

# Apache Tomcat

**1st Nov:** Harmony passes 100% tests on Tomcat5.5.

## Summary:

Tomcat version: 5.5

Platform\VM	RI	J9	DRLVM
Ubuntu6.06	100 %	100 %	100%
Windows xp2	100 %	100 %	100%

## How to:

1. Build Tomcat5.5
  - a. Get [build.xml](#) from apache web site
  - b. Run ant to download Tomcat source code and required jars.
  - c. Remove ecj\*.jar from \$ANT\_HOME/lib, it will conflict with the Tomcat when building
    - i. Go to \$(tomcat.source)/build, run "ant" to compile source code.
2. Run tests; i.#1 Run tests with harmony, change the file \$(tomcat.source)/build/build.xml, assign the specific vm for ant task <java>, and keep the fork=true, it will fork another process to run the java task:

```
<target name="run-tester" description="Catalina Tests" depends="dist-tester">
    ....
    <parallel>
        <java classname="LauncherBootstrap" fork="yes" jvm="${HAROMNY_JAVA_HOME}/jre/bin/java">
            ....
        </java>

        <sequential>
            <!-- Let tomcat starts before starting Tester -->
            ....
            <java classname="LauncherBootstrap" fork="yes" jvm="${HAROMNY_JAVA_HOME}/jre/bin/java">
                ....
            </java>
        </sequential>
    </parallel>
</target>
```

i.#2 Increase the interval between the launch of Tomcat Server and the testcase by changing the value of property "tester.delay" in the \$(tomcat.source)/build/build.xml, if necessary, since harmony launches slower than RI which may lead to the failure of the first several tests.

i.#3 run "ant run-tester" to run tests.

Tomcat Reference: [How to build Tomcat](#)

## Attention:

- **J9VM:**
- It will fail for "ENOMEM" exception caused by invoking fork() when execute the "Runtime.exec", i rebuild the classlib with replacing fork with vfork in execProgram() of procimpl.c.

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### 31st July:

JSP examples now working with JRE r424571.

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### 13th June:

Despite missing some classes Tomcat will actually run with Harmony, using the following command:

```
java -Djava.endorsed.dirs="C:\jakarta-tomcat-4.1.31\common\endorsed" -classpath "c:\j2sdk1.4.2_05\lib\tools.jar;C:\jakarta-tomcat-4.1.31\bin\bootstrap.jar" -Dcatalina.base="C:\jakarta-tomcat-4.1.31" -Dcatalina.home="C:\jakarta-tomcat-4.1.31" -Djava.io.tmpdir="C:\jakarta-tomcat-4.1.31\temp" org.apache.catalina.startup.Bootstrap start
```

This was on Windows with Harmony installed in "C:\harmony", an RI JRE in "c:\jdk1.4.2\_05", JAVA\_HOME set to "C:\harmony\deploy\jre" and Path containing "C:\harmony\deploy\jre\bin"

tools.jar is needed because Tomcat needs to use javac, which is missing from Harmony at present.

The Tomcat welcome page loads and all the servlet examples seem to work properly but the JSP examples do not.

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#### Update:

List of classes still required as of 8th June 2006:

```
java/awt/MenuContainer
java/awt/Panel
java/awt/image/ImageObserver
javax.accessibility/Accessible
```

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Using the Classlib [snapshot build](#) r38361. I downloaded Tomcat release version 5.5.15 with the 1.4 compatibility kit installed. After chasing through some bat files I figured out this command-line that looks like it should start the server.

As you can see, it fails because we don't have Beans.

On Windows XP:

```
C:\download\apache-tomcat-5.5.15\bin>"c:\harmony\enhanced\classlib\trunk\deploy\jre\bin\java.exe" -Djava.util.
logging.manager=org.apache.juli.ClassLoaderLogManager -Djava.util.logging.config.file="c:\download\apache-
tomcat-5.5.15\conf\logging.properties" -Djava.endorsed.dirs="c:\download\apache-tomcat-5.5.15\common\endorsed" -
classpath "c:\java\IBM JDK 1.4.2\lib\tools.jar;c:\download\apache-tomcat-5.5.15\bin\bootstrap.jar" -Dcatalina.
base="c:\download\apache-tomcat-5.5.15" -Dcatalina.home="c:\download\apache-tomcat-5.5.15" -Djava.io.tmpdir="c:
\download\apache-tomcat-5.5.15\temp" org.apache.catalina.startup.Bootstrap start
Created MBeanServer
java.lang.NoClassDefFoundError: java.beans.PropertyChangeSupport
    at org.apache.catalina.core.StandardService.<init>(StandardService.java:98)
    at org.apache.catalina.startup.Embedded.<init>(Embedded.java:127)
    at org.apache.catalina.startup.Embedded.<init>(Embedded.java:114)
    at org.apache.catalina.startup.Catalina.<init>(Catalina.java:57)
    at java.lang.Class.newInstanceImpl(Native Method)
    at java.lang.Class.newInstance(Class.java:1259)
    at org.apache.catalina.startup.Bootstrap.init(Bootstrap.java:205)
    at org.apache.catalina.startup.Bootstrap.main(Bootstrap.java:390)

C:\download\apache-tomcat-5.5.15\bin>
```

Here is the list of classes that I think we will need to run Tomcat:

```
java/applet/Applet
java/awt/MenuContainer
java/awt/Component
java/awt/Container
java/awt/Panel
java/awt/image/ImageObserver
java/beans/PropertyChangeSupport
java/beans/PropertyChangeEvent
java/beans/PropertyChangeListener
java/beans/PropertyChangeListenerProxy
java/beans/Introspector
java/beans/PropertyDescriptor
java/beans/EventSetDescriptor
java/beans/PropertyChangeSupport
java/beans/PropertyChangeEvent
java/beans/PropertyChangeListener
java/sql/Timestamp
java/sql/Driver
java/sql/DriverManager
java/sql/SQLPermission
java/sql/Timestamp
java/util/logging/Logger
java/util/logging/Handler
```

java/util/logging/Level  
java/util/logging/LogManager  
java/util/logging/LoggingPermission  
java/util/logging/Formatter  
java/util/logging/SimpleFormatter  
java/util/logging/ErrorHandler  
java/util/logging/StreamHandler  
java/util/logging/ConsoleHandler  
java/util/logging/LogRecord  
java/util/logging/Logger  
java/util/logging/Handler  
java/util/logging/Level  
java/util/logging/LogManager  
java/util/logging/LoggingPermission  
java/util/logging/Formatter  
java/util/logging/SimpleFormatter  
java/util/logging/ErrorHandler  
java/util/logging/StreamHandler  
java/util/logging/ConsoleHandler  
javax/accessibility/Accessible  
javax/naming/Context  
javax/naming/RefAddr  
javax/naming/StringRefAddr  
javax/naming/NamingException  
javax/naming/NameAlreadyBoundException  
javax/naming/Reference  
javax/naming/OperationNotSupportedException  
javax/naming/NamingEnumeration  
javax/naming/Name  
javax/naming/NameNotFoundException  
javax/naming/NotContextException  
javax/naming/NameParser  
javax/naming/CompositeName  
javax/naming/LinkRef  
javax/naming/Referenceable  
javax/naming/InitialContext  
javax/naming/NameClassPair  
javax/naming/Binding  
javax/naming/Context  
javax/naming/RefAddr  
javax/naming/StringRefAddr  
javax/naming/NamingException  
javax/naming/NameAlreadyBoundException  
javax/naming/Reference  
javax/naming/directory/DirContext  
javax/naming/directory/Attributes  
javax/naming/directory/Attribute  
javax/naming/directory/BasicAttribute  
javax/naming/spi/NamingManager  
javax/naming/spi/ObjectFactory  
javax/naming/spi/InitialContextFactory  
javax/xml/parsers/SAXParserFactory  
javax/xml/parsers/SAXParser  
javax/xml/parsers/DocumentBuilderFactory  
javax/xml/parsers/DocumentBuilder  
javax/xml/parsers/ParserConfigurationException  
javax/xml/parsers/SAXParserFactory  
javax/xml/parsers/SAXParser  
javax/xml/transform/Source  
javax/xml/transform/Result  
org/w3c/dom/Node  
org/w3c/dom/Element  
org/w3c/dom/NodeList  
org/w3c/dom/Document  
org/w3c/dom/DocumentType  
org/w3c/dom/CharacterData  
org/w3c/dom/Text  
org/w3c/dom/NamedNodeMap  
org/w3c/dom/Attr  
org/w3c/dom/Comment  
org/xml/sax/EntityResolver

```
org/xml/sax/DTDHandler
org/xml/sax/ContentHandler
org/xml/sax/ErrorHandler
org/xml/sax/SAXException
org/xml/sax/SAXParseException
org/xml/sax/Attributes
org/xml/sax/InputSource
org/xml/sax/Parser
org/xml/sax/XMLReader
org/xml/sax/AttributeList
org/xml/sax/Locator
org/xml/sax/EntityResolver
org/xml/sax/DTDHandler
org/xml/sax/ContentHandler
org/xml/sax/ErrorHandler
org/xml/sax/SAXException
org/xml/sax/SAXParseException
org/xml/sax/Attributes
org/xml/sax/InputSource
org/xml/sax/Parser
org/xml/sax/XMLReader
org/xml/sax/AttributeList
org/xml/sax/Locator
org/xml/sax/helpers/DefaultHandler
org/xml/sax/helpers/AttributesImpl
org/xml/sax/helpers/DefaultHandler
org/xml/sax/helpers/AttributesImpl
```