St. Francis Institute of Technology, Mumbai-400 103
Department Of Information Technology

A.Y. 2024-2025
Class: TE-ITA/B, Semester: V

Subject: **DevOps Lab**
**Experiment – 7: a. To build a pipeline of jobs in Jenkins, create a pipeline
script to test and deploy an application.
b.To automatically build a job in Jenkins using webhooks
(Topic Beyond Syllabus)**
List of screenshots to be attached for Experiment 7

7b. **Execute following (Refer the shared material) and attach screenshots:**
1. Create and build pipeline project with pipeline script
Project with Hello World pipeline script

Pipeline

Definition

Pipeline script   ⌄

Script ?

```
 1 ▾ pipeline {
 2       agent any
 3
 4 ▾     stages {
 5 ▾         stage('Hello') {
 6 ▾             steps {
 7                   echo 'Hello World'
 8               }
 9           }
10       }
11   }
12
```

Hello World ⌄

Stage View

	Hello
Average stage times: (Average <u>full</u> run time: ~2s)	127ms
#1 Sep 20 13:21 No Changes	127ms

Stage Logs (Hello)

Ⓐ **Print Message -- Hello World** (self time 10ms)

Hello World

Project with your own pipeline script

New Item

Enter an item name

Shruti_7.1a

Select an item type

Freestyle project
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.

Maven project
Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the configuration.

Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.
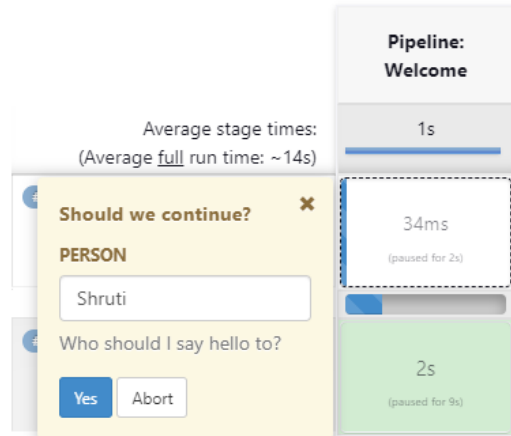
External Job
This type of job allows you to record the execution of a process run outside Jenkins, even on a remote machine. This is designed so that you can use Jenkins as a dashboard of your existing automation system.
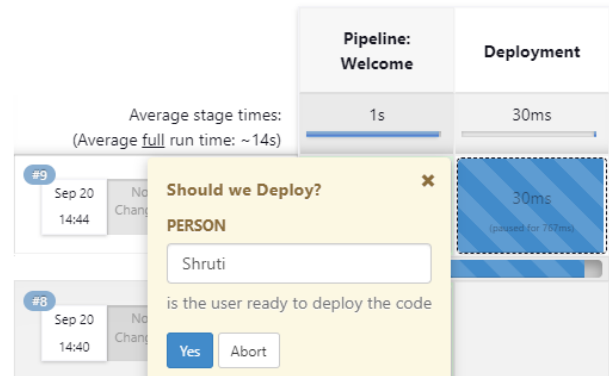
OK

Description

Shruti patani-62
This is my own Pipeline Script.

Stage View

	Pipeline: Welcome
Average stage times: (Average full run time: ~14s)	1s
	34ms (paused for 2s)
	2s (paused for 9s)

Should we continue? ✖

PERSON

Shruti

Who should I say hello to?

[Yes] [Abort]

Stage View

	Pipeline: Welcome	Deployment
Average stage times: (Average full run time: ~14s)	1s	30ms
#9 Sep 20 14:44	No Chang	30ms (paused for 767ms)
#8 Sep 20 14:40	No Chang	

Should we Deploy? ✖

PERSON

Shruti

is the user ready to deploy the code

[Yes] [Abort]

Stage Logs (Deployment)

⊡ **Wait for interactive input** (self time 11s)

⊡ **Print Message -- Code Deployed.** (self time 5ms)

Stage Logs (Pipeline: Welcome)

⊡ **Wait for interactive input** (self time 12s)

⊡ **Print Message -- Hello, Shruti, this is an output of a pipepline script.** (self time 7ms)

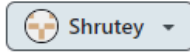## 2.   Create and build pipeline project with Git
●   Fork repository on GitHub

Create a new fork

A *fork* is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project. View existing forks.

Required fields are marked with an asterisk (*).

Owner *   **Repository name ***

[Shrutey ▾]   /   [jenkins-pipeline-tutorial]

✔ jenkins-pipeline-tutorial is available.

By default, forks are named the same as their upstream repository. You can customize the name to distinguish it further.

Description (optional)

[Jenkins Pipeline Tutorial]

☑ **Copy the** `master` **branch only**

Contribute back to chrismld/jenkins-pipeline-tutorial by adding your own branch. Learn more.

ⓘ You are creating a fork in your personal account.

[**Create fork**]

Shrutey / **jenkins-pipeline-tutorial**

<> Code   ⑂ Pull requests   ⊙ Actions   ▦ Projects   ▢ Wiki   ⓞ Security   ⬠ Insights   ⚙ Settings

jenkins-pipeline-tutorial (Public)
forked from chrismld/jenkins-pipeline-tutorial

☆ Pin   ⊙ Watch 0 ▾   ⑂ Fork 0 ▾   ☆ Star 0 ▾

master ▾   ⑂ 1 Branch   ◇ 0 Tags   Go to file   Add file ▾   <> Code ▾

About

This branch is up to date with chrismld/jenkins-pipeline-tutorial:master .   ⑂ Contribute ▾   ⟳ Sync fork ▾

Jenkins Pipeline Tutorial

chrismld Run only crucial integration tests   d6d8a4b · 5 years ago   ⓞ 7 Commits

▢ Readme
∿ Activity
☆ 0 stars

hello-world   Run only crucial integration tests   5 years ago

⊙ 0 watching

README.md   Initial commit   5 years ago

⑂ 0 forks

▢ README   ✎

Releases

No releases published
Create a new release

jenkins-pipeline-tutorial

Packages

Jenkins Pipeline Tutorial

No packages published
Publish your first package

Languages

Create pipeline project with pipeline script from SCM Add webhooks to the forked repository

Webhooks / Add webhook

We'll send a POST request to the URL below with details of any subscribed events. You can also specify which data format you'd like to receive (JSON, x-www-form-urlencoded, etc). More information can be found in our developer documentation.

Payload URL *

https://hkdk.events/r4agyofu5dz8jq

Content type *

application/json

Webhooks   Add webhook

Webhooks allow external services to be notified when certain events happen. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our Webhooks Guide.

● https://hkdk.events/r4agyofu5dz8jq *(push)*   Edit   Delete
This hook has never been triggered.

● Build pipeline project

Description

Shruti Patani-62
This is first Webhook project.

Script Path ?

hello-world/Jenkinsfile

Build Triggers

☐ Build after other projects are built ?
☐ Build periodically ?
☐ Build whenever a SNAPSHOT dependency is built ?
☐ Enable Artifactory trigger
☑ GitHub hook trigger for GITScm polling ?
☑ Poll SCM ?
Schedule ?

H/5 * * * *

Pipeline

Definition

Pipeline script from SCM

SCM ?

Git

Repositories ?

Repository URL ?

https://github.com/Shrutey/jenkins-pipeline-tutorial.git

- Add file to forked repository and observe the automated build

- Make changes to Jenkins file on forked repository and observe the automated build

Stage View

	Declarative: Checkout SCM	Static Analysis	Compile	Security Check	Run Unit Tests	Run Integration Tests	Publish Artifacts
Average stage times: (Average full run time: ~3s)	1s	59ms	51ms	49ms	52ms	51ms	51ms
#3 Sep 20 14:01 1 commit	1s	59ms	50ms	48ms	55ms	59ms	48ms
#2 Sep 20 13:59 1 commit	1s	56ms	48ms	49ms	53ms	49ms	51ms
#1 Sep 20 13:51 No Changes	1s	63ms	56ms	51ms	50ms	47ms	54ms

Webhooks / Manage webhook

| Settings | **Recent Deliveries** |

✓	📦 9681e97a-772a-11ef-80d1-a28e1cb29e29	push	2024-09-20 14:00:27	...
✓	📦 47409410-772a-11ef-9ba8-58b389f80430	push	2024-09-20 13:58:14	...
✓	📦 e6fdec60-7729-11ef-9bfa-c22ee671b5ed	ping	2024-09-20 13:55:33	...