

# Tomcat 5.5.x and OS X Tiger Server

SSL and Virtual Hosting  
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## Apache Tomcat/5.5.17



The Apache Software Foundation

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If you're seeing this page via a web browser, it means you've setup Tomcat successfully. Congratulations!

As you may have guessed by now, this is the default Tomcat home page. It can be found on the local filesystem at:

```
§CATALINA_HOME/webapps/ROOT/index.jsp
```

where "§CATALINA\_HOME" is the root of the Tomcat installation directory. If you're seeing this page, and you don't think you should be, then either you're either a user who has arrived at new installation of Tomcat, or you're an administrator who hasn't got his/her setup quite right. Providing the latter is the case, please refer to the [Tomcat Documentation](#) for more detailed setup and administration information than is found in the INSTALL file.

**NOTE:** This page is precompiled. If you change it, this page will not change since it was compiled into a servlet at build time. (See §CATALINA\_HOME/webapps/ROOT/WEB-INF/web.xml as to how it was mapped.)

**NOTE:** For security reasons, using the administration webapp is restricted to users with role "admin". The manager webapp is restricted to users with role "manager". Users are defined in §CATALINA\_HOME/conf/tomcat-users.xml.

Included with this release are a host of sample Servlets and JSPs (with associated source code), extensive documentation (including the Servlet 2.4 and JSP 2.0 API JavaDoc), and an introductory guide to developing web applications.

Tomcat mailing lists are available at the Tomcat project web site:

- [users@tomcat.apache.org](mailto:users@tomcat.apache.org) for general questions related to configuring and using Tomcat
- [dev@tomcat.apache.org](mailto:dev@tomcat.apache.org) for developers working on Tomcat

Thanks for using Tomcat!

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TOMCAT

# SSL, Tomcat, and Secure Connections

- By default the SSL Connector is not started.
- You must create a keystore for Tomcat before removing the comment tags in the server.xml file.
- Run the following command:
- `keytool -genkey -alias tomcat -keyalg RSA`
- Follow the instructions.

- Look for the following entry in the server.xml file (it should look something like this):

```
<!-- Define a SSL Coyote HTTP/1.1 Connector on port 8443 -->
<!--
<Connector
    port="8443" minProcessors="5" maxProcessors="75"
    enableLookups="true" disableUploadTimeout="true"
    acceptCount="100" debug="0" scheme="https" secure="true";
    clientAuth="false" sslProtocol="TLS"/>
-->
```

# Remove the comments and edit as follows:

```
<Connector port="443" scheme="https" secure="true"  
  debug="0" minSpareThreads="25" clientAuth="false"  
  keystorePass="your_pass" keystoreType="JKS"  
  keystoreFile="/path_to_your/.keystore"  
  maxSpareThreads="75" maxThreads="150"  
  sslProtocol="TLS">  
</Connector>
```

- Restart Tomcat and enjoy using https!
- A common problem occurs from making an incorrect path to your keystore file in the ssl connector element of the server.xml.
- Remember to properly format your xml tags.
- Remember to connect on the port specified.

# Webapps

- Webapps are called contexts.
- Contexts live in the webapps directory
- You can drop a webarchive.war into the webapps directory to deploy a context.

# Virtual Hosts

- Tomcat 5.x supports virtual hosting similar to apache and other commercial web servers.
- We will configure virtual host with the `server.xml`.
- Virtual Hosts also live in the `webapps` directory.
- Let's start by taking a closer look at the `server.xml` file.



# The following is the server.xml hierarchy:

```
<?xml version="1.0" encoding="UTF-8"?>
<Server>
  <GlobalNamingResources>
  </GlobalNamingResources>
  <Service>
    <Connector
    </Connector>
    <Engine>
      <Host>
      </Host>
      <!-- Enter virtual host entries here -->
    </Engine>
  </Service>
</Server>
```

# Virtual Host Element

```
<Host
  appBase="webapps/hostname.utah.edu"
  name="hostname.utah.edu">
  <Valve className="org.apache.catalina.valves.AccessLogValve"
    fileDateFormat="yyyy-MM-dd"
    prefix="hostname_access_log."
    suffix=".txt"/>
  <Logger className="org.apache.catalina.logger.FileLogger"
    directory="logs" prefix="hostname.utah.edu_log" suffix=".txt"
    timestamp="true" />
</Host>
```

```
<?xml version="1.0" encoding="UTF-8"?>
<Server
  shutdown="arbitrary">
  <Listener className="org.apache.catalina.core.AprLifecycleListener"/>
  <Listener className="org.apache.catalina.mbeans.GlobalResourcesLifecycleListener"/>
  <Listener className="org.apache.catalina.storeconfig.StoreConfigLifecycleListener"/>
  <Listener className="org.apache.catalina.mbeans.ServerLifecycleListener"/>
  <GlobalNamingResources>
    <Resource
      auth="Container"
      description="User database that can be updated and saved"
      name="UserDatabase"
      type="org.apache.catalina.UserDatabase"
      pathname="conf/tomcat-users.xml"
      factory="org.apache.catalina.users.MemoryUserDatabaseFactory"/>
  </GlobalNamingResources>
  <Service
    name="Catalina">
    <Connector
      port="80"
      minSpareThreads="25"
      connectionTimeout="20000"
      maxSpareThreads="75"
      maxThreads="150">
    </Connector>
    <Connector
      port="443"
      scheme="https"
      secure="true"
      debug="0"
      minSpareThreads="25"
      clientAuth="false"
      keystorePass="yourpass"
      keystoreType="JKS"
      keystoreFile="/path_to_your/.keystore"
      maxSpareThreads="75"
      maxThreads="150"
      sslProtocol="TLS">
    </Connector>
    <Connector
      port="8009"
      protocol="AJP/1.3">
    </Connector> ...
```

This is the first half of  
an example server.xml file.

This is the second half.

```
<Engine
  defaultHost="your_host.utah.edu"
  name="Catalina">
<Realm className="org.apache.catalina.realm.UserDatabaseRealm"/>
<Host
  appBase="webapps/your_host.utah.edu"
  name="your_host.utah.edu">
  <Valve className="org.apache.catalina.valves.AccessLogValve"
    fileDateFormat="yyyy-MM-dd"
    prefix="your_host_access_log."
    suffix=".txt"/>
  <Logger className="org.apache.catalina.logger.FileLogger"
    directory="logs" prefix="your_host.utah.edu_log" suffix=".txt"
    timestamp="true" />
</Host>
<Host
  appBase="webapps/your_second_host.utah.edu"
  name="your_second_host.utah.edu">
  <Valve className="org.apache.catalina.valves.AccessLogValve"
    fileDateFormat="yyyy-MM-dd"
    prefix="your_second_host.utah.edu_access_log."
    suffix=".txt"/>
</Host>
</Engine>
</Service>
</Server>
```

# Minimal Directory for Virtual Host

```
mkdir $catalina_home/webapps/host_name  
mkdir $catalina_home/webapps/host_name/WEB-INF  
mkdir $catalina_home/webapps/host_name/WEB-INF/classes  
mkdir $catalina_home/webapps/host_name/WEB-INF/lib
```

# SSL and Virtual Hosts

- A given ssl connector can only use one keystore.
- If you are using a Certificate Authority to sign your CSR, only the host that is signed will be able to connect over ssl on that connector's assigned port without throwing the web browser's security exceptions.

Fine