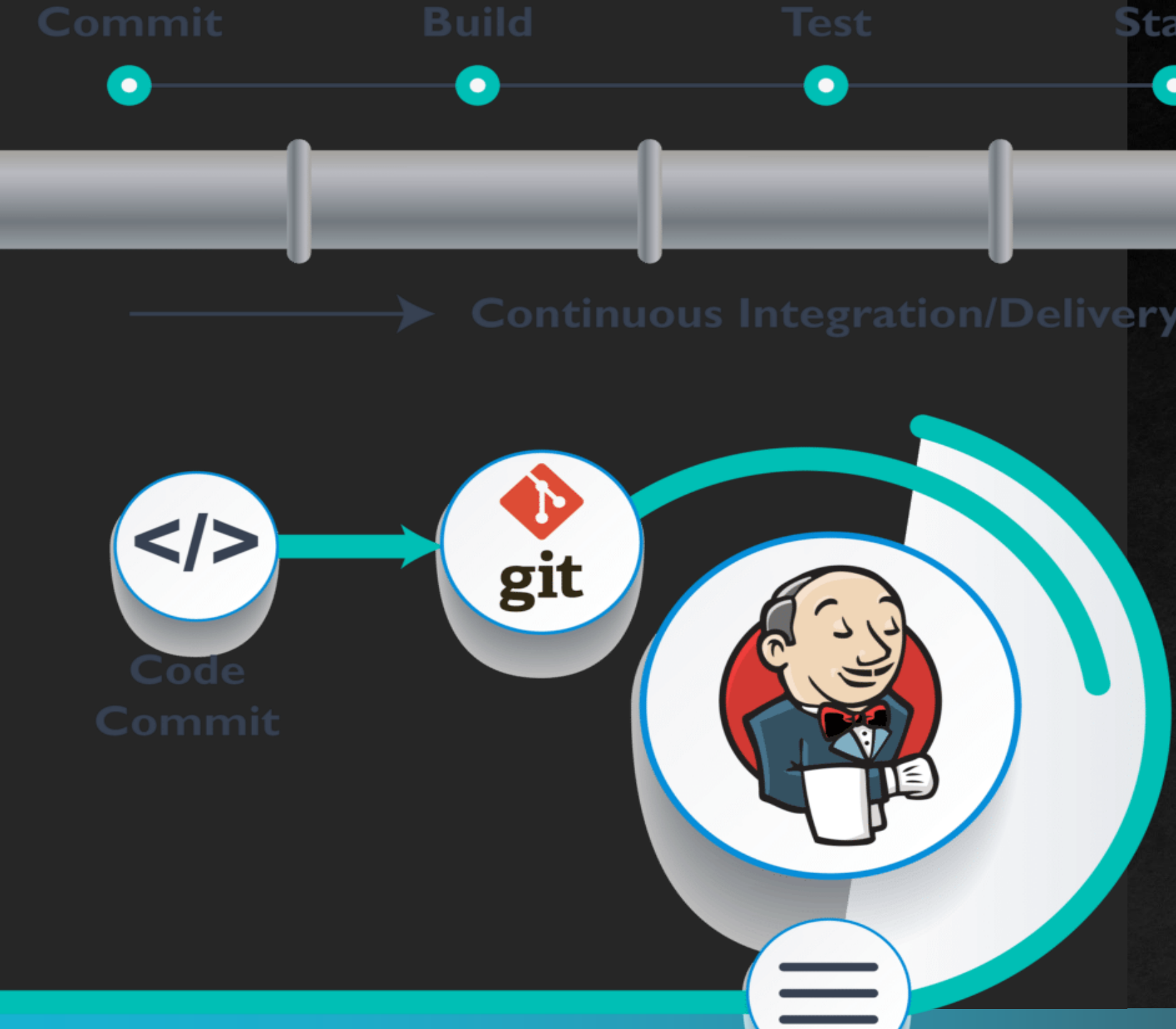


DevOps (Pipeline) in Industry

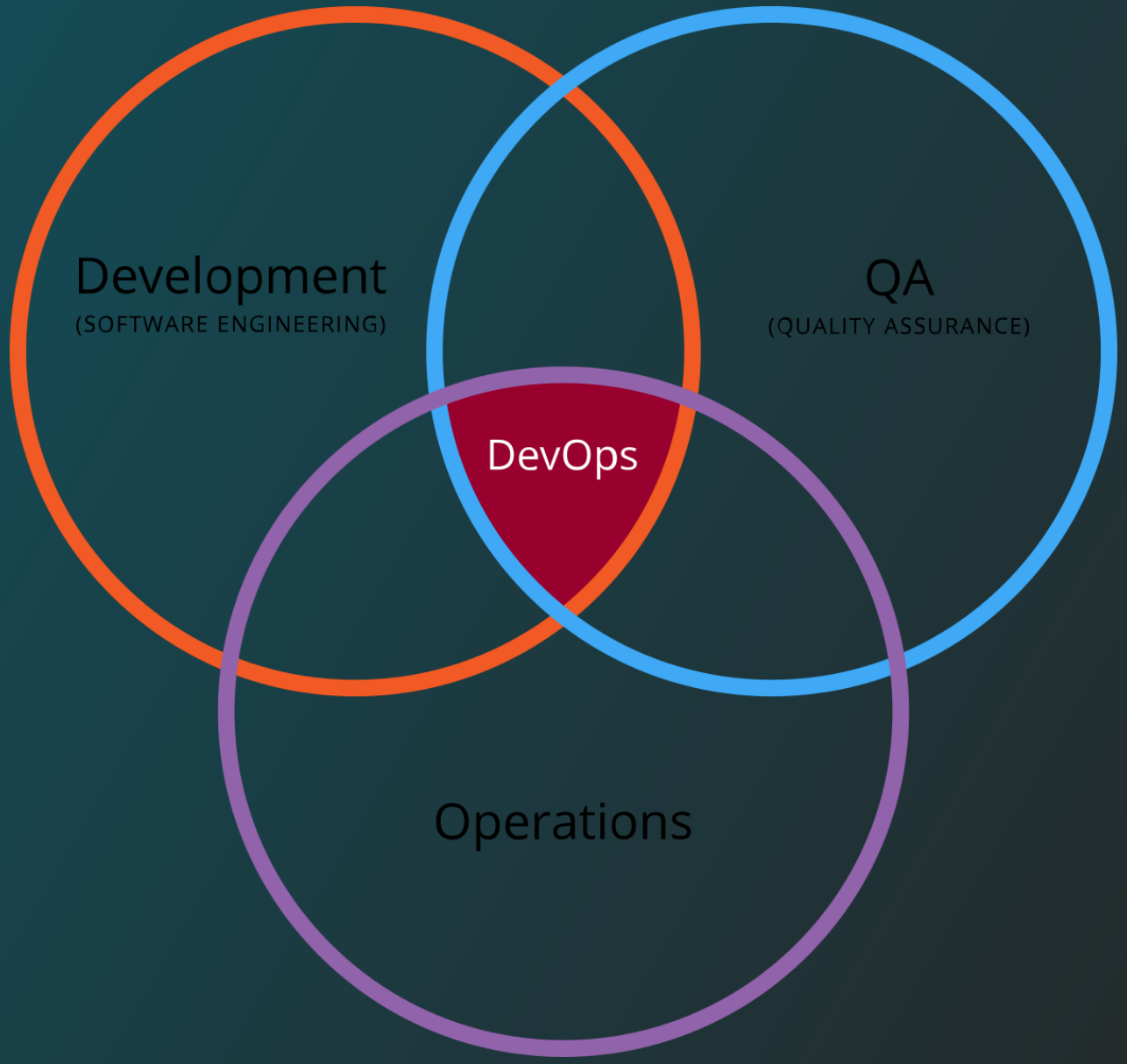
Simplify your DevOps career and get insights into Jenkins Pipeline

Presentation Outline

- Dev & Ops= DevOps
- Pipeline Implementation
- Takeaway Message
- Conclusion

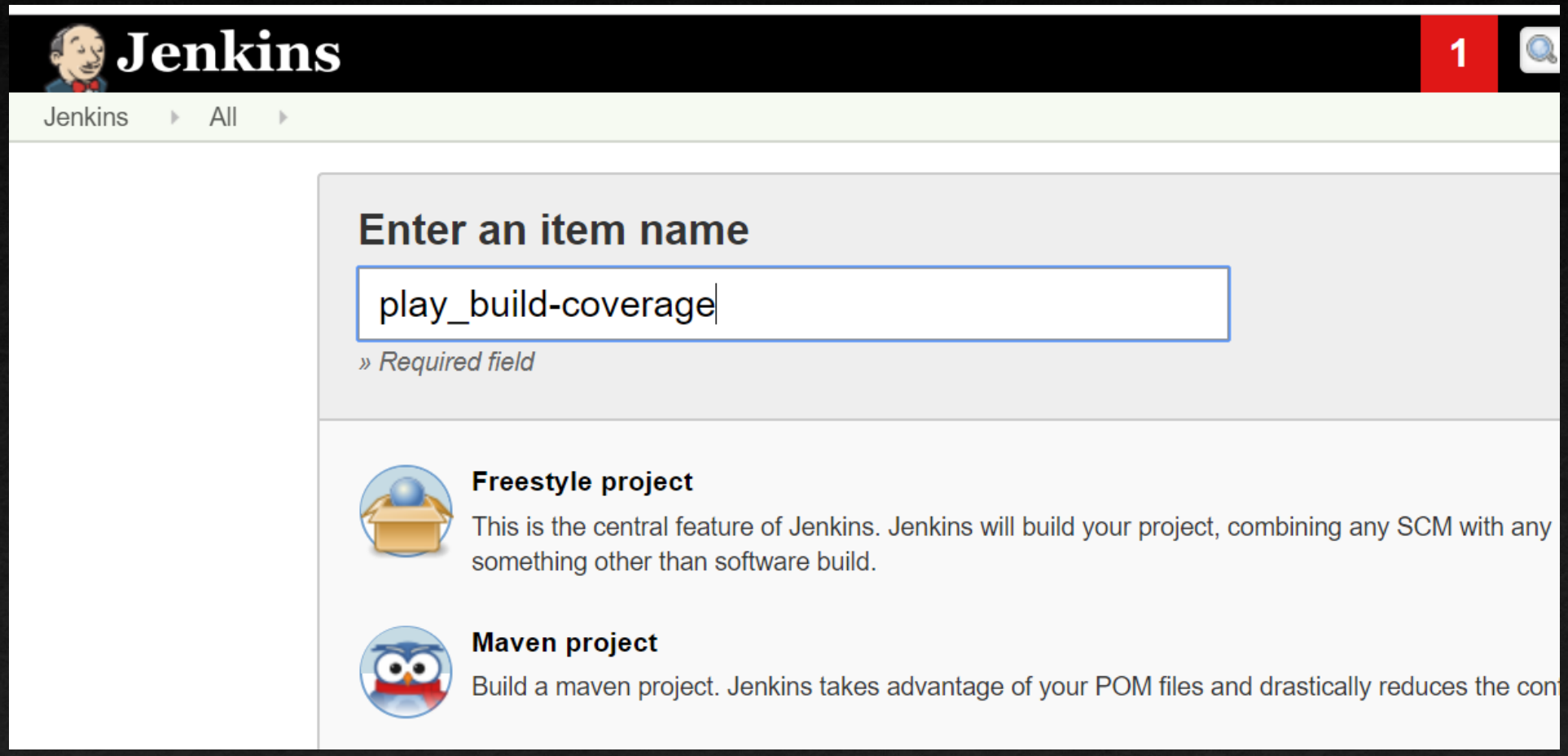
Need of someone in the middle

Dev (Test) & Ops = DevOps

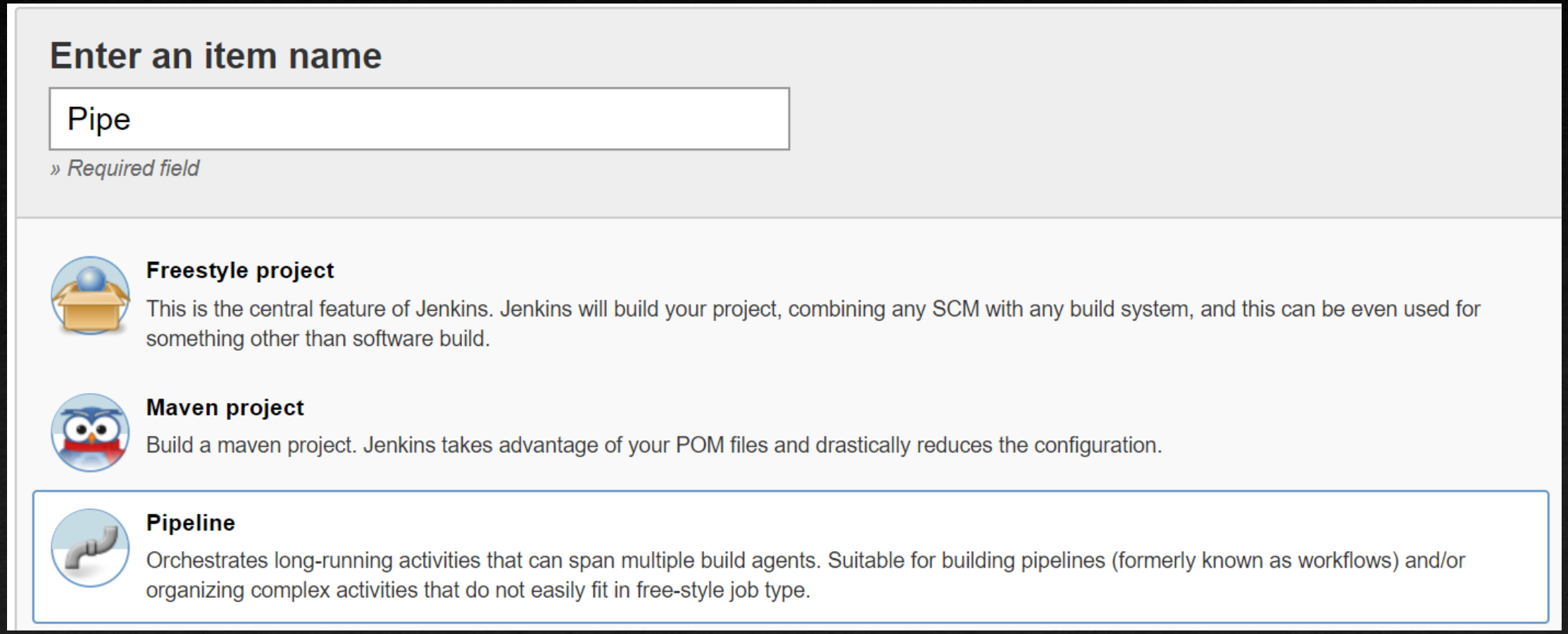



DEVOPS TOOLS (V3)
Os Open Source
Fr Free
Fm Freemium
Pd Paid
En Enterprise
Source Control Mgmt.
Database Automation
Continuous Integration
Testing
Configuration
Deployment
Containers
Release Orchestration
Cloud
AIOps
Analytics
Monitoring
Security
Collaboration
1 Os Gl GitLab
2 En Sp Splunk
3 Fm Gh GitHub
4 En Dt Datical
5 En XLr XebiaLabs XL Release
6 Fm Aws AWS
7 Pd Az Azure
8 En Gc Google Cloud
9 Fm Op OpenShift
10 Fm Sg Sumo Logic
11 Os Sv Subversion
12 En Db DBMaestro
13 Os Dk Docker
14 En Ur UrbanCode Release
15 Pd Af Azure Functions
16 Pd Ld Lambda
17 Fm Ic IBM Cloud
18 Os Fd Fluentd
19 En Cw ISPW
20 En Dp Delphix
21 Os Jn Jenkins
22 Fm Cs Codeship
23 Os Fn FitNesse
24 Fr Ju JUnit
25 Fr Ka Karma
26 Fm Su SoapUI
27 En Ch Chef
28 Fr Tf Terraform
29 En XLd XebiaLabs XL Deploy
30 En Ud UrbanCode Deploy
31 Os Ku Kubernetes
32 Fm Cc CA CD Director
33 En Pr Plutora Release
34 Pd Al Alibaba Cloud
35 Os Os OpenStack
36 Os Ps Prometheus
37 Pd At Artifactory
38 Fm Rg Redgate
39 Pd Ba Bamboo
40 Fm Vs VSTS
41 Fr Se Selenium
42 Fr Jm JMeter
43 Os Ja Jasmine
44 Pd Sl Sauce Labs
45 En An Ansible
46 Os Ru Rudder
47 En Oc Octopus Deploy
48 Os Go GoCD
49 Os Ms Mesos
50 Pd Gke GKE
51 Fm Om OpenMake
52 Pd Cp AWS CodePipeline
53 Pd Cy Cloud Foundry
54 En It ITRS
55 Pd Nx Nexus
56 Os Fw Flyway
57 Os Tr Travis CI
58 Fm Tc TeamCity
59 Os Ga Gatling
60 Fr Tn TestNG
61 Fm Tt Tricentis Tosca
62 Pd Pe Perfecto
63 En Pu Puppet
64 Os Pa Packer
65 Fm Cd AWS CodeDeploy
66 En Ec ElectricCloud
67 Os Ra Rancher
68 Pd Aks AKS
69 Os Rk Rkt
70 Os Sp Spinnaker
71 Pd Ir Iron.io
72 Pd Mg Moogsoft
73 Fm Bb BitBucket
74 En Pf Perforce
75 Fm Cr Circle CI
76 Pd Cb AWS CodeBuild
77 Fr Cu Cucumber
78 Os Mc Mocha
79 Os Lo Locust.io
80 En Mf Micro Focus UFT
81 Os Sa Salt
82 Os Ce CFEngine
83 En Eb ElasticBox
84 En Ca CA Automic
85 En De Docker Enterprise
86 Pd Ae AWS ECS
87 Fm Cf Codefresh
88 Os Hm Helm
89 Os Aw Apache OpenWhisk
90 Os Ls Logstash
91 En XLi XebiaLabs XL Impact
92 Os Ki Kibana
93 Fm Nr New Relic
94 En Dt Dynatrace
95 En Dd Datadog
96 Fm Ad AppDynamics
97 Os El ElasticSearch
98 Os Ni Nagios
99 Os Zb Zabbix
100 En Zn Zenoss
101 En Cx Checkmarx SAST
102 En Sg Signal Sciences
103 En Bd BlackDuck
104 Os Sr SonarQube
105 Os Hv HashiCorp Vault
106 En Sw ServiceNow
107 Pd Jr Jira
108 Fm Tl Trello
109 Fm Sk Slack
110 Fm St Stride
111 En Cn CollabNet VersionOne
112 En Ry Remedy
113 En Ac Agile Central
114 Pd Og OpsGenie
115 Pd Pd Pagerduty
116 Os Sn Snort
117 Fm Tw Tripwire
118 En Ck CyberArk
119 En Vc Veracode
120 En Ff Fortify SCA

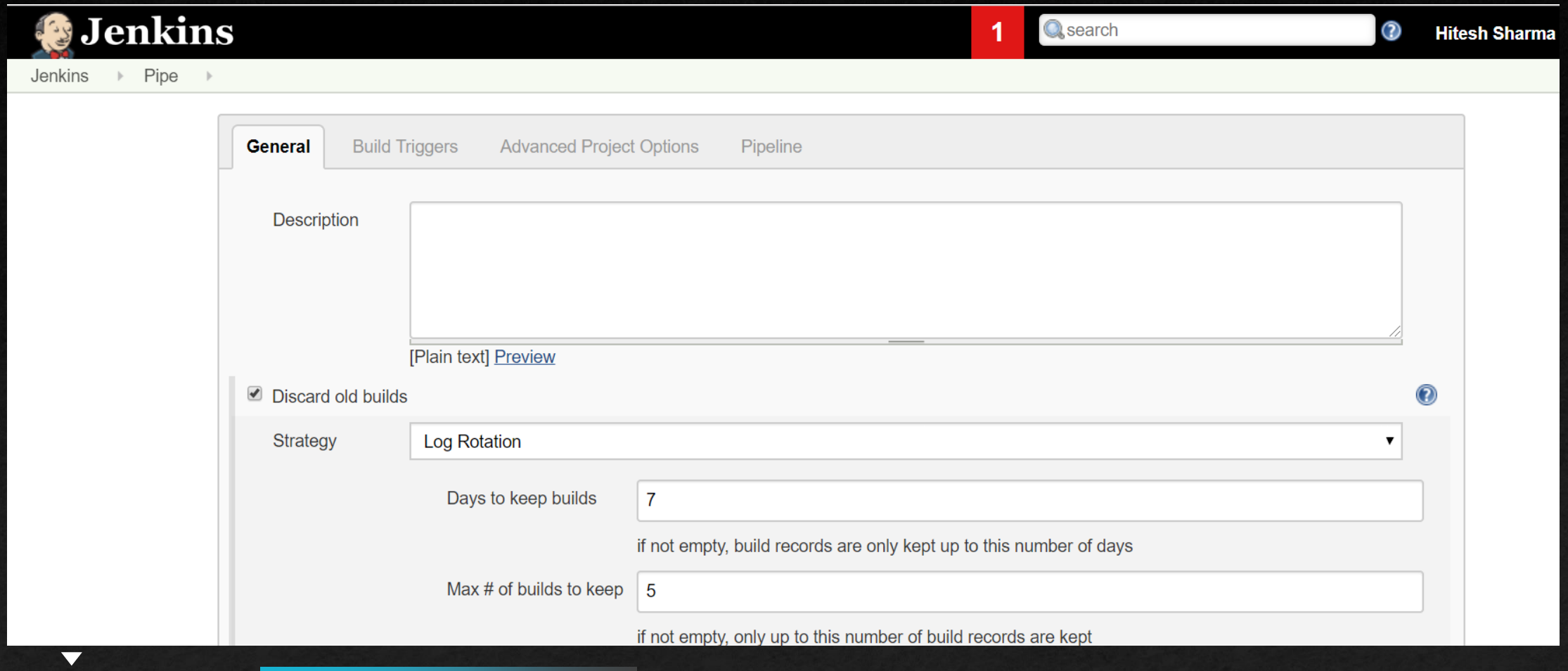
Jenkins Build Job

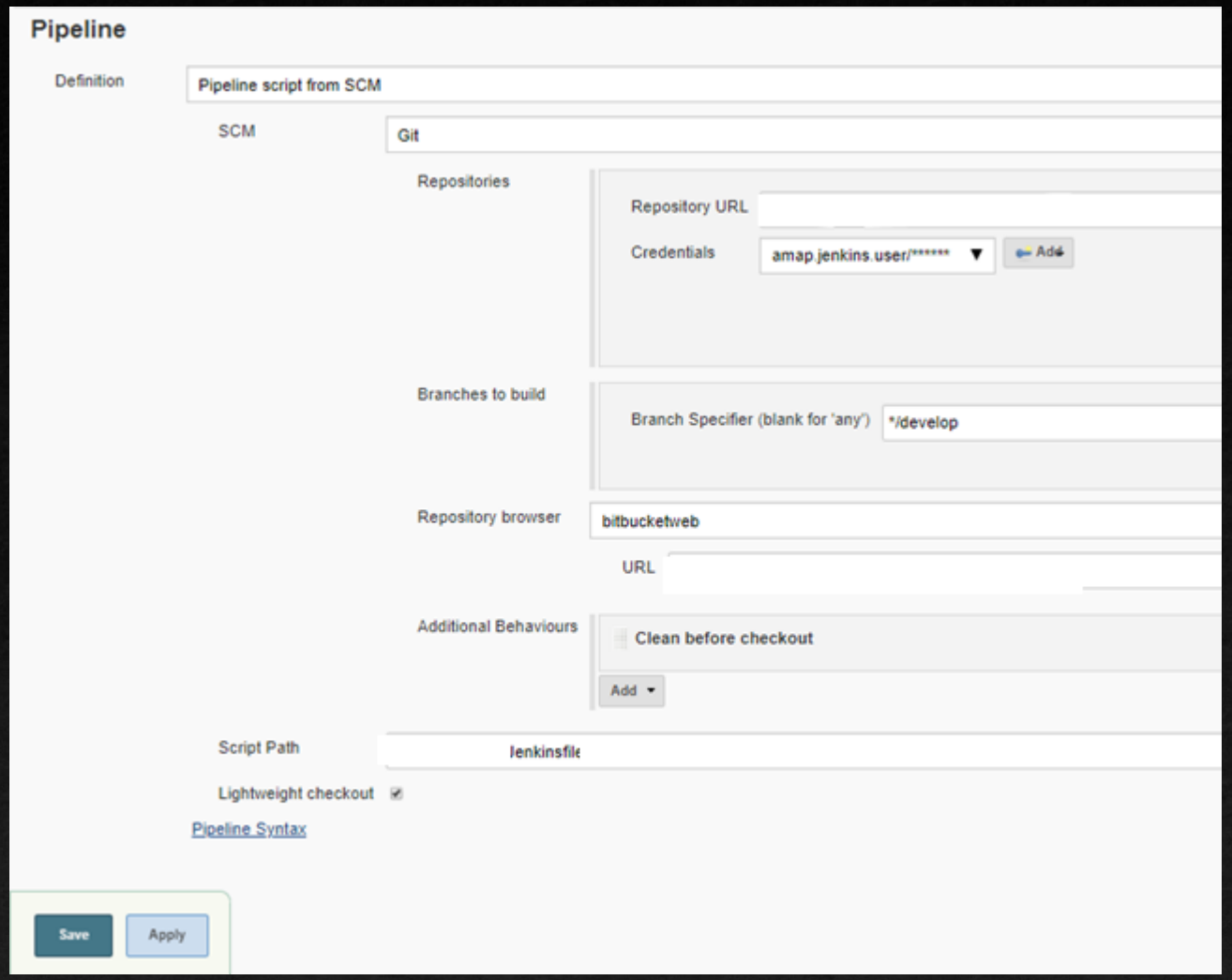


Jenkins Pipeline Creation



Jenkins Pipeline Configuration (1)

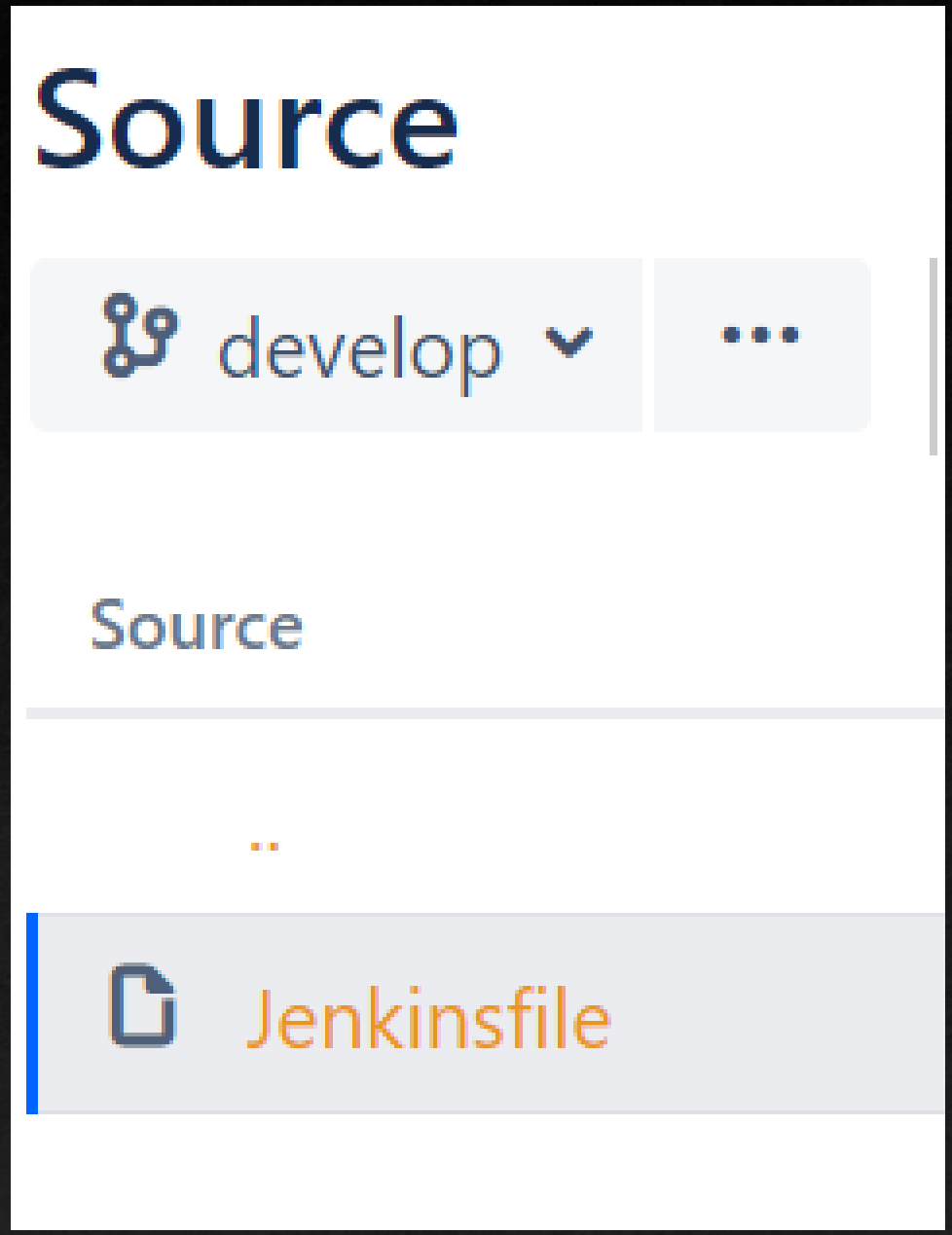




Jenkins Pipeline Configuration (2)

- Declarative
- Scripted

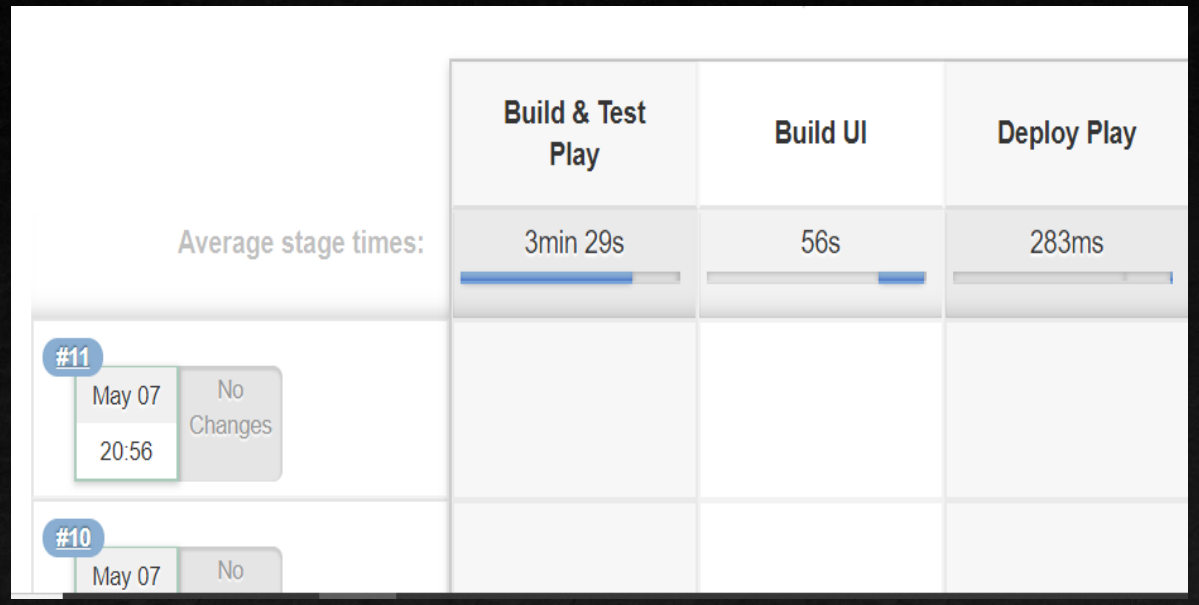
Bitbucket Representation of Jenkinsfile



Pipeline Script

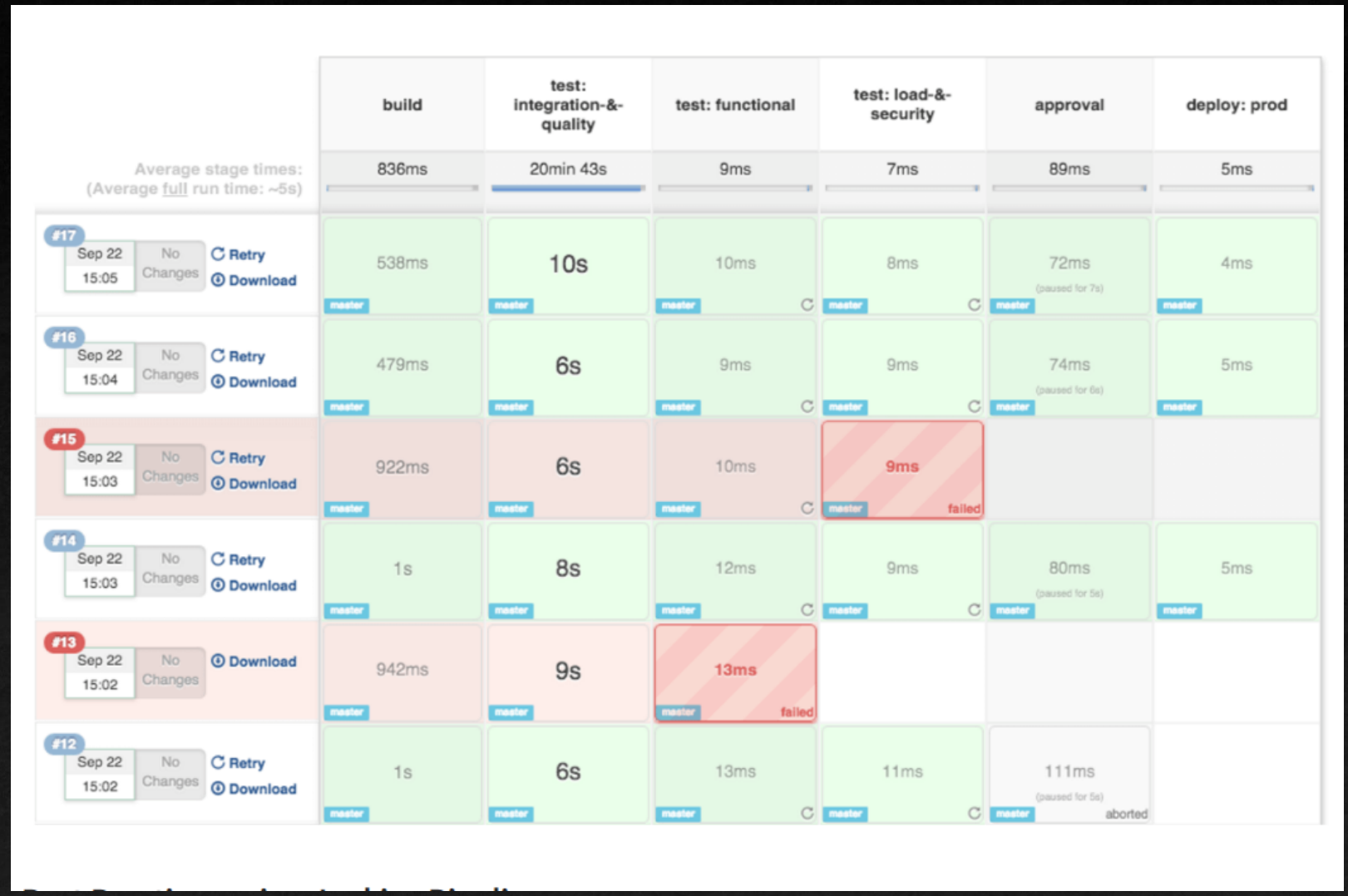
```
pipeline {
   agent any
stages  {
       stage ('Build & Test SBT ') {
                                        steps {
                                                echo 'Hello, Maven'
                                                //Rest of your groovy code… } }
       stage('Example Test') {
                        agent {
                                docker 'openjdk:8-jre' }
                                        steps {
                                                echo 'Hello, JDK' sh 'java -version' }
                                }
                        }
                }
```

Pipeline in Action



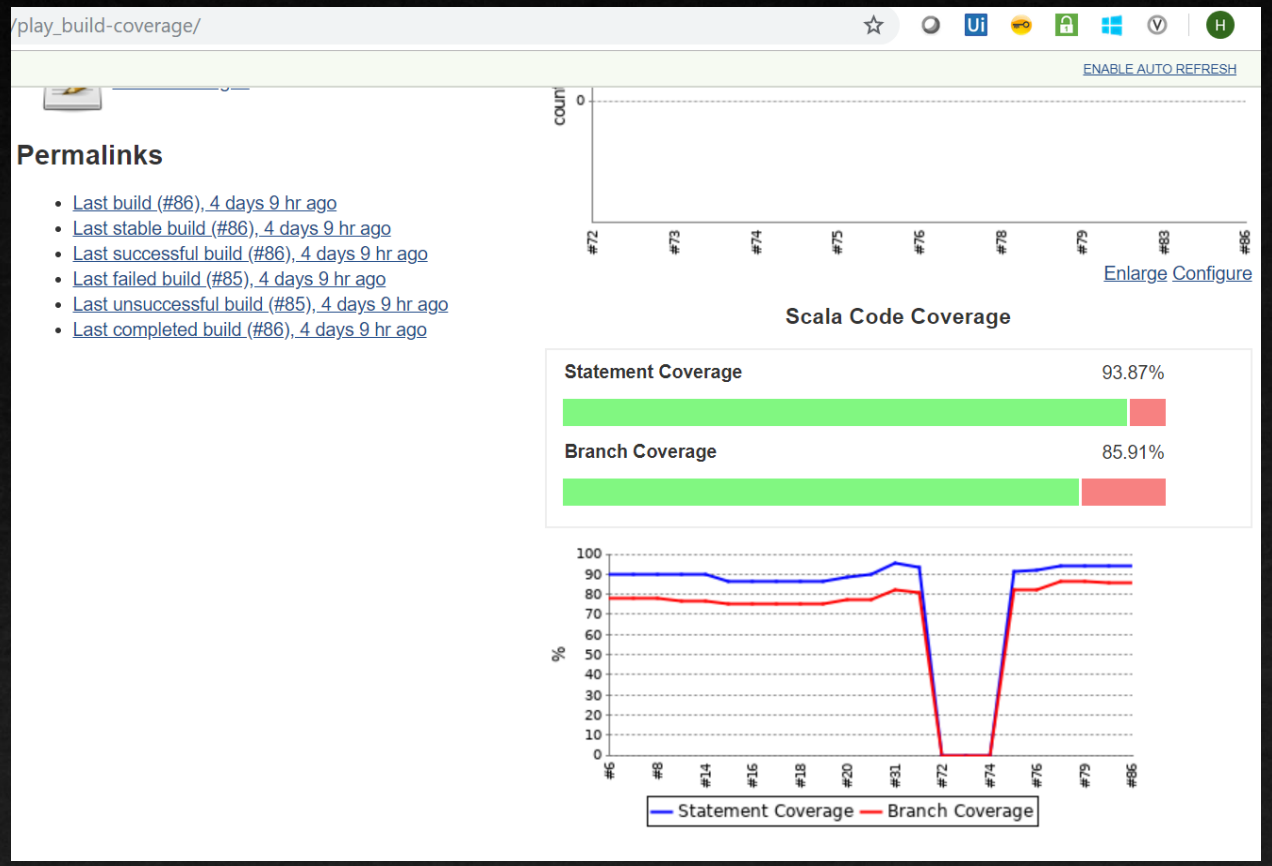
1. *Testing and building SBT Play code*
2. *Generate Coverage Report (Running Unit Tests)*
3. *Building UI Code*
4. *Backup of existing working code*
5. *Validation checks before deployment/ Working on prerequisites*
6. *Deploying stage for sbt code*
7. *Deployment of UI code*

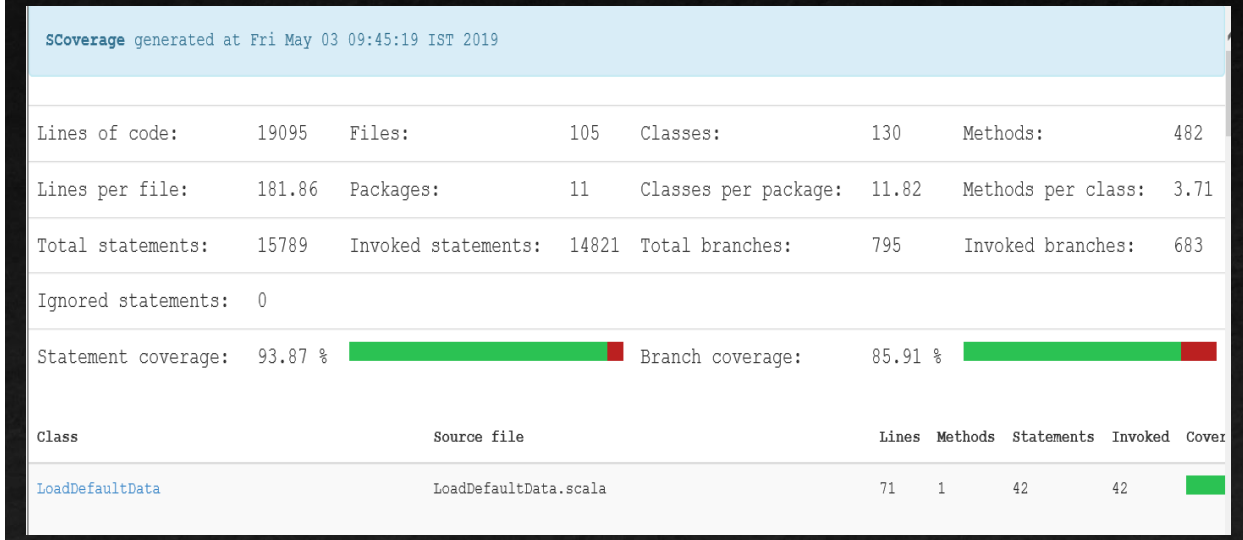
Jenkins Pipeline



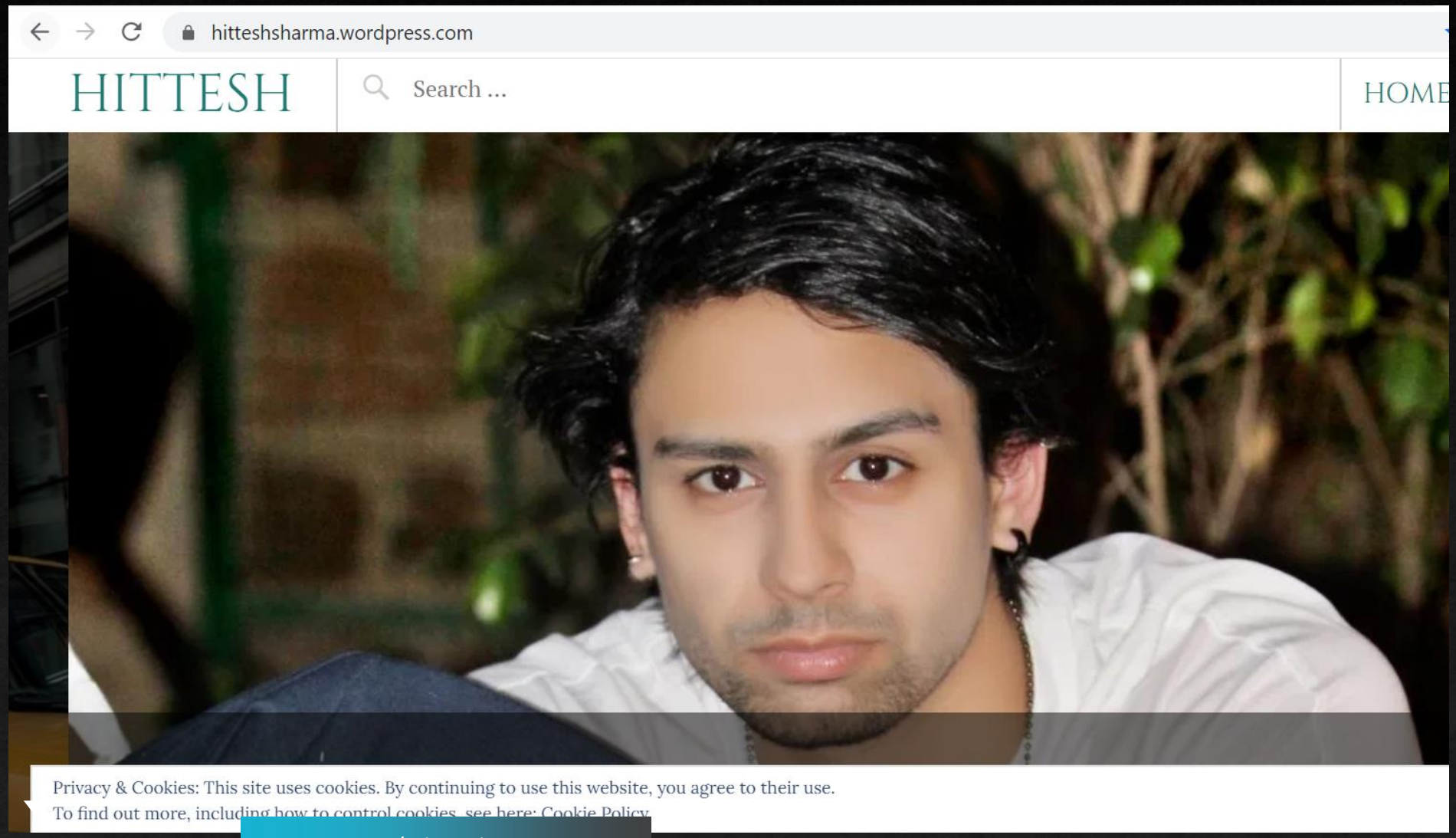
	build	test: integration-&-quality	test: functional	test: load-&-security	approval	deploy: prod
Average stage times: (Average full run time: ~5s)	836ms	20min 43s	9ms	7ms	89ms	5ms
#17 Sep 22 15:05 — No Changes — Retry — Download	538ms	10s	10ms	8ms	72ms (paused for 7s)	4ms
#16 Sep 22 15:04 — No Changes — Retry — Download	479ms	6s	9ms	9ms	74ms (paused for 6s)	5ms
#15 Sep 22 15:03 — No Changes — Retry — Download	922ms	6s	10ms	9ms failed		
#14 Sep 22 15:03 — No Changes — Retry — Download	1s	8s	12ms	9ms	80ms (paused for 5s)	5ms
#13 Sep 22 15:02 — No Changes — Download	942ms	9s	13ms failed			
#12 Sep 22 15:02 — No Changes — Retry — Download	1s	6s	13ms	11ms	111ms (paused for 5s) aborted	

Code Coverage Report





Website Deployed (CD)



Take-Home Message

Map.

Talk more with the industry experts in DevOps to get which technology is actually required in IT industry and set your goals accordingly.

Road.

A basic scripting language is must to start with. Don't know were to start just pick up a basic shell scripting (for Linux) or powershell (for MS). These helps to build up understanding of automation.

Mountain.

Once leaned a scripting language and have an overall understanding of concepts, jump to more fancy languages like **golang, yaml** or something just hot enough. Now, your ground is open for experimenting with technologies like K8s, Ansible etc. and **land your dream job**.

Summary

- Pipelines can be implemented using different CI tools like Jenkins, Bamboo, GitLab CI being the famous onces.
- Pipeline explained in the presentation is an example, different languages and tools can be used to implement different types of pipelines depending upon the organization needs.
- To start working as a DevOps Engineer talk to industry experts and choose the right tool that is widely used in companies and interests you the most.

Graphics Courtesy

- https://xebialabs.com/wp-content/uploads/files/infographics/periodic-table-of-devops-tools-v3-1.pdf