## Experiment No: 6

Date: .....

# PRINT MANAGEMENT AND FIREWALL CONFIGURATION

### AIM:

To demonstrate Print Management and Firewall Configuration.

## PROCEDURE:

### PRINT MANAGEMENT

 Go to Server Manager → Manage → Add Roles and Features → Next → Check on the Role-based or feature-based installation box and → Check on Select a server from the server pool and then → Next. Once it is done then, at the list of the roles find Print and Document Services → A popup window will open.

elect server ro	les	DESTINATION SERVE
Before You Begin Installation Type	Select one or more roles to install on the selected server. Roles	Description
Server Selection Server Roles Features Confirmation Results	<ul> <li>Active Directory Certificate Services</li> <li>Active Directory Domain Services</li> <li>Active Directory Federation Services</li> <li>Active Directory Lightweight Directory Services</li> <li>Active Directory Rights Management Services</li> <li>Application Server</li> <li>DHCP Server</li> <li>DNS Server</li> <li>Fax Server</li> <li>File And Storage Services (Installed)</li> <li>Hyper-V</li> <li>Network Policy and Access Services</li> <li>Remote Access</li> <li>Remote Desktop Services</li> </ul>	<ul> <li>Print and Document Services enables you to centralize print serv and network printer management tasks. With this role, you can also receive scanned documents from network scanners and route the documents to a shared network resource, Windows SharePoint Services site, or e-mail addresses.</li> </ul>

2. Click on **Add features** and then  $\rightarrow$  Next  $\rightarrow$  Next  $\rightarrow$  Next.



3. Check on the **Print Server** box and  $\rightarrow$  Next.

elect role service Before You Begin Installation Type Server Selection Server Roles Features Print and Document Servi Role Services	Select the role services to install for Print and Document Services Role services           Print Server           Distributed Scan Server           Internet Printing           LPD Service	DESTINATION SERVER Description Print Server includes the Print Management snap-in, which is used for managing multiple printers or print servers and migrating printers to and from other Windows print servers.
Results		

4. Click Install.

onfirm installatio	n selections	DESTINATION SERVI		
Before You Begin Installation Type	To install the following roles, role services, or features on selecte Restart the destination server automatically if required	d server, click Install.		
Server Selection Server Roles Features	Optional features (such as administration tools) might be displayed on this page because they have been selected automatically. If you do not want to install these optional features, click Previous to clear their check boxes.			
Print and Document Servi Role Services	Print and Document Services Print Server			
Confirmation	Remote Server Administration Tools			
	Print and Document Services Tools			
	Export configuration settings Specify an alternate source path			

## **Configuring the Print Server**

5. Click on **Server Manager**  $\rightarrow$  Tools  $\rightarrow$  Print Management  $\rightarrow$  then on the left panel click **Print Servers**  $\rightarrow$  then right click on **Printers** and  $\rightarrow$  Add Printer.

()					
🔚 Print Management	Printer Name	Queue Status	Jobs In	Server Name	Driver Name
⊿ 📝 Custom Filters	Fax (redirected 1)	Ready	0	DC (local)	Microsoft Share
📝 All Printers (3)	Microsoft XPS Document Writer	Ready	0	DC (local)	Microsoft XPS [
📝 All Drivers (5)	Microsoft XPS Document Write	Ready	0	DC (local)	Microsoft XPS [
📝 Printers Not Ready		-			
📝 Printers With Jo					
🔺 📋 Print Servers					
🔺 📋 DC (local)					
🔹 Drivers 🗨					
📮 Forms					
Ports	·				
🛤 Print 🛛 Add Print	ter				
Deployed P Show Ext	ended View				
View	•				
Refresh					
Export Lis	st				
Help					
	11				

6. Attach the printer to your computer. Choose the right port where your printer is connected.

Printer Installation

Pick an installation method.

• Search the network for printers							
Add a new printer using an existing port:	TS001 (LAPTOP-HOST: PRN2:# 1) LPT1: (Printer Port)	~					
○ Create a new port and add a new printer:	LPT2: (Printer Port) LPT3: (Printer Port) COM1: (Serial Port)						
	COM2: (Serial Port) COM3: (Serial Port)						
	COM4: (Serial Port) FILE: (Print to File)						
	PORTPROMPT: (Local Port) TS001 (LAPTOP-HOST: PRN2:# 1)						
	TS002 (LAPTOP-HOST: PRN5:# 1) TS003 (LAPTOP-HOST: PRN4:# 1)	_					
	TS004 (LAPTOP-HOST: PRN3:# 1)						

7. Choose "Use an existing printer driver on the computer" if you have an existing printer driver otherwise choose "Install a new driver" and follow the wizard. Click Next.

Printer Driver Pick a driver for the new printer.			
$\bigcirc$ Use the printer driver that the wizard selected			
Compatible driver cannot be found.			
$\odot$ Use an existing printer driver on the computer			
HP Deskjet 1010 Series Class Driver		~	
○ Install a new driver			
		_	
	< Back	Next >	Cancel

8. Give a friendly name to your printer and share it with other users on the network. Click Next.

#### Printer Name and Sharing Settings

You can give the printer a friendly name and specify whether other people can use the printer.

Printer Name:	HP Deskjet 1010 Series Class Driver
Share this prir	nter
Share Name:	HP Deskjet 1010 Series Class Driver
Location:	
Comment:	
	< Back Next > Cancel
	Concert Concert

9. Click Next to finish the printer installation.

#### Printer Found

The printer is ready to be installed. Please review the printer settings below, and then click Next to install the printer.

Name:	HP Deskjet 1010 Series Class Driver			
Share Name:	HP Deskjet 1010 Series Class Driver			
Model:	HP Deskjet 1010 Series Class Driver			
Port Type:	LAPTOP-HOST: PRN2:# 1			
Port Name:	TS001			
Location:				
Publish:	No			
Comment:				
		< Back	Next >	Cancel

### 10. Click Finish.



11. Again, go to the **Printer Management Console** and right click on the printer icon. Click Manage Sharing. Go to the Sharing tab and check mark both options as shown in figure. Click Apply and then OK.

General	Sharing	Ports	Advanced	Color Manage	ement	Security	Device Settings	;
-	You ca printe off.	an share r will no	e this printe t be availat	r with other u ble when the c	sers or ompu	n your net iter is slee	work. The ping or turned	
<b>~</b>	Share this	printer						
Sha	are name:	HPI	Deskjet 101	0 Series Class I	Driver			
✓ ✓	Render pr List in the	int jobs directo	on client c ry	omputers				
-D	rivers							
	lf this prin Windows, users do r shared pri	iter is sh , you ma not have inter.	nared with u ay want to i e to find the	isers running install additior print driver w	differe nal dri /hen t	ent versior vers, so th hey conne	ns of at the act to	
					Ado	ditional Dr	iver:	
				ОК		Cancel	Apply	

12. You have successfully configured and deployed your print server. This printer will be visible to other users on your network.

## FIREWALL CONFIGURATION

The Windows Firewall with Advanced Security is a firewall that runs on the Windows Server 2012 and is turned on by default. The Firewall settings within Windows Server 2012 are managed from within the **Windows Firewall Microsoft Management Console**.

Here we are going to **block the incoming ping requests through the firewall**. Ping uses ICMP echo packets and we can block these packets for blocking ping requests.

Before starting, make sure that the firewalls in the server and the client are turned on. In the client command window, check the connection using the Ping utility. Here the server has the IP address 192.168.0.1.

C:\Users\y>ping 192.168.0.1
Pinging 192.168.0.1 with 32 bytes of data:
Reply from 192.168.0.1: bytes=32 time=6ms TTL=128
Reply from 192.168.0.1: bytes=32 time=2ms TTL=128
Reply from 192.168.0.1: bytes=32 time=2ms TTL=128
Replý from 192.168.0.1: býtes=32 time=1ms TTL=128
Ping statistics for 192.168.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 6ms, Average = 2ms

To set Firewall settings perform the following steps -

1. Click on the Server Manager from the taskbar  $\rightarrow$  Click the **Tools** menu and select **Windows Firewall with Advanced Security**.





 Go to the section of incoming rules ("Inbound Rules"). Here we are interested in the predefined rule for IPV4 — "File and Printer Sharing (echo request - incoming ICMPv4 traffic)".

Note that there can be three rules in the table having the same name. In fact, this is the same rule that is simply configured for different profiles: one for the **domain** profile, the second for the **general** and the **private** ones. Sometimes all are combined into one rule and the three profiles can be configured in that rule's properties.

🍬 🌳 🖄 📰 🗟 🚺							
I Windows Firewall with Advance	Inbound Rules	nbound Rules Actions					
Inbound Rules	Name	Group	Profile	En ^	Inbound Rules		
M Outbound Rules ♣ Connection Security Rules ▷ ♣ Monitoring	<ul> <li>DHCP Server v6 (UDP-In)</li> <li>DHCP Server v6 (UDP-In)</li> <li>DHCP Server - Remote Service Management using SCM</li> <li>DHCP Server (RPC-In)</li> <li>DHCP Server (RPCSS-In)</li> <li>DHCP Server (SMB-In)</li> </ul>	DHCP Server DHCP Server DHCP Server Management DHCP Server Management DHCP Server Management	AII AII AII AII AII AII	Ye Ye Ye Ye Ye	Image: New Rule       Image: Very Profile       Image: Very P		
	DHCP Server Failover (TCP-In)     Distributed Transaction Coordinator (RPC)     Distributed Transaction Coordinator (RPC-EPMAP)     Distributed Transaction Coordinator (TCP-In)     ONS (TCP. Incoming)	DHCP Server Management Distributed Transaction Coo Distributed Transaction Coo Distributed Transaction Coo DNS Service	AII AII AII AII AII	Ye Nc Nc Nc Nc Ye	Refresh       Export List       Help		
	ODNS (UDP, Incoming)     RPC (TCP, Incoming)     RPC Endpoint Mapper (TCP, Incoming)     File and Printer Sharing (Echo Request - ICMPv4-In)	DNS Service DNS Service DNS Service File and Printer Sharing	AII AII AII	Ye Ye Ye	File and Printer Sharing ( ▲		
	<ul> <li>File and Printer Sharing (Echo Request - ICMPv6-In)</li> <li>File and Printer Sharing (LLMNR-UDP-In)</li> <li>File and Printer Sharing (NB-Datagram-In)</li> <li>File and Printer Sharing (NB-Name-In)</li> <li>File and Printer Sharing (NB-Session-In)</li> <li>File and Printer Sharing (SMB-In)</li> <li>File and Printer Sharing (Sooler Service - RPC)</li> </ul>	File and Printer Sharing File and Printer Sharing	Ali Ali Ali Ali Ali Ali Ali	Ye Ye Ye Ye Ye Ye	Copy         Delete         Properties         Help		

3. On double clicking the rule, a new window will turn up showing the **properties** of the rule. In the **General** tab, we can change the **Action** to **Block the connection**.

File and Printer Sharing (Echo Request - ICMPv4-In) Proper	File and Printer Sharing (Echo Request - ICMPv4-In) Proper
Protocols and Ports       Scope       Advanced       Local Principals       Remote Users         General       Programs and Services       Remote Computers         Image: This is a predefined rule and some of its properties cannot be modified.       General         Image: The and Printer Sharing (Echo Request - ICMPv4-In)       Description:         Echo Request messages are sent as ping requests to other nodes.       Image: Trabled	Protocols and Ports       Scope       Advanced       Local Principals       Remote Users         General       Programs and Services       Remote Computers         Image: This is a predefined rule and some of its properties cannot be modified.       General         General       Name:         Image: The and Printer Sharing (Echo Request - ICMPv4-In)         Description:       Echo Request messages are sent as ping requests to other nodes.         Image: The anal Printer Sharing (Echo Request to the printer Sharing to the printer S
Action <ul> <li>Allow the connection</li> <li>Allow the connection if it is secure</li> <li>Customize</li> <li>Block the connection</li> </ul>	Action <ul> <li>Allow the connection</li> <li>Allow the connection if it is secure</li> <li>Customize</li> <li>Ilock the connection</li> </ul>
OK Cancel Apply	OK Cancel Apply

### 4. Click on Apply and OK. You can notice the change in the rule icon.



5. Check the Ping utility again. Now we cannot get a successful ping, while all other services work fine (such as NFS, DNS, etc.)

```
C:\Users\y>ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Request timed out.

Request timed out.

Request timed out.

Request timed out.

Ping statistics for 192.168.0.1:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

### **RESULT:**

Demonstrated the print management services and tested the firewall configurations successfully.