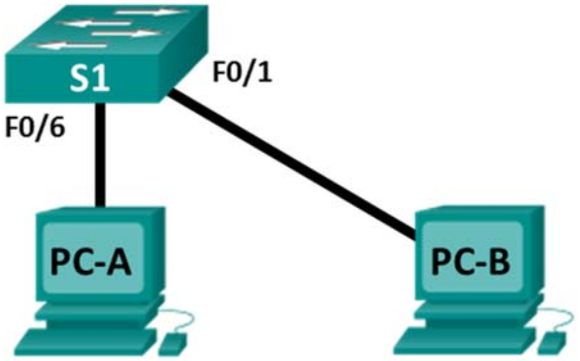
Lab – Configure Firewall Settings

Topology



Addressing Table

Device	Interface	IP Address	Subnet Mask
PC-A	NIC	192.168.1.10	255.255.255.0
PC-B	NIC	192.168.1.11	255.255.255.0

Objectives

- Access Windows Firewall settings in order to add a new firewall rule.
- Create a firewall rule to permit ping requests.
- Remove the new firewall rule to return the settings to their previous state.

Background/Scenario

If the members of your team are unable to ping your PC, the firewall may be blocking those requests. Many of the labs in the course suggest that you disable the Windows firewall in order to permit ping requests and responses to execute correctly. Disabling a firewall is not a good recommended practice in an actual production network. In this lab, you will create a rule in the firewall to allow ping requests without putting the PC at risk for other types of attacks. It also describes how to disable the new ICMP rule after you have completed the lab.

Required Resources

- 1 Switch (Cisco 2960 with Cisco IOS Release 15.0(2) lanbasek9 image or comparable)
- 2 PCs (Windows 10)
- Two Ethernet cables as shown in the topology

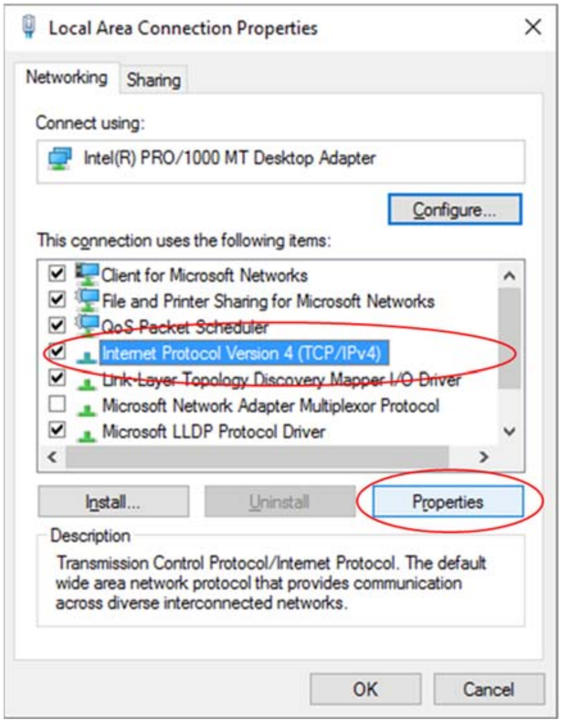
Step 1: Verify that the Windows Firewall is active and is blocking ICMP requests.

a. Right-click **Start**. Select **Network Connections**.

b. Right-click the desired network adapter and select **Properties**.

c. Select **Internet Protocol Version 4 (TCP/IPv4)**. Click **Properties** to configure the two PCs with the static IP addresses shown in the addressing table. No configuration is necessary for a default gateway or a

DNS server in this lab, as both PCs are on the same IP network and will use IP addresses instead of domain names.



Connect using:

Intel(R) PRO/1000 MT Desktop Adapter

This connection uses the following items:

- ☑ Client for Microsoft Networks
- ☑ File and Printer Sharing for Microsoft Networks
- ☑ QoS Packet Scheduler
- ☑ Internet Protocol Version 4 (TCP/IPv4)
- ☑ Link-Layer Topology Discovery Mapper I/O Driver
- □ Microsoft Network Adapter Multiplexor Protocol
- ☑ Microsoft LLDP Protocol Driver

Description

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

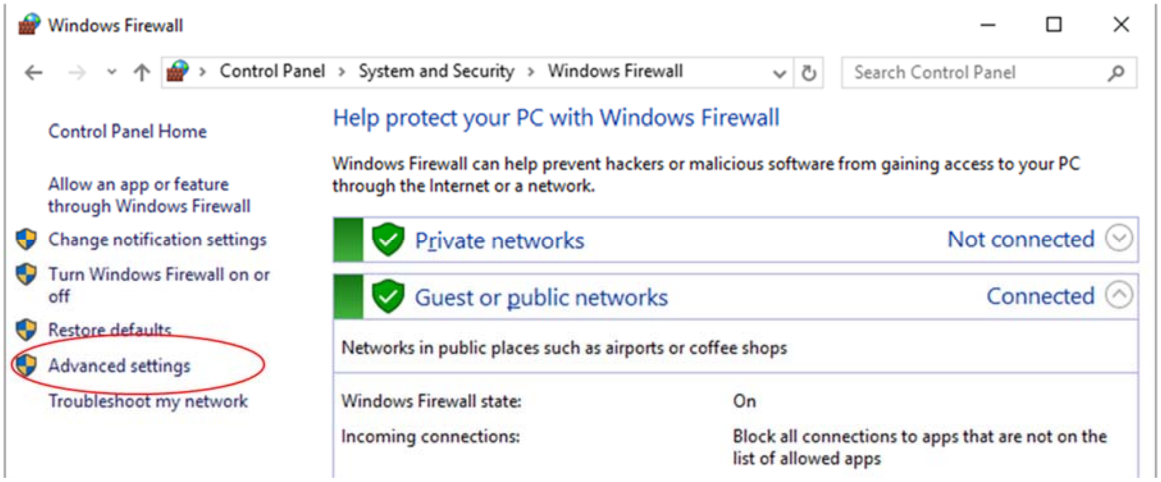
d. Open a command prompt window on PC-A by right-click **Start** > **Command Prompt**. Attempt to **ping** the IP address assigned to PC-B. The **ping** command should fail. Repeat the **ping** command on PC-B, attempting to **ping** the address of PC-A. **Ping** commands from both PCs should fail, indicating that the Windows firewall is active and is blocking ICMP ping requests.

Note: If the **ping** succeeds on either PC, verify that the Windows Firewall is active on both machines.

Step 2: Create a new inbound rule allowing ICMP traffic through the firewall.

a. Configure the firewall settings on PC-A. Click **Start** and type **Firewall**. Select **Windows Firewall** from the results list.

b. n the left pane of the Windows Firewall window, click **Advanced settings**.



Windows Firewall
Control Panel › System and Security › Windows Firewall
Search Control Panel
Control Panel Home
Allow an app or feature through Windows Firewall
Change notification settings
Turn Windows Firewall on or off
Restore defaults
Advanced settings
Troubleshoot my network

Help protect your PC with Windows Firewall

Windows Firewall can help prevent hackers or malicious software from gaining access to your PC through the Internet or a network.

Private networks — Not connected

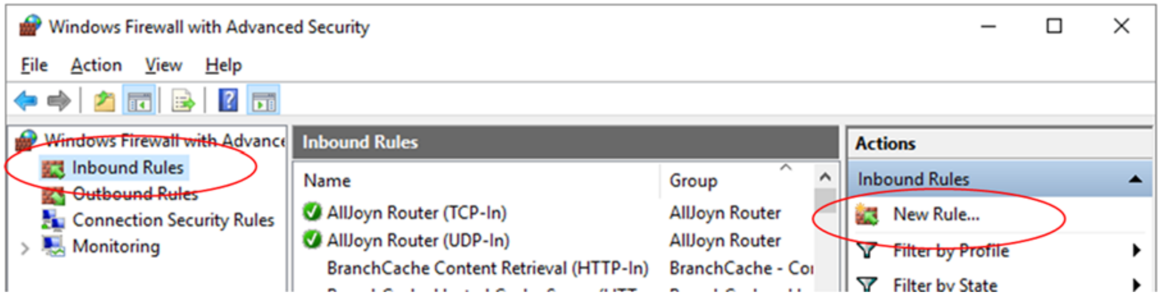
Guest or public networks — Connected

Networks in public places such as airports or coffee shops

Windows Firewall state: On

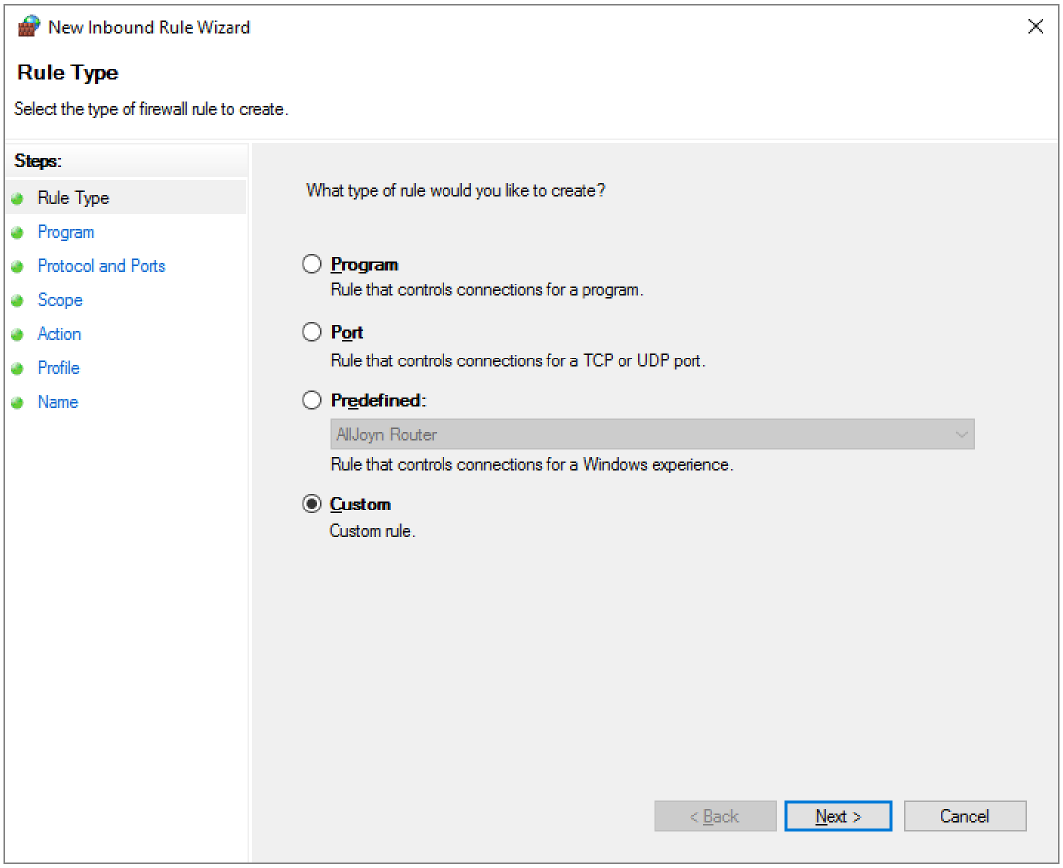
Incoming connections: Block all connections to apps that are not on the list of allowed apps

c. On the Advanced Security window, choose the **Inbound Rules** option on the left sidebar and then click **New Rule…** on the right sidebar.



Name	Group
AllJoyn Router (TCP-In)	AllJoyn Router
AllJoyn Router (UDP-In)	AllJoyn Router
BranchCache Content Retrieval (HTTP-In)	BranchCache - Coı

d. Clicking on the **New Rule** menu item launches the New Inbound Rule wizard. On the Rule Type screen, click the **Custom** radio button and click **Next**



Rule Type

Select the type of firewall rule to create.

What type of rule would you like to create?

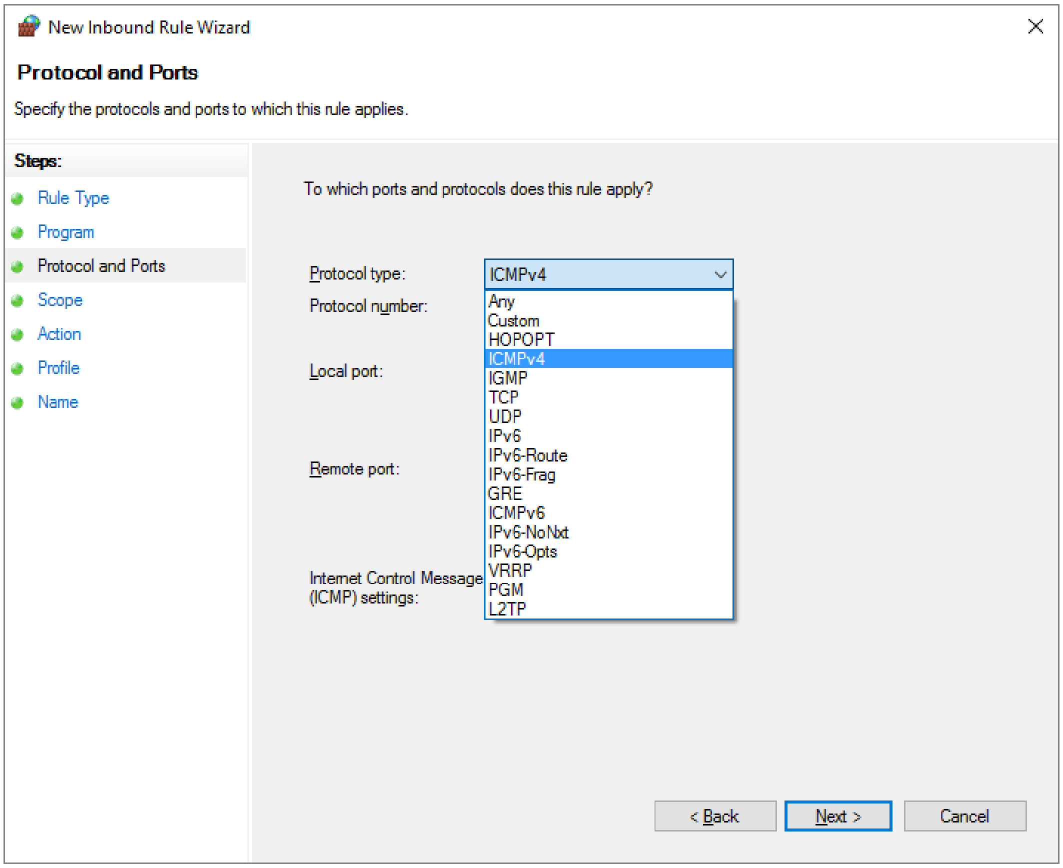
○ **Program**
Rule that controls connections for a program.

○ **Port**
Rule that controls connections for a TCP or UDP port.

○ **Predefined:**
AllJoyn Router
Rule that controls connections for a Windows experience.

● **Custom**
Custom rule.

e. In the left pane, click the **Protocol and Ports** option and using the Protocol type drop-down menu, select **ICMPv4**, and then click **Next**.



New Inbound Rule Wizard

Protocol and Ports

Specify the protocols and ports to which this rule applies.

Steps:

- Rule Type
- Program
- Protocol and Ports
- Scope
- Action
- Profile
- Name

To which ports and protocols does this rule apply?

Protocol type: ICMPv4

Protocol number:

Local port:

Remote port:

Internet Control Message (ICMP) settings:

List three protocols, in addition to ICMP, that can be filtered by a new inbound firewall rule.

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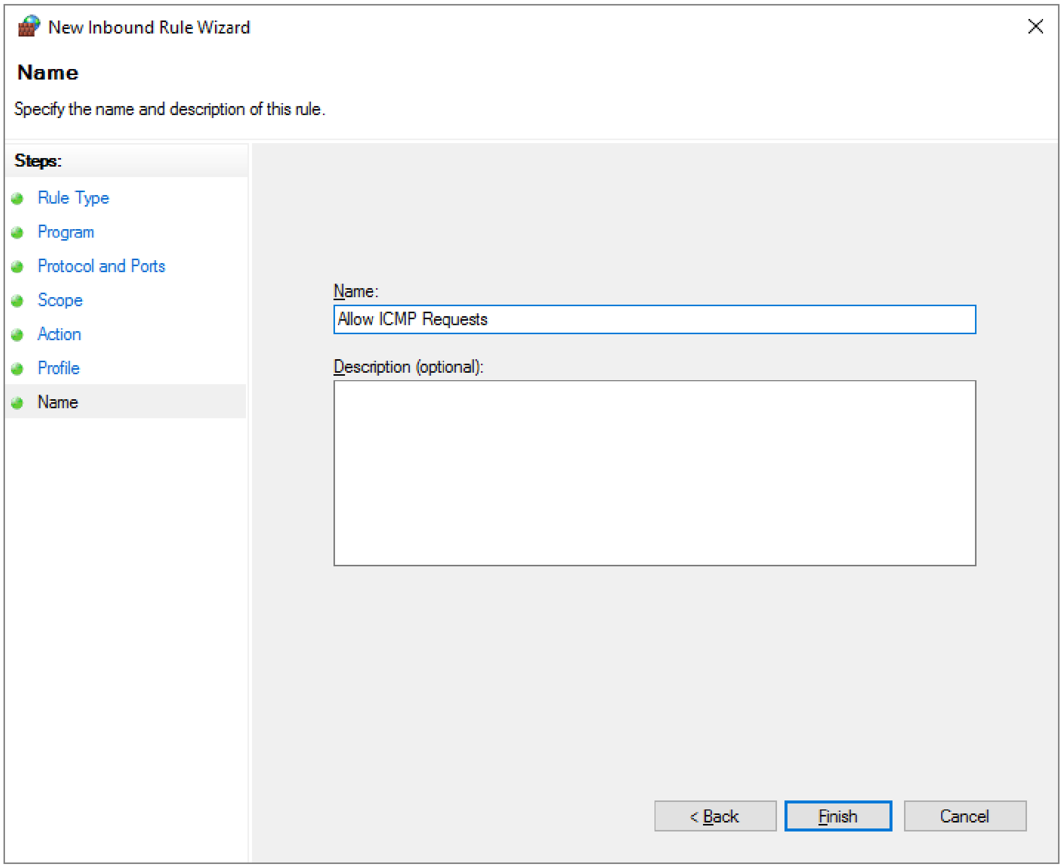
f. In the left pane, click the **Name** option and in the Name field, type **Allow ICMP Requests**. Click **Finish**.



New Inbound Rule Wizard

Name

Specify the name and description of this rule.

Steps:

- Rule Type
- Program
- Protocol and Ports
- Scope
- Action
- Profile
- Name

Name: Allow ICMP Requests

Description (optional):

This new rule should allow your team members to receive **ping** replies from PC-A. Repeat the commands in Step 2 to add the new rule on PC-B.

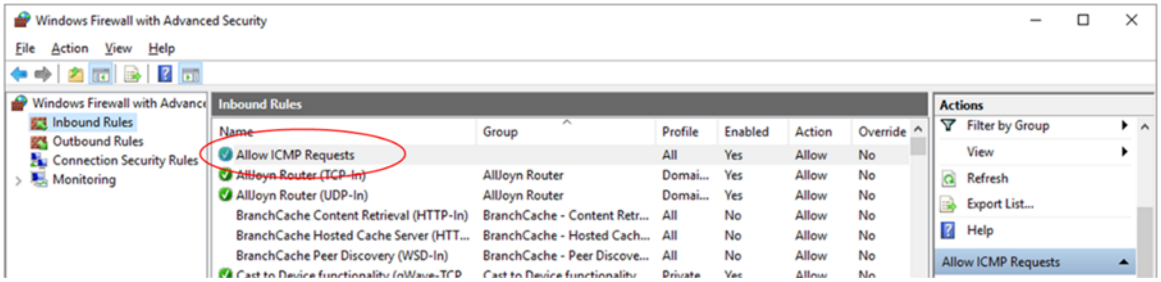
g. Test the new firewall rule by repeating the **ping** commands used in Step 1. This pings should be successful.

If not, review the firewall settings to insure that the new rule is configured correctly.

Step 3: Disabling or deleting the new ICMP rule.

After the lab is complete, you may want to disable or even delete the new rule you created in Step 2. Using the **Disable Rule** option allows you to enable the rule again at a later date. Deleting the rule permanently deletes it from the list of Inbound Rules.

a. On the Advanced Security window, in the left pane, click **Inbound Rules** and then locate the rule you created in Step 1.

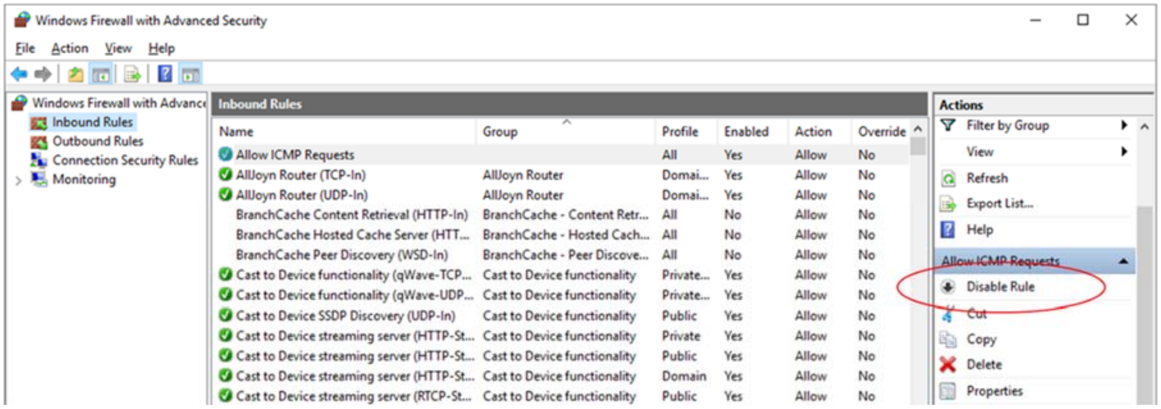


Windows Firewall with Advanced Security

Inbound Rules

Name	Group	Profile	Enabled	Action	Override
Allow ICMP Requests		All	Yes	Allow	No
AllJoyn Router (TCP-In)	AllJoyn Router	Domai...	Yes	Allow	No
AllJoyn Router (UDP-In)	AllJoyn Router	Domai...	Yes	Allow	No
BranchCache Content Retrieval (HTTP-In)	BranchCache - Content Retr...	All	No	Allow	No
BranchCache Hosted Cache Server (HTT...	BranchCache - Hosted Cach...	All	No	Allow	No
BranchCache Peer Discovery (WSD-In)	BranchCache - Peer Discove...	All	No	Allow	No
Cast to Device functionality (qWave-TCP	Cast to Device functionality	Private	Yes	Allow	No

b. To disable the rule, click the **Disable Rule** option. When you choose this option, you will see this option change to **Enable Rule**. You can toggle back and forth between Disable Rule and Enable Rule; the status of the rule also shows in the Enabled column of the Inbound Rules list.



Inbound Rules

Name	Group	Profile	Enabled	Action	Override
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AllJoyn Router (UDP-In)	AllJoyn Router	Domai...	Yes	Allow	No
BranchCache Content Retrieval (HTTP-In)	BranchCache - Content Retr...	All	No	Allow	No
BranchCache Hosted Cache Server (HTT...	BranchCache - Hosted Cach...	All	No	Allow	No
BranchCache Peer Discovery (WSD-In)	BranchCache - Peer Discove...	All	No	Allow	No
Cast to Device functionality (qWave-TCP...	Cast to Device functionality	Private...	Yes	Allow	No
Cast to Device functionality (qWave-UDP...	Cast to Device functionality	Private...	Yes	Allow	No
Cast to Device SSDP Discovery (UDP-In)	Cast to Device functionality	Public	Yes	Allow	No
Cast to Device streaming server (HTTP-St...	Cast to Device functionality	Private	Yes	Allow	No
Cast to Device streaming server (HTTP-St...	Cast to Device functionality	Public	Yes	Allow	No
Cast to Device streaming server (HTTP-St...	Cast to Device functionality	Domain	Yes	Allow	No
Cast to Device streaming server (RTCP-St...	Cast to Device functionality	Public	Yes	Allow	No

c. To permanently delete the ICMP rule, click **Delete**. If you choose this option, you must re-create the rule again to allow ICMP replies.

d. Execute the **ping** commands performed in Step 1 to verify that the firewall is now blocking the ping requests again.