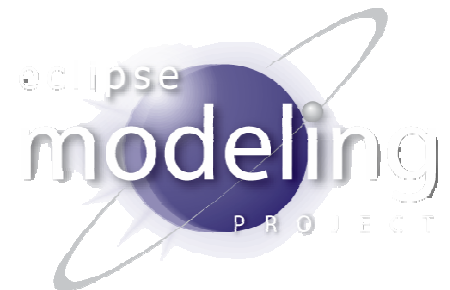


Towards A Common Build Infrastructure: Designing For Reusability

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Agenda

- *History of EMFT / Modeling Project Builds*
- Release engineering
 - Building
 - Testing
 - Publishing

History of EMFT / Modeling Project Builds

- Started with one build, OCL, Nov 2005
- By July 2006, there were 10 heterogeneous component builds
- Including GEF, there are now 20 with 10 more coming!
 - 3rd party jars (including Orbit)
 - As many as 12 upstream dependencies (Eclipse, EMF, UML2, OCL, GEF, GMF, ...)
 - JDK™ 1.4 / 5.0

Agenda

- History of EMFT / Modeling Project Builds
- *Release engineering*
 - *Building*
 - Testing
 - Publishing

Release engineering: Building

- Organize
- Templatize
- Centralize

Release engineering: Building :: Organize

- Organize releng code for simplicity & reuse
- Simplified operation – one web page which fires one shell script which sets up environment and launches Ant script

Run A Build

To run a build, please complete the following form and click the Build button. For help, click the [+] links below.

Requires at least 2 SDKs: Eclipse, EMF, ...

1... Branch, Subproject & Type

HEAD | 0.9.0 | /opt/sun-java2-5.0 Nightly

--> <http://download.eclipse.org/eclipse/downloads/drops/S-3.4M5-200802071530/eclipse-SDK-3.4M5-linux-gtk.tar.gz> <--

2... Dependency URLs

choose URLs (use **CTRL** for multiple selections)

Public

- Eclipse
- EMF, MQ, MT, VF
- Compare, Ecore Tools, MWE, Net4j
- OCL, UML2, UML2 Tools

Mirror

- Eclipse
- EMF, MQ, MT, VF
- Compare, Ecore Tools, MWE, Net4j
- OCL, UML2, UML2 Tools

- GEF, GMF, Orbit, WTP

-- AND/OR --

paste full URL(s), one per line or comma separated (new values will be stored)

```
-- eclipse --
S-3.4M5-200802071530/eclipse-SDK-3.4M5-linux-gtk.tar.gz

-- emf --
2.4.0/S200802090050/emf-sdo-xsd-SDK-2.4.0M5.zip

-- uml2 --
2.2.0/S200802121122/mdt-uml2-SDK-2.2.0M5.zip

-- orbit --
S20080203062035/orbit-S20080203062035.zip

-- ocl --
1.2.0/S200802121700/mdt-ocl-all-SDK-1.2.0M5.zip
```

3... Basebuilder Branch:

M5_34 [+]

4... Build Alias

required for S and R builds

0.9.0M5 [+]

Mapfile & Tagging

Use Map [+]

5... Run Tests

JUnit Tests [+]

6... Email?

[+]

Build

The screenshot shows a file explorer window displaying the project structure of `org.eclipse.uml2tools`. The tree view is expanded to show the `builder` directory, which contains several sub-directories and files:

- `builder`
 - `doc`
 - `examples`
 - `runtime`
 - `sdk`
 - `build.properties 1.1 (ASCII -k)`
 - `customTargets.xml 1.9 (ASCII -k)`
 - `tests`
 - `maps`
 - `templateFiles`
 - `build.xml 1.1 (ASCII -k)`
 - `buildAll.xml 1.3 (ASCII -k)`** (highlighted with a red arrow)
 - `promoteToEclipse.uml2tools.prop`
 - `repoInfo.properties 1.2 (ASCII -k)`
 - `testManifest.xml 1.1 (ASCII -k)`
- `releng-common [dev.eclipse.org]`
 - `templates`
 - `org.eclipse._PROJECTNAMESPA`
 - `org.eclipse._PROJECTNAMESPA`
 - `tools`
 - `org.eclipse.modeling.common`
 - `requests`
 - `scripts`
 - `adjustCVS.sh 1.17 (ASCII -k)`
 - `build.sh 1.3 (ASCII -k)`
 - `buildUpdate.sh 1.10 (ASCII -k)`
 - `checkZipExists.xml 1.1 (ASCII -k)`
 - `chkpii.xml 1.2 (ASCII -k)`
 - `compareFolders.sh 1.1 (ASCII -k)`
 - `createMapAndTestManifest.sh 1.1 (ASCII -k)`
 - `createZipChecksum.sh 1.1 (ASCII -k)`
 - `executeCommand.sh 1.1 (ASCII -k)`

Release engineering: Building :: Templatize

- Code duplication is bad, but not entirely avoidable
- Extract duplication and similarities into templates with TODO markers for where to insert differences
- Easier introduction of new components

Release engineering: Building :: Centralize

- Extract contents of components' scripts into a single script
- Execute scripts with commandline parameters or user-initiated web selections parameters
- For repetitive steps (eg., weekly builds) use properties files to set per-project unique attributes and minimize script API

Release engineering: Testing

- Integrate
- Irritate?
- Investigate

Release engineering: Testing :: Integrate

- Integrate JUnit testing into all builds
- Integrate test status reporting into build download / status review webpage
- Integrate status reporting into email notification, with links to JUnits, log, details, and status

Release engineering: Testing :: Irritate?

- Publish all types of test results to encourage test-driven development
- Every bug fix should include a new JUnit test to both reproduce the problem and validate the fix
- Make test errors obvious on downloads webpage; make email notifications concise and immediate

Release engineering: Testing :: Investigate

- Logfile viewer for build and test logs to more easily find problems
- Test results page (replacement for default)

Downloads

Component selection

Component:

1.1.0 Integration Builds ATOM 1.0

→ [I200703011208 \(Thu, 1 Mar 2007 -- 12:08 \(-0500\)\)](#) Success

1.1.0 Nightly Builds ATOM 1.0

→ [nosplash \(Wed, 31 Jan 2007 -- 16:09 \(-0500\)\)](#) CAUTION: 3 DNR, 952 W

→ [noclean \(Tue, 9 Jan 2007 -- 19:06 \(-0500\)\)](#)

→ [1.1.0M4redux \(Tue, 9 Jan 2007 -- 18:25 \(-0500\)\)](#)

Test Results for MDT OCL Build 1.1.0/N200701311609

For more information on this build, please go to this [project's download page](#).

→ **Console Logs**

- [linux.gtk](#)

→ **JUnit Test Results** **Errors & Failures**

- [org.eclipse.ocl.ecore.tests_linux.gtk](#) DNR
- [org.eclipse.emf.ocl.tests_linux.gtk](#) DNR
- [org.eclipse.ocl.uml.tests_linux.gtk](#) DNR

→ **Compilation Errors** **952 Problems (952 Warnings)**

- [org.eclipse.ocl.uml](#) 149 problems (149 warnings)
- [org.eclipse.ocl.ecore](#)
- [org.eclipse.emf.ocl](#) 694 problems (694 warnings)
- [org.eclipse.emf.ocl.examples.interpreter](#)
- [org.eclipse.ocl](#) 103 problems (103 warnings)
- [org.eclipse.emf.ocl.examples](#) 6 problems (6 warnings)

Release engineering: Publishing

- Release
- Reuse
- Recycle

Release engineering: Publishing :: Release

- 4+ Zips per component
- JUnit test results
- Update Manager jars + shared site*.xml
- 1 RSS feed per component
- Ganymede Update Site Contributions (*.sc)
- Newsgroup and/or email notifications

Downloads

Component selection

Component:

2.1.0 Stable Builds ATOM 1.0

- **2.1M5** (2007/02/22 23:05) Success ✓
- **UML2**
 - SDK (Runtime, Source) 13.6M (md5)
 - Runtime 3.5M (md5)
 - Examples 162.0K (md5)
 - Automated Tests 273.1K (md5)
- **Build Dependencies**
 - sun-java2-5.0 (jdk1.5.0_10)
 - Eclipse S-3.3M5-200702091006 Build Page
 - EMF 2.3.0M5 S200702121527 Build Page
- **Build Details**
 - Test Results & Compile Logs
 - Config File, Map File, Build Log

- 2.1M4 (2007/01/04 08:16)
- 2.1M3 (2006/11/16 15:52)

2.1.0 Integration Builds

- I200703011358 (2007/03/01 13:58)

eclipse.technology.emft on news.eclipse.org - Thunderbird

File Edit View Go Message Tools Help

View: All

Subject	Sender	Date
Teneo Build Announcement Thread	Martin Taal	9/29/2006 11:...
[Announce] EMFT TENE0 0.7.5 I200609290842 is available	Martin Taal	9/29/2006 1:...
[Announce] EMFT TENE0 0.7.5 I200610041055 is available	Martin Taal	10/4/2006 9:...
[Announce] EMFT TENE0 0.7.5 I200610190709 is available	Martin Taal	10/19/2006 7:14 ...

Subject: [Announce] EMFT TENE0 0.7.5 I200610190709 is available
From: [Martin Taal <mtaal@elver.org>](mailto:mtaal@elver.org)
Date: 10/19/2006 7:14 AM
Newsgroups: eclipse.technology.emft

<http://www.eclipse.org/emft/news/release-notes.php?version=0.7.5>
<http://download.eclipse.org/technology/emft/downloads/?proj=teneo>

Unread: 1223 Total: 1250

Release engineering: Publishing :: Reuse

- Shared web UI calls shell script using one properties file per component for default settings, plus commandline options/overrides
- Update Manager jars are generated from SDK zip contents
- Online javadoc is generated from .doc plugin contents, with string substitution to resolve cross-project links (eg., to help.eclipse.org)

Promote A Build

To promote a build, please complete the following form and click the Promote button. Note that by design, you cannot use this form to promote **Nightly (N)** builds, in order to encourage higher quality, more stable releases.

Build Version, ID & Branch

```
0.9.0/I200803072358 | HEAD
0.9.0/S200802121745 | HEAD
0.9.0/I200802052310 | HEAD
0.8.2/M200802052255 | R0_8_maintenance
0.9.0/I200801222240 | HEAD
```

Options

Use Properties File From (+)

Contribute to update site? (+)

Move Resolved Bugs to Verified? (-bugzonly) (+)

Add SDK As Dependency? (+)

Announce?

Announce In Newsgroup? (+)

Email?

(+)

Note: Please ensure the build you intend to promote was done using the **latest (or appropriate) driver(s)**, and that the **all tests have passed**.

Promote

[promote] Started 14:18:28. Executing with the following options:

```
-sub uml2
[loading ./promoteToEclipse.uml2.properties]
-cvsbranch HEAD
-branch 2.2.0
-buildID I200803011358
-announce
-coordsite ganymede
-email codeslave@ca.ibm.com
```

[promote] [14:18:29] Create target drop folder

...

```
[coordsite] [14:29:08] Ganymede Update Site
[coordsite] [14:29:11] Searching for features:
org.eclipse.uml2 2.2.0.v200703011358
[coordsite] [14:29:13] done.
```

[promote] Temporary files purged

```
[announce] Announce new build in newsgroup
(eclipse.modeling.mdt.uml2) ...
200 utils.eclipse.org InterNetNews NNRP server
381 PASS required
281 Ok
340 Ok, recommended ID <es79ic$o4I$1@utils>
240 Article posted <es79ic$o4I$1@utils.eclipse>
205 .
[announce] done.
```

Release engineering: Publishing :: Recycle

- Binary-compatible build rename script
 - Rename zips/jars/md5s
 - Change strings in text files
- RSS feed is used as input to Release Notes database
 - Files changed per bug, by author, by date range, by component
 - Bugs fixed per build, per component, per CVS branch
- Bugzilla update script
 - Update Bugzilla by closing bugs fixed per release

Release Notes

Filters

Component:


Version:


Teneo HEAD


→ I200702130950

→  **172278** Add support for emf 2.3

→ I200702051530 (4 bugs fixed)


→  **172756** Remove following behavior: eattribute with name id is automatically assumed to be the id-attribute when there is no id annotation on another eattribute

→  **172755** Also created join tables should use entity name (with prefix) in case of qualifying naming strategy


→  **172671** Teneo creates invalid Hibernate mapping file when overriding table names with single_table inheritance scheme


→  **172645** NullPointerException when referencing (getting name of) Entity in dynamic EMF model

→ I200702010934 (4 bugs fixed)

→  **172462** In case of nsprefix qualification of entity name set correct tablename and set auto-import=false

→  **171035** performance fall of HibernatePersistableEList

→  **170221** Add test case(s) for Inheritance variant TABLE_PER_CLASS

→  **170217** Teneo: JPA tablegenerator should also be supported on efeature level.

Search

file: org.eclipse.mdt/ days: 14 author: cdamus

Project:

Previous 1 2

- [\[174623\] TypeUtil.java \(HEAD 1.14 > 1.13\)](#) 2007-02-23 22:05:59
→ [174623] cdamus - Wrong Namespace URI for OCL annotations cdamus
→ [172782] cdamus - TypeUtil.getOperations may ignore additionalOperations

- [\[172782\] CompatibilityEnvironment.java \(HEAD 1.3 > 1.2\)](#) 2007-02-23 22:05:59
→ [174623] cdamus - Wrong Namespace URI for OCL annotations cdamus
→ [172782] cdamus - TypeUtil.getOperations may ignore additionalOperations

- [\[174623\] CompatibilityEnvironment.java \(HEAD 1.3 > 1.2\)](#) 2007-02-23 22:05:59
→ [174623] cdamus - Wrong Namespace URI for OCL annotations cdamus
→ [172782] cdamus - TypeUtil.getOperations may ignore additionalOperations

- [ocl.map \(HEAD 1.94 > 1.93\)](#) 2007-02-22 16:26:27
→ Release fixes to feature.xml plug-in dependencies cdamus

- [\[175136\] feature.xml \(HEAD 1.17 > 1.16\)](#) 2007-02-22 16:15:51
→ [175136] cdamus - org.eclipse.emf.ocl feature missing plug-in dependencies cdamus

- [\[175136\] feature.xml \(HEAD 1.16 > 1.15\)](#) 2007-02-22 16:15:51
→ [175136] cdamus - org.eclipse.emf.ocl feature missing plug-in dependencies cdamus

- [\[175136\] MANIFEST.MF \(HEAD 1.10 > 1.9\)](#) 2007-02-22 16:15:50
→ [175136] cdamus - org.eclipse.emf.ocl feature missing plug-in dependencies cdamus

Resources

<http://wiki.eclipse.org/User:Nickb>

EMFT, MDT Websites:

- <http://www.eclipse.org/modeling/emft/>
 - <http://www.eclipse.org/modeling/mdt/>
 - Downloads, Release Notes, Search CVS
-

Useful Eclipse Wiki Docs:

- http://wiki.eclipse.org/Modeling_Project_Releng
- http://wiki.eclipse.org/Search_CVS
- <http://wiki.eclipse.org/Category:Releng>

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