

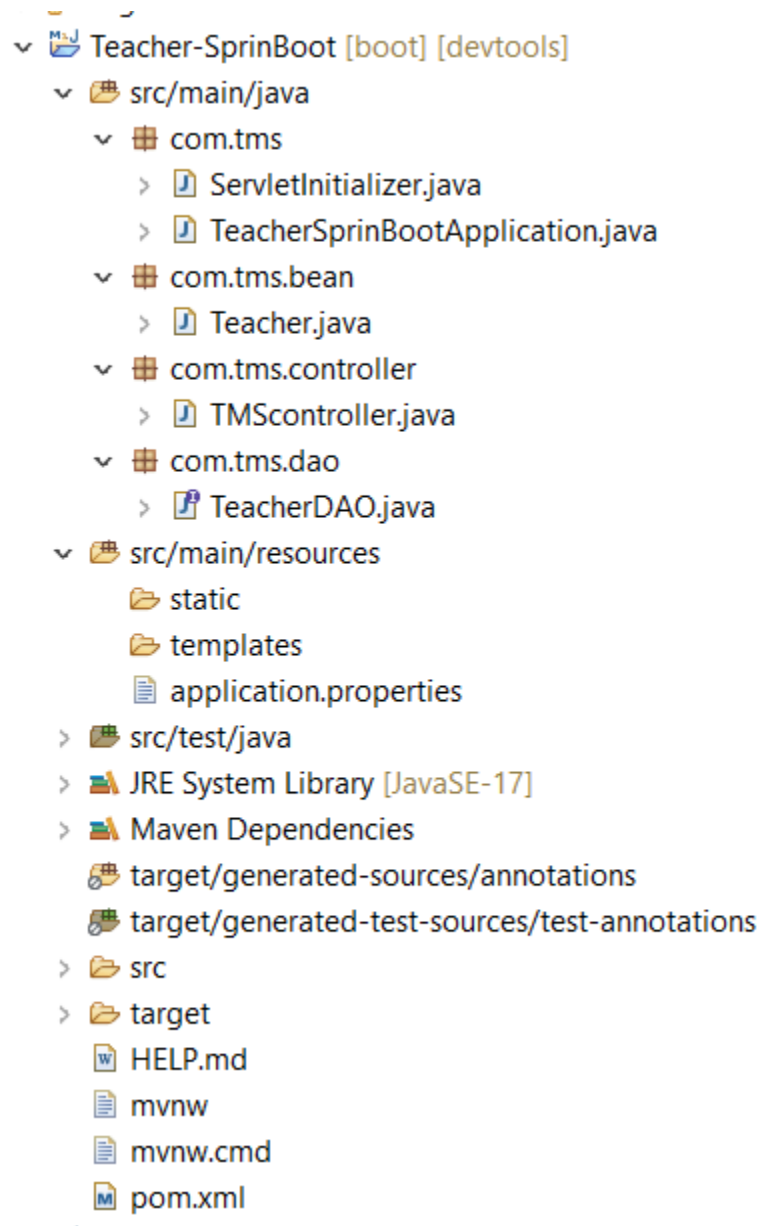
Cloud Computing-Assessment

Jeban Ignesh J-11963

1.Problem Statement

A leading software company is developing a software application and the client wants you to deploy the application on cloud . The R&D team is working on the various solutions available for this requirement . You have been assigned the task of working with AWS Cloud EC2 feature:

- **Am using my existing Spring Boot Project called Teacher Management System.**
- **I attached a screenshot for my project Structure below.**



Step #1 : Make a maven web application , configure server runtime and verify your application is working.

```

=====
:: Spring Boot ::                (v3.2.0)

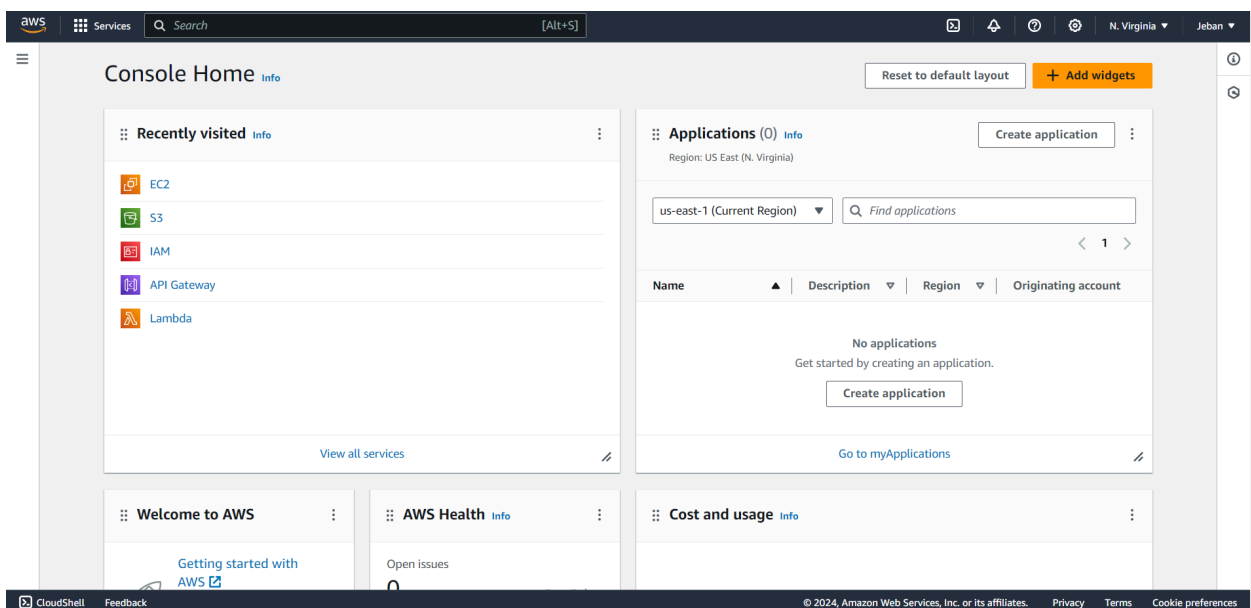
2024-01-23T13:46:38.167+05:30 INFO 6628 --- [ restartedMain] com.tms.TeacherSpringBootApplication : Starting TeachersSpringBootApplication using Java 17.0.9 with PI
2024-01-23T13:46:38.169+05:30 INFO 6628 --- [ restartedMain] com.tms.TeacherSpringBootApplication : No active profile set, falling back to 1 default profile: "def
2024-01-23T13:46:38.216+05:30 INFO 6628 --- [ restartedMain] o.s.b.devtools.restart.ChangeableUrls : The Class-Path manifest attribute in C:\Users\jeban.jebamalai\
2024-01-23T13:46:38.217+05:30 INFO 6628 --- [ restartedMain] e.DevToolsPropertyDefaultsPostProcessor : DevTools property defaults activated! Set 'spring.devtools.addPro
For additional web related logging consider setting the 'loggi
2024-01-23T13:46:39.013+05:30 INFO 6628 --- [ restartedMain] s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA repositories in DEFAULT mode.
2024-01-23T13:46:39.084+05:30 INFO 6628 --- [ restartedMain] s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 59 ms. Found 1 JPA
2024-01-23T13:46:39.446+05:30 WARN 6628 --- [ restartedMain] trationDelegateBeanPostProcessorChecker : 'org.springframework.ws.config.annotation.DelegatingWsCon
2024-01-23T13:46:39.502+05:30 INFO 6628 --- [ restartedMain] w.s.a.s.AnnotationActionEndpointMapper : Supporting [WS-Addressing August 2004, WS-Addressing 1.0]
2024-01-23T13:46:39.986+05:30 INFO 6628 --- [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 4567 (http)
2024-01-23T13:46:40.001+05:30 INFO 6628 --- [ restartedMain] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-01-23T13:46:40.002+05:30 INFO 6628 --- [ restartedMain] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.16]
2024-01-23T13:46:40.081+05:30 INFO 6628 --- [ restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2024-01-23T13:46:40.084+05:30 INFO 6628 --- [ restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1865 m
2024-01-23T13:46:40.130+05:30 INFO 6628 --- [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
2024-01-23T13:46:40.498+05:30 INFO 6628 --- [ restartedMain] com.zaxxer.hikari.pool.HikariPool : HikariPool-1 - Added connection com.mysql.cj.jdbc.ConnectionIm
2024-01-23T13:46:40.502+05:30 INFO 6628 --- [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start completed.
2024-01-23T13:46:40.515+05:30 INFO 6628 --- [ restartedMain] o.s.b.a.h2.H2ConsoleAutoConfiguration : H2 console available at '/h2-console'. Database available at '
2024-01-23T13:46:40.747+05:30 INFO 6628 --- [ restartedMain] o.hibernate.jpa.internal.util.LogHelper : HH000204: Processing PersistenceUnitInfo [name: default]
2024-01-23T13:46:40.843+05:30 INFO 6628 --- [ restartedMain] org.hibernate.Version : HH0008412: Hibernate ORM core version 6.3.1.Final
2024-01-23T13:46:40.892+05:30 INFO 6628 --- [ restartedMain] o.h.c.internal.RegionFactoryInitiator : HH0008026: Second-level cache disabled
2024-01-23T13:46:41.173+05:30 INFO 6628 --- [ restartedMain] o.s.o.j.p.SpringPersistenceUnitInfo : No LoadTimeWeaver setup: ignoring JPA class transformer
2024-01-23T13:46:42.082+05:30 INFO 6628 --- [ restartedMain] o.h.e.t.j.p.i.3taPlatformInitiator : HH0008489: No JTA platform available (set 'hibernate.transacti
2024-01-23T13:46:42.125+05:30 INFO 6628 --- [ restartedMain] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'def
2024-01-23T13:46:42.478+05:30 WARN 6628 --- [ restartedMain] JpaBaseConfiguration$JpaWebConfiguration : spring.jpa.open-in-view is enabled by default. Therefore, data
2024-01-23T13:46:42.818+05:30 INFO 6628 --- [ restartedMain] o.s.b.d.a.OptionalLiveReloadServer : LiveReload server is running on port 35729
2024-01-23T13:46:42.895+05:30 INFO 6628 --- [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port 4567 (http) with context path ''
2024-01-23T13:46:42.903+05:30 INFO 6628 --- [ restartedMain] com.tms.TeacherSpringBootApplication : Started TeachersSpringBootApplication in 5.185 seconds (process

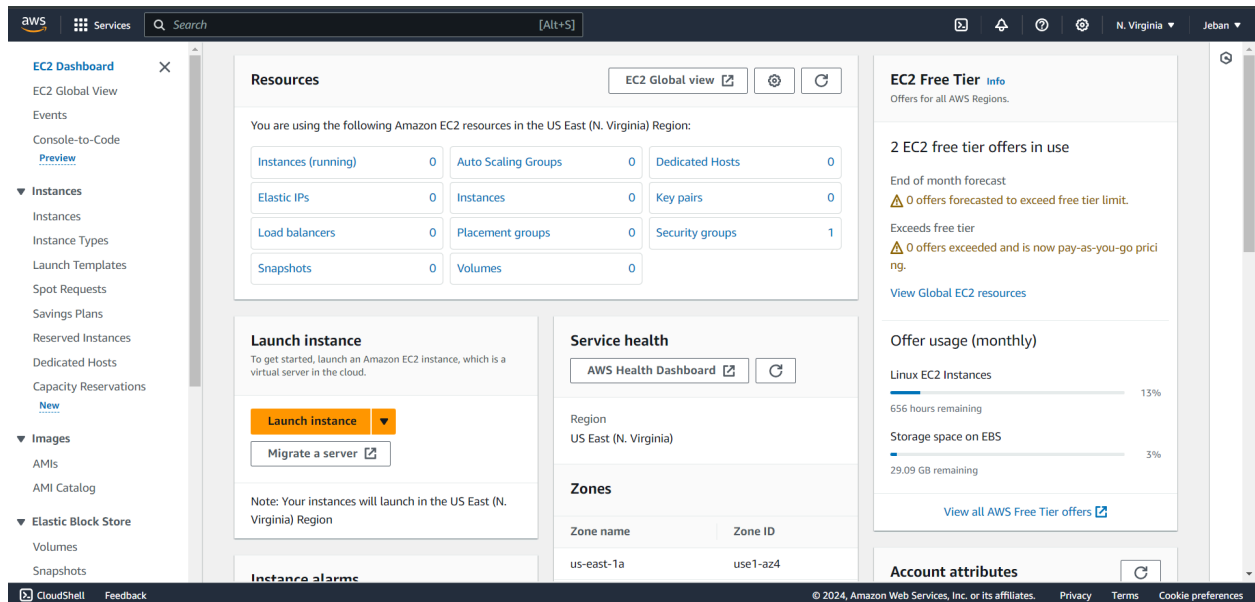
```

The application is working finely.

Step #2 : Login to your AWS account and Create a new EC2 Instance.

Login AWS:





Creating Instance called clode_assessment:

Create key pair

Key pair name

Key pairs allow you to connect to your instance securely.

cloud_assessment

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

☒ RSA
RSA encrypted private and public key pair

☐ ED25519
ED25519 encrypted private and public key pair

Private key file format

☒ .pem
For use with OpenSSH

☐ .ppk
For use with PuTTY

⚠

When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** [Learn more](#)

Cancel

Create key pair

Instance Type : t2.micro:

▼ Instance type Info | Get advice

Instance type

t2.micro

Free tier eligible

Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Linux base pricing: 0.0124 USD per Hour
On-Demand Windows base pricing: 0.017 USD per Hour
On-Demand RHEL base pricing: 0.0724 USD per Hour
On-Demand SUSE base pricing: 0.0124 USD per Hour

☐ All generations

Compare instance types

Additional costs apply for AMIs with pre-installed software

OS : Amazon Linux 2023 AMI xxx:

aws Services Search [Alt+S]

▼ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Quick Start

Amazon Linux

macOS

Ubuntu

Windows

Red Hat

SUSE Li

Browse more AMIs

Amazon Machine Image (AMI)

Amazon Linux 2023 AMI

ami-0a3c3a20c09d6f377 (64-bit (x86), uefi-preferred) / ami-0bb6cbb99aec63c04 (64-bit (Arm), uefi)

Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

Description

Amazon Linux 2023 AMI 2023.3.20240122.0 x86_64 HVM kernel-6.1

Architecture

64-bit (x86)

Boot mode

uefi-preferred

AMI ID

ami-0a3c3a20c09d6f377

Verified provider

▼ Summary

Number of instances Info

1

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel Launch instance Review commands

CloudShell Feedback

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Zone : US East (N. Virginia)

General configuration

AWS Region

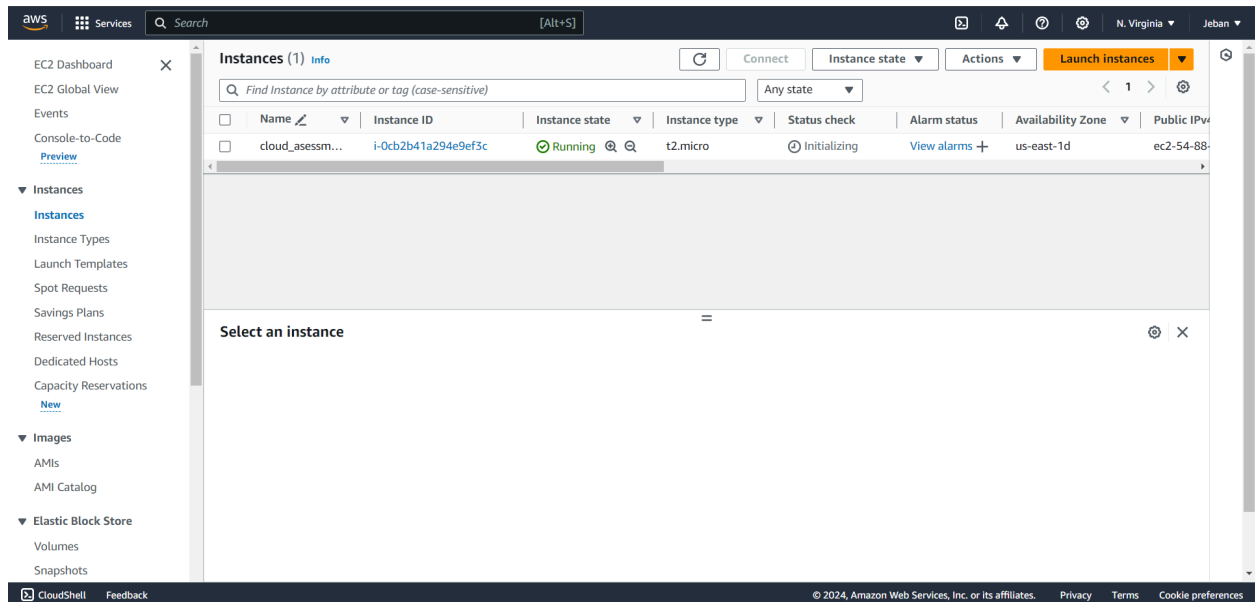
US East (N. Virginia) us-east-1

VPC : Default

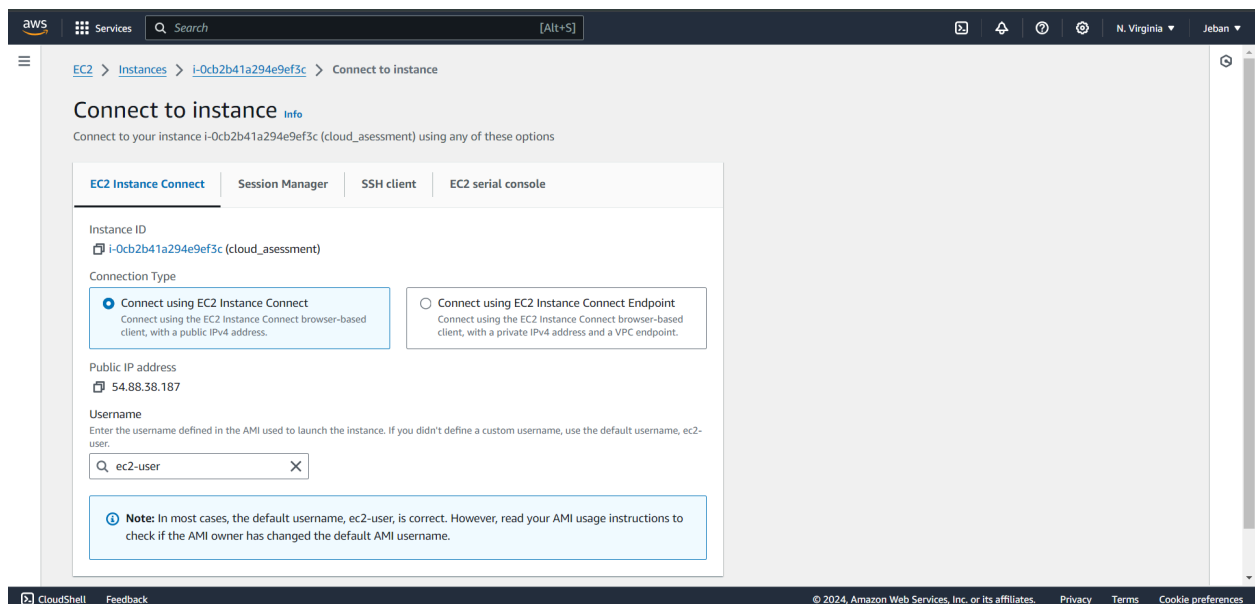
Key Pair : Create New

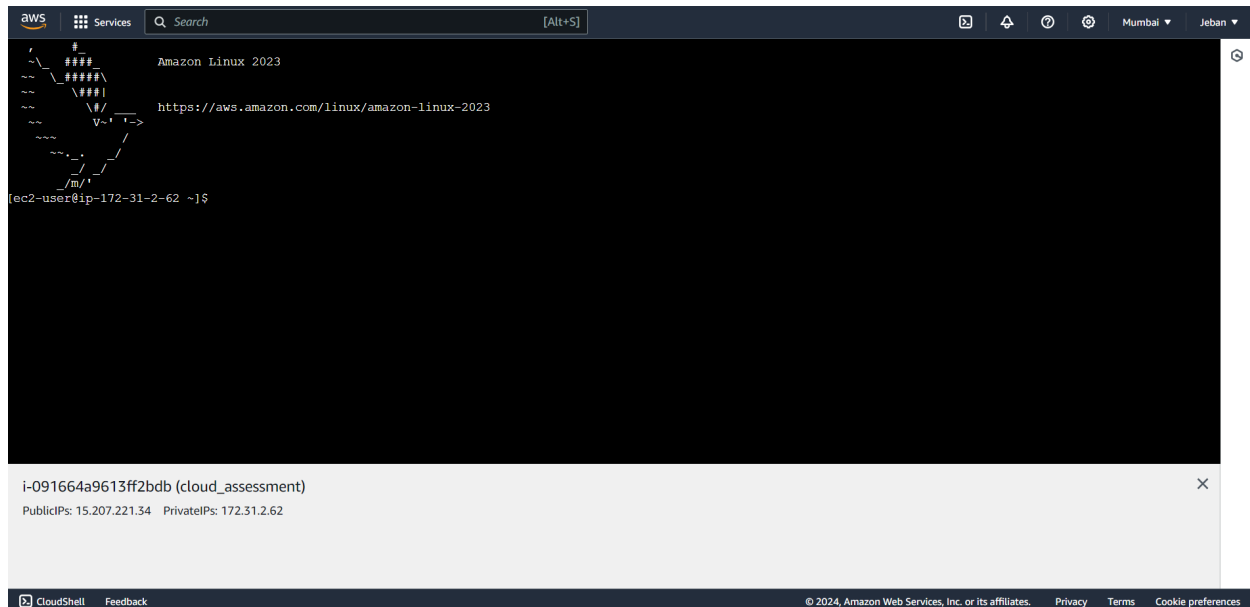
Successfully creating a new instance.

The screenshot displays the AWS Management Console interface. At the top, the navigation bar shows the AWS logo, 'Services', a search bar, and the user's profile 'Jeban'. The breadcrumb trail indicates the path: 'EC2 > Instances > Launch an instance'. A prominent green success banner at the top of the main content area reads 'Success' and 'Successfully initiated launch of instance (i-0cb2b41a294e9ef3c)'. Below this, a 'Launch log' section is visible. The 'Next Steps' section features a search bar with the placeholder text 'What would you like to do next with this instance, for example "create alarm" or "create backup"'. Four recommended actions are presented in a grid: 'Create billing and free tier usage alerts' (with a 'Create billing alerts' button), 'Connect to your instance' (with a 'Connect to instance' button and a 'Learn more' link), 'Connect an RDS database' (with a 'Connect an RDS database' button, a 'Create a new RDS database' link, and a 'Learn more' link), and 'Create EBS snapshot policy' (with a 'Create EBS snapshot policy' button). The footer of the console includes 'CloudShell', 'Feedback', and copyright information for Amazon Web Services, Inc. (© 2024), along with links for 'Privacy', 'Terms', and 'Cookie preferences'.



Step #3 : Configure your EC2 Instance and Connect to it.





Step #4 : Install JAVA and Tomcat Server inside EC2 Instance

```
[ec2-user@ip-172-31-2-62 ~]$ java -version
-bash: java: command not found
[ec2-user@ip-172-31-2-62 ~]$
```

For Java installation I use **sudo yum install java** command

```
aws Services Search [Alt+S] N. Virginia Jeban

Amazon Linux 2023
https://aws.amazon.com/linux/amazon-linux-2023

[ec2-user@ip-172-31-80-154 ~]$ java -version
-bash: java: command not found
[ec2-user@ip-172-31-80-154 ~]$ sudo yum install java
Amazon Linux 2023 repository
Amazon Linux 2023 Kernel Livepatch repository
Dependencies resolved.

Package Architecture Version Repository Size
Installing:
java-21-amazon-corretto x86_64 1:21.0.2+13-1.amzn2023.1 amazonlinux 213 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

i-0cb2b41a294e9ef3c (cloud_assessment)
PublicIPs: 54.88.38.187 PrivateIPs: 172.31.80.154

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```

```
aws Services Search [Alt+S] Mumbai Jeban

Verifying : langpacks-core-font-en-3.0-21.amzn2023.0.4.noarch 31/35
Verifying : libX11-common-1.7.2-3.amzn2023.0.4.noarch 32/35
Verifying : dejavu-serif-fonts-2.37-16.amzn2023.0.2.noarch 33/35
Verifying : xml-common-0.6.3-56.amzn2023.0.2.noarch 34/35
Verifying : dejavu-sans-mono-fonts-2.37-16.amzn2023.0.2.noarch 35/35

Installed:
alsa-lib-1.2.7.2-1.amzn2023.0.2.x86_64
dejavu-sans-fonts-2.37-16.amzn2023.0.2.noarch
dejavu-serif-fonts-2.37-16.amzn2023.0.2.noarch
fonts-filesystem-1:2.0.5-12.amzn2023.0.2.noarch
glib-5.2.1-9.amzn2023.0.1.x86_64
google-noto-sans-vf-fonts-20201206-2.amzn2023.0.2.noarch
harfbuzz-7.0.0-2.amzn2023.0.1.x86_64
java-21-amazon-corretto-headless-1:21.0.2+13-1.amzn2023.1.x86_64
langpacks-core-font-en-3.0-21.amzn2023.0.4.noarch
libSM-1.2.3-8.amzn2023.0.2.x86_64
libX11-common-1.7.2-3.amzn2023.0.4.noarch
libXext-1.3.4-6.amzn2023.0.2.x86_64
libXinerama-1.1.4-8.amzn2023.0.2.x86_64
libXrender-0.9.10-14.amzn2023.0.2.x86_64
libXtst-1.2.3-14.amzn2023.0.2.x86_64
libjpeg-turbo-2.1.4-2.amzn2023.0.5.x86_64
libxcb-1.13.1-7.amzn2023.0.2.x86_64
xml-common-0.6.3-56.amzn2023.0.2.noarch
cairo-1.17.6-2.amzn2023.0.1.x86_64
dejavu-sans-mono-fonts-2.37-16.amzn2023.0.2.noarch
fontconfig-2.13.94-2.amzn2023.0.2.x86_64
freetype-2.13.0-2.amzn2023.0.1.x86_64
google-noto-fonts-common-20201206-2.amzn2023.0.2.noarch
graphite2-1.3.14-7.amzn2023.0.2.x86_64
java-21-amazon-corretto-1:21.0.2+13-1.amzn2023.1.x86_64
javapackages-filesystem-6.0.0-7.amzn2023.0.6.noarch
libICE-1.0.10-6.amzn2023.0.2.x86_64
libX11-1.7.2-3.amzn2023.0.4.x86_64
libXau-1.0.9-6.amzn2023.0.2.x86_64
libXi-1.7.10-6.amzn2023.0.2.x86_64
libXrandr-1.5.2-6.amzn2023.0.2.x86_64
libXt-1.2.0-4.amzn2023.0.2.x86_64
libbrotli-1.0.9-4.amzn2023.0.2.x86_64
libpng-2.1.6-37-10.amzn2023.0.6.x86_64
pixman-0.40.0-3.amzn2023.0.3.x86_64

Complete!
[ec2-user@ip-172-31-2-62 ~]$

i-091664a9613ff2bdb (cloud_assessment)
PublicIPs: 15.207.221.34 PrivateIPs: 172.31.2.62

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```

```
[ec2-user@ip-172-31-2-62 ~]$ java -version
openjdk version "21.0.2" 2024-01-16 LTS
OpenJDK Runtime Environment Corretto-21.0.2.13.1 (build 21.0.2+13-LTS)
OpenJDK 64-Bit Server VM Corretto-21.0.2.13.1 (build 21.0.2+13-LTS, mixed mode, sharing)
```


Install Tomcat server:

```
ec2-user@ip-172-31-80-154 ~]$ wget https://d1cdn.apache.org/tomcat/tomcat-9/v9.0.85/bin/apache-tomcat-9.0.85.tar.gz
--2024-01-23 09:17:48-- https://d1cdn.apache.org/tomcat/tomcat-9/v9.0.85/bin/apache-tomcat-9.0.85.tar.gz
Resolving d1cdn.apache.org (d1cdn.apache.org)... 151.101.2.132, 2a04:4e42::644
Connecting to d1cdn.apache.org (d1cdn.apache.org)|151.101.2.132|:443... connected.
HTTP request sent, awaiting response... 200 OK
length: 11809177 (11M) [application/x-gzip]
Saving to: 'apache-tomcat-9.0.85.tar.gz'

apache-tomcat-9.0.85.tar.gz      100%[=====>] 11.26M  --.-KB/s  in 0.08s

2024-01-23 09:17:48 (149 MB/s) - 'apache-tomcat-9.0.85.tar.gz' saved [11809177/11809177]
```

```
aws Services Search [Alt+S] N. Virginia Jeban

[ec2-user@ip-172-31-80-154 ~]$ tar -zxvf apache-tomcat-9.0.85.tar.gz
apache-tomcat-9.0.85/conf/
apache-tomcat-9.0.85/conf/catalina.policy
apache-tomcat-9.0.85/conf/catalina.properties
apache-tomcat-9.0.85/conf/context.xml
apache-tomcat-9.0.85/conf/jaspic-providers.xml
apache-tomcat-9.0.85/conf/jaspic-providers.xsd
apache-tomcat-9.0.85/conf/logging.properties
apache-tomcat-9.0.85/conf/server.xml
apache-tomcat-9.0.85/conf/tomcat-users.xml
apache-tomcat-9.0.85/conf/tomcat-users.xsd
apache-tomcat-9.0.85/conf/web.xml
apache-tomcat-9.0.85/bin/
apache-tomcat-9.0.85/lib/
apache-tomcat-9.0.85/logs/
apache-tomcat-9.0.85/temp/
apache-tomcat-9.0.85/webapps/
apache-tomcat-9.0.85/webapps/ROOT/
apache-tomcat-9.0.85/webapps/ROOT/WEB-INF/
apache-tomcat-9.0.85/webapps/docs/
apache-tomcat-9.0.85/webapps/docs/META-INF/
apache-tomcat-9.0.85/webapps/docs/WEB-INF/jsp/
apache-tomcat-9.0.85/webapps/docs/annotationapi/
apache-tomcat-9.0.85/webapps/docs/api/
apache-tomcat-9.0.85/webapps/docs/appdev/
apache-tomcat-9.0.85/webapps/docs/appdev/sample/

i-0cb2b41a294e9ef3c (cloud_assessment)
PublicIPs: 54.88.38.187 PrivateIPs: 172.31.80.154

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```

```
aws Services Search [Alt+S] N. Virginia Jeban

apache-tomcat-9.0.85/webapps/manager/META-INF/context.xml
apache-tomcat-9.0.85/webapps/manager/WEB-INF/jsp/401.jsp
apache-tomcat-9.0.85/webapps/manager/WEB-INF/jsp/403.jsp
apache-tomcat-9.0.85/webapps/manager/WEB-INF/jsp/404.jsp
apache-tomcat-9.0.85/webapps/manager/WEB-INF/jsp/connectorCerts.jsp
apache-tomcat-9.0.85/webapps/manager/WEB-INF/jsp/connectorCiphers.jsp
apache-tomcat-9.0.85/webapps/manager/WEB-INF/jsp/connectorTrustedCerts.jsp
apache-tomcat-9.0.85/webapps/manager/WEB-INF/jsp/sessionDetail.jsp
apache-tomcat-9.0.85/webapps/manager/WEB-INF/jsp/sessionsList.jsp
apache-tomcat-9.0.85/webapps/manager/WEB-INF/web.xml
apache-tomcat-9.0.85/webapps/manager/css/manager.css
apache-tomcat-9.0.85/webapps/manager/images/asf-logo.svg
apache-tomcat-9.0.85/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.85/webapps/manager/index.jsp
apache-tomcat-9.0.85/webapps/manager/status.xsd
apache-tomcat-9.0.85/webapps/manager/xform.xsl
apache-tomcat-9.0.85/bin/catalina.sh
apache-tomcat-9.0.85/bin/ciphers.sh
apache-tomcat-9.0.85/bin/configtest.sh
apache-tomcat-9.0.85/bin/daemon.sh
apache-tomcat-9.0.85/bin/digest.sh
apache-tomcat-9.0.85/bin/makebase.sh
apache-tomcat-9.0.85/bin/setcatalina.sh
apache-tomcat-9.0.85/bin/shutdown.sh
apache-tomcat-9.0.85/bin/startup.sh
apache-tomcat-9.0.85/bin/tool-wrapper.sh
apache-tomcat-9.0.85/bin/version.sh
[ec2-user@ip-172-31-80-154 ~]$

i-0cb2b41a294e9ef3c (cloud_assessment)
PublicIPs: 54.88.38.187 PrivateIPs: 172.31.80.154

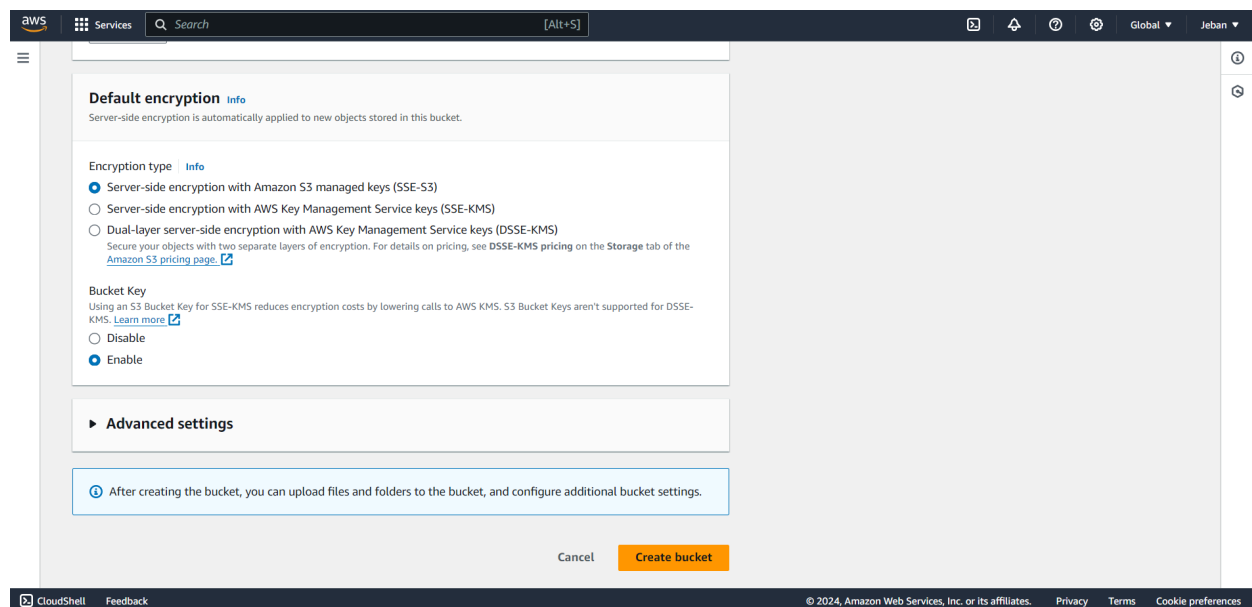
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```

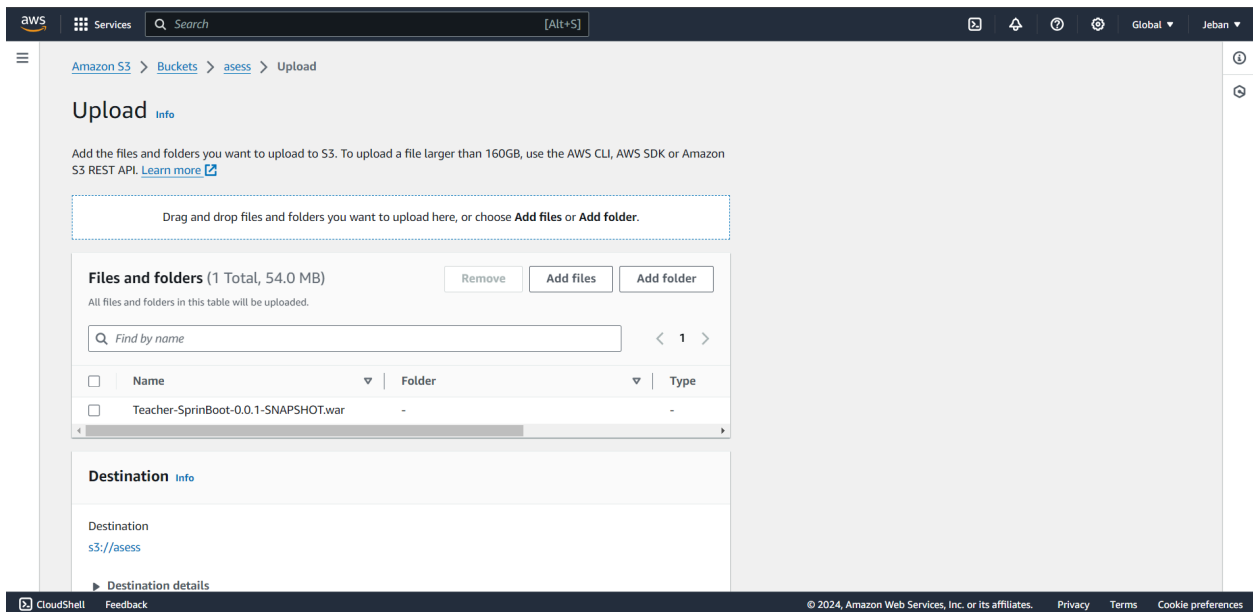
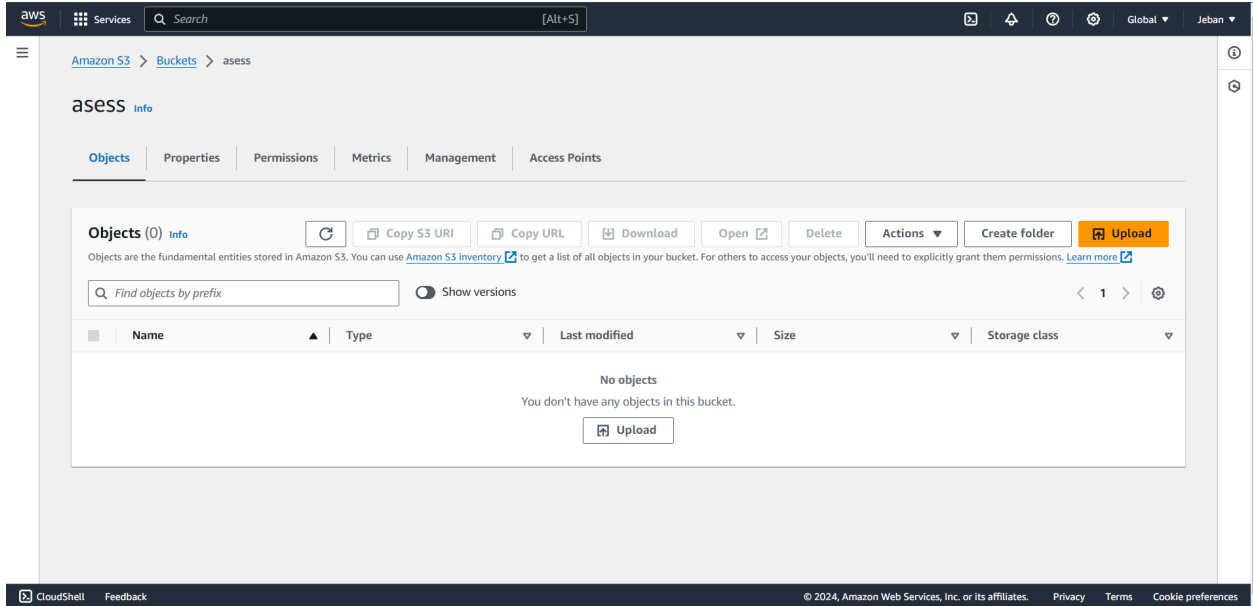
```
[ec2-user@ip-172-31-80-154 ~]$ cd apache-tomcat-9.0.85/  
[ec2-user@ip-172-31-80-154 apache-tomcat-9.0.85]$
```

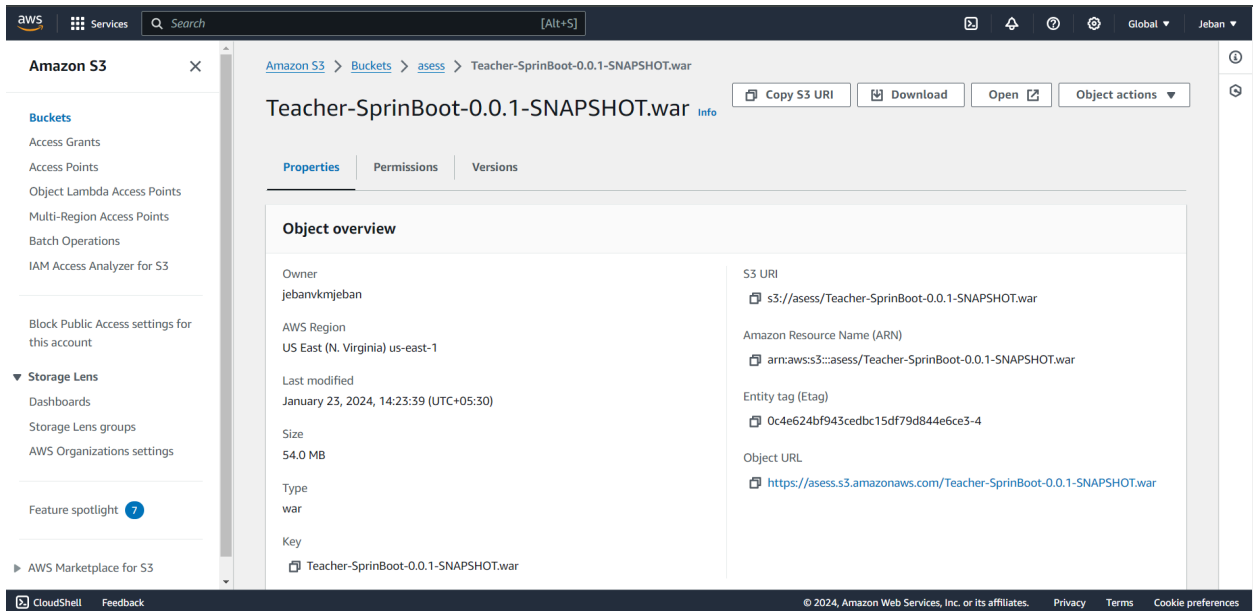
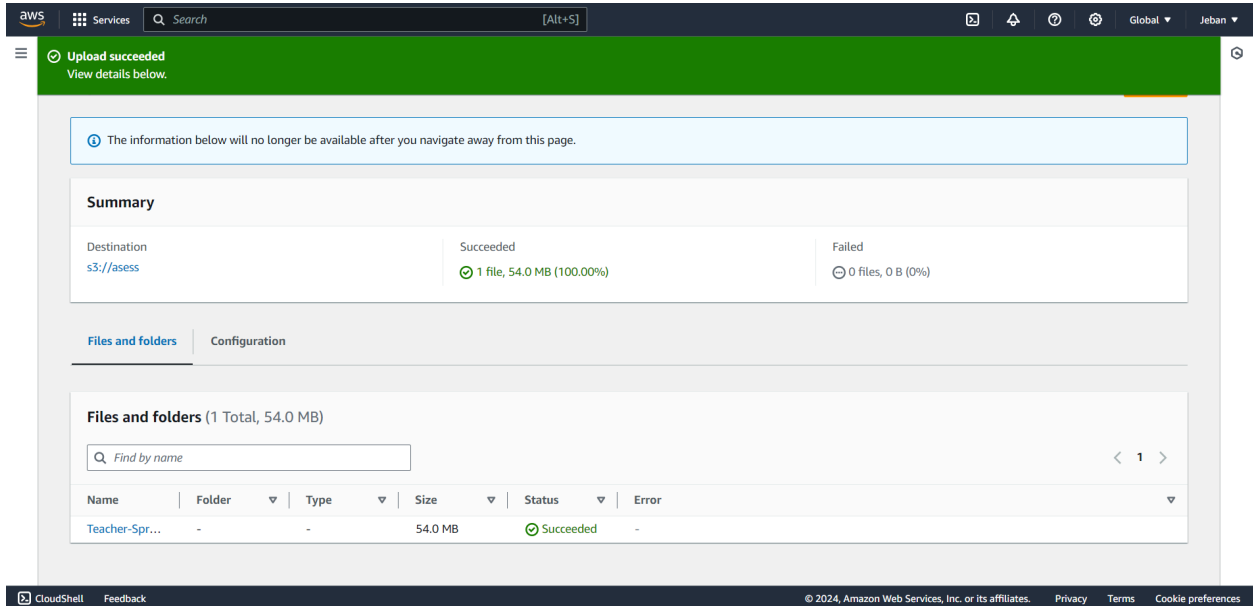
```
[ec2-user@ip-172-31-80-154 ~]$ cd apache-tomcat-9.0.85/  
[ec2-user@ip-172-31-80-154 apache-tomcat-9.0.85]$ cd bin/  
[ec2-user@ip-172-31-80-154 bin]$ ./startup.sh  
Using CATALINA_BASE:   /home/ec2-user/apache-tomcat-9.0.85  
Using CATALINA_HOME:   /home/ec2-user/apache-tomcat-9.0.85  
Using CATALINA_TMPDIR: /home/ec2-user/apache-tomcat-9.0.85/temp  
Using JRE_HOME:        /usr  
Using CLASSPATH:       /home/ec2-user/apache-tomcat-9.0.85/bin/bootstrap.jar:/home/ec2-user/apache-tomcat-9.0.85/bin/tomcat-juli.jar  
Using CATALINA_OPTS:  
Tomcat started.
```

Step #5 : Copy your Project WAR file into the EC2 Instance Tomcat's WebApp folder

Note : Either use WinSCP/Putty or Upload to S3 and copy to Ec2







```
ec2-user@ip-172-31-80-154 ~$ wget https://assess.s3.amazonaws.com/Teacher-SpringBoot-0.0.1-SNAPSHOT.war
--2024-01-23 09:13:59-- https://assess.s3.amazonaws.com/Teacher-SpringBoot-0.0.1-SNAPSHOT.war
Resolving assess.s3.amazonaws.com (assess.s3.amazonaws.com)... 54.231.199.249, 3.5.25.197, 16.182.67.177, ...
Connecting to assess.s3.amazonaws.com (assess.s3.amazonaws.com)[54.231.199.249]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 5652347 (5.4M) [binary/octet-stream]
Saving to: 'Teacher-SpringBoot-0.0.1-SNAPSHOT.war'

Teacher-SpringBoot-0.0.1-SNAPSHOT.war 100%[=====>] 53.95M 43.4MB/s in 1.2s

2024-01-23 09:14:00 (43.4 MB/s) - 'Teacher-SpringBoot-0.0.1-SNAPSHOT.war' saved [5652347/5652347]
```

```
aws Services Search [Alt+S]
--2024-01-23 09:13:59-- https://assess.s3.amazonaws.com/Teacher-SpringBoot-0.0.1-SNAPSHOT.war
Resolving assess.s3.amazonaws.com (assess.s3.amazonaws.com)... 54.231.199.249, 3.5.25.197, 16.182.67.177, ...
Connecting to assess.s3.amazonaws.com (assess.s3.amazonaws.com)[54.231.199.249]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 56572347 (54M) [binary/octet-stream]
Saving to: 'Teacher-SpringBoot-0.0.1-SNAPSHOT.war'

Teacher-SpringBoot-0.0.1-SNAPSHOT.war    100%[=====>]   53.95M  43.4MB/s   in 1.2s

2024-01-23 09:14:00 (43.4 MB/s) - 'Teacher-SpringBoot-0.0.1-SNAPSHOT.war' saved [56572347/56572347]

(ec2-user@ip-172-31-80-154 ~)$ java -jar Teacher-SpringBoot-0.0.1-SNAPSHOT.war

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:: Spring Boot ::
              (v3.2.0)

2024-01-23T09:15:30.287Z INFO 25920 --- [          main] com.tms.TeacherSpringBootApplication : Starting TeacherSpringBootApplication v0.0.1-SNAPSHOT using Java
21.0.2 with PID 25920 (/home/ec2-user/Teacher-SpringBoot-0.0.1-SNAPSHOT.war started by ec2-user in /home/ec2-user)
2024-01-23T09:15:30.301Z INFO 25920 --- [          main] com.tms.TeacherSpringBootApplication : No active profile set, falling back to 1 default profile: "default"
2024-01-23T09:15:32.379Z INFO 25920 --- [          main] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA repositories in DEFAULT mode.
2024-01-23T09:15:32.533Z INFO 25920 --- [          main] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 127 ms. Found 1 JPA
repository interface.

i-Ocb2b41a294e9ef3c (cloud_assessment)

PublicIPs: 54.88.38.187 PrivateIPs: 172.31.80.154
```