

Creating Matlab Executable Files and Using them with Imaris

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Creating Matlab Executable Files

In order to create an executable file in Matlab, you first need to make sure that the **MATLAB Compiler** toolbox is installed:

1. Open Matlab and on the command line type (the `>>` is the command prompt)

```
>> ver
```

You should see a list of all the installed toolboxes. If the compiler toolbox is listed, you'll be able to proceed.

2. Make sure that the Matlab environment is in the same working directory as the `.m` file you want to convert.
3. On the command prompt type

```
>> mcc -m yourFile.m
```

where `yourFile.m` is the Matlab file you want to convert. The output produces an executable file and a text file indicating which Matlab Runtime Compiler you'll need to download to run the executable.

Using Matlab Executables with Imaris

1. Be sure to install the correct Matlab Runtime Compiler indicated by the text file produced after generating the executable file.
2. For Imaris version 8.1 or earlier, Imaris should automatically find the path where the runtime compiler was installed. For versions 8.3 or newer, you'll need to point Imaris to the correct path:
 - (a) In Imaris, go to **File** → **Preferences** → **Custom Tools**
 - (b) Within **Custom Tools** you can **Browse** your systems directories for the correct Matlab Runtime Compiler path.
3. Place your executable file in the `rtmatlab` folder. `rtmatlab` is short for runtime matlab.
4. In order for Imaris to create a link to the executable in the software, you'll need to generate an xml file, in this example `yourFile.xml`, and place that file in the same directory as the executable, the `rtmatlab` folder. For example, here is sample code to follow from:

```

<?xml version="1.0" encoding="utf-8"?>
<CustomTools>
  <Menu>
    <Submenu name="Spots Functions">
      <Item name="Your File" icon="Matlab" tooltip="Do nothing and drink coffee">
        <Command>MatlabExe::yourFile %i</Command>
      </Item>
    </Submenu>
    <Submenu name="Surfaces Functions">
      <Item name="Your File" icon="Matlab" tooltip="Do nothing and drink coffee">
        <Command>MatlabExe::yourFile %i</Command>
      </Item>
    </Submenu>
  </Menu>
  <SurpassTab>
    <SurpassComponent name="bpSpots">
      <Item name="Your File" icon="Matlab" tooltip="Do nothing and drink coffee">
        <Command>MatlabExe::yourFile %i</Command>
      </Item>
    </SurpassComponent>
    <SurpassComponent name="bpSurfaces">
      <Item name="Your File" icon="Matlab" tooltip="Do nothing and drink coffee">
        <Command>MatlabExe::yourFile %i</Command>
      </Item>
    </SurpassComponent>
  </SurpassTab>
</CustomTools>

```

5. Please use this example as a template. Of course you would need to replace the lines that contain `yourFile` with the name of your matlab file, as well as, `<Item Name="Your File">` with whatever you want to be shown in Imaris, and the `<Tooltip="Do nothing and drink coffee">`.
6. Restart Imaris and your matlab extension should be accessible.