

I already have MinGW on my computer. How do I configure it to work with MATLAB?



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MathWorks Support Team **STAFF**

on 21 Nov 2016

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I already have MinGW on my computer. How do I configure it to work with MATLAB?

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Accepted Answer



MathWorks Support Team **STAFF**

on 10 Aug 2023

Edited: MathWorks Support Team **STAFF** on 17 Aug 2023

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 configuremingw.p

MATLAB detects the MinGW compiler by reading the environment variable "MW_MINGW64_LOC". When you install MinGW from the MATLAB Add-Ons menu, MATLAB sets this variable. The following instructions can be used to set this environment variable manually.

Note: Be aware that in order for any changes to be permanent, the "MATLAB Support for MinGW-w64 C/C++ Compiler" support package must be uninstalled if it was previously installed.

For MATLAB R2017b and later:

Verify that you have installed the appropriate version of MinGW-w64 according to your version of MATLAB before following the steps below.

- MinGW-w64 version 8.1 for R2023a and later
- MinGW-w64 version 6.3 for R2018b and later

- *MinGW-w64 version 5.3 for R2017b through R2018a*

- 1) Start MATLAB with administrative privileges.
- 2) Download the attached MATLAB function 'configuremingw'.
- 3) In the MATLAB Command Window run:

```
>> configuremingw(folder)
```

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where 'folder' is the installation directory of MinGW, for example, 'C:\TDM-GCC-64'. Note that this path should not contain any spaces.

Alternatively, run:

```
>> configuremingw
```

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Then navigate to the installation directory of MinGW.

For MATLAB R2015b through R2017a:

Verify you have installed MinGW-w64 version 4.9.2 before following these steps.

The "MW_MINGW64_LOC" environment variable can be (A) set for the entire system level or (B) set temporarily every time you open MATLAB. Administrative privileges are required to set "MW_MINGW64_LOC" as a system environment variable. No special privileges are required to set the environment variable temporarily.

Option A: Set "MW_MINGW64_LOC" as a system environment variable on Windows 10/11:

1. Make sure you have administrative privileges.
2. Enter "Edit the system environment variables" in the Windows search.
3. Click "Environment Variables...".
4. Under System variables, select "New...".
5. In the New System Variable dialog box, type **MW_MINGW64_LOC** in the Variable name field.
6. In the Variable value field, type the location of the MinGW-w64 compiler installation, for example, **C:\TDM-GCC-64**.
7. Click "OK" to close the dialog boxes, then close the Control Panel dialog box.

Option B: Set "MW_MINGW64_LOC" as a temporary environment variable using MATLAB:

Run the following in the MATLAB Command Window:

```
>> setenv('MW_MINGW64_LOC', folder)
```

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where 'folder' is the installation directory of MinGW. For example, 'C:\TDM-GCC-64' (note that this path should not contain any spaces). This command will need to be run every time you start MATLAB for MATLAB to correctly use MinGW. You can consider adding the above command to your 'startup.m' file. This will execute the command every time MATLAB starts up.

Verify that the existing MinGW installation is recognized by MATLAB:

After performing the above steps, you can verify if the compiler was recognized by MATLAB by running the following command and seeing what the "MW_MINGW64_LOC" environment variable detected by MATLAB is set to:

```
>> mex -setup -v
```

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Note: Be aware that due to caching limitations, the option to select the "MinGW64 Compiler" after running this command may show the incorrect command to be run. In reality, clicking on this option will use the version of MinGW pointed to by the "MW_MINGW64_LOC" environment variable.

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Walter Roberson **LEVEL 10** **MVP** on 10 May 2023

Edited: Walter Roberson **LEVEL 10** **MVP** on 10 May 2023

@Nagaraju Subramaniam

<https://azrael.digipen.edu/~mmead/www/public/mingw/> has instructions for installing the 32 bit version.

CANoe_MatlabIntegrationPackage_MinGW_32_bin appears to be part of CANoe configuration, not MATLAB, so you might need to redo some CANoe installation steps.



Jerry George **STAFF** on 11 Jun 2024

Edited: Jerry George **STAFF** on 11 Jun 2024

Just to clarify, MW_MINGW64_LOC should be set to the folder that contains the 'bin' folder. That is mex -setup is going to look for a file %MW_MINGW64_LOC%\bin\gcc.exe

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Paul Wintz **LEVEL 2** on 16 Aug 2021

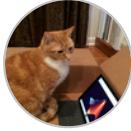
Moved: Stefanie Schwarz **STAFF** on 10 Aug 2023

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The instruction the description of MINGWROOT as the "MinGW installation directory containing the MinGW compiler binaries" is confusing. I thought, initially, that the path would include the bin folder (after all, that is where the binaries are located). To the contrary, however, MINGWROOT should point to the parent directory of bin.

So I needed to set MINGWROOTC to \mingw\mingw64 not C:\mingw\mingw64\bin.

+ 1 Comment



Stefanie Schwarz **STAFF** on 10 Aug 2023



I agree, thank you very much for this feedback! We will revise the text above to make this clearer.

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Zhibin Deng on 15 May 2023

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Moved: Stefanie Schwarz **STAFF** on 10 Aug 2023

I got an error

"Error using configuremingw

Unable to setup the MinGW compiler due to administrator privileges not granted."

My matlab version is 2023a under Windows 11. I have run matlab using in the administrative mode.

How to solve this issue?

+ 1 Comment



Zhibin Deng on 15 May 2023



Moved: Stefanie Schwarz **STAFF** on 10 Aug 2023

Problem solved. mingw has to be installed in a path **without space**. Thanks @Ray Jiang

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Richard Crozier **LEVEL 2**
on 20 Jan 2020

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Moved: Stefanie Schwarz **STAFF** on 10 Aug 2023

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I am trying the described solution in Matlab R2018a. If I run without administrator privileges I get the following when trying to run configuremingw

```
>> configuremingw
Error using configuremingw
```

🌙 Theme Copy

Unable to setup the MinGW compiler due to administrator privileges not gr

I then tried manually changing MW_MINGW64_LOC but without success, see the below matlab session:

```
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>> mex -setup C++
MEX configured to use 'MinGW64 Compiler (C++)' for C++ language compilati
Warning: The MATLAB C and Fortran API has changed to support MATLAB
variables with more than 2^32-1 elements. You will be required
to update your code to utilize the new API.
You can find more information about this at:
https://www.mathworks.com/help/matlab/matlab\_external/upgrading-
>> getenv ('MW_MINGW64_LOC')

ans =

'C:\ProgramData\MATLAB\SupportPackages\R2018a\3P.instrset\mingw_w64.i

>> mingwdir = getenv ('MW_MINGW64_LOC')

mingwdir =

'C:\ProgramData\MATLAB\SupportPackages\R2018a\3P.instrset\mingw_w64.i

>> ls (mingwdir)

.                build-info.txt      lib                opt
..               etc                  libexec            share
bin              include              licenses           x86_64-w64-mi

>> ls ('C:\Program Files\mingw-w64\x86_64-6.3.0-posix-seh-rt_v5-rev2\ming

.                build-info.txt      lib                opt
..               etc                  libexec            share
bin              include              licenses           x86_64-w64-mi

>> setenv ('MW_MINGW64_LOC', 'C:\Program Files\mingw-w64\x86_64-6.3.0-pos
>> getenv ('MW_MINGW64_LOC')

ans =

'C:\Program Files\mingw-w64\x86_64-6.3.0-posix-seh-rt_v5-rev2\mingw64

>> mex -setup
MEX configured to use 'MinGW64 Compiler (C)' for C language compilation.
Warning: The MATLAB C and Fortran API has changed to support MATLAB
variables with more than 2^32-1 elements. You will be required
to update your code to utilize the new API.
```

You can find more information about this at:

https://www.mathworks.com/help/matlab/matlab_external/upgrading-

To choose a different language, select one from the following:

```
mex -setup C++
```

```
mex -setup FORTRAN
```

```
>> mex -setup C++
```

Error using mex

No supported compiler was found. You can install the freely available Min

For more options, visit <https://www.mathworks.com/support/compilers>.

```
>> mex -setup FORTRAN
```

Error using mex

No supported compiler was found. For options, visit <https://www.mathworks>

```
>> CC = mex.getCompilerConfigurations
```

CC =

2x1 CompilerConfiguration array with properties:

Name

Manufacturer

Language

Version

Location

ShortName

Priority

Details

LinkerName

LinkerVersion

MexOpt

```
>> CC(1)
```

ans =

CompilerConfiguration with properties:

Name: 'MinGW64 Compiler (C++)'

Manufacturer: 'GNU'

Language: 'C++'

Version: '5.3.0'

Location: 'C:\Program Files\mingw-w64\x86_64-6.3.0-posix-seh-rt_

ShortName: 'mingw64-g++'

Priority: 'E'

Details: [1x1 mex.CompilerConfigurationDetails]

LinkerName: 'C:\Program Files\mingw-w64\x86_64-6.3.0-posix-seh-rt_

LinkerVersion: ''

```

MexOpt: 'C:\Users\User\AppData\Roaming\MathWorks\MATLAB\R2018a

>> CC(2)

ans =

CompilerConfiguration with properties:

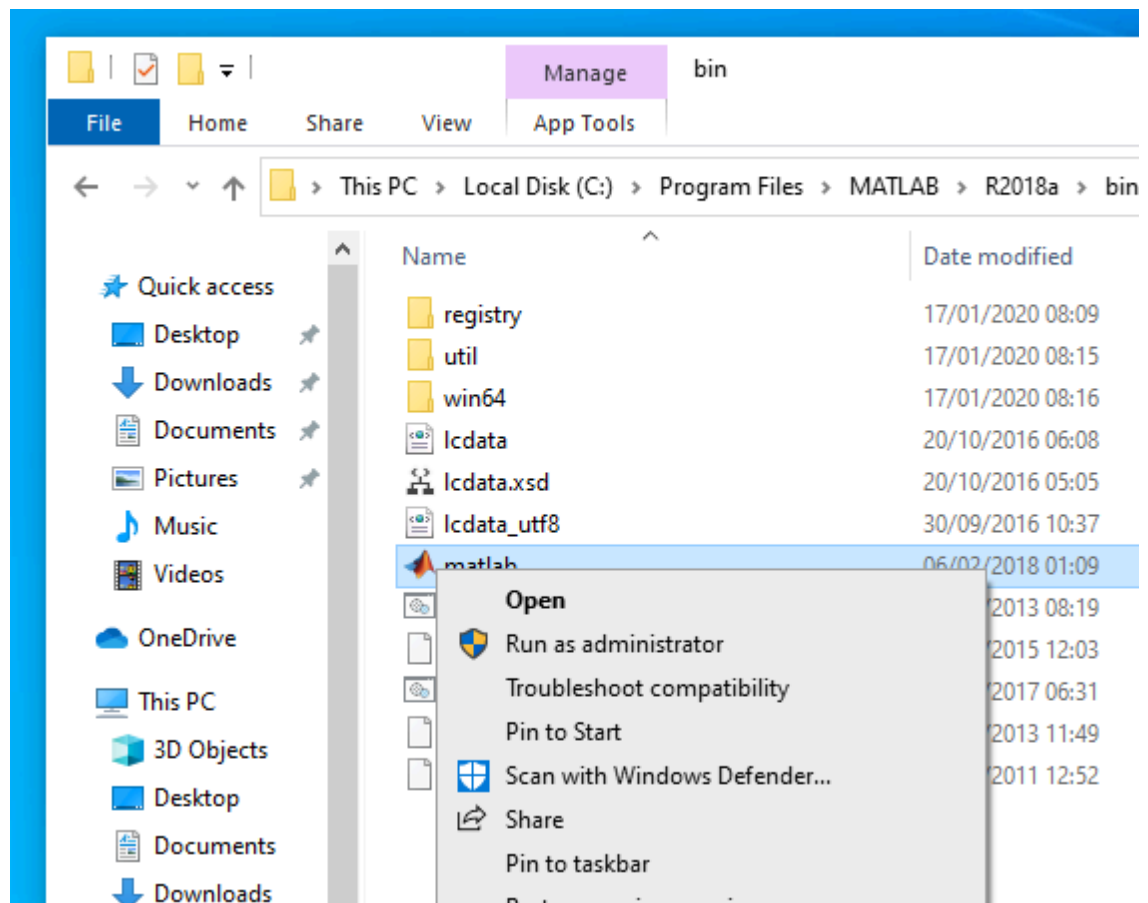
    Name: 'MinGW64 Compiler (C)'
Manufacturer: 'GNU'
  Language: 'C'
    Version: '5.3.0'
    Location: 'C:\Program Files\mingw-w64\x86_64-6.3.0-posix-seh-rt_
ShortName: 'mingw64'
    Priority: 'E'
    Details: [1x1 mex.CompilerConfigurationDetails]
  LinkerName: 'C:\Program Files\mingw-w64\x86_64-6.3.0-posix-seh-rt_
LinkerVersion: ''
    MexOpt: 'C:\Users\User\AppData\Roaming\MathWorks\MATLAB\R2018a

>> rnfoundry_setup
Setting up mexslmeval.
Warning: mexslmeval compilation failed, you may be missing required libra
> In mexslmeval_setup (line 63)
    In rnfoundry_setup (line 319)
Finished building mexslmeval.
Setting up mexMBCNodal and mexMBCNodalSharedMem.
Warning: Unable to compile mex function mexMBCNodal. Error reported was:
No supported compiler was found. You can install the freely available Min
For more options, visit https://www.mathworks.com/support/compilers.

```

As you can see, merely changing the MW_MINGW64_LOC does not corectly modify the compiler configurations, at least when matlab is run as non-root.

I tried again, after starting matlab.exe using 'Run as administrator' as below:



If I do this, I get the exact same issue when trying to run `configuremingw`

```
>> configuremingw ('C:\Program Files\mingw-w64\x86_64-6.3.0-posix-seh-rt_
Error using configuremingw
Unable to setup the MinGW compiler due to administrator privileges not gr
```

`setenv` doesn't help either

```
>> setenv ('MW_MINGW64_LOC', 'C:\Program Files\mingw-w64\x86_64-6.3.0-pos
>> mex -setup
MEX configured to use 'MinGW64 Compiler (C)' for C language compilation.
Warning: The MATLAB C and Fortran API has changed to support MATLAB
variables with more than 2^32-1 elements. You will be required
to update your code to utilize the new API.
You can find more information about this at:
https://www.mathworks.com/help/matlab/matlab_external/upgrading-

To choose a different language, select one from the following:
mex -setup C++
mex -setup FORTRAN
>> mex -setup C++
Error using mex
No supported compiler was found. You can install the freely available Min
more options, visit https://www.mathworks.com/support/compilers.
```


As others have noted, if configuremingw wasn't an obfuscated p file I could attempt to fix this. My suspicion is that configuremingw calls another system program or script which doesn't run with the same permissions.

Any suggestions for getting an alternative mingw to work on R2018a?

p.s. I also tried activating the administrator account, logging in as administrator and still get

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```
>> configuremingw
Error using configuremingw
Unable to setup the MinGW compiler due to administrator privileges not gr
```

+ 1 Comment



Stefanie Schwarz **STAFF** on 10 Aug 2023



Since you appear to have an existing installation of the MinGW Support Package, it is much easier if you just edit the system environment variable MW_MINGW64_LOC in the Windows settings (with the help of an admin) to have this value:

```
C:\Program Files\mingw-w64\x86_64-6.3.0-posix-seh-rt_v5-rev2\mingw64
```

Instead of:

```
C:\ProgramData\MATLAB\SupportPackages\R2018a\3P.instrset\mingw_w64.instrset
```

(which is where the MinGW compiler shipped with the support package resides).

Then, restart MATLAB.

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