|  |
| --- |
| Diff between apache and tomcat  What is tomcat ?  Port number  Stop and start  Logs check  Installation steps  Diff between rpm and yum |

Installing the tomcat on ec2

pre-req:

**Vpc: dev-vpc**

**Subnet: private subnet**

**1)create the ec2 in private subnet-one**

**Problem:**

**As admin unable to the ssh , why ? its in the private subnet and we have private IP**

**Solution:**

**2)We will create the bastion (jump server) in the public subnet**

**Create the bastion**

**----------------------------------**

**Security group -dev-bastion-sg**

From our local first login to the bastion (publicIP)

From bastion to tomcat(ssh)

In bastion we need pem file and privateIP

**Vpc: dev-vpc**

**Subnet: public subnet**

**Check:**

Observe the IP address

Bastion - public and private

Tomcat - private

**3) login to the bastion from local**

**Check ip addres:** ifconfig

Observe: cidr range (10.x)

Which user i have ssh ?

Ec2-user

Pwd

/home/ec2-user

Root -pwd - /root

~ - user home directory

[Username@ServerName/Hostname ~ ]

Ec2-user

Pwd

/home/ec2-user --ec2-user home directory

[ec2-user@Hostname ~]

Devops

/home/devops --devops home directory

[devops@Hostname ~]

[root@Hostname]

Pwd

/root--root home directory

Ssh with docker user

/home/docker

[docker@Hostname ~]

**4) copy the pem file from local to bastion**

**Source; Laptop -Downloads**

**Destination: bastion server publicIP: path : /home/ec2-user**

**Scp -i project1.pem Sourcefile user@PublicIP:path**

**Scp -i project1.pem project1.pem ec2-user@PublicIP:/home/ec2-user**

**-rw-r--r-- 1 ec2-user ec2-user 1704 Jun 7 03:41 project1.pem**

**-File type -**

**D -**

**L - link file ( symbolink)**

**-rw-r--r-- 1 ec2-user ec2-user 1704 Jun 7 03:41 project1.pem**

**Rwx rwx rwx**

**Read -4**

**Write -2**

**Execute-1**

**Rw-r--r--**

**--- = Owner**

**--- = Group**

**--- = Others**

**Permissions**

**Chmod**

**Rw-r--r-- = 644**

**6= owner**

**4= group**

**4= others**

**R=4**

**W=2**

**x=1**

**-rw-r--r-- 1 ec2-user ec2-user 1704 Jun 7 03:41 fileName**

**File Owner = ec2-user**

**Ec2-user = Group**

**Chown = to change the owner /group for the file**

**Chown -R = directory**

**777**

**7 = owner =rwx = 4+2+1**

**7 = group**

**7 = others**

**Rwxrwxrwx**

**600**

**6= owner**

**0= group**

**0= others**

**Rw-------**

**Chmod 400**

**4= owner**

**group=0**

**others=0**

**R-------**

**Chmod = to change the file permissions**

**Chmod -R = Directory changing permiions**

**-rw-r--r-- =**

**Rw- = 4+2 +0=6**

**R-- = 4+0+0=4**

**R-- = 4+0+0=4 =644**

**Chmod 400 pemfile**

**Chmod 400 project1.pem**

**400**

**R-------**

**Unable to ssh to the server ?**

**Check pem**

**Check user**

**checK IP**

**I will do ssh with verbose**

**Do the telnet test**

**Check the security group/firewall**

**If sshd stop also --reboot /restart**

**Too many files open also(1024, we can change-65k)**

**Lab: ssh fail ( ssh should wait)**

**Ssh -vvv**

**Telnet**

**Check the security group**

**5) login to the tomcat from bastion**

**Chmod 400 pemfile**

**Linux normal users home directory : /home**

**Windows: c:\Users\**

**Ssh with ec2-user**

**Ssh without ec2-user**

**We already currently with ec2-user in bastion**

**Our target user in tomcat : ec2-user**

**Switch to the root user**

**6) install the tomcat--3rd party softwares/packages**

**/opt --optinal packages**

**/usr --- user installing packages**

|  |
| --- |
| **/home**  **/root**  **/opt- install the tomcat**  **/usr**  **/tmp**  **/etc**  **/var**  **/bin**  **/sbin**  **/lib**  **/dev**  **/proc**  **/boot**  **/mnt** |

**From root user**

**Come back to one folder : cd ..**

**List the folders**

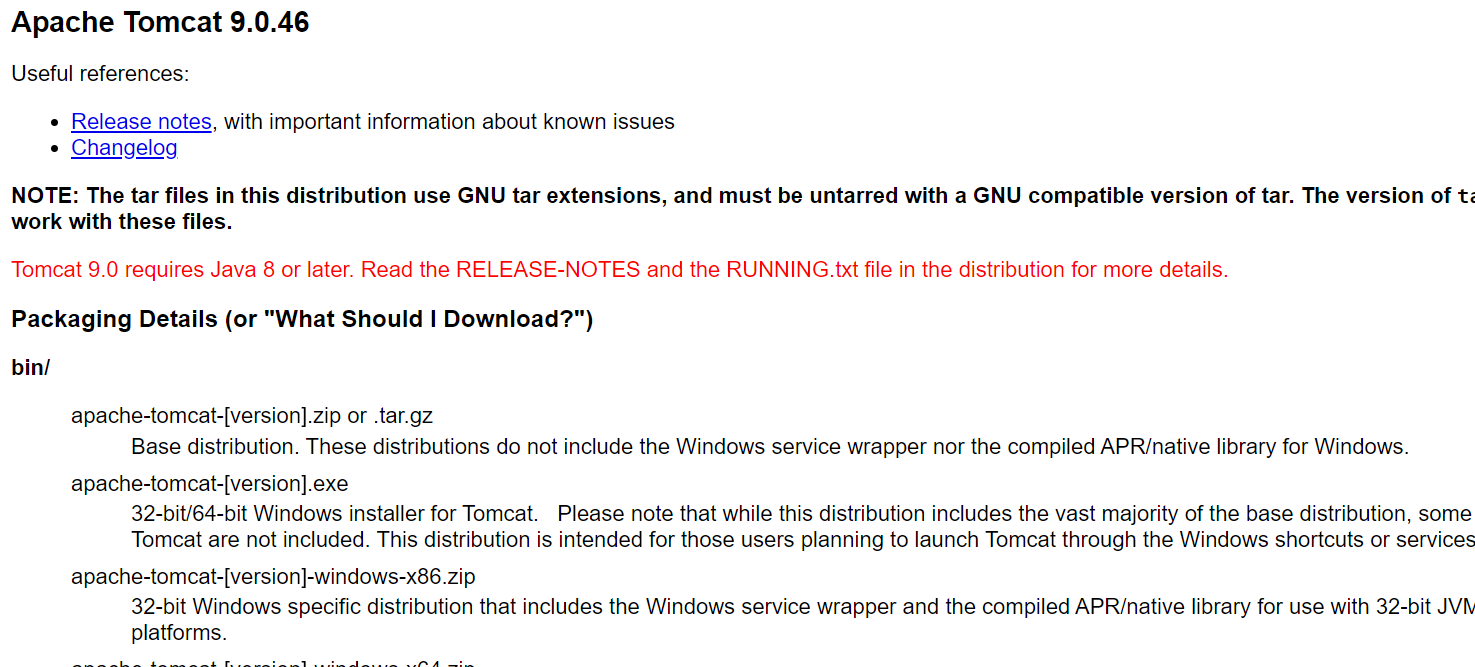
**Observe the structure**

**Switch to the /opt**

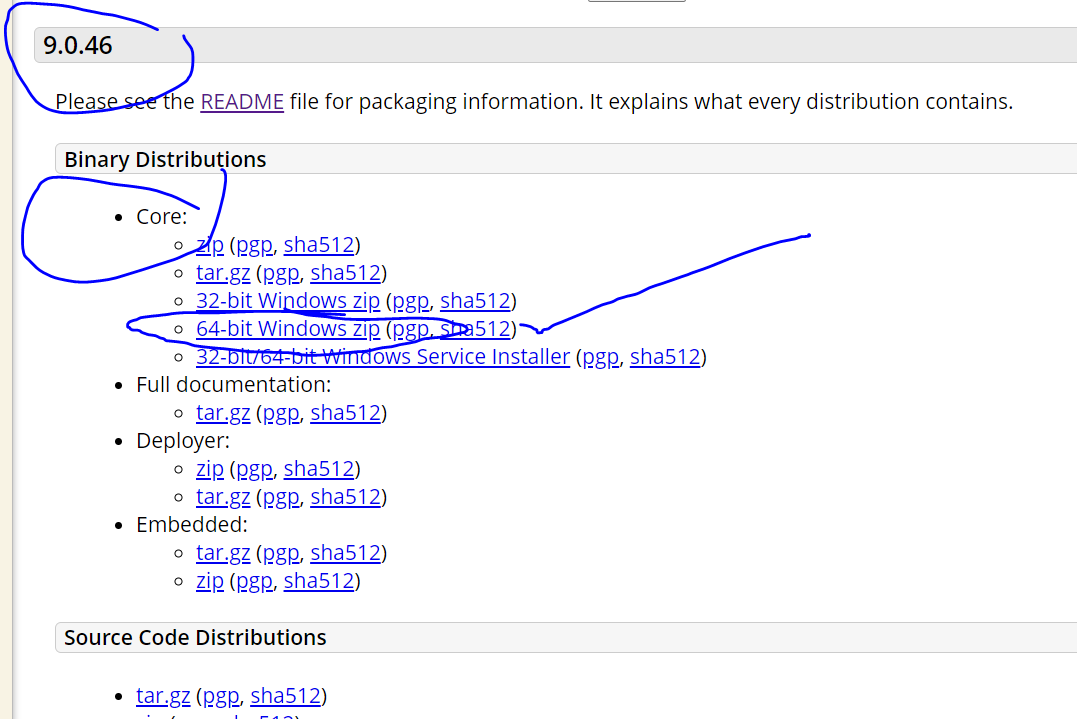
**cd /opt**

**Download zip from apache tomcat website**

**Gotot the apache tomcat**

****

[**https://tomcat.apache.org/download-90.cgi**](https://tomcat.apache.org/download-90.cgi)

****

**Wget** [**https://mirrors.estointernet.in/apache/tomcat/tomcat-9/v9.0.46/bin/apache-tomcat-9.0.46-windows-x64.zip**](https://mirrors.estointernet.in/apache/tomcat/tomcat-9/v9.0.46/bin/apache-tomcat-9.0.46-windows-x64.zip)

**Curl -O** [**https://mirrors.estointernet.in/apache/tomcat/tomcat-9/v9.0.46/bin/apache-tomcat-9.0.46-windows-x64.zip**](https://mirrors.estointernet.in/apache/tomcat/tomcat-9/v9.0.46/bin/apache-tomcat-9.0.46-windows-x64.zip)

**Download**

**Extract**

**Rename**

**Chmod -R 700 tomcat**

**Try to start the tomcat from bin/**

**./startup.sh**

**We will get the error with JAVA**

**7) install the java**

**Oracle java**

**Openjdk**

**SUn java--oracle --**

**Apple java**

**JAVA -- JDK , JRE**

**Install the sun java JDK**

**Java installation with RPM**

**wget -c --header "Cookie: oraclelicense=accept-securebackup-cookie" http://download.oracle.com/otn-pub/java/jdk/8u131-b11/d54c1d3a095b4ff2b6607d096fa80163/jdk-8u131-linux-x64.rpm**

**rpm -ivh jdk-8u131-linux-x64.rpm**

**Check the java version**

**Java -version**

**Start the tomcat**

**Stop the tomcat**

**Check netstat**

**Check process**

**8) install the sample application(war --webapps--/opt/tomcat/webapps)**

[**https://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/wls/10g/r3/cluster/session\_state/files/shoppingcart.zip**](https://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/wls/10g/r3/cluster/session_state/files/shoppingcart.zip)

**Check: Deploy the shoppingcart.war in the tomcat**

**Check: curl -I** [**http://localhost:8080/shoppingcart**](http://localhost:8080/shoppingcart)

**Tomcat -bin ( stop/start\_**

**webapps(deploy the war files)**

**Logs ( catalina.out)**

|  |
| --- |
| **Install tomcat**  **Install java**  **Stop /start**  **Check process tomcat**  **Deploy--webapps** |

9) Access the tomcat from outside ( public)

Enduser --------ALB(public subnet)---------TG ---------Ec2(Tomcat)

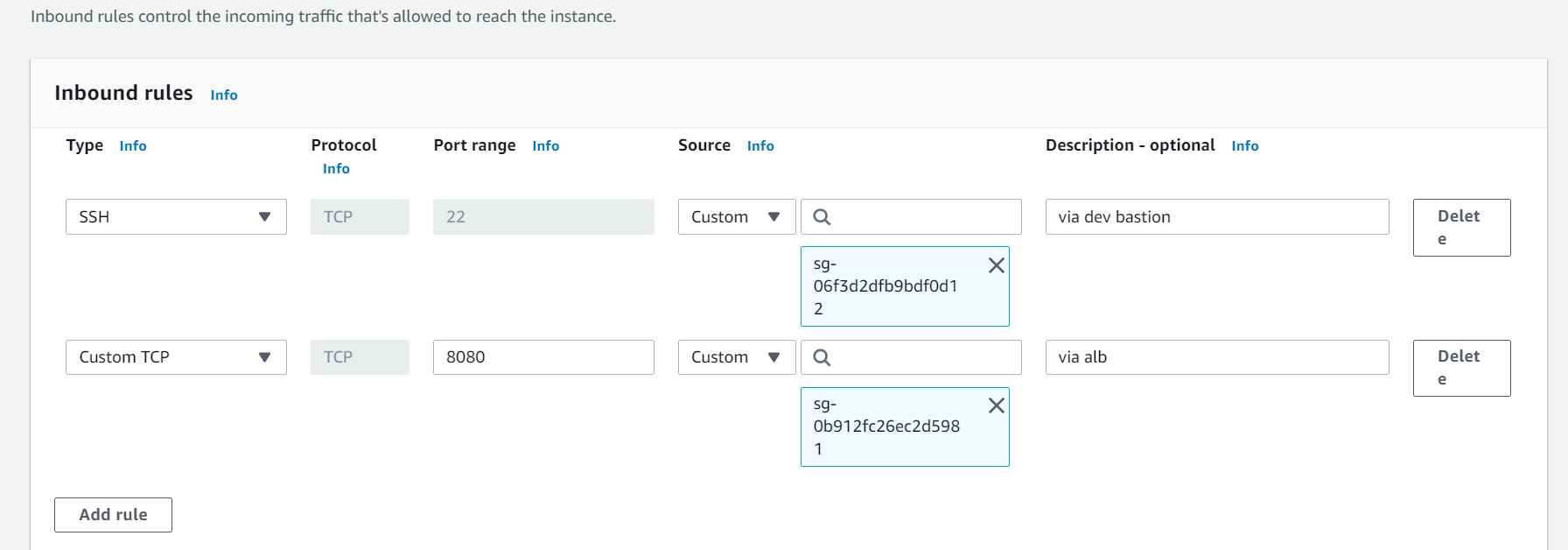
Create the alb and attach tomcat

Access it

**Create the security group**

Name: dev-alb-sg

In tomcat-sg (2 rules , ssh -bastion-sg, 8080-alb-sg)



**Create the tg**

Port number : 8080

Vpc: dev-vpc

Tags

**Create the alb**

Vpc: dev-vpc

Subnets: public subnet

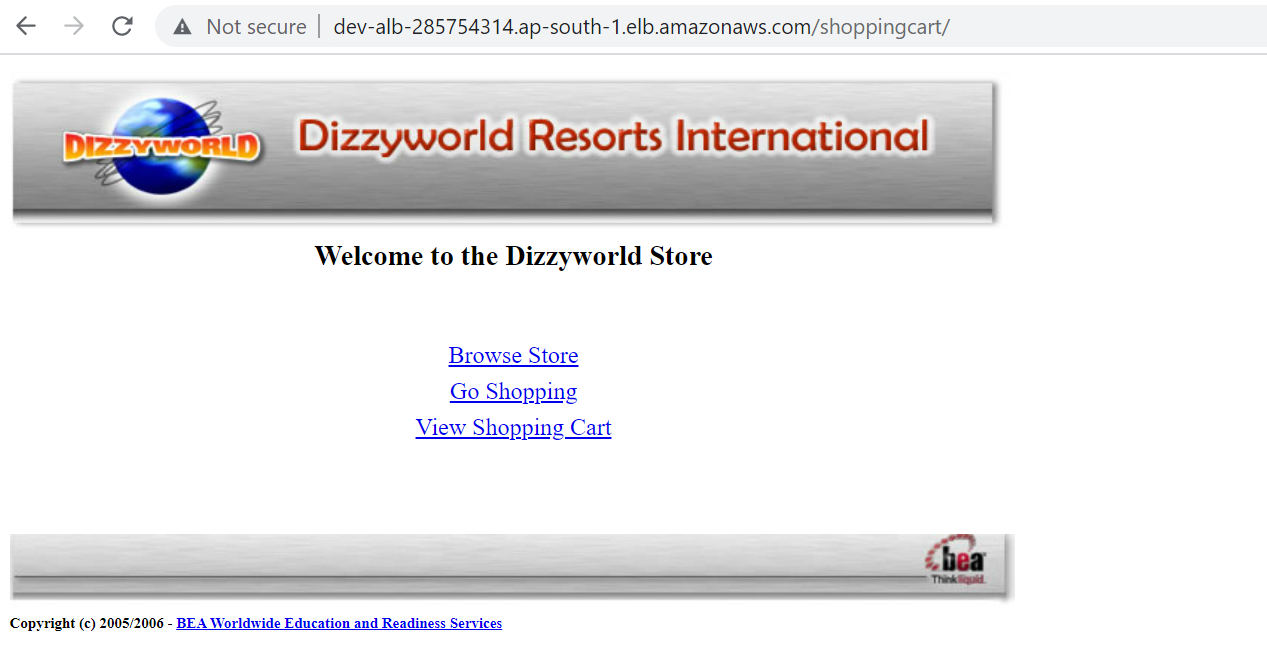
Enduser ---80----ALB--Listner --80----FWD--Target Group(Tomcat-tg)

Requirement

<http://alb>

https://

Make the redirection in the alb rules



Access with the Domain name

dev-shoppingcart.etechee.com

Check : Access the tomcat with

Domain name

HTTPS

ALB : Redirect rules

Security group - 80 /443

**AWS Service:**

Ec2

EBS

Security Group

ALB

VPC

ACM

Route53

**Helath check   
/**

**8080**

**Status code: 200**

**Make 404 error**

Goto to the tomcat ec2

Curl -I http://localhost:8080

**Task: Create the tomcat ami and launch another ec2(Tomcat)**

Copy the ami to singapore ( DR)

Primary region : mumbai

Create the ec2 (use tomcat ami) and attach to target Group ( dev-tomcat-2)

502 - bad gateway ( check service in ec2)--alb giving the bad gateway

Sticky Session--Request

**Lab-work:**

* **With in private Ec2 we will install all these applications**
* **In /opt we install tomcat**
* **With in tomcat /bin is used for start and stop**
* **Commands-./startup.sh-starting tomcat**
* **./shutdown.sh-stopping tomcat**

**1.java-installation**

**wget wget -c --header "Cookie: oraclelicense=accept-securebackup-cookie" http://download.oracle.com/otn-pub/java/jdk/8u131-b11/d54c1d3a095b4ff2b6607d096fa80163/jdk-8u131-linux-x64.rpm**

**ls -ltrh**

**rpm -ivh jdk-8u131-linux-x64.rpm**

**java -version**

**2.shopping cart deployment**

**#shopping cart**

**wget https://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/wls/10g/r3/cluster/session\_state/files/shoppingcart.zip**

**ls -ltrh**

**unzip shoppingcart.zip**

**ls -ltrh**

**cp shoppingcart.war**

**cp shoppingcart.war tomcat/webapps/**

**curl -I http://localhost:8080/shoppingcart**

**3.tomcat installation**

**#tomcat url**

**wget https://apachemirror.wuchna.com/tomcat/tomcat-9/v9.0.46/bin/apache-tomcat-9.0.46-windows-x64.zip**

**ls -ltrh**

**unzip**

|  |
| --- |
| 1 cd ..  2 ls  3 cd /opt  4 wget wget -c --header "Cookie: oraclelicense=accept-securebackup-cookie" http://download.oracle.com/otn-pub/java/jdk/8u131-b11/d54c1d3a095b4ff2b6607d096fa80163/jdk-8u131-linux-x64.rpm  5 ls -ltrh  6 rpm -ivh jdk-8u131-linux-x64.rpm  7 java -version  8 ls -ltrh  9 wget https://apachemirror.wuchna.com/tomcat/tomcat-9/v9.0.46/bin/apache-tomcat-9.0.46-windows-x64.zip  10 ls -ltrh  11 unzip apache-tomcat-9.0.46-windows-x64.zip  12 ls -ltrh  13 rm -f apache-tomcat-9.0.46-windows-x64.zip  14 ls -ltrh  15 mv apache-tomcat-9.0.46  16 mv apache-tomcat-9.0.46 tomcat  17 ls -ltrh  18 chmod -R 700 /tomcat  19 chmod -R 700 tomcat/  20 ls -ltrh  21 cd /tomcat/bin  22 cd tomcat  23 cd bin  24 ./startup.sh  25 netstat -anlp | grep "8080" |