Developer Guide
ModifRoundtrip

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1 ModifRoundtrip-project contents

The ModifRoundtrip-project is compounded of the following folders:
1. eclipseMR: eclipse application
2. ModifRoundtrip: source code and plug-ins

2 eclipseMR contents

It is the eclipse application dedicated to handle ModifRoundtrip projects. It integrates some eclipse Modeling Components (OCL and Xtext), some ModifRoundtrip plug-ins (ModifPlugin and xtext.modif) and a JRE (jre7).

The content of eclipseMR is the following:

- configurations
    - .settings
    - org.eclipse.equinox.simpleconfigurator
    - org.eclipse.equinox.source
    - org.eclipse.update
    - config.ini
- dropins
- features
    - all eclipse features
- **jre7**
- p2
    - org.eclipse.equinox.p2.core
    - org.eclipse.equinox.p2.engine
- plugins
    - all eclipse plug-ins
    - **ModifPlugin_1.0.0.1.jar**
    - **ModifPlugin.edit_1.0.0.1.jar**
    - **ModifPlugin.editor_1.0.0.1.jar**
    - **ModifPlugin.tests_1.0.0.1.jar**
    - **xtext.modif_1.0.0.1.jar**
    - **xtext.modif.sdk_1.0.0.1.jar**

- **xtext.modif.tests_1.0.0.1.jar**
- **xtext.modif.ui_1.0.0.1.jar**
- readme
  - readme_eclipse.html
- about.html: eclipse license
- artifacts.xml
- eclipse.exe
- eclipse.ini
- eclipsec.exe
- epl-v10.html: Eclipse Public License
- notice.html: Eclipse Foundation Software User Agreement

3 ModifRoundtrip contents

ModifRoundtrip is the workspace containning the metamodels, the source code and the code to generate the ModifRoundtrit plug-ins. The developer version is composed of the following folders:

- ModifPlugin

- ModifPlugin.edit

- ModifPlugin.editor

- ModifPlugin.test

- ModifRoundtrip

- xtext.modif

- xtext.modif.sdk

- xtext.modif.tests

- xtext.modif.ui

4 eclipseMR preparation for distribution

We present now, the way the original eclipse distribution was updated and specified to handle ModifRoundtrip projects.

4.1 Downloading

Eclipse Modeling Tools 32 bits was downloaded and unziped into the ModifRoundtrip-project folder. The unziped folder is named eclipseMR.

Download link:
http://www.eclipse.org/downloads/download.php?file=/technology/epp/downloads/release/luna/SR2/eclipse-modeling-luna-SR2-win32.zip&mirror_id=580

Eclipse especification:
Eclipse Modeling Tools
Version: Luna Service Release 2 (4.4.2)
Build id: 20150219-0600

4.2 Adding a Java Runtime Environment (JRE)

The jre7 folder was added to eclipseMR. It is a software package that contains what is required to run a Java program. It inludes also a Java Virtual Machine implementation.

The eclipse.ini file of eclipseMR was modified, it includes now the lines **-vm** and **jre7/bin/javaw.exe**. It allows to specify that eclipseMR will be executed by using the provided jre.

4.3 Optimizing eclipseMR

In the preferences of eclipseMR (Window/Preferences menu), the following options were modified:

- General
    - Appearance
        - Label Decorations: keep only *Xtext Nature*
    - Editors
        - File Associations: delete *.*, *.dtable*, *.expressions*, *.jpage*, *.shtml*, *.xbase*
        - Text Editors
            - Spelling: disable *spell checking*
    - Startup and Sutdown: keep only *Marketplace Client*
- Install/Update
    – Available Software Sites: *None*

Bitecode verifications were also disabled, by adding the line **-Xverify:none** to the eclipse.ini file

The eclipse.ini file looks like follows:

```
-startup
plugins/org.eclipse.equinox.launcher_1.3.0.v20140415-2008.jar
--launcher.library
plugins/org.eclipse.equinox.launcher.win32.win32.x86_1.1.200.v20150204-
1316
-product
org.eclipse.epp.package.modeling.product
--launcher.defaultAction
openFile
--launcher.XXMaxPermSize
256M
-showsplash
org.eclipse.platform
--launcher.XXMaxPermSize
256m
--launcher.defaultAction
openFile
--launcher.appendVmargs
-vm
jre7/bin/javaw.exe
-vmargs
-Dosgi.requiredJavaVersion=1.6
-Xms40m
-Xmx512m
- Xverify:none
```

4.4 Adding Eclipse Modeling Components

The following Eclipse Modeling Components were added to eclipseMR:
- OCL (OCL Examples and Editors SDK)
- Xtext (Xtext Complete SDK)

4.5 Adding ModifRoundtrip plug-ins

ModifPlugin

Model, edit, editor and tests codes corresponding to the ModifPlugin, were produced by using the ModifPlugin generator model (ModifRpondtrip/model/Modif/ModifPlugin.genmodel).

The following projects contain the generated code:

- ModifPlugin

- ModifPlugin.edit

- ModifPlugin.editor

- ModifPlugin.tests

Those projects were exported as plug-in (Select folders → Export → Deployable plug-ins and fragments → Descination: eclipseMR)

XModif

The following classes were modified, in order to handle specific syntax highlighting:

- XmodifHighlightingConfiguration

- XmodifHighlightingSemanticCalculator

- XmodifUiModule

Those classes are located at xtext.modif.ui/src/xtext.ui

The following projects were then exported as plug-in:

- xtext.modif

- xtext.modif.sdk

- xtext.modif.tests

- xtext.modif.ui

Those projects contain the code related to the Modif concret syntax.

Note:

Any modification involving the Modif metamodel (ModifRoundtrip/model/Modif), the ModifPlugin (model, edit, editor, tests) or the xtext.modif (sdk, tests, ui), requires th re-exportation of the ModifPlugin and the Xmodif plug-in.

Comparison between eclipse installations:

Folder	*Size*
jre7	111 Mo

Folder	*Size*
eclipse-modeling-luna-SR2-win32	380 Mo
eclipse-modeling-luna-SR2-win32 + OCL + Xtext	445 Mo
eclipse-modeling-luna-SR2-win32 + OCL + Xtext + jre7	556 Mo

Folder	**Size**
EclipseMR + OCL + Xtext + jre7+ ModifPlugin + XModif	**555 Mo**