

Ant & Prevaier

-- “effective development tools”

Tomasz Nazar

Wrocław, Poland
Monday, January 19, 2004

version 1.3

Część I

Ant

Czym jest Ant?

*Narzędzie do **automatyzacji** procesów tworzenia oprogramowania*

Dlaczego Ant?

- niezależność od platformy
 - wszędzie tam gdzie jest Java: Windows, (*)nix
 - język programowania: Java, .NET
- idea “jedno kliknięcie”
 - przygotuj, kompiluj, testuj, buduj, archiwizuj, raportuj, ..., uruchom
- standard wśród aplikacji (J2XE)
- cele i zadania (*target, tasks*)

Cele i zadania

- **zbuduj program**
 - usuń pliki tymczasowe (*.o, *.bak,...)
 - skompiluj pliki źródłowe
- **uruchom program** 🍪
 - po prostu go wykonaj
- **uruchom program (alternatywa)** 🍪
 - skopiuj plik z programem na inny komputer (ftp://)
 - uruchom program “zdalnie”

Cele i zadania

- **zbuduj program**
 - usuń pliki ...
 - skompiluj ...
- **uruchom program**
 - wykonaj go
- **uruchom program**
 - skopiuj program ...
 - uruchom “zdalnie”

```
<target name="build">  
  <delete dir="tmp">  
  <javac srcdir="sources">  
<target name="run"  
  <java classname="App">  
<target name="remoteRun">  
  <ftp server="ii.uni.pl" ...  
  <start url="ii.uni.pl" ...
```

Plik konfiguracyjny

- XML
- build.xml, build.properties
- nazwa projektu: **<project>**
- cele do wykonania: **<target>**
 - zadania: (...)

Plik konfiguracyjny

```
<?xml version="1.0" encoding="iso-8859-2"?>  
<project name="ETO" default="init" basedir=".">  
  <description>  
    simple example build file  
  </description>  
  ...  
</project>
```

<target>

...

```
<target name="init">
```

```
  <!-- Create the time stamp -->
```

```
  <tstamp/>
```

```
  <!-- Create directory structure used by "compile" -->
```

```
  <mkdir dir="build_dir" />
```

```
</target>
```

...

<target> cd..

...

```
<target name="compile" depends="init"
        description="compile the source">
```

```
<!-- Compile the java code from ${src} into ${build} -->
```

```
<javac srcdir="sources" destdir="build_dir" />
```

```
</target>
```

...

Properties

- *build.properties*
- wbudowane zmienne:
 - `${basedir}`
 - `${ant.file}`
 - `${ant.version}`
 - `${ant.project.name}`
 - `${ant.java.version}`

Properties

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

build.properties:

```
myproject.dir=somedir  
myproject.variable=value
```

...

```
<echo>
```

```
    Tu są źródła:  $\{\text{src}\}$ 
```

```
</echo>
```

Tasks

- Archive tasks: **bzip2, gzip, tar, zip, jar, war, ear, ...**
- Compile tasks: **javac, rmic, ...**
- Documentation tasks: **javadoc, doxygen**
- Execution tasks: **ant, antcall, exec, parallel, waitfor, java**
- File tasks: **copy, delete, mkdir, move, replace, touch, checksum, ...**
- Remote Tasks: **ftp, telnet**
- Testing Tasks: **junit, junitreport, test**

Tasks

- Deployment Tasks
- Logging Tasks
- Mail Tasks: **mail**
- Miscellaneous Tasks: **echo, sound, splash, sql, ...**
- .NET Tasks
- Pre-process Tasks
- Property Tasks
- SCM Tasks: **cvs, cvspass, perforce, starteam, ...**
- Visual Age for Java Tasks

Files selection

```
<fileset dir="{server.src}" casesensitive="yes" >  
  <include name="**/*.java"/>  
  <exclude name="**/*Test*"/>  
</fileset>
```

Pozostałe:

- **filelist, patternset, dirset, classpath, ..**

Copying files

```
<copy file="myfile.txt" todir="../some/other/dir"/>
```

...

```
<copy todir="../dest/dir" >  
  <fileset dir="src_dir" >  
    <exclude name="**/*.java"/>  
  </fileset>  
</copy>
```

Junit (simple)

```
<junit>  
    <test name="my.test.TestCase" />  
</junit>
```

JUnit (advanced)

```
<junit printsummary="yes" haltonfailure="yes">
  <classpath>
    <pathelement location="${build.tests}" />
    <pathelement path="${java.class.path}" />
  </classpath>

  <test name="my.test.TestCase" haltonfailure="no" outfile="result" >
    <formatter type="xml" />
  </test>

<batchtest fork="yes" todir="${reports.tests}">
  <fileset dir="${src.tests}">
    <include name="**/*Test*.java" />
    <exclude name="**/AllTests.java" />
  </fileset>
</batchtest>
```

Cruisecontrol

- framework for continuous build process
- by Martin Fowler

IDE Integration

- Emacs
- IDEA IntelliJ
- NetBeans
- jEdit
- Eclipse
- VisualAge
- WebSphere
- Vim

Linki

- Ant homepage
 - <http://ant.apache.org/>
- Martin Fowler (cruisecontrol, refactoring, UML...)
 - <http://www.martinfowler.com/articles/continuousIntegration.html>
- Strona autora
 - <http://www.ii.uni.wroc.pl/~nthx/java/ant.html>