**List and Explain the steps for creating a Jenkins Job: ( 8 -MARK)**

**Pre-requisites**

Before starting, make sure the following are ready:

1. Jenkins Installed – Running on your local machine or server.
2. Java installed – javac and java must be available in the system path.
3. Git repository ready – Can be local or hosted (GitHub).

Example file:

// HelloWorld.java

public class HelloWorld {

public static void main(String[] args) {

System.out.println("Hello, Jenkins World!");

}

}

**Repository structure:**

E:\Program\

└── HelloWorld.java

**Step 1: Open Jenkins Dashboard**

* Visit your Jenkins server: http://localhost:8080
* Login using your admin credentials.
* Click “New Item” from the sidebar.

**Step 2: Create a Freestyle Project**

* Enter project name: HelloWorld
* Select Freestyle project
* Click OK

**Step 3: Configure Job Description (Optional)**

You can write:

This project pulls HelloWorld.java from Git, compiles, and executes it using Java.

No configuration changes required in this section unless you want to add restrictions (like binding it to a particular node).

**Step 4: Set Up Source Code Management (Git)**

* Scroll to Source Code Management
* Select Git
* For a local repo, use:

file:///E:/Program

For GitHub, use something like:

https://github.com/username/helloworld-java.git

* For private repositories:
  + Click Add under "Credentials"
  + Enter GitHub username and personal access token

**Step 5: Define Build Triggers (Optional)**

* You can leave this empty for manual build.
* Or choose options like:
  + Poll SCM – \* \* \* \* \* (checks every minute)
  + GitHub hook trigger for GITScm polling – for real-time updates from GitHub

**Step 6: Add Build Step**

* Scroll to Build
* Click Add build step → Execute Windows batch command

**Add the following commands:**

javac HelloWorld.java

java HelloWorld

This tells Jenkins to:

1. Compile HelloWorld.java using javac
2. Run it using java

If your Java file is in a subdirectory like src/, modify the commands:

cd src

javac HelloWorld.java

java HelloWorld

**Step 7: Save and Build**

* Click Save to save job configuration
* On the next page, click Build Now

**Step 8: Monitor Build History**

* Under Build History, you’ll see #1 (or your build number)
* While building, it will show a progress icon (clock)
* Once complete, it will turn into a ✔ (blue icon) for success or ✖ (red) for failure

**Step 9: View Build Details**

* Click on #1 under Build History
* You'll see:
  + Build Information
  + Parameters (if configured)
  + Changes (Git commits)
  + Console Output

**Step 10: View Console Output**

Click Console Output  
Expected output:

Started by user admin

Building in workspace C:\Program Files (x86)\Jenkins\workspace\HelloWorld

> C:\Windows\System32\cmd.exe /c javac HelloWorld.java && java HelloWorld

Hello, Jenkins World!

Finished: SUCCESS

This confirms the successful compilation and execution of your Java program via Jenkins.