

JENKINS_LAB02

01) What is Jenkins pipeline?

Answer:

Jenkins Pipeline is a suite of plugins which supports implementing and integrating continuous delivery pipelines into Jenkins.

02) What scripting language is Jenkins pipeline syntax based on?

Answer:

Groovy programming language

03) What are the ways you can write pipeline in Jenkins?

Answer:

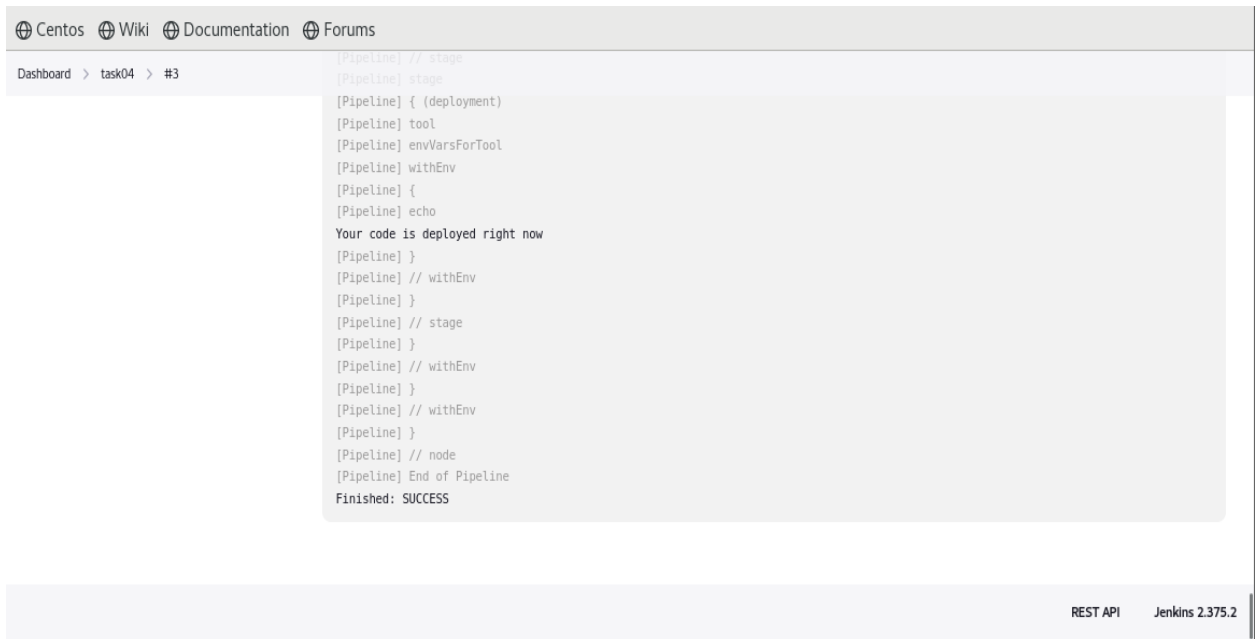
1- Declarative Pipeline:

Declarative Pipeline is a relatively recent addition to Jenkins Pipeline which presents a more simplified and opinionated syntax on top of the Pipeline sub-systems.

2- Scripted Pipeline:

A Jenkins Scripted Pipeline is a sequence of stages to perform CI/CD-related tasks that can be specified as code, enabling you to develop a pipeline script and add it to your code repository so you can version it.

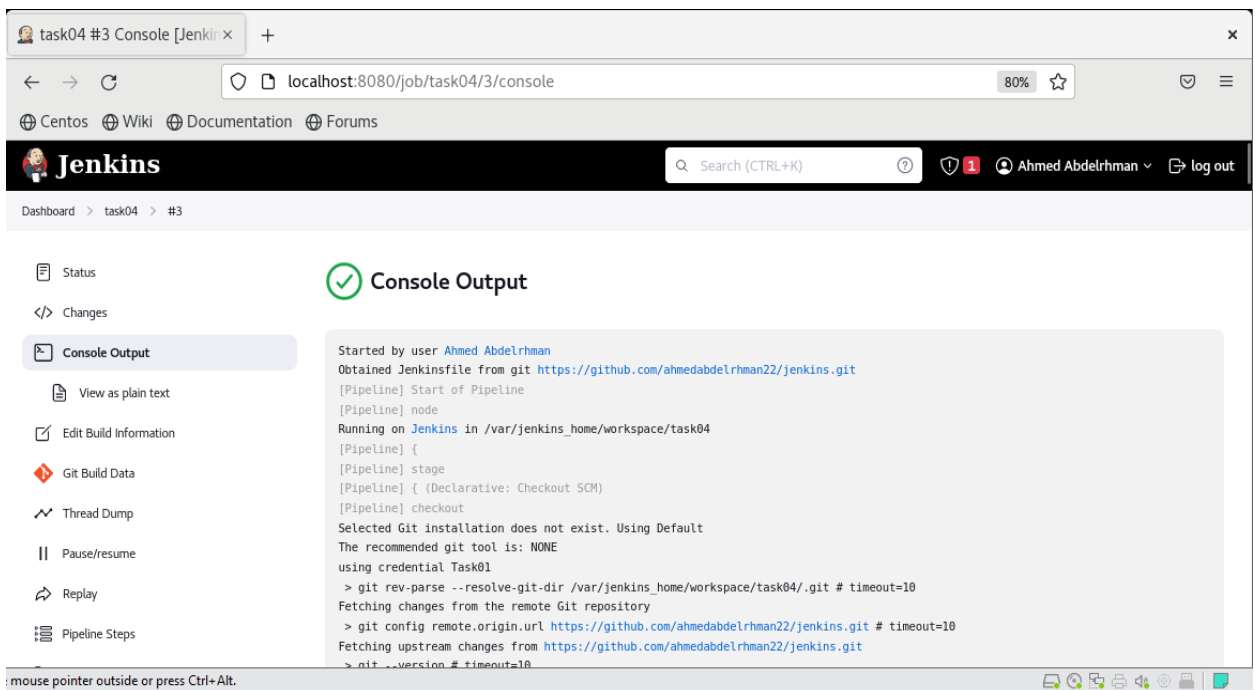
04) Create jenkins pipeline for your repo and use script file (jenkinsfile) to write pipeline syntax ?



The screenshot shows the Jenkins web interface. At the top, there are navigation links: Centos, Wiki, Documentation, and Forums. Below these, the breadcrumb path is 'Dashboard > task04 > #3'. The main content area displays the console output of a Jenkins pipeline. The output is as follows:

```
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (deployment)
[Pipeline] tool
[Pipeline] envVarsForTool
[Pipeline] withEnv
[Pipeline] {
[Pipeline] echo
Your code is deployed right now
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

At the bottom right of the interface, it says 'REST API' and 'Jenkins 2.375.2'.



The screenshot shows the Jenkins web interface with the 'Console Output' tab selected. The breadcrumb path is 'Dashboard > task04 > #3'. The left sidebar contains various options: Status, Changes, Console Output (selected), View as plain text, Edit Build Information, Git Build Data, Thread Dump, Pause/resume, Replay, and Pipeline Steps. The main content area shows the console output with a green checkmark icon and the title 'Console Output'.

Started by user [Ahmed Abdelrhman](#)
Obtained Jenkinsfile from git <https://github.com/ahmedabdelrhman22/jenkins.git>

```
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/jenkins_home/workspace/task04
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Checkout SCM)
[Pipeline] checkout
Selected Git installation does not exist. Using Default
The recommended git tool is: NONE
using credential Task01
> git rev-parse --resolve-git-dir /var/jenkins_home/workspace/task04/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/ahmedabdelrhman22/jenkins.git # timeout=10
Fetching upstream changes from https://github.com/ahmedabdelrhman22/jenkins.git
> git --version # timeout=10
```

At the bottom of the interface, there is a status bar that says 'mouse pointer outside or press Ctrl+Alt.' and some system icons.

task04 [Jenkins]

localhost:8080/job/task04/

CentosWikiDocumentationForums

Dashboardtask04

ConfigureDelete PipelineFull Stage ViewRenamePipeline Syntax

Build Historytrend

Filter builds...

#3Feb 9, 2023, 1:03 AM

#2Feb 9, 2023, 12:58 AM

#1Feb 9, 2023, 12:56 AM

Atom feed for allAtom feed for failures

Stage View

Average stage times:
(Average full run time: ~1min 22s)

	Declarative: Checkout SCM	Declarative: Tool Install	build jar	build image	deployment
#3 Feb 09 03:03 1 commit	2s	1s	1min 13s	522ms	603ms
#2 Feb 09 02:58 No Changes	3s	6s	19s failed	171ms failed	99ms failed
#1 Feb 09 02:56 No Changes					

Permalinks

task04 Config [Jenkins]

localhost:8080/job/task04/configure

CentosWikiDocumentationForums

Dashboardtask04Configuration

ConfigureGeneralAdvanced Project OptionsPipeline

Definition

Pipeline script from SCM

SCMGit

Repositories

Repository URLhttps://github.com/ahmedabdelrhman22/jenkins.git

Credentialsahmedabdelrhman22/*****

+ Add

SaveApply

05) Create another multibranch pipeline and filter branches to contain only (master , dev , test) ?

The screenshot shows the Jenkins console output for a multibranch pipeline. The left sidebar contains a navigation menu with options: Project Relationship, Check File Fingerprint, Rename, Config Files, Pipeline Syntax, and Credentials. Below this is a 'Build Queue (3)' section and a 'Build Executor Status' section showing two idle executors. The main console area displays the following output:

```
> git --version # timeout=10
> git --version # 'git version 2.30.2'
using GIT_ASKPASS to set credentials
> git ls-remote -h -- https://github.com/ahmedabdelrhman22/jenkins.git # timeout=10
Fetching upstream changes from origin
> git config --get remote.origin.url # timeout=10
using GIT_ASKPASS to set credentials
> git fetch --tags --force --progress --prune -- origin +refs/heads/*:refs/remotes/origin/* # timeout=10
Checking branches...
Checking branch master
'Jenkinsfile' found
Met criteria
Scheduled build for branch: master
Checking branch test
'Jenkinsfile' found
Met criteria
Scheduled build for branch: test
Checking branch dev
'Jenkinsfile' found
Met criteria
Scheduled build for branch: dev
Processed 4 branches
[Thu Feb 09 05:46:40 UTC 2023] Finished branch indexing. Indexing took 16 sec
Finished: SUCCESS
```

An 'Activate Windows' watermark is visible in the bottom right corner of the console output area.

The screenshot shows the Jenkins configuration page for a multibranch pipeline named 'test Config [Jenkins]'. The left sidebar contains a navigation menu with options: General, Branch Sources, Build Configuration, Scan Multibranch Pipeline Triggers, Orphaned Item Strategy, Appearance, Health metrics, and Properties. The 'Branch Sources' section is selected. The main configuration area shows the following settings:

- Discover branches**: A red 'X' icon is next to this section.
- Filter by name (with regular expression)**: A red 'X' icon is next to this section. The regular expression is set to `*master|test|dev.*$`.
- Property strategy**: A dropdown menu is set to 'All branches get the same properties'.

At the bottom of the configuration area, there are 'Save' and 'Apply' buttons. An 'Activate Windows' watermark is visible in the bottom right corner of the configuration area.