



SysML
version 0.10.1-SNAPSHOT
User Guide

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1 User

1.1 Download

The user guide could be downloaded as a pdf [here](#)

1.2 SysML

1.2.1 Context

The Systems Modeling Language (SysML) is a general-purpose modeling language for systems engineering applications. It supports the specification, analysis, design, verification and validation of a broad range of systems and systems-of-systems.

SysML was originally developed by an open source specification project, and includes an open source license for distribution and use.[2] SysML is defined as an extension of a subset of the Unified Modeling Language (UML) using UML's profile mechanism.

1.2.2 Tutorials

- [Creation of a SysML project.](#)

1.2.3 User FAQ

- [FAQ.](#)

1.2.4 References

<http://www.omgsysml.org/>

[Embedded norm as pdf](#)

2 Tutorial 1: Project creation

2.1 Explore Papyrus for SysML 1.4

2.1.1 SysML 1.4

The Systems Modeling Language (SysML) is a general-purpose modeling language for systems engineering applications. It supports the specification, analysis, design, verification and validation of a broad range of systems and systems-of-systems. SysML was originally developed by an open source specification project, and includes an open source license for distribution and use. SysML is defined as an extension of a subset of the Unified Modeling Language (UML) using UML's profile mechanism.

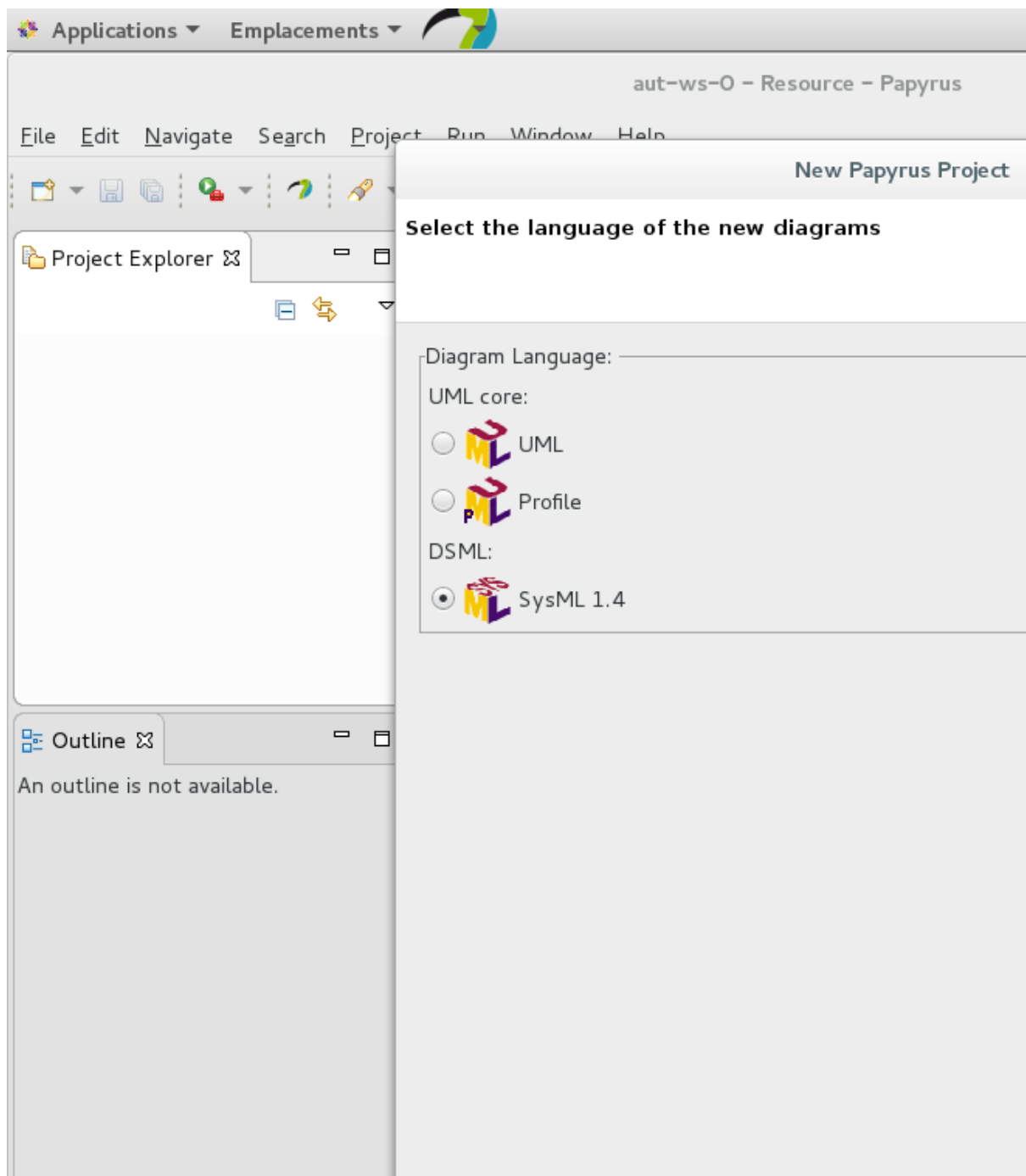
There are a lot of tutorials on SysML. We have selected this one <http://www.omgsysml.org/INCOSE-OMGSysML-Tutorial-Final-090901.pdf>

This guide explores basic of SysML Model Project creation.

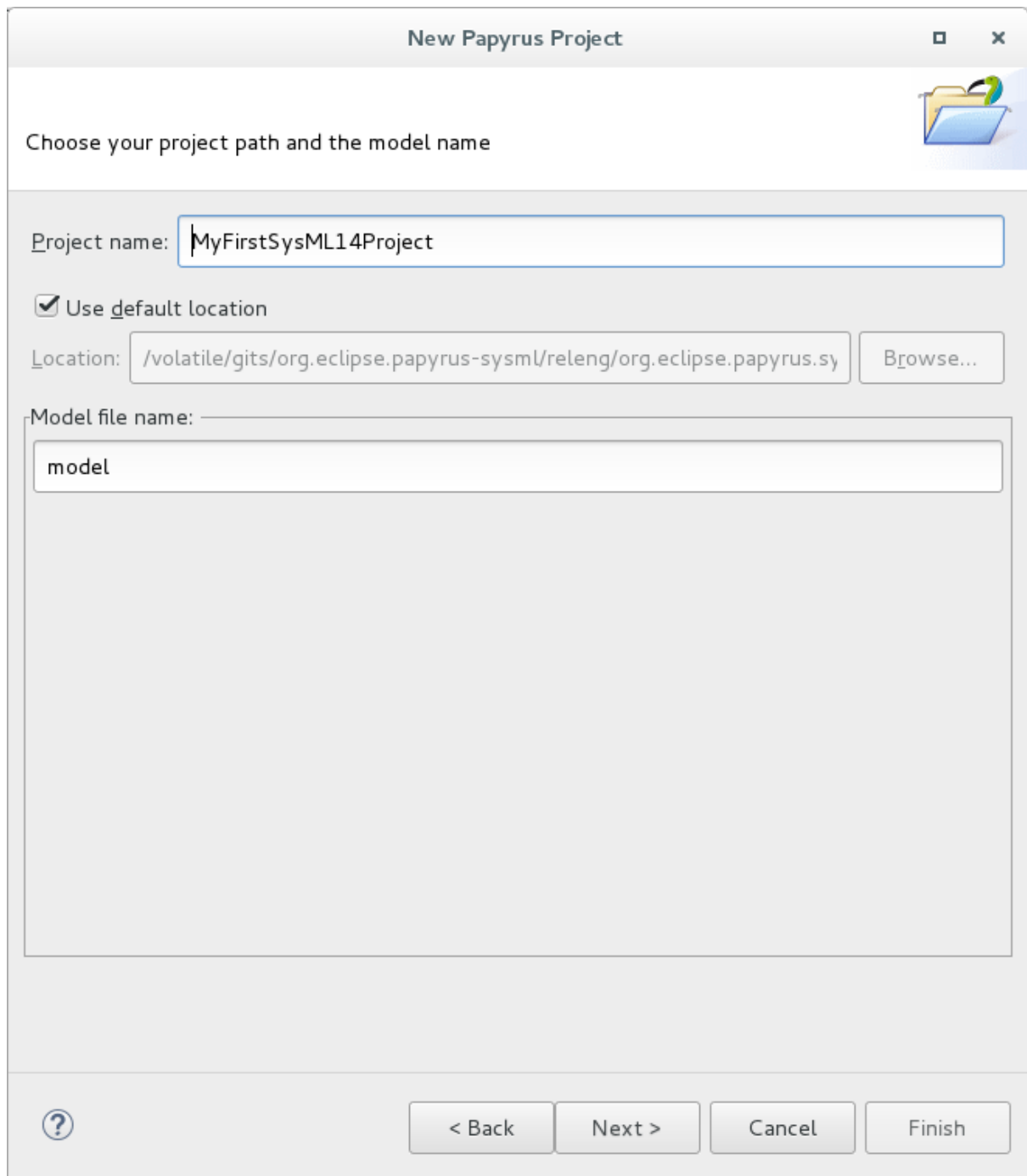
2.1.2 Create a basic project.

At first, select File>New Project>Papyrus project.

Select the SysML 1.4 language for the new diagrams..



Give a name to your project and eventually add a specific model name.



New Papyrus Project

Choose your project path and the model name

Project name: MyFirstSysML14Project

☒ Use default location

Location: /volatile/gits/org.eclipse.papyrus-sysml/releng/org.eclipse.papyrus.sy Browse...

Model file name: model

? < Back Next > Cancel Finish

You can add directly at creation a library in the model by clicking on the check-box in the new model wizard. You can also add additional libraries after in the model explorer by importing registered packages.

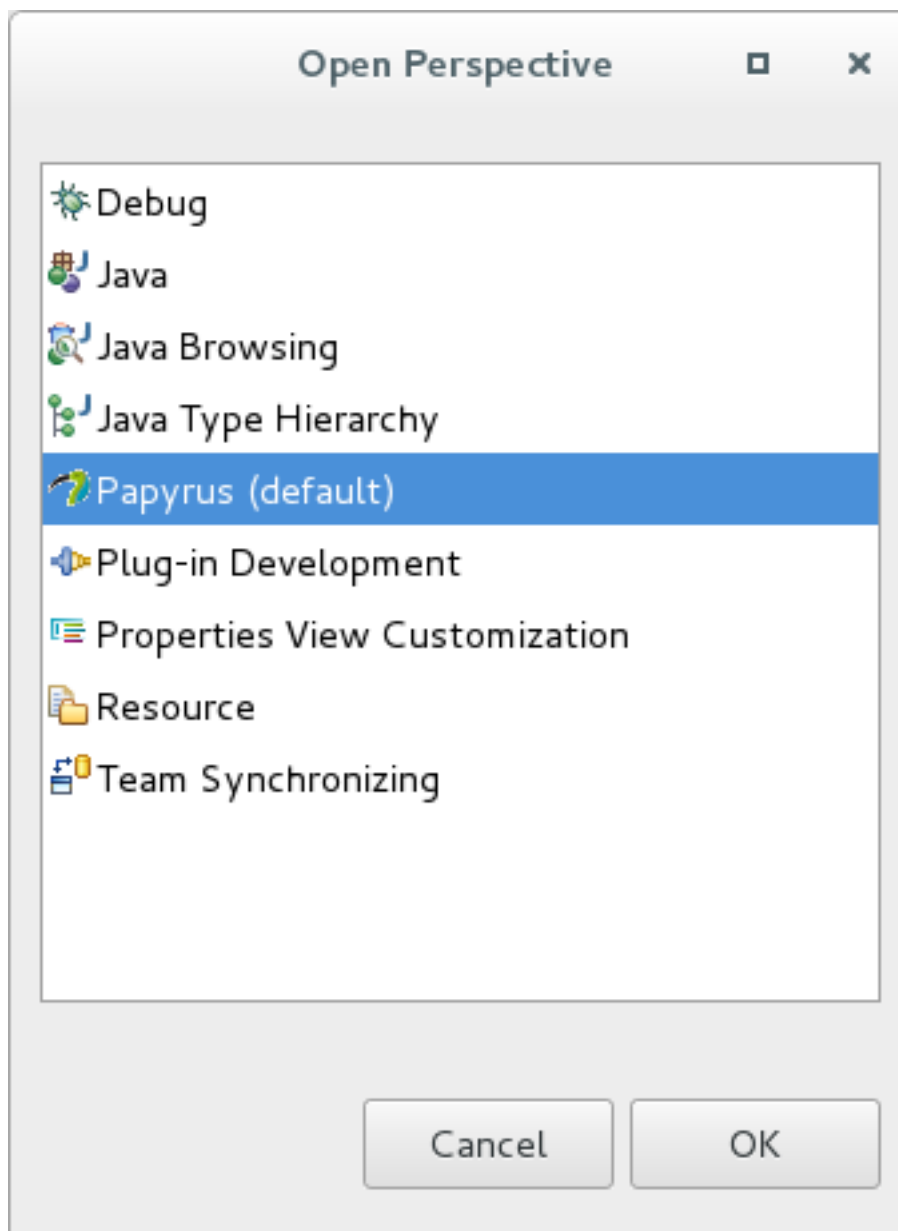
Eventually, you can preselect specific SysML1.4 diagrams and tables to populate quickly your model:

- SysML 1.4 Block Definition
- SysML 1.4 Internal Block
- SysML 1.4 Parametric
- SysML 1.4 Requirement

- SysML 1.4 Allocation Table
- SysML 1.4 Requirement table

Diagram name	Name	Quantity
<input type="checkbox"/> SysML 1.4 Block Definition		
<input type="checkbox"/> SysML 1.4 Internal Block		
<input type="checkbox"/> SysML 1.4 Parametric		
<input type="checkbox"/> SysML 1.4 Requirement		
<input type="checkbox"/> SysML 1.4 Allocation Table		
<input type="checkbox"/> SysML 1.4 Requirement Tab		
<input type="checkbox"/> SysML 1.4 Requirement Tre		

Open the Papyrus Perspective to enable the Model Explorer, Diagram, Outline and Palette views.



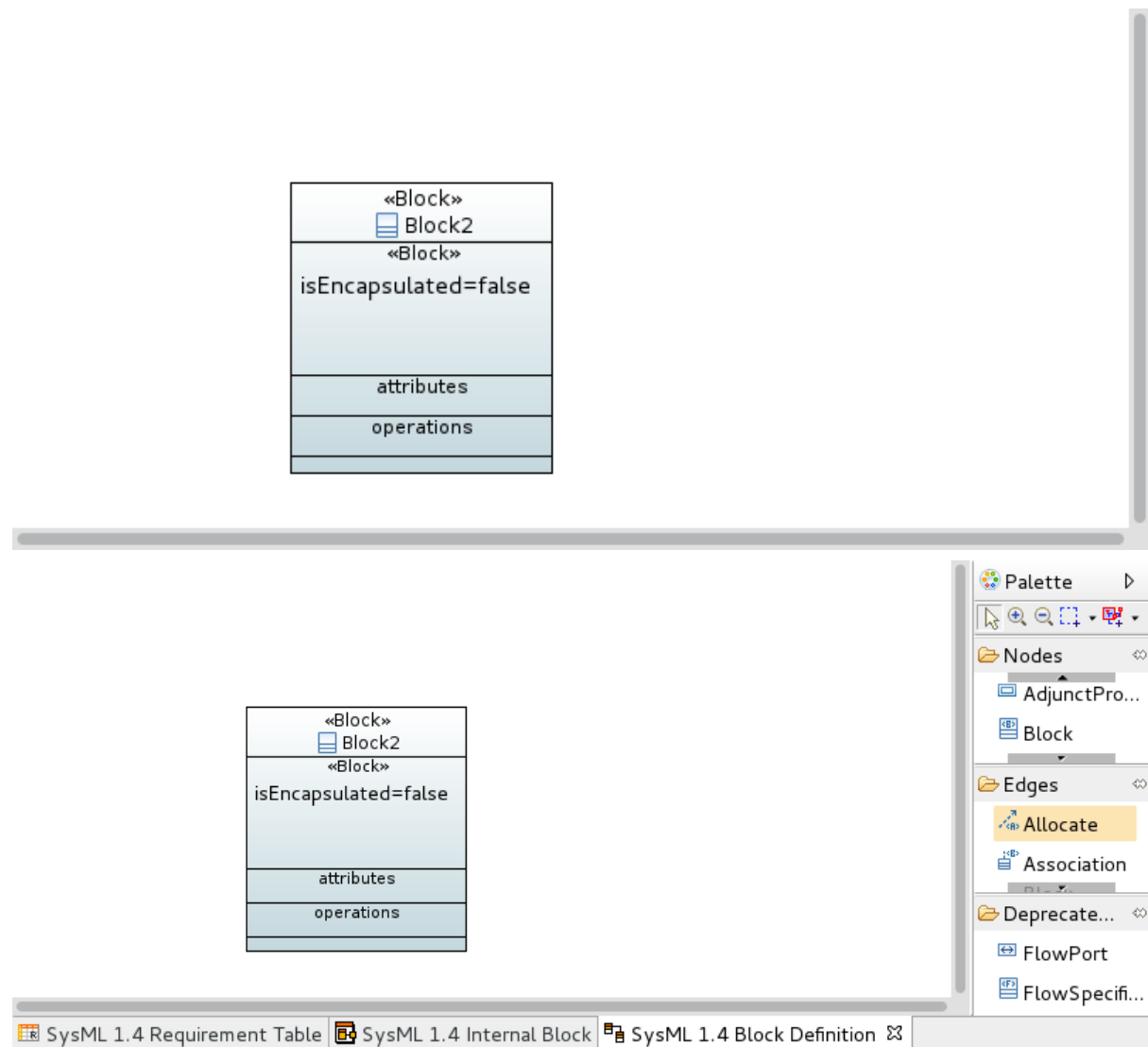
2.1.3 Create a Block Definition Diagram.

Block diagram describes the relationship among blocks (e.g., composition, association, specialization)

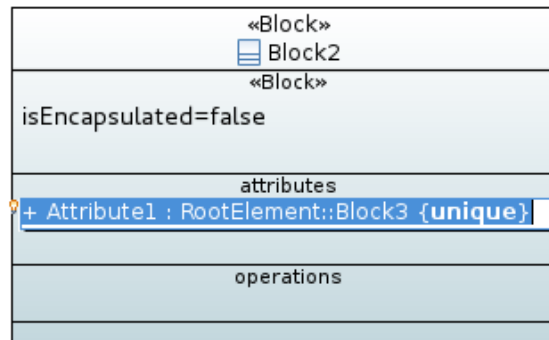
Right click on the Model explorer enable to display to a menu to create elements and diagrams specific to UML and SysML

Select New Diagram/SysML 1.4 Block Definition

It will create a BD diagram where you can create a block from the right palette.

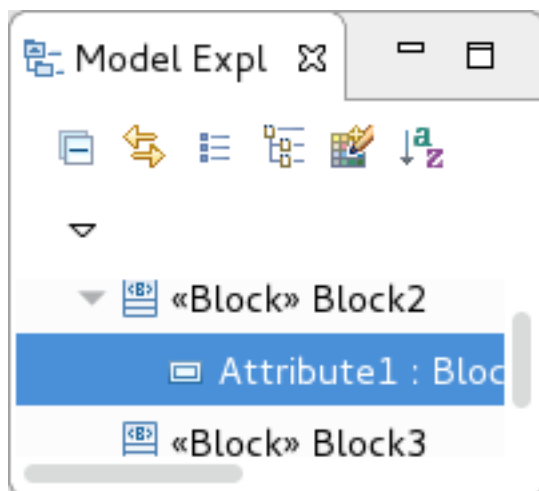


From the palette at right, you can create typed part. By default Papyrus will propose you to create new Block for the property.



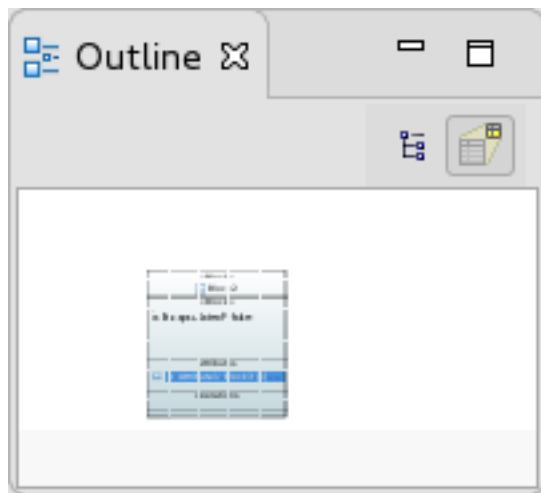
2.1.4 Model Explorer View

Model explorer allows you to browse the tree of your model.



2.1.5 Outline View

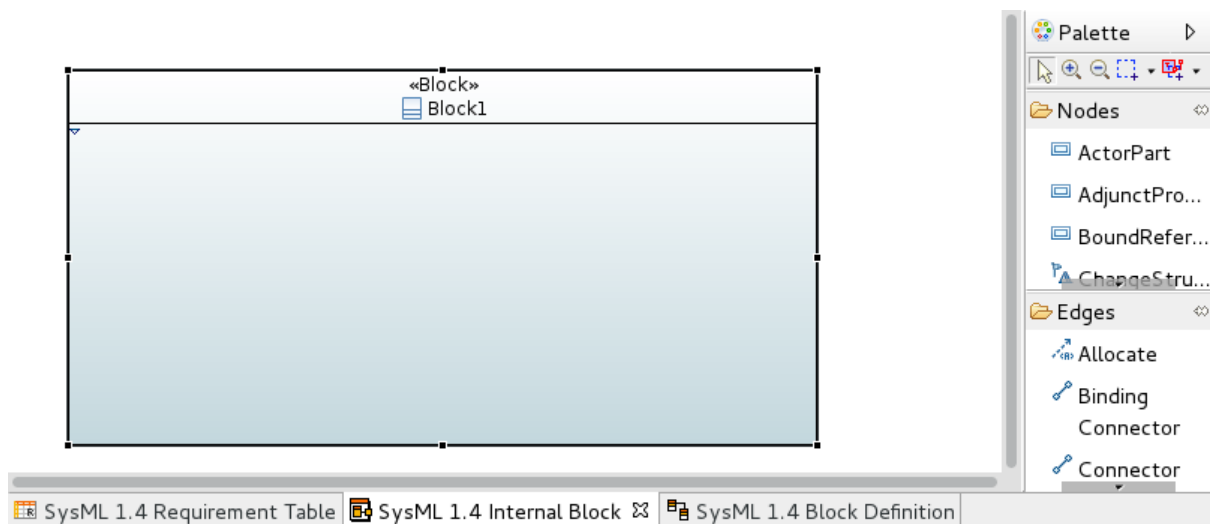
Outline view offers you a quick overview display of the current diagram. It is essential when you want to manage huge models.



2.1.6 Create a Internal Block Diagram.

Internal block diagram describes the internal structure of a block in terms of its properties and connectors

From the Modelexplorer, by right clicking,n you can select the IBD creation.



You can create new internal properties referencing previous blocks or new blocks.

From the palette, you can create new node, such as port, and connector as edge between them.

Ports are usefull to specify interaction points on blocks and parts

2.1.7 Create Requirements.

With SysML you can use Requirement diagrams to efficiently capture functional, performance, and interface requirements, whereas with UML you are subject to the limitations of Use Case Diagram to define high-level functional requirements.

From the Model Explorer, with the New Child Menu, you can create Requirement table or requirement.

Requirement from a given model depth will populate automatically your requirement table

You can edit Requirement feature (id, name and text) from the properties view

	id	name	text
Requirement1	Req-01	Requirement1	My requirement.

SysML 1.4 Requirement Table SysML 1.4 Internal Block SysML 1.4 Block Definition

Properties Model Validation References

«Requirement» Requirement1

SysML 1.4

Id

Req-01

Name

Requirement1

UML

Text

My requirement.

3 User FAQ

3.1 Frequently Asked Questions

General

1. [How to customize my SysML 1.4 Requirement tables?](#)

3.2 General

How to customize my SysML 1.4 Requirement tables?

Please have a look to the official papyrus Nattable documentation https://wiki.eclipse.org/Papyrus_User_Guide/Table_Documentation

For instance, you can display or hide columns or rows elements, or customize them.