

DevOps Project

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Task :

- 1) Create a CI/CD Pipeline to Build, Test and Deploy a Website on a testing server then on production servers for a custom webpage.
- 2) After deploying the web page now I created a monitor service on both the servers to monitor the web server whether they are running or not.

Used Tools : Jenkins, Git & GitHub, Docker, Kubernetes, Selenium, Nagios, Apache Server and for Infrastructure AWS Cloud.

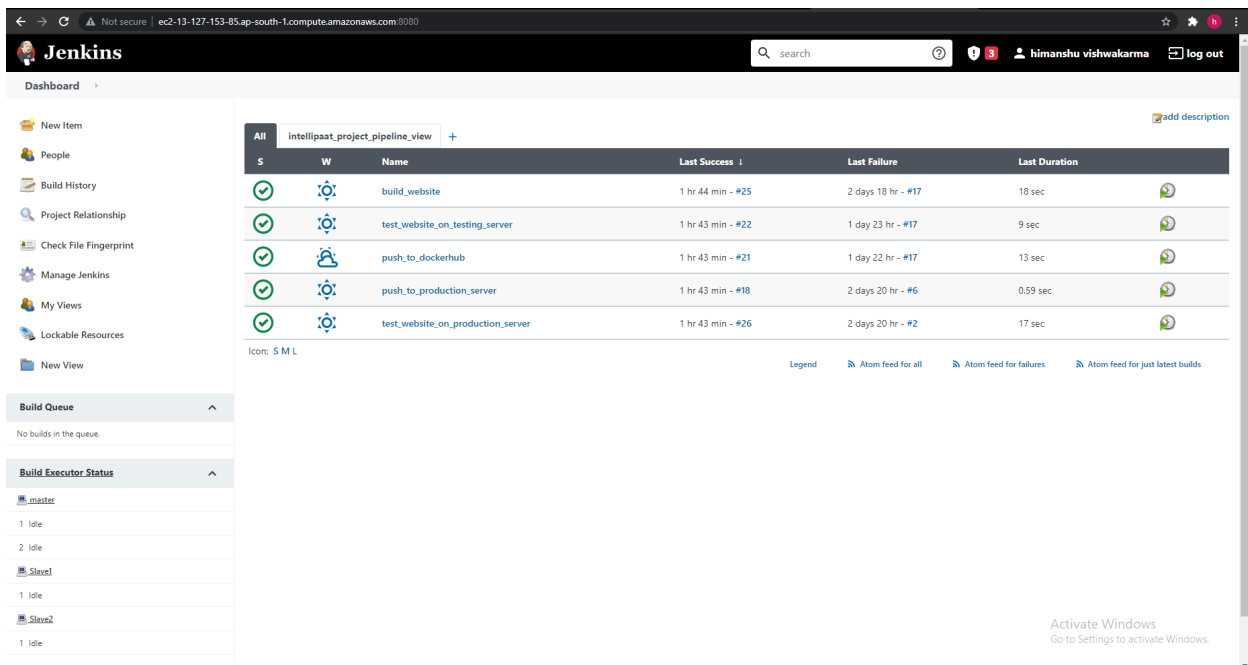
DevOps Project

Explanation of my Project 2 Solution :

1st I create 4 Servers =

- 1) Server 1 - (Jenkins, Ansible, Nagios) Masters
- 2) Server 2 - (Jenkins, Ansible, Nagios) Slave & Docker.
- 3) Server 3 - (Jenkins, Ansible, Nagios) Slave, Kubernetes Master & Docker.
- 4) Server 4 - Nagios Slave, Kubernetes Worker & Docker.

2nd I created Jenkins Pipeline with these Jobs :



The screenshot displays the Jenkins Dashboard for a user named himanshu vishwakarma. The main section shows a pipeline named 'intellipaas_project_pipeline_view' with five jobs. Each job has a status icon (green checkmark for success), a build icon, a name, and columns for 'Last Success', 'Last Failure', and 'Last Duration'. The jobs are: 'build_website' (1 hr 44 min - #25, 18 sec), 'test_website_on_testing_server' (1 hr 43 min - #22, 9 sec), 'push_to_dockerhub' (1 hr 43 min - #21, 13 sec), 'push_to_production_server' (1 hr 43 min - #18, 0.59 sec), and 'test_website_on_production_server' (1 hr 43 min - #26, 17 sec). The 'Build Queue' section shows 'No builds in the queue.' The 'Build Executor Status' section shows the status of the master and three slaves (Slave1, Slave2) as 'Idle'.

S	W	Name	Last Success	Last Failure	Last Duration
✓	🔧	build_website	1 hr 44 min - #25	2 days 18 hr - #17	18 sec
✓	🔧	test_website_on_testing_server	1 hr 43 min - #22	1 day 23 hr - #17	9 sec
✓	🔧	push_to_dockerhub	1 hr 43 min - #21	1 day 22 hr - #17	13 sec
✓	🔧	push_to_production_server	1 hr 43 min - #18	2 days 20 hr - #6	0.59 sec
✓	🔧	test_website_on_production_server	1 hr 43 min - #26	2 days 20 hr - #2	17 sec

Where Jobs Configurations and there Logs are as :

DevOps Project

1) build_website =

The image displays two screenshots of the Jenkins configuration page for a job named 'build_website'. The browser address bar shows the URL: `ec2-13-127-153-85.ap-south-1.compute.amazonaws.com:8080/job/build_website/configure`.

Top Screenshot: General and Source Code Management tabs

- General tab:** Includes options for 'Throttle builds', 'Disable this project', 'Execute concurrent builds if necessary', and 'Restrict where this project can be run' (checked). The 'Label Expression' is set to 'Slave1'. A note states: 'Label Slave1 matches 1 node. Permissions or other restrictions provided by plugins may further reduce that list.'
- Source Code Management tab:** The 'Git' option is selected. The 'Repository URL' is `https://github.com/Himanshu369/website.git`. The 'Credentials' dropdown is set to 'none'. The 'Branches to build' section has a 'Branch Specifier (blank for 'any')' set to `*/master`.


Bottom Screenshot: Build and Post-build Actions tabs





- Build tab:** The 'Execute shell' step is configured with the following command:

```
docker rm -f $(docker ps -a -q)
docker rmi -f $(docker images -q)
docker build -t himanshu369/project2 .
docker run -itd -p 80:80 himanshu369/project2
```
- Post-build Actions tab:** The 'Build other projects' section is configured to build the project `test_website_on_testing_server`. The trigger is set to 'Trigger only if build is stable'.

Both screenshots show 'Save' and 'Apply' buttons at the bottom of the configuration panel.

DevOps Project


 **Jenkins**


   himanshu vishwakarma  log out


Dashboard


build_website


#25


 Back to Project


 Status


 Changes


 Console Output


 View as plain text

 Edit Build Information

 Delete build '#25'

 Polling Log

 Git Build Data

 Previous Build

Timestamps


[View as plain text](#)

☒ System clock time

☒ Use browser timezone

☐ Elapsed time

☐ None

 **Console Output**

11:14:15 Started by GitHub push by Himanshu369

11:14:15 Running as SYSTEM

11:14:15 Building remotely on **Slave1** in workspace /home/ubuntu/jenkins/workspace/build_website

11:14:15 [WS-CLEANUP] Deleting project workspace...

11:14:15 [WS-CLEANUP] Deferred wipeout is used...

11:14:15 [WS-CLEANUP] Done

11:14:15 The recommended git tool is: NONE

11:14:15 No credentials specified

11:14:15 Cloning the remote Git repository

11:14:15 Cloning repository <https://github.com/Himanshu369/website.git>

11:14:15 > git init /home/ubuntu/jenkins/workspace/build_website # timeout=10

11:14:15 > git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10

11:14:15 Fetching upstream changes from <https://github.com/Himanshu369/website.git>

11:14:15 > git --version # timeout=10

11:14:15 > git --version # 'git version 2.25.1'

11:14:15 > git fetch --tags --force --progress -- <https://github.com/Himanshu369/website.git> +refs/heads/*:refs/remotes/origin/* # timeout=10

11:14:16 > git config remote.origin.url <https://github.com/Himanshu369/website.git> # timeout=10

11:14:16 > git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10

11:14:16 Avoid second fetch

11:14:16 > git rev-parse refs/remotes/origin/master^(commit) # timeout=10

11:14:16 Checking out Revision 9cd7950155f4dbce3edf9c128f5b31f26c77ebf3 (refs/remotes/origin/master)

11:14:16 > git config core.sparsecheckout # timeout=10

11:14:16 > git checkout -f 9cd7950155f4dbce3edf9c128f5b31f26c77ebf3 # timeout=10

11:14:16 Commit message: "Update index.html"

11:14:16 > git rev-list --no-walk 600fe4f3a3e70474943bfbaed1d77bb491706c9b # timeout=10

11:14:16 [build_website] \$ /bin/sh -xe /tmp/jenkins596749048044556662.sh

11:14:16 + docker ps -a -q

11:14:16 + docker rm -f aed4755192af

11:14:16 aed4755192af

11:14:16 + docker images -q

11:14:16 + docker rmi -f 4c9e3e3dfcc2 0c9c1f535ed8

11:14:16 Untagged: himanshu369/project2:latest

11:14:16 Untagged: himanshu369/project2@sha256:bf9a81ec024f020e5b25490a798ee17d17499a9de7370c64be3618ab1a2d32f

11:14:16 Deleted: sha256:4c9e3e3dfcc2a80ae03e4fc6fe84fef9ef449ded1b25f95c827f3b48d4b0f889

11:14:16 Deleted: sha256:92be93811e44807a558e058c8f307c922715e1bf08ee2eff936a906200d23b8d

11:14:16 Deleted: sha256:0e6ba14e1f1894c631d0f9dbfae1dd1938486ba0e2bbcb0e6576454d9dac2a3

11:14:16 Deleted: sha256:33ef8f9c1b12e48f8814c4e9dd52f4fa93d01f897865af6d797f791f1670ff

11:14:17 Untagged: hshar/webapp:latest

11:14:17 Untagged: hshar/webapp@sha256:3c7cbcab1a26c01418ddc9bc57252b0d0edf31a2dc24e3f066cc1b88e839b

11:14:17 Deleted: sha256:0c1cf3f5e48936ef74f0373dd45d3b1e583c7485d6446061ddec0ffaa0ec0bf

11:14:17 Deleted: sha256:32c10bb484ec021eb7460e08c25402d3fb0ed625c68c30d3d38c6a5deaf25e

11:14:17 + docker build -t himanshu369/project2 .

11:14:17 Sending build context to Docker daemon 406kB

11:14:17 Step 1/3 : FROM hshar/webapp

11:14:20 latest: Pulling from hshar/webapp

11:14:20 a48c500ed24e: Pulling fs layer

11:14:20 1e1de00ff7e1: Pulling fs layer

11:14:20 0330ca45a200: Pulling fs layer

11:14:20 471db38bcfbf: Pulling fs layer

11:14:20 0b4aba487617: Pulling fs layer

11:14:20 c2e32ec79cfd: Pulling fs layer

11:14:20 a18d6ba75273: Pulling fs layer

11:14:20 4c2cc0ff3ce8: Pulling fs layer

11:14:20 471db38bcfbf: Waiting

11:14:20 0b4aba487617: Waiting

11:14:20 c2e32ec79cfd: Waiting

11:14:20 a18d6ba75273: Waiting

11:14:20 4c2cc0ff3ce8: Waiting

11:14:21 1e1de00ff7e1: Verifying Checksum

11:14:21 1e1de00ff7e1: Download complete

11:14:21 0330ca45a200: Verifying Checksum

11:14:21 0330ca45a200: Download complete

11:14:21 a48c500ed24e: Verifying Checksum

11:14:21 a48c500ed24e: Download complete

11:14:22 471db38bcfbf: Verifying Checksum

11:14:22 471db38bcfbf: Download complete

11:14:22 0b4aba487617: Verifying Checksum

11:14:22 0b4aba487617: Download complete

11:14:23 a18d6ba75273: Verifying Checksum

11:14:23 a18d6ba75273: Download complete

11:14:23 4c2cc0ff3ce8: Verifying Checksum

11:14:23 4c2cc0ff3ce8: Download complete

11:14:23 c2e32ec79cfd: Verifying Checksum

11:14:23 c2e32ec79cfd: Download complete

11:14:24 a48c500ed24e: Pull complete

11:14:24 1e1de00ff7e1: Pull complete

11:14:25 0330ca45a200: Pull complete

11:14:25 471db38bcfbf: Pull complete

11:14:25 0b4aba487617: Pull complete

11:14:31 c2e32ec79cfd: Pull complete

11:14:31 a18d6ba75273: Pull complete

Dashboard

build_website

#25

11:14:17 Deleted: sha256:3ef9ef910f80b893b662fdd307149933b1ccce214255e8dd9a83394329e82701a0

11:14:17 Deleted: sha256:612521769b8566ae91b66278f13598ebc3155fa8dc31e72decc2ce08f7440f

11:14:17 Deleted: sha256:96fccbf869d3c0ee0fb2e976df356dc5872f6410030fd094bbc5b34a7559cdb

11:14:17 Deleted: sha256:38ffa1479cb9fd81d0d4d057c282a155a4a83bff5d2b507ee9563f996d74272d

11:14:17 Deleted: sha256:cc6967c5525a55626688a773e4fe578321a2e126a3b1df1bc0763cfd1583c50c

11:14:17 Deleted: sha256:2a2d486f02032f5a6cc56290a244512aa07a8fe0124bccc5701f0a778aa947

11:14:17 Deleted: sha256:65bd950ee76a485949a2d3c2e92438ac379348e7b576783669dac6f604f6241b

11:14:17 + docker build -t himanshu369/project2 .

11:14:17 Sending build context to Docker daemon 406kB

11:14:17 Step 1/3 : FROM hshar/webapp

11:14:20 latest: Pulling from hshar/webapp

11:14:20 a48c500ed24e: Pulling fs layer

11:14:20 1e1de00ff7e1: Pulling fs layer

11:14:20 0330ca45a200: Pulling fs layer

11:14:20 471db38bcfbf: Pulling fs layer

11:14:20 0b4aba487617: Pulling fs layer

11:14:20 c2e32ec79cfd: Pulling fs layer

11:14:20 a18d6ba75273: Pulling fs layer

11:14:20 4c2cc0ff3ce8: Pulling fs layer

11:14:20 471db38bcfbf: Waiting

11:14:20 0b4aba487617: Waiting

11:14:20 c2e32ec79cfd: Waiting

11:14:20 a18d6ba75273: Waiting

11:14:20 4c2cc0ff3ce8: Waiting

11:14:21 1e1de00ff7e1: Verifying Checksum

11:14:21 1e1de00ff7e1: Download complete

11:14:21 0330ca45a200: Verifying Checksum

11:14:21 0330ca45a200: Download complete

11:14:21 a48c500ed24e: Verifying Checksum

11:14:21 a48c500ed24e: Download complete

11:14:22 471db38bcfbf: Verifying Checksum

11:14:22 471db38bcfbf: Download complete

11:14:22 0b4aba487617: Verifying Checksum

11:14:22 0b4aba487617: Download complete

11:14:23 a18d6ba75273: Verifying Checksum

11:14:23 a18d6ba75273: Download complete

11:14:23 4c2cc0ff3ce8: Verifying Checksum

11:14:23 4c2cc0ff3ce8: Download complete

11:14:23 c2e32ec79cfd: Verifying Checksum

11:14:23 c2e32ec79cfd: Download complete

11:14:24 a48c500ed24e: Pull complete

11:14:24 1e1de00ff7e1: Pull complete

11:14:25 0330ca45a200: Pull complete

11:14:25 471db38bcfbf: Pull complete

11:14:25 0b4aba487617: Pull complete

11:14:31 c2e32ec79cfd: Pull complete

11:14:31 a18d6ba75273: Pull complete

Activate Windows

Go to Settings to activate Windows.

Activate Windows
Go to Settings to activate Windows.

Activate Windows
Go to Settings to activate Windows.

```
11:14:24 1e1de0ff7e1: Pull complete
11:14:25 0338ca45a200: Pull complete
11:14:25 471db38b7bf9: Pull complete
11:14:25 0b4ab8a87637: Pull complete
11:14:31 c2e32ec79cfd: Pull complete
11:14:31 a18d6ba75273: Pull complete
11:14:31 4c2c0ff3cae8: Pull complete
11:14:31 Digest: sha256:3c7c8cab1a26c01410dccc9c8c7252b50d9ed2f31a2dc24e3f0666c1b88e839b
11:14:31 Status: Downloaded newer image for hshar/uebapp:latest
11:14:31 ----> @c9c1f535ed8
11:14:31 Step 2/3 : ADD . /var/www/html/
11:14:31 ----> 1877de0d2e3f
11:14:31 Step 3/3 : RUN chmod 755 /var/www/html -R
11:14:32 ----> Running in 5e3cb8e309a1
11:14:33 Removing intermediate container 5e3cb8e309a1
11:14:33 ----> 640b82722e79
11:14:33 Successfully built 640b82722e79
11:14:33 Successfully tagged himanshu369/project2:latest
11:14:33 + docker run -itd -p 8080 himanshu369/project2
11:14:33 fd95bfce73e1caf85500f3bd093cd78e8384cf18c063c72257c2e0b5e9bdc037
11:14:33 Triggering a new build of test\_website\_on\_testing\_server
11:14:33 Finished: SUCCESS
```

DevOps Project

2) test_website_on_testing_server =

☒ Restrict where this project can be run ?

Label Expression ?

Slave1

Label **Slave1** matches 1 node. Permissions or other restrictions provided by plugins may further reduce that list.

Advanced...

Build

Execute shell X ?

Command

java -jar /home/ubuntu/Selenium/project2.jar

See [the list of available environment variables](#)

Advanced...

Add build step ▾

Post-build Actions

Build other projects X ?

Projects to build

push_to_dockerhub

☒ Trigger only if build is stable

☐ Trigger even if the build is unstable

☐ Trigger even if the build fails

Add post-build action ▾

Jenkins

search ?

! 3 himanshu vishwakarma log out

Dashboard > test_website_on_testing_server > #22

Back to Project

Status

Changes

Console Output

View as plain text

Edit Build Information

Delete build '#22'

Previous Build

Console Output

Started by upstream project "build_website" build number 25
originally caused by:
Started by GitHub push by Himanshu369
Running as SYSTEM
Building remotely on Slave1 in workspace /home/ubuntu/jenkins/workspace/test_website_on_testing_server
[test_website_on_testing_server] \$ /bin/sh -xe /tmp/jenkins14618486855798599781.sh
+ java -jar /home/ubuntu/Selenium/project2.jar
Starting ChromeDriver 91.0.4472.101 (af52a90bf87030dd1523486a1cd3ae25c5d76c9b-refs/branch-heads/4472@{#1462}) on port 32219
Only local connections are allowed.
Please see <https://chromedriver.chromium.org/security-considerations> for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
Jun 26, 2021 11:14:43 AM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
IntelliJpat
Triggering a new build of push_to_dockerhub
Finished: SUCCESS

DevOps Project

3) push_to_dockerhub

☒ Restrict where this project can be run ?

Label Expression ?

Slave1

Label **Slave1** matches 1 node. Permissions or other restrictions provided by plugins may further reduce that list.

Advanced...

Build

Execute shell X ?

Command

docker push himanshu369/project2

See [the list of available environment variables](#)

Advanced...

Add build step ▾

Post-build Actions

Build other projects X ?

Projects to build

push_to_production_server


☒ Trigger only if build is stable





☐ Trigger even if the build is unstable

☐ Trigger even if the build fails


Add post-build action ▾


DevOps Project


 Jenkins


   himanshu vishwakarma  log out


Dashboard > push_to_dockerhub > #21


 Back to Project


 Status


 Changes


 Console Output

 View as plain text

 Edit Build Information

 Delete build '#21'

 Previous Build

 Console Output

Started by upstream project "test_website_on_testing_server" build number 22
originally caused by:
Started by upstream project "build_website" build number 25
originally caused by:
Started by GitHub push by Himanshu369
Running as SYSTEM

Building remotely on Slave1 in workspace /home/ubuntu/jenkins/workspace/push_to_dockerhub
[push_to_dockerhub] \$ /bin/sh -xe /tmp/jenkins4676408343305762383.sh
+ docker push himanshu369/project2
Using default tag: latest
The push refers to repository [docker.io/himanshu369/project2]
cc5f2234f6cf: Preparing
0b0d33b67f41: Preparing
f9445cd087ab: Preparing
3e59a52a52d1: Preparing
754d8c63561b: Preparing
059ad60bcacf: Preparing
8db5f072feec: Preparing
67885e448177: Preparing
ec75999a0cb1: Preparing
65bdd50ee76a: Preparing
059ad60bcacf: Waiting
8db5f072feec: Waiting
67885e448177: Waiting
ec75999a0cb1: Waiting
65bdd50ee76a: Waiting
3e59a52a52d1: Layer already exists
f9445cd087ab: Layer already exists
754d8c63561b: Layer already exists
8db5f072feec: Layer already exists
67885e448177: Layer already exists
059ad60bcacf: Layer already exists
ec75999a0cb1: Layer already exists
65bdd50ee76a: Layer already exists
b0d33b67f41: Pushed
cc5f2234f6cf: Pushed
latest: digest: sha256:91451519d1d3d063ddfaa61ce5ba38085373fa3de14172298ddfea6597f80c06 size: 2405
Triggering a new build of [push_to_production_server](#)
Finished: SUCCESS

Activate Windows
Go to Settings to activate Windows.

DevOps Project

4) push_to_production_server =

☒ Restrict where this project can be run ?

Label Expression ?

Slave2

Label **Slave2** matches 1 node. Permissions or other restrictions provided by plugins may further reduce that list.

Advanced...

Build

Execute shell X ?

Command

kubectl delete -f /home/ubuntu/deploy.yaml
kubectl apply -f /home/ubuntu/deploy.yaml

See [the list of available environment variables](#)

Advanced...

Add build step ▾

Post-build Actions

Build other projects X ?

Projects to build

test_website_on_production_server

☒ Trigger only if build is stable

☐ Trigger even if the build is unstable

☐ Trigger even if the build fails

Add post-build action ▾

Jenkins

search ?

1 3

himanshu vishwakarma

log out

Dashboard > push_to_production_server > #18

Back to Project

Status

Changes

Console Output

View as plain text

Edit Build Information

Delete build '#18'

Previous Build

Console Output

Started by upstream project "push_to_dockerhub" build number 21
originally caused by:
Started by upstream project "test_website_on_testing_server" build number 22
originally caused by:
Started by upstream project "build_website" build number 25
originally caused by:
Started by GitHub push by Himanshu369
Running as SYSTEM
Building remotely on Slave2 in workspace /home/ubuntu/jenkins/workspace/push_to_production_server
[push_to_production_server] \$ /bin/sh -xe /tmp/jenkins6575024748970990497.sh
+ kubectl delete -f /home/ubuntu/deploy.yaml
deployment.apps "project2-deployment" deleted
+ kubectl apply -f /home/ubuntu/deploy.yaml
deployment.apps/project2-deployment created
Triggering a new build of test_website_on_production_server
Finished: SUCCESS

DevOps Project

5) test_website_on_production_server =

☒ Restrict where this project can be run ?

Label Expression ?

Slave2

Label **Slave2** matches 1 node. Permissions or other restrictions provided by plugins may further reduce that list.

Advanced...

Build

Execute shell X ?

Command

java -jar /home/ubuntu/Selenium/project2k8s.jar

See [the list of available environment variables](#)

Advanced...

Add build step ▾

Post-build Actions

Add post-build action ▾

Save

Apply

Jenkins

search ? 3 himanshu vishwakarma log out

Dashboard > test_website_on_production_server > #26

Back to Project

Status

Changes

Console Output

View as plain text

Edit Build Information

Delete build '#26'

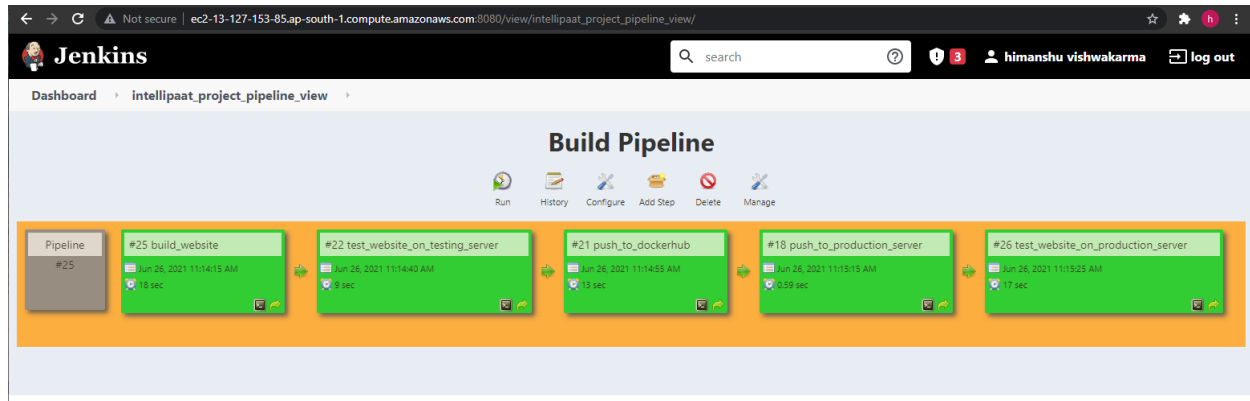
Previous Build

Console Output

```
Started by upstream project "push_to_production_server" build number 18
originally caused by:
  Started by upstream project "push_to_dockerhub" build number 21
originally caused by:
  Started by upstream project "test_website_on_testing_server" build number 22
originally caused by:
  Started by upstream project "build_website" build number 25
originally caused by:
  Started by Github push by Himanshu369
Running as SYSTEM
Building remotely on Slave2 in workspace /home/ubuntu/jenkins/workspace/test_website_on_production_server
[test_website_on_production_server] $ /bin/sh -xe /tmp/jenkins17342544407508401772.sh
+ java -jar /home/ubuntu/Selenium/project2k8s.jar
Starting ChromeDriver 91.0.4472.101 (af52a90bf878930dd1523486a1cd3ae25c5d76c9b-refs/branch-heads/4472@{#1462}) on port 4525
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
Jun 26, 2021 11:15:26 AM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
IntelliJpat
Finished: SUCCESS
```

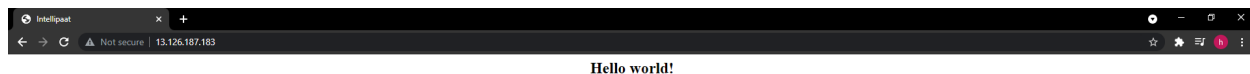
DevOps Project

Jenkins Pipeline View of Project 2 =



Jenkins Pipeline results :

1) Accessing the WebPage on Testing Server =



GitHub

Activate Windows
Go to Settings to activate Windows.

DevOps Project

2) Accessing the WebPage on Production Server =



GitHub

Activate Windows
Go to Settings to activate Windows.



DevOps Project

3rd Kubernetes configurations files :

1) Deployment k8s file and content =

```
root@ip-172-31-39-210:/home/ubuntu# cat deploy.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: project2-deployment
  labels:
    app: project2
spec:
  replicas: 2
  selector:
    matchLabels:
      app: project2
  template:
    metadata:
      labels:
        app: project2
    spec:
      containers:
      - name: project2
        image: himanshu369/project2
        ports:
        - containerPort: 80
root@ip-172-31-39-210:/home/ubuntu# |
```

```
root@ip-172-31-39-210:/home/ubuntu# kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
project2-deployment-54c4d86c66-cr76f 1/1     Running   0           24m
project2-deployment-54c4d86c66-d2zvl 1/1     Running   0           24m
root@ip-172-31-39-210:/home/ubuntu# |
```

2) I have configured a NodePort service with tcp 80:80 ports =

```
root@ip-172-31-39-210:/home/ubuntu# kubectl get svc
NAME         TYPE        CLUSTER-IP    EXTERNAL-IP  PORT(S)          AGE
kubernetes   ClusterIP   10.96.0.1     <none>       443/TCP          2d20h
project2     NodePort    10.103.178.179 <none>       80:31720/TCP     44h
root@ip-172-31-39-210:/home/ubuntu# |
```

DevOps Project

3) Kubernetes Nodes =

```
root@ip-172-31-39-210:/home/ubuntu# kubectl get nodes
NAME                                STATUS    ROLES                                AGE      VERSION
ip-172-31-39-210                    Ready     control-plane,master                2d20h    v1.21.2
ip-172-31-8-231                    Ready     <none>                              2d20h    v1.21.2
root@ip-172-31-39-210:/home/ubuntu#
```

4) Kubernetes Dashboard and Monitoring created Deployment =

The screenshot shows the Kubernetes Dashboard interface. The left sidebar contains a navigation menu with categories: Workloads, Service, Config and Storage, Cluster, and Nodes. The main content area is titled 'Workload Status' and features three large green circular indicators for Deployments, Pods, and Replica Sets. Below this, there is a 'Deployments' table with columns: Name, Namespace, Labels, Pods, Created, and Images. The table lists a deployment named 'project2-deployment' in the 'default' namespace with label 'app: project2', showing 2/2 pods and created 43 minutes ago. Below the Deployments table, there are expandable sections for 'Pods' (Items: 2) and 'Replica Sets' (Items: 1). At the bottom right, there is a message: 'Activate Windows Go to Settings to activate Windows.'

This screenshot is a closer view of the 'Deployments' table from the dashboard. It shows a single entry: 'project2-deployment' in the 'default' namespace with the label 'app: project2'. The 'Pods' column indicates '2 / 2' and the 'Created' column shows '45 minutes ago'. The 'Images' column lists 'himanshu369/project2'.

This screenshot shows the 'Services' table in the dashboard. It has columns: Name, Namespace, Labels, Type, Cluster IP, Internal Endpoints, External Endpoints, and Created. There are two entries: 'project2' (NodePort type, Cluster IP 10.103.178.179, created a day ago) and 'kubernetes' (ClusterIP type, Cluster IP 10.96.0.1, created 2 days ago).

DevOps Project

4th Ansible configurations :

1) Ansible Slave 1 and Slave 2 =

```
root@ip-172-31-43-131:/home/ubuntu# ansible -m ping all
[DEPRECATION WARNING]: Distribution Ubuntu 20.04 on host test_server should use /usr/bin/python3, but
is using /usr/bin/python for backward compatibility with prior Ansible releases. A future Ansible
release will default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more
information. This feature will be removed in version 2.12. Deprecation warnings can be disabled by
setting deprecation_warnings=False in ansible.cfg.
test_server | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python"
  },
  "changed": false,
  "ping": "pong"
}
[DEPRECATION WARNING]: Distribution Ubuntu 20.04 on host prod_server should use /usr/bin/python3, but
is using /usr/bin/python for backward compatibility with prior Ansible releases. A future Ansible
release will default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more
information. This feature will be removed in version 2.12. Deprecation warnings can be disabled by
setting deprecation_warnings=False in ansible.cfg.
prod_server | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python"
  },
  "changed": false,
  "ping": "pong"
}
```

2) Ansible role and content of their files =

```
root@ip-172-31-43-131:/etc/ansible/roles# ls
configfile
root@ip-172-31-43-131:/etc/ansible/roles# |
```

```
root@ip-172-31-43-131:/etc/ansible/roles/configfile/tasks# ls
configure.yml  main.yml
root@ip-172-31-43-131:/etc/ansible/roles/configfile/tasks# cat main.yml
---
# tasks file for configfile
- include: configure.yml
root@ip-172-31-43-131:/etc/ansible/roles/configfile/tasks# cat configure.yml
---
- name: server.config file
  copy: src=config.txt dest=/home/ubuntu/
root@ip-172-31-43-131:/etc/ansible/roles/configfile/tasks# |
```

DevOps Project

```
root@ip-172-31-43-131:/etc/ansible/roles/configfile/files# cat config.txt
This is the configuration file for Production and Testing Servers.
root@ip-172-31-43-131:/etc/ansible/roles/configfile/files# |
```

```
root@ip-172-31-43-131:/etc/ansible# ls
ansible.cfg  hosts  playbook.yaml  roles
root@ip-172-31-43-131:/etc/ansible# cat playbook.yaml
---
- hosts: group
  roles:
    - configfile
root@ip-172-31-43-131:/etc/ansible# |
```

- 3) After running the “ansible-playbook playbook.yaml” command on Ansible Master then the results on Ansible Slaves =

Slave 1

```
root@ip-172-31-12-142:/home/ubuntu# cat config.txt
This is the configuration file for Production and Testing Servers.
```

Slave 2

```
root@ip-172-31-39-210:/home/ubuntu# cat config.txt
This is the configuration file for Production and Testing Servers.
root@ip-172-31-39-210:/home/ubuntu# |
```

DevOps Project

5th Nagios Configurations :

```
root@ip-172-31-43-131:/usr/local/nagios/etc/objects# ls
commands.cfg  localhost.cfg  printer.cfg  slave2.cfg  templates.cfg  windows.cfg
contacts.cfg  nano.save     slave1.cfg  switch.cfg  timeperiods.cfg
root@ip-172-31-43-131:/usr/local/nagios/etc/objects# |
```

1) Content of slave1.cfg file

```
GNU nano 4.8 slave1.cfg
define host {

    use                linux-server
    host_name          slave1
    alias               linuxhost
    address             13.126.187.183
}

define service {

    use                generic-service
    host_name          slave1
    service_description HTTP
    check_command       check_http
    notifications_enabled 1
    check_interval      1
    contacts            Himanshu
    notification_interval 1
    notification_period 24x7
}
```

2) Content of slave2.cfg file

```
GNU nano 4.8 slave2.cfg
define host {

    use                linux-server
    host_name          slave2
    alias               linuxhost
    address             65.0.91.252
}

define service {

    use                generic-service
    host_name          slave2
    service_description HTTP
    check_command       check_http_slave2
    notifications_enabled 1
    check_interval      1
    _port_number        31720
    contacts            Himanshu
    notification_interval 1
    notification_period 24x7
}
```

DevOps Project

3) Content of edited commands.cfg file

```
GNU nano 4.8                                commands.cfg

define command {

    command_name    check_http_slave2
    command_line     $USER1$/check_http -I $HOSTADDRESS$ -p 31720 $ARG1$
}

define command {

    command_name    check_http
    command_line     $USER1$/check_http -I $HOSTADDRESS$ $ARG1$
}
```

4) Content of contacts.cfg file

```
GNU nano 4.8                                contacts.cfg
#####

# Just one contact defined by default - the Nagios admin (that's you)
# This contact definition inherits a lot of default values from the
# 'generic-contact' template which is defined elsewhere.

define contact {

    contact_name    nagiosadmin                ; Short name of user
    use             generic-contact             ; Inherit default values from generic-contact temp
    alias           Nagios Admin                ; Full name of user
    email           himanshulvishwakarma@gmail.com ; <<***** CHANGE THIS TO YOUR EMAIL >
}

define contact {

    contact_name    Himanshu                    ; Short name of user
    use             generic-contact             ; Inherit default values from generic-contact temp
    alias           Himanshu                    ; Full name of user
    email           himanshulvishwakarma@gmail.com ; <<***** CHANGE THIS TO YOUR EMAIL >
    host_notification_commands    notify-host-by-email
    host_notification_options     d,u,r
    host_notification_period      24x7
    service_notification_commands notify-service-by-email
    service_notification_options  w,u,c,r
    service_notification_period   24x7
}
```

DevOps Project

5) Content of nagios.cfg file

```
GNU nano 4.8 nagios.cfg

# You can specify individual object config files as shown below:
cfg_file=/usr/local/nagios/etc/objects/commands.cfg
cfg_file=/usr/local/nagios/etc/objects/contacts.cfg
cfg_file=/usr/local/nagios/etc/objects/timeperiods.cfg
cfg_file=/usr/local/nagios/etc/objects/templates.cfg

# Definitions for monitoring the local (Linux) host
cfg_file=/usr/local/nagios/etc/objects/localhost.cfg
cfg_file=/usr/local/nagios/etc/objects/slave1.cfg
cfg_file=/usr/local/nagios/etc/objects/slave2.cfg
```

6) Accessing on Nagios Dashboard

The screenshot shows the Nagios web interface. The top navigation bar includes links for General, Current Status, Problems, Reports, and System. The main content area displays 'Host Status Totals' and 'Service Status Totals'. The 'Host Status Totals' section shows a table with columns for Host, Status, Last Check, Duration, and Status Information. The 'Service Status Totals' section shows a table with columns for Service, Status, Last Check, Duration, Attempt, and Status Information.

Host	Status	Last Check	Duration	Status Information
localhost	UP	06-26-2021 12:34:03	3d 1h 25m 9s	PING OK - Packet loss = 0%, RTT = 0.04 ms
slave1	UP	06-26-2021 12:30:02	1d 22h 0m 47s	PING OK - Packet loss = 0%, RTT = 0.92 ms
slave2	UP	06-26-2021 12:32:12	0d 0h 7m 12s	PING OK - Packet loss = 0%, RTT = 0.90 ms

The screenshot shows the Nagios web interface. The top navigation bar includes links for General, Current Status, Problems, Reports, and System. The main content area displays 'Service Status Details For All Hosts'. The 'Service Status Details' section shows a table with columns for Host, Service, Status, Last Check, Duration, Attempt, and Status Information.

Host	Service	Status	Last Check	Duration	Attempt	Status Information
localhost	Current Load	OK	06-26-2021 12:35:17	3d 1h 24m 47s	1/4	OK - load average: 0.07, 0.02, 0.00
localhost	Current Users	OK	06-26-2021 12:36:33	3d 1h 25m 9s	1/4	USERS OK - 3 users currently logged in
localhost	HTTP	OK	06-26-2021 12:32:46	1d 21h 35m 41s	1/4	HTTP OK: HTTP/1.1 200 OK - 11152 bytes in 0.000 second response time
localhost	PING	OK	06-26-2021 12:34:02	3d 1h 27m 54s	1/4	PING OK - Packet loss = 0%, RTT = 0.04 ms
localhost	Root Partition	OK	06-26-2021 12:35:42	3d 1h 27m 17s	1/4	DISK OK - free space / 4111 MB (82.30% inode=87%)
localhost	SSH	OK	06-26-2021 12:31:58	3d 1h 26m 39s	1/4	SSH OK - OpenSSH_8.2p1 Ubuntu-4ubuntu0.2 (protocol 2.0)
localhost	Swap Usage	CRITICAL	06-26-2021 12:33:14	3d 1h 23m 2s	4/4	SWAP CRITICAL - 0% free (0 MB out of 0 MB) - Swap is either disabled, not present, or of zero size.
localhost	Total Processes	OK	06-26-2021 12:34:02	3d 1h 25m 24s	1/4	PROCS OK - 47 processes with STATE = RSDOT
slave1	HTTP	OK	06-26-2021 12:36:02	0d 0h 9m 45s	1/3	HTTP OK: HTTP/1.1 200 OK - 455 bytes in 0.002 second response time
slave2	HTTP	OK	06-26-2021 12:36:12	0d 0h 9m 35s	1/3	HTTP OK: HTTP/1.1 200 OK - 455 bytes in 0.003 second response time

DevOps Project

7) After disabling the http service on Testing and Production server and Contact notifications of Nagios.

← → ↻ ⚠ Not secure | ec2-13-127-153-85.ap-south-1.compute.amazonaws.com/nagios/ ☆ 🏠 h ⋮

Nagios®

Current Network Status
Last Update: Sat Jun 26 13:00:06 UTC 2021
Updated every 30 seconds
Nagios® Core™ 4.4.5 - www.nagios.org
Logged in as nagiosadmin

Host Status Totals

Up: 3, Down: 0, Unreachable: 0, Pending: 0

All Problems: 3, All Types: 3

Service Status Totals

OK: 7, Warning: 0, Unknown: 0, Critical: 3, Pending: 0

All Problems: 3, All Types: 18

General

Home
Documentation

Current Status

Tactical Overview
Map (Legacy)
Hosts
Services
Host Groups
Summary
Grid
Service Groups
Summary
Grid
Problems
Services (Unhandled)
Hosts (Unhandled)
Network Outages

Quick Search:

Reports

Availability
Trends (Legacy)
Alerts
History
Summary
Histogram (Legacy)
Notifications
Event Log

System

Comments
Downtime
Process Info
Performance Info
Scheduling Queue
Configuration

Service Status Details For All Hosts

Host	Service	Status	Last Check	Duration	Attempt	Status Information
localhost	Current Load	OK	06-26-2021 12:55:17	3d 1h 48m 6s	1/4	OK - load average: 0.00, 0.00, 0.00
	Current Users	OK	06-26-2021 12:56:33	3d 1h 52m 28s	1/4	USERS OK - 3 users currently logged in
	HTTP	OK	06-26-2021 12:57:48	1d 21h 54m 0s	1/4	HTTP OK: HTTP/1.1 200 OK - 11192 bytes in 0.000 second response time
	PHPG	OK	06-26-2021 12:59:02	3d 1h 51m 13s	1/4	PHPG OK - Packed logs = 0%, RTA = 0.04 ms
	Root Partition	OK	06-26-2021 12:55:42	3d 1h 50m 36s	1/4	DISK OK - free space: / 4111 MB (52.30% inode=47%)
	SSH	OK	06-26-2021 12:56:58	3d 1h 48m 58s	1/4	SSH OK - OpenSSH_8.2p1 Ubuntu-4ubuntu0.2 (protocol 2.0)
	Swap Usage	CRITICAL	06-26-2021 12:56:14	3d 1h 48m 21s	4/4	SWAP CRITICAL - 0% free (0 MB out of 0 MB) - Swap is either disabled, not present, or of zero size.
	Total Processes	OK	06-26-2021 12:59:02	3d 1h 48m 43s	1/4	PROCS OK - 48 processes with STATE = R3207
slave1	HTTP	CRITICAL	06-26-2021 12:59:02	6d 0h 3m 4s	2/3	connect to address 13.126.187.183 and port 80: Connection refused
slave2	HTTP	CRITICAL	06-26-2021 12:58:12	6d 0h 1m 54s	1/3	connect to address 65.0.91.252 and port 31720: Connection refused

Results 1 - 10 of 10 Matching Services

Contact Notifications

Last Update: Sat Jun 26 13:03:17 UTC 2021
Nagios® Core™ 4.4.5 - www.nagios.org
Logged in as nagiosadmin

All Contacts

Log File Navigation

Sat Jun 26 00:00:00 UTC 2021

Latest Archive
←
Present
→

Notification detail level for all contacts:
All notifications
Older Entries First
☐ Update

File: /usr/local/nagios/var/nagios.log

Host	Service	Type	Time	Contact	Notification Command	Information
slave2	HTTP	CRITICAL	06-26-2021 13:03:12	Himanshu	notify-service-by-email	connect to address 65.0.91.252 and port 31720: Connection refused
slave2	HTTP	CRITICAL	06-26-2021 13:03:12	nagiosadmin	notify-service-by-email	connect to address 65.0.91.252 and port 31720: Connection refused
slave1	HTTP	CRITICAL	06-26-2021 13:03:02	Himanshu	notify-service-by-email	connect to address 13.126.187.183 and port 80: Connection refused
slave1	HTTP	CRITICAL	06-26-2021 13:03:02	nagiosadmin	notify-service-by-email	connect to address 13.126.187.183 and port 80: Connection refused
slave2	HTTP	CRITICAL	06-26-2021 13:02:12	Himanshu	notify-service-by-email	connect to address 65.0.91.252 and port 31720: Connection refused
slave2	HTTP	CRITICAL	06-26-2021 13:02:12	nagiosadmin	notify-service-by-email	connect to address 65.0.91.252 and port 31720: Connection refused
slave1	HTTP	CRITICAL	06-26-2021 13:02:02	Himanshu	notify-service-by-email	connect to address 13.126.187.183 and port 80: Connection refused
slave1	HTTP	CRITICAL	06-26-2021 13:02:02	nagiosadmin	notify-service-by-email	connect to address 13.126.187.183 and port 80: Connection refused
slave1	HTTP	CRITICAL	06-26-2021 13:01:02	Himanshu	notify-service-by-email	connect to address 13.126.187.183 and port 80: Connection refused
slave1	HTTP	CRITICAL	06-26-2021 13:01:02	nagiosadmin	notify-service-by-email	connect to address 13.126.187.183 and port 80: Connection refused
slave2	HTTP	OK	06-26-2021 12:54:12	Himanshu	notify-service-by-email	HTTP OK: HTTP/1.1 200 OK - 455 bytes in 0.005 second response time
slave2	HTTP	OK	06-26-2021 12:54:12	nagiosadmin	notify-service-by-email	HTTP OK: HTTP/1.1 200 OK - 455 bytes in 0.005 second response time
slave1	HTTP	OK	06-26-2021 12:54:02	Himanshu	notify-service-by-email	HTTP OK: HTTP/1.1 200 OK - 455 bytes in 0.006 second response time
slave1	HTTP	OK	06-26-2021 12:54:02	nagiosadmin	notify-service-by-email	HTTP OK: HTTP/1.1 200 OK - 455 bytes in 0.006 second response time

DevOps Project

8) After enabling the http service on Testing and Production server.

The screenshot displays the Nagios web interface for the URL `ec2-13-127-153-85.ap-south-1.compute.amazonaws.com/nagios/`. The interface includes a sidebar with navigation links such as General, Current Status, Tactical Overview, Hosts, Services, Host Groups, Grid, Service Groups, Summary, Problems, Services (Unhandled), Hosts (Unhandled), Network Outages, Quick Search, Reports, Availability, Trends (Legacy), Alerts, History, Summary, Histogram (Legacy), Notifications, Event Log, System, Comments, Downtime, Process Info, Performance Info, Scheduling Queue, and Configuration.

The main content area shows the 'Current Network Status' and 'Host Status Totals'. The 'Host Status Totals' section indicates 3 Up, 0 Down, 0 Unreachable, and 0 Pending hosts. The 'Service Status Totals' section shows 2 OK, 0 Warning, 0 Unknown, 1 Critical, and 0 Pending services.

The 'Service Status Details For All Hosts' table lists the following services and their status:

Host	Service	Status	Last Check	Duration	Attempt	Status Information
localhost	Current Load	OK	06-26-2021 13:10:17	3d 1h 50m 52s	1/4	OK - load average: 0.00, 0.00, 0.00
localhost	Current Users	OK	06-26-2021 13:06:33	3d 2h 3m 14s	1/4	USERS OK - 2 users currently logged in
localhost	HTTP	OK	06-26-2021 13:07:48	1d 22h 4m 46s	1/4	HTTP OK: HTTP/1.1 200 OK - 11192 bytes in 0.001 second response time
localhost	PING	OK	06-26-2021 13:09:02	3d 2h 1m 59s	1/4	PING OK - Packet loss = 0%, RTT = 0.04 ms
localhost	Root Partition	OK	06-26-2021 13:10:42	3d 2h 1m 22s	1/4	DISK OK - free space: / 4111 MB (52.30% inode=97%):
localhost	SSH	OK	06-26-2021 13:06:58	3d 2h 0m 44s	1/4	SSH OK - OpenSSH_8.2p1 Ubuntu-4ubuntu0.2 (protocol 2.0)
localhost	Swap Usage	CRITICAL	06-26-2021 13:08:14	3d 1h 57m 7s	4/4	SWAP CRITICAL - 0% free (0 MB out of 0 MB) - Swap is either disabled, not present, or of zero size
localhost	Total Processes	OK	06-26-2021 13:09:02	3d 1h 59m 29s	1/4	PROCS OK: 48 processes with STATE = R D C T
slave1	HTTP	OK	06-26-2021 13:10:02	0d 0h 2m 50s	1/3	HTTP OK: HTTP/1.1 200 OK - 455 bytes in 0.003 second response time
slave2	HTTP	OK	06-26-2021 13:10:12	0d 0h 2m 40s	1/3	HTTP OK: HTTP/1.1 200 OK - 455 bytes in 0.003 second response time

The table shows results for 1 - 10 of 10 Matching Services.

DevOps Project

6th Commands of all the above tasks on :

1) Server 1 =

```
217 ansible-galaxy init configfile --offline
218 ls
219 cd configfile/
220 ls
221 cd files/
222 ls
223 nano config.txt
224 ls
225 cd ..
226 cd tasks/
227 ls
228 nano configure.yml
229 nano main.yml
230 cd ..
231 cd ../../
232 ls
233 nano playbook.yml
234 ansible-playbook playbook.yml --syntax-check
235 ansible-playbook playbook.yml
236 cd /usr/local/nagios/etc/objects
237 ls
238 nano slave1.cfg
239 cd ..
240 ls
241 nano nagios.cfg
242 systemctl restart nagios
243 cd objects/
244 ls
245 nano slave1.cfg
246 cd /usr/local/nagios/etc/objects/
247 ls
248 nano contacts.cfg
249 systemctl restart nagios
250 nano contacts.cfg
251 nano slave1.cfg
252 nano contacts.cfg
253 nano slave1.cfg
254 nano contacts.cfg
255 nano slave1.cfg
256 systemctl restart nagios
257 cd ..
258 nano nagios.cfg
259 cd objects/
260 ls
261 nano co
262 nano contacts.cfg
263 systemctl restart nagios
264 nano contacts.cfg
265 nano slave1.cfg
```

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```
266 systemctl restart nagios
267 nano slave1.cfg
268 systemctl restart nagios
269 nano contacts.cfg
270 cd /usr/local/nagios/etc/objects/
271 ls
272 nano contacts.cfg
273 systemctl restart nagios
274 sudo apt-get remove nagios-nrpe-server
275 sudo apt-get remove nagios*
276 which nagios
277 cd /usr/local/nagios/etc/objects/
278 ls
279 nano slave1.cfg
280 rm slave1.cfg
281 ls
282 systemctl restart nagios
283 systemctl restart nagios
284 nano contacts.cfg
285 sudo nano /usr/local/nagios/etc/nagios.cfg && sudo mkdir sudo nano /usr/local/nagios/etc/servers
&& sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg && sudo service nagios start
&& sudo systemctl enable nagios && sudo systemctl restart nagios
286 sudo mkdir sudo nano /usr/local/nagios/etc/servers && sudo /usr/local/nagios/bin/nagios -v /usr/
local/nagios/etc/nagios.cfg && sudo service nagios start && sudo systemctl enable nagios && sudo system
ctl restart nagios
287 cd /usr/local/nagios/etc/objects/
288 ls
289 nano contacts.cfg
290 systemctl restart nagios
291 la
292 ls
293 nano commands.cfg
294 nano contacts.cfg
295 systemctl restart nagios
296 ls
297 nano contacts.cfg
298 nano localhost.cfg
299 systemctl restart nagios
300 sudo apt-get remove nagios-agent
301 sudo apt-get --purge autoremove nagios-agent
302 systemctl restart nagios
303 journalctl -xe"
304 cd /usr/local/nagios/etc/objects/
305 ls
306 cd ..
307 nano nagios.cfg
308 cd objects/
309 ls
310 rm slave3.cfg
311 ls
312 systemctl restart nagios
```

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```
312 systemctl restart nagios
313 nano slave1.cfg
314 nano slave1.cfg
315 systemctl restart nagios
316 nano /etc/ansible/hosts
317 cd /usr/local/nagios/etc/objects/
318 nano slave2.cfg
319 systemctl restart nagios
320 nano slave2.cfg
321 systemctl restart nagios
322 nano slave1.cfg
323 systemctl restart nagios
324 nano slave1.cfg
325 systemctl restart nagios
326 nano commands.cfg
327 nano contacts.cfg
328 nano templates.cfg
329 ls
330 nano commands.cfg
331 nano slave2.cfg
332 systemctl restart nagios
333 nano commands.cfg
334 systemctl restart nagios
335 nano commands.cfg
336 systemctl restart nagios
337 nano commands.cfg
338 systemctl restart nagios
339 nano commands.cfg
340 nano slave2.cfg
341 systemctl restart nagios
342 nano slave2.cfg
343 nano localhost.cfg
344 nano slave2.cfg
345 nano commands.cfg
346 nano slave2.cfg
347 systemctl restart nagios
348 nano slave2.cfg
349 nano slave1.cfg
350 systemctl restart nagios
351 ls
352 cd ...
353 cd ..
354 ls
355 cd ..
356 ls
357 cd libexec/
358 ls
359 cd ..
360 cd etc/objects/
```


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```
361 ls
362 nano contacts.cfg
363 nano slave1.cfg
364 nano slave2.cfg
365 systemctl restart nagios
366 cd /usr/local/nagios/etc/objects/
367 nano slave1.cfg
368 nano slave2.cfg
369 nano contacts.cfg
370 nano slave2.cfg
371 systemctl restart nagios
372 ls
373 cd
374 history
root@ip-172-31-43-131:~# |
```

2) Server 2 =

```
33 apt install unzip
34 wget https://chromedriver.storage.googleapis.com/index.html?path=91.0.4472.101/
35 ls
36 rm 'index.html?path=91.0.4472.101%2F'
37 wget https://chromedriver.storage.googleapis.com/91.0.4472.101/chromedriver_linux64.zip
38 ls
39 unzip chromedriver_linux64.zip
40 wget https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb
41 sudo apt install ./google-chrome-stable_current_amd64.deb
42 google-chrome -v
43 google-chrome --version
44 docker login
45 git clone https://github.com/Himanshu369/Selenium.git
46 ls
47 cd Selenium/
48 ls
49 java -jar project2.jar
50 docker images
51 ls
52 cd Selenium/
53 ls
54 java -jar project2.jar
55 docker images
56 docker rm -f himanshu369/project2
57 docker rmi -f himanshu369/project2
58 docker images
59 docker rmi -f himanshu369/project2
60 ls
61 docker rm -f $(docker ps -a -q)
62 docker rmi -f $(docker images -q)
63 ls
64 cat config.txt
65 sudo apt-get update && sudo apt-get install -y nagios-nrpe-server nagios-plugins && sudo nano /etc/nagios/nrpe.cfg
66 sudo /etc/init.d/nagios-nrpe-server restart
67 ls
```

DevOps Project

```
68  docker ps
69  cd project2testcases/
70  git pull
71  java -jar project2.jar
72  exit
73  la
74  docker images
75  docker run -itd -p 80:80 bb
76  ls
77  git clone https://github.com/Himanshu369/Selenium.git
78  historu
79  history
root@ip-172-31-12-142:/home/ubuntu# |
```

3) Server 3 =

```
22  kubeadm init --pod-network-cidr 192.168.0.0/16
23  kubectl apply -f https://docs.projectcalico.org/manifests/calico.yaml
24  kubectl get nodes
25  cd /root/.ssh
26  ls
27  nano authorized_keys
28  apt install python -y && apt install default-jdk -y
29  apt install unzip
30  wget https://chromedriver.storage.googleapis.com/index.html?path=91.0.4472.101/
31  ls
32  rm 'index.html?path=91.0.4472.101%2F'
33  unzip chromedriver_linux64.zip
34  wget https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb
35  sudo apt install ./google-chrome-stable_current_amd64.deb
36  google-chrome --version
37  ls
38  git clone https://github.com/Himanshu369/Selenium.git
39  kubectl get pods
40  kubectl get pods --all-namespaces
41  kubectl get svc
42  kubectl giet svc -all-namespaces
43  kubectl get svc -all-namespaces
44  kubectl get svc --all-namespaces
45  ls
46  nano deploy.yaml
47  kubectl apply -f [https://raw.githubusercontent.com/kubernetes/ingress-nginx/controller-v0.47.0/
deploy/static/provider/baremetal/deploy.yaml](https://raw.githubusercontent.com/kubernetes/ingress-ngin
x/controller-v0.47.0/deploy/static/provider/baremetal/deploy.yaml)
48  kubectl apply -f https://raw.githubusercontent.com/kubernetes/ingress-nginx/controller-v0.47.0/d
eploy/static/provider/baremetal/deploy.yaml
```

DevOps Project

```
49 nano deploy.yaml
50 nano ingress.yaml
51 kubectl delete -f /home/ubuntu/ingress.yaml
52 kubectl delete service clusterip project2 --tcp=80:80
53 kubectl delete service clusterip project2
54 kubectl get svc
55 kubectl get pod
56 kubectl delete -f /home/ubuntu/deploy.yaml
57 kubectl get svc --all-namespaces
58 ls
59 cd Selenium/
60 git pull
61 kubectl delete service clusterip project2
62 kubectl delete -f /home/ubuntu/deploy.yaml
63 kubectl delete -f /home/ubuntu/ingress.yaml
64 kubectl get svc --all-namespaces
65 kubectl delete -f /home/ubuntu/ingress.yaml
66 kubectl delete -f /home/ubuntu/deploy.yaml
67 kubectl get svc --all-namespaces
68 kubectl create -f /home/ubuntu/deploy.yaml
69 kubectl create -f /home/ubuntu/ingress.yaml
70 kubectl create service clusterip project2 --tcp=80:80
71 kubectl get svc --all-namespaces
72 kubectl get pods
73 kubectl delete -f /home/ubuntu/ingress.yaml
74 kubectl get svc --all-namespaces
75 kubectl create -f /home/ubuntu/ingress.yaml
76 ls
77 kubectl get svc
78 kubectl get svc --all-namespaces
79 ls
80 java -jar project2k8s.jar
81 cd ..
82 ls
83 c
84 cd Selenium/
85 ls
86 git pull
87 java -jar project2k8s.jar
88 cd ..
89 ls
90 java -jar project2k8s.jar
91 cd Selenium/
92 java -jar project2k8s.jar
93 java -jar project2.jar
94 git push
95 git pull
96 ls
97 java -jar project2k8s.jar
98 ls
```

DevOps Project

```
99 cat config.txt
100 sudo apt-get update && sudo apt-get install -y nagios-nrpe-server nagios-plugins && sudo nano /etc/nagios/nrpe.cfg
101 sudo /etc/init.d/nagios-nrpe-server restart
102 nano /etc/nagios/nrpe.cfg
103 sudo /etc/init.d/nagios-nrpe-server restart
104 ls
105 kubectl create -f deploy.yaml
106 kubectl get svc
107 kubectl get pods --all-namespaces
108 kubectl get svc --all-namespaces
109 ls
110 rm -rf Selenium/
111 git clone https://github.com/Himanshu369/project2testcases.git
112 cd project2testcases/
113 ls
114 git pull
115 ls
116 git pull
117 java -jar project2k8s.jar
118 git pull
119 java -jar project2k8s.jar
120 ls
121 kubectl get po
122 kubectl get vcs
123 kubectl get svc
124 kubectl delete service project2
125 kubectl create service nodeport project2
126 kubectl create service nodeport project2 --tcp=80:80
127 kubectl delete -f ingress.yaml
128 kubectl get svc --all-namespaces
129 exit
130 kubectl get svc
131 kubectl get po
132 ls
133 git clone https://github.com/Himanshu369/Selenium.git
134 ls
135 history
136 history
root@ip-172-31-39-210:/home/ubuntu# |
```

DevOps Project

4) Server 4 =

```
34 kubectl join 172.31.39.210:6443 --token 24popk.gcy17msgcnoa8k2r --discovery-token-ca-cer
t-hash sha256:4eea26c9478f2c59adb70f6c3a23511e9b4d0bca291d4f4479d18003335a878e
35 cat /root/.ssh/authorized_keys
36 which python
37 which java
38 apt install unzip
39 wget https://chromedriver.storage.googleapis.com/index.html?path=91.0.4472.101/
40 rm 'index.html?path=91.0.4472.101%2F'
41 unzip chromedriver_linux64.zip
42 wget https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb
43 sudo apt install ./google-chrome-stable_current_amd64.deb
44 google-chrome --version
45 git clone https://github.com/Himanshu369/Selenium.git
46 ls
47 ansible -m ping all
48 which ansible
49 cat config.txt
50 sudo apt-get update && sudo apt-get install -y nagios-nrpe-server nagios-plugins && sudo nano /e
tc/nagios/nrpe.cfg
51 sudo /etc/init.d/nagios-nrpe-server restart
52 nano /etc/nagios/nrpe.cfg
53 sudo /etc/init.d/nagios-nrpe-server restart
54 history
root@ip-172-31-8-231:/home/ubuntu# |
```

End of Project