

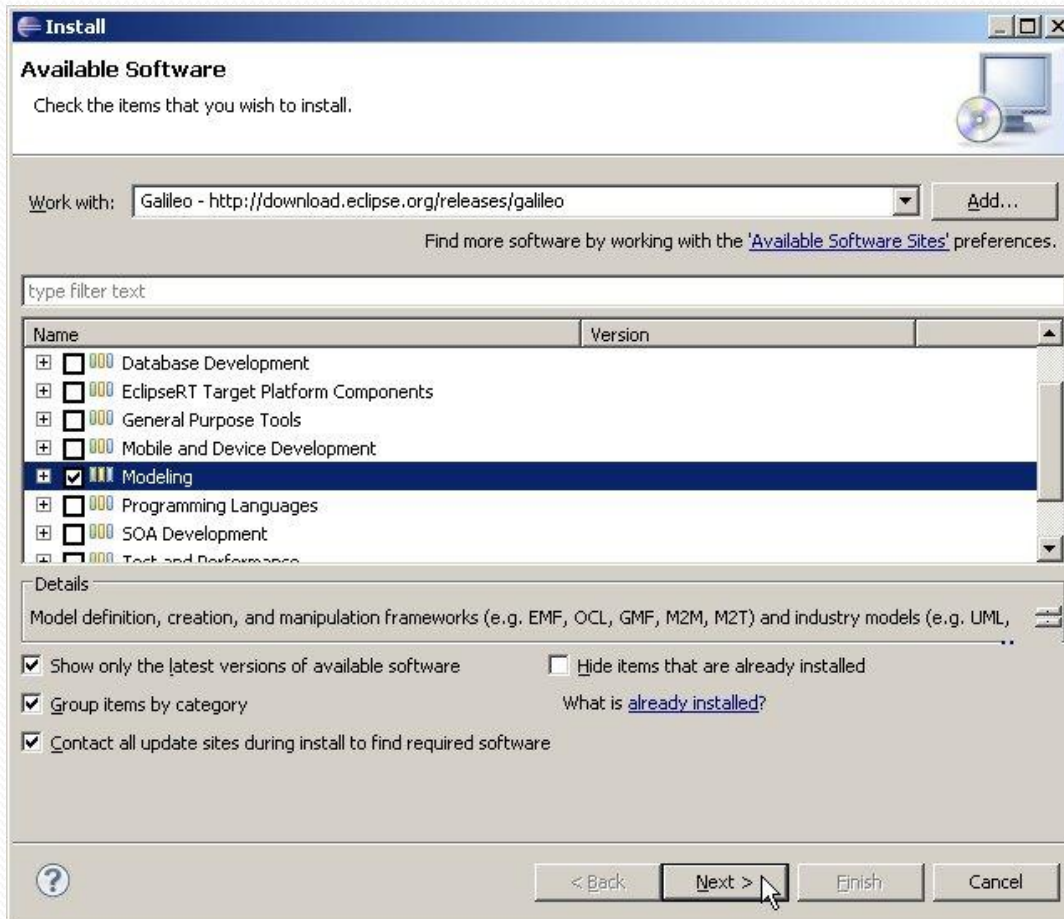
# Eclipse EMF&GMF

VLAM – 11.11.2009

Ota Jirák

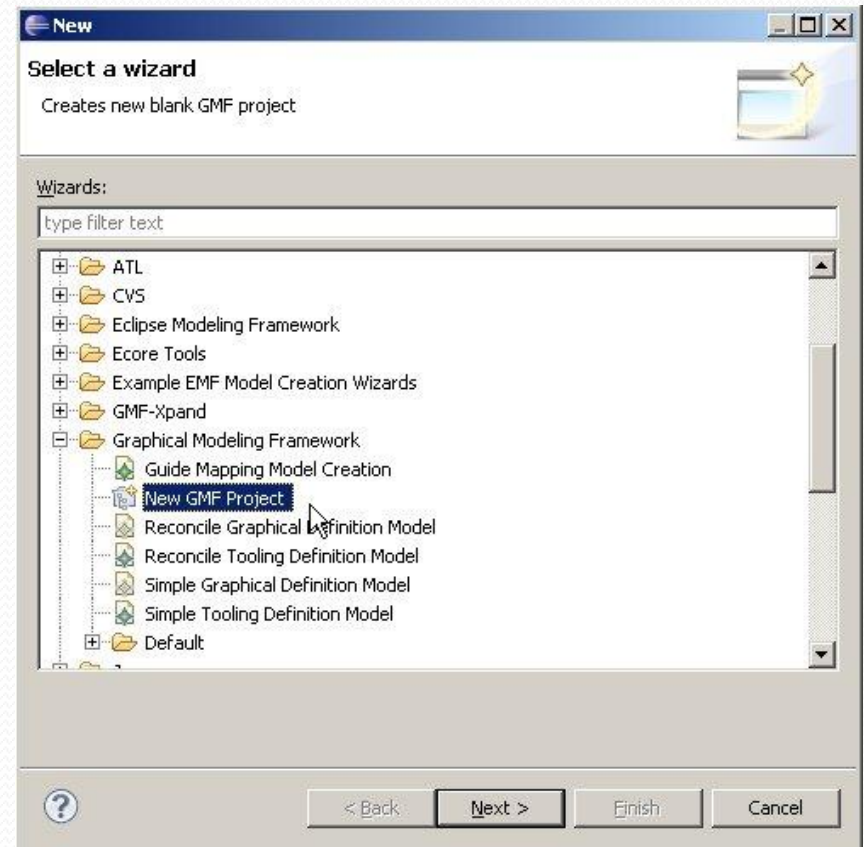
# Instalace

- [www.eclipse.org/downloads/](http://www.eclipse.org/downloads/)
- Eclipse Classic 3.5.1
- <http://download.eclipse.org/releases/galileo/>



# Vytvoření projektu

- v menu:  
File>New>Other  
Ctrl+N
- Graphical Modeling  
Framework>New GMF  
Project



**New GMF Project**

Creates new blank GMF project

Project name:

Use default location

Location:

**New GMF Project**

Show dashboard view for the created project

Show dashboard view for the created project



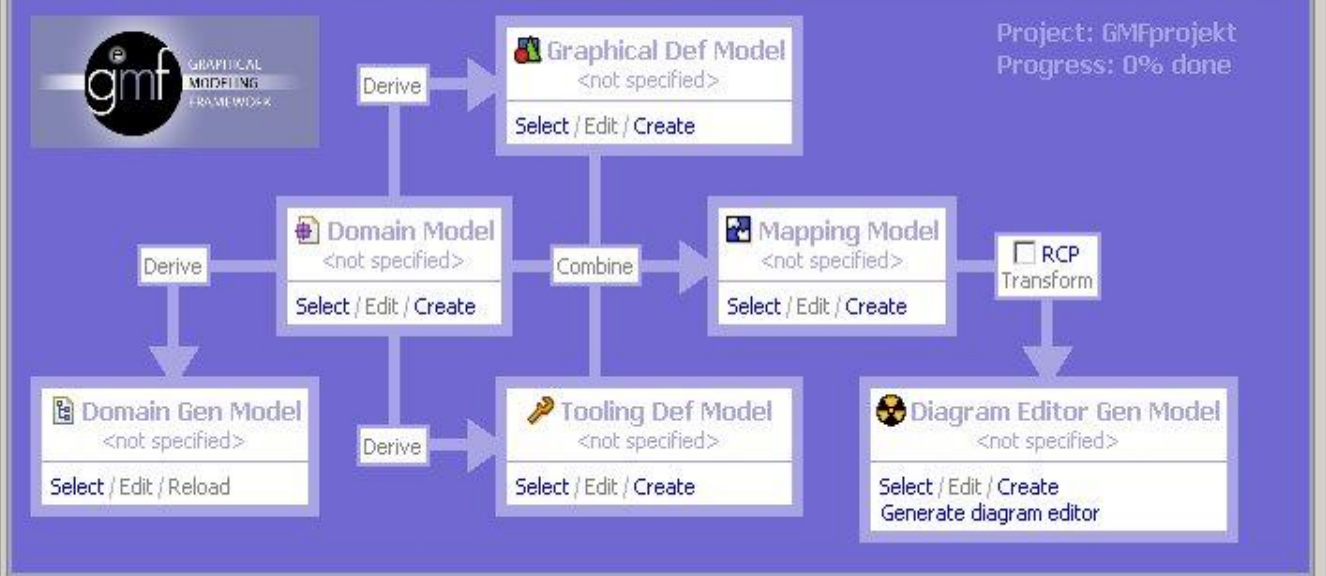
Package Explorer

- GMFprojekt
  - src
  - JRE System Library [jre6]
  - Plug-in Dependencies
  - META-INF
  - model

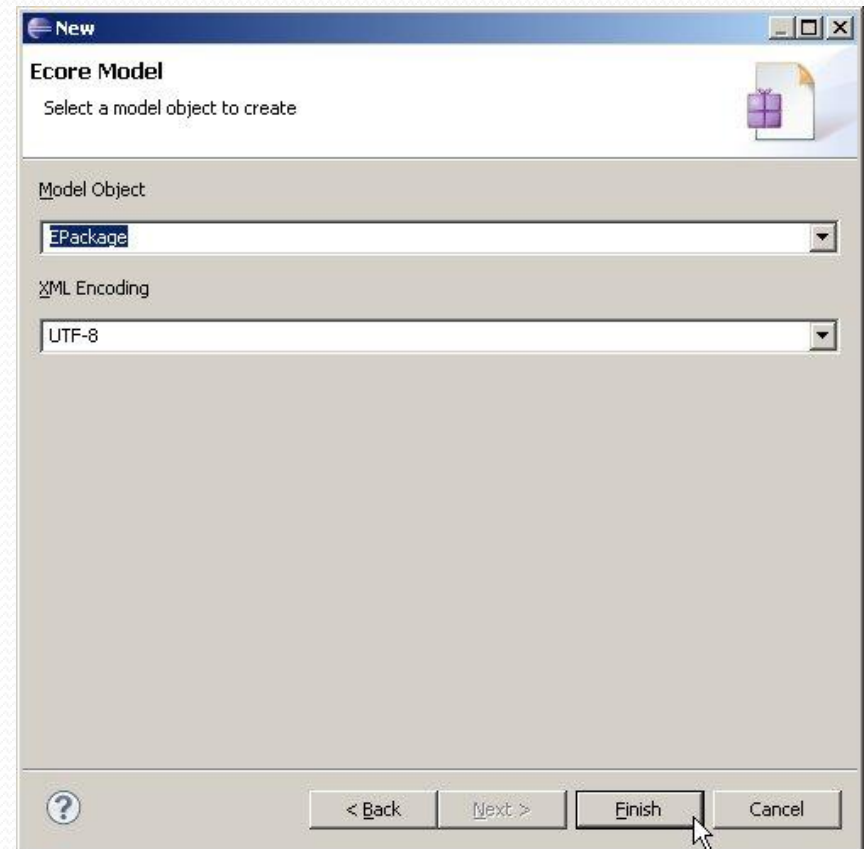
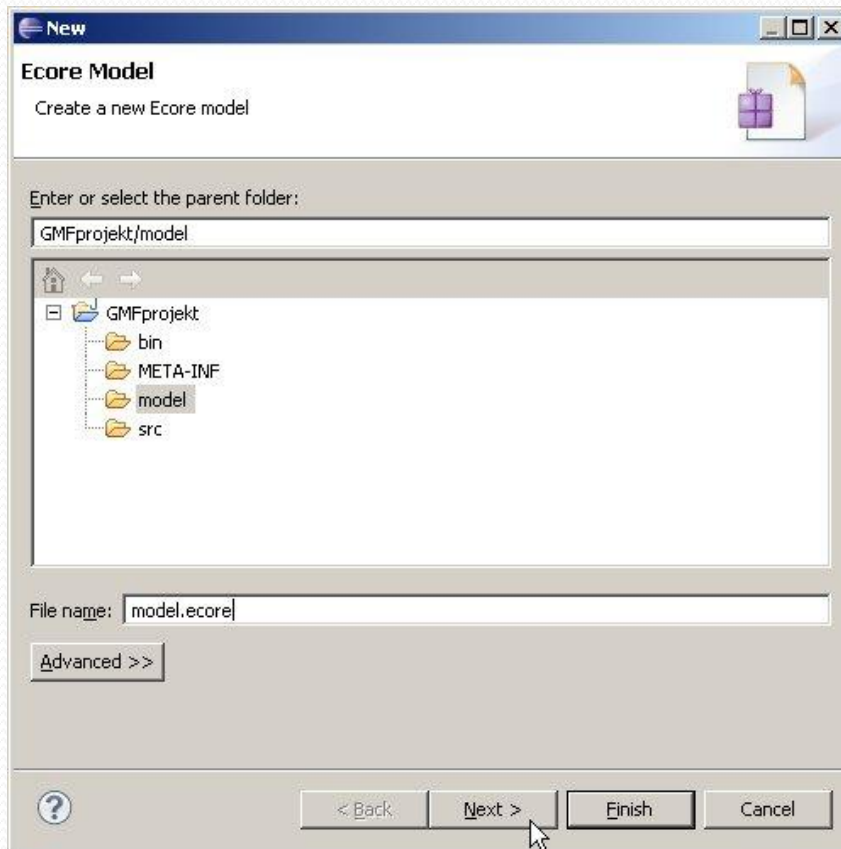
Hierarchy

Outline

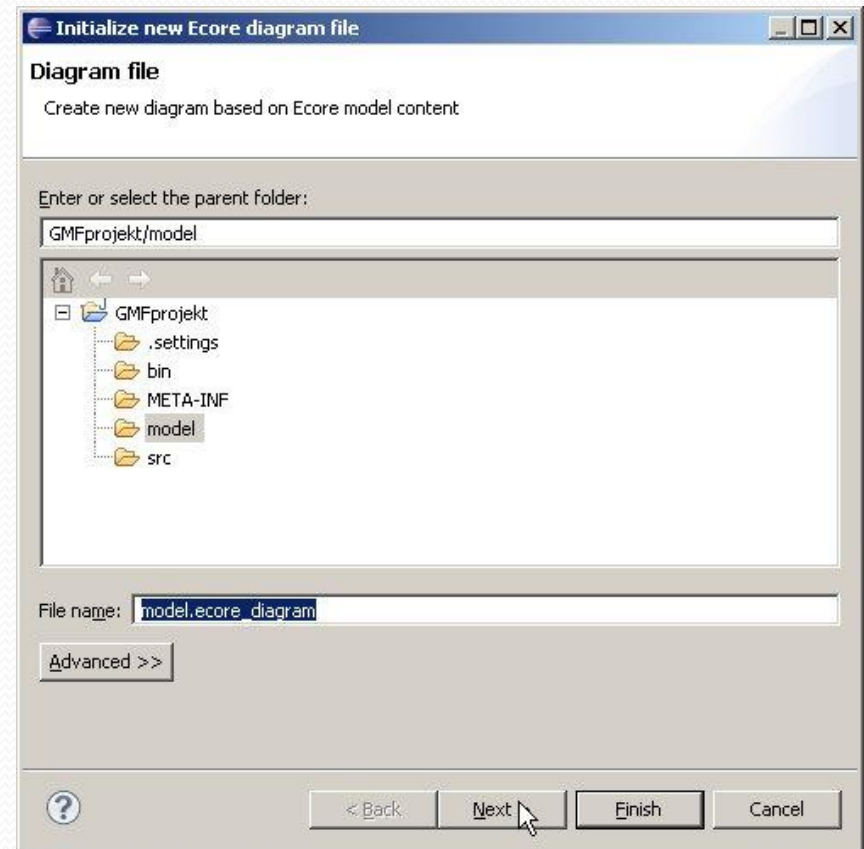
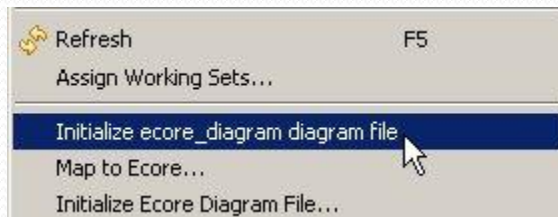
An outline is not available.



# Domain model



# Initialize ecore\_diagram file





**Initialize new Ecore diagram file**

**Diagram root element**  
Select semantic model element to be depicted on diagram

Select diagram root element:

< Back    Next >    **Finish**    Cancel

Java - GMFprojekt/model/model.ecore\_diagram - Eclipse SDK

File Edit Diagram Navigate Search Project Run Window Help

Tahoma

Package Explorer    Hierarchy

- GMFprojekt
  - src
  - JRE System Library [Jre6]
  - Plug-in Dependencies
  - META-INF
  - model
    - model.ecore
    - model.ecore\_diagram

model.ecore    model.ecore\_diagram

```

classDiagram
    class ClassDiagram
    class Class {
        name
    }
    class Relation {
        name
    }
    ClassDiagram "0..*" -- "0..*" Class : hasClasses
    ClassDiagram "0..*" -- "0..*" Relation : hasRelations
    Class "1..1" -- "1..1" Relation : source/target
  
```

Palette

- EClass
- EPackage
- EAnnotation
- EDataType
- EEnum
- EAttribute
- EOperation
- Annotation details
  - EEnumLiteral
- EAnnotation reference
  - Association
  - Aggregation
  - Generalization

Outline

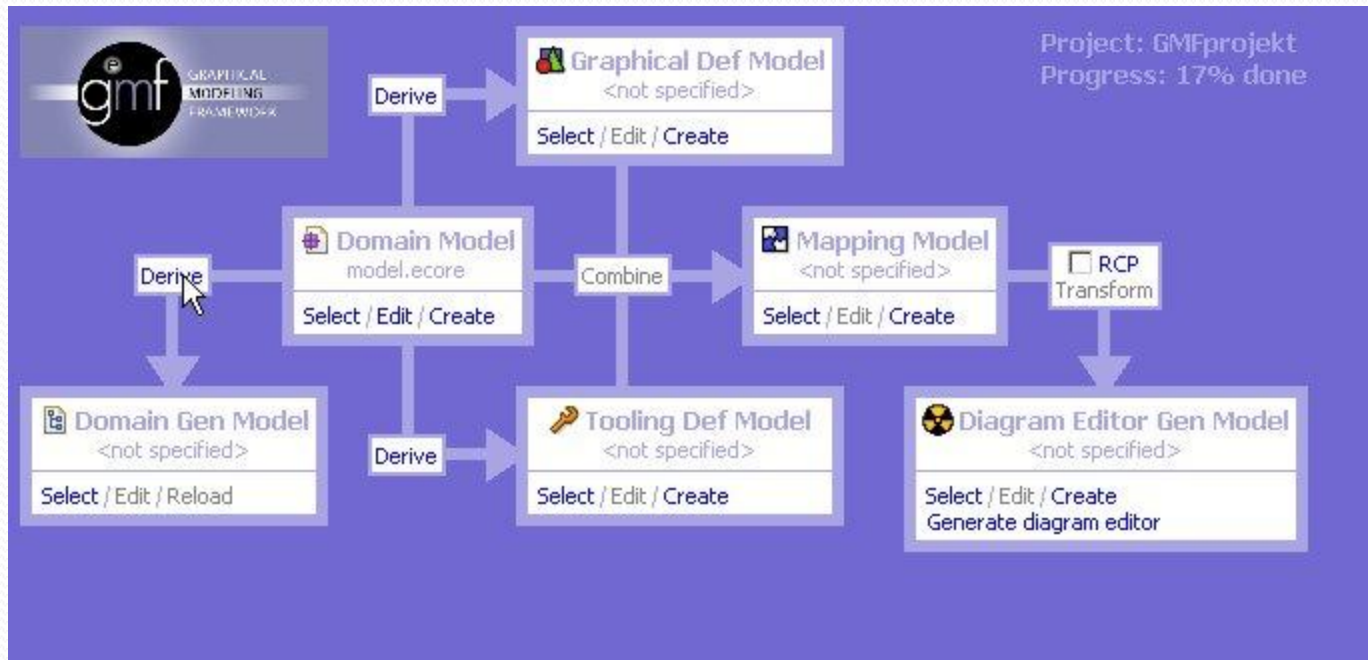
Problems    Javadoc    Declaration    GMF Dashboard    Properties

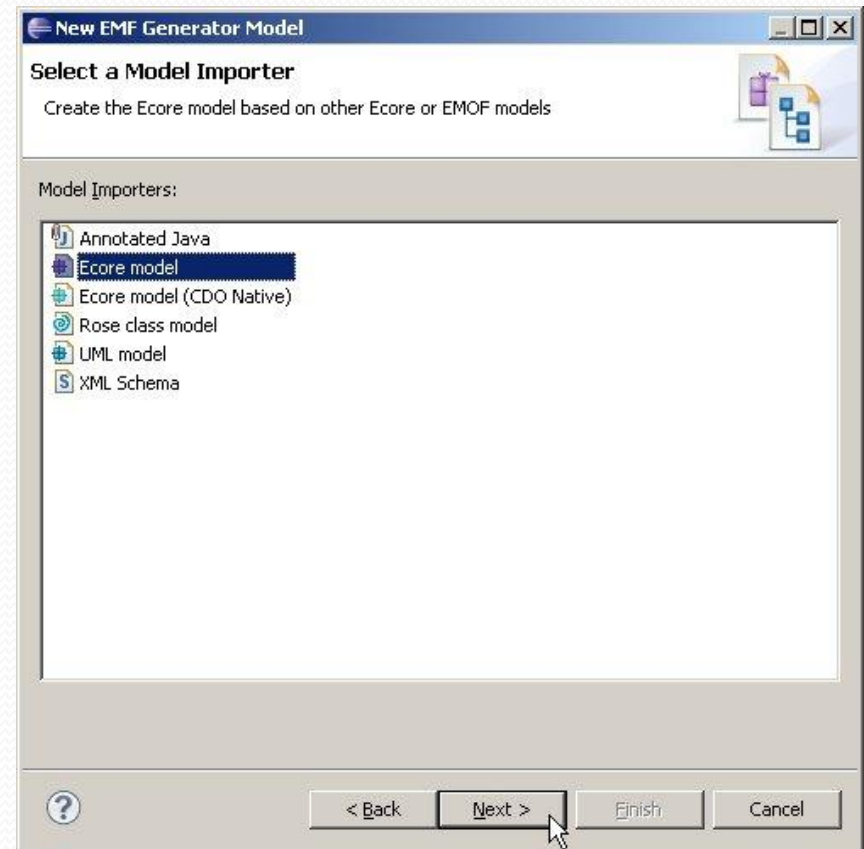
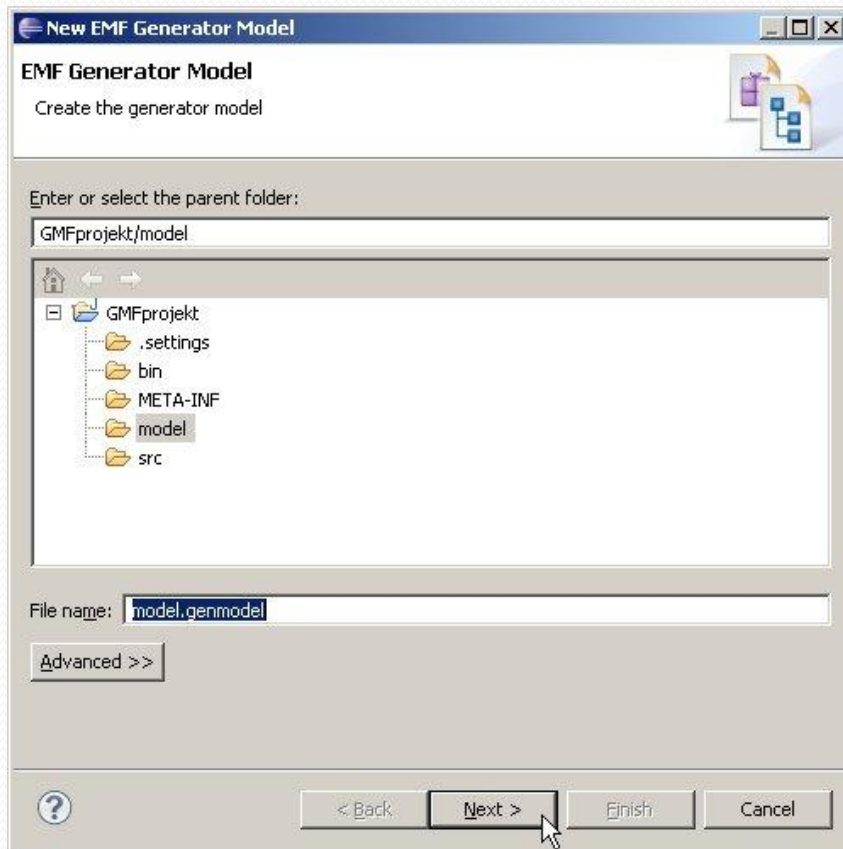
**EReference**

Property	Value
Container	link false
Containment	link true
Default Value Literal	link
Derived	link false
EKeys	
EOpposite	
EType	Relation
Changeable	link true
Lower Bound	link 0
Name	link hasRelations
Ordered	link true
Resolve Proxies	link true
Transient	link false
Unique	link true

# Domain Gen Model

- v dashboardu vybereme “Derive”





**New EMF Generator Model**

### Ecore Import

Specify one or more '.ecore' or '.emof' URIs and try to load them

Model URIs:

**New EMF Generator Model**

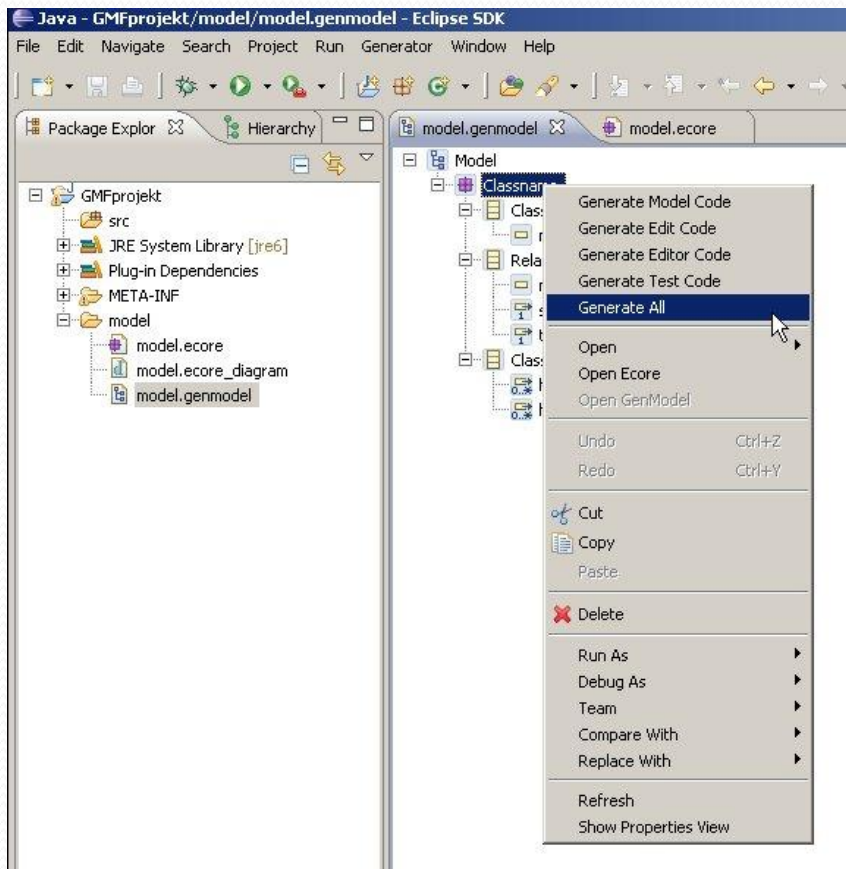
### Package Selection

Specify which packages to generate and which to reference from other generator models

Root packages:

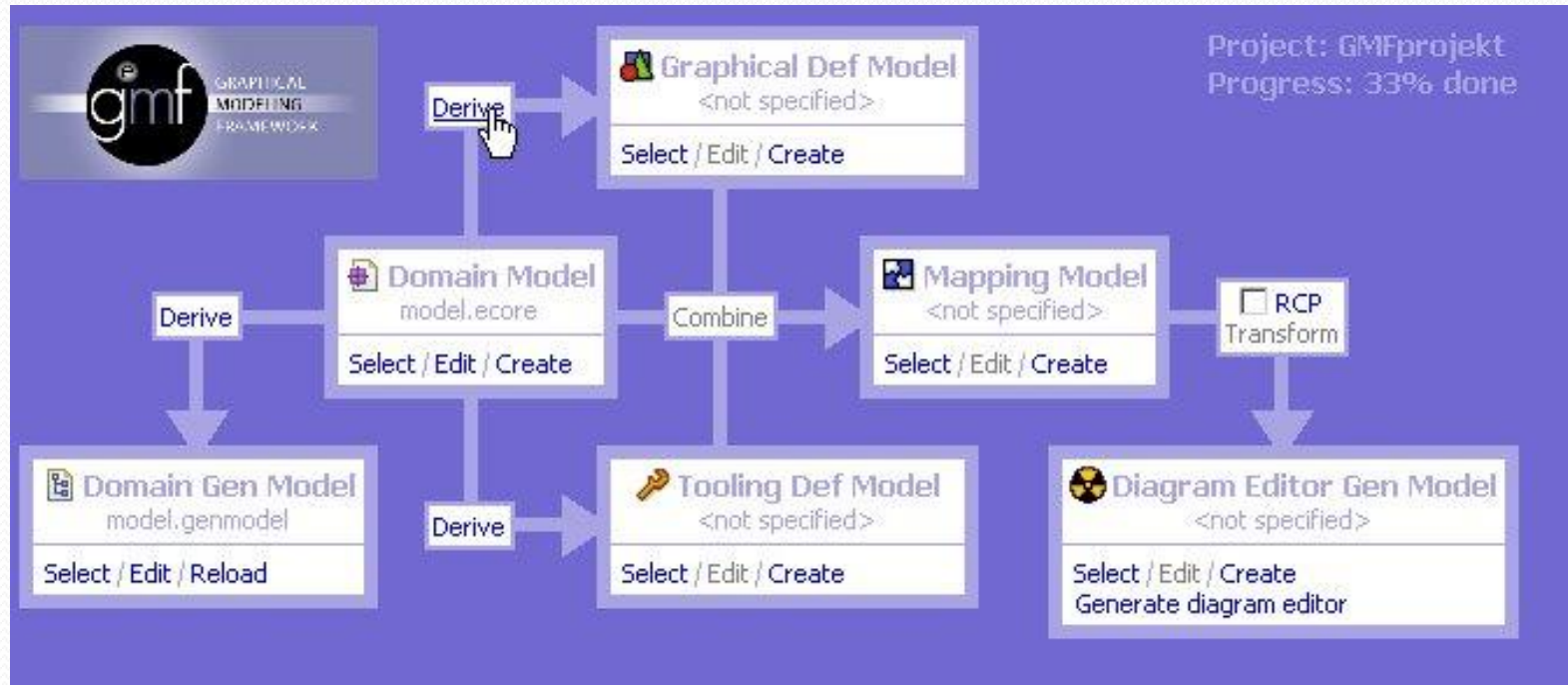
Package	File Name
<input checked="" type="checkbox"/> classname	model.ecore

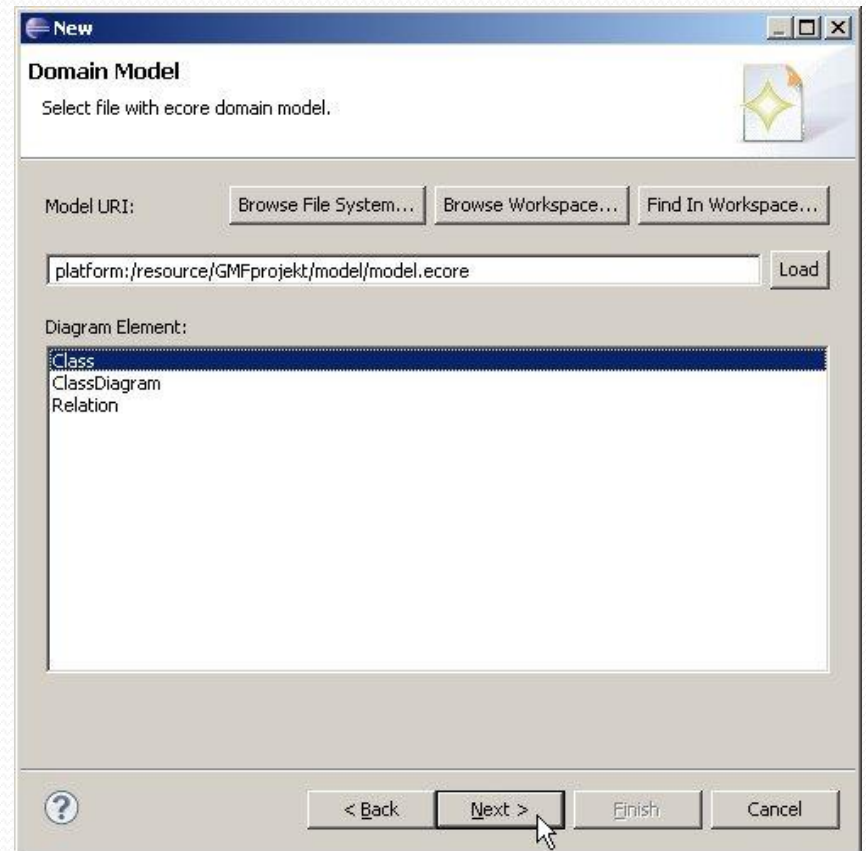
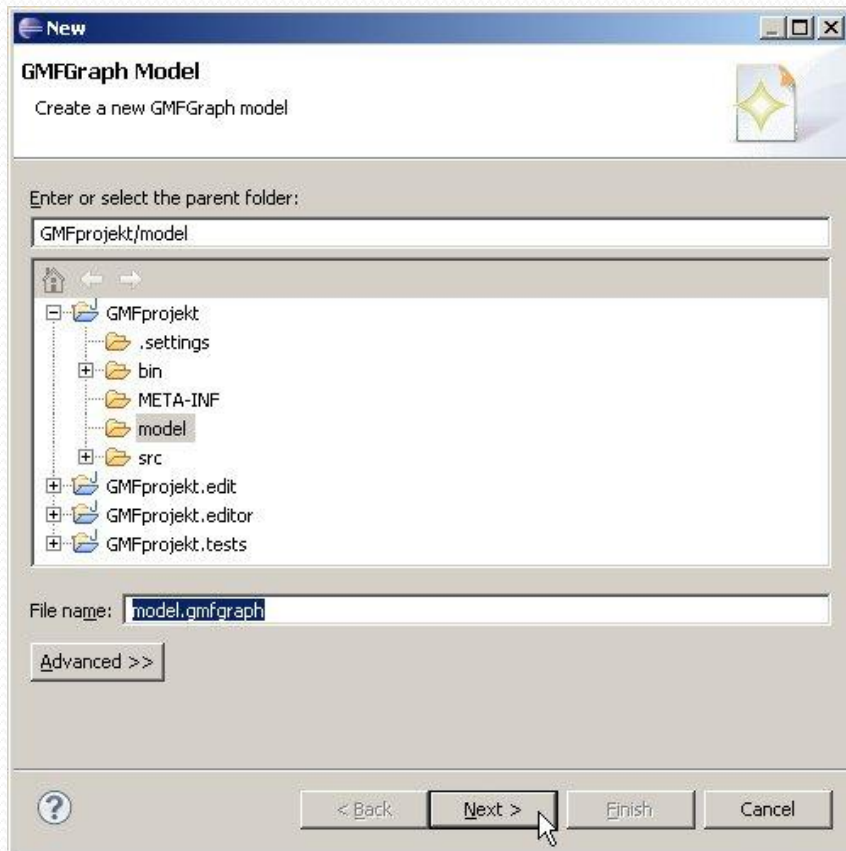
Referenced generator models:



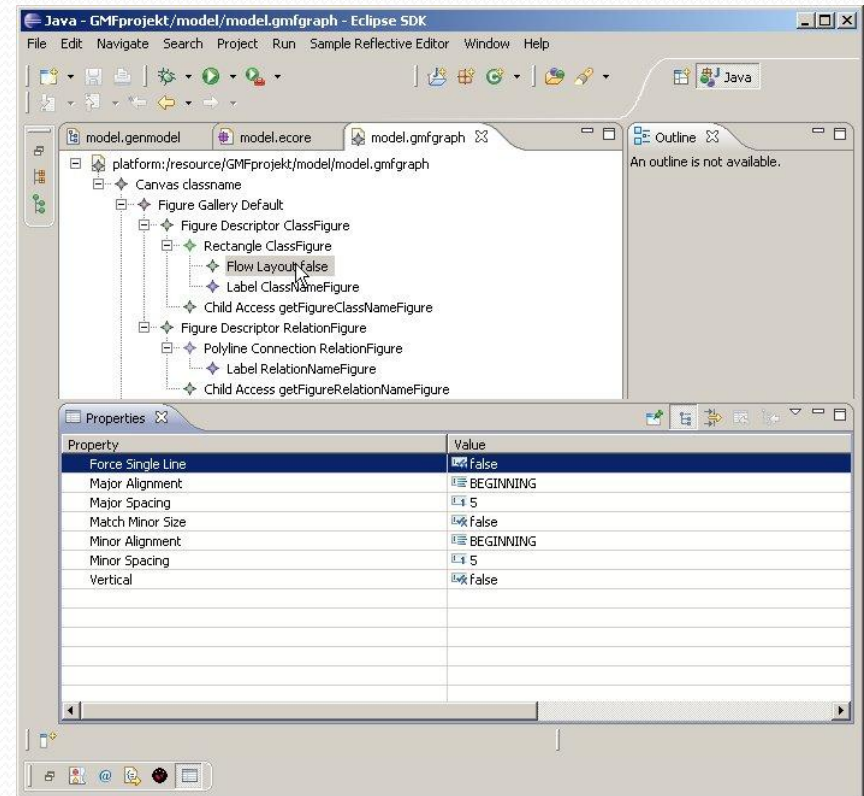
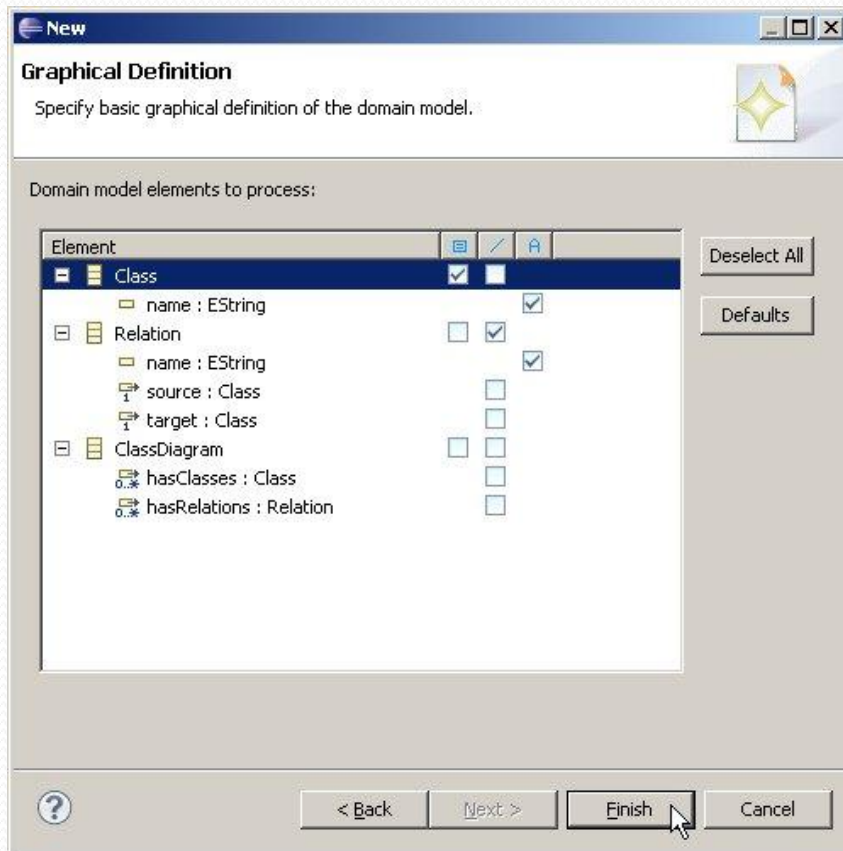
- přidali se nové projekty:
  - GMFprojekt.edit
  - GMFprojekt.editor
  - GMFprojekt.tests

# Graphical Def Model



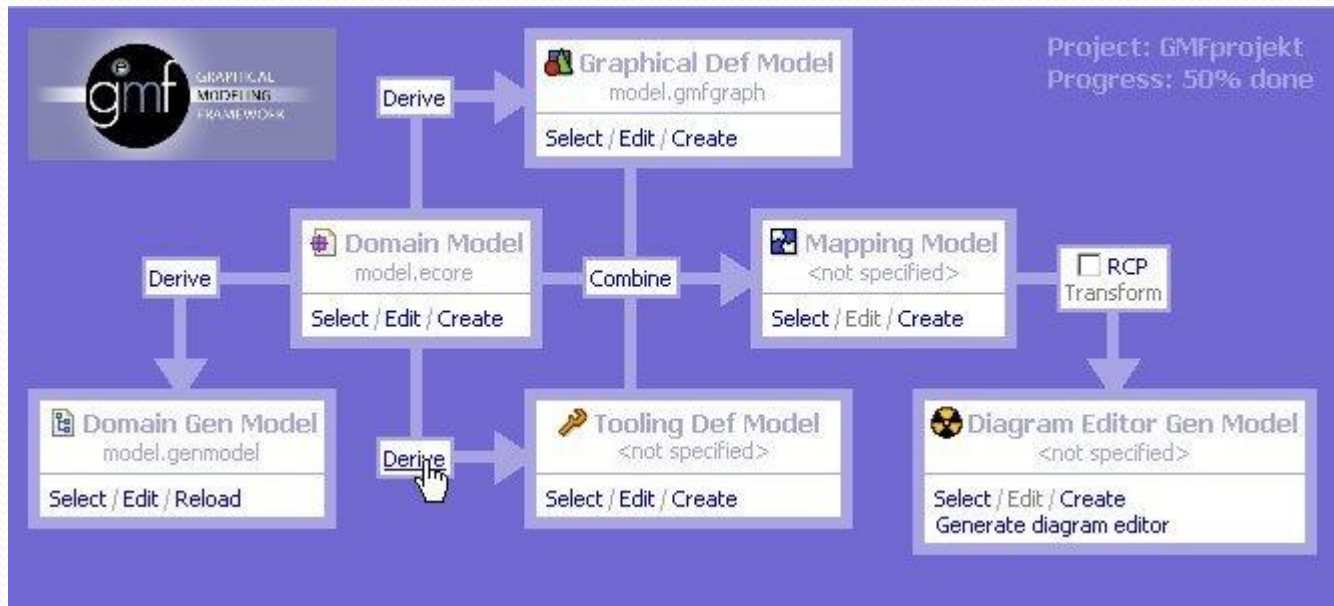


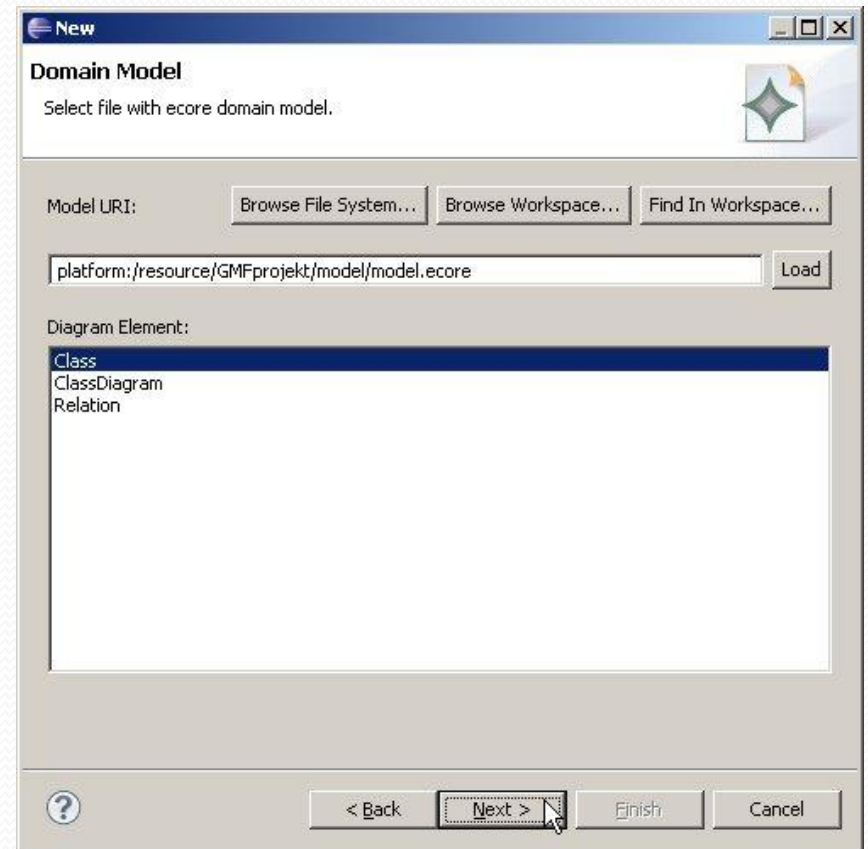
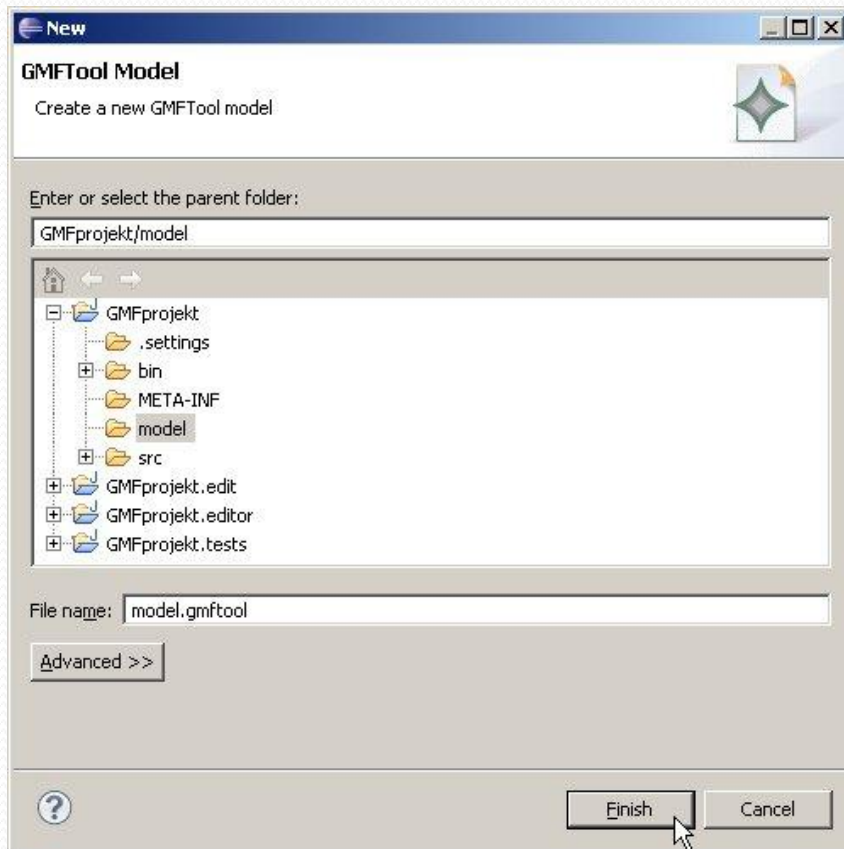


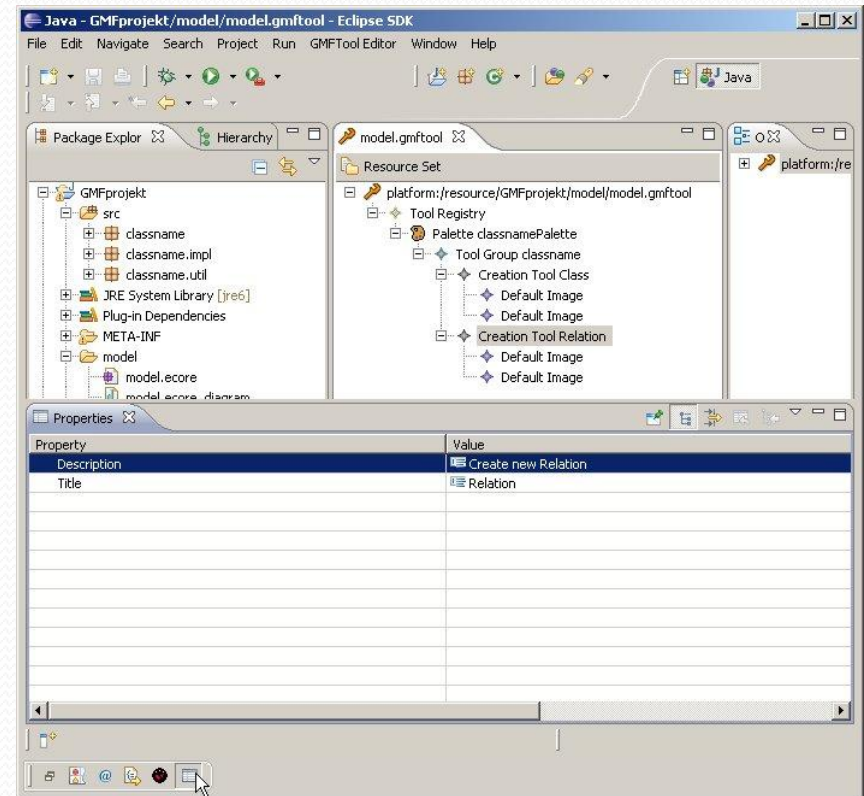
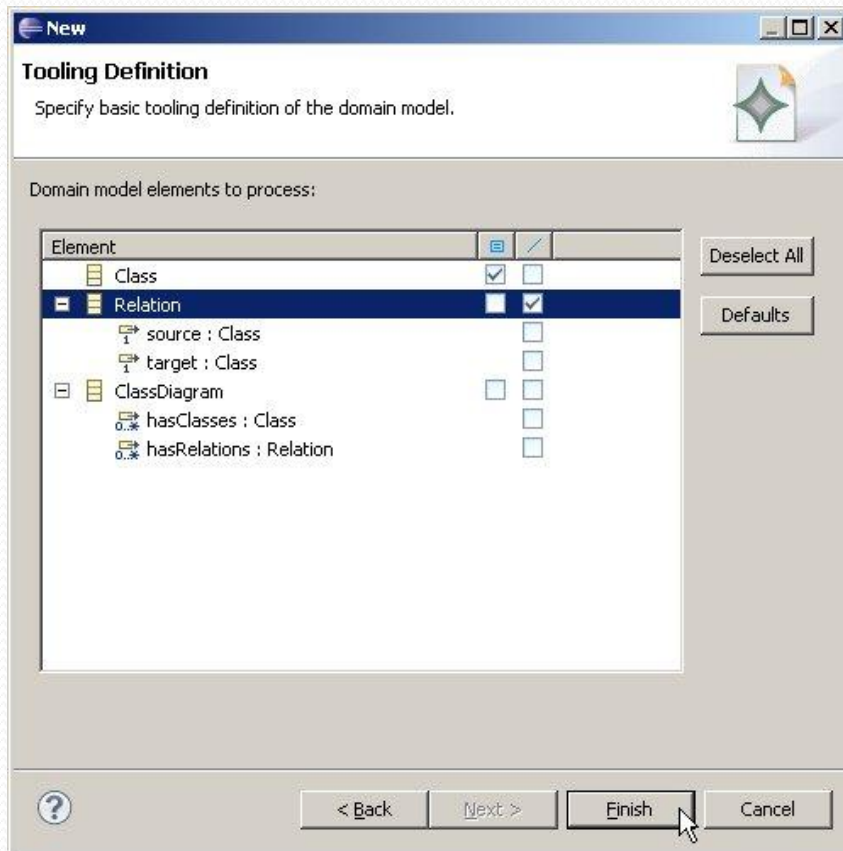




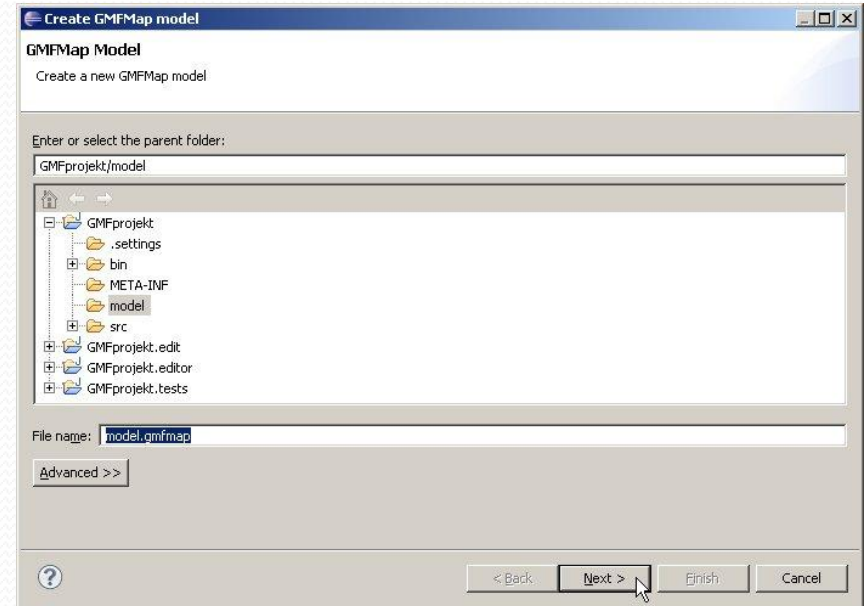
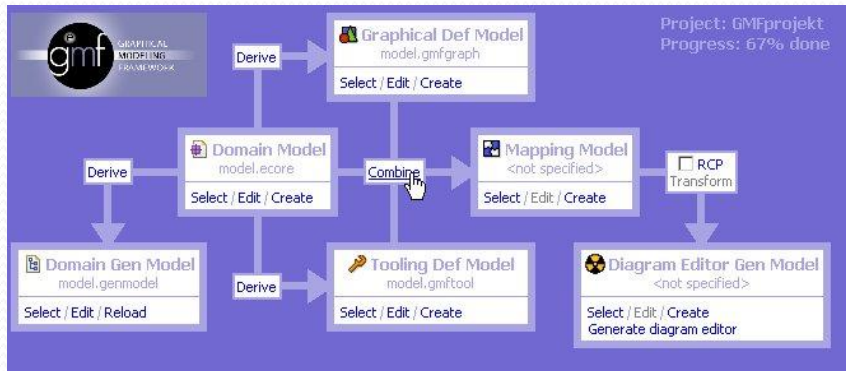
# Tooling Def Model







# Mapping Model



Create GMFMap model

### Select Domain Model

Load domain model and select element for canvas mapping.

Model URI:

► Use one of the predefined models:

Package:

Class:

- Class
- ClassDiagram**
- Relation

Create GMFMap model

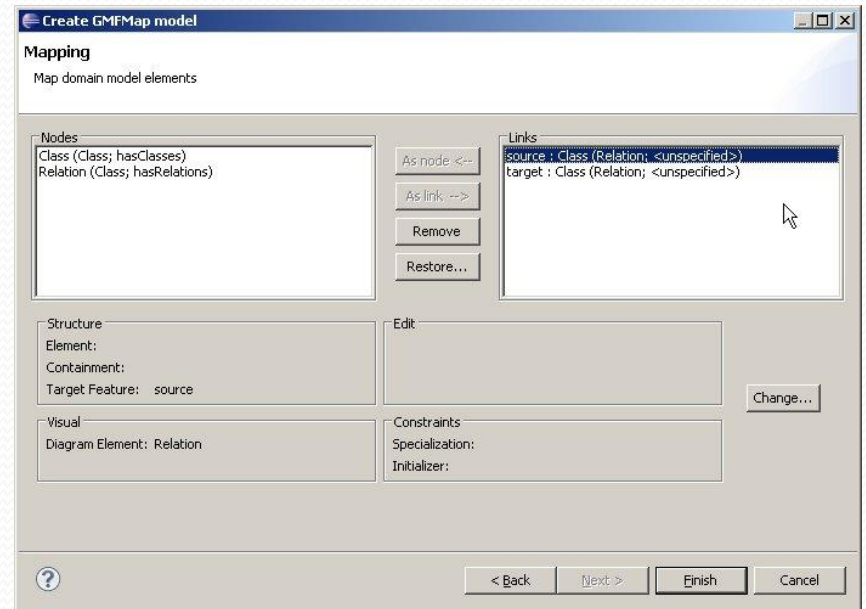
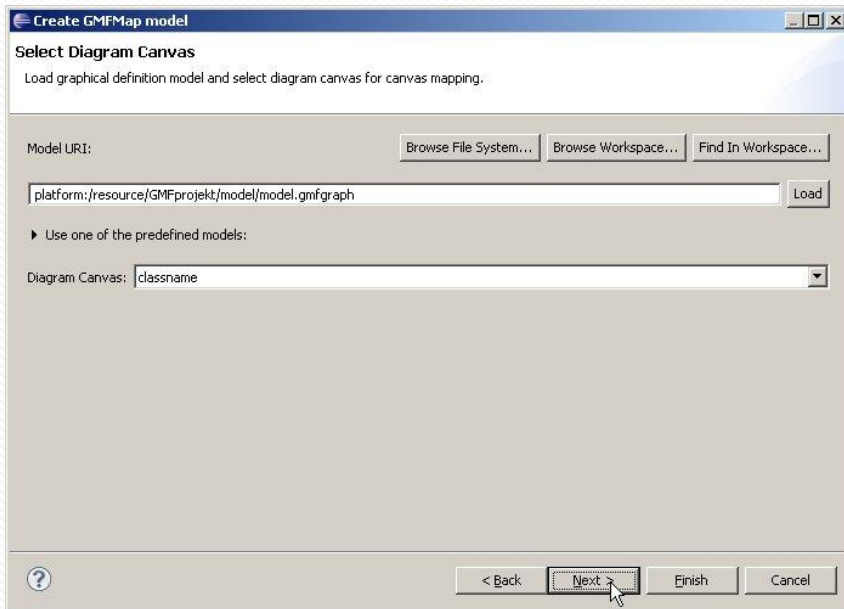
### Select Diagram Palette

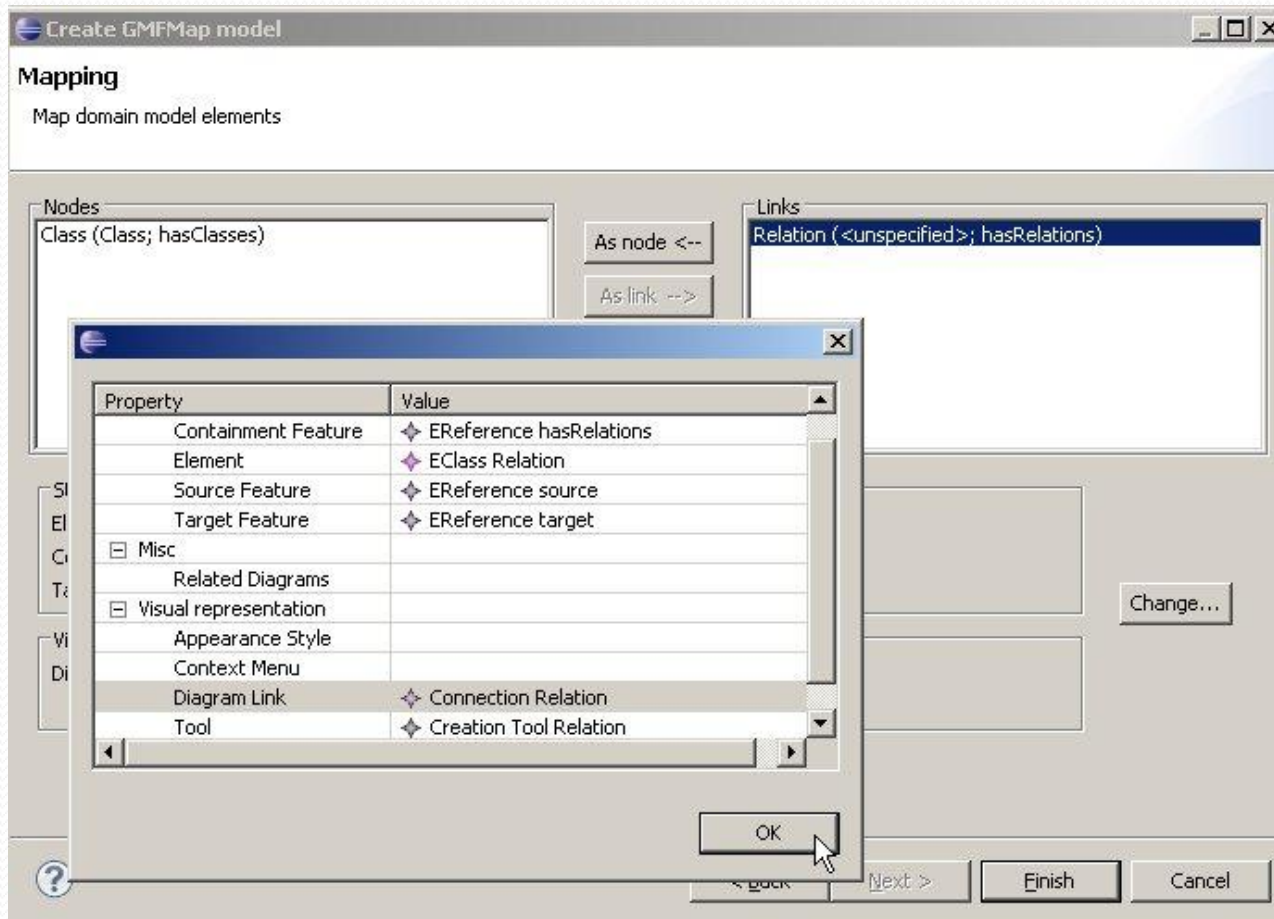
Load tooling definition model and select diagram palette for canvas mapping.

Model URI:

Diagram Palette:

Create new model





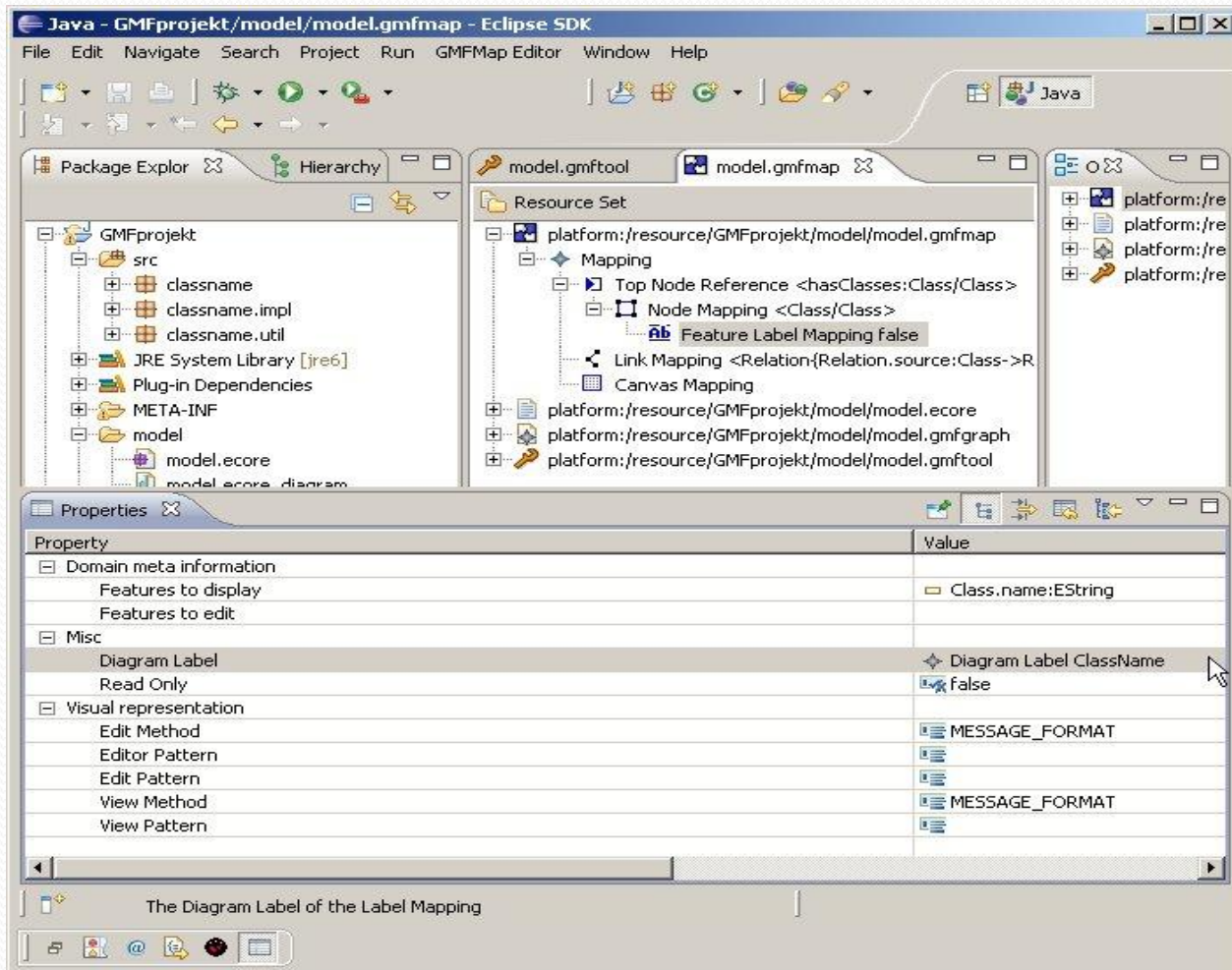


The screenshot shows a software interface with two tabs at the top: 'model.gmftool' and 'model.gmfmap'. Below the tabs is a 'Resource Set' section containing a tree view of resources. The tree is expanded to show the following structure:

- platform:/resource/GMFprojekt/model/model.gmfmap
  - Mapping
    - Top Node Reference <hasClasses:Class/Class>
      - Node Mapping <Class/Class>
        - Feature Label Mapping false
      - Link Mapping <Relation{Relation.source:Class->Relation.target:Class}/Relation>
      - Canvas Mapping
- platform:/resource/GMFprojekt/model/model.ecore
- platform:/resource/GMFprojekt/model/model.gmfgraph

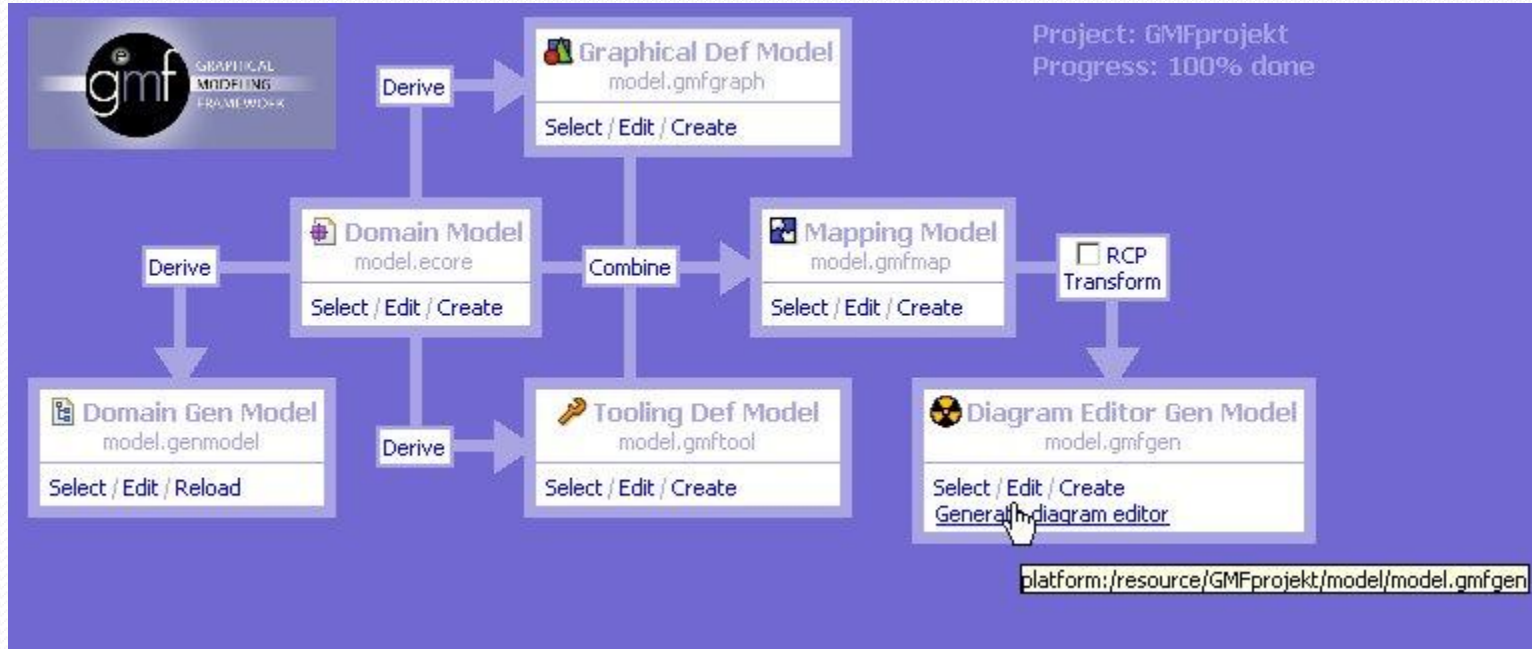
A mouse cursor is visible in the bottom right corner of the interface.

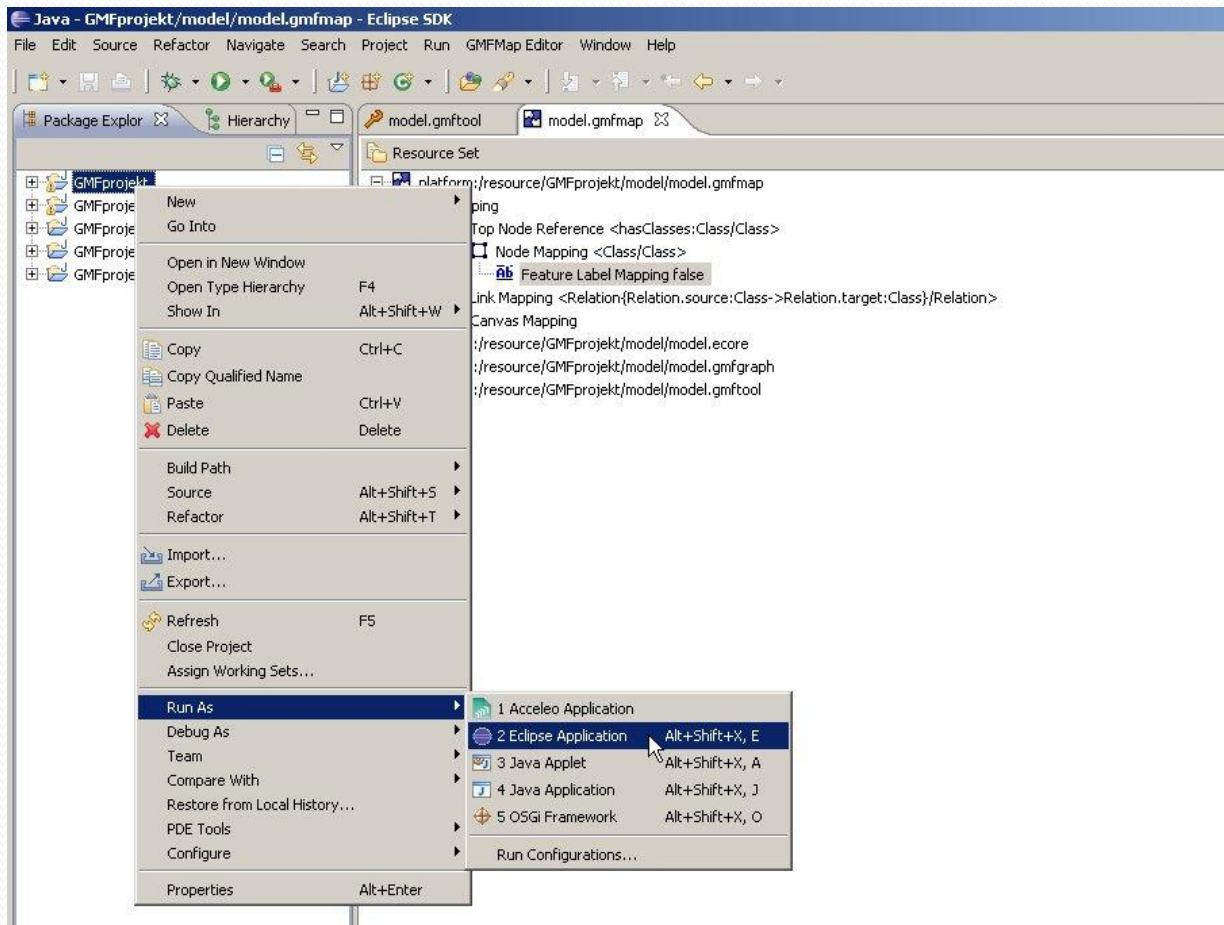




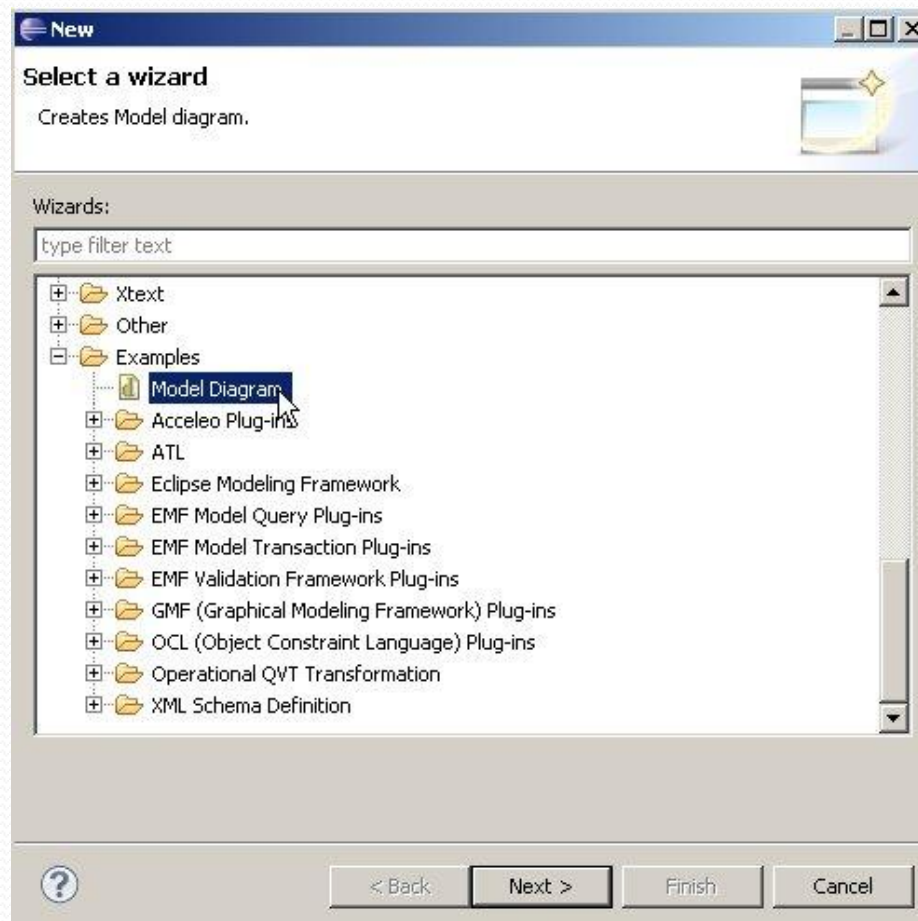


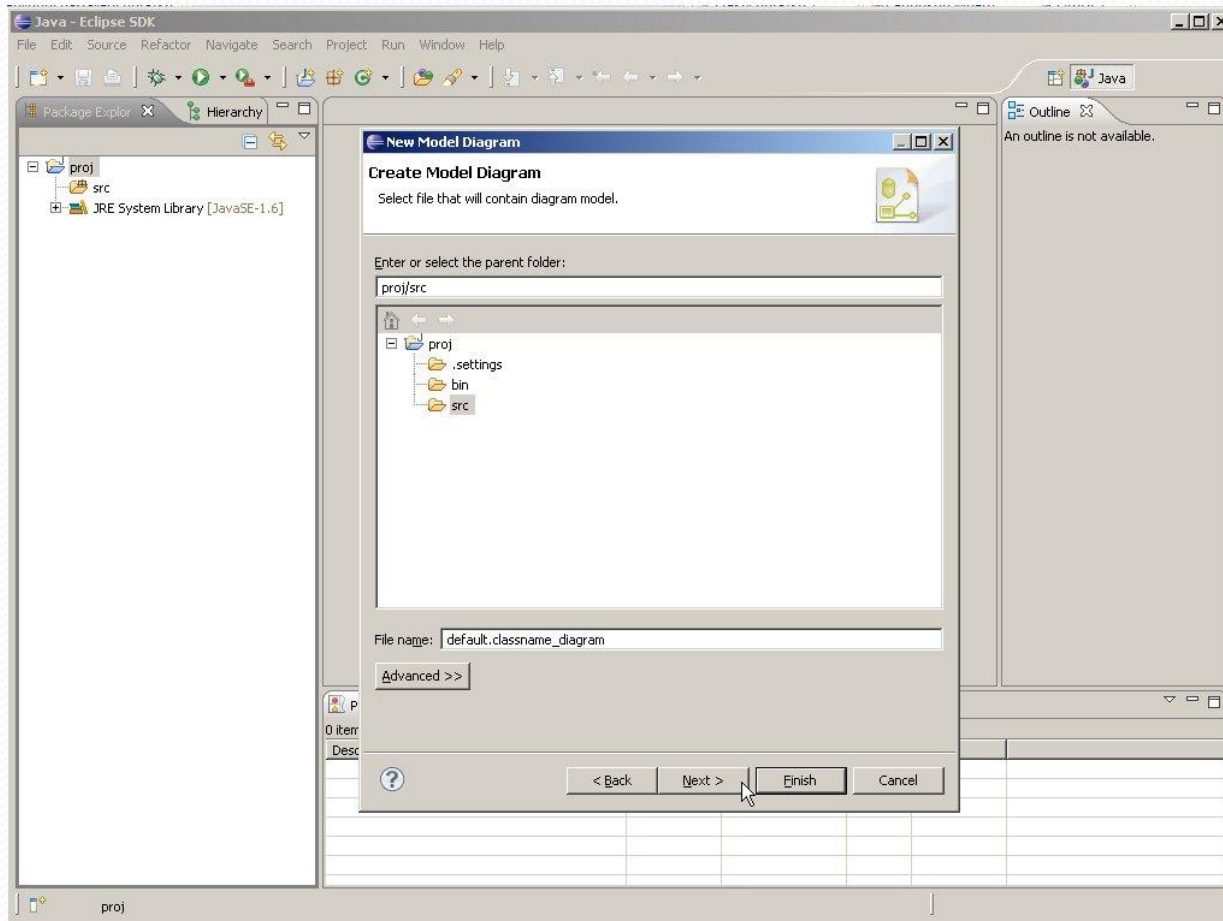
# Vygenerování diagram editoru

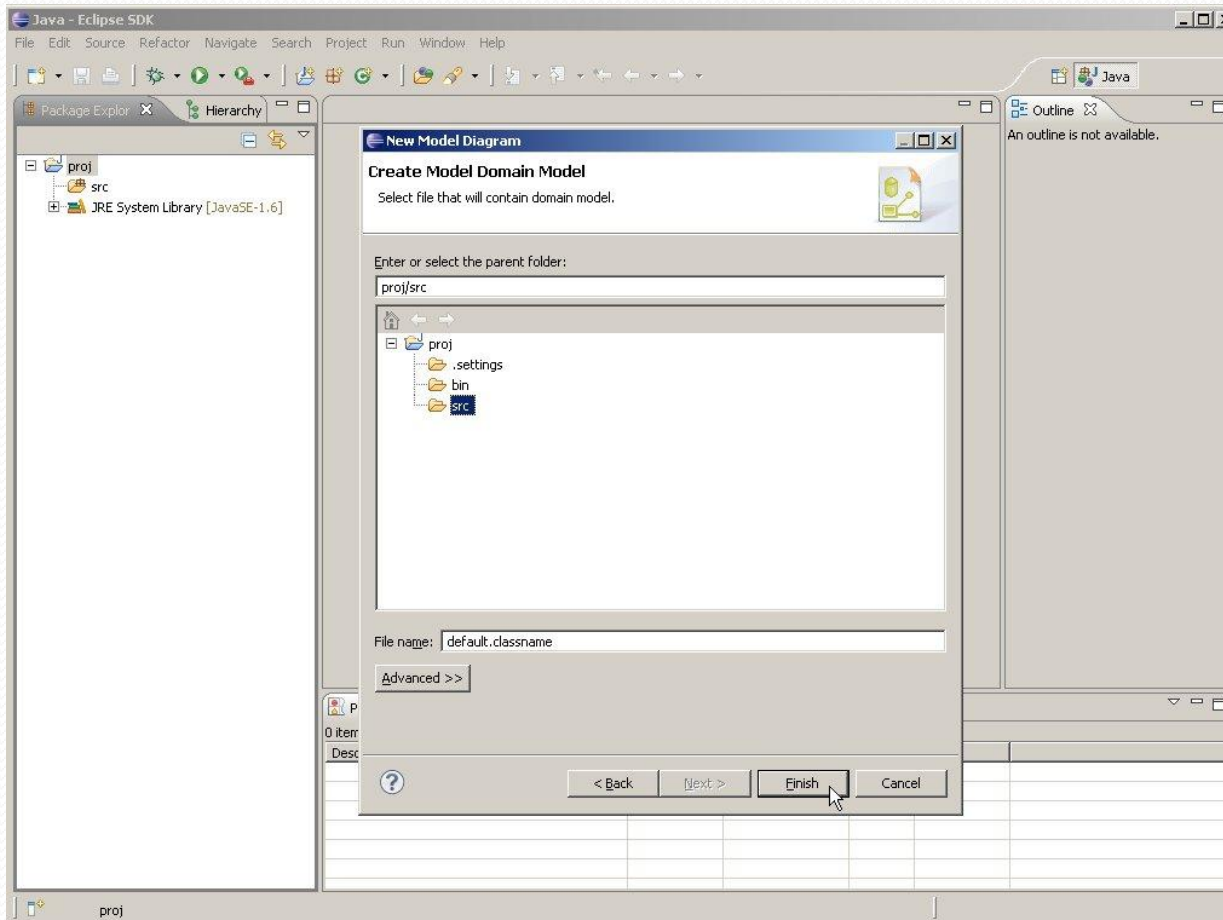




# Vytvoření modelu









Java - proj/src/default.classname\_diagram - Eclipse SDK

File Edit Diagram Navigate Search Project Run Window Help

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Package Explorer Hierarchy

- proj
  - src
  - JRE System Library [JavaSE-1.6]

\*default.classname\_diagram

```
classDiagram
    class abc
    class adfadfa
    class adfad
    abc ..> abc
    abc --- adfad
    adfadfa --- adfad
```

Palette

- Class
- Relation

Outline

Problems Javadoc Declaration

0 items

Description	Resource	Path	Location	Type



# Transformace

- XSLT
- ATL (ATLAS Transformation Language)
  - – jazyk&toolkit

# Možnosti editoru

- omezení propojení určitých typů objektů
- vlastní obrázky
- vytváření atributů objektů

# Literatura

- [http://set.sintef.no/inf5120/index.php/EMF and GMF](http://set.sintef.no/inf5120/index.php/EMF_and_GMF)  
[- Basic Tutorial](#)
- EMF :eclipse modeling framework / 2nd ed. Upper Saddle River : Addison-Wesley, c2009. xxix, 704 s, : il. ISBN 978-0-321-33188-5