

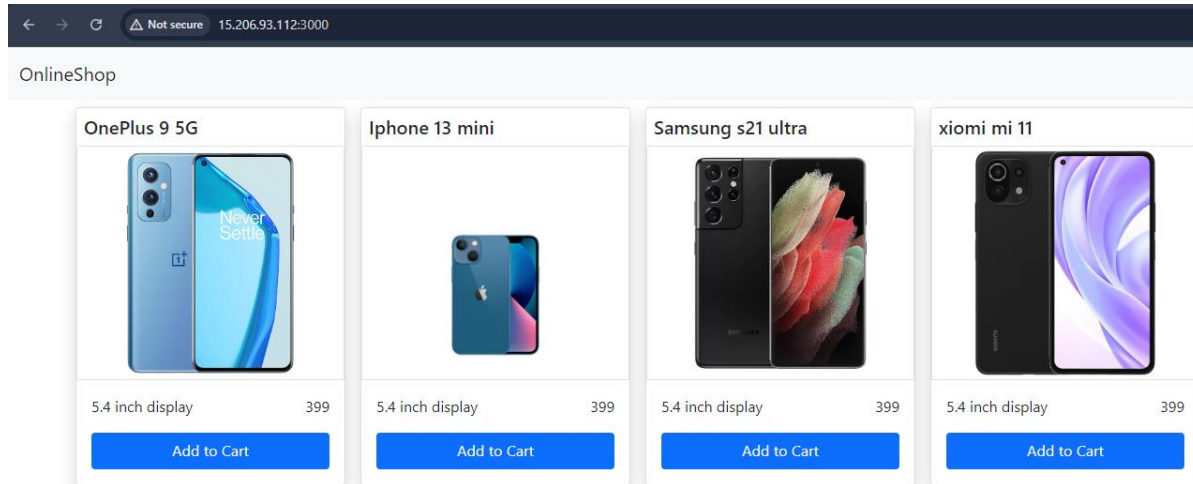
CAPSTONE PROJECT

1. GitHub Repo URL

<https://github.com/N-Moorthy/CapstoneProject.git>

2. Deployed Site URL

<http://15.206.93.112:3000/>



3. Docker Images with Names

```
ubuntu@ip-172-31-33-212:~/CapstoneProject$ docker images
REPOSITORY          TAG          IMAGE ID      CREATED        SIZE
hanumith/prodcapstone  v1          90cbd047f281  11 minutes ago  191MB
capimg              latest       90cbd047f281  11 minutes ago  191MB
hanumith/devcapstone  v1          cd1ec80ecaec  13 minutes ago  191MB
nginx                latest       e0c9858e10ed  6 days ago     188MB
ubuntu@ip-172-31-33-212:~/CapstoneProject$
```

4. AWS EC2 Console

Instances (2) Info

Find Instance by attribute or tag (case-sensitive)

All states

| <input type="checkbox"/> | Name | Instance ID | Instance state | Instance type | Status check | Alarm status | Availability Zone | Public IPv4 DNS | Public IPv4 ... | Elastic IP |
|--------------------------|------------|---------------------|-------------------------------|---------------|---|--------------------------|-------------------|--------------------------|-----------------|------------|
| <input type="checkbox"/> | MonitorEC2 | i-0447555dc3ff431a3 | <div><div></div>Running</div> | t2.micro | <div><div></div>2/2 checks passed</div> | <div>View alarms +</div> | ap-south-1a | ec2-3-110-128-65.ap-s... | 3.110.128.65 | - |
| <input type="checkbox"/> | Capstone | i-0bd154f0f3874caaf | <div><div></div>Running</div> | t2.micro | <div><div></div>2/2 checks passed</div> | <div>View alarms +</div> | ap-south-1a | ec2-15-206-93-112.ap-... | 15.206.93.112 | - |

5. SG Configurations

i-0bd154f0f3874caaf (Capstone)

Details

Status and alarms

Monitoring

Security

Networking

Storage

Tags

▼ Security details


IAM Role

–

Security groups

sg-02e25d836913dc3e1 (launch-wizard-22)

Owner ID

 339712699389







Launch time

Mon Jun 24 2024 12:58:08 GMT+0530 (India Standard Time)

▼ Inbound rules

Q


Filter rules

| Name | Security group rule ID | Port range | Protocol | Source | Security groups | Description |
|------|------------------------|------------|----------|-----------------|--|-------------|
| – | sgr-081d5b615265f144a | 22 | TCP | 192.168.56.1/32 | launch-wizard-22  | – |
| – | sgr-0bdfbda84d04633bb | 9100 | TCP | 0.0.0.0/0 | launch-wizard-22  | – |
| – | sgr-06cece3b20f0b0b50 | 3000 | TCP | 0.0.0.0/0 | launch-wizard-22  | – |
| – | sgr-07e124e61cd89023f | 22 | TCP | 0.0.0.0/0 | launch-wizard-22  | – |
| – | sgr-07fec67597920df2 | 80 | TCP | 0.0.0.0/0 | launch-wizard-22  | – |
| – | sgr-00d0a0044672bf934 | 8080 | TCP | 0.0.0.0/0 | launch-wizard-22  | – |

▼ Outbound rules

Q

Filter rules

| Name | Security group rule ID | Port range | Protocol | Destination | Security groups | Description |
|------|------------------------|------------|----------|-------------|--|-------------|
| – | sgr-0f8862a11bf9aa6b6 | All | All | 0.0.0.0/0 | launch-wizard-22  | – |

6.Docker Hub Repos (Private – Prod & Public – Dev) with Image Names

dockerhub

Explore

Repositories

Organizations

Search Docker Hub

ctrl+K

?

H

hanumith

Search by repository name

All Content

Create repository

hanumith / prodcapstone

Contains: Image • Last pushed: 6 minutes ago

☆ 0

↓ 0

Private

Scout inactive

hanumith / devcapstone

Contains: Image • Last pushed: 8 minutes ago

☆ 0

↓ 0

Public

Scout inactive

hanumith/prodcapstone

Updated 8 minutes ago

Private Prod repo for Capstone

This repository does not have a category

Docker commands

To push a new tag to this repository:

docker push hanumith/prodcapstone:tagname

Tags

This repository contains 1 tag(s).

| Tag | OS | Type | Pulled | Pushed |
|-----|----|-------|--------|---------------|
| v1 | | Image | --- | 8 minutes ago |

See all

Automated Builds

Manually pushing images to Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.

Available with Pro, Team and Business subscriptions. [Read more about automated builds](#)

Upgrade

hanumith/devcapstone

Updated 12 minutes ago

Public Dev repo for Capstone

This repository does not have a category

Docker commands

To push a new tag to this repository:

docker push hanumith/devcapstone:tagname

Tags

This repository contains 1 tag(s).

| Tag | OS | Type | Pulled | Pushed |
|-----|----|-------|--------|----------------|
| v1 | | Image | --- | 12 minutes ago |

See all

Automated Builds

Manually pushing images to Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.

Available with Pro, Team and Business subscriptions. [Read more about automated builds](#)


Upgrade

7.Deployed Site

OnlineShop

Home Login SignUp


OnePlus 9 5G



5.4 inch display 399

Add to Cart


Iphone 13 mini



5.4 inch display 399

Add to Cart


Samsung s21 ultra



5.4 inch display 399

Add to Cart


xiomi mi 11



5.4 inch display 399

Add to Cart


OnePlus 9 5G



5.4 inch display 399

Add to Cart


Iphone 13 mini



5.4 inch display 399

Add to Cart


Samsung s21 ultra



5.4 inch display 399

Add to Cart


xiomi mi 11



5.4 inch display 399

Add to Cart


OnePlus 9 5G



5.4 inch display 399

Add to Cart


Iphone 13 mini



5.4 inch display 399

Add to Cart


Samsung s21 ultra



5.4 inch display 399

Add to Cart

xiomi mi 11

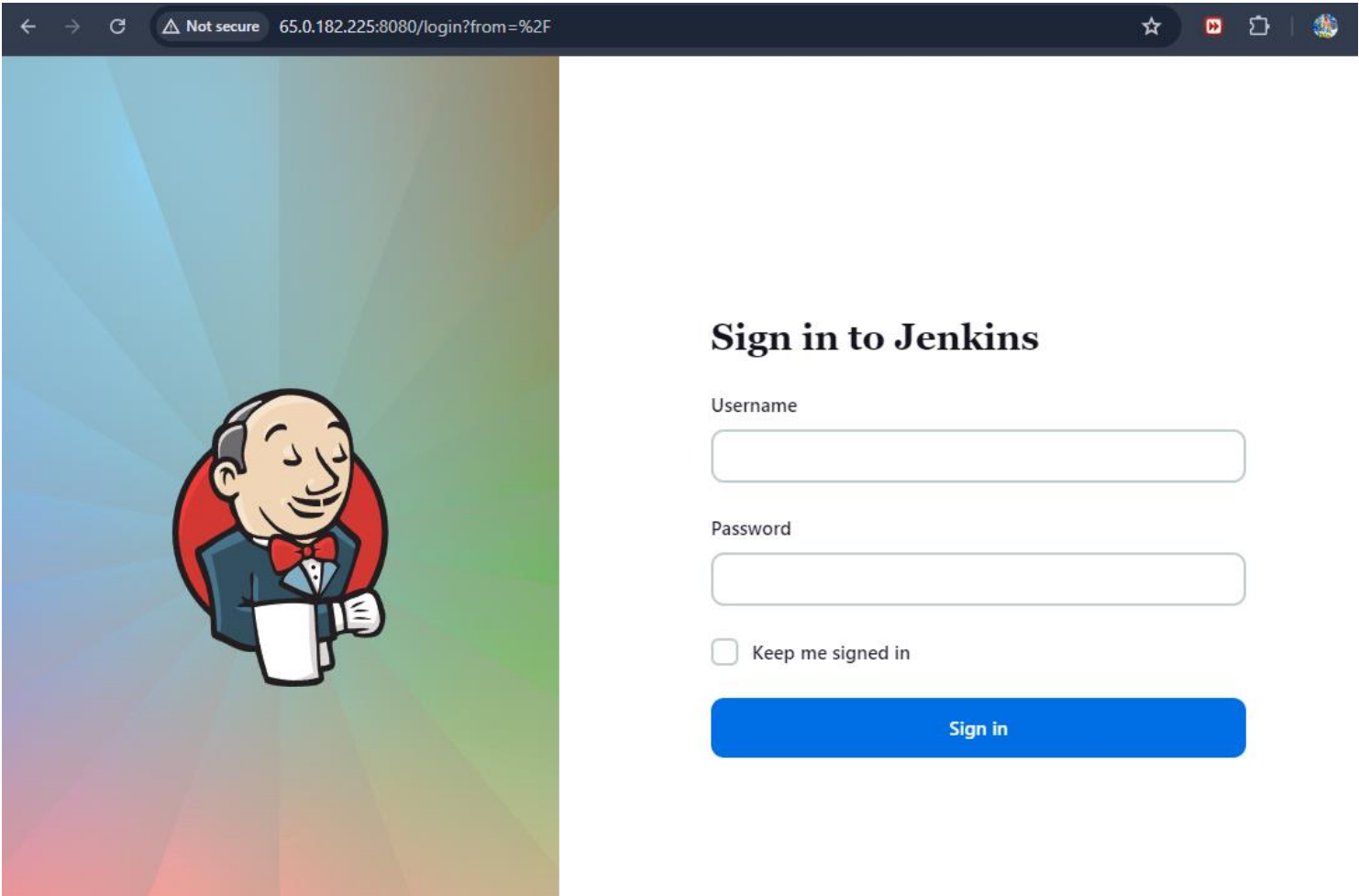


5.4 inch display 399

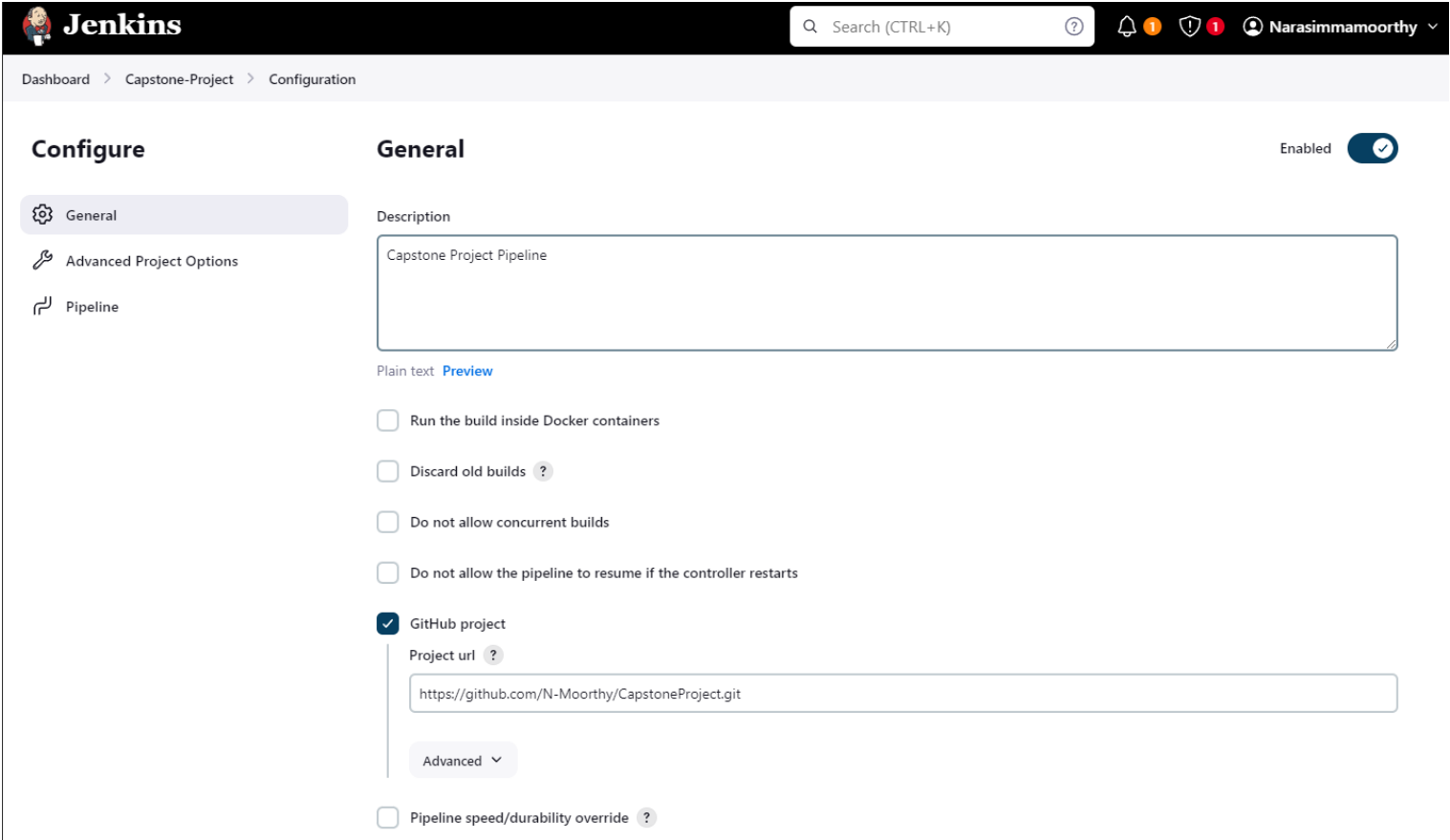
Add to Cart

2 | Page

8.Jenkins Login Screens



9. Jenkins Configuration



←→↻⚠ Not secure65.0.182.225:8080/job/Capstone-Project/configure☆▶

Dashboard > Capstone-Project > Configuration

Configure

⚙ General

🔑 Advanced Project Options

🔧 Pipeline

Build Triggers

☐ Build after other projects are built ?

☐ Build periodically ?

☐ GitHub Branches

☐ GitHub Pull Request Builder

☐ GitHub Pull Requests ?

☒ GitHub hook trigger for GITScm polling ?

☐ Poll SCM ?

☐ Quiet period ?

☐ Trigger builds remotely (e.g., from scripts) ?

Advanced Project Options

Advanced ▾

←→↻⚠ Not secure65.0.182.225:8080/job/Capstone-Project/configure☆▶

Dashboard > Capstone-Project > Configuration

Configure

⚙ General

🔑 Advanced Project Options

🔧 Pipeline

Pipeline

Definition

Pipeline script from SCM ▾

SCM ?

Git ▾ ?

Repositories ?

Repository URL ?

https://github.com/N-Moorthy/CapstoneProject.git

Credentials ?

N-Moorthy/***** (GitHub Credentials) ▾

+ Add ▾

Advanced ▾

Add Repository

Branches to build ?

Branch Specifier (blank for 'any') ?

*/Prod

Branch Specifier (blank for 'any') ?

*/Dev

Add Branch

Repository browser ?

(Auto) ▾

Save

Apply

10. Pipeline Run & Output

←

→

↺

⚠ Not secure

65.0.182.225:8080

Jenkins

Search (CTRL+K)

🔔

🔒

🔒

🔒

Dashboard >

+ New Item

📅 Build History

🔗 Project Relationship

🔍 Check File Fingerprint

⚙ Manage Jenkins

📁 My Views

All

+

| S | W | Name | Last Success | Last Failure | Last Duration |
|---|---|------------------|------------------|--------------|---------------|
| 🟢 | 🌤 | Capstone-Project | 6 min 58 sec #40 | 11 min #39 | 12 sec |

Icon: S M L

←

→

↺

⚠ Not secure

65.0.182.225:8080/job/Capstone-Project/41/pipeline-graph/

☆

🔔

🔒

🔒

Narasimmamoorthy

🔗

Dashboard > Capstone-Project > #41 > Pipeline Overview

🟢 < Build #41

▶ Rebuild

📄 Console

⚙ Configure

Pipeline

Start

Checkout SCM

Checkout SCM

Build

Push to Docker ...

Deploy

Post Actions

End

Details

🕒 Started 2 min 31 sec ago

⌚ Queued 9.4 sec

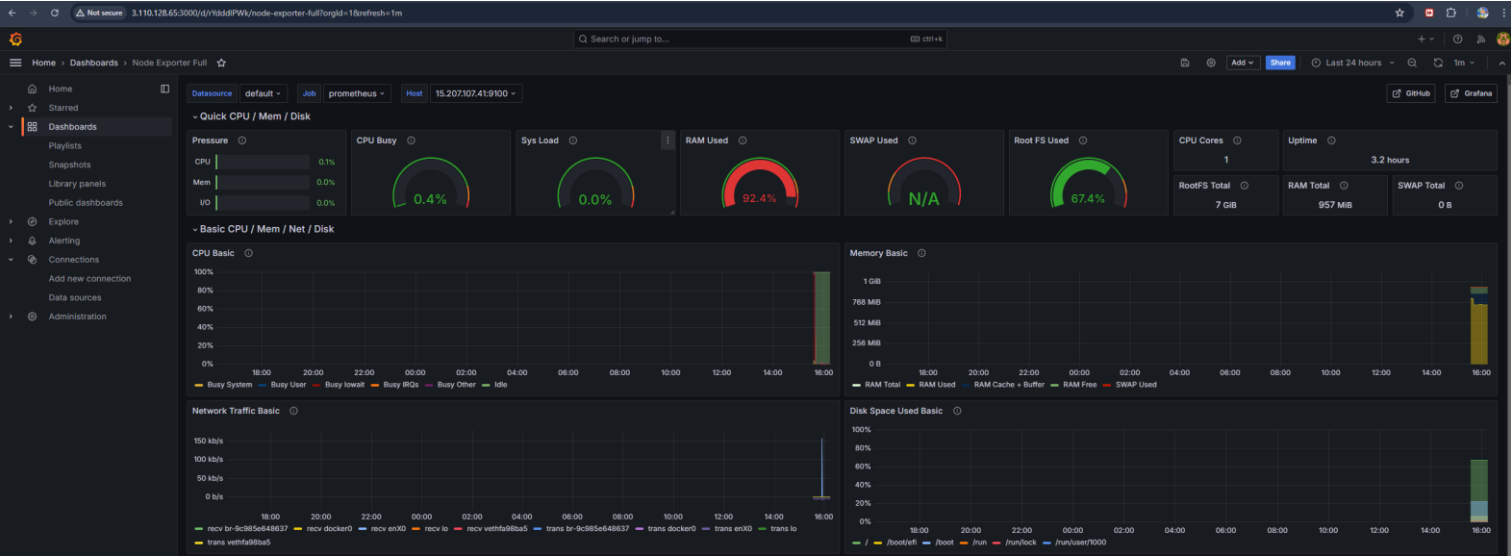
🕒 Took 47 sec

11.Excuted Steps

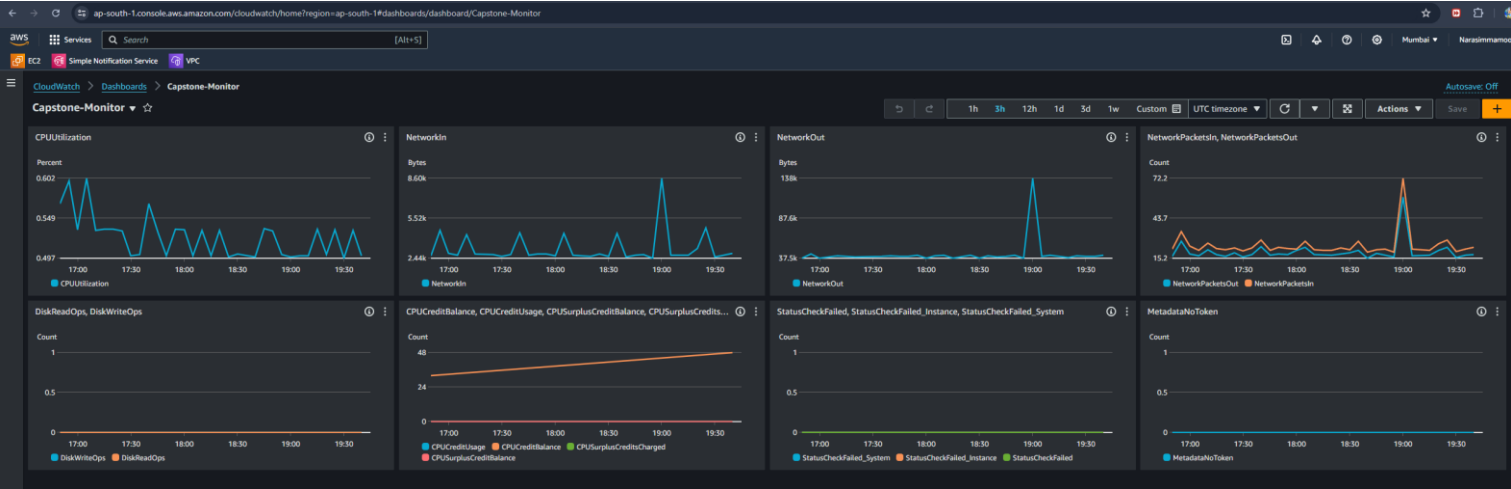
Dashboard > Capstone-Project > #41

```
Creating network "capstone-project_default" with the default driver
Creating capstone-project_web_1 ...
Creating capstone-project_web_1 ... done
The push refers to repository [docker.io/hanumith/devcapstone]
90d27768662f: Preparing
3cf30c944fca: Preparing
16d40ad06803: Preparing
cf1614267117: Preparing
e5ec4dd3995c: Preparing
e8186e892c11: Preparing
a9a1ca1cae25: Preparing
1387079e86ad: Preparing
e8186e892c11: Waiting
a9a1ca1cae25: Waiting
1387079e86ad: Waiting
e5ec4dd3995c: Layer already exists
3cf30c944fca: Layer already exists
16d40ad06803: Layer already exists
cf1614267117: Layer already exists
90d27768662f: Layer already exists
a9a1ca1cae25: Layer already exists
1387079e86ad: Layer already exists
e8186e892c11: Layer already exists
v1: digest: sha256:6fd246a05d2ccbaa037e647a0cca96a186597fe8843d22d5929d393b30a8f784 size: 1989
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Declarative: Post Actions)
[Pipeline] script
[Pipeline] {
[Pipeline] echo
Cleaning up...
[Pipeline] sh
+ docker logout
Removing login credentials for https://index.docker.io/v1/
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // withCredentials
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

12. Health Check Monitoring



13. Monitoring Setup with AWS Cloudwatch



13.Email alarm notification configuration

The screenshot shows the 'Configure actions' page in the AWS CloudWatch console. The page is divided into two main sections: 'Notification' and 'Send a notification to the following SNS topic'. The 'Notification' section has three radio buttons: 'In alarm' (selected), 'OK', and 'Insufficient data'. The 'Send a notification to the following SNS topic' section has three radio buttons: 'Select an existing SNS topic' (selected), 'Create new topic', and 'Use topic ARN to notify other accounts'. Below this, there's a search bar for 'mySNS' and a list of email endpoints, including 'use.tempo@outlook.com'. The page also includes a 'Preview and create' button at the bottom.

←→↻ap-south-1.console.aws.amazon.com/cloudwatch/home?region=ap-south-1#alarmsV2:create?~(Page~'Preview~AlarmType~'MetricAlarm~AlarmData~(Namespace~'AWS*2FEC2~MetricName~'CPUUtilization~Dimensions~(-(Name

aws

Services

Search

[Alt+S]

EC2

Simple Notification Service

VPC

CloudWatch

Alarms

Create alarm

Step 1

Specify metric and conditions

Step 2

Configure actions

Step 3

Add name and description

Step 4

Preview and create

Preview and create

Step 1: Specify metric and conditions

Edit

Metric

Graph

This alarm will trigger when the blue line goes above the red line for 3 datapoints within 15 minutes.

Percent

80

40.2

0.367

06:30

07:30

08:30

CPUUtilization

Namespace

AWS/EC2

Metric name

CPUUtilization

Instanceld

i-Obd154f0f3874caaf

Instance name

Capstone

Statistic

Average

Period

5 minutes

Conditions

Threshold type

Static

Whenever CPUUtilization is

Greater (>)

than...

80

Additional configuration

Datapoints to alarm

3 out of 3

Missing data treatment

Treat missing data as missing

←→↻ap-south-1.console.aws.amazon.com/cloudwatch/home?region=ap-south-1#alarmsV2:alarm/AWS2FEC2~CPUUtilization~InstanceId~i-Obd154f0f3874caaf?~(sortingColumn~'state~sortingDirection~'DESC

aws

Services

Search

[Alt+S]

EC2

Simple Notification Service

VPC

CloudWatch

Alarms

AWS/EC2 CPUUtilization InstanceId=i-Obd154f0f3874caaf

Alarms (1)

Search

Alarm state: Any

Alarm type: Any

Actions status: Any

Hide Auto Scaling alarms

1

AWS/EC2 CPUUtilization InstanceId=i-Obd154f0f3874caaf

Metric alarm

OK

AWS/EC2 CPUUtilization InstanceId=i-Obd154f0f3874caaf

Graph

1h3h12h1d3d1wCustomUTC timezone

CPUUtilization

CPUUtilization > 80 for 3 datapoints within 15 minutes

Percent

80

40.2

0.365

05:45

06:00

06:15

06:30

06:45

07:00

07:15

07:30

07:45

08:00

08:15

08:30

08:45

CPUUtilization

Click timeline to see the state change at the selected time.

In alarmOKInsufficient dataDisabled actions

Details

Tags

Actions

History

Parent alarms

Details

Name

AWS/EC2 CPUUtilization InstanceId=i-Obd154f0f3874caaf

Type

Metric alarm

Description

This alarm helps to monitor the CPU utilization of an EC2 instance. Depending on the application, consistently high utilization levels might be normal. But if performance is degraded, and the application is not constrained by disk I/O, memory, or network resources, then a maxed-out CPU might indicate a resource bottleneck or application performance problems. High CPU utilization might indicate that an upgrade to a more CPU intensive instance is required. If detailed monitoring is

State

OK

Threshold

CPUUtilization > 80 for 3 datapoints within 15 minutes

Last state update

2024-06-24 08:47:59 (UTC)

Actions

Actions enabled

Namespace

AWS/EC2

Metric name

CPUUtilization

Instanceld

i-Obd154f0f3874caaf

Instance name

Capstone

Statistic

Average

Period

5 minutes

Datapoints to alarm

3 out of 3

Missing data treatment

Treat missing data as missing

Percentiles with low samples

evaluate

ARN

arn:aws:cloudwatch:ap-south-1:339712699389:alarm:AWS/EC2 CPUUtilization InstanceId=i-Obd154f0f3874caaf

ap-south-1console.aws.amazon.com/cloudwatch/home?region=ap-south-1#alarmsV2

Services

Search

[Alt+S]

EC2

Simple Notification Service

VPC

CloudWatch

Alarms

Alarms (3)

Hide Auto Scaling alarms

Clear selection

Create composite alarm

Actions

Create alarm

Q Search

Alarm state: Any

Alarm type: Any

Actions status: Any

< 1 >

| <input type="checkbox"/> | Name | State | Last state update (UTC) | Conditions | Actions |
|--------------------------|---|-------|-------------------------|--|-----------------|
| <input type="checkbox"/> | Capstone EC2 is Not Available | OK | 2024-06-24 17:01:29 | StatusCheckFailed > 1 for 1 datapoints within 5 minutes | Actions enabled |
| <input type="checkbox"/> | Instance Not Available | OK | 2024-06-24 16:59:37 | StatusCheckFailed_Instance > 1 for 1 datapoints within 5 minutes | Actions enabled |
| <input type="checkbox"/> | AWS/EC2 CPUUtilization InstanceId=i-0bd154f0f3874caaf | OK | 2024-06-24 12:51:59 | CPUUtilization > 80 for 3 datapoints within 15 minutes | Actions enabled |

ap-south-1console.aws.amazon.com/cloudwatch/home?region=ap-south-1#home

Services

Search

[Alt+S]

EC2

Simple Notification Service

VPC

CloudWatch

Overview

Overview

Filter by resource group

info

Actions

Alarms by AWS service

View recent alarms dashboard

Services

In alarm 0

Insufficient data 0

OK 3

EC2

[5]

Recent alarms

View recent alarms dashboard

Capstone EC2 is Not Available

Count

1

0.5

0

17:00 17:30 18:00 18:30 19:00 19:30

StatusCheckFailed

Instance Not Available

Count

1

0.5

0

17:00 17:30 18:00 18:30 19:00 19:30

StatusCheckFailed_Instance