

JBoss Community

About me

- Hardy Ferentschik - hardy@hibernate.org
- +10 years experience in software development
- Hibernate team member for 3 years
- Focus on Validator and Search
- JSR 303 Expert Group member

maven



JBoss Community

hardy@hibernate.org

Why this talk?



- Report from the trenches
- Share experiences
- Fun to talk about

Build tool evolution!?



Build tool evolution!?



Build tool evolution!?

```
target ... : prerequisites ...  
recipe  
...  
...
```

Build tool evolution!?



Build tool evolution!?



Build tool evolution!?

```
<project name="MyProject" default="dist" basedir=". ">

  <property name="src" location="src"/>
  <property name="build" location="build"/>
  <property name="dist" location="dist"/>

  <target name="init">
    <tstamp/>
    <mkdir dir="${build}"/>
  </target>

  <target name="compile" depends="init" description="compile the source " >
    <!-- Compile the java code from ${src} into ${build} -->
    <javac srcdir="${src}" destdir="${build}"/>
  </target>

  <target name="clean" description="clean up" >
    <!-- Delete the ${build} and ${dist} directory trees -->
    <delete dir="${build}"/>
    <delete dir="${dist}"/>
  </target>
</project>
```

Build tool evolution!?



Build tool evolution!?



maven



Build tool evolution!?



maven





time for

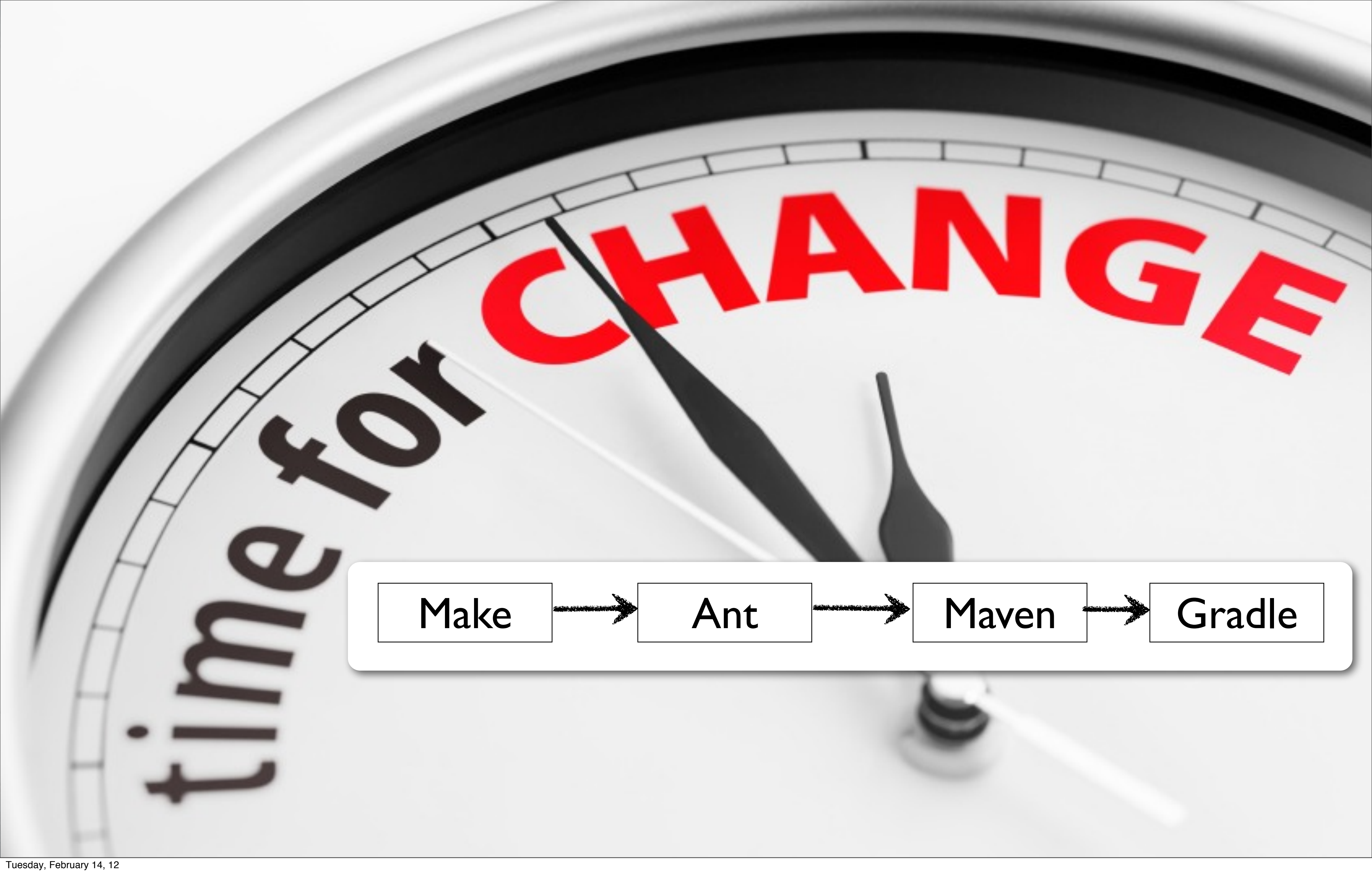
CHANGE

Make

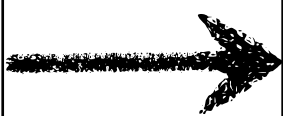
Ant

Maven

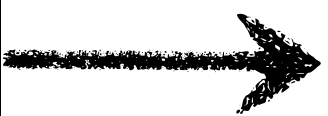
Gradle



Make



Ant



Maven



Gradle

maven

JBoss Community

Maven - History

- Created by Jason van Zyl
- Prototype Aug. 2001 as part of Alexandria
- July 2004 - Maven 1.0
- October 2005 - Maven 2.0
- October 2010 - Maven 3.0

```
<groupId>org.apache.maven.plugins</groupId>  
<artifactId>maven-3.0-SNAPSHOT</artifactId>  
<version>3.0-SNAPSHOT</version>  
<packaging>pom</packaging>  
<name>Hibernate Validator Aggregator</name>  
<url>http://validator.hibernate.org</url>  
<description>Aggregator of the Hibernate Validator modules.</description>  
<developers>  
<developer>  
<id>epbernard</id>  
<name>Emmanuel Bernard</name>  
<email>emmanuel@hibernate.org</email>  
<organization>JBoss, a division of Red Hat</organization>  
<url>http://in.relation.to/Bloggers/Emmanuel</url>  
</developer>  
<developer>  
<id>hardy.ferentschik</id>  
<name>Hardy Ferentschik</name>  
<email>hferents@redhat.com</email>  
<organization>JBoss, a division of Red Hat</organization>  
<url>http://in.relation.to/Bloggers/Hardy</url>  
</developer>  
<developer>  
<id>gunnar.morling</id>  
<name>Gunnar Morling</name>  
<email>gunnar.morling@googlemail.com</email>  
<organization>Individual</organization>  
<url>http://musingsofaprogrammingaddict.blogspot.com</url>  
</developer>  
<developer>
```

Maven - Basic ideas

- Convention over configuration
- Metadata management via POM
- Build lifecycle
- Dependency management

```
<groupId>org.hibernate</groupId>
<artifactId>hibernate-validator-parent</artifactId>
<version>5.0-SNAPSHOT</version>
<packaging>pom</packaging>
<name>Hibernate Validator Aggregator</name>
<url>http://validator.hibernate.org</url>
<description>Aggregator of the Hibernate Validator modules.</description>
<developers>
  <developer>
    <id>epbernard</id>
    <name>Emmanuel Bernard</name>
    <email>emmanuel@hibernate.org</email>
    <organization>JBoss, a division of Red Hat</organization>
    <url>http://in.relation.to/Bloggers/Emmanuel</url>
  </developer>
  <developer>
    <id>hardy.ferentschik</id>
    <name>Hardy Ferentschik</name>
    <email>hferents@redhat.com</email>
    <organization>JBoss, a division of Red Hat</organization>
    <url>http://in.relation.to/Bloggers/Hardy</url>
  </developer>
  <developer>
    <id>gunnar.morling</id>
    <name>Gunnar Morling</name>
    <email>gunnar.morling@gmail.com</email>
    <organization>Individual</organization>
    <url>http://musingsofaprogrammingaddict.blogspot.com</url>
  </developer>
</developers>
```



HIBERNATE

Hibernate Metamodel Generator

<https://github.com/hibernate/hibernate-metamodelgen>

Maven builds are an infinite cycle of despair that will slowly drag you into the deepest, darkest pits of hell
(where Maven itself was forged)

<http://kent.spillner.org/blog/work/2009/11/14/java-build-tools.html>



JBoss Community

Maven Helferlein

- **Dependency** plugin

- `mvn dependency:tree`
- `mvn dependency:build-classpath`
- `mvn dependency:copy-dependencies`

- **Help** plugin

- `mvn help:describe -Dplugin=compiler`
- `mvn help:effective-pom`
- `mvn help:active-profiles`

Maven issues

- Scripting
- Rector builds
- Assembly
- Aggregation
- Grouping of dependencies



JBoss Community

hardy@hibernate.org

Gradle

- Created by Hans Docktor
- Earliest Jira release 0.8 Sept. 2009
- Latest release 1.0-milestone-7
- Gradle tries to hit the sweet spot between Ant and Maven



Using a Groovy based DSL Gradle combines the power and flexibility of Ant with the dependency management and conventions of Maven into a more effective way to build.

[Gradle Docs](#)

Welcome Gradle

Welcome Gradle

DSL

Task



DAG

3-phase build

1. initialize
2. configure
3. execute



Task

Task is a sequence of Action objects!

```
task myTask
task myType << { task action }
task myTask { configure closure }
task myTask(type: SomeType)
task myTask(type: SomeType) { configure closure }
task myTask{
    doFirst{...}
    ...
    doLast{...}
}
```

Gradle highlights

- Build scripts are code
- Dynamic task creation and modification tasks
- Powerful logging and logging configuration
- Speed



HIBERNATE

Metamodelgen gradlefied

Tips








- Gradle [DSL Docs](#)
- Gradle [Cookbook](#)
- Use IRC - irc.codehaus.org#gradle
- In case of doubt:

```
rm -rf ~/.gradle .gradle
```


Gradle gotchas

- Tricky syntax
- Steep learning curves
- IDE support not quite there yet

Maven vs Gradle

	Maven	Gradle
Distribution		
Customizable		
Documentation		
Speed		
Resource consumption		
Learning curve		
IDE support		

Links

- http://en.wikipedia.org/wiki/Apache_Ant
- <http://en.wikipedia.org/wiki/Maven>
- <http://en.wikipedia.org/wiki/Gradle>
- <http://maven.apache.org/background/history-of-maven.html>
- <http://kent.spillner.org/blog/work/2009/11/14/java-build-tools.html>
- <http://docs.codehaus.org/display/GRADLE/Cookbook>
- <http://gradle.org/docs/current/dsl/index.html>
- <http://confluence.jetbrains.net/display/IDEADEV/Gradle+integration>
- <http://mrhaki.blogspot.com/>

JBoss Community



Q + A