

TASK 4: Setup and Use a Firewall on Windows

GUI of Windows Defender Firewall

[Control Panel Home](#)
[Allow an app or feature through Windows Defender Firewall](#)
[Change notification settings](#)
[Turn Windows Defender Firewall on or off](#)
[Restore defaults](#)
[Advanced settings](#)
[Troubleshoot my network](#)

Help protect your PC with Windows Defender Firewall

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

Private networks

Not connected ^

Networks at home or work where you know and trust the people and devices on the network

Windows Defender Firewall state:

On

Incoming connections:

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

Active private networks:

None

Notification state:

Notify me when Windows Defender Firewall blocks a new app

Guest or public networks

Connected ^

Networks in public places such as airports or coffee shops

Windows Defender Firewall state:

On

Incoming connections:

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

Active public networks:

My home_5G

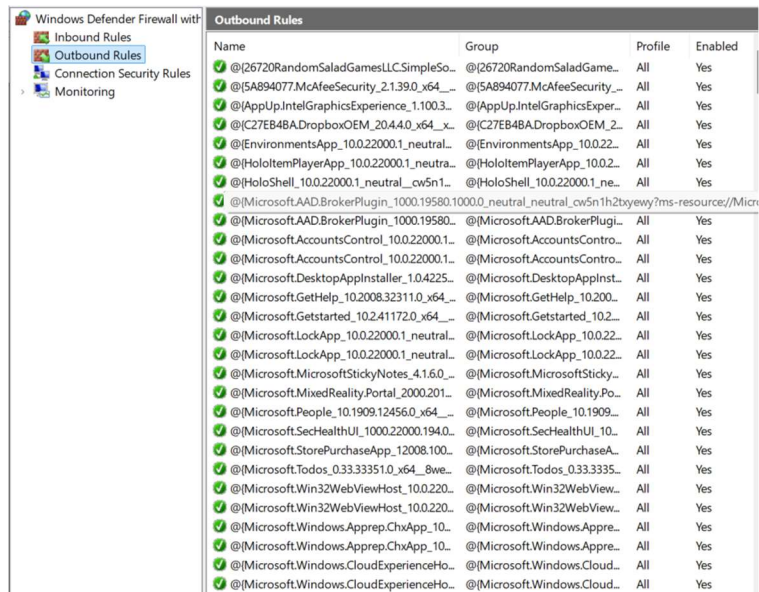
Notification state:

Notify me when Windows Defender Firewall blocks a new app

Listing Current Firewall Rules: INBOUND Rules

Inbound Rules				
Name	Group	Profile	Enabled	
✓ @!(Microsoft.Windows.Photos_21.21030.25...	@!(Microsoft.Windows.Photo...	All	Yes	
✓ @!(Microsoft.Windows.Search_1.16.0.22000...	@!(Microsoft.Windows.Search...	Domai...	Yes	
✓ @!(Microsoft.Windows.Search_1.16.0.22000...	@!(Microsoft.Windows.Search...	Domai...	Yes	
✓ @!(Microsoft.Windows.Search_1.16.0.22000...	@!(Microsoft.Windows.Search...	Domai...	Yes	
✓ @!(Microsoft.Windows.StartMenuExperien...	@!(Microsoft.Windows.Start...	Domai...	Yes	
✓ @!(Microsoft.Windows.StartMenuExperien...	@!(Microsoft.Windows.Start...	Domai...	Yes	
✓ @!(microsoft.windowscommunicationsapp...	@!(microsoft.windowscommu...	All	Yes	
✓ @!(Microsoft.WindowsStore_12107.1001.15...	@!(Microsoft.WindowsStore_...	All	Yes	
✓ @!(Microsoft.XboxGamingOverlay_2.50.240...	@!(Microsoft.XboxGamingOv...	All	Yes	
✓ @!(Microsoft.ZuneMusic_10.21012.10511.0...	@!(Microsoft.ZuneMusic_10.2...	Domai...	Yes	
✓ @!(Microsoft.ZuneVideo_10.21012.10511.0...	@!(Microsoft.ZuneVideo_10.2...	Domai...	Yes	
✓ @!(Microsoft.Windows.Client.CBS_1000.220...	@!(Microsoft.Windows.Client...	Domai...	Yes	
✓ @!(Microsoft.Windows.Client.LKG_1000.226...	@!(Microsoft.Windows.Client...	Domai...	Yes	
✓ Microsoft Teams	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ Microsoft Teams	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ Microsoft Teams (personal)	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ Microsoft Teams (personal)	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ Minecraft Education	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ Minecraft Education	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ Minecraft: Education Edition	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ Minecraft: Education Edition	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ Minecraft: Education Edition	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ Microsoft Windows Defender Firewall	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ ms-resource:AppTitle	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ ms-resource:AppTitle	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ ms-resource:AppTitle	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ ms-resource:AppTitle	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ ms-resource:AppTitle	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ ms-resource:AppTitle	(78E1CD88-49E3-476E-B926-...	All	Yes	
✓ OMEN Gaming Hub	(78E1CD88-49E3-476E-B926-...	All	Yes	

OUTBOUND Rule:

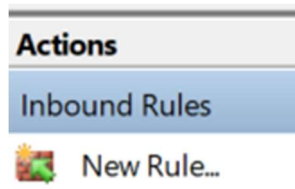


The screenshot shows the Windows Defender Firewall console with the 'Outbound Rules' tab selected. A list of rules is displayed with columns for Name, Group, Profile, and Enabled. The rules are sorted alphabetically by name. The first rule is '@{26720RandomSaladGamesLLC.SimpleSo...' and the last is '@{Microsoft.Windows.CloudExperienceHo...'.

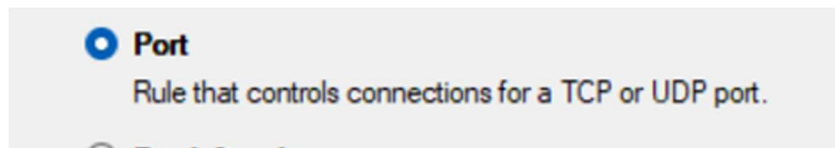
Name	Group	Profile	Enabled
@{26720RandomSaladGamesLLC.SimpleSo...	@{26720RandomSaladGame...	All	Yes
@{5A894077.McAfeeSecurity_21.390_x64_...	@{5A894077.McAfeeSecurity_...	All	Yes
@{AppUp.IntelGraphicsExperience_1.1003...	@{AppUp.IntelGraphicsExper...	All	Yes
@{C27EB48ADropboxOEM_2044.0_x64_x...	@{C27EB48ADropboxOEM_2...	All	Yes
@{EnvironmentsApp_10.0.22000.1_neutra...	@{EnvironmentsApp_10.0.22...	All	Yes
@{HoloItemPlayerApp_10.0.22000.1_neutra...	@{HoloItemPlayerApp_10.0.2...	All	Yes
@{HoloShell_10.0.22000.1_neutral_cw5n1...	@{HoloShell_10.0.22000.1 ne...	All	Yes
@{Microsoft.AAD.BrokerPlugin_1000.19580.1000.0_neutral_neutral_cw5n1h2txywy?ms-resource://Micr...	@{Microsoft.AAD.BrokerPlugi...	All	Yes
@{Microsoft.AAD.BrokerPlugin_1000.19580...	@{Microsoft.AAD.BrokerPlugi...	All	Yes
@{Microsoft.AccountsControl_10.0.22000.1...	@{Microsoft.AccountsContro...	All	Yes
@{Microsoft.AccountsControl_10.0.22000.1...	@{Microsoft.AccountsContro...	All	Yes
@{Microsoft.DesktopAppInstaller_1.0.4225...	@{Microsoft.DesktopAppInst...	All	Yes
@{Microsoft.GetHelp_10.2008.32311.0_x64_...	@{Microsoft.GetHelp_10.200...	All	Yes
@{Microsoft.Getstarted_10.241172.0_x64_...	@{Microsoft.Getstarted_10.2...	All	Yes
@{Microsoft.LockApp_10.0.22000.1_neutra...	@{Microsoft.LockApp_10.0.22...	All	Yes
@{Microsoft.LockApp_10.0.22000.1_neutra...	@{Microsoft.LockApp_10.0.22...	All	Yes
@{Microsoft.MicrosoftStickyNotes_4.1.6.0_...	@{Microsoft.MicrosoftSticky...	All	Yes
@{Microsoft.MixedRealityPortal_2000.201...	@{Microsoft.MixedRealityPo...	All	Yes
@{Microsoft.People_10.1909.12456.0_x64_...	@{Microsoft.People_10.1909...	All	Yes
@{Microsoft.SecHealthUI_1000.22000.194.0...	@{Microsoft.SecHealthUI_10...	All	Yes
@{Microsoft.StorePurchaseApp_12008.100...	@{Microsoft.StorePurchaseA...	All	Yes
@{Microsoft.Todos_0.33.33351.0_x64_8we...	@{Microsoft.Todos_0.33.3335...	All	Yes
@{Microsoft.Win32WebViewHost_10.0.220...	@{Microsoft.Win32WebView...	All	Yes
@{Microsoft.Win32WebViewHost_10.0.220...	@{Microsoft.Win32WebView...	All	Yes
@{Microsoft.Windows.Apprep.ChxApp_10...	@{Microsoft.Windows.Appre...	All	Yes
@{Microsoft.Windows.Apprep.ChxApp_10...	@{Microsoft.Windows.Appre...	All	Yes
@{Microsoft.Windows.CloudExperienceHo...	@{Microsoft.Windows.Cloud...	All	Yes
@{Microsoft.Windows.CloudExperienceHo...	@{Microsoft.Windows.Cloud...	All	Yes

Steps to Add a New Rule,

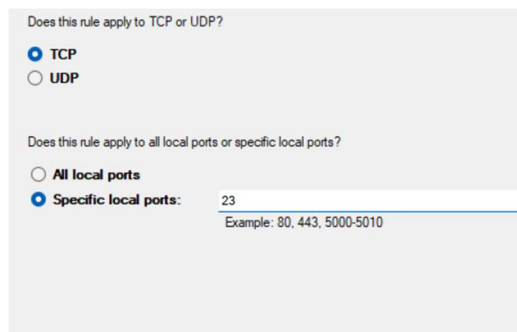
1. Click on New Rule,



2. Now Select Port,



3. Now Select TCP
4. And Specify the Port As "23",



The screenshot shows the 'Does this rule apply to TCP or UDP?' dialog box. The 'TCP' radio button is selected. Below, the 'Does this rule apply to all local ports or specific local ports?' section has the 'Specific local ports:' radio button selected, with the port number '23' entered in the text box. An example range '80, 443, 5000-5010' is shown below the text box.

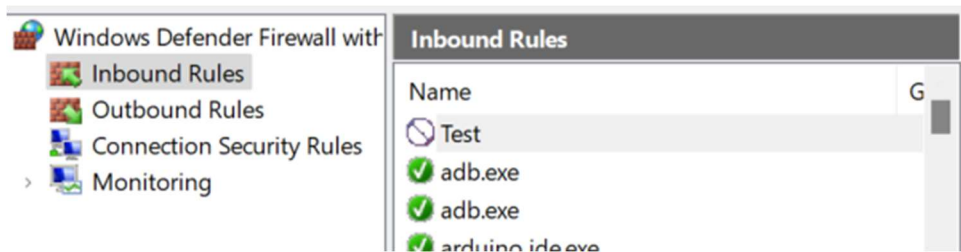
Does this rule apply to TCP or UDP?

☒ TCP
☐ UDP

Does this rule apply to all local ports or specific local ports?

☐ All local ports
☒ Specific local ports: 23
Example: 80, 443, 5000-5010

5. Now Name it as “Test” And Save it.

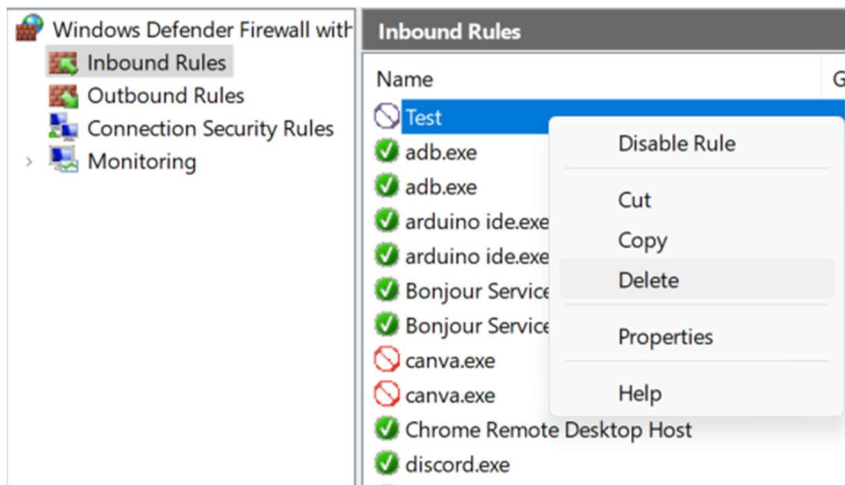


Now Testing the rule by attempting to connect to that port locally or remotely.

```
C:\Users\vishw>telnet localhost 23
Connecting To localhost...Could not open connection to the host, on port 23: Connect failed
```

Output We Must Expect is a Failure

After Using and Testing the Port. Delete the Created port.



Summary:

Firewalls work by acting as **gatekeepers** that inspect every incoming and outgoing network packet. They examine **packet headers**—including source/destination IPs, ports, protocols (TCP/UDP/ICMP), and packet direction—and compare this information against a set of **predefined security rules**. If a packet matches a rule that allows it, the packet is forwarded; if it matches a block rule or no rule, it's dropped by default.

More advanced firewalls are **stateful**, meaning they maintain a **connection state table** to track active sessions—allowing return traffic for established connections while blocking unsolicited packets—and some even perform **deep packet inspection**, examining packet contents beyond headers to detect malicious or inappropriate payloads.