



**School of Computer Science Engineering and Application**

**BCA TY SEM VI**

**Subject Name: Container and Orchestration Practical**

**Assignment No 3**

**Aim: Launch Jenkins on web-browser.**

**Submitted By**

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## STEP -1 : CREATE SECURITY GROUP

inbound rules-

- I. ssh
- II. http
- III. https
- IV. all traffic

The screenshot shows the AWS Management Console interface. On the left is a navigation menu with options like EC2 Dashboard, Instances, Images, Elastic Block Store, and Network & Security. The main panel displays the 'Details' of a security group named 'launch-wizard-3'. It includes fields for Security group ID (sg-03187ab7071d69f0d), Description (launch-wizard-3 created 2024-03-06T18:17:37.526Z), VPC ID (vpc-064289431080b53de), Owner (638340973280), Inbound rules count (4 Permission entries), and Outbound rules count (1 Permission entry). Below the details, the 'Inbound rules' tab is selected, showing a table of four rules: 'All traffic', 'HTTPS', 'HTTP', and 'SSH'.

Name	Security group rule...	IP version	Type	Protocol	Port
-	sgr-09f99735e1c9e6943	IPv4	All traffic	All	All
-	sgr-0c0fec0de8b643cdf	IPv4	HTTPS	TCP	443
-	sgr-0f946133291e730ec	IPv4	HTTP	TCP	80
-	sgr-095749a922f33cded	IPv4	SSH	TCP	22

## STEP-2 : CREATE & LAUNCH EC2 INSTANCE

The screenshot shows the AWS Management Console 'Instances' page. It lists one instance named 'assignment3' with Instance ID 'i-0a4ecf8a602fb29ca', Instance type 't2.micro', Status 'Initializing', and Availability Zone 'ap-south-1b'. The instance is in a 'Running' state. Below the instance list, there is a 'Select an instance' section.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
assignment3	i-0a4ecf8a602fb29ca	Running	t2.micro	Initializing	View alarms +	ap-south-1b

**STEP-3 : INSTALL DOCKER ON EC2 MACHINE**

Set Up Docker Repositories , Add GPG Key & Install Docker Engine :

COMMANDS :

1 Update System:

```
sudo apt update -y
```

2 Set Up Repository:

```
sudo apt install \
```

```
apt-transport-https \
```

```
ca-certificates \
```

```
curl \
```

```
gnupg-agent \
```

```
software-properties-common
```

3 Add Dockers Official GPG Key

```
curl -fsSl https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -
```

```
sudo add-apt-repository \
```

```
"deb [arch=amd64] https://download.docker.com/linux/ubuntu \
```

```
$(lsb_release -cs) \
```

```
stable "
```

4 Install Docker Engine

```
sudo apt install docker-ce docker-ce-cli containerd.io -y
```

5 Check Containers Status

```
systemctl status docker
```

```

r= check docker status
r
• docker.service - Docker Application Container Engine
  Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
  Active: active (running) since Mon 2024-03-04 07:47:02 UTC; 23s ago
  TriggeredBy: • docker.socket
  Docs: https://docs.docker.com
  Main PID: 5778 (dockerd)
  Tasks: 8
  Memory: 37.8M
  CPU: 312ms
  CGroup: /system.slice/docker.service
          └─5778 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Mar 04 07:47:01 ip-172-31-45-129 systemd[1]: Starting Docker Application Container Engine...
Mar 04 07:47:01 ip-172-31-45-129 dockerd[5778]: time="2024-03-04T07:47:01.573148391Z" level=info msg="Starting up"
Mar 04 07:47:01 ip-172-31-45-129 dockerd[5778]: time="2024-03-04T07:47:01.577554278Z" level=info msg="detected 127.0.0.53 nameserver, assuming systemd-resolved"
Mar 04 07:47:01 ip-172-31-45-129 dockerd[5778]: time="2024-03-04T07:47:01.797285733Z" level=info msg="Loading containers: start."
Mar 04 07:47:02 ip-172-31-45-129 dockerd[5778]: time="2024-03-04T07:47:02.119613528Z" level=info msg="Loading containers: done."
Mar 04 07:47:02 ip-172-31-45-129 dockerd[5778]: time="2024-03-04T07:47:02.141867014Z" level=info msg="Docker daemon commit=f417435 containerd-snapshot=2024-03-04T07:47:02.142232409Z"
Mar 04 07:47:02 ip-172-31-45-129 dockerd[5778]: time="2024-03-04T07:47:02.198015341Z" level=info msg="Daemon has completed initialization"
Mar 04 07:47:02 ip-172-31-45-129 systemd[1]: Started Docker Application Container Engine.
root@ip-172-31-45-129:/home/ubuntu# docker run -d -p 5000:5000 --name registry registry
Unable to find image 'registry:latest' locally
latest: Pulling from library/registry
619be1103602: Pull complete
2ba4b87859f5: Pull complete
0da701e3b4d6: Pull complete
14e4d5d702c7: Pull complete
41a4f6454eb2: Pull complete
Digest: sha256:f4e1b878d4bc40a1f65532d68c94dcfbab56aa8cbaf00e355a206e7f6cc9111
Status: Downloaded newer image for registry:latest
433121b32ed94f988545c97e15a32f1ecb41e3ac6d255059c3c8980edc0a7881
root@ip-172-31-45-129:/home/ubuntu# docker pull centos

```

## STEP -4: PULL JENKINS

COMMAND: docker pull jenkins/Jenkins

```

CGroup: /system.slice/docker.service
└─3457 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Mar 06 11:18:35 ip-172-31-15-218 systemd[1]: Starting Docker Application Container Engine...
Mar 06 11:18:35 ip-172-31-15-218 dockerd[3457]: time="2024-03-06T11:18:35.999300195Z" level=info msg="Starting up"
Mar 06 11:18:36 ip-172-31-15-218 dockerd[3457]: time="2024-03-06T11:18:36.000975356Z" level=info msg="detected 127.0.0.53 nameserver, assuming systemd-resolved"
Mar 06 11:18:36 ip-172-31-15-218 dockerd[3457]: time="2024-03-06T11:18:36.205134792Z" level=info msg="Loading containers: start."
Mar 06 11:18:36 ip-172-31-15-218 dockerd[3457]: time="2024-03-06T11:18:36.535777860Z" level=info msg="Loading containers: done."
Mar 06 11:18:36 ip-172-31-15-218 dockerd[3457]: time="2024-03-06T11:18:36.560212881Z" level=info msg="Docker daemon commit=f417435 containerd-snapshot=2024-03-06T11:18:36.560684067Z"
Mar 06 11:18:36 ip-172-31-15-218 dockerd[3457]: time="2024-03-06T11:18:36.614508353Z" level=info msg="Daemon has completed initialization"
Mar 06 11:18:36 ip-172-31-15-218 systemd[1]: Started Docker Application Container Engine.
lines 1-21/21 (END)

root@ip-172-31-15-218:/home/ubuntu# docker pull jenkins/jenkins
Using default tag: latest
latest: Pulling from jenkins/jenkins
7bb465c29149: Pull complete
27578e2e0876: Pull complete
f4a2d74b1f66: Pull complete
a1906922a8b7: Pull complete
18e18797d1a4: Pull complete
ef47bf32ac7a: Pull complete
0e9a062c28d8: Pull complete
49a023833a69: Pull complete
8ae4f661fbce: Pull complete
4129f0968bad: Pull complete
1d66e50cacee: Pull complete
dc158df0bf48: Pull complete
Digest: sha256:b39d1fed04b16b5a11a5de4beb3512b51e00789b0d31d8cdc9430a332566fbca
Status: Downloaded newer image for jenkins/jenkins:latest
docker.io/jenkins/jenkins:latest
root@ip-172-31-15-218:/home/ubuntu#

```

i-01a617cb69b2b9724 (assignment3)

PublicIPs: 3.109.211.161 PrivateIPs: 172.31.15.218

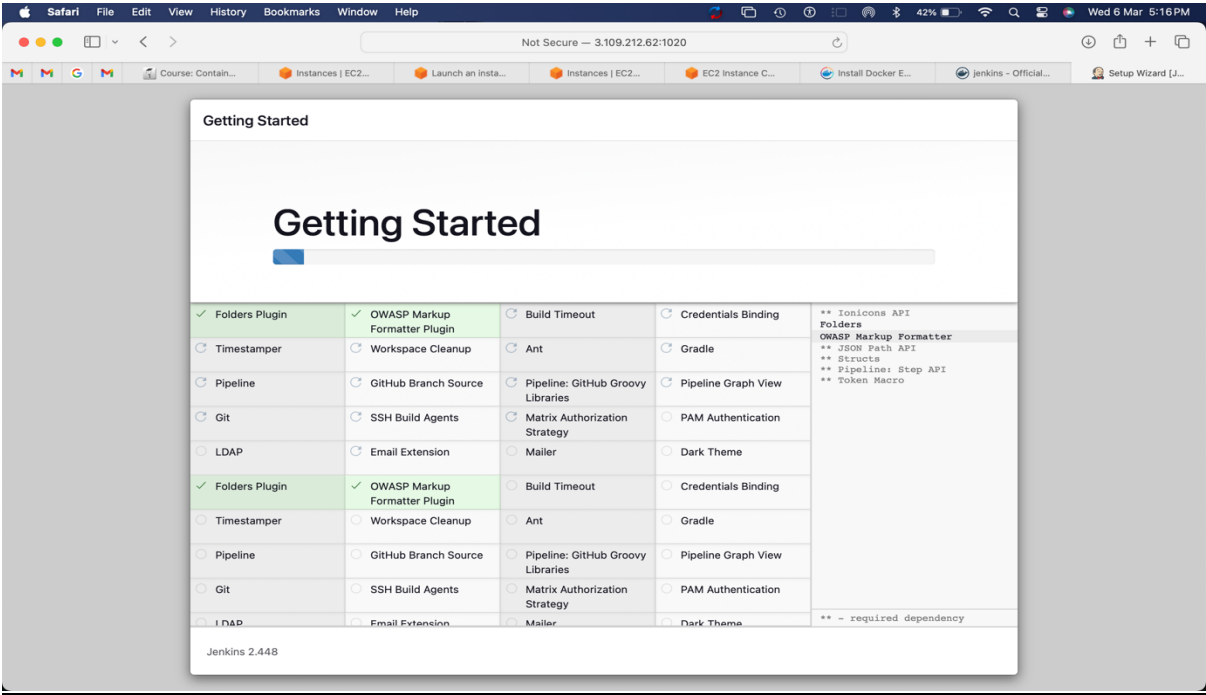
### **STEP-5: DOCKER RUN JENKINS IMAGE ALONG WITH DATA PORT AND CONTROL PORT**

COMMAND: docker run -p 1210:8080 -p 50000:50000 jenkins/Jenkins

[illegible]

**STEP-6: EXPOSE JENKINS IMAGE USING DATA PORT**

Copy public ip of ec2 and paste along with data port on new tab of browser



**End of the practical (Last page)**

**Sign**  
**Subject In charge: Dr. Swapnil Waghmare**