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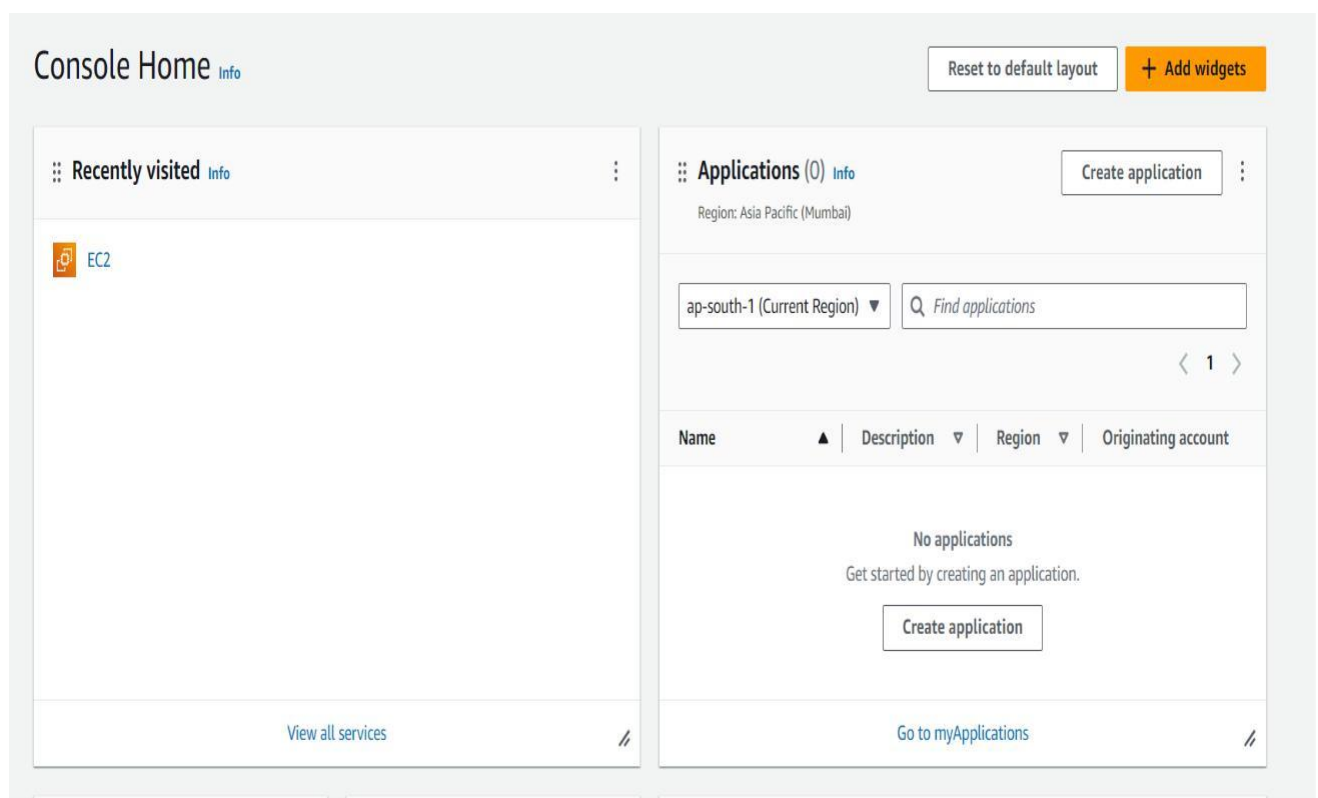
Roll No. : 35

EXPERIMENT NO. 1

Aim : To understand the benefits of Cloud Infrastructure and Setup AWS Cloud9 IDE, Launch AWS Cloud9 IDE and Perform Collaboration Demonstration.

EC2 Instance Creation and static site hosting

1. Login to your AWS account



2. Click on EC2 and then create an instance by clicking on instances

Resources [EC2 Global View](#) [@](#) [C](#)

You are using the following Amazon EC2 resources in the Asia Pacific (Mumbai) Region:

Instances (running)	0	Auto Scaling Groups	0	Capacity Reservations	0
Dedicated Hosts	0	Elastic IPs	0	Instances	0
Key pairs	0	Load balancers	0	Placement groups	0
Security groups	1	Snapshots	0	Volumes	0

Launch instance
To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

[Launch instance](#) [▼](#)

[Migrate a server](#) [C](#)

Note: Your instances will launch in the Asia Pacific (Mumbai) Region.

Service health [AWS Health Dashboard](#) [@](#) [C](#)

Region
Asia Pacific (Mumbai)

Status
[✔](#) This service is operating normally.

EC2 Free Tier [Info](#)
Offers for all AWS Regions.

0 EC2 free tier offers in use

End of month forecast
[⚠](#) 0 offers forecasted to exceed free tier limit.

Exceeds free tier
[⚠](#) 0 offers exceeded and is now pay-as-you-go pricing.

[View Global EC2 resources](#)

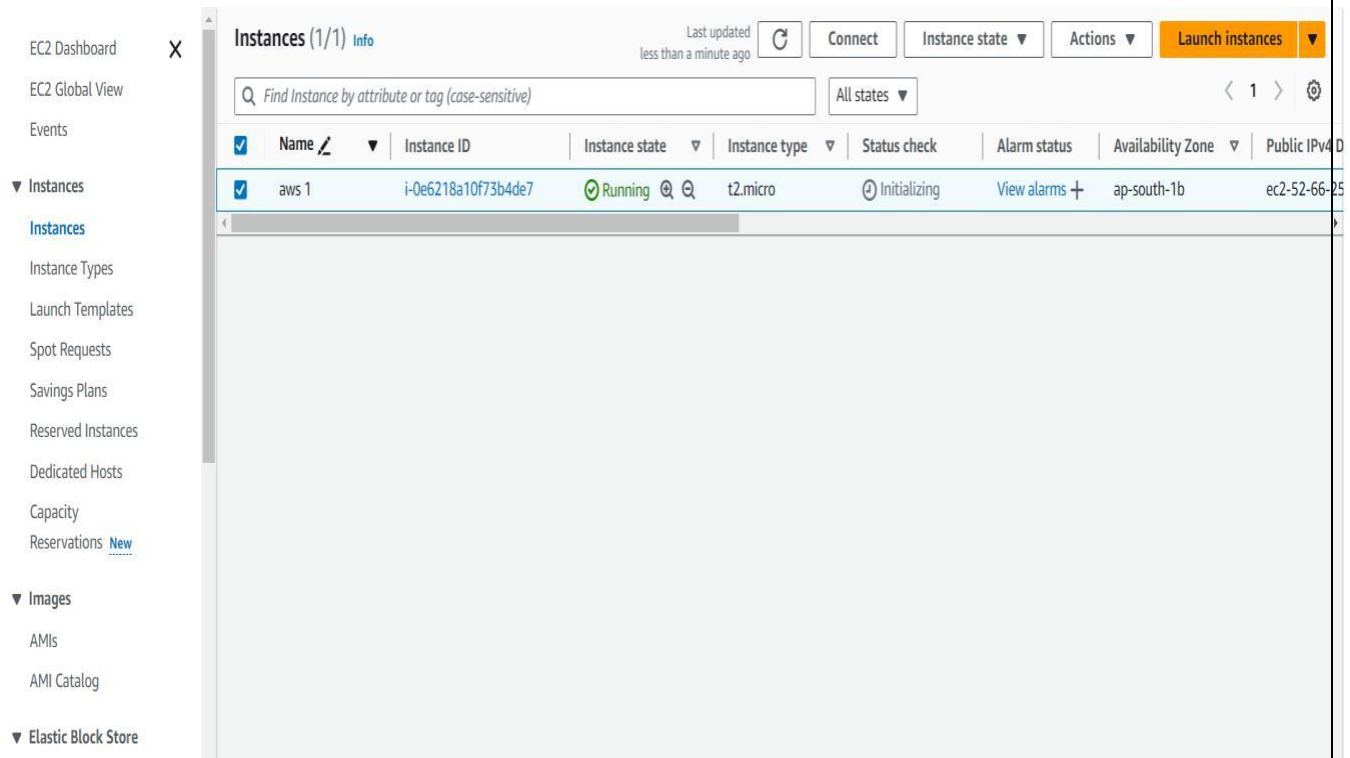
[View all AWS Free Tier offers](#) [C](#)

Account attributes [C](#)

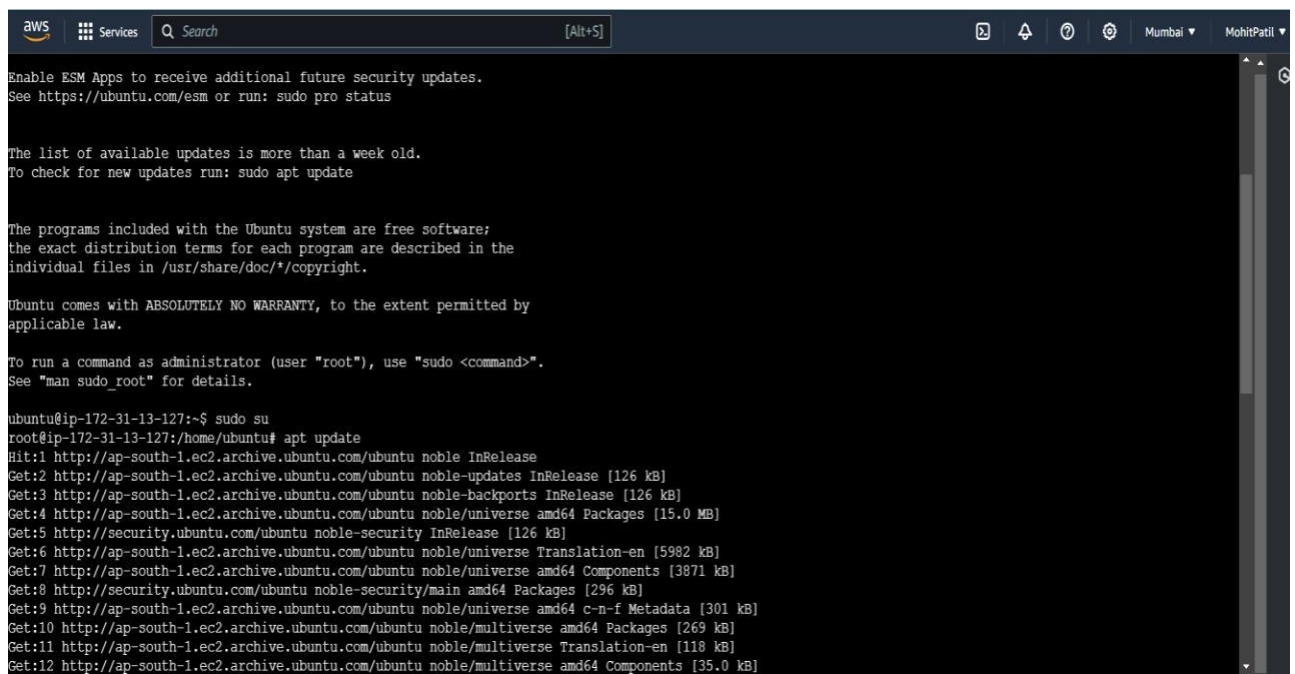
[Default VPC](#) [C](#)
vpc-0e8f24d7c64f9775f

[Settings](#)

3. After an instance is created wait for it to come to Running state



4. After doing that you will see this UI



5. Follow these steps and then run these commands

```
aws
Services
Search
[Alt+S]

Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
root@ip-172-31-13-127:/home/ubuntu# apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64 liblua5.4-0 ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64 liblua5.4-0 ssl-cert
0 upgraded, 10 newly installed, 0 to remove and 55 not upgraded.
Need to get 2083 kB of archives.
After this operation, 8094 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libapr1t64 amd64 1.7.2-3.1build2 [107 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1t64 amd64 1.6.3-1.1ubuntu7 [91.9 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.3-1.1ubuntu7 [11.2 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-ldap amd64 1.6.3-1.1ubuntu7 [9116 B]
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 liblua5.4-0 amd64 5.4.6-3build2 [166 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-bin amd64 2.4.58-1ubuntu8.4 [1329 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-data all 2.4.58-1ubuntu8.4 [163 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-utils amd64 2.4.58-1ubuntu8.4 [90.2 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 ssl-cert all 1.1.2ubuntu1 [17.8 kB]
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 apache2 amd64 2.4.58-1ubuntu8.4 [90.2 kB]
Fetched 2083 kB in 0s (27.8 MB/s)
Preconfiguring packages ...
Scanning processes...
root@ip-172-31-13-127:/home/ubuntu# supervisor (qemu) binaries on this host.
```

6. After that the ip-address which was given while running the instance, copy that and paste that on chrome, make sure that it is http and not https



Apache2 Default Page

Ubuntu

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|-- mods-enabled
|   |-- *.load
|   |-- *.conf
|-- conf-enabled
|   |-- *.conf
|-- sites-enabled
|   |-- *.conf
```

7. Create a file using vi command and save it using : wq

```
Enabling module reqtimeout.
Enabling conf charset.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service -> /usr/lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service -> /usr/lib/systemd/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.2) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ip-172-31-45-95:~# cd /var/www/html
root@ip-172-31-45-95:/var/www/html# ls
index.html
root@ip-172-31-45-95:/var/www/html# vi test.html
root@ip-172-31-45-95:/var/www/html# ls
index.html  test.html
root@ip-172-31-45-95:/var/www/html#
```

8. After saving that file go that page where ubuntu is listed and then on the link add “/your_file_name.html” and then whatever you saved on that file will be displayed

13.201.55.80/test.html

Order Your T-Shirt

Customize Your T-Shirt

Select Design:

-- Please Select --

Choose Size:

-- Select Size --

Choose Color:

-- Select Color --

Quantity:

Special Requests:

Any special requests...

Provide Delivery Information

Recipient Name:

Full Name

Delivery Address:

Complete Address

Email Address:

example@example.com

Phone Number:

1234567890

Delivery Time:

--:--

Submit Order

Reset Form

Static Hosting using S3 bucket

Step1: Create bucket

The screenshot shows the 'Create bucket' page in the AWS Management Console. The breadcrumb navigation at the top reads 'Amazon S3 > Buckets > Create bucket'. The main heading is 'Create bucket' with an 'Info' link. Below the heading, it states 'Buckets are containers for data stored in S3.' The 'General configuration' section contains the following fields: 'AWS Region' set to 'Asia Pacific (Mumbai) ap-south-1', 'Bucket name' with the input 'himeshbucket' and an 'Info' link. A note below the bucket name states: 'Bucket name must be unique within the global namespace and follow the bucket naming rules. [See rules for bucket naming](#)'. There is a section for 'Copy settings from existing bucket - optional' with a note 'Only the bucket settings in the following configuration are copied.' and a 'Choose bucket' button. At the bottom, the format 'Format: s3://bucket/prefix' is shown.

aws Services [Alt+S]

Amazon S3 > Buckets > Create bucket

Create bucket [Info](#)

Buckets are containers for data stored in S3.

General configuration

AWS Region
Asia Pacific (Mumbai) ap-south-1

Bucket name [Info](#)

Bucket name must be unique within the global namespace and follow the bucket naming rules. [See rules for bucket naming](#)

Copy settings from existing bucket - optional
Only the bucket settings in the following configuration are copied.

Format: s3://bucket/prefix

The screenshot shows the 'Edit static website hosting' page for the bucket 'mohitpatilbucket'. The breadcrumb navigation at the top reads 'Amazon S3 > Buckets > mohitpatilbucket > Edit static website hosting'. The main heading is 'Edit static website hosting' with an 'Info' link. The 'Static website hosting' section has a note 'Use this bucket to host a website or redirect requests. [Learn more](#)'. The 'Static website hosting' section has two radio buttons: 'Disable' and 'Enable' (which is selected). The 'Hosting type' section has two radio buttons: 'Host a static website' (which is selected) and 'Redirect requests for an object'. Below 'Host a static website' is a note 'Use the bucket endpoint as the web address. [Learn more](#)'. Below 'Redirect requests for an object' is a note 'Redirect requests to another bucket or domain. [Learn more](#)'. A blue information box contains the text: 'For your customers to access content at the website endpoint, you must make all your content publicly readable. To do so, you can edit the S3 Block Public Access settings for the bucket. For more information, see [Using Amazon S3 Block Public Access](#)'. The 'Index document' section has a note 'Specify the home or default page of the website.' and an input field containing 'index.html'.

Amazon S3 > Buckets > mohitpatilbucket > Edit static website hosting

Edit static website hosting [Info](#)

Static website hosting

Use this bucket to host a website or redirect requests. [Learn more](#)

Static website hosting

☐ Disable

☒ Enable

Hosting type

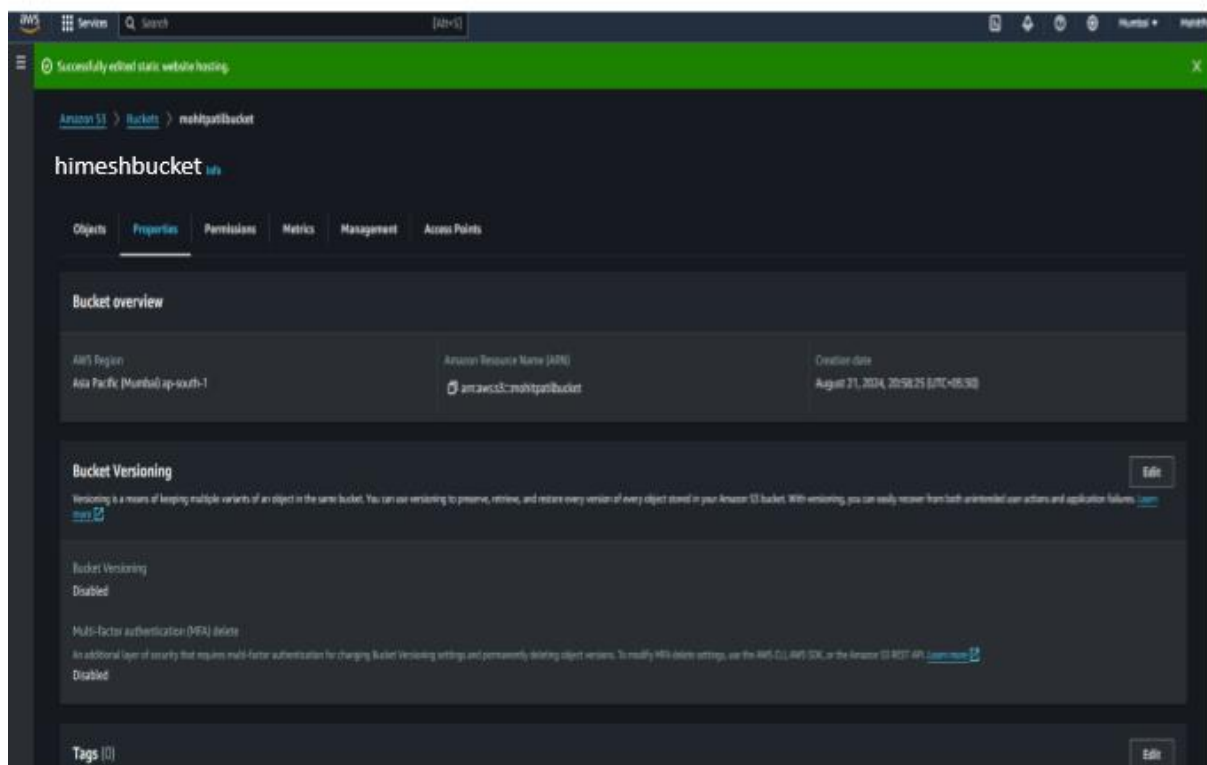
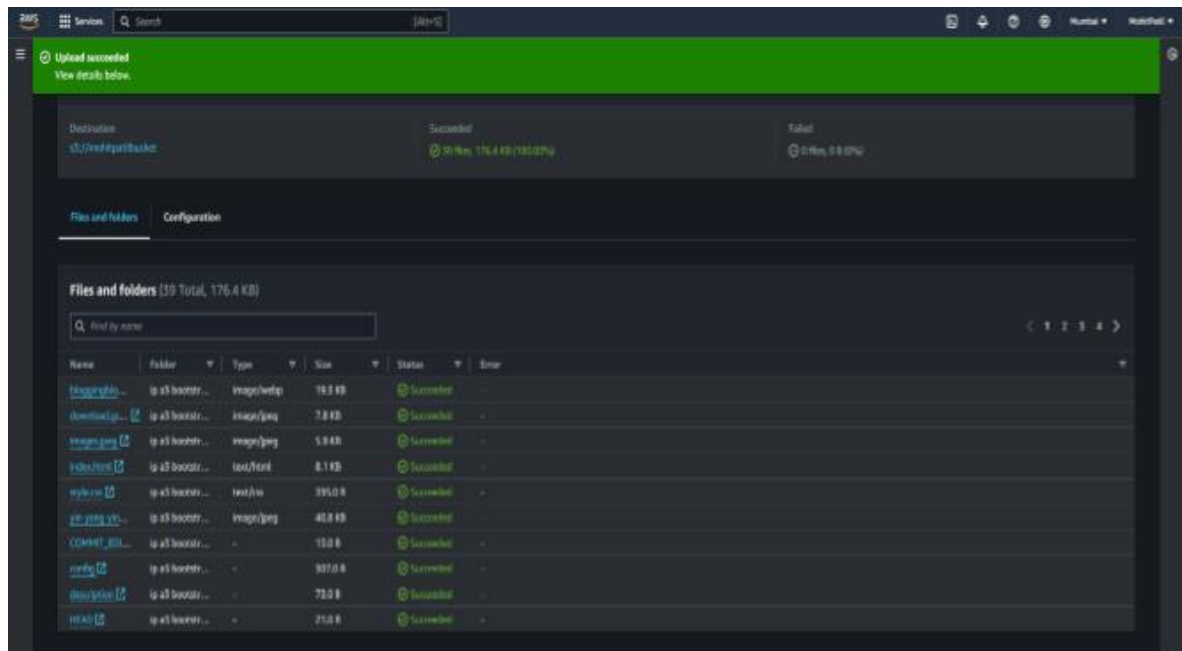
☒ Host a static website
Use the bucket endpoint as the web address. [Learn more](#)

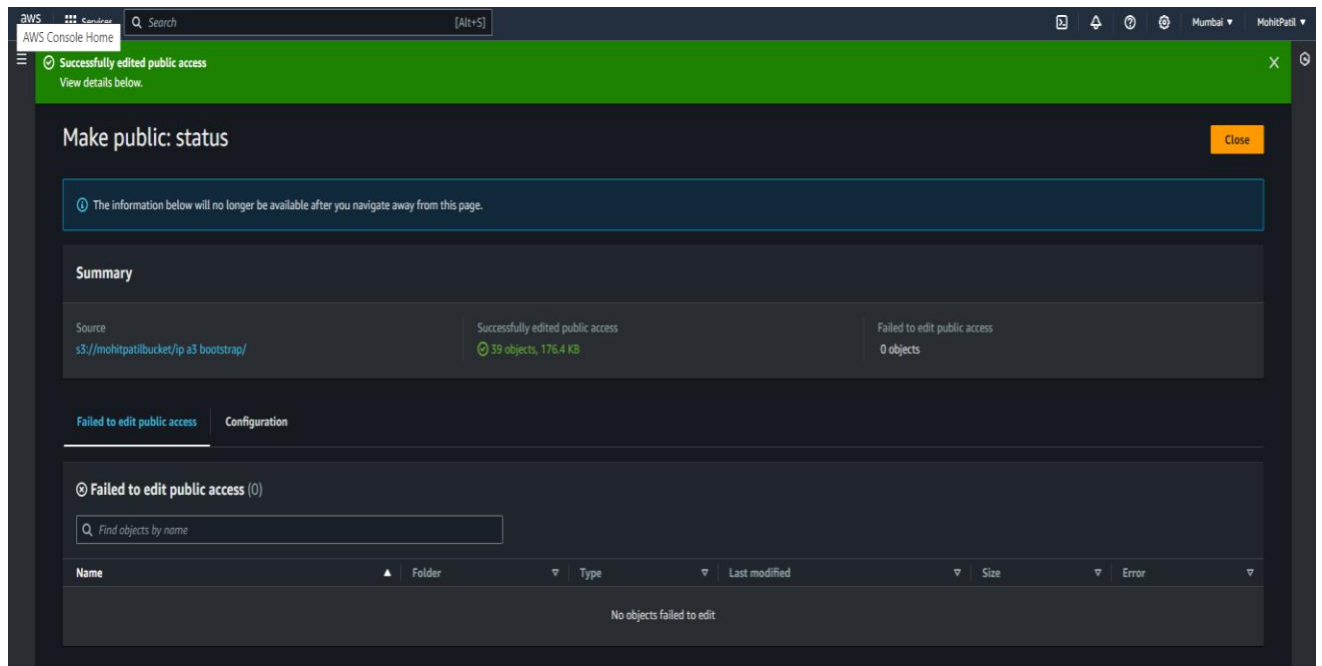
☐ Redirect requests for an object
Redirect requests to another bucket or domain. [Learn more](#)

For your customers to access content at the website endpoint, you must make all your content publicly readable. To do so, you can edit the S3 Block Public Access settings for the bucket. For more information, see [Using Amazon S3 Block Public Access](#)

Index document
Specify the home or default page of the website.

Step 2: Add resources





Step 3 : visit hosted website

The screenshot shows a web browser displaying a hosted website at the URL 13.201.55.80/test.html. The website has a title 'Order Your T-Shirt' and a form for customizing a T-shirt. The form is divided into two sections: 'Customize Your T-Shirt' and 'Provide Delivery Information'. The 'Customize Your T-Shirt' section includes dropdown menus for 'Select Design', 'Choose Size', and 'Choose Color', a text input for 'Quantity', and a text area for 'Special Requests'. The 'Provide Delivery Information' section includes text inputs for 'Recipient Name', 'Delivery Address', 'Email Address', 'Phone Number', and a dropdown for 'Delivery Time'. At the bottom of the form are two buttons: 'Submit Order' and 'Reset Form'.

EC2 Dynamic Site Hosting

Step 1 : Open Console and clone the github repository

```
aws Services Q Search [Alt+S]

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-15-151:~$ psw
Command 'psw' not found, did you mean:
  command 'aws' from snap aws-cli (1.15.58)
  command 'pms' from deb pms (0.42-1.1)
  command 'pts' from deb openafs-client (1.8.10-2.lubuntu3.1)
  command 'psw' from deb wise (2.4.1-23)
  command 'pps' from deb libpmix-bin (5.0.1-4)
  command 'aws' from deb awscli (2.14.6-1)
  command 'pcs' from deb pcs (0.11.6-1ubuntu1)
  command 'pwd' from deb coreutils (9.4-2ubuntu2)
  command 'rpws' from deb ratpoison (1.4.9-1)
  command 'pvs' from deb lvm2 (2.03.16-2ubuntu1)
  command 'pwn' from deb python3-pwntools (4.11.1-1)
  command 'ps' from deb procps (2:4.0.4-2ubuntu1)
See 'snap info <snapname>' for additional versions.
ubuntu@ip-172-31-15-151:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-15-151:~$ git clone https://github.com/Mohitpatil344/zapier_html.git
Cloning into 'zapier_html'...
remote: Enumerating objects: 18, done.
remote: Counting objects: 100% (18/18), done.
remote: Compressing objects: 100% (16/16), done.
remote: Total 18 (delta 0), reused 12 (delta 2), pack-reused 0 (from 0)
Receiving objects: 100% (18/18), 31.36 MiB | 17.13 MiB/s, done.
Resolving deltas: 100% (6/6), done.
ubuntu@ip-172-31-15-151:~$ ls
zapier_html
ubuntu@ip-172-31-15-151:~$ cd ^C
ubuntu@ip-172-31-15-151:~$ cd zapier_html
ubuntu@ip-172-31-15-151:~/zapier_html$ ls
1699438656630.jpeg                                12.webp                                           mobile-application-development-guidelines-riseuplabs.webp
17221557922455bbk4inb-vzicemaker.in-speech.mp3    index.html
'Screenshot 2024-07-29 005945.png'                 'invideo-ai-1080 Zapier_ Your Ultimate Tech Partner! 2024-07-28.mp4'
ubuntu@ip-172-31-15-151:~/zapier_html$

i-0022d489c88af599c (mohit)
PublicIPs: 3.111.57.218 PrivateIPs: 172.31.15.151
```

```
26 updates can be applied immediately.
22 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Wed Aug 21 17:55:18 2024 from 13.233.177.4
ubuntu@ip-172-31-15-151:~$ git clone https://github.com/PranavPol-01/dyanamic_site.git
fatal: destination path 'dyanamic_site' already exists and is not an empty directory.
ubuntu@ip-172-31-15-151:~$ cd dyanamic_site
ubuntu@ip-172-31-15-151:~/dyanamic_site$ npm install

added 93 packages, and audited 94 packages in 2s

16 packages are looking for funding
  run 'npm fund' for details

found 0 vulnerabilities
ubuntu@ip-172-31-15-151:~/dyanamic_site$ node index.js
Server is running on port 3000
```

i-0022d489c88af599c (mohit)
PublicIPs: 3.111.57.218 PrivateIPs: 172.31.15.151



Step 2 : Install necessary Packages and run website on port 3000



Cloud 9 IDE Site Hosting

Developer Tools

AWS Cloud9

A cloud IDE for writing, running, and debugging code

AWS Cloud9 allows you to write, run, and debug your code with just a browser. With AWS Cloud9, you have immediate access to a rich code editor, integrated debugger, and built-in terminal with preconfigured AWS CLI. You can get started in minutes and no longer have to spend the time to install local applications or configure your development machine.

New AWS Cloud9 environment

Create environment

Details

Name

himesh

Limit of 60 characters, alphanumeric, and unique per user.

Description - optional

Limit 200 characters.

Environment type [Info](#)

Determines what the Cloud9 IDE will run on.

☒ New EC2 instance

Cloud9 creates an EC2 instance in your account. The configuration of your EC2 instance cannot be changed by Cloud9 after creation.

☐ Existing compute

You have an existing instance or server that you'd like to use.

New EC2 instance

Instance type [Info](#)

The memory and CPU of the EC2 instance that will be created for Cloud9 to run on.

☒ t2.micro (1 GiB RAM + 1 vCPU)

Free-tier eligible. Ideal for educational users and exploration.

☐ t3.small (2 GiB RAM + 2 vCPU)

Recommended for small web projects.

☐ m5.large (8 GiB RAM + 2 vCPU)

Recommended for production and most general-purpose development.

☐ Additional instance types

Explore additional instances to fit your need.

Platform [Info](#)

This will be installed on your EC2 instance. We recommend Amazon Linux 2023.

Amazon Linux 2023

Timeout

How long Cloud9 can be inactive (no user input) before auto-hibernating. This helps prevent unnecessary charges.

30 minutes

