

Exercise 1: Installation and Setup

Task: Install Jenkins on your machine.

Answer: Follow the installation instructions provided in the official Jenkins documentation for your operating system.

Exercise 2: Create a Freestyle Project

Task: Create a new freestyle project in Jenkins.

Answer:

Open Jenkins and click on "New Item."

Choose "Freestyle project" and give it a name.

Configure a build step, e.g., "Execute shell" or "Execute Windows batch command."

Exercise 3: Source Code Management

Task: Integrate Jenkins with a Git repository.

Answer:

In your freestyle project, go to the "Source Code Management" section.

Choose "Git" and provide the repository URL.

Set up credentials if needed.

Exercise 4: Parameterized Builds

Task: Modify your job to accept parameters.

Answer:

Check the "This project is parameterized" box.

Add parameters (e.g., string, choice, boolean) in the job configuration.

Use these parameters in your build steps or scripts.

Exercise 5: Build Triggers

Task: Set up the job to trigger on code commits.

Answer:

In the job configuration, go to the "Build Triggers" section.

Check the "Poll SCM" option or use webhooks for real-time triggering.

Exercise 6: Jenkins Pipeline

Task: Create a basic Jenkins pipeline.

Answer:

Install the "Pipeline" plugin if not already installed.

Create a new pipeline job.

Write a simple pipeline script in the configuration or use the Jenkinsfile from your version control.

Exercise 7: Artifact Archiving

Task: Archive artifacts generated during the build.

Answer:

In the job configuration, go to the "Post-build Actions" section.

Choose "Archive the artifacts" and specify files or directories to archive.

Exercise 8: Email Notifications

Task: Configure email notifications for build status.

Answer:

In the job configuration, go to the "Post-build Actions" section.

Choose "Editable Email Notification" and configure the email settings.

Exercise 9: Docker Integration

Task: Integrate Jenkins with Docker.

Answer:

Install the "Docker" plugin in Jenkins.

Use Docker commands or Dockerfile in your job to build and deploy containers.

Exercise 10: User Authentication

Task: Set up user authentication and access control.

Answer:

In Jenkins, go to "Manage Jenkins" > "Configure Global Security."

Choose "Jenkins' own user database" or integrate with external systems.

Configure user permissions and roles.