

Groovy Script

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Overview

- Groovy Script is a java based object oriented programming and scripting language which runs on Java Virtual Machine.
- Groovy has very similar syntax with Java language. Groovy 1.0 was released in 2007. Its currently released version is 2.4 and distributed via the Apache License.
- Closures, multiline scripts and expressions embedded in strings can be used in groovy script. It is not a replacement for Java, but enhancing Java with some dynamic features.

Features of groovy

- Support for both static and dynamic typing.
- Support for operator overloading.
- Native syntax for lists and associative arrays.
- Native support for regular expressions.
- Groovy is simple for Java developers since the syntax for Java and Groovy are very similar.
- Existing Java libraries can be used.
- Groovy extends the `java.lang.Object`.

Groovy syntax

- Groovy is a dynamic language. It is not mandatory to specify data types like String, int, float etc. A variable can be defined using “def” keyword, and type is judged by Groovy according to the value of the object.

```
def str = "Hello"  
def num = 5
```

- In Groovy, it is very easy to operate “for loop”.

```
for(x in 1..3) {  
    println x // 1,2,3  
}
```

Jenkins pipeline

- **Agent:** Slave on which Jenkins pipeline is executed.
- **Stage:** A stage is a block in which tasks are performed through a Jenkins pipeline.
- **Stages:** Block that includes multiple stages in a pipeline.
- **Steps:** All the tasks performed in any stage.

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```
pipeline {
  agent any
  stages {
    stage('Build') {
      steps {
        echo "This is Build stage."
      }
    }
    stage('Test') {
      steps {
        echo "This is Test stage."
      }
    }
    stage('Deploy') {
      steps {
        echo "This is Deploy stage."
      }
    }
  }
}
```

..

- Script: Block that can be defined in any stage to provide more functionality to the pipeline using Groovy scripts.

```
stage('Deploy') {  
    steps {  
        script{  
            echo "This is Deploy step."  
            def branchName = "${env.BRANCH_NAME}"  
  
            if(branchName == "master"){  
                println("Deploying to Prod.")  
            }  
            else if(branchName == "test"){  
                println("Deploying to Test.")  
            }  
        }  
    }  
}
```

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- Usage of Groovy Script in Jenkins
- Groovy script can be used in Jenkins file to build more complex pipelines. Jenkins file is written and submitted to the project source repository. When a commit arrives, Jenkins pipeline is triggered, and all the stages in pipeline are executed according to the algorithm written in Jenkins file.

//Code snippet

```
}
stage('Deploy') {
  steps {
    script{
      echo "This is Deploy step."

      def changedFiles = [];

      // Calling getChangedFiles method...
      changedFiles = getChangedFiles();

      if(changedFiles.size>0){
        println(changedFiles)
      }
      else{
        println("No changed file.")
      }

      def branchName = "${env.BRANCH_NAME}"

      // Calling deploy method...
      deploy(branchName);
    }
  }
}
```