SNEHAL A. PATIL D15A 39

Advance Devops:1

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

AWS Cloud9 IDE and Perform Collaboration Demonstration.

Theory:

Amazon EC2 (Elastic Compute Cloud)

Amazon Elastic Compute Cloud (EC2) is a cloud service that offers scalable compute power in the cloud. It enables developers to easily deploy and manage virtual servers, known as instances, providing flexibility in handling varying workloads.

Key Concepts of EC2:

1. **Instances:** Instances are virtual servers hosted on Amazon's EC2 platform, designed to run applications in the cloud. You can launch instances as needed and scale them up or down depending on your application’s requirements.
2. **Amazon Machine Image (AMI):** An AMI is a blueprint used to create an instance. It includes a pre-configured operating system, application server, and application software, allowing for consistent and rapid deployment of instances.
3. **Instance Types:** EC2 offers a range of instance types, each optimized for specific use cases, such as compute-intensive tasks, memory-intensive applications, or storage-heavy operations. Each type varies in its combination of CPU, memory, storage, and network capacity.
4. **Elastic IP Addresses:** Elastic IPs are static IP addresses that can be associated with an EC2 instance. They are useful for maintaining a consistent IP address for your instance, even if the underlying instance changes.
5. **Security Groups:** Security groups function as virtual firewalls, controlling inbound and outbound traffic to and from your EC2 instances. You can define rules based on IP addresses, ports, and protocols to manage the traffic securely.
6. **Auto Scaling:** Auto Scaling enables automatic adjustments in the number of EC2 instances in response to current demand, ensuring that your application performs optimally while minimizing costs.

Amazon S3 (Simple Storage Service)

Amazon S3 is an object storage service offering high scalability, availability, security, and performance. It is ideal for storing and retrieving large amounts of data from anywhere on the web.

Key Concepts of S3:

1. **Buckets:** Buckets serve as containers in S3, where all objects are stored. Each bucket is unique across AWS and is used to organize and manage the stored data.
2. **Objects:** Objects are the basic units stored in S3. They consist of the data itself, metadata, and a unique key (identifier). Objects can range from documents to videos, images, and other file types.
3. **Keys:** A key is a unique identifier for an object within a bucket. Each object in S3 has a key that allows you to access and manage it.
4. **Versioning:** S3 supports versioning, which allows you to maintain multiple versions of an object within a bucket. This feature protects against accidental deletions or overwrites by preserving older versions.
5. **Access Control:** S3 provides various mechanisms for controlling access to data, such as bucket policies, access control lists (ACLs), and IAM policies. These tools ensure that only authorized users can access and manage your data.
6. **Lifecycle Management:** S3 lifecycle policies help automate the transition of objects between different storage classes or delete them after a specified period, optimizing storage costs over time.
7. **Storage Classes:** S3 offers multiple storage classes designed for different access patterns, such as S3 Standard for frequently accessed data, S3 Intelligent-Tiering for cost optimization, and S3 Glacier for long-term archival storage.

AWS Cloud9

AWS Cloud9 is a cloud-based integrated development environment (IDE) that allows you to write, run, and debug code directly from a web browser. It supports various programming languages and comes pre-configured with essential tools and libraries, streamlining the development process.

Key Features of AWS Cloud9:

1. **Cloud-Based IDE:** AWS Cloud9 provides a fully-featured development environment accessible through a browser, eliminating the need for local IDE installation and setup.
2. **Collaborative Development:** Cloud9 enables real-time collaboration, allowing multiple users to work on the same project simultaneously. Features like chat and simultaneous editing make it ideal for teamwork and pair programming.
3. **Pre-configured Environment:** Cloud9 comes with pre-configured tools and libraries for various programming languages and frameworks, enabling developers to start coding immediately without the hassle of setting up the environment.
4. **Seamless Integration with AWS Services:** Cloud9 integrates seamlessly with AWS services like EC2, S3, and Lambda, allowing developers to deploy and manage applications directly from the IDE.
5. **Terminal Access:** Cloud9 provides full terminal access to the underlying instance, enabling developers to run shell commands and manage their environment directly.

Implementation:

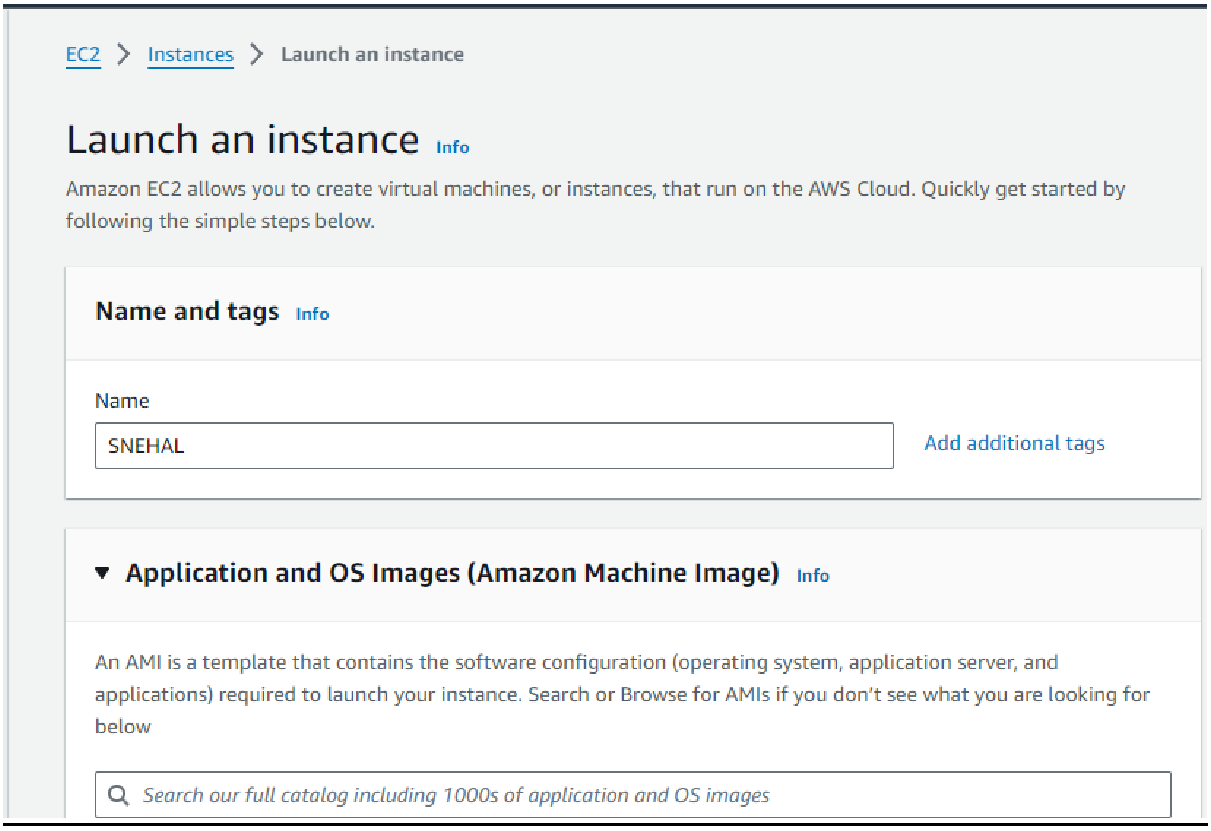
EC2 Instance Creation and Static Site Hosting

1. **Log in to your AWS account:** Begin by logging into your AWS account through the AWS Management Console.
2. **Navigate to EC2:** From the dashboard, click on the EC2 service to access the instance management console.
3. **Launch an Instance:** Click on the "Launch Instance" button to begin setting up a new EC2 instance. Choose an appropriate AMI, select an instance type, configure instance details, and add storage as needed.
4. **Configure Security Group:** Set up a security group to control inbound and outbound traffic to your instance, ensuring that your application is accessible but secure.
5. **Assign an Elastic IP (Optional):** To maintain a static IP address, you can allocate an Elastic IP and associate it with your instance.
6. **Connect and Deploy:** Once the instance is running, connect to it via SSH or the AWS Cloud9 terminal, and deploy your static website or application by uploading files to the web server directory.
7. **Access Your Site:** After deployment, your static site will be accessible via the instance's public IP address or domain name associated with the Elastic IP.

Implementation :

EC2 Instance Creation and static site hosting

1) Login to your AWS account



EC2 > Instances > Launch an instance

Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name

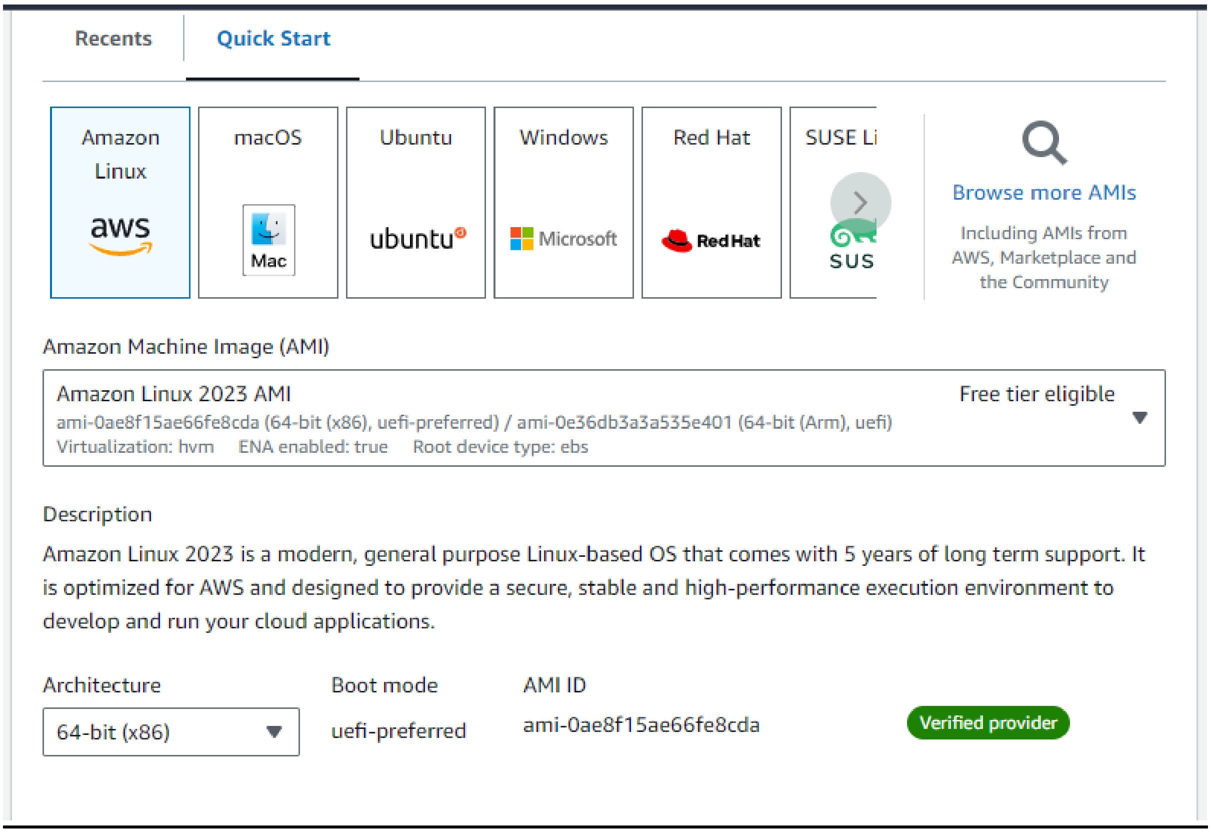
SNEHAL

Add additional tags

▼ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images



Amazon Machine Image (AMI)

Amazon Linux 2023 AMI — Free tier eligible
ami-0ae8f15ae66fe8cda (64-bit (x86), uefi-preferred) / ami-0e36db3a3a535e401 (64-bit (Arm), uefi)
Virtualization: hvm ENA enabled: true Root device type: ebs

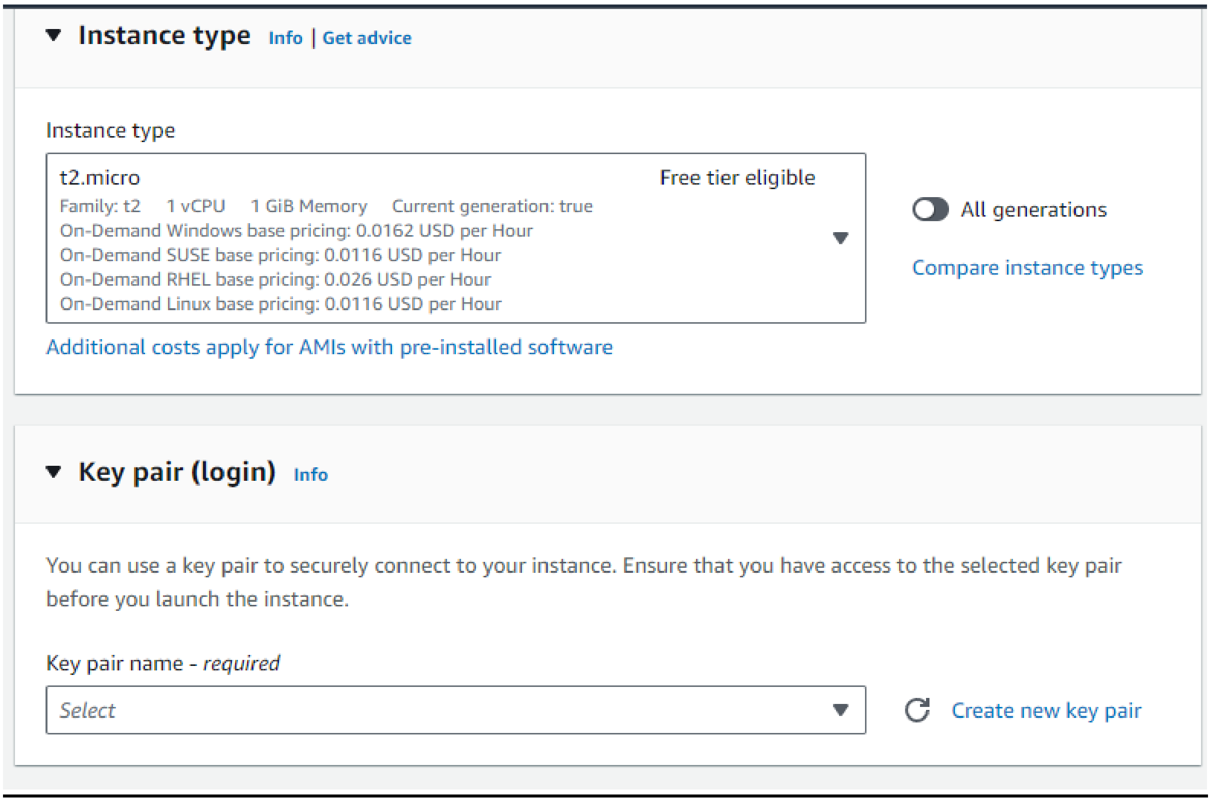
Description

Amazon Linux 2023 is a modern, general purpose Linux-based OS that comes with 5 years of long term support. It is optimized for AWS and designed to provide a secure, stable and high-performance execution environment to develop and run your cloud applications.

Architecture: 64-bit (x86)

Boot mode: uefi-preferred

AMI ID: ami-0ae8f15ae66fe8cda



Instance type

Instance type

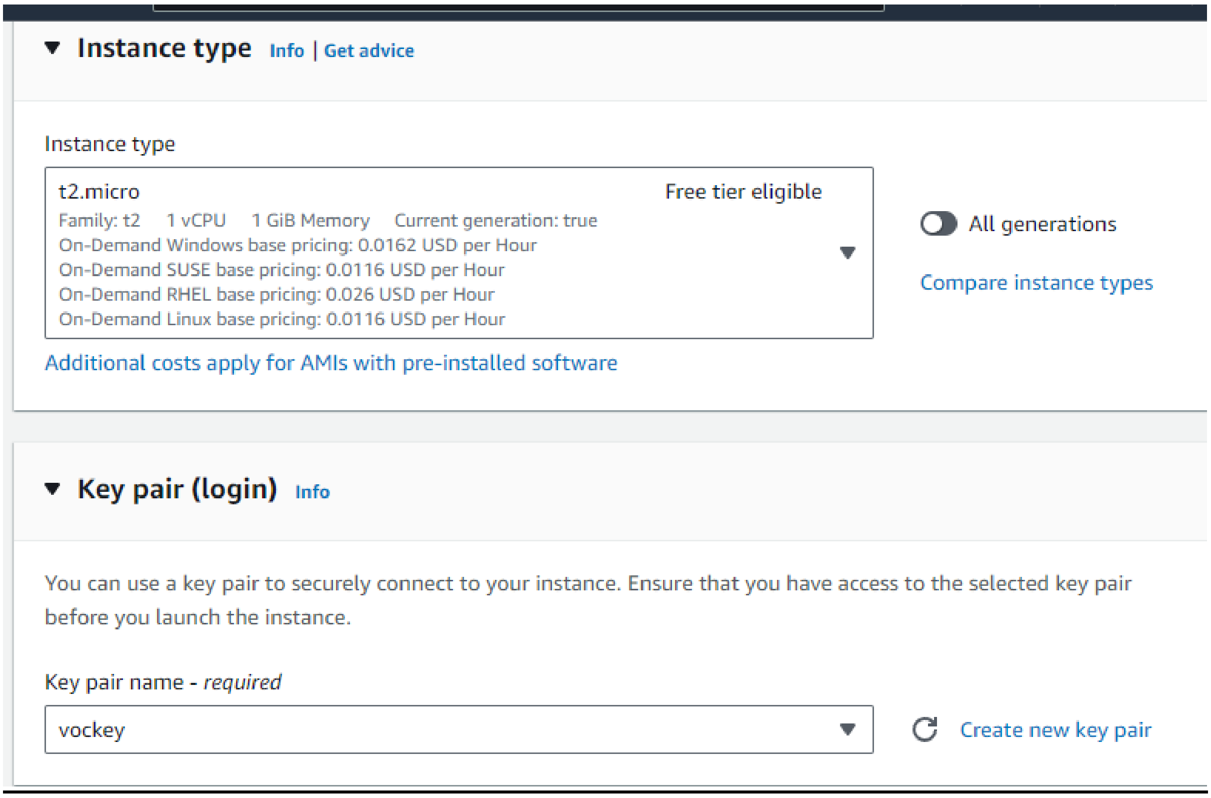
t2.micro — Free tier eligible
Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Windows base pricing: 0.0162 USD per Hour
On-Demand SUSE base pricing: 0.0116 USD per Hour
On-Demand RHEL base pricing: 0.026 USD per Hour
On-Demand Linux base pricing: 0.0116 USD per Hour

Key pair (login)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

Select


▼ Instance type Info | Get advice

Instance type

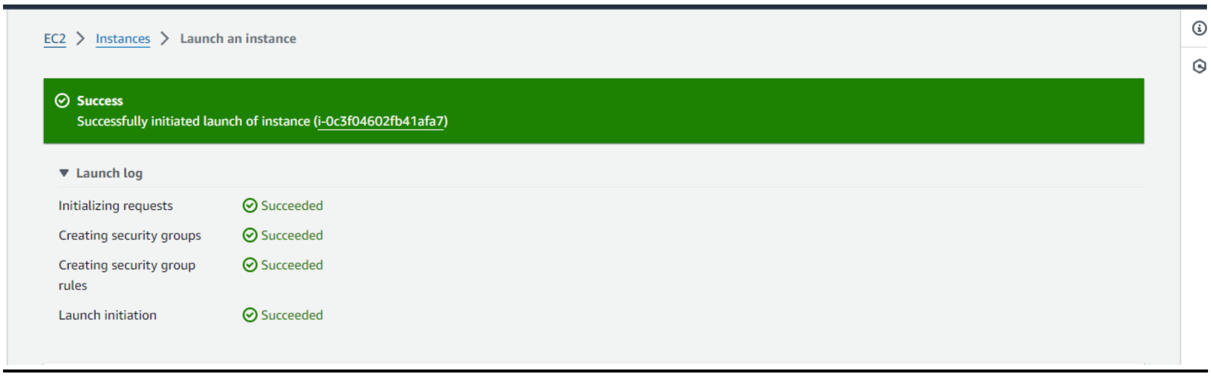
t2.micro Free tier eligible
Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Windows base pricing: 0.0162 USD per Hour
On-Demand SUSE base pricing: 0.0116 USD per Hour
On-Demand RHEL base pricing: 0.026 USD per Hour
On-Demand Linux base pricing: 0.0116 USD per Hour

All generations
Compare instance types
Additional costs apply for AMIs with pre-installed software
▼ Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

vockey

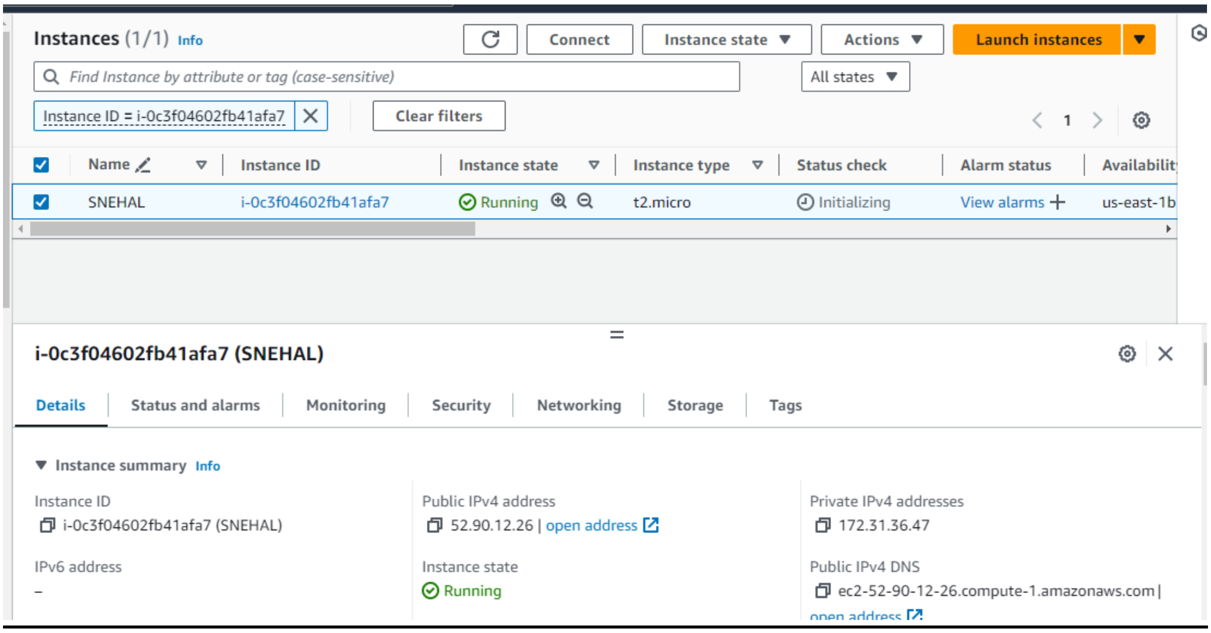


Success
Successfully initiated launch of instance (i-0c3f04602fb41afa7)

▼ Launch log

Initializing requests	Succeeded
Creating security groups	Succeeded
Creating security group rules	Succeeded
Launch initiation	Succeeded

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



☑	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availabilit
☑	SNEHAL	i-0c3f04602fb41afa7	Running	t2.micro	Initializing	View alarms +	us-east-1b

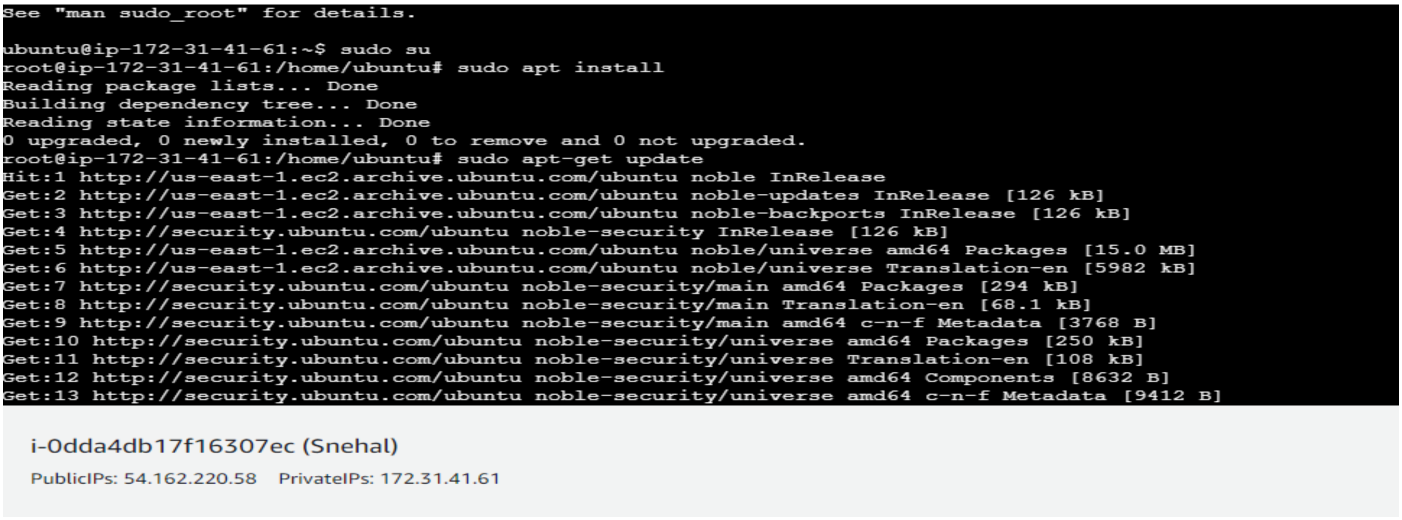
i-0c3f04602fb41afa7 (SNEHAL)

▼ Instance summary Info

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0c3f04602fb41afa7 (SNEHAL)	52.90.12.26 | open address	172.31.36.47
IPv6 address	Instance state	Public IPv4 DNS
–	Running	ec2-52-90-12-26.compute-1.amazonaws.com | open address

Static Website hosting using EC2:

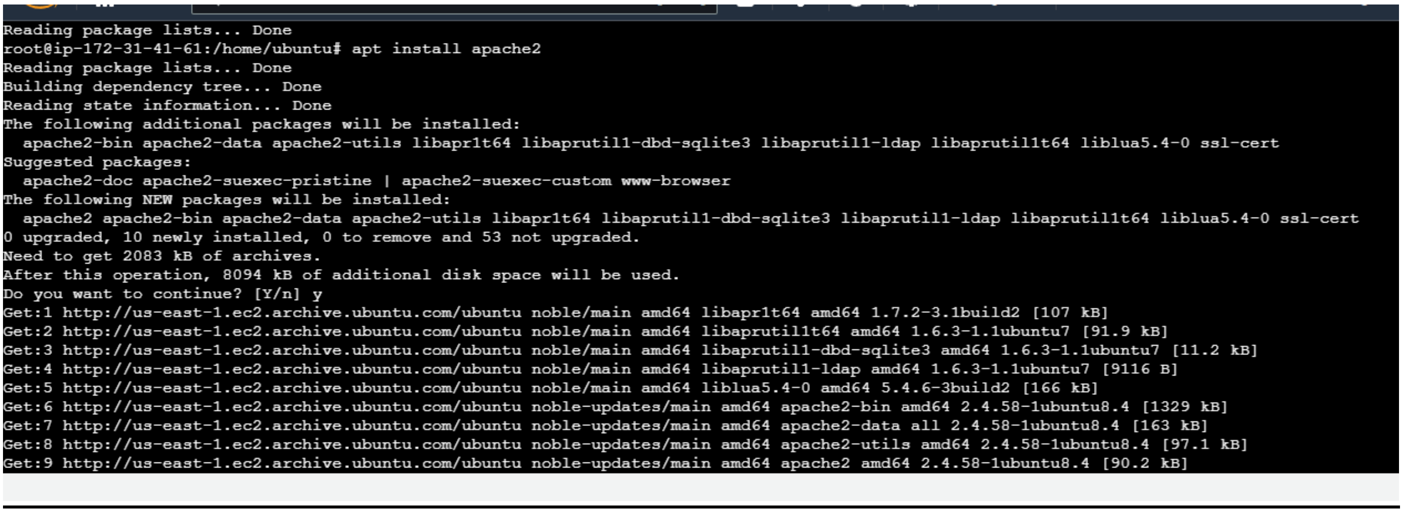
Follow the steps and then run the commands



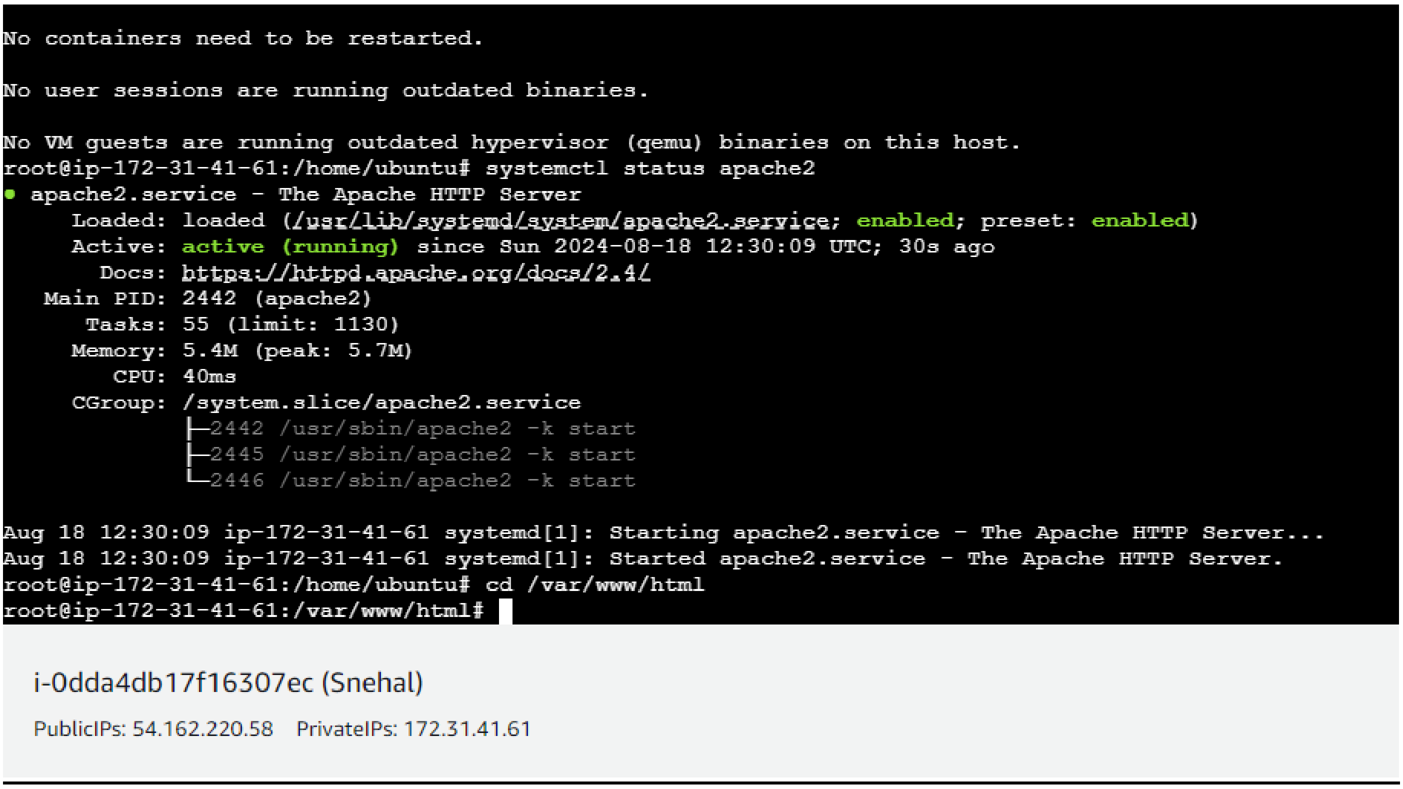
```
See "man sudo_root" for details.

ubuntu@ip-172-31-41-61:~$ sudo su
root@ip-172-31-41-61:/home/ubuntu# sudo apt install
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@ip-172-31-41-61:/home/ubuntu# sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [294 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [68.1 kB]
Get:9 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [3768 B]
Get:10 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [250 kB]
Get:11 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [108 kB]
Get:12 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [8632 B]
Get:13 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [9412 B]
```

i-0dda4db17f16307ec (Snehal)

PublicIPs: 54.162.220.58 PrivateIPs: 172.31.41.61



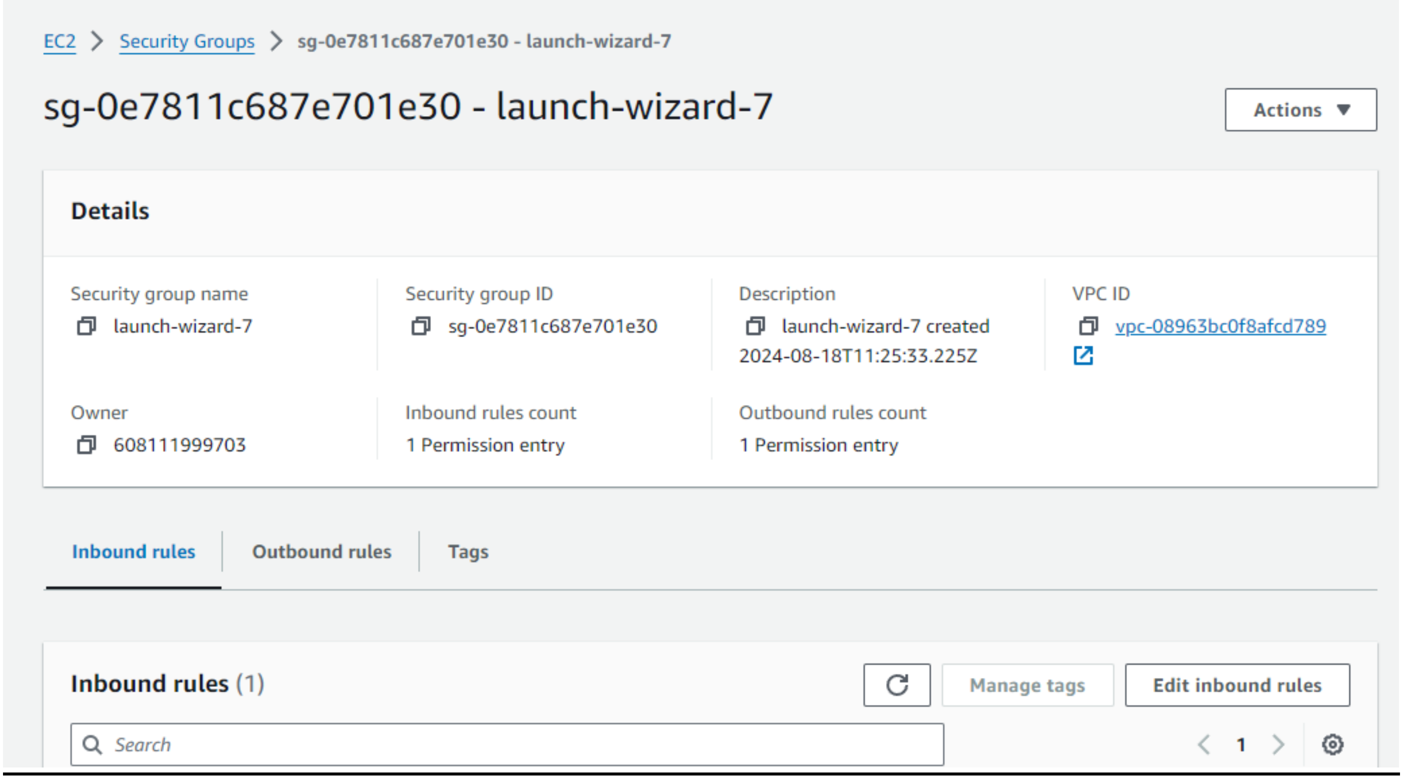
```
Reading package lists... Done
root@ip-172-31-41-61:/home/ubuntu# apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 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 53 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://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libapr1t64 amd64 1.7.2-3.1build2 [107 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1t64 amd64 1.6.3-1.1ubuntu7 [91.9 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.3-1.1ubuntu7 [11.2 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-ldap amd64 1.6.3-1.1ubuntu7 [9116 B]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 liblua5.4-0 amd64 5.4.6-3build2 [166 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-bin amd64 2.4.58-1ubuntu8.4 [1329 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-data all 2.4.58-1ubuntu8.4 [163 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-utils amd64 2.4.58-1ubuntu8.4 [97.1 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2 amd64 2.4.58-1ubuntu8.4 [90.2 kB]
```



```
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-172-31-41-61:/home/ubuntu# systemctl status apache2
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
     Active: active (running) since Sun 2024-08-18 12:30:09 UTC; 30s ago
       Docs: https://httpd.apache.org/docs/2.4/
   Main PID: 2442 (apache2)
      Tasks: 55 (limit: 1130)
     Memory: 5.4M (peak: 5.7M)
        CPU: 40ms
     CGroup: /system.slice/apache2.service
             ├─2442 /usr/sbin/apache2 -k start
             ├─2445 /usr/sbin/apache2 -k start
             └─2446 /usr/sbin/apache2 -k start

Aug 18 12:30:09 ip-172-31-41-61 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Aug 18 12:30:09 ip-172-31-41-61 systemd[1]: Started apache2.service - The Apache HTTP Server.
root@ip-172-31-41-61:/home/ubuntu# cd /var/www/html
root@ip-172-31-41-61:/var/www/html# 
```

i-0dda4db17f16307ec (Snehal)

PublicIPs: 54.162.220.58   PrivateIPs: 172.31.41.61



EC2 > Security Groups > sg-0e7811c687e701e30 - launch-wizard-7

sg-0e7811c687e701e30 - launch-wizard-7

Details

Security group name: launch-wizard-7

Security group ID: sg-0e7811c687e701e30

Description: launch-wizard-7 created 2024-08-18T11:25:33.225Z

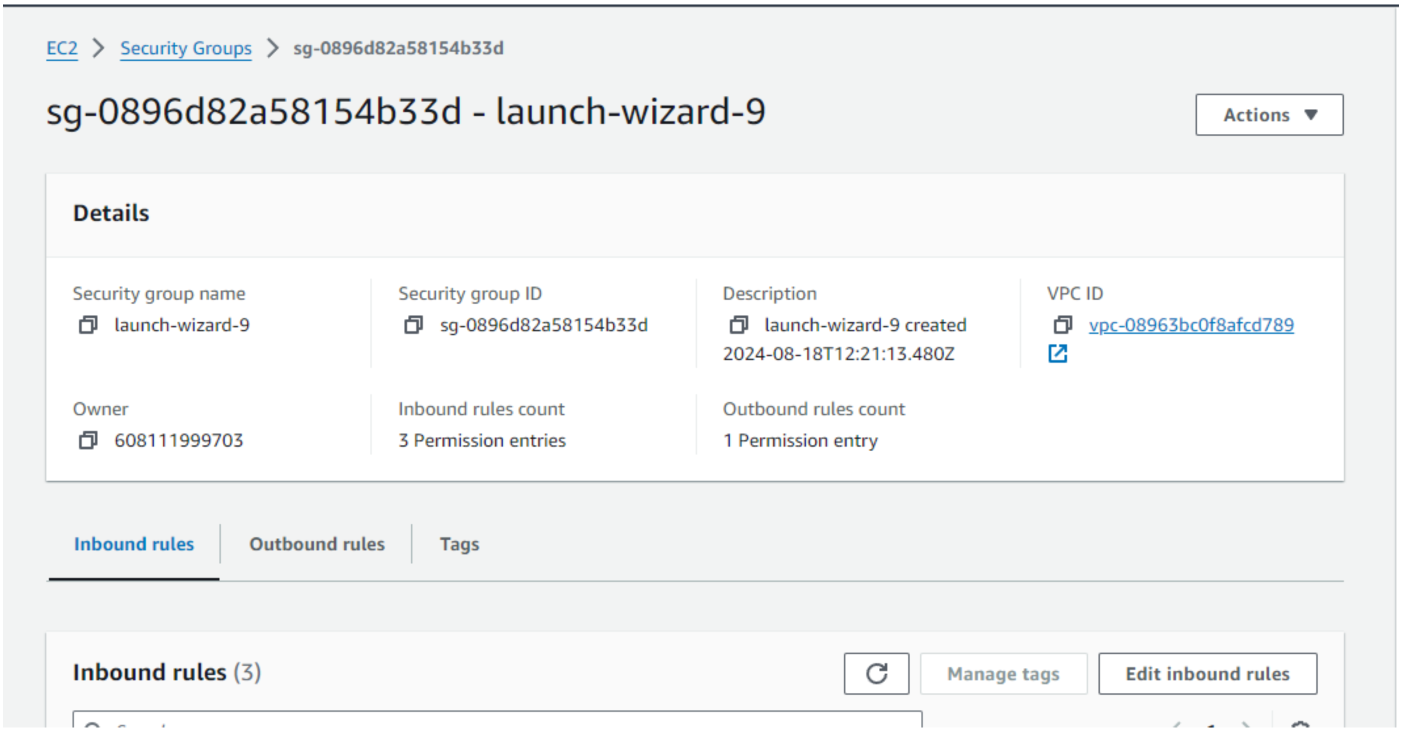
VPC ID: vpc-08963bc0f8afcd789

Owner: 608111999703

Inbound rules count: 1 Permission entry

Outbound rules count: 1 Permission entry

Inbound rules (1)



sg-0896d82a58154b33d - launch-wizard-9

Details

Security group name: launch-wizard-9

Security group ID: sg-0896d82a58154b33d

Description: launch-wizard-9 created 2024-08-18T12:21:13.480Z

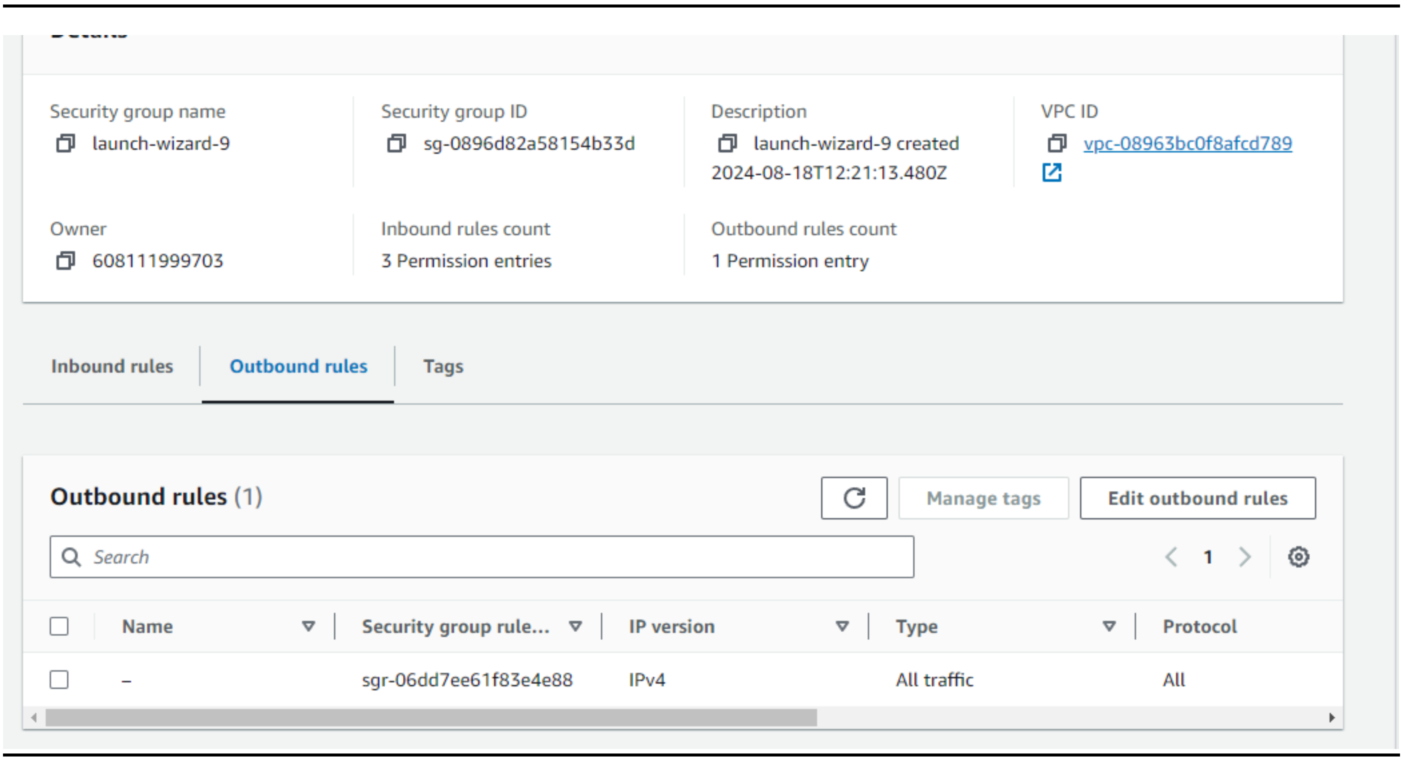
VPC ID: vpc-08963bc0f8afcd789

Owner: 608111999703

Inbound rules count: 3 Permission entries

Outbound rules count: 1 Permission entry

Inbound rules (3)



Security group name: launch-wizard-9

Security group ID: sg-0896d82a58154b33d

Description: launch-wizard-9 created 2024-08-18T12:21:13.480Z

VPC ID: vpc-08963bc0f8afcd789

Owner: 608111999703

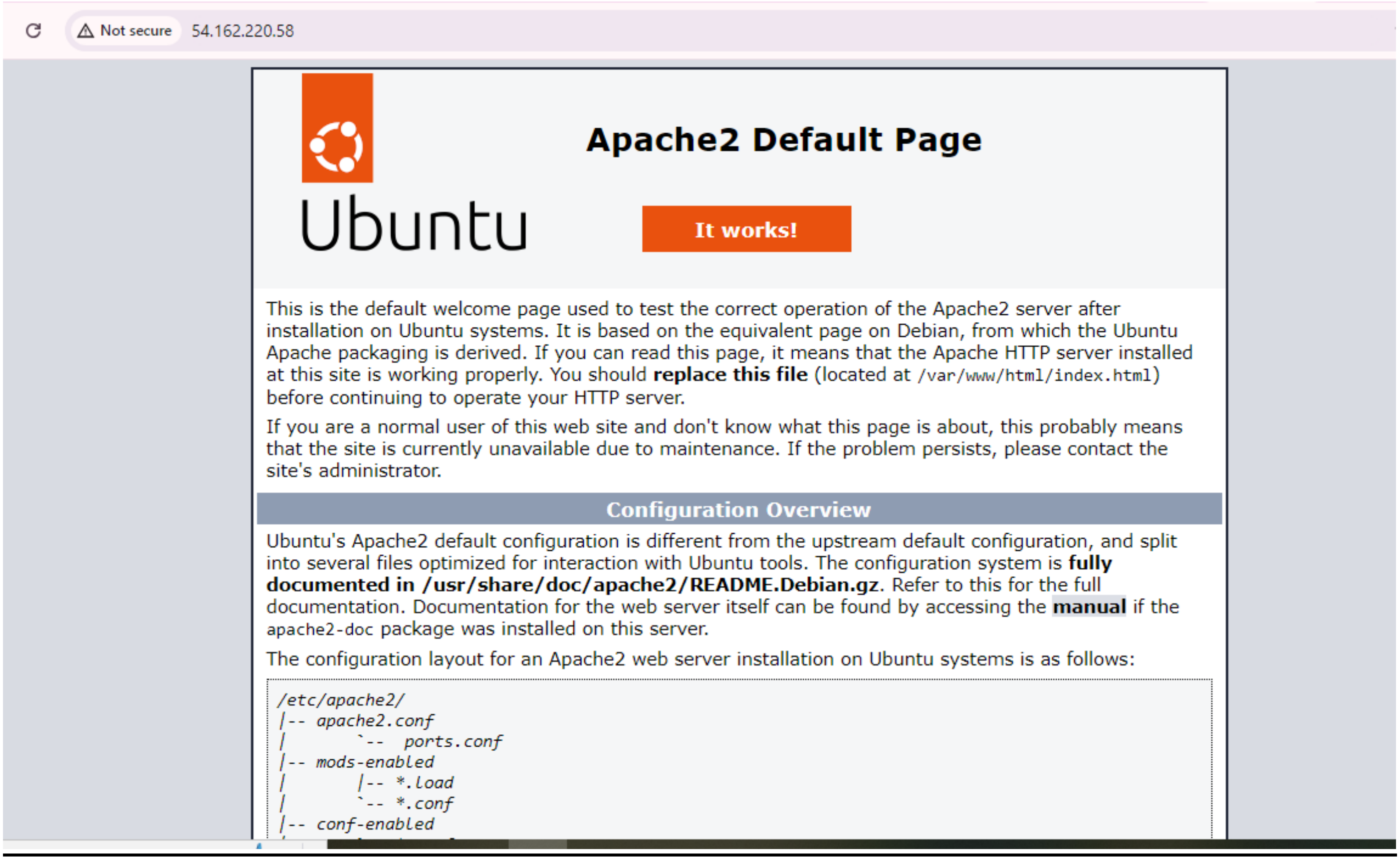
Inbound rules count: 3 Permission entries

Outbound rules count: 1 Permission entry

Outbound rules (1)

□	Name	Security group rule...	IP version	Type	Protocol
□	–	sgr-06dd7ee61f83e4e88	IPv4	All traffic	All

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



Apache2 Default Page

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.

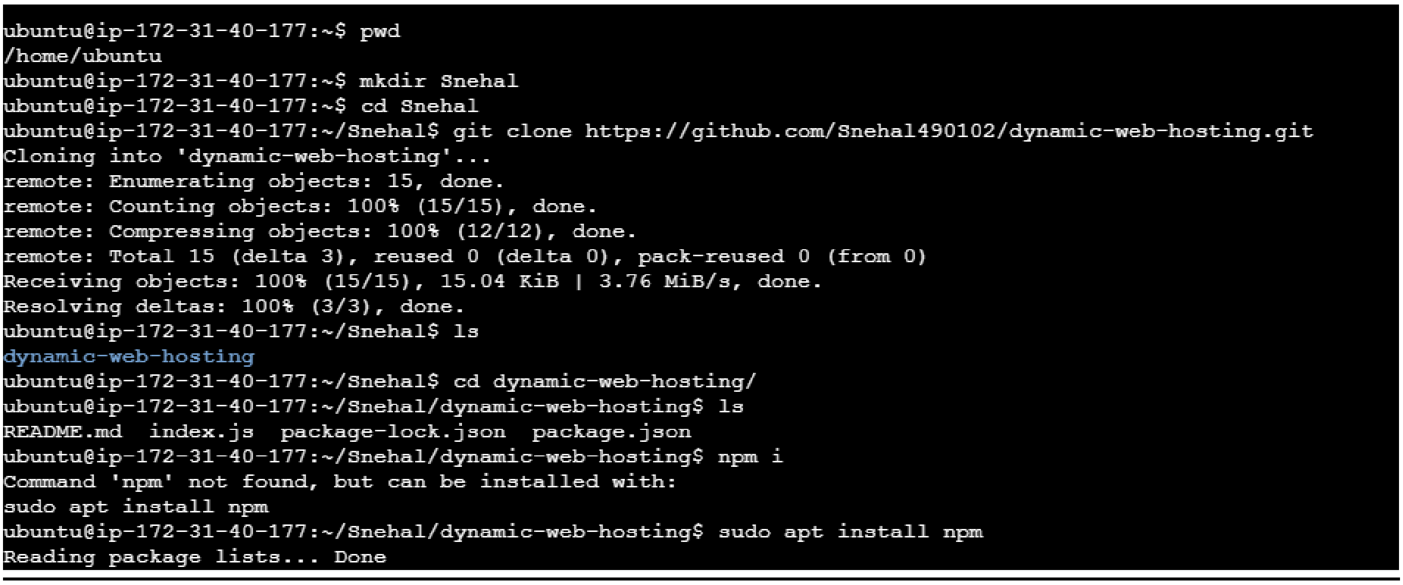
If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

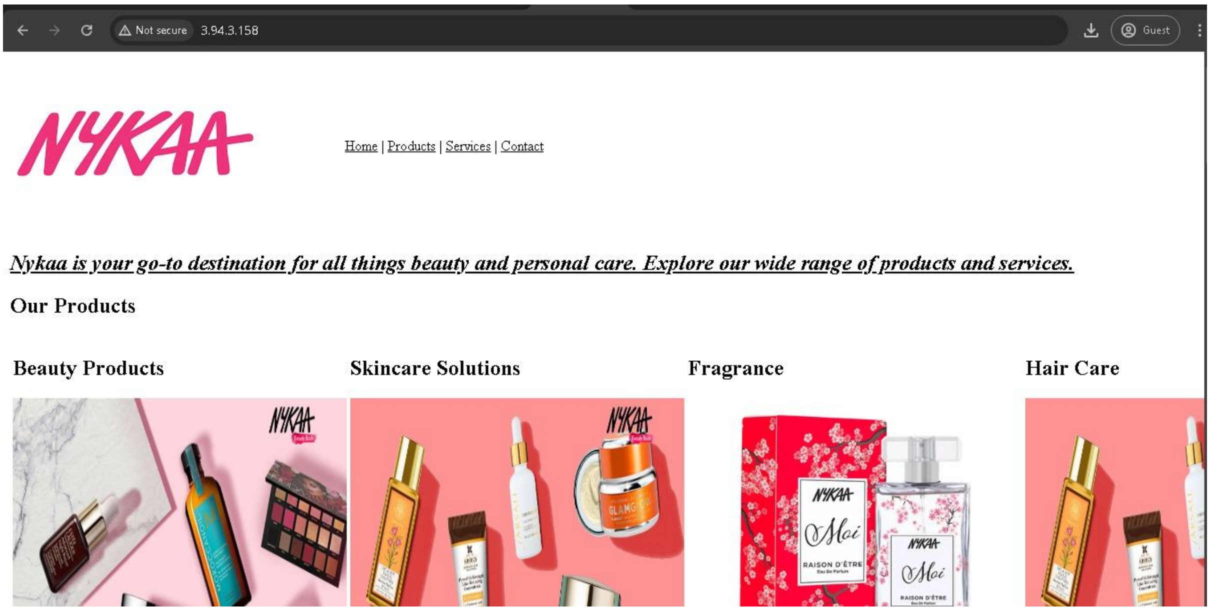
Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in /usr/share/doc/apache2/README.Debian.gz**. Refer to this for the full documentation. 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
```



```
ubuntu@ip-172-31-40-177:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-40-177:~$ mkdir Snehal
ubuntu@ip-172-31-40-177:~$ cd Snehal
ubuntu@ip-172-31-40-177:~/Snehal$ git clone https://github.com/Snehal490102/dynamic-web-hosting.git
Cloning into 'dynamic-web-hosting'...
remote: Enumerating objects: 15, done.
remote: Counting objects: 100% (15/15), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 15 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (15/15), 15.04 KiB | 3.76 MiB/s, done.
Resolving deltas: 100% (3/3), done.
ubuntu@ip-172-31-40-177:~/Snehal$ ls
dynamic-web-hosting
ubuntu@ip-172-31-40-177:~/Snehal$ cd dynamic-web-hosting/
ubuntu@ip-172-31-40-177:~/Snehal/dynamic-web-hosting$ ls
README.md  index.js  package-lock.json  package.json
ubuntu@ip-172-31-40-177:~/Snehal/dynamic-web-hosting$ npm i
Command 'npm' not found, but can be installed with:
sudo apt install npm
ubuntu@ip-172-31-40-177:~/Snehal/dynamic-web-hosting$ sudo apt install npm
Reading package lists... Done
```



Not secure 3.94.3.158

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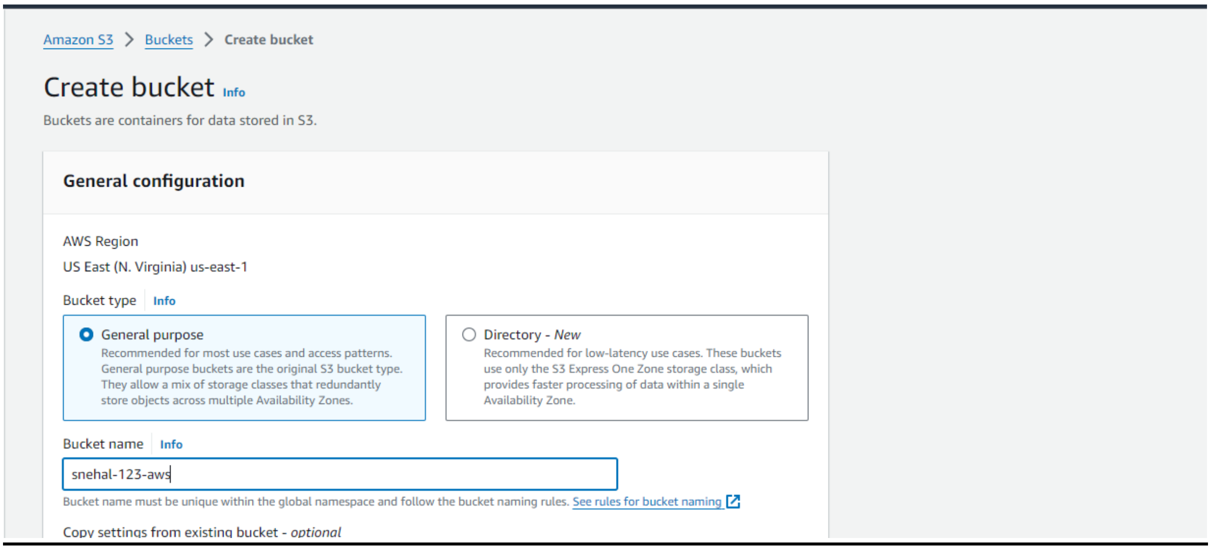
STATIC WEBSITE HOSTING USING S3 BUCKET:

Step1: Create bucket



Amazon S3 > Buckets > Create bucket

Create bucket Info

Buckets are containers for data stored in S3.

General configuration

AWS Region

US East (N. Virginia) us-east-1

Bucket type Info

● General purpose
Recommended for most use cases and access patterns. General purpose buckets are the original S3 bucket type. They allow a mix of storage classes that redundantly store objects across multiple Availability Zones.

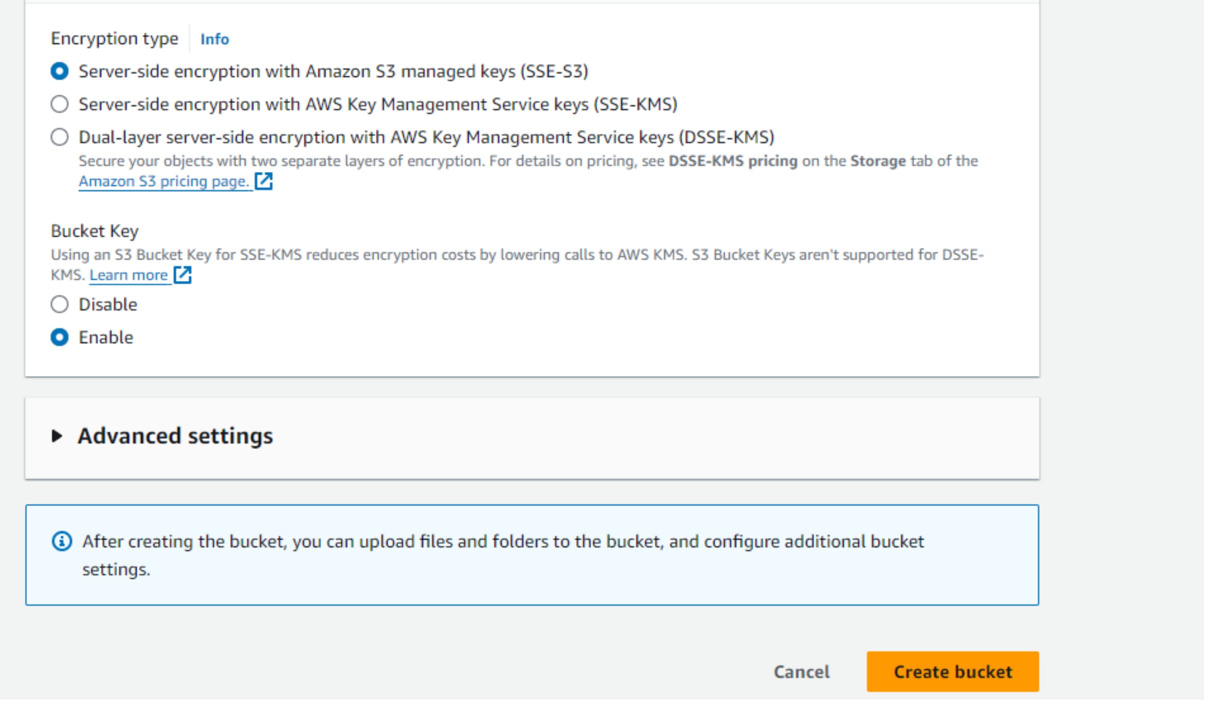
○ Directory - *New*
Recommended for low-latency use cases. These buckets use only the S3 Express One Zone storage class, which provides faster processing of data within a single Availability Zone.

Bucket name Info

snehal-123-aws

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*



Encryption type Info

● Server-side encryption with Amazon S3 managed keys (SSE-S3)

○ Server-side encryption with AWS Key Management Service keys (SSE-KMS)

○ Dual-layer server-side encryption with AWS Key Management Service keys (DSSE-KMS)
Secure your objects with two separate layers of encryption. For details on pricing, see **DSSE-KMS pricing** on the **Storage** tab of the Amazon S3 pricing page.

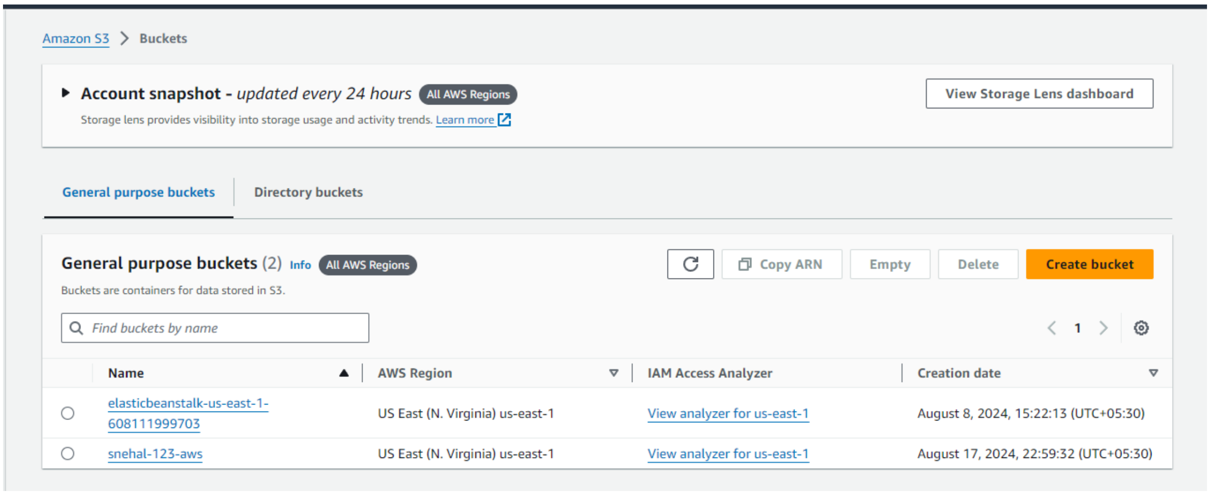
Bucket Key
Using an S3 Bucket Key for SSE-KMS reduces encryption costs by lowering calls to AWS KMS. S3 Bucket Keys aren't supported for DSSE-KMS. Learn more

○ Disable

● Enable

▶ **Advanced settings**

After creating the bucket, you can upload files and folders to the bucket, and configure additional bucket settings.

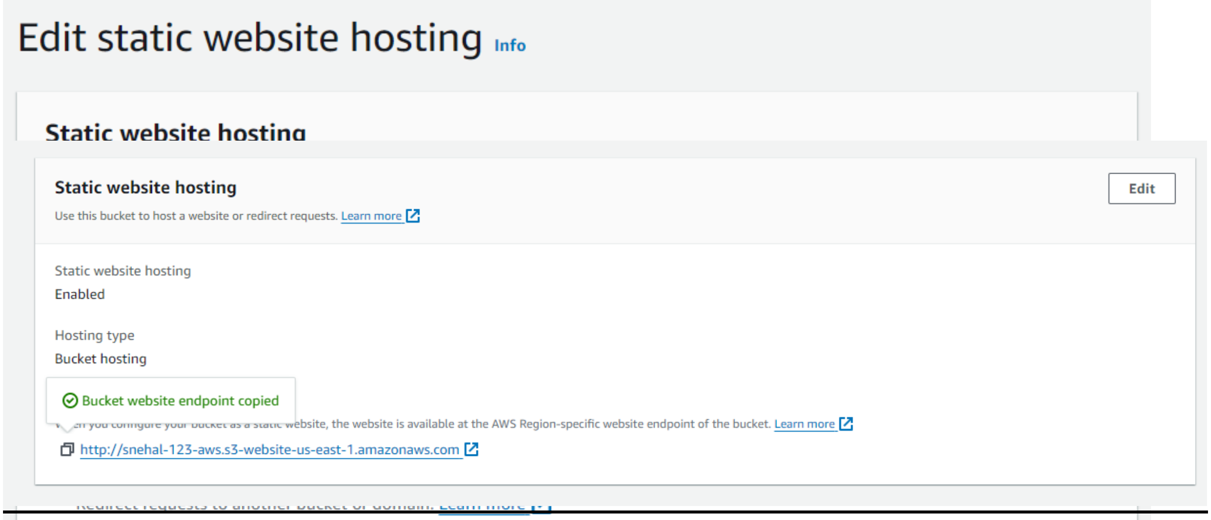


Amazon S3 > Buckets

▶ **Account snapshot -** *updated every 24 hours* All AWS Regions
Storage lens provides visibility into storage usage and activity trends. Learn more

General purpose buckets (2) Info All AWS Regions
Buckets are containers for data stored in S3.

	Name ▲	AWS Region	IAM Access Analyzer	Creation date
○	elasticbeanstalk-us-east-1-608111999703	US East (N. Virginia) us-east-1	View analyzer for us-east-1	August 8, 2024, 15:22:13 (UTC+05:30)
○	snehal-123-aws	US East (N. Virginia) us-east-1	View analyzer for us-east-1	August 17, 2024, 22:59:32 (UTC+05:30)



Edit static website hosting Info

Static website hosting

Static website hosting
Use this bucket to host a website or redirect requests. Learn more

Static website hosting
Enabled

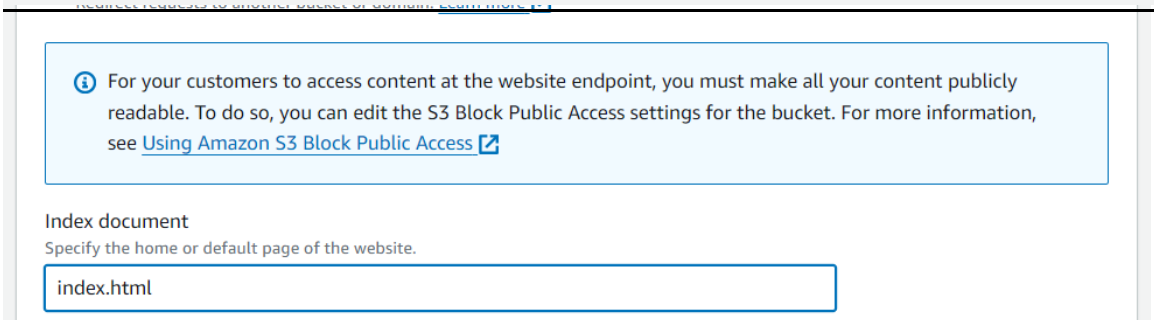
Hosting type
Bucket hosting

Bucket website endpoint copied

...en you configure your bucket as a static website, the website is available at the AWS Region-specific website endpoint of the bucket. Learn more

http://snehal-123-aws.s3-website-us-east-1.amazonaws.com

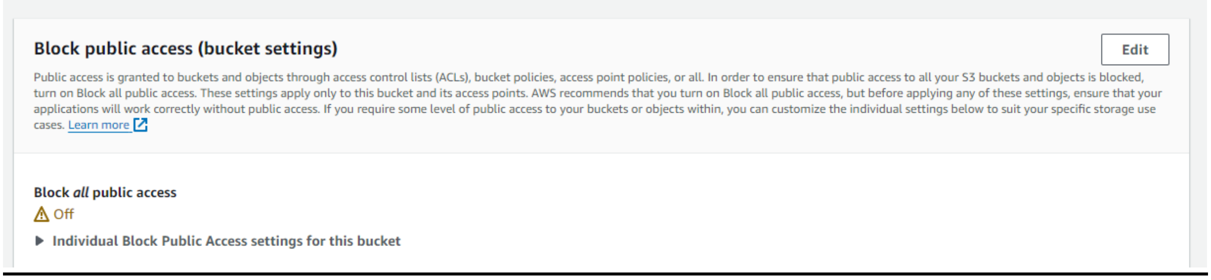
Redirect requests to another bucket or domain. Learn more



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.

index.html



Block public access (bucket settings)

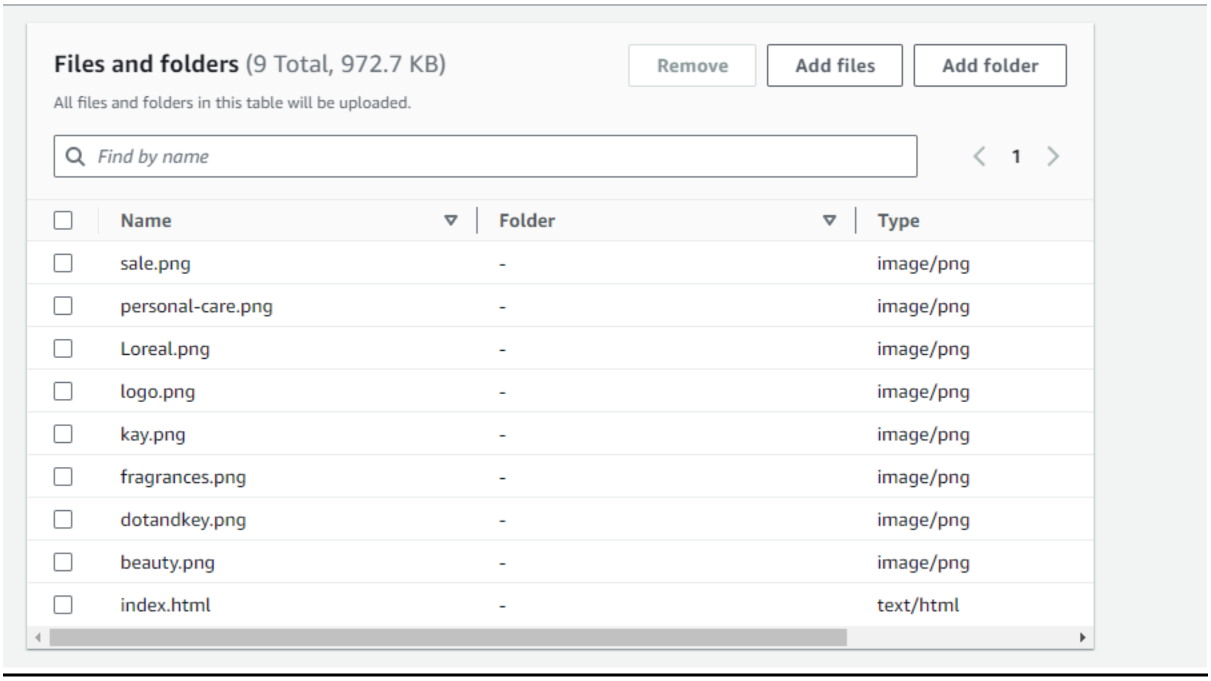
Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to all your S3 buckets and objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to your buckets or objects within, you can customize the individual settings below to suit your specific storage use cases. Learn more

Block *all* public access

⚠ Off

▶ Individual Block Public Access settings for this bucket

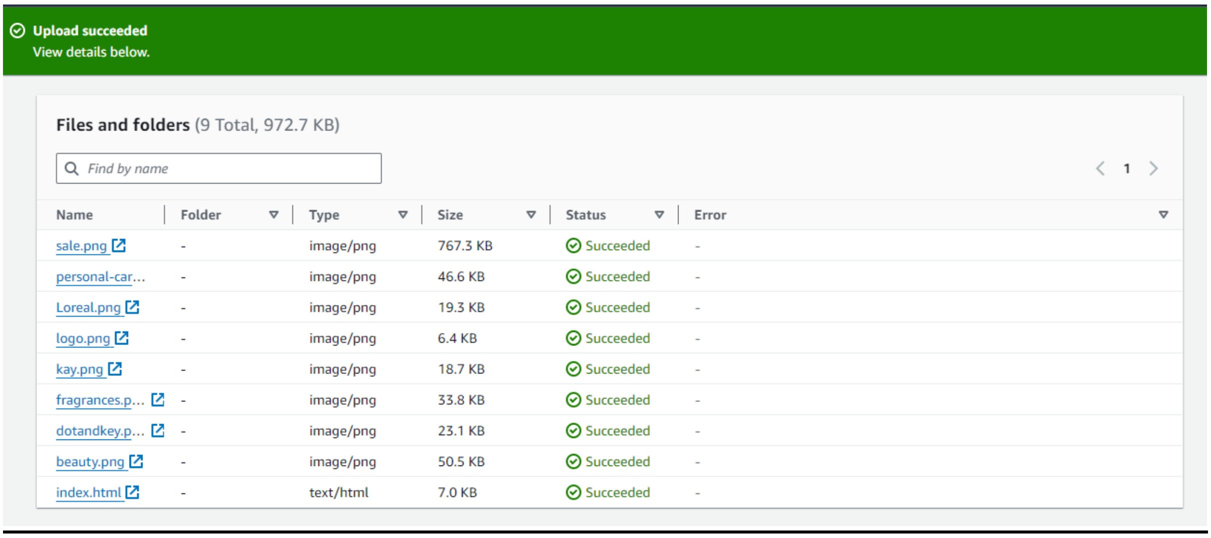
Step 2: Add resources



Files and folders (9 Total, 972.7 KB)

All files and folders in this table will be uploaded.

□	Name	Folder	Type
□	sale.png	-	image/png
□	personal-care.png	-	image/png
□	Loreal.png	-	image/png
□	logo.png	-	image/png
□	kay.png	-	image/png
□	fragrances.png	-	image/png
□	dotandkey.png	-	image/png
□	beauty.png	-	image/png
□	index.html	-	text/html

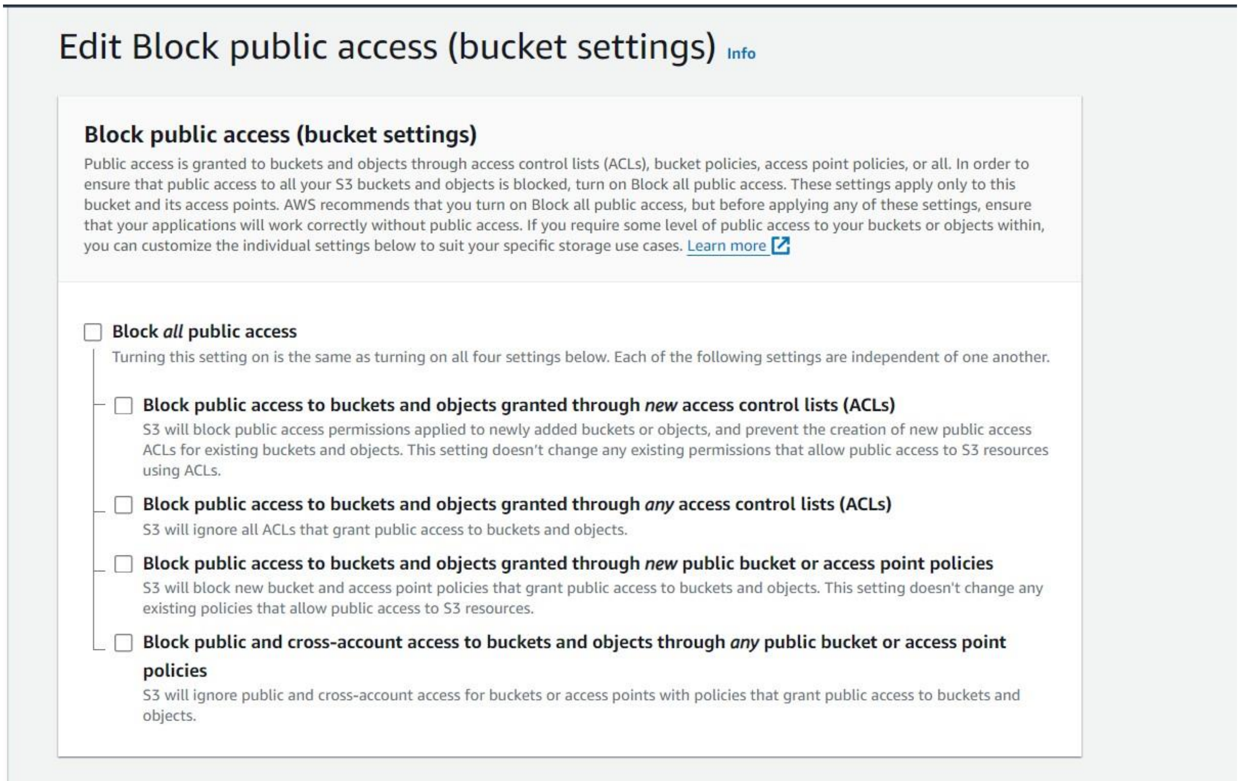


Upload succeeded
View details below.

Files and folders (9 Total, 972.7 KB)

Name	Folder	Type	Size	Status	Error
sale.png	-	image/png	767.3 KB	✓ Succeeded	-
personal-car...	-	image/png	46.6 KB	✓ Succeeded	-
Loreal.png	-	image/png	19.3 KB	✓ Succeeded	-
logo.png	-	image/png	6.4 KB	✓ Succeeded	-
kay.png	-	image/png	18.7 KB	✓ Succeeded	-
fragrances.p...	-	image/png	33.8 KB	✓ Succeeded	-
dotandkey.p...	-	image/png	23.1 KB	✓ Succeeded	-
beauty.png	-	image/png	50.5 KB	✓ Succeeded	-
index.html	-	text/html	7.0 KB	✓ Succeeded	-

Step 3 : Provide public access



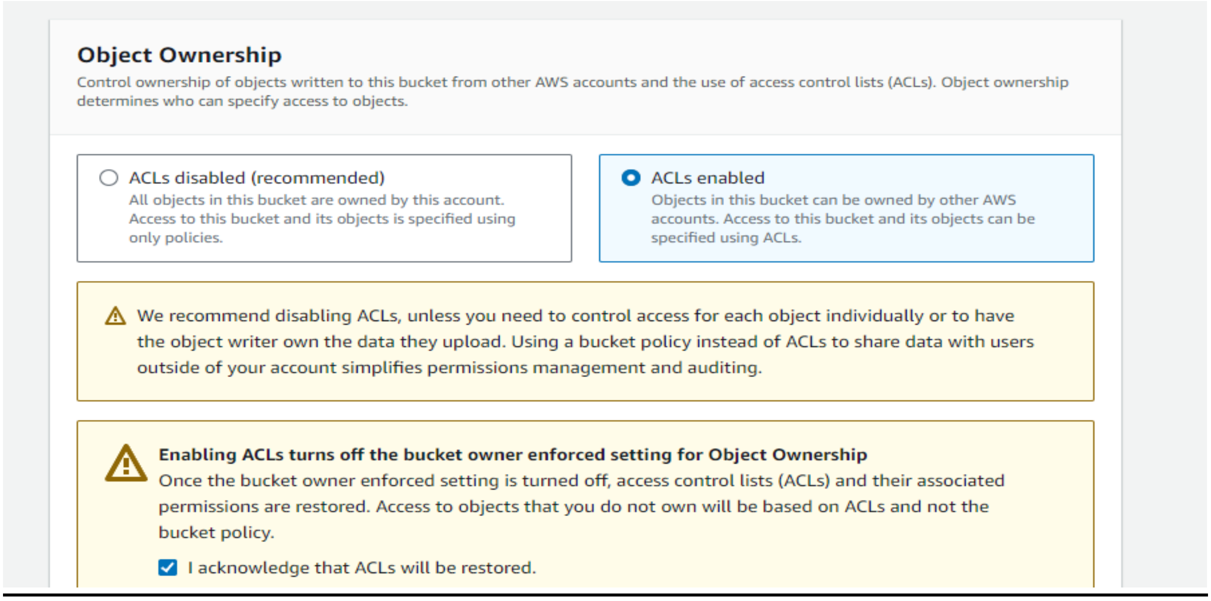
Edit Block public access (bucket settings) Info

Block public access (bucket settings)

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to all your S3 buckets and objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to your buckets or objects within, you can customize the individual settings below to suit your specific storage use cases. Learn more

□ **Block *all* public access**
Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

- □ **Block public access to buckets and objects granted through *new* access control lists (ACLs)**
  S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.
- □ **Block public access to buckets and objects granted through *any* access control lists (ACLs)**
  S3 will ignore all ACLs that grant public access to buckets and objects.
- □ **Block public access to buckets and objects granted through *new* public bucket or access point policies**
  S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.
- □ **Block public and cross-account access to buckets and objects through *any* public bucket or access point policies**
  S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.



Object Ownership

Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

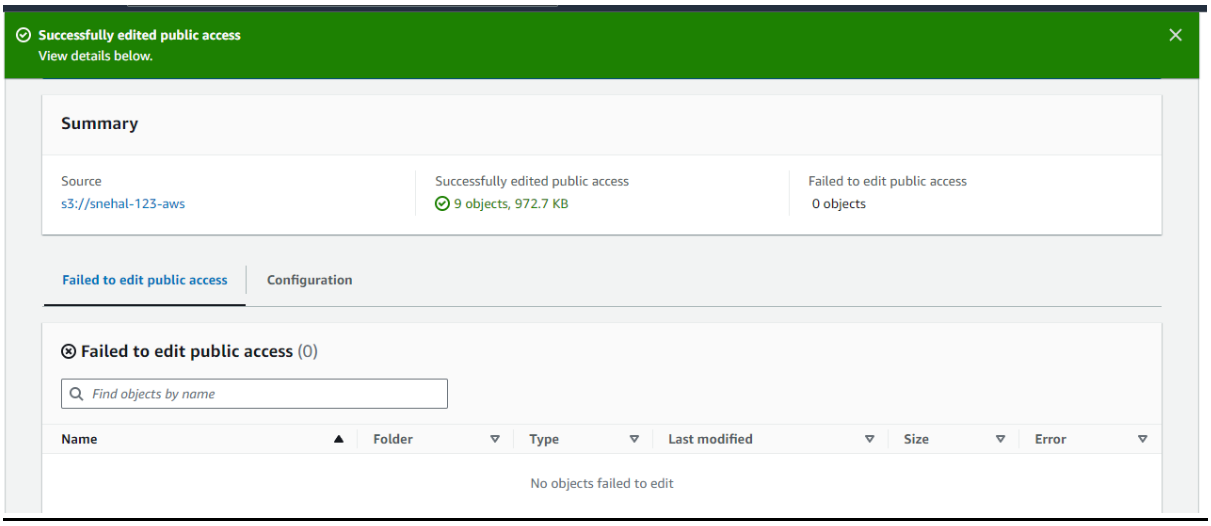
○ ACLs disabled (recommended)
All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.

● ACLs enabled
Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.

⚠ We recommend disabling ACLs, unless you need to control access for each object individually or to have the object writer own the data they upload. Using a bucket policy instead of ACLs to share data with users outside of your account simplifies permissions management and auditing.

⚠ **Enabling ACLs turns off the bucket owner enforced setting for Object Ownership**
Once the bucket owner enforced setting is turned off, access control lists (ACLs) and their associated permissions are restored. Access to objects that you do not own will be based on ACLs and not the bucket policy.

☑ I acknowledge that ACLs will be restored.



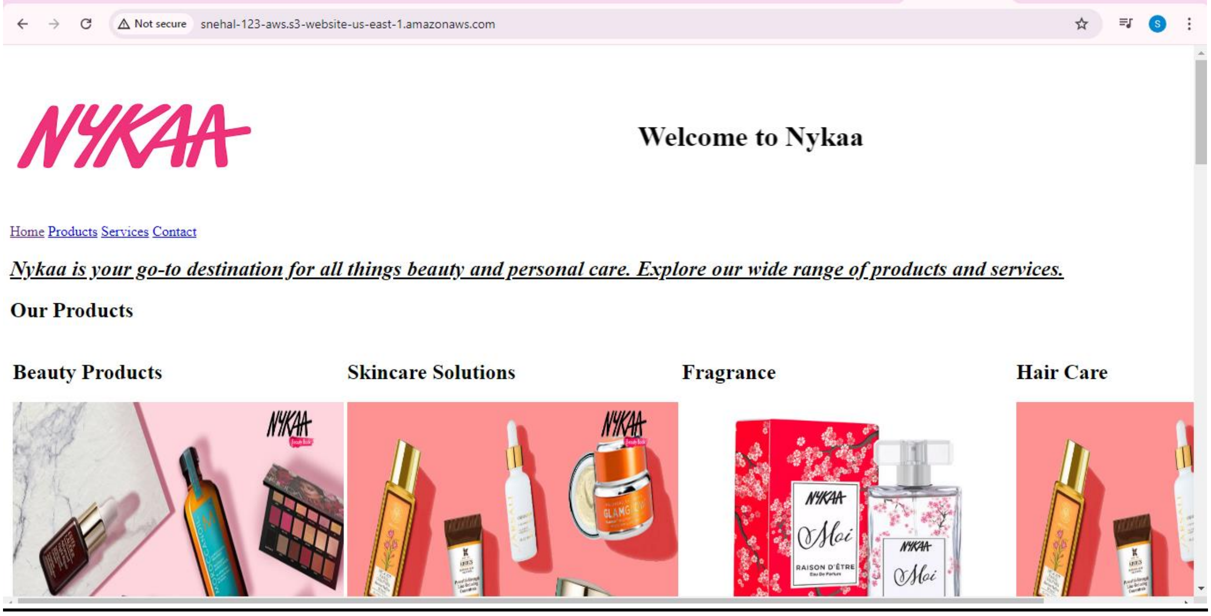
✓ **Successfully edited public access**
View details below.

Summary

Source	Successfully edited public access	Failed to edit public access
s3://snehal-123-aws	✓ 9 objects, 972.7 KB	0 objects

ⓧ **Failed to edit public access** (0)

Name ▲	Folder ▽	Type ▽	Last modified ▽	Size ▽	Error ▽
No objects failed to edit					



Welcome to Nykaa

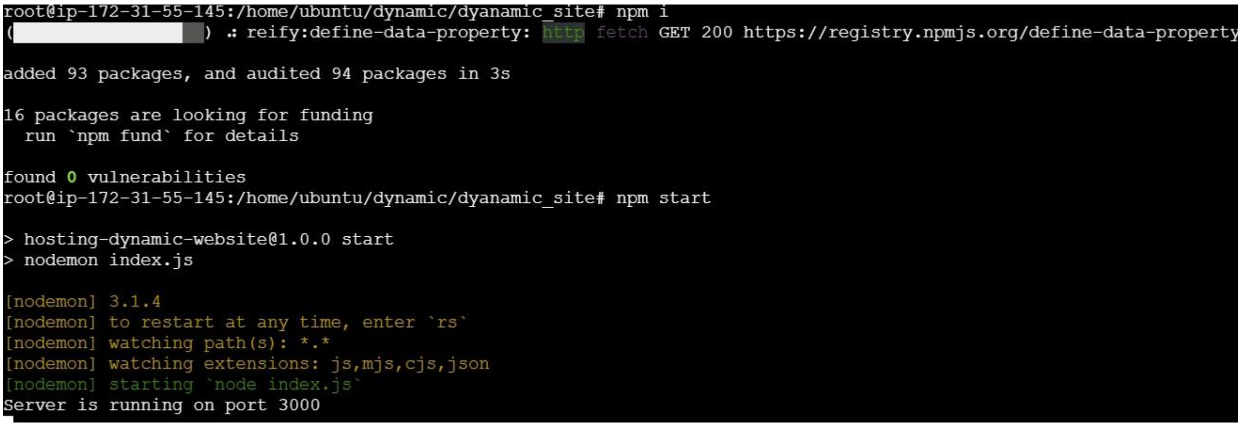
Home Products Services Contact

Nykaa is your go-to destination for all things beauty and personal care. Explore our wide range of products and services.

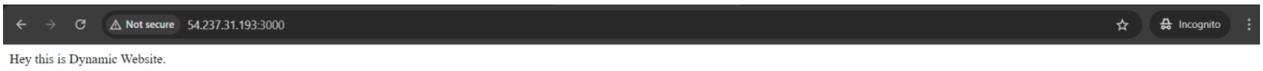
Our Products

Beauty Products **Skincare Solutions** **Fragrance** **Hair Care**

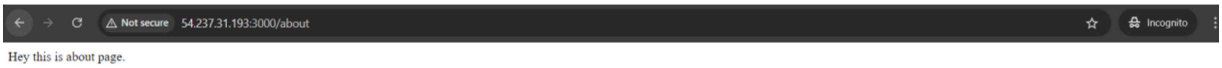
EC2 Dynamic Site Hosting:



```
root@ip-172-31-55-145:/home/ubuntu/dynamic/dyanamic_site# npm i
(                    ) ⠼ reify:define-data-property: http fetch GET 200 https://registry.npmjs.org/define-data-property

added 93 packages, and audited 94 packages in 3s

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

found 0 vulnerabilities
root@ip-172-31-55-145:/home/ubuntu/dynamic/dyanamic_site# npm start

> hosting-dynamic-website@1.0.0 start
> nodemon index.js

[nodemon] 3.1.4
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting `node index.js`
Server is running on port 3000
```



Hey this is Dynamic Website.

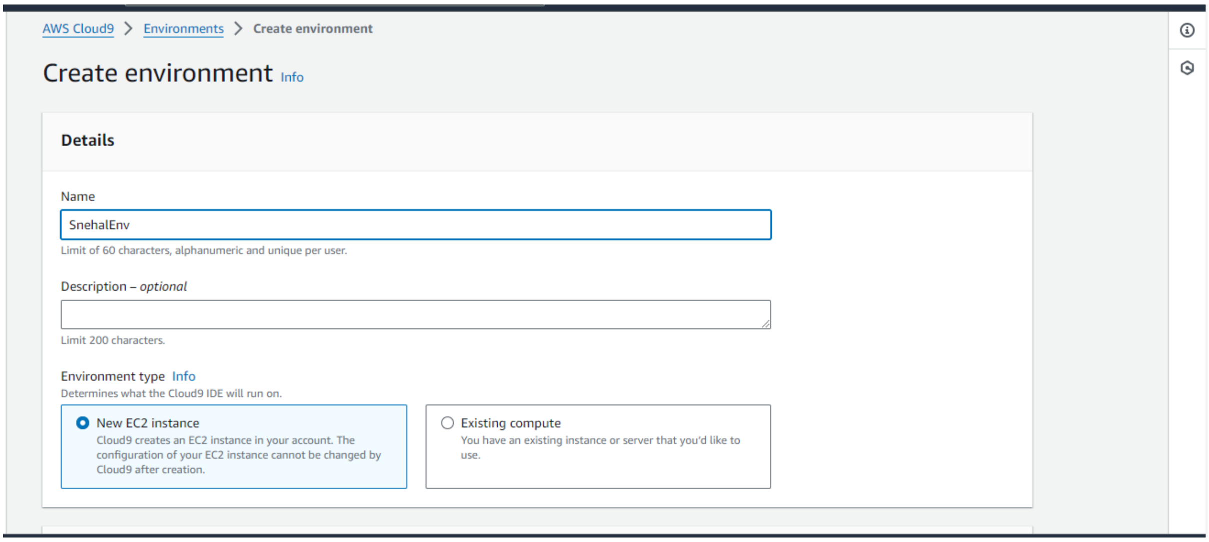


54.237.31.193:3000/about

Hey this is about page.

Cloud 9 IDE Site Hosting:

Step 1: Create Environment



Create environment

Details

Name

SnehalEnv

Limit of 60 characters, alphanumeric and unique per user.

Description – *optional*

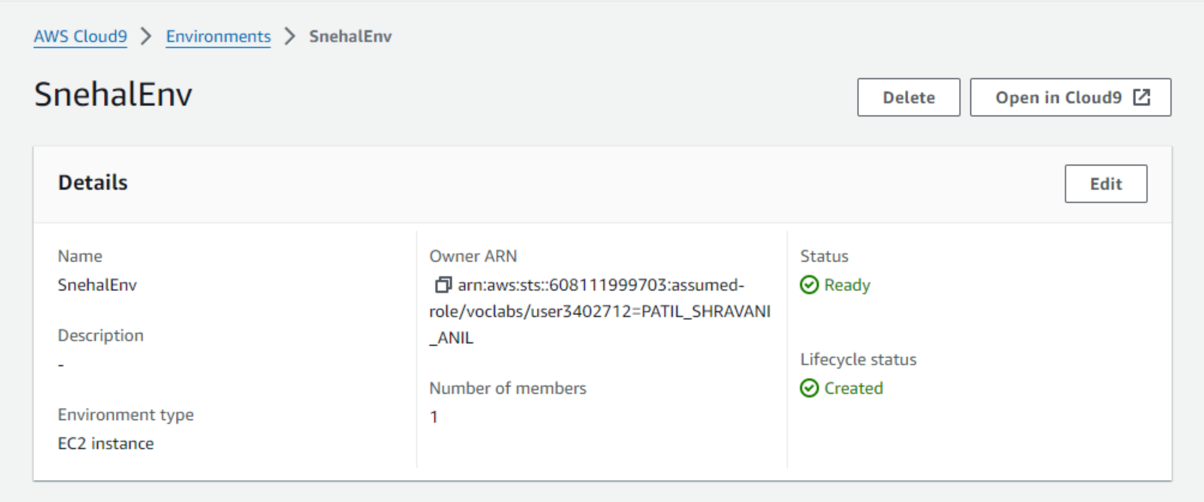
Limit 200 characters.

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.



SnehalEnv

Details

Name
SnehalEnv

Description
-

Environment type
EC2 instance

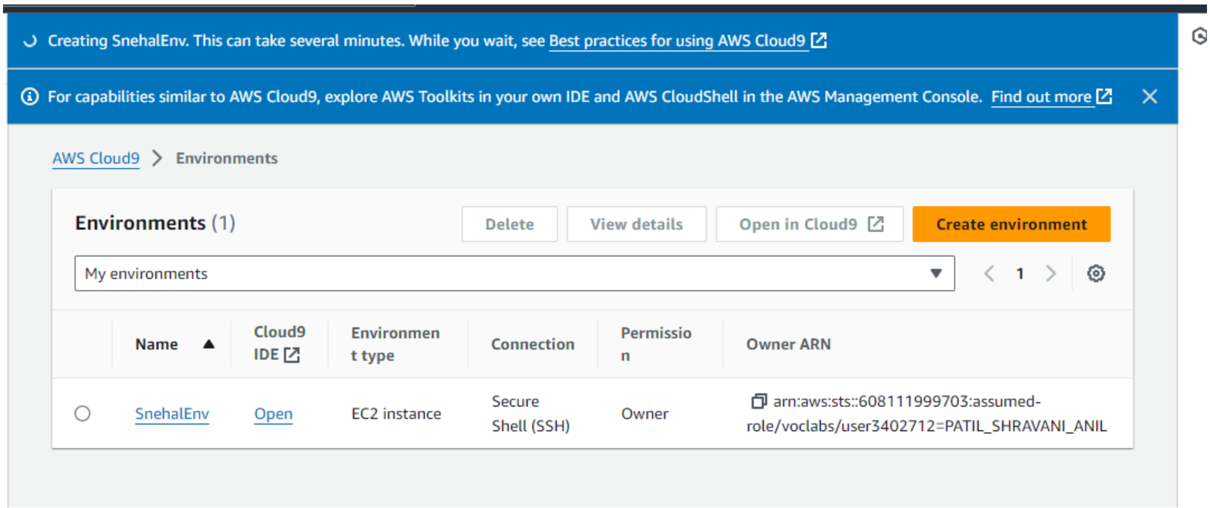
Owner ARN
arn:aws:sts::608111999703:assumed-role/voclabs/user3402712=PATIL_SHRAVANI_ANIL

Number of members
1

Status
✓ Ready

Lifecycle status
✓ Created

Step 2 : Open the Environment IDE



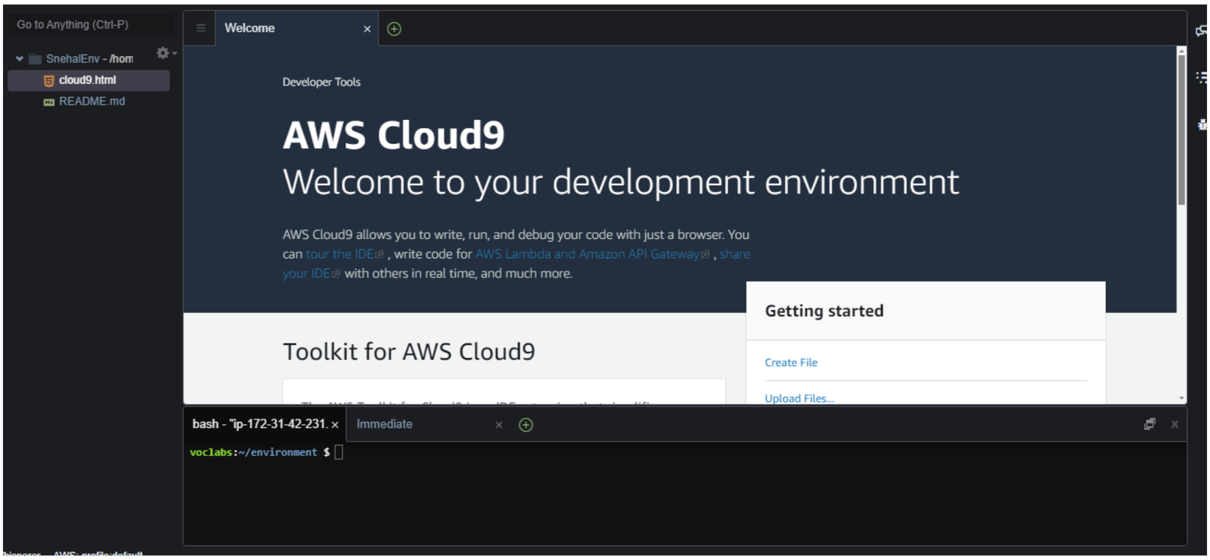
Creating SnehalEnv. This can take several minutes. While you wait, see Best practices for using AWS Cloud9

For capabilities similar to AWS Cloud9, explore AWS Toolkits in your own IDE and AWS CloudShell in the AWS Management Console. Find out more

AWS Cloud9 > Environments

Environments (1)

	Name ▲	Cloud9 IDE	Environment type	Connection	Permission	Owner ARN
○	SnehalEnv	Open	EC2 instance	Secure Shell (SSH)	Owner	arn:aws:sts::608111999703:assumed-role/voclabs/user3402712=PATIL_SHRAVANI_ANIL



Developer Tools

AWS Cloud9

Welcome to your development environment

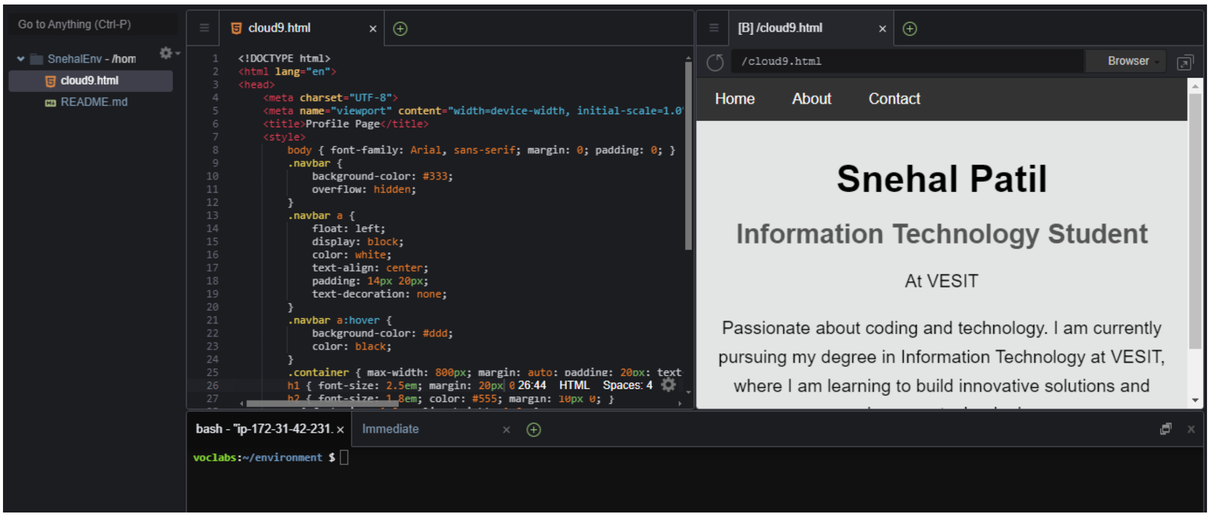
AWS Cloud9 allows you to write, run, and debug your code with just a browser. You can tour the IDE, write code for AWS Lambda and Amazon API Gateway, share your IDE with others in real time, and much more.

Toolkit for AWS Cloud9

Getting started

```
voclabs:~/environment $
```

Step 3: Add the code and preview the website



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0'
    <title>Profile Page</title>
    <style>
        body { font-family: Arial, sans-serif; margin: 0; padding: 0; }
        .navbar {
            background-color: #333;
            overflow: hidden;
        }
        .navbar a {
            float: left;
            display: block;
            color: white;
            text-align: center;
            padding: 14px 20px;
            text-decoration: none;
        }
        .navbar a:hover {
            background-color: #ddd;
            color: black;
        }
        .container { max-width: 800px; margin: auto; padding: 20px; text
        h1 { font-size: 2.5em; margin: 20px 0
        h2 { font-size: 1.8em; color: #555; margin: 10px 0; }
```

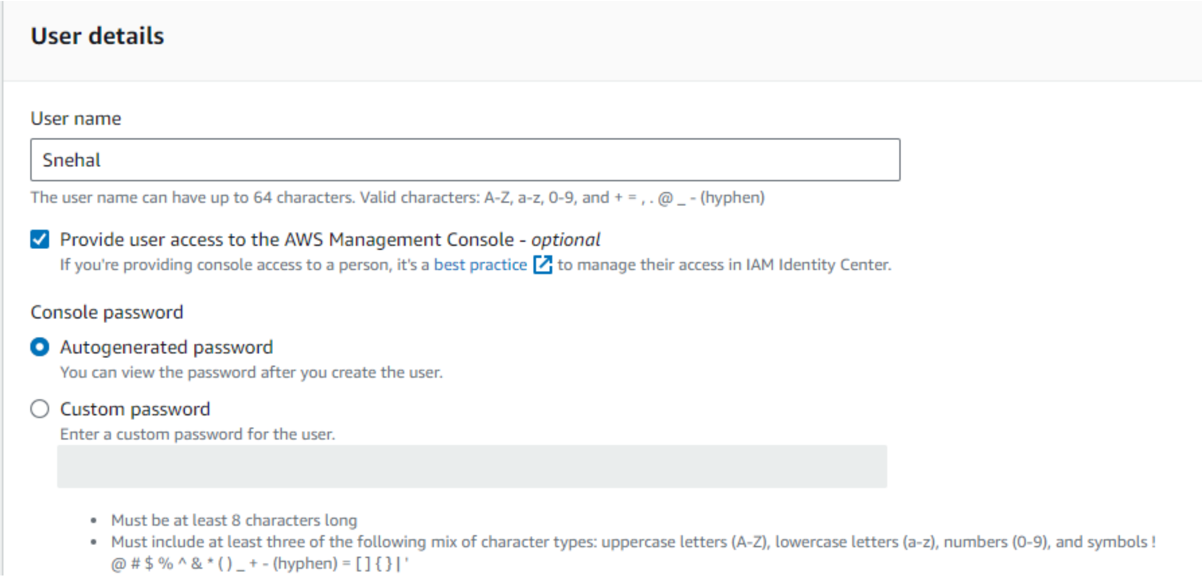
Snehal Patil

Information Technology Student

At VESIT

Passionate about coding and technology. I am currently pursuing my degree in Information Technology at VESIT, where I am learning to build innovative solutions and

```
voclabs:~/environment $
```



User details

User name

Snehal

The user name can have up to 64 characters. Valid characters: A-Z, a-z, 0-9, and + = , . @ _ - (hyphen)

☑ Provide user access to the AWS Management Console - *optional*

If you're providing console access to a person, it's a best practice to manage their access in IAM Identity Center.

Console password

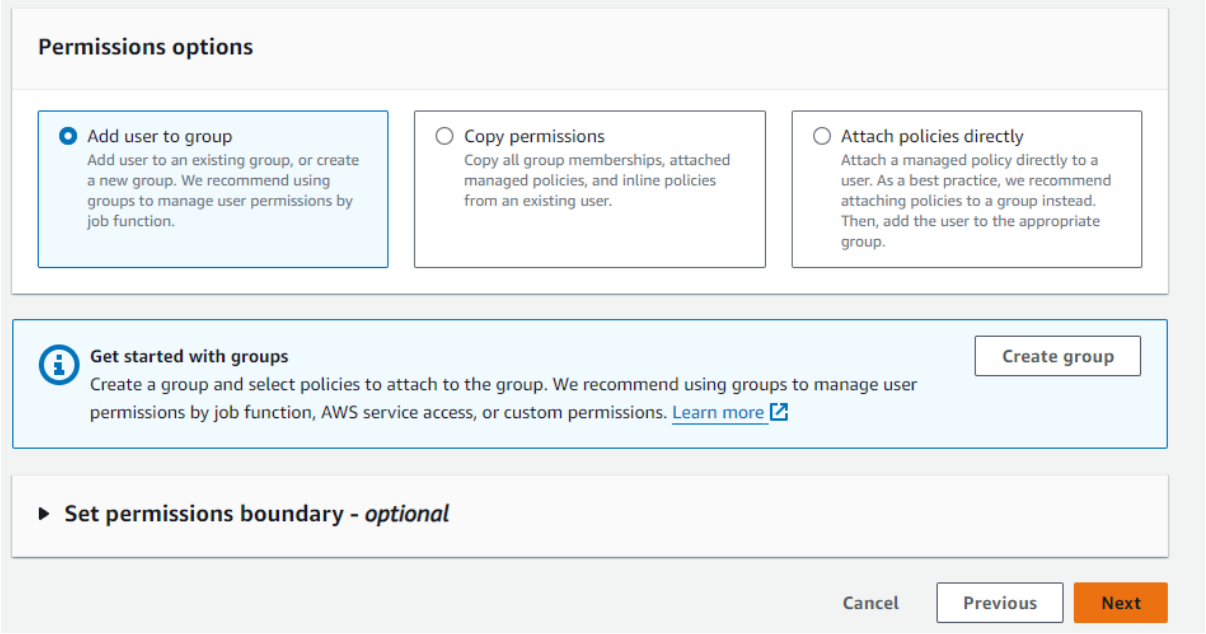
● Autogenerated password

You can view the password after you create the user.

○ Custom password

Enter a custom password for the user.

- Must be at least 8 characters long
- Must include at least three of the following mix of character types: uppercase letters (A-Z), lowercase letters (a-z), numbers (0-9), and symbols ! @ # $ % ^ & * ( ) _ + - (hyphen) = [ ] { } | '



Permissions options

● Add user to group

Add user to an existing group, or create a new group. We recommend using groups to manage user permissions by job function.

○ Copy permissions

Copy all group memberships, attached managed policies, and inline policies from an existing user.

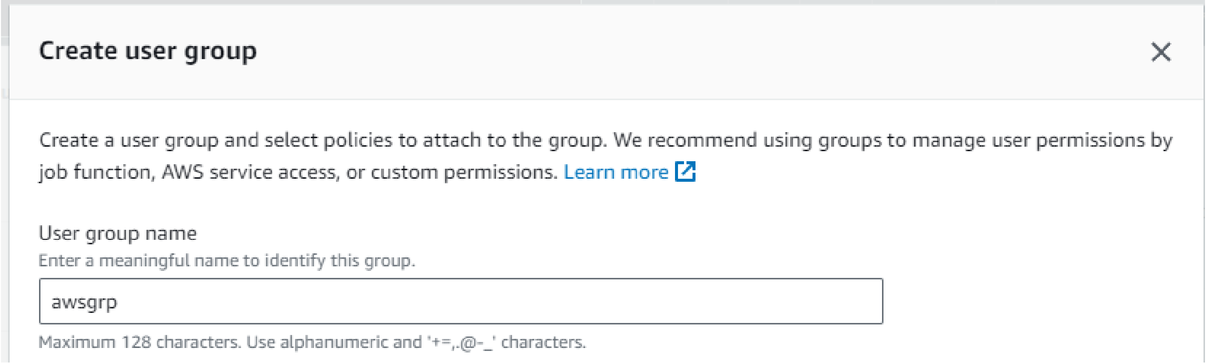
○ Attach policies directly

Attach a managed policy directly to a user. As a best practice, we recommend attaching policies to a group instead. Then, add the user to the appropriate group.

Get started with groups

Create a group and select policies to attach to the group. We recommend using groups to manage user permissions by job function, AWS service access, or custom permissions. Learn more

▶ **Set permissions boundary - *optional***



Create user group

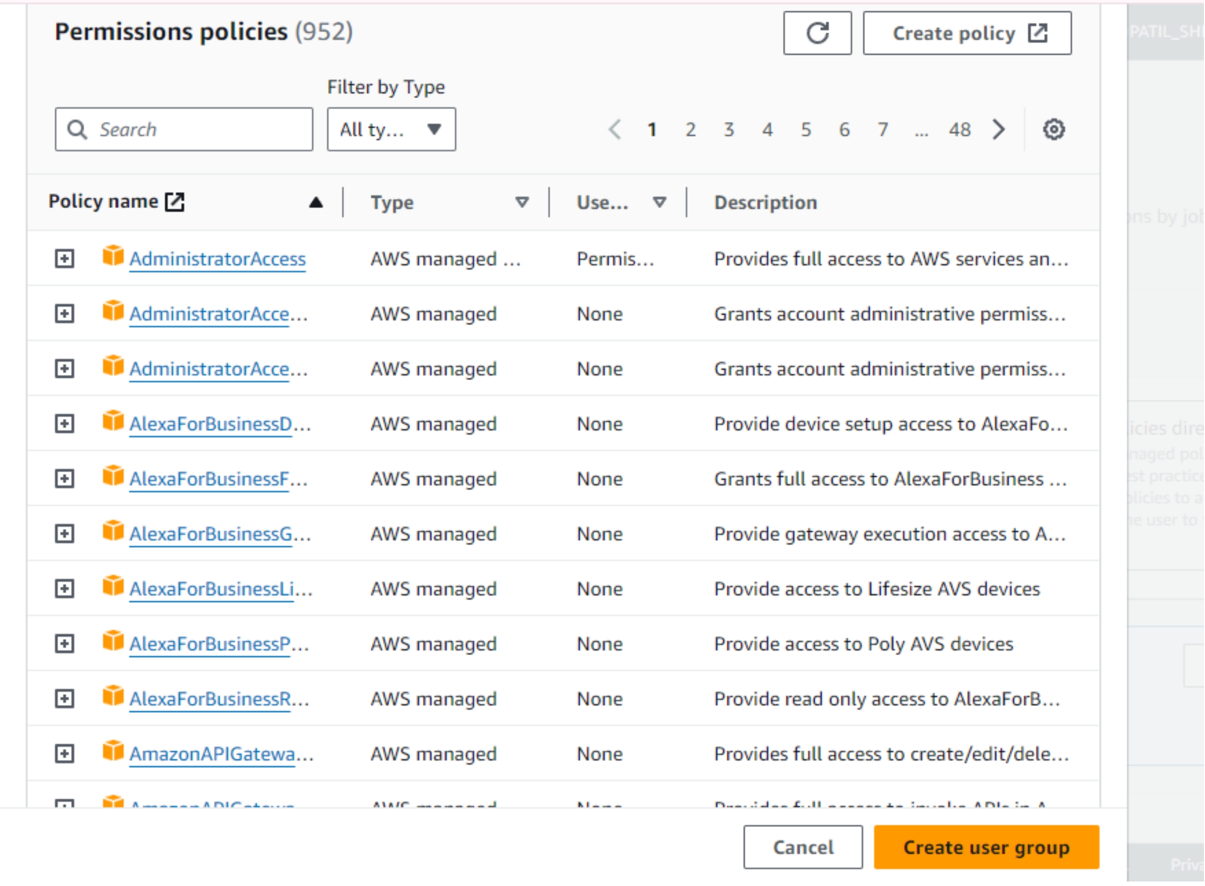
Create a user group and select policies to attach to the group. We recommend using groups to manage user permissions by job function, AWS service access, or custom permissions. Learn more

User group name

Enter a meaningful name to identify this group.

awsgrp

Maximum 128 characters. Use alphanumeric and '+=,.@-_' characters.



Permissions policies (952)

	Policy name	Type	Use...	Description
⊞	AdministratorAccess	AWS managed ...	Permis...	Provides full access to AWS services an...
⊞	AdministratorAcce...	AWS managed	None	Grants account administrative permiss...
⊞	AdministratorAcce...	AWS managed	None	Grants account administrative permiss...
⊞	AlexaForBusinessD...	AWS managed	None	Provide device setup access to AlexaFo...
⊞	AlexaForBusinessF...	AWS managed	None	Grants full access to AlexaForBusiness ...
⊞	AlexaForBusinessG...	AWS managed	None	Provide gateway execution access to A...
⊞	AlexaForBusinessLi...	AWS managed	None	Provide access to Lifesize AVS devices
⊞	AlexaForBusinessP...	AWS managed	None	Provide access to Poly AVS devices
⊞	AlexaForBusinessR...	AWS managed	None	Provide read only access to AlexaForB...
⊞	AmazonAPIGatewa...	AWS managed	None	Provides full access to create/edit/dele...
⊞	AmazonAPIGatewa...	AWS managed	None	Provides full access to invoke APIs in A...