



JBoss IDE Persistence Tools

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Agenda

- JBoss Eclipse IDE
- Persistence Tools
 - ✓ Hibernate & EJB3 Tools
 - ✓ Demos
- The Future



2

JBoss Eclipse IDE Quick Intro

- Started in late 2002 / early 2003 by Hans Dockter.
- Current Team Members
 - ✓ Marshall Culpepper – Team Lead, Persistence Tools
 - ✓ Max Rydahl Andersen – Persistence Tools
 - ✓ Koen Aers – JBPM Designer
 - ✓ Laurent Etienne – JBossIDE Core
 - ✓ Rob Stryker – JBossAOP Developer, JSR88
 - ✓ Your Name Here!
- Primary Goals
 - ✓ Full IDE integration for the entire JBoss JEMS stack.
 - Currently we support JBoss App Server, JBossAOP, JBPM, Hibernate 3, and EJB3
 - We are evaluating feature sets and requirements for other JEMS projects such as JBossCache, JBossRemoting, JBossWS, etc.
 - ✓ Take over the world!
 - We want to become the de facto Development Environment for all developers who use JBoss technologies.



3

JBossIDE Key Features

- Extensive XDoclet Support
 - ✓ J2EE Development made manageable with XDoclet
 - ✓ XDoclet Annotation auto complete w/ comments
 - ✓ Run the XDoclet processor directly from the context menu of your project.
- Automatic Packaging
 - ✓ Configure the packaging of EARs, WARs, JARs
 - ✓ Package your application in two clicks.
- HTML, XML, and JSP Editors
 - ✓ Auto complete for scriptlets, taglibs, html/xml tags
 - ✓ Syntax highlighting
 - ✓ JSP compilation support, with compilation errors in the editor
- JBoss Application Server Support
 - ✓ Start and Stop local versions of JBoss
 - ✓ Using debug mode, debug your Enterprise App's source code via Eclipse's advanced debugger
- Application Deployment
 - ✓ Deploy, Redeploy, and Undeploy to JBoss
 - ✓ Supports local and remote deployment



4

JBossIDE Extensions

- JBossAOP Developer
 - ✓ Editor markers for notification of methods and fields that are intercepted in your code
 - ✓ Supports both simple and complex pointcut creation via Create Pointcut wizard.
 - ✓ Supports interception of JDK 1.4 style annotations (1.5 coming soon)
- JBPM Designer
 - ✓ JBPM Process Designer supports join, fork, action, and others
 - ✓ Outline view shows both a smaller version of the process designer and a hierarchy view of the generated PAR's descriptor.
- Persistence Tools
 - ✓ Goal: Provide a fully "round-robin" style of persistence development supporting both EJB3 and Hibernate3.
 - ✓ HQL/EJBQL Query and Result Set views
 - ✓ Database Reverse Engineering to H3 POJO + Mapping XML or EJB3 POJO models
 - ✓ EJB3 Project and Bean Wizards for simplified development



5

Hibernate 2 Tools

- Supported tools
 - ✓ SchemaExport/Update
 - ✓ hbm2java
 - ✓ Hibernate Console (the tool previously known as Hibern8IDE)
 - ✓ MiddleGen w. Hibernate plugin
- Status:
 - ⊗ Ok – usable
 - ⊗ Open source
 - ⊗ Non-consolidated,
 - n tools = n different configurations
 - ⊗ No real IDE Integration
 - ⊗ Low extendibility



6

Persistence Tools

- Hibernate 3
 - ✓ Provides unifying meta-model & Configuration
- JBoss Eclipse IDE
 - ✓ Mapping Editor
 - ✓ Hibernate Console
 - Query prototyping/Introspection
 - ✓ Development Wizards
 - Wizard for hibernate.cfg.xml
 - Reverse engineering
 - Artifact Generation Wizard
- Ant Integration



7

Demo



8

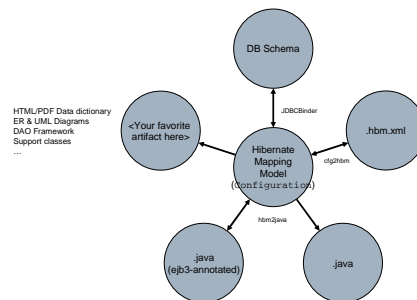
Extensibility

- Reverse Engineering extensions
 - ✓ ReverseNamingStrategy
 - e.g. PERSON_ADDRESS => PersonalAddress
- Artifact generation done via Exporters
 - ✓ Programmatic Exporters
 - SchemaExport, JDBCBinder
 - ✓ Template based Exporters
 - hbm2java, cfg2hbm, ...



9

One Model To Rule Them All



10

Hibernate 3 Mapping Model

Database level	Domain level
• Table	• Entity/Class
• Column	• Property
• Constraint	• Component
✓ Index	• Associations
✓ Unique	✓ many-to-one
• ForeignKey	✓ one-to-one
	✓ etc.
	• <meta attribute>



11

Model Use Case: EJB3 Mapping

- Alternative to Hibernate mapping based on the budding JSR-220 standard
 - ✓ Implemented using a simple velocity template
 - ✓ Deployable as a JBoss application fragment
- Template Snippet:

```

#ife($ejb3)
@Entity
@Table(name="$clazz.table.name"
#ife($clazz.table.schema)
, schema="$clazz.table.schema"
#end
#ife($clazz.table.catalog)
, catalog="$clazz.table.catalog"
#end
)
#end

```



12

Persistence Tools: The EJB3 Suite

- EJB3 DB Reverse Engineering
- EJB3 Wizards for
 - ✓ Stateless/Stateful Session Beans
 - ✓ Message Driven Beans
 - ✓ EJB3 Projects w/ JAR dependencies
- Existing JBossIDE functions complete the puzzle
 - ✓ Start and stop EJB3-enabled JBoss
 - ✓ Packaging an EJB3-JAR
 - ✓ Deployment of EJB3 to EJB3-enabled JBoss



13

Demo



14

Ant Integration

- Continuous integration
- "GUI's are for sissies"

```
<hibernatetool destdir="${build.dir}/topdown">
  <configuration config="etc/hibernate.cfg.xml">
    <classpath id="${classpath.for.customtypes}"/>
  </configuration>

  <hbm2ddl drop="true" outputfilename="xxx.sql"/>
  <hbm2java/>
  <templategen templates="myowntemplates"
    outputdir="html"/>
</hibernatetool>
```



15

Future

- Improve control over reverse engineering
- More Mapping Editing support
 - ✓ hbm.xml
 - ✓ JSR-220 support (EJB3 xml and Annotations)
- Refactoring support
 - ✓ Rename field/class/etc
- ER/UML Visualization (editing?)
- Support future tools
 - ✓ hbmLint
 - Report on db and mapping mismatch, common user errors etc. as problem/warning markers
 - ✓ dataGen
 - "Automagic" generate test data
- And more...come and join us!



16

JBossIDE: The Future

- JBossIDE 1.5
 - ✓ Milestone releases every 4-6 weeks until Eclipse 3.1 is stable
 - ✓ Final releases of jBPM Designer and Persistence Tools
- Utilize Eclipse Webtools code
 - ✓ Replace current JSP / HTML / XML Editors with editors from Webtools
- Automated Build system
 - ✓ Integration Builds for extension developers
 - ✓ Simplification of release logistics
 - ✓ JUnit tests w/ notifications of error
- More JEMS Integration
 - ✓ We are accepting input for other JEMS projects / functionality you would like to see in JBossIDE. Please visit our development forums!



17