What is Jenkins Pipeline?

Jenkins Pipeline is a combination of plugins that supports integration and implementation of continuous delivery pipelines.

A Pipeline is a group of events interlinked with each other in a sequence.

What is a JenkinsFile?

Jenkins pipelines can be defined using a text file called JenkinsFile. You can implement pipeline as code using JenkinsFile, and this can be defined by using a domain specific language (DSL). With JenkinsFile, you can write the steps needed for running a Jenkins pipeline.

The benefits of using JenkinsFile are:

- You can create pipelines automatically for all branches and execute pull requests with just one JenkinsFile.
- You can review your Jenkins code on the pipeline
- You can audit your Jenkins pipeline
- This is the singular source for your pipeline and can be modified by multiple users.

Declarative versus Scripted pipeline syntax:

There are two types of Jenkins pipeline syntax used for defining your JenkinsFile.

1. Declarative
2. Scripted

Declarative:

Declarative pipeline syntax offers an easy way to create pipelines. It contains a predefined hierarchy to create Jenkins pipelines. It gives you the ability to control all aspects of a pipeline execution in a simple, straight-forward manner.

Scripted:

Scripted Jenkins pipeline runs on the Jenkins master with the help of a lightweight executor. It uses very few resources to translate the pipeline into atomic commands. Both declarative and scripted syntax are different from each other and are defined totally differently.

Jenkins Pipeline Concepts

PIPELINE: The pipeline is a set of instructions given in the form of code for continuous delivery and consists of instructions needed for the entire build process. With pipeline, you can build, test, and deliver the application.

NODE: The machine on which Jenkins runs is called a node. A node block is mainly used in scripted pipeline syntax.

STAGE: A stage block contains a series of steps in a pipeline. That is, the build, test, and deploy processes all come together in a stage. Generally, a stage block is used to visualize the Jenkins pipeline process.

STEP: A step is nothing but a single task that executes a specific process at a defined time. A pipeline involves a series of steps.

JENKINS DASHBOARD:

MANAGE JENKINS -- > MANAGE PLUGINS -- > BUILD PIPELINE -- > INSTALL
GLOBAL TOOL CONFIG -- > MAVEN -- > NAME & VERSION -- > SAVE

JOB-1: FOR COMPILE
MAVEN PROJECT -- > GIT: https://github.com/edureka-git/devops.git -- > BUILD -- > GOALS : COMPILE -- > BUILD NOW

JOB-2: FOR TEST
NAME : JOB-2 -- > COPY FROM : JOB-1 -- > BUILD : TEST -- > BUILD NOW

JOB-3: FOR PACKAGE
NAME : JOB-3 -- > COPY FORM : JOB-2 -- > BUILD : PACKAGE -- > BUILD NOW

JOB-4: FOR CODE QUALITY
NAME : JOB-4 -- > COPY FORM : JOB-3 -- > BUILD : PMD:PMD -- > BUILD NOW

JOB-4: FOR CODE COVERAGE
NAME : JOB-5 -- > COPY FORM : JOB-4 -- > BUILD: COBERTURA:COBERTURA -- > BUILD NOW

NOW CONNECT THEM WITH PIPELINE:

GO TO JOB-1 -- > CONFIGURE -- > POST BUILD ACTIONS -- > BUILD OTHER JOBS -- > DO IT FOR ALL JOBS (JOB-1 TO JOB-2, JOB-2 TO JOB-3, JOB-3 TO JOB-4, JOB-4 TO JOB-5)

CLICK ON + SYMBOL ON DASH BOARD -- > NAME -- > BUILD PIPELINE VIEW -- > CREATE
SELECT INITIAL JOB -- > JOB-1 -- > OK