CI/CD Deployment for Springboot Application.

Description

Project Objective:

As a Full Stack Developer, you have to build a CI/CD pipeline to demonstrate continuous deployment and host the application on AWS EC2 instance.

Background of the problem statement:

As the project is in the final stage, management has asked you to automate the integration and deployment of the web application. You are required to set up an environment where the application will be hosted and accessed by users. The source code is supposed to be fetched from a GitHub repository.

You must use the following:

- Eclipse
- GitHub
- Jenkins
- AWS EC2/ Virtual machine

Following requirements should be met:

- A part of the source code should be tracked on the GitHub repository. You need to document the tracked files that are ignored during the final push to the GitHub repository.
- The submission of your GitHub repository link is mandatory. In order to track your task, you need to share the link of the repository in the document.
- The step-by-step process involved in completing this task should be documented.

Developer Details:

Mahendra Kumar Singh

mahendrakumarsingh9893@gmail.com

GitHub link-

Phase 5: CI CD Deployment For web Application source code

1)class SpringCiCdApplication.java

package com.testAuth;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

import org.springframework.web.bind.annotation.GetMapping;

import org.springframework.web.bind.annotation.RestController;

@SpringBootApplication

@RestController

```java
public class SpringCiCdApplication {


@GetMapping("/")

        public String home() {

                return"Welcome To Spring Boot CI-CD deployment";


        }

        public static void main(String[] args) {

                SpringApplication.run(SpringCiCdApplication.class,
args);

        }


}
```

Eclipse

File   Edit   Source   Refactor   Navigate   Search   Project   Run   Window   Help

Package Explorer

SpringJenkinsApplicati...   SpringCiCdApplication.j...   dockerfile   application.properties   Spring_ci-cd/pom.xml   Out

```java
 1  package com.testAuth;
 2
 3  import org.springframework.boot.SpringApplication;
 8
 9
10  @SpringBootApplication
11  @RestController
12  public class SpringCiCdApplication {
13
14  @GetMapping("/")
15      public String home() {
16          return"Welcome To Spring Boot CI-CD deployment";
17
18      }
19      public static void main(String[] args) {
20          SpringApplication.run(SpringCiCdApplication.class, args);
21      }
22
23  }
24
```

Package Explorer structure:
- Spring_ci-cd [boot] [devtools]
  - src/main/java
    - com.testAuth
      - SpringCiCdApplication.java
  - src/main/resources
    - static
    - templates
    - application.properties
  - src/test/java
    - com.testAuth
      - SpringCiCdApplicationTests
  - JRE System Library [JavaSE-11]
  - Maven Dependencies
  - target/generated-sources/annotat
  - target/generated-test-sources/tes
  - src
    - main
    - test
  - target
    - generated-sources
    - generated-test-sources
    - maven-archiver

Boot Dashboard

Type tags, projects, or working set names to
- local

Javadoc   Declaration   Console   Progress   Terminal

Spring_ci-cd - SpringCiCdApplication [Spring Boot App] C:\Users\Dell\Downloads\sts-4.10.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.2.v20

```
2021-09-18 18:43:43.431  INFO 9520 --- [  restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/]        : In
2021-09-18 18:43:43.432  INFO 9520 --- [  restartedMain] w.s.c.ServletWebServerApplicationContext : Ro
2021-09-18 18:43:43.819  INFO 9520 --- [  restartedMain] o.s.b.d.a.OptionalLiveReloadServer       : Li
2021-09-18 18:43:43.855  INFO 9520 --- [  restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer  : To
```
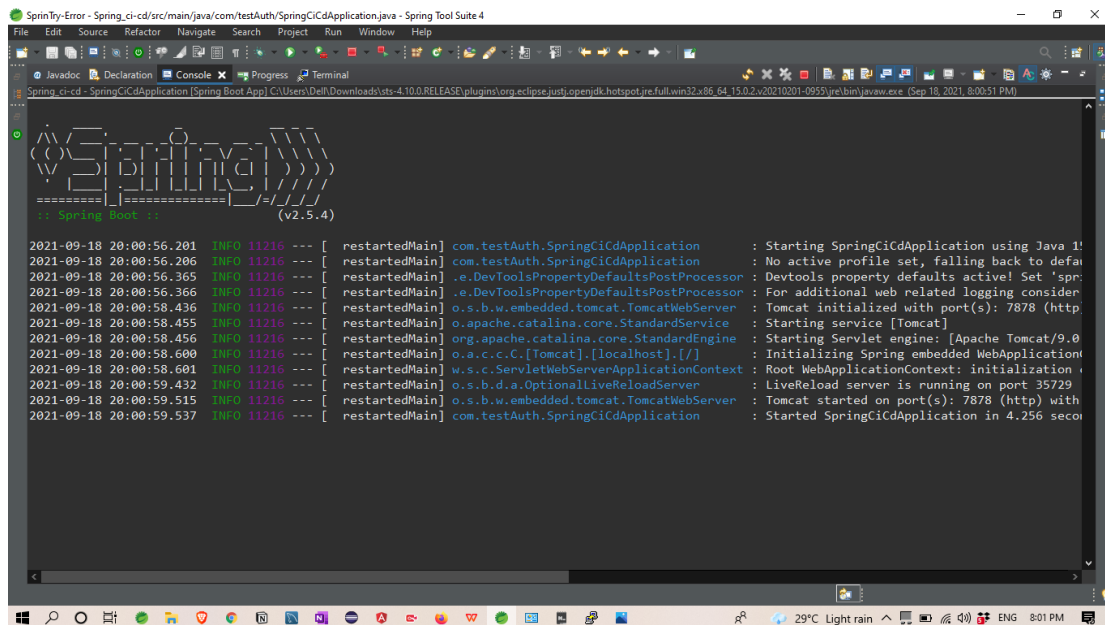
Writable   Smart Insert   16 : 57 : 436

29°C Light rain

1.

I create Simple Spring boot Application to
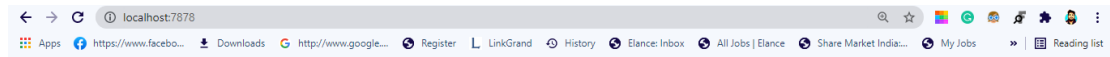
build a CI/CD pipeline to demonstrate continuous

deployment

Output :-

Welcome To Spring Boot CI-CD deployment

Git Hub: Application Deploy on git Hub

2.

Then that application Uploaded on Git Hub

GitHub link-

https://github.com/Mahendra1272/CI-CD-Deployment-for-Springboot-Application.git

Jenkins : Run Jenkins

```
ebroot: $user.home/.jenkins
2021-09-16 06:35:47.677+0000 [id=1]      INFO    org.eclipse.jetty.util.log.Log#initialized: Logging initialized @2834ms to org.eclipse.jetty.util.log.JavaUtilLog
2021-09-16 06:35:47.930+0000 [id=1]      INFO    winstone.Logger#logInternal: Beginning extraction from war file
2021-09-16 06:35:48.006+0000 [id=1]      WARNING o.e.j.s.handler.ContextHandler#setContextPath: Empty contextPath
2021-09-16 06:35:48.175+0000 [id=1]      INFO    org.eclipse.jetty.server.Server#doStart: jetty-9.4.43.v20210629; built: 2021-06-30T11:07:22.254Z; git: 526006ecfa3af7f1a
7ef3a288e2bef7ea9dd7e8; jvm 11.0.12+8-LTS-237
2021-09-16 06:35:52.318+0000 [id=1]      INFO    o.e.j.w.StandardDescriptorProcessor#visitServlet: NO JSP Support for /, did not find org.eclipse.jetty.jsp.JettyJspServl
t
2021-09-16 06:35:52.572+0000 [id=1]      INFO    o.e.j.s.s.DefaultSessionIdManager#doStart: DefaultSessionIdManager workerName=node0
2021-09-16 06:35:52.573+0000 [id=1]      INFO    o.e.j.s.s.DefaultSessionIdManager#doStart: No SessionScavenger set, using defaults
2021-09-16 06:35:52.578+0000 [id=1]      INFO    o.e.j.server.session.HouseKeeper#startScavenging: node0 Scavenging every 600000ms
2021-09-16 06:35:54.899+0000 [id=1]      INFO    hudson.WebAppMain#contextInitialized: Jenkins home directory: C:\Users\Dell\.jenkins found at: $user.home/.jenkins
2021-09-16 06:35:55.778+0000 [id=1]      INFO    o.e.j.s.handler.ContextHandler#doStart: Started w.@d59970a{Jenkins v2.309,/,file:///C:/Users/Dell/.jenkins/war/,AVAILABL
E}{C:\Users\Dell\.jenkins\war}
2021-09-16 06:35:55.930+0000 [id=1]      INFO    o.e.j.server.AbstractConnector#doStart: Started ServerConnector@385e9564{HTTP/1.1, (http/1.1)}{0.0.0.0:8998}
2021-09-16 06:35:55.933+0000 [id=1]      INFO    org.eclipse.jetty.server.Server#doStart: Started @11094ms
2021-09-16 06:35:55.939+0000 [id=25]     INFO    winstone.Logger#logInternal: Winstone Servlet Engine running: controlPort=disabled
2021-09-16 06:35:56.893+0000 [id=31]     INFO    jenkins.InitReactorRunner$1#onAttained: Started initialization
2021-09-16 06:36:03.742+0000 [id=30]     INFO    jenkins.InitReactorRunner$1#onAttained: Listed all plugins
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by com.google.inject.internal.cglib.core.$ReflectUtils$2 (file:/C:/Users/Dell/.jenkins/war/WEB-INF/lib/guice-4.0.jar) to method java.
lang.ClassLoader.defineClass(java.lang.String,byte[],int,int,java.security.ProtectionDomain)
WARNING: Please consider reporting this to the maintainers of com.google.inject.internal.cglib.core.$ReflectUtils$2
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
2021-09-16 06:36:18.998+0000 [id=32]     INFO    jenkins.InitReactorRunner$1#onAttained: Prepared all plugins
2021-09-16 06:36:19.080+0000 [id=37]     INFO    jenkins.InitReactorRunner$1#onAttained: Started all plugins
2021-09-16 06:36:23.300+0000 [id=34]     INFO    jenkins.InitReactorRunner$1#onAttained: Augmented all extensions
2021-09-16 06:36:23.599+0000 [id=36]     INFO    jenkins.InitReactorRunner$1#onAttained: System config loaded
2021-09-16 06:36:23.608+0000 [id=36]     INFO    jenkins.InitReactorRunner$1#onAttained: System config adapted
2021-09-16 06:36:23.971+0000 [id=35]     INFO    jenkins.InitReactorRunner$1#onAttained: Loaded all jobs
2021-09-16 06:36:23.972+0000 [id=30]     INFO    jenkins.InitReactorRunner$1#onAttained: Configuration for all jobs updated
2021-09-16 06:36:24.270+0000 [id=50]     INFO    hudson.model.AsyncPeriodicWork#lambda$doRun$0: Started Download metadata
2021-09-16 06:36:24.511+0000 [id=50]     INFO    hudson.model.AsyncPeriodicWork#lambda$doRun$0: Finished Download metadata. 238 ms
2021-09-16 06:36:24.573+0000 [id=37]     INFO    jenkins.InitReactorRunner$1#onAttained: Completed initialization
2021-09-16 06:36:24.652+0000 [id=24]     INFO    hudson.WebAppMain$3#run: Jenkins is fully up and running
```

CREATE THREE JENKINS PROJECT DEPLOYMENT:-

DEPLOYMENT-TESTING-PRODUCTION

New Item

People

Build History

Project Relationship

Check File Fingerprint

Manage Jenkins

My Views

Lockable Resources

New View

Build Queue ⌃

No builds in the queue.

Build Executor Status ⌃

1 Idle

Hello I Am OC

✎ Edit description

| All | CI-CD Pipeline Spring-Jenkins | + |

S	W	Name ↓	Last Success	Last Failure	Last Duration	
✓	☼	Deployment Spring Jenkins ci-cd	1 hr 32 min - #22	N/A	58 sec	⟳
✓	☼	Production Spring Jenkins	1 hr 30 min - #8	N/A	54 sec	⟳
✓	☼	Testing Spring Jenkins	1 hr 31 min - #8	N/A	37 sec	⟳

Icon: S M L

Icon legend   🔗 Atom feed for all   🔗 Atom feed for failures   🔗 Atom feed for just latest builds

- Back to Dashboard
- Status
- Changes
- Workspace
- Build Now
- Configure
- Delete Project
- GitHub
- Rename

Build History trend ∧

d		X
22	Sep 17, 2021, 6:29 PM	
21	Sep 17, 2021, 6:27 PM	
20	Sep 17, 2021, 6:10 PM	

Project Deployment Spring Jenkins ci-cd

🖊 Add description

Disable Project

📁 Workspace

📝 Recent Changes

Downstream Projects
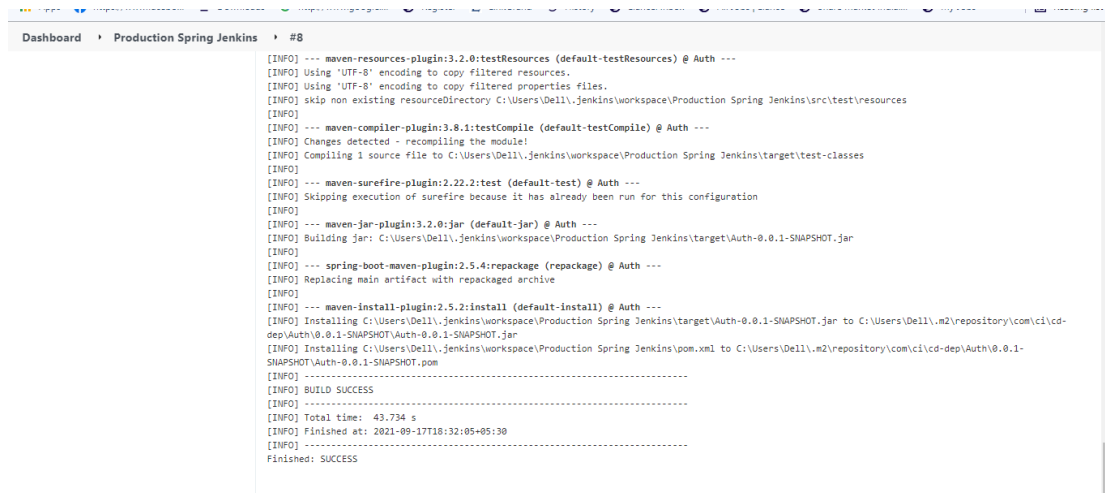
⊘ Testing Spring Jenkins

Permalinks

- Last build (#22), 1 hr 33 min ago
- Last stable build (#22), 1 hr 33 min ago
- Last successful build (#22), 1 hr 33 min ago
- Last completed build (#22), 1 hr 33 min ago

✓ Console Output

Started by user onkar rajendra charate
Running as SYSTEM
Building in workspace C:\Users\Dell\.jenkins\workspace\Spring Jenkins ci-cd
The recommended git tool is: NONE
No credentials specified
 > C:\Program Files\Git\cmd\git.exe rev-parse --resolve-git-dir C:\Users\Dell\.jenkins\workspace\Spring Jenkins ci-cd\.git # timeout=10
Fetching changes from the remote Git repository
 > C:\Program Files\Git\cmd\git.exe config remote.origin.url https://github.com/omkaroc27/ci_cd_pipeline.git # timeout=10
Fetching upstream changes from https://github.com/omkaroc27/ci_cd_pipeline.git
 > C:\Program Files\Git\cmd\git.exe --version # timeout=10
 > git --version # 'git version 2.33.0.windows.2'
 > C:\Program Files\Git\cmd\git.exe fetch --tags --force --progress -- https://github.com/omkaroc27/ci_cd_pipeline.git +refs/heads/*:refs/remotes/origin/*
timeout=10
 > C:\Program Files\Git\cmd\git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
Checking out Revision 18869974fe92467de259868964740b9c3befb433 (refs/remotes/origin/master)
 > C:\Program Files\Git\cmd\git.exe config core.sparsecheckout # timeout=10
 > C:\Program Files\Git\cmd\git.exe checkout -f 18869974fe92467de259868964740b9c3befb433 # timeout=10
Commit message: "second commit"
 > C:\Program Files\Git\cmd\git.exe rev-list --no-walk 18869974fe92467de259868964740b9c3befb433 # timeout=10
[Spring Jenkins ci-cd] $ cmd.exe /C "C:\Users\Dell\.jenkins\tools\hudson.tasks.Maven_MavenInstallation\Maven3\bin\mvn.cmd clean compile test install &&
exit %%ERRORLEVEL%%"
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------------< com.ci.cd-dep:Auth >------------------------
[INFO] Building Spring_ci-cd 0.0.1-SNAPSHOT
[INFO] --------------------------------[jar]---------------------------------
[INFO]
[INFO] --- maven-clean-plugin:3.1.0:clean (default-clean) @ Auth ---

```
  .   ____          _            __ _ _
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( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
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 :: Spring Boot ::                (v2.5.4)
```

2021-09-17 18:30:05.460 INFO 11232 --- [main] com.testAuth.SpringCiCdApplicationTests : Starting SpringCiCdApplicationTests using Java
11.0.12 on DESKTOP-LBUFTMI with PID 11232 (started by Dell in C:\Users\Dell\.jenkins\workspace\Spring Jenkins ci-cd)
2021-09-17 18:30:05.469 INFO 11232 --- [main] com.testAuth.SpringCiCdApplicationTests : No active profile set, falling back to default
profiles: default
2021-09-17 18:30:12.461 INFO 11232 --- [main] com.testAuth.SpringCiCdApplicationTests : Started SpringCiCdApplicationTests in 8.356 seconds
(JVM running for 11.844)
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 11.093 s - in com.testAuth.SpringCiCdApplicationTests
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- maven-resources-plugin:3.2.0:resources (default-resources) @ Auth ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Using 'UTF-8' encoding to copy filtered properties files.
[INFO] Copying 1 resource
[INFO] Copying 0 resource
[INFO]
[INFO] --- maven-compiler-plugin:3.8.1:compile (default-compile) @ Auth ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\Dell\.jenkins\workspace\Spring Jenkins ci-cd\target\classes
[INFO]
[INFO] --- maven-resources-plugin:3.2.0:testResources (default-testResources) @ Auth ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Using 'UTF-8' encoding to copy filtered properties files.
[INFO] skip non existing resourceDirectory C:\Users\Dell\.jenkins\workspace\Spring Jenkins ci-cd\src\test\resources

```
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Using 'UTF-8' encoding to copy filtered properties files.
[INFO] skip non existing resourceDirectory C:\Users\Dell\.jenkins\workspace\Spring Jenkins ci-cd\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.1:testCompile (default-testCompile) @ Auth ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\Dell\.jenkins\workspace\Spring Jenkins ci-cd\target\test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.22.2:test (default-test) @ Auth ---
[INFO] Skipping execution of surefire because it has already been run for this configuration
[INFO]
[INFO] --- maven-jar-plugin:3.2.0:jar (default-jar) @ Auth ---
[INFO] Building jar: C:\Users\Dell\.jenkins\workspace\Spring Jenkins ci-cd\target\Auth-0.0.1-SNAPSHOT.jar
[INFO]
[INFO] --- spring-boot-maven-plugin:2.5.4:repackage (repackage) @ Auth ---
[INFO] Replacing main artifact with repackaged archive
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ Auth ---
[INFO] Installing C:\Users\Dell\.jenkins\workspace\Spring Jenkins ci-cd\target\Auth-0.0.1-SNAPSHOT.jar to C:\Users\Dell\.m2\repository\com\ci\cd-
dep\Auth\0.0.1-SNAPSHOT\Auth-0.0.1-SNAPSHOT.jar
[INFO] Installing C:\Users\Dell\.jenkins\workspace\Spring Jenkins ci-cd\pom.xml to C:\Users\Dell\.m2\repository\com\ci\cd-dep\Auth\0.0.1-SNAPSHOT\Auth-
0.0.1-SNAPSHOT.pom
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  39.186 s
[INFO] Finished at: 2021-09-17T18:30:19+05:30
[INFO] ------------------------------------------------------------------------
Triggering a new build of Testing Spring Jenkins
Finished: SUCCESS
```

TESTING

18:30:45.729 [main] DEBUG org.springframework.test.context.support.TestPropertySourceUtils - Adding inlined properties to environment: {spring.jmx.enabled=false, org.springframework.boot.test.context.SpringBootTestContextBootstrapper=true}

```
  .   ____          _            __ _ _
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( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
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 :: Spring Boot ::                (v2.5.4)
```

2021-09-17 18:30:47.111 INFO 15660 --- [main] com.testAuth.SpringCiCdApplicationTests : Starting SpringCiCdApplicationTests using Java 11.0.12 on DESKTOP-LBUFTMI with PID 15660 (started by Dell in C:\Users\Dell\.jenkins\workspace\Testing Spring Jenkins)
2021-09-17 18:30:47.123 INFO 15660 --- [main] com.testAuth.SpringCiCdApplicationTests : No active profile set, falling back to default profiles: default
2021-09-17 18:30:54.842 INFO 15660 --- [main] com.testAuth.SpringCiCdApplicationTests : Started SpringCiCdApplicationTests in 9.085 seconds (JVM running for 12.535)
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 11.737 s - in com.testAuth.SpringCiCdApplicationTests
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- maven-resources-plugin:3.2.0:resources (default-resources) @ Auth ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Using 'UTF-8' encoding to copy filtered properties files.
[INFO] Copying 1 resource
[INFO] Copying 0 resource
[INFO]
[INFO] --- maven-compiler-plugin:3.8.1:compile (default-compile) @ Auth ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:3.2.0:resources (default-resources) @ Auth ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Using 'UTF-8' encoding to copy filtered properties files.

```
[INFO]
[INFO] --- maven-resources-plugin:3.2.0:testResources (default-testResources) @ Auth ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Using 'UTF-8' encoding to copy filtered properties files.
[INFO] skip non existing resourceDirectory C:\Users\Dell\.jenkins\workspace\Testing Spring Jenkins\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.1:testCompile (default-testCompile) @ Auth ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.22.2:test (default-test) @ Auth ---
[INFO] Skipping execution of surefire because it has already been run for this configuration
[INFO]
[INFO] --- maven-jar-plugin:3.2.0:jar (default-jar) @ Auth ---
[INFO]
[INFO] --- spring-boot-maven-plugin:2.5.4:repackage (repackage) @ Auth ---
[INFO] Replacing main artifact with repackaged archive
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ Auth ---
[INFO] Installing C:\Users\Dell\.jenkins\workspace\Testing Spring Jenkins\target\Auth-0.0.1-SNAPSHOT.jar to C:\Users\Dell\.m2\repository\com\ci\cd-dep\Auth\0.0.1-SNAPSHOT\Auth-0.0.1-SNAPSHOT.jar
[INFO] Installing C:\Users\Dell\.jenkins\workspace\Testing Spring Jenkins\pom.xml to C:\Users\Dell\.m2\repository\com\ci\cd-dep\Auth\0.0.1-SNAPSHOT\Auth-0.0.1-SNAPSHOT.pom
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  28.837 s
[INFO] Finished at: 2021-09-17T18:31:02+05:30
[INFO] ------------------------------------------------------------------------
Triggering a new build of Production Spring Jenkins
Finished: SUCCESS
```

PRODUCTION

Back to Project

Status

Changes

Console Output

    View as plain text

Edit Build Information

Delete build '#8'

Git Build Data

Previous Build

✓ Console Output

Started by upstream project **"Testing Spring Jenkins"** build number **8**
originally caused by:
 Started by upstream project **"Spring Jenkins ci-cd"** build number **22**
 originally caused by:
  Started by user **onkar** **rajendra charate**
Running as SYSTEM
Building in workspace C:\Users\Dell\.jenkins\workspace\Production Spring Jenkins
The recommended git tool is: NONE
using credential Omkaroc27
 > C:\Program Files\Git\cmd\git.exe rev-parse --resolve-git-dir C:\Users\Dell\.jenkins\workspace\Production Spring Jenkins\.git # timeout=10
Fetching changes from the remote Git repository
 > C:\Program Files\Git\cmd\git.exe config remote.origin.url **https://github.com/omkaroc27/ci_cd_pipeline.git** # timeout=10
Fetching upstream changes from **https://github.com/omkaroc27/ci_cd_pipeline.git**
 > C:\Program Files\Git\cmd\git.exe --version # timeout=10
 > git --version # 'git version 2.33.0.windows.2'
using GIT_ASKPASS to set credentials
 > C:\Program Files\Git\cmd\git.exe fetch --tags --force --progress -- **https://github.com/omkaroc27/ci_cd_pipeline.git** +refs/heads/*:refs/remotes/origin/*
timeout=10
 > C:\Program Files\Git\cmd\git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
Checking out Revision 18869974fe92467de2598689b64740b9c3befb433 (refs/remotes/origin/master)
 > C:\Program Files\Git\cmd\git.exe config core.sparsecheckout # timeout=10
 > C:\Program Files\Git\cmd\git.exe checkout -f 18869974fe92467de2598689b64740b9c3befb433 # timeout=10
Commit message: "second commit"
 > C:\Program Files\Git\cmd\git.exe rev-list --no-walk 18869974fe92467de2598689b64740b9c3befb433 # timeout=10
[Production Spring Jenkins] $ cmd.exe /C "C:\Users\Dell\.jenkins\tools\hudson.tasks.Maven_MavenInstallation\Maven3\bin\mvn.cmd clean compile test install
&& exit %%ERRORLEVEL%%"
[INFO] Scanning for projects...
[INFO]

---

org.springframework.boot.test.autoconfigure.properties.PropertyMappingContextCustomizer@0,
org.springframework.boot.test.autoconfigure.web.servlet.WebDriverContextCustomizerFactory$Customizer@2e570ded,
org.springframework.boot.test.context.SpringBootTestArgs@1, org.springframework.boot.test.context.SpringBootTestWebEnvironment@22a637e7], resourceBasePath
= 'src/main/webapp', contextLoader = 'org.springframework.boot.test.context.SpringBootContextLoader', parent = [null]], attributes =
map['org.springframework.test.context.web.ServletTestExecutionListener.activateListener' -> true]], class annotated with @DirtiesContext [false] with mode
[null].
18:31:47.455 [main] DEBUG org.springframework.test.context.support.TestPropertySourceUtils - Adding inlined properties to environment:
{spring.jmx.enabled=false, org.springframework.boot.test.context.SpringBootTestContextBootstrapper=true}

  .   ____   _   __ _ _
 /\\ / ___'_ __ _ _(_)_ __ __ _ \ \ \ \
(( )___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/ ___)| |_)| | | | | || (_| |))))
  ' |____| .__|_| |_|_| |___, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::   (v2.5.4)

2021-09-17 18:31:48.992 INFO 11884 --- [main] com.testAuth.SpringCiCdApplicationTests : Starting SpringCiCdApplicationTests using Java
11.0.12 on DESKTOP-LBUFTMI with PID 11884 (started by Dell in C:\Users\Dell\.jenkins\workspace\Production Spring Jenkins)
2021-09-17 18:31:49.002 INFO 11884 --- [main] com.testAuth.SpringCiCdApplicationTests : No active profile set, falling back to default
profiles: default
2021-09-17 18:31:58.462 INFO 11884 --- [main] com.testAuth.SpringCiCdApplicationTests : Started SpringCiCdApplicationTests in 10.985 seconds
(JVM running for 15.066)
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 13.803 s - in com.testAuth.SpringCiCdApplicationTests
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- maven-resources-plugin:3.2.0:resources (default-resources) @ Auth ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Using 'UTF-8' encoding to copy filtered properties files.
[INFO] Copying 1 resource
[INFO] Copying 0 resource

```
[INFO] --- maven-resources-plugin:3.2.0:testResources (default-testResources) @ Auth ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Using 'UTF-8' encoding to copy filtered properties files.
[INFO] skip non existing resourceDirectory C:\Users\Dell\.jenkins\workspace\Production Spring Jenkins\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.1:testCompile (default-testCompile) @ Auth ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\Dell\.jenkins\workspace\Production Spring Jenkins\target\test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.22.2:test (default-test) @ Auth ---
[INFO] Skipping execution of surefire because it has already been run for this configuration
[INFO]
[INFO] --- maven-jar-plugin:3.2.0:jar (default-jar) @ Auth ---
[INFO] Building jar: C:\Users\Dell\.jenkins\workspace\Production Spring Jenkins\target\Auth-0.0.1-SNAPSHOT.jar
[INFO]
[INFO] --- spring-boot-maven-plugin:2.5.4:repackage (repackage) @ Auth ---
[INFO] Replacing main artifact with repackaged archive
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ Auth ---
[INFO] Installing C:\Users\Dell\.jenkins\workspace\Production Spring Jenkins\target\Auth-0.0.1-SNAPSHOT.jar to C:\Users\Dell\.m2\repository\com\ci\cd-
dep\Auth\0.0.1-SNAPSHOT\Auth-0.0.1-SNAPSHOT.jar
[INFO] Installing C:\Users\Dell\.jenkins\workspace\Production Spring Jenkins\pom.xml to C:\Users\Dell\.m2\repository\com\ci\cd-dep\Auth\0.0.1-
SNAPSHOT\Auth-0.0.1-SNAPSHOT.pom
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  43.734 s
[INFO] Finished at: 2021-09-17T18:32:05+05:30
[INFO] ------------------------------------------------------------------------
Finished: SUCCESS
```

3) in Jenkins I create three build for continues deployment

And pipeline them

build a CI/CD pipeline to demonstrate continuous deployment

AWS EC2

Amazon S3   X

Buckets

Access Points

Object Lambda Access Points

Multi-Region Access Points

Batch Operations

Access analyzer for S3

Block Public Access settings for this account

▼ Storage Lens

Dashboards

AWS Organizations settings

Feature spotlight 3

Properties   Permissions   Versions

Object overview

Owner

AWS Region

US East (Ohio) us-east-2

Last modified

September 18, 2021, 18:57:27 (UTC+05:30)

Size

16.5 MB

Type

jar

Key

Spring_CI-CD-deployment-exe.jar

S3 URI

s3://springjenkins2/Spring_CI-CD-deployment-exe.jar

Amazon Resource Name (ARN)

arn:aws:s3:::springjenkins2/Spring_CI-CD-deployment-exe.jar

Entity tag (Etag)

aec852eb60ac460abbb5e22090a29c2e-2

Object URL

https://springjenkins2.s3.us-east-2.amazonaws.com/Spring_CI
-CD-deployment-exe.jar

1. then open command line and deploy Application in EC2 Instance

```
OpenJDK Runtime Environment 18.9 (build 11.0.12+7-LTS)
OpenJDK 64-Bit Server VM 18.9 (build 11.0.12+7-LTS, mixed mode, sharing)
[root@ip-172-31-19-181 ~]# alternative --config java
-bash: alternative: command not found
[root@ip-172-31-19-181 ~]# wget https://springjenkins2.s3.us-east-2.amazonaws.com/Spring_CI-CD-deployment-exe.jar
--2021-09-18 13:29:54--  https://springjenkins2.s3.us-east-2.amazonaws.com/Spring_CI-CD-deployment-exe.jar
Resolving springjenkins2.s3.us-east-2.amazonaws.com (springjenkins2.s3.us-east-2.amazonaws.com)... 52.219.96.104
Connecting to springjenkins2.s3.us-east-2.amazonaws.com (springjenkins2.s3.us-east-2.amazonaws.com)|52.219.96.104|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 17344872 (17M) [application/x-www-form-urlencoded]
Saving to: 'Spring_CI-CD-deployment-exe.jar'

100%[===================================================================================================>] 17,344,872  19.9MB/s   in 0.8s

2021-09-18 13:29:55 (19.9 MB/s) - 'Spring_CI-CD-deployment-exe.jar' saved [17344872/17344872]

[root@ip-172-31-19-181 ~]# ls
Spring_CI-CD-deployment-exe.jar
[root@ip-172-31-19-181 ~]# java -jar ^C
[root@ip-172-31-19-181 ~]# java -jar ^C
[root@ip-172-31-19-181 ~]# Spring_CI-CD-deployment-exe.jar
-bash: Spring_CI-CD-deployment-exe.jar: command not found
[root@ip-172-31-19-181 ~]# java -jar Spring_CI-CD-deployment-exe.jar
```

2. Application Started running with Port no 7878


```
[root@ip-172-31-19-181 ~]# ls
Spring_CI-CD-deployment-exe.jar
[root@ip-172-31-19-181 ~]# java -jar ^C
[root@ip-172-31-19-181 ~]# java -jar ^C
[root@ip-172-31-19-181 ~]# Spring_CI-CD-deployment-exe.jar
-bash: Spring_CI-CD-deployment-exe.jar: command not found
[root@ip-172-31-19-181 ~]# java -jar Spring_CI-CD-deployment-exe.jar

  .   ____          _            __ _ _
 /\\ / ___'_ __ _ _(_)_ __  __ _ \ \ \ \
( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::                (v2.5.4)

2021-09-18 13:31:10.411  INFO 1527 --- [           main] com.testAuth.SpringCiCdApplication       : Starting SpringCiCdApplication v0.0.1-SNAPSHOT using Java 11.0.12 on
 ip-172-31-19-181.ec2.internal with PID 1527 (/root/Spring_CI-CD-deployment-exe.jar started by root in /root)
2021-09-18 13:31:10.414  INFO 1527 --- [           main] com.testAuth.SpringCiCdApplication       : No active profile set, falling back to default profiles: default
2021-09-18 13:31:13.072  INFO 1527 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat initialized with port(s): 7878 (http)
2021-09-18 13:31:13.102  INFO 1527 --- [           main] o.apache.catalina.core.StandardService   : Starting service [Tomcat]
2021-09-18 13:31:13.107  INFO 1527 --- [           main] org.apache.catalina.core.StandardEngine  : Starting Servlet engine: [Apache Tomcat/9.0.52]
2021-09-18 13:31:13.270  INFO 1527 --- [           main] o.a.c.c.C.[Tomcat].[localhost].[/]        : Initializing Spring embedded WebApplicationContext
2021-09-18 13:31:13.271  INFO 1527 --- [           main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 2688 ms
2021-09-18 13:31:14.735  INFO 1527 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat started on port(s): 7878 (http) with context path ''
2021-09-18 13:31:14.757  INFO 1527 --- [           main] com.testAuth.SpringCiCdApplication       : Started SpringCiCdApplication in 5.637 seconds (JVM running for 6.70
5)
```
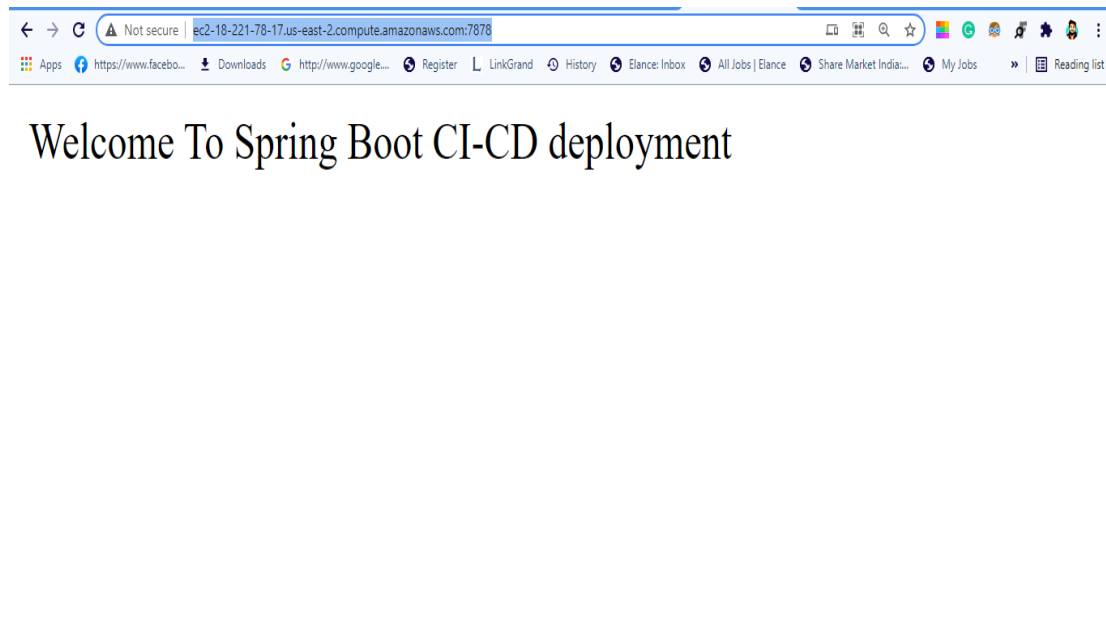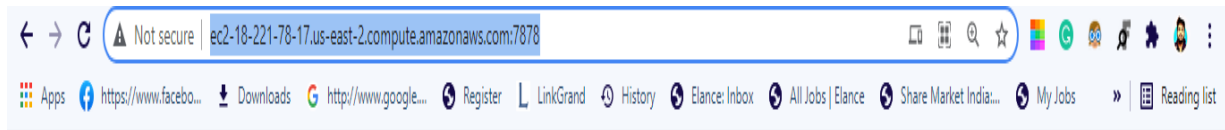
6.Last host the application on AWS EC2 instance.

Application running with this URL:-

<mark>Final Output:-</mark>

Welcome To Spring Boot CI-CD deployment

Welcome To Spring Boot CI-CD deployment