

95-702 Organizational Communication and Distributed Object Technologies Homework 1 Due Monday September 15

Java Web Services Installation and Servlets

In this lab we will be using an HTTP server called Tomcat. Tomcat is contained in Sun's Java Web Services Developer Pack (JWSDP). In Part I, we will present the details associated with the installation and basic configuration of Tomcat running under Windows NT or Windows 2000 (you may also use Linux). In Part II we will experiment with authentication and servlets. In Part III you will be asked to complete work for submission.

Part I Installing Tomcat on Windows NT/Windows 2000

1) First, you must install the latest edition of Java on your machine. Obtain a copy of the Java 2 SDK Standard Edition (Java 2 SDK) compiler. This compiler is available from Sun Microsystem's web site at <http://java.sun.com/j2se/1.4.2/download.html>. Select J2SE v 1.4.2 with NetBeans IDE v 3.5 Cobundle. You should also download and install the Java documentation. This is available from the same page under J2SE v 1.4.2 Documentation. Note that the page contains instructions on installation of the SDK and the documentation. Some of these files arrive in a compressed format. You can use winzip to expand them. You can download an evaluation copy of winzip from <http://www.winzip.com/winzip/download.html>. Be sure to set your **path** variable (so that the Java compiler and Java interpreter can be run from any directory using simple commands). Also be sure to set your **classpath** variable (so that javac and java can find the locations of the classes that your programs will use). The following web site contains directions on how to set the path and classpath variables: <http://java.sun.com/j2se/1.3/install-windows.html>.

2) Next, we will download and install the **Java Web Services Developer Pack**. This is the "web services developer pack jwsdp v 1.2". This should be downloaded from Sun's web page at <http://java.sun.com/webservices/downloads/webservicespack.html>. I expanded the downloaded file to a directory called D:\jwsdp-1.2. Please note that you are asked for a username and password during installation. Please remember these for later use (see figure 1.4 below). Also, when prompted, be sure to copy the JAXP classes from the JWSDP installation directory to your <java_home>\jre\lib\endorsed directory.

3) At this point you will need to set four environment variables. On an NT machine, this is done by clicking "Start/Settings/Control Panel/System/Environment" and adding values to the User Variables. On Windows 2000, this is done by clicking Start/Settings/Control Panel/System/Advanced/Environment Variables and adding values to the User Variables. You will need the following:

JAVA_HOME	D:\j2sdk_nb\j2sdk1.4.2	this is where I installed my SDK
JWSDP_HOME	D:\jwsdp-1.2	this is where I installed my developer pack

Here are my JWSDP related settings for in my user path variable

D:\jwsdp-1.2\apache-ant\bin;D:\jwsdp-1.2\bin;D:\jwsdp-1.2\jwsdp-shared\bin;D:\j2sdk_nb\j2sdk1.4.2\bin;C:\batch;. Your classpath variable should be set with D:\jwsdp-1.2\common\lib\servlet.jar;. (note the dot).

TESTING THE INSTALLATION

Using the MyComputer icon, look over the files in the new directory. You should see a directory structure containing many files and subdirectories. For example, your path to the webapps directory should look like the following:

D:\jwsdp-1.2\webapps

4) Since you have set the path variable to D:\jwsdp-1.2\bin you should be able to start the Tomcat web server by executing "startup" at the DOS prompt. Type startup. A small box labeled JWSDP 1.2 should appear on your screen.

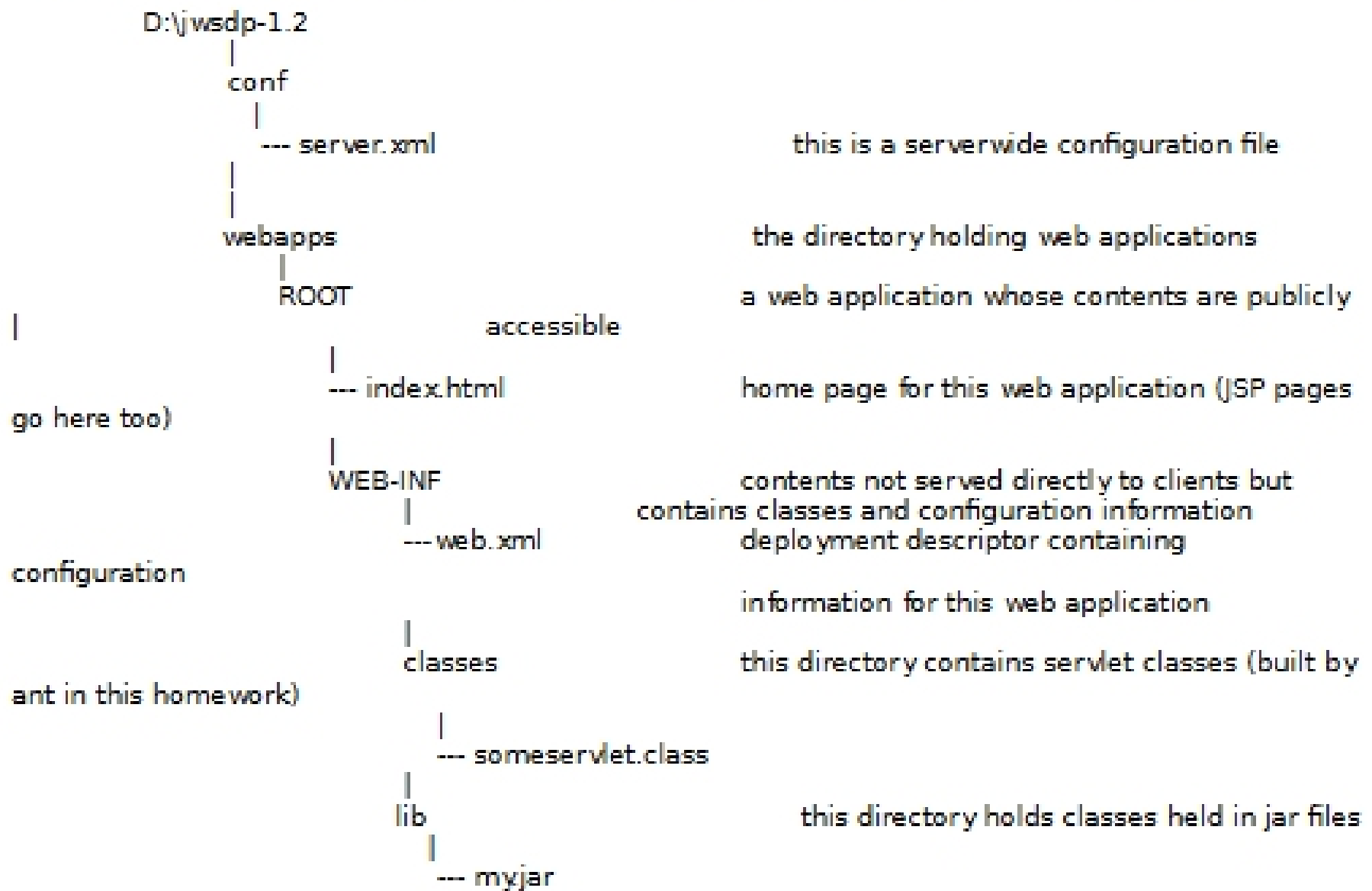
5) Enter the following URL in a browser <http://localhost:8080/index.html>. Your browser screen should display some information on web services:

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The source of this html can be found in the file:

D:\jwsdp-1.2\webapps\ROOT\index.html.

6) The `index.html` file and its parent directory are contained in a directory structure similar to the one shown below (the `'classes'` and `'lib'` directories are not found under `'webapps/ROOT'` but are typical of the web applications we will write):



7) To shut down the server, enter the command **shutdown** at the DOS prompt. If this does not work but instead executes a Windows shutdown command then you need to make sure that your `path` variable is set to point to the JWSDP bin directory.