

# EMF TRAINING

## Course Goals

- To know how are designed and how to use Eclipse EMF and the main components based on this framework
- To develop applications based on these tools
- To use dedicated tools based on the MDE approach

### Our added-value

- Training created by Eclipse committers and real EMF experts
- Many practical exercises (66%)

**Duration:** 2 days

**Audience:** Architects, Developers

### Pre-requisites:

- Good knowledge of Java.
- Basic knowledge of Eclipse plugins programming.

## 1 - Presentation of the Eclipse Modeling Project

- Structuring and overview of the Eclipse projects
- Introduction to MDE concepts
- Introduction to the frameworks of the Eclipse Modeling Project

### Exercises

- Installation and customization of environments
- Navigation inside a model and its meta-model

**Duration:** 1.5h

## 2 - Ecore and GenModel models

- Core concepts of Eclipse EMF
- The Ecore meta-model
- The Ecore datatypes
- Detailed explanation of the GenModel
- Link between metamodels

### Exercises

- Development of basic EMF projects, including specific metamodel definition
- Creation of models conformed to this metamodel
- First customizations of the modeler

**Duration:** 1.5h

## 3 - EMF Advanced features

- Detailed explanation of the EMF.Edit and EMF.Codegen frameworks
- Generated and Reflective EMF API
- Event engine mechanism
- Loading XSD
- Tips & Tricks

### Exercises

- Advanced customization of an EMF modeler
- XML serialization according to a given XML schema
- Model manipulation through code

**Duration:** 4h

## 4 - EMF Extensions

- Overview of the EMF ecosystem (CDO, Teneo, ...)
- Validating models using EMF Validation
- Comparing models using EMF Compare
- Generating code (M2T approach) using Acceleo

### Exercises

- Designing a tooling making use of different components
  - Models validation
  - Models comparison
  - Code generation

**Duration:** 7h