


ECLIPSE MODELING PROJECT

<p>Objectives</p> <ul style="list-style-type: none"> ✓ Learning how to model with EMF / Ecore ✓ Generating and managing the EMF generated code ✓ Generating specific code with Xtend 2 or Acceleo ✓ Using Xtext or EMF Forms to edit a model ✓ Creating a graphical model editor (GMF, Sirius) 	<p>Target Audience</p> <ul style="list-style-type: none"> ✓ Developers ✓ Project managers ✓ Software architects 	<p>Pre-requisites</p> <ul style="list-style-type: none"> ✓ Modeling concepts ✓ Knowledge of Java/Eclipse 	 <p>Duration 3 days</p>
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Modeling / Eclipse Modeling Framework (EMF)

- Project history, introduction to Modeling project
- EMF / Acceleo/ Xtend / EMFForms / Xtext / GMF / Sirius

Ecore

- Language and components description
- Defining relationships
- The different Ecore editors (text based, tree, graphical)
- Creating and managing your own business model
- Model inclusion and binding to other models

EMF generation

- The generation model (genmodel) and its parameters
- Using the generated code and annotation principle
- Modifying the generated classes and the default generators
- Setting the validation parameters

EMF API

- Reflective model API
- Loading a model, instantiating model objects
- Listening to the changes

Custom text generation with Xtend

- Xtend language overview / Use cases
- Model usage and relationship to the meta model
- Writing and launching Xtend templates

Custom generation with M2T / Acceleo

- Description of the language and tools
- Model usage and relationship to the meta model
- Writing and launching Acceleo templates

Advanced UI with EMF Forms

- EMF Forms overview
- The View Model, layouts and elements
- Using EMF Forms in an application
- Specific customization

Graphical Editors

- Introduction to the basic technologies :
GEF, Draw2D, GMF Runtime et GMF Tooling, Eugenia
- Sirius Introduction
- Create a graphical representation for your model
- Editor concepts with Sirius

Xtext

- Xtext framework overview
- Grammar definition
- Auto completion, validation and quickfixes
- Generation fragments and workflows
- Use cases: XCore, Spray, XTend
- Integrating Xtend generators in Xtext editors

Industrialization

- Using modeling project in a development project
- EMF extension points : validation, factory
- GenModelAddon, to separate generated and user code
- Integrating editors and generators in a Eclipse 4 'studio'

Exercises

- About fifteen concrete exercises based on YOUR meta model and developed using the latest Eclipse release.