

Running the Application in Local environment

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- Create EC2 Instance:

type: t2.large

storage: 30GB

Name	Instance ID	Instance state	Instance type
e-commerce_mega_project	i-0dd0567f1f1cddb30	Running	t2.large

- Resize File system: (if running out of space while creating the application)

1. Increase the instance volume to 30GB

Volume ID	Device name	Volume size (GiB)
/vol-00786558880f173cc	/dev/sda1	30

2. Change the file system in CLI

\$lsblk

```
ubuntu@ip-172-31-38-129:~/Mega-devops-project-2025$ lsblk
NAME   MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0    7:0    0 27.6M  1 loop /snap/amazon-ssm-agent/11797
loop1    7:1    0 73.9M  1 loop /snap/core22/2133
loop2    7:2    0 50.8M  1 loop /snap/snapd/25202
xvda   202:0    0  30G  0 disk 
└─xvda1 202:1    0   7G  0 part /
  ├─xvda14 202:14  0   4M  0 part 
  ├─xvda15 202:15  0 106M  0 part /boot/efi
  └─xvda16 202:16  0 913M  0 part /boot
ubuntu@ip-172-31-38-129:~/Mega-devops-project-2025$
```

\$sudo apt install cloud-guest-utils

\$sudo growpart /dev/xvda 1

\$sudo resize2fs /dev/xvda1

- If you face any issue related to "permission denied", while executing the docker commands. Add the user to docker group using:
\$sudo usermod -aG docker ubuntu

- Running the application local environment using docker compose:

Why docker compose?

I'm deploying e-commerce application, which contains multiple micro-services. So we containerize and running as one model using docker compose is efficient. It runs multiple containers at once and establish the dependencies between the containers.

You will find the docker-compose.yaml file in my github repository

Link: <https://github.com/Nandan3/End-to-End-DevOps-Projects/blob/main/docker-compose.yaml>

Run the below command
\$docker compose up -d

It will pull the images from docker registry and run the micro-services

```
✓ Image mega-devops-project-2025-opensearch Built
✓ Network opentelemetry-demo Created
✓ Container flagd Created
✓ Container grafana Created
✓ Container opensearch Healthy
✓ Container valkey-cart Created
✓ Container kafka Healthy
✓ Container jaeger Created
✓ Container postgresql Created
✓ Container prometheus Created
✓ Container otel-collector Created
✓ Container product-catalog Created
✓ Container email Created
✓ Container shipping Created
✓ Container cart Created
✓ Container currency Created
✓ Container ad Created
✓ Container accounting Created
✓ Container flagd-ui Created
✓ Container payment Created
✓ Container fraud-detection Created
✓ Container quote Created
✓ Container image-provider Created
✓ Container recommendation Created
✓ Container checkout Created
✓ Container frontend Created
✓ Container load-generator Created
✓ Container frontend-proxy Created
ubuntu@ip-172-31-38-129:~/Mega-devops-project-2025$ █
```

Edit security groups inbound rules to access the application from web browser:

Inbound rules (2)						 Manage tags	Edit inbound rules
rule ID	IP version	Type	Protocol	Port range	Source		
1a2e3a0ef	IPv4	All traffic	All	All	0.0.0.0/0		
4d1930f43	IPv4	SSH	TCP	22	0.0.0.0/0		

Access the application using: <http://<public-ip>:8080>
Public-IP: EC2 Public IP

