

Jenkins Declarative Pipeline

Why you should have a Pipeline

The definition of a Jenkins Pipeline is written into a text file (called a [Jenkinsfile](https://www.jenkins.io/doc/book/pipeline/jenkinsfile)) which in turn can be committed to a project's source control repository.

This is the foundation of "Pipeline-as-code"; treating the CD pipeline as a part of the application to be versioned and reviewed like any other code.

****Creating a `Jenkinsfile` and committing it to source control provides a number of immediate benefits:****

- Automatically creates a Pipeline build process for all branches and pull requests.
- Code review/iteration on the Pipeline (along with the remaining source code).

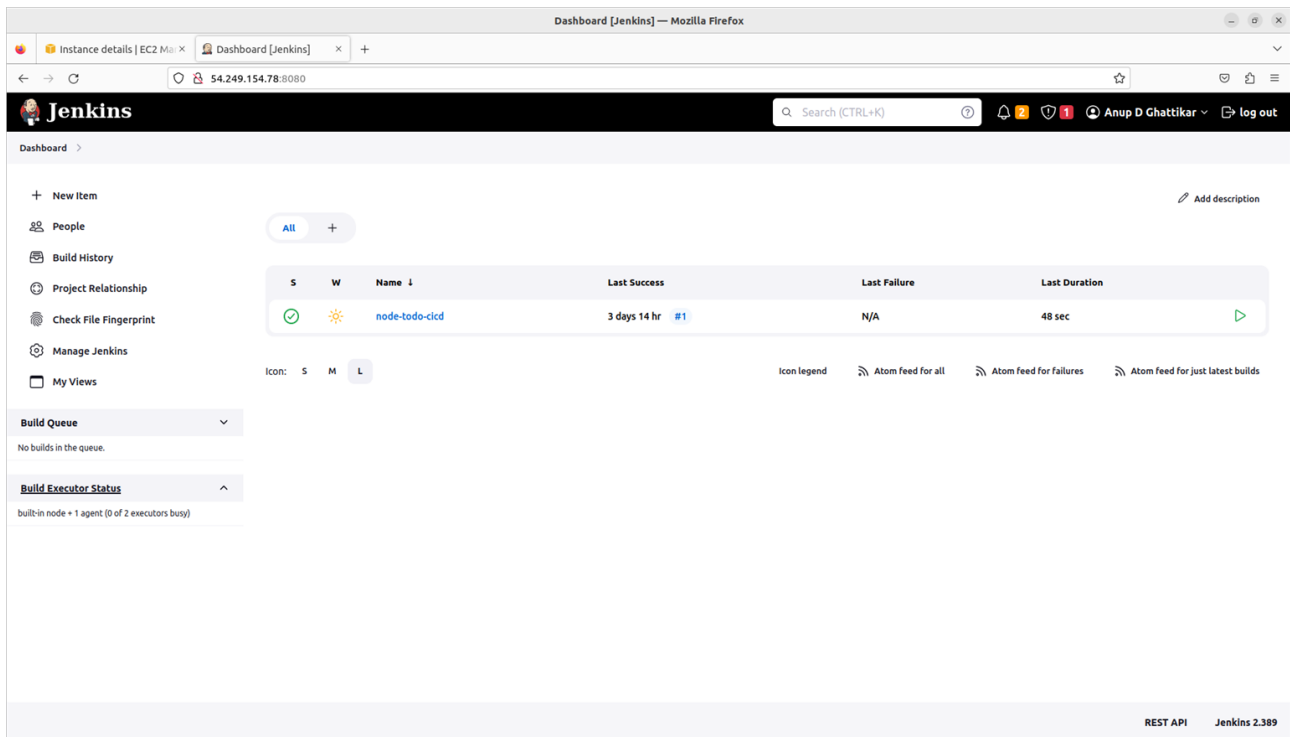
Pipeline syntax

```
pipeline {  
    agent any  
    stages {  
        stage('Build') {  
            steps {  
                //  
            }  
        }  
        stage('Test') {  
            steps {  
                //  
            }  
        }  
        stage('Deploy') {  
            steps {  
                //  
            }  
        }  
    }  
}
```

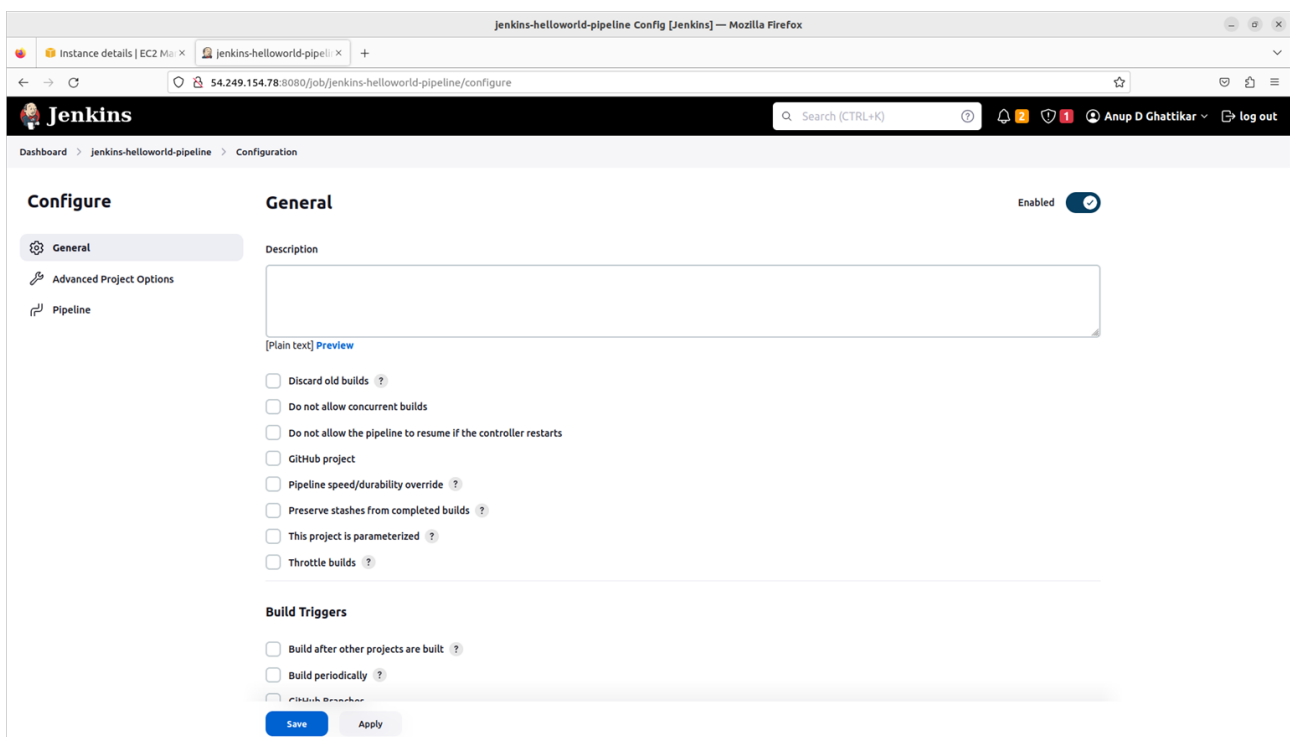
Task-01

1.Create a New Job, this time select Pipeline instead of Freestyle Project.

1.To create a Declarative pipeline in Jenkins, go to Jenkins UI and click on New item.

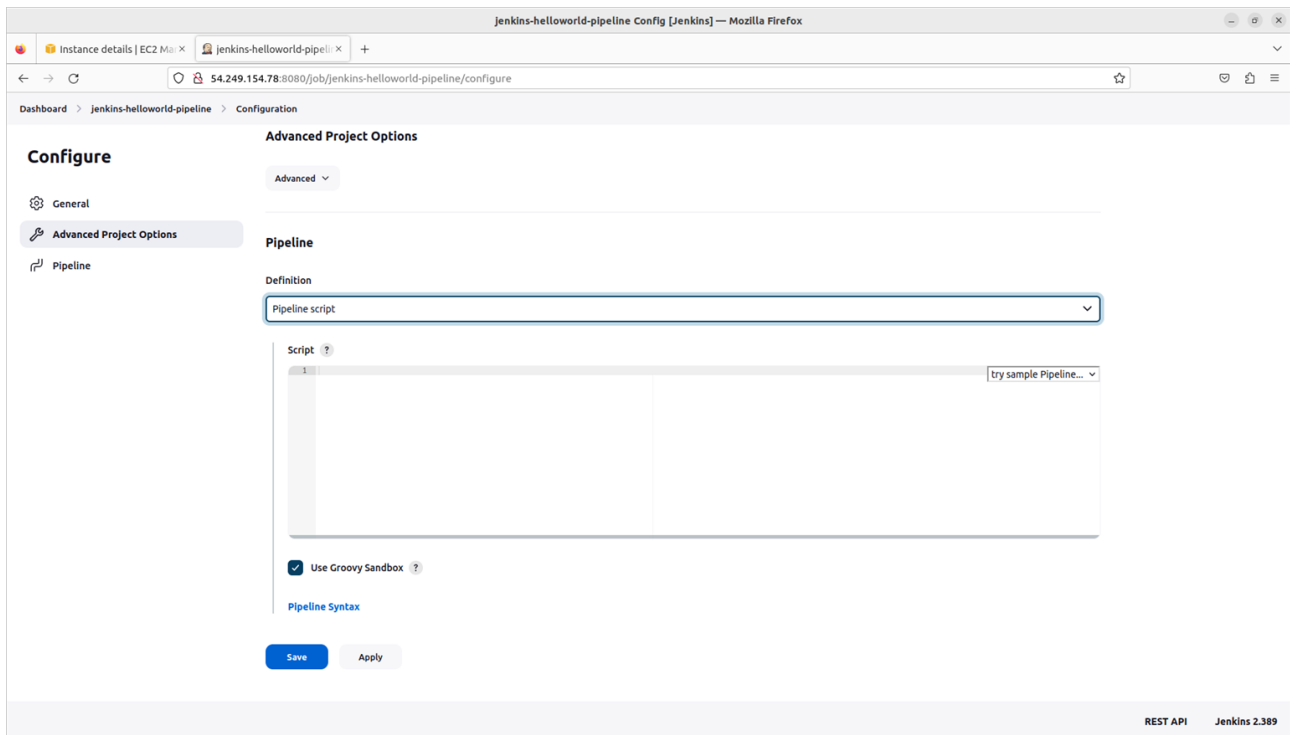


2.Enter the pipeline name and select Pipeline, and then click on ok

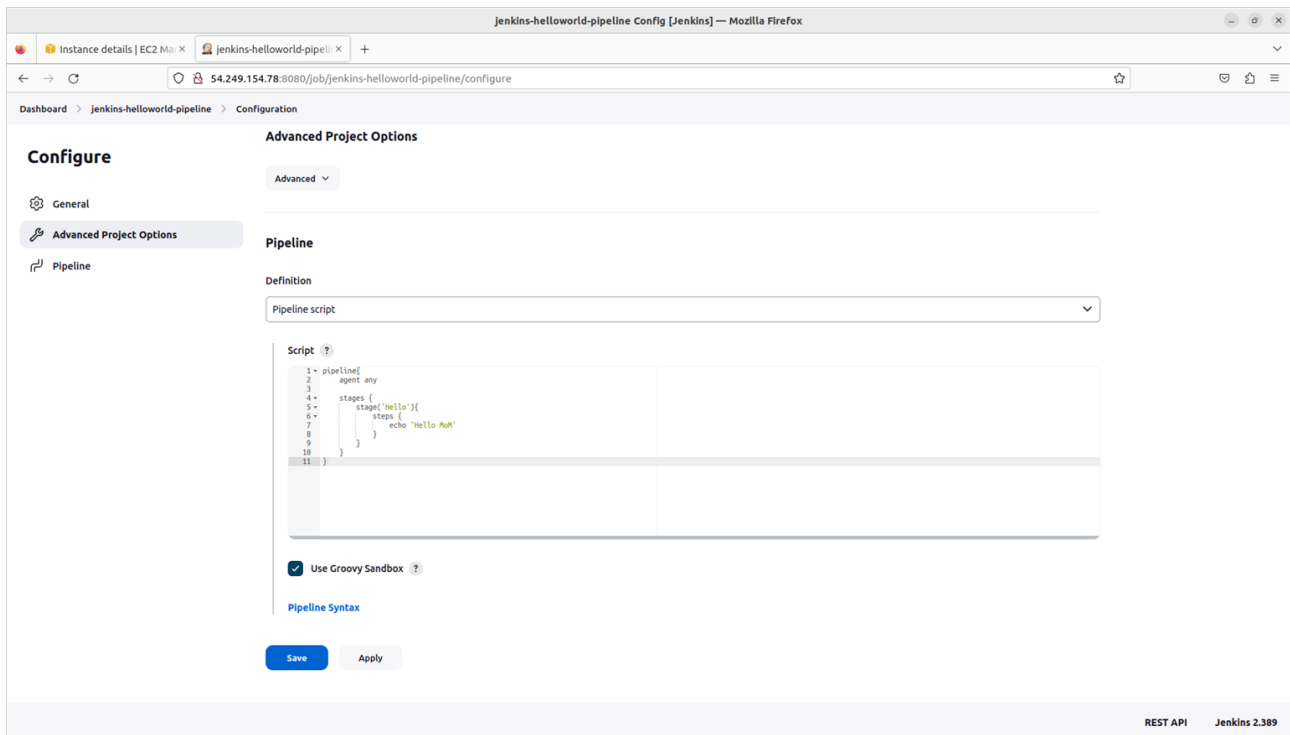


3.Go to project configuration page

4.Now go to the pipeline session, In definition select Pipeline script



5.Write a pipeline script



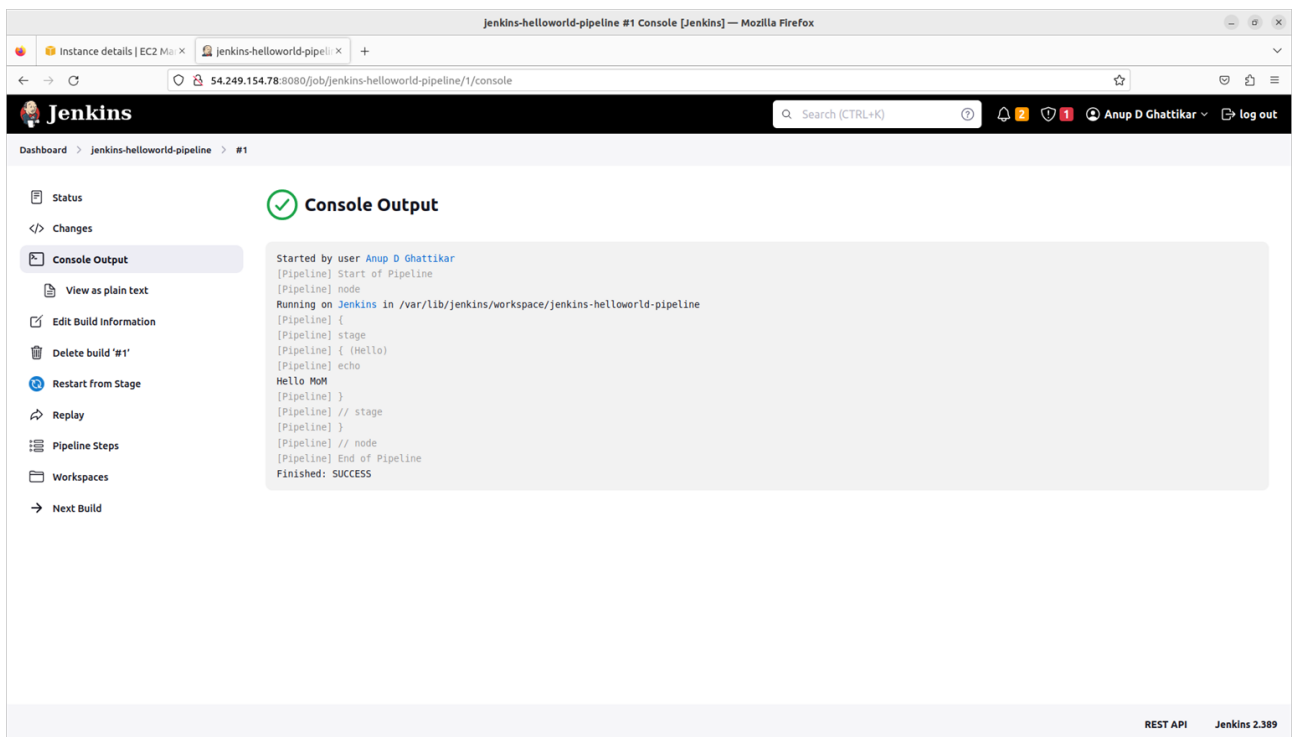
What is Pipeline -A pipeline is a collection of steps or jobs interlinked in a sequence.

Declarative: Declarative is a more recent and advanced implementation of a pipeline as a code.

Scripted: Scripted was the first and most traditional implementation of the pipeline as a code in Jenkins. It was designed as a general-purpose DSL (Domain Specific Language) built with Groovy.

6. Build the project. You can manually build the project by clicking on the "Build Now" link in the project's main page

7. After a build is completed, you can view the console output by clicking on the "Console Output" link in the build page.



The screenshot shows the Jenkins web interface in a Mozilla Firefox browser. The page title is "Jenkins-helloworld-pipeline #1 Console [Jenkins]". The browser address bar shows the URL "54.249.154.78:8080/job/Jenkins-helloworld-pipeline/1/console". The Jenkins logo is in the top left, and the user "Anup D Ghattikar" is logged in, as shown in the top right. The left sidebar contains a menu with options: Status, Changes, Console Output (selected), View as plain text, Edit Build Information, Delete build '#1', Restart from Stage, Replay, Pipeline Steps, Workspaces, and Next Build. The main content area is titled "Console Output" with a green checkmark icon. It displays the following text: "Started by user Anup D Ghattikar", "[Pipeline] Start of Pipeline", "[Pipeline] node", "Running on Jenkins in /var/lib/jenkins/workspace/Jenkins-helloworld-pipeline", "[Pipeline] {", "[Pipeline] stage", "[Pipeline] { (Hello)", "[Pipeline] echo", "Hello Mom", "[Pipeline] }", "[Pipeline] // stage", "[Pipeline] }", "[Pipeline] // node", "[Pipeline] End of Pipeline", and "Finished: SUCCESS". The bottom right corner of the page shows "REST API" and "Jenkins 2.389".

8. You can see the each stage view by clicking on the "Full Stage View" in the project main page.

The screenshot shows the Jenkins web interface for a pipeline named 'jenkins-helloworld-pipeline'. The page is titled 'Pipeline jenkins-helloworld-pipeline' and includes a sidebar with navigation options: Status, Changes, Build Now, Configure, Delete Pipeline, Full Stage View, Rename, and Pipeline Syntax. The main content area displays the 'Stage View' for the pipeline, showing a table of stages with their names, durations, and status. The stages are 'Hello' (208ms), 'Greet' (247ms), and 'Say Goodbye' (170ms). The page also includes a 'Build History' section with a table of recent builds and a 'Permalinks' section.

Stage	Duration	Status
Hello	208ms	Success
Greet	247ms	Success
Say Goodbye	170ms	Success

Average stage times: (Average full run time: ~5s)

Build History:

Build	Duration	Status
#2	Feb 13, 2023, 11:18 AM	Success
#1	Feb 13, 2023, 11:18 AM	Success

Permalinks:

REST API Jenkins 2.389