

# Modeling with the Unified Modeling Language (UML®)

## Using Enterprise Architect 15.x or 16.x

**Advanced Level (Three-day course syllabus)**

### Introduction to Enterprise Architect

#### User Interface

- Desktop layout

  - Overview, Start Page, Visual Style, Portals

- Ribbons

- Perspectives, Workspace Layouts, and ribbon configuration

#### Managing Projects

- Creating and opening Projects

- Creating Root Nodes and Packages

- Browser features

- Organizing models

#### Managing Diagrams

- Toolbox

- Creation techniques

- Options in ribbons, context menu, properties dialog and window

- Navigation between diagrams

- Floating diagrams

- Copy/paste across diagrams

- Inline Specification Manager

#### Managing Elements

- Creation techniques

- Editing properties

- Drag and drop

- Diagram only elements

#### Customizing Diagram Element Appearance

- Background color, font, image

- Layering

- Feature visibility

- Sizing and alignment

#### Deleting Model Elements

- Diagram level deletions

- Repository level deletions

#### Managing Connectors

- Creation (toolbox and Quick Linker)

- Redirection

- Line bends and styles

#### Managing Packages

- Package Navigation

- Identifying and selecting favorite Packages

- Package Browser/List View (overview)

### Tool Configuration

- Defining general types

- Personal and global configuration options

COURSE LEADER

## Frank Truyen

is a principal consultant and trainer, with 30+ years of experience in the IT industry as a developer, architect, consultant and project leader.

Strong expertise in key modeling notations (UML®, SysML®, ArchiMate®, and BPMN™), as well as architectural frameworks (UPDM™, UAF®, SABSA®), allied with his extensive experience in using the Enterprise Architect modeling tool, allows Frank to successfully provide training and consulting services to a broad variety of customers across many industries.

## Modeling Business Architecture

### Managing Requirements

Creating Requirements via a diagram  
Creating Requirements using the Specification Manager  
Other features  
Importing & exporting using Microsoft Excel  
Organizing Requirements  
**Exercise**

### Behavioral models

UML Use Case diagram  
Definition  
Best practices  
Creating Use Case diagrams  
Discovering Actors  
Guidelines for creating Use Cases  
Modeling Use Case Scenarios  
Defining constraints  
Using behavioral diagrams to illustrate Scenarios  
Tracing Requirements to Use Cases  
**Multiple exercises**

## Modeling Application Architecture

### Structural models

UML Class diagram (Attributes)  
Classes and Objects  
Element visibility  
Relationships  
Defining Attributes  
Adding rules and constraints  
Defining Stereotypes and Tagged Values  
Grouping elements into Packages  
**Multiple exercises**

UML Composite Structure diagram  
Part  
Port  
Connector  
**Exercise**

UML Component diagram  
Interfaces  
Ports  
Information Flows  
**Exercise**

UML Deployment diagram  
**Optional exercise**

## Behavioral models

UML Class diagram (Operations)

Discovering and assigning responsibilities

Patterns for assigning responsibilities

Defining Operations, Receptions, and Interfaces

**Exercise**

UML Activity diagram

Core Features

Advanced Features (Part 1)

Advanced Features (Part 2)

**Exercise**

UML Sequence diagram

Combined Fragments

**Exercise**

UML State Machine diagram

**Exercise**

UML Interaction Overview diagram

## Advanced Features

### Patterns

Leveraging the GOF patterns

Creating custom patterns

### Model-to-Model Transformations

#### Tool Customization

Creating UML profiles

Importing and using UML profiles

**Exercise**

Defining language types

Defining a template package

Introduction to scripting

### Traceability and Navigation

Overview

The Relationships window

The Relationship Matrix

The Traceability window

Other traceability features

**Exercise**

## Optional half-day extensions to the above training course

### Option 1: Workshop: UML end-to-end Modeling Exercise

The online bookstore model, or a User defined model

### Option 2: Core tool features

#### Documentation Generation

- RTF/DOCX/PDF generator
- Diagram, Package, and Element options
- Linking generated documents into Microsoft Word
- Creating Model Documents
- Creating Report Packages
- Generating HTML
- Creating Custom Documents
- Other features

#### Document Artifacts

- Creating Document Artifacts
- Creating Linked Documents
- Adding (dynamic) model content
- External document links
- Document window

#### Model Searches

- Initiating
- Configuring
- Viewing results
- Defining custom searches
- Other features

#### Managing Baselines and comparing models

- Creating baselines
- Administering baselines
- Package comparisons
- Diagram comparisons

### Option 3: Collaboration features

- Model sharing strategies
- Model data (XML/XMI) import/export
  - Understanding globally unique identifiers (GUIDs)
- Import/Export of Reference Data
- Version Control
  - Setup
  - Usage
  - Other features

- Security
  - Administration
  - Usage
- Element Discussions
- Formal Reviews

## Option 4: Extra Tool Features

### Diagram Features

- Automatic layout
- Element resizing
- Connector features
- Boundaries, Swimlanes, Matrix, and Kanban
- Content filters
- Notes
- Active legends

### Element Features

- Info View
- Element Browser
- Composite elements
- Linking notes to feature documentation
- Cloning diagrams, elements, Packages
- Time Aware Modeling

### Other features

- Working Sets
- Package management
- Charts, Dashboards, and Heatmaps
- Managing Hyperlinks
- Keyboard shortcuts
- Getting help
- Glossary

## Option 5: Code Engineering

- Generation options
- Generating from Class models
- Importing code files and libraries
- Using the built-in code editor
- Customizing the generators
- Build, test, run and other scripts
- Application patterns
- Miscellaneous features
- Exercise**

## Option 6: Management Features

### Project Management

Element maintenance

Tracking Defects, Changes, Issues, Tasks, Decisions, and Events.

Project Issues

Roadmap diagrams

MDG Technology for Project Management

**Exercises**

### Test Management

Workspace

Importing Use Case Scenarios

Reports

**Exercise**

### Model Audit