

# Udacity Capstone Project

## SCREENSHOTS

1. Code is checked against a linter as part of a Continuous Integration step

The screenshot shows a CircleCI build interface for a user named 'nitinbhagwat'. The build is titled 'build\_lint' and has a 'Success' status. The build details include: Duration / Finished (14s / 44m ago), Queued (0s), Executor / Resource Class (Docker / Large), Branch (master), Commit (a788c5b), and Author & Message (ports exposed to LB). The build steps are listed under the 'STEPS' tab:

Step	Duration	Actions
Spin up environment	0s	🔄 ⬇
Preparing environment variables	0s	🔄 ⬇
Checkout code	1s	🔄 ⬇
Restoring cache	5s	🔄 ⬇
Install dependencies	2s	🔄 ⬇
Saving cache	0s	🔄 ⬇
run lint	2s	🔄 ⬇

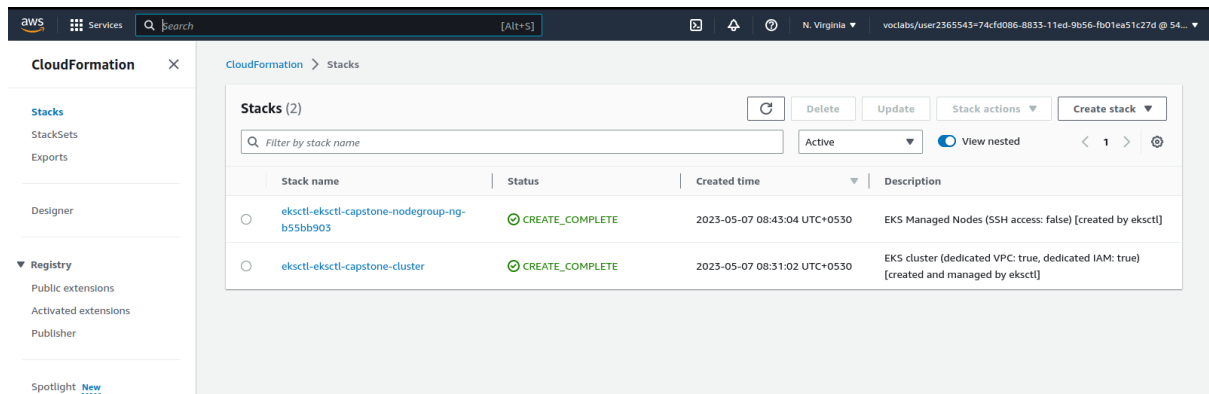
The screenshot shows the 'run lint' step of the CircleCI build. The step is expanded, showing the command execution and output. The command is:

```
#!/bin/bash -eo pipefail
. venv/bin/activate
make lint
```

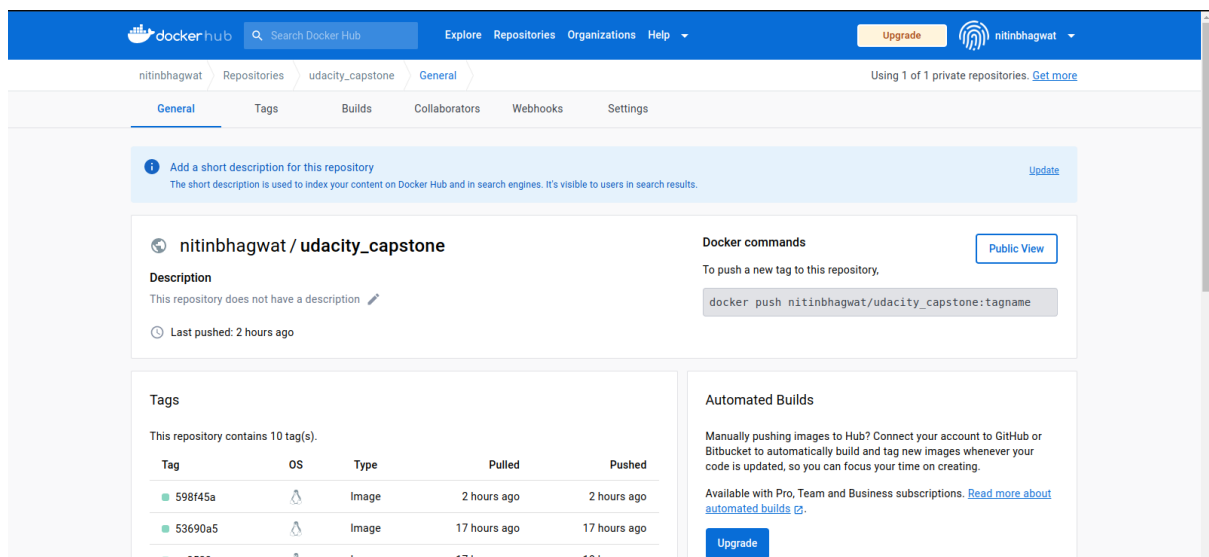
The output shows the installation of hadolint and pylint, and the execution of the lint command. The output is as follows:

```
1 #!/bin/bash -eo pipefail
2 . venv/bin/activate
3 make lint
4
5 # See local hadolint install instructions: https://github.com/hadolint/hadolint
6 # This is linter for Dockerfiles
7 ./hadolint Dockerfile
8 # This is a linter for Python source code linter: https://www.pylint.org/
9 # This should be run from inside a virtualenv
10 pylint --disable=R,C,W1203,W1202 app.py
11
12 .....
13 Your code has been rated at 10.00/10
14
15 CircleCI received exit code 0
```

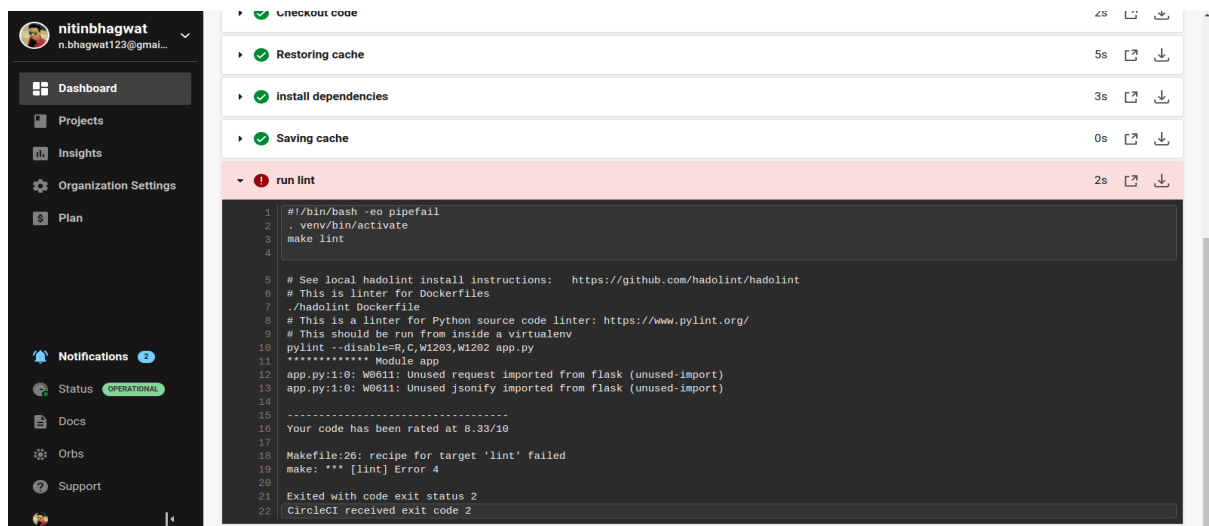
## 2. Show evidence of the tool that you used for deployment (i.e Ansible or CloudFormation)!



## 3. Show evidence of your centralized image repository!



## 4. Show evidence of failed linting!



## Successful Deployment

1. Screenshot of the Circle CI or Jenkins pipeline showing all stages passed successfully.

The screenshot shows the Circle CI interface for a project named 'capstone'. The pipeline is in a 'Success' state. The stages shown are 'build\_lint' (14s), 'push\_image' (52s), and 'create\_cluster' (18m 34s). The 'create\_cluster' stage is currently selected, showing details like 'Duration / Finished: 19m 58s / 16m ago', 'Branch: master', 'Commit: a788c5b', and 'Author & Message: ports exposed to LB'. A notification at the top states: 'Self-hosted machine runner version 1.0 on cloud will sunset on July 27, 2023, and will be temporarily unavailable on June 28. Update to 1.1'.

2. Screenshot of your AWS EC2 page showing the newly created (for blue/green) or modified (for rolling) instances running as the EKS cluster nodes.

The screenshot shows the AWS Management Console 'Instances' page. Two instances are listed, both in a 'Running' state. The instance 'eksctl-capstone-ng-b55bb903-Node' is selected, and its details are shown below. The instance is an 'm5.large' type, located in 'us-east-1d' availability zone. It has a public IPv4 address of '54.144.241.235' and private IPv4 addresses of '192.168.114.198' and '192.168.117.246'. The instance state is 'Running'.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
eksctl-capstone-ng-b55bb903-Node	i-0b804acb14ea27112	Running	m5.large	2/2 checks passed	No alarms	us-east-1d	ec2-54-144-241-235
eksctl-capstone-ng-b55bb903-Node	i-0edbf10fefb6bb5d6	Running	m5.large	2/2 checks passed	No alarms	us-east-1c	ec2-3-87-141-248.co

**Instance: i-0b804acb14ea27112 (eksctl-capstone-ng-b55bb903-Node)**

Instance summary	
Instance ID	i-0b804acb14ea27112 (eksctl-capstone-ng-b55bb903-Node)
Public IPv4 address	54.144.241.235   open address
Private IPv4 addresses	192.168.114.198, 192.168.117.246
Instance state	Running
Public IPv4 DNS	ec2-54-144-241-235.compute-1.amazonaws.com   open address
Private IP DNS name (IPv4 only)	

3. Screenshot of the kubectl command output showing that the deployment is successful, pods are running, and the service can be accessed via an external IP or port forwarding.

The screenshot shows a terminal window with a sidebar on the left containing navigation links: Dashboard, Projects, Insights, Organization Settings, and Plan. The main terminal area displays the output of an AWS EKS cluster creation process. It includes timestamps, node status updates, and a final kubectl command output. The kubectl output shows the deployment of 'udacity-capstone' as a ReplicaSet, with a table of pod status. The pods are in a 'Running' state.

```
75 2023-05-07 03:17:20 [I] node "ip-192-168-91-63.ec2.internal" is ready
76 2023-05-07 03:17:20 [I] waiting for at least 2 node(s) to become ready in "ng-b55bb983"
77 2023-05-07 03:17:20 [I] nodegroup "ng-b55bb983" has 2 node(s)
78 2023-05-07 03:17:20 [I] node "ip-192-168-114-198.ec2.internal" is ready
79 2023-05-07 03:17:20 [I] node "ip-192-168-91-63.ec2.internal" is ready
80 2023-05-07 03:17:21 [I] kubectl command should work with "/home/circleci/.kube/config", try 'kubectl get nodes'
81 2023-05-07 03:17:21 [✓] EKS cluster "eksctl-capstone" in ***** region is ready
82 Added new context arn:aws:eks:*****:547253712074:cluster/eksctl-capstone to /home/circleci/.kube/config
83 deployment.apps/udacity-capstone created
84 NAME READY UP-TO-DATE AVAILABLE AGE
85 deployment.apps/udacity-capstone 0/1 1 0 1s
86
87 NAME DESIRED CURRENT READY AGE
88 replicaset.apps/udacity-capstone-6c98869d7 1 1 0 1s
89
90 NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
91 service/kubernetes ClusterIP 10.100.0.1 <none> 443/TCP 10m
92
93 NAME READY STATUS RESTARTS AGE
94 pod/udacity-capstone-6c98869d7-m5kw8 0/1 ContainerCreating 0 0s
95
96 NAME STATUS ROLES AGE VERSION
97 node/ip-192-168-114-198.ec2.internal Ready <none> 77s v1.25.7-eks-a59e1f0
98 node/ip-192-168-91-63.ec2.internal Ready <none> 76s v1.25.7-eks-a59e1f0
99 udacity-capstone-6c98869d7-m5kw8
100 NAME READY STATUS RESTARTS AGE
101 udacity-capstone-6c98869d7-m5kw8 1/1 Running 0 61s
102 service/udacity-capstone exposed
103 kubectl getting deployments...
104 NAME READY UP-TO-DATE AVAILABLE AGE
105 udacity-capstone 1/1 1 1 2m4s
106 CircleCI received exit code 0
```

4. Screenshot showing that you can access the application after deployment.

URL to access it:

<http://aa004aae01db54794a45850001a43100-1194270905.us-east-1.elb.amazonaws.com/>

