

# Project

## React Application Deployment

Created an EC2 Instance:

Instance summary for i-010d44f257dbdcee6 (Host Server) [Info](#)

Updated less than a minute ago

Instance ID

[i-010d44f257dbdcee6](#)

IPv6 address

-

Hostname type

IP name: ip-172-31-91-40.ec2.internal

Answer private resource DNS name

IPv4 (A)

Auto-assigned IP address

[3.86.217.197](#) [Public IP]

IAM Role

-

IMDSv2

Required

Public IPv4 address

[3.86.217.197](#) | [open address](#)

Instance state

Running

Private IP DNS name (IPv4 only)

[ip-172-31-91-40.ec2.internal](#)

Instance type

t2.micro

VPC ID

[vpc-04128524c1110493f](#)

Subnet ID

[subnet-08ee724a529140ed4](#)

Instance ARN

[arn:aws:ec2:us-east-1:471112544044:instance/i-010d44f257dbdcee6](#)

Private IPv4 addresses

[172.31.91.40](#)

Public IPv4 DNS

[ec2-3-86-217-197.compute-1.amazonaws.com](#) | [open address](#)

Elastic IP addresses

-

AWS Compute Optimizer finding

[Opt-in to AWS Compute Optimizer for recommendations.](#) | [Learn more](#)

Auto Scaling Group name

-

Managed

false

SG Group:

Details

Status and alarms

Monitoring

Security

Networking

Storage

Tags

▼ Security details

IAM Role

-

Security groups

[sg-09d990f5b353cfabb](#) (launch-wizard-7)

Owner ID

[471112544044](#)

Launch time

Mon Feb 03 2025 10:45:20 GMT+0530 (India Standard Time)

▼ Inbound rules

Q

Filter rules

<

1

>

Name	Security group rule ID	Port range	Protocol	Source	Security groups
-	sgr-060ec2baa4c3204a2	22	TCP	0.0.0.0/0	<a href="#">launch-wizard-7</a>
-	sgr-0c66b832935177bcc	80	TCP	0.0.0.0/0	<a href="#">launch-wizard-7</a>
-	sgr-06f817e192e750c29	443	TCP	0.0.0.0/0	<a href="#">launch-wizard-7</a>
-	sgr-07e35bb794c1d5ef6	8080	TCP	0.0.0.0/0	<a href="#">launch-wizard-7</a>

## Installing Docker:

```
[root@ip-172-31-91-30 ec2-user]# sudo yum update -y
Last metadata expiration check: 0:08:39 ago on Wed Dec 4 14:47:11 2024.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-172-31-91-30 ec2-user]# sudo yum install -y docker
Last metadata expiration check: 0:09:15 ago on Wed Dec 4 14:47:11 2024.
Dependencies resolved.
```

Package	Architecture	Version	Repository
Installing:			
<b>docker</b>	x86_64	25.0.6-1.amzn2023.0.2	amazonlinux
Installing dependencies:			
<b>containerd</b>	x86_64	1.7.23-1.amzn2023.0.1	amazonlinux
<b>iptables-libs</b>	x86_64	1.8.8-3.amzn2023.0.2	amazonlinux
<b>iptables-nft</b>	x86_64	1.8.8-3.amzn2023.0.2	amazonlinux
<b>libcgroup</b>	x86_64	3.0-1.amzn2023.0.1	amazonlinux
<b>libnetfilter_conntrack</b>	x86_64	1.0.8-2.amzn2023.0.2	amazonlinux
<b>libnftnl</b>	x86_64	1.0.1-19.amzn2023.0.2	amazonlinux
<b>libnftnl</b>	x86_64	1.2.2-2.amzn2023.0.2	amazonlinux
<b>pigz</b>	x86_64	2.5-1.amzn2023.0.3	amazonlinux
<b>runc</b>	x86_64	1.1.14-1.amzn2023.0.1	amazonlinux

```
Transaction Summary
=====
```

## Installed GIT and cloned:

```
[ec2-user@ip-172-31-91-30 ~]$ git --version
git version 2.40.1
[ec2-user@ip-172-31-91-30 ~]$ git clone https://github.com/sriram-R-krishnan/devops-build
Cloning into 'devops-build'...
remote: Enumerating objects: 21, done.
remote: Total 21 (delta 0), reused 0 (delta 0), pack-reused 21 (from 1)
Receiving objects: 100% (21/21), 720.09 KiB | 19.46 MiB/s, done.
[ec2-user@ip-172-31-91-30 ~]$
```

## Created a Dockerfile and entered the command:

```
receiving objects: 100% (21/21), 720.09 KiB | 19.46 MiB/s, done.
[ec2-user@ip-172-31-91-30 ~]$ cd devops-build
[ec2-user@ip-172-31-91-30 devops-build]$ touch Dockerfile
[ec2-user@ip-172-31-91-30 devops-build]$ ls
Dockerfile  build
[ec2-user@ip-172-31-91-30 devops-build]$ vim Dockerfile
[ec2-user@ip-172-31-91-30 devops-build]$ cat dockerfile
cat: dockerfile: No such file or directory
[ec2-user@ip-172-31-91-30 devops-build]$ cat Dockerfile
From node:16
WORKDIR /app
COPY PACKAGE*.json ./
RUN npm install
COPY..
RUN npm run build
EXPOSE 80
CMD ["npx", "serve", "build"]
```

## Created a Docker-compose.yml file:

```
CMD ["npm", "serve", "build"]
[ec2-user@ip-172-31-91-30 devops-build]$ touch docker-compose.yml
[ec2-user@ip-172-31-91-30 devops-build]$ vim docker-compose.yml
[ec2-user@ip-172-31-91-30 devops-build]$ cat docker-compose.yml
version: '3'

services:
  app:
    build: .
    ports:
      - "80:80"
    networks:
      - app-network

networks:
  app-network:
    driver: bridge
```

## Docker Build and pushed to Docker:

```
[root@ip-172-31-94-6 devops-build]# docker build -t react-app .
[+] Building 139.2s (16/16) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 657B
=> [internal] load metadata for docker.io/library/nginx:alpine
=> [internal] load metadata for docker.io/library/node:latest
=> [auth] library/nginx:pull token for registry-1.docker.io
=> [auth] library/node:pull token for registry-1.docker.io
=> [internal] load .dockerignore
=> => transferring context: 126B
=> [build 1/6] FROM docker.io/library/node:latest@sha256:ac6abe7d72fe2a535b331d862bf01e064abfd65c7b085c3ca6a51869014474a0
=> => resolve docker.io/library/node:latest@sha256:ac6abe7d72fe2a535b331d862bf01e064abfd65c7b085c3ca6a51869014474a0
=> => sha256:cd4e67a89bcbcf4f184f0a037f16058f3183a0c00f276c4ead3876cc2e5bcc893 2.49kB / 2.49kB
=> => sha256:f394fba5cbb762bb8e7b8fa106532e9e8183170c78e05abe1ff17b931918cd3e 6.39kB / 6.39kB
=> => sha256:fd894e782a221820acf469d425b802be26aadb5e5d26ea80a650ff6a974d488 48.50MB / 48.50MB
=> => sha256:551df7f94f9c131f2fec0e8063142411365f0a1c88b935b9fac22be91af227e0 64.39MB / 64.39MB
=> => sha256:ac6abe7d72fe2a535b331d862bf01e064abfd65c7b085c3ca6a51869014474a0 6.41kB / 6.41kB
=> => sha256:5bd71677db44bb63b94de61b6f1f95d5540b4ba2d6a8a6bc4d19f422b25e0c2b 23.87MB / 23.87MB
=> => sha256:ce82e98d553dd62ca6a12bebfe83992ae9f9ae2748275e74b66a68cc094f868b 211.31MB / 211.31MB
=> => sha256:a0f7a4e95027865cc2c2e45eb617f321f3704ef1fdcf39b7fba49c78eeadcac4 3.32kB / 3.32kB
=> => sha256:17dfd6debef57e62b15a3d5240fb2ea7280046660ff037ff956de52ea204ca3c8 56.83MB / 56.83MB
=> => sha256:42af6f6639ea4c5720e7b5e16681d904efald83973b4b7a64ee445449957f91b 1.25MB / 1.25MB
=> => extracting sha256:fd894e782a221820acf469d425b802be26aadb5e5d26ea80a650ff6a974d488
=> => sha256:db635c97727920f877565150eb32c5bcdf7177484083c6cd7a6b169d76b19ef4 447B / 447B
```

```
> => running cd docker.io/dev/react-app
[root@ip-172-31-94-6 devops-build]# docker tag dev/react-app sounderajan/dev:latest
[root@ip-172-31-94-6 devops-build]# docker push sounderajan/dev:latest
The push refers to repository [docker.io/sounderajan/dev]
7418847b3d2c: Pushed
2430c01bea64: Mounted from library/nginx
b11b58162504: Mounted from library/nginx
8b5ce426f73d: Mounted from library/nginx
884b72c14f15: Mounted from library/nginx
4a37dlb49911: Mounted from library/nginx
4e8a0009474a: Mounted from library/nginx
287563f25f8b: Mounted from library/nginx
75654b8eeebd: Mounted from library/nginx
latest: digest: sha256:7d852defee460f92e0f48b353e8a0931b0e10fe5ab6928a8c545b6f8204a606a size: 2199
```

## Deploy.sh

```
login succeeded
[root@ip-172-31-94-6 devops-build]# touch deploy.sh
[root@ip-172-31-94-6 devops-build]# docker run -d -p 8080:80 react-app
92937f8441d0cf32da2fa8c3918fcf89a2f6dd9a8d05f75ad5770234ad64736c
```

## Created a GIT HUB and pushed:

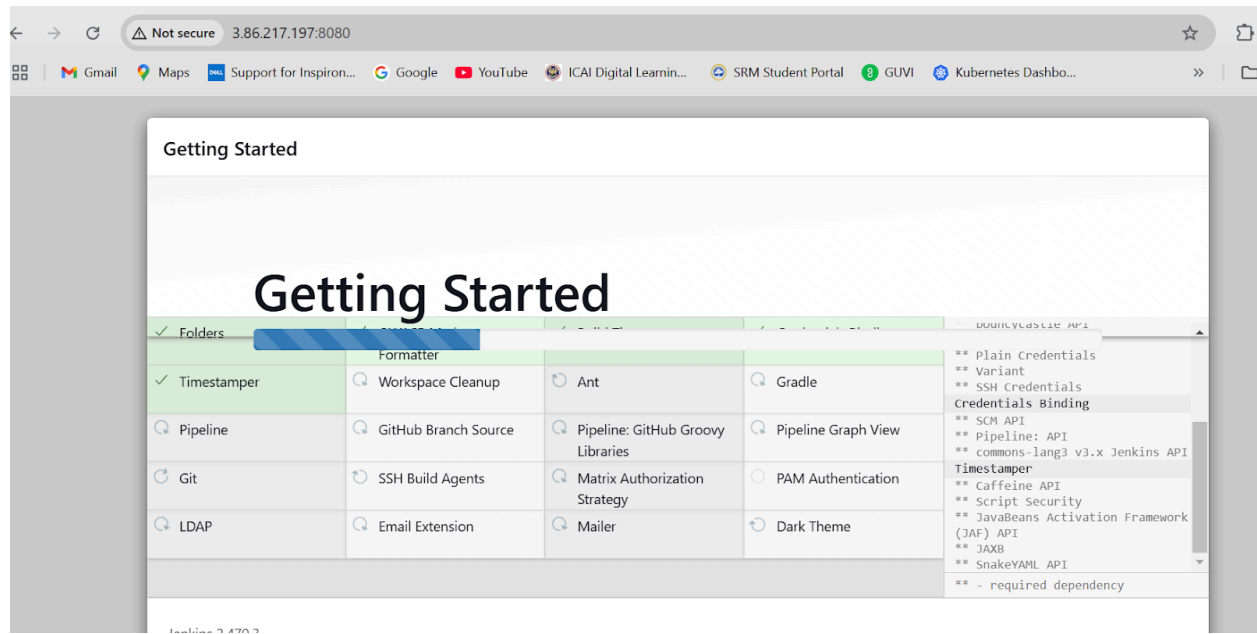
```
The most similar command is
column
[root@ip-172-31-94-6 devops-build]# git remote set-url origin https://github.com/sounderajan-22/devops-build.git
[root@ip-172-31-94-6 devops-build]# git remote -v
origin  https://github.com/sounderajan-22/devops-build.git (fetch)
origin  https://github.com/sounderajan-22/devops-build.git (push)
[root@ip-172-31-94-6 devops-build]# git push -u origin dev
Username for 'https://github.com': sounderajan-22
Password for 'https://sounderajan-22@github.com':
Enumerating objects: 35, done.
Counting objects: 100% (35/35), done.
Compressing objects: 100% (30/30), done.
Writing objects: 100% (35/35), 721.97 KiB | 80.22 MiB/s, done.
Total 35 (delta 0), reused 21 (delta 0), pack-reused 0
remote: This repository moved. Please use the new location:
remote:  https://github.com/Sounderajan-22/devops-build.git
To https://github.com/sounderajan-22/devops-build.git
 * [new branch]      dev -> dev
branch 'dev' set up to track 'origin/dev'.
```

The screenshot shows the GitHub interface for a repository named 'devops-build' under the user 'Sounderajan-22'. The repository is public and has 1 branch (dev) and 0 tags. The file list shows the following files, all committed 2 weeks ago:

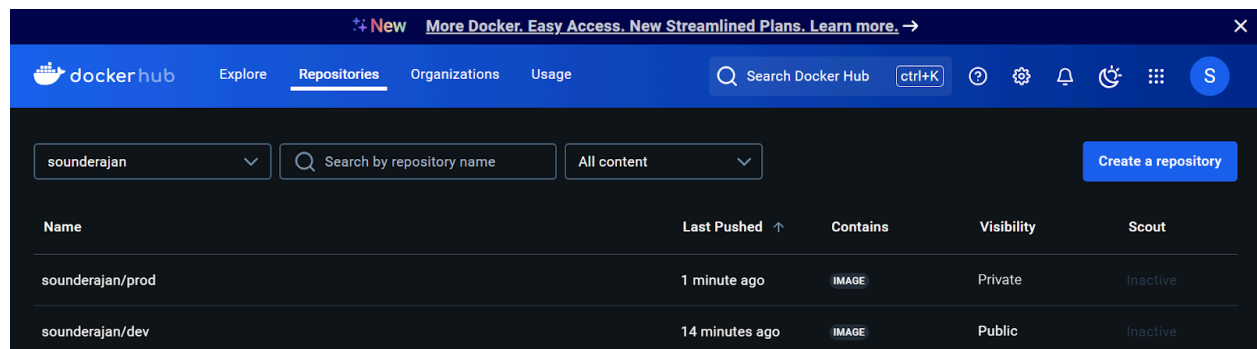
File	Commit
devops-build	ab48b31 · 2 weeks ago
.dockerignore	ab48b31 · 2 weeks ago
Dockercompose.yml	ab48b31 · 2 weeks ago
Dockerfile	ab48b31 · 2 weeks ago
build.sh	ab48b31 · 2 weeks ago
deploy.sh	ab48b31 · 2 weeks ago

The right sidebar shows the 'About' section with statistics: 0 stars, 1 watch, and 0 forks. The 'Releases' section shows 'No releases' and a link to 'Create a new release'. The 'Package' section is partially visible.

## Deployment to Jenkins

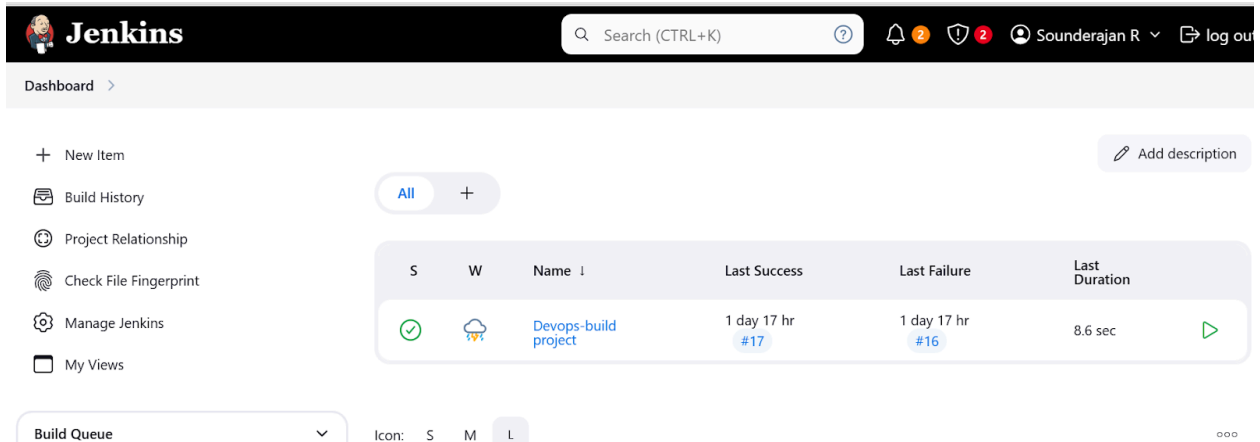


## Created 2 Repositories in DockerHUB:



## Start Jenkins:

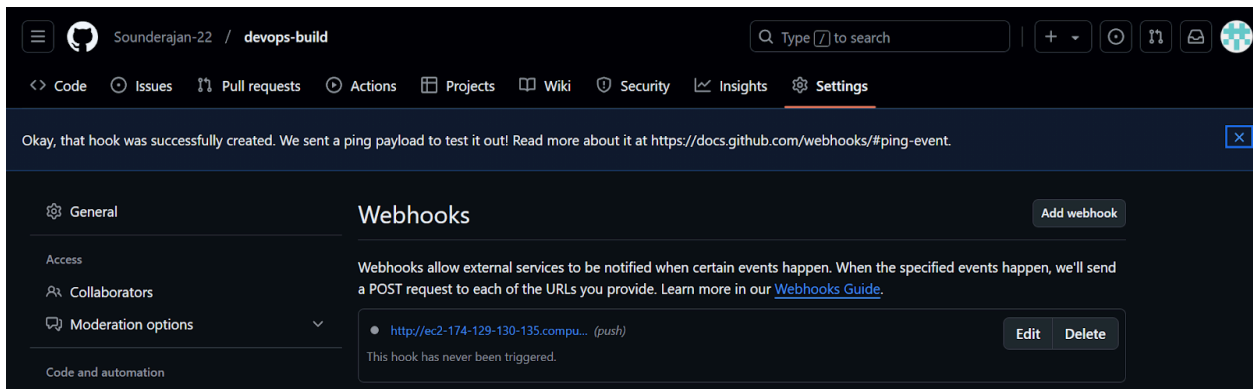
```
[root@ip-172-31-94-6 devops-build]# sudo vim /etc/systemd/system/jenkins.service
[root@ip-172-31-94-6 devops-build]# sudo systemctl daemon-reload
[root@ip-172-31-94-6 devops-build]# sudo systemctl start jenkins
[root@ip-172-31-94-6 devops-build]# sudo systemctl enable jenkins
[root@ip-172-31-94-6 devops-build]#
```



The screenshot shows the Jenkins Dashboard. At the top, there's a header with the Jenkins logo, a search bar, and user information (Sounderajan R). Below the header, the 'Dashboard' section is visible. On the left, there's a sidebar with navigation links: '+ New Item', 'Build History', 'Project Relationship', 'Check File Fingerprint', 'Manage Jenkins', and 'My Views'. The main content area displays a table of build history. The table has columns for 'S' (Success), 'W' (Warning), 'Name', 'Last Success', 'Last Failure', and 'Last Duration'. A single build is listed: 'Devops-build project' with a success status, a last success time of '1 day 17 hr #17', a last failure time of '1 day 17 hr #16', and a duration of '8.6 sec'. Below the table, there's a 'Build Queue' section and a filter for 'Icon: S M L'.

S	W	Name	Last Success	Last Failure	Last Duration
✓	⚠	Devops-build project	1 day 17 hr #17	1 day 17 hr #16	8.6 sec

## Created the webhook:

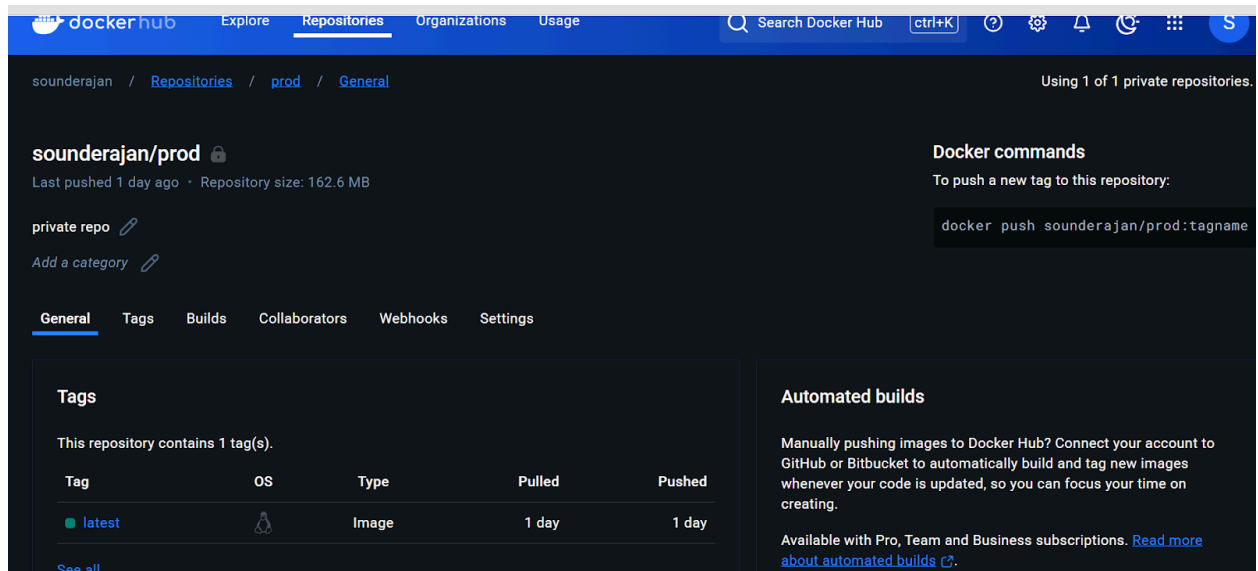


The screenshot shows the GitHub Webhooks configuration page for the 'devops-build' repository. The page has a header with the repository name and a search bar. Below the header, there's a navigation bar with links: 'Code', 'Issues', 'Pull requests', 'Actions', 'Projects', 'Wiki', 'Security', 'Insights', and 'Settings'. A message at the top states: 'Okay, that hook was successfully created. We sent a ping payload to test it out! Read more about it at https://docs.github.com/webhooks/#ping-event.' The main content area is titled 'Webhooks' and includes an 'Add webhook' button. Below this, there's a list of webhooks. One webhook is listed: 'http://ec2-174-129-130-135.compu... (push)'. Below the URL, it says 'This hook has never been triggered.' There are 'Edit' and 'Delete' buttons for this webhook. On the left, there's a sidebar with navigation links: 'General', 'Access', 'Collaborators', 'Moderation options', and 'Code and automation'.


Okay, that hook was successfully created. We sent a ping payload to test it out! Read more about it at <https://docs.github.com/webhooks/#ping-event>.

Webhooks
<a href="http://ec2-174-129-130-135.compu...">http://ec2-174-129-130-135.compu...</a> (push)
This hook has never been triggered.


## Pushed to Docker Hub:




The screenshot shows the Docker Hub interface for a repository named 'sounderajan/prod'. The repository is private and has a size of 162.6 MB. It was last pushed 1 day ago. The 'General' tab is selected, showing a table of tags. There is one tag named 'latest' of type 'Image', pushed 1 day ago. The 'Automated builds' section is also visible, explaining how to connect GitHub or Bitbucket for automatic builds.

**sounderajan/prod** 

Last pushed 1 day ago · Repository size: 162.6 MB

private repo 

Add a category 


**Docker commands**

To push a new tag to this repository:

```
docker push sounderajan/prod:tagname
```

**Tags**

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
latest		Image	1 day	1 day

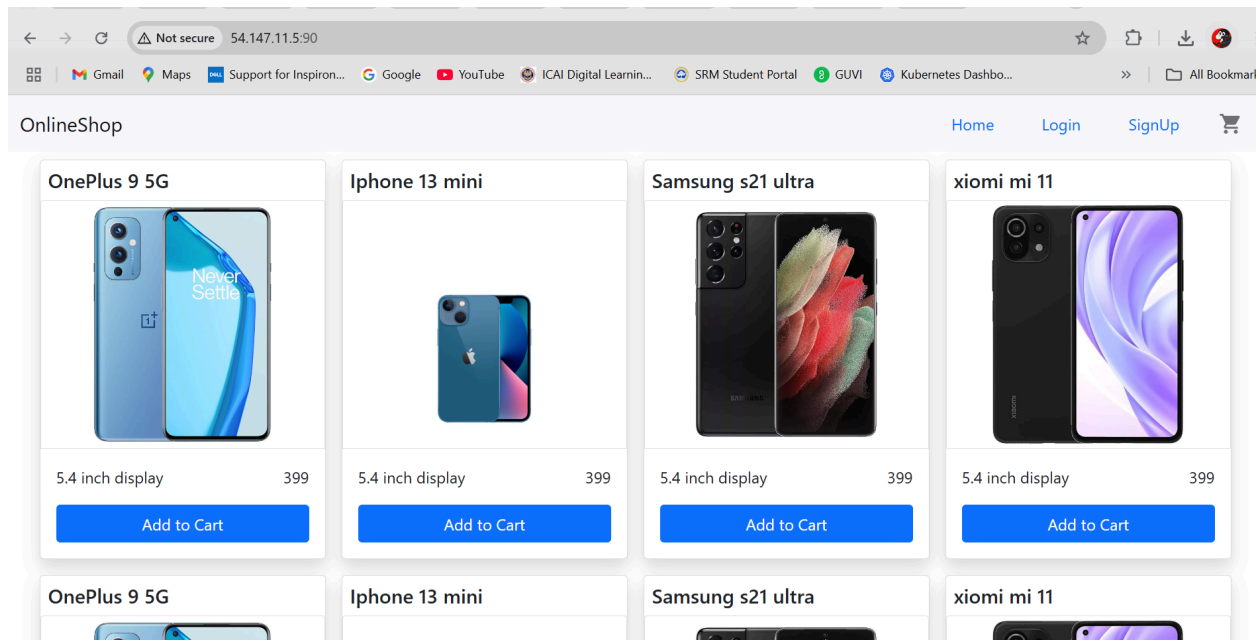
[See all](#)

**Automated builds**


Manually pushing images to Docker 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](#)

## Final Output:



The screenshot shows the 'OnlineShop' website. The header includes navigation links for Home, Login, and SignUp, along with a shopping cart icon. The main content area displays a grid of product listings for smartphones. Each listing includes the product name, an image, the display size (5.4 inch), the price (399), and an 'Add to Cart' button.

OnlineShop [Home](#) [Login](#) [SignUp](#) 

Product Name	Image	Display Size	Price	Action
OnePlus 9 5G		5.4 inch display	399	<a href="#">Add to Cart</a>
Iphone 13 mini		5.4 inch display	399	<a href="#">Add to Cart</a>
Samsung s21 ultra		5.4 inch display	399	<a href="#">Add to Cart</a>
xiomi mi 11		5.4 inch display	399	<a href="#">Add to Cart</a>

The screenshot displays the AWS CloudWatch Alarms console. The left-hand navigation pane includes links for Dashboards, AI Operations, Alarms (which is the active section), Logs, Metrics, X-Ray traces, Events, Application Signals, and Network Monitoring. The main content area, titled 'Alarms (1)', features a search bar and filters for 'Hide Auto Scaling alarms', 'Clear selection', 'Create composite alarm', and 'Actions'. Below these are dropdowns for 'Alarm state: Any', 'Alarm type: Any', and 'Actions status: Any'. A table lists the alarms, with the following details for the 'Alarm\_Emergency' alarm:

<input type="checkbox"/>	Name	State	Last state update (UTC)	Conditions	Actions
<input type="checkbox"/>	<a href="#">Alarm_Emergency</a>	OK	2025-02-20 16:05:20	CPUUtilization > 80 for 1 datapoints within 5 minutes	Actions enabled

CloudWatch

Alarms

Alarm Emergency

CloudWatch

Alarms (1)

Alarm state: Any

Alarm type: Any

Actions status: Any

☐ Hide Auto Scaling alarms

1

Alarm Emergency

OK

Alarm Emergency

Details

Tags

Actions

History

Parent alarms

Name

Alarm Emergency

Type

Metric alarm

Description

No description

State

OK

Threshold

CPUUtilization > 80 for 1 datapoints within 5 minutes

Last state update

2025-02-20 16:05:20 (UTC)

Actions

Actions enabled

Namespace

AWS/EC2

Metric name

CPUUtilization

Instanceid

i-010d44f257dbdcee6

Instance name

Host Server

Statistic

Average

Period

5 minutes

Datapoints to alarm

1 out of 1

Missing data treatment

Treat missing data as missing

Percentiles with low samples

evaluate

ARN

arn:aws:cloudwatch:us-east-1:471112544044:alarm:Alarm Emergency