# An Introduction to Metamodelling and Graph Transformations

*with eMoflon*

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# Introduction

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# Installation

## 2.1 Install Our Plugin for Enterprise Architect (EA)

- Download and install EA (Fig. 2.1)

  Go to `http://www.sparxsystems.com.au/` to get a free 30 day trial.


Figure 2.1: Download Enterprise Architect

- Install our EA-Plugin (Fig. 2.2)

  Download zip from `http://www.moflon.org/fileadmin/download/moflon-ide/eclipse-plugin/ea-ecore-addin/ea-ecore-addin.zip`, unpack, and run setup.exe

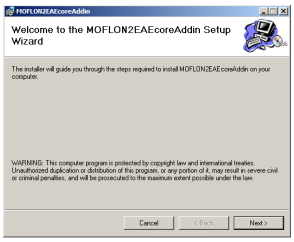


Figure 2.2: Install our plugin for EA.

## 2.2 Install Our Plugin for Eclipse

- Download and install Eclipse for Modeling "Eclipse Modeling Tools (includes Incubating components)" (Fig. 2.3) from: `http://www.eclipse.org/downloads/packages/`

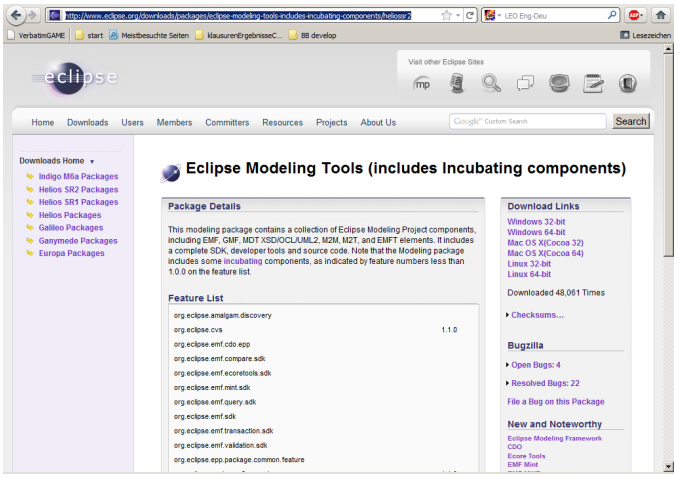


Figure 2.3: Download Eclipse Modeling Tools.

- Install our Eclipse Plugin from the following update site[1] [2]: `http://www.moflon.org/fileadmin/download/moflon-ide/eclipse-plugin/update-site2`

[1] For a detailed tutorial on how to install Eclipse and Eclipse Plugins please refer to `http://www.vogella.de/articles/Eclipse/article.html`

[2] Please note: Calculating requirements and dependencies when installing the plugin might take quite a while depending on your internet connection.

## 2.3 Get a Simple Demo Running

- Go to "Window/Open Perspective/Other..." and choose Moflon (Fig. 2.4).

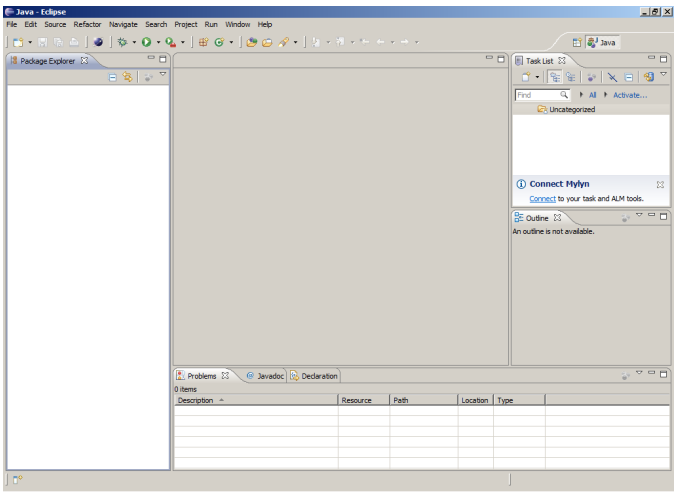


Figure 2.4: Choose the Moflon Perspective.

- In the toolbar a new action set should have appeared. Choose "New Metamodel" (Fig. 2.5). The button with an "L" shows you our logfile (important input for us if something goes wrong!).

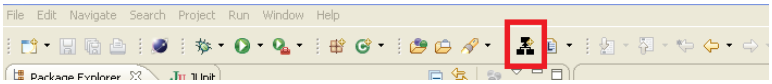


Figure 2.5: Eclipse New Metamodel

- Enter "demo" as the name of the new metamodel project and confirm. An empty EA project file "demo.eap" will be created in a new project with a certain project structure according to our conventions.

- Choose working sets as your top level element in the package explorer (Fig. 2.6). We work a lot with working sets and use them to structure the workspace in Eclipse.

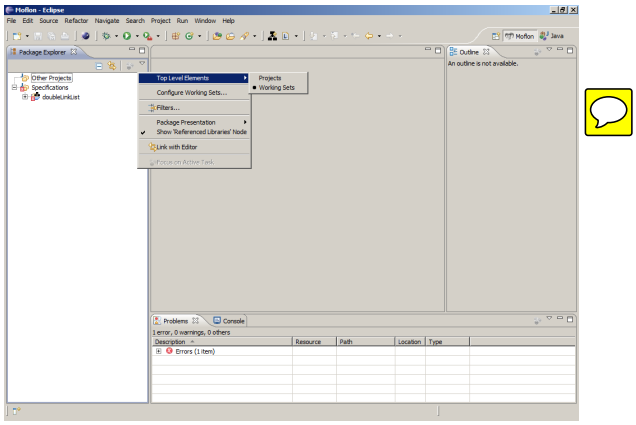


Figure 2.6: Choose Working Sets as Top Level Elements.

- Open the newly created project and replace the "demo.eap" file with the demo.eap that you will find in the same folder as this tutorial. This EA file already contains our simple demo project.
- Double click "demo.eap" to start EA. Please choose "Ultimate" when starting EA for the first time.
- In EA, choose "Add-Ins/MOFLON::Ecore Addin/Export all to Workspace" (Fig. 2.7).

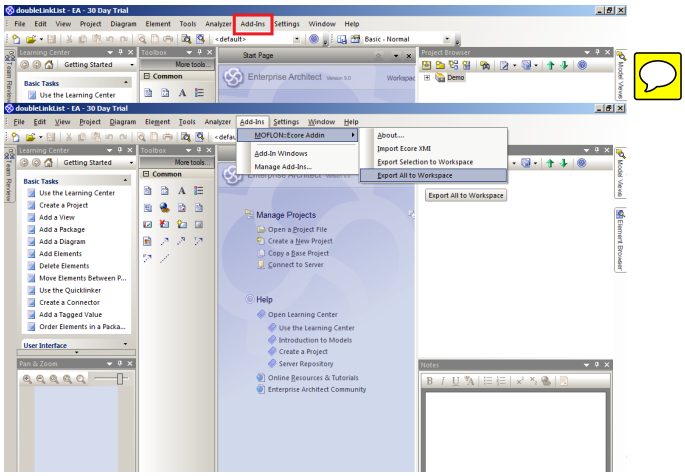


Figure 2.7: Export from EA with our plugin.

- Switch back to Eclipse, choose your Metamodel project and press F5 to refresh. The export from EA places all required files in a hidden folder in the project, and refreshing triggers a build process that invokes our different code generators automatically. You should be able to monitor the progress in the lower right corner (Fig. 2.8). Pressing the symbol opens a monitor view that gives more details of the build process.

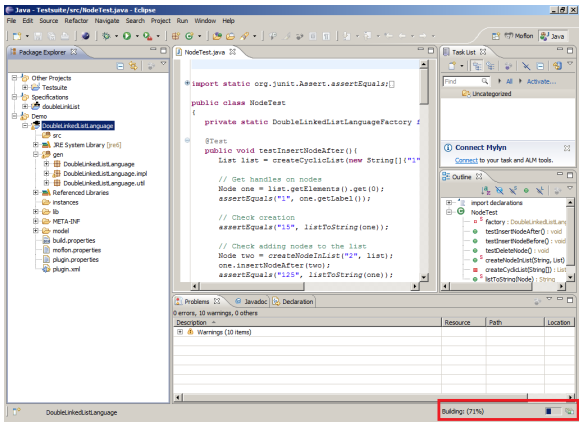

Figure 2.8: Automatically building the workspace after a refresh.

## 2.4 Validate Your Installation with JUnit

- Go to "File/Import/General/Existing Projects into Workspace" (Fig. 2.9) and choose the TestSuite project that is also in the same folder as this tutorial.

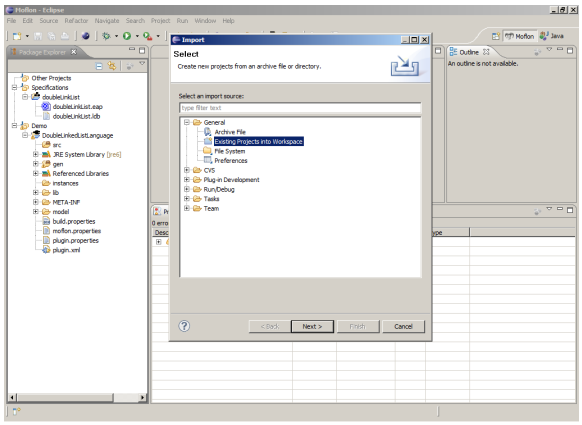

Figure 2.9: Import our Testsuite as an existing project.

At this point, your workspace should resemble Fig. 2.10.

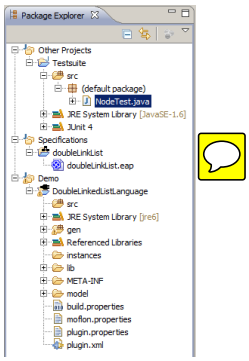


Figure 2.10: Workspace in Eclipse.

- Right-click on the Testsuite project and select "Run as/JUnit Test". Congratulations! If you see a green bar (Fig. 2.11), then everything has been set-up correctly and you are now ready to start metamodelling!

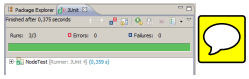

Figure 2.11: All's well that ends well...

## 2.5 Your EA Workspace

## 2.6 Your Eclipse Workspace

# Chapter 3

# First Steps: Modelling a Memory Box