

EMF Training

**Goals:**

- To know how are designed and how to use Eclipse EMF and the major components based on this framework (QTV, EMT, .. components)
- To develop applications based on these tools
- To use dedicated tools based on the MDE approach

Our advantages:

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

Duration: 2 days

Public: Architects, Developers

Pre-requisite : Good knowledge of Java. Basic knowledge of Eclipse plugin programming.

1 - Presentation of the Eclipse Modeling Project

- Structuring and overview of the Eclipse projects
- Introduction to MDA concepts and DSM approaches
- Introduction to the frameworks of the Eclipse Modeling Project

Exercises:

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

Duration : 1.5 h

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 : 1.5 h

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 : 4 h

4 - QTV Components

- Model requesting with EMF Query
- Transactional modifications through EMF Transaction
- Validating models with EMF Validation

Exercises:

- Designing a custom tooling allowing :
 - model requesting
 - validation
 - editing within a transactional context

Duration : 3 h

5 - Extending the EMF & EMFT projects

- Initialization to the components (CDO, Teneo, ...)
- Zoom on two EMFT tools : EMF Search and EMF Compare
- Applying M2M and M2T transformation on models

Exercises:

- Designing a tooling making use of the EMFT components
- Using M2M and M2T components
- Packaging and deployment of the modeler created during this training

Duration : 4 h