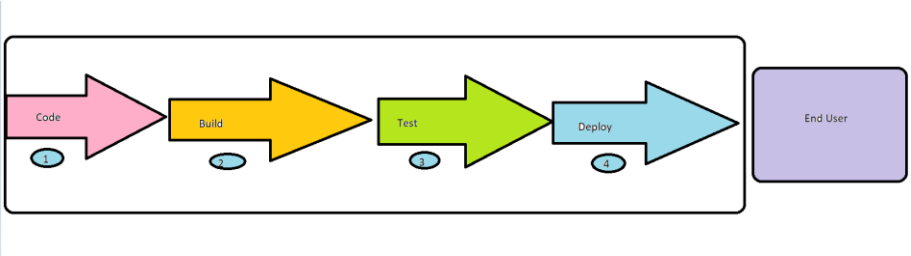
Day 26 Task: Jenkins Declarative Pipeline

One of the most important parts of your DevOps and CICD journey is a Declarative Pipeline Syntax of Jenkins

Some terms for your knowledge

What is Pipeline - A pipeline is a collection of steps or jobs interlinked in a sequence. In Other words, a jenkins pipeline is a collection of jobs that brings the code from version control (GitHub) into hands of the end users by using automation tools.



There are 2 ways to write a pipeline script

1] Declarative

2] scripted

1] Declarative:

- Declarative is a more recent and advanced implementation of a pipeline as a code.
- Simpler Groovy syntax
- Code is written locally in a file and is checked in to SCM(github).
- The Code is defined with in ‘pipeline block’

2] 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.
- Stricter Groovy syntax
- Code is written on the Jenkins UI instance
- The code is defined within a 'node block’.

Why you should have a Pipeline: -

The definition of a Jenkins Pipeline is written into a text file (called a 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).

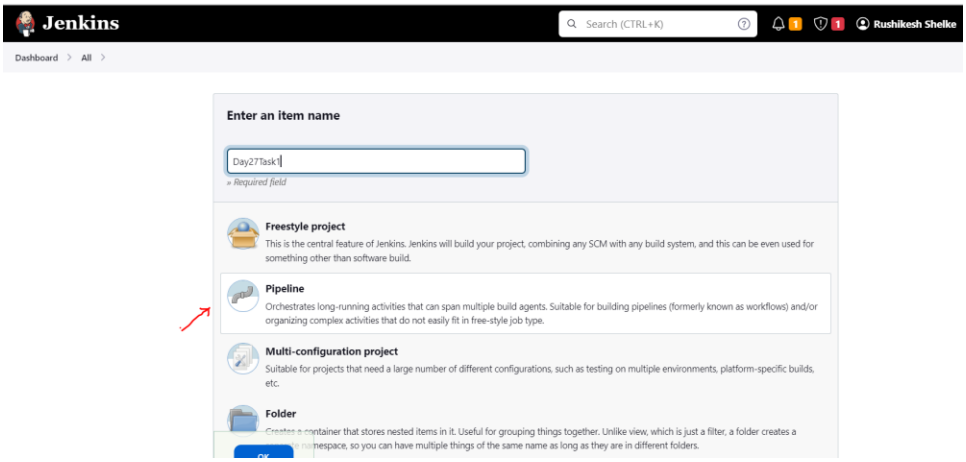
Pipeline syntax

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

Task-01 :-

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

Goto Jenkins Dashboard and click on New Item. And select Pipeline as a project and enter the Project name



After going inside the configuration page, add the Description and in pipeline section select pipeline script option.

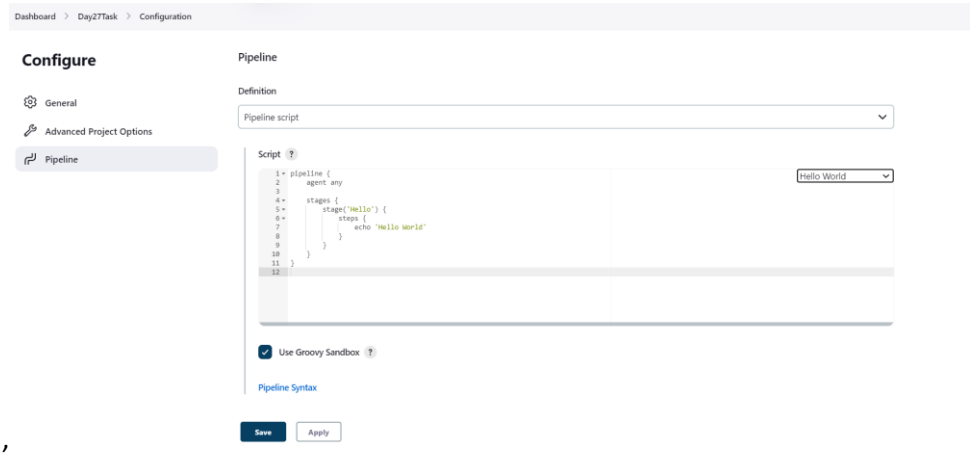
Write small Pipeline script using Groovy syntax. And then click apply and save.

Pipeline: - The Declarative pipeline should start with the pipeline block and this is the mandatory block.

Agent: - Agent signifies where the Jenkins build job should run. In this case we have selected agent as any.

Stages: - It Contain all the work each stage performs a specific task.

Steps: - steps are carried out in sequence to execute a stage.



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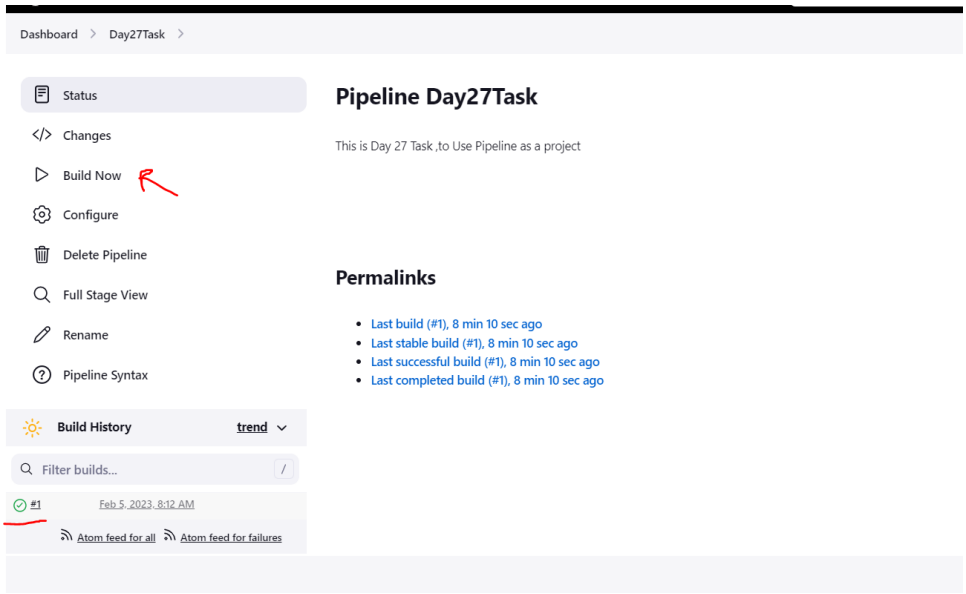
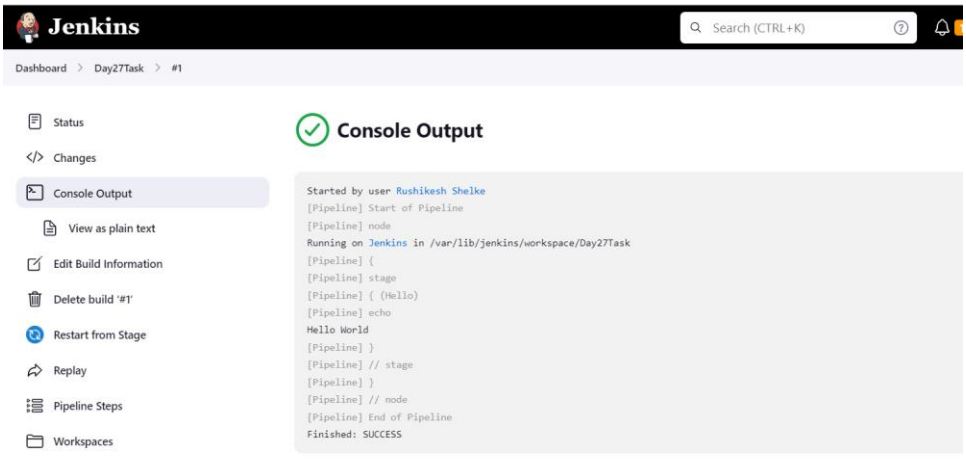
Now it’s time to Build the Project, click on Build Now Option and Build the project



Go to console output and see the logs. Your application is stored on below path

`/var/lib/jenkins/workspace/Day27Task`



As you can see from the above output, the pipeline run successfully and printed

Hello World

----------Happy Learning😊----------