Practical 10_Windows_Firewall_Blocking

Aim

To configure Windows Firewall to block ports, programs, and websites.

What is Windows Firewall?

Windows Firewall is a security feature in Windows that controls incoming and outgoing network connections.

In this practical, we learn how to create firewall rules to block a port, block a program, and block access to a website.

10.1 Blocking a Port

What is a Port?

A port is a logical communication endpoint used by applications and network services.

Examples:

Port 80 → HTTP

Port 443 → HTTPS

Port 21 → FTP

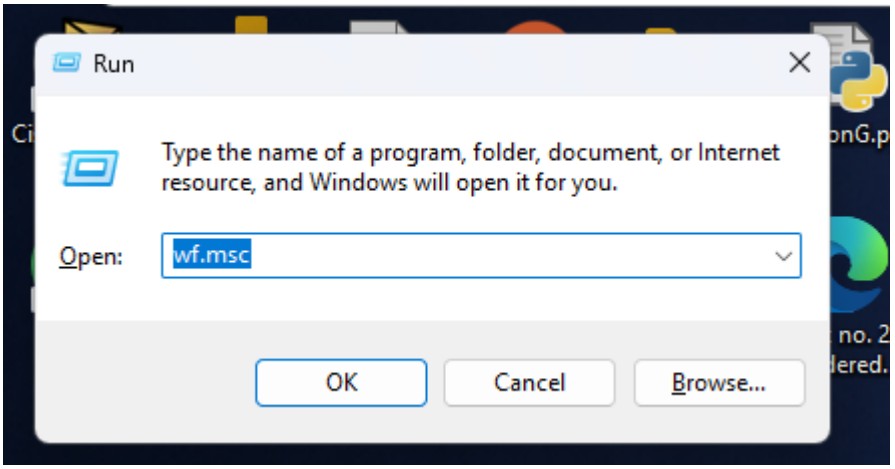
Procedure

Step 1: Press:

Windows + R

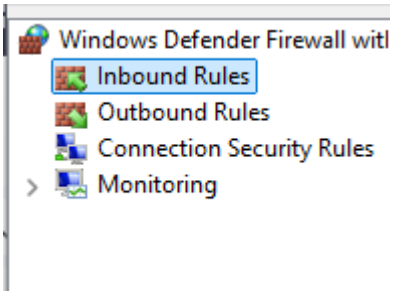
Step 2: Type:

Wf.msc

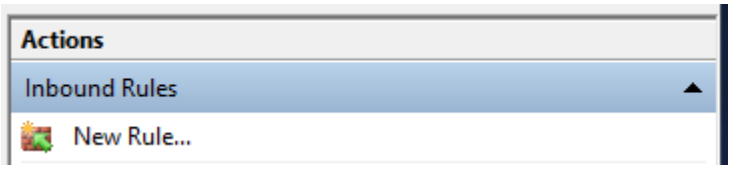


and press Enter.

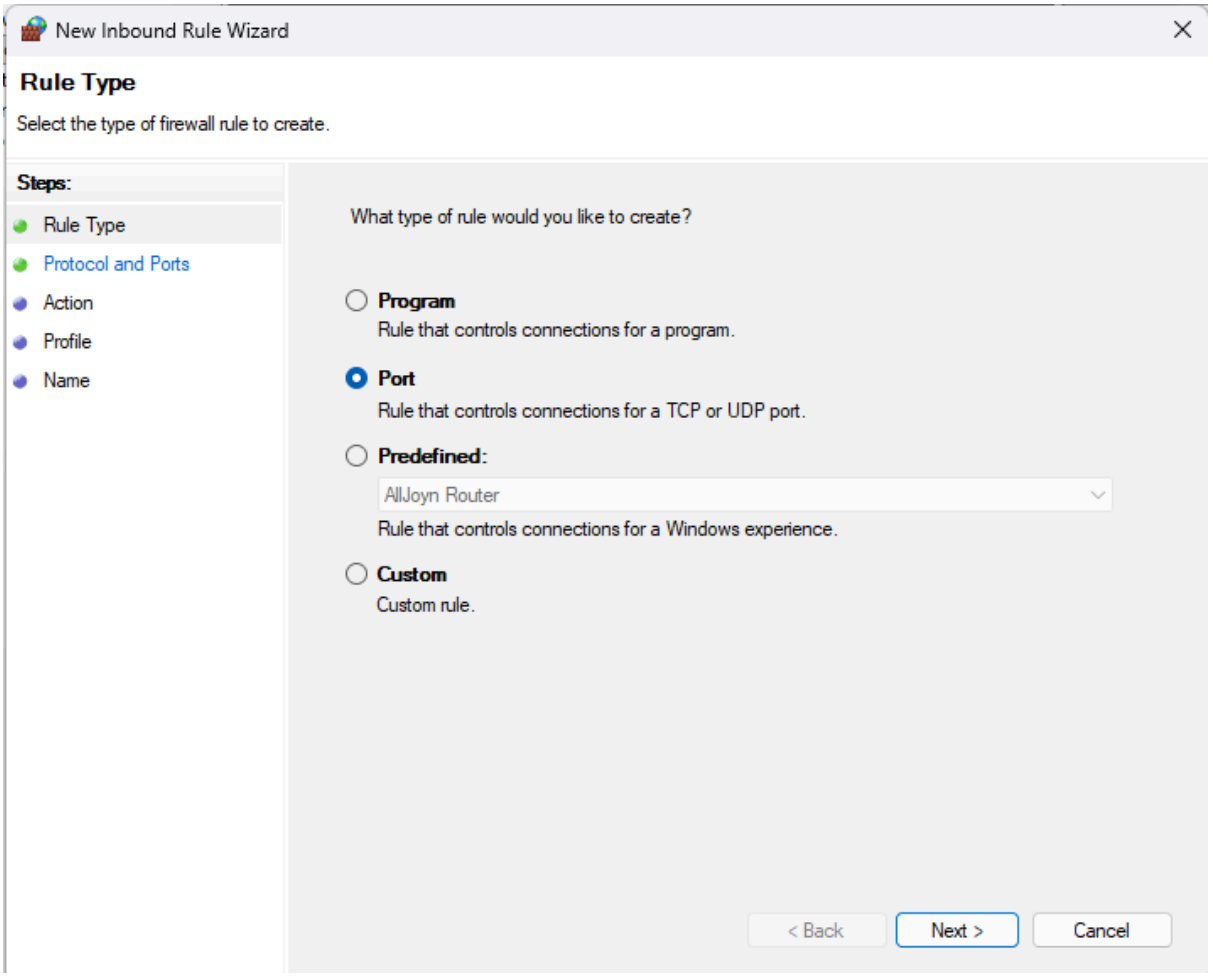
Step 3: In the left panel, select:
Inbound Rules



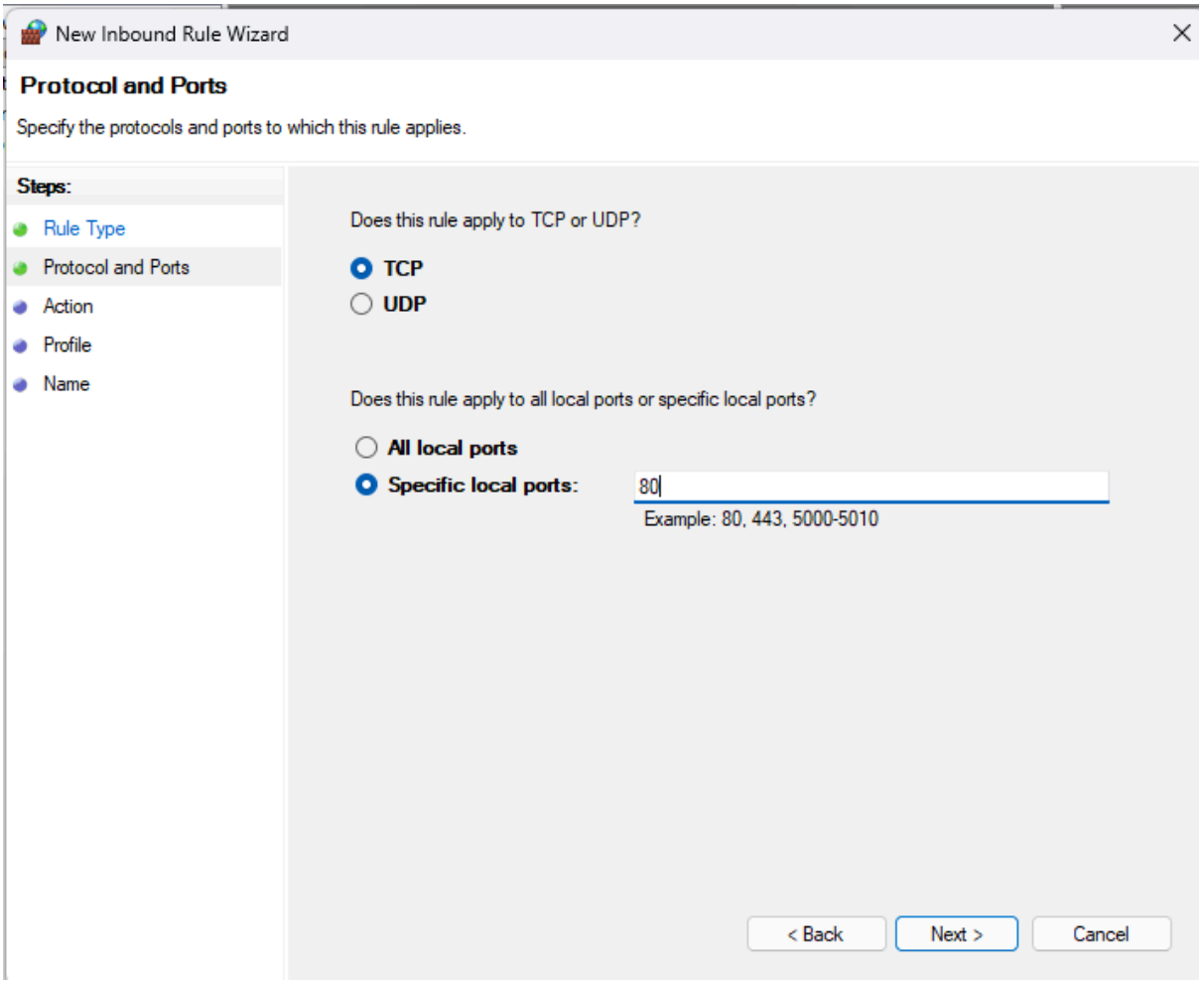
Step 4: Click:
New Rule



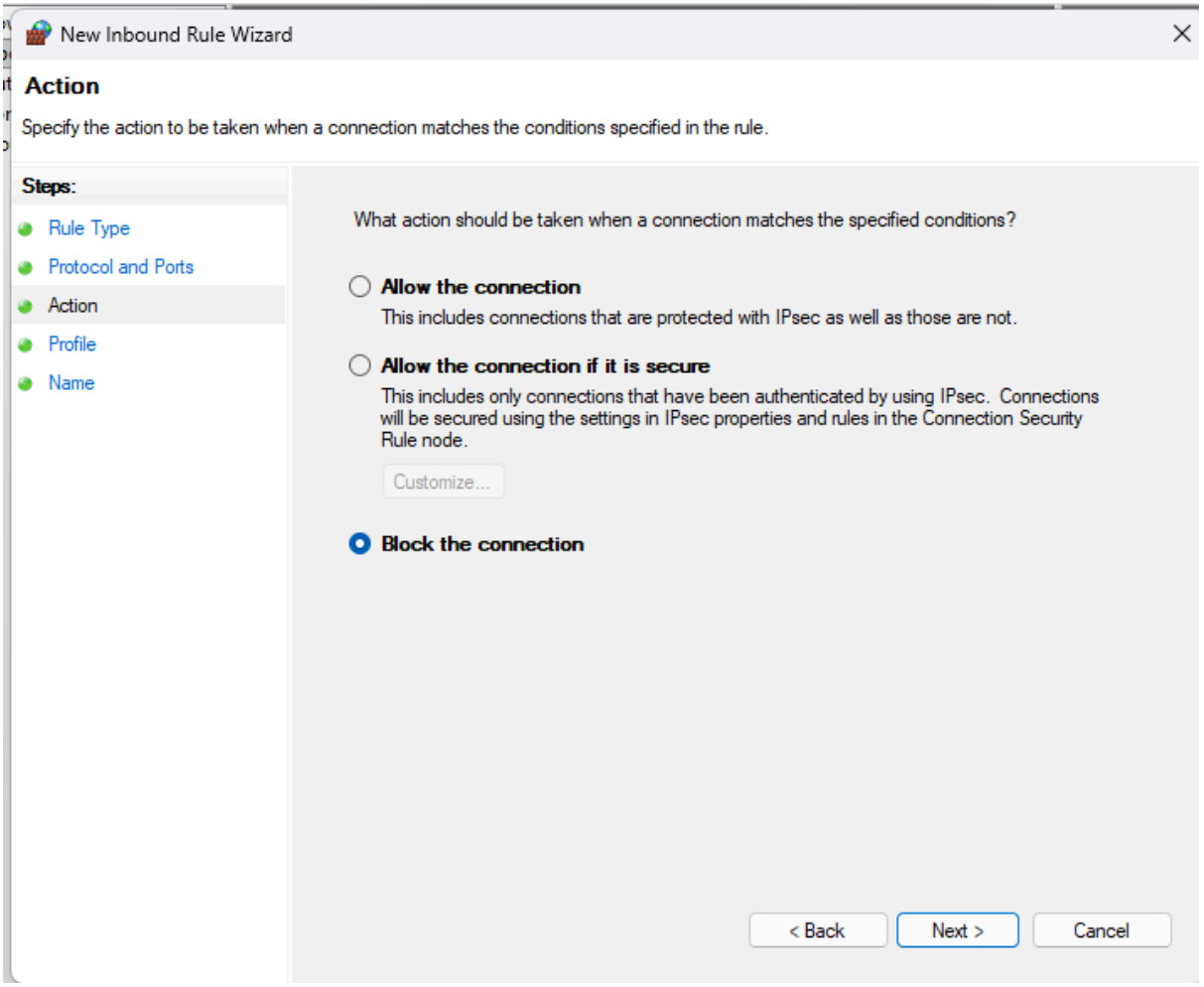
Step 5: Select:
Port → Next



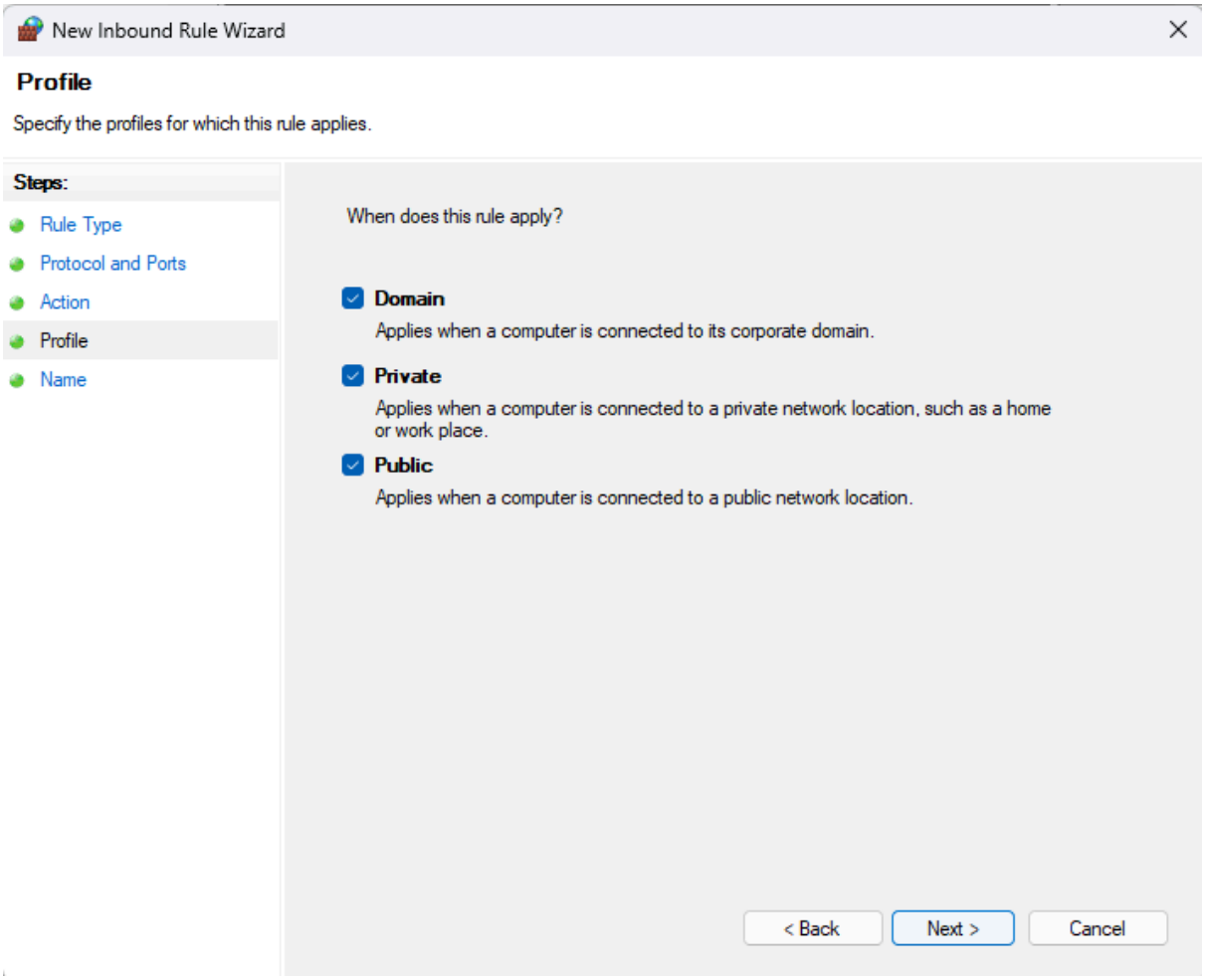
Step 6: Select TCP or UDP according to the requirement.
Step 7: Enter the port number.
Example:
80



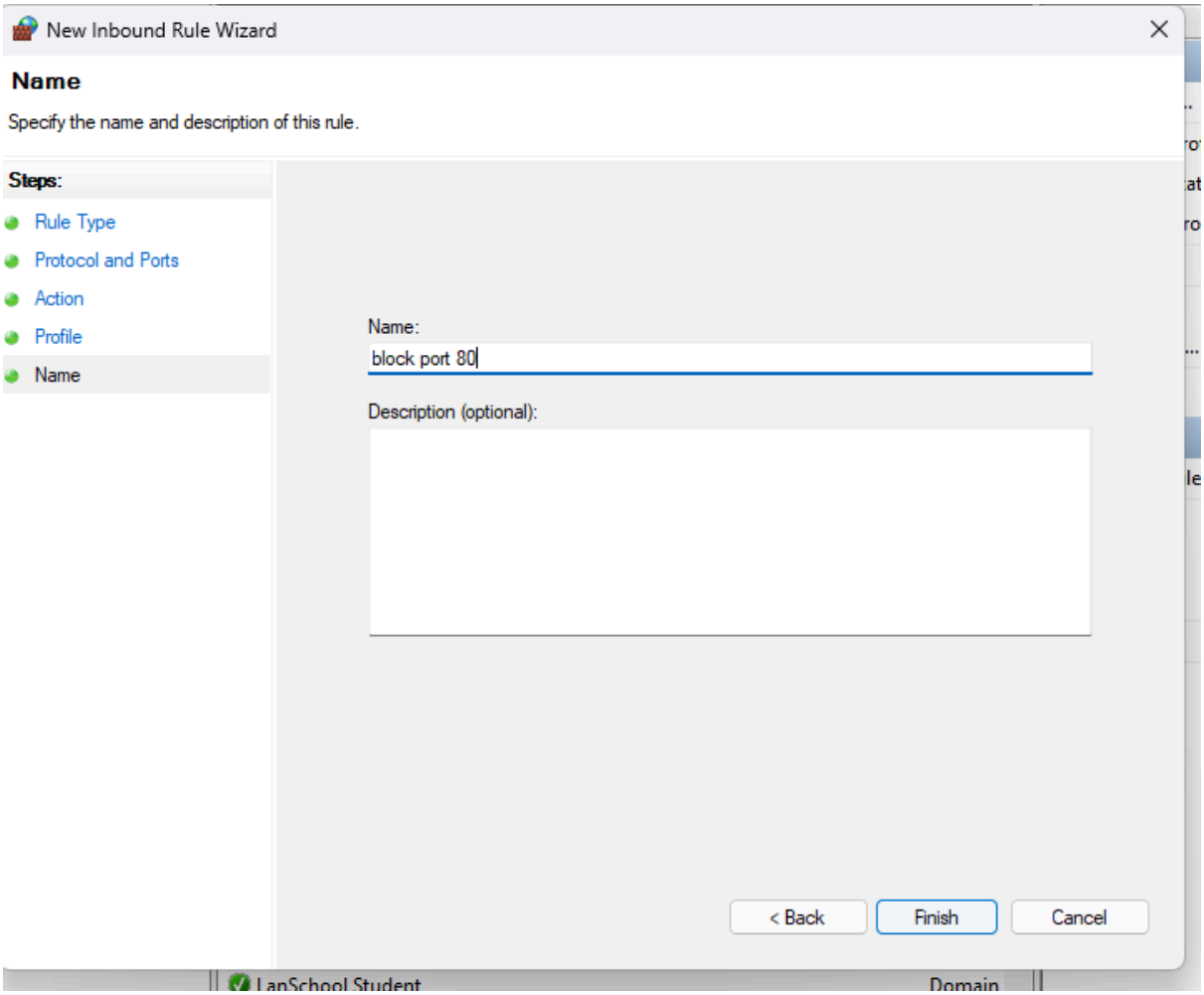
Step 8: Select:
Block the connection



Step 9: Select the profiles where the rule should apply:
Domain
Private
Public

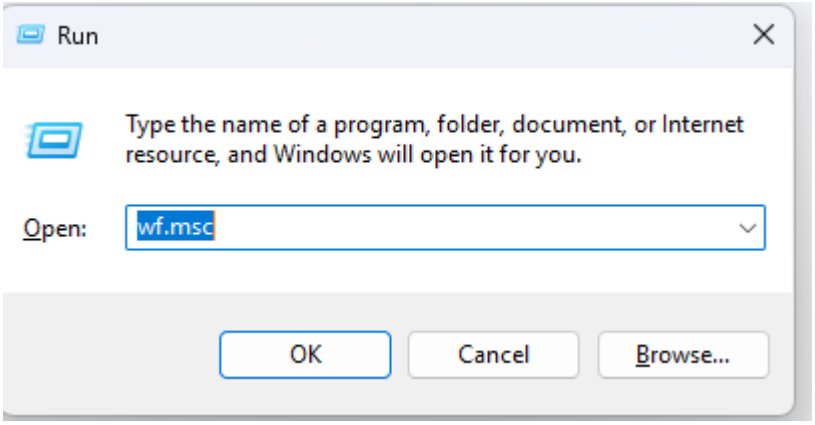


Step 10: Give the rule a name:
Block Port 80
Click Finish.

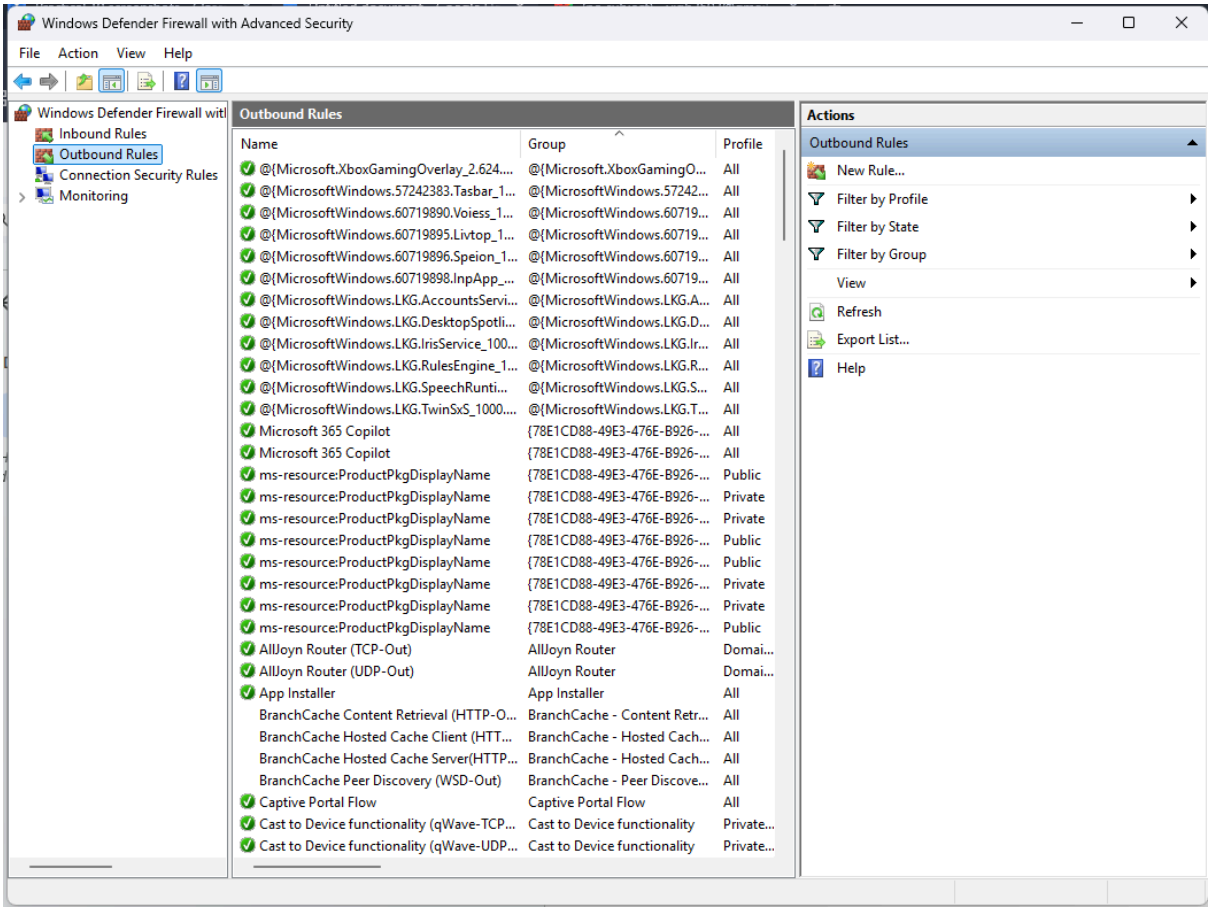


2. Blocking a Program in Windows Firewall

1. Open wf.msc.

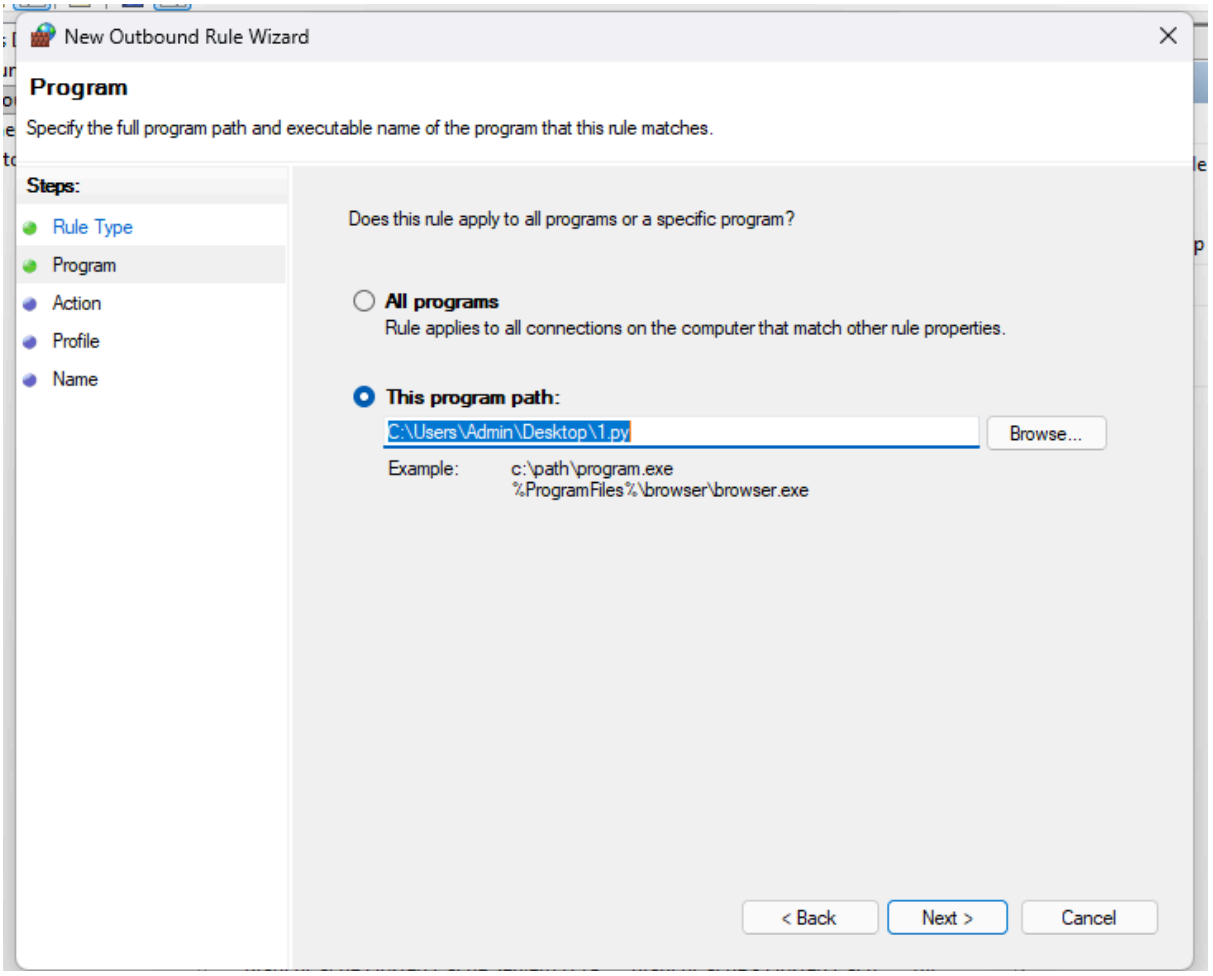


2. Go to Outbound Rules → New Rule.

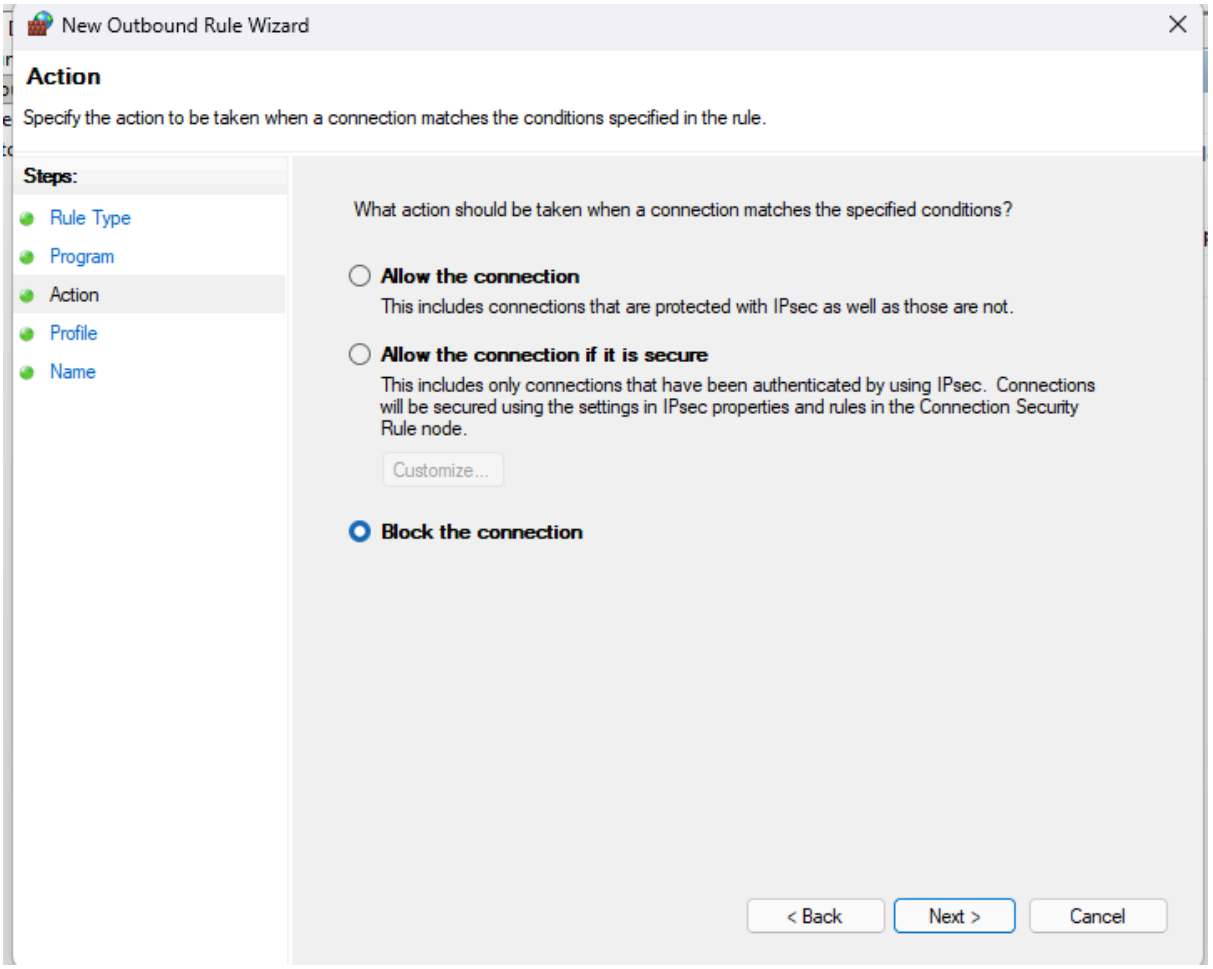


3. Select Program → Next.

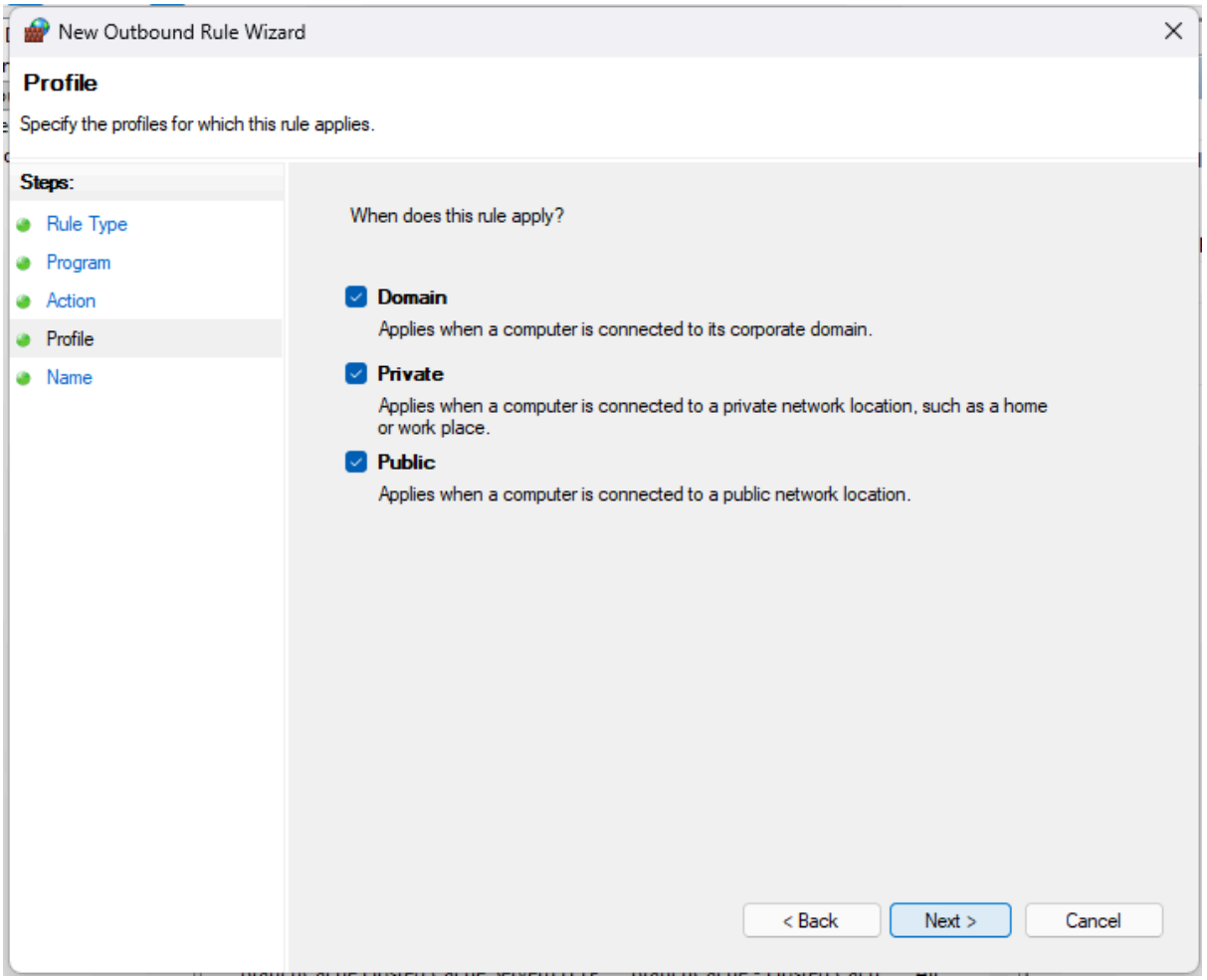
4. Browse and select the program's .exe file (e.g., C:\Program Files\App\App.exe).



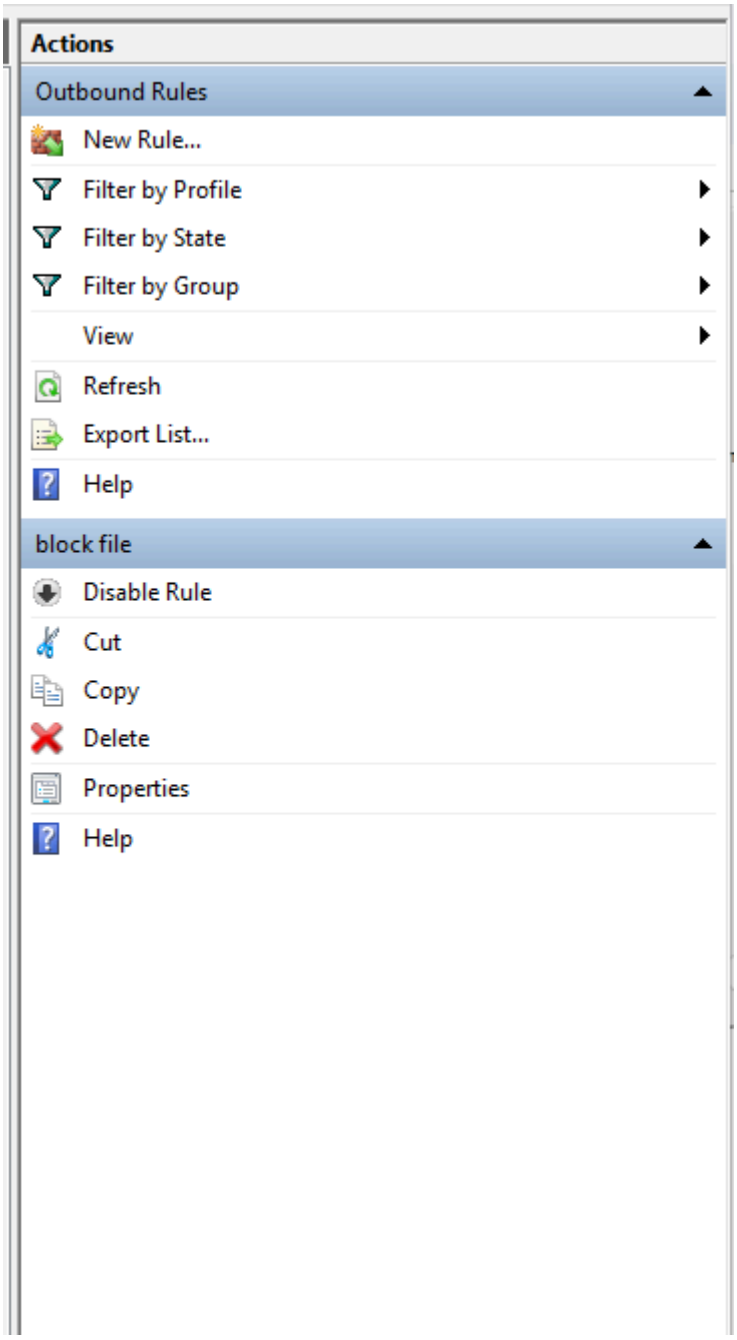
5. Choose Block the connection.



6. Select profiles (Domain, Private, Public).

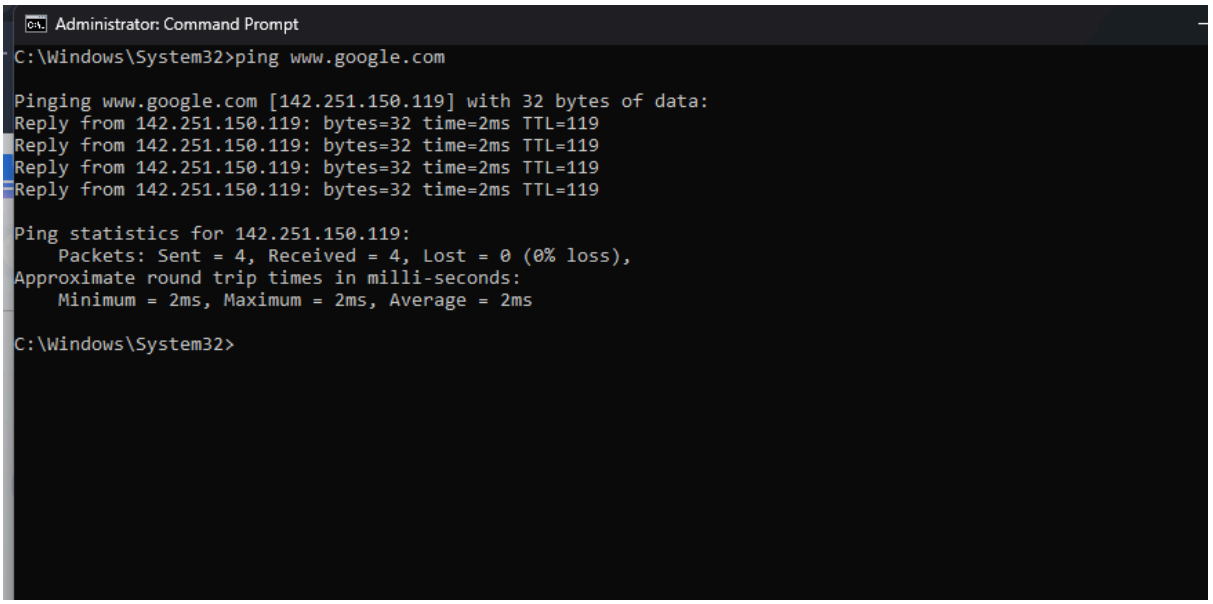


7. Give the rule a name (e.g., Block Chrome) → Finish.


Actions
Outbound Rules
New Rule...
Filter by Profile
Filter by State
Filter by Group
View
Refresh
Export List...
Help
block file
Disable Rule
Cut
Copy
Delete
Properties
Help

3. Blocking a Website
Windows Firewall doesn't directly block websites by URL. You can
block them via IP addresses or
by editing the Hosts file.
Option A: Using Firewall (via IP Address)
Step 1: Find the Website's IP Address

1. Open Command Prompt:
o Press Windows + R, type cmd, and hit Enter.

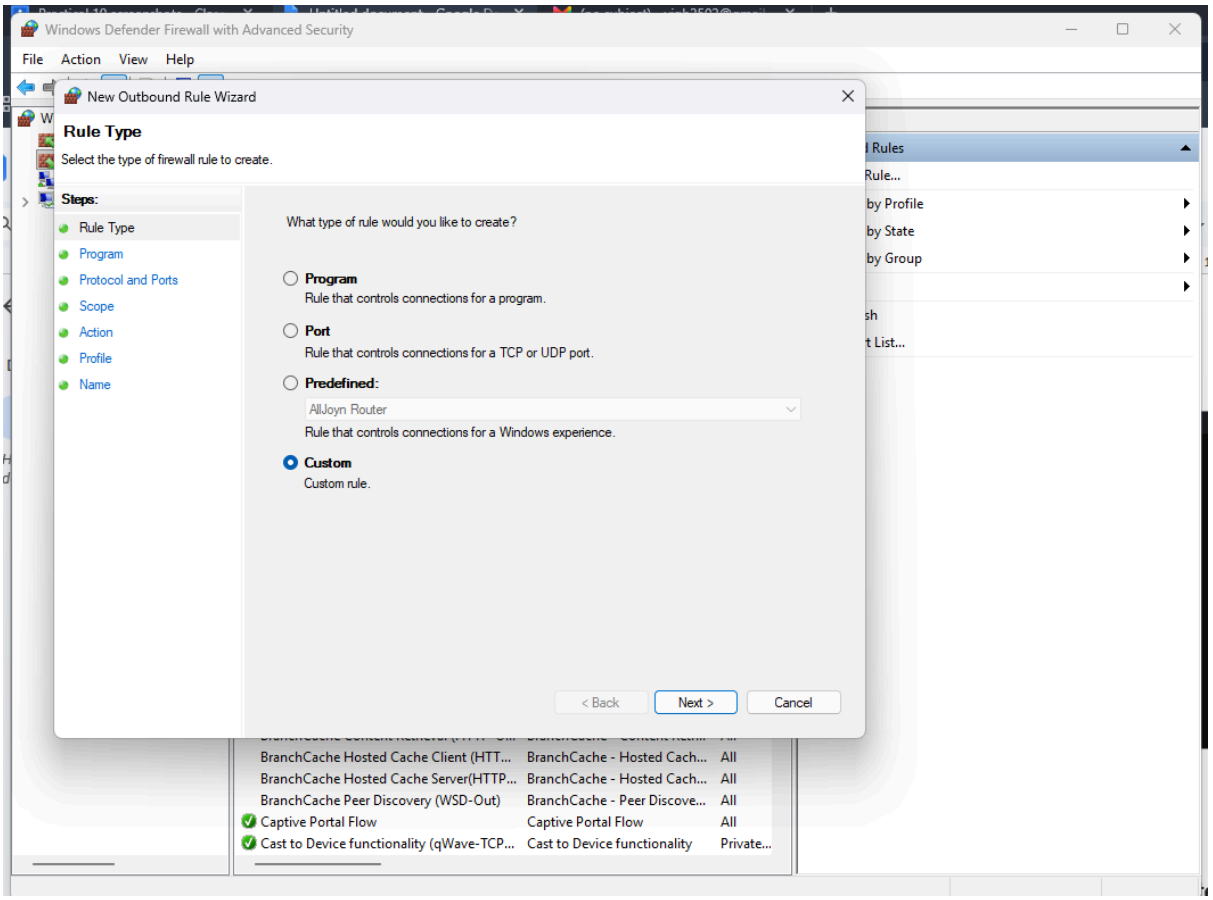


2. Type the following command and press Enter:
3. ping example.com
4. Note the IP address shown in the response.
For example, if you see:
5. Pinging example.com [93.184.216.34] with 32 bytes of data:
The IP address is 93.184.216.34.

Step 2: Open Windows Defender Firewall with Advanced Security
1. Press Windows + R, type:
2. wf.msc
and press Enter.
3. This opens the Windows Defender Firewall with Advanced

Security window.

Step 3: Create a New Outbound Rule
1. In the left pane, click Outbound Rules.
2. In the right pane, click New Rule...
3. In the New Outbound Rule Wizard, select Custom and click Next.

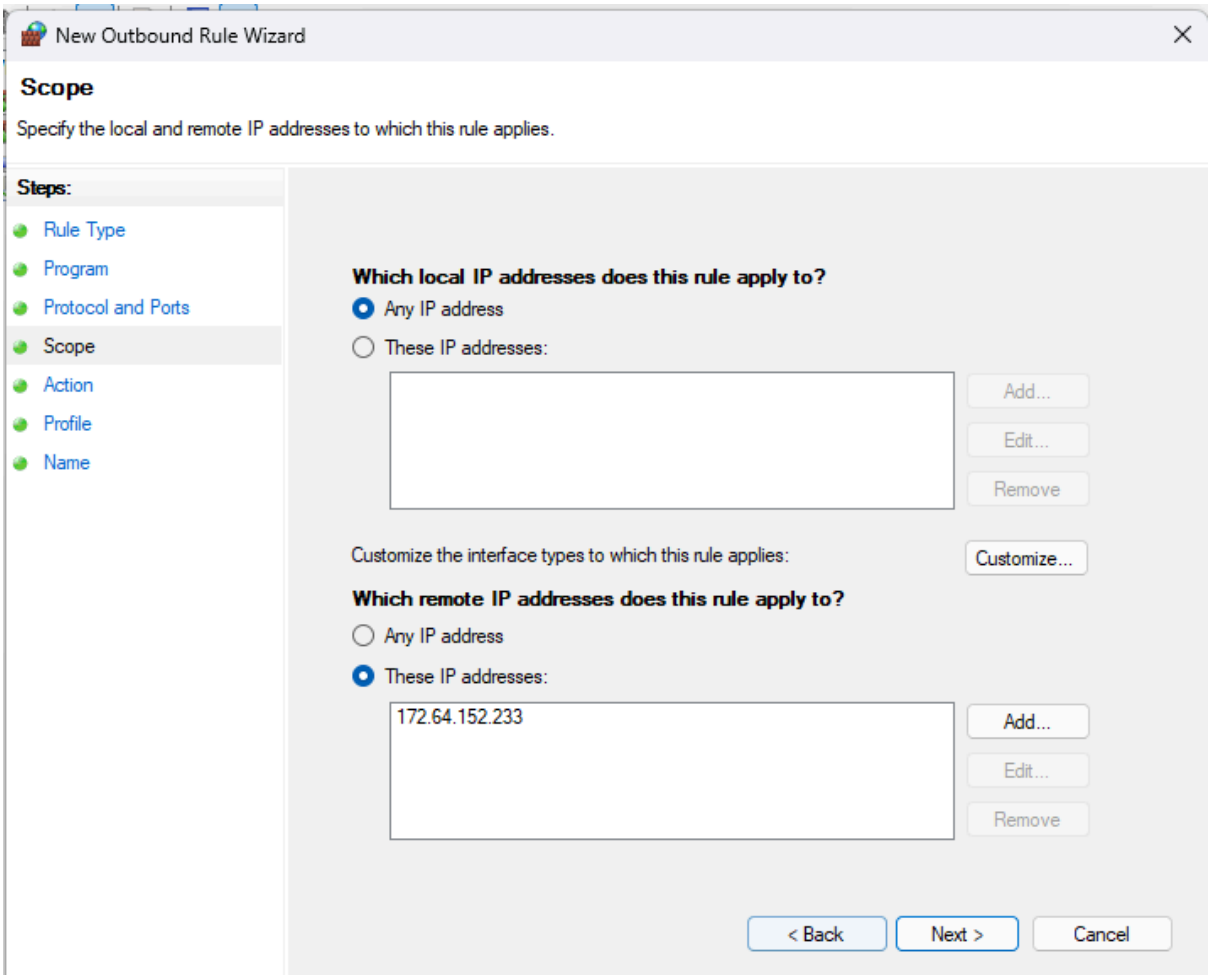


Step 4: Apply Rule to All Programs
1. On the Program screen, select All programs and click Next.

Step 5: Configure Protocol and Ports
1. On the Protocol and Ports screen, leave the default Any for protocol type.
2. Click Next.

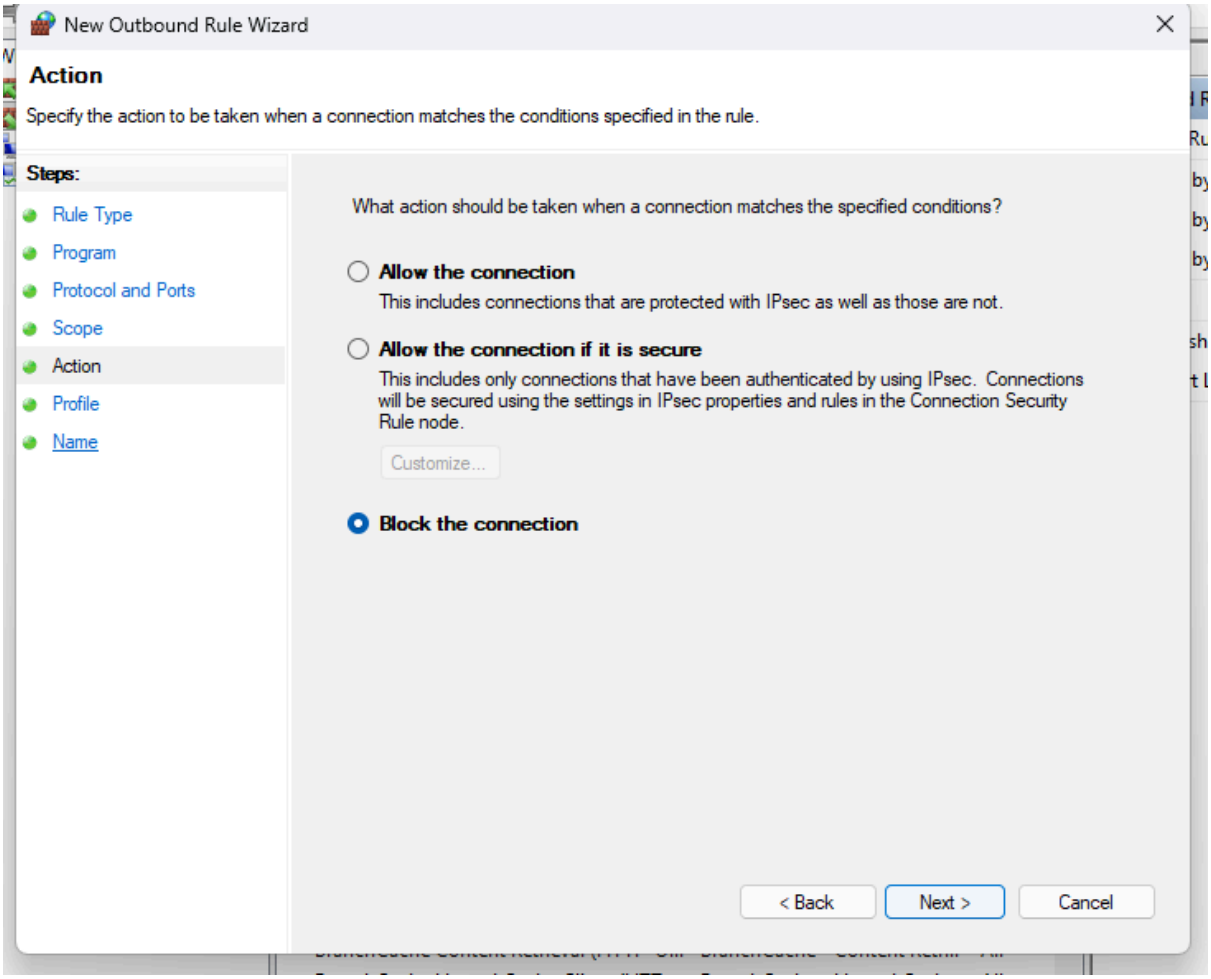
Step 6: Set Scope (Specify Remote IP Address)

1. On the Scope screen, under Remote IP address, select These IP addresses.
2. Click Add...
3. Enter the IP address you got from the ping command (e.g., 93.184.216.34) and click OK.
4. Click Next.



Step 7: Choose Action (Block the Connection)

1. Select Block the connection.
2. Click Next.



Step 8: Specify When the Rule Applies

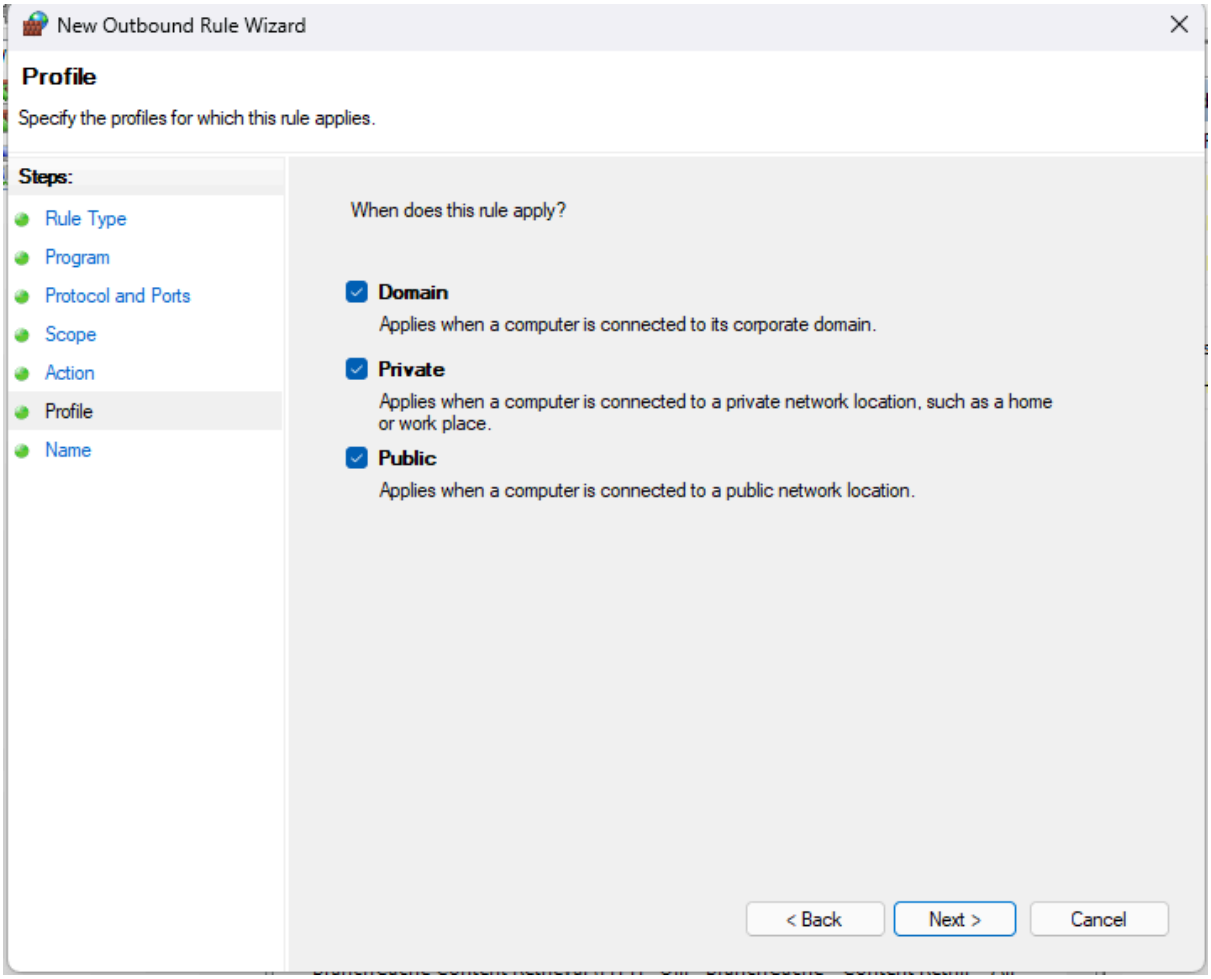
1. On the Profile screen, check all options:

o Domain

o Private

o Public

2. Click Next.



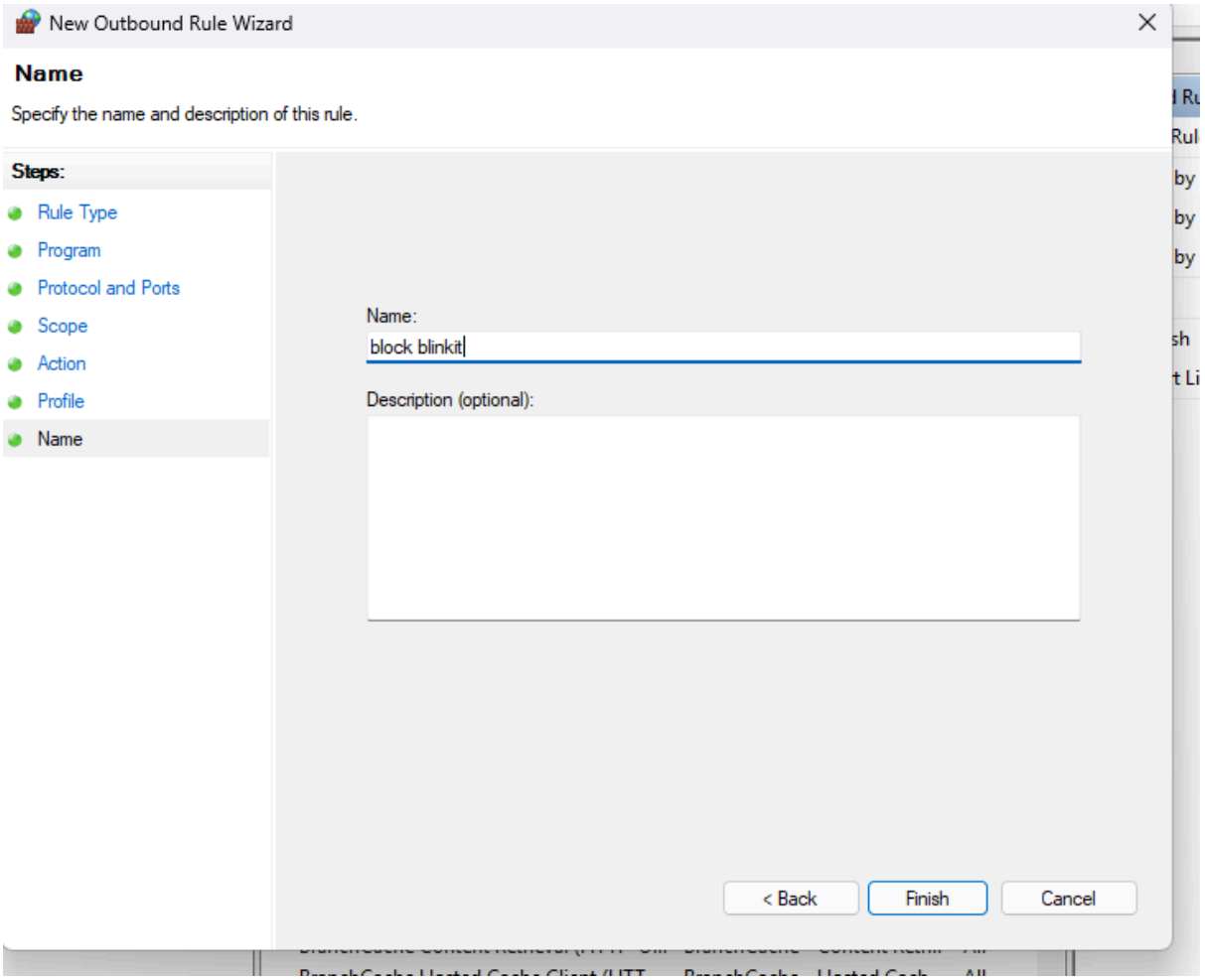
Step 9: Name Your Rule

1. Enter a name for the rule, like:

2. Block example.com

3. Optionally, add a description.

4. Click Finish.



Option B: Using Hosts File

How to Block Instagram in Google Chrome Using the HOSTS File

Step 1: Edit the HOSTS File

1. Open Notepad as Administrator:

o Click Start, type Notepad.

o Right-click Notepad → Run as administrator.

2. Open HOSTS File:

o In Notepad, click File > Open.

o Navigate to:

o C:\Windows\System32\drivers\etc

o Change file type to All Files and open the file named
hosts.

3. Add Instagram Entries at the bottom:
4. 127.0.0.1 instagram.com
5. 127.0.0.1 www.instagram.com
6. 127.0.0.1 help.instagram.com
7. 127.0.0.1 i.instagram.com
8. 127.0.0.1 api.instagram.com
9. Save the file and close Notepad.

Step 2: Flush DNS Cache
1. Press Windows + R, type cmd, then press Ctrl + Shift + Enter to
open Command Prompt as admin.
2. Run this command:
3. ipconfig /flushdns

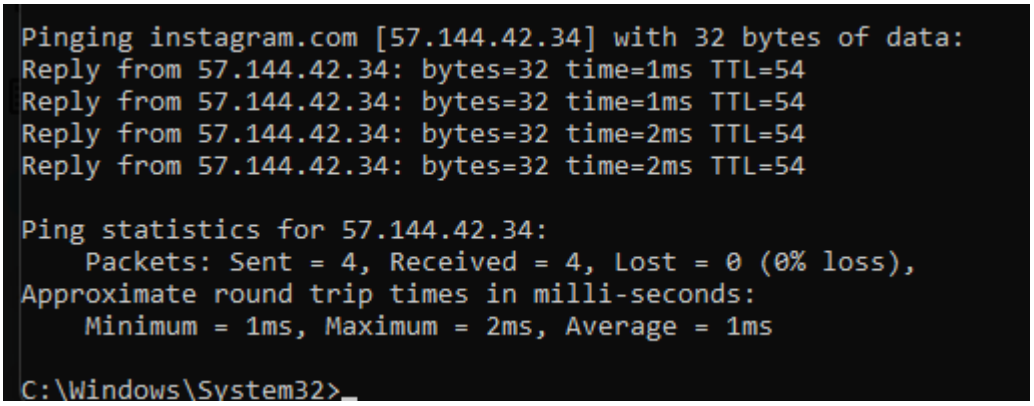
Step 3: Disable DNS Over HTTPS (DoH) in Chrome
1. Open Chrome.
2. Go to:
3. chrome://settings/security
4. Scroll to Use secure DNS and turn it OFF (toggle it off).

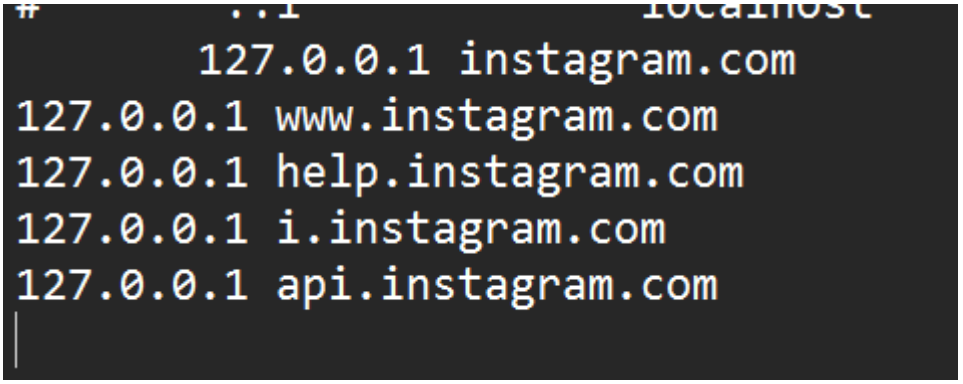
o This makes Chrome use the OS DNS resolver, respecting
your HOSTS file.

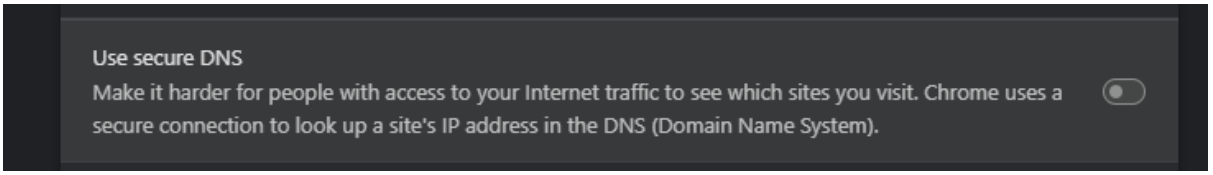
Step 4: Restart Chrome and Test

Close all Chrome windows and reopen.
Visit instagram.com or its subdomains.
The site should not load (blocked).

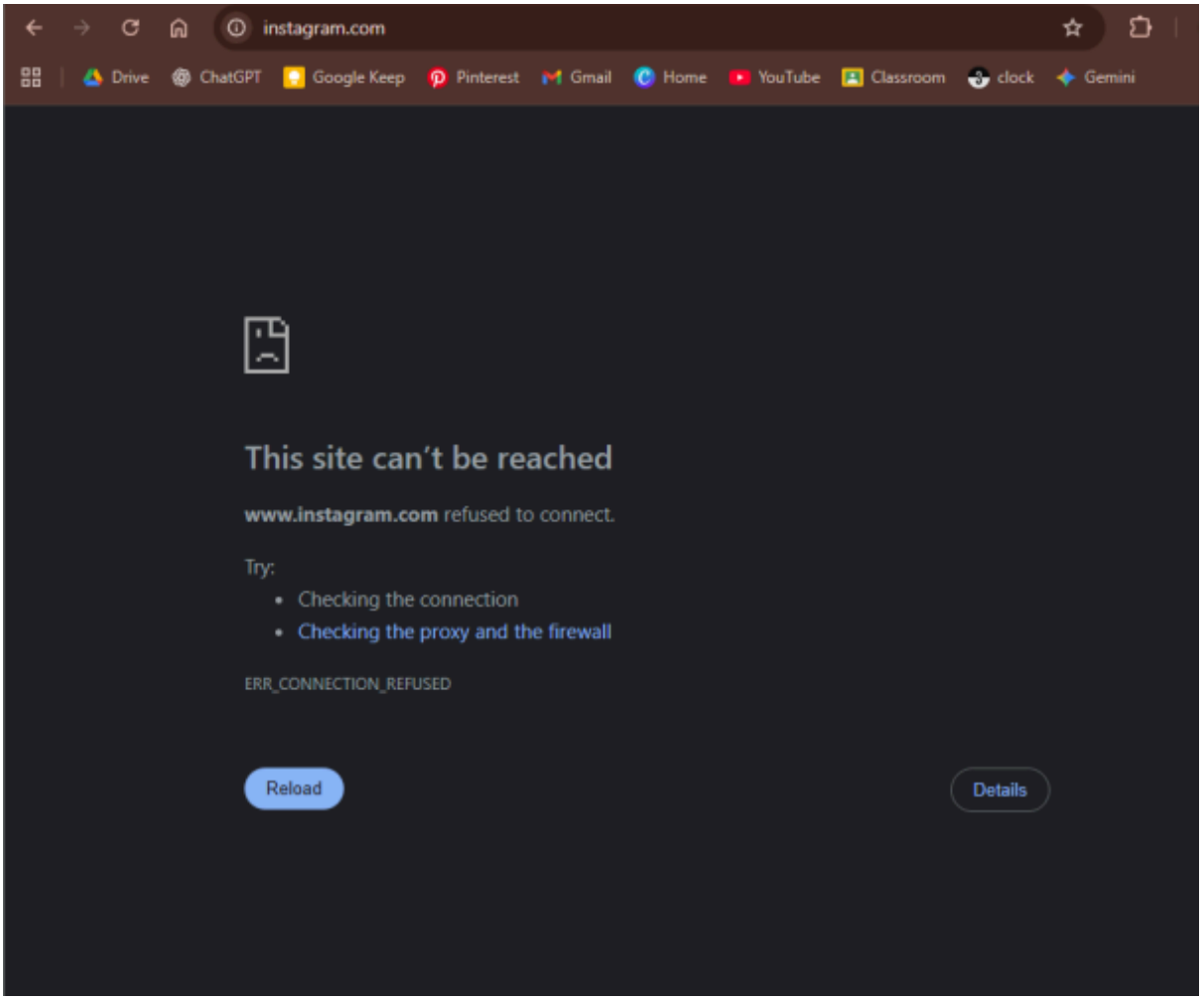
Optional: Clear Browser Cache or try Incognito Mode for testing.








```
# localhost name resolution is handled within DNS
itself.
#       127.0.0.1       localhost
#       ::1             localhost
       127.0.0.1 instagram.com
127.0.0.1 www.instagram.com
127.0.0.1 help.instagram.com
127.0.0.1 i.instagram.com
127.0.0.1 api.instagram.com
```


instagram.com
Drive
ChatGPT
Google Keep
Pinterest
Gmail
Home
YouTube
Classroom
clock
Gemini
This site can't be reached
www.instagram.com refused to connect.
Try:
Checking the connection
Checking the proxy and the firewall
ERR_CONNECTION_REFUSED
Reload
Details