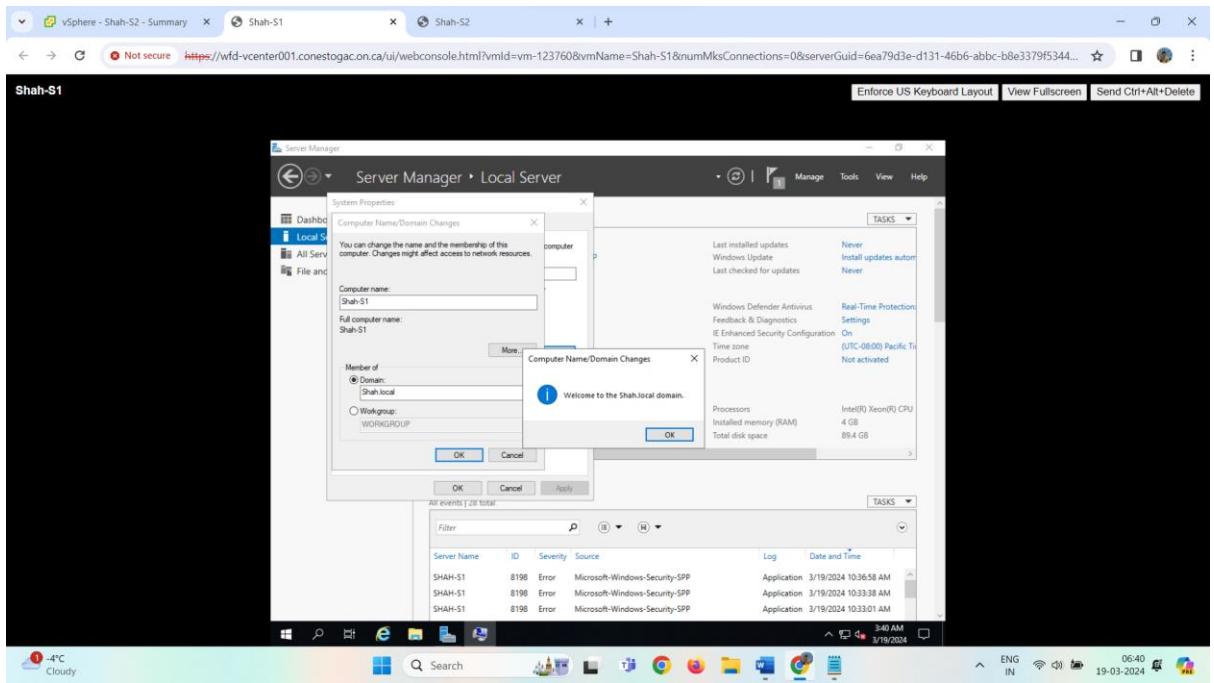
Successfully creating VM and installing Windows server as a member server, password:
Secret55



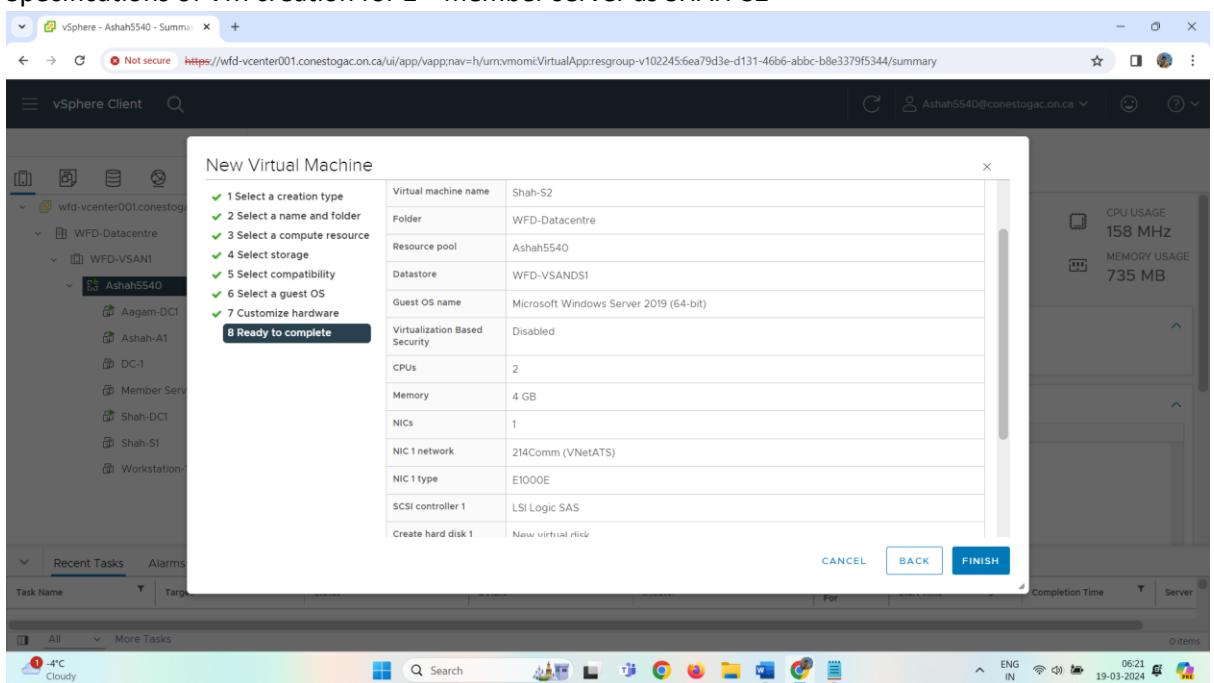
Configuring IP address on member server IP: 172.16.214.32



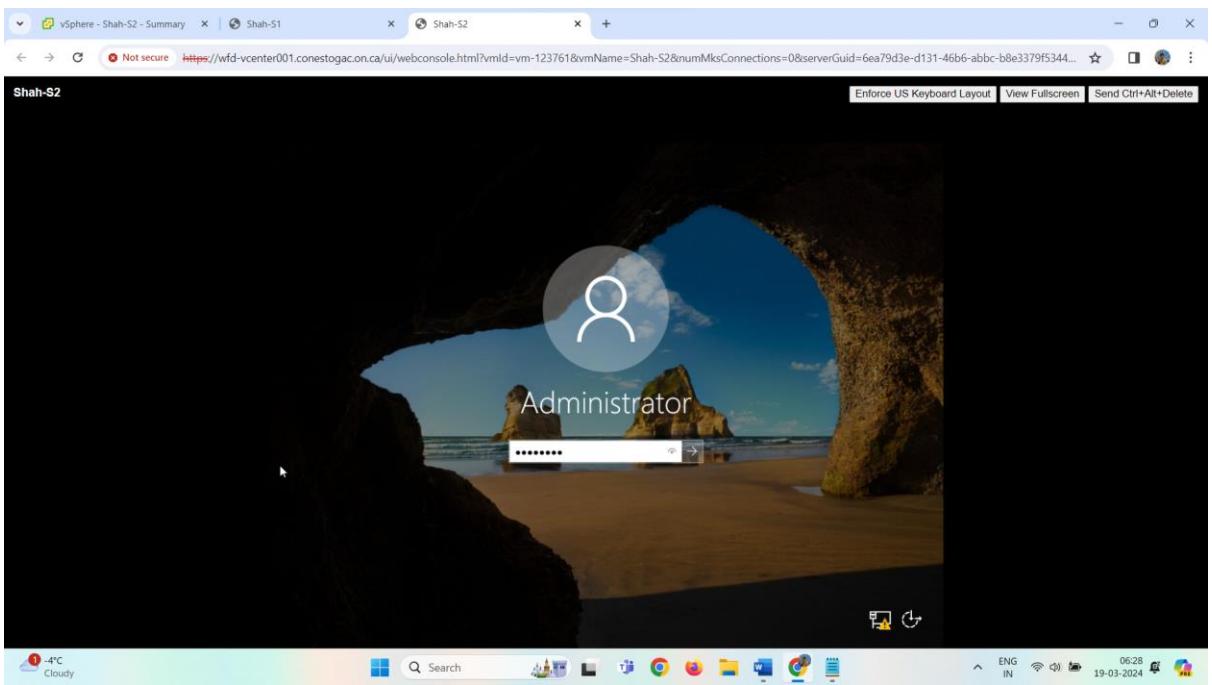
Adding member server Shah-S1 to domain Shah.local



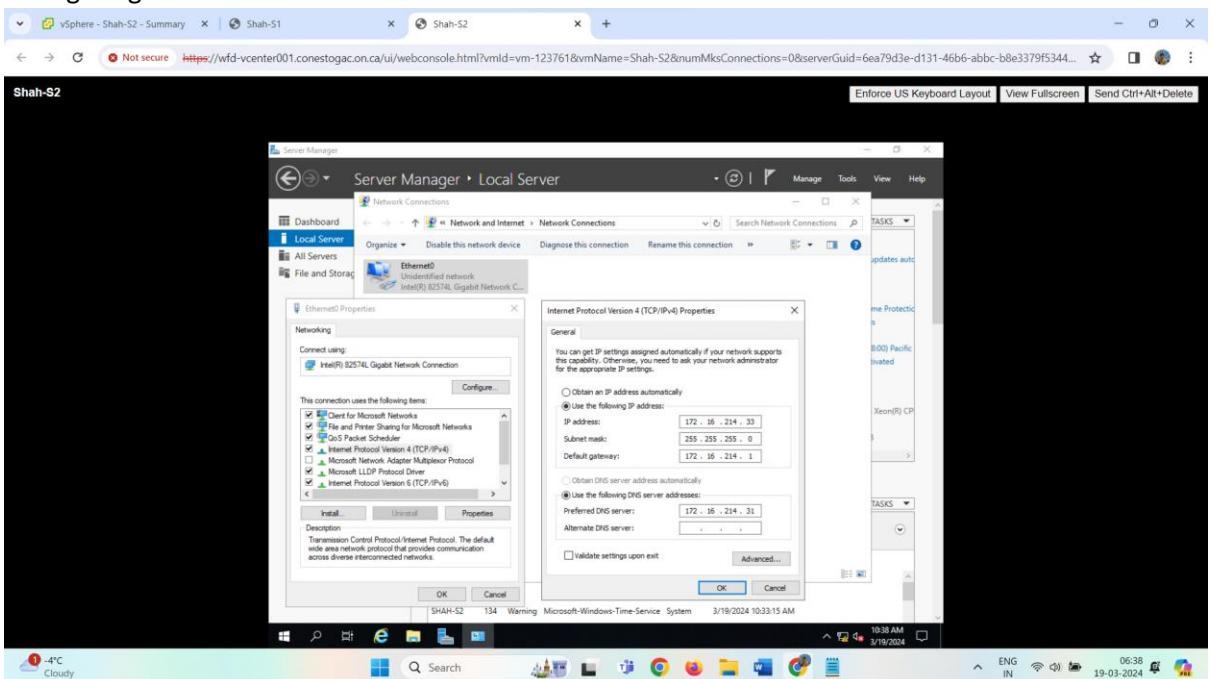
Specifications of VM creation for 2nd member server as SHAH-S2



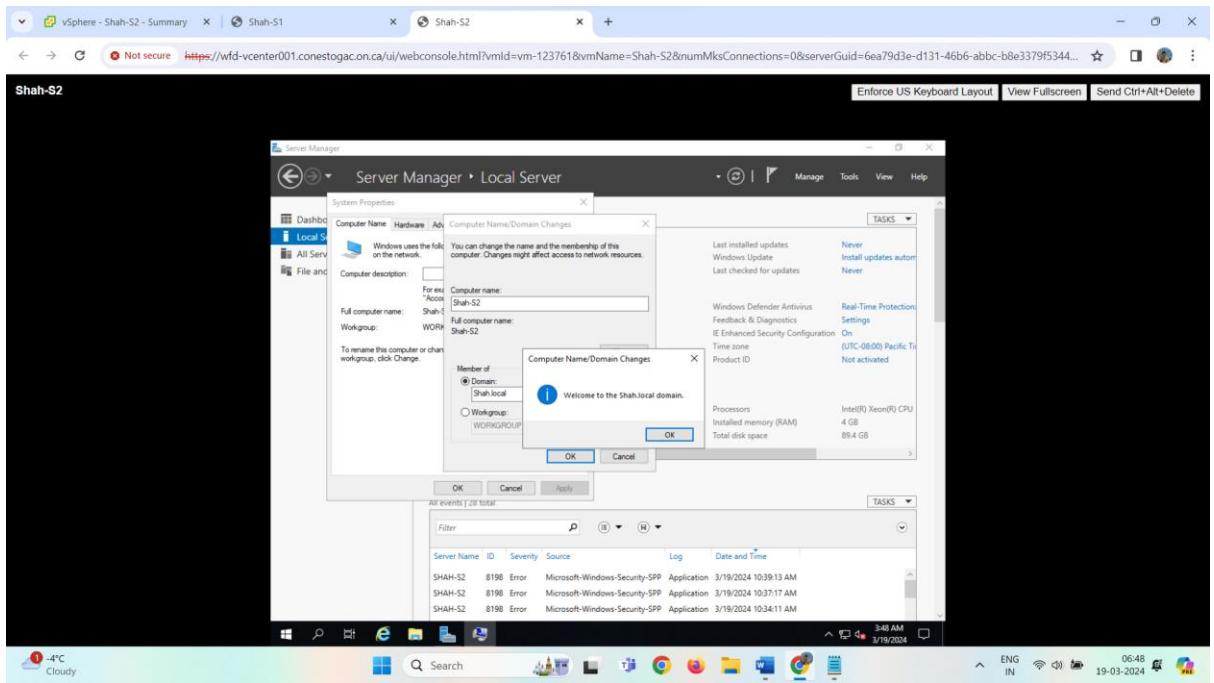
Successfully created VM and installed Windows server for SHAH-S2



Configuring IP details as 172.16.214.33 for SHAH-S2

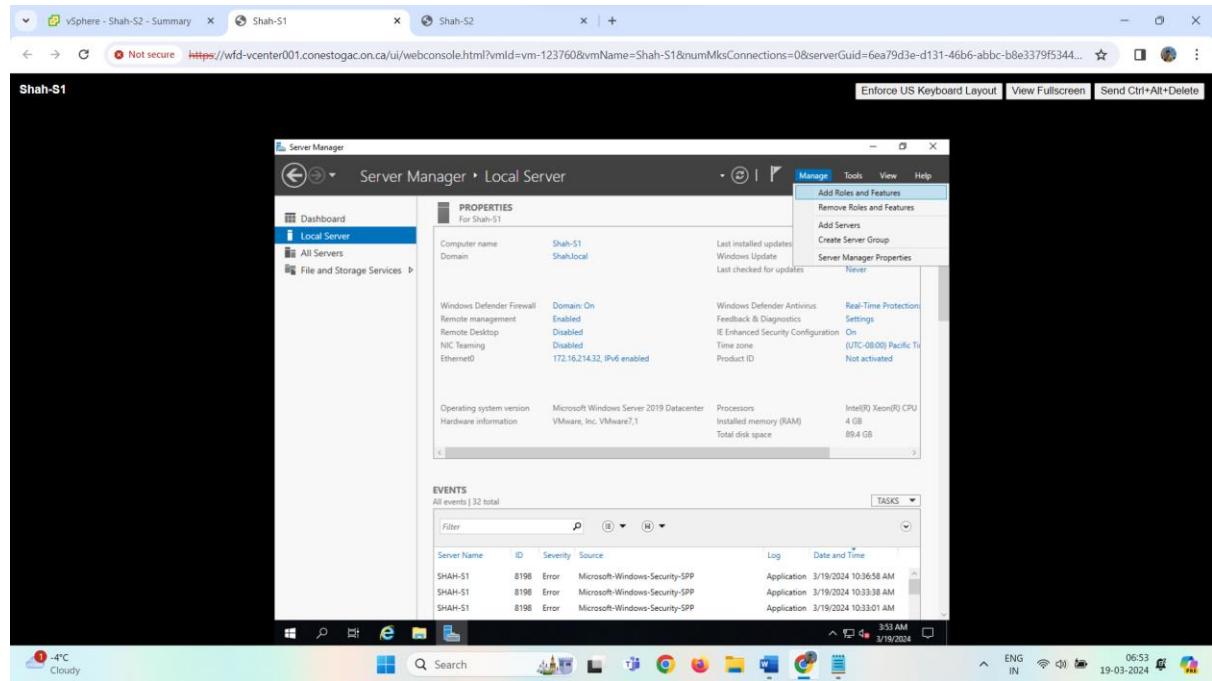


Successfully adding 2nd member server SHAH-S2 to domain Shah.local

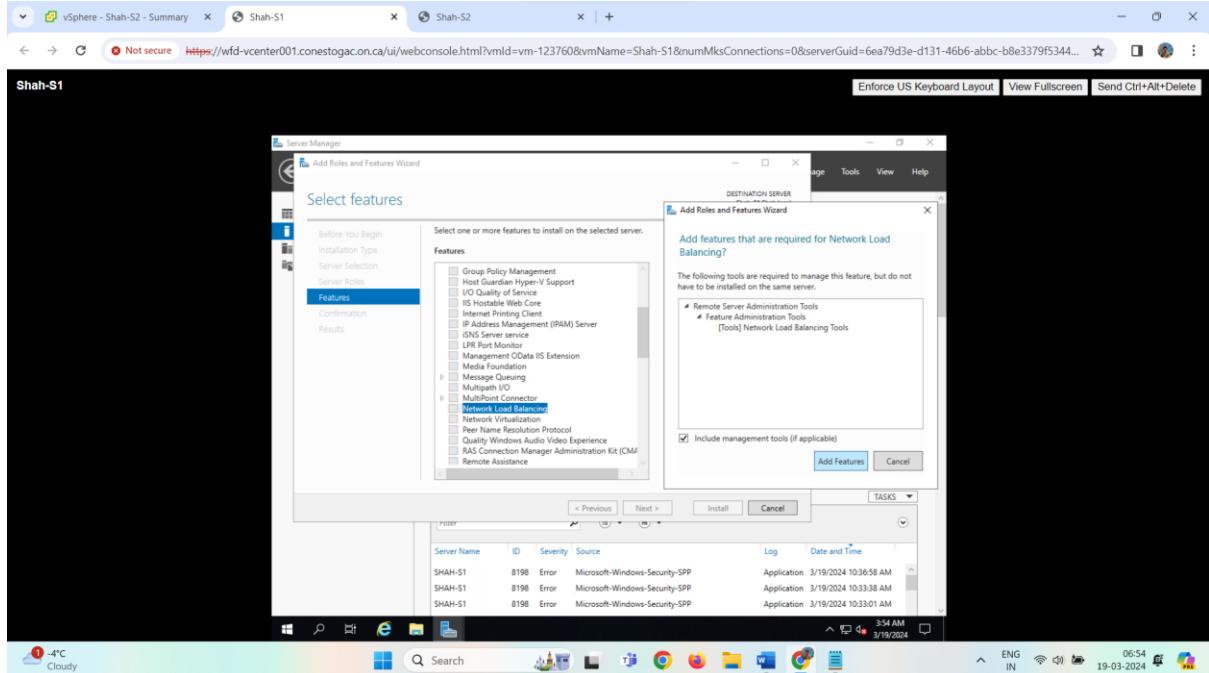


2) Install the NLB Feature on both servers.

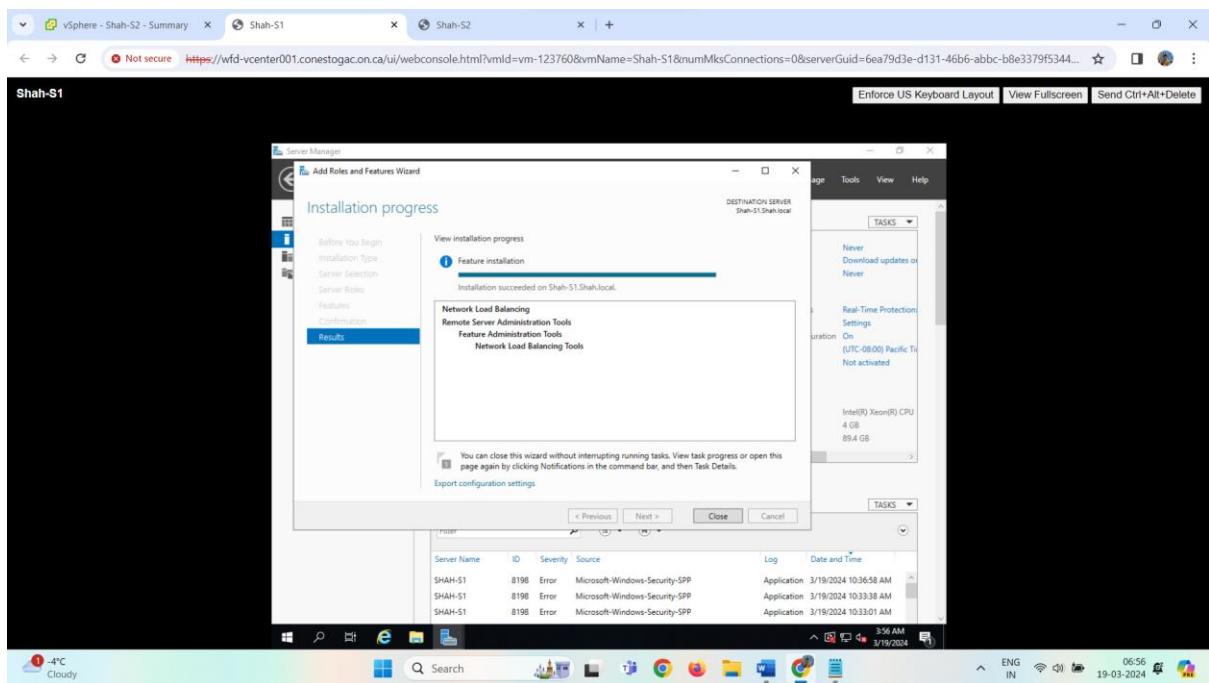
Adding NLB feature from add roles and features



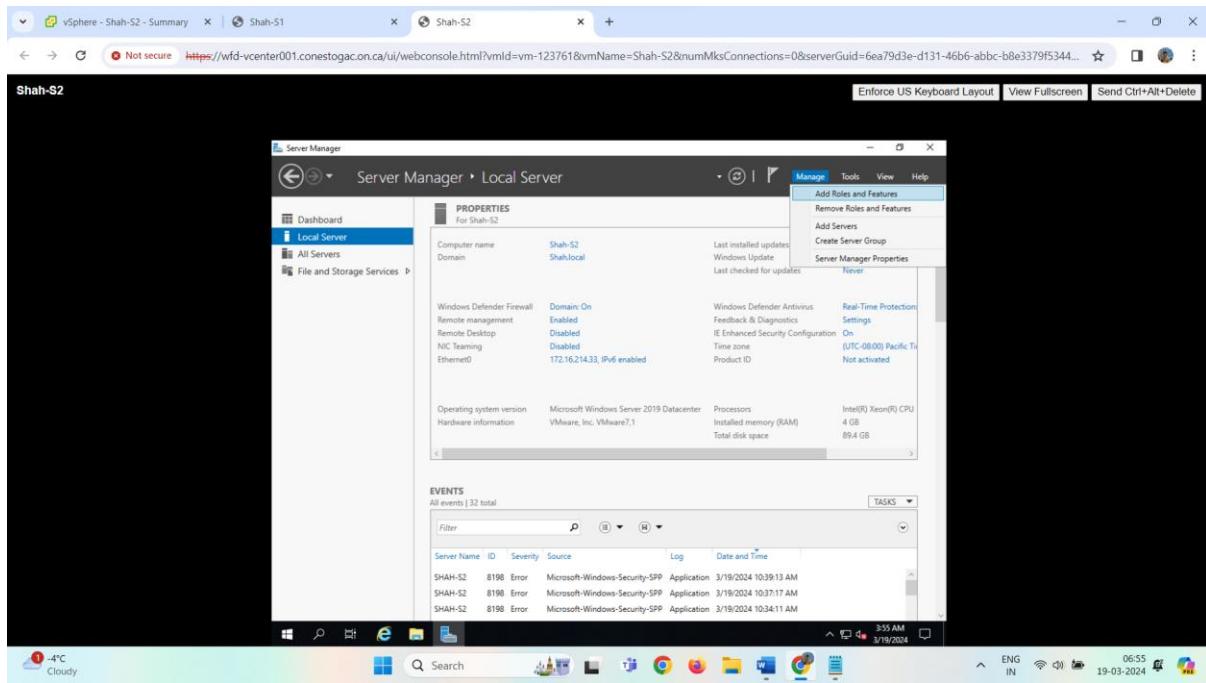
Selecting the feature as Network Load Balancer to add on member server Shah-S1



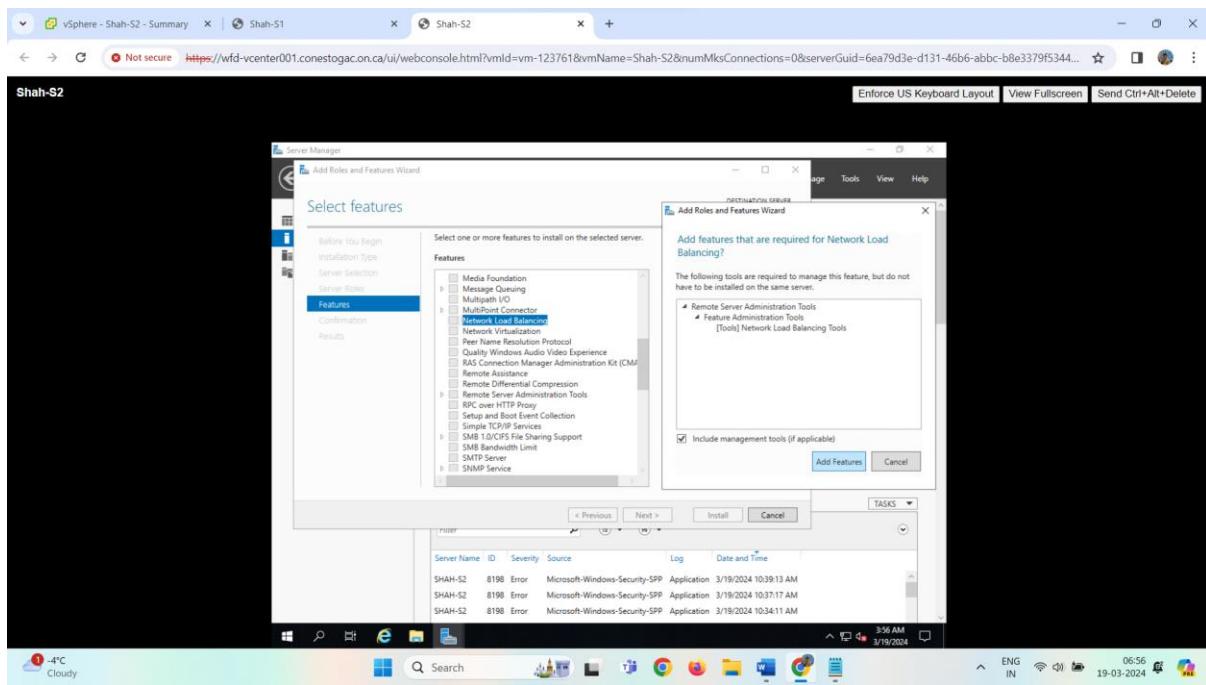
Successful installation of the NLB feature on the member server.



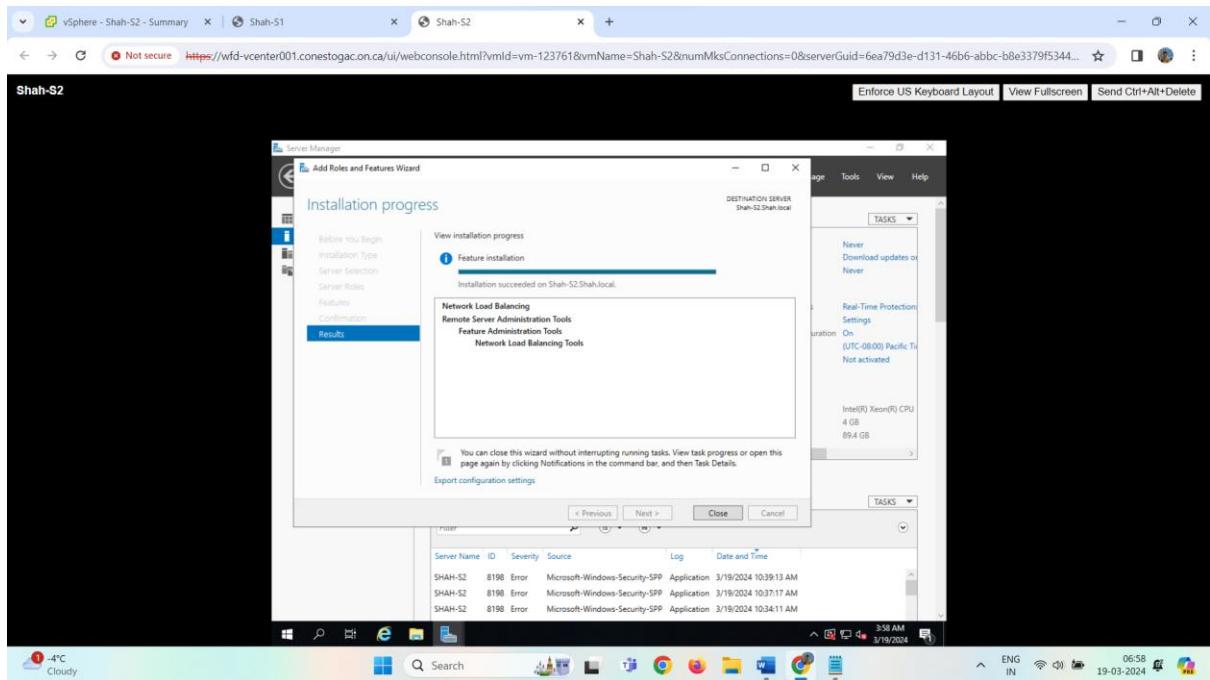
Performing the same steps of adding the NLB feature on SHAH-S2



Selecting Network Load Balancer feature to add on member server Shah-S2

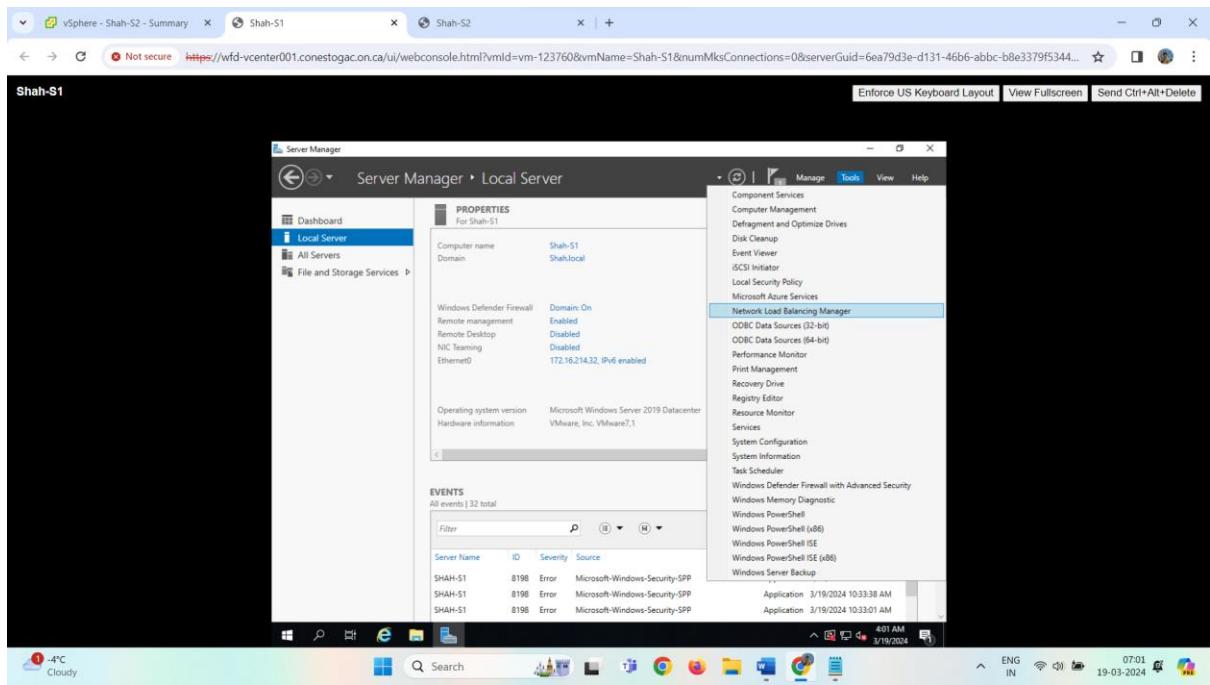


Successful installation of Network Load Balancer feature.

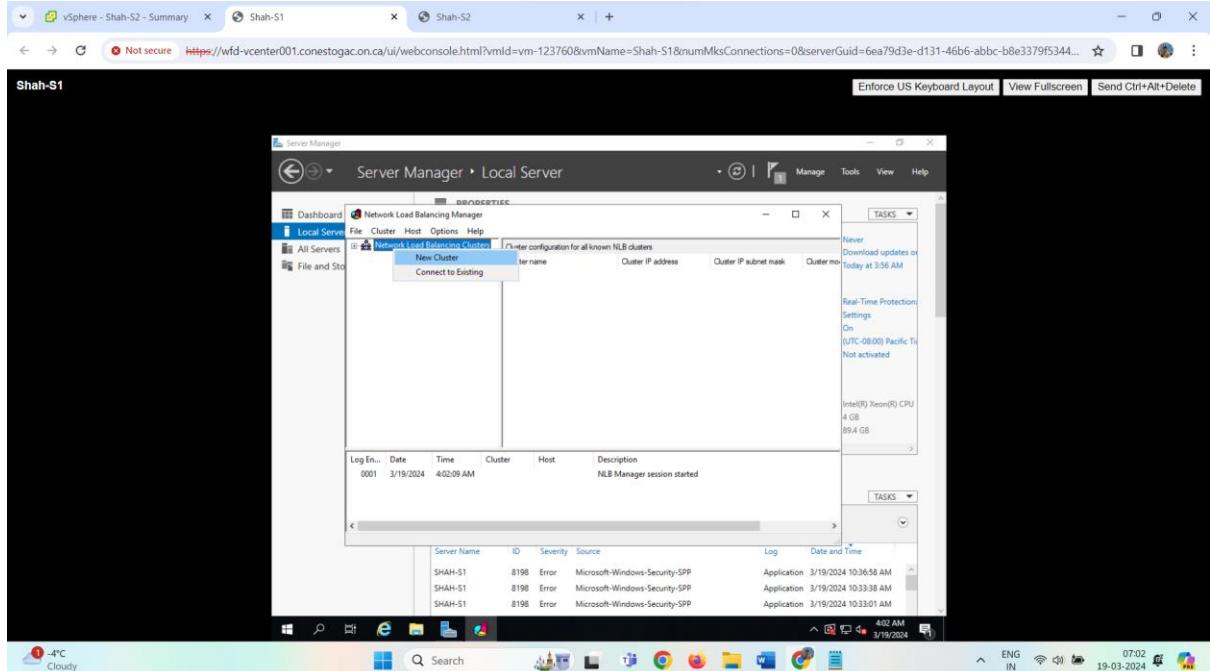


- 3) Create an NLB cluster using **Lastname-S1** assigning a cluster IP address from your com port range. Make sure to set your cluster to **Multicast**.

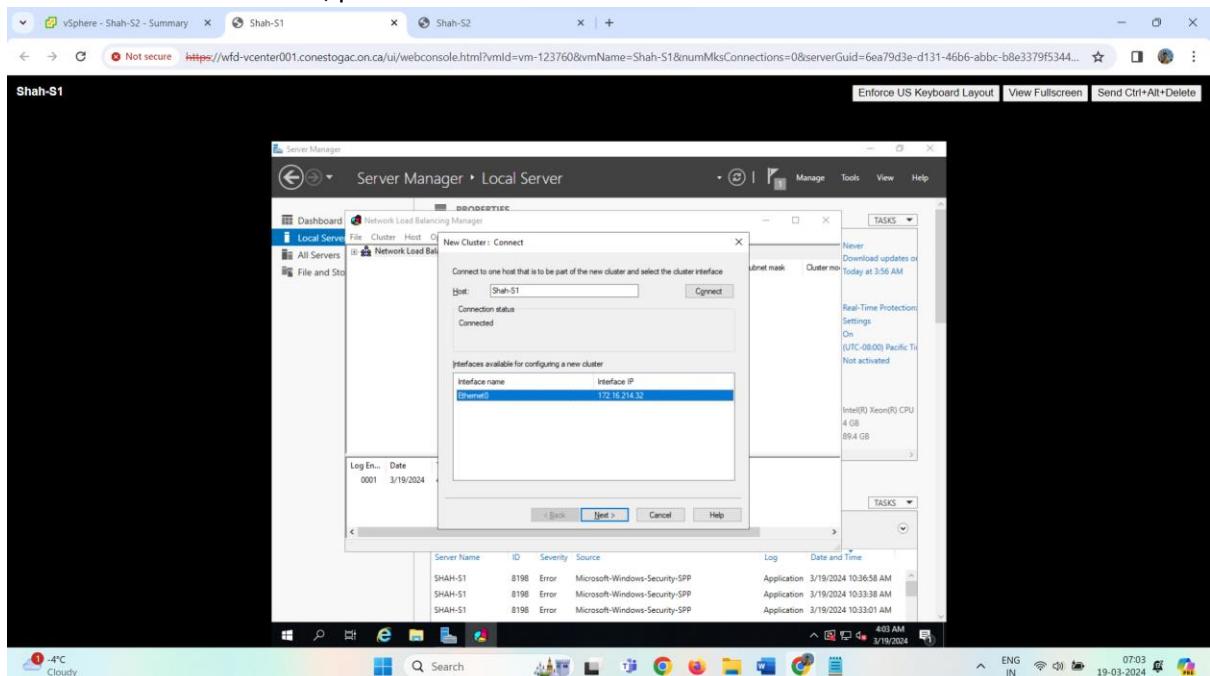
To create a cluster, open Network Load Balancing Manager.



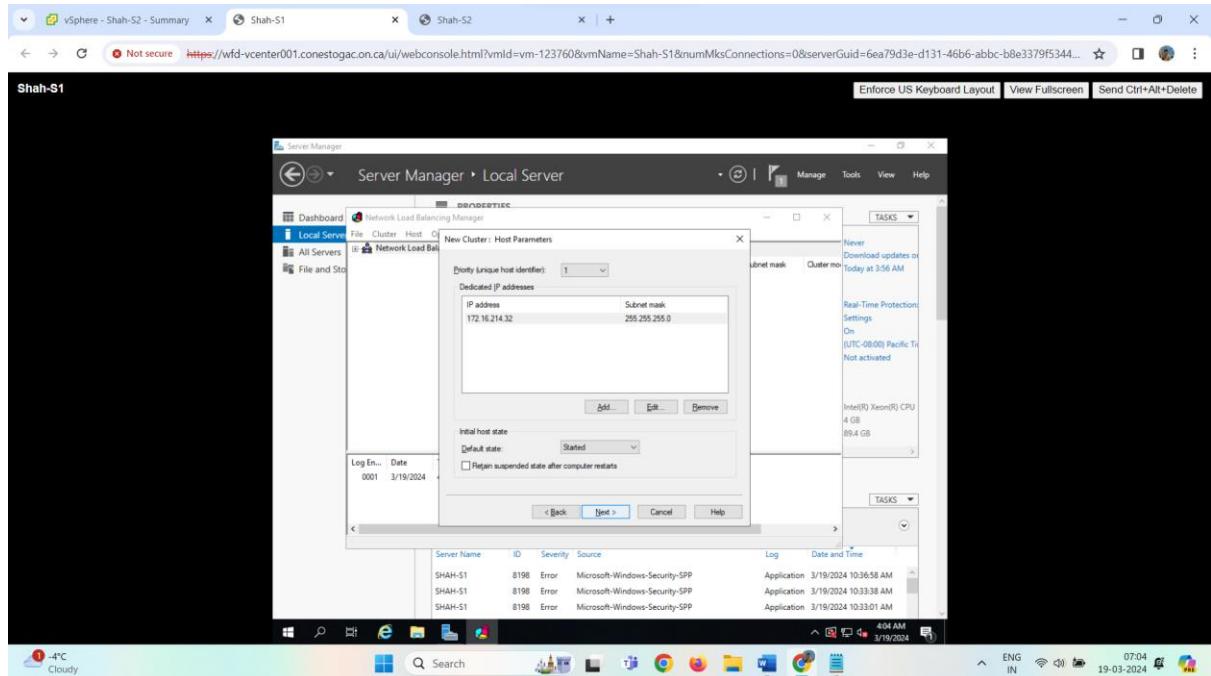
In Network Load Balancing Manager open new cluster.



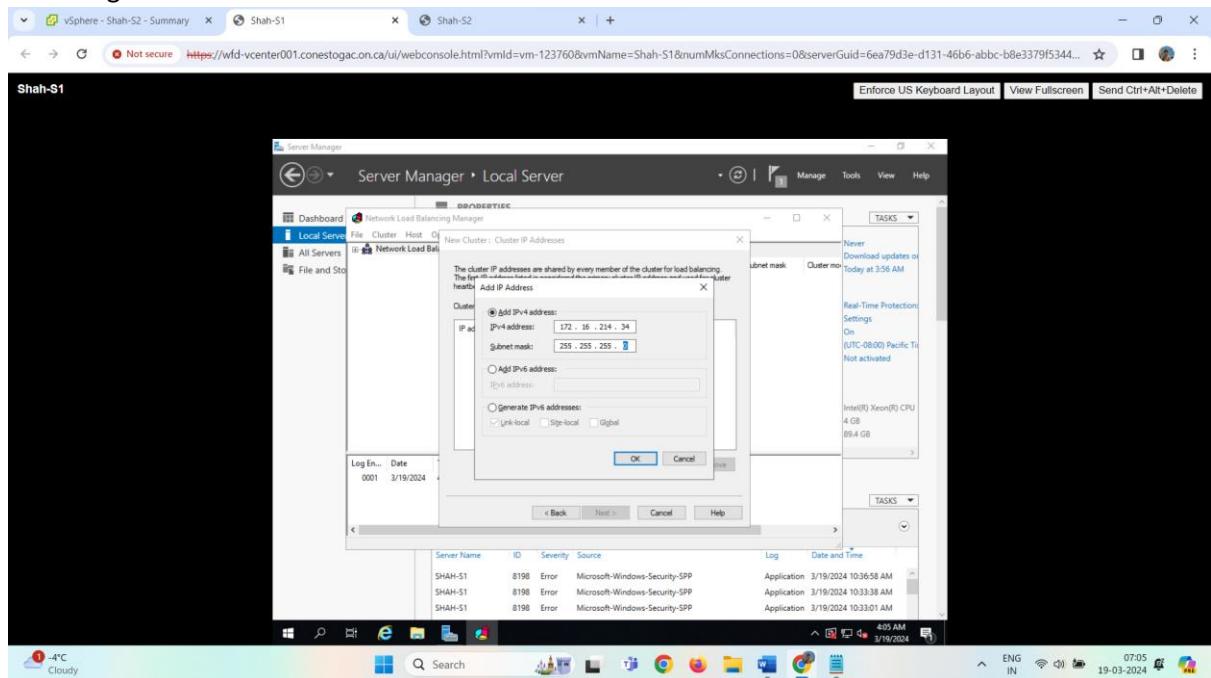
To add hosts to the cluster, provide host name: Shah-S1 and click on next.



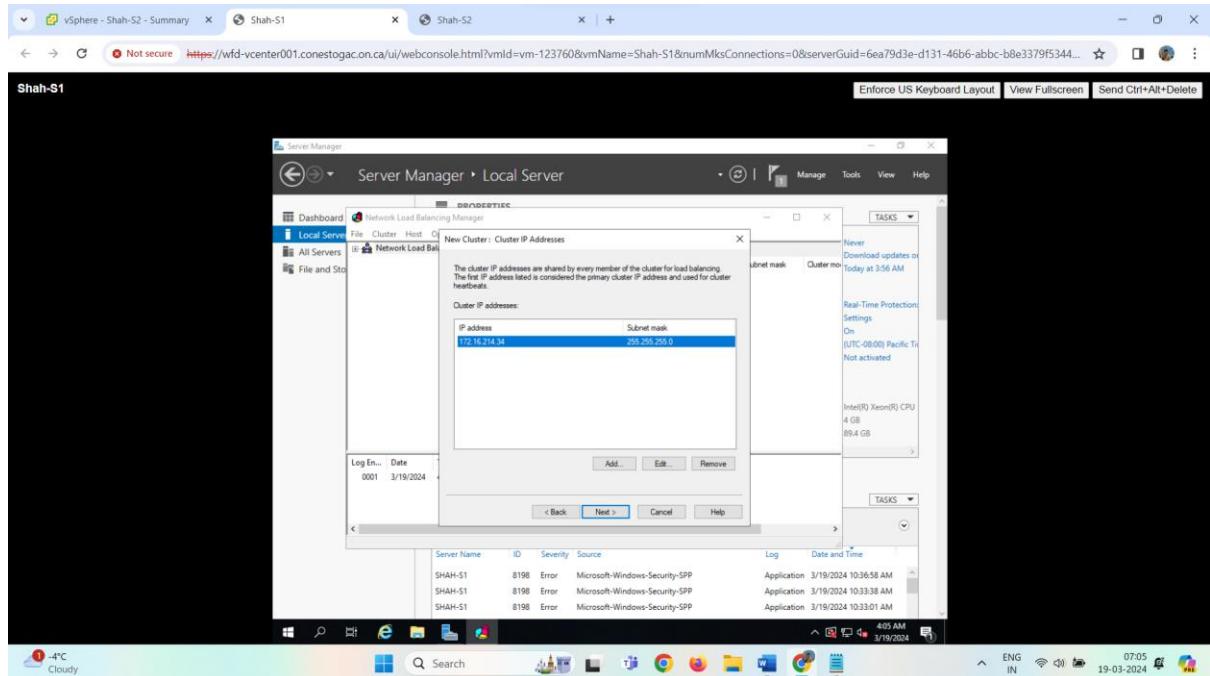
Confirm the parameters and click on next



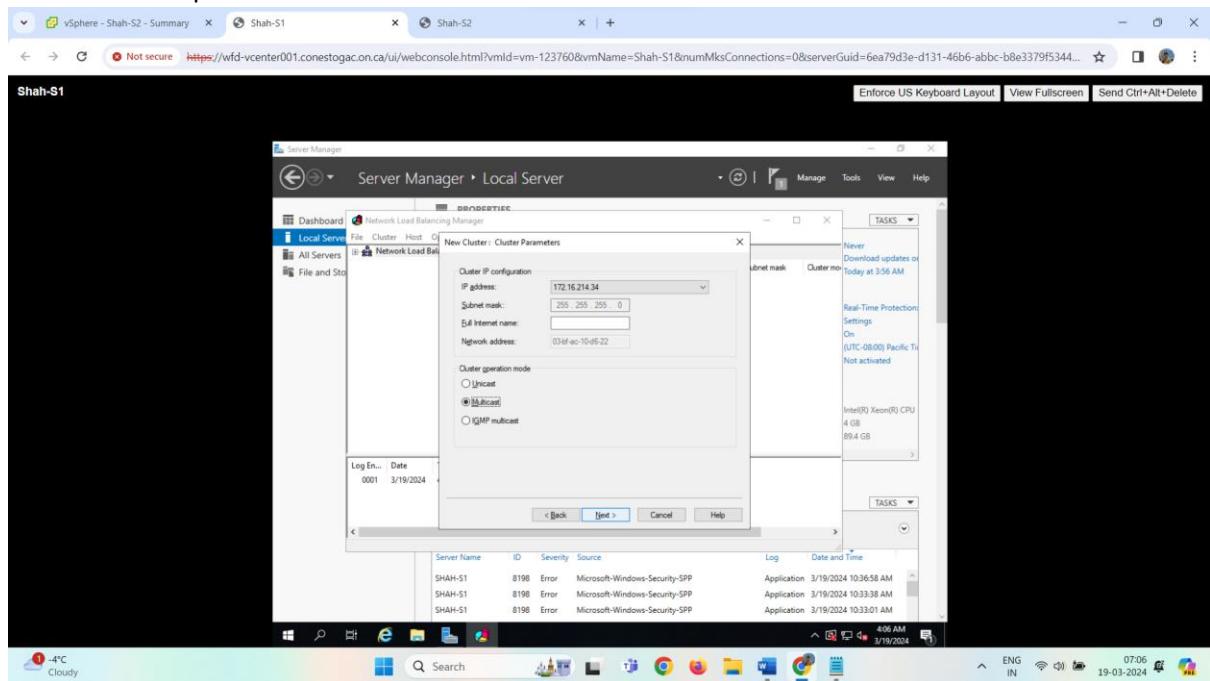
Providing IP address to the cluster as 172.16.214.34



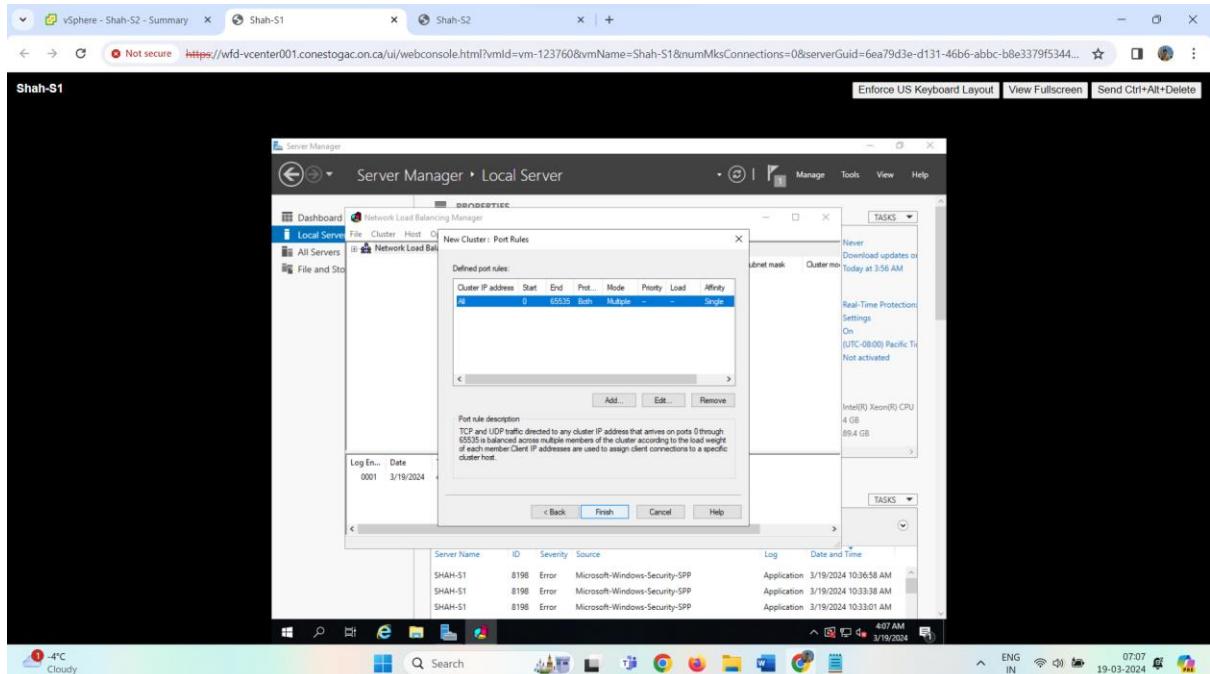
Confirming the IP address details for new cluster.



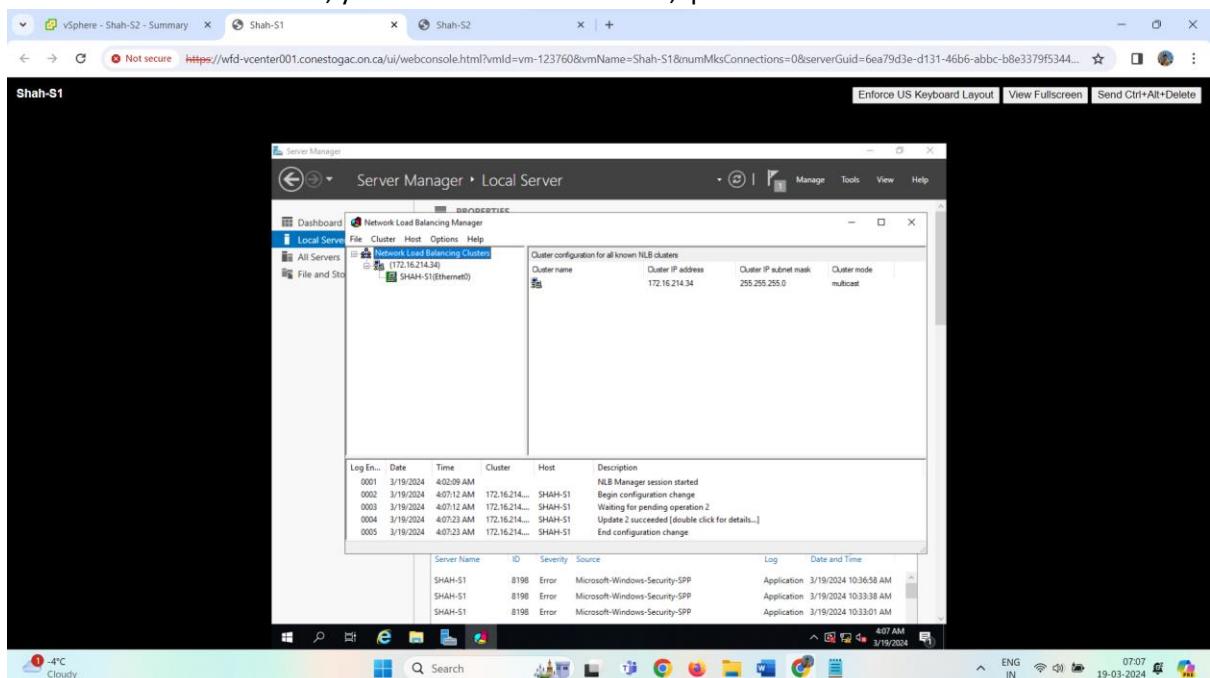
Select Cluster operation mode as multicast.



Checking the cluster port rules and clicking finish for cluster creation.

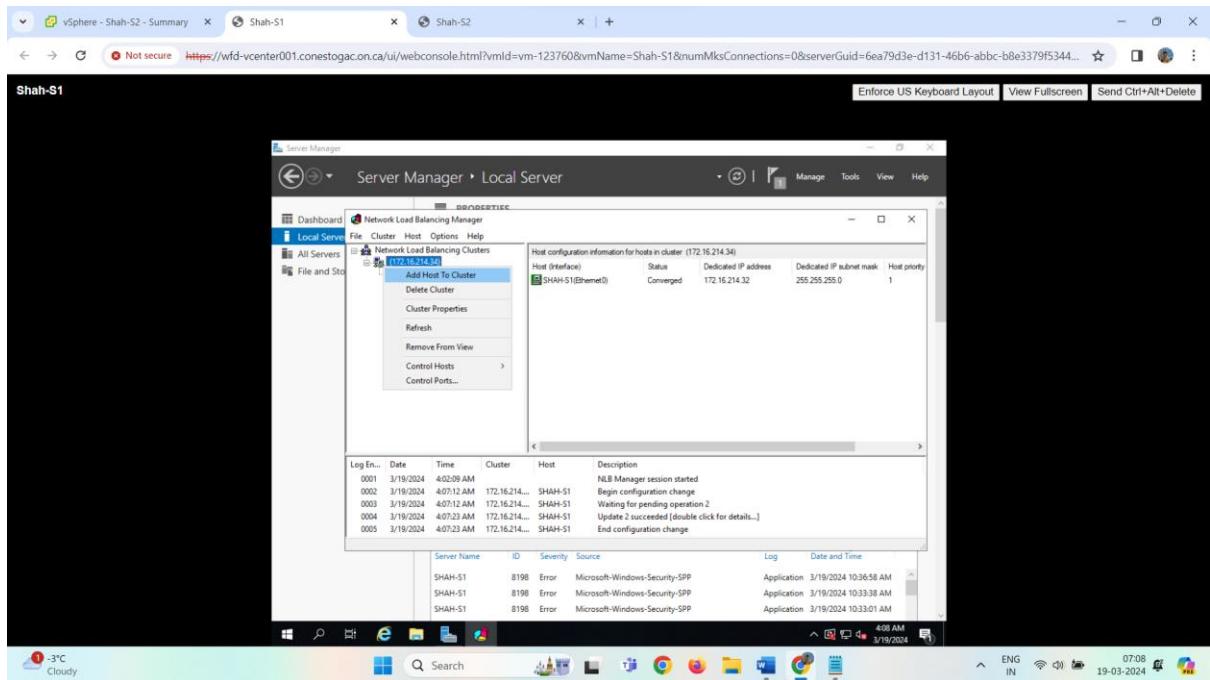


Once the cluster is created, you can check cluster mode, ip details and subnet mask.

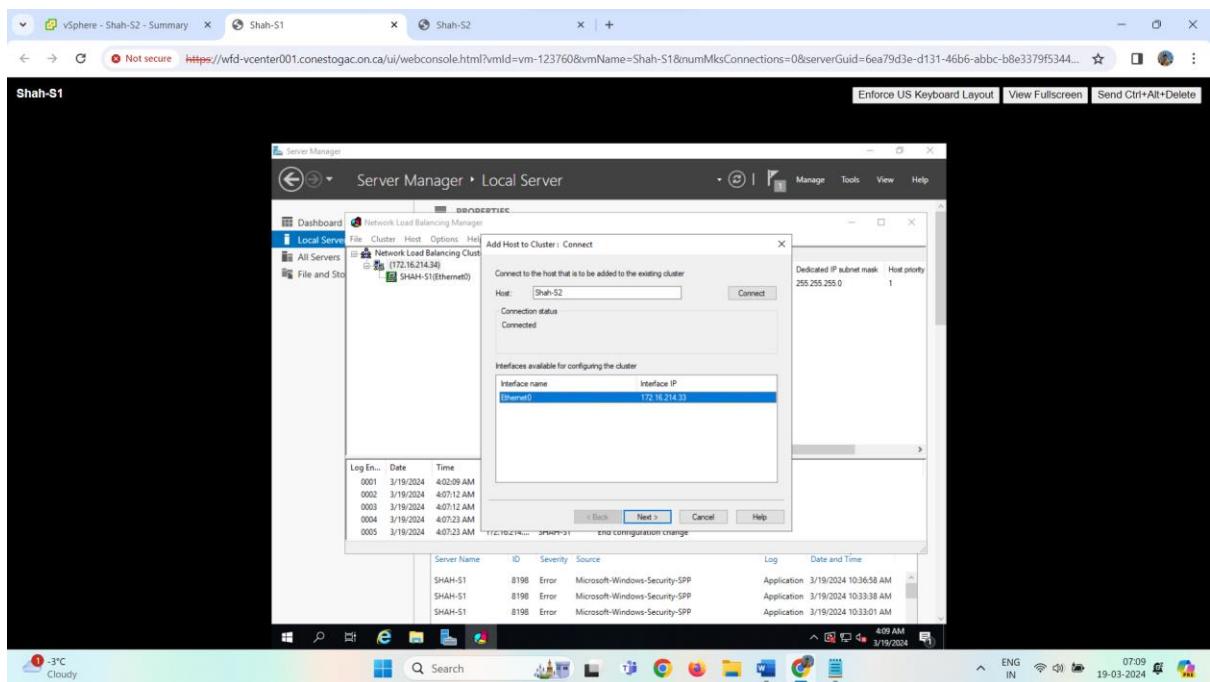


4) Add your second server **Lastname-S2** as another host to the cluster.

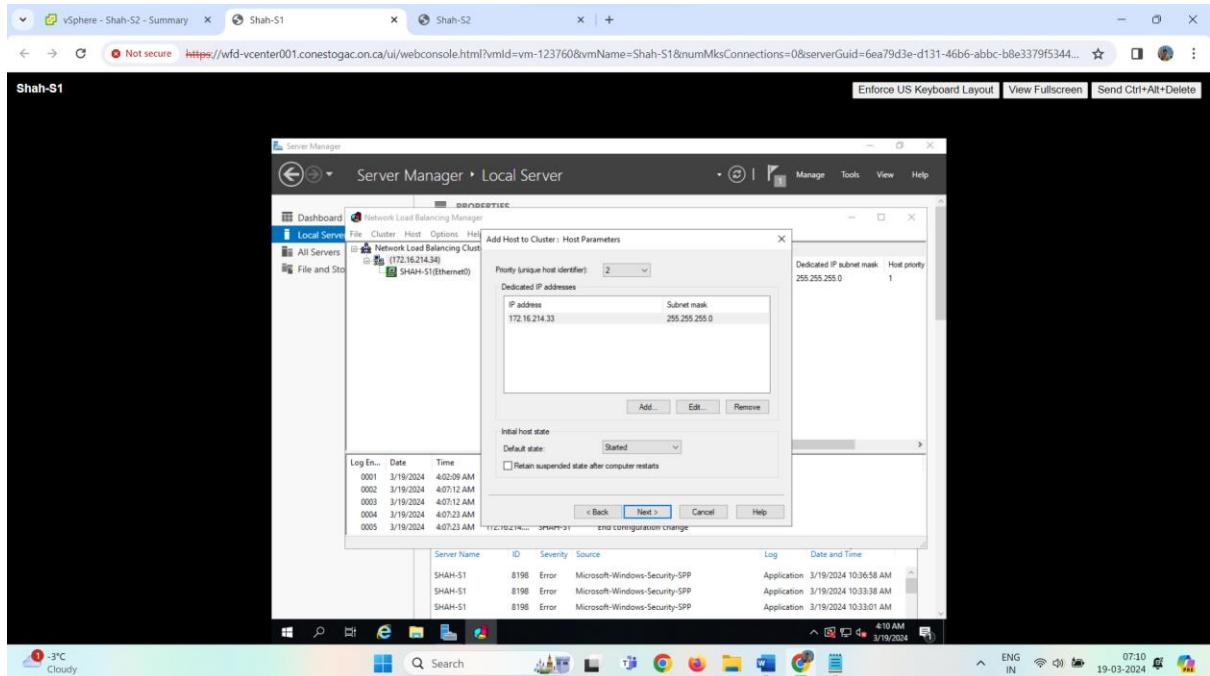
To add member server 2 (Shah-S2) to cluster. Click on Add host to cluster



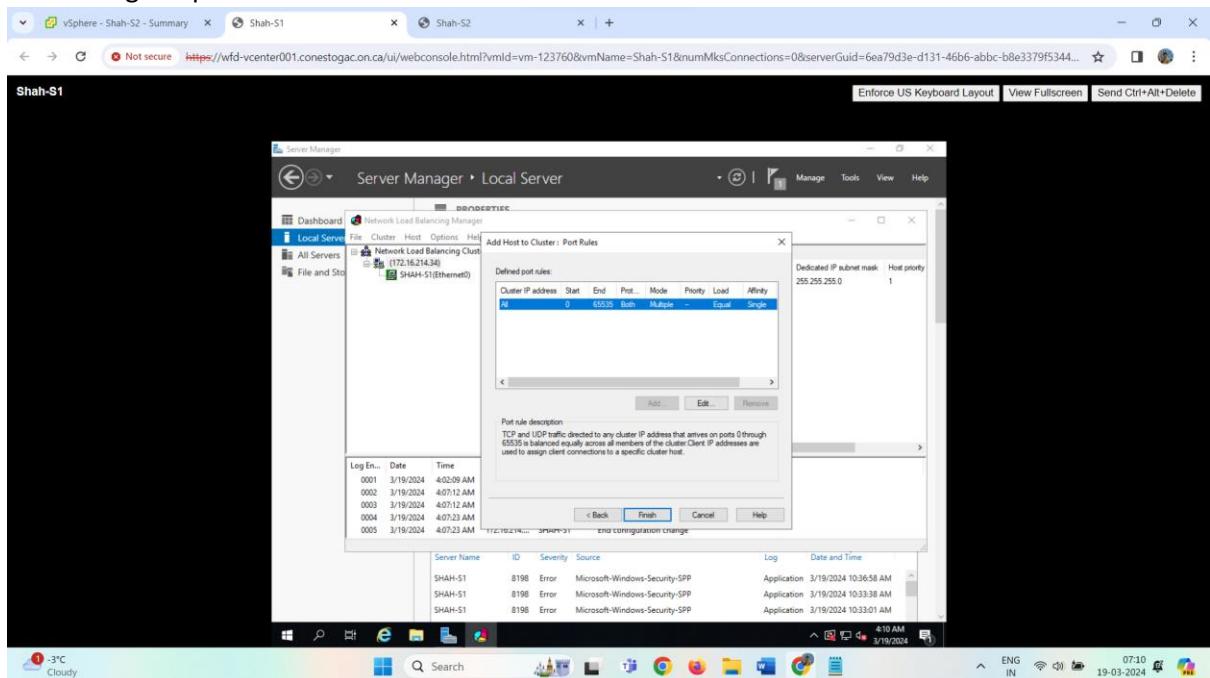
Provide Shah-S2 name to add in cluster.



Confirming the host parameters



Confirming the port rules for host2 addition in a cluster.



Successfully creating a cluster and adding 2 hosts to it for Network load balanacing.

