

## School of Computer Science, Engineering and Applications(SCSEA)

### B.C.A. TY (CCSA)

### Subject : Containers & Orchestration

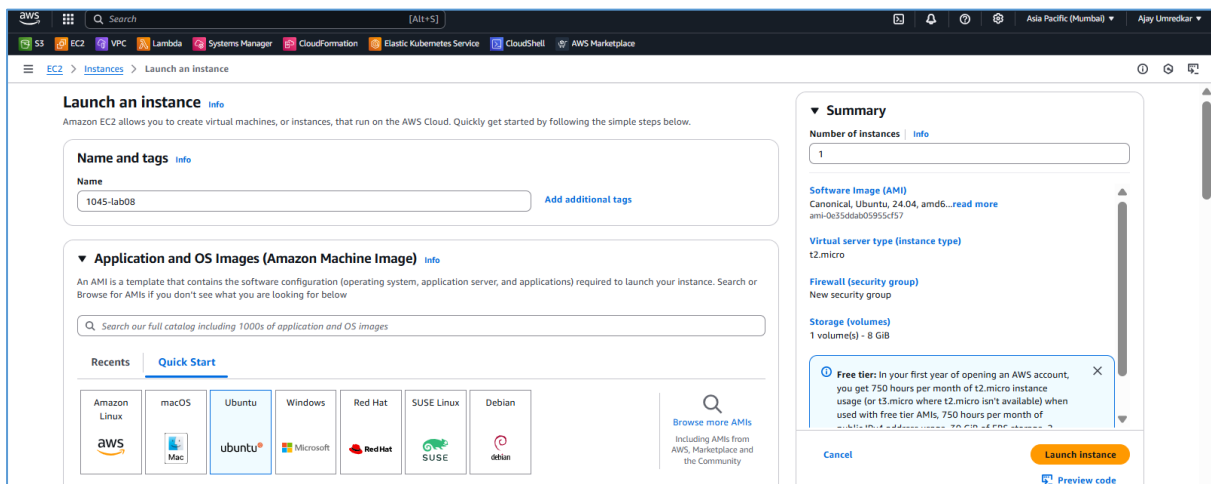
Name of the Student: Disha Umredkar

PRN: 20220801045

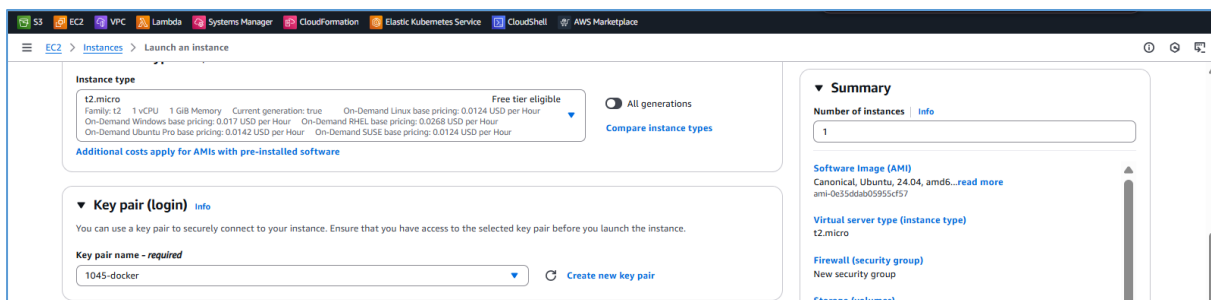
Title of Practical: Live Code Sharing Between Host and Container with Docker Bind Mounts

#### Step 1:- Make a EC2 Instance and Connect it using SSH Example.

- Name the Instance
- Select Ami image : Ubuntu Server.



- Select Instance type : t2.micro .
- Select or created existing key pair



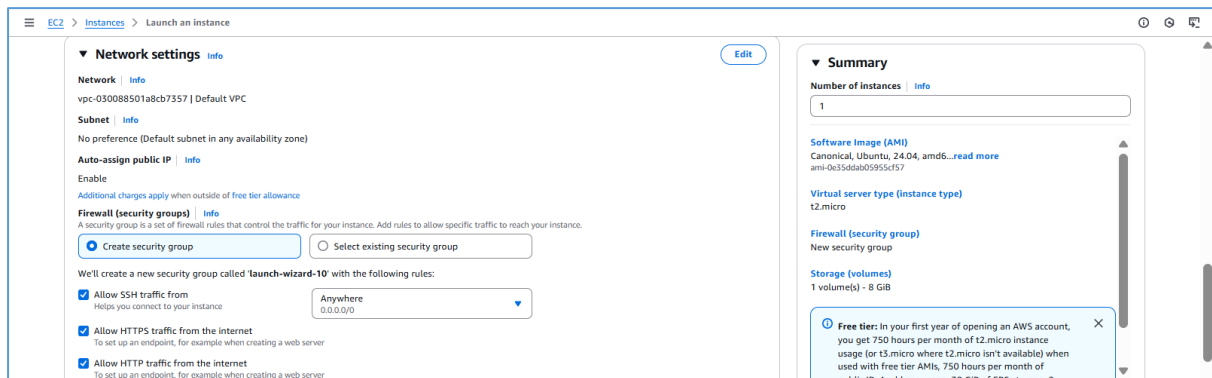
- Create Security Group .

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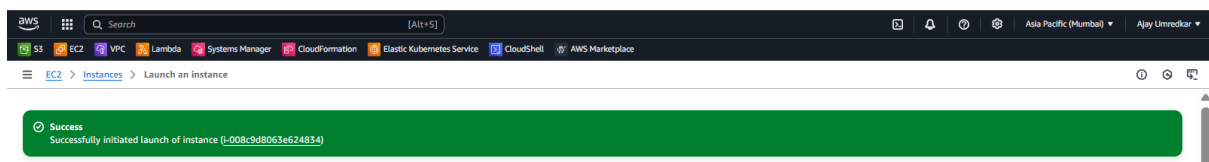
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- Launch the instance .



## Step 2: Connect to Your EC2 Instance via SSH

Cd downloads

Key pair

```
C:\Users\aaayuc>cd downloads

C:\Users\aaayuc\Downloads>ssh -i "1045-docker.pem" ubuntu@ec2-3-111-53-240.ap-south-1.compute.amazonaws.com
The authenticity of host 'ec2-3-111-53-240.ap-south-1.compute.amazonaws.com (3.111.53.240)' can't be established.
ED25519 key fingerprint is SHA256:aFRjzrtXa4exESHw02vvgFuKrkA0D3sXA8sjFTciwok.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-3-111-53-240.ap-south-1.compute.amazonaws.com' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-1024-aws x86_64)
```

## Step 3: Install Docker (if not already installed)

sudo apt update

```
ubuntu@ip-172-31-13-190:~$ sudo apt update
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
```



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sudo apt install -y docker.io

```
ubuntu@ip-172-31-13-190:~$ sudo apt install -y docker.io
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  bridge-utils containerd dns-root-data dnsmasq-base pigz runc ubuntu-fan
```

sudo systemctl start docker

sudo systemctl enable docker

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-13-190:~$ sudo systemctl start docker
ubuntu@ip-172-31-13-190:~$ sudo systemctl enable docker
ubuntu@ip-172-31-13-190:~$ |
```

#### Step 4: Create a Project Directory on Host (EC2)

- mkdir ~/docker-bind-demo
- cd ~/docker-bind-demo

```
ubuntu@ip-172-31-13-190:~$ mkdir ~/docker-bind-demo
ubuntu@ip-172-31-13-190:~$ cd ~/docker-bind-demo
ubuntu@ip-172-31-13-190:~/docker-bind-demo$ |
```

Step 5: Copy a free Website Template or simply create an index.html file with some content

Wget <https://www.free-css.com/assets/files/free-css-templates/download/page296/listrace.zip>

```
ubuntu@ip-172-31-13-190:~/docker-bind-demo$ wget https://www.free-css.com/assets/files/free-css-templates/download/page296/listrace.zip
--2025-04-20 09:06:57-- https://www.free-css.com/assets/files/free-css-templates/download/page296/listrace.zip
Resolving www.free-css.com (www.free-css.com)... 217.160.0.242, 2001:8d8:100f:f000::28f
Connecting to www.free-css.com (www.free-css.com)|217.160.0.242|:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://www.free-css.com/assets/files/free-css-templates/download/page296/listrace.zip [following]
--2025-04-20 09:06:58-- https://www.free-css.com/assets/files/free-css-templates/download/page296/listrace.zip
Reusing existing connection to www.free-css.com:443.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://www.free-css.com/assets/files/free-css-templates/download/page296/listrace.zip [following]
--2025-04-20 09:06:58-- https://www.free-css.com/assets/files/free-css-templates/download/page296/listrace.zip
Reusing existing connection to www.free-css.com:443.
HTTP request sent, awaiting response... 200 OK
Length: 2346106 (2.2M) [application/zip]
Saving to: 'listrace.zip'

listrace.zip                               100%[=====] 2.24M  255KB/s   in 9.0s
2025-04-20 09:07:07 (256 KB/s) - 'listrace.zip' saved [2346106/2346106]
```

sudo apt install unzip



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```
ubuntu@ip-172-31-13-190:~/docker-bind-demo$ sudo apt install unzip
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Suggested packages:
  zip
The following NEW packages will be installed:
  unzip
0 upgraded, 1 newly installed, 0 to remove and 63 not upgraded.
Need to get 174 kB of archives.
After this operation, 384 kB of additional disk space will be used.
Get:1 http://ap-south-1-ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 unzip amd64 6.0-28ubuntu4.1 [174 kB]
Get:1 http://ap-south-1-ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 unzip amd64 6.0-28ubuntu4.1 [174 kB]
```

unzip Unzip folder\_name

```
ubuntu@ip-172-31-13-190:~/docker-bind-demo$ unzip listrace.zip
Archive:  listrace.zip
  creating: listrace-v1.0/assets/
  creating: listrace-v1.0/assets/css/
  inflating: listrace-v1.0/assets/css/ajax-loader.gif
  inflating: listrace-v1.0/assets/css/animate.css
  inflating: listrace-v1.0/assets/css/bootsnv.css
  inflating: listrace-v1.0/assets/css/bootstrap.min.css
  inflating: listrace-v1.0/assets/css/flaticon.css
  inflating: listrace-v1.0/assets/css/font-awesome.min.css
  creating: listrace-v1.0/assets/css/fonts/
```

ls

Cd folder\_name

```
ubuntu@ip-172-31-13-190:~/docker-bind-demo$ ls
listrace-v1.0  listrace.zip
ubuntu@ip-172-31-13-190:~/docker-bind-demo$ cd listrace-v1.0/
ubuntu@ip-172-31-13-190:~/docker-bind-demo/listrace-v1.0$ |
```

Mv \* ..

```
ubuntu@ip-172-31-13-190:~/docker-bind-demo/listrace-v1.0$ mv * ..
ubuntu@ip-172-31-13-190:~/docker-bind-demo/listrace-v1.0$ |
```

#### Step 6: Run an NGINX Container with Bind Mount

sudo docker run -d --name nginx-live -p 8080:80 -v ~/docker-bind-demo:/usr/share/nginx/html nginx

```
ubuntu@ip-172-31-13-190:~/docker-bind-demo/listrace-v1.0$ sudo docker run -d --name nginx-live -p 8080:80 -v ~/docker-bind-demo:/usr/share/nginx/html nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
8a628cd7ccc: Pull complete
b0c973cda91f: Pull complete
e6557c42ebee: Pull complete
ec74683520b9: Pull complete
6c95adab80c5: Pull complete
ad8a0171f43e: Pull complete
32ef64864ec3: Pull complete
Digest: sha256:5ed8fcc66f4ed123c1b2560ed788dc148755b6e4cbd8b943fab094f2c6bfa91e
Status: Downloaded newer image for nginx:latest
6ab4d8fb9234185d910d640ebdd98f4d797738fca8d5a5740b67554d98a95a794
```

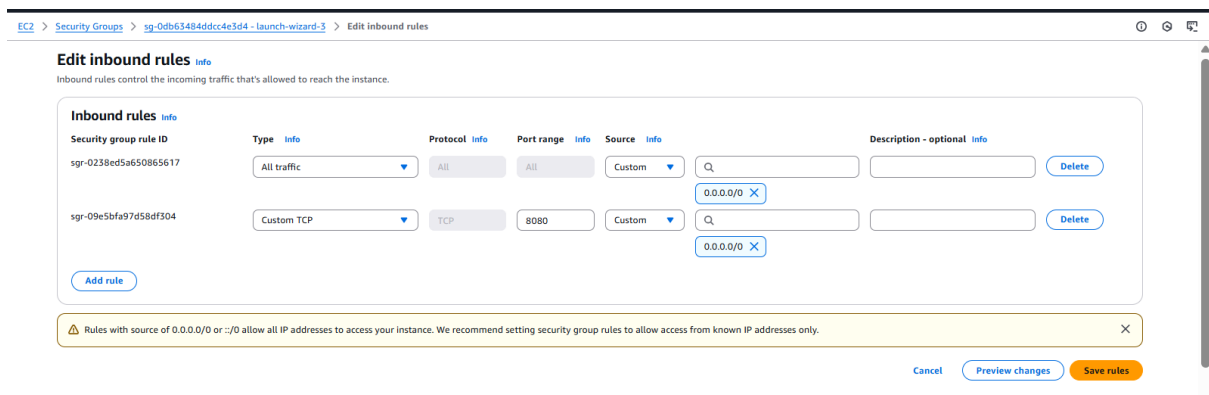
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**Step 7: edit inbound rules**



The screenshot shows the 'Edit inbound rules' page in the AWS Management Console. It displays a table of inbound rules for a security group. The first rule is 'All traffic' with protocol 'All' and port range 'All'. The second rule is 'Custom TCP' with protocol 'TCP' and port range '8080'. Both rules have a source of '0.0.0.0/0'. A warning message at the bottom states: 'Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.'

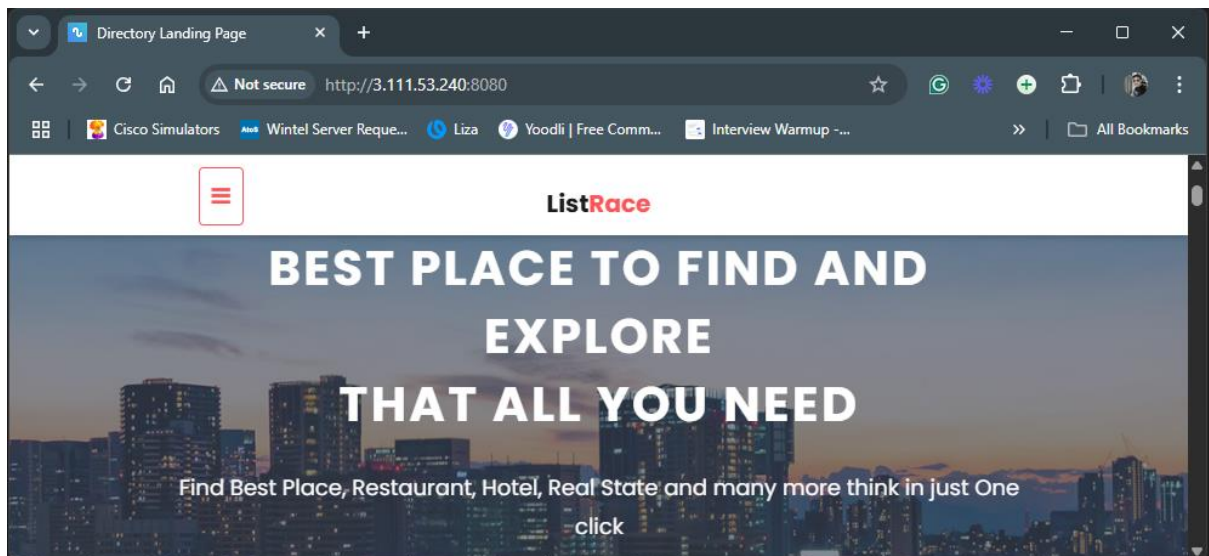
Security group rule ID	Type	Protocol	Port range	Source	Description - optional	Actions
sgr-0238ed5a650865617	All traffic	All	All	Custom		Delete
sgr-09e5bfa97d58df304	Custom TCP	TCP	8080	Custom		Delete

[Add rule](#)

[Cancel](#) [Preview changes](#) [Save rules](#)

**Step 8: Test It in Your Browser**

<http://publicip:8080>



**Step 9: Modify Content on Host (Live Update) (zip file should be downladed)**

- nano index.html
- Scroll for the H1
- update any content for now update the h6 on the hero section
- Press ctrl+O

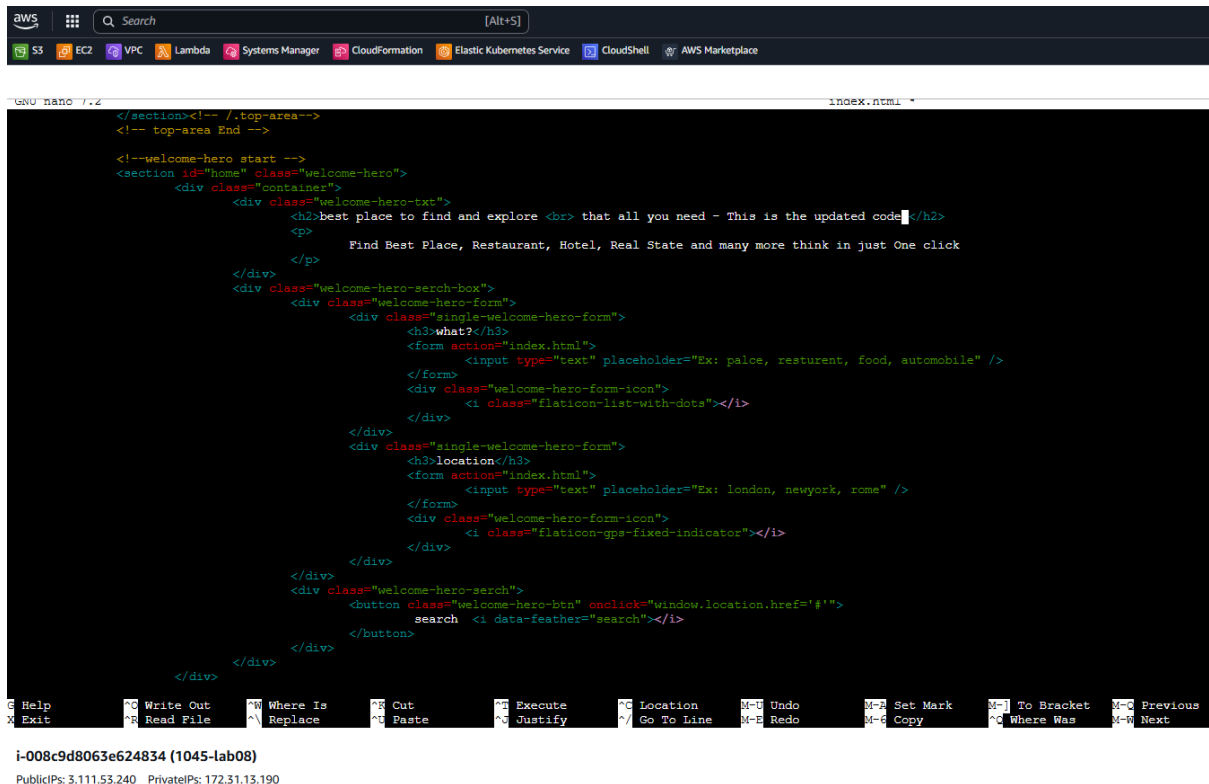
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- Enter
- Press ctrl+X
- y
- And you can see the updated changes



```
aws [Alt+S]
S3 EC2 VPC Lambda Systems Manager CloudFormation Elastic Kubernetes Service CloudShell AWS Marketplace

GNU nano 2.9.4 index.html
</section><!-- /.top-area-->
<!-- top-area End -->

<!--welcome-hero start -->
<section id="home" class="welcome-hero">
  <div class="container">
    <div class="welcome-hero-txt">
      <h2>best place to find and explore <br> that all you need - This is the updated code</h2>
      <p>Find Best Place, Restaurant, Hotel, Real State and many more think in just One click</p>
    </div>
    <div class="welcome-hero-serch-box">
      <div class="welcome-hero-form">
        <div class="single-welcome-hero-form">
          <h3>what?</h3>
          <form action="index.html">
            <input type="text" placeholder="Ex: palce, resturent, food, automobile" />
          </form>
          <div class="welcome-hero-form-icon">
            <i class="flaticon-list-with-dots"></i>
          </div>
        </div>
        <div class="single-welcome-hero-form">
          <h3>location</h3>
          <form action="index.html">
            <input type="text" placeholder="Ex: london, newyork, rome" />
          </form>
          <div class="welcome-hero-form-icon">
            <i class="flaticon-gps-fixed-indicator"></i>
          </div>
        </div>
      </div>
      <div class="welcome-hero-serch">
        <button class="welcome-hero-btn" onclick="window.location.href='#'">
          search <i data-feather="search"></i>
        </button>
      </div>
    </div>
  </div>
</section>
Help Write Out Where Is Cut Execute Location Undo Set Mark To Bracket Previous
Exit Read File Replace Paste Justify Go To Line Redo Copy Where Was Next

i-008c9d8063e624834 (1045-lab08)
PublicIPs: 3.111.53.240 PrivateIPs: 172.31.13.190
```

**Step 9 : Refresh website**

**You can see changes in content "hello this is disha"**

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