

SysML v2 Release Eclipse Installation

Requirements: Eclipse 2020-06 (4.16) or later, with Java Development Kit

Installing the plugins

1. Open an Eclipse workspace.
2. Select **Help > Install New Software**.
3. Select **Add...** and then, in the add dialog, select **Archive...**
4. Navigate to the `org.omg.sysml.site.zip` archive and select it. (You can give it a name if you wish.) Click **Add**.
5. In the Install window, select the **KerML and SysML Editors** category and click **Next**.
6. Continue with the installation (select **Install Anyway** if asked), and, when it is complete, restart Eclipse.

Installing PlantUML graphical visualization

Graphical visualization is available in Eclipse using the open source [PlantUML](https://github.com/himi/p2-update-puml-sysmlv2/raw/main/updates) tooling to render diagrams.

0. Make sure that your Eclipse has PlantUML with SysMLv2 extensions. You can install it from the update site of <https://github.com/himi/p2-update-puml-sysmlv2/raw/main/updates> with **Help > Install New Software**
1. PlantUML visualization requires that [GraphViz](https://www.graphviz.org/download/) be installed. Visit <https://www.graphviz.org/download/> and download the appropriate package for your environment.
 - The recommended GraphViz version is 2.44.1. Make sure you have initialized GraphViz with `dot -c` command. See <https://plantuml.com/ja/graphviz-dot> for details.
2. If Eclipse cannot automatically find the path to the GraphViz executable, you can set it by going to **Preferences > PlantUML**. For details, visit <https://plantuml.com/en/eclipse>.

Installing the model library and modeling projects

Note: If you are updating an existing installation of an earlier SysML v2 release, then, before proceeding with the procedure below, delete the `kerml`, `sysml` and `sysml.library` projects from your workspace, selecting **Delete project contents from disk**.

1. Select **File > Import**.
2. Under **General**, choose **Existing Projects into Workspace**.
3. Browse to the `sysml.library` directory and select it.
4. Under **Projects**, select `sysml.library`, under **Options** select **Copy projects into workspace**, then click **Finish**.
5. Turn off **Project > Build Automatically**, then select **Project > Clean...** and build *only* `sysml.library`.
6. Repeat the above steps for the `kerml` and `sysml` projects.

Important Note: Import the `kerml` and `sysml` projects *only* after importing and building the `sysml.library` project.

After installation is complete, if you wish to turn **Build Automatically** back on, first go to **Preferences > General > Workspace > Build** and make sure that `sysml.library` is before `kerml` and `sysml` in the build order.

Working with model files

1. Double click on a file with a `.kerml` or `.sysml` extension to view it in a Kernel Modeling Language (KerML) or Systems Modeling Language (SysML).
2. Create new KerML files in the `kerml/src` directory with the extension `.kerml`.
3. Create new SysML files in the `sysml/src` directory with the extension `.sysml`.
4. You can view the model library files in the `sysml.library` project, but *do not change them*.
5. To show SysML diagrams, in **Window > Show View > Other...** select the PlantUML view. The diagram rendered in the view is relative to the text selected in the active SysML editor view. Tree (BDD-like), interconnection (IBD-like) and state machine views are currently supported.

Release Note: While performance has improved further in this release, there are still cases in which the processing of a file with several name resolution errors can take a long time, particularly if the **Quantities and Units** library is being used.

Initializing new model projects

You can also create a separate project for your KerML or SysML files.

1. Select **File > New > Project...** to open the New Project wizard.
2. Select **General/Project**.
3. Enter the project name (and location if necessary), then press **Next**.
4. On the Project References page, check the **sysml.library** project. This step tells Eclipse which other projects should be visible for resolving cross-references.
5. Right-click the new project and select **Configure > Convert** to an Xtext project. This step sets up the indexing infrastructure necessary for resolving references between different files.
6. Create any text files with **.kerm1** or **.sysml** extensions to start working with a new file.

Note: Adding the project references to an existing project can be done in the project Properties dialog available from the popup menu on the project in the Project References page.

Note: If the Xtext setup (step 5) is missed, opening the KerML or SysML editor shows a dialog asking to convert the project to an Xtext project. Accepting this has the same results as manually selecting the menu item on the project.