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How do I configure Windows Defender Firewall for MATLAB to communicate with external hardware such as Speedgoat?

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**MathWorks Support Team** **STAFF**

on 12 Apr 2018

Edited: MathWorks Support Team **STAFF** on 4 Mar 2024**Accepted Answer:** MathWorks Support Team **STAFF**[👍 Vote](#) | 0 [🔗 Link](#)

There is an issue with the Windows Defender Firewall preventing access to my Speedgoat target computer, or other hardware that I connect using Ethernet. How do I configure Windows Defender Firewall to allow a connection between MATLAB (or my MATLAB-generated standalone application) and my hardware?

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**MathWorks Support Team** **STAFF**

on 4 Mar 2024

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MATLAB, or any standalone applications generated with MATLAB, must be allowed to communicate on all types of networks through Windows Defender Firewall.

This answer presents 3 possible solutions to allow MATLAB through Windows Defender Firewall:

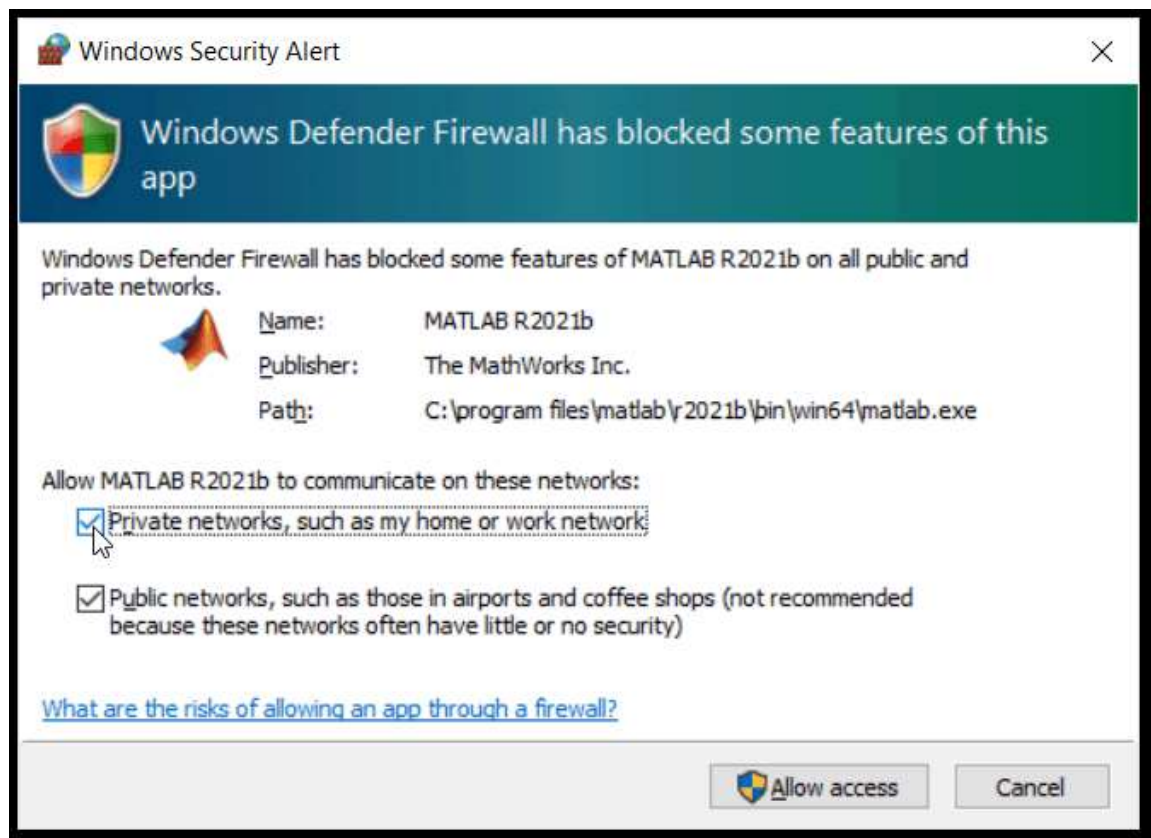
- Solution 1: Use Windows Defender Firewall Prompt on First Connection
- Solution 2: Manually allow MATLAB through Windows Defender Firewall
- Solution 3: Create inbound and outbound rules for MATLAB in Windows Defender Firewall

Important notes:

1. We recommend going through the steps below with your IT team and/or a system administrator.
2. When allowing access for a standalone application, use Solution 2 or 3. Make sure that the application (e.g. "slrt_app.exe") is added to your firewall exception list rather than "matlab.exe".
3. You must repeat the procedure below **for every installed version of MATLAB and every standalone application** that you intend to use with external hardware. The same applies if you upgrade MATLAB to a newer version at any point in the future.
4. The steps below may also have to be repeated after any company-wide IT rollouts or Windows Updates, as firewall settings may be reset as part of this.

SOLUTION 1: Use Windows Defender Firewall Prompt on First Connection

When you first try to connect to a target computer from a certain MATLAB release, Windows Defender Firewall prompts you to allow MATLAB to communicate on Private and Public networks:



- 1) Make sure that all options, including **Private** and **Public** options, are selected.

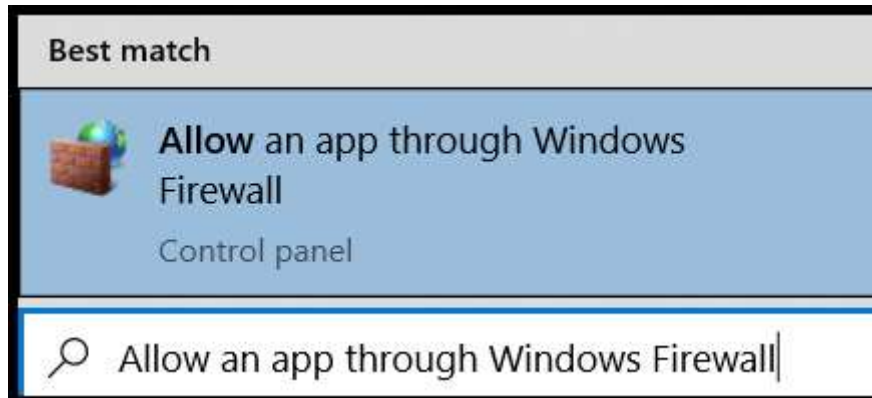
⚠ If the **Public** network option is not available (disabled/grayed out) -- refer to the article: How can I establish communication with a Speedgoat target computer via an Ethernet interface configured as 'Public'?

- 2) Click **Allow access**.

SOLUTION 2: Manually allow MATLAB through Windows Defender Firewall

In case you missed the above prompt, or did not check all options when prompted, you can configure the firewall manually:

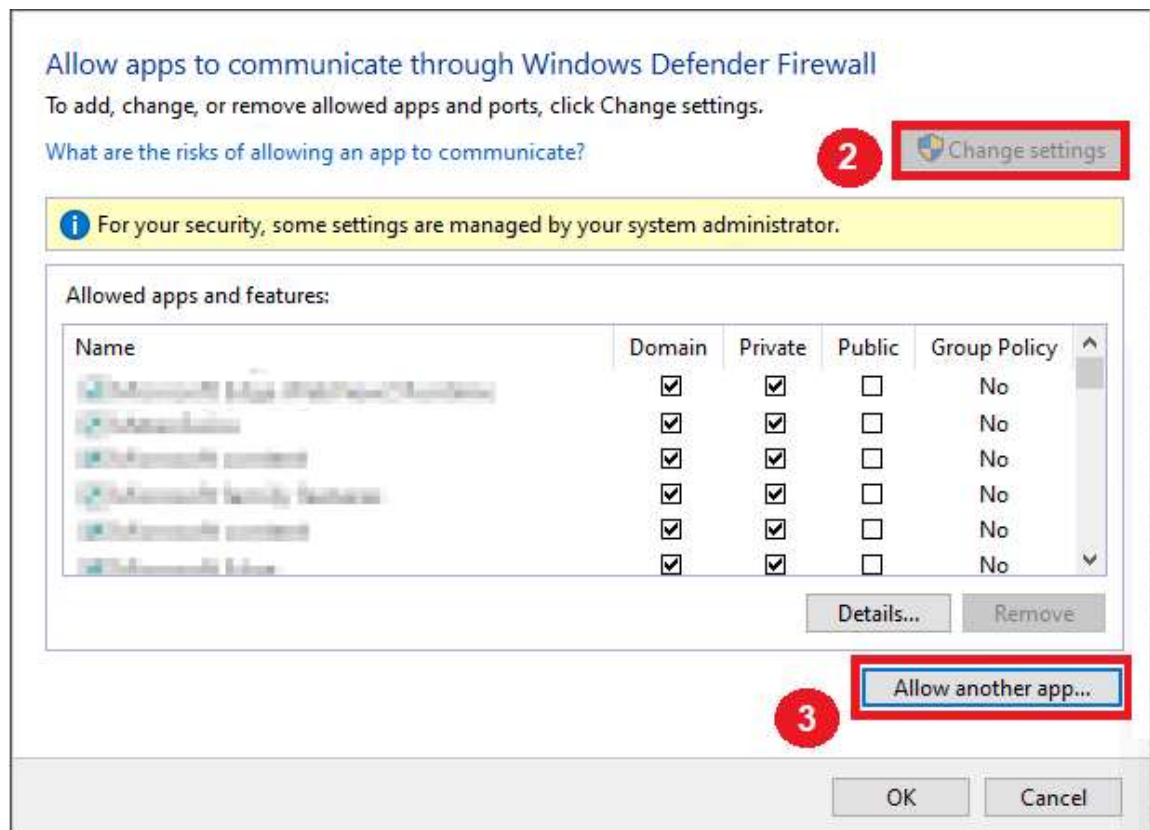
- 1) Find **Allow an app through Windows Firewall** by using the Windows search.



- 2) Click the **Change settings** button if necessary to unlock the panel.

⚠ If the **Change settings** button is disabled for you, contact your IT helpdesk.

- 3) Click **Allow another app**.



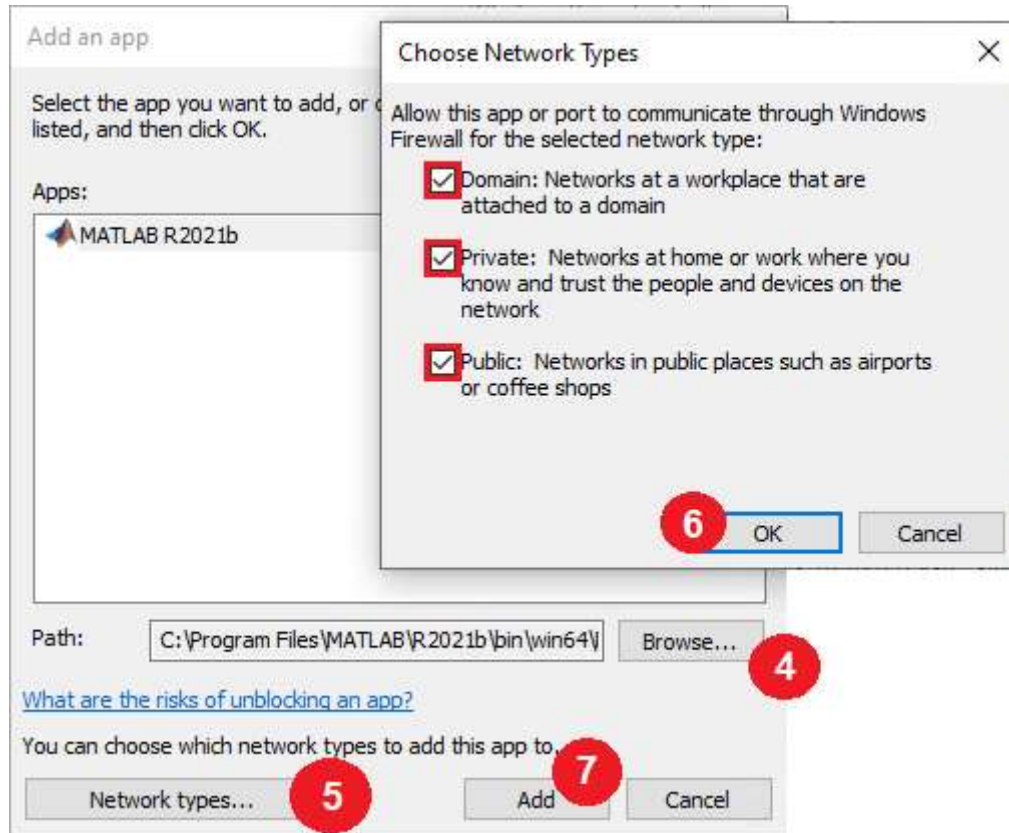
- 4) Click **Browse** to browse for <matlabroot>\bin\win64\matlab.exe. Or, if configuring a standalone application, include the file path for your standalone executable.

- 5) Click **Network Types**.

- 6) As the Network Type for MATLAB, select all options, including **Private** and **Public**.

⚠ If the **Public** network option is not available (disabled/grayed out) -- refer to the article: How can I establish communication with a Speedgoat target computer via an Ethernet interface configured as 'Public'?

7) Click **Add**.

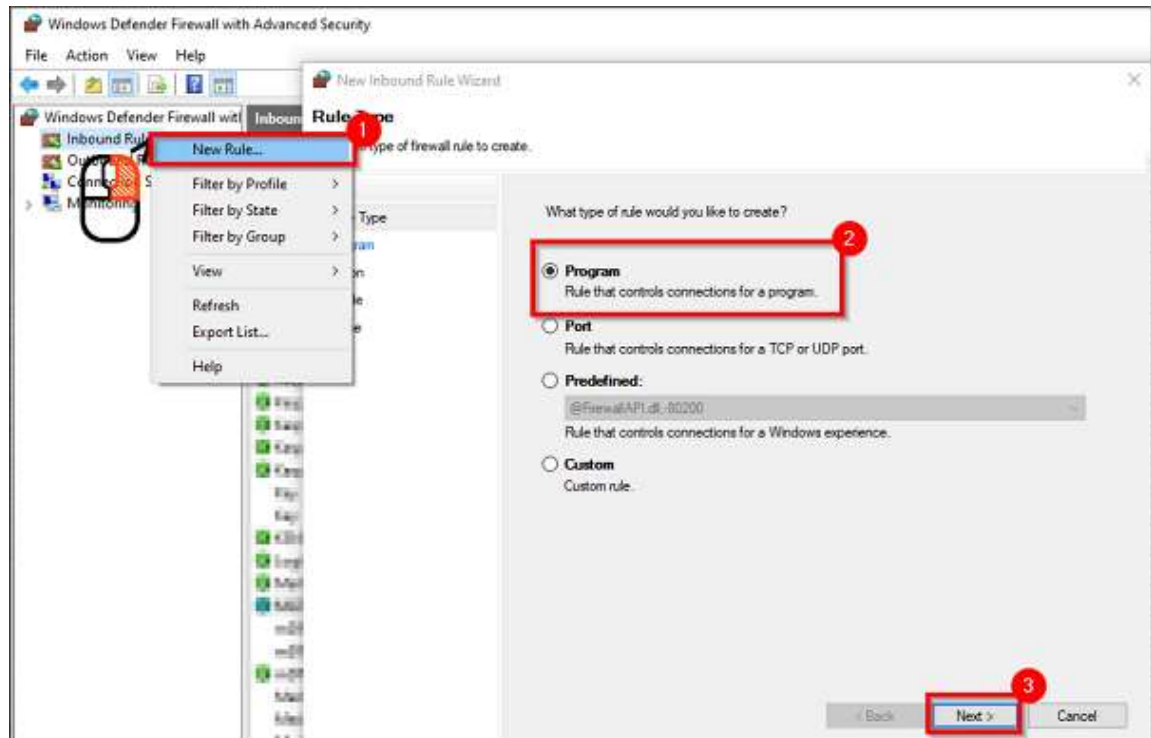


SOLUTION 3: Create inbound and outbound rules for MATLAB in Windows Defender Firewall

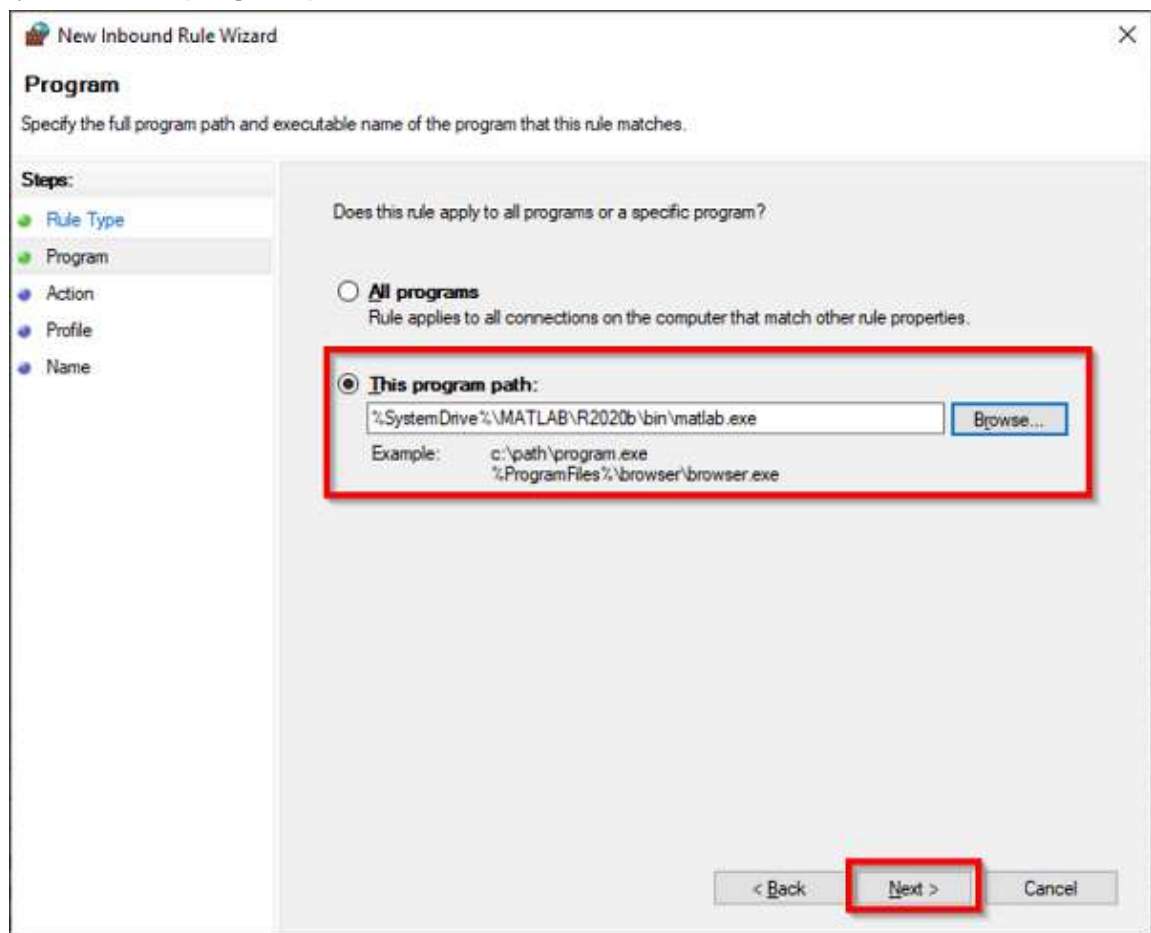
If the above solutions don't help, try to configure additional Inbound and Outbound Rules in the Advanced Windows Defender Firewall settings. We recommended getting help from your IT helpdesk for this solution:

- 1) Find **Windows Defender Firewall with Advanced Security** by using the Windows search.
- 2) Select **Inbound Rules** and **New Rule**.

3) For the **Rule Type**, select **Program**, and click **Next**.



4) Select **This program path** and browse for <matlabroot>\bin\matlab.exe.



5) For the **Action**, select **Allow the connection**, and click **Next**.

6) For the **Profile**, select the **Domain**, **Private**, and **Public** checkboxes, and click **Next**.

⚠️ If the **Public** network option is not available (disabled/grayed out) -- refer to the article: How can I establish communication with a Speedgoat target computer via an Ethernet interface configured as 'Public'?

7) For **Name**, provide a **Name** for this inbound rule (for example, Simulink Real-Time inbound), and click **Finish**.

8) Select **Outbound Rules** and click **New Rule**.

9) Repeat steps 3 through 7 for the custom outbound rule.

If any of the above options are not available due to IT policy, or the communication still fails, please contact your IT helpdesk to verify your firewall rules.

Further Troubleshooting

If the above instructions don't help resolve the communication issues with your Speedgoat hardware, refer to the following MATLAB Answers post for further troubleshooting steps:

Troubleshooting connection issues with Speedgoat target computers

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How long (T) have you been using Matlab for ?

- ☐ T < 2 years
- ☐ 2 years < T < 5 years
- ☐ 5 years < T < 10 years
- ☐ 10 years < T < 20 years
- ☐ T > 20 years

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