

CICD Using Jenkins

Assignment 1

Task 1 (Work with Jenkins Security Realm and Authorization)

1. Create an Ubuntu node and install Jenkins using standard procedure shown during classroom sessions.
2. Configure the security in Jenkins is such a way that Jenkins uses own database and for authorization Jenkins should allow access to only those users who are logged in.
3. Create a user “MrSmith” in Jenkins and assign privileges as follows using Matrix Based Authorization Strategy:
 - **Overall:** read
 - **Job:** read, build, cancel, create, delete & configure

Task 2 (Create a Job and configure it to run on a schedule)

1. Create a freestyle project in Jenkins with specification as:
 - Name: “MyScheduledJob”
 - Description: “This is an example of Scheduled job”
 - Schedule: Job pulls code from GIT SCM using following URL scheduled at interval of 30 minutes on Weekdays only.
2. Validate after an hour that it runs every 30 minutes

Task 3 (Configure a private GitHub repository as Source Code for your Jenkins Job)

1. Create a freestyle project in Jenkins with specification as:
 - Name: “MyRepoBuild”
 - Description: “This will build a Private GitHub repository”
 - Repository: This should point to a Private GitHub repository in your GitHub account.
2. Run the Job to validate if the setup has been configured correctly.
3. Troubleshoot if the build fails due to authentication issue.



Note(s): You would need to setup authentication between GitHub and your Jenkins installation.

Task 4 (Configure 3 Upstream/Downstream projects and create a Health Dashboard using Build Pipeline view plugin)

1. Create 3 new Jobs with names such as Job A, Job B and Job C.
2. Setup the trigger in such a manner that A triggers B and B triggers C. The jobs should be triggered only on successful build of the previous job.

Job A → Job B → Job C

3. Trigger the build for Job A and validate that Job B and Job C are triggered automatically. You can check Console output for detailed information.
4. Search and install “Build Pipeline View” plugin in Jenkins.
5. Use the Build Pipeline View to setup a Dashboard view of the 3 jobs created earlier and which shows their health in near real-time.