

## Tomcat Installation in Redhat

### 1. Create a Redhat Ec2 Server and assign proper security group

Open Port

Http - 80 (Anywhere) and

8080 (**Temporary basis and for MyIP**)

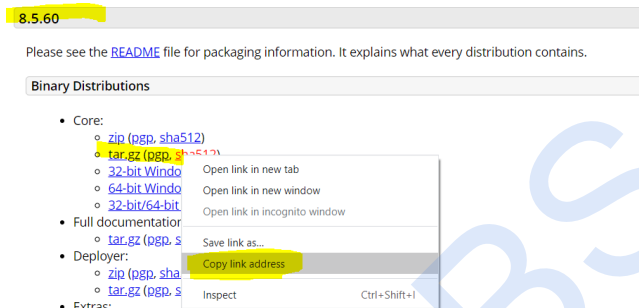
### 2. Check if this is in REPO

```
[root@ip-172-31-43-74 ~]# yum list | grep tomcat
```

### 3. Install it manually in the server after confirming from your manager

i) Go to the URL - <https://tomcat.apache.org/download-80.cgi>

ii) Click on Copy Link



iii) Download it in Server using wget (if it is not there, install wget)

wget

<https://mirrors.estointernet.in/apache/tomcat/tomcat-8/v8.5.60/bin/apache-tomcat-8.5.70.tar.gz>

iv) Move this file apache-tomcat-8.5.70.tar.gz to /etc and untar it

```
[root@ip-172-31-43-74 ~]# mv apache-tomcat-8.5.60.tar.gz /etc^C
[root@ip-172-31-43-74 ~]#
[root@ip-172-31-43-74 ~]# cd /etc
[root@ip-172-31-43-74 etc]# tar xvfz apache-tomcat-8.5.60.tar.gz
```

v) List the binary which is untar

tar **xvfz** apache-tomcat-8.5.66.tar.gz

```

drwxr-xr-x. 9 root root      220 Dec  5 07:46 apache-tomcat-8.5.60
[root@ip-172-31-43-74 etc]# cd apache-tomcat-8.5.60
[root@ip-172-31-43-74 apache-tomcat-8.5.60]# pwd
/etc/apache-tomcat-8.5.60
[root@ip-172-31-43-74 apache-tomcat-8.5.60]# ls -ltr
total 128
drwxr-x---. 2 root root      6 Nov 12 17:32 work
drwxr-x---. 2 root root      6 Nov 12 17:32 logs
drwxr-x---. 7 root root     81 Nov 12 17:34 webapps
-rw-r-----. 1 root root 16507 Nov 12 17:36 RUNNING.txt
-rw-r-----. 1 root root  7136 Nov 12 17:36 RELEASE-NOTES
-rw-r-----. 1 root root  3257 Nov 12 17:36 README.md
-rw-r-----. 1 root root  1726 Nov 12 17:36 NOTICE
-rw-r-----. 1 root root 57011 Nov 12 17:36 LICENSE
-rw-r-----. 1 root root  5408 Nov 12 17:36 CONTRIBUTING.md
drwx-----. 2 root root    238 Nov 12 17:36 conf
-rw-r-----. 1 root root 19318 Nov 12 17:36 BUILDING.txt
drwxr-x---. 2 root root     30 Dec  5 07:46 temp
drwxr-x---. 2 root root    4096 Dec  5 07:46 lib
drwxr-x---. 2 root root    4096 Dec  5 07:46 bin
[root@ip-172-31-43-74 apache-tomcat-8.5.60]#

```

vi) Try to start Tomcat but it might fail because you don't have JAVA installed,

```
[root@ip-172-31-43-74 bin]# pwd
```

```
/etc/apache-tomcat-8.5.70/bin
```

```
[root@ip-172-31-43-74 bin]# ./startup.sh or sh startup.sh
```

Neither the JAVA\_HOME nor the JRE\_HOME environment variable is defined

At least one of these environment variable is needed to run this program

```

[root@ip-172-31-43-74 bin]# pwd
/etc/apache-tomcat-8.5.60/bin
[root@ip-172-31-43-74 bin]# ./startup.sh
Neither the JAVA_HOME nor the JRE_HOME environment variable is defined
At least one of these environment variable is needed to run this program
[root@ip-172-31-43-74 bin]# java -version
-bash: java: command not found
[root@ip-172-31-43-74 bin]#

```

vii) Install Java

```
[root@ip-172-31-43-74 bin]# yum install java-1.8* -y
```

viii) Start the Tomcat

```
cd /etc/apache-tomcat-8.5.70/bin
```

```
./startup.sh
```

Tomcat starts at 8080 port by default-

```
[root@ip-172-31-43-74 webapps]# netstat -anp | grep 8080
```

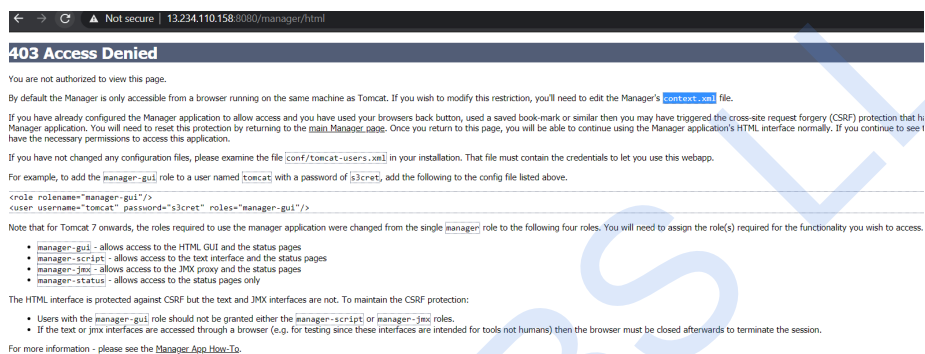
```
tcp6      0      0 :::8080          :::*              LISTEN      13799/java
```

9) cd /etc/apache-tomcat-8.5.70/webapps and check if ROOT and manager is present or not.

```
[root@ip-172-31-43-74 webapps]# pwd
/etc/apache-tomcat-8.5.60/webapps
[root@ip-172-31-43-74 webapps]# ls -ltr
total 4
drwxr-x---. 3 root root 223 Dec 5 07:46 ROOT
drwxr-x---. 15 root root 4096 Dec 5 07:46 docs
drwxr-x---. 7 root root 99 Dec 5 07:46 examples
drwxr-x---. 6 root root 79 Dec 5 07:46 host-manager
drwxr-x---. 6 root root 114 Dec 5 07:46 manager
```

10) Try to open the manager page from Browser

<http://13.234.115.11:8080/manager/>



11) By Default it will be blocked from remote address, so we need to update **context.xml** of **manager** to fix it.

```
[root@ip-172-31-43-74 manager]# pwd
/etc/apache-tomcat-8.5.70/webapps/manager
```

```
[root@ip-172-31-43-74 manager]# find . -name context.xml
./META-INF/context.xml
```

```
cp ./META-INF/context.xml ./META-INF/context.xml-bkp
```

```
[root@ip-172-31-43-74 webapps]# ls
docs  examples  host-manager  manager  ROOT
[root@ip-172-31-43-74 webapps]# cd manager/
[root@ip-172-31-43-74 manager]# ls
css  images  index.jsp  META-INF  status.xsd  WEB-INF  xform.xml
[root@ip-172-31-43-74 manager]#
```

```
[root@ip-172-31-43-74 manager]# pwd
/etc/apache-tomcat-8.5.60/webapps/manager
[root@ip-172-31-43-74 manager]# find . -name context.xml
./META-INF/context.xml
```

12) Update this file. Comment the Value. Take a backup before updating it using 'cp' command

```
<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\$LruCache(?:\$1)?|java\.util\.(?:Linked)?HashMap"/>
</Context>
```

Check the diff with original Backup

```
[root@ip-172-31-43-74 manager]# diff ./META-INF/context.xml ./META-INF/context.xml-backup
21,22c21,22
< <!-- <Valve className="org.apache.catalina.valves.RemoteAddrValve"
<      allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" /> -->
---
> <Valve className="org.apache.catalina.valves.RemoteAddrValve"
>      allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" />
[root@ip-172-31-43-74 manager]#
```

13) Now check the URL it will work and you should also update the **tomcat-users.xml**

cd /etc/apache-tomcat-8.5.70/conf

cp tomcat-users.xml tomcat-users.xml-backup

vim

update as below with entries here-

```
<role rolename="admin"/>
<role rolename="admin-gui"/>
<role rolename="admin-script"/>
<role rolename="manager"/>
<role rolename="manager-gui"/>
<role rolename="manager-script"/>
<role rolename="manager-jmx"/>
<role rolename="manager-status"/>
<user name="admin" password="adminadmin"
roles="admin,manager,admin-gui,admin-script,manager-gui,manager-
jmx,manager-status" />
```

```
-->
<role rolename="admin"/>
<role rolename="admin-gui"/>
<role rolename="admin-script"/>
<role rolename="manager"/>
<role rolename="manager-gui"/>
<role rolename="manager-script"/>
<role rolename="manager-jmx"/>
<role rolename="manager-status"/>
<user name="admin" password="adminadmin" roles="admin,manager,admin-gui,admin-script,manager-gui,manager-
script,manager-jmx,manager-status" />
</tomcat-users>
```

14) Now restart

```

[root@ip-172-31-43-74 manager]# cd ../../bin
[root@ip-172-31-43-74 bin]# pwd
/etc/apache-tomcat-8.5.60/bin
[root@ip-172-31-43-74 bin]#
[root@ip-172-31-43-74 bin]# ./shutdown.sh ; sleep 2; ./startup.sh
Using CATALINA_BASE:   /etc/apache-tomcat-8.5.60
Using CATALINA_HOME:   /etc/apache-tomcat-8.5.60
Using CATALINA_TMPDIR: /etc/apache-tomcat-8.5.60/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /etc/apache-tomcat-8.5.60/bin/bootstrap.jar:/etc/apache-tomcat-8.5.60/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Using CATALINA_BASE:   /etc/apache-tomcat-8.5.60
Using CATALINA_HOME:   /etc/apache-tomcat-8.5.60
Using CATALINA_TMPDIR: /etc/apache-tomcat-8.5.60/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /etc/apache-tomcat-8.5.60/bin/bootstrap.jar:/etc/apache-tomcat-8.5.60/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.

```

You can create a Soft link (Optional and Highly Recommended)

```

cd /etc/

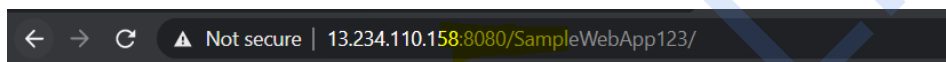
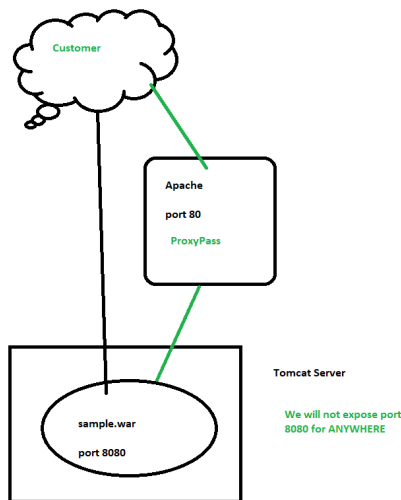
ln -s apache-tomcat-8.5.70 tomcat

ls -ltr
lrwxrwxrwx. 1 root root    20 Dec 5 15:45 tomcat -> apache-tomcat-8.5.70

cd /etc/tomcat    # CATALINA_HOME (TOMCAT_HOME)

```

ProxyPass



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### 1) Enable Selinux Security (REDHAT)

```
setsebool -P httpd_can_network_connect on
```

### 2. Install Apache

```
yum install httpd -y
```

```
export APACHE_HOME=/etc/httpd #Command to set OS ENV Variable
```

### 3. cd \$APACHE\_HOME/conf.d

```
[root@ip-172-31-43-74 conf.d]# cat proxypass.conf
ProxyPass /SampleWebApp123 http://localhost:8080/SampleWebApp123/
ProxyPassReverse /SampleWebApp123 http://localhost:8080/SampleWebApp123/
```

### 4. List the files

```
[root@ip-172-31-43-74 conf.d]# ls -ltr
```

```
total 20
-rw-r--r--. 1 root root 516 Jun 15 11:49 welcome.conf
-rw-r--r--. 1 root root 1252 Jun 15 11:49 userdir.conf
-rw-r--r--. 1 root root 2926 Jun 15 11:51 autoindex.conf
-rw-r--r--. 1 root root 400 Jun 15 11:55 README
-rw-r--r--. 1 root root 139 Dec 5 08:18 proxypass.conf
```

### 4. Restart the Services and it will work

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5. Block the 8080 port now for Public and you will see still your Web Application will work.

Group ID : sg-0be38faadadb9e769 Add filter

Name	Group ID	Group Name	VPC ID
	sg-0be38faadadb9e769	apache-SG	vpc-ade4eec5

Security Group: sg-0be38faadadb9e769

Description

Inbound

Outbound

Tags

Edit

Type	Protocol	Port Range	Source
HTTP	TCP	80	0.0.0.0/0
HTTP	TCP	80	::/0
Custom TCP Rule	TCP	8080	27.6.95.62/32
SSH	TCP	22	0.0.0.0/0
SSH	TCP	22	::/0