



CONESTOGA

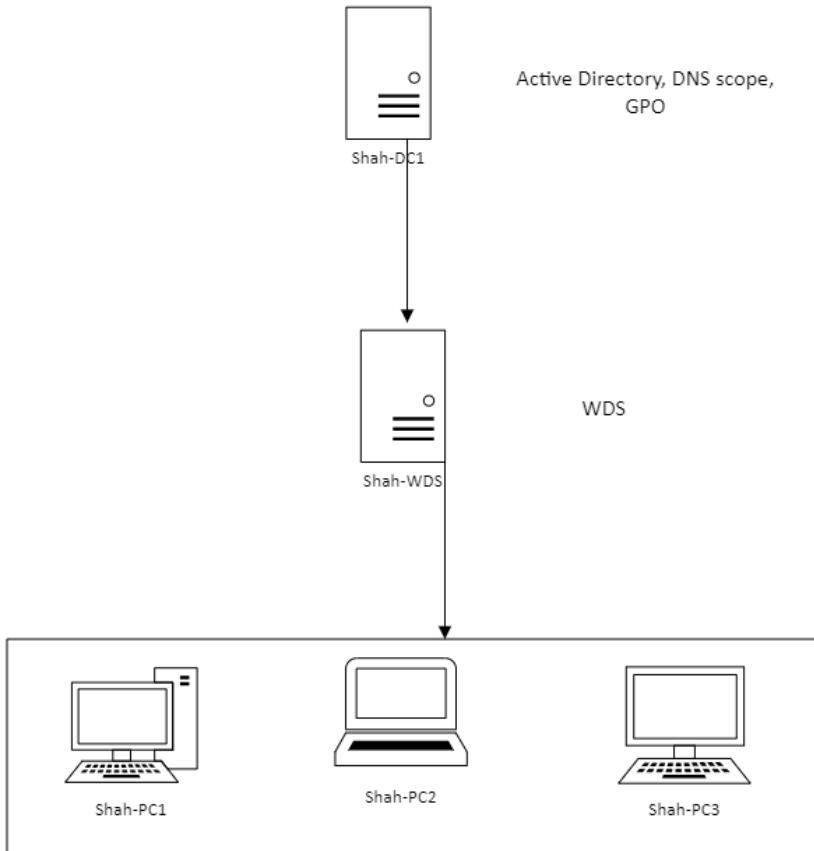
Connect Life and Learning

Student Name: Aagam Sanjay Shah	
Deliverable:	NTWK8201 Practical Assignment #2
Course Name:	NTWK8201-24F-Sec2-Advanced Windows Desktop
Date Assigned:	04/10/2024
Date Due:	18/10/2024
Rules:	<ul style="list-style-type: none">• Individual.• Cheating is not allowed.• Plagiarism counts as cheating!

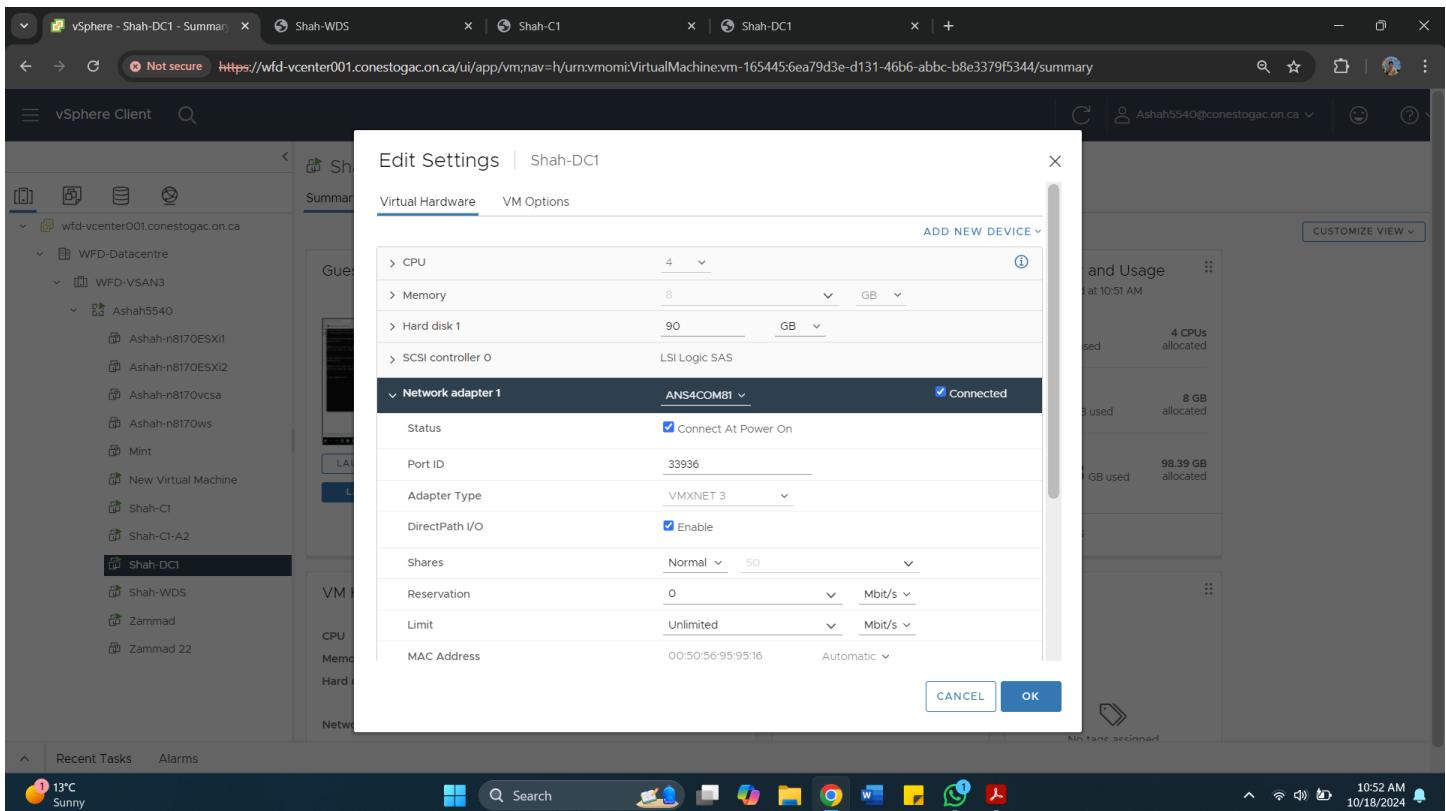
Table of Contents

Design.....	2
Install your first Windows Server with hostname Shah-DC1.....	2
Promote your first Windows Server to a domain controller with domain name Shah.local.....	3
Install your second Windows Server with hostname Shah-WDS and join it to Shah.local.....	3
Install the DHCP Role on Shah-DC1.....	4
Create a DHCP scope using your COM port network.....	4
Set assignable address from 172.24.81.140 – 172.24.81.190	5
Configure Group Policy with the below settings	8
Marketing Computers should have Mozilla Firefox Installed	10
Passwords should be a minimum of 8 characters and uphold default complexity	14
Marketing Users should not be able to open the calculator application	16
Install WDS on Lastname-WDS (Shah-WDS).....	20
Configure a Windows 10 64-bit image using the Windows 10 iso file as the source. (Located in Content Library)	24
All deployed clients should have their hostnames set to “ Shah-PC%# ”	31
Clients should automatically join the domain after being deployed.....	31
Deploy your Windows 10 Client using WDS	32
Your Windows 10 Client should get an IP address through DHCP.....	32
Sign into the Windows client to test Group Policies.....	33

Design:



Install your first Windows Server with hostname Shah-DC1.



Promote your first Windows Server to a domain controller with domain name Shah.local.

The screenshot shows the vSphere interface with the URL <https://wfd-vcenter001.conestogac.on.ca/ui/webconsole.html?vmId=vm-165445&vmName=Shah-DC1&numMksConnections=0&serverGuid=6ea79d3e-d131-46b6-abbc-b8e3379f...>. The browser title bar says "vSphere - Shah-DC1 - Summary". The main content area is titled "Shah-DC1" and shows the "Server Manager" interface for the Local Server. The "PROPERTIES" section displays the following information:

For Shah-DC1	
Computer name	Shah-DC1
Domain	Shah.local
Last installed updates	Never
Windows Update	Download updates only, using Windows Update
Last checked for updates	Today at 11:39 AM
Windows Defender Firewall	Private: On
Remote management	Enabled
Remote Desktop	Disabled
NIC Teaming	Disabled
Ethernet0	172.24.81.5, IPv6 enabled
Windows Defender Antivirus	Real-Time Protection: On
Feedback & Diagnostics	Settings
IE Enhanced Security Configuration	On
Time zone	(UTC-08:00) Pacific Time (US & Canada)
Product ID	Not activated
Operating system version	Microsoft Windows Server 2019 Datacenter
Hardware information	VMware, Inc. VMware7.1
Processors	Intel(R) Xeon(R) Platinum 8358 CPU @ 2.60GHz, Intel(R) Xeon(R) Platinum 8358 CPU @ 2.60GHz
Installed memory (RAM)	8 GB
Total disk space	89.4 GB

The "EVENTS" section shows "All events | 11 total". The taskbar at the bottom shows the date as 10/4/2024 and the time as 11:41 AM.

Install your second Windows Server with hostname Shah-WDS and join it to Shah.local.

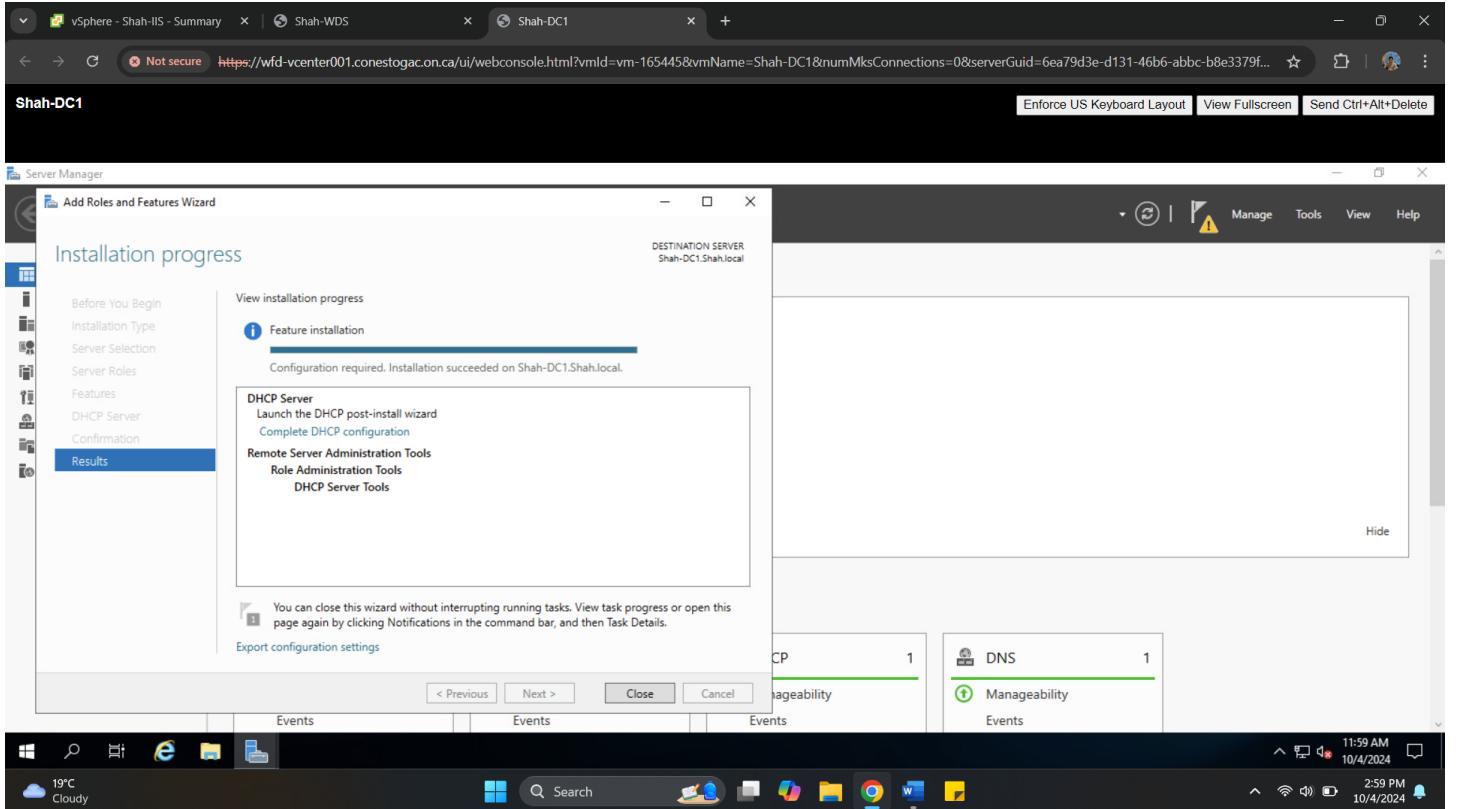
The screenshot shows the vSphere interface with the URL <https://wfd-vcenter001.conestogac.on.ca/ui/webconsole.html?vmId=vm-165446&vmName=Shah-WDS&numMksConnections=0&serverGuid=6ea79d3e-d131-46b6-abbc-b8e3379f...>. The browser title bar says "vSphere - Shah-WDS - Summary". The main content area is titled "Shah-WDS" and shows the "Server Manager" interface for the Local Server. The "PROPERTIES" section displays the following information:

For Shah-WDS	
Computer name	Shah-WDS
Domain	Shah.local
Last installed updates	Never
Windows Update	Download updates only, using Windows Update
Last checked for updates	Today at 11:43 AM
Windows Defender Firewall	Domain: On
Remote management	Enabled
Remote Desktop	Disabled
NIC Teaming	Disabled
Ethernet0	172.24.81.6, IPv6 enabled
Windows Defender Antivirus	Real-Time Protection: On
Feedback & Diagnostics	Settings
IE Enhanced Security Configuration	On
Time zone	(UTC-08:00) Pacific Time (US & Canada)
Product ID	Not activated
Operating system version	Microsoft Windows Server 2019 Datacenter
Hardware information	VMware, Inc. VMware7.1
Processors	Intel(R) Xeon(R) Platinum 8358 CPU @ 2.60GHz, Intel(R) Xeon(R) Platinum 8358 CPU @ 2.60GHz
Installed memory (RAM)	8 GB
Total disk space	89.4 GB

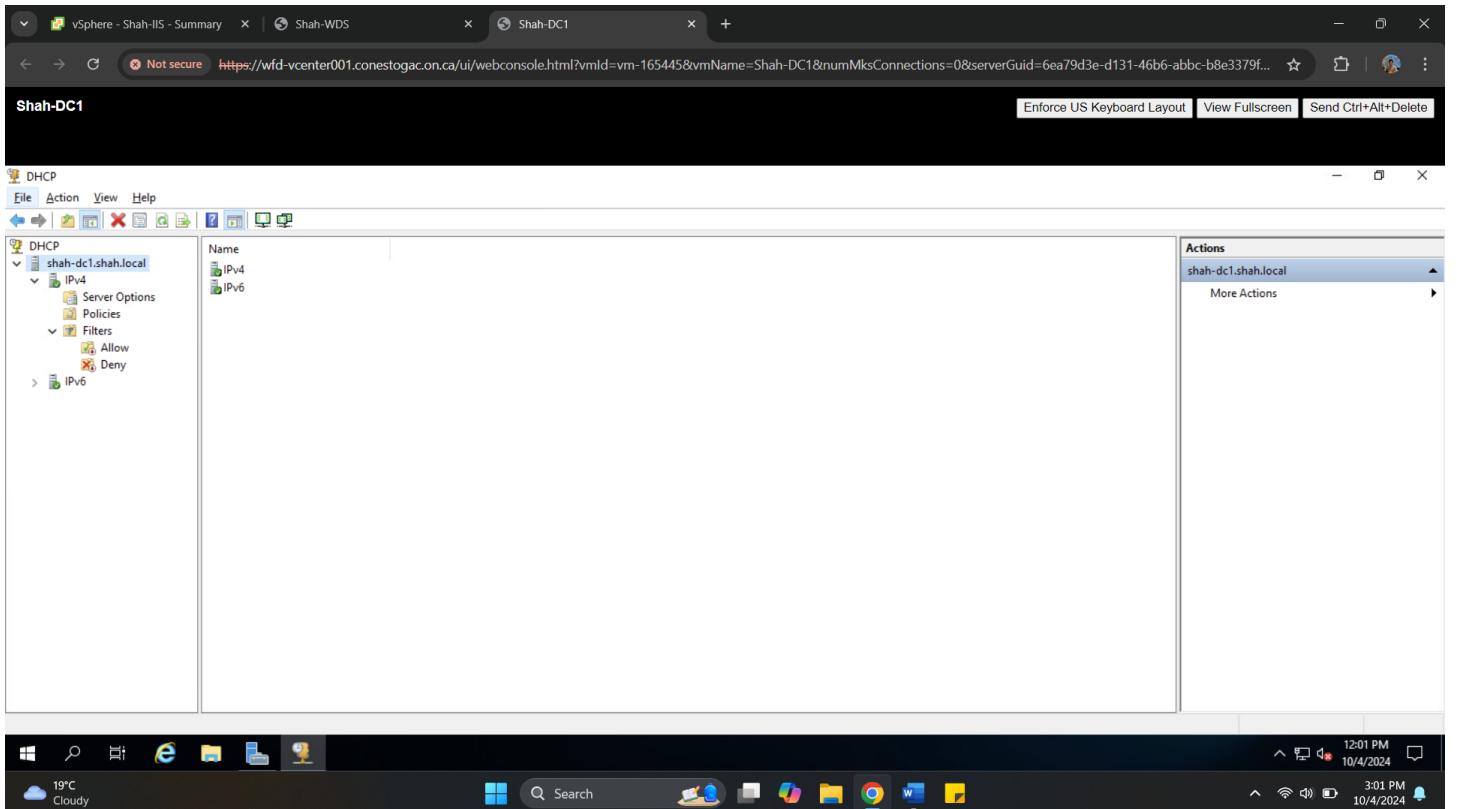
The "EVENTS" section shows "All events | 20 total". The taskbar at the bottom shows the date as 10/4/2024 and the time as 11:57 AM.

Install the DHCP Role on Shah-DC1.

Successfully installing Feature of DHCP on Shah-DC1

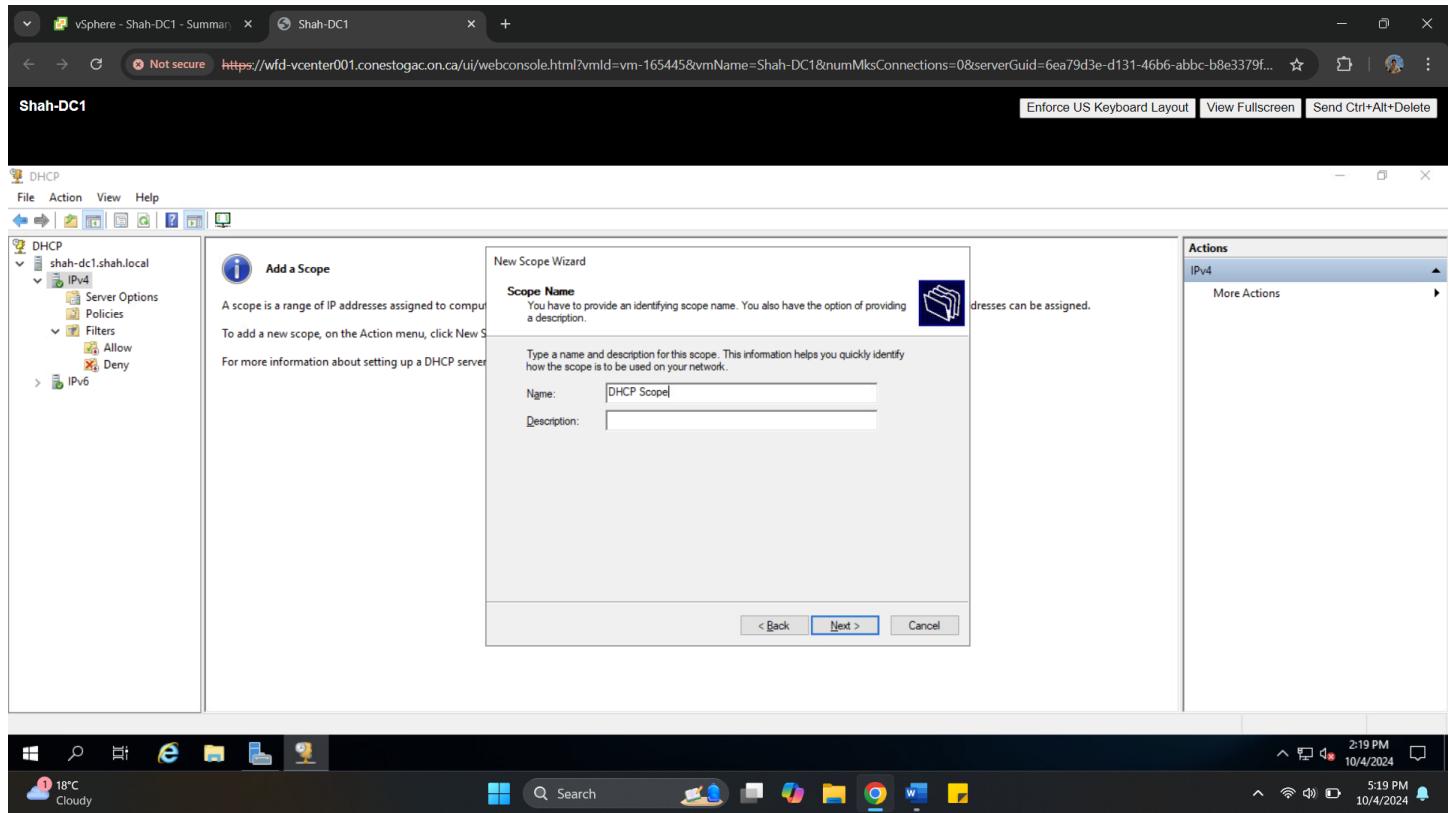


Configuring DHCP further on Server Shah-DC1

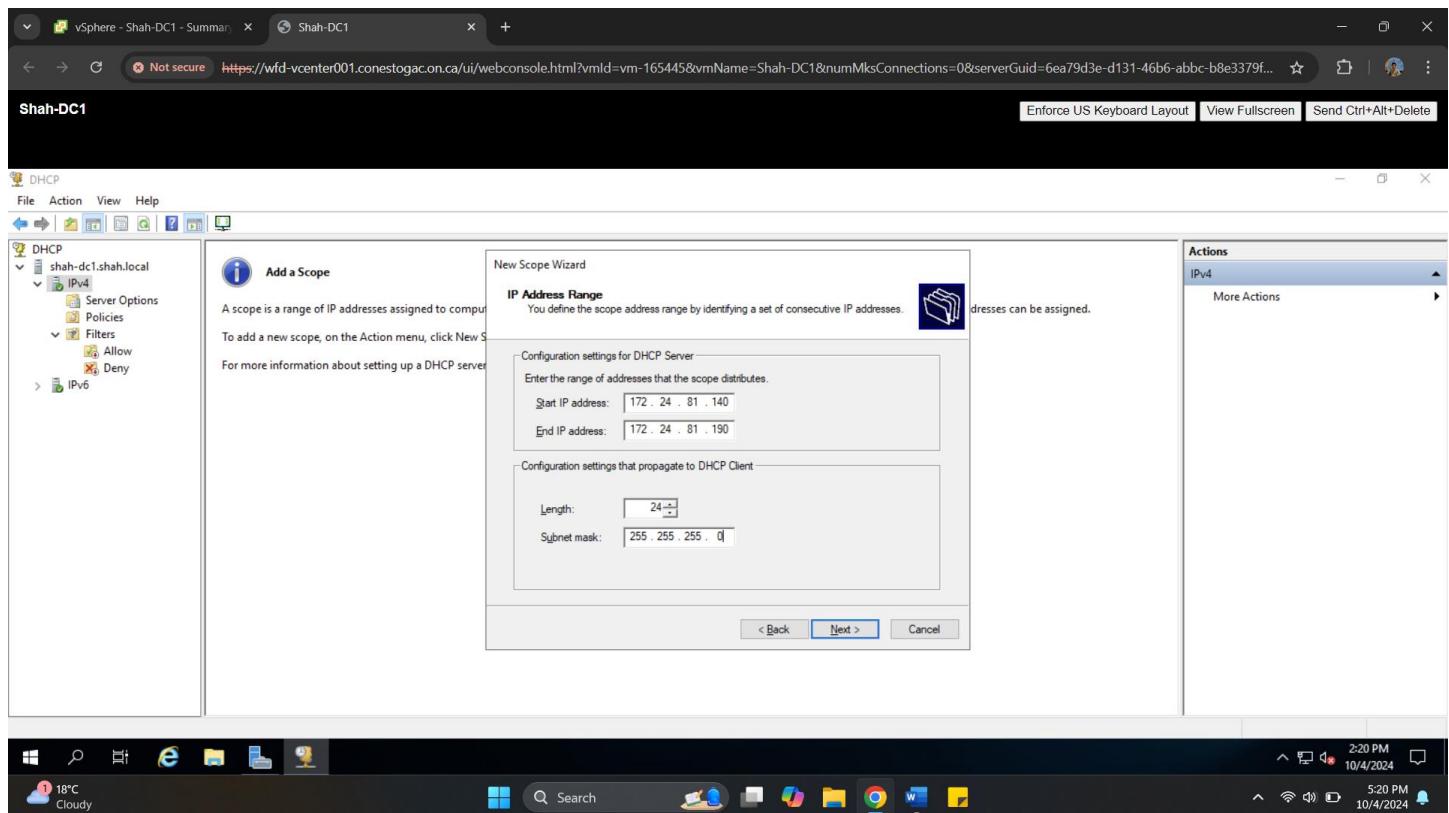


Create a DHCP scope using your COM port network.

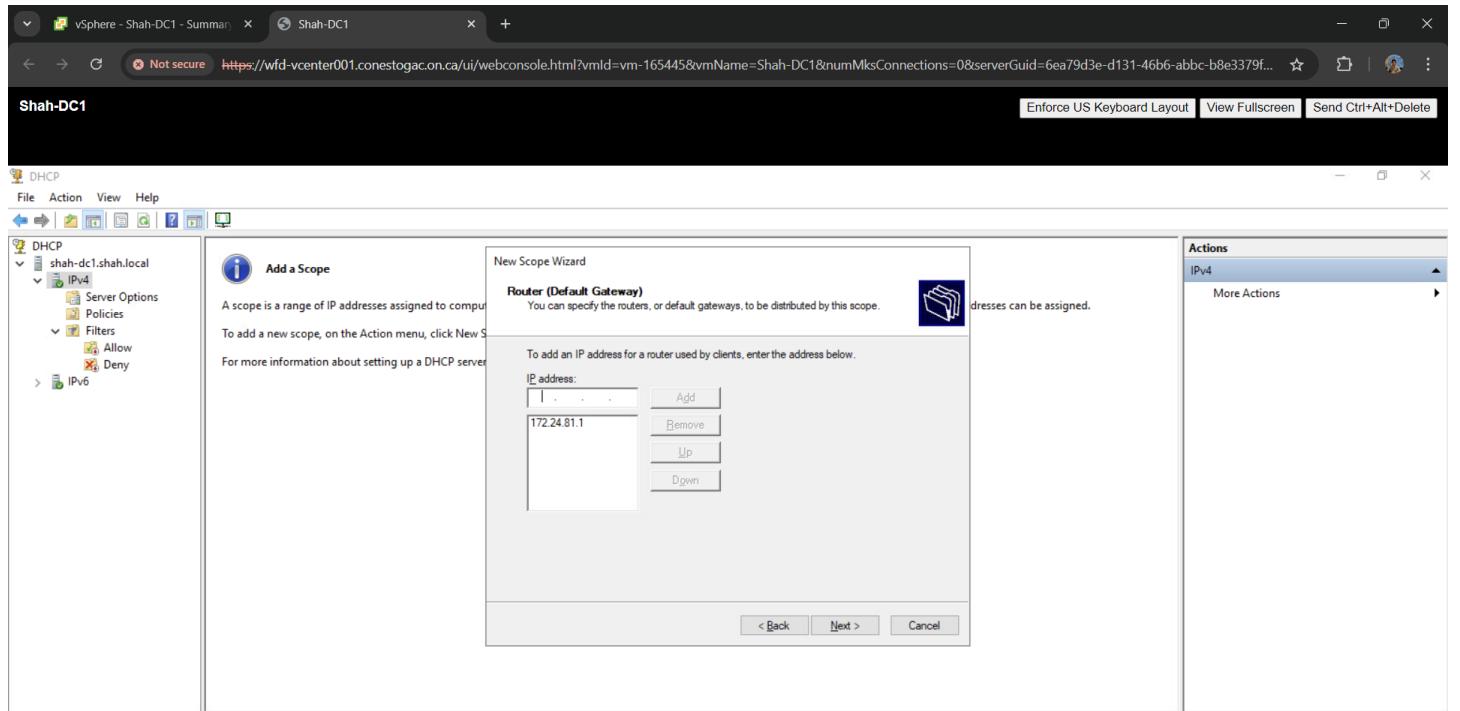
Creating Scope named: DHCP Scope



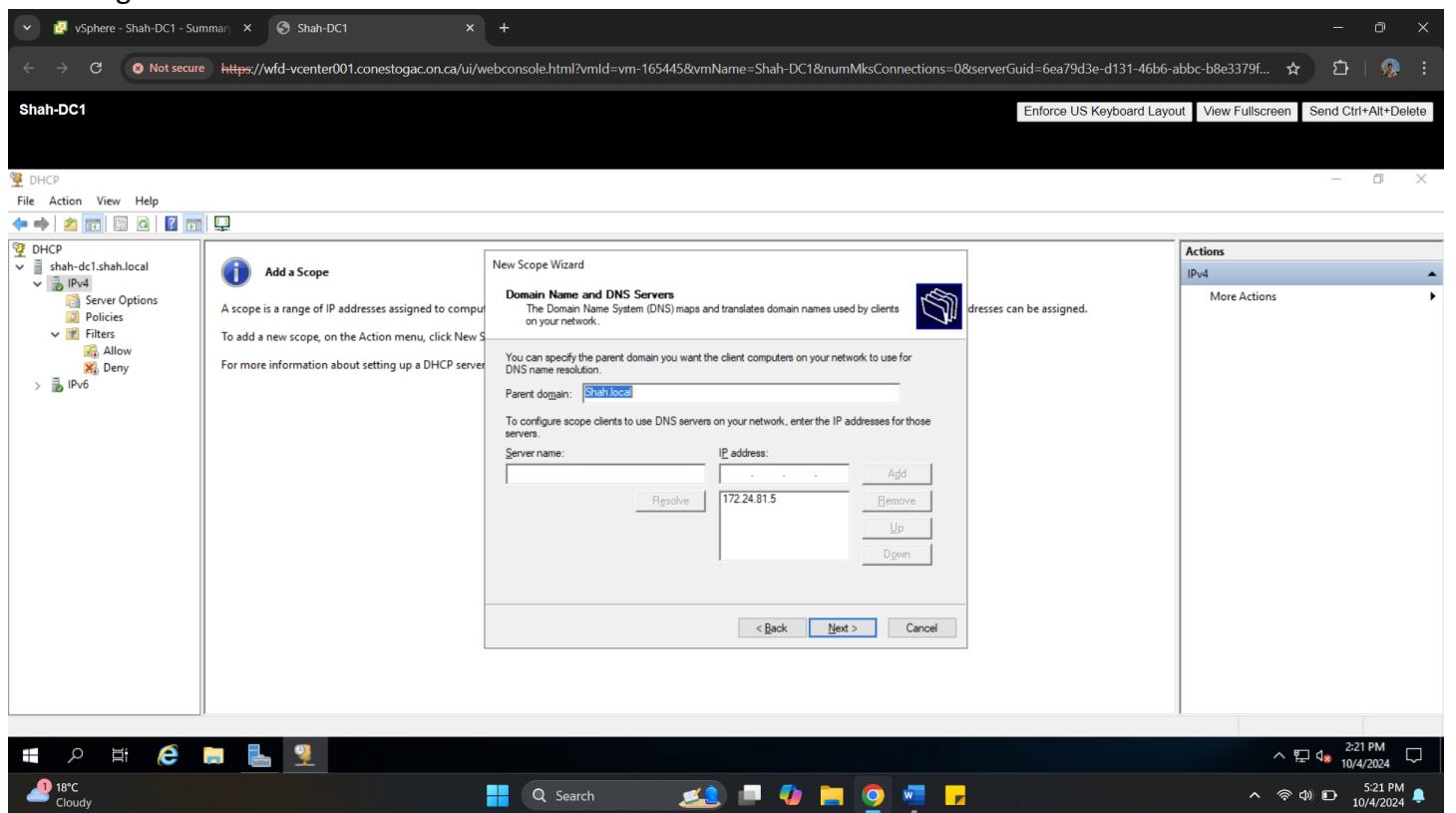
Set assignable address from 172.24.81.140 – 172.24.81.190.



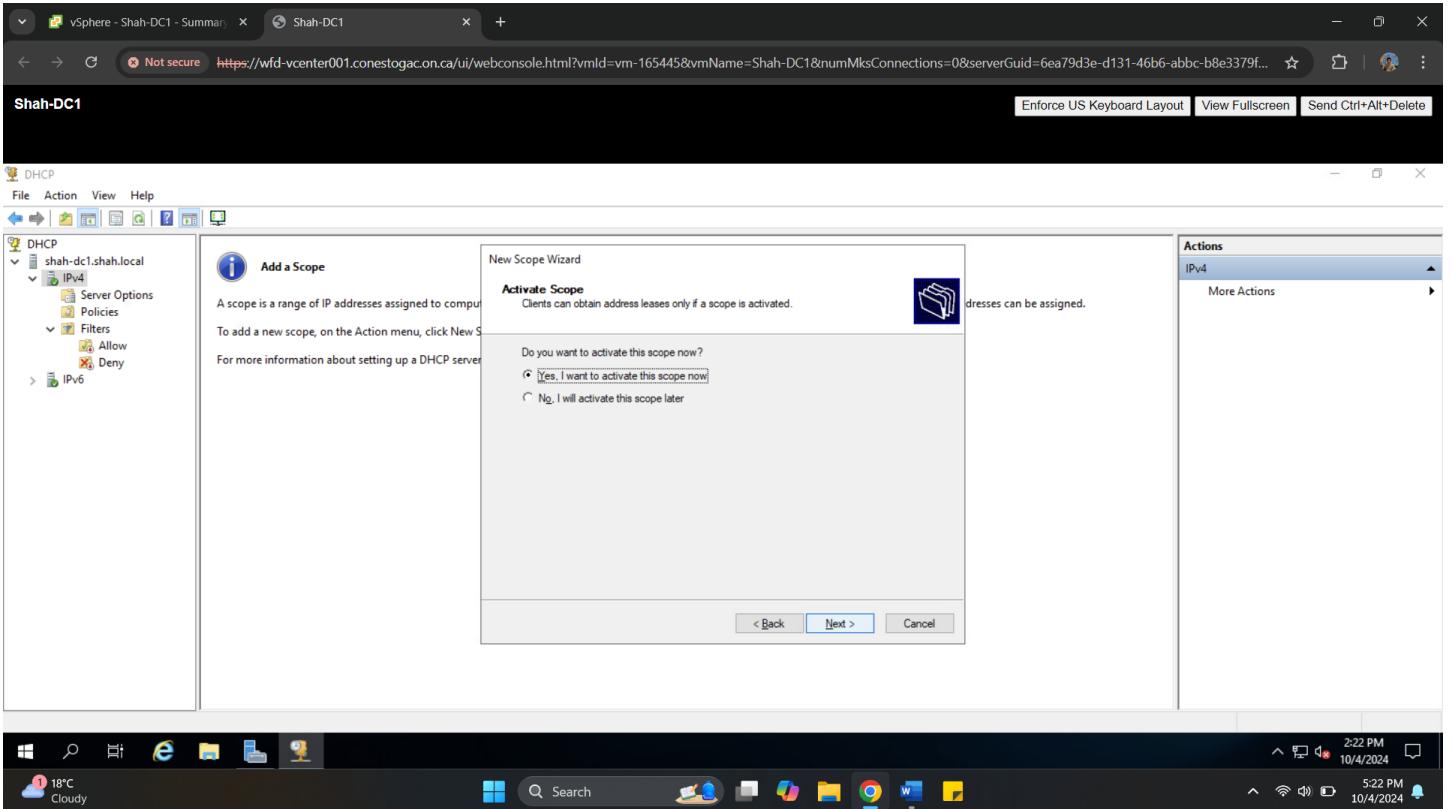
Setting Router (Default Gateway) as 172.24.81.1



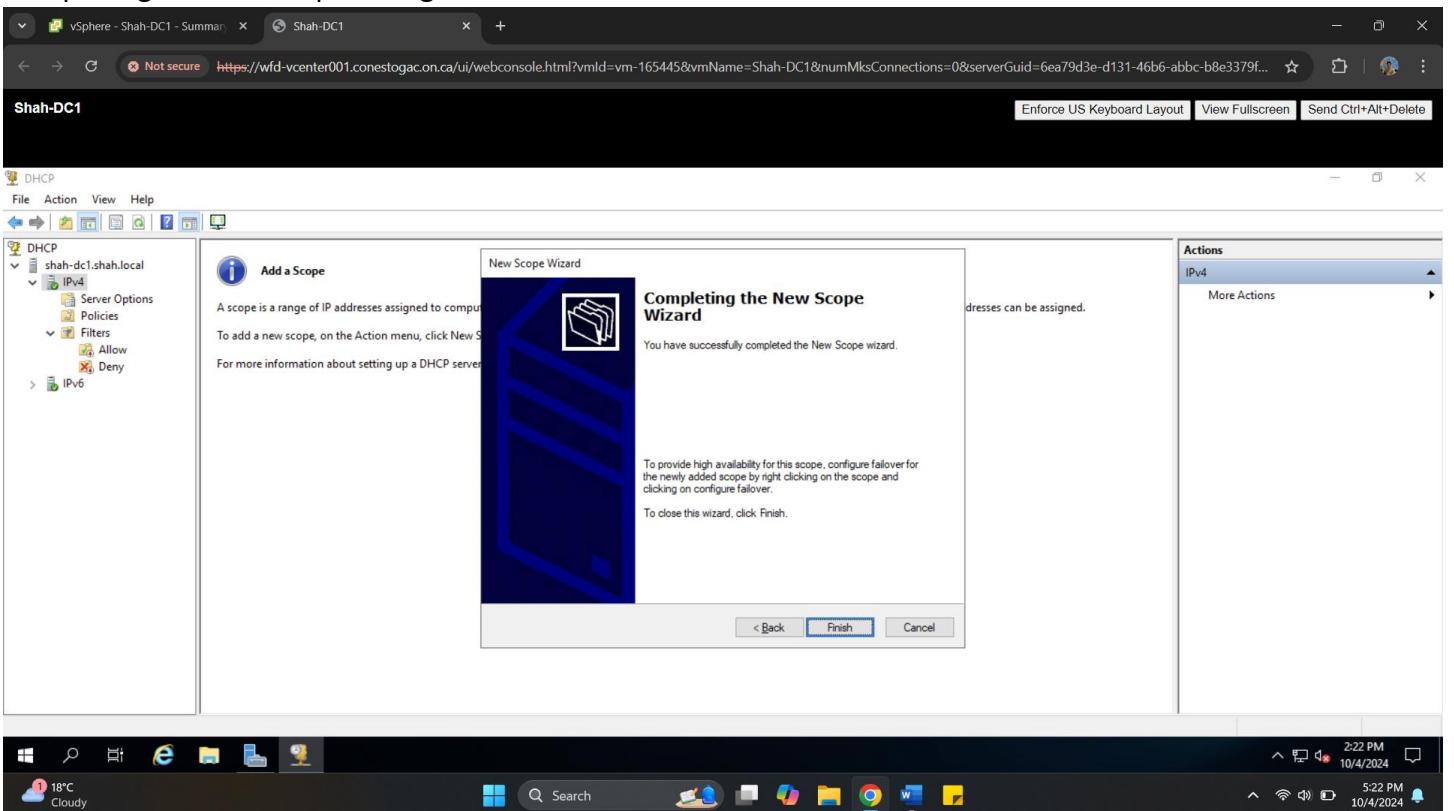
Excluding Domain Controller IP 172.24.81.5 as Parent Domain Shah.local for domain name and DNS Servers

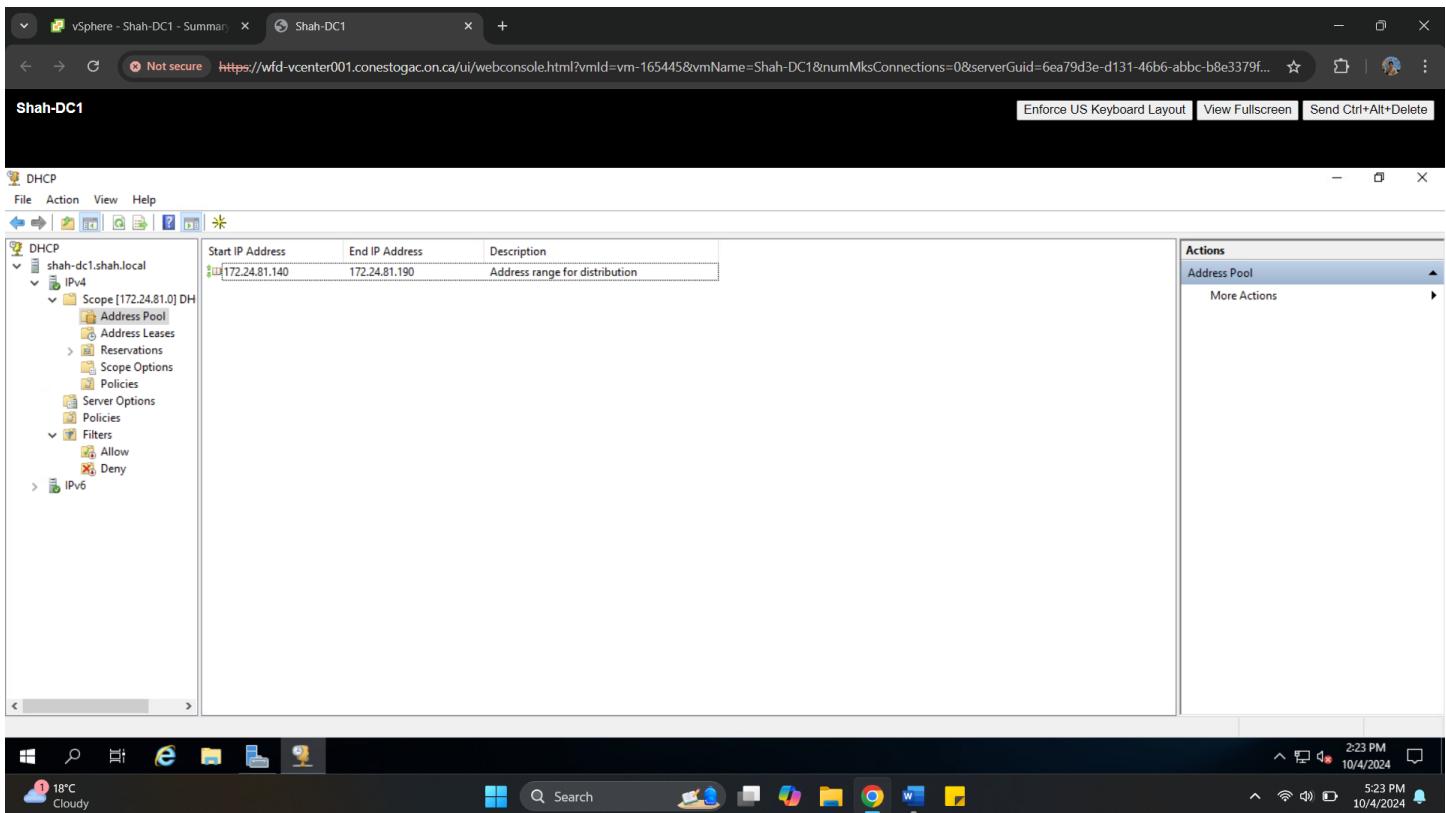


Activating the scope by selecting option yes



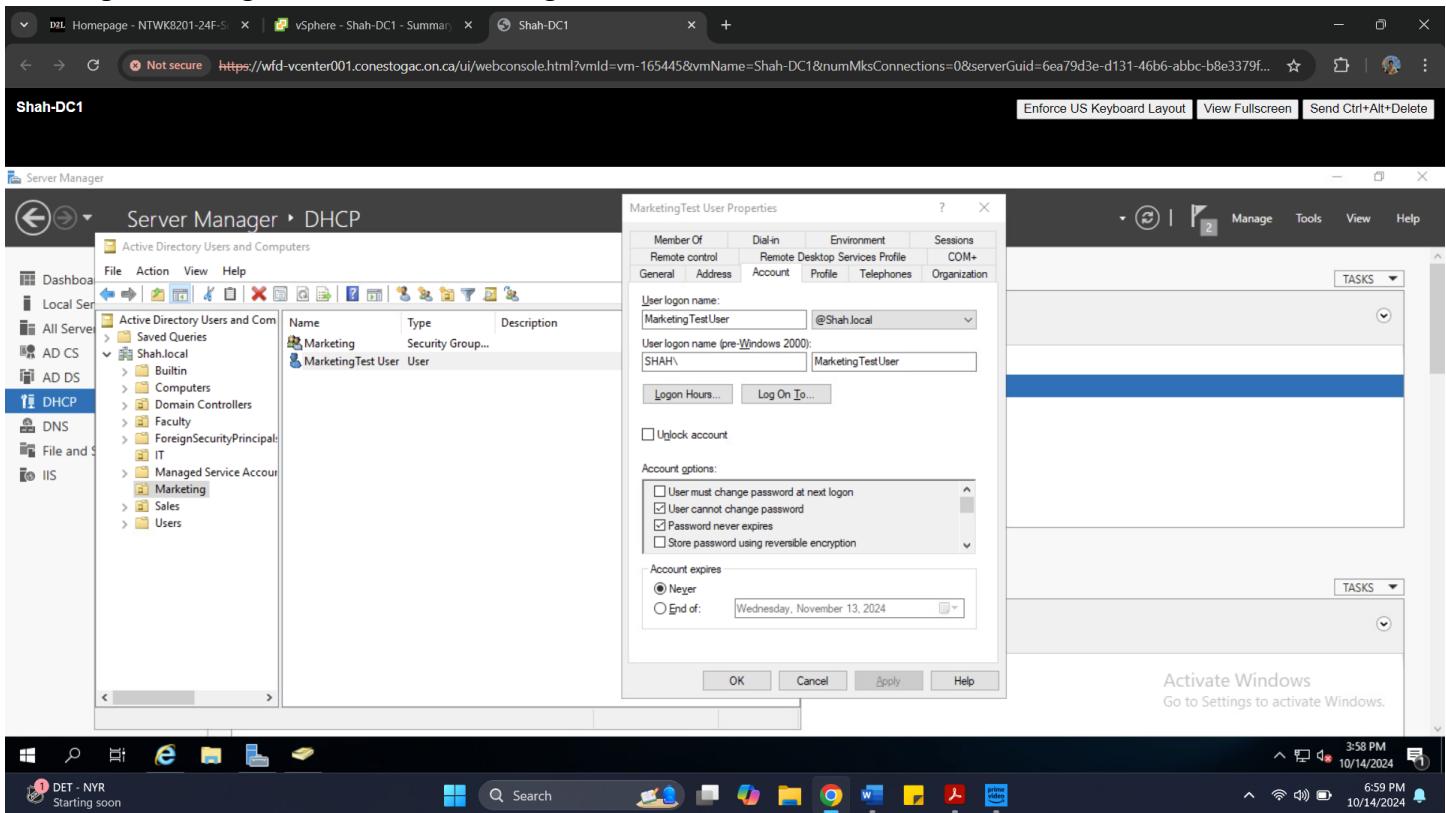
Completing the DNS scope configurations





Configure Group Policy with the below settings.

Creating Marketing Test User in Marketing OU



Specifying Marketing Test user as a Member of Marketing OU

The screenshot shows the Windows Server Manager interface. On the left, the navigation pane includes options like Dashboard, Local Server, All Servers, AD CS, AD DS, DHCP (selected), DNS, File and Storage, and IIS. The main pane displays the Active Directory Users and Computers list, showing a user named 'Marketing Test User' under the 'Marketing' security group. A detailed 'Marketing Test User Properties' dialog box is open over the interface, showing the 'Member Of' tab which lists 'Marketing' as a member of the 'Marketing' security group. Other tabs include General, Address, Account, Profile, Telephones, Organization, Dial-in, Environment, and Sessions.

Downloading Mozilla Firefox with 64-bit windows MSI format

The screenshot shows a web browser window with the URL <https://www.mozilla.org/en-US/firefox/all/desktop-release/win64-msi/en-US/>. The page features the Mozilla logo and the heading 'Choose which Firefox Browser to download in your language'. Below this, a paragraph explains that everyone deserves access to the internet and that Firefox is available in over 90 languages. There are links for 'Check the system requirements' and 'Release notes'. A large 'Download Now' button is prominently displayed. To the right of the main content, there is a sidebar with four items: '1. Browser: Firefox', '2. Platform: Windows 64-bit MSI', '3. Language: English (US) - English (US)', and '4. Download:'. At the bottom right, there is an 'Activate Windows' message with a link to 'Go to Settings to activate Windows.' The browser's taskbar at the bottom shows the URL and the date/time as 10/14/2024.

Marketing Computers should have Mozilla Firefox Installed

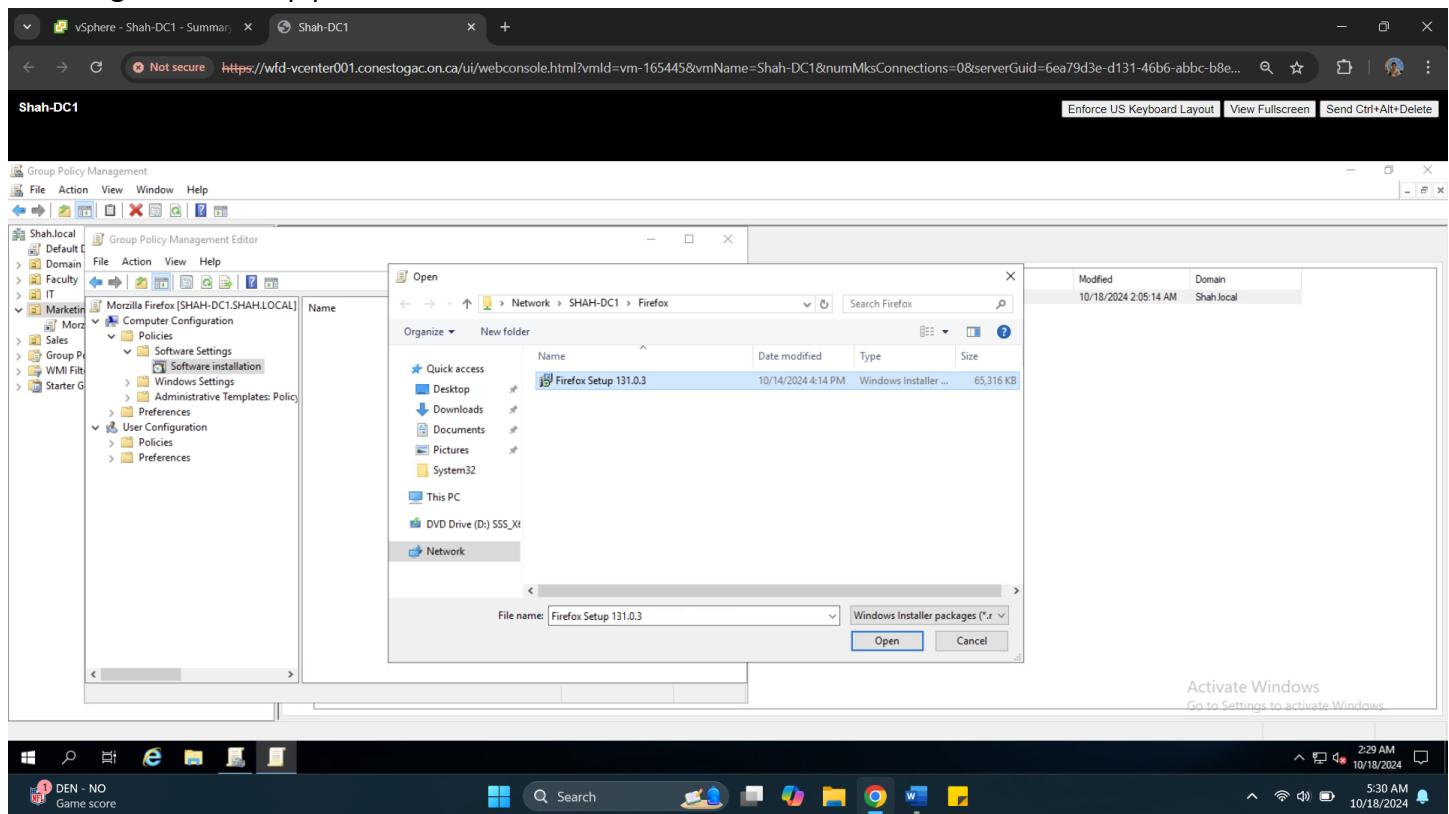
Editing GPO name Morzilla Firefox under Marketing OU

The screenshot shows the Group Policy Management interface. On the left, the navigation pane shows the organizational unit 'Marketing' selected. In the center, the 'Marketing' GPO is listed in the 'Linked Group Policy Objects' table. A context menu is open over the 'Morzilla Firefox' entry, with the 'Edit...' option highlighted. Other options visible in the menu include 'Enforced', 'Link Enabled', 'Save Report...', 'New Window from Here', 'Delete', 'Rename', 'Refresh', and 'Help'. The status bar at the bottom indicates 'Activate Windows Go to Settings to activate Windows'.

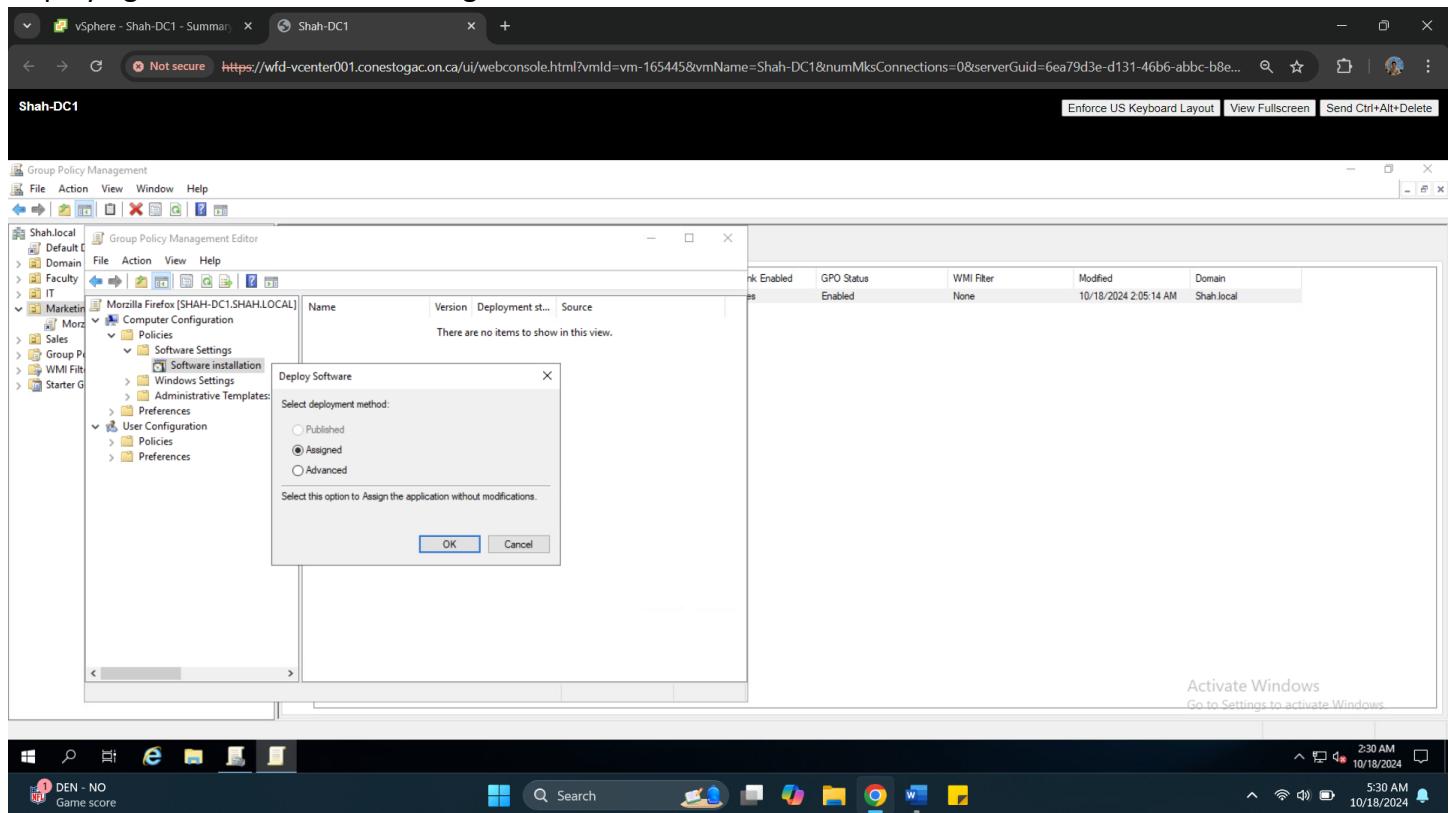
Open GPO Morzilla Firefox → Computer Configuration → Policies → Software Settings → Software Installation → New → Package

The screenshot shows the Group Policy Management Editor window. The left navigation pane shows the 'Marketing' OU selected. The main pane displays the 'Computer Configuration' section with the 'Policies' node expanded. Under 'Software Settings', the 'Software installation' node is selected. A context menu is open over this node, with the 'New' option highlighted. Sub-options 'Package...' and 'View' are also visible. The status bar at the bottom indicates 'Activate Windows Go to Settings to activate Windows'.

Selecting Firefox Setup placed in Share drive named Firefox



Deploying Software method as assigned.



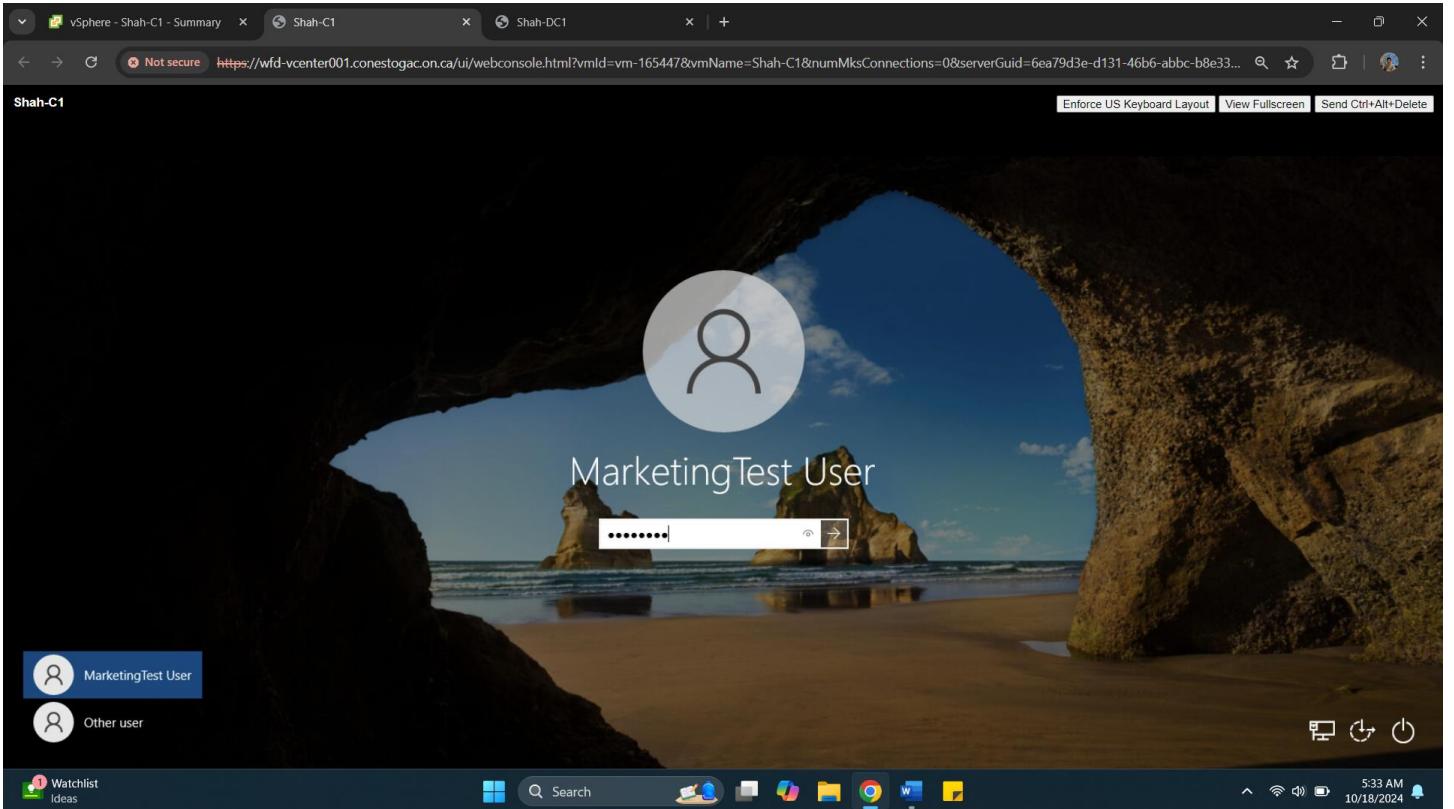
Successfully deploying Mozilla Firefox as assigned mode from share drive.

The screenshot shows the Group Policy Management Editor window. The left navigation pane shows the organizational unit 'Marketing'. A GPO named 'Mozilla Firefox [SHAH-DC1.SHAH.LOCAL]' is selected. The main pane displays the policy settings, specifically under 'Computer Configuration / Policies / Software Settings / Software Installation'. A single item is listed: 'Mozilla Firefox 131.0.3 x64 en-US 131.0 Assigned' with a source path '\SHAH-DC1\Firefox\Firefox Setup 131.0.3.msi'. The status bar at the bottom right indicates 'Activate Windows Go to Settings to activate Windows'.

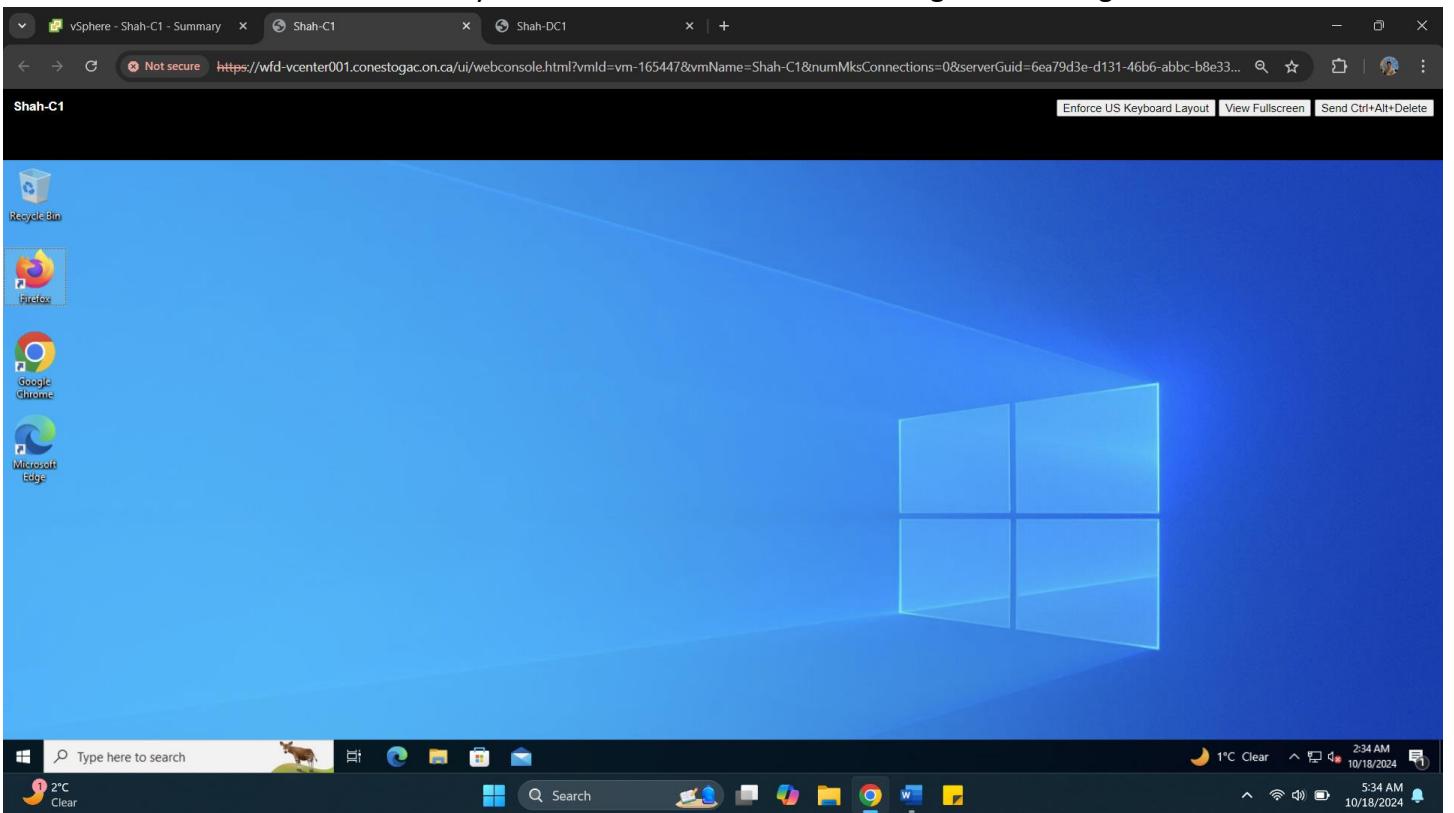
GPO enforced on Marketing OU for Marketing users.

The screenshot shows the Group Policy Management Editor window with the 'Morzilla Firefox' GPO selected. The left navigation pane shows the 'Marketing' OU. The main pane displays the 'Scope' tab of the GPO properties. It shows that the GPO is linked to the 'Marketing' OU with both 'Enforced' and 'Link Enabled' set to 'Yes'. The 'Security Filtering' section shows 'Authenticated Users' and 'Marketing (SHAH\Marketing)' listed under 'Name'. The 'WMI Filtering' section indicates that the GPO is linked to no WMI filters. The status bar at the bottom right indicates 'Activate Windows Go to Settings to activate Windows'.

Checking with MarketingTest User for policy deployed

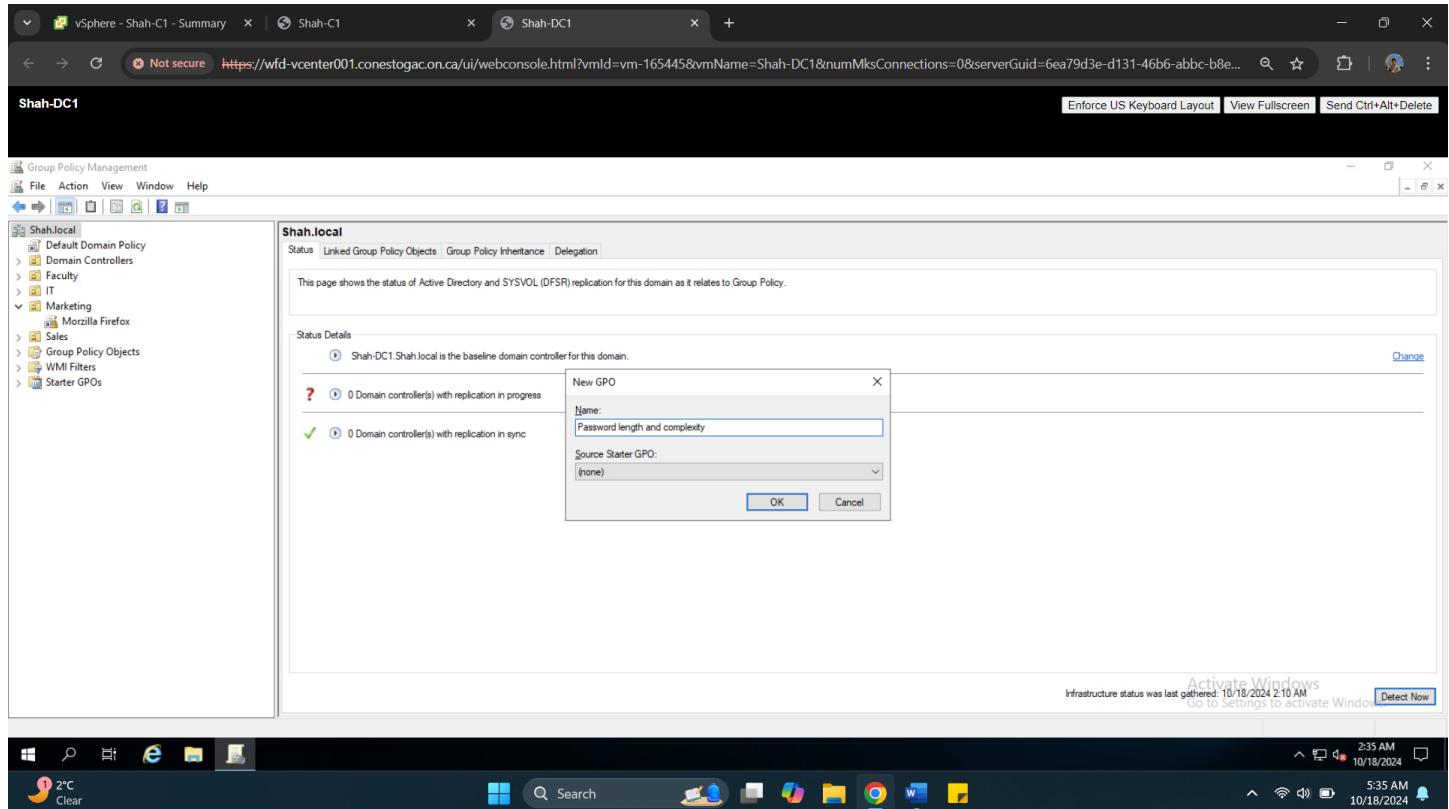


Mozilla Firefox software successfully available as installed on MarketingTest User login.

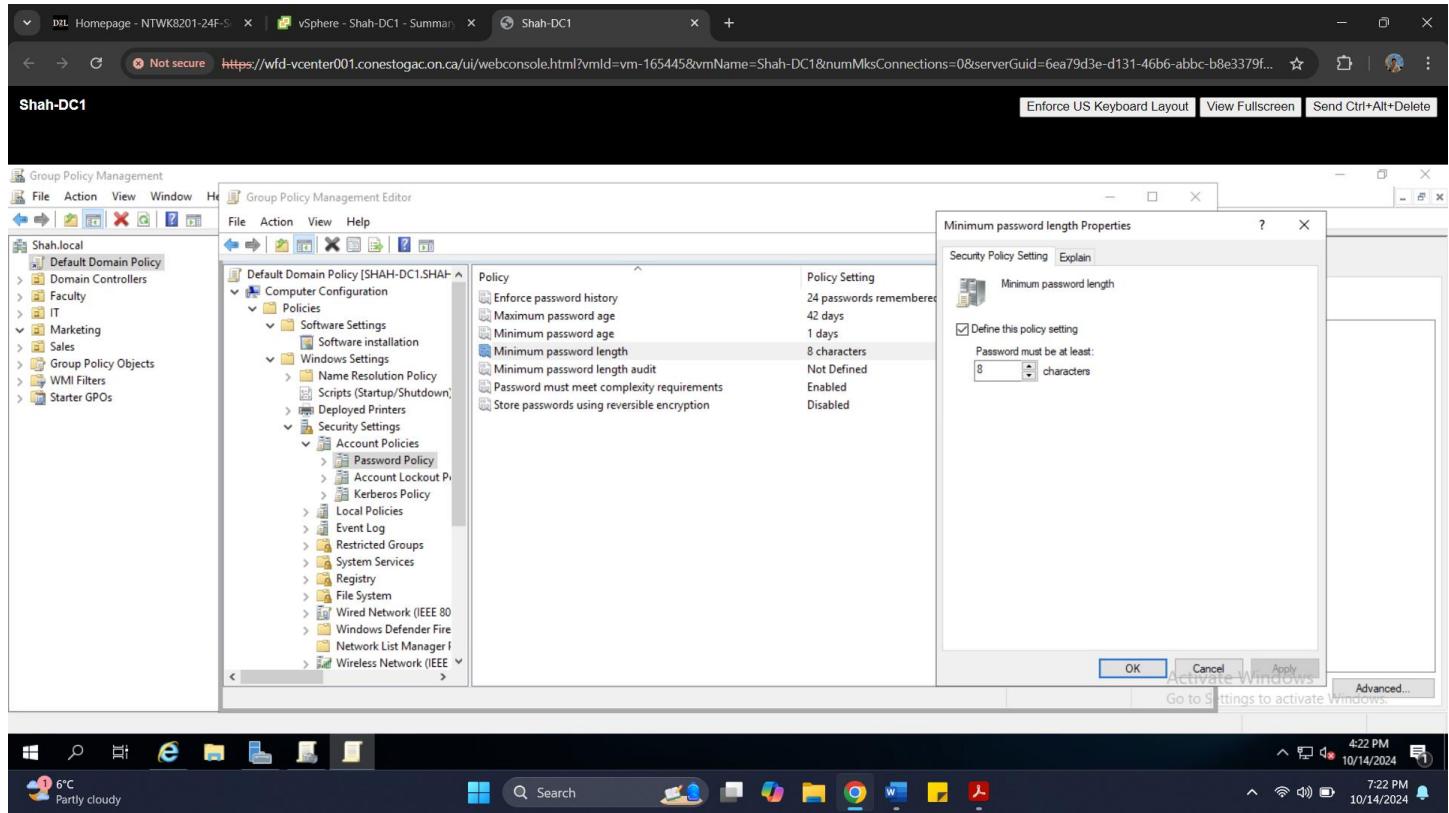


Passwords should be a minimum of 8 characters and uphold default complexity

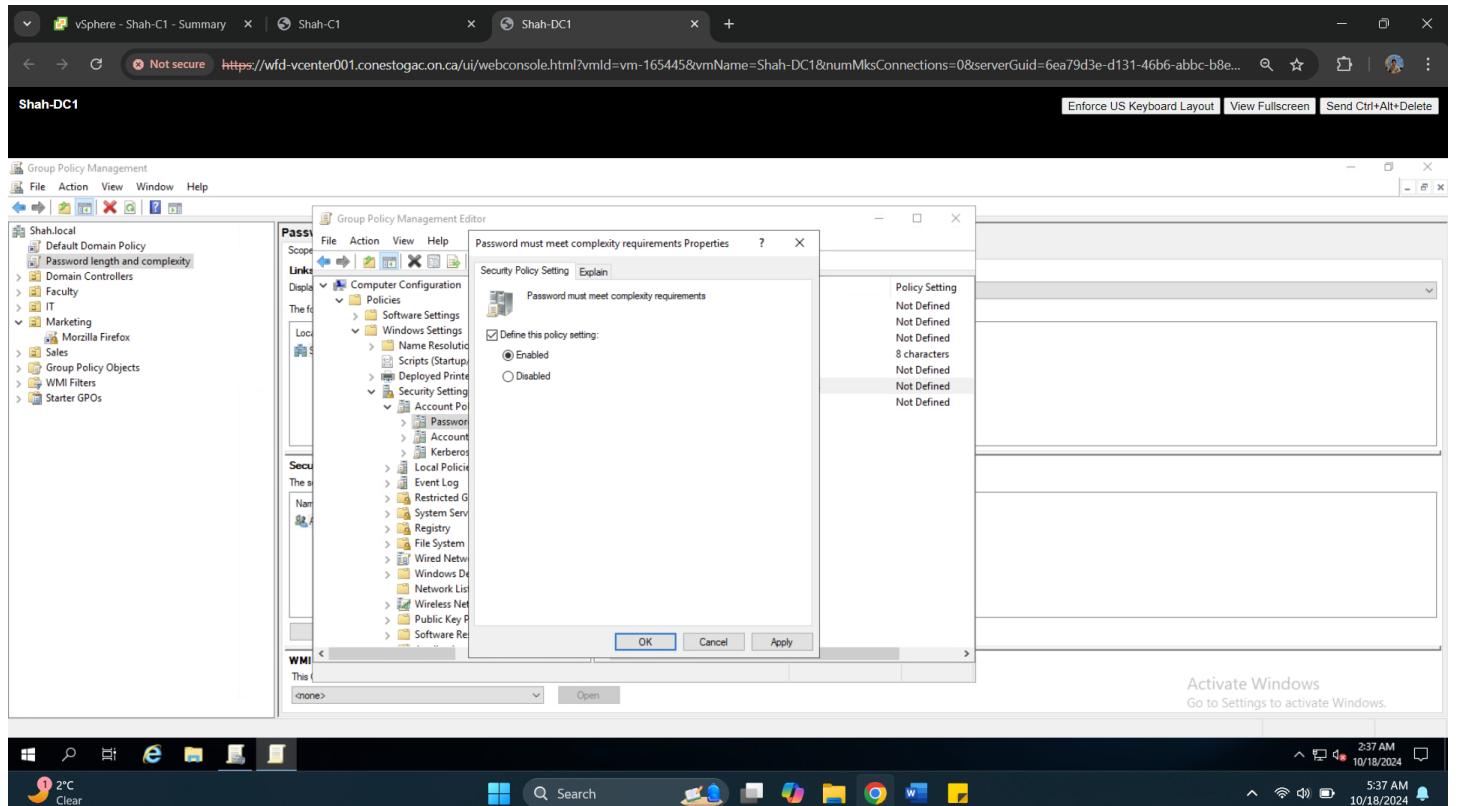
Creating GPO named “Password Length and complexity”



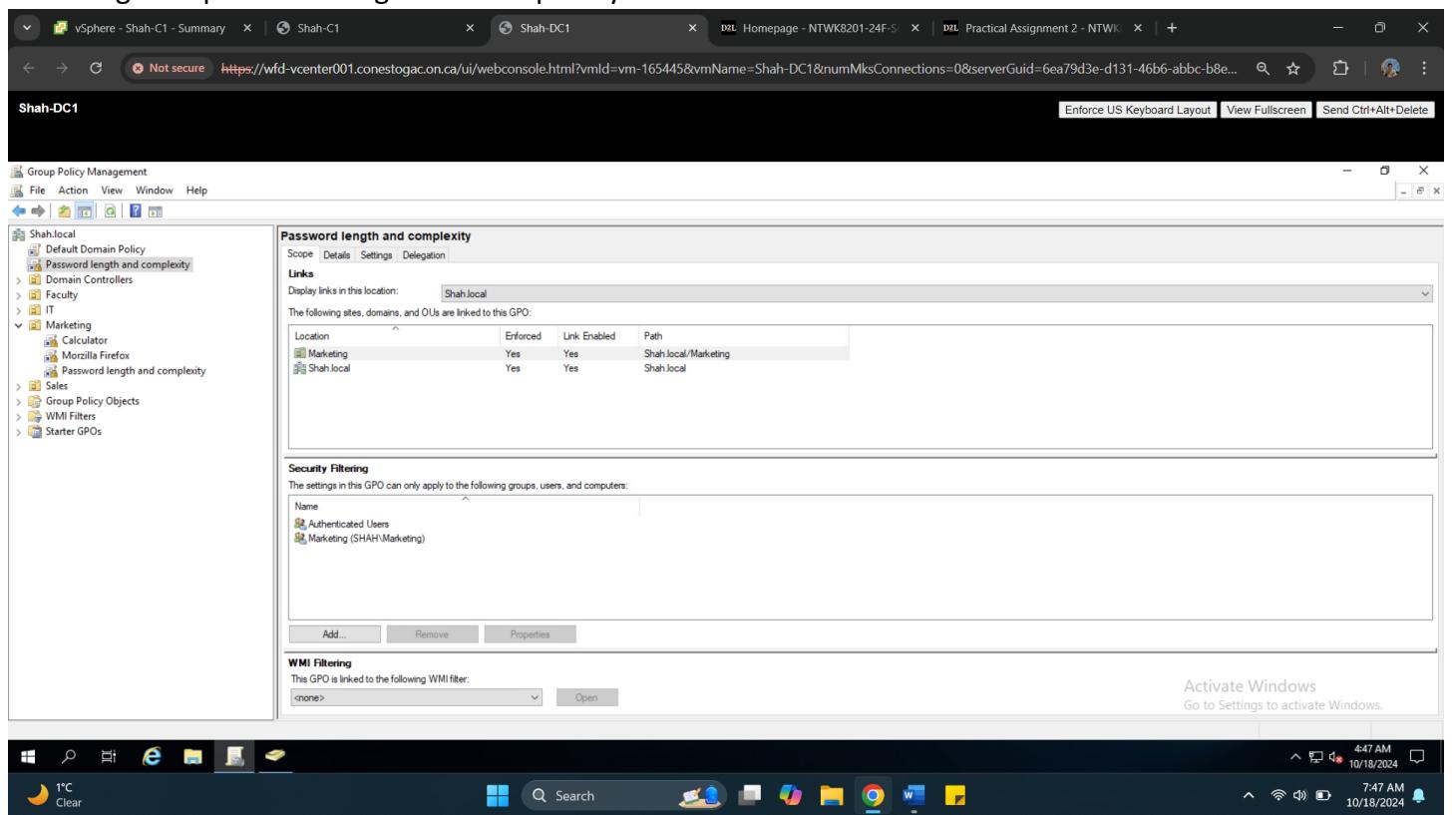
Setting password length minimum as 8 characters



Enabling the password complexity requirements



Enforcing GPO password length and complexity on domain Shah.local



Applying Password Length and complexity policy on Marketing OU

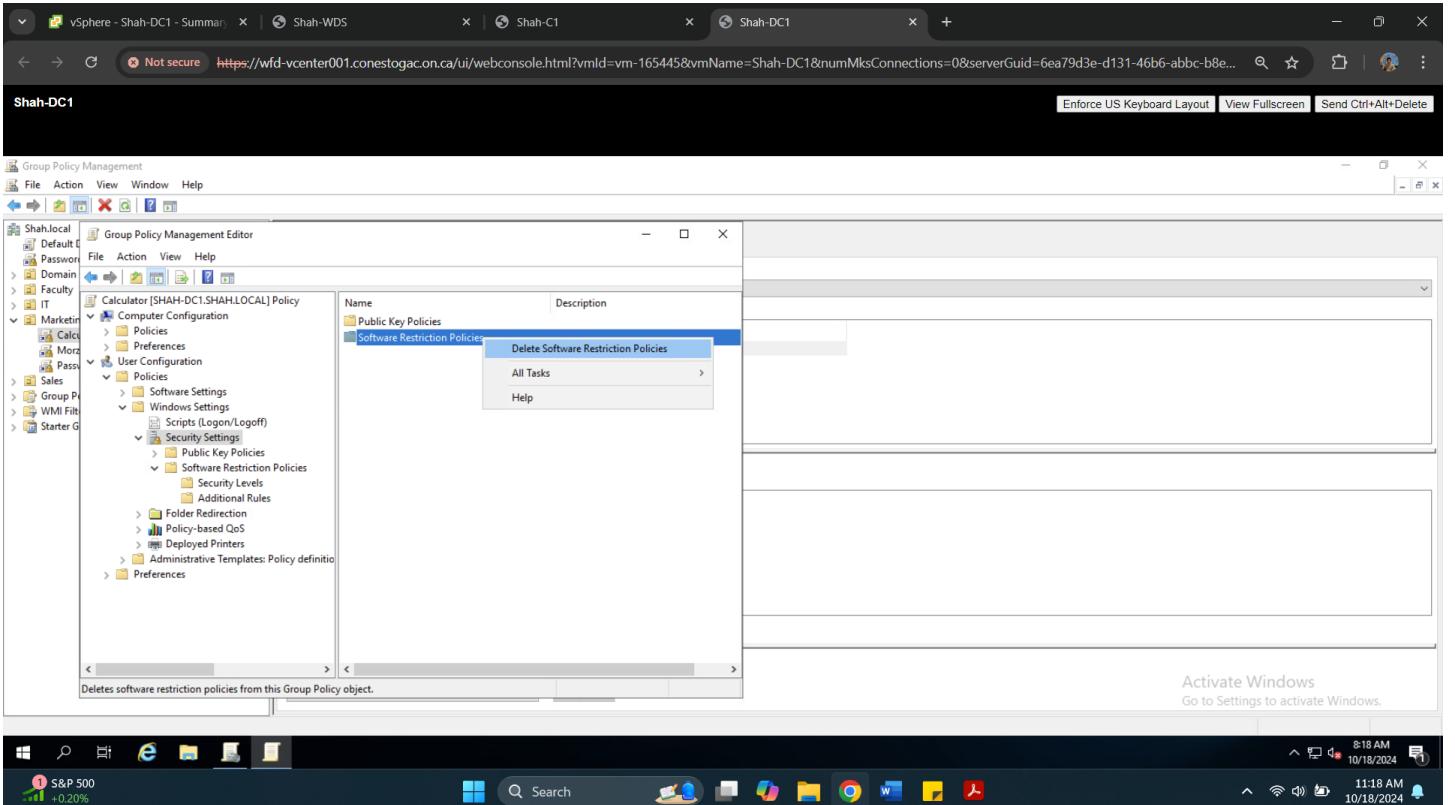
The screenshot shows the Group Policy Management console interface. On the left, the navigation pane displays the organizational unit "Marketing". Under "Marketing", there are several GPOs: Default Domain Policy, Password length and complexity, Mozilla Firefox, and another unnamed GPO. In the main pane, the "Marketing" OU is selected, and the "Linked Group Policy Objects" tab is active. It lists two GPOs: "Mozilla Firefox" and "Password length and complexity", both of which are Enforced, Link Enabled, and Enabled. The "Domain" column shows "Shah.local" for both entries. The status bar at the bottom right indicates "Activate Windows Go to Settings to activate Windows".

Marketing Users should not be able to open the calculator application

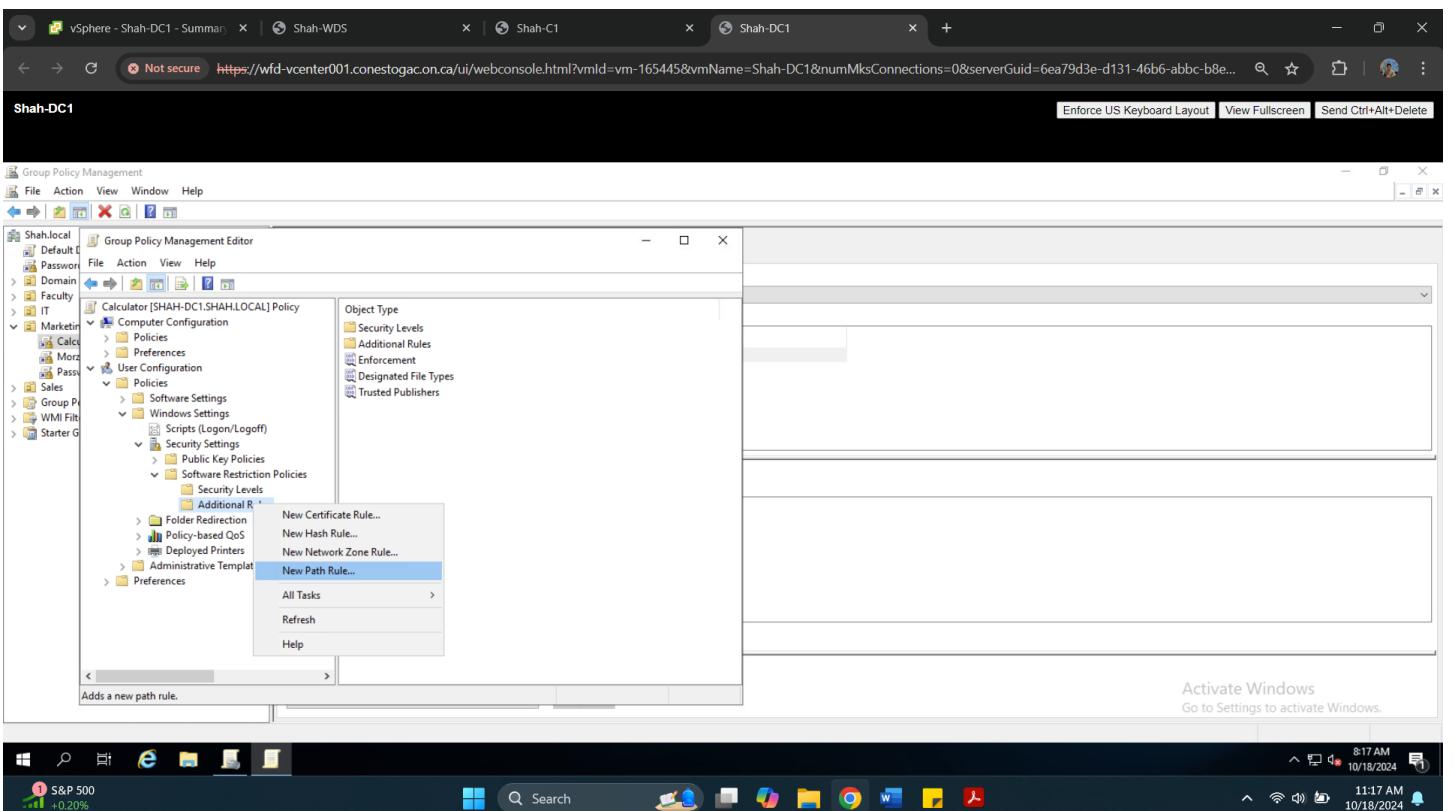
Creating GPO as Calculator

The screenshot shows the Group Policy Management console interface. The "Marketing" OU is selected, and a "New GPO" dialog box is open in the foreground. The dialog box has "Name:" set to "Calculator" and "Source Starter GPO:" set to "(none)". The "OK" button is highlighted. In the background, the "Marketing" OU is selected, and the "Linked Group Policy Objects" tab is active, showing the same two GPOs as the previous screenshot. The status bar at the bottom right indicates "Activate Windows Go to Settings to activate Windows".

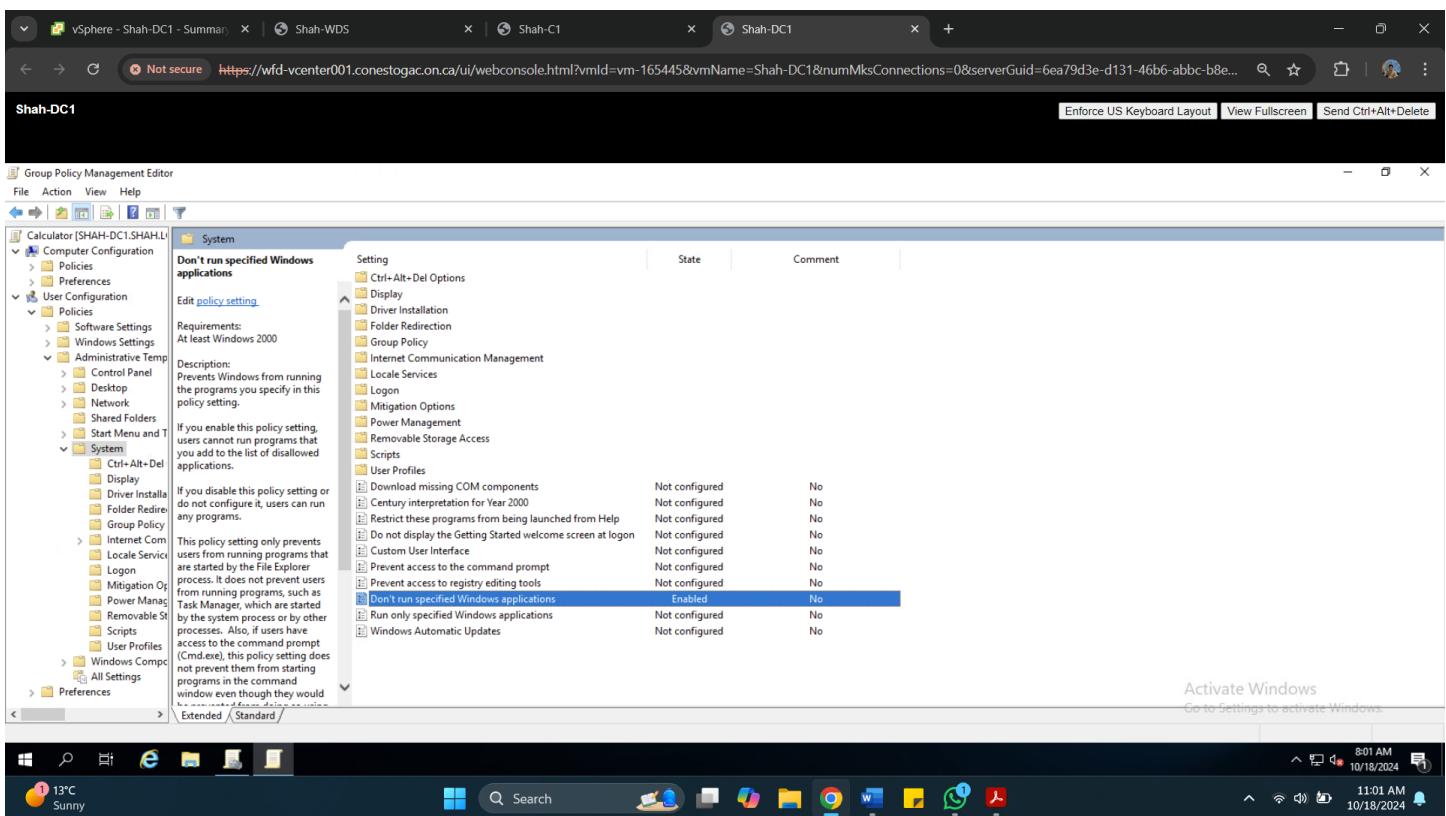
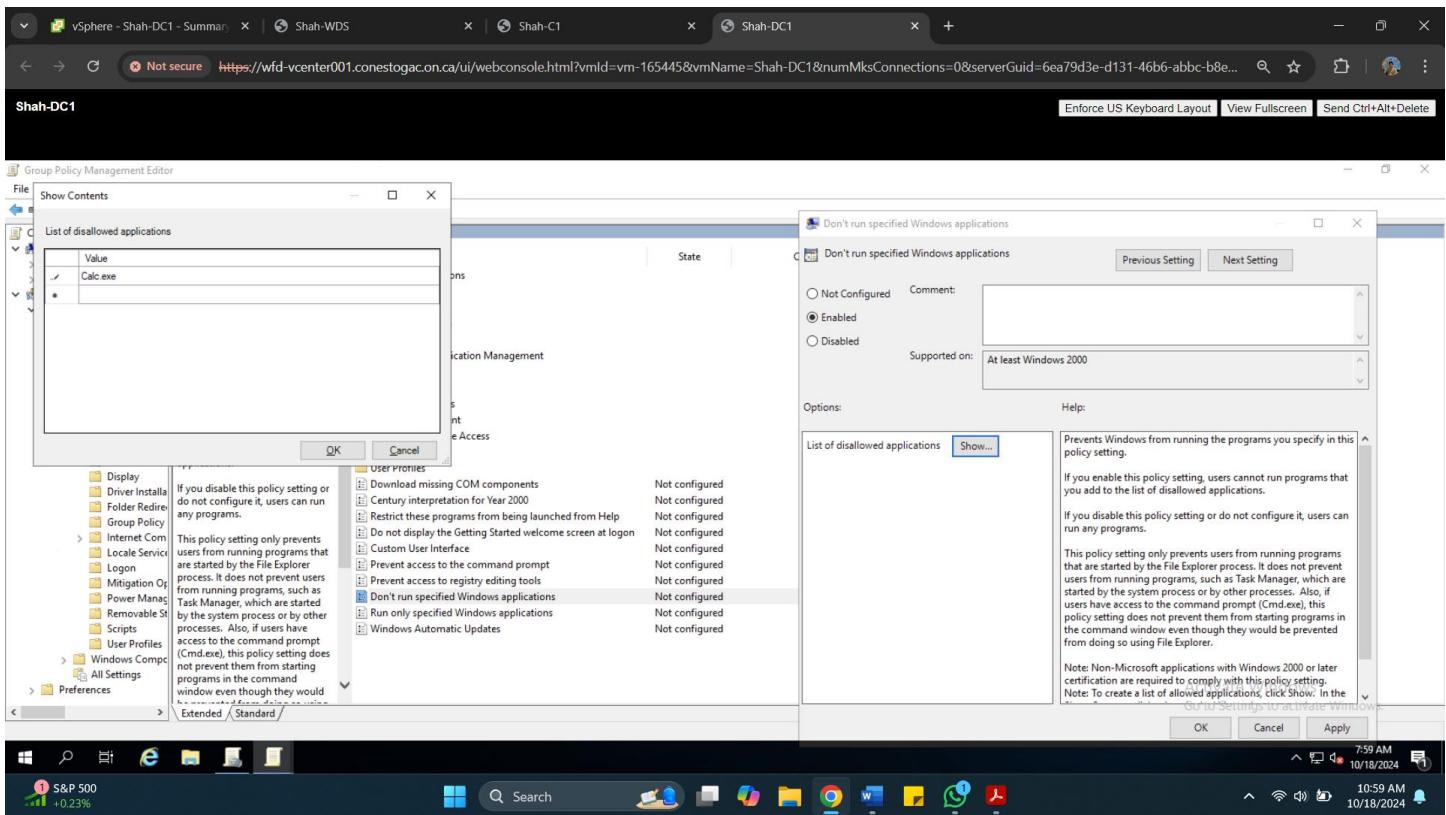
Under GPO Calculator → User Configuration → Policies → Windows Settings → Security Settings → Software Restriction Policies → New Software Restriction Policies



Create new Path rule under Software Restriction Policies → Additional Rules



Providing Path: "C:\Windows\System32\calc.exe" and Selecting Security level as Disallowed



Successfully creating rule for disallowing calculator

The screenshot shows the Group Policy Management Editor window. The left pane displays a tree structure of Group Policies under 'Shah.local'. A specific policy named 'Calculator [SHAH-DC1.SHAHL]' is selected. The right pane shows a table of rules. One rule is listed:

Name	Type	Security Level	Description
C:\Windows\System32\calc.exe	Path	Disallowed	Calculator Disallowed

Below the table, there is a message: 'Activate Windows' and 'Go to Settings to activate Windows.'



Enforcing GPO calculator on Marketing

The screenshot shows the Group Policy Management Editor window. The left pane displays a tree structure of Group Policies under 'Shah.local'. A specific policy named 'Calculator' is selected. The right pane shows the 'Scope' tab of the GPO editor. It displays the following information:

Location	Enforced	Link Enabled	Path
Marketing	Yes	Yes	Shah.local/Marketing

Below the table, there are sections for 'Security Filtering' and 'WMI Filtering'. The security filtering section lists 'Authenticated Users' and 'Marketing (SHAH\Marketing)'. The WMI filtering section shows a dropdown menu with '(none)' selected.



Enforced linked policy to only Marketing users in Marketing OU

The screenshot shows the Group Policy Management console. On the left, the navigation pane displays the organizational unit 'Marketing' under 'Shah.local'. The main pane shows a table of 'Linked Group Policy Objects' for the 'Marketing' OU. The table includes columns for Link Order, GPO, Enforced, Link Enabled, GPO Status, WMI Filter, Modified, and Domain. Three GPOs are listed:

Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified	Domain
1	Mozilla Firefox	Yes	Yes	Enabled	None	10/18/2024 2:05:14 AM	Shah.local
2	Password length and complexity	Yes	Yes	Enabled	None	10/18/2024 2:37:49 AM	Shah.local
3	Calculator	Yes	Yes	Enabled	None	10/18/2024 2:41:59 AM	Shah.local

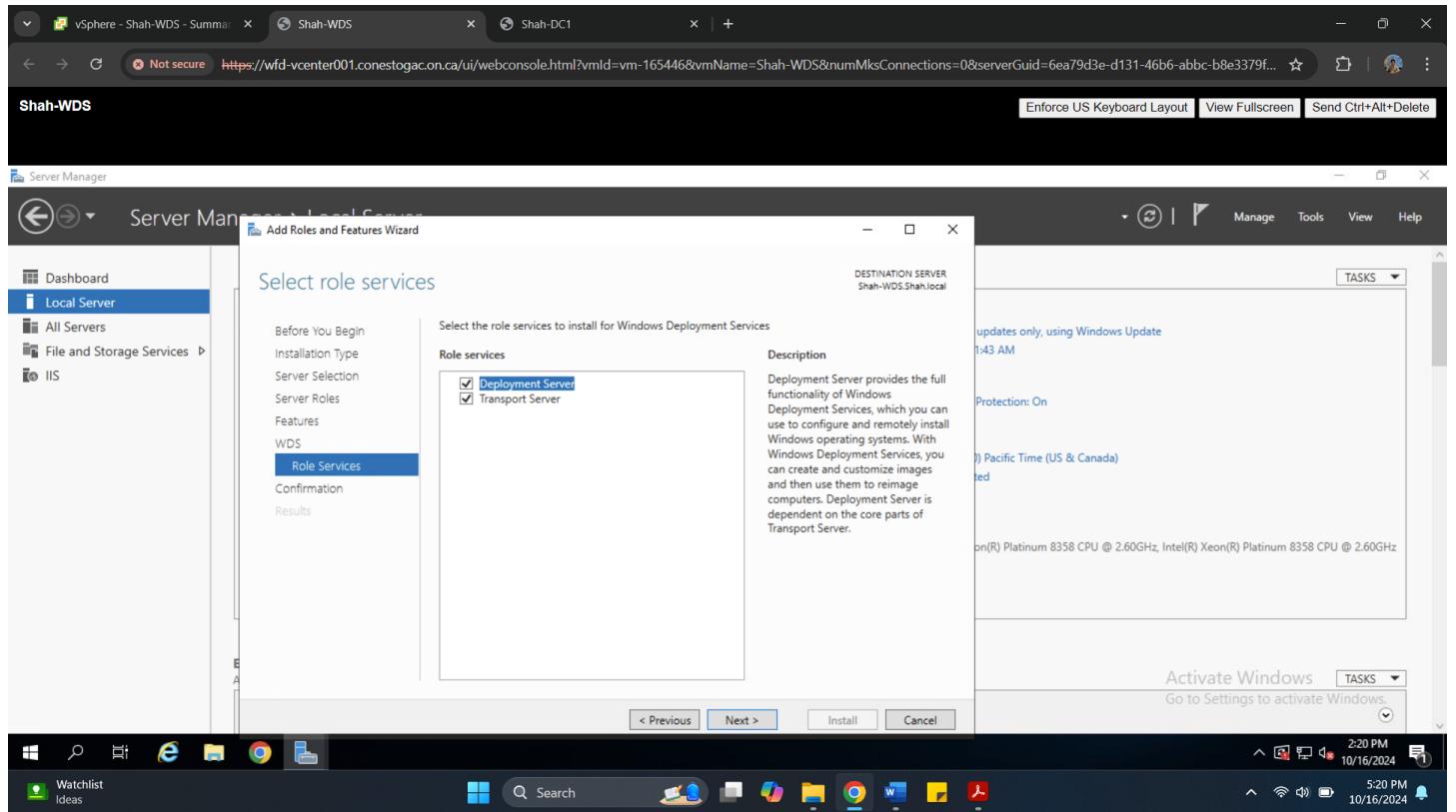
The status bar at the bottom right indicates 'Activate Windows'.

Install WDS on Lastname-WDS (Shah-WDS).

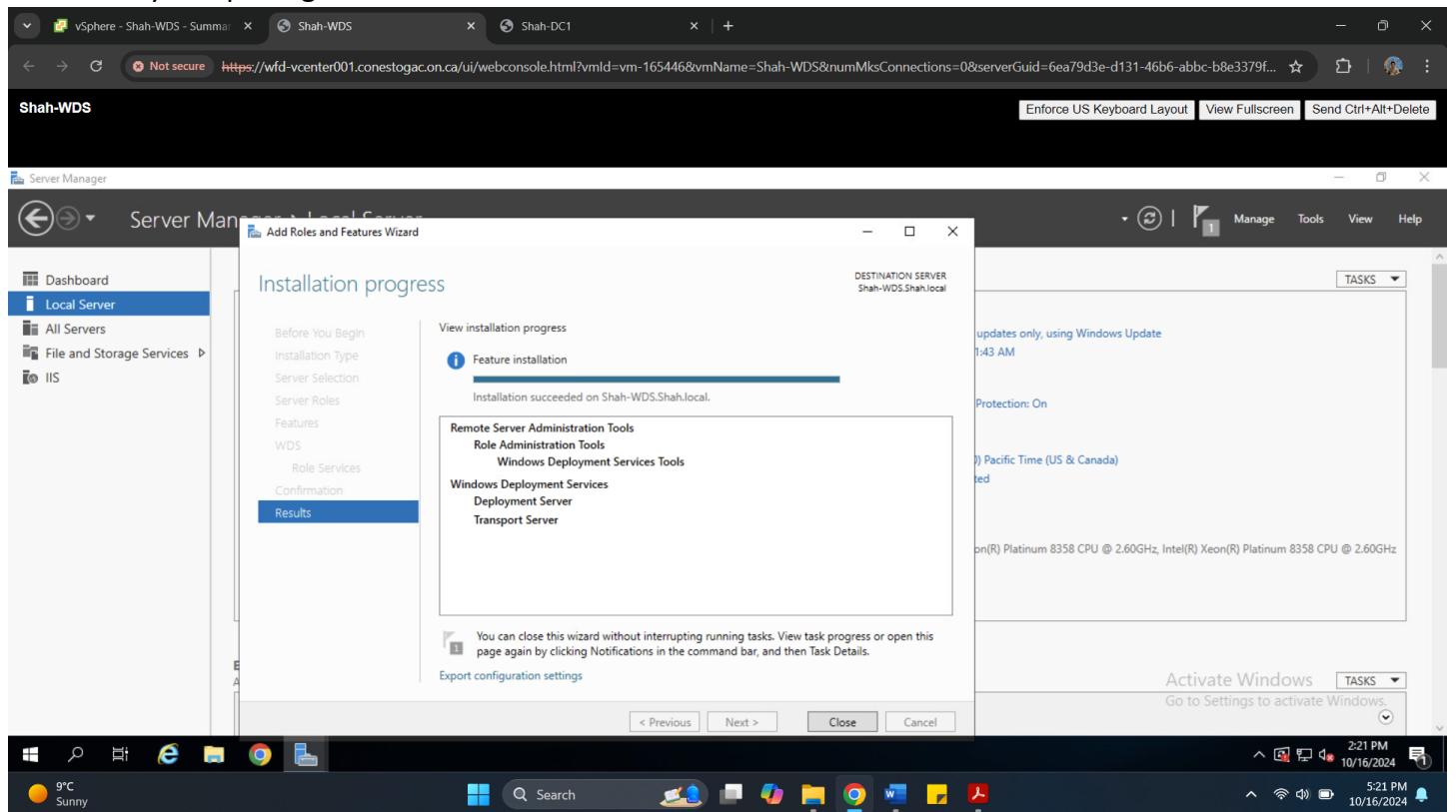
Installing WDS feature on server Shah-WDS

The screenshot shows the 'Server Manager' interface with 'Local Server' selected. A 'Server Manager - Local Server' window is open, showing the 'Add Roles and Features Wizard'. The 'Select server roles' step is displayed, with 'Windows Deployment Services' selected from the list of roles. The 'Description' panel explains that Windows Deployment Services provides a simplified, secure means of rapidly and remotely deploying Windows operating systems to computers over the network. The 'Add features that are required for Windows Deployment Services?' panel lists 'Remote Server Administration Tools' and '[Tools] Windows Deployment Services Tools'. The status bar at the bottom right indicates 'Activate Windows'.

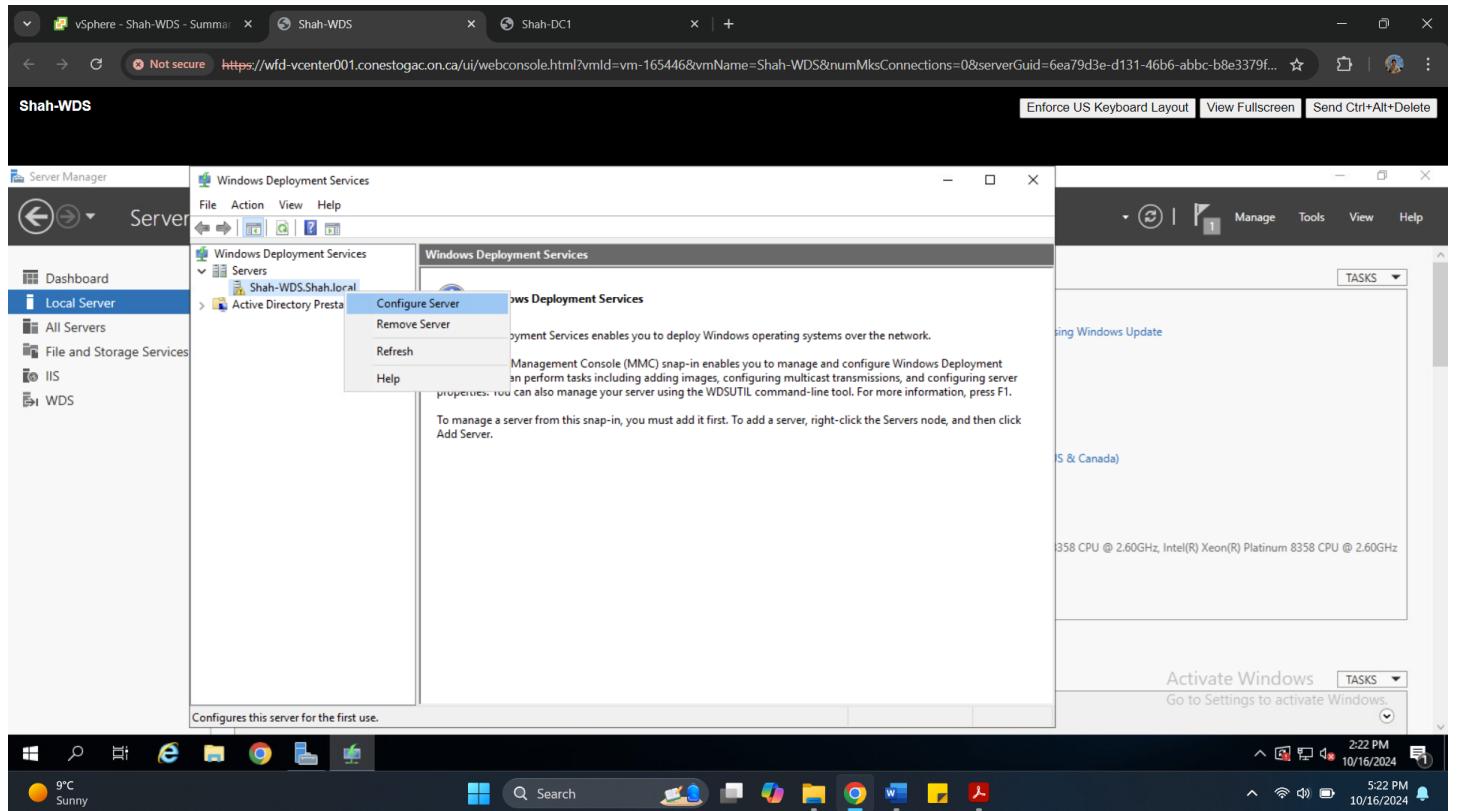
Selecting roles of Deployment server and transport server



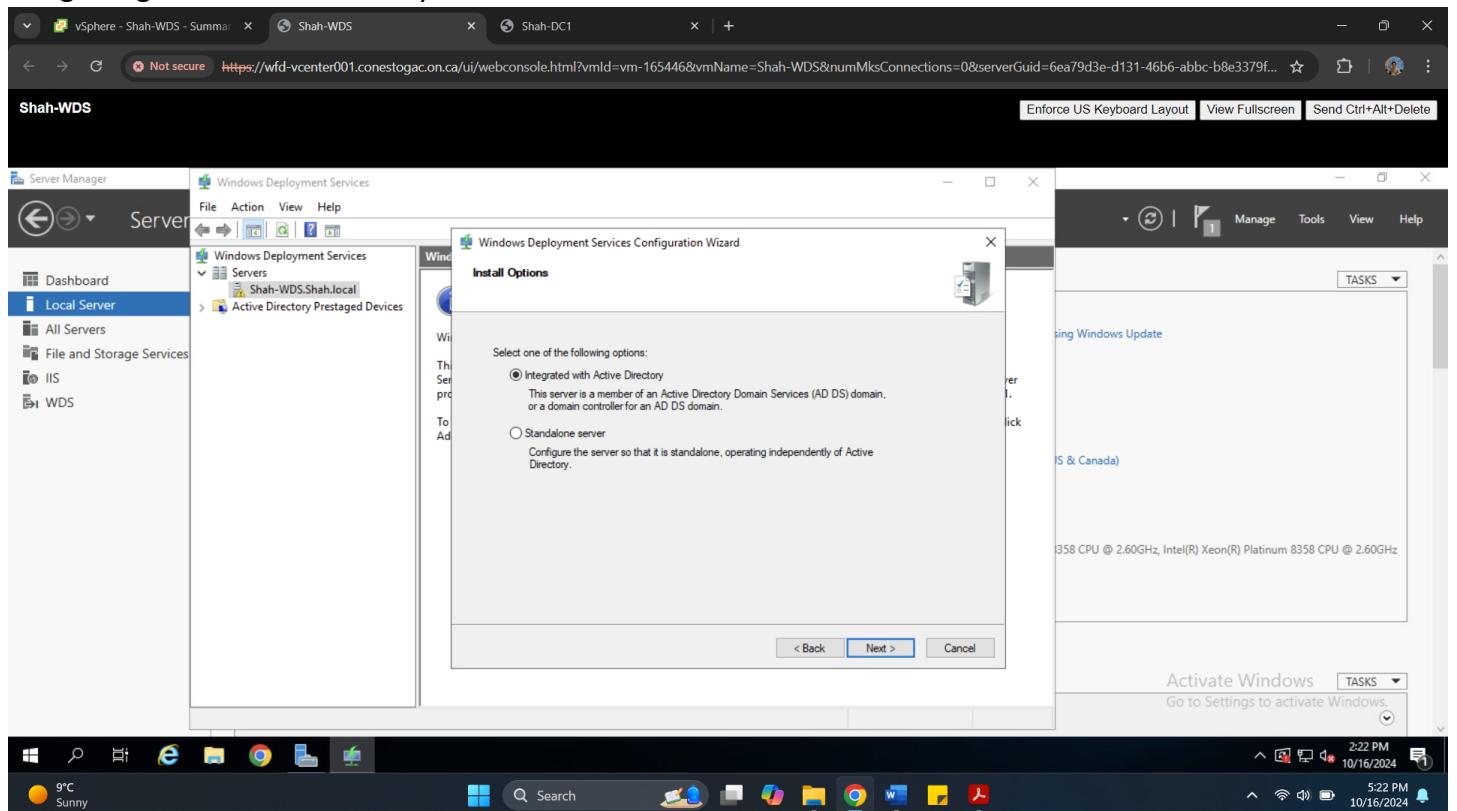
Successfully completing installation of WDS



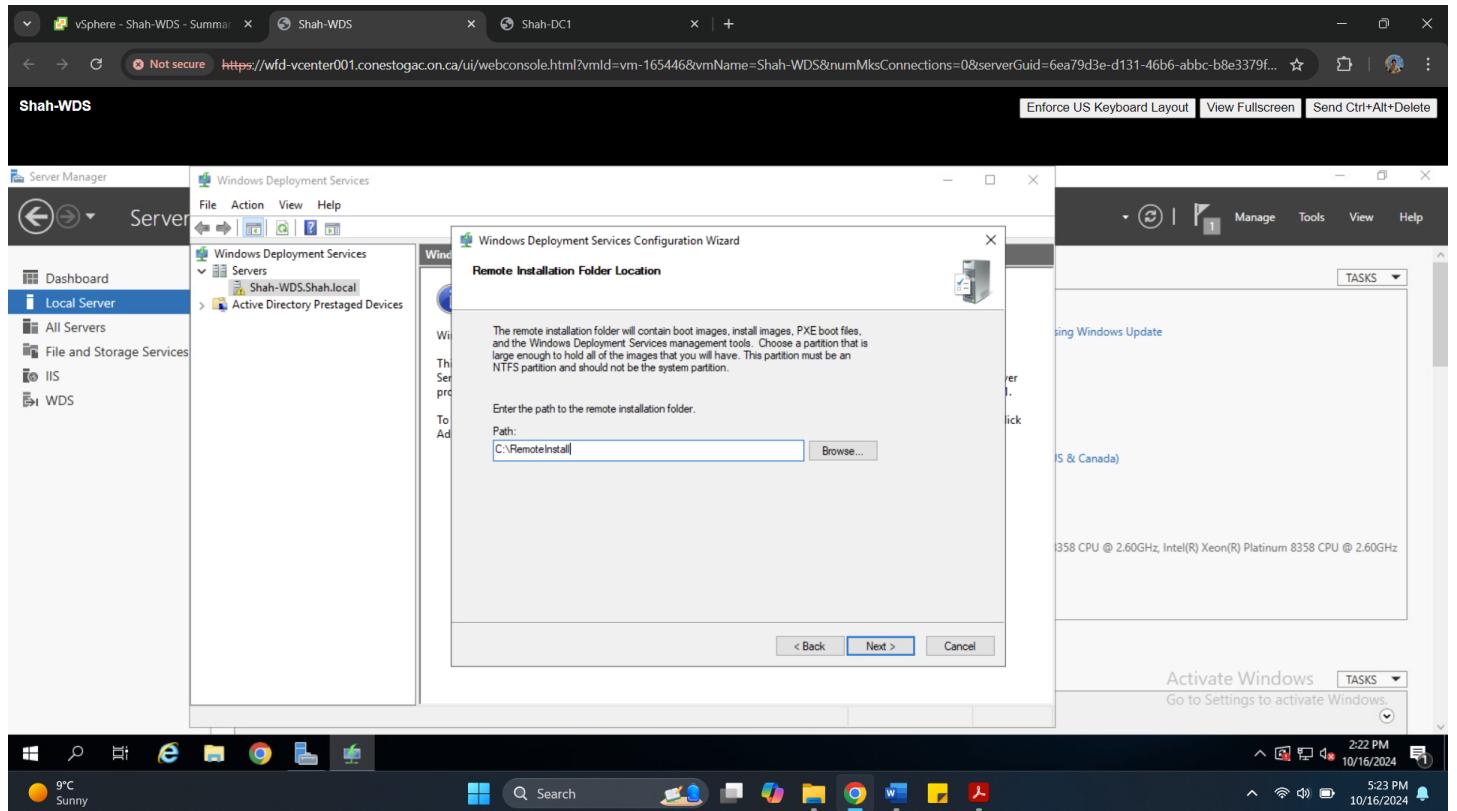
Configuring the WDS under servers → Shah-WDS.Shah.local



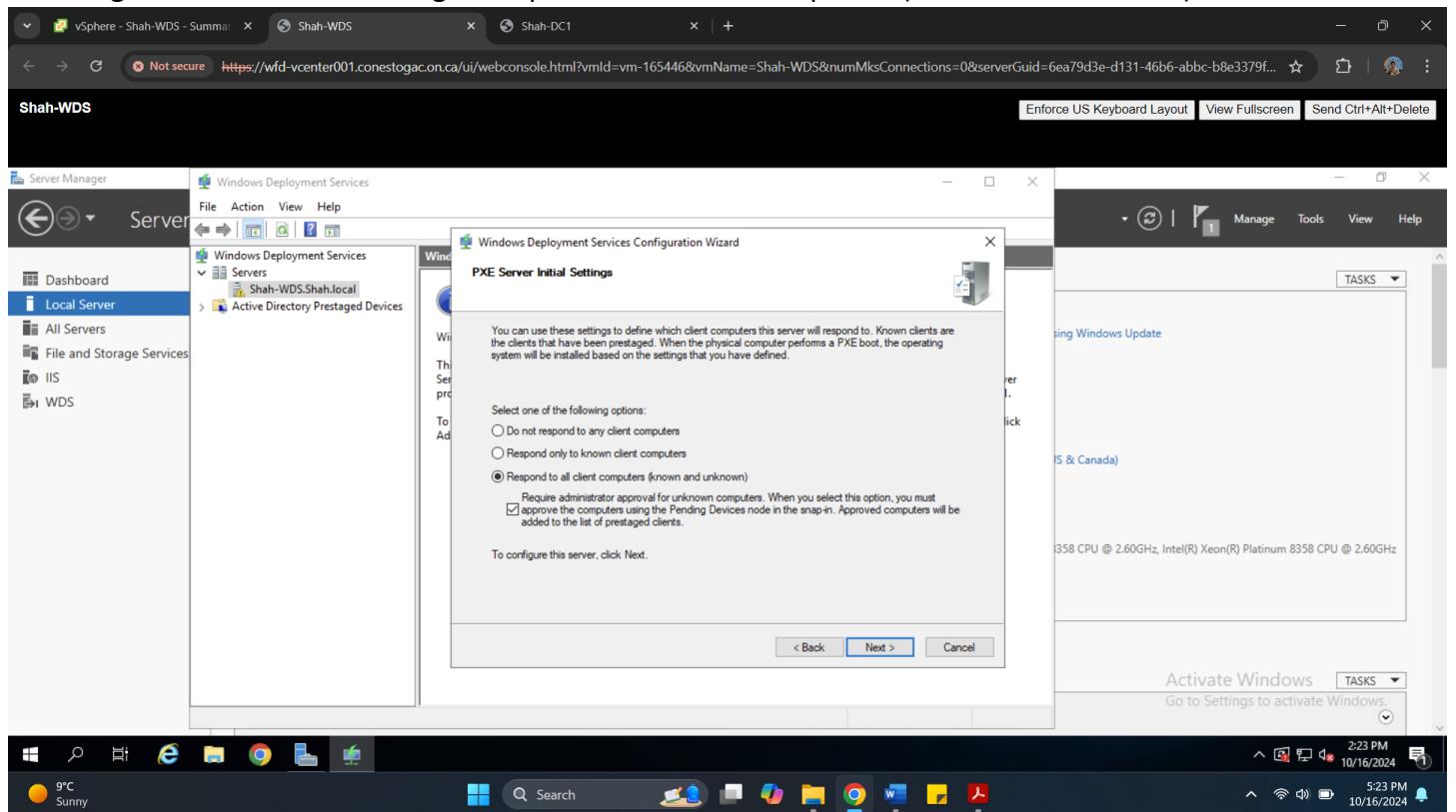
Integrating with Active Directory



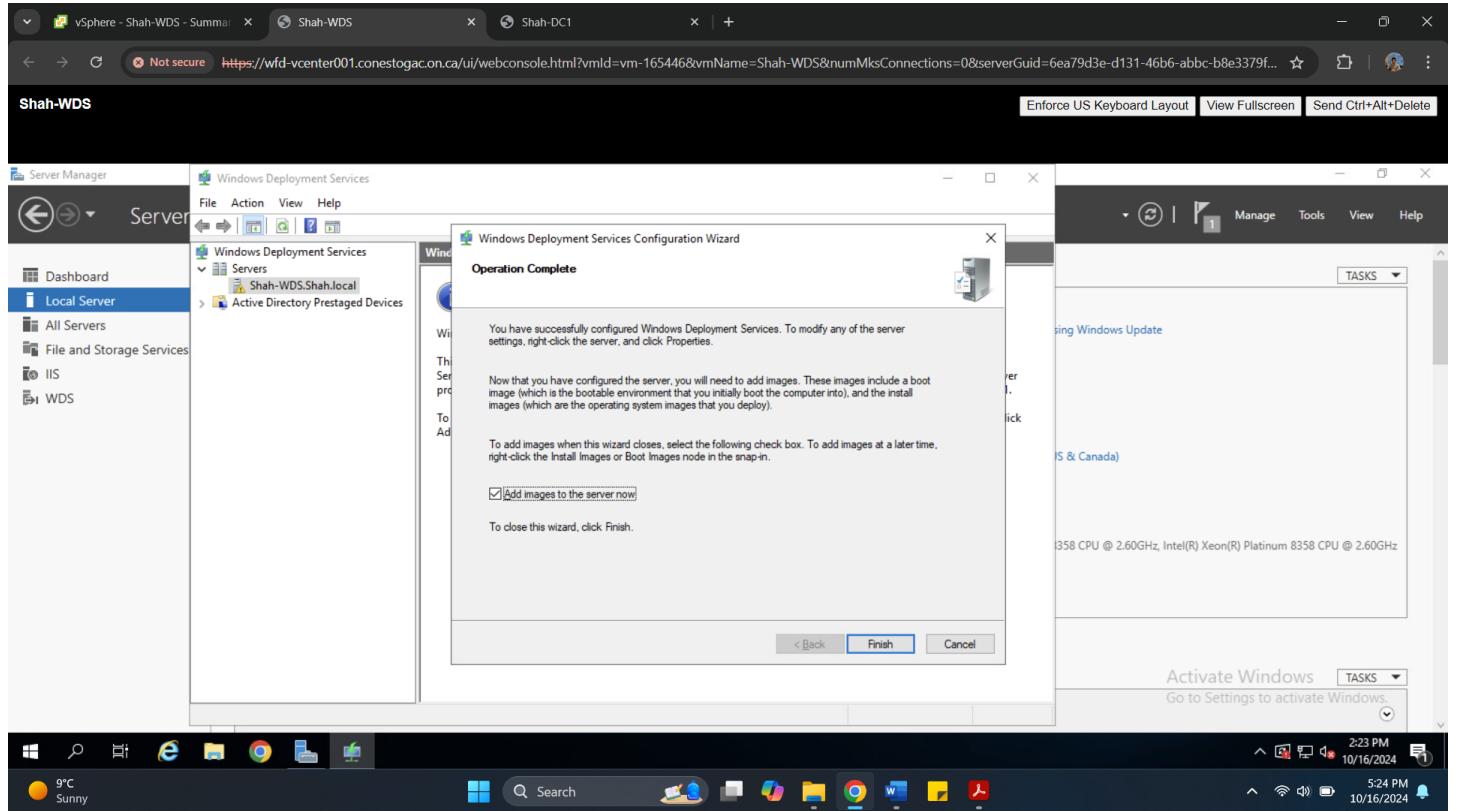
Specifying path for remote installation folder



Selecting PXE server initial Setting as respond to all client computers (known and unknown)

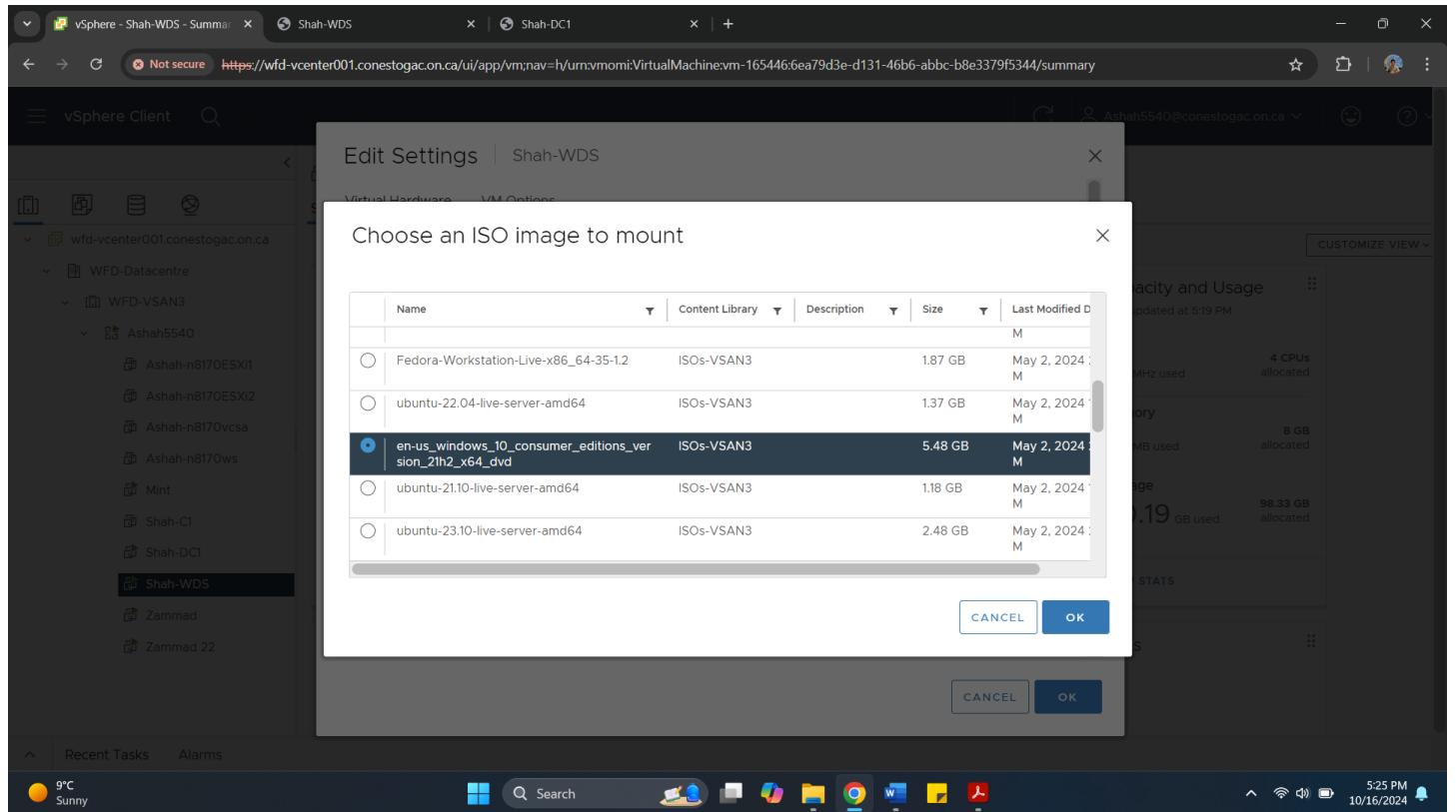


Selecting as add image to the server

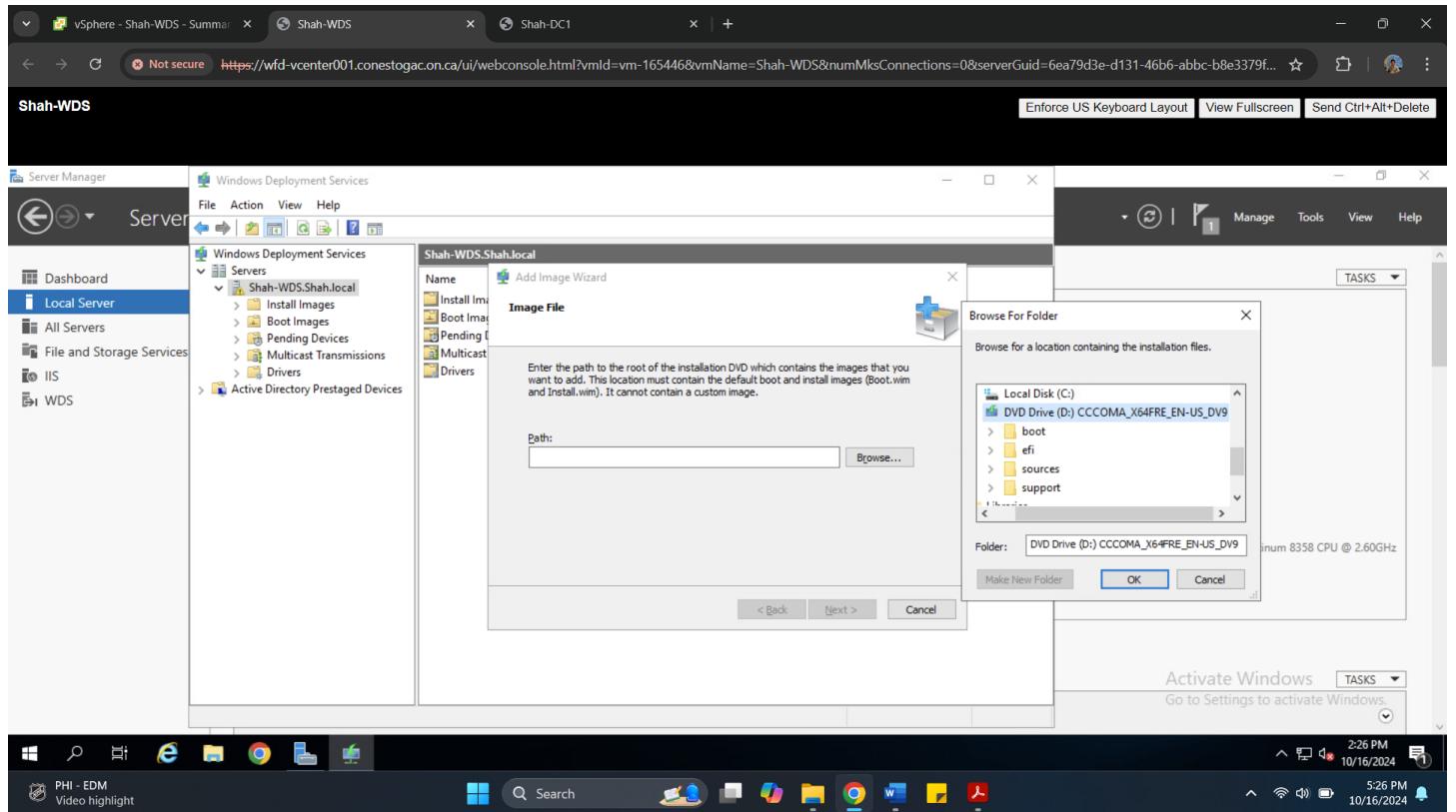


Configure a Windows 10 64-bit image using the Windows 10 iso file as the source.
(Located in Content Library)

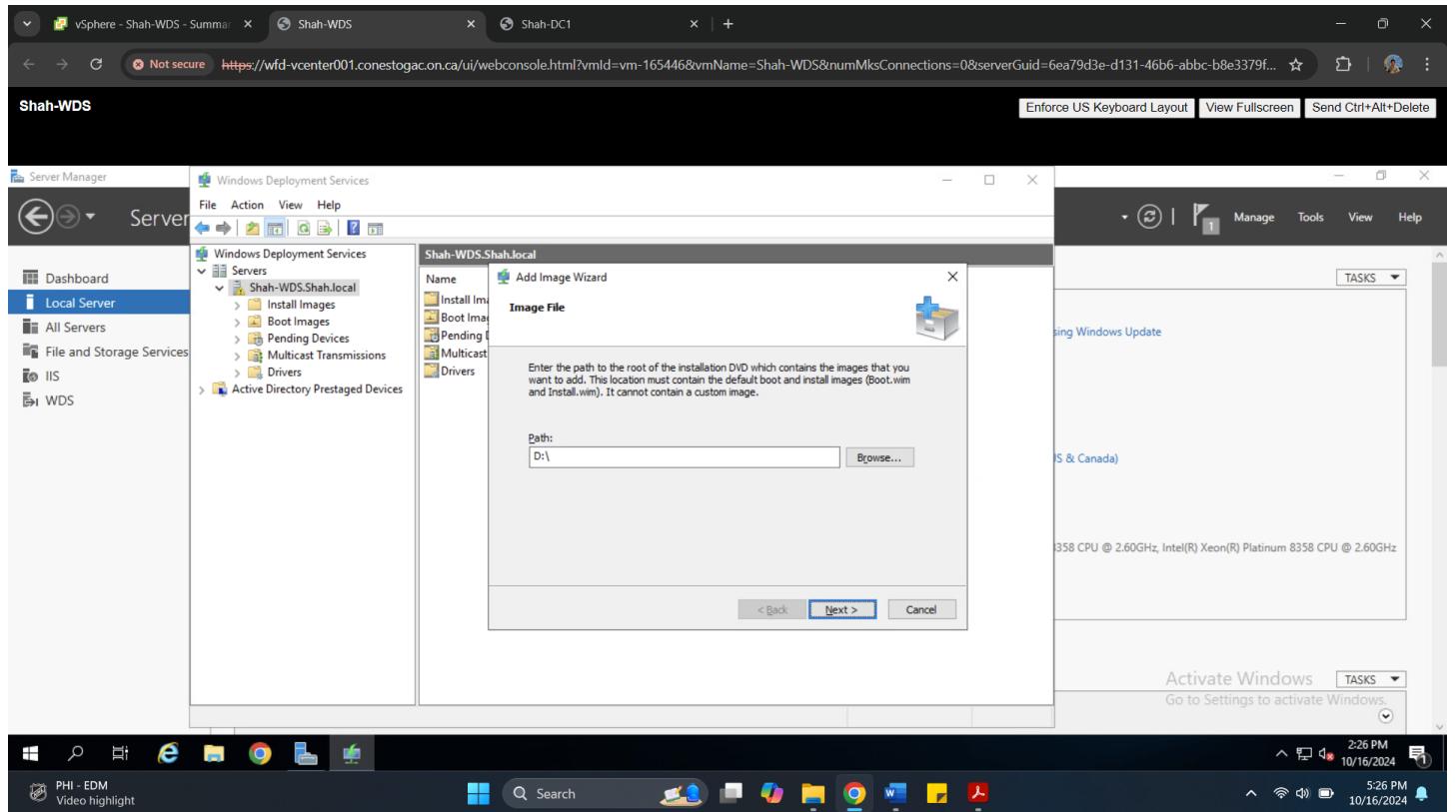
Selecting ISO image Windows10 as the source file.



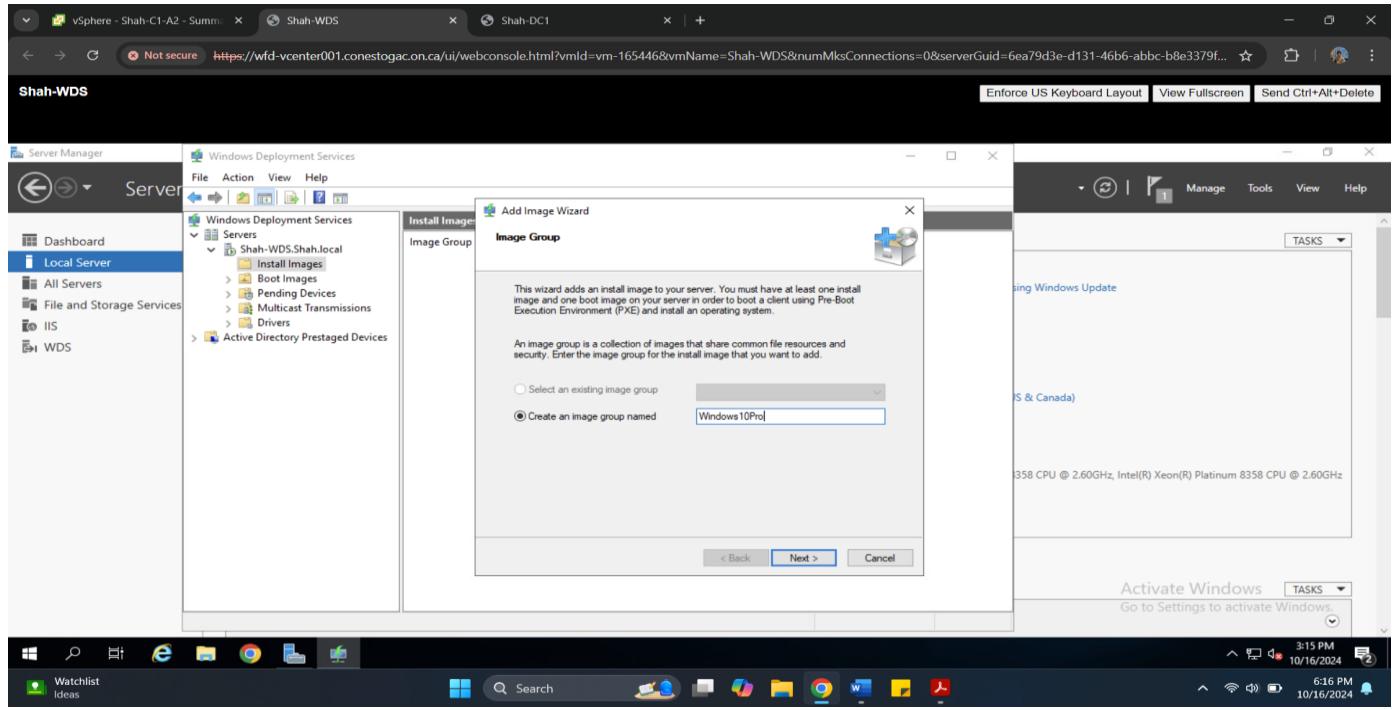
Adding install image as windows 10



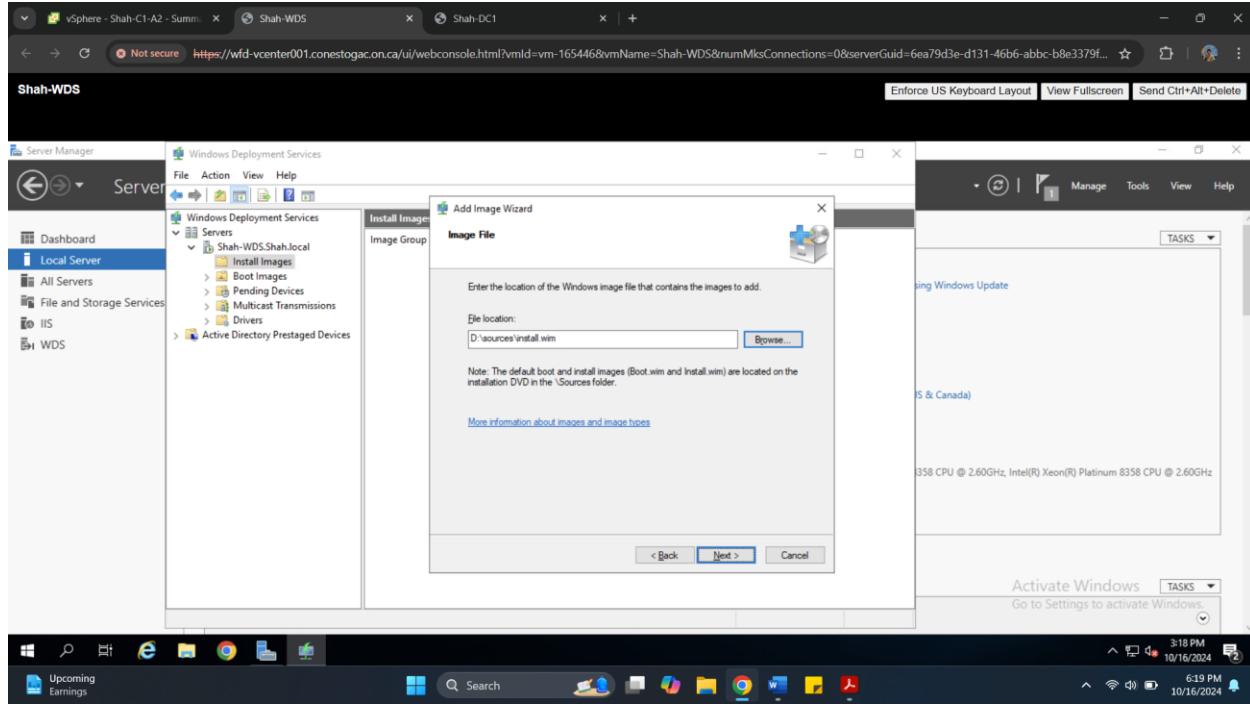
Specifying path of the image



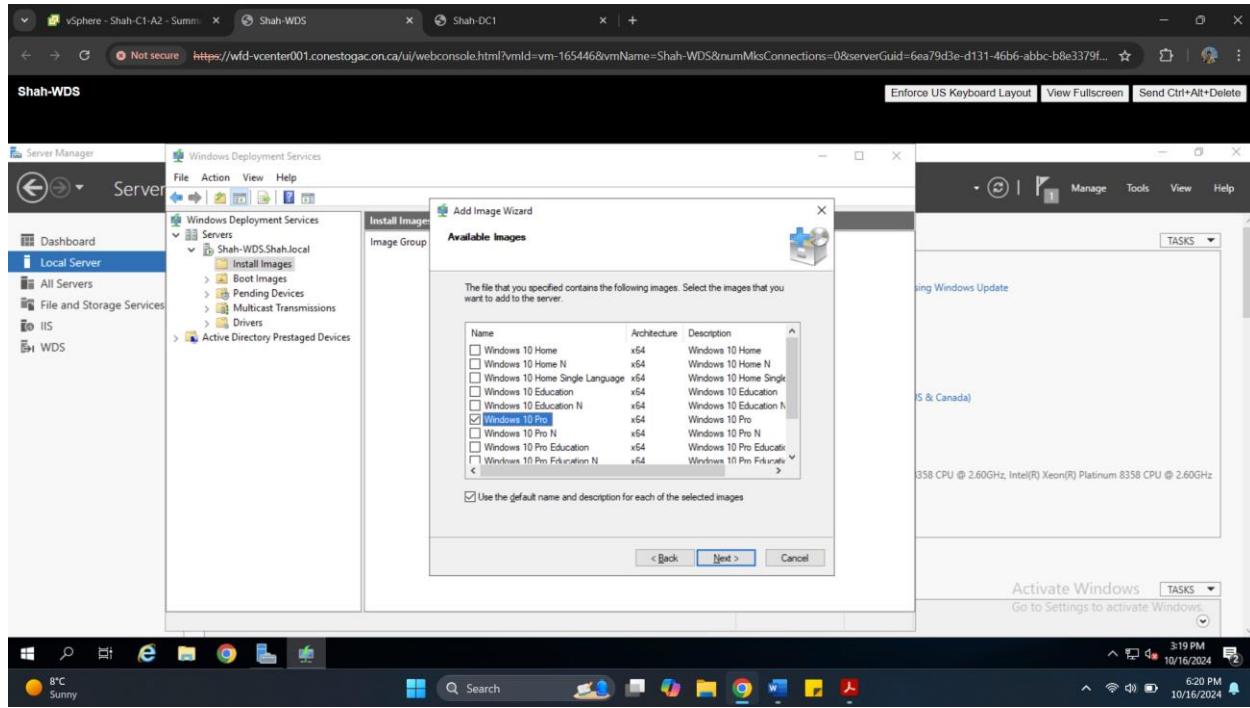
Providing image name as Windows10Pro



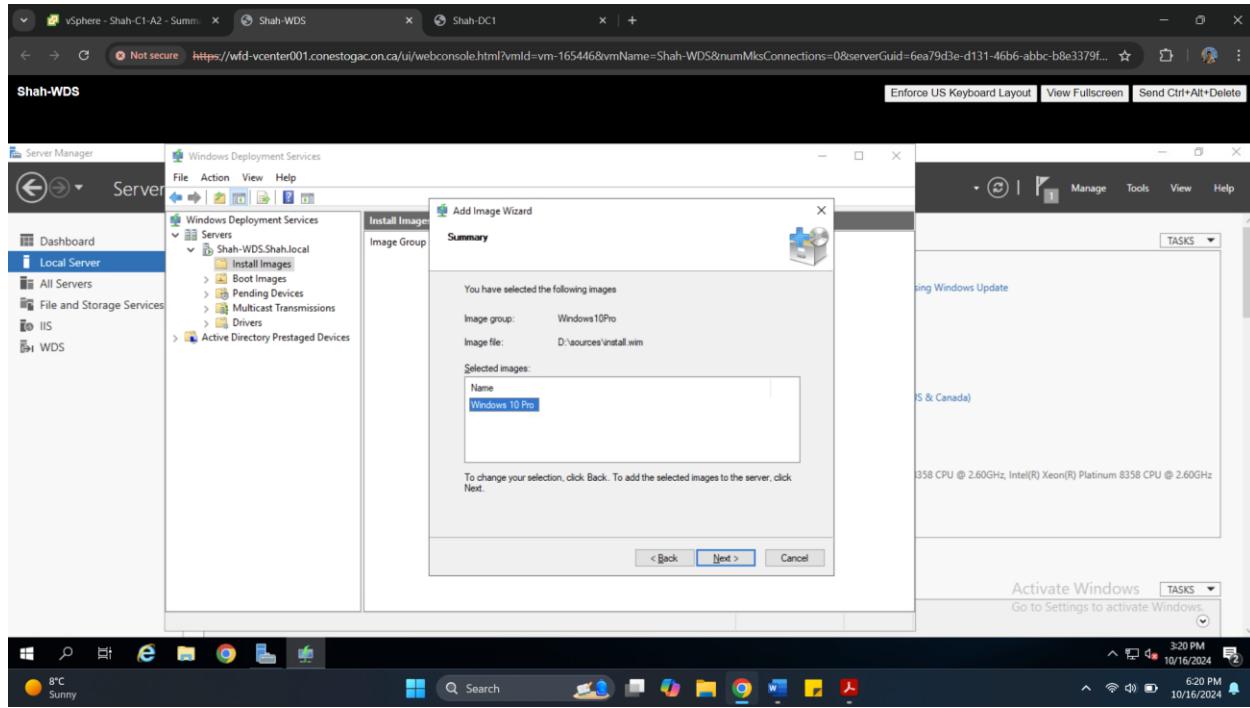
Providing path of installation image as D:\sources\install.wim



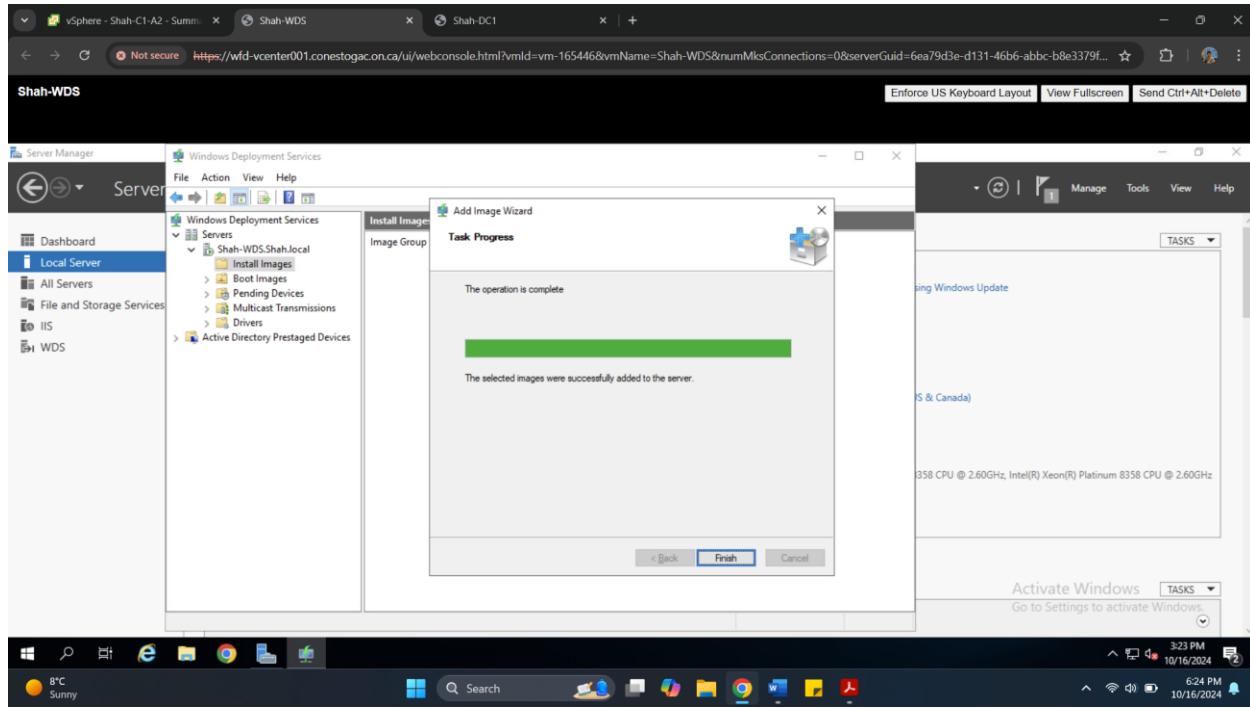
Selecting on image as windows 10 pro



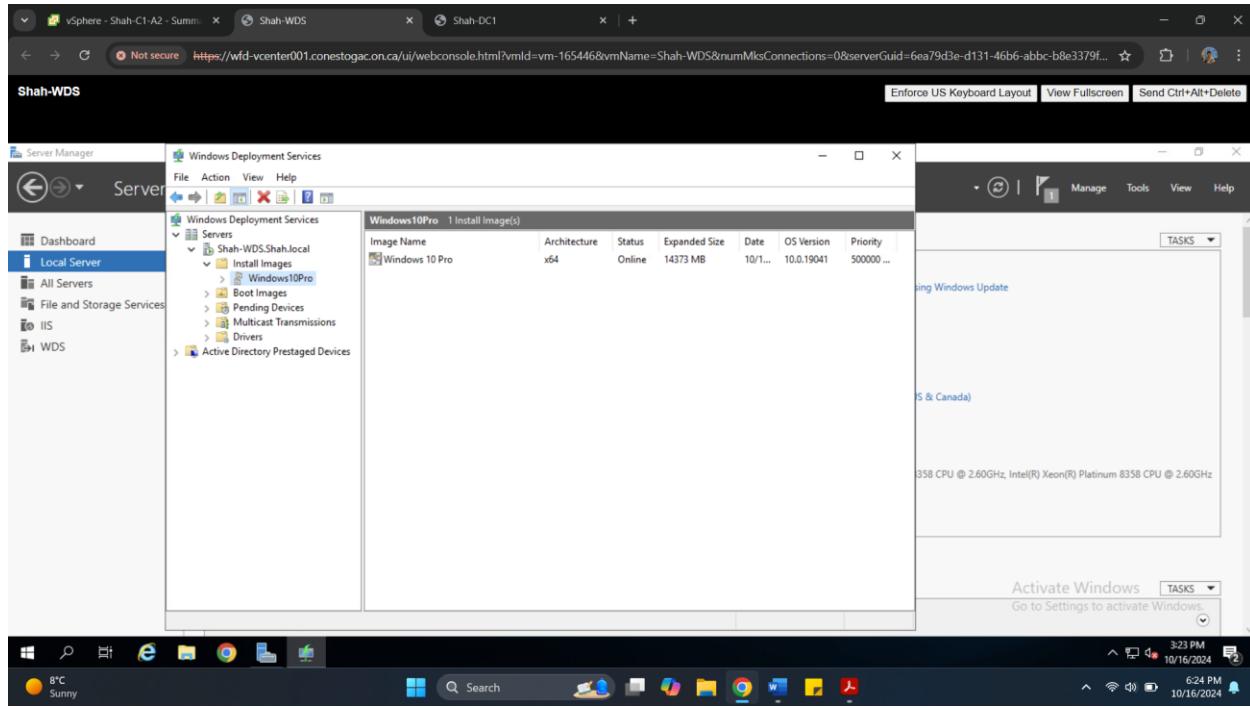
Summary of image to install



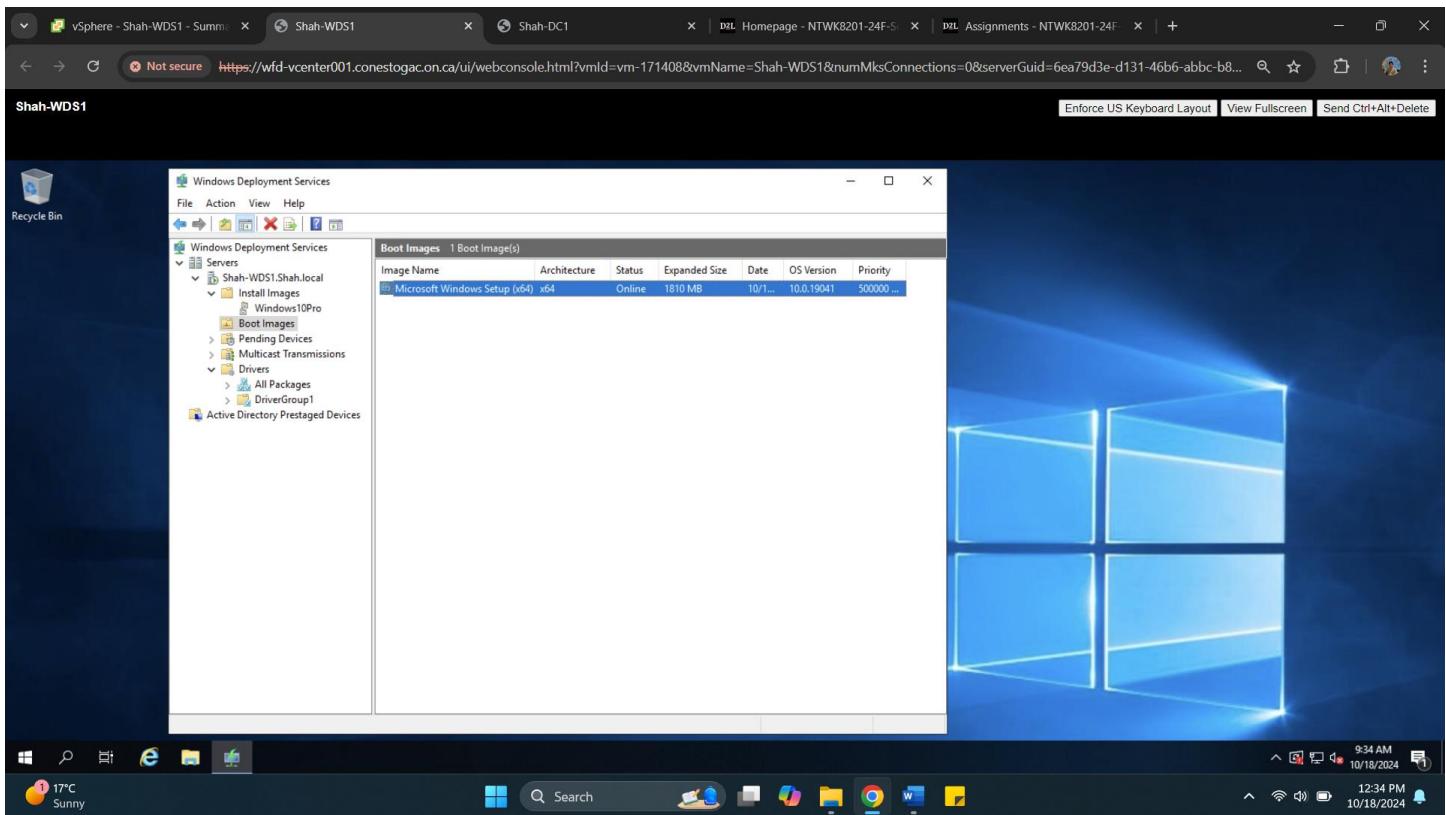
Successfully adding image to the server



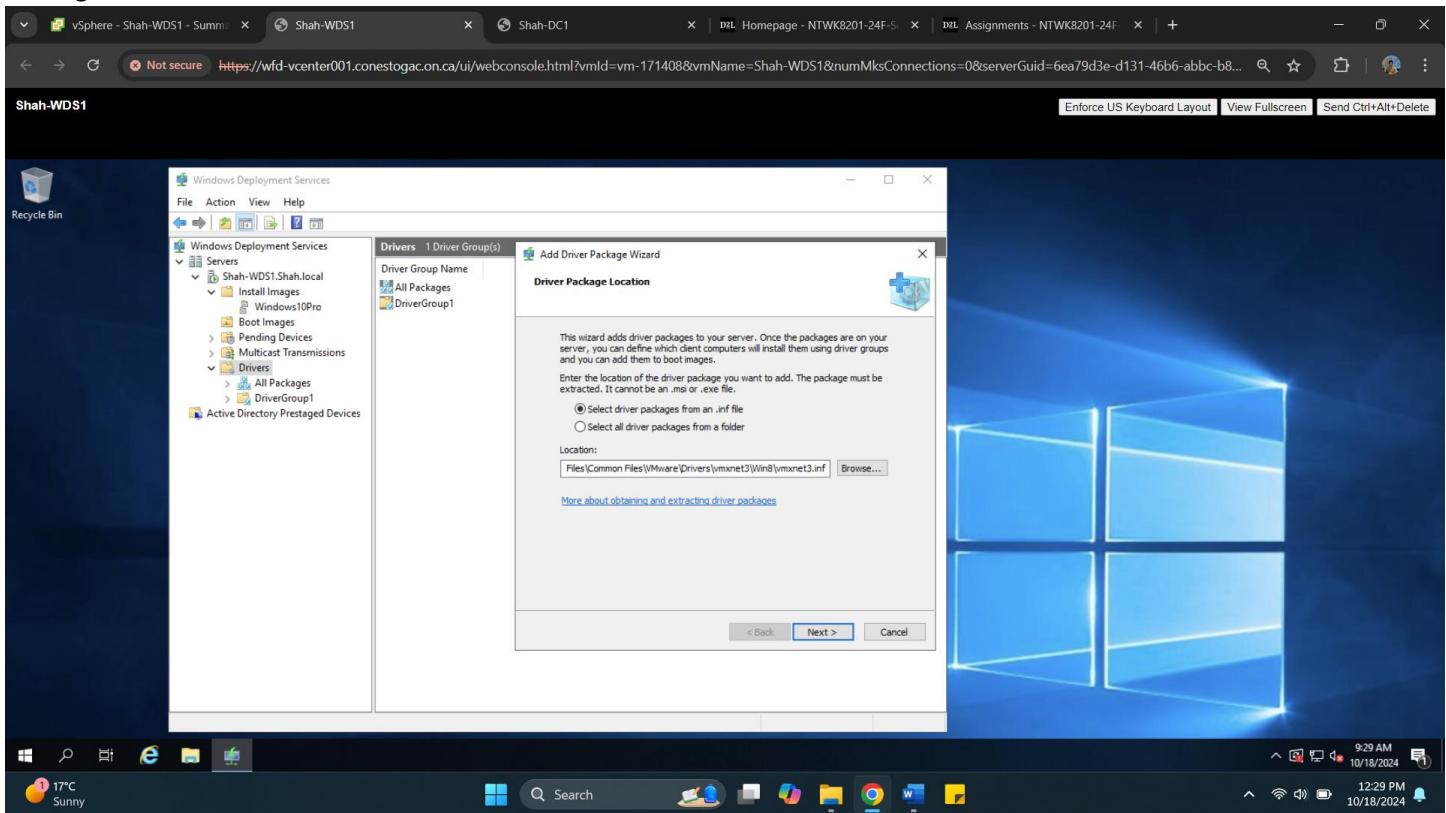
Summary of image name with windows 10 pro 64 bit architecture



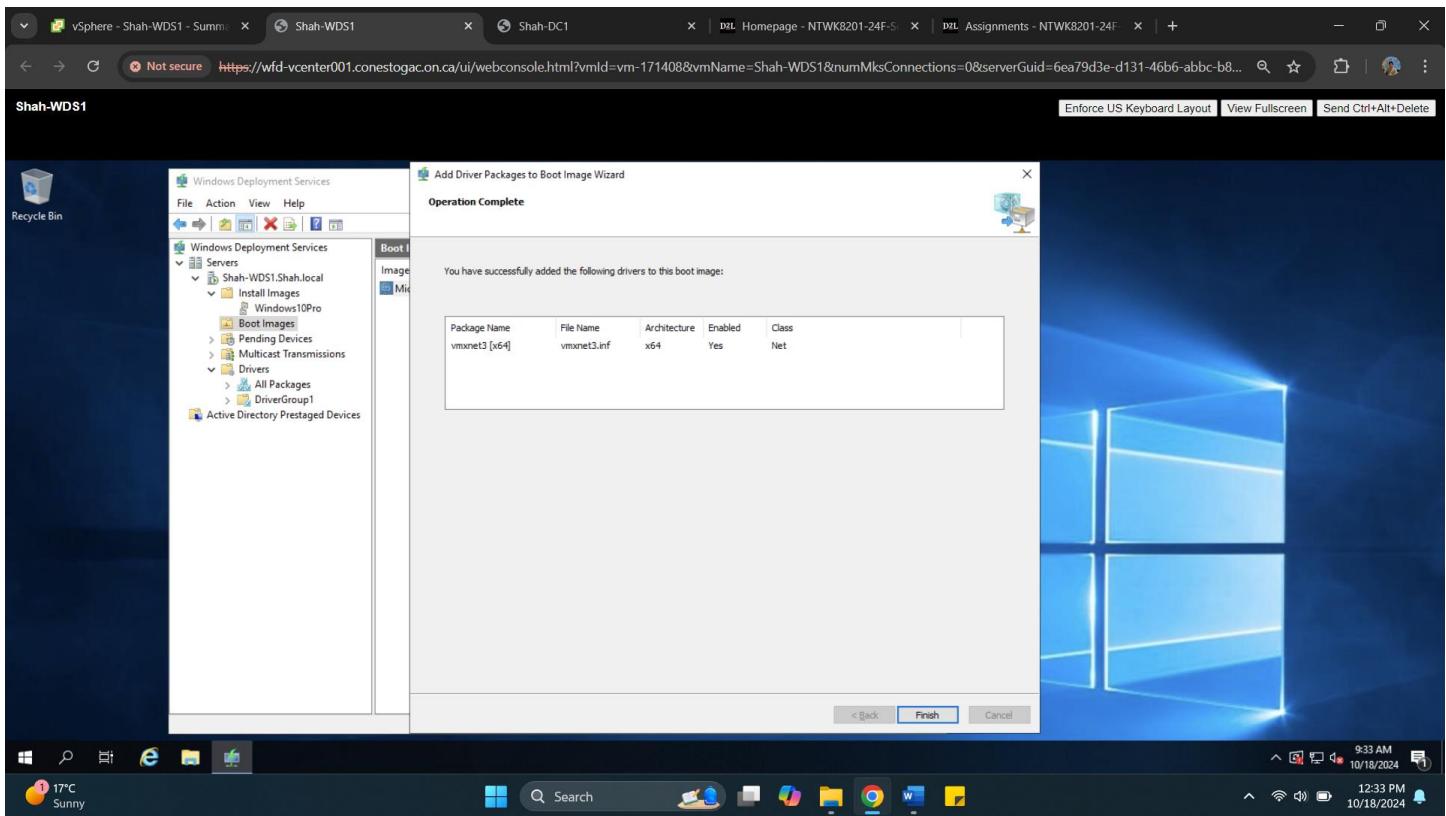
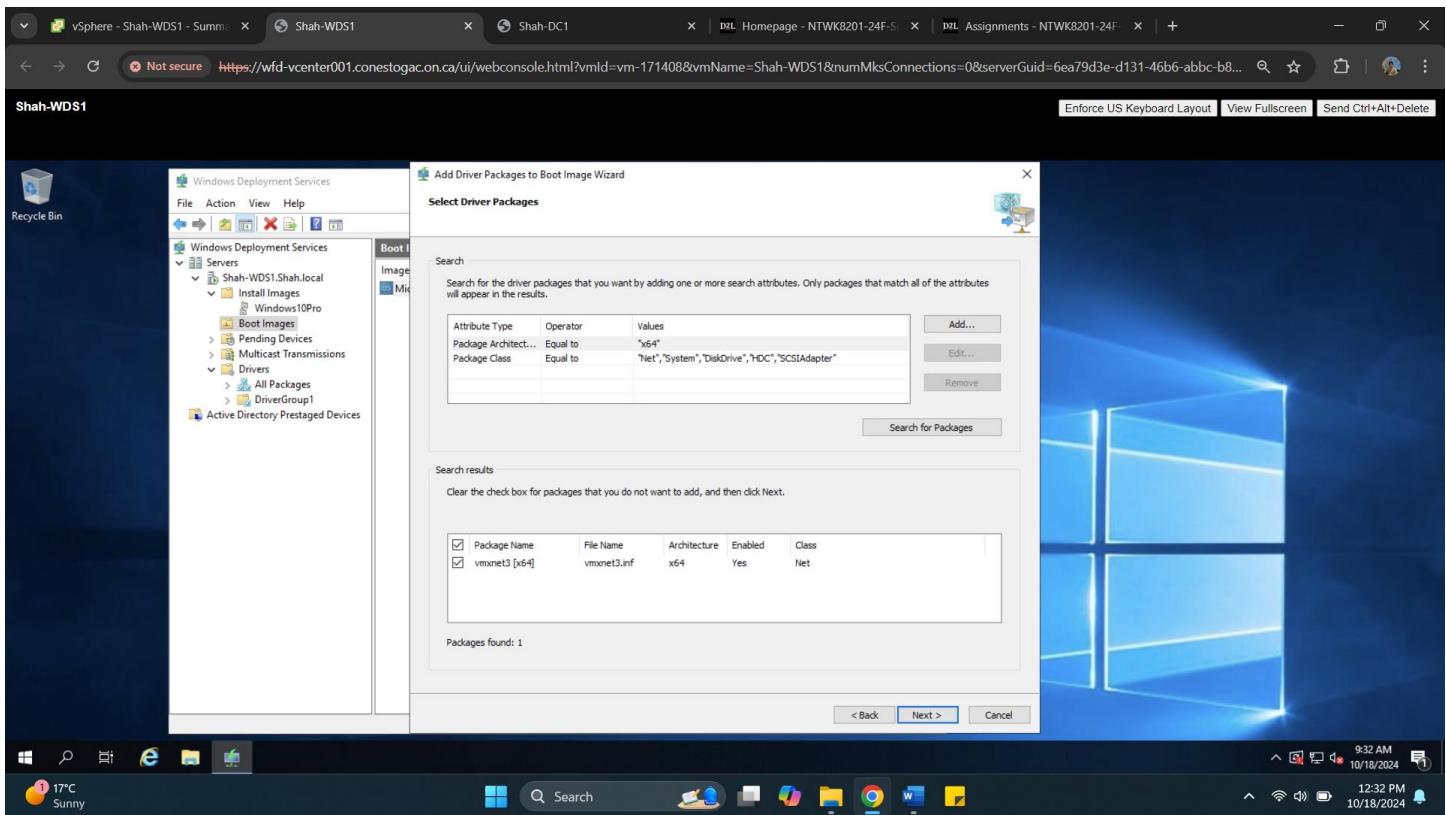
Boot image as Windows 10 Pro



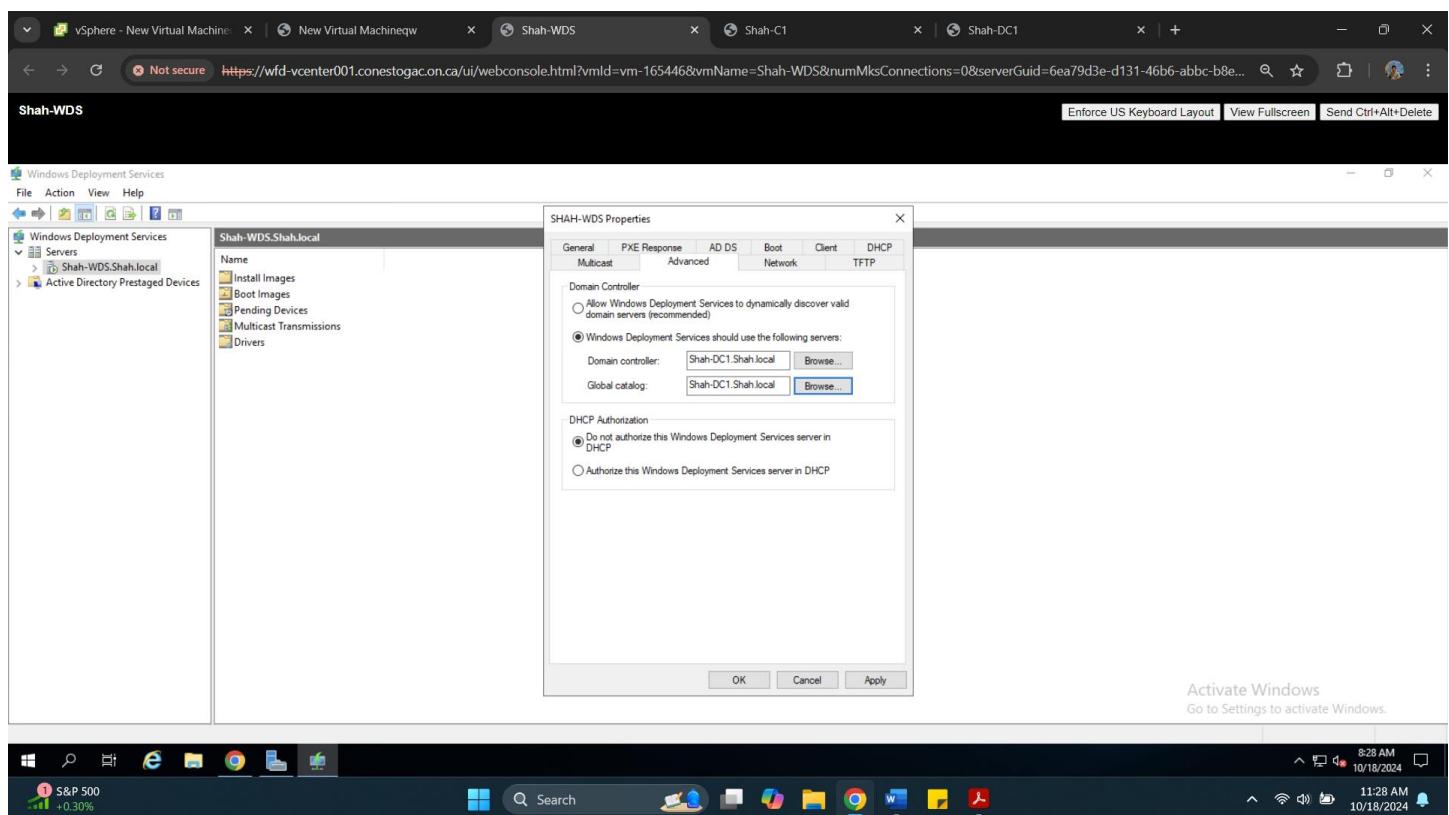
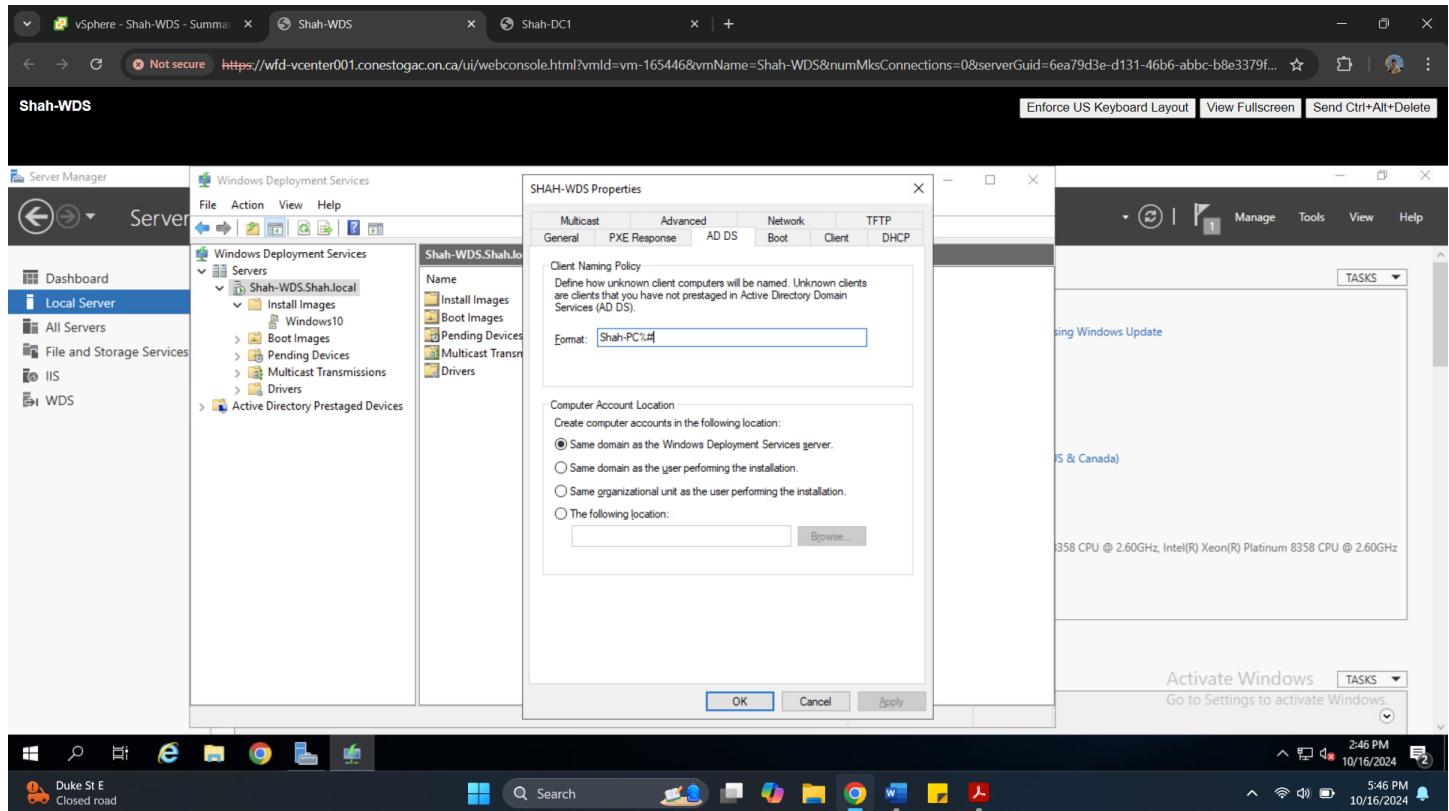
Adding Driver vmnet3.inf



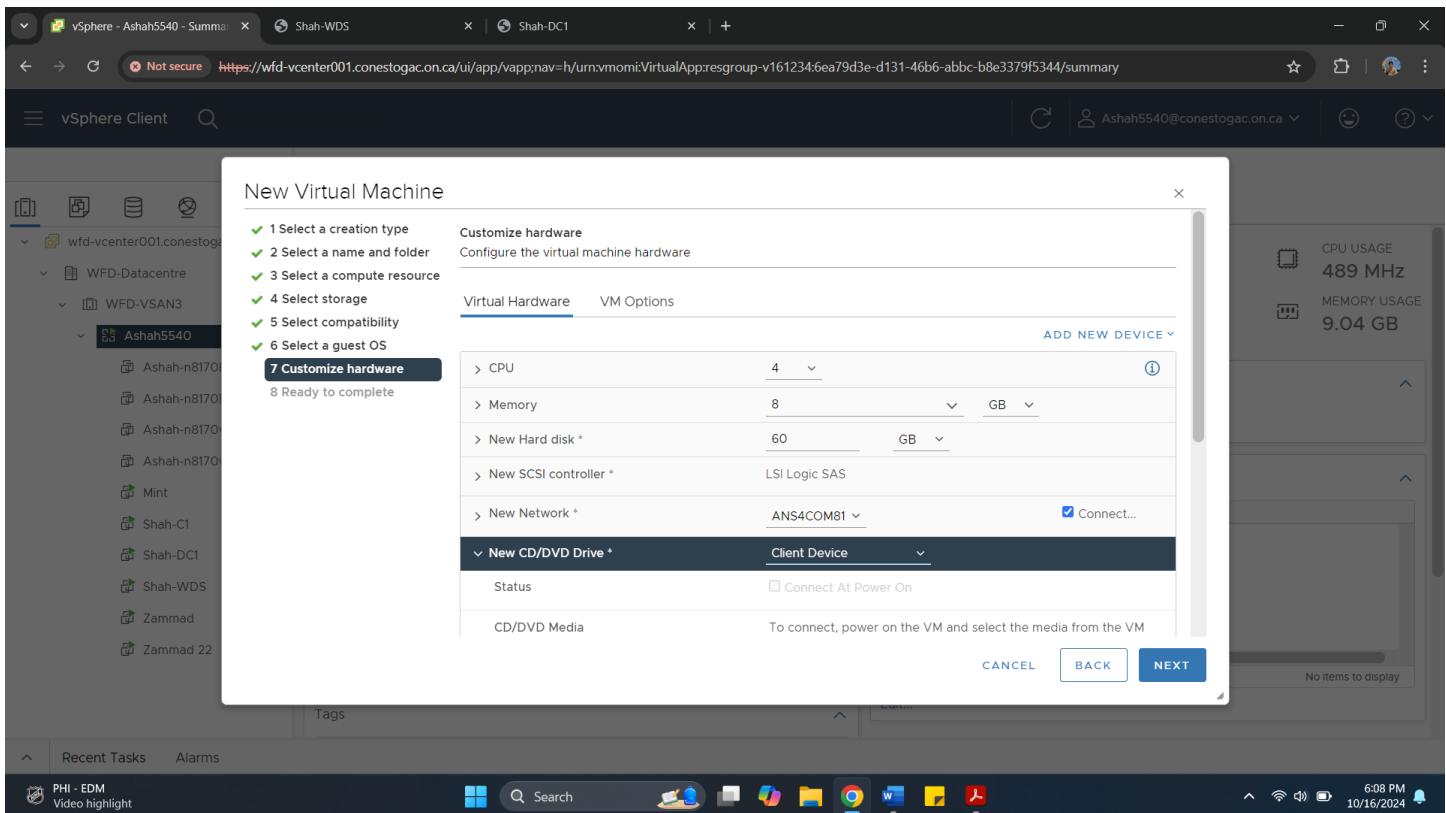
Adding Driver to Boot image



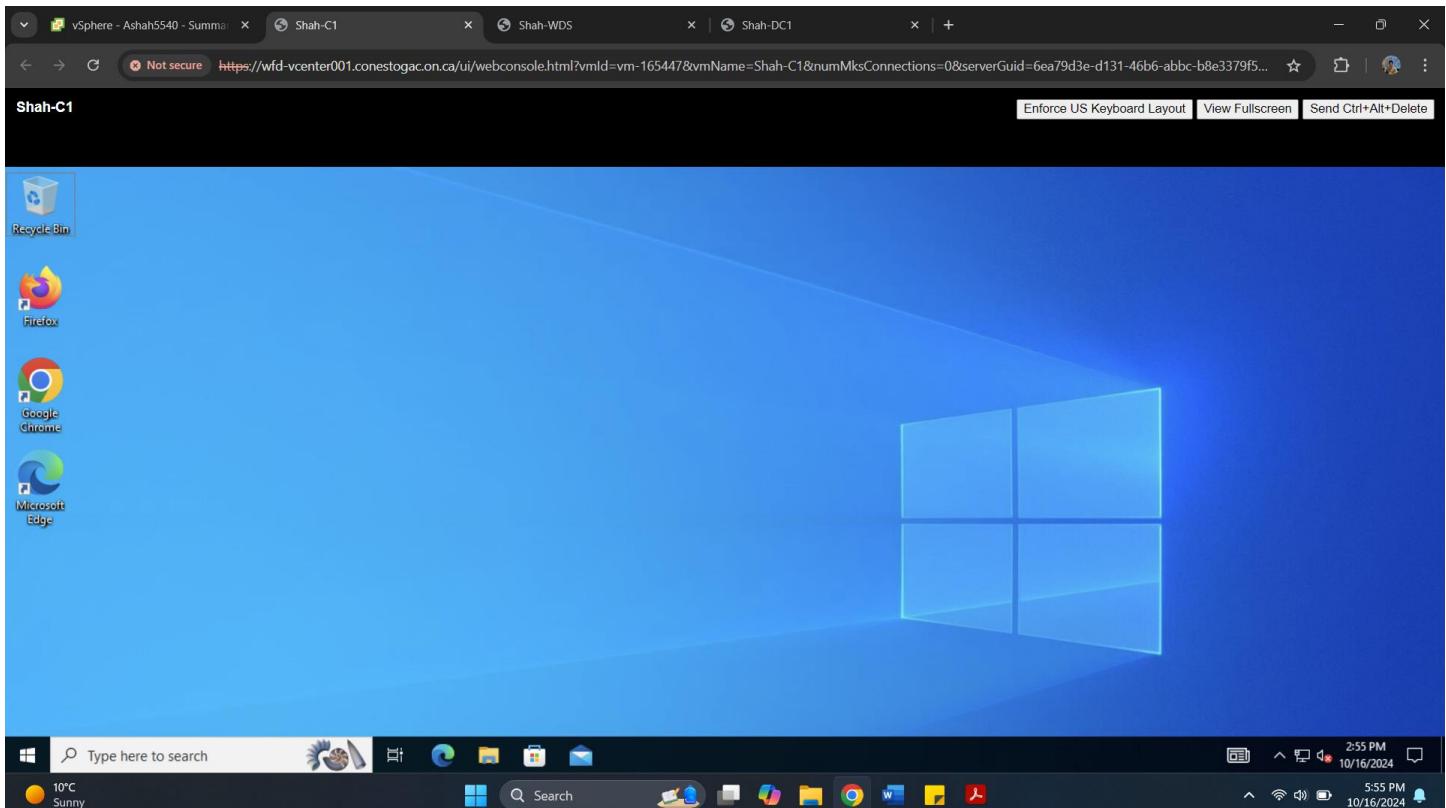
All deployed clients should have their hostnames set to "Shah-PC%#"



Clients should automatically join the domain after being deployed.

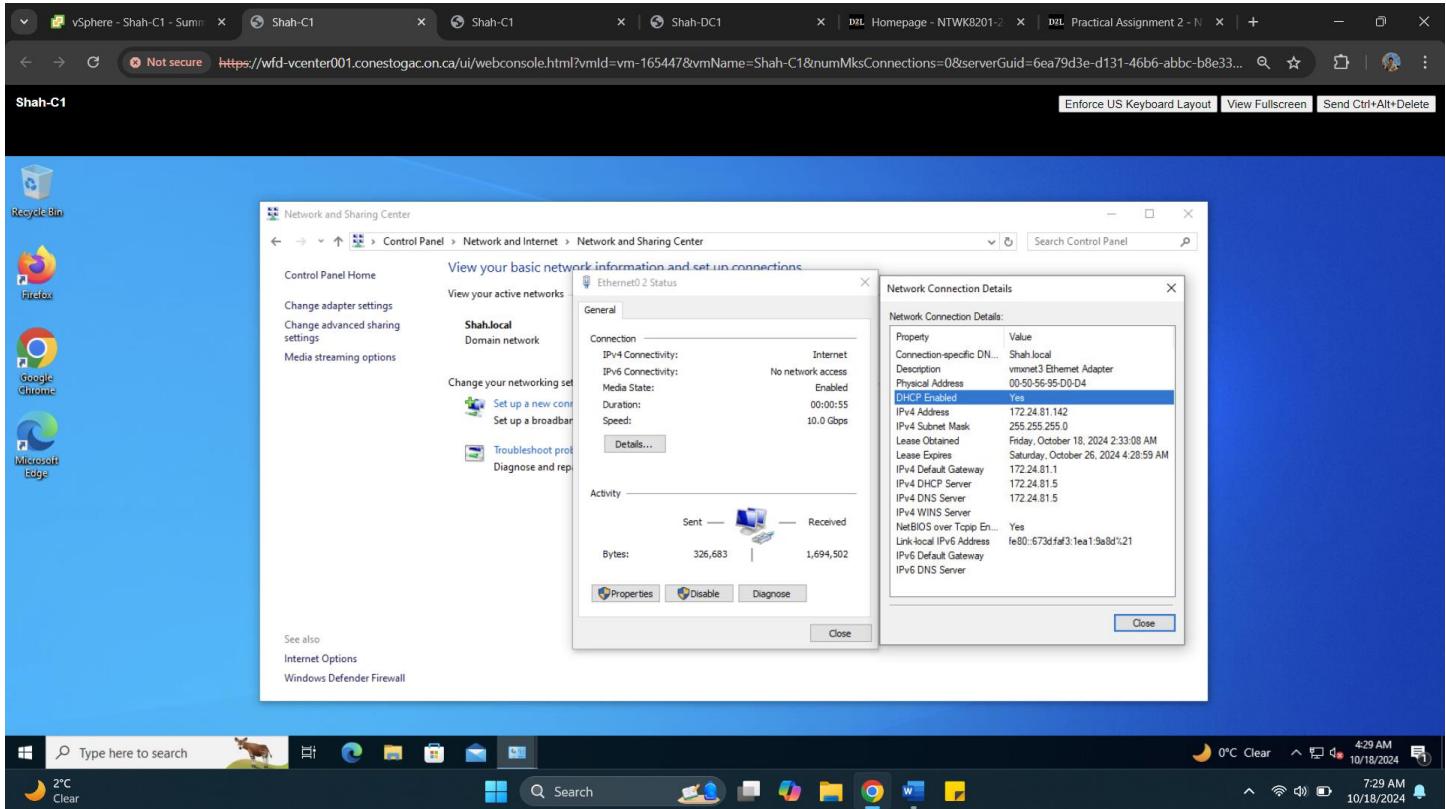


Deploy your Windows 10 Client using WDS.



Your Windows 10 Client should get an IP address through DHCP.

Windows Client fetching IP from specified DNS scope that is 172.24.81.142



Sign into the Windows client to test Group Policies.

