

understand this command, first I am trying to launch jenkins using some commands:

C:\apache-maven-3.9.9>D:

D:\SatyaWS>java -jar jenkins.war

Running from: D:\SatyaWS\jenkins.war

webroot: C:\Users\satya.jenkins\war

2025-05-18 10:59:27.495+0000 [id=1] INFO winstone.Logger#logInternal: Beginning extraction from war file

2025-05-18 10:59:27.663+0000 [id=1] WARNING o.e.j.ee9.nested.ContextHandler#setContextPath: Empty contextPath

2025-05-18 10:59:27.791+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStart: jetty-12.0.19; built: 2025-04-01T13:28:40.005Z; git: 23436cd577b4238238eb192683dfc2b1476c6b87; jvm 21.0.7+8-LTS-245

2025-05-18 10:59:28.554+0000 [id=1] INFO o.e.j.e.w.StandardDescriptorProcessor#visitServlet: NO JSP Support for /, did not find org.eclipse.jetty.ee9.jsp.JettyJspServlet

2025-05-18 10:59:28.620+0000 [id=1] INFO o.e.j.s.DefaultSessionIdManager#doStart: Session workerName=node0

2025-05-18 10:59:29.197+0000 [id=1] INFO hudson.WebAppMain#contextInitialized: Jenkins home directory: C:\Users\satya.jenkins found at: \$user.home/.jenkins

2025-05-18 10:59:29.322+0000 [id=1] INFO o.e.j.s.handler.ContextHandler#doStart: Started oeje9n.
ContextHandler\$CoreContextHandler@5cbf9e9f{Jenkins
v2.504.1,/,b=file:///C:/Users/satya/.jenkins/war/,a=AVAILABLE,h=oeje9n.ContextHandler\$CoreContextHandler\$
CoreToNestedHandler@18e8473e{STARTED}}

2025-05-18 10:59:29.357+0000 [id=1] INFO o.e.j.server.AbstractConnector#doStart: Started
ServerConnector@e041f0c{HTTP/1.1, (http/1.1)}{0.0.0.0:8080}

2025-05-18 10:59:29.377+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStart: Started
oejs.Server@5f058f00{STARTING}[12.0.19,sto=0] @2483ms

2025-05-18 10:59:29.378+0000 [id=58] INFO winstone.Logger#logInternal: Winstone Servlet Engine running:
controlPort=disabled

2025-05-18 10:59:29.557+0000 [id=54] INFO jenkins.model.Jenkins#: Starting version 2.504.1

2025-05-18 10:59:29.706+0000 [id=68] INFO jenkins.InitReactorRunner\$1#onAttained: Started initialization

2025-05-18 10:59:29.782+0000 [id=88] INFO jenkins.InitReactorRunner\$1#onAttained: Listed all plugins

2025-05-18 10:59:31.302+0000 [id=97] INFO jenkins.InitReactorRunner\$1#onAttained: Prepared all plugins

2025-05-18 10:59:31.311+0000 [id=99] INFO jenkins.InitReactorRunner\$1#onAttained: Started all plugins

2025-05-18 10:59:31.312+0000 [id=69] INFO jenkins.InitReactorRunner\$1#onAttained: Augmented all
extensions

2025-05-18 10:59:31.722+0000 [id=82] INFO jenkins.InitReactorRunner\$1#onAttained: System config loaded

2025-05-18 10:59:31.723+0000 [id=84] INFO jenkins.InitReactorRunner\$1#onAttained: System config adapted

2025-05-18 10:59:31.724+0000 [id=88] INFO jenkins.InitReactorRunner\$1#onAttained: Loaded all jobs

2025-05-18 10:59:31.728+0000 [id=88] INFO jenkins.InitReactorRunner\$1#onAttained: Configuration for all jobs updated

2025-05-18 10:59:31.792+0000 [id=120] INFO hudson.util.Retrier#start: Attempt #1 to do the action check updates server

2025-05-18 10:59:31.812+0000 [id=102] INFO jenkins.install.SetupWizard#init:

Jenkins initial setup is required. An admin user has been created and a password generated. Please use the following password to proceed to installation:

aec54d9c86764955bd8b73901e7e980d

This may also be found at: C:\Users\satya.jenkins\secrets\initialAdminPassword

2025-05-18 10:59:38.981+0000 [id=102] INFO jenkins.InitReactorRunner\$1#onAttained: Completed initialization

2025-05-18 10:59:39.013+0000 [id=54] INFO hudson.lifecycle.Lifecycle#onReady: Jenkins is fully up and running

2025-05-18 10:59:39.809+0000 [id=120] INFO h.m.DownloadService\$Downloadable#load: Obtained the updated data file for hudson.tasks.Maven. MavenInstaller 2025-05-18 10:59:39.810+0000 [id=120] INFO hudson.util.Retrier#start: Performed the action check updates server successfully at the attempt #1

Without closing above command prompt I am trying to open one more cmd prompt and launching mv and running a test using some commands:

C:\Users\satya>D:

D:>cd D:\SatyaWS\FWjan2025POMSeries

D:\SatyaWS\FWjan2025POMSeries>mvn --version

Apache Maven 3.9.9 (8e8579a9e76f7d015ee5ec7bfcdc97d260186937)

Maven home: C:\apache-maven-3.9.9

Java version: 17.0.15, vendor: Oracle Corporation, runtime: C:\Program Files\Java\jdk-17

Default locale: en_IN, platform encoding: Cp1252

OS name: "windows 11", version: "10.0", arch: "amd64", family: "windows"

D:\SatyaWS\FWjan2025POMSeries>

D:\SatyaWS\FWjan2025POMSeries>mvn clean install -Denv="stage"

[INFO] Scanning for projects...

[INFO]

[INFO] -----< FWjan2025POMSeries:FWjan2025POMSeries >-----

[INFO] Building FWjan2025POMSeries 0.0.1-SNAPSHOT

[INFO] from pom.xml

[INFO] -----[jar]-----

[INFO]

[INFO] --- clean:3.2.0:clean (default-clean) @ FWjan2025POMSeries ---

[INFO] Deleting D:\SatyaWS\FWjan2025POMSeries\target

[INFO]

[INFO] --- resources:3.3.1:resources (default-resources) @ FWjan2025POMSeries ---

[INFO] Copying 0 resource from src\main\resources to target\classes

[INFO]

[INFO] --- compiler:3.14.0:compile (default-compile) @ FWjan2025POMSeries ---

[INFO] Recompiling the module because of changed source code.

[INFO] Compiling 22 source files with javac [debug release 17] to target\classes

[INFO] /D:/SatyaWS/FWjan2025POMSeries/src/main/java/com/qa/appName/factory/DriverFactory.java:
D:\SatyaWS\FWjan2025POMSeries\src\main\java\com\qa\appName\factory\DriverFactory.java uses
unchecked or unsafe operations.

[INFO] /D:/SatyaWS/FWjan2025POMSeries/src/main/java/com/qa/appName/factory/DriverFactory.java:
Recompile with -Xlint:unchecked for details.

[INFO]

[INFO] --- resources:3.3.1:testResources (default-testResources) @ FWjan2025POMSeries ---

[INFO] Copying 8 resources from src\test\resources to target\test-classes

[INFO]

[INFO] --- compiler:3.14.0:testCompile (default-testCompile) @ FWjan2025POMSeries ---

[INFO] Recompiling the module because of changed dependency.

[INFO] Compiling 6 source files with javac [debug release 17] to target\test-classes

[INFO]

[INFO] --- surefire:3.1.2:test (default-test) @ FWjan2025POMSeries ---

[INFO] Using auto detected provider org.apache.maven.surefire.testng.TestNGProvider

[INFO]

[INFO] -----

[INFO] T E S T S

[INFO] -----

[INFO] Running TestSuite

SLF4J(I): Connected with provider of type [ch.qos.logback.classic.spi.LogbackServiceProvider]

16:31:59.684 [main] DEBUG org.testng.TestNG -- suiteXmlPath:

"D:\SatyaWS\FWjan2025POMSeries\src\test\resources\testrunners\testng.xml"

...

... TestNG 7.10.0 by Cédric Beust (cedric@beust.com)

...

Test Suite started!

I am in onStart method Login Page Test

----->Running test cases on environment-----> stage

Browser name is: firefox

loginPageTitleTest started!

I am in onTestStart method loginPageTitleTest start

Page title: Account Login

I am in onTestSuccess method loginPageTitleTest succeed

loginPageTitleTest passed!

loginPageUrlTest started!

I am in onTestStart method loginPageUrlTest start

Page url: <https://naveenautomationlabs.com/opencart/index.php?route=account/login>

I am in onTestSuccess method loginPageUrlTest succeed

loginPageUrlTest passed!

forgotPwdLinkTest started!

I am in onTestStart method forgotPwdLinkTest start

I am in onTestSuccess method forgotPwdLinkTest succeed

forgotPwdLinkTest passed!

dologinTest started!

I am in onTestStart methodologinTest start

rekha123@gmail.com rekha123

I am in onTestSuccess methodologinTest succeed

dologinTest passed!

I am in onFinish method Login Page Test

Test Suite is ending!

[INFO] Tests run: 4, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 12.18 s -- in TestSuite

[INFO]

[INFO] Results:

[INFO]

[INFO] Tests run: 4, Failures: 0, Errors: 0, Skipped: 0

[INFO]

[INFO]

[INFO] --- jar:3.4.1:jar (default-jar) @ FWjan2025POMSeries ---

[INFO] Building jar: D:\SatyaWS\FWjan2025POMSeries\target\FWjan2025POMSeries-0.0.1-SNAPSHOT.jar

[INFO]

[INFO] --- install:3.1.2:install (default-install) @ FWjan2025POMSeries ---

[INFO] Installing D:\SatyaWS\FWjan2025POMSeries\pom.xml to
C:\Users\satya.m2\repository\FWjan2025POMSeries\FWjan2025POMSeries\0.0.1-
SNAPSHOT\FWjan2025POMSeries-0.0.1-SNAPSHOT.pom

[INFO] Installing D:\SatyaWS\FWjan2025POMSeries\target\FWjan2025POMSeries-0.0.1-SNAPSHOT.jar to
C:\Users\satya.m2\repository\FWjan2025POMSeries\FWjan2025POMSeries\0.0.1-
SNAPSHOT\FWjan2025POMSeries-0.0.1-SNAPSHOT.jar

[INFO] -----

[INFO] BUILD SUCCESS

[INFO] -----



[INFO] Total time: 20.730 s

[INFO] Finished at: 2025-05-18T16:32:12+05:30

[INFO] -----

D:\SatyaWS\FWjan2025POMSeries>

Here's a detailed, beginner-friendly summary explaining everything you did step-by-step, along with real-time interview questions and answers at the end. This guide will be useful both in interviews and practical work.

☒ Summary Note: Running Jenkins and Maven to Execute Automation Tests  1. What You Did: Step-by-Step Explanation  Part A: Launching Jenkins Command Used:

bash Copy Edit java -jar jenkins.war Explanation:

You're starting Jenkins by running the jenkins.war file directly using Java.

Jenkins is a Continuous Integration/Continuous Delivery (CI/CD) tool used to automate builds and test execution.

What Happened Internally:

Jenkins is extracted and initialized from the .war file.


Jetty server (a lightweight web server) is used to host Jenkins locally.

Jenkins starts on port 8080 (0.0.0.0:8080), meaning you can open <http://localhost:8080> in your browser.

It creates a Jenkins Home directory at:

makefile Copy Edit C:\Users\satya.jenkins This is where all Jenkins configs, plugins, and job data will be saved.

It prints a random admin password (you'll need this to unlock Jenkins on first-time setup):


nginx Copy Edit aec54d9c86764955bd8b73901e7e980d  Part B: Running Automation Tests Using Maven
What You Did in the Second CMD Prompt:


Checked Maven version with:

bash Copy Edit mvn --version ☒ Confirms Maven is installed correctly and Java is linked.

Navigated to your automation framework directory:

bash Copy Edit cd D:\SatyaWS\FWjan2025POMSeries Ran the test suite:

bash Copy Edit mvn clean install -Denv="stage"  Breakdown of mvn clean install -Denv="stage" Section
Meaning mvn Runs Maven clean Deletes the target folder (to remove old compiled code) install Compiles the code, runs tests, and installs the .jar in local repo -Denv="stage" Passes an environment parameter to your framework (for config control)

 Maven Lifecycle & Plugin Summary Phase What Happened clean Deleted the target folder compile Compiled your Java source code test Ran your TestNG test suite (testng.xml) package Created a .jar file of your framework install Installed that .jar in your local Maven repo (.m2)

☑ Test Results Summary: 4 test cases executed: ☑ loginPageTitleTest ☑ loginPageUrlTest ☑ forgotPwdLinkTest ☑ dologinTest

All tests passed successfully. TestNG reported no errors or failures.

📖 Real-time Interview Questions and Answers 🌀 Basic-Level Q&A Q1. What is Jenkins and how did you start it in your system? A: Jenkins is a CI/CD tool used to automate code integration and test execution. I launched it using the command `java -jar jenkins.war`. It runs on a Jetty server and starts a web UI on port 8080.

Q2. What is the purpose of the `.jenkins` folder? A: It stores Jenkins configuration, jobs, plugins, and logs. It is the default home directory for Jenkins data.

Q3. What is Maven and how is it useful in automation testing? A: Maven is a build automation tool. In testing, it helps compile source code, manage dependencies, run tests using plugins like Surefire (for TestNG), and package results.

Q4. What does the `mvn clean install` command do? A:

`clean`: removes old build files.

`install`: compiles code, runs tests, creates a `.jar`, and stores it in the local `.m2` repo.

Q5. What is the `-Denv="stage"` parameter used for? A: It sets the environment to "stage" so that environment-specific configurations (like URLs, credentials) can be loaded in your framework.

🌀 Advanced-Level Q&A Q6. How does Jenkins fit into your automation workflow? A: Jenkins automates the execution of test cases every time code is pushed or on a schedule. I configure a Jenkins job to git pull the latest code and run `mvn clean install` to execute tests.

Q7. Can Jenkins run Maven commands automatically? How? A: Yes. In a Jenkins job configuration, we can choose "Invoke top-level Maven targets" and add commands like `clean install -Denv="stage"` to run tests automatically during a build.

Q8. What is the role of Surefire plugin in your framework? A: Surefire is used to execute test cases written in TestNG or JUnit. It detects the `testng.xml` file and manages test execution and reporting.

Q9. How do you handle environment-specific configurations in Maven? A: I pass them using `-Denv="stage"` and read this value in code using `System.getProperty("env")` to load the correct config file.

Q10. How would you trigger Jenkins build automatically when code changes? A: By integrating Jenkins with GitHub using webhooks. Every time code is pushed, GitHub triggers a Jenkins build.

📖 Summary You Can Use in Resume or Interviews "In my local setup, I launched Jenkins using the `.war` file and configured it to run on port 8080. I also integrated Maven with my automation framework using TestNG. I used `mvn clean install -Denv="stage"` to compile the code, run test cases, and generate test reports. I am comfortable using the Jenkins UI and configuring jobs to trigger Maven builds. I also handle environment-specific setups using Maven parameters and config files."