TASK 8: Run a Simple Java Maven Build Job in Jenkins

Objective:

Learn how to use Jenkins to build a simple Java application using Maven — your first step into CI/CD.

🛠️ **Tools Required (All Free):**

- Jenkins (installed locally or via Docker)
- Java JDK 8 or 11
- Maven
- Git (optional — can run from local folder)

📂 **Deliverables:**

- A basic Java HelloWorld app (with pom.xml)
- Jenkins Freestyle job configured to build it
- Screenshot of successful build console output

📦 **Sample Dataset/Repo:**

- Repo name: hello-java-maven
- Contents:
  - src/main/java/HelloWorld.java
  - pom.xml

🧭 **Step-by-Step Guide:**

Create a Java app:

// HelloWorld.java public class HelloWorld { public static void main(String[] args) { System.out.println("Hello, Jenkins + Maven!"); } }

Create a pom.xml file:

<project>
<modelVersion>4.0.0</modelVersion> <groupId>com.example</groupId> <artifactId>hello</artifactId> <version>1.0</version> <build> <plugins> <plugin> <groupId>org.apache.maven.plugins</groupId> <artifactId>maven-compiler-plugin</artifactId> <version>3.8.1</version> <configuration> <source>1.8</source> <target>1.8</target> </configuration> </plugin> </plugins> </build> </project>

Start Jenkins (use Docker if needed): docker run -p 8080:8080 jenkins/jenkins:lts

In Jenkins:

- Go to Manage Jenkins → Global Tool Configuration → Add Maven (e.g., Maven 3.8.6)
- Create a new Freestyle project
- In Build section, select: Invoke top-level Maven targets
- Set Goal: clean package

Save & Build the job

Check Console Output → You should see: BUILD SUCCESS

Outcome (You'll learn):

- What a Jenkins job is
- How to trigger builds manually
- How Jenkins uses Maven to compile Java code
- How to read and understand console output

Interview Questions:

1. **What is Jenkins?**
2. **How do you create a Jenkins job?**
3. **What is Maven used for?**
4. **How does Jenkins use build tools like Maven?**
5. **What is the difference between compile and package in Maven?**
6. **Where do you configure tools in Jenkins?**
7. **How do you debug a failed Jenkins build?**

📌 **Task Submission Guidelines**

- ⏰ **Time Window:**

You can complete the task anytime between 10:00 AM to 10:00 PM on the given day. Submission link closes at 10 :00 PM

- 🔍 **Self-Research Allowed:**

You are free to explore, Google, or refer to tutorials to understand concepts and complete the task effectively.

- 🛠️ **Debug Yourself:**

Try to resolve all errors by yourself. This helps you learn problem-solving and ensures you don't face the same issues in future tasks.

- 💸 **No Paid Tools:**

If the task involves any paid software/tools, do not purchase anything. Just learn the process or find free alternatives.

- 📁 **GitHub Submission:**

Create a new GitHub repository for each task.
Add everything you used for the task — code, datasets, screenshots (if any), and a short README.md explaining what you did.

📤 **Submit Here:**

After completing the task, paste your GitHub repo link and submit it using the link below:

SUBMISSION LINK