

# **Capstone-Project-2**

Instances | EC2 Instances | EC2 Instances | EC2 Instances | EC2 Instances | Install | Terminate | A Installing /

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0f8f1b3f8eaa

aws Services Search [Alt+S] N

```
Get:25 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.5 kB]
Get:26 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [672 B]
Get:27 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:28 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1848 kB]
Get:29 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [299 kB]
Get:30 http://security.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [13.3 kB]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [909 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [179 kB]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [19.4 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [37.2 kB]
Get:36 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [7588 B]
Fetched 28.1 MB in 8s (3382 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
5 packages can be upgraded. Run 'apt list --upgradable' to see them.
ubuntu@ip-172-31-80-215:~$ sudo nano .ssh/authorized_keys
ubuntu@ip-172-31-80-215:~$ sudo su
root@ip-172-31-80-215:/home/ubuntu# kubeadm join 172.31.92.150:6443 --token lrko88.cslnbd6lajoh5jcn \
--discovery-token-ca-cert-hash sha256:3c2150fab96b1e7b78d753f656759c728e886c809e4a18781104244af563fd9c -i-0f8f1b3f8eaa7872a (k8s-S2)
PublicIPs: 3.95.218.32 PrivateIPs: 172.31.80.215
```

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root@ip-172-31-80-215:/home/ubuntu#

i-0f8f1b3f8eaa7872a (k8s-S2)

Public IPs: 3.95.218.32 Private IPs: 172.31.80.215

CloudShell Feedback

```
aws Services Search [Alt+S] [Σ] [Bell]
customresourcedefinition.apiextensions.k8s.io/ipamconfigs.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/ipamhandles.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/ippools.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/ipreservations.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/kubecontrollersconfigurations.crd.projectcalico
customresourcedefinition.apiextensions.k8s.io/networkpolicies.crd.projectcalico.org created
customresourcedefinition.apiextensions.k8s.io/networksets.crd.projectcalico.org created
clusterrole.rbac.authorization.k8s.io/calico-kube-controllers created
clusterrole.rbac.authorization.k8s.io/calico-node created
clusterrole.rbac.authorization.k8s.io/calico-cni-plugin created
clusterrolebinding.rbac.authorization.k8s.io/calico-kube-controllers created
clusterrolebinding.rbac.authorization.k8s.io/calico-node created
clusterrolebinding.rbac.authorization.k8s.io/calico-cni-plugin created
daemonset.apps/calico-node created
deployment.apps/calico-kube-controllers created
ubuntu@ip-172-31-92-150:~$ kubectl get nodes
NAME           STATUS    ROLES      AGE     VERSION
ip-172-31-80-215  Ready    <none>    56s    v1.29.0
ip-172-31-84-252  Ready    <none>    2m3s   v1.29.0
ip-172-31-92-150  Ready    control-plane  6m21s  v1.29.0
ubuntu@ip-172-31-92-150:~$
```

i-01d497761ba166308 (k8s-M/J-s)

Public IPs: 3.89.36.97 Private IPs: 172.31.92.150

## Getting Started

# Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log ([not sure where to find it?](#)) and this file on the server:

`/var/lib/jenkins/secrets/initialAdminPassword`

Please copy the password from either location and paste it below.

**Administrator password**

Continue

Instance | EC2 Inst | EC2 Inst | EC2 Inst | EC2 Inst | Install | A Installin | Linux | Setup V

Not secure 18.206.227.45:8080

## Getting Started

# Getting Started

Folders	Formatter	Ant	Gradle	Jenkins API
✓ Folders				
✓ Timestamper	Workspace Cleanup			Timestamper ** Caffeine API ** Script Security ** JavaBeans Activation Framework (JAF) API ** JAXB ** SnakeYAML API ** JSON API ** Jackson 2 API ** commons-text API ** Pipeline: Supporting APIs ** Plugin Utilities API ** Font Awesome API ** Bootstrap 5 API ** JQuery3 API ** ECharts API ** - required dependency
Pipeline	Github Branch Source	Pipeline: GitHub Groovy Libraries	Pipeline Graph View	
Git	SSH Build Agents	Matrix Authorization Strategy	PAM Authentication	
LDAP	Email Extension	Mailer	Dark Theme	

Jenkins 2.462.2

Search

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Not secure

18.206.227.45:8080

## Getting Started

# Jenkins is ready!

Your Jenkins setup is complete.

[Start using Jenkins](#)

Jenkins 2.462.2

Instance | EC2 Inst | EC2 Inst | EC2 Inst | EC2 Inst | Install | Install | Linux |

Not secure 18.206.227.45:8080

# Jenkins

Dashboard >

New Item

Build History

Manage Jenkins

My Views

Build Queue

No builds in the queue.

Build Executor Status

1 Idle

2 Idle

Welcome to Jenkins!

This page is where your Jenkins jobs will be displayed. To get started, you can set up a new job, start a build or start building a software project.

Start building your software project

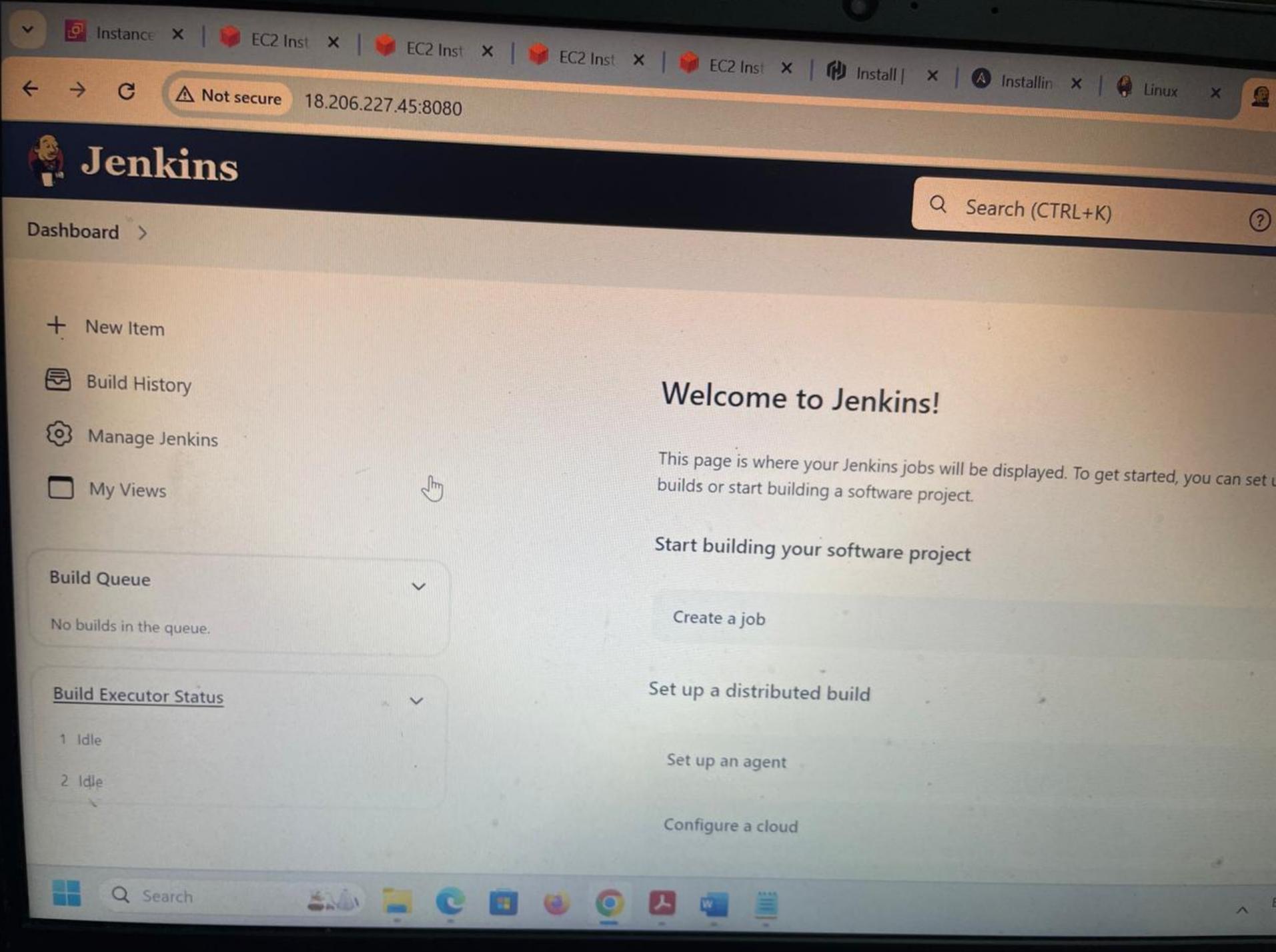
Create a job

Set up a distributed build

Set up an agent

Configure a cloud

Search



## Nodes

+ New Node

## Configure Monitors



Icon: S M L

### Legend



instance | EC2 Inst | Install | Install | Linux |

← → ⌂ △ Not secure 18.206.227.45:8080/computer/new

# Jenkins

Dashboard > Nodes > New node

## New node

Node name

Type

Permanent Agent

Adds a plain, permanent agent to Jenkins. This is called "permanent" because Jenkins doesn't provide higher level of integration with these agents, such as dynamic provisioning. Select this type if no other agent types apply — for example such as when you are adding a physical computer, virtual machines managed outside Jenkins, etc.

Create



EN  
IN

The screenshot shows the Jenkins welcome page. On the left, there is a sidebar with the following items:

- + New Item
- Build History
- Project Relationship
- Check File Fingerprint
- Manage Jenkins
- My Views

Below the sidebar, there are two sections:

- Build Queue**: A dropdown menu showing "No builds in the queue."
- Build Executor Status**: A dropdown menu showing "Built-In Node 06.227.45:8080/newJob".

The main content area features a large heading "Welcome to Jenkins!" and a sub-heading "Start building your software project". Below these, a text block reads: "This page is where your Jenkins jobs will be displayed. To get started, you can set up distributed builds or start building a software project." At the bottom of this section is a button labeled "Create job".

At the very bottom of the screen, a taskbar is visible with icons for Search, File Explorer, Task View, Microsoft Edge, Google Chrome, File, and Task Scheduler. On the right side of the taskbar, there are system status icons for battery level, signal strength, and language settings (ENG IN).

Type  to search

Code Pull requests Actions Projects Wiki Security Insights Settings

**General**

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules

Actions

**Webhooks**

Environments

Codespaces

Pages

**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 \***

http://18.206.27.45:8080/github-webhook

**Content type \***

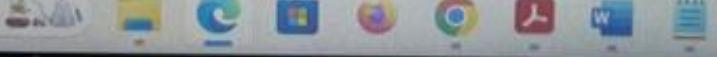
application/x-www-form-urlencoded

**Secret**

**SSL verification**

 By default, we verify SSL certificates when delivering payloads.

Enable SSL verification  Disable (not recommended)

Search  ENG IN

## Definition

### Pipeline script

#### Script

```
1 pipeline {  
2     agent none  
3     environment {  
4         DOCKERHUB_CREDENTIALS = credentials("")  
5     }  
6     stages {  
7         stage('git') {  
8             agent {  
9                 label "k8s-Master"  
10            }  
11            steps {  
12                script {  
13                    git 'https://github.com/prasadcheekati1/website-demo.git'  
14                }  
15            }  
16        }  
17    }
```

)  
Hello Wo



Use Groovy Sandbox 

Save

Apply



⚠ Not secure 18.206.227.45:8080/manage/credentials/store/system/domain/\_/

# kins

Search (CTRL+K) ? ! 1

Manage Jenkins > Credentials > System > Global credentials (unrestricted) >

## Global credentials (unrestricted)

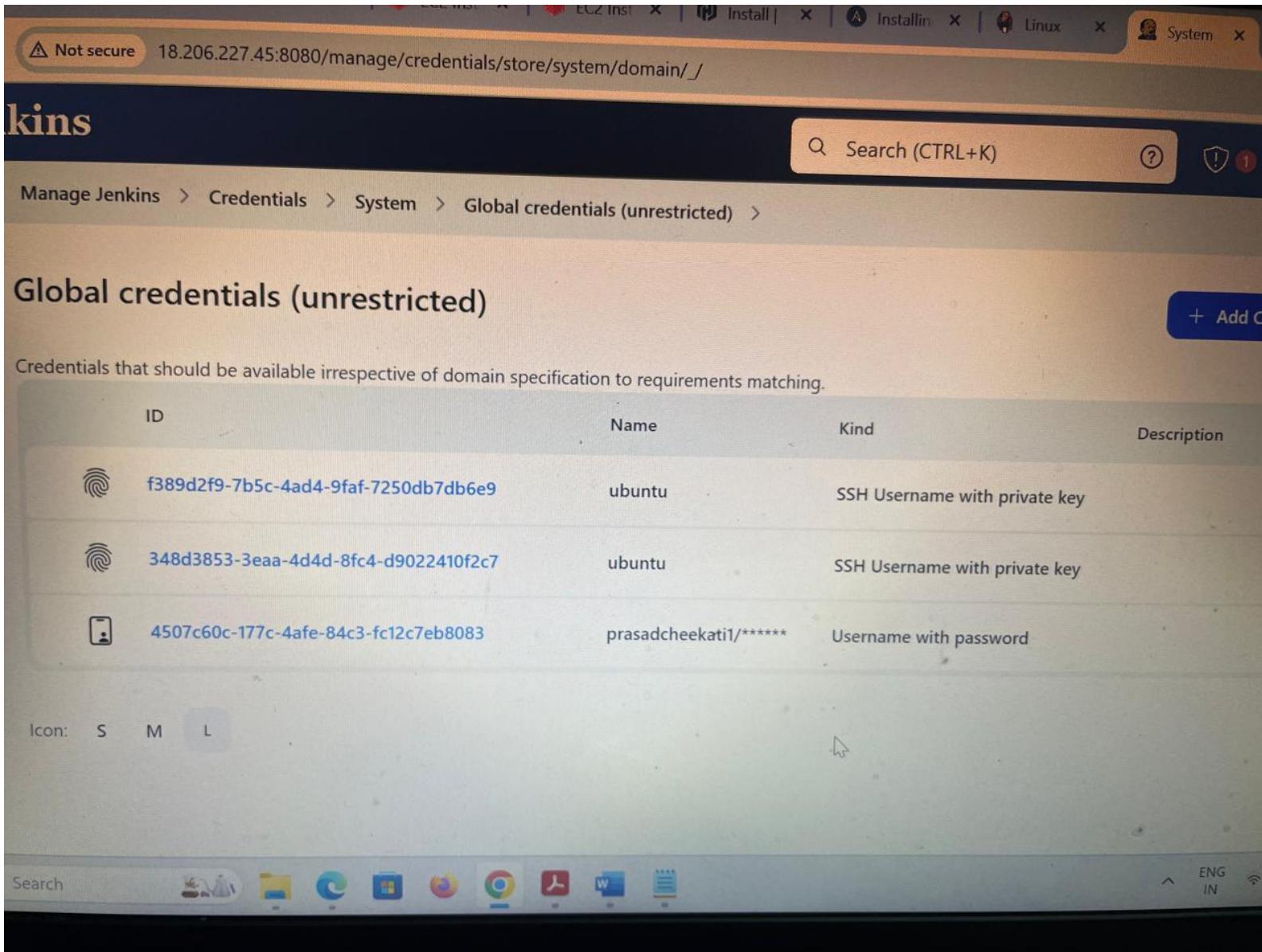
+ Add Cr

Credentials that should be available irrespective of domain specification to requirements matching.

ID	Name	Kind	Description
f389d2f9-7b5c-4ad4-9faf-7250db7db6e9	ubuntu	SSH Username with private key	
348d3853-3eaa-4d4d-8fc4-d9022410f2c7	ubuntu	SSH Username with private key	
4507c60c-177c-4afe-84c3-fc12c7eb8083	prasadcheekati1/*****	Username with password	

Icon: S M L

Search ENG IN



## Definition

### Pipeline script

#### Script ?

```
1 ▾ pipeline {  
2     agent none  
3 ▾   environment {  
4         DOCKERHUB_CREDENTIALS = credentials("4507c60c-177c-4afe-84c3-fc12c7eb8083")  
5     }  
6 ▾   stages {  
7     stage('git') {  
8         agent {  
9             label "k8s-Master"  
10        }  
11        steps {  
12            script {  
13                git 'https://github.com/prasadcheekati1/website-demo.git'  
14            }  
15        }  
16    }  
17}
```



Use Groovy Sandbox ?

Save

Apply



 Configure

 Delete Pipeline

 Stages

 Rename

 Pipeline Syntax

 GitHub Hook Log



Build History

trend 

 Filter...

/

 #1

Oct 1, 2024, 5:15 PM



Atom feed for all



Atom feed for failures



Search



```
227.45:8080/job/job/1/console
```

Avoid second fetch  
Checking out Revision 6a41aac89c5d0288782628ed3bf67fc3628d388c (refs/remotes/origin/master)  
> git config remote.origin.url https://github.com/prasadcheekati1/website-demo.git # timeout=10  
> git config --add remote.origin.fetch +refs/heads/\*:refs/remotes/origin/\* # timeout=10  
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10  
> git config core.sparsecheckout # timeout=10  
> git checkout -f 6a41aac89c5d0288782628ed3bf67fc3628d388c # timeout=10  
> git branch -a -v --no-abbrev # timeout=10  
> git checkout -b master 6a41aac89c5d0288782628ed3bf67fc3628d388c # timeout=10  
Commit message: "Create Dockerfile"  
First time build. Skipping changelog.  
[Pipeline] }  
[Pipeline] // script  
[Pipeline] }  
[Pipeline] // node  
[Pipeline] }  
[Pipeline] // stage  
[Pipeline] }  
[Pipeline] // withCredentials  
[Pipeline] End of Pipeline  
Finished: SUCCESS

← → C us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&in:

aws Services Search [Alt+S] 4

Memory usage: 26% Swap usage: 0% IPv4 address for eth0: 172.31.92.150

Expanded Security Maintenance for Applications is not enabled.  
8 updates can be applied immediately.  
5 of these updates are standard security updates.  
To see these additional updates run: apt list --upgradable  
Enable ESM Apps to receive additional future security updates.  
See <https://ubuntu.com/esm> or run: sudo pro status  
New release '24.04.1 LTS' available.  
Run 'do-release-upgrade' to upgrade to it.

Last login: Tue Oct 1 15:58:27 2024 from 172.31.91.68  
ubuntu@ip-172-31-92-150:~\$ ls  
jenkins  
ubuntu@ip-172-31-92-150:~\$ ] i-01d497761ba166308 (k8s-M/J-s)  
Public IPs: 3.89.36.97 Private IPs: 172.31.92.150

CloudShell Feedback

8 updates can be applied immediately.  
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New release '24.04.1 LTS' available.  
Run 'do-release-upgrade' to upgrade to it.

```
Last login: Tue Oct 1 15:58:27 2024 from 172.31.91.68
ubuntu@ip-172-31-92-150:~$ ls
jenkins
ubuntu@ip-172-31-92-150:~$ cd jenkins/
ubuntu@ip-172-31-92-150:~/jenkins$ ls
remoting  remoting.jar  workspace
ubuntu@ip-172-31-92-150:~/jenkins$ cd workspace/
ubuntu@ip-172-31-92-150:~/jenkins/workspace$ ls
job
ubuntu@ip-172-31-92-150:~/jenkins/workspace$ i-01d497761ba166308 (k8s-M/J-s)
Public IPs: 3.89.36.97  Private IPs: 172.31.92.150
```



Enable ESM Apps to receive additional future security updates.  
See <https://ubuntu.com/esm> or run: sudo pro status

New release '24.04.1 LTS' available.  
Run 'do-release-upgrade' to upgrade to it.

```
Last login: Tue Oct 1 15:58:27 2024 from 172.31.91.68
ubuntu@ip-172-31-92-150:~$ ls
jenkins
ubuntu@ip-172-31-92-150:~$ cd jenkins/
ubuntu@ip-172-31-92-150:~/jenkins$ ls
remoting  remoting.jar  workspace
ubuntu@ip-172-31-92-150:~/jenkins$ cd workspace/
ubuntu@ip-172-31-92-150:~/jenkins/workspace$ ls
job
ubuntu@ip-172-31-92-150:~/jenkins/workspace$ cd job/
ubuntu@ip-172-31-92-150:~/jenkins/workspace/job$ ls
Dockerfile  images  index.html
ubuntu@ip-172-31-92-150:~/jenkins/workspace/job$
```

i-01d497761ba166308 (k8s-M/J-s)

Public IPs: 3.89.36.97 Private IPs: 172.31.92.150

← → ⌂ us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&inst

aws Services Search [Alt+S] □ 🔍

```
Setting up docker.io (24.0.7-0ubuntu2~22.04.1) ...
Adding group `docker' (GID 122) ...
Done.

Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /lib/systemd/sy
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket → /lib/systemd/system
Processing triggers for dbus (1.12.20-2ubuntu4.1) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-92-150:~/jenkins/workspace/job$ █
```

i-01d497761ba166308 (k8s-M/J-s)

Public IPs: 3.89.36.97 Private IPs: 172.31.92.150

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Services

Search

[Alt+S]



```
Created symlink /etc/systemd/system/multi-user.target.wants/ubuntu-fan.service → /lib/systemd/system/multi-user.target.wants/ubuntu-fan.service
Setting up docker.io (24.0.7-0ubuntu2~22.04.1) ...
Adding group `docker` (GID 122) ...
Done.

Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /lib/systemd/system/multi-user.target.wants/docker.service
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket → /lib/systemd/system/sockets.target.wants/docker.socket
Processing triggers for dbus (1.12.20-2ubuntu4.1) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

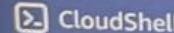
No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-84-252:~$
```

i-0622690932d88c82e (k8s-S1)

PublicIPs: 3.89.232.236 PrivateIPs: 172.31.84.252



CloudShell

Feedback



Search



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Services

Search

Install X

[Alt+S]



```
Created symlink /etc/systemd/system/multi-user.target.wants/ubuntu-fan.service → /lib/systemd/system/multi-user.target.wants/ubuntu-fan.service
Setting up docker.io (24.0.7-0ubuntu2~22.04.1) ...
Adding group `docker' (GID 122) ...
Done.

Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /lib/systemd/system/multi-user.target.wants/docker.service
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket → /lib/systemd/system/sockets.target.wants/docker.socket
Processing triggers for dbus (1.12.20-2ubuntu4.1) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-80-215:~$
```

i-0f8f1b3f8eaa7872a (k8s-S2)

PublicIPs: 3.95.218.32 PrivateIPs: 172.31.80.215

CloudShell

Feedback

## Definition

### Pipeline script

#### Script ?

```
6
7 stages {
8   stage('docker') {
9     agent {
10       label "k8s-Master"
11     }
12     steps {
13       script {
14         // git 'https://github.com/prasadcheekatil/website-demo.git'
15         sh 'sudo docker build . -t prasadcheekatil/project2'
16         sh 'sudo docker login -u ${DOCKERHUB_CREDENTIALS_USR} -p ${DOCKERHUB_CREDN'
17         sh 'sudo docker push prasadcheekatil/proj2'
18       }
19     }
20   }
21 }
22 }
```



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Save

Apply

Processing triggers for man-db (2.10.2-1) ...  
Scanning processes...  
Scanning candidates...  
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ubuntu@ip-172-31-92-150:~/jenkins/workspace/job\$ cd

ubuntu@ip-172-31-92-150:~\$ sudo docker images

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
prasadcheekatil/proj2	latest	7a672bbd8fb5	22 minutes ago	232MB
prasadcheekatil/project2	latest	7a672bbd8fb5	22 minutes ago	232MB
ubuntu	latest	ble9cef3f297	5 weeks ago	78.1MB

i-01d497761ba166308 (k8s-M/J-s)

Public IPs: 3.89.36.97 Private IPs: 172.31.92.150

# Project Z.mp4

← → ⌂ [github.com/mehar221/project1/new/master](https://github.com/mehar221/project1/new/master)



mehar221 / project1

Q Type / to search

<> Code

Pull requests

Actions

Projects

Wiki

Security

Insights

Settings



project1 /

deploy.yaml

in master

Edit

Preview

Code 55% faster with GitHub Copilot

```
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: my-deployment
5  spec:
6    replicas: 2
7    template:
8      metadata:
9        labels:
10       app: my-deployment
11     spec:
12       containers:
13         - name: my-deployment
14           image: mehar221/proj2
15         ports:
16           - containerPort: 80
17
```

## Pipeline script

## Script ?

```
16          sh 'sudo docker login -u ${DOCKERHUB_CREDENTIALS_USR} -p ${DOCKERHUB_CREDNTIALS_P:
17      }
18  }
19 }
20 }
21 stage('k8s') {
22     agent {
23         label "k8s-Master"
24     }
25 steps {
26     script {
27         sh 'kubectl create deployment my-deployment --replicas2 --image=prasadcheekati1/proj
28         sh ''
29     }
30 }
31 }
32 }
```

Save

Apply



EC2 Ir x | H Install x | A Install x | Linux x job C x prasa x | +

ure

```
        }
    }
}

stage('k8s') {
    agent {
        label "k8s-Master"
    }
    steps {
        script {
            sh 'kubectl create deployment my-deployment --replicas=2 --image=prasadcheekati1/pro'
            // sh 'kubectl apply -f deploy.yaml'
            // sh 'kubectl expose my-deployment --type=nodeport --nodePort=30008'
            sh 'kubectl apply -f svc.yaml'
        }
    }
}
```

Use Groovy Sandbox ?

line Syntax

Type  to search

Code Pull requests Actions Projects Wiki Security Insights Settings

website-demo / svc.yaml in master

Edit Preview  Code 55% faster with GitHub Copilot

```
1 apiVersion: v1
2 kind: Service
3 metadata:
4   name: my-service
5 spec:
6   type: NodePort
7   selector:
8     app.kubernetes.io/name: my-deployment
9   ports:
10    - port: 80
11      targetPort: 80
12      nodePort: 30007
```

Use `Control + Shift + m` to toggle the `tab` key moving focus. Alternatively, use `esc` then `tab` to move to the next interactive element on the page.

## Script ?

```
19      }
20    }
21    stage('k8s') {
22      agent {
23        label "k8s-Master"
24      }
25      steps {
26        script {
27          sh 'kubectl delete deployment my-deployment'
28          sh 'kubectl create deployment my-deployment --replicas=2 --image=prasado'
29          // sh 'kubectl apply -f deploy.yaml'
30          // sh 'kubectl expose my-deployment --type=nodeport --nodePort=30008'
31          sh 'kubectl apply -f svc.yaml'
32        }
33      }
34    }
35 }
```



Use Groovy Sandbox ?

Pipeline Syntax

Save

Apply