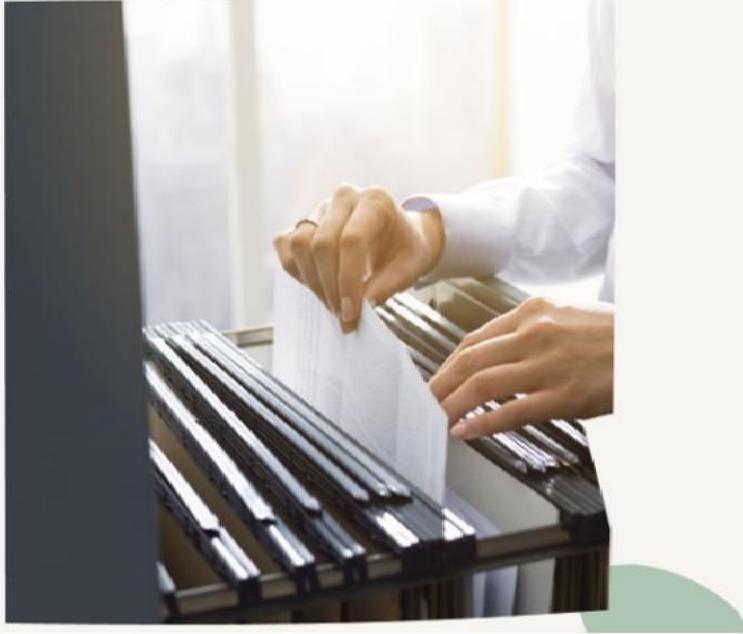


Deploying a Printer Server in an Active Directory Environment Using GPO

This project demonstrates centralized printer deployment using Windows Server, Print Management, and Group Policy in an Active Directory environment. The main objective is to automatically deploy printers to domain users based on their department and group membership, reducing the need for manual printer installation on individual computers and ensuring that users receive only the printers relevant to their role or location.

Centralized printing is essential because it simplifies administration and improves efficiency. Instead of installing and configuring printers on each workstation separately, a single print server is used to manage printer drivers, sharing, and deployment through Group Policy. By assigning printers based on departments and Active Directory security groups, the organization can ensure accurate printer distribution, reduce configuration errors, and enhance security. This approach also makes troubleshooting easier, as all printer settings and access controls are managed from one central location.

Why Centralized Printing Matters



Simplified Printer Management

Centralized printing consolidates printer management to one location, reducing configuration time and errors.

Enhanced Security and Compliance

Central control of access and permissions ensures secure printing and easier compliance monitoring.

Improved Troubleshooting Efficiency

Administrators can diagnose and fix issues from a single point without visiting each device physically.

Scalability and Uniformity

Centralized systems automatically configure new devices, ensuring consistent settings across large networks.

Server Manager → Add Roles and Features



Install Print and Document Services



Access Server Manager

Open Server Manager on your domain controller or designated server to begin the installation process.

Add Roles and Features

Navigate to 'Manage' and select 'Add Roles and Features' to open the installation wizard.

Select Print and Document Services

Choose 'Print and Document Services' under Server Roles to enable centralized print management.

Verify Installation

Ensure the role is installed and active in Server Manager for further printer configuration.

- Step 1: Open Server Manager on your Domain Controller or Server.
- Step 2: Go to Manage > Add Roles and Features.

114-DC1

Server Manager

Server Manager ▾ Local Server

Manage Tools View Help

Add Roles and Features

Remove Roles and Features

Add Servers

Create Server Group

Server Manager Properties

PROPERTIES
For DC1

Computer name:	DC1	Last installed updates:	8/31/2025 8:50 PM
Domain:	odan.shop	Windows Update:	Download update
		Last checked for updates:	Today at 3:37 PM

Add Roles and Features Wizard

Before you begin

DESTINATION SERVER
DC1.odari.shop

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

Add Roles and Features Wizard

Select installation type

DESTINATION SERVER
DC1.odari.shop

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

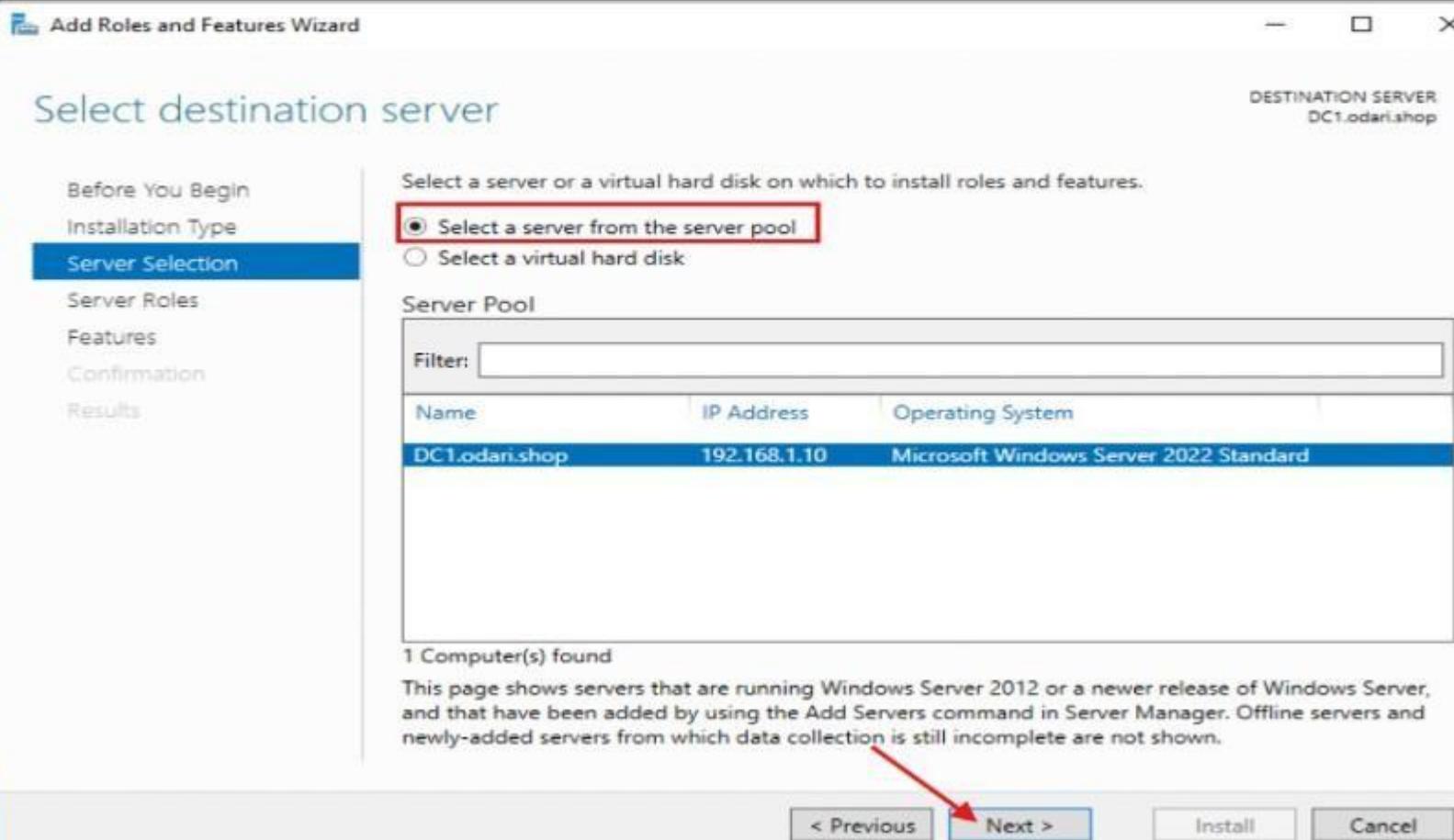
Install required role services for Virtual Desktop Infrastructure (VDI) to create a virtual machine-based or session-based desktop deployment.

< Previous

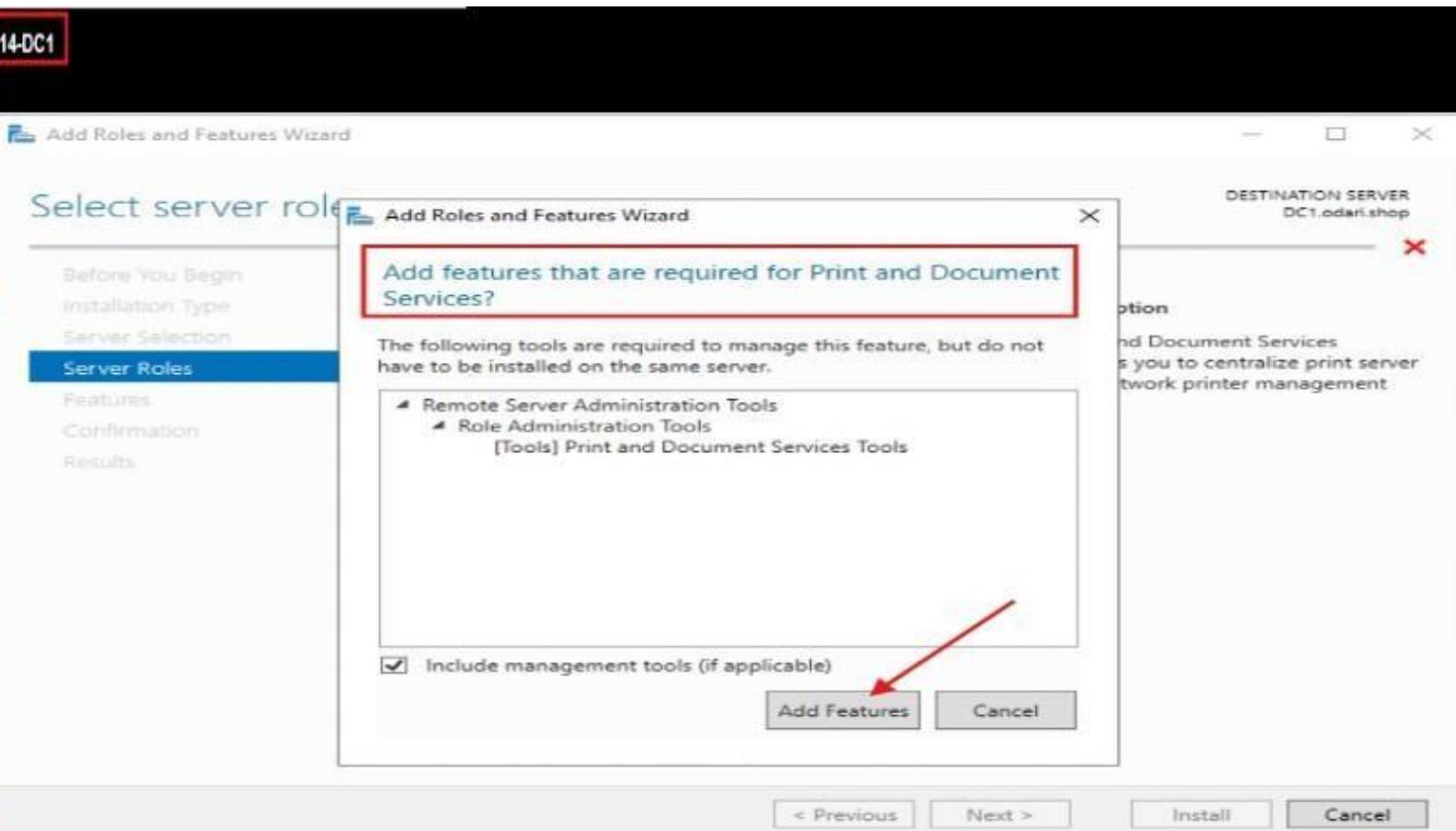
Next >

Install

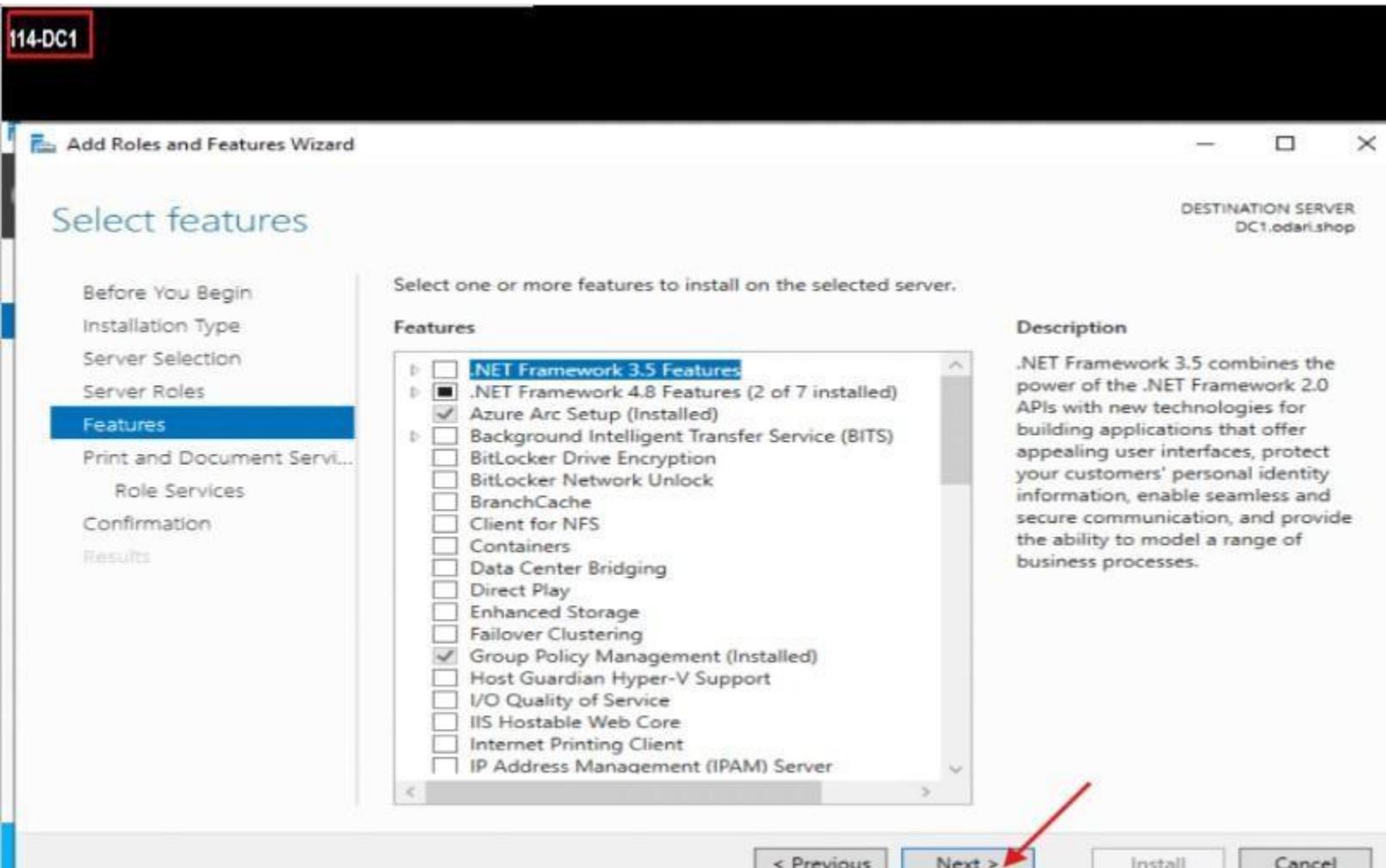
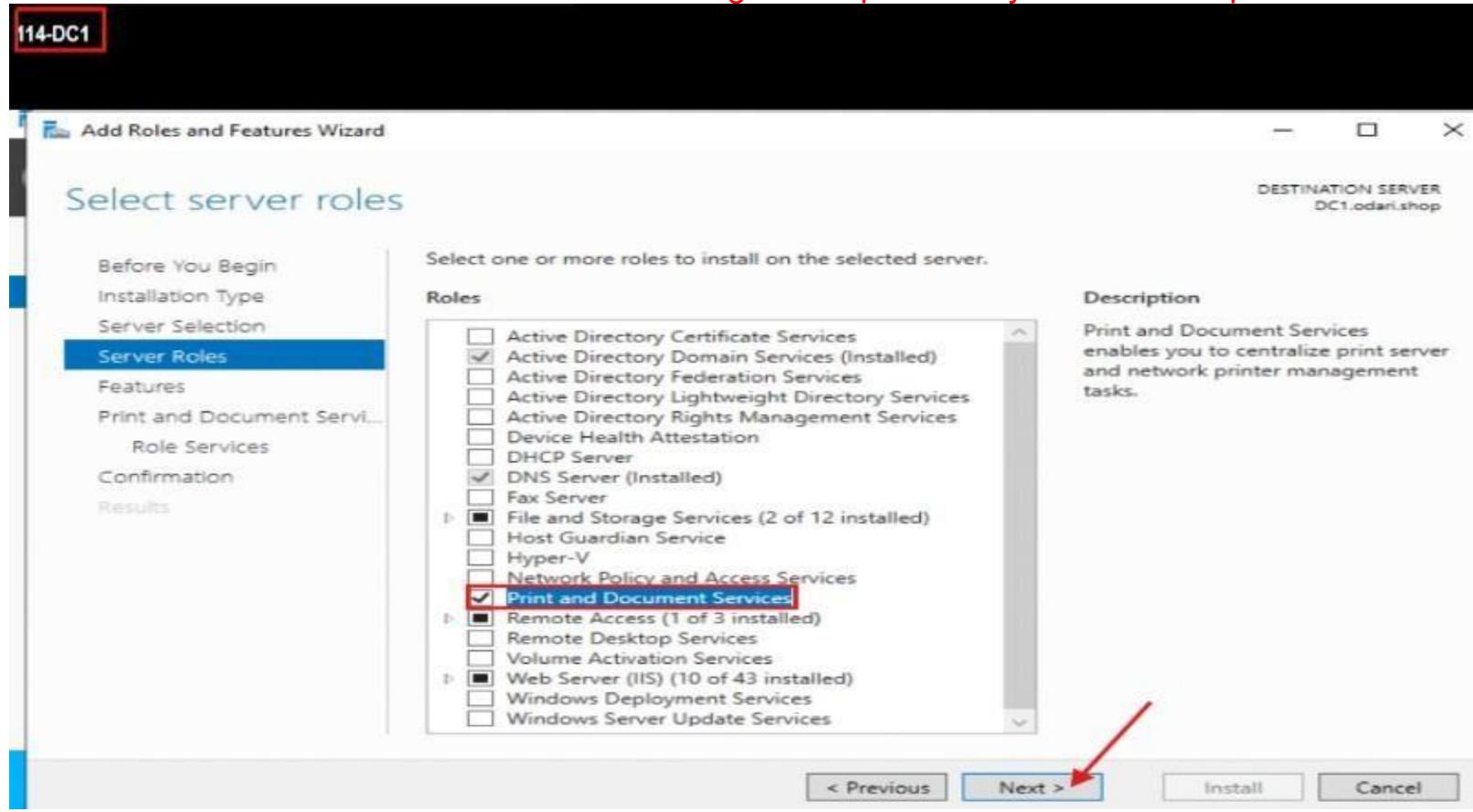
Cancel

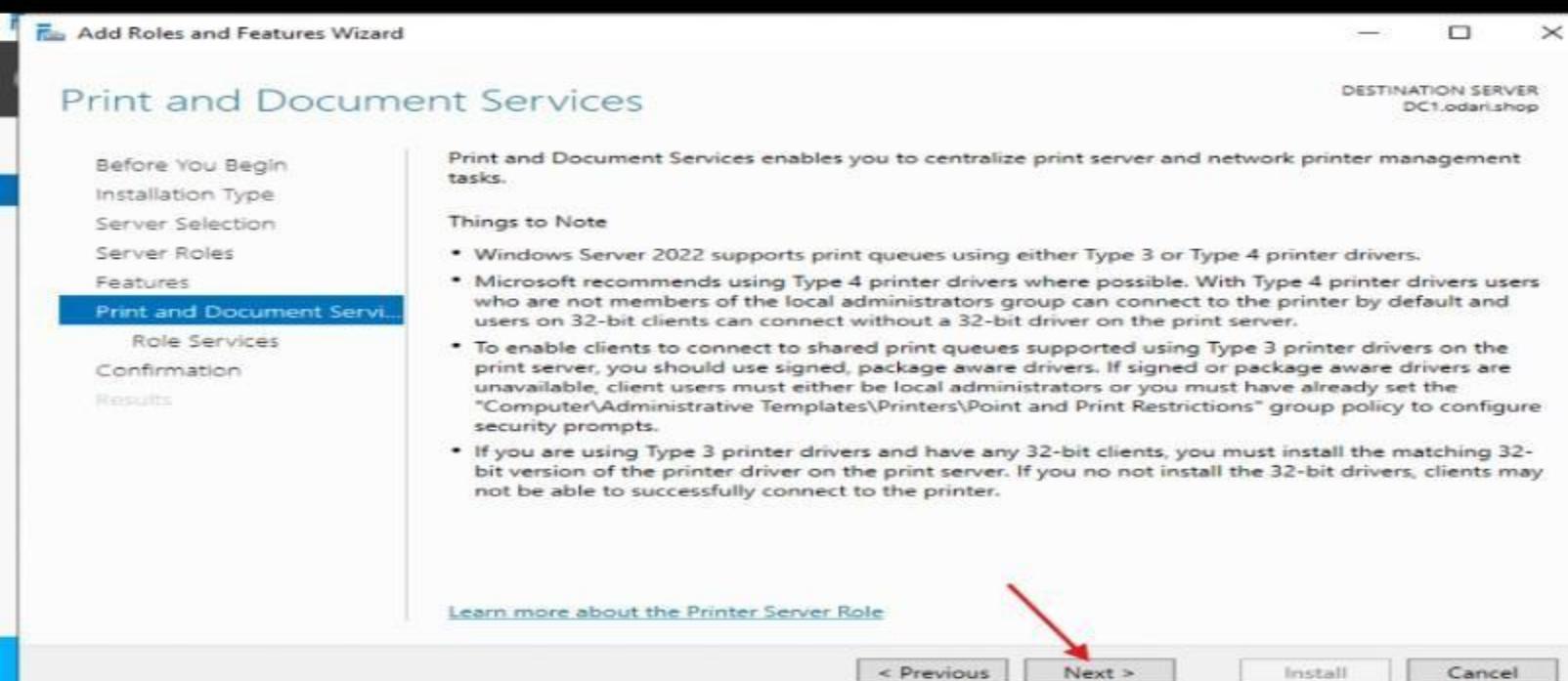


➤ Step 3: Select 'Print and Document Services' under Server Roles and click Next.

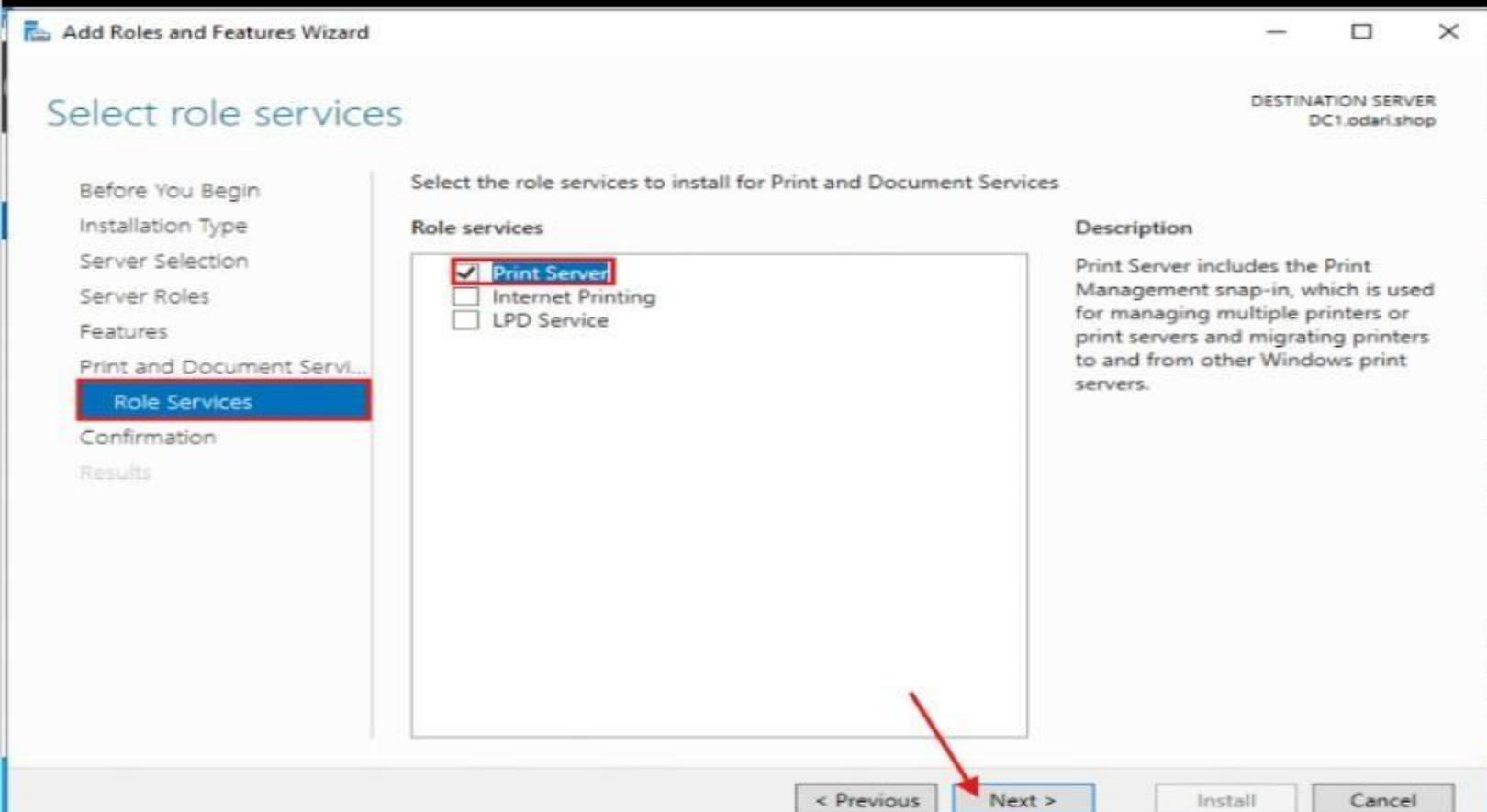


- This Add Roles and Features Wizard where I selected Print and Document Services on the server 114-DC1. By choosing this role and clicking Next, I am installing the print server feature that allows the Windows Server to centrally manage printers, drivers, and print jobs for all users on the network instead of setting them up manually on each computer.

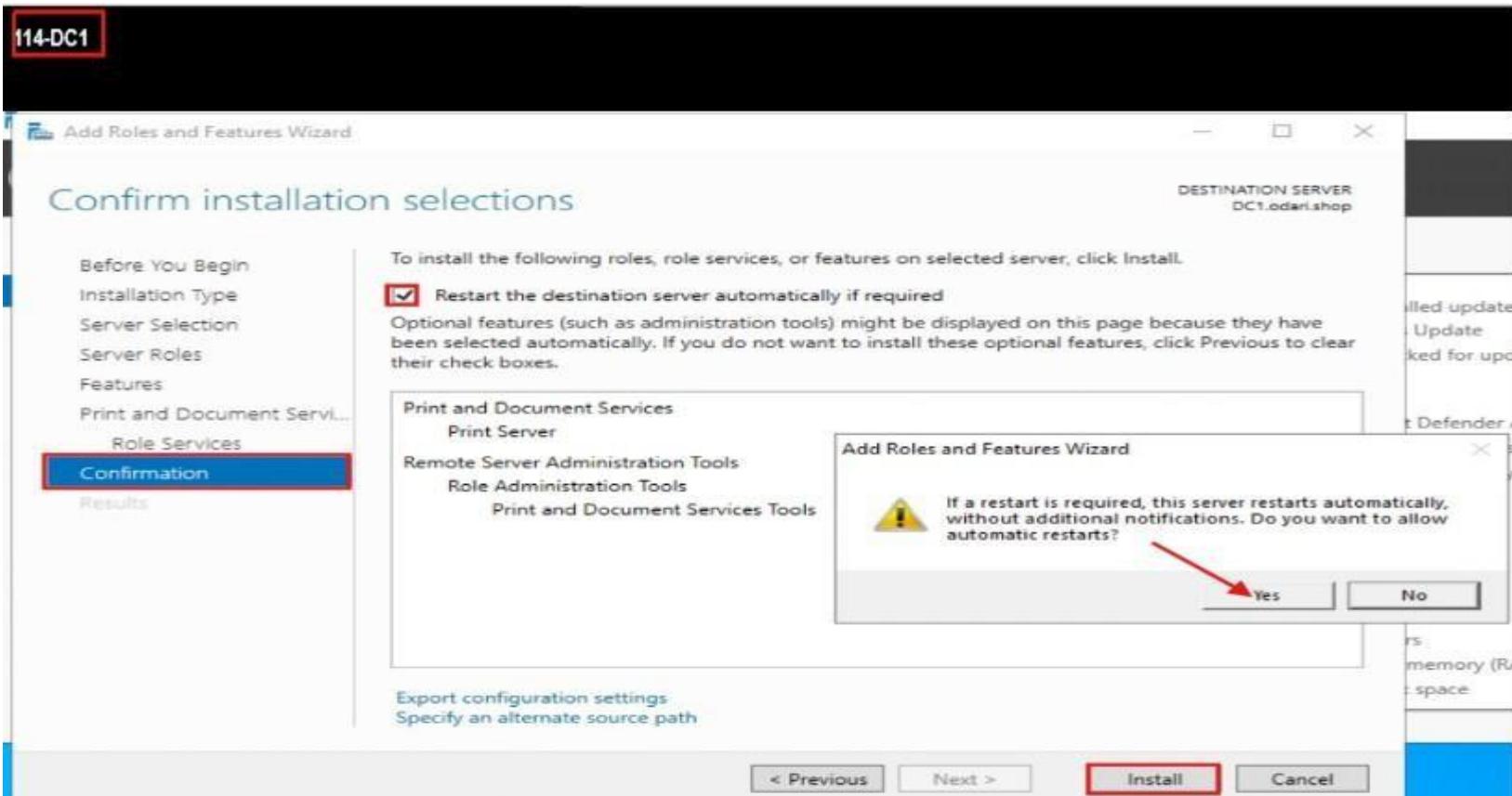




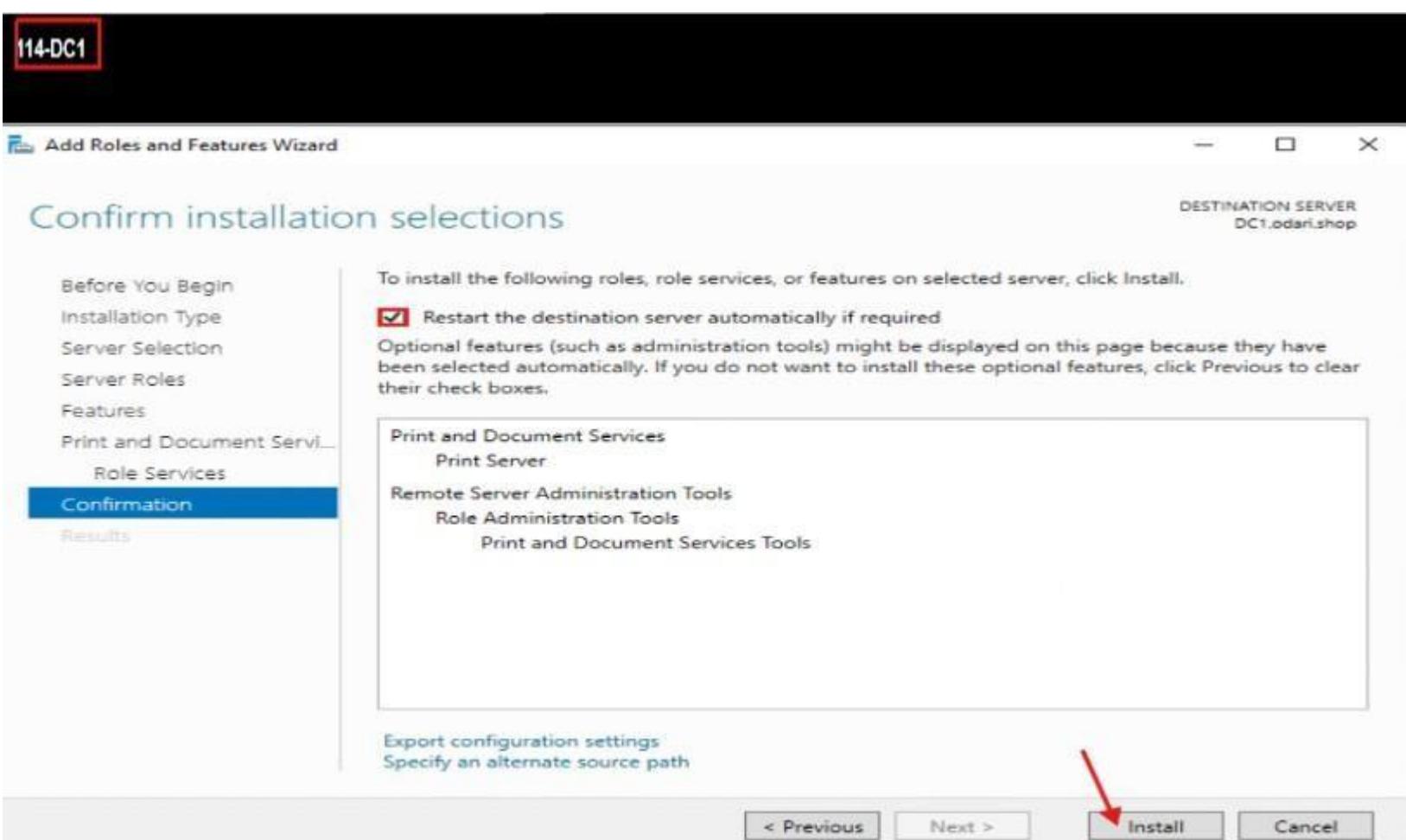
- This shows the Role Services selection for Print and Document Services. Here, I selected Print Server, which installs the main service needed to manage network printers from one central server. This allows the server to handle printer sharing, drivers, and print jobs for all users on the domain, making printer setup and management easier and more efficient across the organization.



- Confirms the selected Print Server role and starts the installation, allowing the server to restart automatically if required to complete the setup.

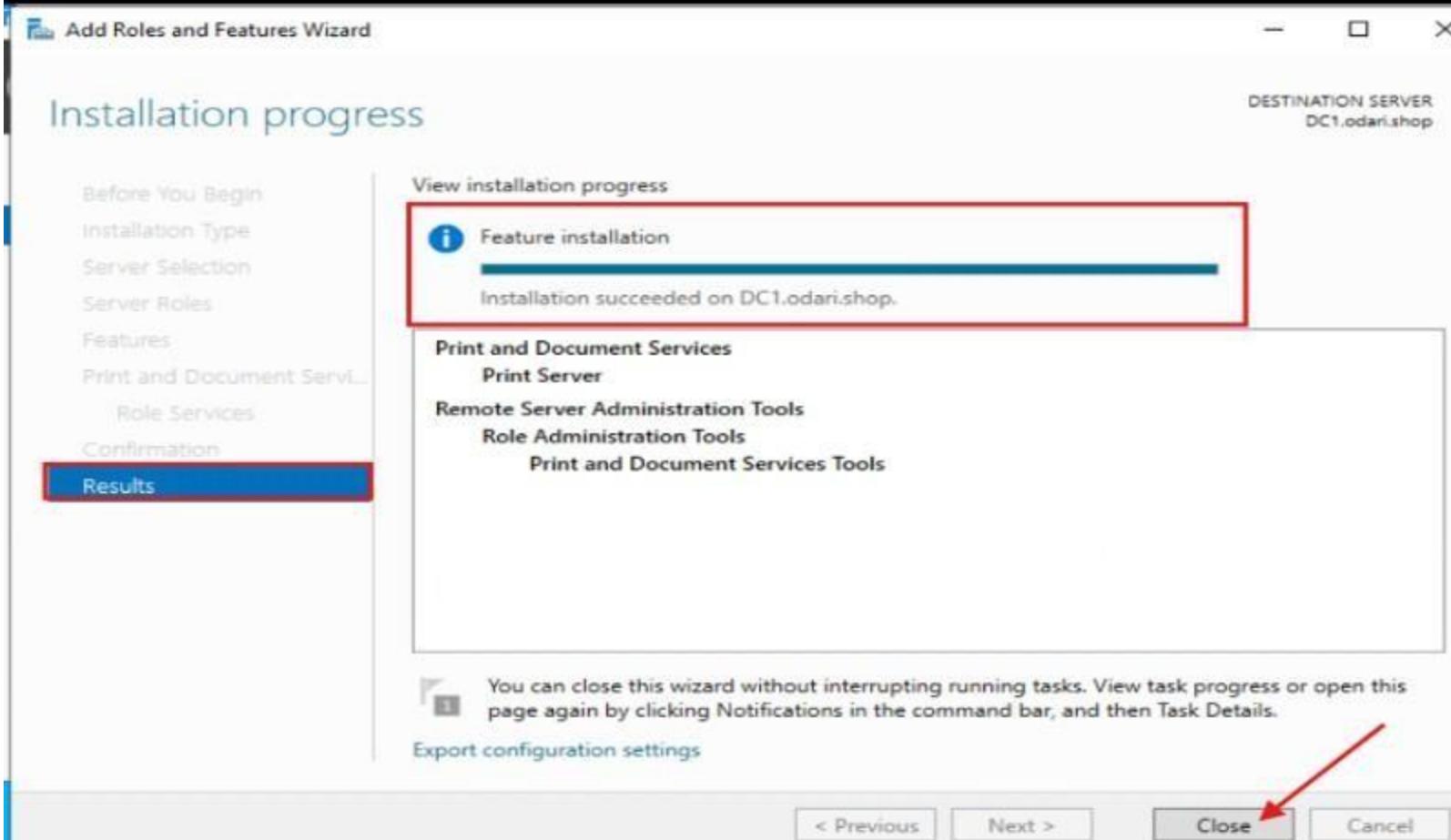


- Step 4: On Role Services tab, check 'Print Server' and click Next, then Install.



- Step 5: After installation, click Close.

114-DC1



- ❖ The ping test to `printer.everestitt.com` was successful, meaning the address is correct and the printer (or its server) is reachable. All packets were received with 0% loss and an average response time of 15ms, showing a stable and active connection.

114-DC1

The screenshot shows a Windows Command Prompt window titled 'Administrator: Command Prompt'. The title bar also includes the text 'Microsoft Windows [Version 10.0.20348.4052]' and '(c) Microsoft Corporation. All rights reserved.'. The command line at the bottom shows the user entering `C:\Users\Administrator>ping printer.everestitt.com`. The output of the ping command is displayed below, showing four successful replies from the target IP 76.79.168.3 with TTL=240 and response times between 14ms and 19ms.

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.20348.4052]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Administrator>ping printer.everestitt.com

Pinging printer.everestitt.com [76.79.168.3] with 32 bytes of data:
Reply from 76.79.168.3: bytes=32 time=19ms TTL=240
Reply from 76.79.168.3: bytes=32 time=14ms TTL=240
Reply from 76.79.168.3: bytes=32 time=15ms TTL=240
Reply from 76.79.168.3: bytes=32 time=15ms TTL=240
```

➤ Step 6: Open a browser and type printer name to find the printer model.

114-DC1

HP Color LaserJet MFP M283cdw X +

Not secure printer.everestitt.com

HP Color LaserJet MFP M283cdw NPI527E11 172.16.32.87

Home System Print Fax Scan Copy Networking

HP Web Services

Device Status

Supplies Status

Device Configuration

Network Summary

Reports

Color Usage Log

Event Log

Open Source Licenses

Device Status

Shop for Supplies Support

Device Status

English Français Deutsch Italiano Español Svenska Dansk Norsk Nederlands Suomi
Português Türkçe Polski Русский Čeština Magyar Català Română Hrvatski Slovenščina
Slovenčina Ελληνικά Bhs.Indonesia 简体中文 阿拉伯语 繁體中文 한국어 ภาษาไทย עברית

Status: Sleep mode is on. ⓘ

Supplies Summary

Cartridge	Level	Order Number	Part Number
Black Cartridge	80%	*	Order 206A (W2110A)
Cyan Cartridge	70%	*	Order 206A (W2111A)
Magenta Cartridge	80%	*	Order 206A (W2113A)
Yellow Cartridge	80%	*	Order 206A (W2112A)

* Approximate only, varies depending on types of documents printed and other factors.

Supplies Detail

Type here to search

Windows Start button

Printer icon in the taskbar

❖ Search for the printer model (HP Color LaserJet MFP M283cdw) in the browser and click the official HP Support link to download the correct driver. This ensures the printer works properly with Windows and avoids compatibility issues. Always choose the official HP site for safety and reliability.

HP Color LaserJet MFP M X HP color laser jet MFP M X HP Color LaserJet Pro M X

<https://www.bing.com/search?pglt=43&q=HP+color+laser+jet+MFP+M283cdw>

Bing 0 ...

ALL SEARCH VIDEOS IMAGES MAPS NEWS COPILOT MORE

About 1,270,000 results

Including results for **HP color laserjet mfp M281 Cdw driver download**.
Do you want results only for HP color laser jet MFP M283cdw driver download?

HP Support
<https://support.hp.com/us-en/drivers>

HP Color LaserJet Pro MFP M281fdw Software and Driver ...
Download the latest drivers, firmware, and software for your HP Color LaserJet Pro MFP M281fdw. This is HP's official website to download the correct drivers free of cost for Windows ...

Can't find print drivers for win...
I recently bought a new HP computer and ...

Driver for my pc for a HP mf...
Your account also allows you to connect ...

See results only from support.hp.com

People also search for

Step 7: Download the printer driver for Windows 11 and extract it to a folder on Desktop.

HP Color LaserJet MFP M X HP color laser jet MFP M X HP Color LaserJet Pro M X

<https://support.hp.com/us-en/drivers/hp-color-laserjet-pro-m280-m281-multif...>

Two simple steps to show what drivers are available for your product

1 Identify and select OS
Don't know how to identify OS (?)

What OS do you have?
Windows 11

2 Select the version
Don't know how to identify OS Version (?)

What version of OS do you have?
Windows 11

If your operating system is not listed then HP may not provide driver support for your product with that operating system.

I don't see my operating system [Read more](#)

Submit

Give Feedback

Ask our Virtual Assistant

- ❖ Click “HP Universal Print Driver for Windows PCL6 (64-bit)” to download the right driver for your HP Color LaserJet printer.

114-DC1

HP Color LaserJet Pro MFP M281cdw X HP color laserjet MFP M283cdw X HP Color LaserJet Pro MFP M281 X https://support.hp.com/us-en/drivers/hp-color-laserjet-pro-m280-m281-mulfunction-printer-series/model/14142491

Installation Software and Driver-Includes print, scan, latest features, and solutions [2]

	Version	File size	Release date	Action
HP Easy Start Printer Setup Software (Internet connection required for driver installation)	17.2.17	22.2 MB	Sep 10, 2025	Download
Driver-Universal Print Driver (2)				
HP Universal Print Driver for Windows PostScript (64-bit)	v7.9.0.26347	22.4 MB	Sep 25, 2025	Download
HP Universal Print Driver for Windows PCL6 (64-bit)	v7.9.0.26347	21.2 MB	Sep 25, 2025	Download

The downloaded printer driver file is being extracted from a ZIP folder, so the driver files are ready to be used for installation on the print server.

114-DC1

File Home Share View Extract Downloads Compressed Folder Tools

This PC > Downloads

Name	Date modified
Today (1)	11/4/2025 9:49
upd-pcl6-x64-7.9.0.26347	11/4/2025 9:49
Yesterday (2)	11/3/2025 1:57
Backup_Exec_25.0_1193.0000_MultiPlat	11/3/2025 1:58
Backup_Exec_25.0_1193.0000_MultiPlat	11/3/2025 1:58

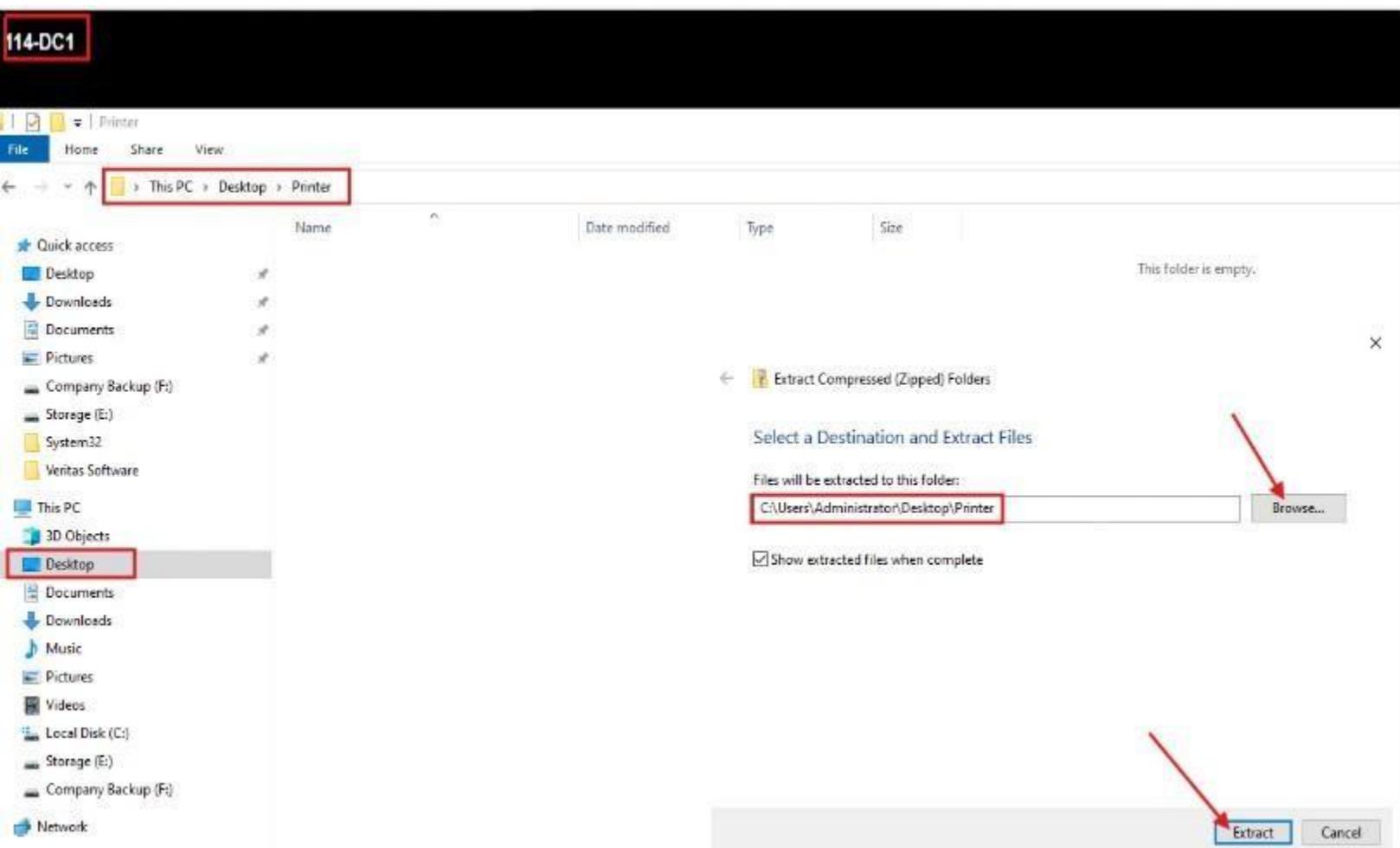
Quick access

- Desktop
- Downloads (highlighted)
- Documents
- Pictures
- Company Backup (F:)
- Storage (E:)
- System32
- Veritas Software

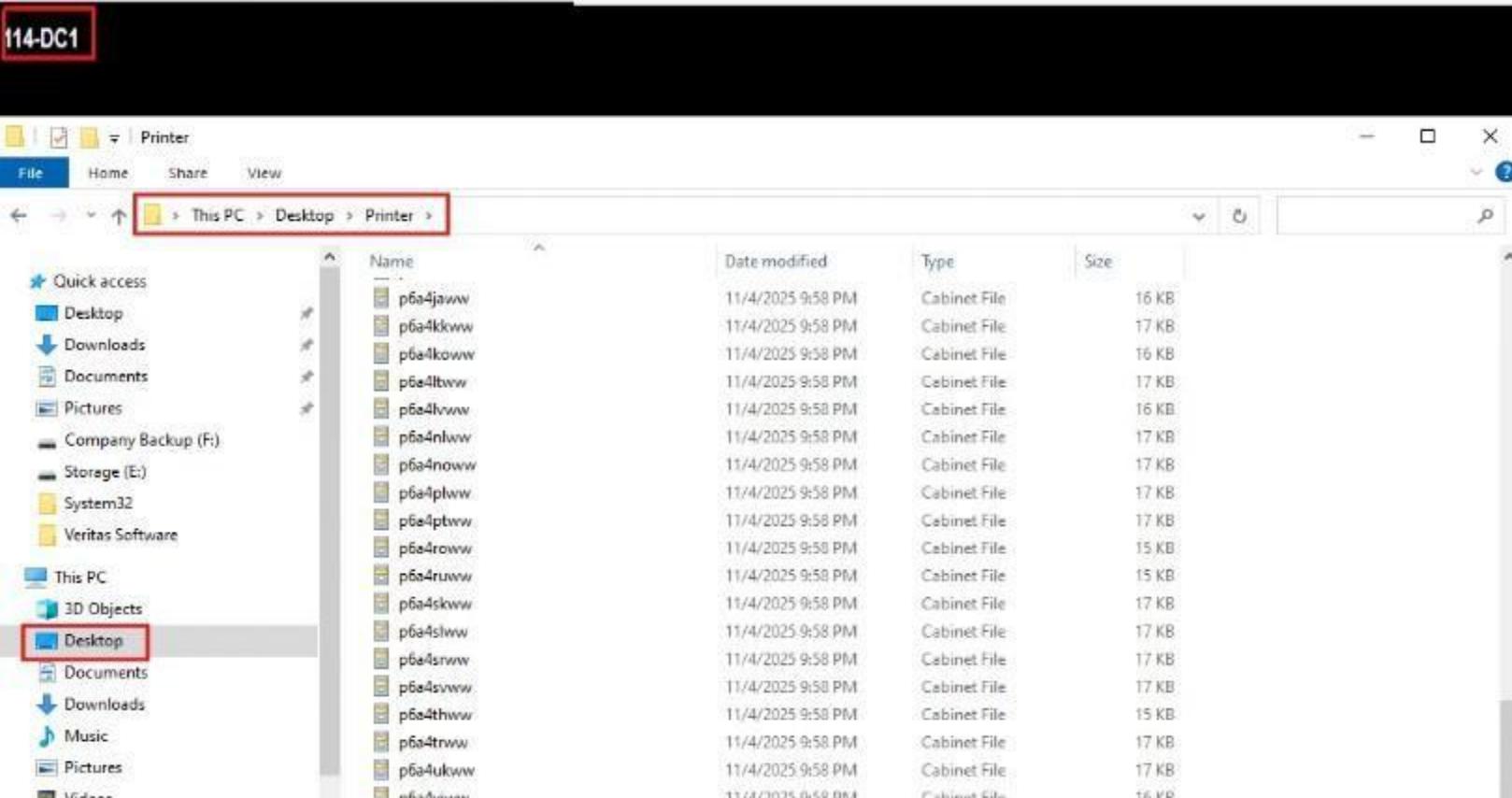
This PC

- 3D Objects
- Desktop
- Documents
- Downloads
- Music
- Pictures
- Videos
- Local Disk (C:)
- Storage (E:)

- ❖ I am saving the extracted printer driver files in a folder named “Printer” on the Desktop for easy access during installation.



- ❖ Folder is ready for installation through Print Management.



➤ Step 8: Open Print Management (Server Manager > Tools > Print Management).

The screenshot shows the Windows Server Manager interface. At the top left, it says "114-DC1". The title bar reads "Server Manager > Dashboard". The left sidebar has several icons: Dashboard (selected), Local Server, All Servers, AD DS, DNS, File and Storage Services, IIS, Print Services, and Remote Access. The main area is titled "WELCOME TO SERVER MANAGER" and contains a "QUICK START" section with five numbered steps: 1. Configure this local server, 2. Add roles and features, 3. Add other servers to manage, 4. Create a server group, and 5. Connect this server to cloud services. Below this is a "WHAT'S NEW" section and a "LEARN MORE" button. At the bottom, there's a "ROLES AND SERVER GROUPS" section showing "Roles: 6 | Server groups: 1 | Servers total: 1" with two cards: "AD DS" (1 item) and "DNS" (1 item). The "Tools" menu at the top right is highlighted with a red box, and its dropdown list is also highlighted. The "Print Management" option in the list is also highlighted with a red box.

114-DC1

Server Manager > Dashboard

Dashboard Local Server All Servers AD DS DNS File and Storage Services IIS Print Services Remote Access

WELCOME TO SERVER MANAGER

QUICK START

- 1 Configure this local server
- 2 Add roles and features
- 3 Add other servers to manage
- 4 Create a server group
- 5 Connect this server to cloud services

WHAT'S NEW

LEARN MORE

ROLES AND SERVER GROUPS

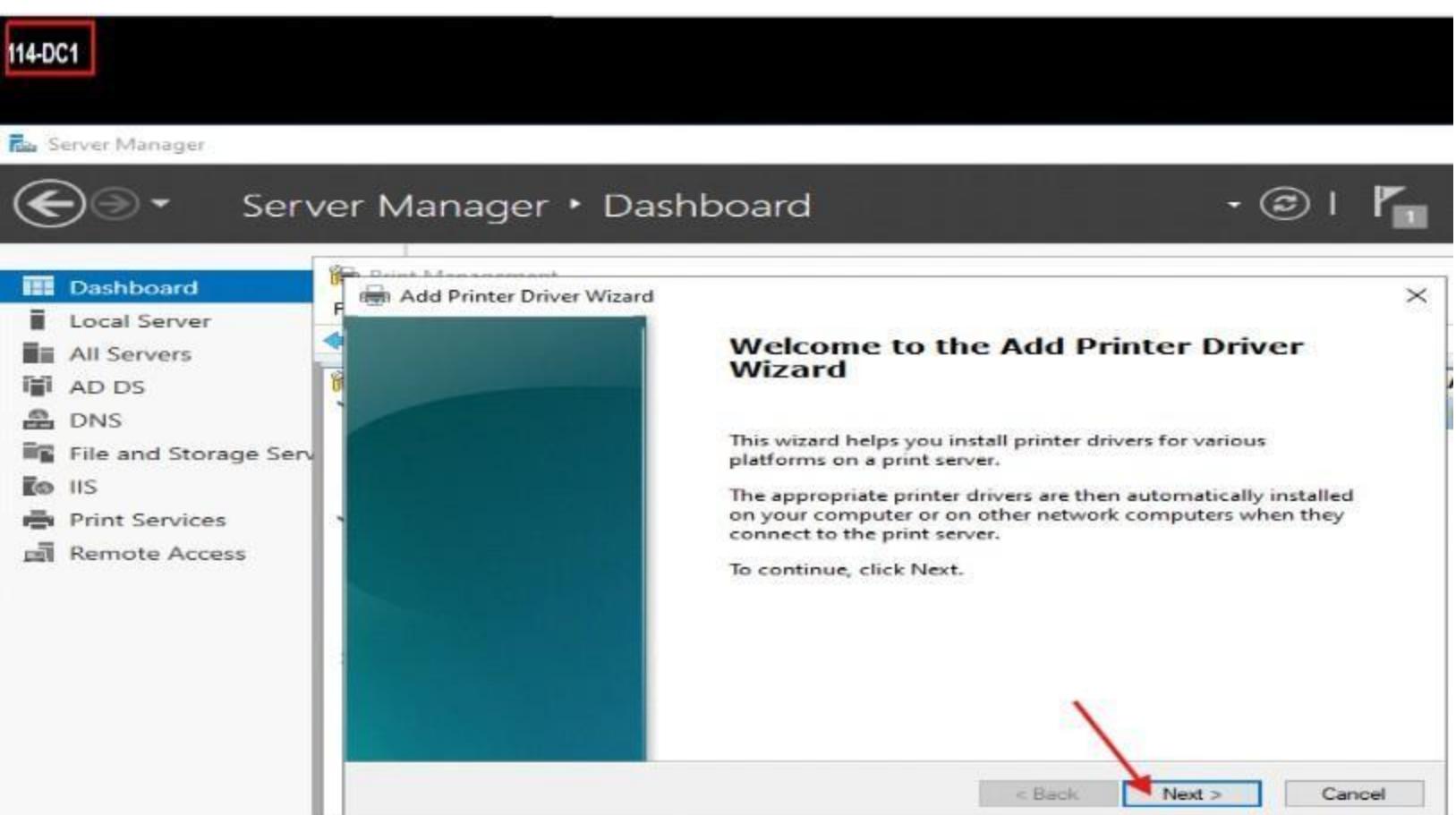
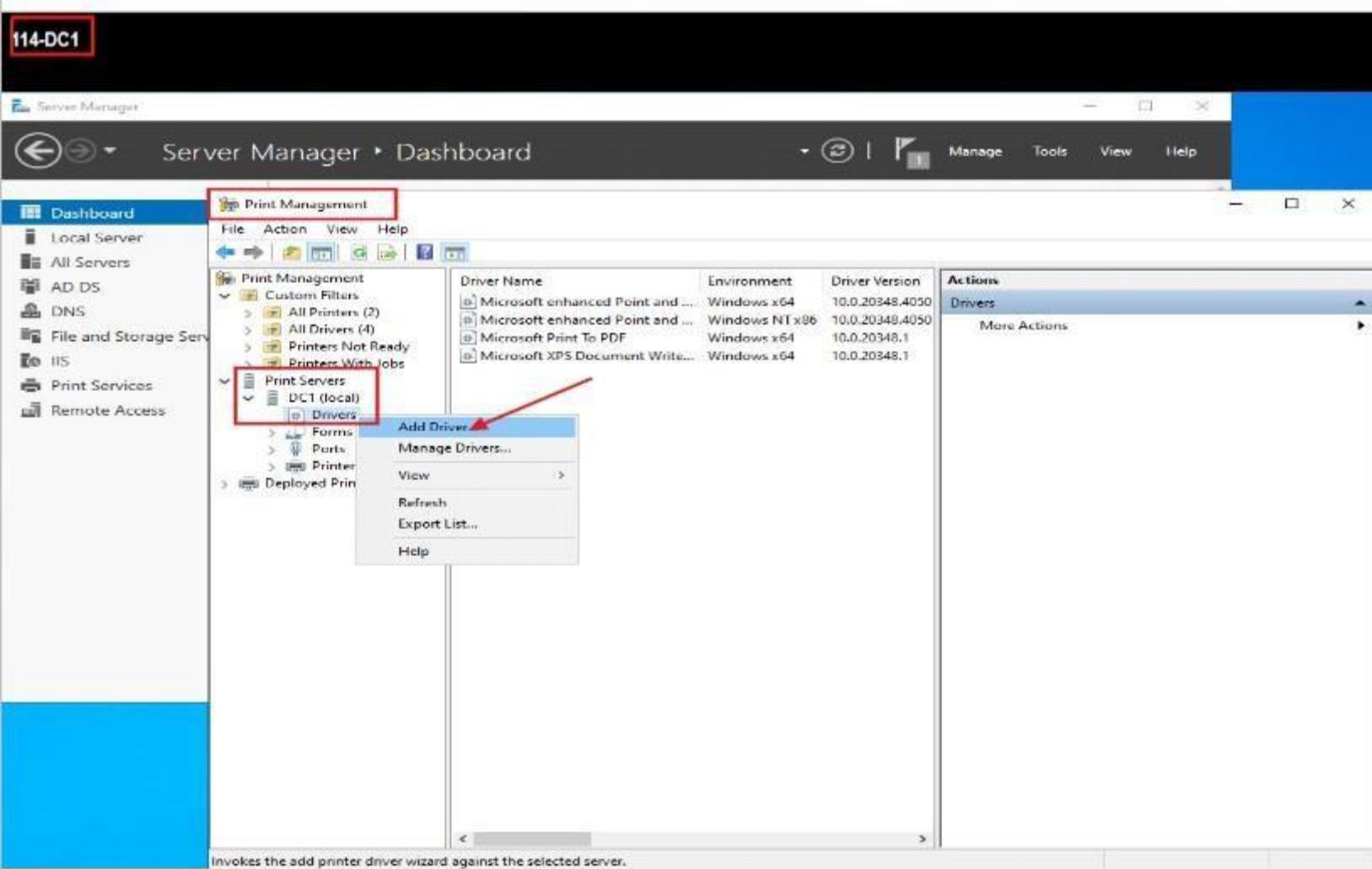
Roles: 6 | Server groups: 1 | Servers total: 1

AD DS 1	DNS 1
Manageability	Manageability
Events	Events
Services	Services

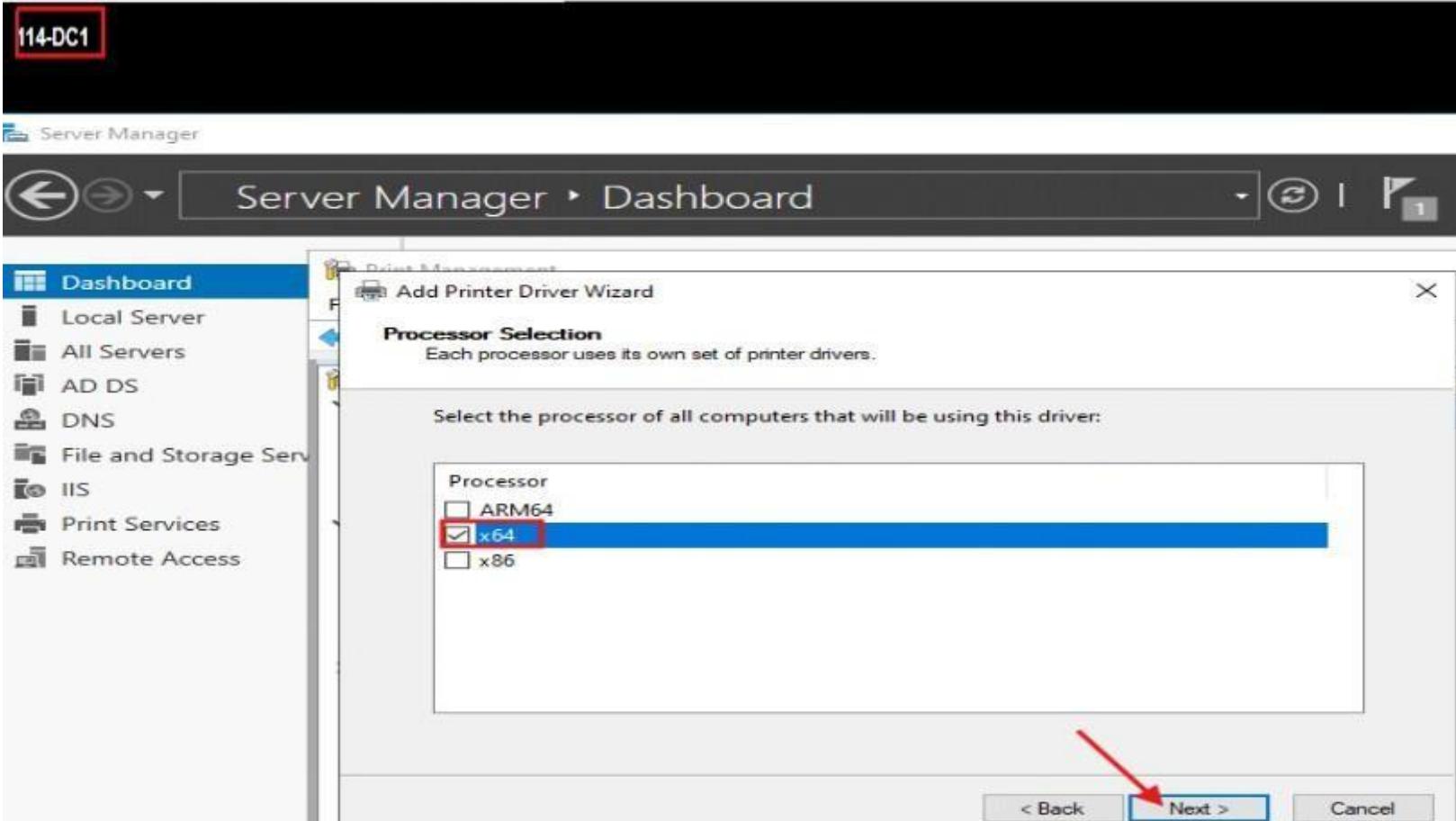
Tools View Help

Active Directory Administrative Center
Active Directory Domains and Trusts
Active Directory Module for Windows PowerShell
Active Directory Sites and Services
Active Directory Users and Computers
ADSI Edit
Component Services
Computer Management
Connection Manager Administration Kit
Defragment and Optimize Drives
Disk Cleanup
DNS
Event Viewer
Group Policy Management
Internet Information Services (IIS) Manager
iSCSI Initiator
Local Security Policy
Microsoft Azure Services
Network Policy Server
ODBC Data Sources (32-bit)
ODBC Data Sources (64-bit)
Performance Monitor
Print Management
Recovery Drive
Registry Editor

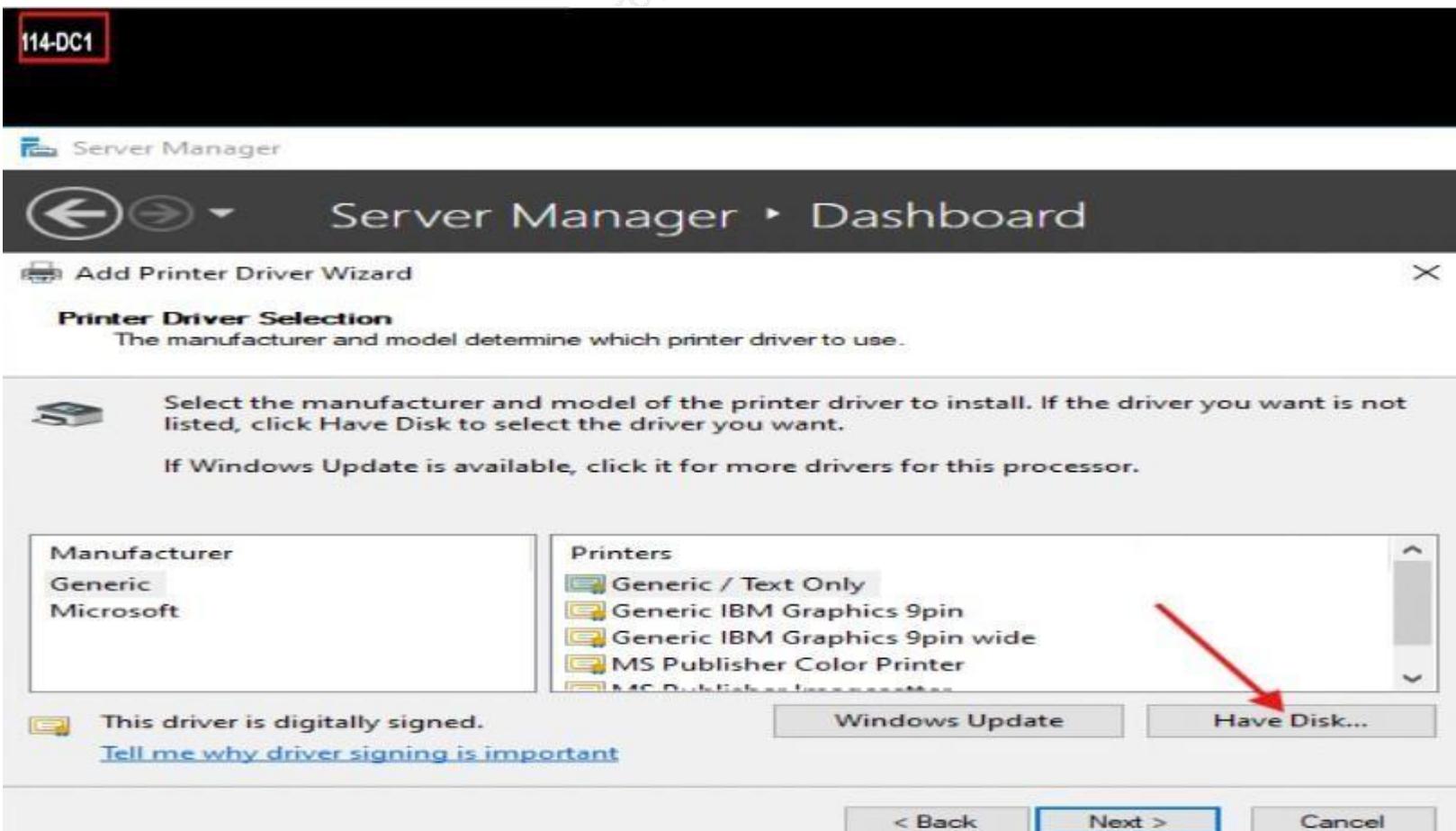
➤ Step 9: Go to Print Server > Drivers and add the downloaded driver using 'Have Disk' option.



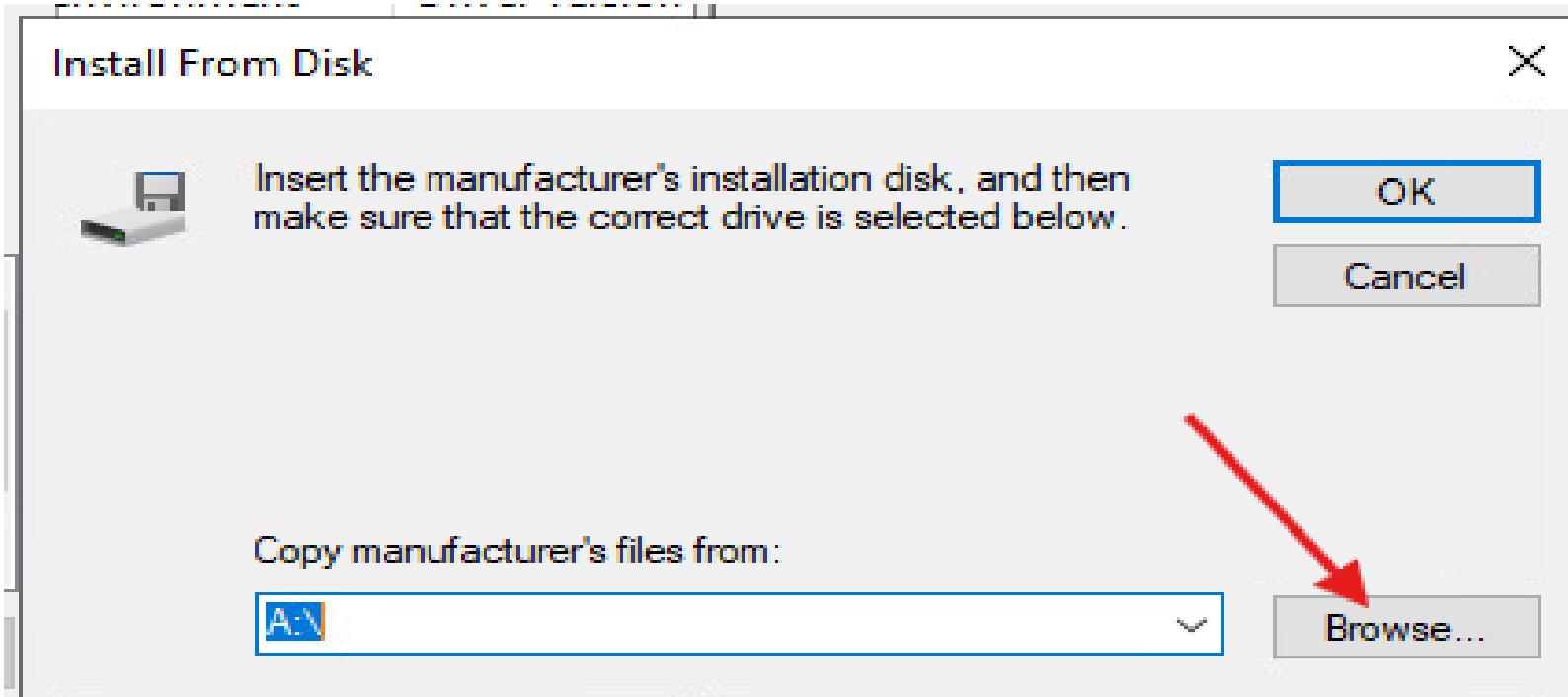
- Selecting the x64 (64-bit) processor option while adding the printer driver, ensuring the driver works correctly for all 64-bit Windows computers on the network.



- This shows choosing “Have Disk” to manually load the downloaded printer driver when it is not listed by default in the Printer Driver Selection wizard.



- This screen allows you to browse and select the downloaded printer driver files from your computer so Windows can install the correct printer driver from that location.

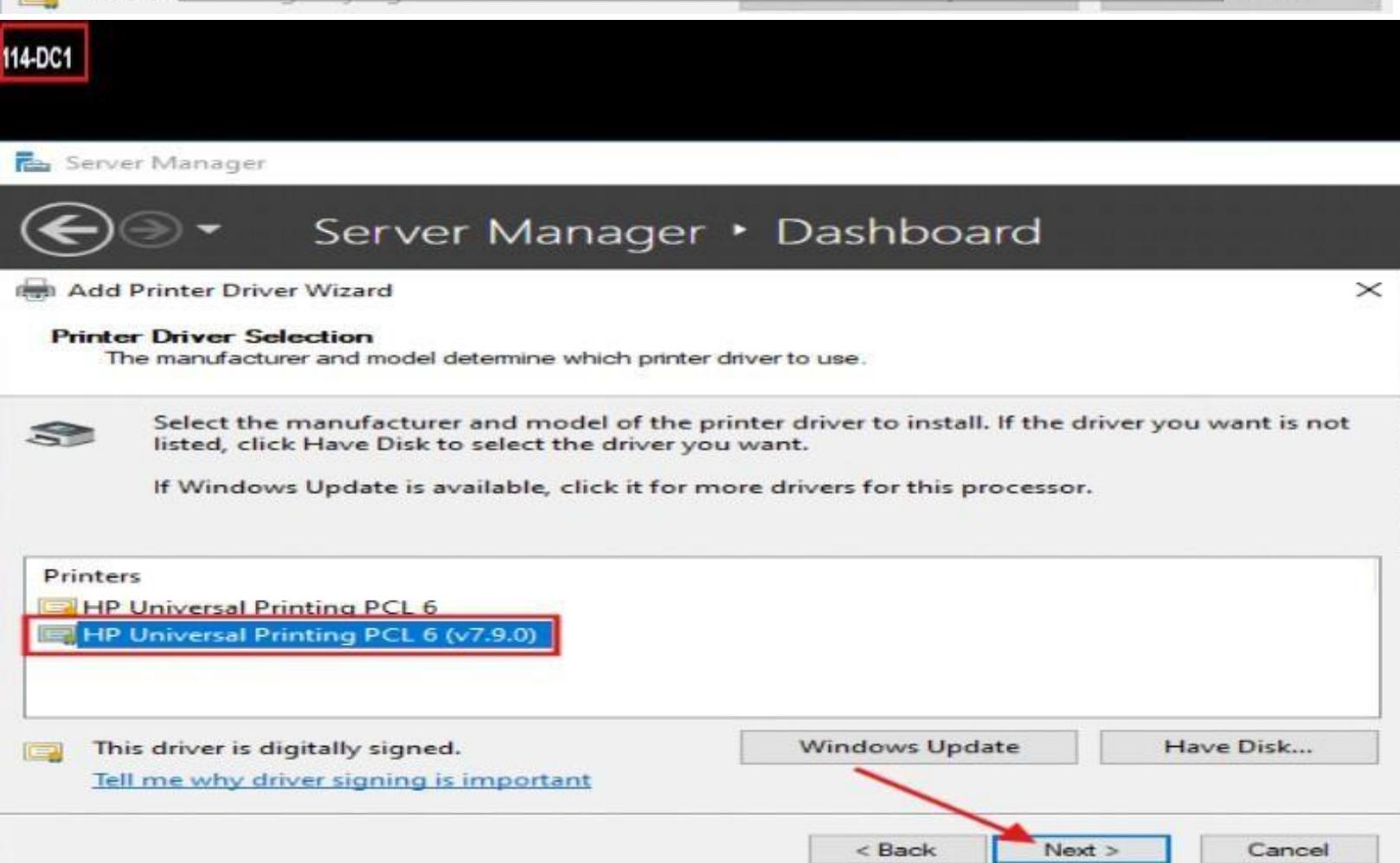
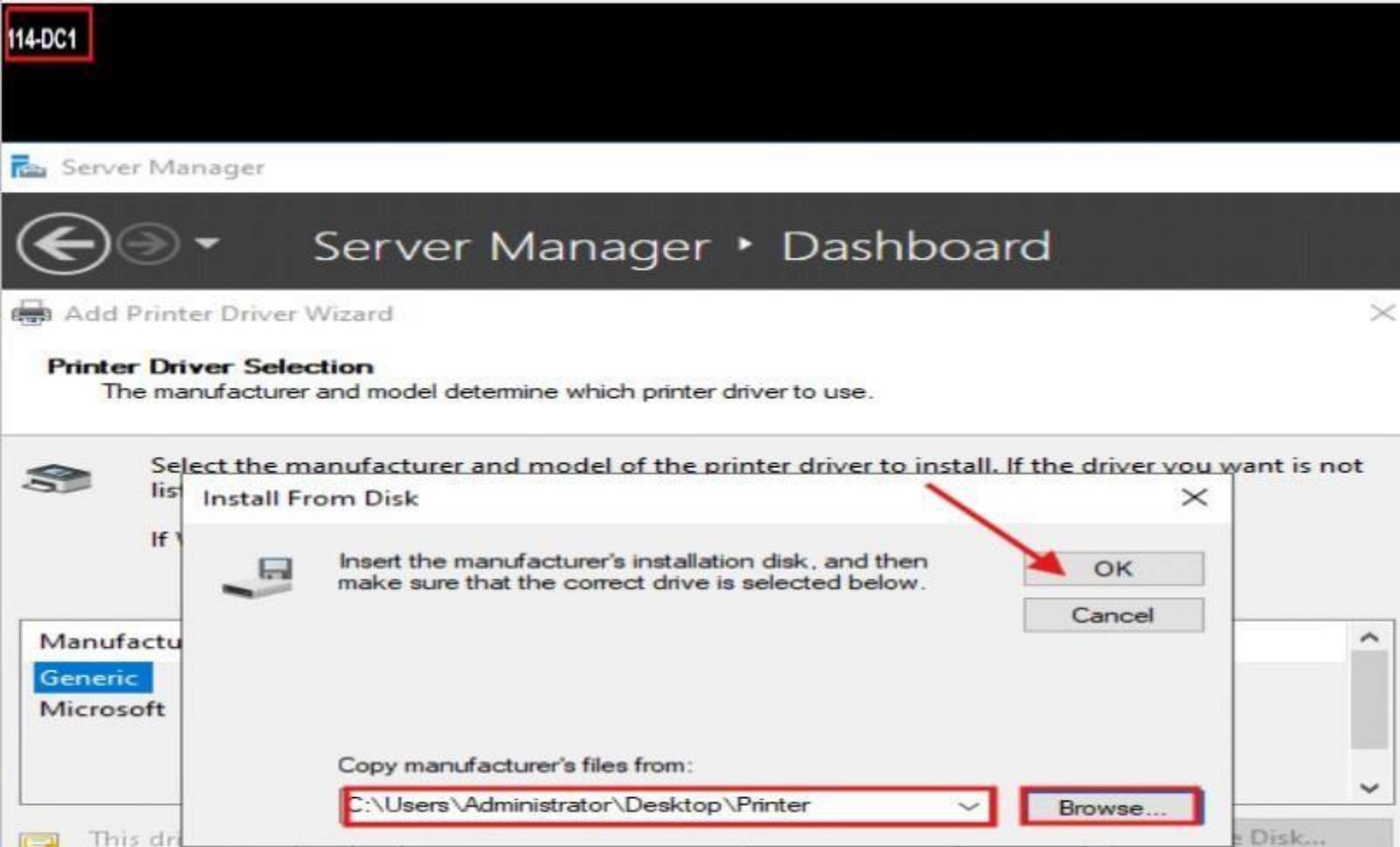


- I'm selecting the correct printer driver file (hpciu345u) from the extracted ‘Printer’ folder after choosing the ‘Have Disk’ option in Print Management to install the driver.

The screenshot shows the Windows Server Manager interface with a 'Server Manager' ribbon tab and a 'Dashboard' page. In the center, there's a 'Printer Driver Selection' section with a 'Select the manufacturer and model of the printer driver to install. If the driver you want is not listed, click here to install from disk.' link. Below it is a 'Locate File' dialog box. The 'Look in' dropdown is set to 'Printer'. The 'File name:' field contains 'hpciu345u' and the 'Files of type:' dropdown is set to 'Setup Information (*.inf)'. The 'Open' button at the bottom right of the dialog box is highlighted with a red arrow. The 'Locate File' dialog box lists several files in a table:

Name	Date modified
Drivers	11/4/2025 9:58 PM
hpbui02001	11/4/2025 9:58 PM
hpbui0200le	11/4/2025 9:58 PM
hpciu345u	11/4/2025 9:58 PM
hpmews02	11/4/2025 9:58 PM
hpmldm02	11/4/2025 9:58 PM
hppewnd	11/4/2025 9:58 PM
hppfaxnd	11/4/2025 9:58 PM
hppscnd	11/4/2025 9:58 PM
hpzid4vp	11/4/2025 9:58 PM
hpzipr23	11/4/2025 9:58 PM
hozius23	11/4/2025 9:58 PM

- Confirms the printer driver folder path selected from the Desktop and proceeds to install the printer driver files by clicking OK.



- Confirm that the HP Universal Printing PCL 6 driver has been successfully installed on the server and completes the Add Printer Driver Wizard by clicking Finish.



- Step 10: Create a new TCP/IP port using printer name as the hostname.

The screenshot shows the 'Print Management' interface in the Server Manager. The left navigation pane is visible with 'Dashboard' selected. In the main area, under 'Print Management', the 'Ports' node is expanded, and a context menu is open over it. The 'Add Port...' option in the menu is highlighted with a red arrow. To the right, a table lists existing ports:

Port N...	Port Description	Port Type	Printer Name
CO...	Local Port	Write	
CO...	Local Port	Write	
CO...	Local Port	Write	
CO...	Local Port	Write	
FILE:	Local Port	Write	
LPT1:	Local Port	Write	
LPT2:	Local Port	Write	
LPT3:	Local Port	Write	
POR...	Local Port	Write	

A small note at the bottom right says 'Microsoft XPS Document Writer, Micro...'. A red arrow also points from the 'Ports' node in the tree view towards the 'Add Port...' option in the context menu.

- ❖ I selected “Standard TCP/IP Port” and clicked “New Port” to add a network port for the printer in Print Management.

The screenshot shows the Windows Print Management console window titled "Print Management". The left sidebar navigation pane includes "Print Management", "Custom Filters", "All Printers (2)", "All Drivers (5)", "Printers Not Ready", "Printers With Jobs", "Print Servers", "DC1 (local)" (which has "Drivers", "Forms", and "Printers" listed under it), and "Deployed Printers". The main pane displays a table of ports:

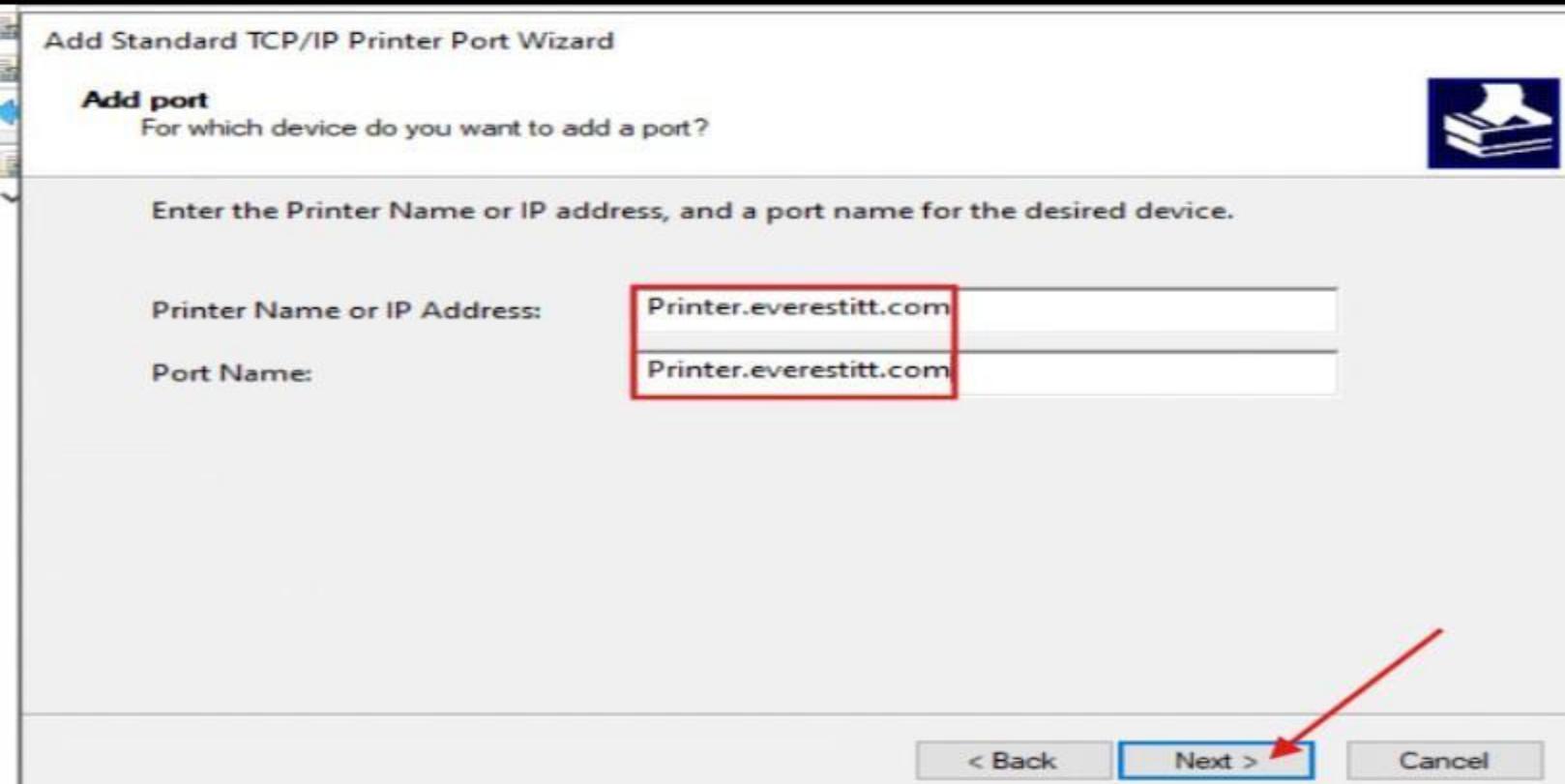
Port N...	Port Description	Port Type	Printer Name
CO...	Local Port	Write	
CO...	Local Port	Write	
CO...	Local Port	Write	
CO...	Local Port	Write	
FILE:	Local Port	Write	
LPT1:	Local Port	Write	
LPT2:	Local Port	Write	

A modal dialog box titled "Printer Ports" is open over the main window. It contains a list of "Available port types:" with "Local Port" and "Standard TCP/IP Port" listed. The "Standard TCP/IP Port" option is highlighted with a red box. At the bottom of the dialog are three buttons: "New Port Type...", "New Port...", and "Cancel". A red arrow points from the text "I selected ‘Standard TCP/IP Port’ and clicked ‘New Port’" to the "New Port..." button.

The screenshot shows the first screen of the "Add Standard TCP/IP Printer Port Wizard". The title is "Welcome to the Add Standard TCP/IP Printer Port Wizard". It features a decorative graphic of a stack of papers and a printer on the left. The text on the right says: "This wizard helps you add a port for a network printer." and "Before continuing be sure that:
1. The device is turned on.
2. The network is connected and configured." A red arrow points from the text "To continue, click Next." to the "Next >" button at the bottom right of the screen.

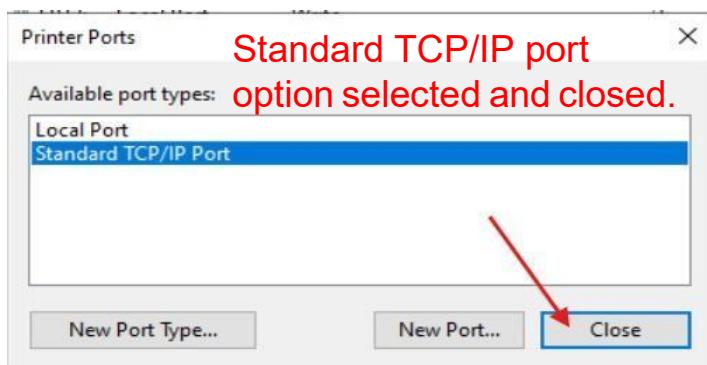
- This shows creating a Standard TCP/IP printer port by entering the printer's hostname, allowing the server to connect to and communicate with the network printer.

114-DC1



114-DC1

The screenshot shows the 'Print Management' interface in the Server Manager. The left navigation pane includes 'Dashboard', 'Local Server', 'All Servers', 'AD DS', 'DNS', 'File and Storage', 'IIS', 'Print Services', and 'Remote Access'. The main area displays the 'Add Standard TCP/IP Printer Port Wizard' results. The title 'Completing the Add Standard TCP/IP Printer Port Wizard' is shown, followed by a summary of selected port characteristics: SNMP: Yes, Protocol: RAW, Port 9100, Device: printer.everestitt.com, Port Name: printer.everestitt.com, and Adapter Type: HP Color LaserJet MFP M283cdw. These characteristics are enclosed in a red box. At the bottom, it says 'To complete this wizard, click Finish.' with buttons for '< Back', 'Finish', and 'Cancel'.



114-DC1

Server Manager Print Management

File Action View Help

Dashboard Local Server All Servers AD DS DNS File and Storage IIS Print Services Remote Access

Print Management

Custom Filters All Printers (2) All Drivers (5) Printers Not Ready Printers With J Ready Print Servers DC1 (local) Drivers Forms Ports Printers Deployed Printers

Port Name	Port Description	Port Type
COM1:	Local Port	Write
COM2:	Local Port	Write
COM3:	Local Port	Write
COM4:	Local Port	Write
FILE:	Local Port	Write
LPT1:	Local Port	Write
LPT2:	Local Port	Write
LPT3:	Local Port	Write
PORTRPROMPT:	Local Port	Write
printer.everest...:	Standard TCP/IP Port	Write

- ❖ The new Standard TCP/IP port has been successfully created and is now listed under Ports in Print Management.

Add Printer Driver and Create TCP/IP Port



Download and Prepare Driver

Download the correct printer driver from the vendor's website and extract files to an accessible folder.

Install Driver via Print Management

Use Print Management's 'Have Disk' option to install the extracted printer driver for proper integration.

Create Standard TCP/IP Port

Create a new Standard TCP/IP port using the printer's hostname or IP for network communication.

Confirm Connectivity Setup

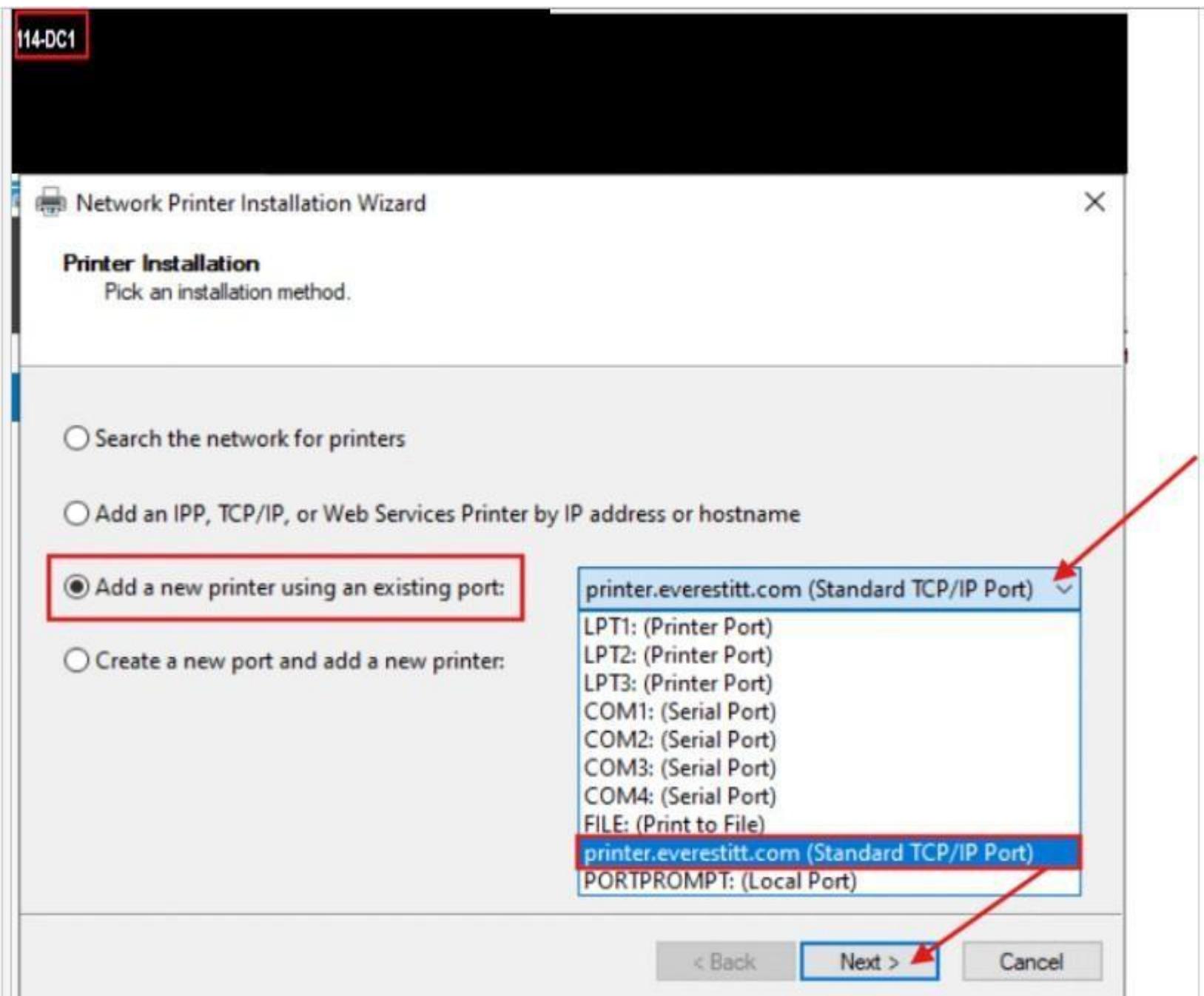
Verify the new TCP/IP port appears in Print Management ensuring reliable network printer communication.

➤ Step 11: Add a new printer using the created port and select the installed driver.

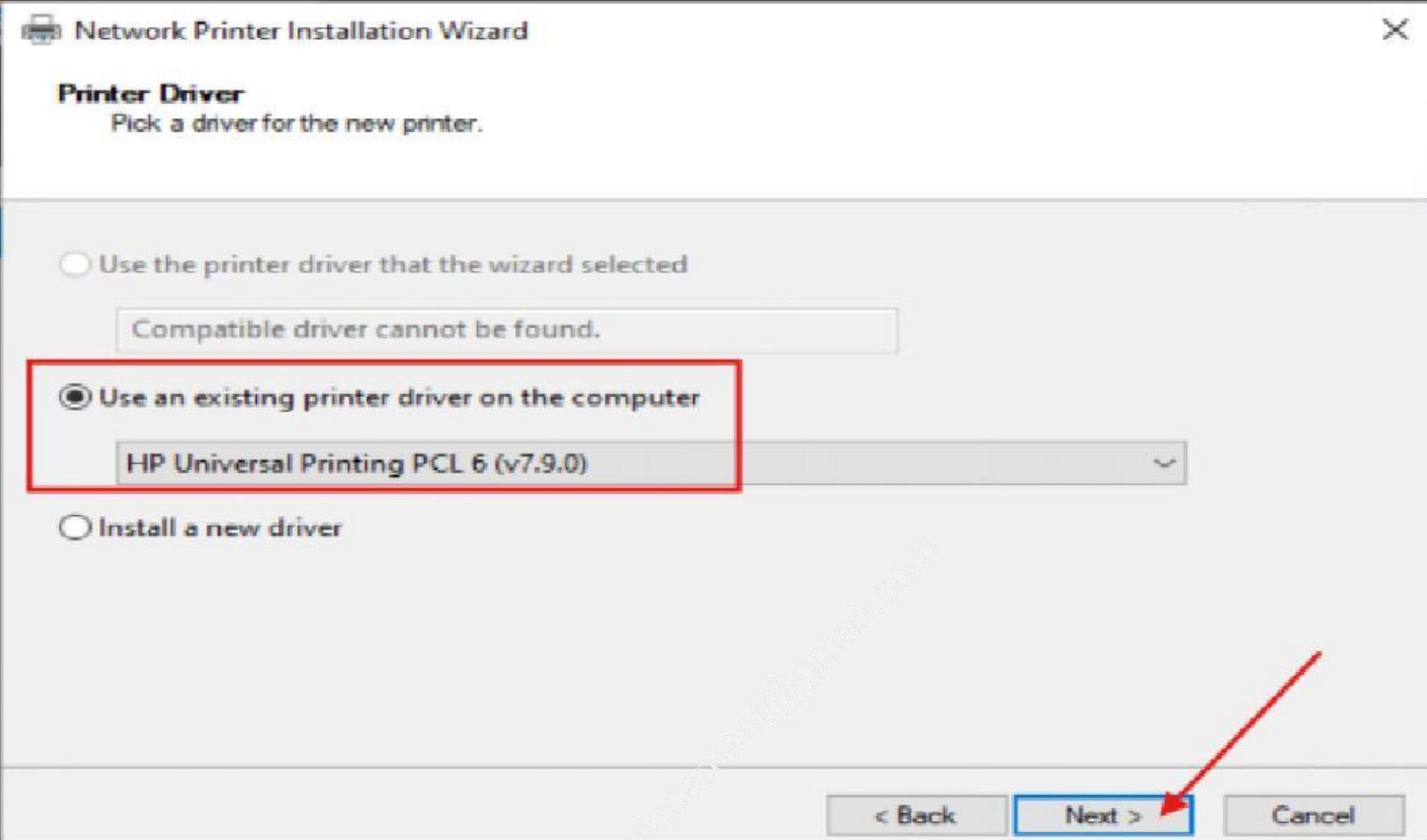
The screenshot shows the Windows Server Manager interface. The left sidebar has a red box around the '114-DC1' server name. The main area is titled 'Print Management'. The navigation pane on the left has 'Dashboard' selected. The 'Print Management' section shows a tree view with 'Custom Filters' and 'Print Servers' expanded. Under 'Print Servers', 'DC1 (local)' is selected, and its children 'Drivers', 'Forms', 'Ports', and 'Printers' are listed. A red arrow points from the text above to the 'Printers' link. A context menu is open at this link, with 'Add Printer...' highlighted in red. Other options in the menu include 'Show Extended View', 'View', 'Refresh', 'Export List...', and 'Help'.

Printer Name	Queue Status	Jobs In ...	Serv
Microsoft XPS Document Writer	Ready	0	DC1
Microsoft Print to PDF	Ready	0	DC1

I chose the previously created TCP/IP port to install the printer.



❖ Use existing HP Universal Printing PCL 6 driver and proceed to the next step.



Configure Printer and Enable Sharing

Printer Setup and Naming

Add the printer using the configured port and installed driver, assigning a clear name and location for easy user identification.

Enable Printer Sharing

Enable sharing so the printer is accessible on the network and listed in Active Directory for easy discovery by domain users.

Testing and Deployment

Print a test page to verify functionality and support centralized deployment via Group Policy for seamless user access.

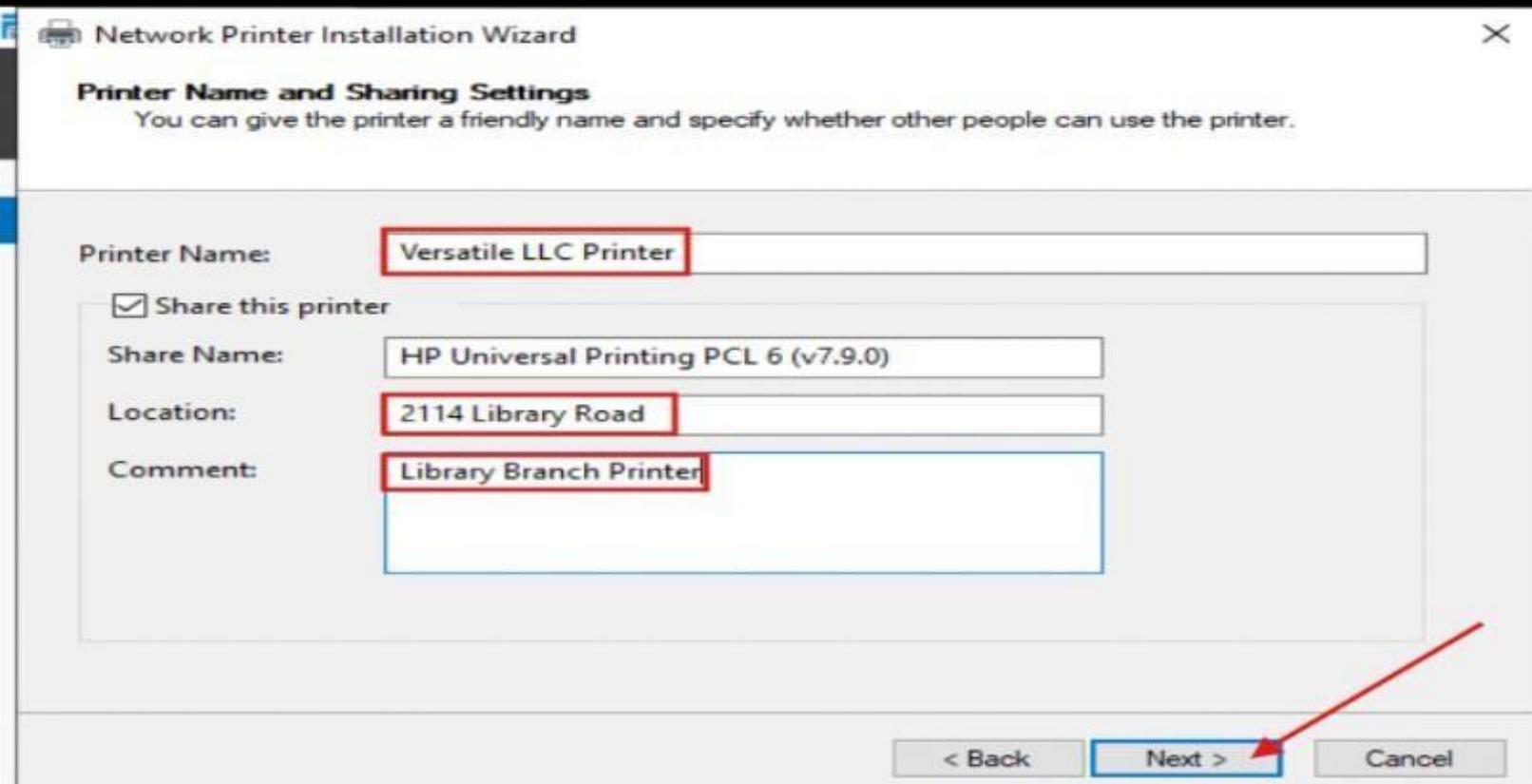
Management and Monitoring

Proper printer sharing supports monitoring and management through the print server for full administrative control over print jobs.



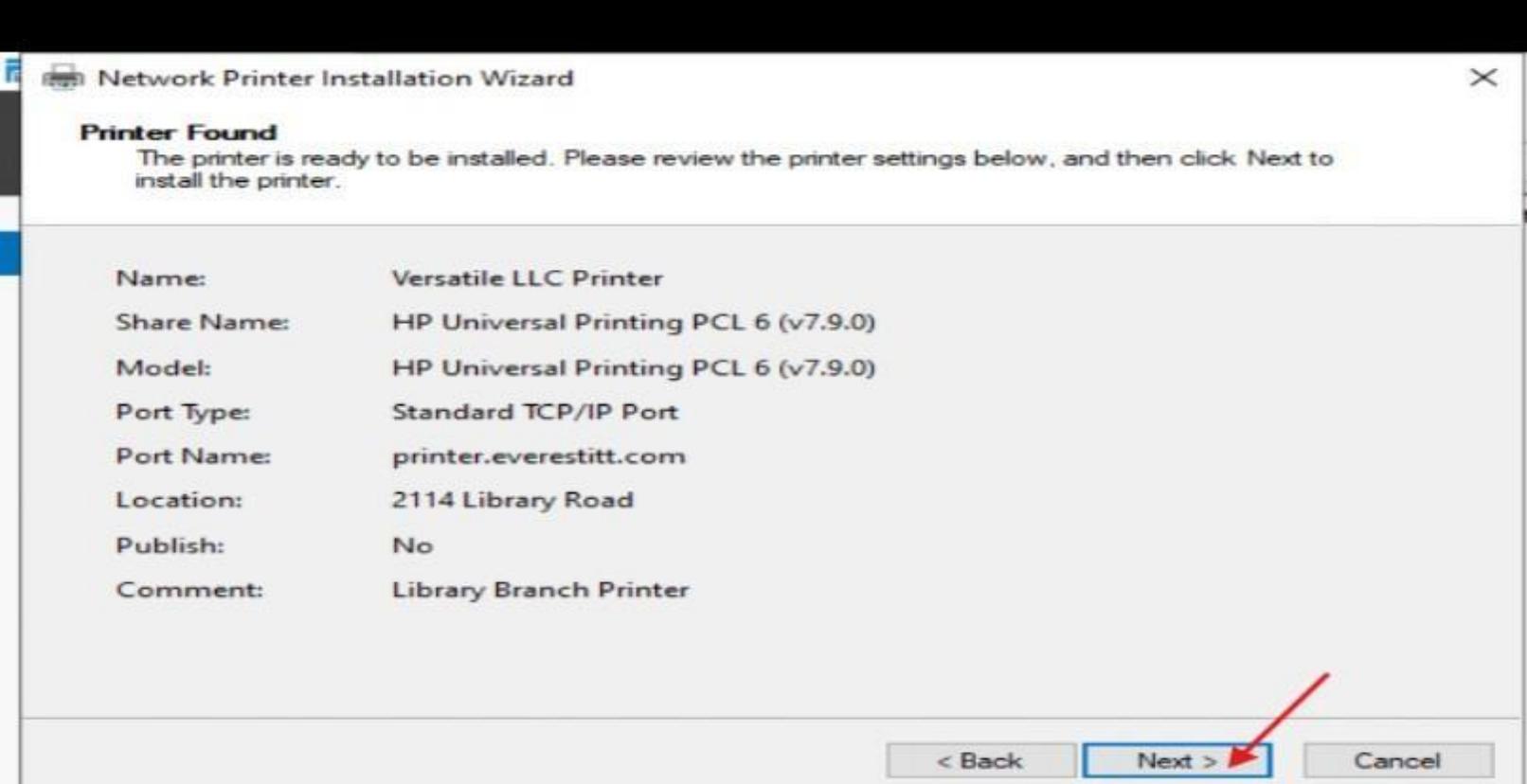
➤ Step 12: Name the printer, set location.

114-DC1

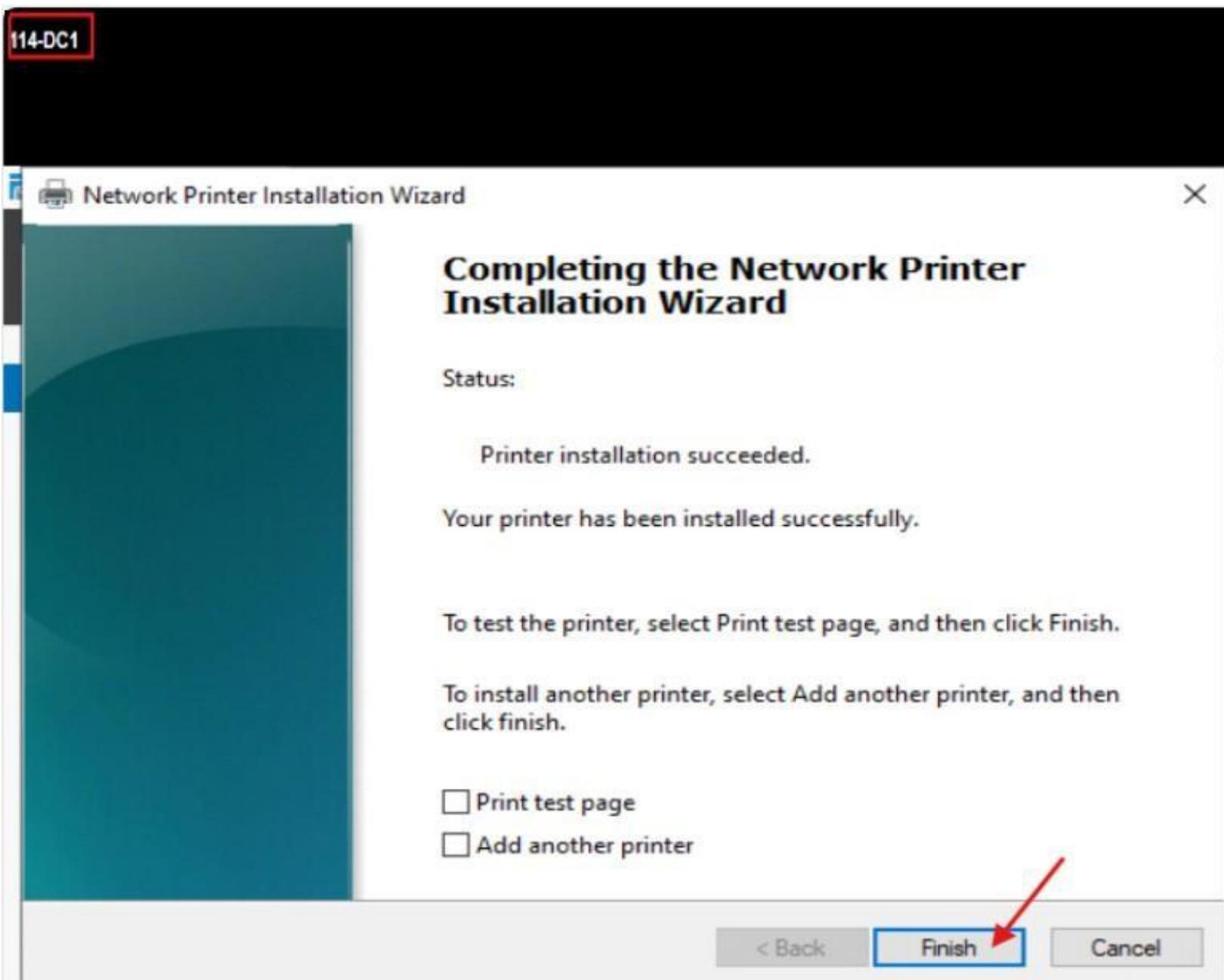


- Printer details are confirmed and ready to be installed using the selected driver and TCP/IP port

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- ❖ Network Printer Installation Wizard has completed successfully, and it gives the option to print a test page to verify if the printer is working before clicking Finish.



- ❖ I accessed the Properties of the printer I previously installed to view or configure its settings.

Print Management

File Action View Help

Print Management

- Custom Filters
 - All Printers (3)
 - All Drivers (5)
 - Printers Not Ready
 - Printers With Jobs
- Print Servers
 - DC1 (local)
 - Drivers
 - Forms
 - Ports
 - Printers**
- Deployed Printers

Printer Name	Queue Status	Jobs In ...	Server Name	Driver Name	Driver Version
Versatile LLC Printer	Ready	0	DC1 (local)	HP Universal Printing PCL 6 (v7.9.0)	61.345.1.26347
Microsoft XPS Document Writer	Ready	0		Microsoft XPS Document Writer v4	10.0.20348.1
Microsoft Print to PDF	Ready	0		Microsoft Print to PDF	10.0.20348.1

- ❖ Sharing: Lets you share the printer on the network and list it in Active Directory.

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Print Management

File Action View Help

Print Management

- Custom Filters
 - All Printers (3)
 - All Drivers (5)
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 - Ports
 - Printers**
- Deployed Printers

Printer Name

- Versatile LLC Printer
- Microsoft XPS Document Writer
- Microsoft Print to PDF

Versatile LLC Printer Properties

Sharing

You can share this printer with other users on your network. The printer will not be available when the computer is sleeping or turned off.

Share this printer
Share name: HP Universal Printing PCL 6 (v7.9.0)

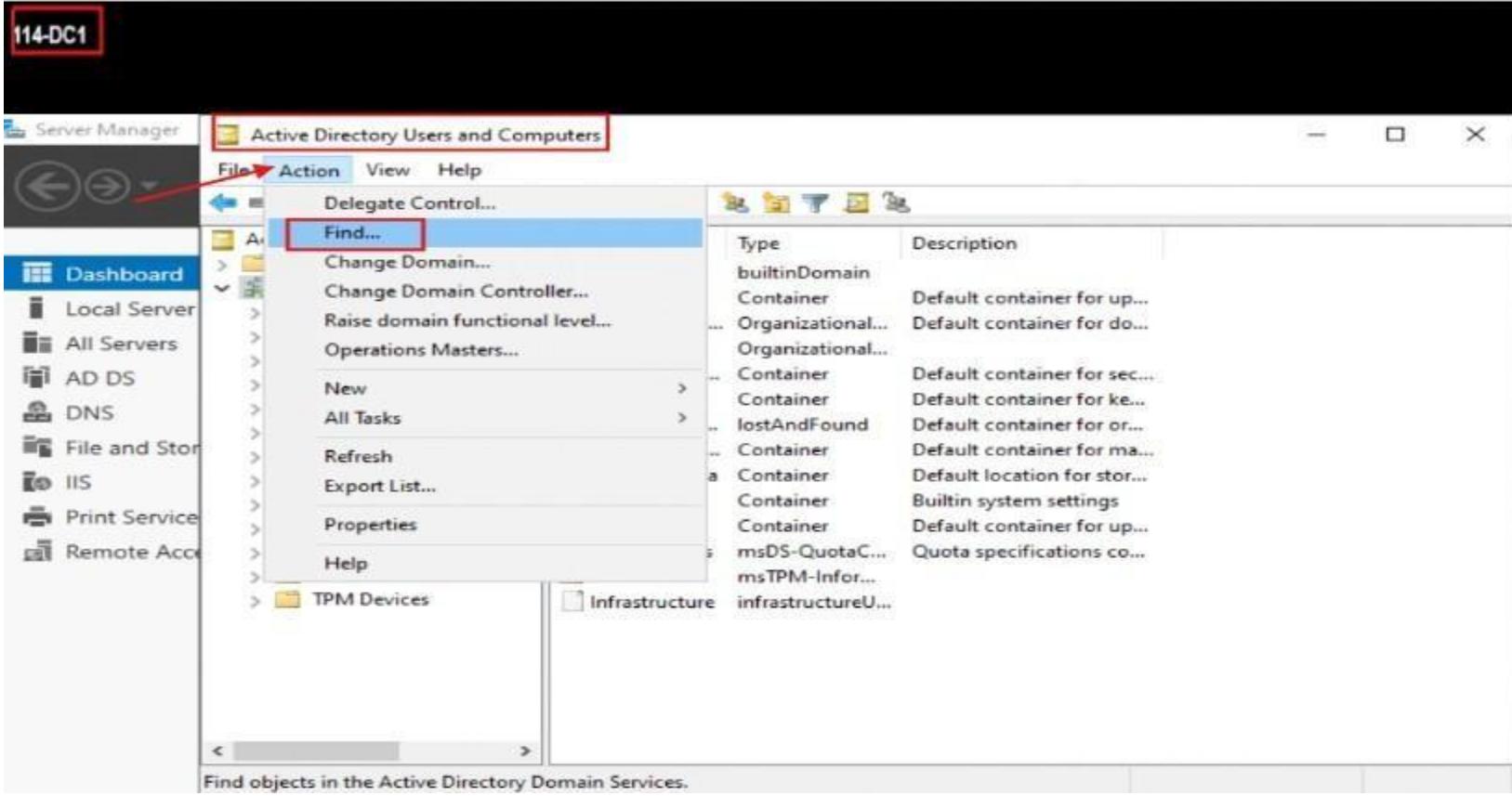
Render print jobs on client computers

List in the directory

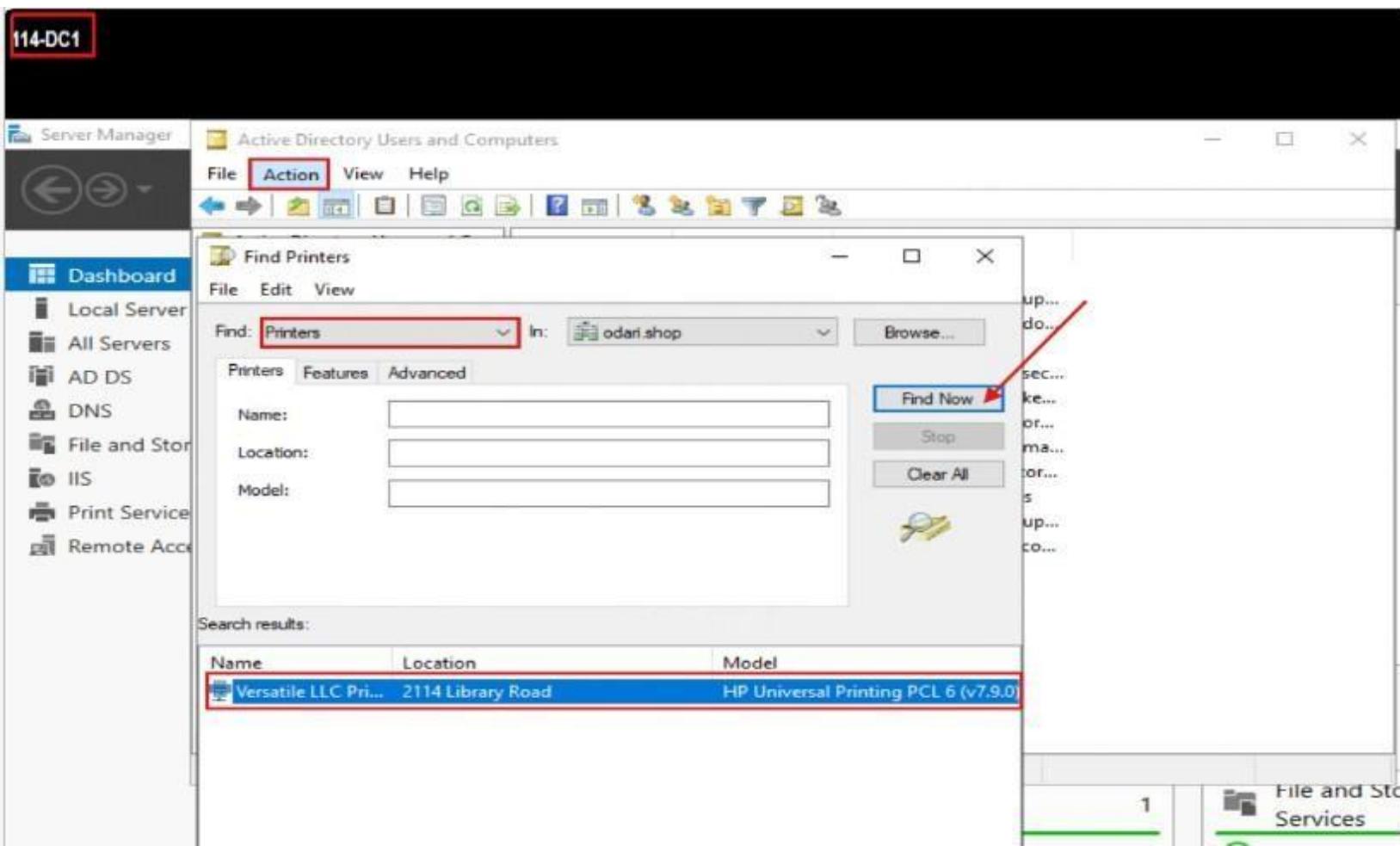
Drivers

If this printer is shared with users running different versions of Windows, you may want to install additional drivers, so that the users do not have to find the print driver when they connect to the shared printer.

➤ Step 13: Verify printer in Active Directory Users and Computers (ADUC).



- This shows Active Directory Users and Computers being used to search for printers published in the domain. By clicking Find Now under the Printers search, it confirms that the shared printer (Versatile LLC Printer) is successfully published in Active Directory and visible to domain users, proving the printer deployment and sharing are working correctly.



❖ What is Group Policy?

- Group Policy is like a remote control for your network computers. Instead of configuring printers or settings on each PC manually, you create rules (policies) that apply automatically to all domain computers.

I use Group Policy Management to create a new GPO and link it to the Employees OU. This ensures every user in that group gets the shared printer without extra steps. It saves time, reduces errors, and keeps everything consistent across the organization.

❖ Why Use Group Policy for Printers?

Without Group Policy:

- Printers must be added on each PC
- More time, more errors

With Group Policy:

- Printers deploy automatically
- Same settings for all users
- Faster and cleaner setup

Benefits of Using Group Policy for Printer Deployment

- **Saves Time** – Printers are deployed automatically without installing them on each PC manually.
- **Centralized Management** – All printer settings are managed from one place using Group Policy.
- **Automatic Deployment** – Everyone receives the same configuration, reducing setup issues.
- **Targeted Deployment** – Only users in the correct OU receive the printer.
- **Easy Troubleshooting** – Issues can be managed centrally instead of checking individual machines.
- **Consistent Experience** – All domain users get the same printer configuration.
- **Scalable Solution** – New users or computers added to the OU receive the printer automatically.

Automating Printer Deployment



Creating and Linking GPO

Create a Group Policy Object and link it to the target Organizational Unit for printer deployment.

Configuring Printer Settings

Add shared printers through User Configuration in Group Policy to enable automatic installation on login.

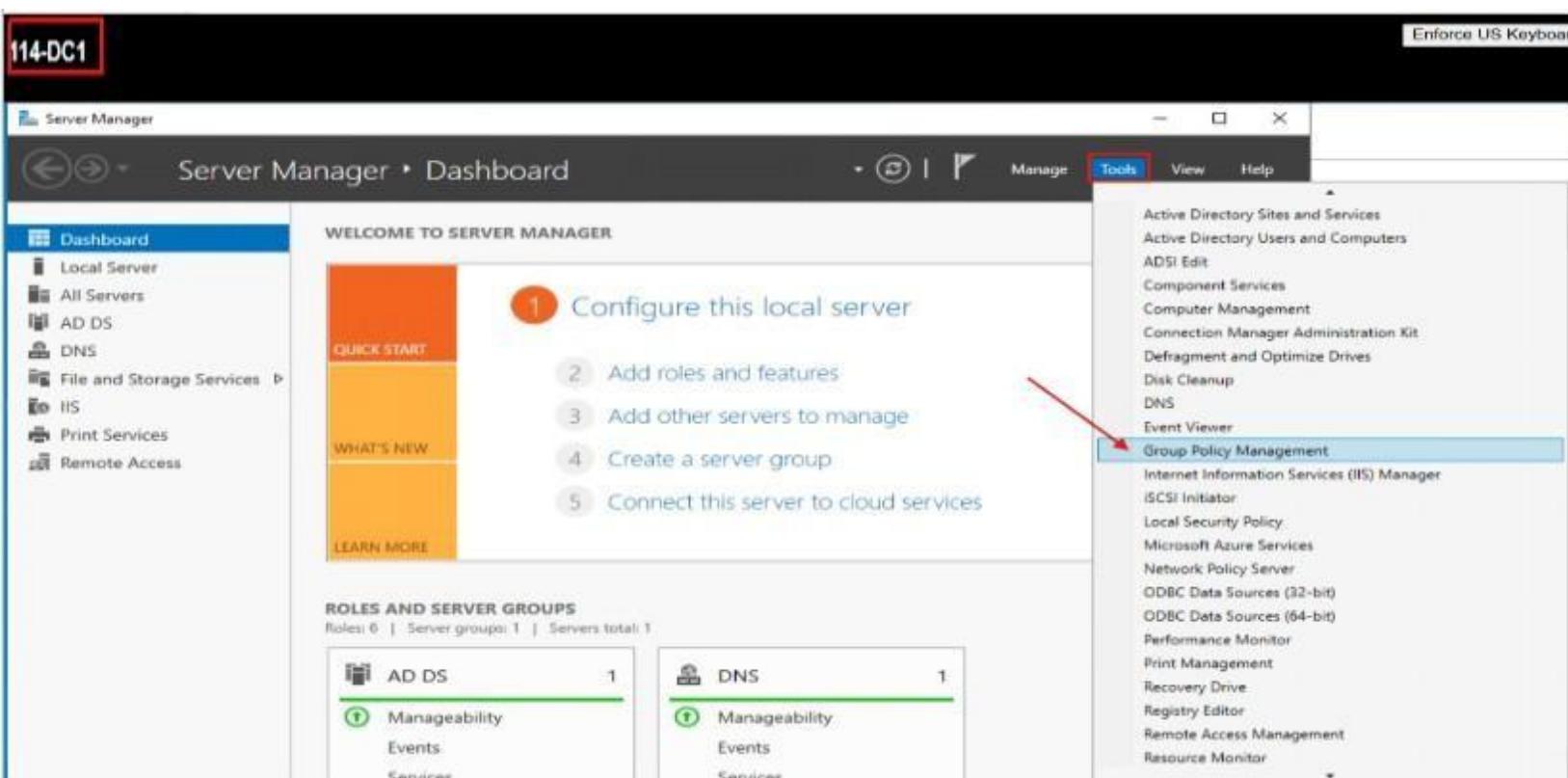
Updating and Verifying Policy

Use 'gpupdate /force' to update policies and verify printer availability in user settings.

Benefits of Automation

Automated printer deployment saves time, reduces errors, and ensures consistent settings across the network.

➤ Step 14: Create a Group Policy in Group Policy Management to deploy the printer to domain PCs.

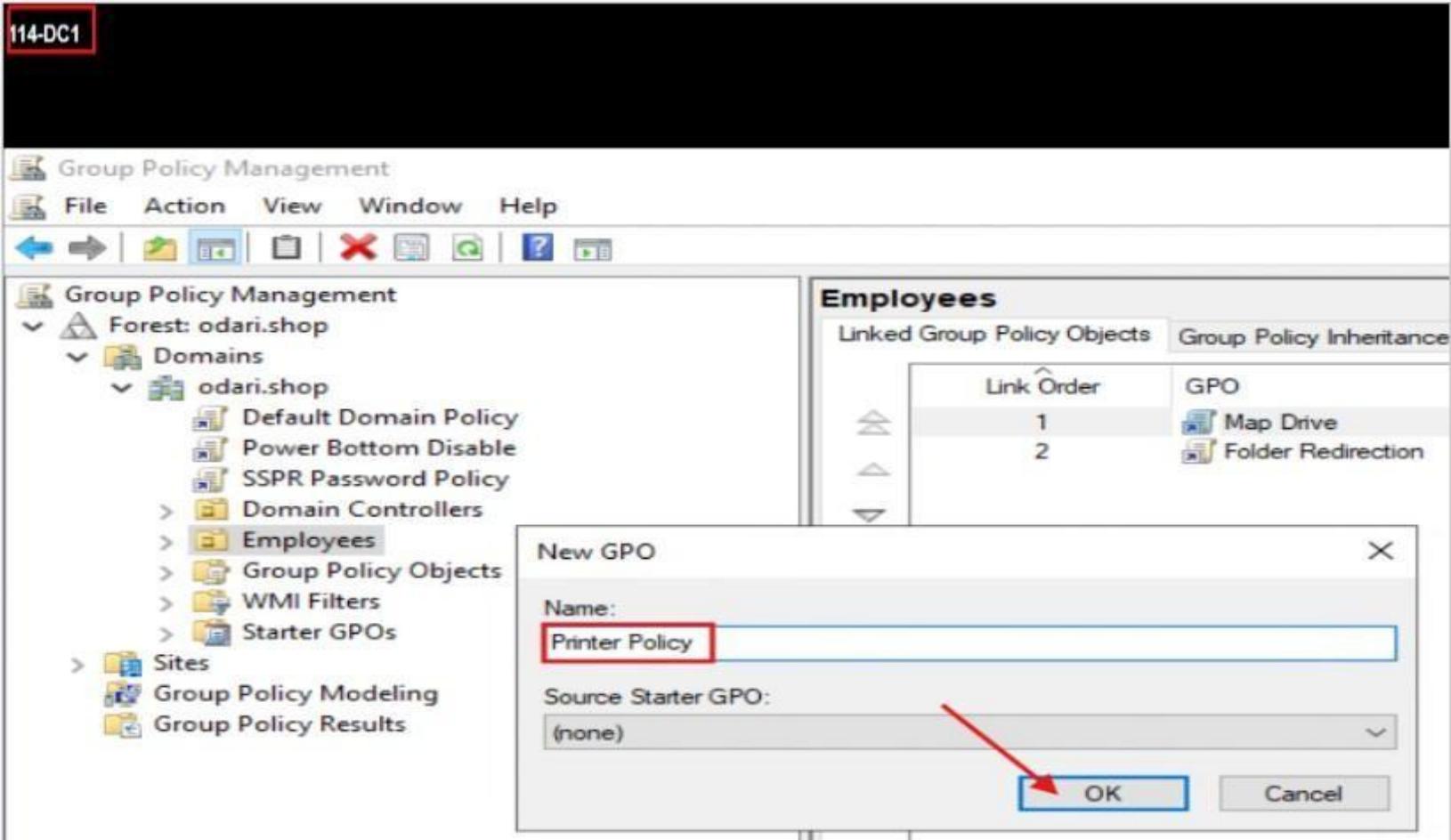


❖ Create New GPO for Printer Deployment:

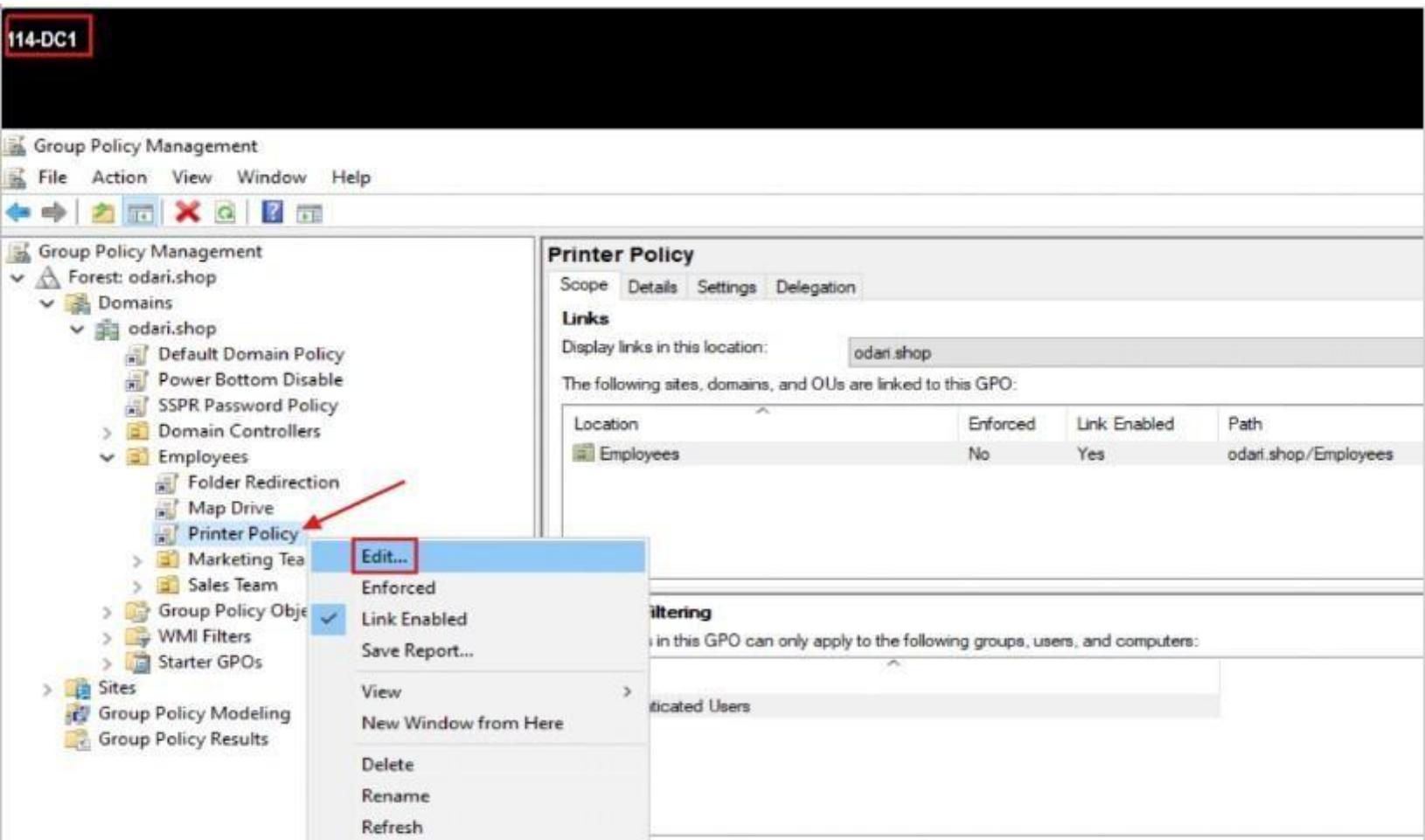
The screenshot shows the Group Policy Management console. The left pane displays a tree structure of domains and sites. Under the 'odari.shop' domain, the 'Employees' folder is selected and highlighted with a red arrow. A context menu is open over this folder, with the 'Create a GPO in this domain, and Link it here...' option highlighted with a blue selection bar and a red arrow pointing to it from the bottom-left. The right pane shows a table for managing Group Policy Objects (GPOs) under the 'Employees' domain, with two entries: 'Map Drive' and 'Folder Redirection'. The 'Link Order' column shows values 1 and 2, and the 'GPO' column lists the two objects.

Link Order	GPO	Enforced	Link Enabled
1	Map Drive	No	Yes
2	Folder Redirection	No	Yes

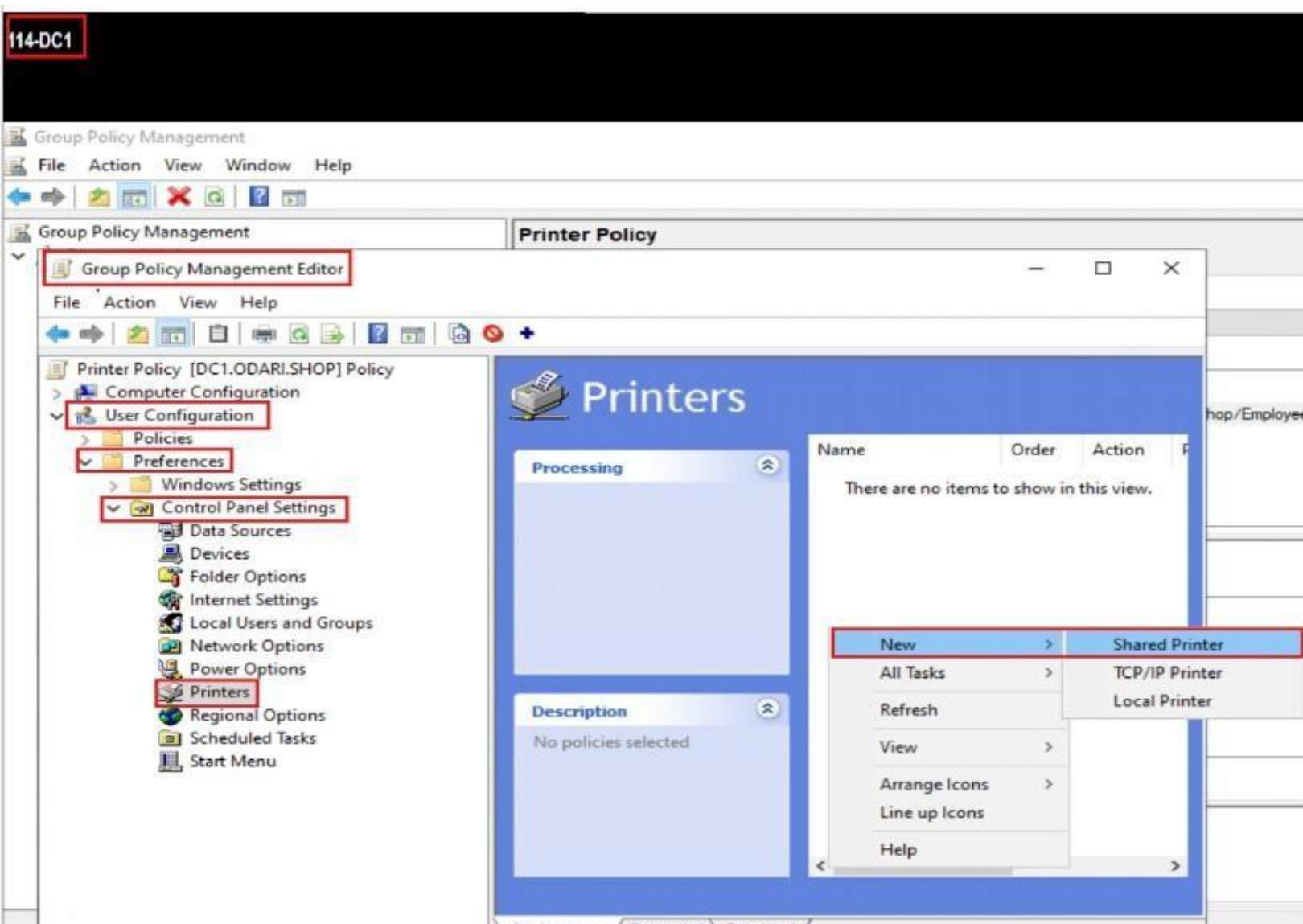
- A new Printer Policy GPO is created and linked to the Employees OU to deploy printers automatically to users.



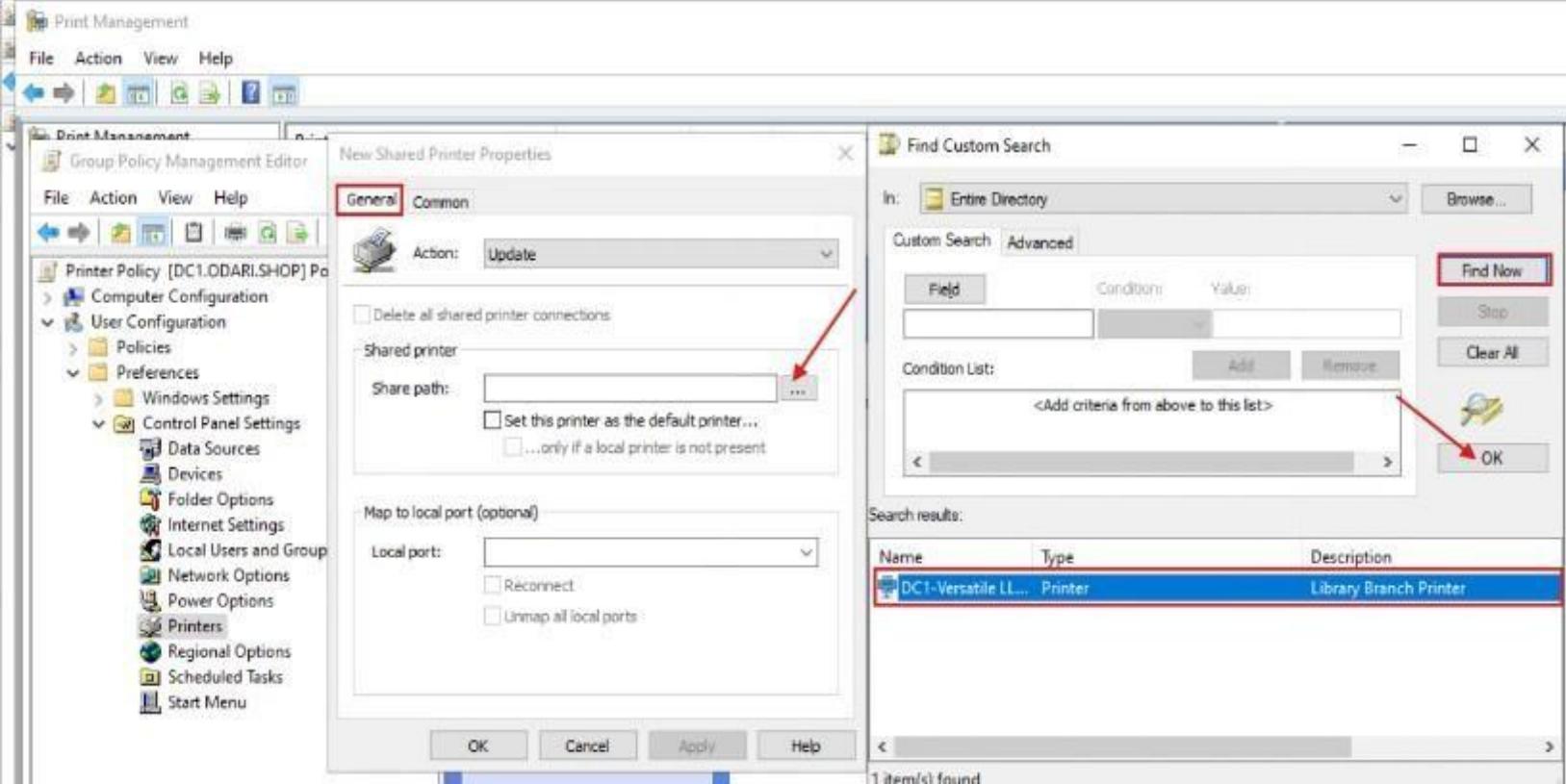
- Printer Policy GPO is opened for editing to configure printer deployment settings



- ❖ We use Group Policy so that all domain computers automatically get the shared printer without setting it up manually. By creating a printer policy under the Employees OU, the printer is deployed to every user in that group when they log in. This saves time, reduces errors, and ensures the same printer settings for everyone.
- ❖ Group Policy Management Editor → User Configuration → Preferences → Control Panel Settings → Printers → New → Shared Printer



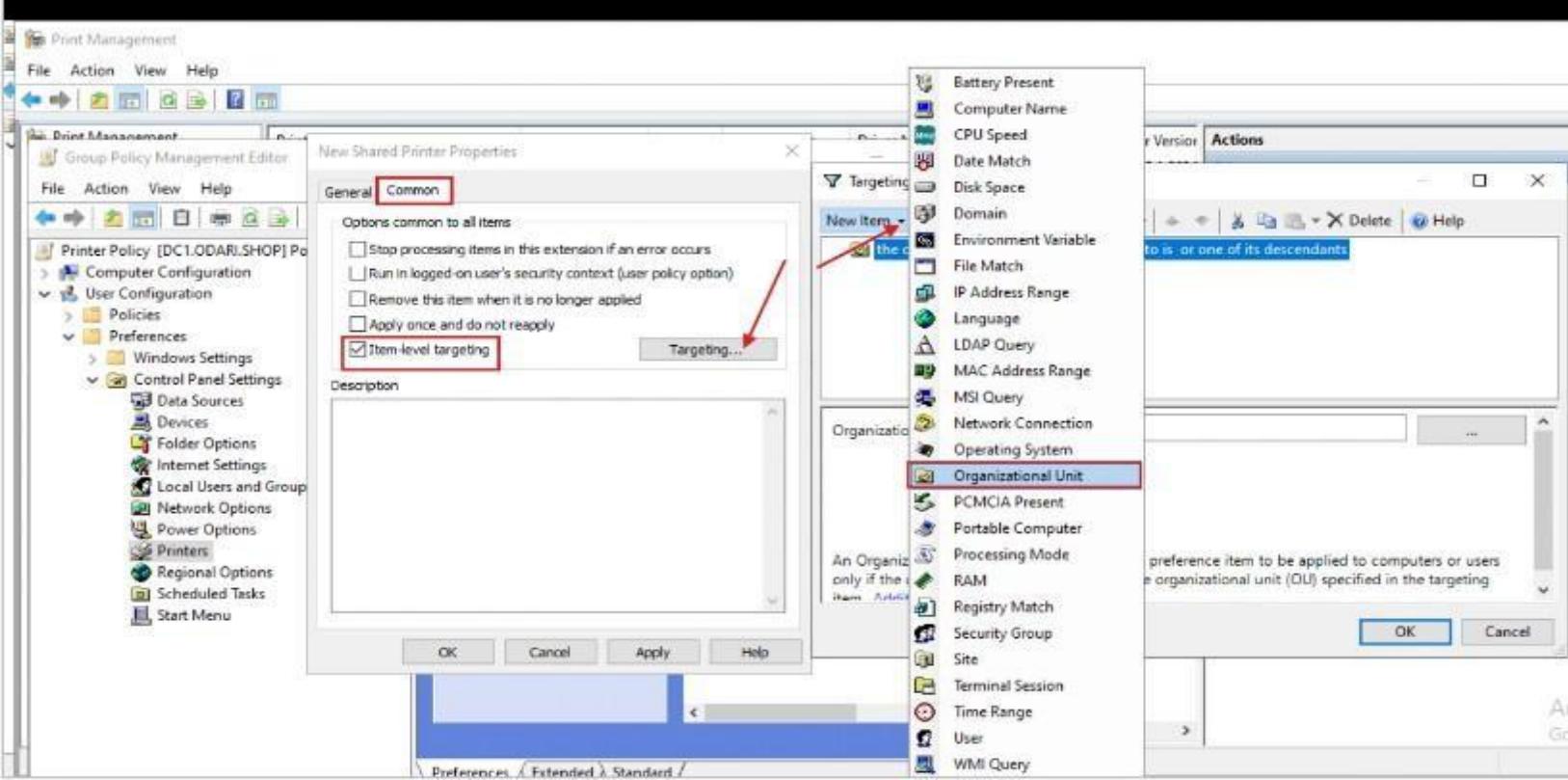
114-DC1



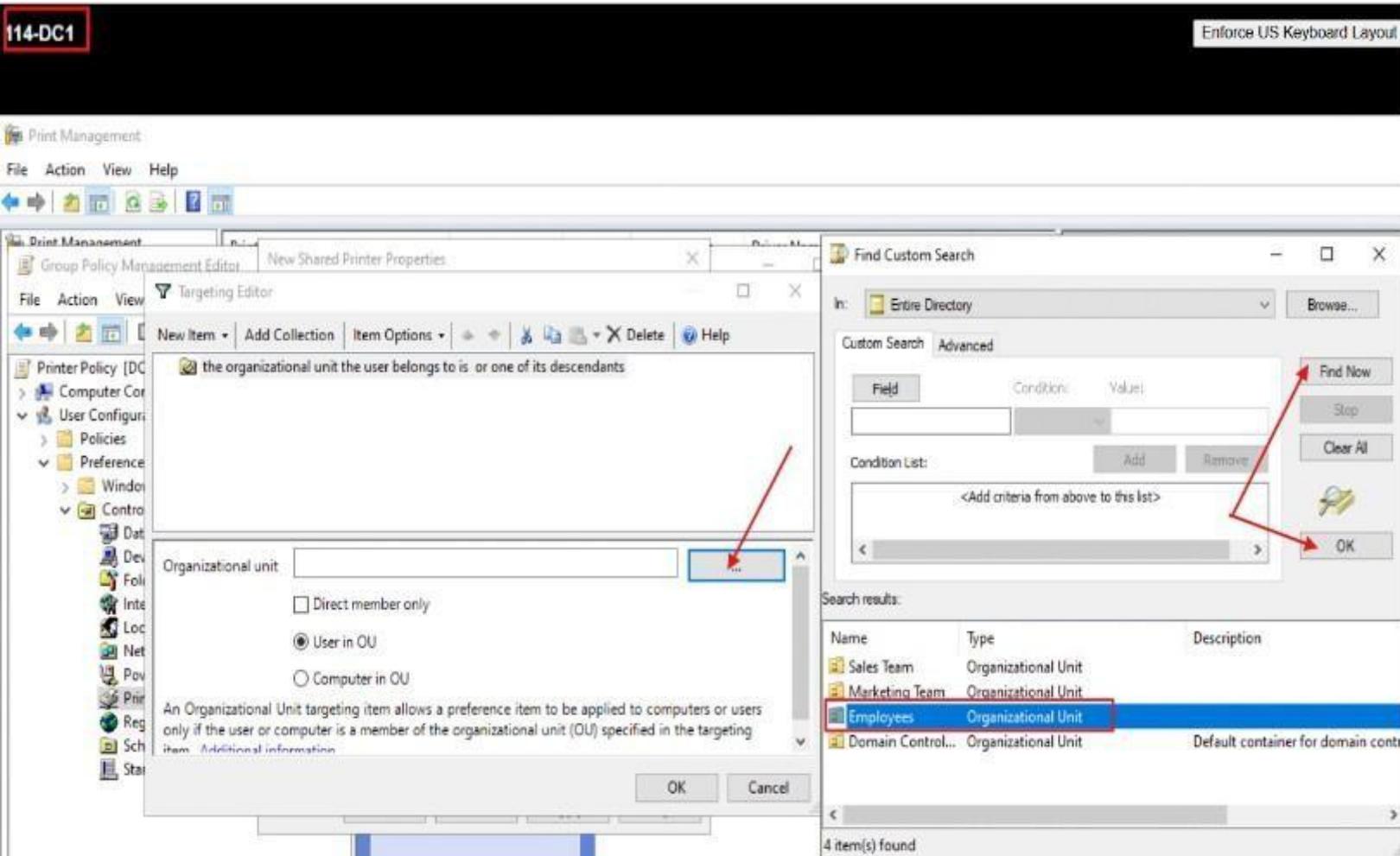
- Configuring Item-level Targeting for the shared printer in Group Policy, where Organizational Unit (OU) is selected so the printer applies only to users or computers in the specified OU, ensuring the printer is deployed to the correct group and not everyone in the domain.

114-DC1

Enforce US Keyboard Layout



- This shows item-level targeting where the Employees Organizational Unit (OU) is selected, ensuring the shared printer is deployed only to users in that specific OU and not the entire domain.



- Step 15: Update Group Policy using Command Prompt → gpupdate /force.

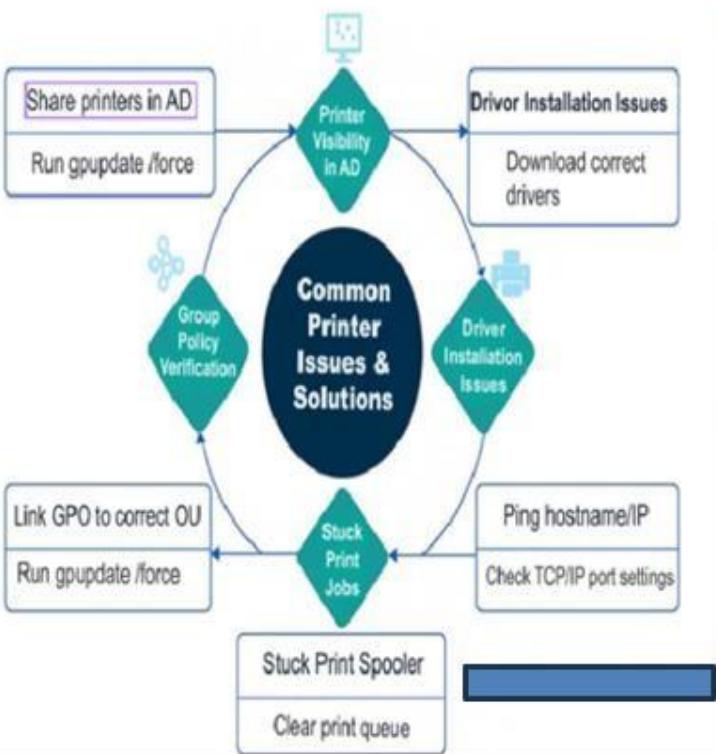
The screenshot shows an Administrator Command Prompt window. The title bar says 'Administrator: Command Prompt'. The command 'gpupdate /force' is entered and executed. The output shows the process of updating the group policy and confirming that the computer policy update was successful. The command prompt prompt is 'Users\Administrator>'.

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.20348.4052]
Copyright Microsoft Corporation. All rights reserved.

Users\Administrator>gpupdate/force
Updating policy...
Computer Policy update has completed successfully.
User Policy update has completed successfully.

Users\Administrator>
```

Common Printer Issues and Solutions



Printer Visibility in AD

Ensure printers are shared and listed in Active Directory to appear correctly, then refresh Group Policy with 'gpupdate /force'.

Driver Installation Issues

Download correct drivers from official sources and reinstall using 'Have Disk' option in Print Management for compatibility.

Network Connection Problems

Verify printer connectivity by pinging hostname or IP and check network and TCP/IP port configurations if unreachable.

Stuck Print Jobs

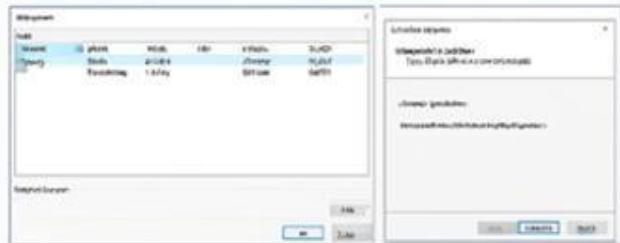
Restart the Print Spooler service and clear the print queue to resolve stuck or stalled print jobs efficiently.

Group Policy Verification

Ensure GPO is linked to the correct OU and confirm policy application using 'gpresult /r' command to apply printing policies.

Common Printer Issues & Solutions

Printer Visibility in AD



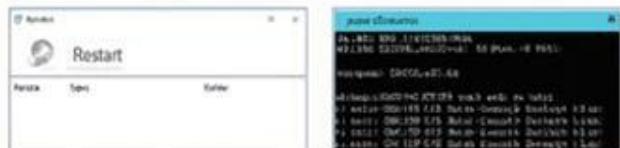
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Stuck Print Jobs



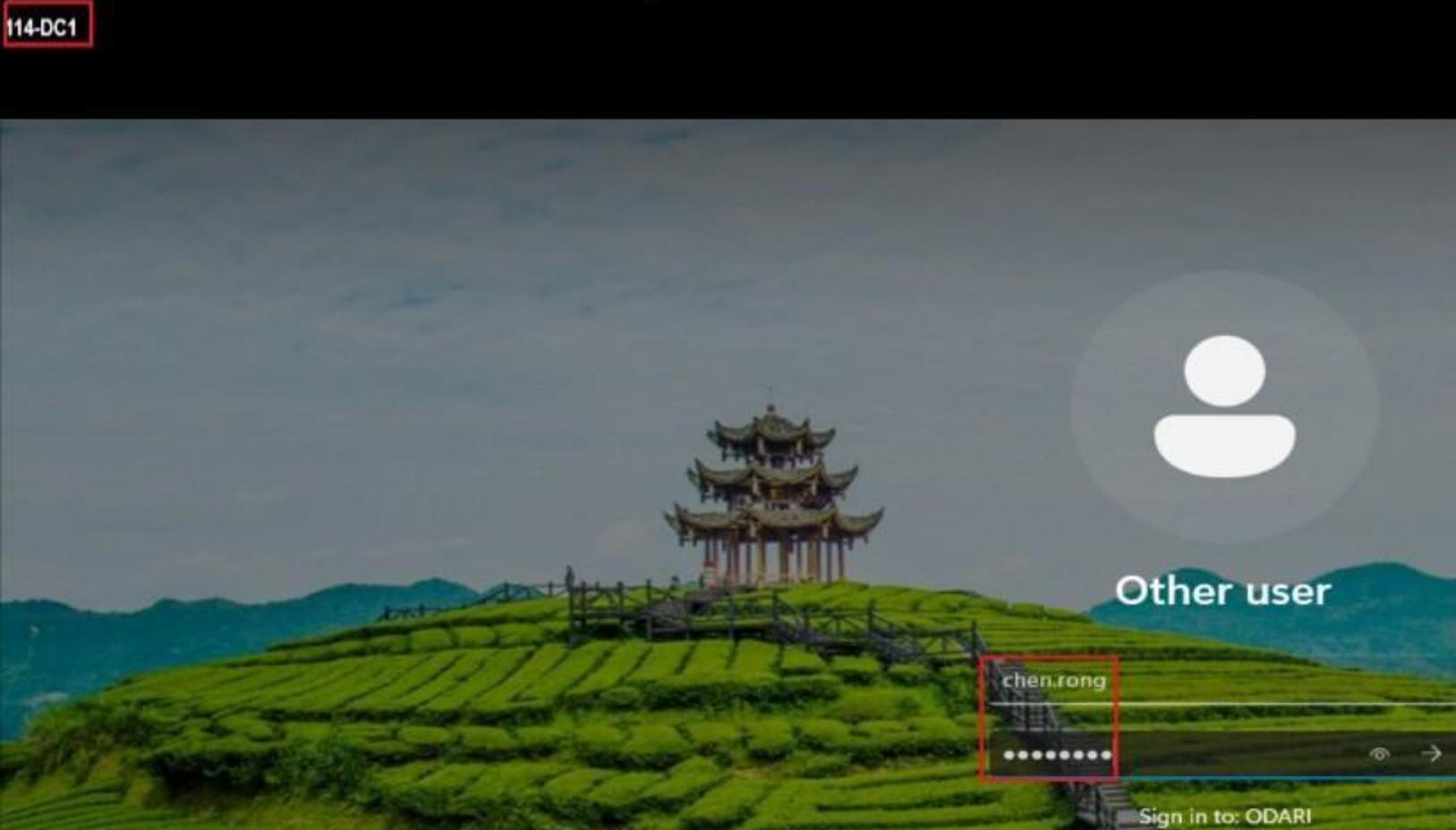
Restart the Print Spooler service and clear print queue to resolve stuck or stalled

Group Print Jobs



Ensure GPO is linked to the correct OU and confirm policy application using 'gpresult /r'

- ❖ Chen.rong is logging into the domain-joined computer.



- Step 16: Log in as a domain user and verify printer under Settings > Printers & Scanners.

A screenshot of the Windows Settings application window. The title bar says "Settings". On the left, there is a sidebar with various icons and labels: Home, System, Bluetooth & devices (which is highlighted with a red box), Network & internet, Personalization, Apps, Accounts, Time & language, Gaming, and Accessibility. The main content area is titled "Bluetooth & devices > Printers & scanners". It shows a list of printers: "Microsoft Print to PDF", "OneNote (Desktop)", "Versatile LLC Printer on DC1", and "Versatile LLC Printer on DC1.odari.shop" (which is also highlighted with a red box). At the bottom of the list, there is a "Printer preferences" link. On the right side of the main content area, there is a blue "Add device" button with a red arrow pointing towards it from the right margin of the image.

Benefits and Engagement

Streamlined Management

Centralized printing simplifies management by using a single print server to handle drivers, sharing, and policies.

Enhanced Security

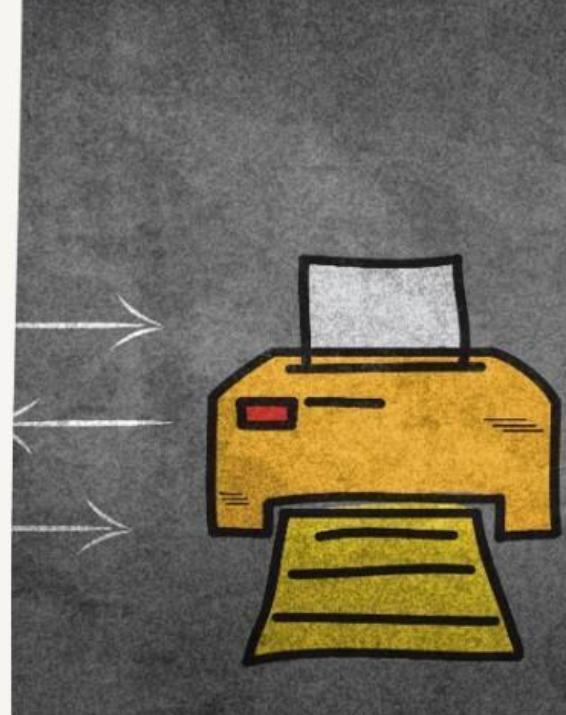
Centralized printing improves security by controlling access and reducing configuration errors across devices.

Improved Efficiency

This approach reduces configuration time, minimizes errors, and simplifies troubleshooting in IT environments.

Supports Scalability

Centralized printing supports organizational growth by enabling scalable and proactive infrastructure management.



❖ Conclusion:

Centralized printing provides a streamlined and efficient approach to managing print resources within an organization. By implementing a single print server to handle drivers, sharing, and policies, administrators can reduce configuration time, minimize errors, and ensure consistent printer access across all domain-connected devices. This solution enhances security, simplifies troubleshooting, and delivers uniform printing experience for users, making it an essential component of a modern IT infrastructure.