-

LAB:-

Login to the ec2 with your own user without directly.

Source Code structure(Soruce Code Mangememnt Tool(SVN/CVS/Github)

Build.xml

```xml
<project name="AntExample1" default="war">

    <path id="compile.classpath">
        <fileset dir="WebContent/WEB-INF/lib">
            <include name="*.jar"/>
        </fileset>
    </path>

    <target name="init">
        <mkdir dir="build/classes"/>
        <mkdir dir="dist" />
    </target>

    <target name="compile" depends="init" >
        <javac destdir="build/classes" debug="true" srcdir="src">
            <classpath refid="compile.classpath"/>
        </javac>
    </target>

    <target name="war" depends="compile">
        <war destfile="dist/AntExample.war" webxml="WebContent/WEB-INF/web.xml">
            <fileset dir="WebContent"/>
            <lib dir="WebContent/WEB-INF/lib"/>
            <classes dir="build/classes"/>
        </war>
    </target>

    <target name="clean">
        <delete dir="dist" />
        <delete dir="build" />
    </target>
```
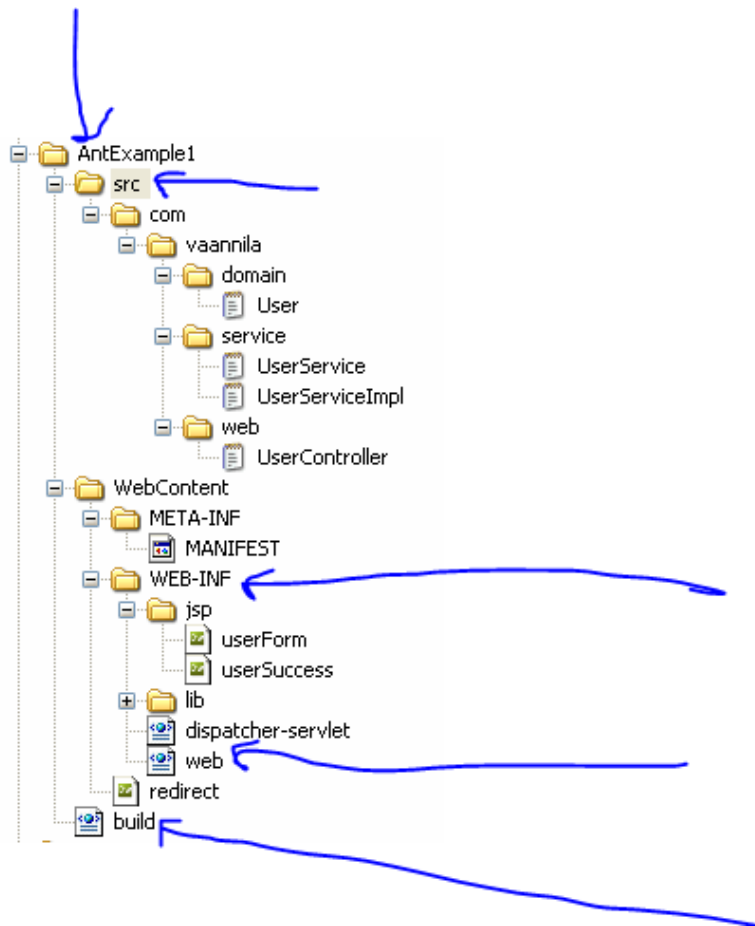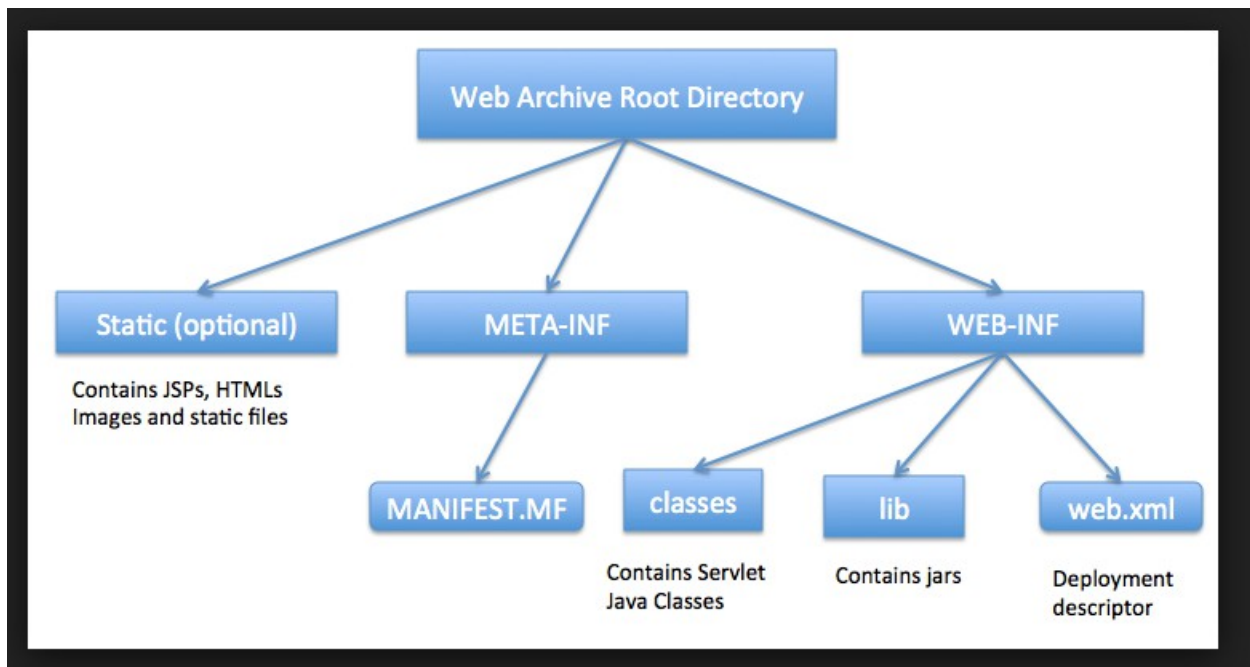
WAR file Structure

Apache Tomcat

Java based server(WAR)

Container: Web Container(Servlet Container)

Port number: http(8080),https(8443),ajp(advance jserv protocol-8009)

Important file: server.xml

Important log file: catalina.out

Pre-req: JDK/JRE(java development kit/Java Runtime Environment)

Version: 9.x

On the live: 6/7/8/9

License type: OpenSource

Tomcat Directory Structure

ApacheTomcat-xx(CATALINA_HOME/CATALINA_BASE)(Tomcat home directory)

→bin(startup.sh,shutdown.sh,setenv.sh,catalina.sh)

→conf(server.xml,context.xml,tomcat-users.xml,logging.properties)

→lib(*.jar(servelet-api.jar,jasper.jar))

→webapp(Deployment Directory(*.war))

→work(temporary directory and it can be deleted)

→tmp(temporary directory)

→logs(catalina.out)

```
[root@localhost apache-tomcat-8.5.15]# ls -ltr
total 120
drwxr-xr-x.  2 root root  4096 May  5 12:03 work
drwxr-xr-x.  2 root root  4096 May  5 12:03 logs
drwxr-xr-x.  7 root root  4096 May  5 12:03 webapps
drwxr-xr-x.  2 root root  4096 May  5 12:03 temp
-rw-r--r--.  1 root root 16416 May  5 12:03 RUNNING.txt
-rw-r--r--.  1 root root  7241 May  5 12:03 RELEASE-NOTES
-rw-r--r--.  1 root root  1774 May  5 12:03 NOTICE
-rw-r--r--.  1 root root 58153 May  5 12:03 LICENSE
drwxr-xr-x.  2 root root  4096 May  5 12:03 lib
drwxr-xr-x.  2 root root  4096 May  5 12:03 conf
drwxr-xr-x.  2 root root  4096 May  5 12:03 bin
[root@localhost apache-tomcat-8.5.15]# pwd
/opt/apache-tomcat-8.5.15
```

owner
group

Installation

JDK/JRE Installation

JAVA (SUN)----→oracle java(jrocket-weblogic)

--→IBM (IBM java—IBM Products)

→Redhat→openjdk

→Apple →Apple Java

We use mostly sun java in the projects.SUNjava(oracle).

To know which java or version we are using: **java –version**

JAVA Instalaltion Ways→RPM(you need todownload the package) ,YUM(baseurl),zip/tar.gz(you need to download the package).

To install java with yum

yum install java

To check installed or not.

java –version

rpm installation

Download the package from repository url.

http://www.oracle.com/technetwork/java/javase/downloads/index.html

Java SE Development Kit 8u141

You must accept the Oracle Binary Code License Agreement for Java SE to download this software.

○ Accept License Agreement   ◉ Decline License Agreement

Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	77.88 MB	jdk-8u141-linux-arm32-vfp-hflt.tar.gz
Linux ARM 64 Hard Float ABI	74.83 MB	jdk-8u141-linux-arm64-vfp-hflt.tar.gz
Linux x86	164.66 MB	jdk-8u141-linux-i586.rpm
Linux x86	179.4 MB	jdk-8u141-linux-i586.tar.gz
Linux x64	162.11 MB	jdk-8u141-linux-x64.rpm
Linux x64	176.92 MB	jdk-8u141-linux-x64.tar.gz
Mac OS X	226.6 MB	jdk-8u141-macosx-x64.dmg
Solaris SPARC 64-bit	139.84 MB	jdk-8u141-solaris-sparcv9.tar.Z
Solaris SPARC 64-bit	99.17 MB	jdk-8u141-solaris-sparcv9.tar.gz
Solaris x64	140.59 MB	jdk-8u141-solaris-x64.tar.Z
Solaris x64	97.01 MB	jdk-8u141-solaris-x64.tar.gz
Windows x86	190.95 MB	jdk-8u141-windows-i586.exe
Windows x64	197.78 MB	jdk-8u141-windows-x64.exe
Back to top		

Java SE Runtime Environment 8u141

Once you downloaded the jdk..xxx.rpmpackage,copy this file to remote unix server(filezilla/winscp).

Goto the rpm package residing location and execute the follow command to do installation.

[root@localhost opt]# rpm -ivh jdk-8u141-linux-x64.rpm

[root@localhost opt]# java -version
java version "1.8.0_141"
Java(TM) SE Runtime Environment (build 1.8.0_141-b15)

Java HotSpot(TM) 64-Bit Server VM (build 25.141-b15, mixed mode)
[root@localhost opt]#

Tomcat Installation.

https://tomcat.apache.org/download-80.cgi

8.5.23

Please see the README file for packaging information. It explains what every distribution contains.

Binary Distributions

- Core:
  - zip (pgp, md5, sha1)
  - tar.gz (pgp, md5, sha1)
  - 32-bit Windows zip (pgp, md5, sha1)
  - 64-bit Windows zip (pgp, md5, sha1)
  - 32-bit/64-bit Windows Service Installer (pgp, md5, sha1)
- Full documentation:
  - tar.gz (pgp, md5, sha1)
- Deployer:
  - zip (pgp, md5, sha1)
  - tar.gz (pgp, md5, sha1)
- Extras:
  - JMX Remote jar (pgp, md5, sha1)
  - Web services jar (pgp, md5, sha1)
- Embedded:
  - tar.gz (pgp, md5, sha1)
  - zip (pgp, md5, sha1)

Source Code Distributions

```
[root@localhost bin]# sh catalina.sh start
Using CATALINA_BASE:   /opt/apache-tomcat-8.5.15
Using CATALINA_HOME:   /opt/apache-tomcat-8.5.15
Using CATALINA_TMPDIR: /opt/apache-tomcat-8.5.15/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /opt/apache-tomcat-8.5.15/bin/bootstrap.jar:/opt/apache-tomcat-8.5.15/bin/tomcat-juli.jar
Tomcat started.
[root@localhost bin]#
```

```
[root@localhost bin]# sh catalina.sh stop
Using CATALINA_BASE:   /opt/apache-tomcat-8.5.15
Using CATALINA_HOME:   /opt/apache-tomcat-8.5.15
Using CATALINA_TMPDIR: /opt/apache-tomcat-8.5.15/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /opt/apache-tomcat-8.5.15/bin/bootstrap.jar:/opt/apache-tomcat-8.5.15/bin/tomcat-juli.jar
[root@localhost bin]#
```

Check Tomcat process running or not

(Process owner and Process id ,ppid,time and terminal)

```
[root@localhost bin]# ps -ef | grep tomcat
root        3327     1 44 02:11 pts/1    00:00:02 /usr/bin/java -Djava.util.logging.config.file=/opt/apache-tomcat-8.5.15/
conf/logging.properties -Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager -Djdk.tls.ephemeralDHKeySize=204
8 -Djava.protocol.handler.pkgs=org.apache.catalina.webresources -classpath /opt/apache-tomcat-8.5.15/bin/bootstrap.jar:/op
t/apache-tomcat-8.5.15/bin/tomcat-juli.jar -Dcatalina.base=/opt/apache-tomcat-8.5.15 -Dcatalina.home=/opt/apache-tomcat-8.
5.15 -Djava.io.tmpdir=/opt/apache-tomcat-8.5.15/temp org.apache.catalina.startup.Bootstrap start
root        3371  2859  0 02:11 pts/1    00:00:00 grep tomcat
[root@localhost bin]#
```

```
[root@localhost bin]# ./shutdown.sh
Using CATALINA_BASE:   /opt/apache-tomcat-8.5.15
Using CATALINA_HOME:   /opt/apache-tomcat-8.5.15
Using CATALINA_TMPDIR: /opt/apache-tomcat-8.5.15/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /opt/apache-tomcat-8.5.15/bin/bootstrap.jar:/opt/apache-tomcat-8.5.15/bin/tomcat-juli.jar
[root@localhost bin]# ps -ef | grep tomcat
root        3404  2859  0 02:15 pts/1    00:00:00 grep tomcat
[root@localhost bin]# ./startup.sh
Using CATALINA_BASE:   /opt/apache-tomcat-8.5.15
Using CATALINA_HOME:   /opt/apache-tomcat-8.5.15
Using CATALINA_TMPDIR: /opt/apache-tomcat-8.5.15/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /opt/apache-tomcat-8.5.15/bin/bootstrap.jar:/opt/apache-tomcat-8.5.15/bin/tomcat-juli.jar
Tomcat started.
[root@localhost bin]# ps -ef | grep tomcat
root        3419     1 60 02:16 pts/1    00:00:01 /usr/bin/java -Djava.util.logging.config.file=/opt/apache-tomcat-8.5.15/
conf/logging.properties -Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager -Djdk.tls.ephemeralDHKeySize=204
8 -Djava.protocol.handler.pkgs=org.apache.catalina.webresources -classpath /opt/apache-tomcat-8.5.15/bin/bootstrap.jar:/op
t/apache-tomcat-8.5.15/bin/tomcat-juli.jar -Dcatalina.base=/opt/apache-tomcat-8.5.15 -Dcatalina.home=/opt/apache-tomcat-8.
5.15 -Djava.io.tmpdir=/opt/apache-tomcat-8.5.15/temp org.apache.catalina.startup.Bootstrap start
root        3436  2859  0 02:16 pts/1    00:00:00 grep tomcat
[root@localhost bin]#
```

```
Type here to search                                                              9:16 AM
```

Log Files

```
[root@localhost apache-tomcat-8.5.15]# pwd
/opt/apache-tomcat-8.5.15
[root@localhost apache-tomcat-8.5.15]# cd logs
[root@localhost logs]# ls -ltr
total 52
-rw-r-----. 1 root root        0 Oct 18 02:09 manager.2017-10-18.log
-rw-r-----. 1 root root        0 Oct 18 02:09 host-manager.2017-10-18.log
-rw-r-----. 1 root root        0 Oct 18 02:09 localhost_access_log.2017-10-18.txt
-rw-r-----. 1 root root     1392 Oct 18 02:16 localhost.2017-10-18.log
-rw-r-----. 1 root root    20697 Oct 18 02:16 catalina.out
-rw-r-----. 1 root root    20697 Oct 18 02:16 catalina.2017-10-18.log
[root@localhost logs]# pwd
/opt/apache-tomcat-8.5.15/logs
[root@localhost logs]#
```

More filename

Less filename

Head filename

Tail filename

Vi filename

Head -100 filename

Tail -500 filename

Tail -50f filanem(last 50 lines + updated next lines)

Nullyfy a file (>filename)

```
[root@localhost logs]# tail -f catalina.out
18-Oct-2017 02:26:18.643 INFO [main] org.apache.catalina.core.StandardServer.await A valid shutdown command was received v
ia the shutdown port. Stopping the Server instance.
18-Oct-2017 02:26:18.644 INFO [main] org.apache.coyote.AbstractProtocol.pause Pausing ProtocolHandler ["http-nio-8080"]
18-Oct-2017 02:26:18.655 INFO [main] org.apache.coyote.AbstractProtocol.pause Pausing ProtocolHandler ["ajp-nio-8009"]
18-Oct-2017 02:26:18.658 INFO [main] org.apache.catalina.core.StandardService.stopInternal Stopping service [Catalina]
18-Oct-2017 02:26:18.712 INFO [main] org.apache.coyote.AbstractProtocol.stop Stopping ProtocolHandler ["http-nio-8080"]
18-Oct-2017 02:26:18.715 INFO [main] org.apache.coyote.AbstractProtocol.stop Stopping ProtocolHandler ["ajp-nio-8009"]
18-Oct-2017 02:26:18.717 INFO [main] org.apache.coyote.AbstractProtocol.destroy Destroying ProtocolHandler ["http-nio-8080
"]
18-Oct-2017 02:26:18.718 INFO [main] org.apache.coyote.AbstractProtocol.destroy Destroying ProtocolHandler ["ajp-nio-8009"
]
```

```
web application directory [/opt/apache-tomcat-8.5.15/webapps/docs] has finished in [38] ms
18-Oct-2017 02:28:32.196 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web
application directory [/opt/apache-tomcat-8.5.15/webapps/ROOT]
18-Oct-2017 02:28:32.230 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of
web application directory [/opt/apache-tomcat-8.5.15/webapps/ROOT] has finished in [34] ms
18-Oct-2017 02:28:32.233 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["http-nio-8080"]
18-Oct-2017 02:28:32.273 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["ajp-nio-8009"]
18-Oct-2017 02:28:32.288 INFO [main] org.apache.catalina.startup.Catalina.start Server startup in 1395 ms
```

```
web application directory [/opt/apache-tomcat-8.5.15/webapps/docs] has finished in [38] ms
18-Oct-2017 02:28:32.196 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web
application directory [/opt/apache-tomcat-8.5.15/webapps/ROOT]
18-Oct-2017 02:28:32.230 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of
web application directory [/opt/apache-tomcat-8.5.15/webapps/ROOT] has finished in [34] ms
18-Oct-2017 02:28:32.233 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["http-nio-8080"]
18-Oct-2017 02:28:32.273 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["ajp-nio-8009"]
18-Oct-2017 02:28:32.288 INFO [main] org.apache.catalina.startup.Catalina.start Server startup in 1395 ms
^C
[root@localhost logs]# ls -ltr
```
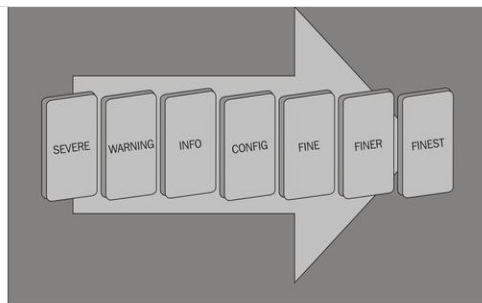
Check Types of Log levels in Tomcat ?

About The WEBAPPS

We do deployment of war files or exploded directories.

```
[root@localhost apache-tomcat-8.5.15]# pwd
/opt/apache-tomcat-8.5.15
[root@localhost apache-tomcat-8.5.15]# cd webapps/
[root@localhost webapps]# ls -ltr
total 20
drwxr-xr-x.  3 root root 4096 May  5 12:03 ROOT
drwxr-xr-x.  5 root root 4096 May  5 12:03 manager
drwxr-xr-x.  5 root root 4096 May  5 12:03 host-manager
drwxr-xr-x.  6 root root 4096 May  5 12:03 examples
drwxr-xr-x. 14 root root 4096 May  5 12:03 docs
[root@localhost webapps]# pwd
/opt/apache-tomcat-8.5.15/webapps
[root@localhost webapps]#
```

Deployment of Sample.war

```
/opt/apache-tomcat-8.5.15/webapps
[root@localhost webapps]# cd /opt/
[root@localhost opt]# ls -ltr
total 176780
drwxr-xr-x. 2 root root      4096 May 17  2013 rh
drwxr-xr-x. 9 root root      4096 May  5 12:06 apache-tomcat-8.5.15
-rw-r--r--. 1 root root 169980729 Oct 18 01:44 jdk-8u141-linux-x64.rpm
-rw-r--r--. 1 root root  11015137 Oct 18 02:02 apache-tomcat-8.5.15-windows-x64.zip
-rw-r--r--. 1 root root      4606 Oct 18 02:35 sample.war
[root@localhost opt]# pwd
/opt
[root@localhost opt]# cp sample.war /opt/apache-tomcat-8.5.15/webapps/
[root@localhost opt]# cd /opt/apache-tomcat-8.5.15/webapps/
[root@localhost webapps]# ls -ltr
total 32
drwxr-xr-x.  3 root root 4096 May  5 12:03 ROOT
drwxr-xr-x.  5 root root 4096 May  5 12:03 manager
drwxr-xr-x.  5 root root 4096 May  5 12:03 host-manager
drwxr-xr-x.  6 root root 4096 May  5 12:03 examples
drwxr-xr-x. 14 root root 4096 May  5 12:03 docs
-rw-r--r--.  1 root root 4606 Oct 18 02:35 sample.war
drwxr-x---.  5 root root 4096 Oct 18 02:36 sample
[root@localhost webapps]#
```

After deployment of the war file check log file and observe last lines of the file.

```
application directory [/opt/apache-tomcat-8.5.15/webapps/ROOT]
18-Oct-2017 02:28:32.230 INFO [localhost-startStop-1] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of
 web application directory [/opt/apache-tomcat-8.5.15/webapps/ROOT] has finished in [34] ms
18-Oct-2017 02:28:32.233 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["http-nio-8080"]
18-Oct-2017 02:28:32.273 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["ajp-nio-8009"]
18-Oct-2017 02:28:32.288 INFO [main] org.apache.catalina.startup.Catalina.start Server startup in 1395 ms
18-Oct-2017 02:36:02.609 INFO [localhost-startStop-2] org.apache.catalina.startup.HostConfig.deployWAR Deploying web appli
cation archive [/opt/apache-tomcat-8.5.15/webapps/sample.war]
18-Oct-2017 02:36:02.698 INFO [localhost-startStop-2] org.apache.catalina.startup.HostConfig.deployWAR Deployment of web a
pplication archive [/opt/apache-tomcat-8.5.15/webapps/sample.war] has finished in [89] ms
```

Access the remote application(Note: When remote server doesn't have **public ip**) into your local system.

On Top of putty opened session →Rightclick→ChangeSettings→

PuTTY Reconfiguration

Category:
- Session
  - Logging
- Terminal
  - Keyboard
  - Bell
  - Features
- Window
  - Appearance
  - Behaviour
  - Translation
  - Selection
  - Colours
- Connection
  - SSH
    - Kex
    - Host keys
    - Cipher
    - Tunnels

Options controlling SSH port forwarding

Port forwarding
- [ ] Local ports accept connections from other hosts
- [ ] Remote ports do the same (SSH-2 only)

Forwarded ports: Remove

L8080   localhost:8080

Add new forwarded port:

Source port   8080   Add

Destination   localhost:8080

( ) Local   ( ) Remote   ( ) Dynamic
( ) Auto   ( ) IPv4   ( ) IPv6
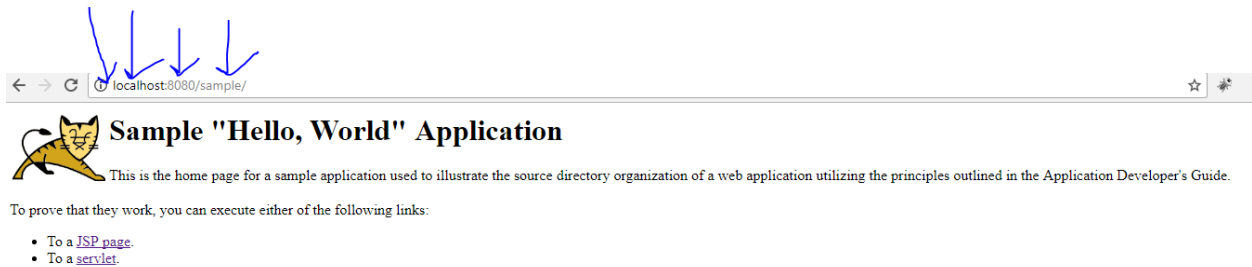
Apply   Cancel

3 host-manager
3 examples
3 docs

After enabling the tunneling check its active or not (in your local system)

```
C:\Users\Gangi reddy>netstat -ano | find  ":8080"
  TCP    127.0.0.1:8080         0.0.0.0:0              LISTENING       13676
  TCP    [::1]:8080             [::]:0                LISTENING       13676

C:\Users\Gangi reddy>
```

Access the page.

Sample "Hello, World" Application

This is the home page for a sample application used to illustrate the source directory organization of a web application utilizing the principles outlined in the Application Developer's Guide.

To prove that they work, you can execute either of the following links:

- To a JSP page.
- To a servlet.

How request forwarded to Tomcat from apache(Without port number).

```
protocal://<hostname/ip>:<port>/<applicationame/contextroot

www.sample.com
===============
protocal:http
hostname:www.sample.com-------------->DNS(IP)
port:80

=======================>IP----->80---->Apache(Proxy- ReverseProxy)--------------->8080(http)/8009(ajp)-->Tomcat
```

http://localhost:8080/sample---------->Directly Tomcat
www.sample.com/---->Via Apache To Tomcat(Benefit: No port number and security)

protocal://<hostname/ip>:<port>/<applicationame/contextroot

www.sample.com
===============
protocal:http
hostname:www.sample.com-------------->DNS(IP)
port:80

=======================>IP----->80---->Apache(Proxy- ReverseProxy)--------------
>8080(http)/8009(ajp)-->Tomcat

Apache and Tomcat Integration
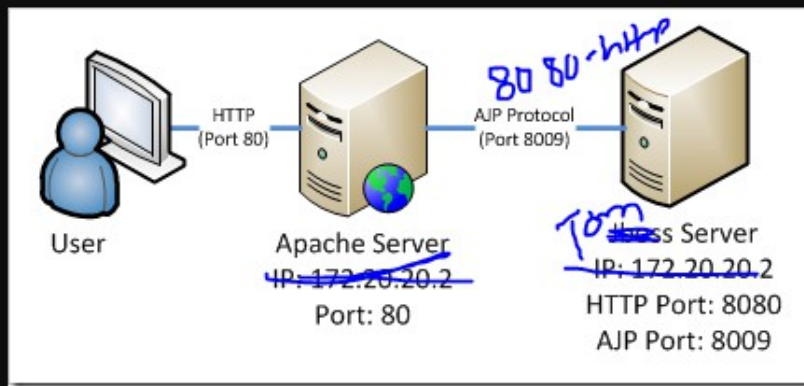
Enuser--→http(80)/https(443)-----→Apache---
→http(8080)/ajp(8009)------→Tomcat-----→JDBC(mysql-3306/mssql-
1433/oracle-1521/db2-50000)-----→DB
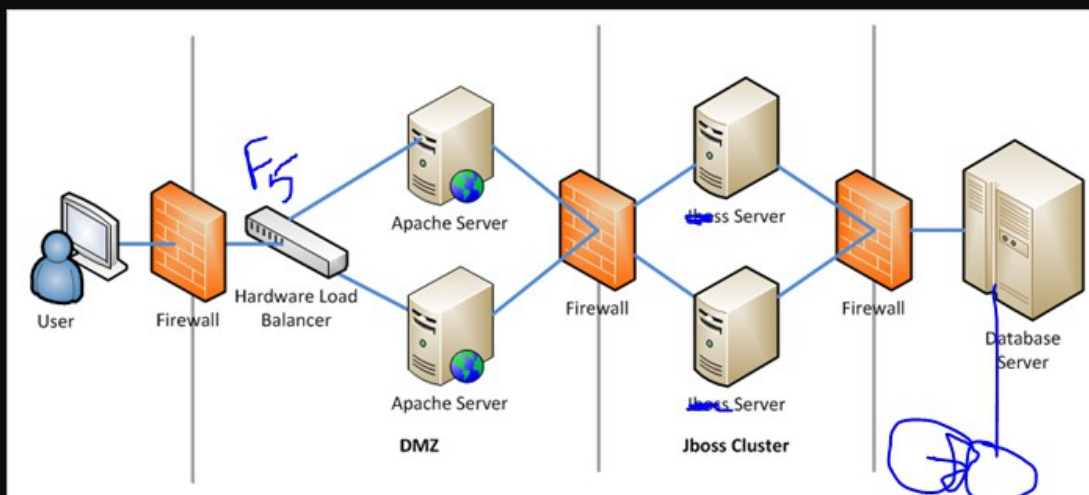
Apache and Tomcat integration done in multiple way

1.mod_jk(external)

2.mod_proxy(inbuilt in apache)

Request----→Apache-----------→Tomcat

About The Conext.xml(Datasouce info/DBinfo)

Application --→DB

DB username

DB password

DB Name

Where my DB is running

JNDI name

Or

<CATINA_HOME/conf/context.xml(JDBC/Datasource)(server.xml)

```
[root@localhost conf]# ls -ltr
total 232
-rw-r--r--. 1 root root 172936 May  5 12:03 web.xml
-rw-r--r--. 1 root root   2691 May  5 12:03 tomcat-users.xsd
-rw-r--r--. 1 root root   2208 May  5 12:03 tomcat-users.xml
-rw-r--r--. 1 root root   7678 May  5 12:03 server.xml
-rw-r--r--. 1 root root   3692 May  5 12:03 logging.properties
-rw-r--r--. 1 root root   2410 May  5 12:03 jaspic-providers.xsd
-rw-r--r--. 1 root root   1172 May  5 12:03 jaspic-providers.xml
-rw-r--r--. 1 root root   1368 May  5 12:03 context.xml
-rw-r--r--. 1 root root   7528 May  5 12:03 catalina.properties
-rw-r--r--. 1 root root  13155 May  5 12:03 catalina.policy
drwxr-x---. 3 root root   4096 Oct 18 02:09 Catalina
[root@localhost conf]# pwd
/opt/apache-tomcat-8.5.15/conf
[root@localhost conf]#
```

Sample code snippet of datasouce/jndi configuration in context.xml for mysql databse.

```
<Context>

<Resource name="jdbc/[YourDatabaseName]"

auth="Container"

type="javax.sql.DataSource"

username="[DatabaseUsername]"

password="[DatabasePassword]"

driverClassName="com.mysql.jdbc.Driver"

url="jdbc:mysql:/[yourserver]:3306/[yourapplication]"

maxActive="15"

maxIdle="3"/>

</Context>
```

url="jdbc:mysql:/[yourserver]:3306/[yourapplication]
JDBC url : mysql – jdbc:mysql:/<ip/end/hostname>:3306/dbname (Type4).- thin driver.

Datasource configuration oracle.

```
<Context docBase="demods" path="/demods" reloadable="true">
 &Resource
        name="jdbc/UCPPool"
        auth="Container"
        factory="oracle.ucp.jdbc.PoolDataSourceImpl"
        type="oracle.ucp.jdbc.PoolDataSource"
        description="Pas testing UCP Pool in Tomcat"
        connectionFactoryClassName="oracle.jdbc.pool.OracleDataSource"
        minPoolSize="2"
        maxPoolSize="5"
        inactiveConnectionTimeout="20"
        user="scott"
        password="tiger"
        url="jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)
             (HOST=beast.au.oracle.com)(PORT=1523))(CONNECT_DATA=
             (SERVICE_NAME=linux11gr2)))"
        connectionPoolName="UCPPool"
        validateConnectionOnBorrow="true"
        sqlForValidateConnection="select 1 from DUAL" />
 </Context>
</Host>
```

JDBC oracle type4-thin: jdbc:oracle:thin:@<DBhostname/ip/:1521/<SID>(tnsnames.ora)
ps –ef | grep pmon
Oracle_<SID>

LAB:-

Tell me jdbc driver types ?

About server.xml

Tomcat architecture
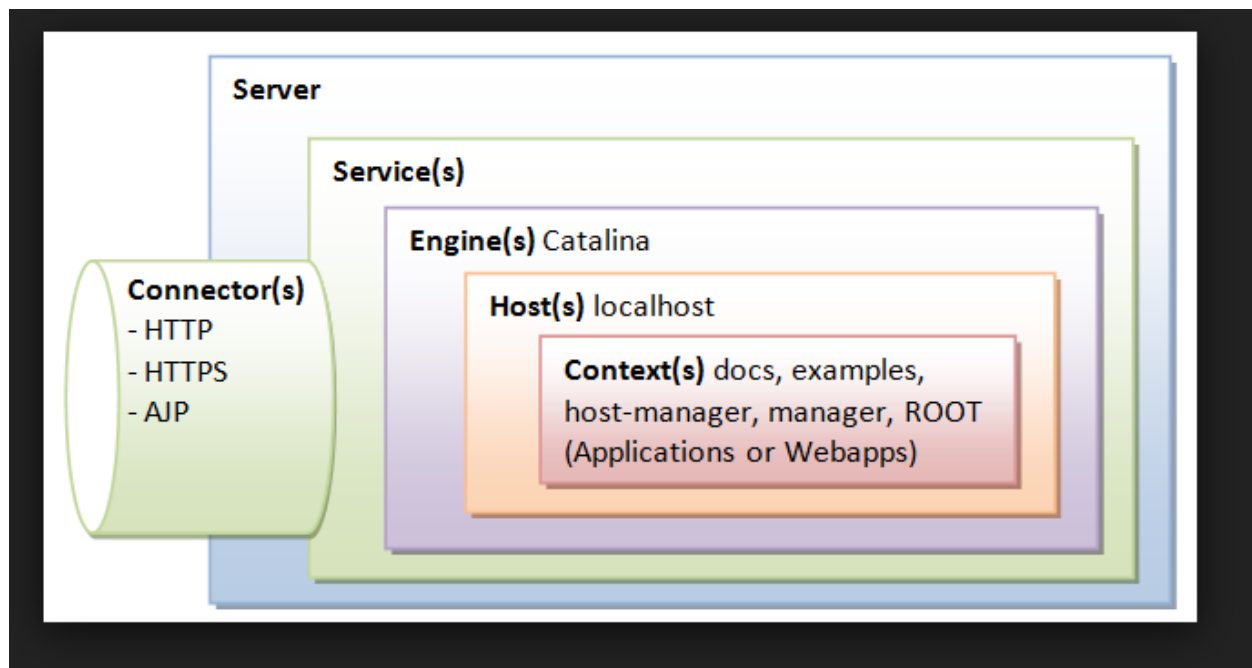
apache-tomcat-7.0.81 › conf

Name	Date modified	Type	Size
catalina.policy	8/11/2017 1:23 PM	POLICY File	14 KB
catalina.properties	8/11/2017 1:23 PM	PROPERTIES File	7 KB
context	8/11/2017 1:23 PM	XML Document	2 KB
logging.properties	8/11/2017 1:23 PM	PROPERTIES File	4 KB
server	8/11/2017 1:23 PM	XML Document	7 KB
tomcat-users	8/11/2017 1:23 PM	XML Document	2 KB
web	8/11/2017 1:23 PM	XML Document	169 KB

Comments in xml

<!----xxxxxxxxxxxxxxxxxxxxx--- >(ignores).

<server>

<listeners--------- >

<service name="catalina">

<connectors name="http" port ="8080"…………… >

<connectors name="ajp" port ="8009"…………… >

<!---<connectors name="https" port ="8443"…………… > -- > -------- used for ssl

<engine --- catalina host=defaulthost>

<host ----- >---→VHsting in tomcat

</service>

</server>

```
    <Connector port="8009" protocol="AJP/1.3" redirectPort="8443" />
    <Engine name="Catalina" defaultHost="localhost">
     <Realm className="org.apache.catalina.realm.LockOutRealm">
       <Realm className="org.apache.catalina.realm.UserDatabaseRealm"
             resourceName="UserDatabase"/>
     </Realm>
     <Host name="localhost"  appBase="webapps"
           unpackWARs="true" autoDeploy="true">
        <Valve className="org.apache.catalina.valves.AccessLogValve" directory="logs"
               prefix="localhost_access_log." suffix=".txt"
               pattern="%h %l %u %t &quot;%r&quot; %s %b" />
     </Host>
    </Engine>
   </Service>
 </Server>
```
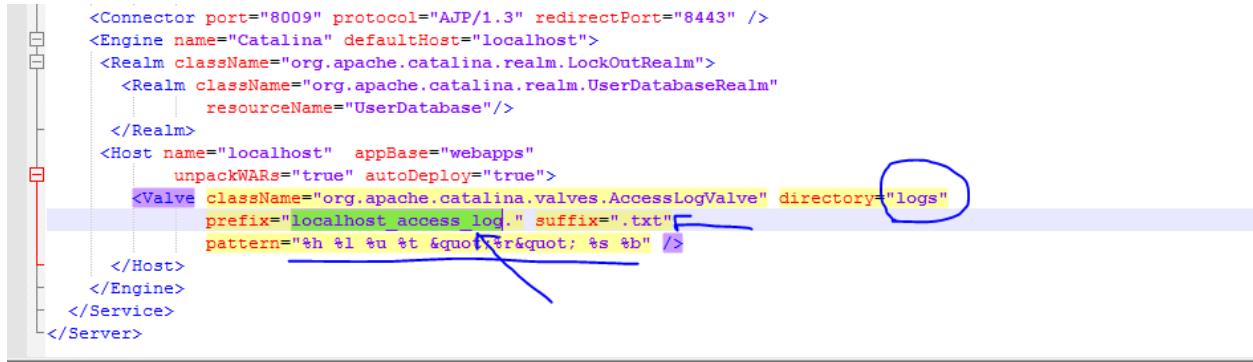
Localhost_access.log (equal to access.log in apache)

%h- client ip

%l and %u = - -

%t=time of request
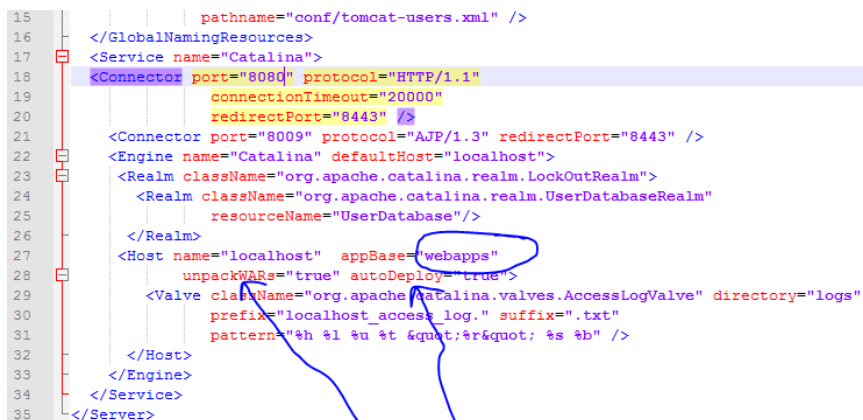
%s= status codes(20x,30x,40x,50x)

%r=request type and source

%b=bytes of information transferred.

appBase=look for the war/application files location (webapps)

unpackWAR= create a folder from war file

autoDeploy=Tomcat supports hot deployment.

```
15               pathname="conf/tomcat-users.xml" />
16      </GlobalNamingResources>
17      <Service name="Catalina">
18       <Connector port="8080" protocol="HTTP/1.1"
19                  connectionTimeout="20000"
20                  redirectPort="8443" />
21       <Connector port="8009" protocol="AJP/1.3" redirectPort="8443" />
22       <Engine name="Catalina" defaultHost="localhost">
23        <Realm className="org.apache.catalina.realm.LockOutRealm">
24          <Realm className="org.apache.catalina.realm.UserDatabaseRealm"
25                resourceName="UserDatabase"/>
26        </Realm>
27        <Host name="localhost"  appBase="webapps"
28              unpackWARs="true" autoDeploy="true">
29           <Valve className="org.apache.catalina.valves.AccessLogValve" directory="logs"
30                  prefix="localhost_access_log." suffix=".txt"
31                  pattern="%h %l %u %t &quot;%r&quot; %s %b" />
32        </Host>
33       </Engine>
34      </Service>
35    </Server>
```

Tomcat-users.xml

It contains information about tomcat admin console users.

Roles and users.

check Tomcat level roles ?

What each roles does ?

About Logging .properties.(CATALINA_BASE/conf/logging.properties)

Log-→Writing info

Log level

Log Appender-→console,file

Rotation-→size and time

```
[root@localhost conf]# cd ..
[root@localhost apache-tomcat-8.5.15]# cd logs
[root@localhost logs]# ls -ltr
total 24
-rw-r-----. 1 root root    0 Oct 18 02:09 manager.2017-10-18.log
-rw-r-----. 1 root root    0 Oct 18 02:09 host-manager.2017-10-18.log
-rw-r-----. 1 root root 1948 Oct 18 02:28 localhost.2017-10-18.log
-rw-r-----. 1 root root 7637 Oct 18 02:36 catalina.out
-rw-r-----. 1 root root 7637 Oct 18 02:36 catalina.2017-10-18.log
-rw-r-----. 1 root root  421 Oct 18 02:44 localhost_access_log.2017-10-18.txt
[root@localhost logs]# pwd
/opt/apache-tomcat-8.5.15/logs
[root@localhost logs]#
```

Logging.properties

```
handlers = 1catalina.org.apache.juli.AsyncFileHandler, 2localhost.org.apache.juli.AsyncFileHandler, 3manager.org.apache.ju
li.AsyncFileHandler, 4host-manager.org.apache.juli.AsyncFileHandler, java.util.logging.ConsoleHandler

.handlers = 1catalina.org.apache.juli.AsyncFileHandler, java.util.logging.ConsoleHandler

############################################################
# Handler specific properties.
# Describes specific configuration info for Handlers.
############################################################

1catalina.org.apache.juli.AsyncFileHandler.level = FINE
1catalina.org.apache.juli.AsyncFileHandler.directory = ${catalina.base}/logs
1catalina.org.apache.juli.AsyncFileHandler.prefix = catalina.

2localhost.org.apache.juli.AsyncFileHandler.level = FINE
2localhost.org.apache.juli.AsyncFileHandler.directory = ${catalina.base}/logs
2localhost.org.apache.juli.AsyncFileHandler.prefix = localhost.
--More--(46%)
```

LAB:- Enable log4j in Apache Tomcat

LAB:- Make a catalina.out to be with your name .

Roles and Responsibilities in Tomcat

Installallation
Upgrdation
Configuration
Connectivity with DB
Deployment(manual and automated deployment)
Stop/start
Analyzing the logs
Enabling SSL at tomcat level
Troubleshooting the environment issues(Slowness/not working/not accessible)
Integration between apache and Tomcat
Clustering of Tomcat