



## Network Functions Virtualisation (NFV) Release 2; Information Modeling; Papyrus Guidelines

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## Foreword

This Group Report (GR) has been produced by ETSI Industry Specification Group (ISG) Network Functions Virtualisation (NFV).

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## Modal verbs terminology

In the present document "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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# 1 Scope

The present document gives guidelines for the use of Papyrus [i.1] when creating or maintaining NFV UML® [i.2] information model.

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## 2 References

### 2.1 Normative references

Normative references are not applicable in the present document.

### 2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] Papyrus Eclipse™ UML® Modeling Tool.

NOTE: Available at <https://www.eclipse.org/papyrus/>.

[i.2] Eclipse™ Modeling Tools.

NOTE: Available at <https://www.eclipse.org/downloads/packages/>.

[i.3] OMG™ Unified Modeling Language™ (UML®) specifications 2.5.0.

NOTE: Available at <http://www.omg.org/spec/UML/>.

[i.4] ONF™ TR-515: "Open Networking Foundation Papyrus Guidelines 1.2" September 2016.

[i.5] ETSI GR NFV-IFA 017: "Network Functions Virtualisation (NFV) Release 2; Information Modeling; UML Modeling Guidelines".

[i.6] Eclipse™ Gendoc website.

NOTE: Available at <http://www.eclipse.org/gendoc/>.

[i.7] ETSI GR NFV-IFA 015: "Network Functions Virtualisation (NFV) Release 2; Management and Orchestration; Report on NFV Information Model".

[i.8] ETSI GR NFV-IFA 024: "Network Function Virtualisation (NFV) Release 2; Information Modeling; Report on External Touchpoints related to NFV Information Model".

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## 3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

IDE	Integrated Development Environment
JVM	Java Virtual Machine
MS	Microsoft®
ONF™	Open Networking Foundation

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## 4 Overview

The present document provides information for putting in operation and for using the Open Source tool Papyrus [i.1] and the Gendoc plugin [i.6].

The Papyrus tool is used to edit the NFV Information Model and Gendoc [i.6] is an Eclipse<sup>™</sup> plug-in integrated with Papyrus that allows generating MS Word<sup>®</sup> documentation of a model from a template.

The UML<sup>®</sup> Modeling Guidelines are defined in ETSI GR NFV-IFA 017 [i.5].

The ONF<sup>™</sup> Papyrus Guidelines (see ONF<sup>™</sup> TR-515 [i.4]) have been used as a basis for these guidelines.

---

## 5 Getting Papyrus running

### 5.1 Introduction

The Open Source UML<sup>®</sup> tool Papyrus (see [i.1]) is a plug-in for the Open Source integrated development environment (IDE) Eclipse<sup>™</sup>.

Current tool versions:

- Papyrus version 3.2.x or 3.3.x
- Gendoc version 0.6.x (V0.6.0)

This clause explains how to get Papyrus running and how to create a model.

### 5.2 Downloading Papyrus

The instructions to download Papyrus can be found in the Papyrus Download page:

<https://www.eclipse.org/papyrus/download.html>.

The basic procedure is to setup Papyrus with update sites as summarized on the download page:

- The most basic procedure for installing Papyrus consists in installing the Eclipse Modeling Package for your own platform.
- Then, use the discovery interface ("Help" > "Install Modeling Component") and select Papyrus.
- Install the latest release from Papyrus. See instructions below "Papyrus Update sites".

These steps will be detailed in this clause.

The Oxygen Eclipse Modeling Tools can be downloaded from the Oxygen download page:

<https://www.eclipse.org/downloads/packages/release/Oxygen/3>.

NOTE: The "Eclipse<sup>™</sup> Modeling Tools" package needs to be downloaded, not any other package.

# Eclipse Modeling Tools

## Package Description

The Modeling package provides tools and runtimes for building model-based applications. You can use it to graphically design domain models, to leverage those models at design time by creating and editing dynamic instances, to collaborate via Eclipse's team support with facilities for comparing and merging models and model instances structurally, and finally to generate Java code from those models to produce complete applications. In addition, via the package's discover catalog, you can easily install a wide range of additional powerful, model-based tools and runtimes to suit your specific needs.

## Download Links

**Windows 32-bit**  
**Windows 64-bit**  
**Mac OS X (Cocoa)**  
**64-bit**  
**Linux 32-bit**  
**Linux 64-bit**

Downloaded 27,879  
 Times

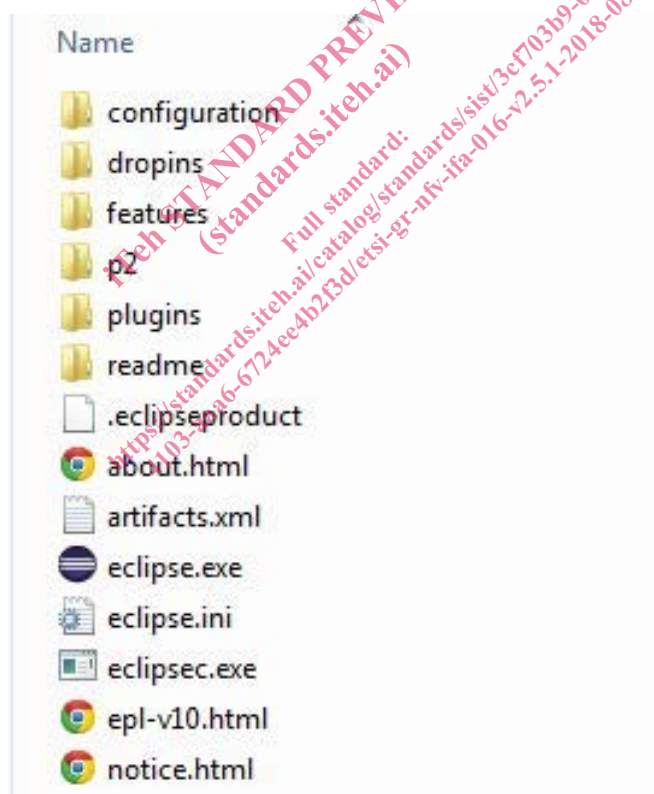
**Figure 5.2-1: Eclipse Oxygen Modeling Tools Download Page**



Eclipse Oxygen Modeling Tools requires a 1.8 compatible JVM.



Once downloaded, Eclipse™ cannot be "installed" on the target machine. The zip-file needs to be extracted in a new folder as shown on figure 5.2-2:





**Figure 5.2-2: Content of the Eclipse Folder after Extracting the Zip-file**

To launch Eclipse™, double-click on the Eclipse.exe file.

The initial Eclipse Welcome icon, shown in figure 5.2-3 appears.



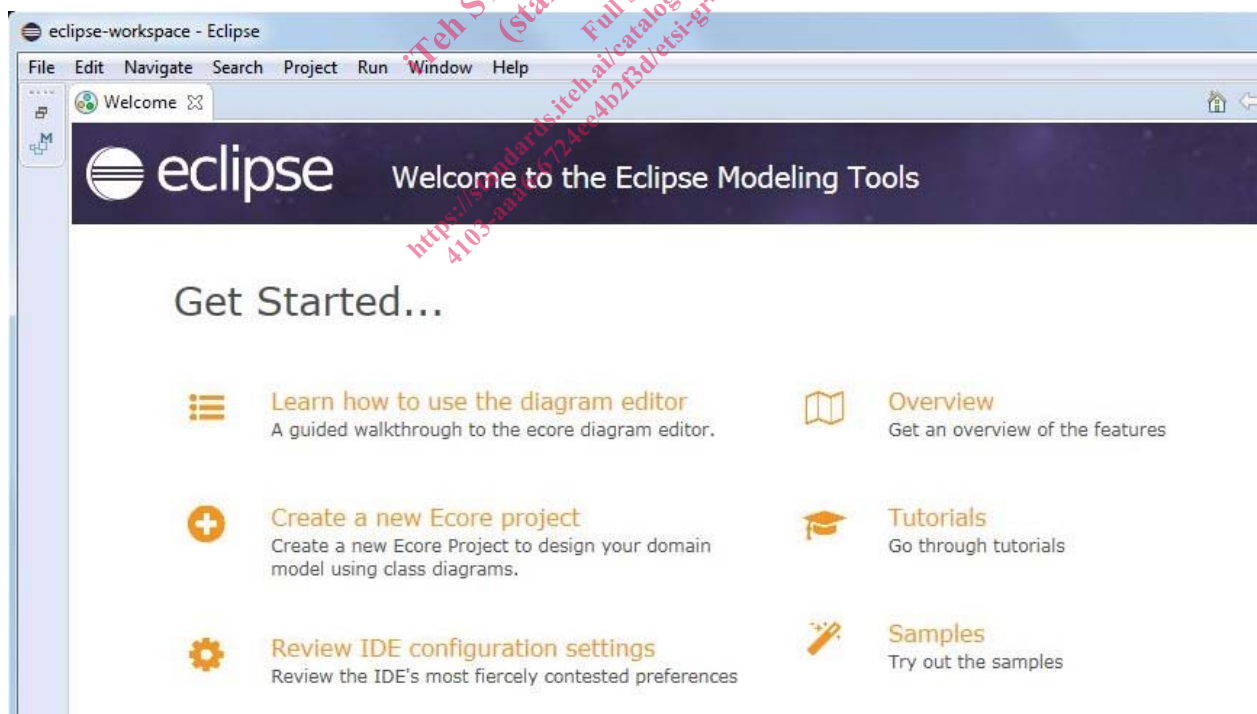
**Figure 5.2-3: Initial Eclipse Welcome Icon**

After launching Papyrus, a default  `workspace` folder is created in the home directory (`.../users/<users name>/`). The workspace configuration information is contained in the  `.metadata` folder (which is automatically created):

```



└─ workspace
  └─ .metadata
  
```

Any empty (need not be empty but is recommended) folder - anywhere - can be used as the workspace-folder. The workspace can be selected during the start of Papyrus.



**Figure 5.2-4: Initial Welcome page of Eclipse**

Figure 5.2-4 shows the initial welcome page of Eclipse.

Close the  `Welcome`  tab at the upper left corner. Eclipse™ is now ready for initial installation of Papyrus.

To add Papyrus, click menu **Help** and then **Install Modeling Components** as shown in figure 5.2-4a, figure 5.2-5, figure 5.2-7 and figure 5.2-8.

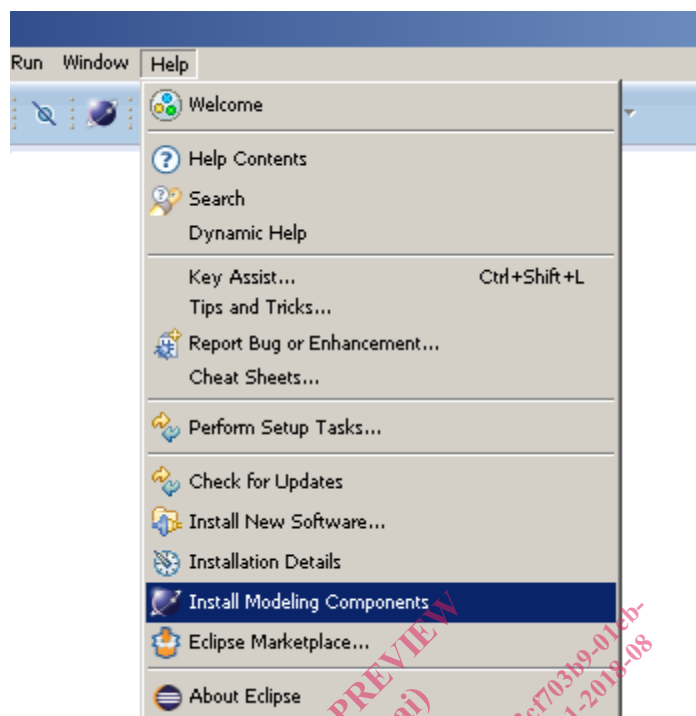


Figure 5.2-4a: Installing Papyrus (1)

Select Papyrus and click

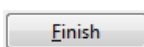




Figure 5.2-5: Installing Papyrus (2)

If a proxy to access internet is needed, it can be configured under Windows, Preferences, then General, Network Connections as shown on figure 5.2-6.

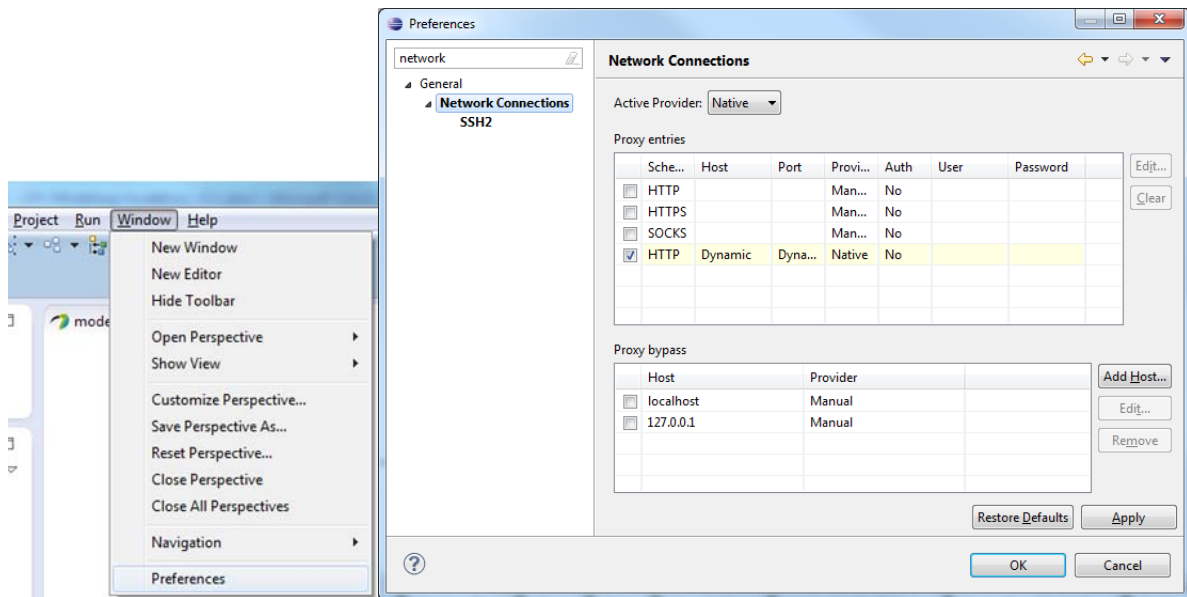


Figure 5.2-6: Proxy configuration

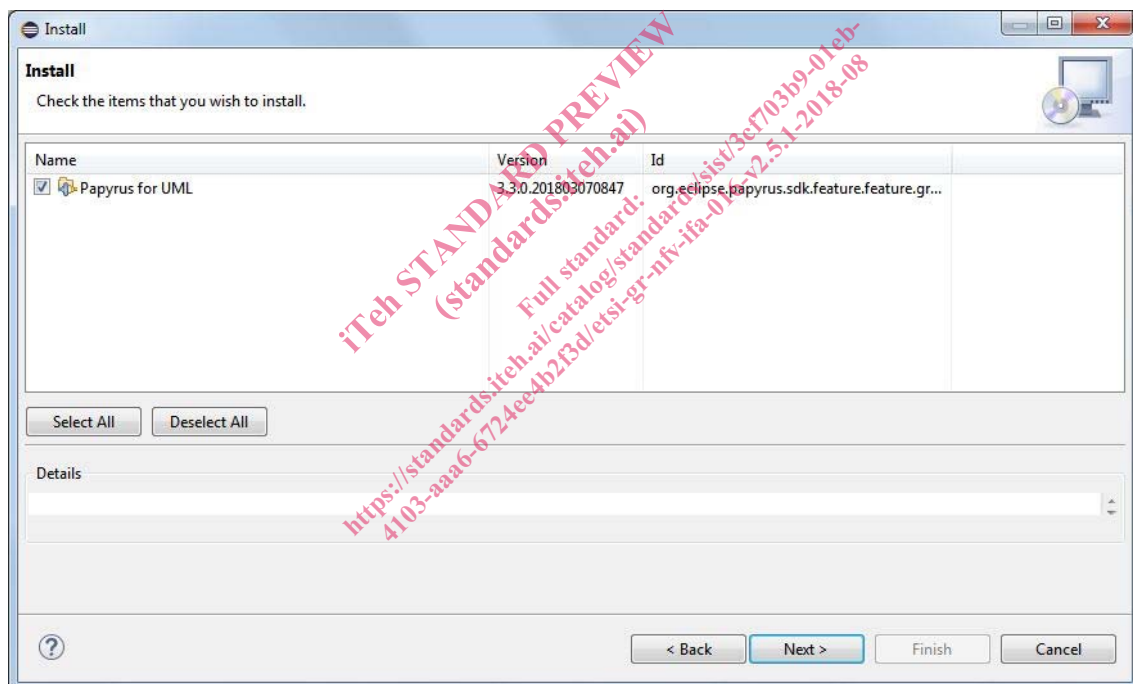


Figure 5.2-7: Installing Papyrus (3)