

How to install Tomcat 7 in Centos 7/Amazon Linux

In this session, we are going to discuss how to install Tomcat 7 in Centos 7.

Prerequisites:

You must be logged in via SSH as sudo or root user to install the packages.

Step 1: Install OpenJDK 8 in CentOS 7

```
[root@ip-172-31-89-37 ~]# sudo yum install java-1.8.0-devel -y
```

Output:

```
[root@ip-172-31-89-37 ~]# yum install java-1.8.0-openjdk-devel -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core | 3.7 kB 00:00:00
Resolving Dependencies
--> Running transaction check
---> Package java-1.8.0-openjdk-devel.x86_64 1:1.8.0.332.b09-1.amzn2.0.2 will be installed
--> Processing Dependency: java-1.8.0-openjdk(x86-64) = 1:1.8.0.332.b09-1.amzn2.0.2 for package: 1:java-1.8.0-openjdk-devel-1.8.0.332.b09-1.amzn2.0.2.x86_64
--> Processing Dependency: libjvm.so()(64bit) for package: 1:java-1.8.0-openjdk-devel-1.8.0.332.b09-1.amzn2.0.2.x86_64
--> Processing Dependency: libjava.so()(64bit) for package: 1:java-1.8.0-openjdk-devel-1.8.0.332.b09-1.amzn2.0.2.x86_64
--> Processing Dependency: libX11.so.6()(64bit) for package: 1:java-1.8.0-openjdk-devel-1.8.0.332.b09-1.amzn2.0.2.x86_64
--> Running transaction check
---> Package java-1.8.0-openjdk.x86_64 1:1.8.0.332.b09-1.amzn2.0.2 will be installed
```

Step 1.1: Check whether java is installed or not using the below command.

```
[root@ip-172-31-89-37 ~]# sudo java -version
```

Output:

```
[root@ip-172-31-89-37 ~]# sudo java -version
openjdk version "1.8.0_332"
OpenJDK Runtime Environment (build 1.8.0_332-b09)
OpenJDK 64-Bit Server VM (build 25.332-b09, mixed mode)
[root@ip-172-31-89-37 ~]#
[root@ip-172-31-89-37 ~]#
```

Step 2: Go to [Tomcat official page](https://archive.apache.org/dist/tomcat/tomcat-7/v7.0.106/bin/) and download the tomcat 7.0.106 binary tar file in /opt directory

Url : <https://archive.apache.org/dist/tomcat/tomcat-7/v7.0.106/bin/>

```
[root@ip-172-31-89-37 ~]# cd /opt/
[root@ip-172-31-89-37 opt]# wget https://archive.apache.org/dist/tomcat/tomcat-7/v7.0.106/bin/apache-tomcat-7.0.106.tar.gz
```

Output:

```
[root@ip-172-31-89-37 ~]# cd /opt/
[root@ip-172-31-89-37 opt]# wget https://archive.apache.org/dist/tomcat/tomcat-7/v7.0.106/bin/apache-tomcat-7.0.106.tar.gz
--2022-08-28 07:32:39-- https://archive.apache.org/dist/tomcat/tomcat-7/v7.0.106/bin/apache-tomcat-7.0.106.tar.gz
Resolving archive.apache.org (archive.apache.org)... 138.201.131.134, 2a01:4f8:172:2ec5::2
Connecting to archive.apache.org (archive.apache.org)|138.201.131.134|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 9642456 (9.2M) [application/x-gzip]
Saving to: 'apache-tomcat-7.0.106.tar.gz'

100%[=====] 9,642,456 6.17MB/s in 1.5s

2022-08-28 07:32:41 (6.17 MB/s) - 'apache-tomcat-7.0.106.tar.gz' saved [9642456/9642456]
[root@ip-172-31-89-37 opt]#
```

Step 3: Untar the tomcat using below command

```
[root@ip-172-31-89-37 opt]# sudo tar -xvf apache-tomcat-7.0.106.tar.gz
```

Note:

1. x = extract
2. v = verbose
3. f = file

Output:

```
[root@ip-172-31-89-37 opt]# tar -xvf apache-tomcat-7.0.106.tar.gz
apache-tomcat-7.0.106/conf/
apache-tomcat-7.0.106/conf/catalina.policy
apache-tomcat-7.0.106/conf/catalina.properties
apache-tomcat-7.0.106/conf/context.xml
apache-tomcat-7.0.106/conf/logging.properties
apache-tomcat-7.0.106/conf/server.xml
apache-tomcat-7.0.106/conf/tomcat-users.xml
apache-tomcat-7.0.106/conf/tomcat-users.xsd
apache-tomcat-7.0.106/conf/web.xml
```

Step 4: Then rename the tomcat directory using below command

```
[root@ip-172-31-89-37 opt]# sudo mv apache-tomcat-7.0.106 tomcat
```

Output:

```
[root@ip-172-31-89-37 opt]# ll
total 9420
drwxr-xr-x 9 root root    220 Aug 28 07:34 apache-tomcat-7.0.106
-rw-r--r-- 1 root root 9642456 Sep 16 2020 apache-tomcat-7.0.106.tar.gz
drwxr-xr-x 4 root root    33 Aug 15 20:22 aws
drwx--x--x 4 root root    28 Aug 27 15:46 containerd
drwxr-xr-x 2 root root     6 Aug 16 2018 rh
[root@ip-172-31-89-37 opt]# mv apache-tomcat-7.0.106 tomcat
[root@ip-172-31-89-37 opt]# ll
total 9420
-rw-r--r-- 1 root root 9642456 Sep 16 2020 apache-tomcat-7.0.106.tar.gz
drwxr-xr-x 4 root root    33 Aug 15 20:22 aws
drwx--x--x 4 root root    28 Aug 27 15:46 containerd
drwxr-xr-x 2 root root     6 Aug 16 2018 rh
drwxr-xr-x 9 root root    220 Aug 28 07:34 tomcat
[root@ip-172-31-89-37 opt]#
```

Step 5: As a good security practice, it is not recommended to run tomcat service with root privileges. So create a new user named tomcat to run the tomcat service.

Step 5.1: First create the tomcat user using below command

```
[root@ip-172-31-89-37 opt]# sudo useradd tomcat
```

Output:

```
[root@ip-172-31-89-37 opt]# useradd tomcat
[root@ip-172-31-89-37 opt]# id tomcat
uid=1001(tomcat) gid=1001(tomcat) groups=1001(tomcat)
[root@ip-172-31-89-37 opt]#
```

Step 5.2: Change the ownership of tomcat directory

```
[root@ip-172-31-89-37 opt]# sudo chown -R tomcat:tomcat tomcat/
```

Output:

```
[root@ip-172-31-89-37 opt]# chown -R tomcat:tomcat tomcat/
[root@ip-172-31-89-37 opt]# ll
total 9420
-rw-r--r-- 1 root    root    9642456 Sep 16  2020 apache-tomcat-7.0.106.tar.gz
drwxr-xr-x 4 root    root         33 Aug 15 20:22 aws
drwx--x--x 4 root    root         28 Aug 27 15:46 containerd
drwxr-xr-x 2 root    root          6 Aug 16  2018 rh
drwxr-xr-x 9 tomcat  tomcat    220 Aug 28 07:34 tomcat
[root@ip-172-31-89-37 opt]#
[root@ip-172-31-89-37 opt]#
```

Step 6: To start the tomcat use below command

```
[root@ip-172-31-89-37 opt]# sudo sh /opt/tomcat/bin/startup.sh
```

Output:

```
[root@ip-172-31-89-37 opt]# sh /opt/tomcat/bin/startup.sh
Using CATALINA_BASE:   /opt/tomcat
Using CATALINA_HOME:   /opt/tomcat
Using CATALINA_TMPDIR: /opt/tomcat/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /opt/tomcat/bin/bootstrap.jar:/opt/tomcat/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
[root@ip-172-31-89-37 opt]#
```

Step 7: To stop the tomcat use below command

```
[root@ip-172-31-89-37 opt]# sudo sh /opt/tomcat/bin/shutdown.sh
```

Output:

```
[root@ip-172-31-89-37 opt]# sh /opt/tomcat/bin/shutdown.sh
Using CATALINA_BASE:   /opt/tomcat
Using CATALINA_HOME:   /opt/tomcat
Using CATALINA_TMPDIR: /opt/tomcat/temp
Using JRE_HOME:        /usr
Using CLASSPATH:        /opt/tomcat/bin/bootstrap.jar:/opt/tomcat/bin/tomcat-juli.jar
Using CATALINA_OPTS:
[root@ip-172-31-89-37 opt]#
```

Step 8: Setup Tomcat as a service instead of using shell scripts. You have to create the **tomcat.service** file under the **/etc/systemd/system/** directory

```
[root@ip-172-31-89-37 opt]# sudo vim /etc/systemd/system/tomcat.service
```

Mentioned the below content in **tomcat.service** file

```
[Unit]
Description=Tomcat 7.0.106 container
After=network.target
[Service]
Type=forking
User=tomcat
Group=tomcat
ExecStart=/opt/tomcat/bin/startup.sh
ExecStop=/opt/tomcat/bin/shutdown.sh
[Install]
WantedBy=multi-user.target
```

Step 9: Enable the tomcat service using below command

```
[root@ip-172-31-89-37 opt]# sudo systemctl enable tomcat
```

Output:

```
[root@ip-172-31-89-37 opt]# systemctl enable tomcat
Created symlink from /etc/systemd/system/multi-user.target.wants/tomcat.service to /etc/systemd/system/tomcat.service.
[root@ip-172-31-89-37 opt]#
```

Step 10: Start the tomcat service use below command

```
[root@ip-172-31-89-37 opt]# sudo systemctl start tomcat
(OR)
[root@ip-172-31-89-37 opt]# sudo service tomcat start
```

Step 11: Stop the tomcat service use below command

```
[root@ip-172-31-89-37 opt]# sudo systemctl stop tomcat
(OR)
[root@ip-172-31-89-37 opt]# sudo service tomcat stop
```

Step 12: Check the status of the tomcat service

```
[root@ip-172-31-89-37 opt]# sudo systemctl status tomcat
(OR)
[root@ip-172-31-89-37 opt]# sudo service tomcat status
```

Output:

```
[root@ip-172-31-89-37 opt]# systemctl status tomcat
● tomcat.service - Tomcat 7.0.106 conatiner
   Loaded: loaded (/etc/systemd/system/tomcat.service; enabled; vendor preset: disabled)
   Active: active (running) since Sun 2022-08-28 07:52:04 UTC; 7s ago
     Process: 4602 ExecStart=/opt/tomcat/bin/startup.sh (code=exited, status=0/SUCCESS)
    Main PID: 4616 (java)
      Tasks: 27
     Memory: 70.3M
    CGroup: /system.slice/tomcat.service
            └─4616 /usr/bin/java -Djava.util.logging.config.file=/opt/tomcat/conf/logging.properties -Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager

Aug 28 07:52:04 ip-172-31-89-37.ec2.internal systemd[1]: Starting Tomcat 7.0.106 conatiner...
Aug 28 07:52:04 ip-172-31-89-37.ec2.internal startup.sh[4602]: Tomcat started.
Aug 28 07:52:04 ip-172-31-89-37.ec2.internal systemd[1]: Started Tomcat 7.0.106 conatiner.
[root@ip-172-31-89-37 opt]#
```

Step 13: To restart the tomcat service use the below command.

```
[root@ip-172-31-89-37 opt]# sudo systemctl restart tomcat
(OR)
[root@ip-172-31-89-37 opt]# sudo service tomcat restart
```

Step 14: To access the Tomcat GUI. First need to enable the 8080 port number

Note:

If your using on-premise server use below command to enabled the port number

```
[root@ip-172-31-89-37 ~]# sudo firewall-cmd --permanent --zone=public --add-port=8080/tcp
[root@ip-172-31-89-37 ~]# sudo firewall-cmd --reload
```

If you are using an AWS EC2 instance, you have to open the Inbound rules 8080 port number in Security Groups for a particular server.

Example:

The screenshot displays the AWS Management Console interface for an EC2 instance. At the top, there are buttons for 'Launch Instance', 'Connect', and 'Actions'. Below this is a search bar and a table of instances. The instance 'Git' is selected, showing its details in a two-column layout.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6 IPs	Key Name	Monitoring
Git	i-0515a6f898eb05d	t2.micro	us-east-1c	running	2/2 checks ...	None	ec2-54-175-240-24.com...	54.175.240.24	-	murali	disabled

Instance ID	i-0515a6f898eb05d	Public DNS (IPv4)	ec2-54-175-240-24.compute-1.amazonaws.com
Instance state	running	IPv4 Public IP	54.175.240.24
Instance type	t2.micro	IPv6 IPs	-
Finding	Opt-in to AWS Compute Optimizer for recommendations. Learn more	Elastic IPs	-
Private DNS	ip-172-31-89-37.ec2.internal	Availability zone	us-east-1c
Private IPs	172.31.89.37	Security groups	launch-wizard-2. View inbound rules. view outbound rules
Secondary private IPs	-	Scheduled events	No scheduled events
VPC ID	vpc-08063706f7e7b0de6	AMI ID	amzn2-ami-kernel-5.10-hvm-2.0.20220805.0-x86_64-gp2 (ami-05fa00d4c63e32376)
Platform	Amazon Linux	Subnet ID	subnet-0f830fefa04931a49
Platform details	Linux/UNIX	Network interfaces	eth0
Usage operation	RunInstances	IAM role	-
Source/dest. check	True	Key pair name	murali
T2/T3 Unlimited	Disabled	Owner	391446897817
EBS-optimized	False	Launch time	August 27, 2022 at 8:25:36 AM UTC+5:30 (13 hours)
Root device type	ebs	Termination protection	False
Root device	/dev/xvda	Lifecycle	normal
Block devices	/dev/xvda	Monitoring	basic
Elastic Graphics ID	-	Alarm status	None
Elastic Inference accelerator ID	-	Kernel ID	-
Capacity Reservation	-	RAM disk ID	-
Capacity Reservation Settings	Open	Nitro Enclaves	Disabled
Outpost Arm	-	Placement group	-
		Partition number	-

EC2 > Security Groups > sg-02375483da41b7836 > Edit inbound rules

Security Groups (1/1) Info

Filter security groups

Security group ID: sg-02375483da41b7836 X Clear filters

Name	Security group ID	Security group name	VPC ID	Description	Owner	Inbound rules count	Outbound rules co...
-	sg-02375483da41b7836	launch-wizard-2	vpc-08063706f7e7b0de6	launch-wizard-2 create...	391446897817	1 Permission entry	1 Permission entry

sg-02375483da41b7836 - launch-wizard-2

Details Inbound rules Outbound rules Tags

You can now check network connectivity with Reachability Analyzer Run Reachability Analyzer X

Inbound rules (1/1)

Filter security group rules

Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
-	sgr-00920f065f74cc2a0	IPv4	SSH	TCP	22	0.0.0.0/0	-

EC2 > Security Groups > sg-02375483da41b7836 - launch-wizard-2 > Edit inbound rules

Edit inbound rules Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules Info

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-00920f065f74cc2a0	SSH	TCP	22	Custom	0.0.0.0/0 X

Add rule

Cancel Preview changes Save rules

Add the 8080 port number in the Inbound rule.

EC2 > Security Groups > sg-02375483da41b7836 - launch-wizard-2 > Edit inbound rules

Edit inbound rules Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules Info

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-00920f065f74cc2a0	SSH	TCP	22	Custom	0.0.0.0/0 X
sgr-0de8c5088ffe25969	Custom TCP	TCP	8080	Custom	Tomcat Port enabled 0.0.0.0/0 X

Add rule

Cancel Preview changes Save rules

Note: If you are not enabled with the 8080 port number , you can't access Tomcat GUI.

Step 15: To access the Tomcat GUI. Open any browser and type your domain or IP address followed by port 8080:

http://your_ip_or_domain:8080

Example:

http:54.175.240.24:8080

Example:

Not secure | 54.175.240.24:8080


Jenkins Datadog Github Jira IRSA-Setup ICR Mongo Confluence Links Your work - Jira Rancher Dynamodb-Dax-clu... ATT

Home Documentation Configuration Examples Wiki Mailing Lists Find Help

Apache Tomcat/7.0.106

APACHE SOFTWARE FOUNDATION
<http://www.apache.org/>

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](#)

Server Status
Manager App
Host Manager

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

- [Release Notes](#)
- [Changelog](#)
- [Migration Guide](#)
- [Security Notices](#)

Documentation

[Tomcat 7.0 Documentation](#)
[Tomcat 7.0 Configuration](#)
[Tomcat Wiki](#)

Find additional important configuration information in:

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

Developers may be interested in:

- [Tomcat 7.0 Bug Database](#)
- [Tomcat 7.0 JavaDocs](#)
- [Tomcat 7.0 Git Repository at GitHub](#)

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
- [taglibs-user](#)
User support and discussion for [Apache Taglibs](#)
- [tomcat-dev](#)
Development mailing list, including commit messages

Other Downloads

- [Tomcat Connectors](#)
- [Tomcat Native](#)
- [Taglibs](#)
- [Deployer](#)

Other Documentation

- [Tomcat Connectors](#)
- [mod_jk Documentation](#)
- [Tomcat Native](#)
- [Deployer](#)

Get Involved

- [Overview](#)
- [Source Repositories](#)
- [Mailing Lists](#)
- [Wiki](#)

Miscellaneous

- [Contact](#)
- [Legal](#)
- [Sponsorship](#)
- [Thanks](#)

Apache Software Foundation

- [Who We Are](#)
- [Heritage](#)
- [Apache Home](#)
- [Resources](#)

Step 16: Configure the Management Interface

We haven't configured the Tomcat users and their roles because of that currently the web management interface is inaccessible. So add the users and roles in **tomcat-users.xml** under **/opt/tomcat/conf/** directory.

```
[root@ip-172-31-89-37 opt]# sudo vim /opt/tomcat/conf/tomcat-users.xml
```

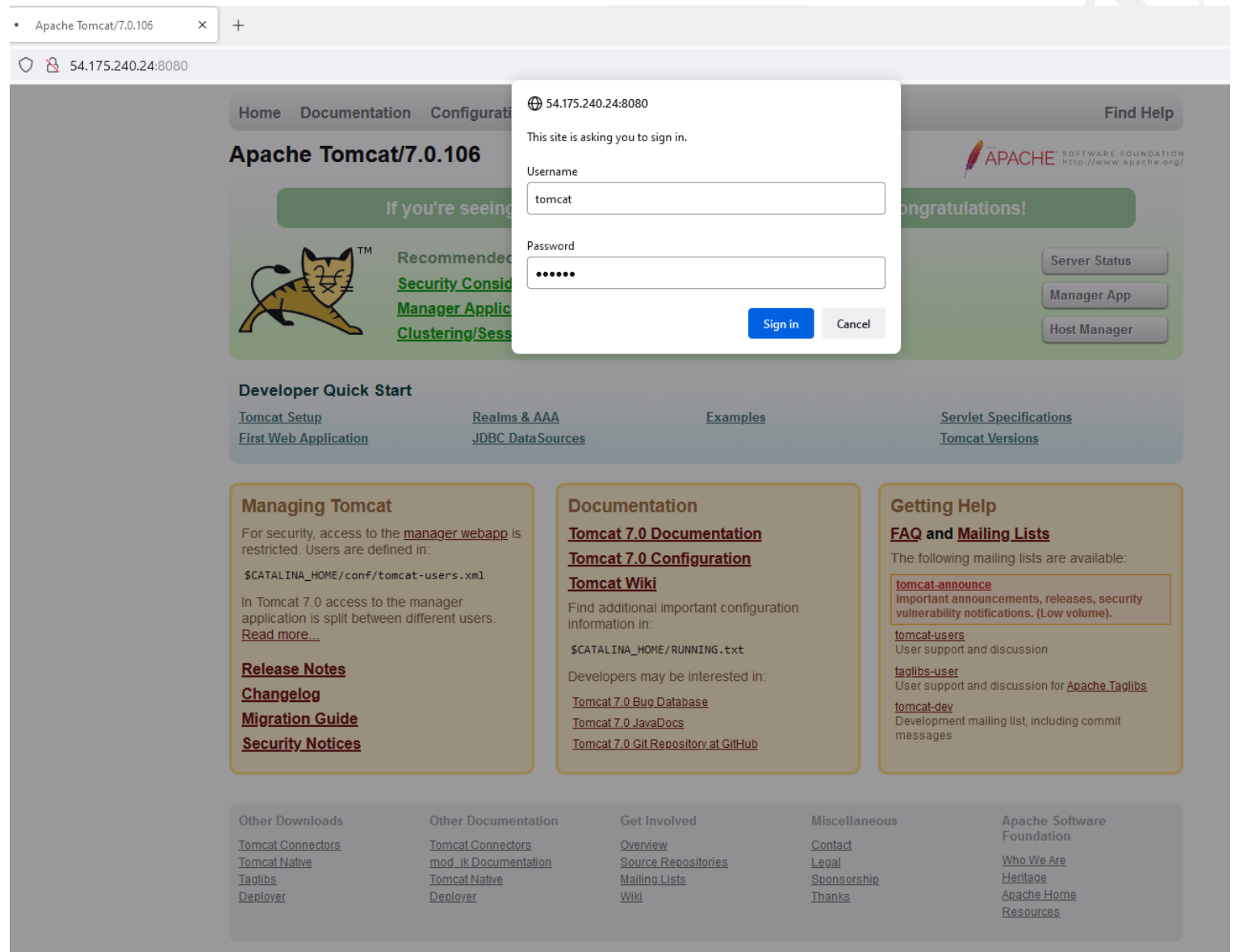
Add the below users and roles under **<tomcat-users >** **</tomcat-users>** tag.

```
<role rolename="manager-gui" />
<role rolename="manager-status" />
<role rolename="manager-script" />
<role rolename="manager-jmx" />
<role rolename="admin-gui" />
<role rolename="admin-script" />

<user username="tomcat" password="tomcat" roles="manager-gui,
admin-gui,manager-status,manager-script,manager-jmx"/>
```

Step 17: Once updated the users and roles. Once You have to restart the tomcat service. Now new user will have access to the web interfaces(manager-gui and admin-gui).

Once click the **Manager app** it will prompt and ask for the username and password.



Once provided the username and password. It will display like below .

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

Deploy

Deploy directory or WAR file located on server

Context Path (required):

XML Configuration file path:

WAR or Directory path:

Deploy

WAR file to deploy

Now the Tomcat web application manager dashboard can be reached at **http://54.175.240.24:8080/manager/html**. From here, you can manage (start, stop, reload, deploy and undeploy) your applications.

Conclusion:

Congratulations. You have successfully installed the tomcat 7. If you are facing any issues during installation. Feel free to reach out in the comment box.

**** Thank you for watching this Video. We will see you in the next video. ****

About the Author:

MOOLE MURALIDHARA REDDY
Solution Architect / DevOps Consultant

- I am having rich experience in Devops and Cloud technologies and have done many projects on all varieties of tools which are hot cake in the market.
- I am passionate about learning new technology and teaching.
- My courses focus on providing students with an interactive and hands-on experience in learning new technology that makes learning really interesting.
- I have a wide range of experience in Telecom, Banking, Healthcare, Retail domains.
- I have been training people in newer technologies, like DevOps, AWS, Kubernetes, Terraform, Rancher, etc. and they have settled in MNC's and drawing respectable salaries.
- I have undergone many challenges and changed the entire phase of the projects.
- Certified in AWS, Kubernetes , Terraform, Linux and many to go.

Please check out my courses and join me with thousands of others who are learning the latest DevOps and Cloud tools!

Website Url : <https://www.techworldwithmurali.com/>

Linkedin Profile : <https://www.linkedin.com/in/moole-muralidhara-reddy/>

Youtube Channel : <https://www.youtube.com/c/TechWorldwithMurali>