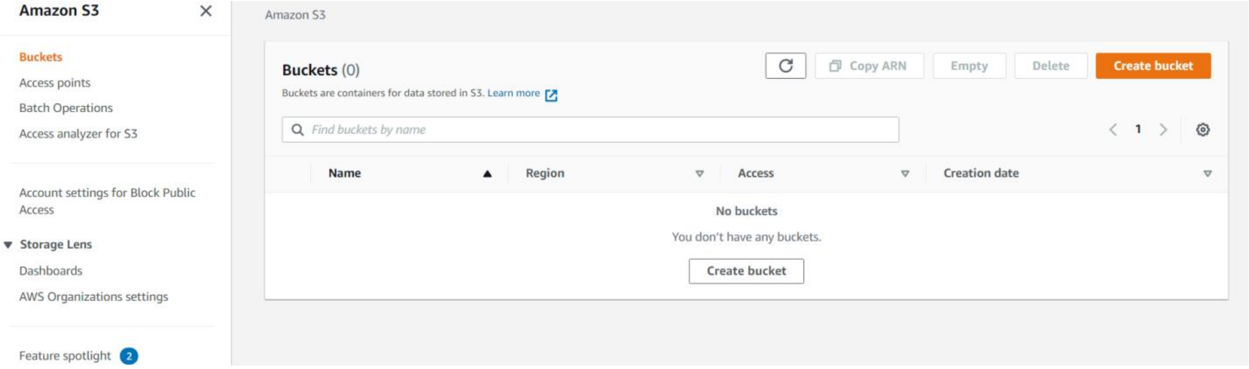
Lab 7

Building own static website and hosting application from desktop.

Step 1: Log in to AWS Console and select S3

Step 2: Click Create Bucket button



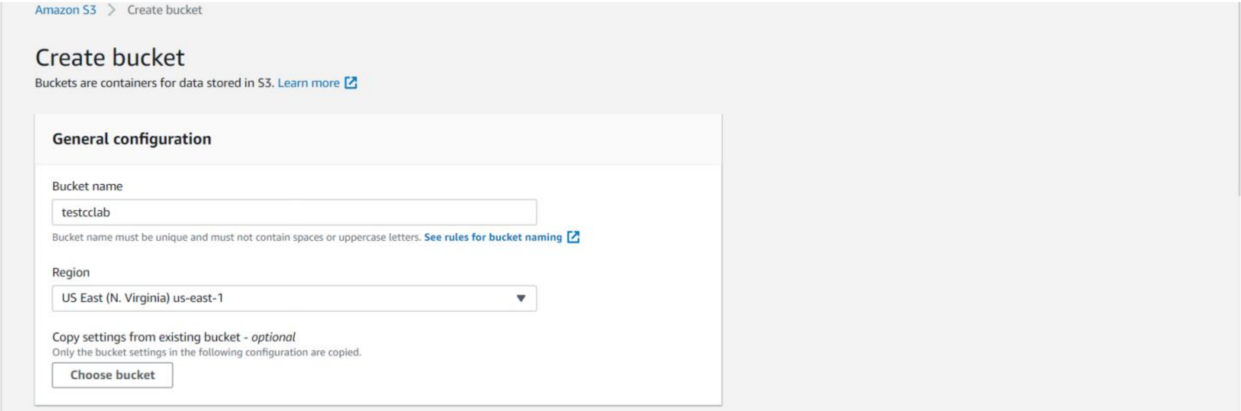
Buckets (0)

Buckets are containers for data stored in S3. Learn more

No buckets

You don't have any buckets.

Step 3: Enter the Bucket name,Select the Bucket Region according your needs



Create bucket

Buckets are containers for data stored in S3. Learn more

General configuration

Bucket name: testcclab

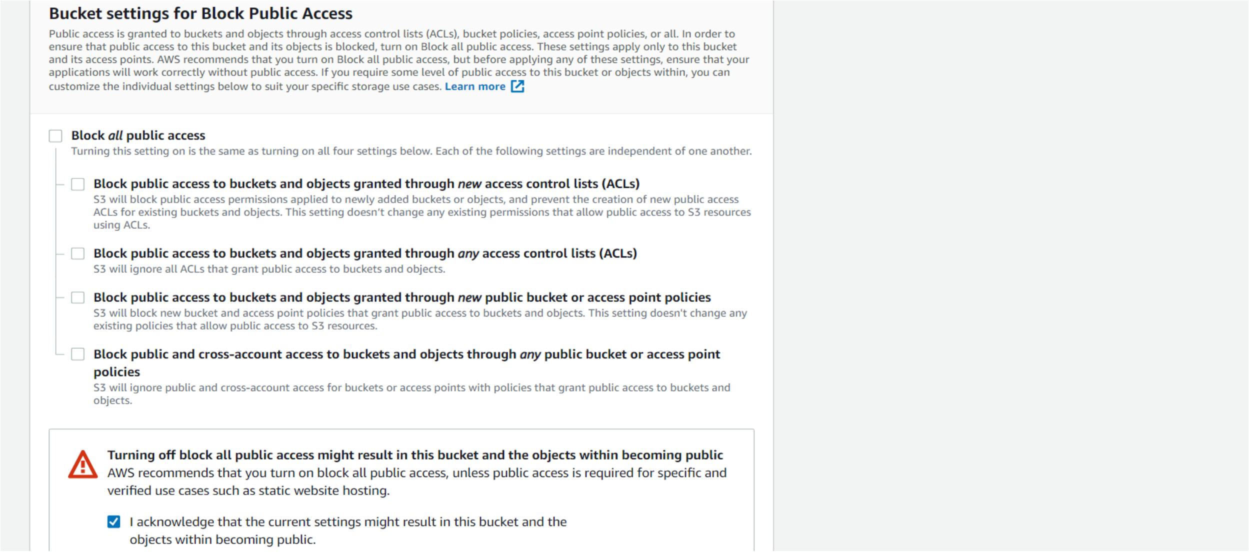
Bucket name must be unique and must not contain spaces or uppercase letters. See rules for bucket naming

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

Copy settings from existing bucket - *optional*

Only the bucket settings in the following configuration are copied.

Step 4: Disable all public access for s3 bucket,Click on the Create bucket



Bucket settings for Block Public Access

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 this bucket and its 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 this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. Learn more

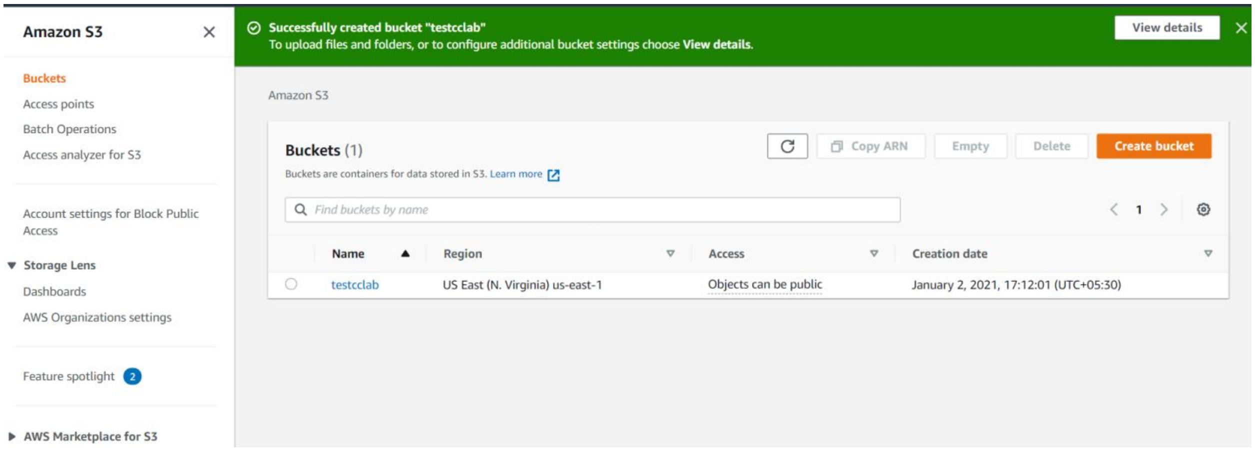
□ **Block *all* public access**
Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

- □ **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.

Turning off block all public access might result in this bucket and the objects within becoming public
AWS recommends that you turn on block all public access, unless public access is required for specific and verified use cases such as static website hosting.

☑ I acknowledge that the current settings might result in this bucket and the objects within becoming public.

Step 5: S3 bucket will be successfully created.

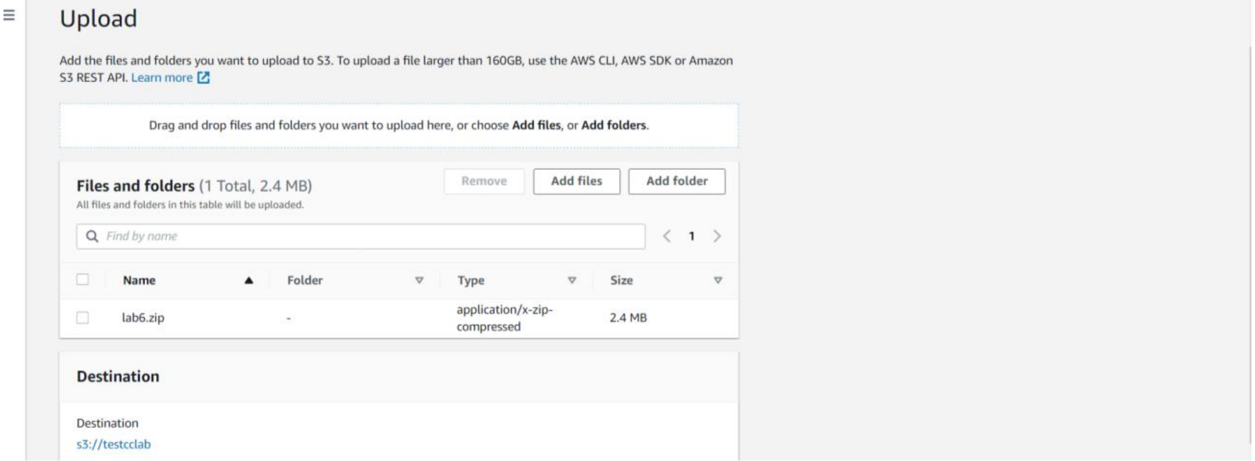


Successfully created bucket "testcclab"
To upload files and folders, or to configure additional bucket settings choose **View details**.

Buckets (1)
Buckets are containers for data stored in S3. Learn more

	Name	Region	Access	Creation date
○	testcclab	US East (N. Virginia) us-east-1	Objects can be public	January 2, 2021, 17:12:01 (UTC+05:30)

Step 6: Go to s3 bucket and click on upload and select the zip file which contains static website



Upload

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDK or Amazon S3 REST API. Learn more

Drag and drop files and folders you want to upload here, or choose **Add files**, or **Add folders**.

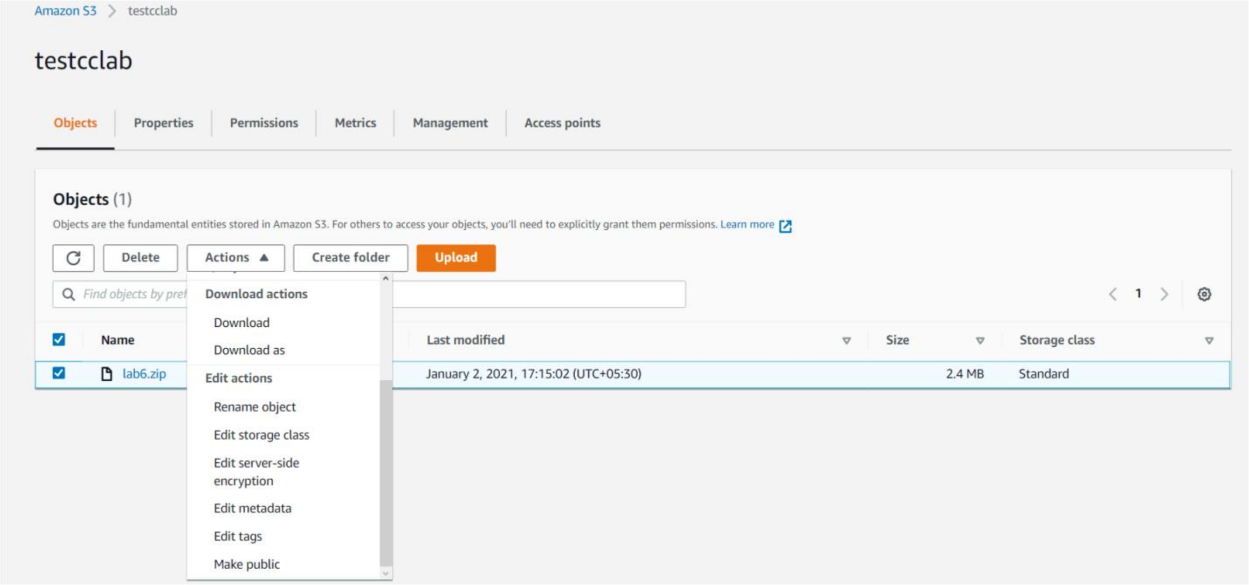
Files and folders (1 Total, 2.4 MB)
All files and folders in this table will be uploaded.

□	Name	Folder	Type	Size
□	lab6.zip	-	application/x-zip-compressed	2.4 MB

Destination

Destination
s3://testcclab

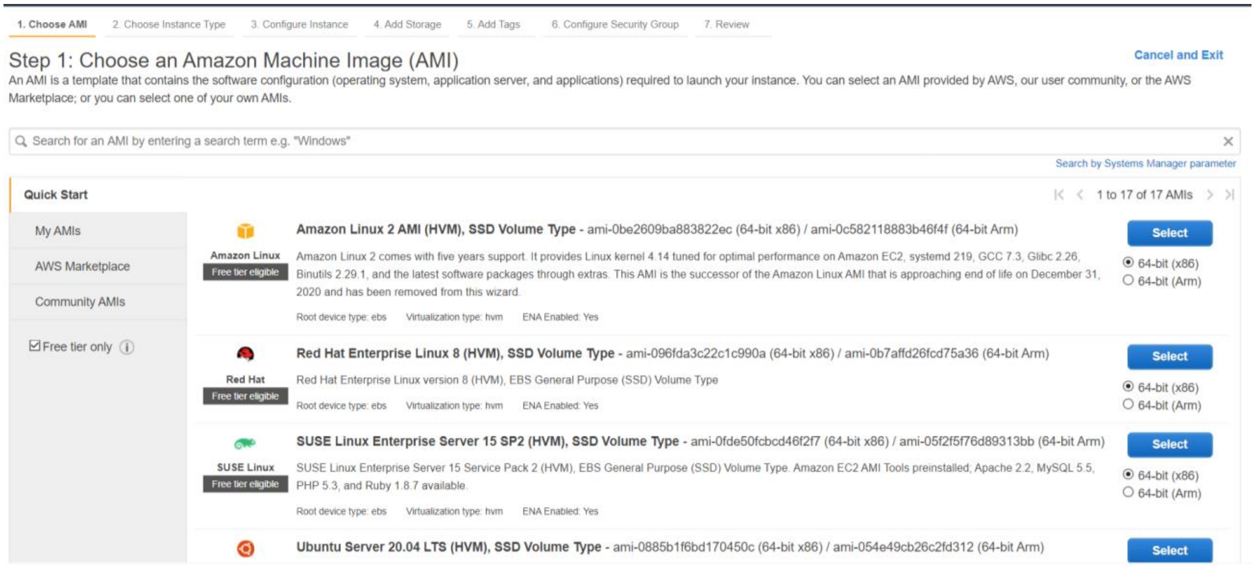
Step 7: After file successfully uploaded then select file and go to actions and Select make public



Objects are the fundamental entities stored in Amazon S3. For others to access your objects, you'll need to explicitly grant them permissions. Learn more

☑	Name	Last modified	Size	Storage class
☑	lab6.zip	January 2, 2021, 17:15:02 (UTC+05:30)	2.4 MB	Standard

Step 8: Go to EC2 and select amazon Linux2 AMI VM .



Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-0be2609ba883822ec (64-bit x86) / ami-0c582118883b46f4f (64-bit Arm)

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is approaching end of life on December 31, 2020 and has been removed from this wizard.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

● 64-bit (x86) ○ 64-bit (Arm)

Red Hat Enterprise Linux 8 (HVM), SSD Volume Type - ami-096fda3c22c1c990a (64-bit x86) / ami-0b7affd26fcd75a36 (64-bit Arm)

Red Hat Enterprise Linux version 8 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

● 64-bit (x86) ○ 64-bit (Arm)

SUSE Linux Enterprise Server 15 SP2 (HVM), SSD Volume Type - ami-0fde50fcbcd46f2f7 (64-bit x86) / ami-05f2f5f76d89313bb (64-bit Arm)

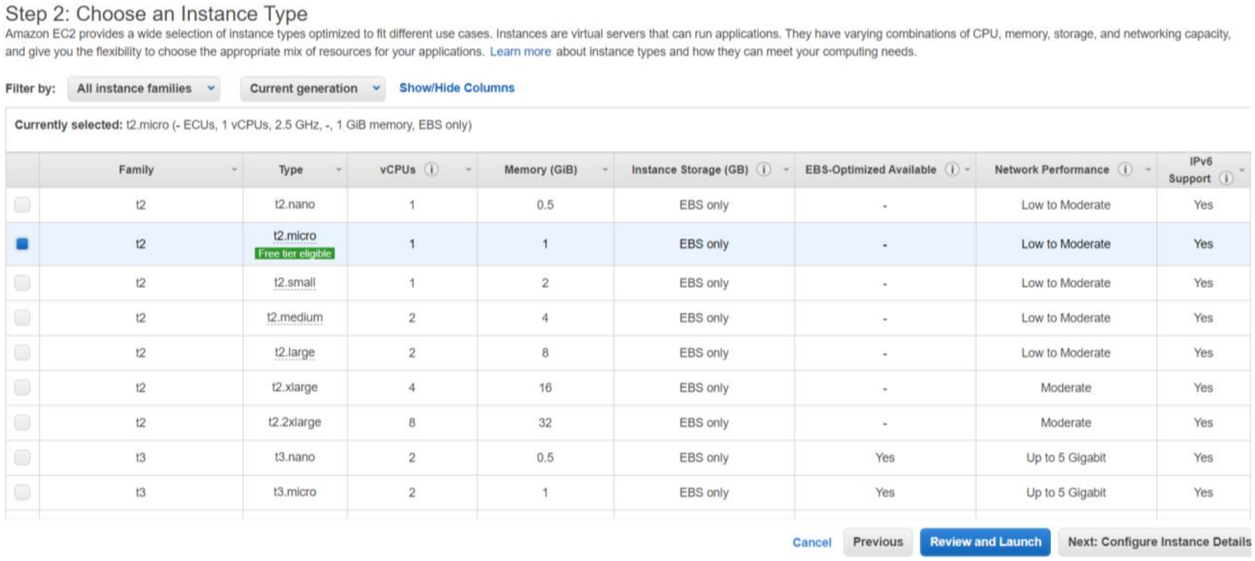
SUSE Linux Enterprise Server 15 Service Pack 2 (HVM), EBS General Purpose (SSD) Volume Type. Amazon EC2 AMI Tools preinstalled; Apache 2.2, MySQL 5.5, PHP 5.3, and Ruby 1.8.7 available.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

● 64-bit (x86) ○ 64-bit (Arm)

Ubuntu Server 20.04 LTS (HVM), SSD Volume Type - ami-0885b1f6bd170450c (64-bit x86) / ami-054e49cb26c2fd312 (64-bit Arm)

Step 9: Select t2.micro which is free tire eligible and click on configure instance Details .



Step 2: Choose an Instance Type

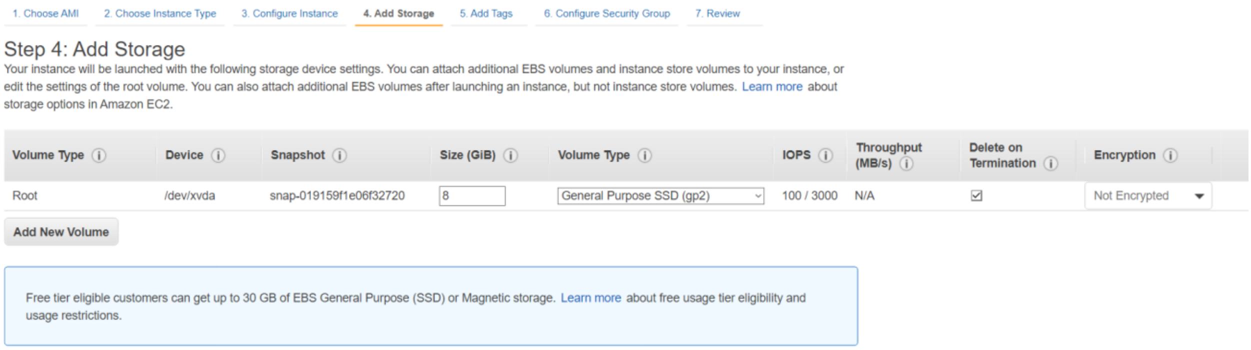
Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. Learn more about instance types and how they can meet your computing needs.

Filter by: All instance families | Current generation | Show/Hide Columns

Currently selected: t2.micro (- ECUs, 1 vCPUs, 2.5 GHz, -, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
□	t2	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
■	t2	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
□	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
□	t2	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
□	t2	t2.large	2	8	EBS only	-	Low to Moderate	Yes
□	t2	t2.xlarge	4	16	EBS only	-	Moderate	Yes
□	t2	t2.2xlarge	8	32	EBS only	-	Moderate	Yes
□	t3	t3.nano	2	0.5	EBS only	Yes	Up to 5 Gigabit	Yes
□	t3	t3.micro	2	1	EBS only	Yes	Up to 5 Gigabit	Yes

Step 10: Now add storage for Amazon AMI Linux Instance.



Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. Learn more about storage options in Amazon EC2.

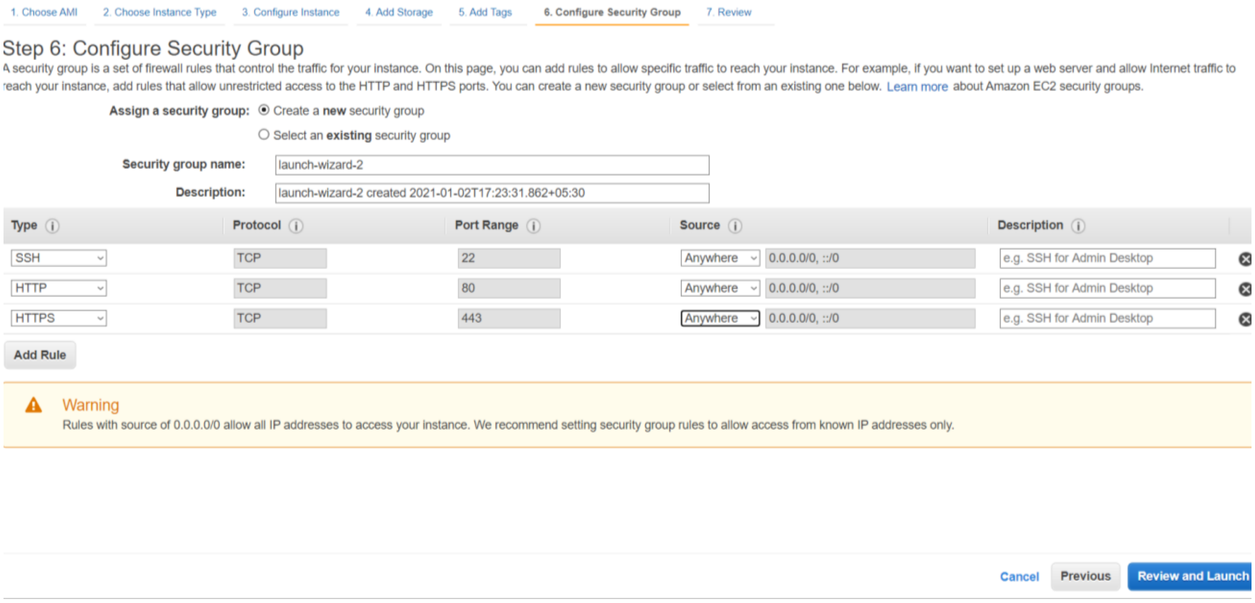
Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/xvda	snap-019159f1e06f32720	8	General Purpose SSD (gp2)	100 / 3000	N/A	☑	Not Encrypted

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. Learn more about free usage tier eligibility and usage restrictions.

Step 11 : In configure Security group click add rule add the following:

- Type : HTTP Source: Anywhere
- Type : HTTPS Source: Anywhere

Click on Review and Lauch



Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. Learn more about Amazon EC2 security groups.

Assign a security group: ● Create a **new** security group

○ Select an **existing** security group

Security group name: launch-wizard-2

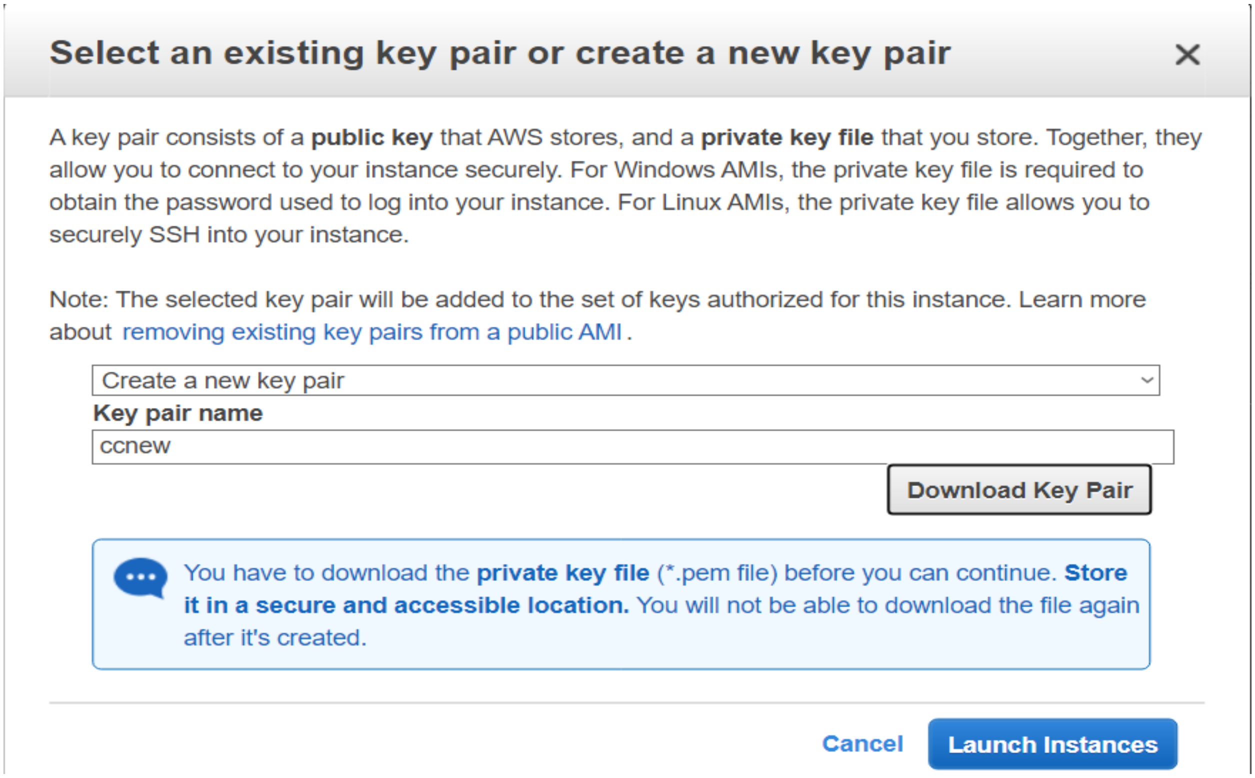
Description: launch-wizard-2 created 2021-01-02T17:23:31.862+05:30

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop
HTTP	TCP	80	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop
HTTPS	TCP	443	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop

Warning

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Step 12: Create new key for Linux AMI and Download the key pair to local machine



Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about removing existing key pairs from a public AMI .

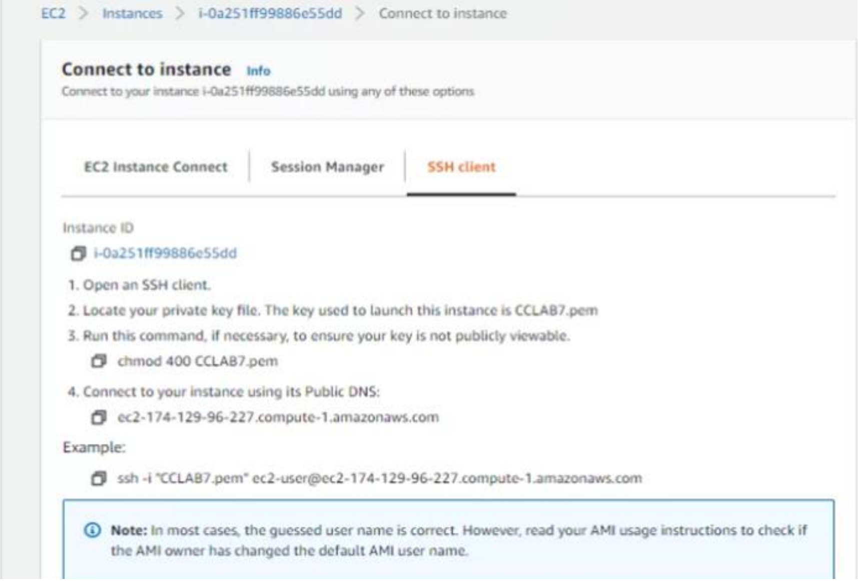
Create a new key pair

Key pair name

ccnew

You have to download the **private key file** (*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Step 13: Go to EC2 Instance and Click on Connect now we get public DNS to connect Amazon AMI



Connect to instance Info

Connect to your instance i-0a251ff99886e55dd using any of these options

Instance ID

i-0a251ff99886e55dd

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is CCLAB7.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.

```
chmod 400 CCLAB7.pem
```

4. Connect to your instance using its Public DNS:

```
ec2-174-129-96-227.compute-1.amazonaws.com
```

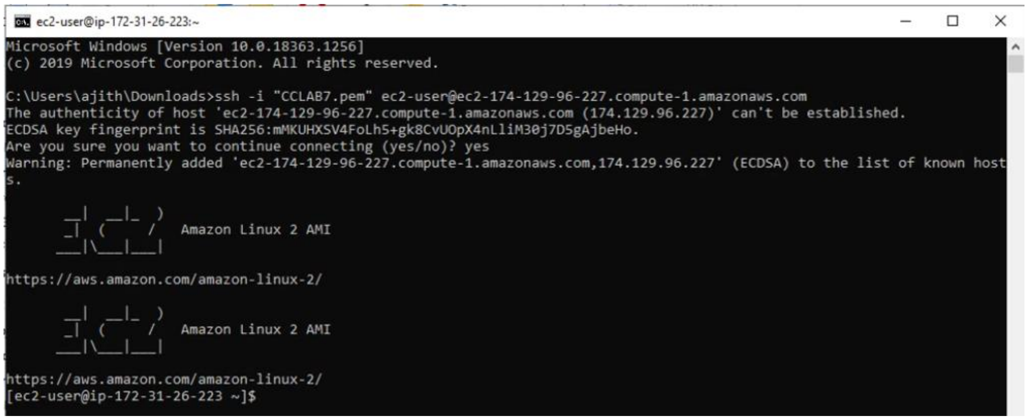
Example:

```
ssh -i "CCLAB7.pem" ec2-user@ec2-174-129-96-227.compute-1.amazonaws.com
```

Note: In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.

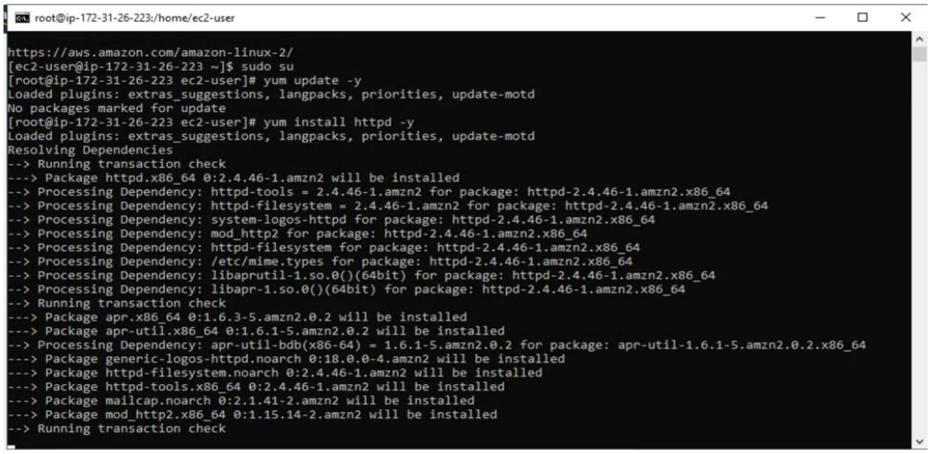
Step 14: Write the following command to connect to the Linux AMI

ssh -i <.pem file> @<public DNS>



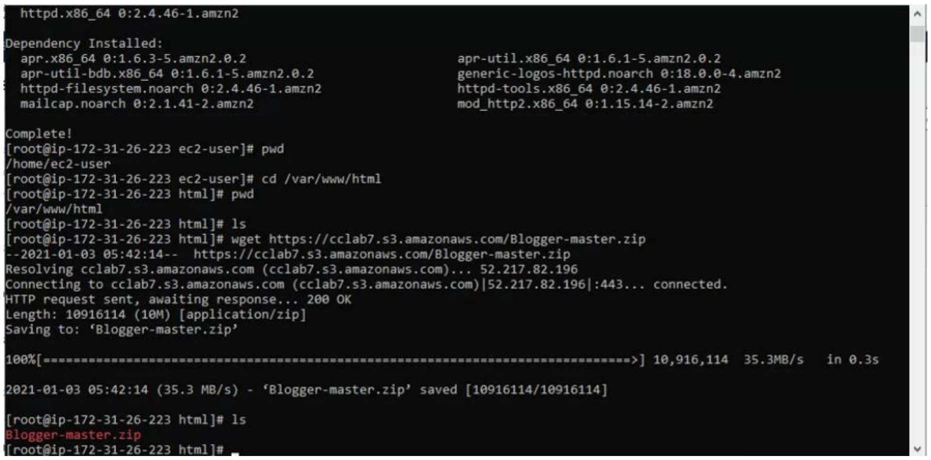
```
Microsoft Windows [Version 10.0.18363.1256]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\ajith\Downloads>ssh -i "CCLAB7.pem" ec2-user@ec2-174-129-96-227.compute-1.amazonaws.com
The authenticity of host 'ec2-174-129-96-227.compute-1.amazonaws.com (174.129.96.227)' can't be established.
ECDSA key fingerprint is SHA256:mMKUHXSV4FoLh5+gk8CvUOpX4nLliM30j7D5gAjbeHo.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-174-129-96-227.compute-1.amazonaws.com,174.129.96.227' (ECDSA) to the list of known host
s.

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-26-223 ~]$
```

Step 15: Now install httpd application to host static website using Command: yum install httpd -y

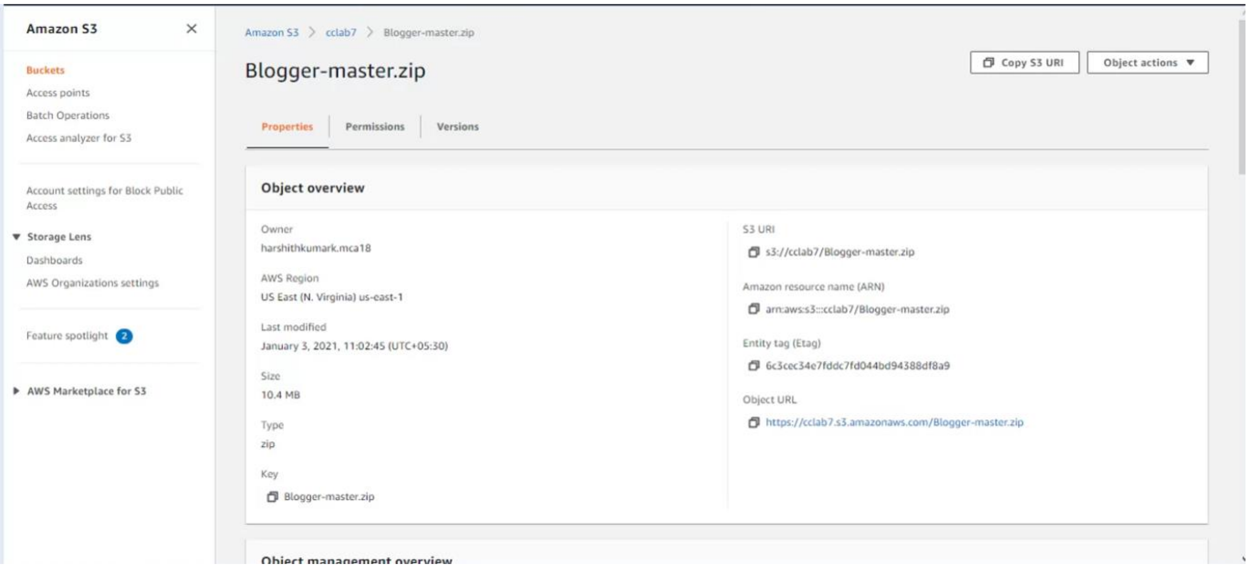


```
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-26-223 ~]$ sudo su
[root@ip-172-31-26-223 ec2-user]# yum update -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
No packages marked for update
[root@ip-172-31-26-223 ec2-user]# yum install httpd -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
---> Package httpd.x86_64 0:2.4.46-1.amzn2 will be installed
--> Processing Dependency: httpd-tools = 2.4.46-1.amzn2 for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem = 2.4.46-1.amzn2 for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: system-logos-httpd for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: mod_http2 for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: /etc/mime.types for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.46-1.amzn2.x86_64
--> Running transaction check
---> Package apr.x86_64 0:1.6.3-5.amzn2.0.2 will be installed
---> Package apr-util.x86_64 0:1.6.1-5.amzn2.0.2 will be installed
--> Processing Dependency: apr-util-bdb(x86-64) = 1.6.1-5.amzn2.0.2 for package: apr-util-1.6.1-5.amzn2.0.2.x86_64
---> Package generic-logos-httpd.noarch 0:18.0.0-4.amzn2 will be installed
---> Package httpd-filesystem.noarch 0:2.4.46-1.amzn2 will be installed
---> Package httpd-tools.x86_64 0:2.4.46-1.amzn2 will be installed
---> Package mailcap.noarch 0:2.1.41-2.amzn2 will be installed
---> Package mod_http2.x86_64 0:1.15.14-2.amzn2 will be installed
--> Running transaction check
```

Step 16: Then Move to /var/www/html/ Directory(static website should present in this directory) .Inside that directory Download the file from S3 bucket using wget tool using command wget <public URL of s3 object>.



```
  httpd.x86_64 0:2.4.46-1.amzn2

Dependency Installed:
  apr.x86_64 0:1.6.3-5.amzn2.0.2                          apr-util.x86_64 0:1.6.1-5.amzn2.0.2
  apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2                 generic-logos-httpd.noarch 0:18.0.0-4.amzn2
  httpd-filesystem.noarch 0:2.4.46-1.amzn2                httpd-tools.x86_64 0:2.4.46-1.amzn2
  mailcap.noarch 0:2.1.41-2.amzn2                         mod_http2.x86_64 0:1.15.14-2.amzn2

Complete!
[root@ip-172-31-26-223 ec2-user]# pwd
/home/ec2-user
[root@ip-172-31-26-223 ec2-user]# cd /var/www/html
[root@ip-172-31-26-223 html]# pwd
/var/www/html
[root@ip-172-31-26-223 html]# ls
[root@ip-172-31-26-223 html]# wget https://cclab7.s3.amazonaws.com/Blogger-master.zip
--2021-01-03 05:42:14--  https://cclab7.s3.amazonaws.com/Blogger-master.zip
Resolving cclab7.s3.amazonaws.com (cclab7.s3.amazonaws.com)... 52.217.82.196
Connecting to cclab7.s3.amazonaws.com (cclab7.s3.amazonaws.com)|52.217.82.196|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 10916114 (10M) [application/zip]
Saving to: ‘Blogger-master.zip’

100%[===========================================================================>] 10,916,114  35.3MB/s   in 0.3s

2021-01-03 05:42:14 (35.3 MB/s) - ‘Blogger-master.zip’ saved [10916114/10916114]

[root@ip-172-31-26-223 html]# ls
Blogger-master.zip
[root@ip-172-31-26-223 html]# _
```



Blogger-master.zip

Object overview

Owner
harshithkumark.mca18

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

Last modified
January 3, 2021, 11:02:45 (UTC+05:30)

Size
10.4 MB

Type
zip

Key
Blogger-master.zip

S3 URI
s3://cclab7/Blogger-master.zip

Amazon resource name (ARN)
arn:aws:s3:::cclab7/Blogger-master.zip

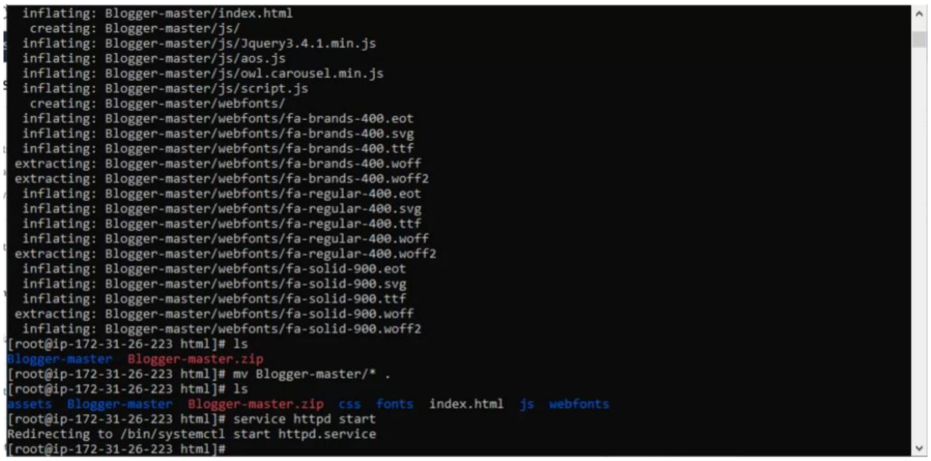
Entity tag (Etag)
6c3cec34e7fddc7fd044bd94388df8a9

Object URL
https://cclab7.s3.amazonaws.com/Blogger-master.zip

Object management overview

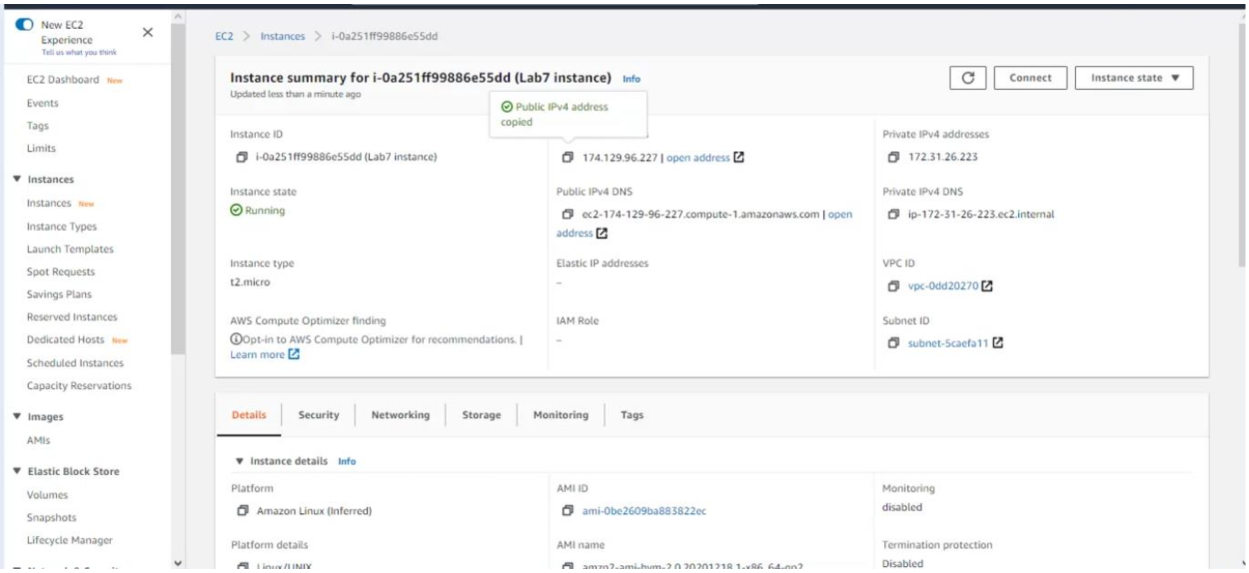
Step 17: Now unzip the file using following command

- unzip <filename>
- mv <folder name> /* .



```
  inflating: Blogger-master/index.html
   creating: Blogger-master/js/
  inflating: Blogger-master/js/Jquery3.4.1.min.js
  inflating: Blogger-master/js/aos.js
  inflating: Blogger-master/js/owl.carousel.min.js
  inflating: Blogger-master/js/script.js
   creating: Blogger-master/webfonts/
  inflating: Blogger-master/webfonts/fa-brands-400.eot
  inflating: Blogger-master/webfonts/fa-brands-400.svg
  inflating: Blogger-master/webfonts/fa-brands-400.ttf
 extracting: Blogger-master/webfonts/fa-brands-400.woff
 extracting: Blogger-master/webfonts/fa-brands-400.woff2
  inflating: Blogger-master/webfonts/fa-regular-400.eot
  inflating: Blogger-master/webfonts/fa-regular-400.svg
  inflating: Blogger-master/webfonts/fa-regular-400.ttf
  inflating: Blogger-master/webfonts/fa-regular-400.woff
 extracting: Blogger-master/webfonts/fa-regular-400.woff2
  inflating: Blogger-master/webfonts/fa-solid-900.eot
  inflating: Blogger-master/webfonts/fa-solid-900.svg
  inflating: Blogger-master/webfonts/fa-solid-900.ttf
 extracting: Blogger-master/webfonts/fa-solid-900.woff
  inflating: Blogger-master/webfonts/fa-solid-900.woff2
[root@ip-172-31-26-223 html]# ls
Blogger-master  Blogger-master.zip
[root@ip-172-31-26-223 html]# mv Blogger-master/* .
[root@ip-172-31-26-223 html]# ls
assets  Blogger-master  Blogger-master.zip  css  fonts  index.html  js  webfonts
[root@ip-172-31-26-223 html]# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@ip-172-31-26-223 html]#
```

Step 18: Go to EC2 Instance and copy the public ipv4 address of Amazon AMI



Instance summary for i-0a251ff99886e55dd (Lab7 instance) Info

Updated less than a minute ago

Public IPv4 address copied

Instance ID: i-0a251ff99886e55dd (Lab7 instance)

174.129.96.227 | open address

Private IPv4 addresses: 172.31.26.223

Instance state: Running

Public IPv4 DNS: ec2-174-129-96-227.compute-1.amazonaws.com | open address

Private IPv4 DNS: ip-172-31-26-223.ec2.internal

Instance type: t2.micro

Elastic IP addresses: –

VPC ID: vpc-0dd20270

AWS Compute Optimizer finding: Opt-in to AWS Compute Optimizer for recommendations. | Learn more

IAM Role: –

Subnet ID: subnet-5caefa11

Instance details Info

Platform: Amazon Linux (Inferred)

AMI ID: ami-0be2609ba883822ec

Monitoring: disabled

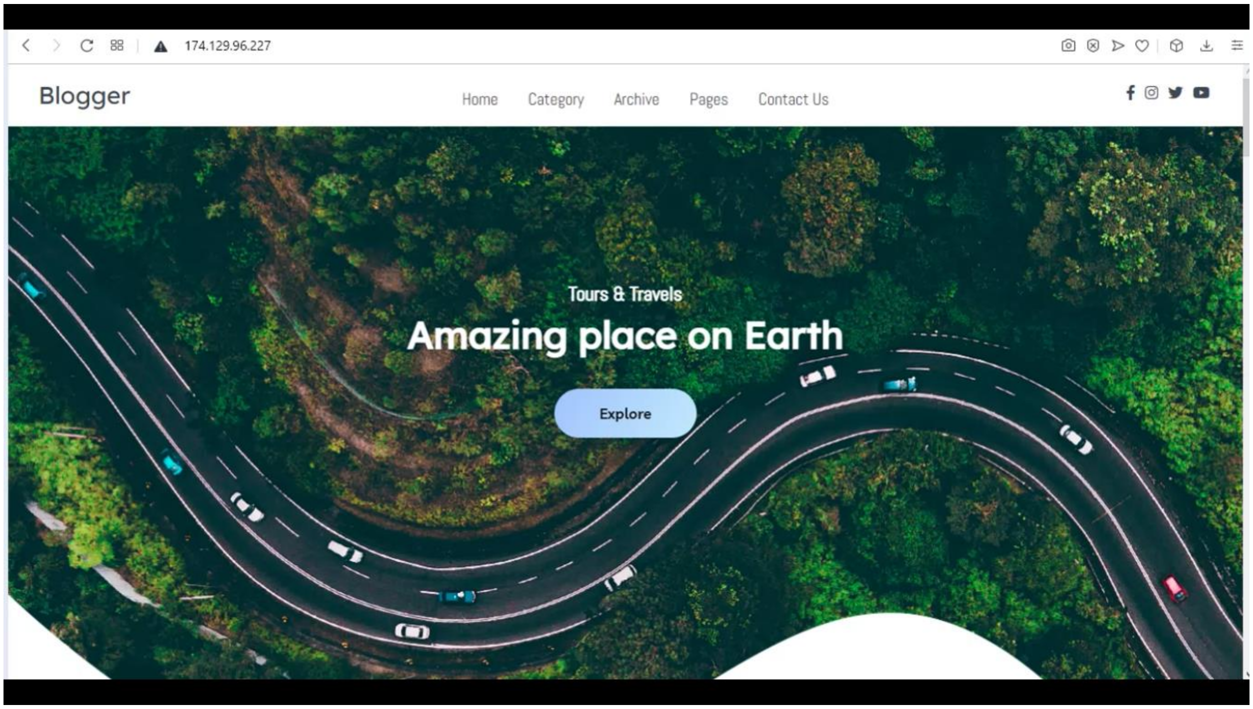
Platform details: Linux/UNIX

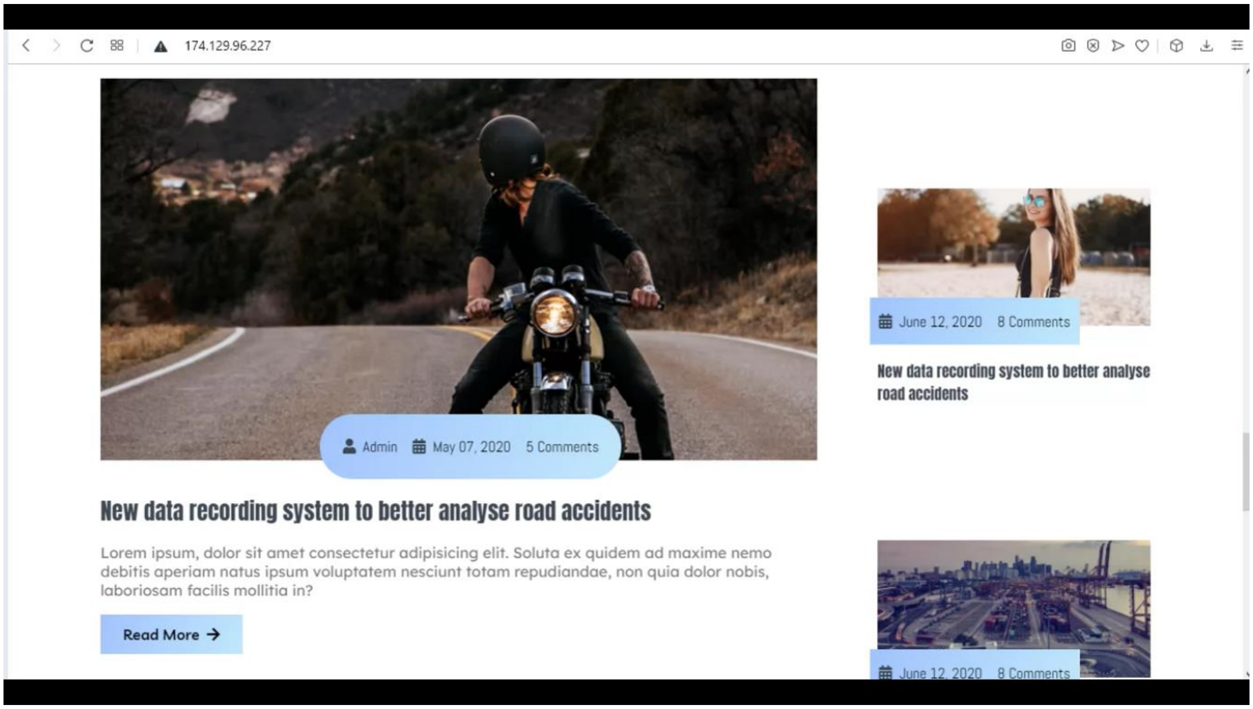
AMI name: amzn2-ami-hvm-2.0.20201218.1-x86_64-gp2

Termination protection: Disabled

Step 19: Enter the copied public IPv4 in web browser and now we are able to access uploaded static website

- Contents of uploaded website


174.129.96.227



Admin May 07, 2020 5 Comments

New data recording system to better analyse road accidents

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June 12, 2020 8 Comments

New data recording system to better analyse road accidents

June 12, 2020 8 Comments