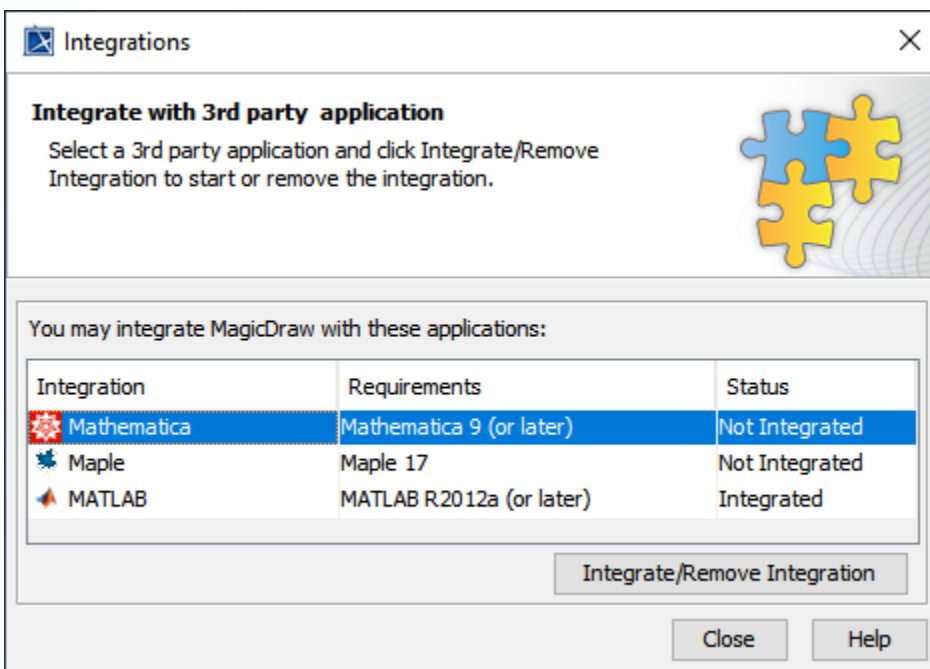# Integration with Mathematica

Cameo Simulation Toolkit supports Mathematica®, a Mathematical computation engine, to analyze and solve Mathematica®l expressions. Once you have installed Mathematica® , you can specify it as the language of opaque expressions.
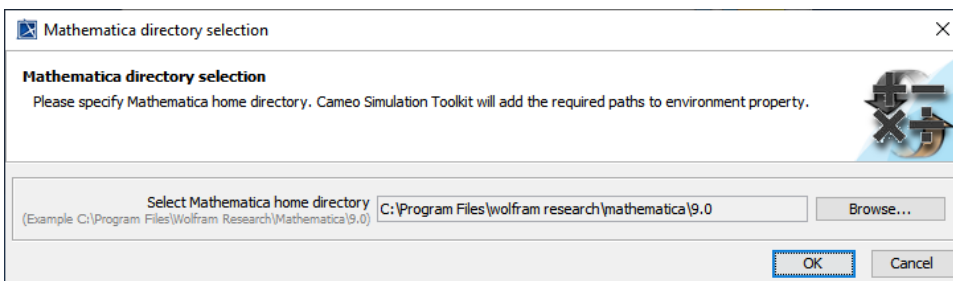
First, you must install Mathematica® on your local machine, and then set up your system to allow Cameo Simulation Toolkit to use the installed Mathematica®.

To use Mathematica® on a 32-bit or 64-bit version of Microsoft Windows and Linux

1. On the MagicDraw main menu, select **Tools** > **Integrations**. The **Integrations** dialog opens.
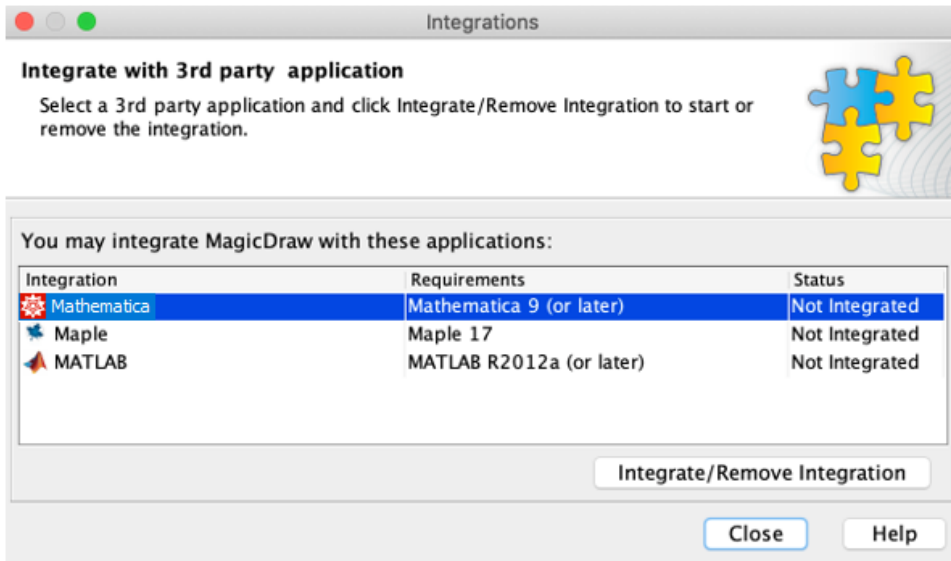

2. From the list, select **Mathematica** and click **Integrate/Remove Integration**. The **Mathematica directory selection** dialog opens.
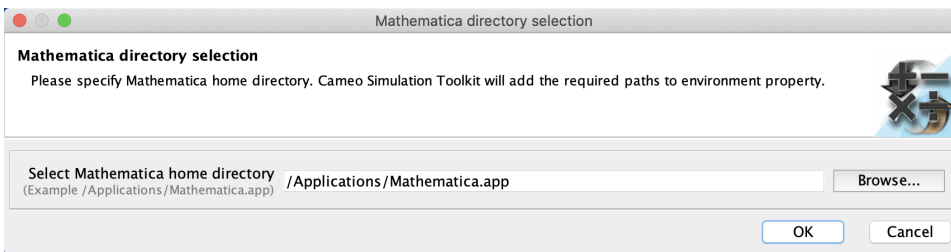

3. Browse for the home directory of Mathematica®.
4. Click **OK** and restart MagicDraw.

To use Mathematica® on Mac OSX

1. From the main menu, click **Tools** > **Integrations**. The **Integrations** dialog opens.

2. From the list, select **Mathematica** and click **Integrate/Remove Integration**. The **Mathematica directory selection** dialog opens.

3. Specify the directory where you have installed Mathematica® and click **OK**.
4. Restart the modeling tool.

ⓘ **Information**

(Only for integration with Mathematica **Version 12.3**) After completing the steps above using the **Integration** dialog, you must change **JAVA_HOME** to **JDK 11** by following the steps below:

1. Download JDK 11 (11.0.12 recommended) according to your operating system from https://www.oracle.com/java/technologies/downloads/#java11. Alternatively, you can use the bundled java from Mathematica 12.3 (JDK 11.0.10) in the *[Mathematica installation dir]\SystemFiles\Java\Windows-x86-64* directory.
2. Open the property file of the modeling tool, *[Modeling Tool dir]/bin/[Modeling Tool].properties*, with a text editor, e.g., *magicdraw.properties*.
3. Change **JAVA_HOME** to the **JDK 11** directory and save the file, for example:

```
JAVA_HOME=C\:\\Program Files\\AdoptOpenJDK\\jdk-11.0.12
```

4. Restart the modeling tool.