

Step 0: Required security group setting when launching EC2

For the source, configure them to allow incoming traffic from your IP address.

EC2 > Instances > Launch an instance > Compare security group rules

Compare security group rules info

Amazon EC2 evaluates all the rules of the selected security groups to control inbound and outbound traffic. You can select more security groups to view their inbound rules to help you to decide how to secure your instance from incoming traffic.

Common security groups

Select security groups

go-gin-demo sg-031943c1d3e2770d3 X
VPC: vpc-0eaa3f2eefcac4538

Security groups that you add or remove here will be added to or removed from all your network interfaces.

Inbound rules (4)

Q

Security group name	Security group ID	Type	Protocol	Port range	Source
go-gin-demo	sg-031943c1d3e2770d3	HTTP	tcp	80	[redacted]
go-gin-demo	sg-031943c1d3e2770d3	Custom TCP	tcp	8080	[redacted]
go-gin-demo	sg-031943c1d3e2770d3	ssh	tcp	22	[redacted]
go-gin-demo	sg-031943c1d3e2770d3	HTTPS	tcp	443	[redacted]

Step 1: Install Java

Updated command for Amazon-linux-2023

Source: <https://linux.how2shout.com/how-to-install-java-on-amazon-linux-2023/>

#command

sudo dnf update

sudo dnf install java-11-amazon-corretto-devel

check install successfully

java -version

```
[ec2-user@ip-172-31-19-17 ~]$ sudo dnf update
Last metadata expiration check: 0:06:27 ago on Wed Oct 4 02:23:19 2023.
Dependencies resolved.
Nothing to do.
Complete!
```

```
[ec2-user@ip-172-31-19-17 ~]$ sudo dnf install java-11-amazon-corretto-devel
Last metadata expiration check: 0:07:32 ago on Wed Oct 4 02:23:19 2023.
Dependencies resolved.
```

```
=====
Package                                Arch    Version                                Repository    Size
=====
Installing:
  java-11-amazon-corretto-devel        x86_64  1:11.0.20+9-1.amzn2023               amazonlinux  219 k

Installing dependencies:
  alsa-lib                             x86_64  1.2.7.2-1.amzn2023.0.2               amazonlinux  504 k
  cairo                                x86_64  1.17.6-2.amzn2023.0.1               amazonlinux  684 k
  dejavu-sans-fonts                    noarch  2.37-16.amzn2023.0.2               amazonlinux  1.3 M
  dejavu-sans-mono-fonts               noarch  2.37-16.amzn2023.0.2               amazonlinux  467 k
  dejavu-serif-fonts                   noarch  2.37-16.amzn2023.0.2               amazonlinux  1.0 M
  fontconfig                           x86_64  2.13.94-2.amzn2023.0.2             amazonlinux  273 k
  fonts-filesystem                     noarch  1:2.0.5-12.amzn2023.0.2            amazonlinux  9.5 k
  freetype                             x86_64  2.13.0-2.amzn2023.0.1               amazonlinux  422 k
  google-noto-fonts-common              noarch  20201206-2.amzn2023.0.2            amazonlinux  15 k
  google-noto-sans-vf-fonts             noarch  20201206-2.amzn2023.0.2            amazonlinux  492 k
  graphite2                             x86_64  1.3.14-7.amzn2023.0.2               amazonlinux   97 k
  harfbuzz                              x86_64  7.0.0-2.amzn2023.0.1               amazonlinux  868 k
  java-11-amazon-corretto-headless     x86_64  1:11.0.20+9-1.amzn2023               amazonlinux   91 M
  javapackages-filessystem              noarch  6.0.0-7.amzn2023.0.6               amazonlinux   12 k
  langpacks-core-font-en               noarch  3.0-21.amzn2023.0.4                amazonlinux   10 k
  libX11                               x86_64  1.7.2-3.amzn2023.0.3               amazonlinux  657 k
  libX11-common                        noarch  1.7.2-3.amzn2023.0.3               amazonlinux  152 k
  libXau                               x86_64  1.0.9-6.amzn2023.0.2               amazonlinux   31 k
  libXext                              x86_64  1.3.4-6.amzn2023.0.2               amazonlinux   41 k
  libXrender                           x86_64  0.9.10-14.amzn2023.0.2             amazonlinux   28 k
  libbrotli                             x86_64  1.0.9-4.amzn2023.0.2               amazonlinux  315 k
  libjpeg-turbo                        x86_64  2.1.4-2.amzn2023.0.5               amazonlinux  190 k
  libpng                               x86_64  2:1.6.37-10.amzn2023.0.6           amazonlinux  128 k
  libxcb                               x86_64  1.13.1-7.amzn2023.0.2               amazonlinux  230 k
  pixman                               x86_64  0.40.0-3.amzn2023.0.3               amazonlinux  295 k
  xml-common                           noarch  0.6.3-56.amzn2023.0.2             amazonlinux   32 k
=====
```

Transaction Summary

```
=====
Install 27 Packages
```

```
Total download size: 99 M
```

```
Installed size: 252 M
```

```
Is this ok [y/N]: y
```

Installed:

```
alsa-lib-1.2.7.2-1.amzn2023.0.2.x86_64
cairo-1.17.6-2.amzn2023.0.1.x86_64
dejavu-sans-fonts-2.37-16.amzn2023.0.2.noarch
dejavu-sans-mono-fonts-2.37-16.amzn2023.0.2.noarch
dejavu-serif-fonts-2.37-16.amzn2023.0.2.noarch
fontconfig-2.13.94-2.amzn2023.0.2.x86_64
fonts-filesystem-1:2.0.5-12.amzn2023.0.2.noarch
freetype-2.13.0-2.amzn2023.0.1.x86_64
google-noto-fonts-common-20201206-2.amzn2023.0.2.noarch
google-noto-sans-vf-fonts-20201206-2.amzn2023.0.2.noarch
graphite2-1.3.14-7.amzn2023.0.2.x86_64
harfbuzz-7.0.0-2.amzn2023.0.1.x86_64
java-11-amazon-corretto-devel-1:11.0.20+9-1.amzn2023.x86_64
java-11-amazon-corretto-headless-1:11.0.20+9-1.amzn2023.x86_64
javapackages-filesystem-6.0.0-7.amzn2023.0.6.noarch
langpacks-core-font-en-3.0-21.amzn2023.0.4.noarch
libX11-1.7.2-3.amzn2023.0.3.x86_64
libX11-common-1.7.2-3.amzn2023.0.3.noarch
libXau-1.0.9-6.amzn2023.0.2.x86_64
libXext-1.3.4-6.amzn2023.0.2.x86_64
libXrender-0.9.10-14.amzn2023.0.2.x86_64
libbrotli-1.0.9-4.amzn2023.0.2.x86_64
libjpeg-turbo-2.1.4-2.amzn2023.0.5.x86_64
libpng-2:1.6.37-10.amzn2023.0.6.x86_64
libxcb-1.13.1-7.amzn2023.0.2.x86_64
pixman-0.40.0-3.amzn2023.0.3.x86_64
xml-common-0.6.3-56.amzn2023.0.2.noarch
```

Complete!

[ec2-user@ip-172-31-19-17 ~]\$

langpacks-core-font-en

Step 2: Create tomcat user and group

We'll be creating a dedicated system *tomcat* user and group.

```
sudo groupadd --system tomcat
sudo useradd -d /usr/share/tomcat -r -s /bin/false -g tomcat tomcat
```

Confirm creation:

```
$ getent passwd tomcat
tomcat:x:996:994::/usr/share/tomcat:/bin/false

$ getent group tomcat
tomcat:x:994:
```

Step 3: Install Tomcat 9 on Amazon Linux

```
sudo yum -y install wget
```

```
export VER="9.0.80"
```

```
wget https://archive.apache.org/dist/tomcat/tomcat-9/v\${VER}/bin/apache-tomcat-\${VER}.tar.gz
```

```
sudo tar xvf apache-tomcat-${VER}.tar.gz -C /usr/share/
```

```
sudo ln -s /usr/share/apache-tomcat-${VER}/ /usr/share/tomcat
```

```
# update folder permissions
```

```
sudo chown -R tomcat:tomcat /usr/share/tomcat
```

```
sudo chown -R tomcat:tomcat /usr/share/apache-tomcat-${VER}/
```

```
# create Tomcat Systemd service:
```

```
sudo tee /etc/systemd/system/tomcat.service<<EOF
```

```
[Unit]
```

```
Description=Tomcat Server
```

After=syslog.target network.target

[Service]

Type=forking

User=tomcat

Group=tomcat

Environment=JAVA_HOME=/usr/lib/jvm/jre

Environment='JAVA_OPTS=-Djava.awt.headless=true'

Environment=CATALINA_HOME=/usr/share/tomcat

Environment=CATALINA_BASE=/usr/share/tomcat

Environment=CATALINA_PID=/usr/share/tomcat/temp/tomcat.pid

Environment='CATALINA_OPTS=-Xms512M -Xmx1024M'

ExecStart=/usr/share/tomcat/bin/catalina.sh start

ExecStop=/usr/share/tomcat/bin/catalina.sh stop

[Install]

WantedBy=multi-user.target

EOF

Enable and start tomcat service

sudo systemctl daemon-reload

sudo systemctl start tomcat

sudo systemctl enable tomcat

```
[ec2-user@ip-172-31-19-17 ~]$ sudo yum -y install wget
export VER="9.0.80"
wget https://archive.apache.org/dist/tomcat/tomcat-9/v${VER}/bin/apache-tomcat-${VER}.tar.gz
Last metadata expiration check: 0:13:00 ago on Wed Oct 4 02:23:19 2023.
Package wget-1.21.3-1.amzn2023.0.3.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
--2023-10-04 02:36:19-- https://archive.apache.org/dist/tomcat/tomcat-9/v9.0.80/bin/apache-tomcat-9.0.80.tar.gz
Resolving archive.apache.org (archive.apache.org)... 65.108.204.189, 2a01:4f9:1a:a084::2
Connecting to archive.apache.org (archive.apache.org)|65.108.204.189|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 11692853 (11M) [application/x-gzip]
Saving to: 'apache-tomcat-9.0.80.tar.gz'

apache-tomcat-9.0.80.tar.gz  100%[=====>]  11.15M  4.42MB/s   in 2.5s

2023-10-04 02:36:22 (4.42 MB/s) - 'apache-tomcat-9.0.80.tar.gz' saved [11692853/11692853]

[ec2-user@ip-172-31-19-17 ~]$
```

```
apache-tomcat-9.0.80/bin/catalina.sh
apache-tomcat-9.0.80/bin/version.sh
[ec2-user@ip-172-31-19-17 ~]$ sudo ln -s /usr/share/apache-tomcat-$VER/ /usr/share/tomcat
[ec2-user@ip-172-31-19-17 ~]$ sudo chown -R tomcat:tomcat /usr/share/tomcat
chown: invalid user: 'tomcat:tomcat'
[ec2-user@ip-172-31-19-17 ~]$ sudo groupadd --system tomcat
sudo useradd -d /usr/share/tomcat -r -s /bin/false -g tomcat tomcat
[ec2-user@ip-172-31-19-17 ~]$ getent passwd tomcat
-bash: getent: command not found
[ec2-user@ip-172-31-19-17 ~]$ getent passwd tomcat
tomcat:x:992:992::/usr/share/tomcat:/bin/false
[ec2-user@ip-172-31-19-17 ~]$ getent group tomcat
tomcat:x:992:
[ec2-user@ip-172-31-19-17 ~]$ sudo chown -R tomcat:tomcat /usr/share/tomcat
sudo chown -R tomcat:tomcat /usr/share/apache-tomcat-$VER/
[ec2-user@ip-172-31-19-17 ~]$
```

configuration giv

Step 4: Configure Tomcat Authentication

Open the tomcat-users.xml

```
sudo nano /usr/share/tomcat/conf/tomcat-users.xml
```

add below lines within </tomcat-users>

```
<role rolename="admin-gui"/>
```

```
<role rolename="manager-gui"/>
```

```
<user username="admin" password="TomcatAdminPassw0rd" fullName="Administrator"
roles="admin-gui,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"/>
-->
<role rolename="admin-gui"/>
<role rolename="manager-gui"/>
<user username="admin" password="TomcatAdminPassw0rd" fullName="Administrator" roles="admin-gui,manager-gui"/>
</tomcat-users>
```

^G Help ^O Write Out ^W Where Is ^R Cut ^T Execute ^C Location M-U Undo M-A Set Mark
 ^X Exit ^R Read File ^N Replace ^U Paste ^J Justify ^_ Go To Line M-R Redo M-C Copy

Step 5: Enable access from other sources (your local Machine)

Navigate to your **webapps/manager/META-INF/context.xml** file, open the file

```
[ec2-user@ip-172-31-19-17 ~]$ cd /usr/share/tomcat
[ec2-user@ip-172-31-19-17 tomcat]$ ls
BUILDING.txt  CONTRIBUTING.md  LICENSE  NOTICE  README.md  RELEASE-NOTES  RUNNING.txt  bin  conf  lib  logs  temp  webapps  work
[ec2-user@ip-172-31-19-17 tomcat]$ cd webapps
-bash: cd: webapps: Permission denied
[ec2-user@ip-172-31-19-17 tomcat]$ sudo chmod -R 777 webapps
[ec2-user@ip-172-31-19-17 tomcat]$ ls
BUILDING.txt  CONTRIBUTING.md  LICENSE  NOTICE  README.md  RELEASE-NOTES  RUNNING.txt  bin  conf  lib  logs  temp  webapps  work
[ec2-user@ip-172-31-19-17 tomcat]$ cd webapps
[ec2-user@ip-172-31-19-17 webapps]$ ls
doc  docs  examples  host-manager  manager
[ec2-user@ip-172-31-19-17 webapps]$ cd manager
[ec2-user@ip-172-31-19-17 manager]$ ls
META-INF  WEB-INF  bin  images  index.jsp  status.xsd  xform.xsl
[ec2-user@ip-172-31-19-17 manager]$ cd META-INF
[ec2-user@ip-172-31-19-17 META-INF]$ ls
context.xml
[ec2-user@ip-172-31-19-17 META-INF]$
```

Update the IP to allow all IPs

2.b : Allow all IP:

```
<Valve className="org.apache.catalina.valves.RemoteAddrValve"
    allow=".*" />
```

Here using **allow=".*"** you are allowing all IP.

Final Step

Navigate to <Your EC2 IP Address>:8080, you should be able to see the landing page.

Click the Manager app and enter the username and password you set up in Step 4, you should be able to access the manager app.


Apache Tomcat/9.0.80

← → ↻ ⚠ Not secure | 54.201.205.45:8080


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Apache Tomcat/9.0.80

 **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 9.0 access to the manager application is split between different users.
[Read more...](#)
[Release Notes](#)
[Changelog](#)
[Migration Guide](#)
[Security Notices](#)

Documentation
[Tomcat 9.0 Documentation](#)
[Tomcat 9.0 Configuration](#)
[Tomcat Wiki](#)
Find additional important configuration information in:
`$CATALINA_HOME/RUNNING.txt`
Developers may be interested in:
[Tomcat 9.0 Bug Database](#)
[Tomcat 9.0 JavaDocs](#)
[Tomcat 9.0 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](#)

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Tomcat Web Application Manager

Message: OK

Manager

List Applications HTML Manager Help Manager Help Server Status

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

Additional

#Command to restart tomcat

sudo systemctl restart tomcat

stop tomcat

sudo systemctl stop tomcat

Important: Change your log retention setting

Navigate to your tomcat config folder

```
[ec2-user@ip-172-31-19-17 ~]$ cd /usr/share/tomcat
[ec2-user@ip-172-31-19-17 tomcat]$ ls
BUILDING.txt  CONTRIBUTING.md  LICENSE  NOTICE  README.md  RELEASE-NOTES  RUNNING.txt  bin  conf  lib  logs  temp  work
[ec2-user@ip-172-31-19-17 tomcat]$ sudo chmod -R 777 conf
[ec2-user@ip-172-31-19-17 tomcat]$ cd conf
[ec2-user@ip-172-31-19-17 conf]$ ls
catalina catalina.properties  jaspic-providers.xml  logging.properties  tomcat-users.xml  web.xml
catalina.policy  context.xml  jaspic-providers.xsd  server.xml  tomcat-users.xsd
[ec2-user@ip-172-31-19-17 conf]$
```

Open the server.xml file, scroll down and add the line maxDays = "1"

```
        resourceName="UserDatabase"/>
</Realm>

<Host name="localhost" appBase="webapps"
      unpackWARs="true" autoDeploy="true">

  <!-- SingleSignOn valve, share authentication between web applications
       Documentation at: /docs/config/valve.html -->
  <!--
  <Valve className="org.apache.catalina.authenticator.SingleSignOn" />
  -->

  <!-- Access log processes all example.
       Documentation at: /docs/config/valve.html
       Note: The pattern used is equivalent to using pattern="common" -->
  <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"
        maxDays="1"/>
</Host>
</Engine>
</Service>
</Server>
```

^G Help	^O Write Out	^W Where Is	^K Cut	^T Execute	^C Location
^X Exit	^R Read File	^_ Replace	^U Paste	^J Justify	^_ Go To Lin

Save and exit.