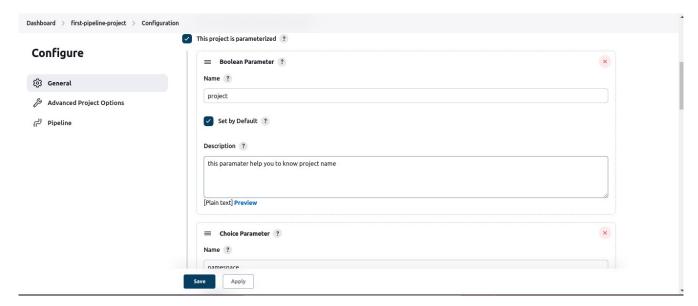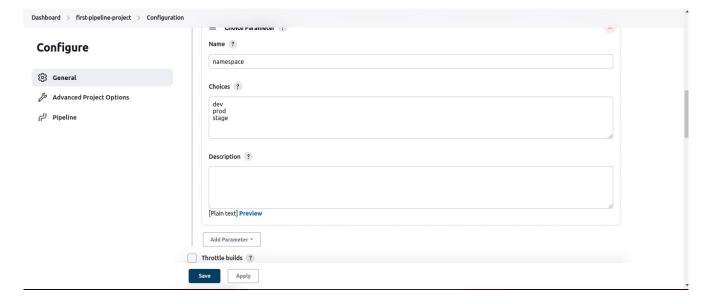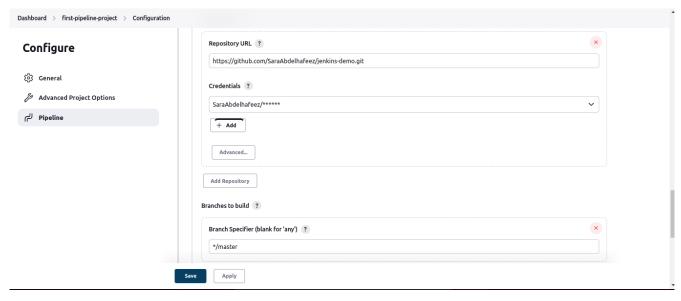01) What is Jenkins pipeline?

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

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

Groovy Programming Language

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

- Declerative
- Screpted

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

Dashboard > first-pipeline-project > Configuration

Configure

⚙ General

🔧 Advanced Project Options

╤ Pipeline

☑ This project is parameterized ?

≡ Boolean Parameter ? ✕

Name ?

project

☑ Set by Default ?

Description ?

this paramater help you to know project name

[Plain text] Preview

≡ Choice Parameter ? ✕

Name ?

namespace

Save   Apply

Dashboard > first-pipeline-project > Configuration

Configure

⚙ General

🔧 Advanced Project Options

╤ Pipeline

Choice Parameter ?

Name ?

namespace

Choices ?

dev
prod
stage

Description ?

[Plain text] Preview

Add Parameter ▾

☐ Throttle builds ?

Save   Apply

Configure

- ⚙️ General
- 🔧 Advanced Project Options
- 〽️ Pipeline

Repository URL ?

https://github.com/SaraAbdelhafeez/jenkins-demo.git

Credentials ?

SaraAbdelhafeez/******

＋ Add

Advanced...

Add Repository

Branches to build ?

Branch Specifier (blank for 'any') ?

*/master

Save   Apply

🧑 **Jenkins**   🔍 Search (CTRL+K)   ?   🔔1 🛡️1 👤 Sara Abdelhafeez ⌄   ⤓ log out

- 📄 Status
- </> Changes
- ▷ Build with Parameters
- ⚙️ Configure
- 🗑️ Delete Pipeline
- 🔍 Full Stage View
- ✏️ Rename
- ❓ Pipeline Syntax

Pipeline first-pipeline-project

This build requires parameters:

☑️ project

this paramater help you to know project name

namespace

dev ⌄

Build

🌤️ **Build History**   trend ⌄

🔍 Filter builds...   /

✅ #7   Feb 4, 2023, 10:51 AM

- 📄 Status
- </> Changes
- ▷ Build with Parameters
- ⚙️ Configure
- 🗑️ Delete Pipeline
- 🔍 Full Stage View
- ✏️ Rename
- ❓ Pipeline Syntax

Pipeline first-pipeline-project

✏️ Add description

Disable Project

Stage View

		Declarative: Checkout SCM	check	test	deployment
Average stage times: (Average full run time: ~28s)		9s	532ms	568ms	844ms
#8 Feb 04 15:36	No Changes	3s	1s	784ms	2s
#7 Feb 04 12:51	No Changes	1s	256ms		322ms
#6 Feb 04 12:50	No Changes	1s	380ms		377ms

🌤️ **Build History**   trend ⌄

🔍 Filter builds...   /

✅ #8   Feb 4, 2023, 1:36 PM
✅ #7   Feb 4, 2023, 10:51 AM
✅ #6   Feb 4, 2023, 10:50 AM
✅ #5   Feb 4, 2023, 10:49 AM

Console Output

📄 View as plain text

☑ Edit Build Information

🗑 Delete build '#8'

⇄ Parameters

◆ Git Build Data

🔄 Restart from Stage

↪ Replay

☰ Pipeline Steps

📁 Workspaces

← Previous Build

```
Started by user Sara Abdelhafeez
Obtained Jenkinsfile from git https://github.com/SaraAbdelhafeez/jenkins-demo.git
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/jenkins_home/workspace/first-pipeline-project
[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 git-token
 > git rev-parse --resolve-git-dir /var/jenkins_home/workspace/first-pipeline-project/.git # timeout=10
Fetching changes from the remote Git repository
 > git config remote.origin.url https://github.com/SaraAbdelhafeez/jenkins-demo.git # timeout=10
Fetching upstream changes from https://github.com/SaraAbdelhafeez/jenkins-demo.git
 > git --version # timeout=10
 > git --version # 'git version 2.30.2'
using GIT_ASKPASS to set credentials
 > git fetch --tags --force --progress -- https://github.com/SaraAbdelhafeez/jenkins-demo.git +refs/heads/*:refs/remotes/origin/* #
timeout=10
 > git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision 369daa439ffb90337374bb991297ce2f58f36cca (refs/remotes/origin/master)
 > git config core.sparsecheckout # timeout=10
 > git checkout -f 369daa439ffb90337374bb991297ce2f58f36cca # timeout=10
Commit message: "Update Jenkinsfile"
```
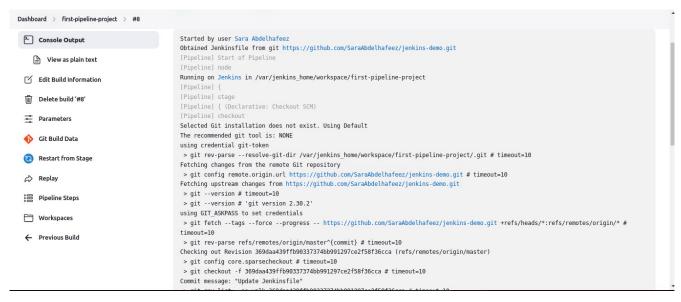
```
[Pipeline] { (check)
[Pipeline] echo
checking your code
[Pipeline] echo
dev
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (test)
[Pipeline] echo
testing your app
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (deployment)
[Pipeline] echo
your code is deployed right now
[Pipeline] echo
this build number 8
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

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

Configuration

- ⚙ General
- ⚙ Branch Sources
- ⚙ Build Configuration
- ⚙ Scan Repository Triggers
- ⚙ Orphaned Item Strategy
- ⚙ Appearance
- ⩗ Health metrics
- 🔧 Properties

Source Code Management

Git ⌄

Project Repository ?

https://github.com/SaraAbdelhafeez/jenkins-demo.git

Credentials ?

SaraAbdelhafeez/***** ⌄

[+ Add]

Behaviors

Discover branches
?   ✕

Filter by name (with wildcards)   ✕
Include ?

master dev test

[Save] [Apply]

- ▷ Scan Repository Now
- ▣ Scan Repository Log
  - 📄 View as plain text
- ▣ Multibranch Pipeline Events
- 🗑 Delete Multibranch Pipeline
- 👥 People
- 🕘 Build History
- ◎ Project Relationship
- ⬚ Check File Fingerprint
- ▢ GitHub
- ✎ Rename
- ? Pipeline Syntax
- 🔑 Credentials

Build Queue ⌄

```
Started by user Sara Abdelhafeez
[Sat Feb 04 13:52:29 UTC 2023] Starting branch indexing...
13:52:29 Connecting to https://api.github.com using SaraAbdelhafeez/*****
Examining SaraAbdelhafeez/jenkins-demo

  Checking branches...

  Getting remote branches...

    Checking branch feat/sprint

    Checking branch dev

  Getting remote pull requests...
      'Jenkinsfile' found
      Met criteria
No changes detected: dev (still at 369daa439ffb90337374bb991297ce2f58f36cca)

    Checking branch feat/upload-photo

    Checking branch fix/deployment-issue

    Checking branch master
      'Jenkinsfile' found
      Met criteria
No changes detected: master (still at 369daa439ffb90337374bb991297ce2f58f36cca)

    Checking branch my-local-branch
```

- ◎ Project Relationship
- ⬚ Check File Fingerprint
- ▢ GitHub
- ✎ Rename
- ? Pipeline Syntax
- 🔑 Credentials

Build Queue ⌄

No builds in the queue.

Build Executor Status ⌄

1 Idle
2 Idle

```
Getting remote pull requests...
      'Jenkinsfile' found
      Met criteria
No changes detected: dev (still at 369daa439ffb90337374bb991297ce2f58f36cca)

    Checking branch feat/upload-photo

    Checking branch fix/deployment-issue

    Checking branch master
      'Jenkinsfile' found
      Met criteria
No changes detected: master (still at 369daa439ffb90337374bb991297ce2f58f36cca)

    Checking branch my-local-branch

    Checking branch test
      'Jenkinsfile' found
      Met criteria
No changes detected: test (still at 369daa439ffb90337374bb991297ce2f58f36cca)

  7 branches were processed

  Checking pull-requests...

  0 pull requests were processed

Finished examining SaraAbdelhafeez/jenkins-demo

[Sat Feb 04 13:52:32 UTC 2023] Finished branch indexing. Indexing took 2.6 sec
Finished: SUCCESS
```

Status
Configure
Scan Repository Now
Scan Repository Log
Multibranch Pipeline Events
Delete Multibranch Pipeline
People
Build History
Project Relationship
Check File Fingerprint
GitHub
Rename

first-multi-branch-pipeline

Disable Multibranch Pipeline

Branches (3)   Pull Requests (0)

S	W	Name ↓	Last Success	Last Failure	Last Duration	
⊘	☀	dev	2 min 24 sec #1	N/A	24 sec	▷
⊘	☀	master	2 hr 0 min #1	N/A	15 sec	▷
⊘	☀	test	2 min 24 sec #1	N/A	24 sec	▷

Icon: S   M   L   Icon legend   📶 Atom feed for all   📶 Atom feed for failures   📶 Atom feed for just latest builds