Setting up the Microsoft Build Tools

For Visual Studio 2019 for MapleSim

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MapleSim™

The Build Tools component of the Microsoft Visual C++ Compiler is required for MapleSim on Windows in a couple of cases:

- Exporting an FMU with the FMI Connector.
- Using the Simulink Component Block Generation app with the Generate and Compile S-Function option.
- Simulation of JMAG models

Installing Microsoft Build Tools for Visual Studio 2019

➢ **Note:** This guide assumes that you have already installed Maple and MapleSim. If you are having difficulties with these installations please contact Maplesoft Technical Support (support@maplesoft.com) before continuing.

➢ **Note:** You need to log into a User account with administrative privileges to set up and install the Microsoft Visual C++ compiler.

1. In a web browser window, go to https://visualstudio.microsoft.com/downloads/:

2. Scroll down and open the **Tools for Visual Studio 2019** section.

3. Find **Build Tools for Visual Studio 2019** and click **Download.**

4. Locate the installer file, likely in your **Downloads**. Right-click on the file and **Run as Administrator**:

5. The **Visual Studio Installer** will launch:
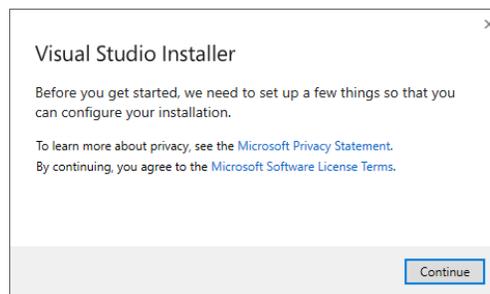
6. Click **Continue**.

7. MapleSim does not require the full installation of Visual Studio Build Tools. The only **Workload** that you need to select is **C++ build tools.**
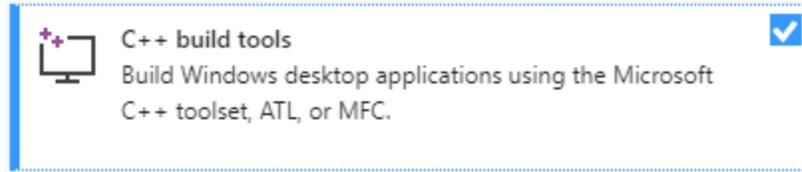
8. We also do not need all of the **Optional** components. Under **Installation Details**, we can remove **Optional** components so that we are left only installing the following:

   ✓ MSVC v142 – VS 2019 C++ x64/86 build tools
   ✓ Windows 10 SDK
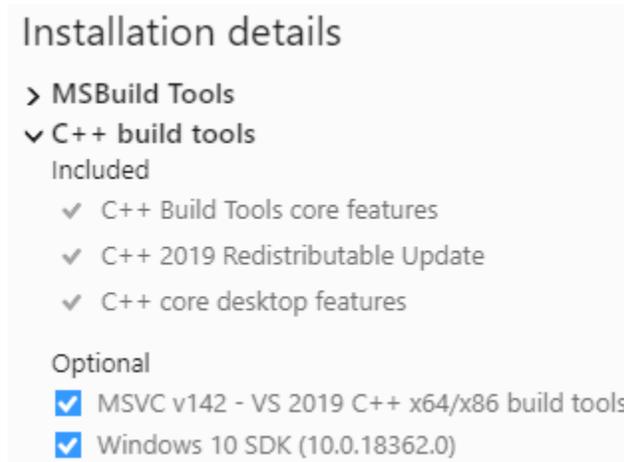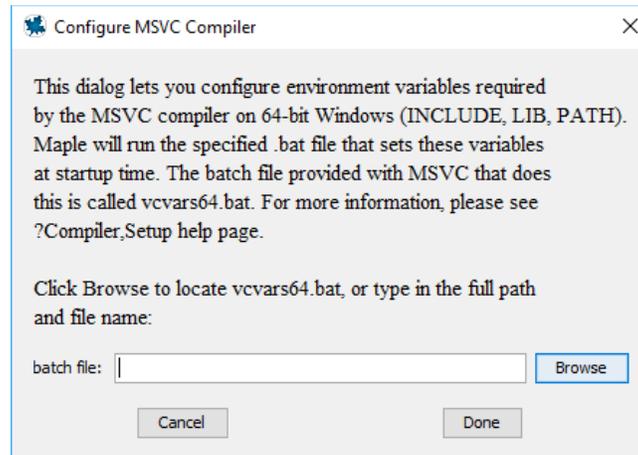

9. Click **Install**.

10. Once the installation is complete, you will need to **restart your system** to finish the setup.

Configuring the Compiler in Maple

1. **Open Maple** with administrative privileges by right-clicking the shortcut and choosing **Run as Administrator.**

2. Open a new Maple document or worksheet.

3. At the Maple prompt, type `Compiler:-Setup();` and press **Enter:**
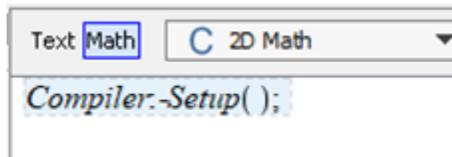
4. The **Configure MSVC Complier** dialogue will open.

    If you installed to the default location, you can paste:
    C:\Program Files (x86)\Microsoft Visual Studio\2019\BuildTools\VC\Auxiliary\Build\vcvarsall.bat
    in the **batch file** box and click **Done.**

    Alternatively, you can click **Browse** and follow this path:

    This PC > Local Disk (C:) > Program Files (x86) > Microsoft Visual Studio > 2019 > BuildTools > VC > Auxiliary > Build > vcvarsall.bat

5. The Maple return should be the file path. If it does not echo back the file path, please run the command again and double check that you have selected the correct file. An error will also occur if you did not open Maple with administrative privileges.

Confirming MapleSim is Using the MSVC Compiler

Now that the installation and setup is complete, you can confirm if the install was a success by running a sample simulation in MapleSim and verifying that the external compiler is being used.

1. Open MapleSim and choose an example model like **Help** > **Examples** > **Physical Domains** > **Multibody** > **Catapult**

2. In **Simulation Settings**, ensure that the option for **Compiler** is **checked** so that the external compiler will be used in simulation:
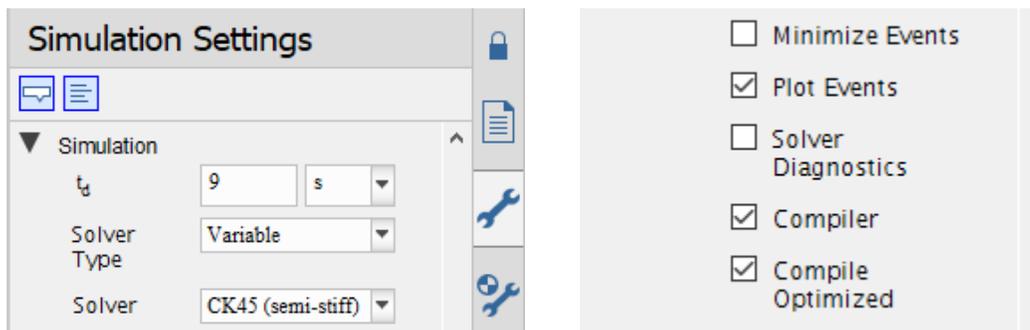
3. Click the **Run Simulation** button to perform the test.

4. In the **Console Output** (bottom palette), open up the **Preparing for Integration** branch:
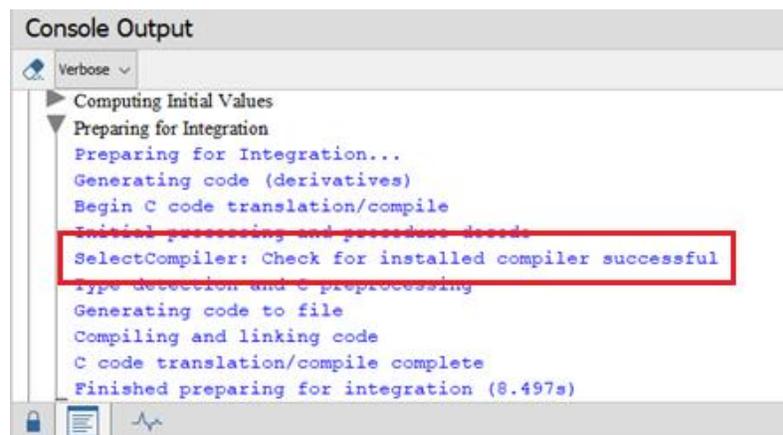
5. Verify that you see
   SelectCompiler: Check for installed compiler successful.

If you do not see the message above but instead see **SelectCompiler: Check for installed compiler failed, using built-in,** please ensure that you have done the correct setup and if issues still remain please contact Maplesoft Technical Support at support@maplesoft.com.