

Building projects

Using ANT

No more play button



Building a project

The build process is **long** and **tedious**

```
mkdir -p build/classes build/jar src  
vim src/HelloWorld.java  
javac -sourcepath src -d classes src/HelloWorld.java  
java -cp classes HelloWorld
```

Introducing ANT

A **command line tool** to build your projects



Get Ant

Check if you have ant by typing the command:

ant -version

Get ant from: <http://ant.apache.org/bindownload.cgi>

Extract the files to a location of your choosing then **add** it to your **path** variable

Get Ant

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Current Release of Ant

Currently, Apache Ant 1.9.6 is the best available version, see the [release notes](#).


Note

Ant 1.9.6 was released on 02-Jul-2015 and may not be available on all mirrors for a few

Tar files may require gnu tar to extract







Tar files in the distribution contain long file names, and may require gnu tar to do the e

- .zip archive: [apache-ant-1.9.6-bin.zip](#) [[PGP](#)] [[SHA1](#)] [[SHA512](#)] [[MD5](#)]

Name	▲	Size	Type
 apache-ant-1.9.6		36.5 MB	Folder

Creating an Ant file

Create a file called Build.xml in the root of your project

Name	Date modified	Type	Size
 .settings	2014-10-30 12:26 ...	File folder	
 bin	2014-10-30 12:26 ...	File folder	
 src	2014-10-30 12:26 ...	File folder	
 .classpath	2014-10-30 12:26 ...	CLASSPATH File	1 KB
 .project	2014-10-30 12:26 ...	PROJECT File	1 KB
 Build.xml	2014-11-04 4:20 PM	XML File	1 KB

Dissecting an ANT file

Go to the AStarExample and find the build file

```
<?xml version="1.0" encoding="UTF-8"?>
<project name="AStar" default="makejar" basedir=". ">

    <target name="clean">
        <delete dir="bin"/>
    </target>

    <target name="compile" depends="clean">
        <mkdir dir="bin"/>
        <javac srcdir="src" destdir="bin"/>
    </target>
```


Running an ant File

```
Shabbir@SHABBIR-LAPTOP ~/Documents/code/university/ecse321tutorials/AStarExample (master)
$ ant clean
Buildfile: c:\Users\Shabbir\Documents\code\university\ecse321tutorials\AStarExample\build.xml

clean:
    [delete] Deleting directory c:\Users\Shabbir\Documents\code\university\ecse321tutorials\AStarExample\bin

BUILD SUCCESSFUL
Total time: 0 seconds
Shabbir@SHABBIR-LAPTOP ~/Documents/code/university/ecse321tutorials/AStarExample (master)
$ ant compile
Buildfile: c:\Users\Shabbir\Documents\code\university\ecse321tutorials\AStarExample\build.xml

clean:

compile:
    [mkdir] Created dir: c:\Users\Shabbir\Documents\code\university\ecse321tutorials\AStarExample\bin
    [javac] c:\Users\Shabbir\Documents\code\university\ecse321tutorials\AStarExample\build.xml:10: warning: 'includeantr
    [javac] Compiling 9 source files to c:\Users\Shabbir\Documents\code\university\ecse321tutorials\AStarExample\bin

BUILD SUCCESSFUL
Total time: 2 seconds
Shabbir@SHABBIR-LAPTOP ~/Documents/code/university/ecse321tutorials/AStarExample (master)
$ ant makejar
Buildfile: c:\Users\Shabbir\Documents\code\university\ecse321tutorials\AStarExample\build.xml

makejar:
    [mkdir] Created dir: c:\Users\Shabbir\Documents\code\university\ecse321tutorials\AStarExample\bin\jar
    [jar] Building jar: c:\Users\Shabbir\Documents\code\university\ecse321tutorials\AStarExample\bin\jar\Astar.jar

BUILD SUCCESSFUL
Total time: 0 seconds
```

Exercise

Create ANT build file for your group project that can generate a jar file.

Generate ANT file

Right click on your project

Export

General->ant build file

Hit okay

References

Rami Sayar Tutorial:

https://github.com/sayar/talks/blob/master/ecse321/tutorial9/ant_tutorial.md

Integrating ANT into eclipse: http://help.eclipse.org/luna/index.jsp?topic=%2Forg.eclipse.platform.doc.user%2FgettingStarted%2Fqs-93_project_builder.htm