

PROJECT-6

INSTALLING AND CONFIGURING APACHE TOMCAT SERVER ON LINUX INSTALL JAVA USING YUM INSTALL JAVA-1.8* COMMAND.

```
java-1.8.0-openjdk-devel.x86_64 1:1.8.0.282.b08-1.amzn2.0.1
java-1.8.0-openjdk-devel-debug.x86_64 1:1.8.0.282.b08-1.amzn2.0.1
java-1.8.0-openjdk-headless.x86_64 1:1.8.0.282.b08-1.amzn2.0.1
java-1.8.0-openjdk-headless-debug.x86_64 1:1.8.0.282.b08-1.amzn2.0.1
java-1.8.0-openjdk-javadoc.noarch 1:1.8.0.282.b08-1.amzn2.0.1
java-1.8.0-openjdk-javadoc-debug.noarch 1:1.8.0.282.b08-1.amzn2.0.1
java-1.8.0-openjdk-javadoc-zip.noarch 1:1.8.0.282.b08-1.amzn2.0.1
java-1.8.0-openjdk-javadoc-zip-debug.noarch 1:1.8.0.282.b08-1.amzn2.0.1
java-1.8.0-openjdk-src.x86_64 1:1.8.0.282.b08-1.amzn2.0.1
java-1.8.0-openjdk-src-debug.x86_64 1:1.8.0.282.b08-1.amzn2.0.1

Dependency Installed:
GConf2.x86_64 0:3.2.6-8.amzn2.0.2
atk.x86_64 0:2.22.0-3.amzn2.0.2
cairo.x86_64 0:1.15.12-4.amzn2
cups-libs.x86_64 1:1.6.3-51.amzn2
dejavu-fonts-common.noarch 0:2.33-6.amzn2
fontconfig.x86_64 0:2.13.0-4.3.amzn2
fribidi.x86_64 0:1.0.2-1.amzn2.1
glib.x86_64 0:4.1.6-9.amzn2.0.2
gtk-update-icon-cache.x86_64 0:3.22.30-3.amzn2
harfbuzz.x86_64 0:1.7.5-2.amzn2
jasper-libs.x86_64 0:1.900.1-33.amzn2
javadoc-tools.noarch 0:3.4.1-11.amzn2
libSM.x86_64 0:1.2.2-2.amzn2.0.2
libX11-common.noarch 0:1.6.7-3.amzn2
alsa-lib.x86_64 0:1.1.4.1-2.amzn2
avahi-libs.x86_64 0:0.6.31-20.amzn2
copy-jdk-configs.noarch 0:3.3-10.amzn2
dbus-glib.x86_64 0:0.100-7.2.amzn2
dejavu-sans-fonts.noarch 0:2.33-6.amzn2
fontpackages-filesystem.noarch 0:1.44-8.amzn2
gdk-pixbuf2.x86_64 0:2.36.12-3.amzn2
graphite2.x86_64 0:1.3.10-1.amzn2.0.2
gtk2.x86_64 0:2.24.31-1.amzn2.0.2
hicolor-icon-theme.noarch 0:0.12-7.amzn2
java-atk-wrapper.x86_64 0:0.30.4-5.amzn2.0.2
libICE.x86_64 0:1.0.9-9.amzn2.0.2
libX11.x86_64 0:1.6.7-3.amzn2
libXau.x86_64 0:1.0.8-2.1.amzn2.0.2
```

EXTRACT THE ZIP FILE USING -ZVXF TARFILENAME COMMAND

2 | LETS UPGRADE AWS ...

The screenshot shows the AWS Management Console interface. The browser tabs include 'New Tab', 'amazon web serv...', 'Connect to instar...', 'i-0f600874c0bea6bff', 'Apache Tomcat', and 'Apache Tomcat/1'. The address bar shows the console URL. The main content area displays a terminal window with the following commands and output:

```
2021-03-21 17:22:53 (3.03 MB/s) - 'apache-tomcat-10.0.4.tar.gz' saved [11811329/11811329]

[root@ip-172-31-21-167 opt]# ls
apache-tomcat-10.0.4.tar.gz aws rh
[root@ip-172-31-21-167 opt]# tar -zxvf apache-tomcat-10.0.4.tar.gz
apache-tomcat-10.0.4/conf/
  apache-tomcat-10.0.4/conf/catalina.policy
  apache-tomcat-10.0.4/conf/catalina.properties
  apache-tomcat-10.0.4/conf/context.xml
  apache-tomcat-10.0.4/conf/jaspic-providers.xml
  apache-tomcat-10.0.4/conf/jaspic-providers.xsd
  apache-tomcat-10.0.4/conf/logging.properties
  apache-tomcat-10.0.4/conf/server.xml
  apache-tomcat-10.0.4/conf/tomcat-users.xml
  apache-tomcat-10.0.4/conf/tomcat-users.xsd
  apache-tomcat-10.0.4/conf/web.xml
  apache-tomcat-10.0.4/bin/
  apache-tomcat-10.0.4/lib/
  apache-tomcat-10.0.4/logs/
  apache-tomcat-10.0.4/temp/
  apache-tomcat-10.0.4/webapps/
    apache-tomcat-10.0.4/webapps/ROOT/
    apache-tomcat-10.0.4/webapps/ROOT/WEB-INF/
    apache-tomcat-10.0.4/webapps/docs/
    apache-tomcat-10.0.4/webapps/docs/WEB-INF/
    apache-tomcat-10.0.4/webapps/docs/annotationapi/
```

Below the terminal window, the instance details for 'i-0f600874c0bea6bff (Tomjen)' are shown, including public and private IP addresses. An 'Activate Windows' watermark is visible in the bottom right corner.

The screenshot shows the AWS Management Console interface. The browser tabs include 'New Tab', 'amazon web serv...', 'Connect to instar...', 'i-0f600874c0bea6bff', 'Apache Tomcat', and 'Apache Tomcat/1'. The address bar shows the console URL. The main content area displays a terminal window with the following commands and output:

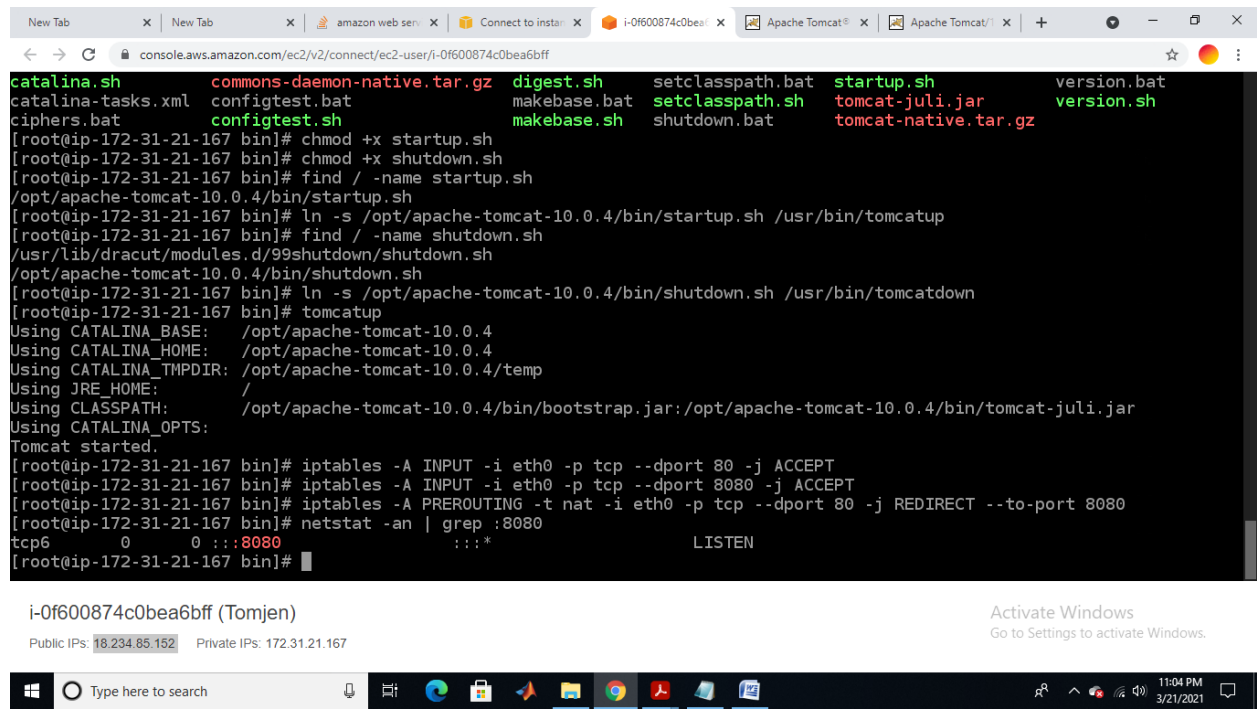
```
apache-tomcat-10.0.4/webapps/manager/index.jsp
apache-tomcat-10.0.4/webapps/manager/status.xsd
apache-tomcat-10.0.4/webapps/manager/xform.xsl
apache-tomcat-10.0.4/bin/catalina.sh
apache-tomcat-10.0.4/bin/ciphers.sh
apache-tomcat-10.0.4/bin/configtest.sh
apache-tomcat-10.0.4/bin/daemon.sh
apache-tomcat-10.0.4/bin/digest.sh
apache-tomcat-10.0.4/bin/makebase.sh
apache-tomcat-10.0.4/bin/migrate.sh
apache-tomcat-10.0.4/bin/setclasspath.sh
apache-tomcat-10.0.4/bin/shutdown.sh
apache-tomcat-10.0.4/bin/startup.sh
apache-tomcat-10.0.4/bin/tool-wrapper.sh
apache-tomcat-10.0.4/bin/version.sh
[root@ip-172-31-21-167 opt]# ls
apache-tomcat-10.0.4 apache-tomcat-10.0.4.tar.gz aws rh
[root@ip-172-31-21-167 opt]# cd \apache-tomcat-10.0.4
[root@ip-172-31-21-167 apache-tomcat-10.0.4]# cd bin
[root@ip-172-31-21-167 bin]# ls
bootstrap.jar  ciphers.sh  daemon.sh  migrate.bat  shutdown.sh  tool-wrapper.bat
catalina.bat  commons-daemon.jar  digest.bat  migrate.sh  startup.bat  tool-wrapper.sh
catalina.sh  commons-daemon-native.tar.gz  digest.sh  setclasspath.bat  startup.sh  version.bat
catalina-tasks.xml  configtest.bat  makebase.bat  setclasspath.sh  tomcat-juli.jar  version.sh
ciphers.bat  configtest.sh  makebase.sh  shutdown.bat  tomcat-native.tar.gz
```

Below the terminal window, the instance details for 'i-0f600874c0bea6bff (Tomjen)' are shown, including public and private IP addresses. An 'Activate Windows' watermark is visible in the bottom right corner.

FIND PATH OF STARTUP.SH AND SHUTDOWN.SH AND CREATE SOFTLINK

2 | LET'S UPGRADE AWS ...

3 | LETS UPGRADE AWS ...

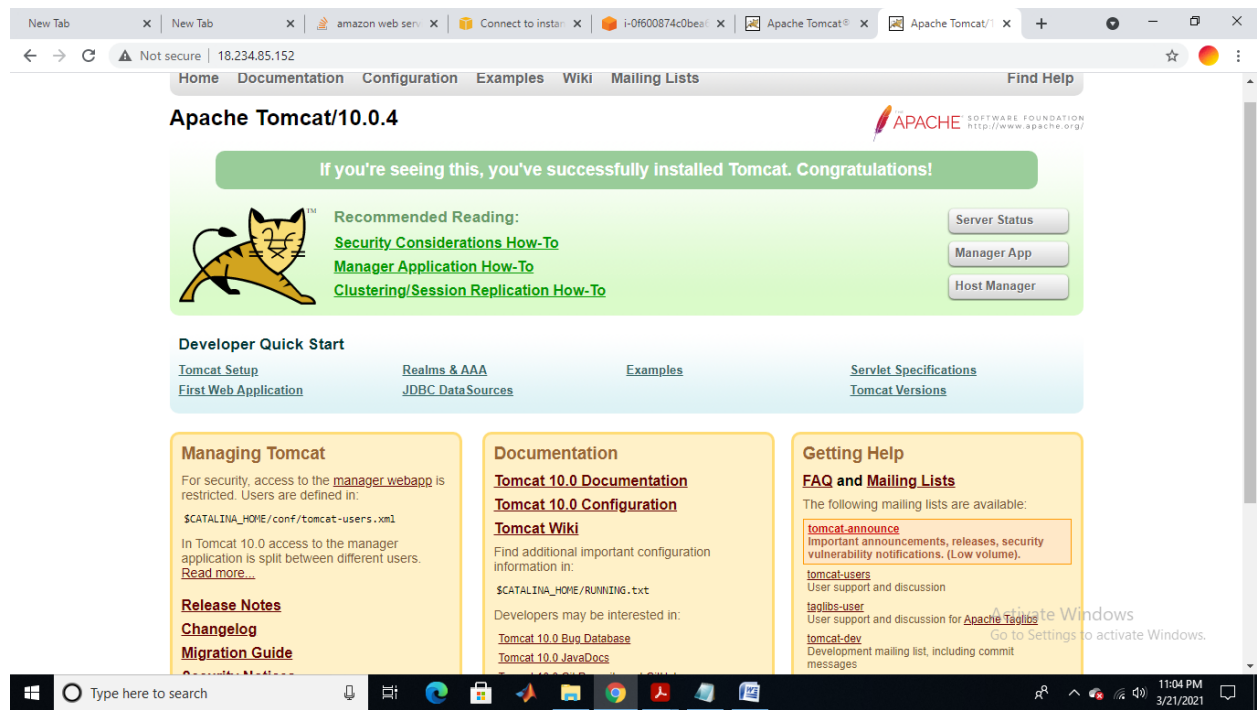


```
catalina.sh commons-daemon-native.tar.gz digest.sh setclasspath.bat startup.sh version.bat
catalina-tasks.xml configtest.sh makebase.sh setclasspath.sh tomcat-juli.jar version.sh
ciphers.bat
[root@ip-172-31-21-167 bin]# chmod +x startup.sh
[root@ip-172-31-21-167 bin]# chmod +x shutdown.sh
[root@ip-172-31-21-167 bin]# find / -name startup.sh
/opt/apache-tomcat-10.0.4/bin/startup.sh
[root@ip-172-31-21-167 bin]# ln -s /opt/apache-tomcat-10.0.4/bin/startup.sh /usr/bin/tomcatup
[root@ip-172-31-21-167 bin]# find / -name shutdown.sh
/usr/lib/dracut/modules.d/99shutdown/shutdown.sh
/opt/apache-tomcat-10.0.4/bin/shutdown.sh
[root@ip-172-31-21-167 bin]# ln -s /opt/apache-tomcat-10.0.4/bin/shutdown.sh /usr/bin/tomcatdown
[root@ip-172-31-21-167 bin]# tomcatup
Using CATALINA_BASE:   /opt/apache-tomcat-10.0.4
Using CATALINA_HOME:   /opt/apache-tomcat-10.0.4
Using CATALINA_TMPDIR: /opt/apache-tomcat-10.0.4/temp
Using JRE_HOME:        /
Using CLASSPATH:        /opt/apache-tomcat-10.0.4/bin/bootstrap.jar:/opt/apache-tomcat-10.0.4/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
[root@ip-172-31-21-167 bin]# iptables -A INPUT -i eth0 -p tcp --dport 80 -j ACCEPT
[root@ip-172-31-21-167 bin]# iptables -A INPUT -i eth0 -p tcp --dport 8080 -j ACCEPT
[root@ip-172-31-21-167 bin]# iptables -A PREROUTING -t nat -i eth0 -p tcp --dport 80 -j REDIRECT --to-port 8080
[root@ip-172-31-21-167 bin]# netstat -an | grep :8080
tcp6      0      0 :::8080          :::*              LISTEN
[root@ip-172-31-21-167 bin]#
```

i-0f600874c0bea6bff (Tomjen)
Public IPs: 18.234.85.152 Private IPs: 172.31.21.167

Activate Windows
Go to Settings to activate Windows.

TOMCATSERVER INSTALLED



Apache Tomcat/10.0.4

If you're seeing this, you've successfully installed Tomcat. Congratulations!

Recommended Reading:

- [Security Considerations How-To](#)
- [Manager Application How-To](#)
- [Clustering/Session Replication How-To](#)

Developer Quick Start

- [Tomcat Setup](#)
- [First Web Application](#)
- [Realms & AAA](#)
- [JDBC DataSources](#)
- [Examples](#)
- [Servlet Specifications](#)
- [Tomcat Versions](#)

Managing Tomcat

For security, access to the [manager.webapp](#) is restricted. Users are defined in:

```
$CATALINA_HOME/conf/tomcat-users.xml
```

In Tomcat 10.0 access to the manager application is split between different users.
[Read more...](#)

[Release Notes](#)
[Changelog](#)
[Migration Guide](#)

Documentation

- [Tomcat 10.0 Documentation](#)
- [Tomcat 10.0 Configuration](#)
- [Tomcat Wiki](#)

Find additional important configuration information in:

```
$CATALINA_HOME/RUNNING.txt
```

Developers may be interested in:

- [Tomcat 10.0 Bug Database](#)
- [Tomcat 10.0 JavaDocs](#)

Getting Help

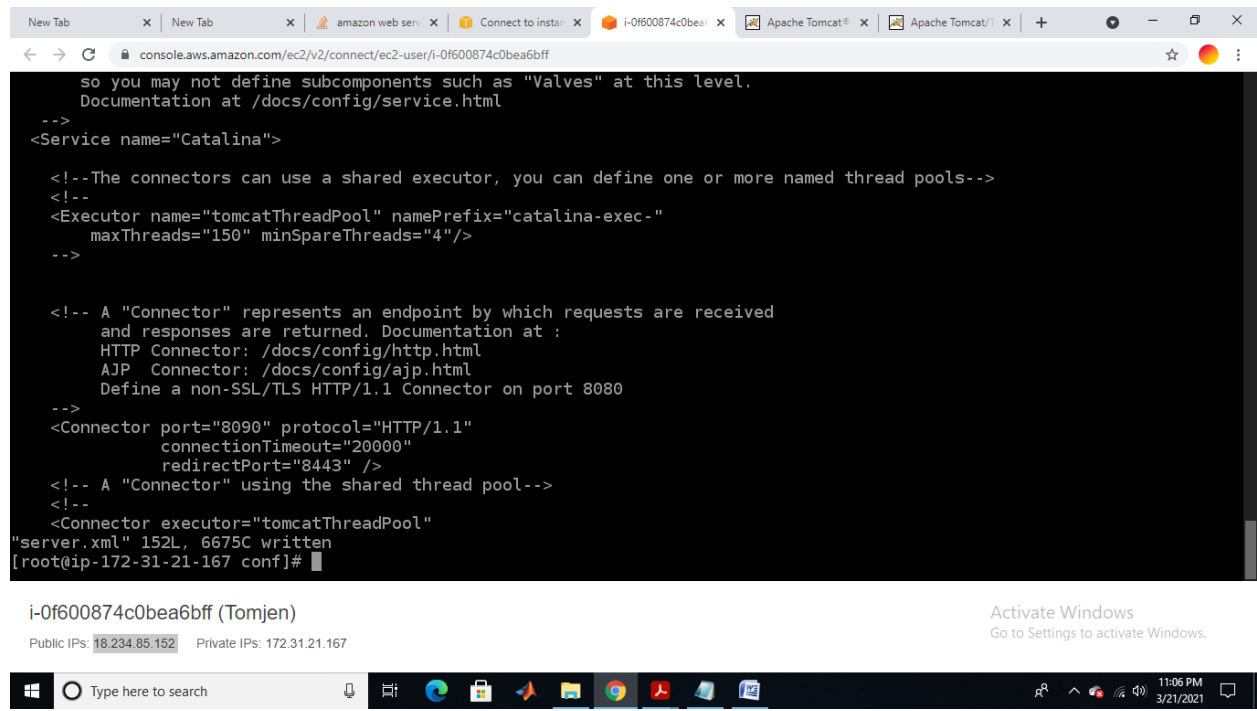
FAQ and Mailing Lists

The following mailing lists are available:

- [tomcat-announce](#)
Important announcements, releases, security vulnerability notifications. (Low volume).
- [tomcat-users](#)
User support and discussion
- [tomcat-dev](#)
User support and discussion for Apache Tomcat
- [tomcat-dev](#)
Development mailing list, including commit messages

3 | LET'S UPGRADE AWS ...

4 | LETS UPGRADE AWS ...



```
so you may not define subcomponents such as "Valves" at this level.
Documentation at /docs/config/service.html
-->
<Service name="Catalina">

  <!--The connectors can use a shared executor, you can define one or more named thread pools-->
  <!--
  <Executor name="tomcatThreadPool" namePrefix="catalina-exec-"
    maxThreads="150" minSpareThreads="4"/>
  -->

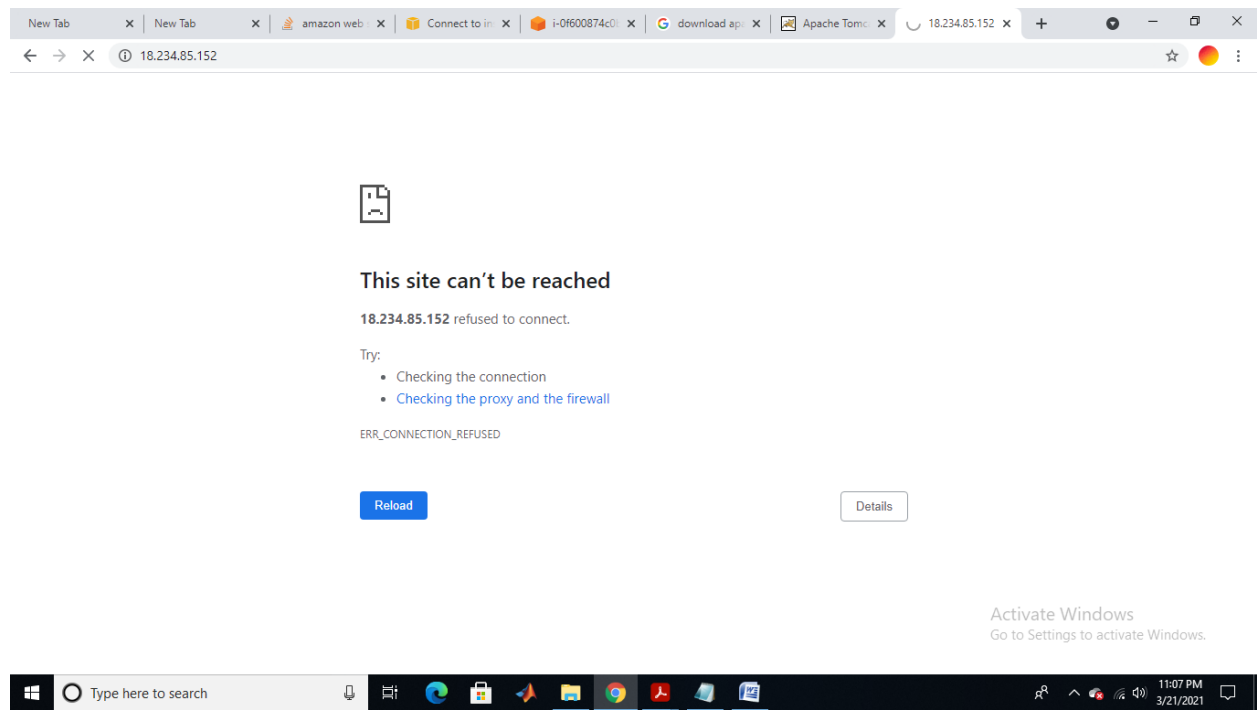
  <!-- A "Connector" represents an endpoint by which requests are received
  and responses are returned. Documentation at :
  HTTP Connector: /docs/config/http.html
  AJP  Connector: /docs/config/ajp.html
  Define a non-SSL/TLS HTTP/1.1 Connector on port 8080
  -->
  <Connector port="8090" protocol="HTTP/1.1"
    connectionTimeout="20000"
    redirectPort="8443" />
  <!-- A "Connector" using the shared thread pool-->
  <!--
  <Connector executor="tomcatThreadPool"
    "server.xml" 152L, 6675C written
[root@ip-172-31-21-167 conf]#
```

i-0f600874c0bea6bff (Tomjen)

Public IPs: 18.234.85.152 Private IPs: 172.31.21.167

Activate Windows
Go to Settings to activate Windows.

AFTER CHANGING THE PORT IN SERVER.XML, 8080 PORT IS NOT ACCESSIBLE.



New Tab x New Tab x amazon web x Connect to i-0f600874c0 x download ap x Apache Tomcat x 18.234.85.152 x

18.234.85.152

This site can't be reached

18.234.85.152 refused to connect.

Try:

- Checking the connection
- Checking the proxy and the firewall

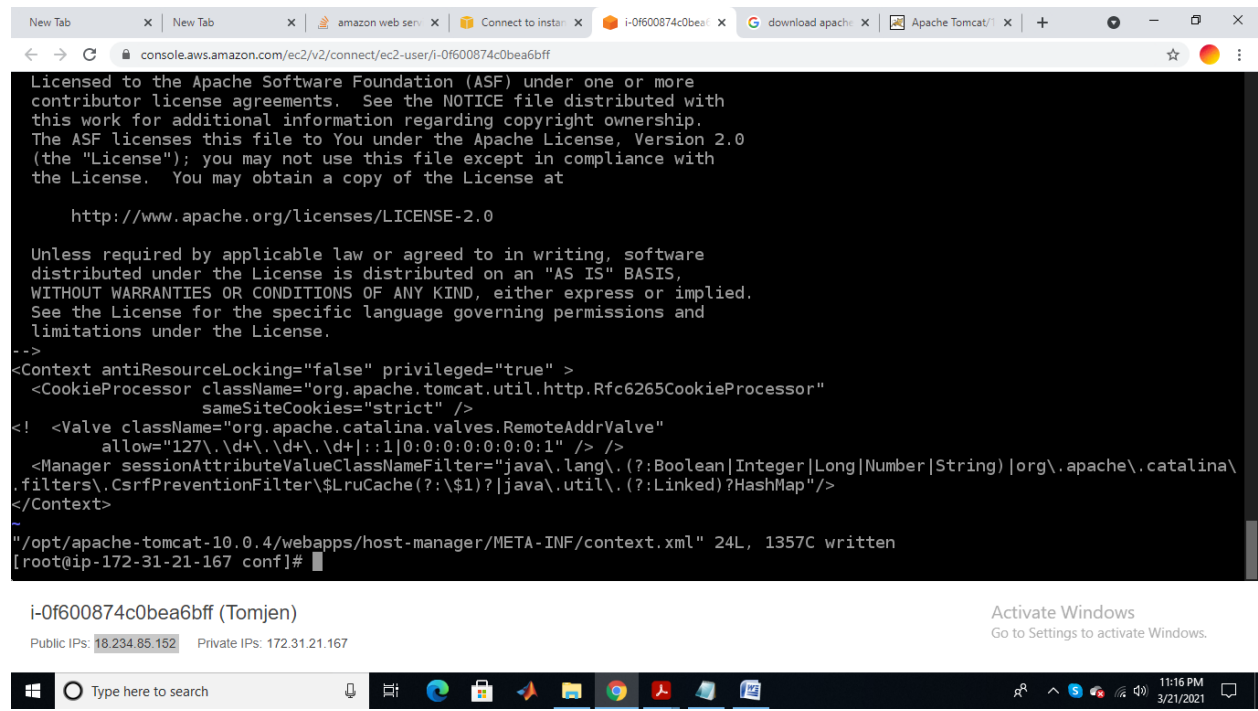
ERR_CONNECTION_REFUSED

Reload Details

Activate Windows
Go to Settings to activate Windows.

COMMENT THE VALVE CLASSNAME

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console.aws.amazon.com/ec2/v2/connect/ec2-user/i-0f600874c0bea6bff

```
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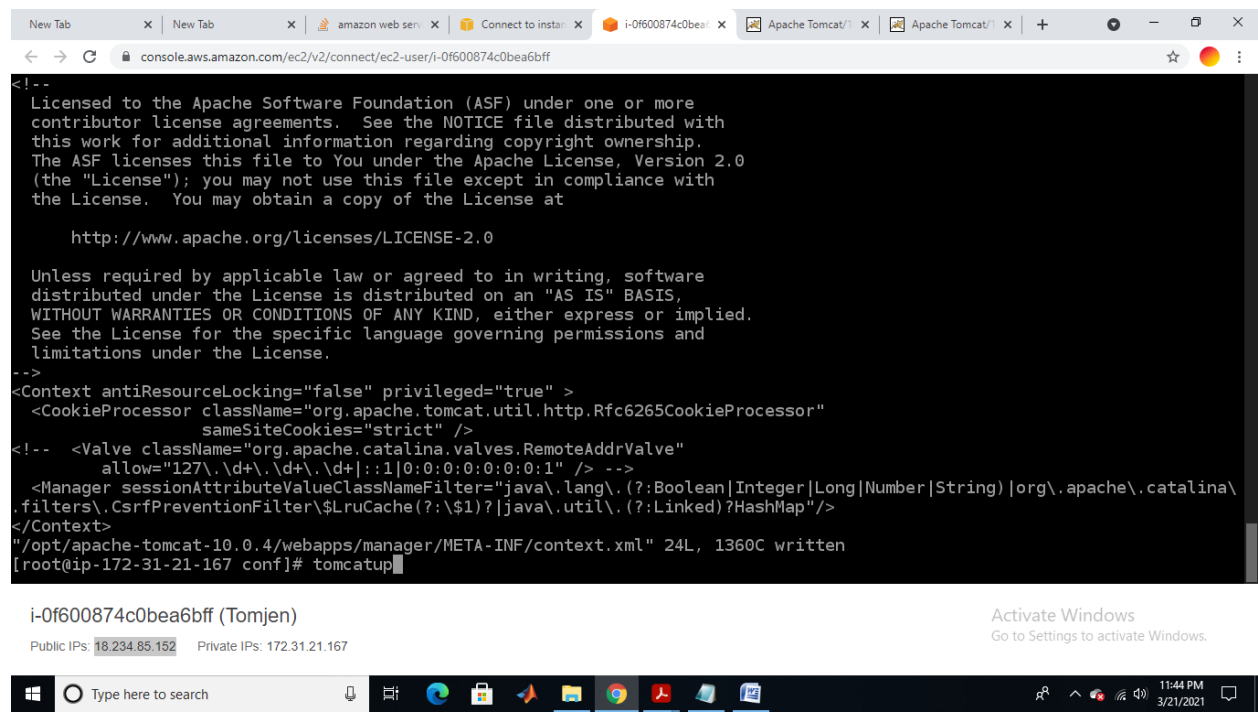
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distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
-->
<Context antiResourceLocking="false" privileged="true" >
  <CookieProcessor className="org.apache.tomcat.util.http.Rfc6265CookieProcessor"
    sameSiteCookies="strict" />
  <!-- <Valve className="org.apache.catalina.valves.RemoteAddrValve"
    allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" /> -->
  <Manager sessionAttributeValueClassNameFilter="java\.lang\.(?:Boolean|Integer|Long|Number|string)|org\.apache\.catalina\
    .filters\.CsrfPreventionFilter\$LuCache(?:\$1)?|java\.util\.(?:Linked)?HashMap"/>
</Context>
"/opt/apache-tomcat-10.0.4/webapps/host-manager/META-INF/context.xml" 24L, 1357C written
[root@ip-172-31-21-167 conf]#
```

i-0f600874c0bea6bff (Tomjen)

Public IPs: 18.234.85.152 Private IPs: 172.31.21.167

Activate Windows
Go to Settings to activate Windows.



console.aws.amazon.com/ec2/v2/connect/ec2-user/i-0f600874c0bea6bff

```
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distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
-->
<Context antiResourceLocking="false" privileged="true" >
  <CookieProcessor className="org.apache.tomcat.util.http.Rfc6265CookieProcessor"
    sameSiteCookies="strict" />
  <!-- <Valve className="org.apache.catalina.valves.RemoteAddrValve"
    allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" /> -->
  <Manager sessionAttributeValueClassNameFilter="java\.lang\.(?:Boolean|Integer|Long|Number|string)|org\.apache\.catalina\
    .filters\.CsrfPreventionFilter\$LuCache(?:\$1)?|java\.util\.(?:Linked)?HashMap"/>
</Context>
"/opt/apache-tomcat-10.0.4/webapps/host-manager/META-INF/context.xml" 24L, 1360C written
[root@ip-172-31-21-167 conf]# tomcatup
```

i-0f600874c0bea6bff (Tomjen)

Public IPs: 18.234.85.152 Private IPs: 172.31.21.167

Activate Windows
Go to Settings to activate Windows.

ADDING USERS TO TOMCAT-USERS.XML FILE.

5 | LET'S UPGRADE AWS ...

6 | LETS UPGRADE AWS ...

The screenshot shows a terminal window with the following content:

```
NOTE: The sample user and role entries below are intended for use with the
examples web application. They are wrapped in a comment and thus are ignored
when reading this file. If you wish to configure these users for use with the
examples web application, do not forget to remove the <!-- ... --> that surrounds
them. You will also need to set the passwords to something appropriate.
-->
<role rolename="manager-gui"/>
<role rolename="manager-script"/>
<role rolename="manager-jmx"/>
<role rolename="manager-status"/>
<user username="admin" password="tomcat"
roles="manager-gui,manager-script,manager-jmx,manager-status"/>
<user username="deployer" password="tomcat" roles="manager-script"/>
<user username="tomcat" password="tomcat" roles="manager-gui"/>
<!--
<role rolename="tomcat"/>
<role rolename="role1"/>
<user username="tomcat" password="<must-be-changed>" roles="tomcat"/>
<user username="both" password="<must-be-changed>" roles="tomcat,role1"/>
<user username="role1" password="<must-be-changed>" roles="role1"/>
-->
</tomcat-users>

"tomcat-users.xml" 52L, 2540C written
[root@ip-172-31-21-167 conf]#
```

Below the terminal window, the AWS console shows the instance details for `i-0f600874c0bea6bff` (Tomjen). The public IP is `18.234.85.152` and the private IP is `172.31.21.167`.

Windows taskbar at the bottom shows the search bar and various application icons. The system clock indicates 11:38 PM on 3/21/2021.

AFTER ADDING USERS, LOGIN USING CREDENTIALS AND TOMCAT WEB APPLICATION MANAGER PAGE IS DISPLAYED.

The screenshot shows a web browser window with the address bar displaying `18.234.85.152/manager/html`. A "Sign in" dialog box is overlaid on the page, containing the following information:

- URL: `http://18.234.85.152`
- Warning: "Your connection to this site is not private"
- Username: `admin`
- Password: `*****`
- Buttons: "Sign in" and "Cancel"

Below the browser window, the AWS console shows the instance details for `i-0f600874c0bea6bff` (Tomjen). The public IP is `18.234.85.152` and the private IP is `172.31.21.167`.



Windows taskbar at the bottom shows the search bar and various application icons. The system clock indicates 12:01 AM on 3/22/2021.

6 | LET'S UPGRADE AWS ...

7 | LETS UPGRADE AWS ...

New Tab x New Tab x amazon web serv x Connect to insta x i-0f600874c0bea x Apache Tomcat/7 x /manager x +

Not secure | 18.234.85.152/manager/html



Tomcat Web Application Manager

Message: OK

Manager

[List Applications](#) [HTML Manager Help](#) [Manager Help](#) [Server Status](#)

Applications					
Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/docs	None specified	Tomcat Documentation	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/examples	None specified	Servlet and JSP Examples	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/host-manager	None specified	Tomcat Host Manager Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/manager	None specified	Tomcat Manager Application	true	1	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes

Type here to search

12:01 AM 3/22/2021

7 | LET'S UPGRADE AWS ...

***HENCE, PROJECT6 IS
IMPLEMENTED
SUCCESSFULLY.***
