

### Eclipse Rich Client Platform (RCP 3)

<p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>✓ Understanding the RCP 3 and OSGi architecture</li> <li>✓ Building SWT/JFace UI</li> <li>✓ Designing Eclipse plug-ins</li> <li>✓ Mastering application distribution</li> </ul>	<p><b>Target Audience</b></p> <ul style="list-style-type: none"> <li>✓ Developers</li> <li>✓ Project managers</li> <li>✓ Software Architects</li> </ul>	<p><b>Pre-requisites</b></p> <ul style="list-style-type: none"> <li>✓ Knowledge of Java</li> </ul>	 <p>Duration 4 days</p>
---	---	--	--

#### Introduction

- Eclipse Ecosystem, Eclipse 3.8, Eclipse 4.X
- Eclipse interface : the workbench, perspectives, views and editors, preference pages, launch configurations.

#### Eclipse 3 Architecture and OSGi

- OSGi Architecture : bundles, fragments, MANIFEST.MF
- Eclipse Architecture : plugins, fragments, features, RCP
- Extensions and extension points, plugin.xml file
- Development tools : the PDE

#### Standard Widget Toolkit (SWT)

- Presentation and comparison with AWT and Swing
- Simple widgets and containers (Button, Text, Group, ...)
- Advanced widgets : Tree, Table, ...
- Position management : Layouts et LayoutData
- Resources management : Font, Color, Images
- Event management : Events et Listeners
- Window Builder to design your UI

#### JFace Library

- Introduction to JFace
- Viewers and the MVC pattern
- Input, ContentProvider and LabelProvider
- Registries : color, font and image management
- Widgets to write preference pages

#### Standard Extension Points

- Views, perspectives, preference pages, properties, wizards
- Commands, handlers, menus and expression definitions
- Adapter factories
- Help mechanism (static, help context)

#### Standards APIs

- Main classes : Runtime, Platform, Plugin, Logger ...
- Events : selection, view synchronization
- Drag and drop and copy/paste
- Jobs and UIJobs
- Actions, operations and commands, undo/redo.
- Resources and workspace

#### Defining a new extension point

- Principle, Design
- Definition, schema, parameters
- Java coding and extension of extension point

#### Rich Client Platform (RCP 3)

- Defining the workbench : Advisors, Workbench, ActionBar ...
- Product configuration, RCP branding
- Internationalization management

#### Remote Application Platform (RAP 3.0)

- RCP to RAP : how launching its RCP application inside a browser.
- Good practices and single sourcing.

#### Industrialization and delivery

- Feature, product, p2 repository
- Tests management (core and UI)
- Manual delivery
- Multi platform delivery using the delta pack
- Introduction to maven tycho

#### Eclipse 4 Runtime

- Basic concepts of Eclipse 4
- Compatibility layer and Eclipse 4 runtime
- Application model overview
- E4 spies : how to display the E4 concepts
- Eclipse 3 ? Eclipse 4 ? Which strategy ?

#### Exercises

- About fifteen exercises on the subject of a rental agency, developed with the latest Eclipse IDE version (SimRel 2022), using the RCP 3 development concepts and the Eclipse 4.X runtime with the compatibility layer.
- All exercises are also managed using GIT to log the modification history.