

**Hemanth Ramarao Batchu**

**AWS**

**Ethnus**

**BUILDING A FACE DETECTION APP ON AWS**

By

**HEMANTH RAMARAO BATCHU**

**(Reg. No.: 19MVD0102)**

**M.Tech VLSI Design**

**VIT, VELLORE**



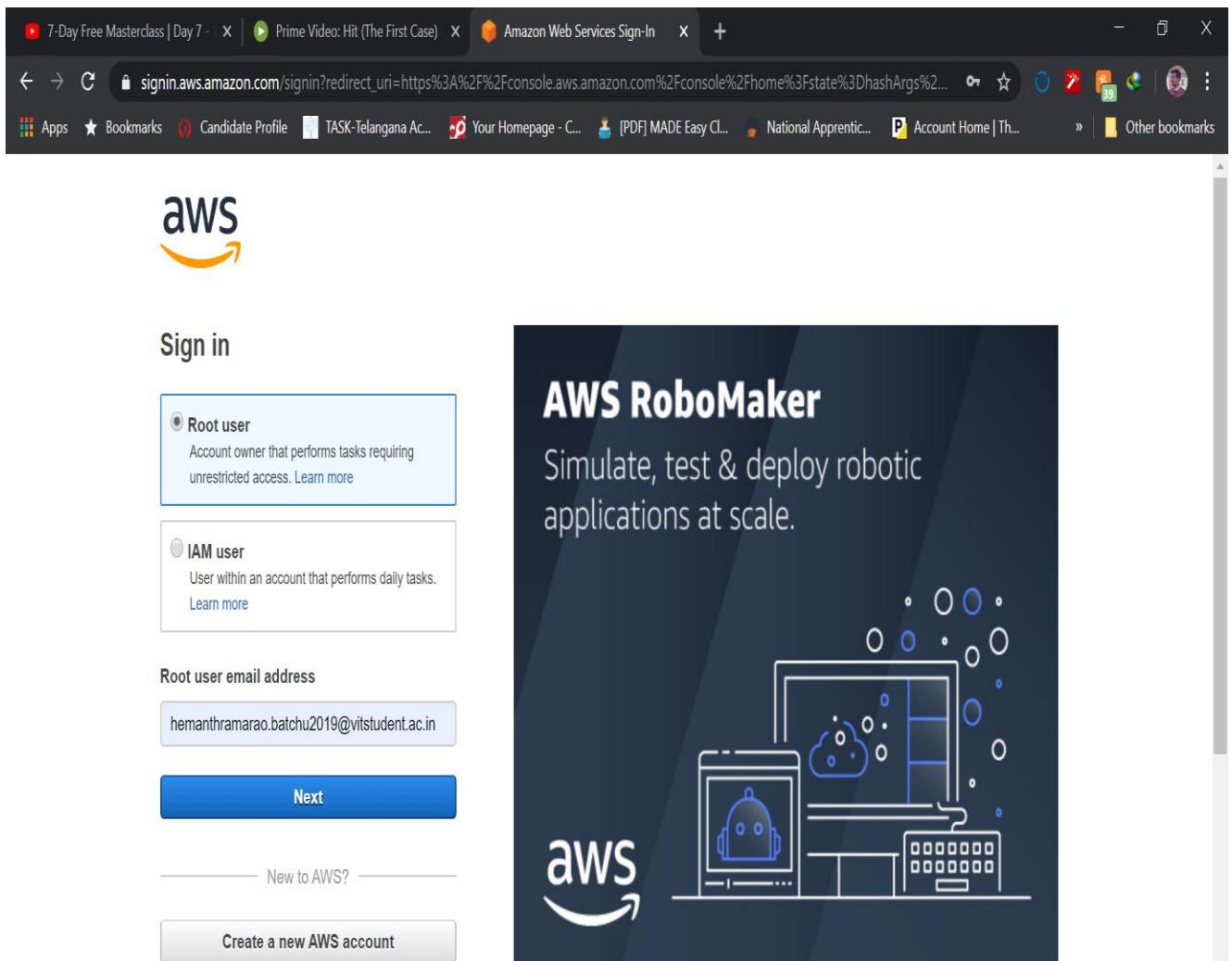
**Explore | Expand | Enrich**

**SCHOOL OF ELECTRONICS ENGINEERING**

**VIT UNIVERSITY**

**VELLORE-632014, TAMIL NADU, INDIA**

**MARCH 2020**

**PART 1:****1. AWS LOGIN SCREEN WITH USERNAME:**

## 2. EC2 Dashboard:

The screenshot shows the AWS EC2 Management Console dashboard. At the top, there's a banner for the 'Welcome to the new EC2 console' with a note about the redesign. Below the banner, the 'Resources' section displays various Amazon EC2 resources in the US East (Ohio) Region:

| Category          | Count |
|-------------------|-------|
| Running instances | 2     |
| Elastic IPs       | 0     |
| Dedicated Hosts   | 0     |
| Snapshots         | 0     |
| Volumes           | 3     |
| Load balancers    | 0     |
| Key pairs         | 3     |
| Security groups   | 4     |
| Placement groups  | 0     |

On the left sidebar, there are sections for Instances, Images, and other services like Lambda and CloudWatch. The 'Instances' section is expanded, showing options like Instances, Instance Types, Launch Templates, and Capacity Reservations. At the bottom of the dashboard, there are two tabs: 'Launch instance' and 'Service health'.

### 3. S3 Dashboard:

The screenshot shows the AWS S3 Management Console interface. On the left, there's a sidebar titled 'Amazon S3' with options like 'Buckets', 'Batch operations', 'Access analyzer for S3', and 'Block public access (account settings)'. A 'Feature spotlight' section is also present. The main area is titled 'Amazon S3' and shows a table for 'Buckets (1)'. The table has columns for 'Name', 'Region', 'Access', and 'Bucket created'. One row is listed: 'aws-webinar-bucketvls1' (Region: US East (Ohio) us-east-2, Access: Objects can be public, Bucket created: 2020-03-27T06:08:39.000Z). There are buttons for 'Copy ARN', 'Empty', 'Delete', and 'Create bucket' at the top of the table.

### 4. Rekognition Dashboard:

The screenshot shows the AWS Rekognition Console homepage. The left sidebar lists various services under 'Amazon Rekognition': 'Custom Labels' (with a 'New' badge), 'Use Custom Labels', 'Demos', 'Object and scene detection', 'Image moderation', 'Facial analysis', 'Celebrity recognition', 'Face comparison', 'Text in image', 'Video Demos', 'Video analysis', 'Metrics', 'Additional Resources' (with a 'Getting started guide' link), and 'Getting started guide'. The main content area features a large banner with the heading 'Amazon Rekognition' and subtext 'Deep learning-based visual analysis service' and 'Search, verify, and organize millions of images and videos'. It includes a 'Try Demo' button and a 'Download SDKs' button. Below the banner, there are three sections: 'Easily Integrate Powerful Visual Analysis into Your App' (with an icon of overlapping layers), 'Continuously Learning' (with an icon of a brain and arrows), and 'Integrated with AWS Services' (with an icon of puzzle pieces).

## Part 2: EC2

### 5. Choosing an AMI:

First of all click on create instance and this screen appears

**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.

Search for an AMI by entering a search term e.g. "Windows"

| Quick Start     |   |  |
|-----------------|---|--|
| My AMIs         | Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-0e01ce4ee18447327 (64-bit x86) / ami-03201f374ab66a26e (64-bit Arm)   | Select<br><input checked="" type="radio"/> 64-bit (x86)<br><input type="radio"/> 64-bit (Arm)  |
| AWS Marketplace | Amazon Linux Free tier eligible   | 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, Gilbc 2.26, Binutils 2.29.1, and the latest software packages through extras. |
| Community AMIs  | Root device type: ebs Virtualization type: hvm ENA Enabled: Yes   |  |
| Free tier only  | Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-01b01bbd08f24c7a8 Free tier eligible  | Select<br>64-bit (x86)   |
|                 | The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages. |  |
|                 | Root device type: ebs Virtualization type: hvm ENA Enabled: Yes   |  |
|                 | Red Hat Enterprise Linux 8 (HVM), SSD Volume Type - ami-0520e698dd500b1d1 Free tier eligible  | Select<br>64-bit (x86)<br>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   |  |

### 6. Choosing an instance type: select t2.micro

**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 types          | Current generation | ShowHide Columns |                       |                         |                     |              |
|---|-----------------------------|--------------------|------------------|-----------------------|-------------------------|---------------------|--------------|
| Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only) |                             |                    |                  |                       |                         |                     |              |
| Family  | Type                        | vCPUs              | Memory (GiB)     | Instance Storage (GB) | EBS-Optimized Available | Network Performance | IPv6 Support |
| General purpose   | t2.nano                     | 1                  | 0.5              | EBS only              | -                       | Low to Moderate     | Yes          |
| General purpose   | t2.micro Free tier eligible | 1                  | 1                | EBS only              | -                       | Low to Moderate     | Yes          |
| General purpose   | t2.small                    | 1                  | 2                | EBS only              | -                       | Low to Moderate     | Yes          |
| General purpose   | t2.medium                   | 2                  | 4                | EBS only              | -                       | Low to Moderate     | Yes          |
| General purpose   | t2.large                    | 2                  | 8                | EBS only              | -                       | Low to Moderate     | Yes          |
| General purpose   | t2.xlarge                   | 4                  | 16               | EBS only              | -                       | Moderate            | Yes          |
| General purpose   | t2.2xlarge                  | 8                  | 32               | EBS only              | -                       | Moderate            | Yes          |

Cancel Previous Review and Launch Next: Configure Instance Details

**Step 3: Configure Instance Details**

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances: 1 [Launch into Auto Scaling Group](#)

Purchasing option: Request Spot instances

Network: vpc-b277bdd9 (default) [Create new VPC](#)

Subnet: No preference (default subnet in any Availability Zone) [Create new subnet](#)

Auto-assign Public IP: Use subnet setting (Enable)

Placement group: Add instance to placement group

Capacity Reservation: Open [Create new Capacity Reservation](#)

IAM role: None [Create new IAM role](#)

Shutdown behavior: Stop

Stop - Hibernate behavior: Enable hibernation as an additional stop behavior

Enable termination protection: Protect against accidental termination

Monitoring: Enable CloudWatch detailed monitoring

Buttons: Cancel, Previous, **Review and Launch**, Next: Add Storage

## 7. Adding Storage: Selecting Size(GiB) as 8.

**Step 4: Add Storage**

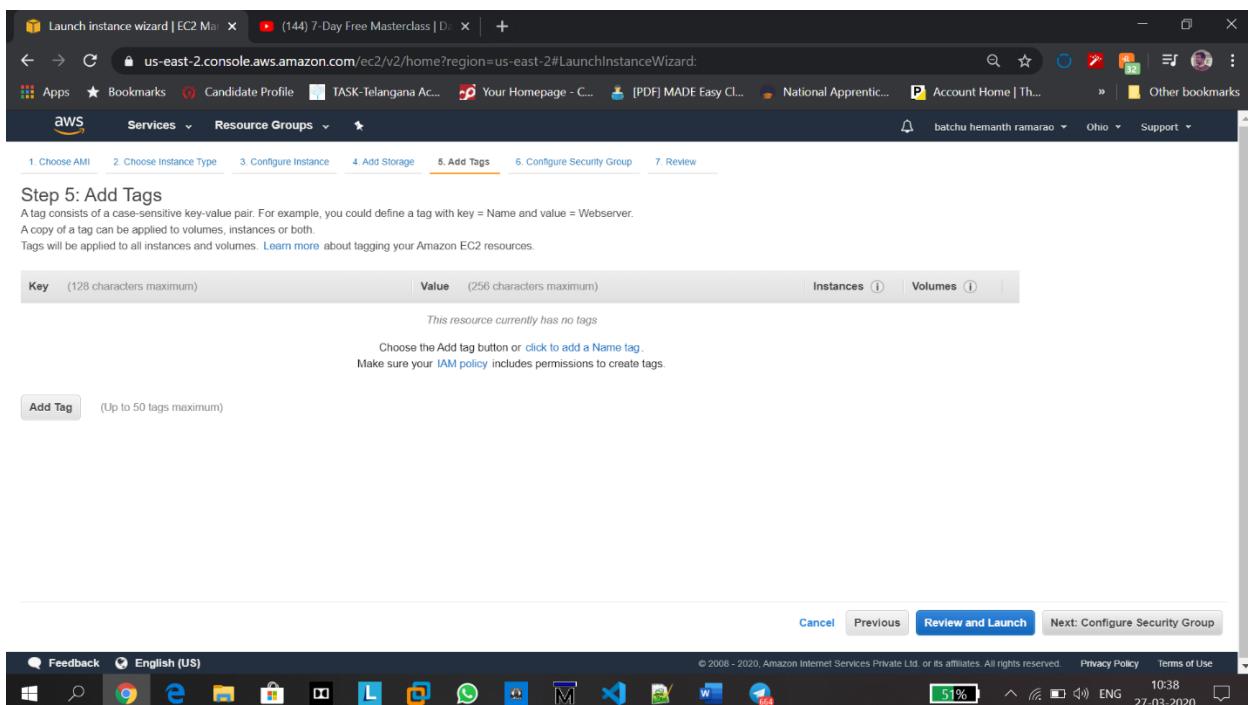
Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [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-0f54692056aaa4c20 | 8          | General Purpose SSD (gp2) | 100 / 3000 | N/A               | <input checked="" type="checkbox"/> | Not Encrypted |

Add New Volume

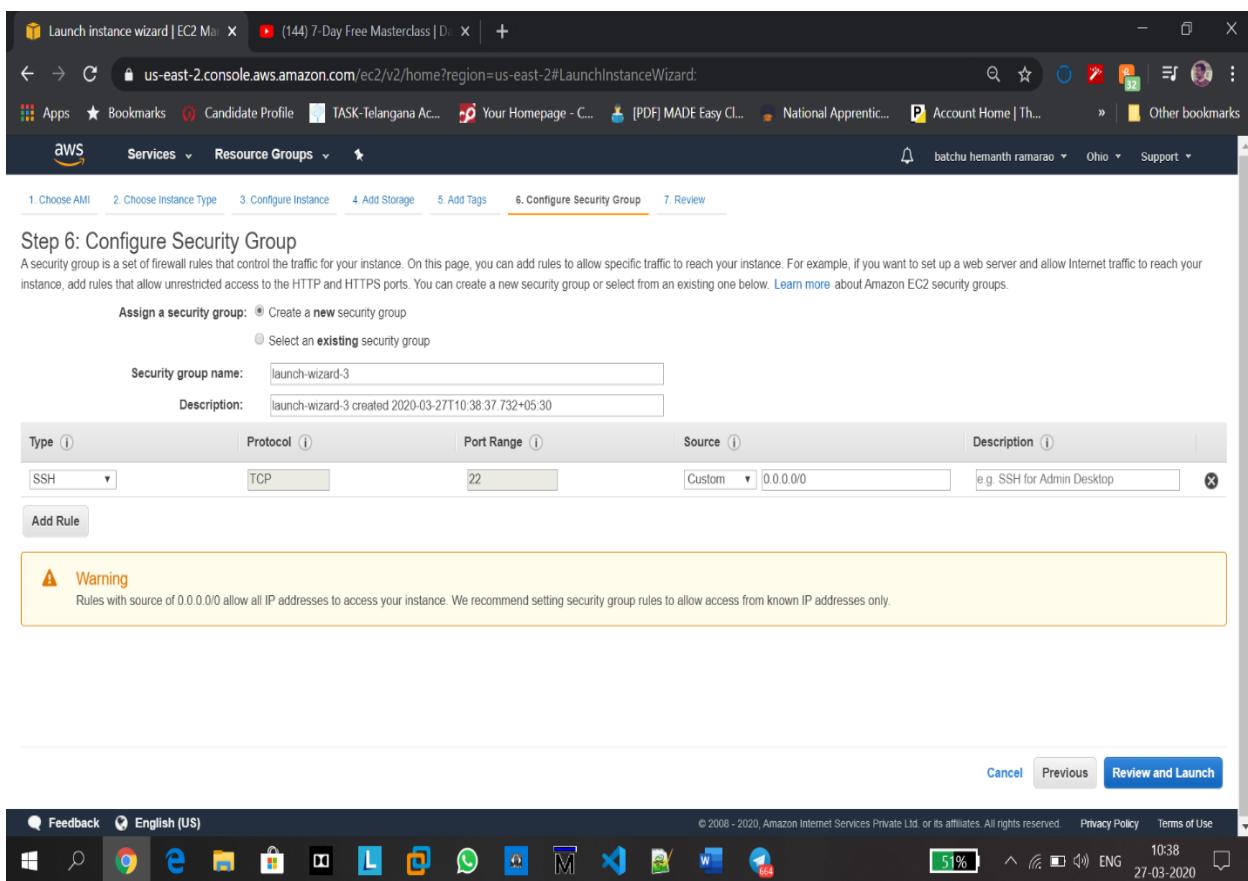
Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

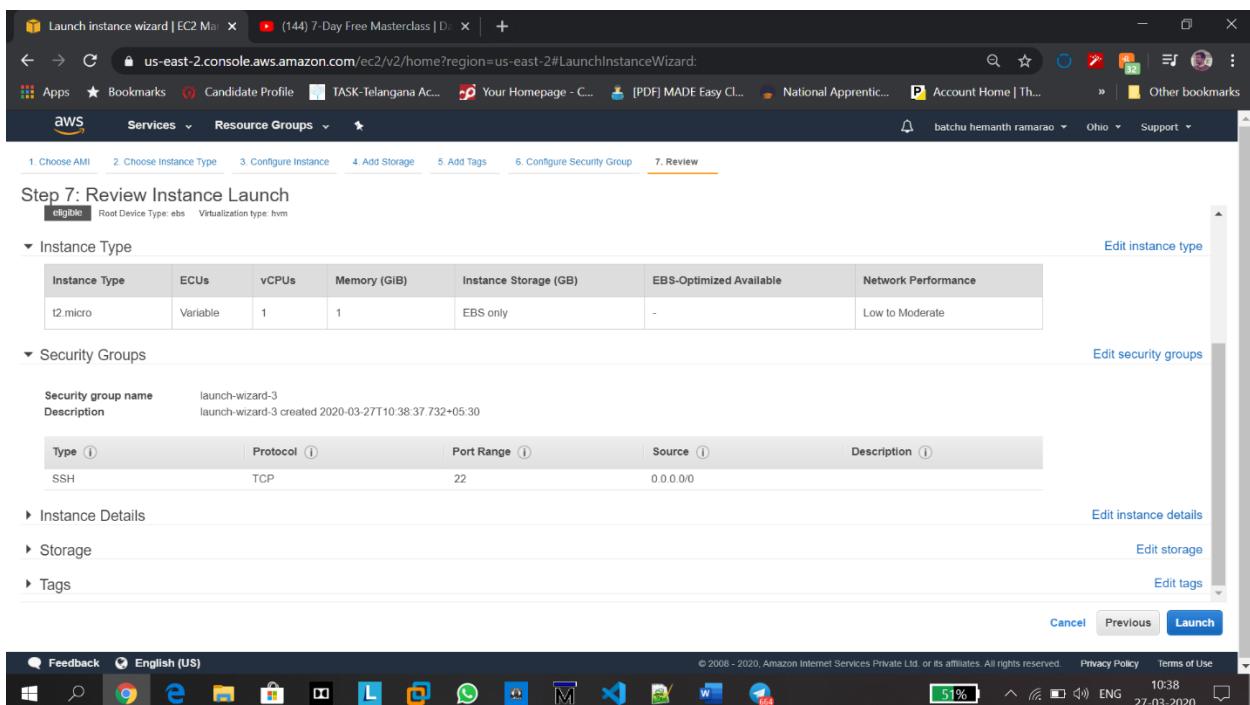
Buttons: Cancel, Previous, **Review and Launch**, Next: Add Tags



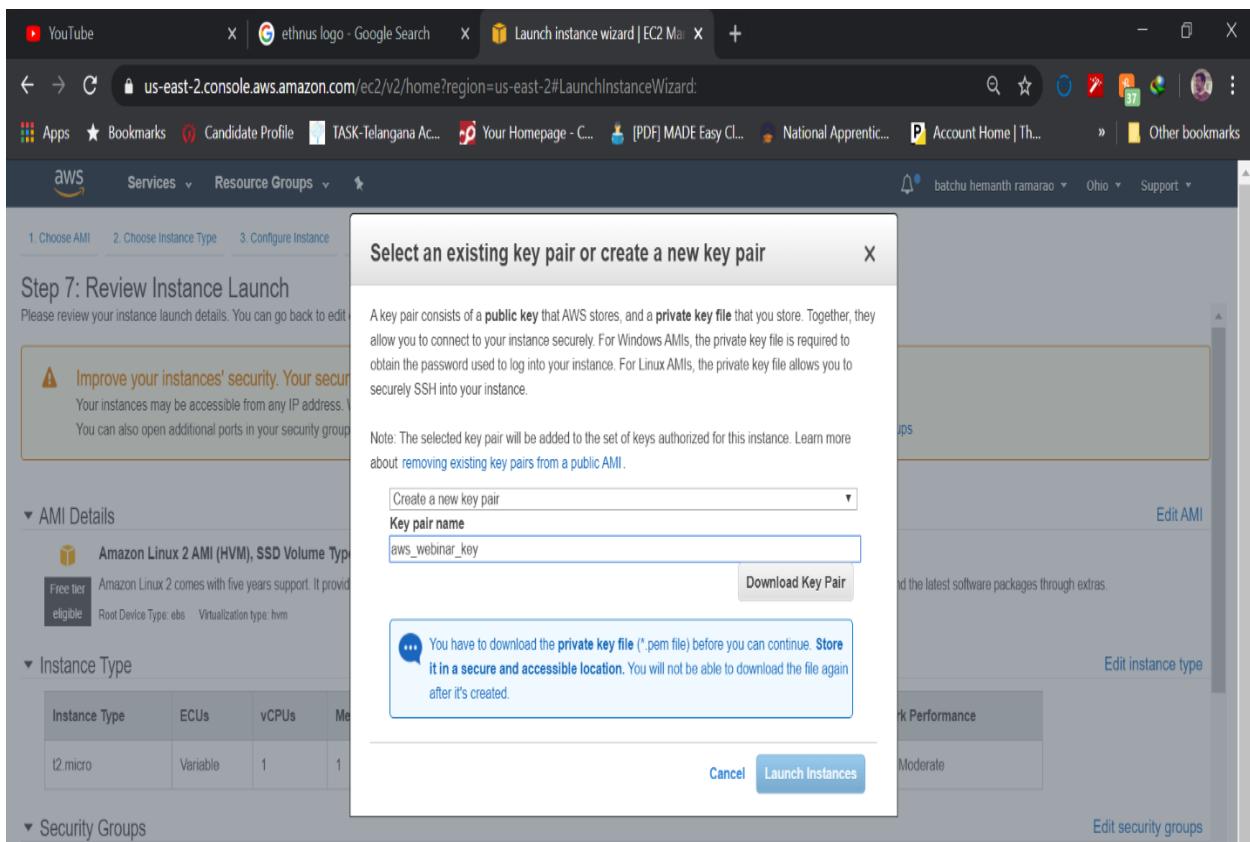
## 8. Configuring Security Group:

Select Type as SSH and Port Range 22



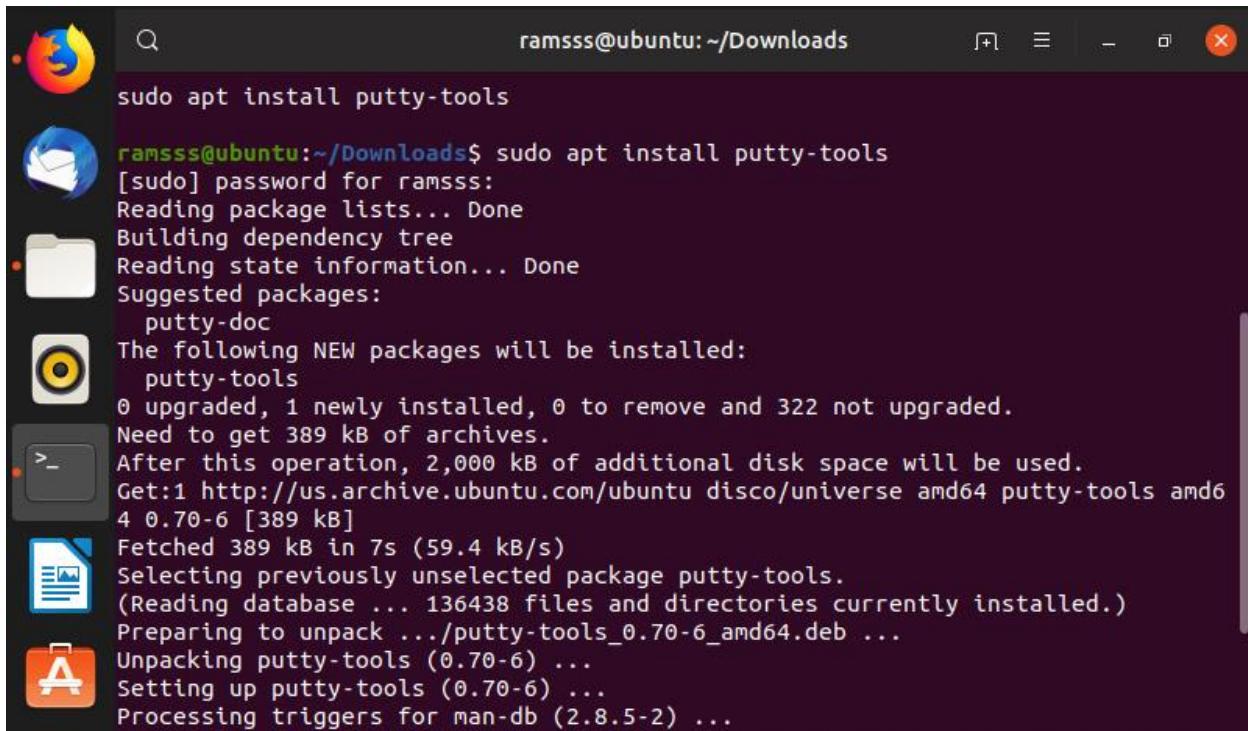


## 9. Key Pair Download:

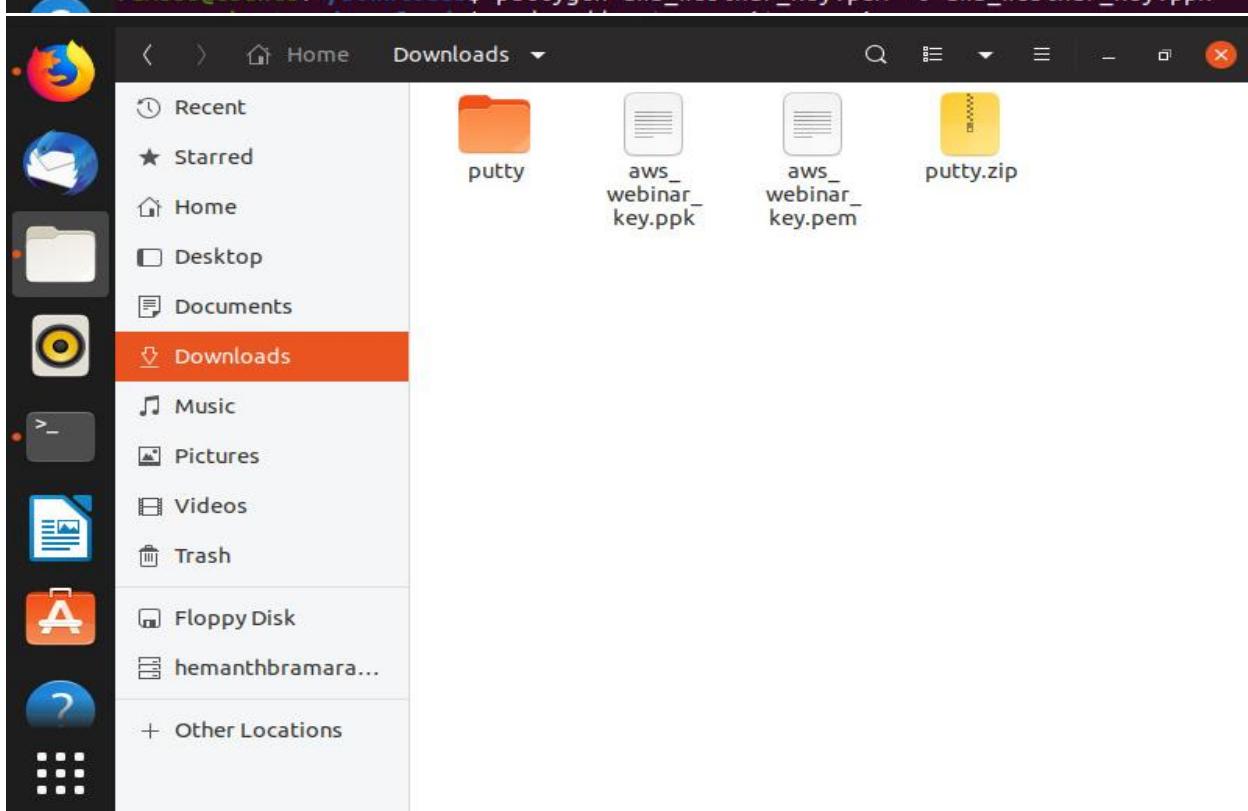


## 10. PuTTYgen conversion from pem to ppk:

In the last line of the following screenshot, you can observe the puttygen command. Before that, putty was installed.



```
ramsss@ubuntu:~/Downloads$ sudo apt install putty-tools
[sudo] password for ramsss:
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  putty-doc
The following NEW packages will be installed:
  putty-tools
0 upgraded, 1 newly installed, 0 to remove and 322 not upgraded.
Need to get 389 kB of archives.
After this operation, 2,000 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu disco/universe amd64 putty-tools amd64 0.70-6 [389 kB]
Fetched 389 kB in 7s (59.4 kB/s)
Selecting previously unselected package putty-tools.
(Reading database ... 136438 files and directories currently installed.)
Preparing to unpack .../putty-tools_0.70-6_amd64.deb ...
Unpacking putty-tools (0.70-6) ...
Setting up putty-tools (0.70-6) ...
Processing triggers for man-db (2.8.5-2) ...
ramsss@ubuntu:~/Downloads$ puttygen aws_webinar_key.pem -o aws_webinar_key.ppk
```



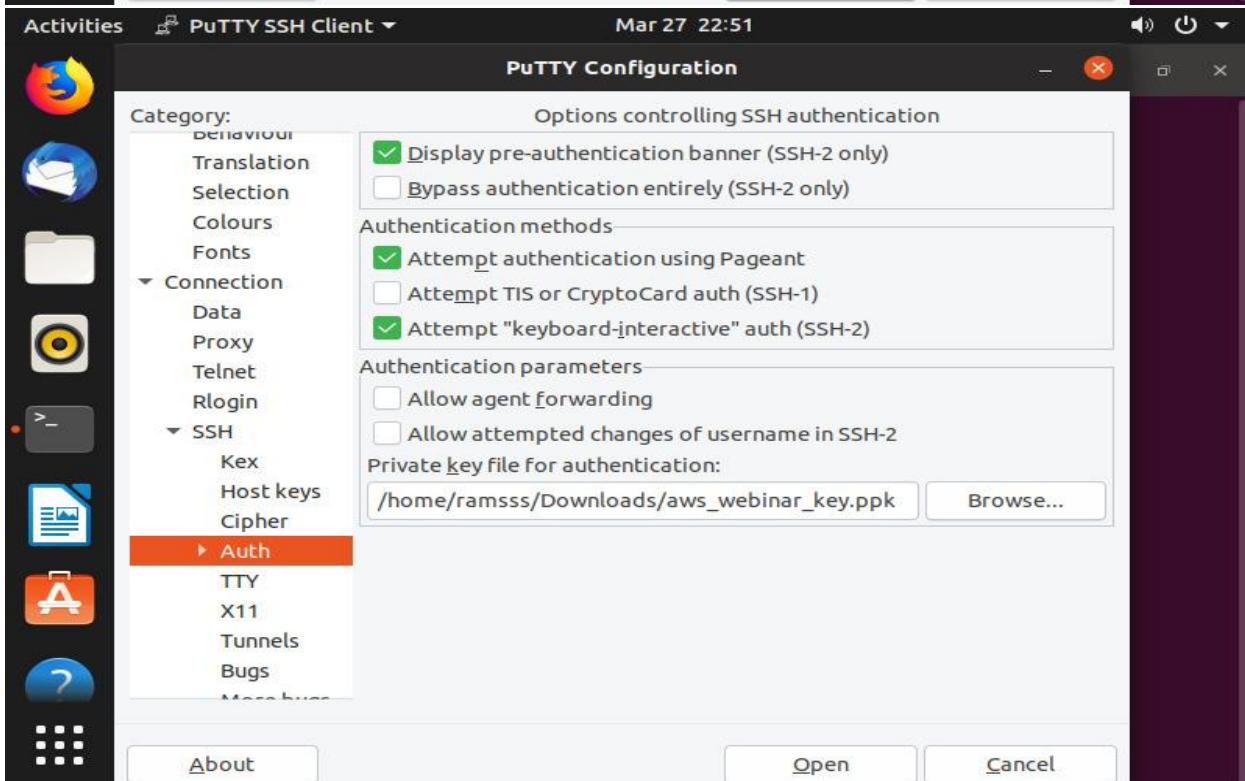
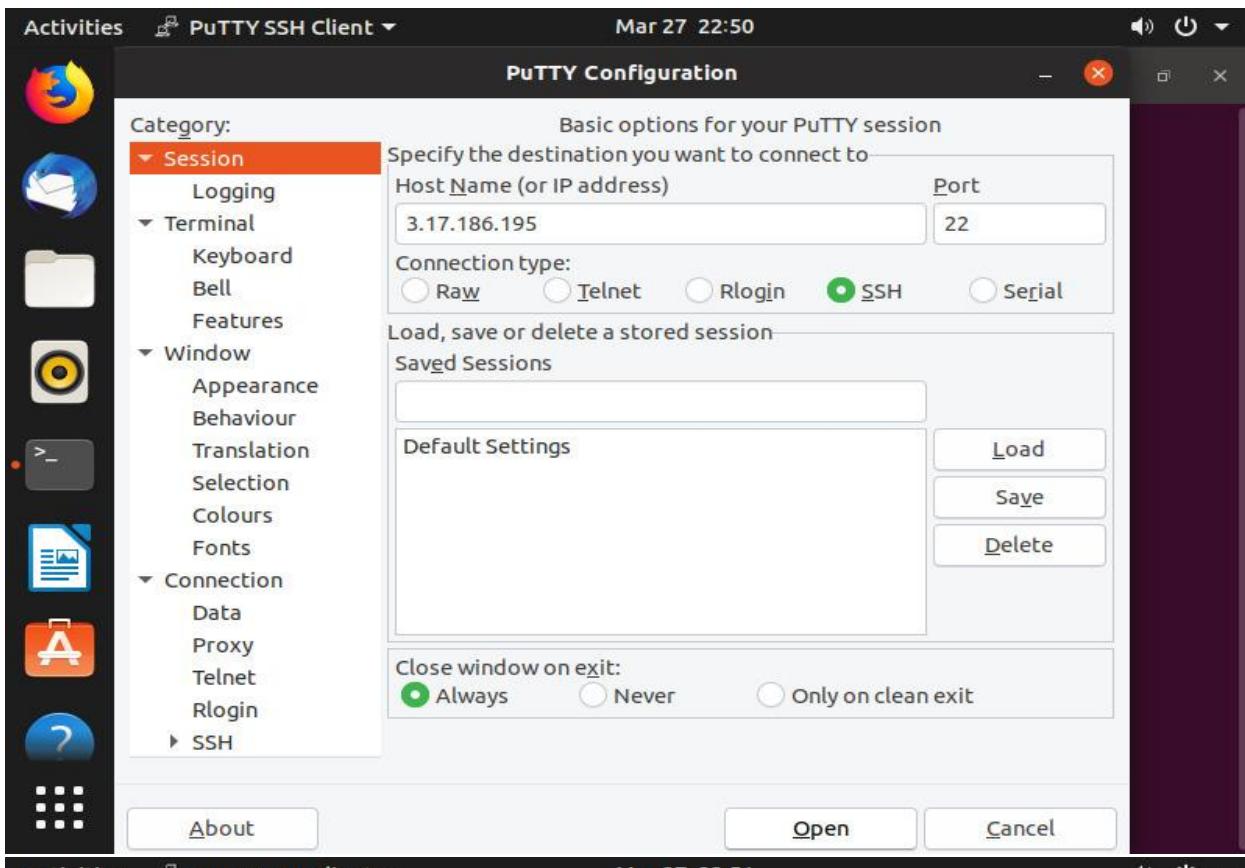
The file manager shows the following files in the Downloads folder:

- Recent
- Starred
- Home
- Desktop
- Documents
- Downloads (selected)
- Music
- Pictures
- Videos
- Trash
- Floppy Disk
- hemanthramara...
- Other Locations

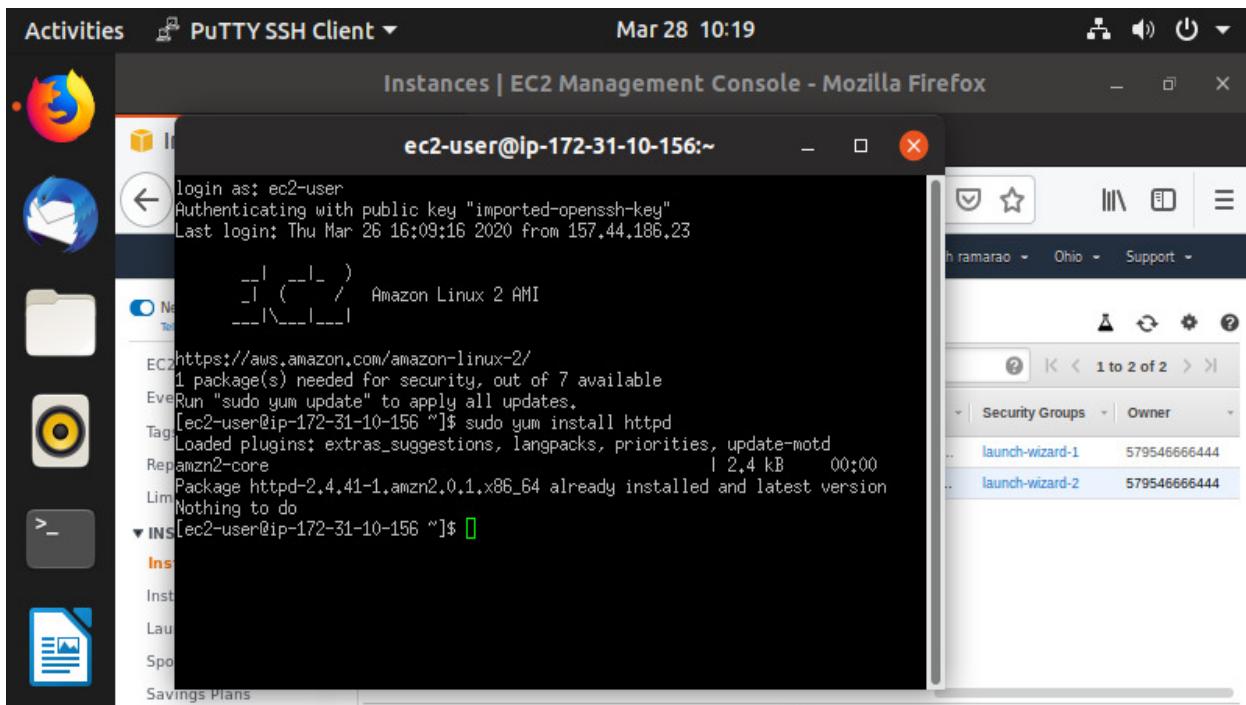
Files in the Downloads folder:

- putty
- aws\_webinar\_key.ppk
- aws\_webinar\_key.pem
- putty.zip

**11. Logged in EC2 Black Screen:** Open putty and paste the IP address of the instance you created using EC2.



## 11. Logged in EC2 Black Screen:



### Day 1 task after logging in to black screen:

Installing a server by following commands

**sudo yum install httpd**

**sudo service httpd start**

**sudo service httpd status**

**sudo vim/var/www/html/index.html**

## Hemanth Ramarao Batchu

AWS

Ethnus

Activities PuTTY SSH Client Mar 26 09:18

ec2-user@ip-172-31-10-156:~

```
login as: ec2-user
Authenticating with public key "imported-openssh-key"

      _\   _)
     _\ \ /_ _)
    ___\_\_\_\_(_)

https://aws.amazon.com/amazon-linux-2/
1 package(s) needed for security, out of 7 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-10-156 ~]$ sudo yum install httpd
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                         | 2.4 kB     00:00
Resolving Dependencies
--> Running transaction check
--> Package httpd.x86_64 0:2.4.41-1.amzn2.0.1 will be installed
--> Processing Dependency: httpd-tools = 2.4.41-1.amzn2.0.1 for package: httpd-2
.4.41-1.amzn2.0.1.x86_64
--> Processing Dependency: httpd-filesystem = 2.4.41-1.amzn2.0.1 for package: ht
tpd-2.4.41-1.amzn2.0.1.x86_64
--> Processing Dependency: system-logos-htpd for package: httpd-2.4.41-1.amzn2.
0.1.x86_64
--> Processing Dependency: mod_http2 for package: httpd-2.4.41-1.amzn2.0.1.x86_6
4
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.41-1.amzn2.0.
1.x86_64
--> Processing Dependency: /etc/mime.types for package: httpd-2.4.41-1.amzn2.0.1
.x86_64
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.41-
1.amzn2.0.1.x86_64
--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.41-1.am
zn2.0.1.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-htpd.noarch 0:18.0.0-4.amzn2 will be installed
--> Package httpd-filesystem.noarch 0:2.4.41-1.amzn2.0.1 will be installed
--> Package httpd-tools.x86_64 0:2.4.41-1.amzn2.0.1 will be installed
--> Package mailcap.noarch 0:2.1.41-2.amzn2 will be installed
```

## Checking status:

Activities PuTTY SSH Client Mar 26 09:19

ec2-user@ip-172-31-10-156:~

```
Verifying : httpd-tools-2.4.41-1.amzn2.0.1.x86_64 9/9

Installed:
httpd,x86_64 0:2.4.41-1.amzn2.0.1

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 0:2.4.41-1.amzn2.0.1
httpd-tools.x86_64 0:2.4.41-1.amzn2.0.1
mailcap.noarch 0:2.1.41-2.amzn2
mod_http2,x86_64 0:1.15.3-2.amzn2

Complete!
[ec2-user@ip-172-31-10-156 ~]$ sudo service httpd start
Redirecting to /bin/systemctl start httpd.service
[ec2-user@ip-172-31-10-156 ~]$ sudo service httpd status
Redirecting to /bin/systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
t: disabled)
   Active: active (running) since Thu 2020-03-26 16:12:37 UTC; 15s ago
     Docs: manhttpd.service(8)
 Main PID: 3726 (httpd)
   Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes se
rved/sec: 0 B/sec"
      CGroup: /system.slice/httpd.service
              ├─3726 /usr/sbin/httpd -DFOREGROUND
              ├─3727 /usr/sbin/httpd -DFOREGROUND
              ├─3728 /usr/sbin/httpd -DFOREGROUND
              ├─3729 /usr/sbin/httpd -DFOREGROUND
              ├─3730 /usr/sbin/httpd -DFOREGROUND
              └─3731 /usr/sbin/httpd -DFOREGROUND

Mar 26 16:12:37 ip-172-31-10-156.us-east-2.compute.internal systemd[1]: Start...
Mar 26 16:12:37 ip-172-31-10-156.us-east-2.compute.internal systemd[1]: Start...
Hint: Some lines were ellipsized, use -l to show in full.
[ec2-user@ip-172-31-10-156 ~]$ sudo vim /var/www/html/index.html
[ec2-user@ip-172-31-10-156 ~]$
```

During editing of index.html I wrote

"Hello...I am Hemanth Ramarao Batchu and I am enjoying these quarantine holidays"

### Editing inbound rules to enable HTTP access:

#### Initially:

The screenshot shows the AWS EC2 Management Console in a Firefox browser window. The URL is <https://us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#SecurityGroups:group=sg-02742897ac9a47e38>. The left sidebar shows the EC2 Dashboard and Instances sections. The main pane displays the security group configuration for a specific security group. The 'Inbound rules' tab is selected, showing one rule: Type: SSH, Protocol: TCP, Port range: 22, Source: 0.0.0.0/0. There is also an 'Edit inbound rules' button.

| Type | Protocol | Port range | Source    | Description - optional |
|------|----------|------------|-----------|------------------------|
| SSH  | TCP      | 22         | 0.0.0.0/0 | -                      |

The screenshot shows the AWS EC2 Management Console interface. On the left, there's a sidebar with various service icons. The main area displays two running instances:

| Instance State | Status Checks  | Alarm Status | Public DNS (IPv4)        | IPv4 Public IP |
|----------------|----------------|--------------|--------------------------|----------------|
| Running        | 2/2 checks ... | None         | ec2-3-133-152-184.us...  | 3.133.152.184  |
| Running        | 2/2 checks ... | None         | ec2-3-17-186-195.us-e... | 3.17.186.195   |

A modal window is open, showing the "Security Groups associated with i-0df73c61fee1803d0". It lists one rule:

| Ports | Protocol | Source    | Description     |
|-------|----------|-----------|-----------------|
| 22    | tcp      | 0.0.0.0/0 | launch-wizard-2 |

The screenshot shows the AWS EC2 Management Console interface. The sidebar includes the EC2 Dashboard. The main area shows the details of a security group named "sg-02742897ac9a47e38 - launch-wizard-2".

**Details:**

- Security group name: launch-wizard-2
- Security group ID: sg-02742897ac9a47e38
- Description: launch-wizard-2 created 2020-03-26T08:37:51.598-07:00
- VPC ID: vpc-b277bdd9
- Owner: 5795460000444
- Inbound rules count: 3 Permission entries
- Outbound rules count: 1 Permission entry

**Inbound rules:**

| Type | Protocol | Port range | Source    | Description - optional |
|------|----------|------------|-----------|------------------------|
| HTTP | TCP      | 80         | 0.0.0.0/0 | -                      |
| HTTP | TCP      | 80         | ::/0      | -                      |
| SSH  | TCP      | 22         | 0.0.0.0/0 | -                      |

## Finally:

Activities Firefox Web Browser Mar 26 09:25

Instances | EC2 Management Console - Mozilla Firefox

Instance: i-0df73c01fee1803d0 Public DNS: ec2-3-17-186-195.us-east-2.compute.amazonaws.com

| Ports | Protocol | Source    | Security Group  |
|-------|----------|-----------|-----------------|
| 80    | tcp      | 0.0.0.0/0 | launch-wizard-2 |
| 22    | tcp      | 0.0.0.0/0 |                 |

Feedback English (US)

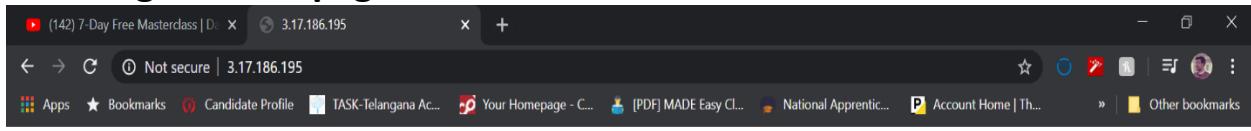
Activities Firefox Web Browser Mar 26 09:25

Instances | EC2 Management Console - Mozilla Firefox

Select an instance above

Feedback English (US)

## Checking the Final page:



DAY 1 TASK (CREATION OF OWN SERVER) COMPLETED SUCCESSFULLY

## Part 3: S3

### 12.Creating a bucket:

The screenshot shows the AWS S3 'Create bucket' interface. The 'General configuration' section is active, displaying the following details:

- Bucket name:** aws-webinar-bucketvls
- Region:** US East (Ohio) us-east-2

In the 'Bucket settings for Block Public Access' section, the checkbox for 'Block all public access' is checked. A note below states: "Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another."

The screenshot shows the AWS S3 Management Console. On the left, there's a sidebar with options like 'Buckets', 'Batch operations', and 'Access analyzer for S3'. The main area displays a table titled 'Buckets (1)'. The table has columns for 'Name', 'Region', 'Access', and 'Bucket created'. A single row is shown for the bucket 'aws-webinar-bucketvlsi', which is located in 'US East (Ohio) us-east-2' and has 'Not Public' access. At the top of the main area, there's a message: 'We're gradually updating the design of the Amazon S3 console. You will notice some updated screens as we improve the performance and user interface. To help us improve the experience, give feedback on the recent updates.' Below the table are buttons for 'Copy ARN', 'Empty', 'Delete', and 'Create bucket'. The bottom of the screen shows a Windows taskbar with various icons and a battery level of 52%.

## 13. Uploading an Object:

The screenshot shows the 'Upload' wizard in the AWS S3 Management Console. It's the first step, 'Select files'. A file named 'index.html' (58.0 B) is selected. The target path is 'aws-webinar-bucketvlsi'. There are four tabs at the top: 'Select files' (active), 'Set permissions', 'Set properties', and 'Review'. Below the tabs, there's a note about uploading large files and a link to learn more. A 'Next' button is at the bottom right. The background shows the same S3 console interface as the previous screenshot, with the 'aws-webinar-bucketvlsi' bucket visible. The bottom of the screen shows a Windows taskbar with a battery level of 49%.

The screenshot shows the AWS S3 Management Console interface. A modal window titled "Upload" is open, divided into four steps: 1. Select files (done), 2. Set permissions, 3. Set properties, and 4. Review.

**Manage users:**

| User ID                          | Objects                                  | Object permissions   |
|----------------------------------|--|--|
| hemanthramarao batchu2019(Owner) | <input checked="" type="checkbox"/> Read | <input checked="" type="checkbox"/> Read <input checked="" type="checkbox"/> Write |

**Access for other AWS account:** + Add account

**Manage public permissions:**

The block public access settings turned on for this bucket prevent granting public access.

Do not grant public read access to this object(s) (Recommended)

**Storage class:**

Choose a storage class based on your use case and access requirements. [Learn more](#) or see [Amazon S3 pricing](#)

| Storage class        | Designed for  | Availability Zones | Min storage duration | Min billable object size | Monitoring and automation fees | Retrieval fees    |
|----------------------|---|--------------------|----------------------|--------------------------|--------------------------------|-------------------|
| Standard             | Frequently accessed data  | ≥ 3                | -                    | -                        | -                              | -                 |
| Intelligent-Tiering  | Long-lived data with changing or unknown access patterns        | ≥ 3                | 30 days              | -                        | Per-object fees apply          | -                 |
| Standard-IA          | Long-lived, infrequently accessed data                          | ≥ 3                | 30 days              | 128KB                    | -                              | Per-GB fees apply |
| One Zone-IA          | Long-lived, infrequently accessed, non-critical data            | ≥ 1                | 30 days              | 128KB                    | -                              | Per-GB fees apply |
| Glacier              | Archive data with retrieval times ranging from minutes to hours | ≥ 3                | 90 days              | 40KB                     | -                              | Per-GB fees apply |
| Glacier Deep Archive | Archive data that rarely, if ever, needs ≥ 3                    | -                  | 180 days             | 40KB                     | -                              | Per-GB fees apply |

**Buttons:** Previous, Next, Upload

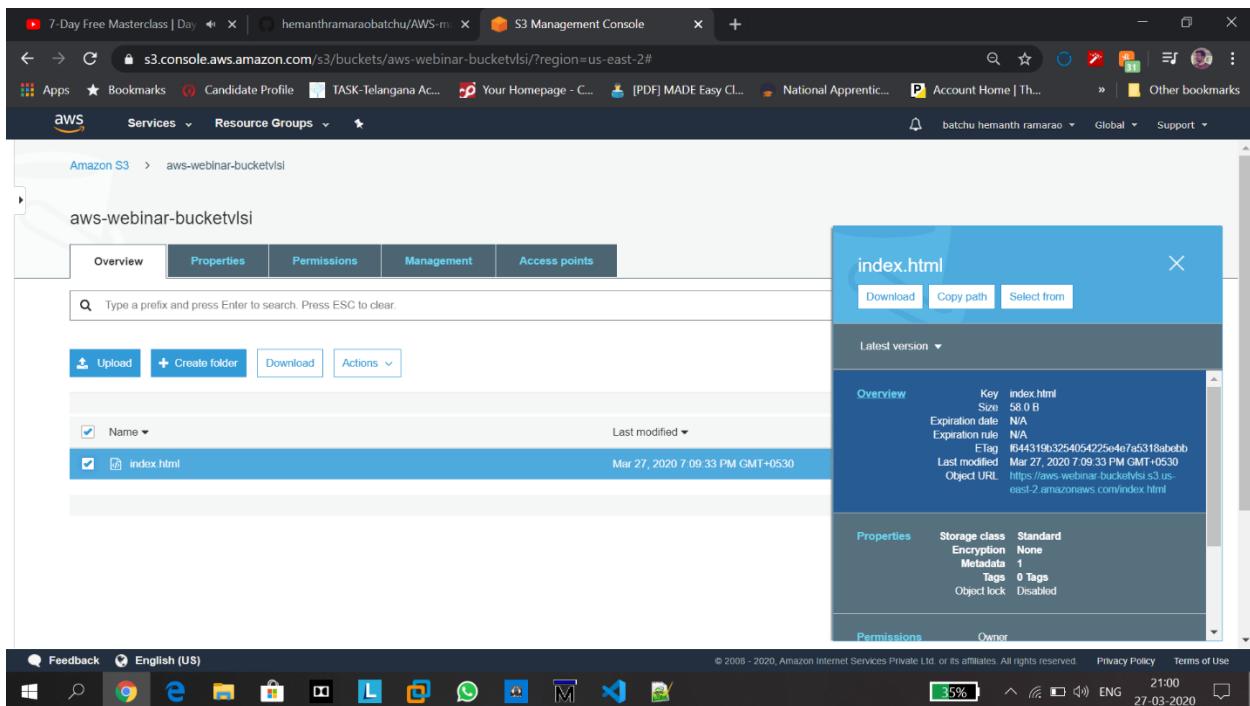
The screenshot shows two views of the AWS S3 Management Console.

**Top View (Upload Process):**

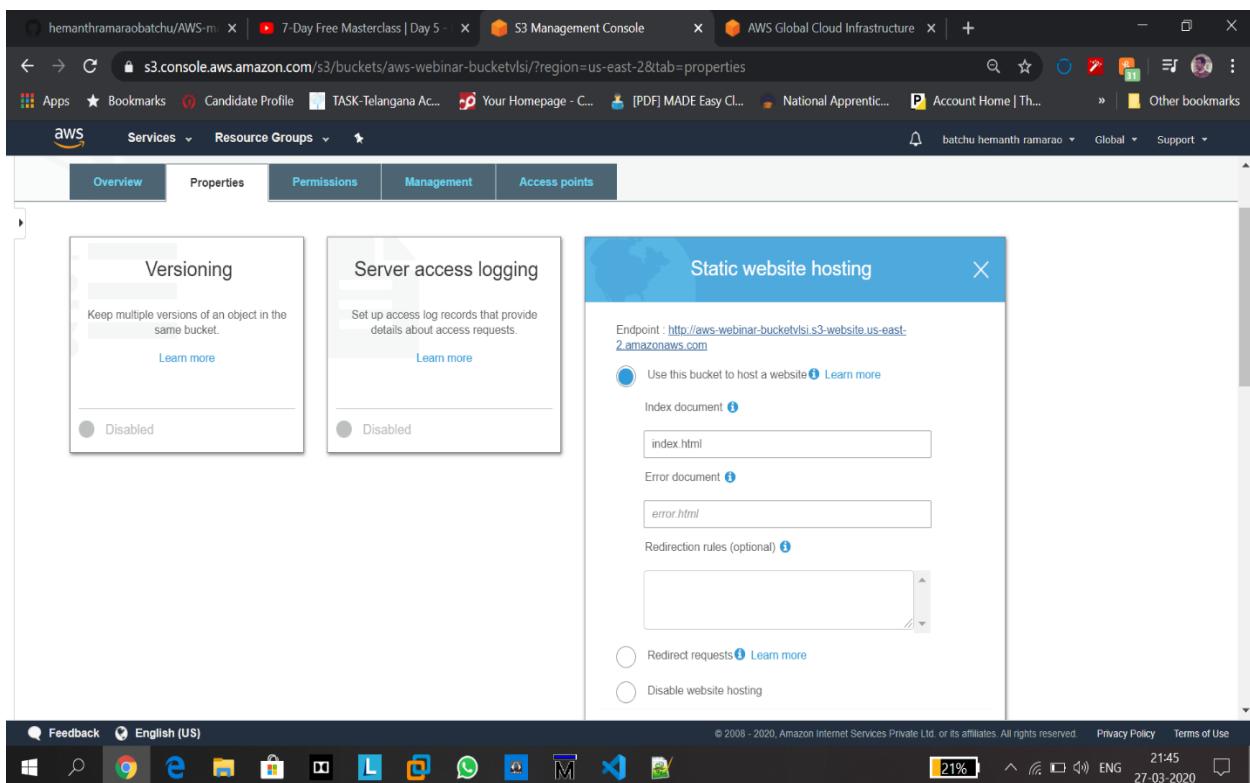
- The title bar shows the URL: `s3.console.aws.amazon.com/s3/buckets/aws-webinar-bucketvls/?region=us-east-2`.
- The main interface is titled "Upload".
- Step 1: "Select files" (checked).
- Step 2: "Set permissions" (checked).
- Step 3: "Set properties" (checked).
- Step 4: "Review" (highlighted with a red circle).
- Files:** 1 File, Size: 58.0 B.
- Permissions:** 1 grantee.
- Properties:** Encryption: No, Storage class: Standard.
- Metadata:** Tag.
- Buttons: "Previous" and "Upload".

**Bottom View (Bucket Contents):**

- The title bar shows the URL: `s3.console.aws.amazon.com/s3/buckets/aws-webinar-bucketvls/?region=us-east-2`.
- The main interface shows the "Properties" tab selected.
- A search bar at the top says "Type a prefix and press Enter to search. Press ESC to clear."
- Actions buttons: "Upload", "+ Create folder", "Download", "Actions".
- Region: "US East (Ohio)".
- Table header: "Viewing 1 to 1".
- Table columns: "Name", "Last modified", "Size", "Storage class".
- Table data: 1 row, "index.html", Mar 27, 2020 7:09:33 PM GMT+0530, 58.0 B, Standard.
- Table footer: "Viewing 1 to 1".
- Operations summary: 0 In progress, 1 Success, 0 Error.
- Feedback and system status bar at the bottom.



## 14. Enabling the static website:



The screenshot shows the AWS S3 Management Console with the URL <https://s3.console.aws.amazon.com/s3/buckets/aws-webinar-bucketvls1/?region=us-east-2&tab=properties>. The 'Properties' tab is active. The page lists several features:

- Versioning**: Keep multiple versions of an object in the same bucket. Status: Disabled.
- Server access logging**: Set up access log records that provide details about access requests. Status: Disabled.
- Static website hosting**: Host a static website, which does not require server-side technologies. Status: Bucket hosting.
- Object-level logging**: Record object-level API activity using the CloudTrail data events feature (additional cost). Status: Disabled.
- Default encryption**: Automatically encrypt objects when stored in Amazon S3. Status: Disabled.

At the bottom, there's a footer with links for Feedback, English (US), Privacy Policy, Terms of Use, and system status indicators (21%, ENG, 27-03-2020).

## Still link can't be accessed.

The screenshot shows a browser window with the URL <https://aws-webinar-bucketvls1.s3-website.us-east-2.amazonaws.com>. The error message is "403 Forbidden". Below it is a detailed log entry:

```

  • Code: AccessDenied
  • Message: Access Denied
  • RequestId: 1BE74A533C492D46
  • HostId: G482k9ZZTA4SVO/A9C7q0a/JQOWss14MsPgNtbIdfEl0m7vZhvYuN8hyBwJUiN7DhrlldNjV/kQ=

```

## 403 Forbidden

- Code: AccessDenied
- Message: Access Denied
- RequestId: 1BE74A533C492D46
- HostId: G482k9ZZTA4SVO/A9C7q0a/JQOWss14MsPgNtbIdfEl0m7vZhvYuN8hyBwJUiN7DhrlldNjV/kQ=



## 15. Making the Object Public:

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**

On

- Block public access to buckets and objects granted through *new* access control lists (ACLs)
- Block public access to buckets and objects granted through *any* access control lists (ACLs)
- Block public access to buckets and objects granted through *new* public bucket or access point policies
- Block public and cross-account access to buckets and objects through *any* public bucket or access point policies

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

- Block public access to buckets and objects granted through *new* access control lists (ACLs)
- Block public access to buckets and objects granted through *any* access control lists (ACLs)
- Block public access to buckets and objects granted through *new* public bucket or access point policies
- Block public and cross-account access to buckets and objects through *any* public bucket or access point policies

**Public access settings updated successfully**

**Here, click “make public”.**

Owner  
61024fc16d9d1390e74aede0bcb73d2f63d23b91592d0d89ffd9ac0bb77c2640

Last modified  
Mar 27, 2020 7:09:33 PM GMT+0530

Etag  
f644319b3254054225e4e7a5318abeb

Storage class  
Standard

Server-side encryption  
None

Size  
58.0 B

Key  
index.html

## 16. Checking the S3 link on browser:

I am Hemanth Ramarao Batchu and i am creating a html file.

Hosting a Static website is completed successfully which is day2 task.

## Part 4: Rekognition

### 17. Face Detect:

YouTube    Rekognition Console

us-east-2.console.aws.amazon.com/rekognition/home?region=us-east-2#/face-detection

Apps Bookmarks Candidate Profile TASK-Telangana A... Your Homepage - C... [PDF] MADE Easy Cl... National Apprentic... Account Home | Th... Other bookmarks

Services Resource Groups

batchu hemanth ramarao Ohio Support

**Amazon Rekognition**

Custom Labels New

Use Custom Labels

Demos

Object and scene detection

Image moderation

**Facial analysis**

Celebrity recognition

Face comparison

Text in image

Video Demos

Video analysis

Metrics

Metrics

Additional Resources

Getting started guide

Download SDKs

Developer resources

Pricing

FAQ

**Facial analysis**

Get a complete analysis of facial attributes, including confidence scores.

Done with the demo? [Learn more](#)

**Results**

|  |                      |                   |
|--|----------------------|-------------------|
|  | looks like a face    | 99.9 %            |
|  | appears to be female | 99.9 %            |
|  | age range            | 17 - 29 years old |
|  | smiling              | 91.7 %            |
|  | appears to be happy  | 99.5 %            |
|  | wearing glasses      | 99.8 %            |

[Show more](#)

Request Response

Choose a sample image Use your own image

Image must be jpg or png format and no larger than 5MB. Your image isn't stored.

Rekognition Console

(1) 7-Day Free Masterclass | Day

us-east-2.console.aws.amazon.com/rekognition/home?region=us-east-2#/face-detection

Apps Bookmarks Candidate Profile TASK-Telangana A... Your Homepage - C... [PDF] MADE Easy Cl... National Apprentic... Account Home | Th... Other bookmarks

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Choose a sample image Use your own image

**Facial analysis**

Get a complete analysis of facial attributes, including confidence scores.

Done with the demo? [Learn more](#)

**Results**

|  |                     |                   |
|--|---------------------|-------------------|
|  | looks like a face   | 99.9 %            |
|  | appears to be male  | 99.9 %            |
|  | age range           | 22 - 34 years old |
|  | smiling             | 95.5 %            |
|  | appears to be happy | 98.9 %            |
|  | wearing glasses     | 99.6 %            |

[Show more](#)

Feedback English (US)

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## 18. Face Compare:

The screenshot shows the AWS Rekognition Face Comparison interface. On the left, a sidebar lists various services like Custom Labels, Demos, and Face comparison, with Face comparison selected. The main area has a "Reference face" section showing a photo of a young girl smiling, and a "Comparison faces" section showing a photo of three girls on an escalator. Below these are "Choose a sample image" buttons. On the right, a results panel shows a comparison between two images of the same girl, with a similarity score of 99.9% indicated by a blue bar.

This screenshot shows the same AWS Rekognition Face Comparison interface. The "Reference face" section now displays a photo of a man with glasses and a beard wearing a top hat. The "Comparison faces" section shows a group photo of several people. The results panel compares the reference man with another man, achieving a 99.6% similarity score.

## 19. Celebrity Recognition:

Amazon Rekognition

Custom Labels New

Use Custom Labels

Demos

Object and scene detection

Image moderation

Facial analysis

**Celebrity recognition**

Face comparison

Text in image

Video Demos

Video analysis

Metrics

Metrics

Additional Resources

Getting started guide

Feedback English (US)

Done with the demo? [Learn more](#)

Results

Rajinikanth [Learn More](#)

Match confidence 97 %

Request Response

Amazon Rekognition

Custom Labels New

Use Custom Labels

Demos

Object and scene detection

Image moderation

Facial analysis

**Celebrity recognition**

Face comparison

Text in image

Video Demos

Video analysis

Metrics

Metrics

Additional Resources

Getting started guide

Choose a sample image Use your own image

Feedback English (US)

Done with the demo? [Learn more](#)

Results

MS Dhoni

Match confidence 99 %

Request Response

## 20.Text in image:

us-east-2.console.aws.amazon.com/rekognition/home?region=us-east-2#/text-detection

The screenshot shows a road sign with three arrows pointing in different directions. The top-left arrow is green and contains the text "Great hotel". The top-right arrow is red and contains "We can't recommend this hotel". The bottom-left arrow is green and contains "the staffs were fast friendly and efficient". The bottom-right arrow is red and contains "Service can be frustrating". The bottom arrow also has additional text "Unbeatable location nice clean good value" and "shabby rooms". On the left sidebar, under the "Text in image" section, there is a link to "Text in image".

Results

We | can't |  
| Great | hotel. | recommend |  
| this | hotel. |  
| the | staffs | were | Service |  
| fast, | friendly | can |  
| and | efficient. | be | frustrating |  
| Unbeatable |  
| location | nice | shabby | rooms |  
| clean | good | value |

Request

Response

Feedback English (US)

us-east-2.console.aws.amazon.com/rekognition/home?region=us-east-2#/text-detection

The screenshot shows a wooden board with large, colorful 3D letters spelling out "TEXT TO SPEECH". On the left sidebar, under the "Text in image" section, there is a link to "Text in image".

Results

TEXT | TO |  
| SPEECH |

Request

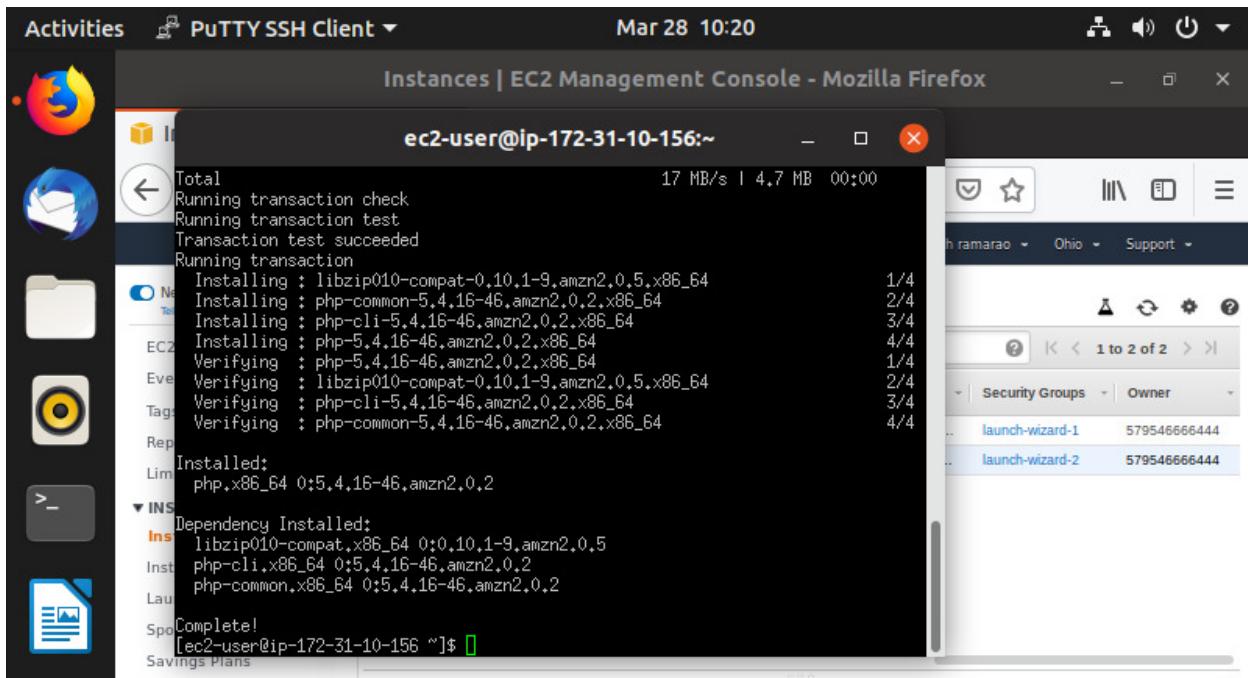
Response

Feedback English (US)

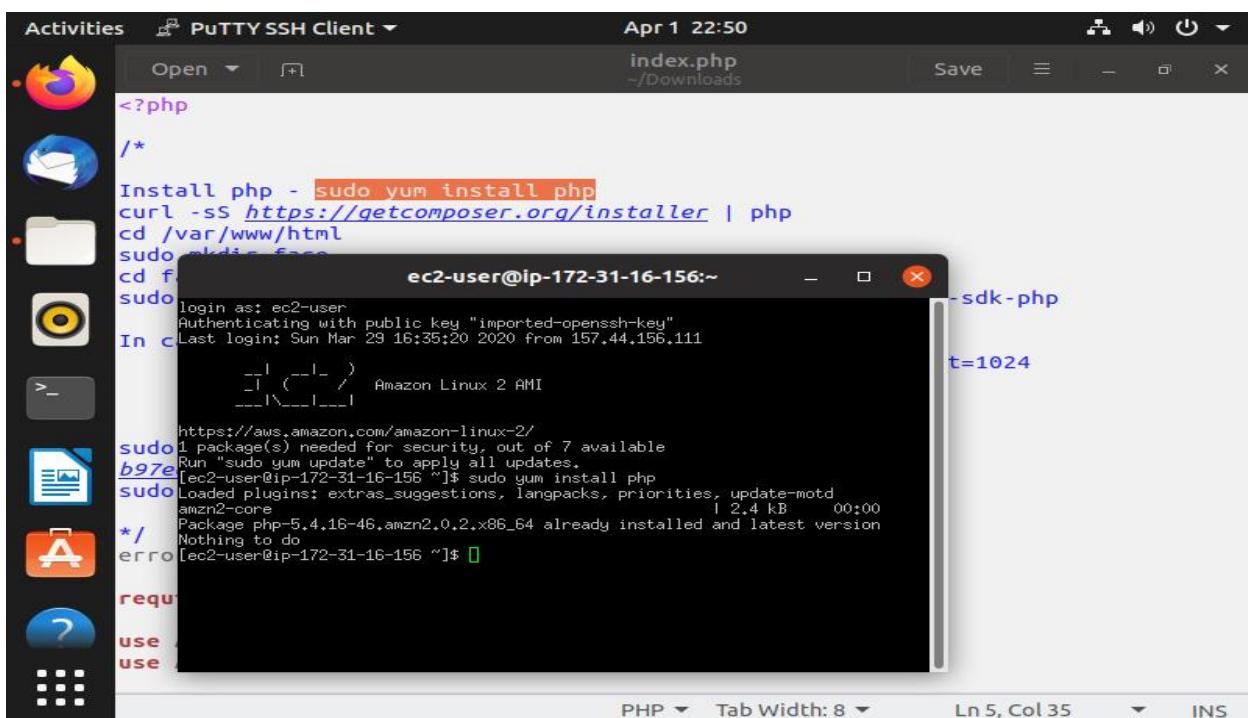
## Part 5: EC2 and S3

## 21,22 Installing php and aws-sdk:

## **PHP installation:**



Since I have already installed php and if I run the command again, it will show as “nothing to do” as following:



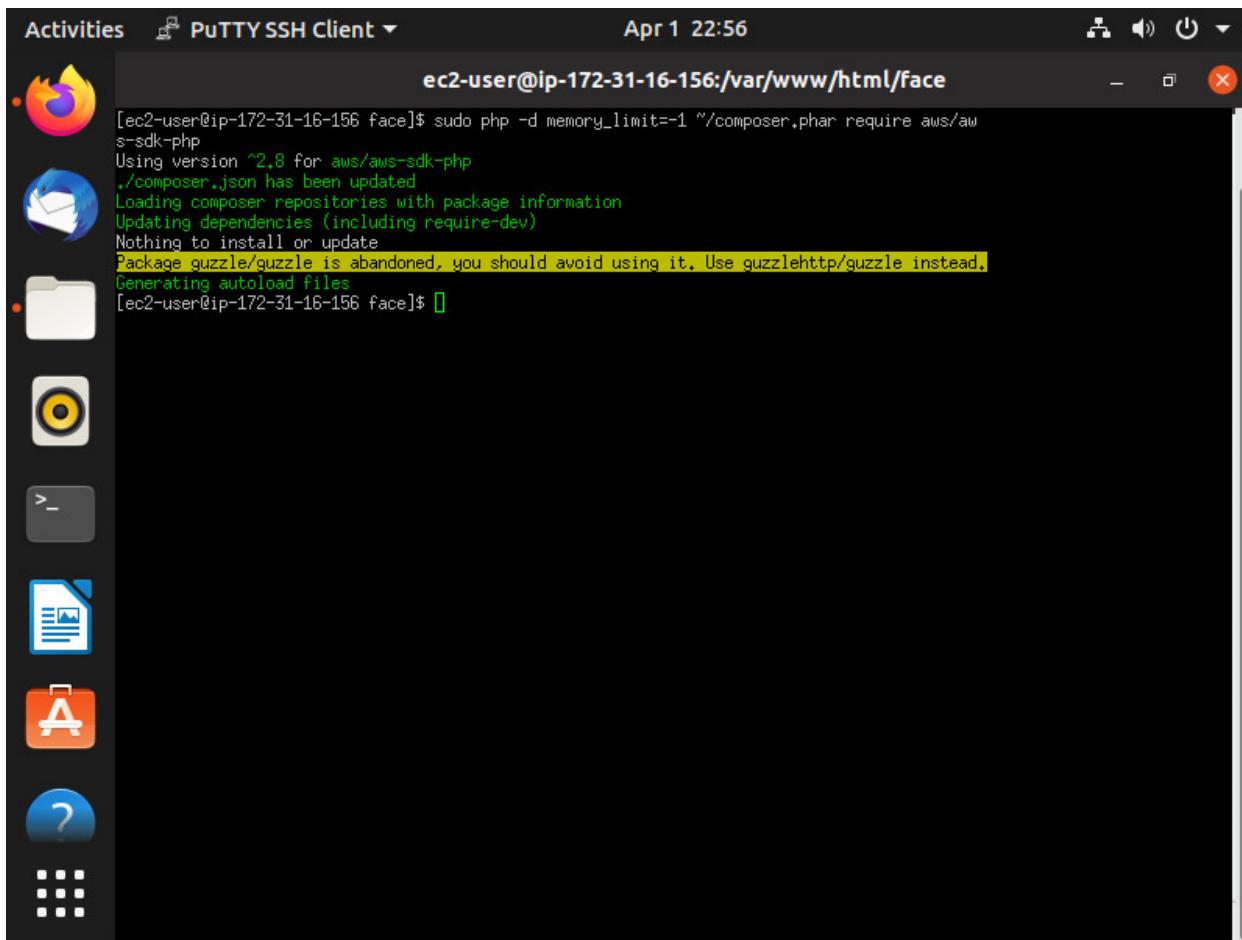
## Composures download:

The screenshot shows a Linux desktop environment with a terminal window open in a PuTTY SSH Client session. The terminal window title is "sdk-php" and the session name is "ec2-user@ip-172-31-10-156:~". The terminal content shows the following command being run and its output:

```
<?php
/*
Install php - sudo yum install php
curl -sS https://getcomposer.org/installer | php
cd /var/www/html
sudo mkdir face
cd face
[ec2-user@ip-172-31-10-156 ~]$ curl -sS https://getcomposer.org/installer | php
All settings correct for using Composer
Downloading...
Composer (version 1.10.1) successfully installed to: /home/ec2-user/composer.phar
Use it: php composer.phar
[ec2-user@ip-172-31-10-156 ~]$
```

The terminal also displays the current working directory as "/home/ec2-user/composer.phar" and the line number as "Ln 6, Col 49". The status bar at the bottom of the terminal window indicates "PHP" and "Tab Width: 8".

## Aws-sdk installation:

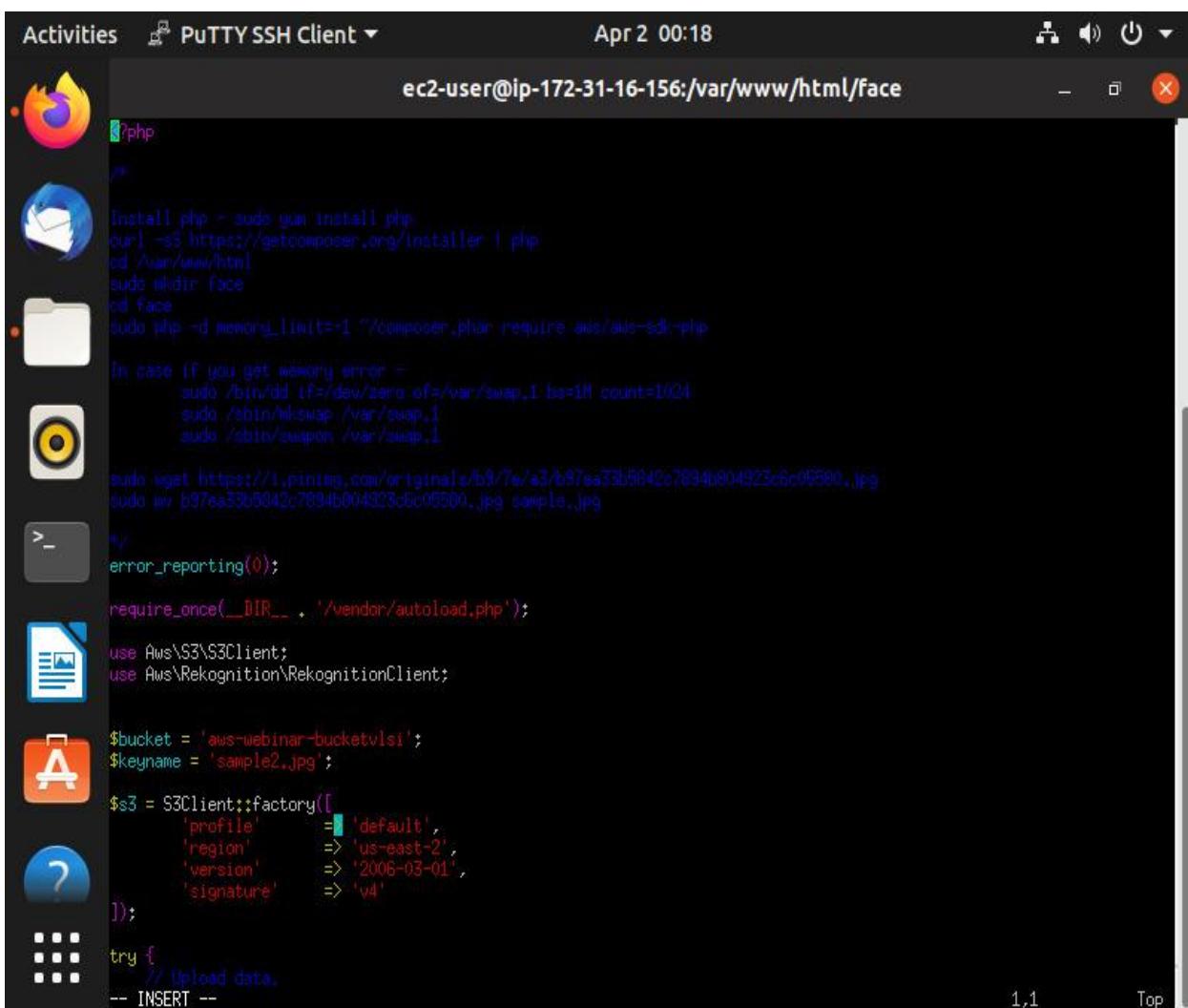


```
[ec2-user@ip-172-31-16-156 face]$ sudo php -d memory_limit=-1 ~/composer.phar require aws/aws-sdk-php
Using version ^2.8 for aws/aws-sdk-php
./composer.json has been updated
Loading composer repositories with package information
Updating dependencies (including require-dev)
Nothing to install or update
Package guzzle/guzzle is abandoned, you should avoid using it. Use guzzlehttp/guzzle instead.
Generating autoload files
[ec2-user@ip-172-31-16-156 face]$
```

## 23. Index.php file Code:



```
[ec2-user@ip-172-31-16-156 face]$ sudo vim index2.php
```



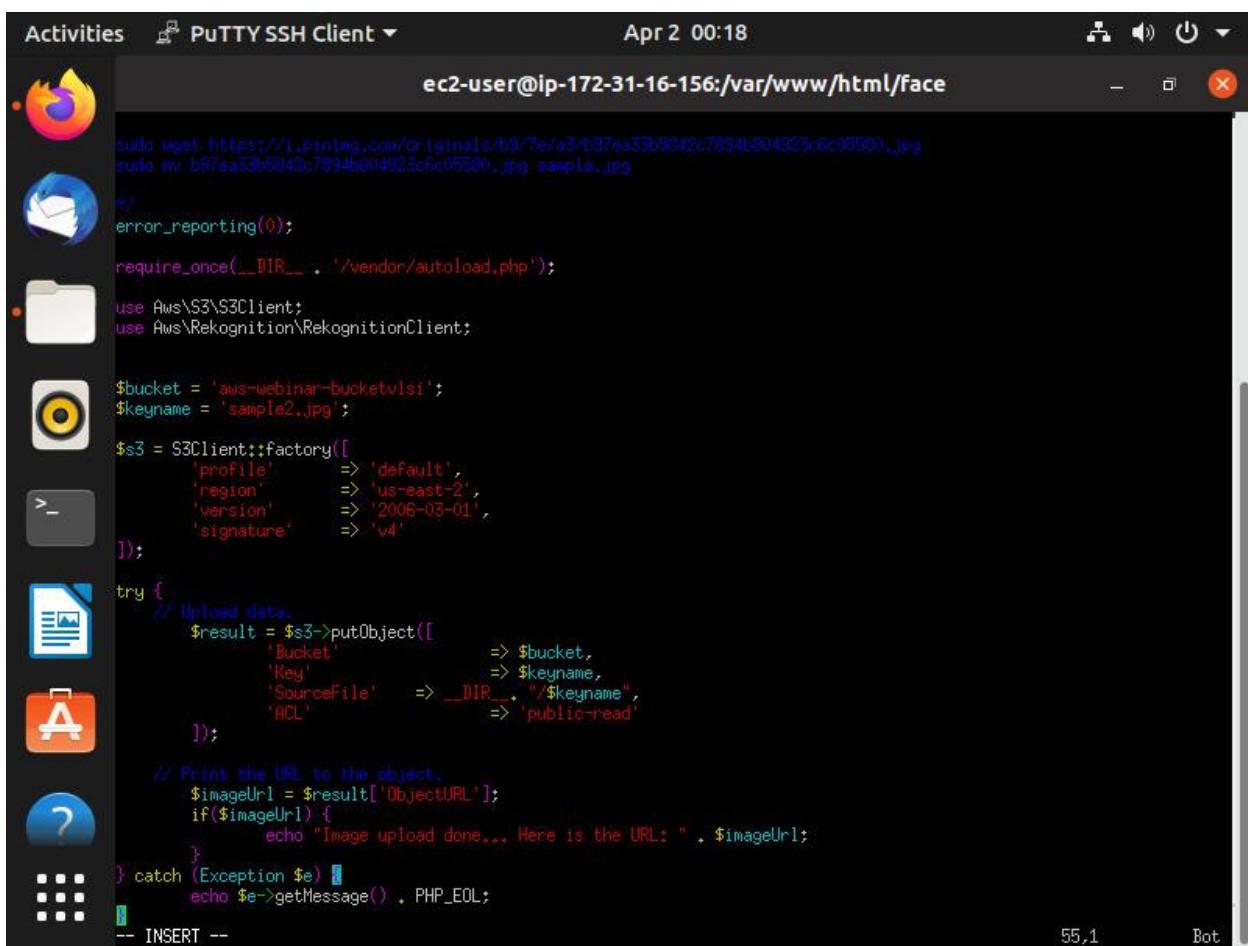
```
Install php - sudo yum install php
curl -sS https://getcomposer.org/installer | php
cd /var/www/html
sudo mkdir face
cd face
sudo php -d memory_limit=1024 >/composer.phar require aws/aws-sdk-php
In case (If you get memory error -
    sudo /bin/dd if=/dev/zero of=/var/swap.1 bs=1M count=1024
    sudo /sbin/mkswap /var/swap.1
    sudo /sbin/swapon /var/swap.1
sudo wget https://i.pinimg.com/originals/b3/7e/43/b97ea33b5940c7894b94923c5cfc5901.jpg
sudo mv b97ea33b5940c7894b94923c5cfc5901.jpg sample.jpg
>_
error_reporting(0);

require_once(__DIR__ . '/vendor/autoload.php');

use Aws\S3\S3Client;
use Aws\Rekognition\RekognitionClient;

$bucket = 'aws-webinar-bucketvlsi';
$keyname = 'sample2.jpg';

$s3 = S3Client::factory([
    'profile'      => 'default',
    'region'       => 'us-east-2',
    'version'      => '2006-03-01',
    'signature'    => 'v4'
]);
try {
    // Upload data.
-- INSERT --
```



The screenshot shows a PuTTY SSH Client window titled "PuTTY SSH Client" connected to "ec2-user@ip-172-31-16-156:/var/www/html/face". The terminal window displays the following PHP code:

```
curl wget https://i.pinimg.com/originals/b9/7e/a3/b97ea33b5042c7894b004023c6c08500.jpg
curl mv b97ea33b5042c7894b004023c6c08500.jpg sample.jpg
error_reporting(0);
require_once(__DIR__ . '/vendor/autoload.php');
use Aws\S3\S3Client;
use Aws\Rekognition\RekognitionClient;

$bucket = 'aws-webinar-bucketvlsi';
$keyname = 'sample2.jpg';

$s3 = S3Client::factory([
    'profile'      => 'default',
    'region'       => 'us-east-2',
    'version'      => '2006-03-01',
    'signature'   => 'v4'
]);
try {
    // Upload data.
    $result = $s3->putObject([
        'Bucket'           => $bucket,
        'Key'              => $keyname,
        'SourceFile'       => __DIR__ . "/$keyname",
        'ACL'              => 'public-read'
    ]);
    // Print the URL to the object.
    $imageUrl = $result['ObjectURL'];
    if($imageUrl) {
        echo "Image upload done... Here is the URL: " . $imageUrl;
    }
} catch (Exception $e) {
    echo $e->getMessage() . PHP_EOL;
}
-- INSERT --
```

```
<?php
/* error_reporting(0);

require_once(__DIR__ . '/vendor/autoload.php');

use Aws\S3\S3Client;

use Aws\Rekognition\RekognitionClient;

$bucket = 'aws-webinar-bucketvlsi';

$keyname = 'sample.jpg';

$s3 = S3Client::factory([ 'profile' => 'default', 'region' => 'us-east-2',
'version' => '2006-03-01', 'signature' => 'v4' ]);

try {
// Upload data.
```

**Hemanth Ramarao Batchu**

**AWS**

**Ethnus**

```
$result = $s3->putObject([ 'Bucket' => $bucket, 'Key' =>
$keyname, 'SourceFile' => __DIR__. "/$keyname", 'ACL' =>
'public-read' ]);

// Print the URL to the object.

$imageUrl = $result['ObjectURL'];

if($imageUrl)

{

echo "Image upload done... Here is the URL: " . $imageUrl; }

}

catch (Exception $e)

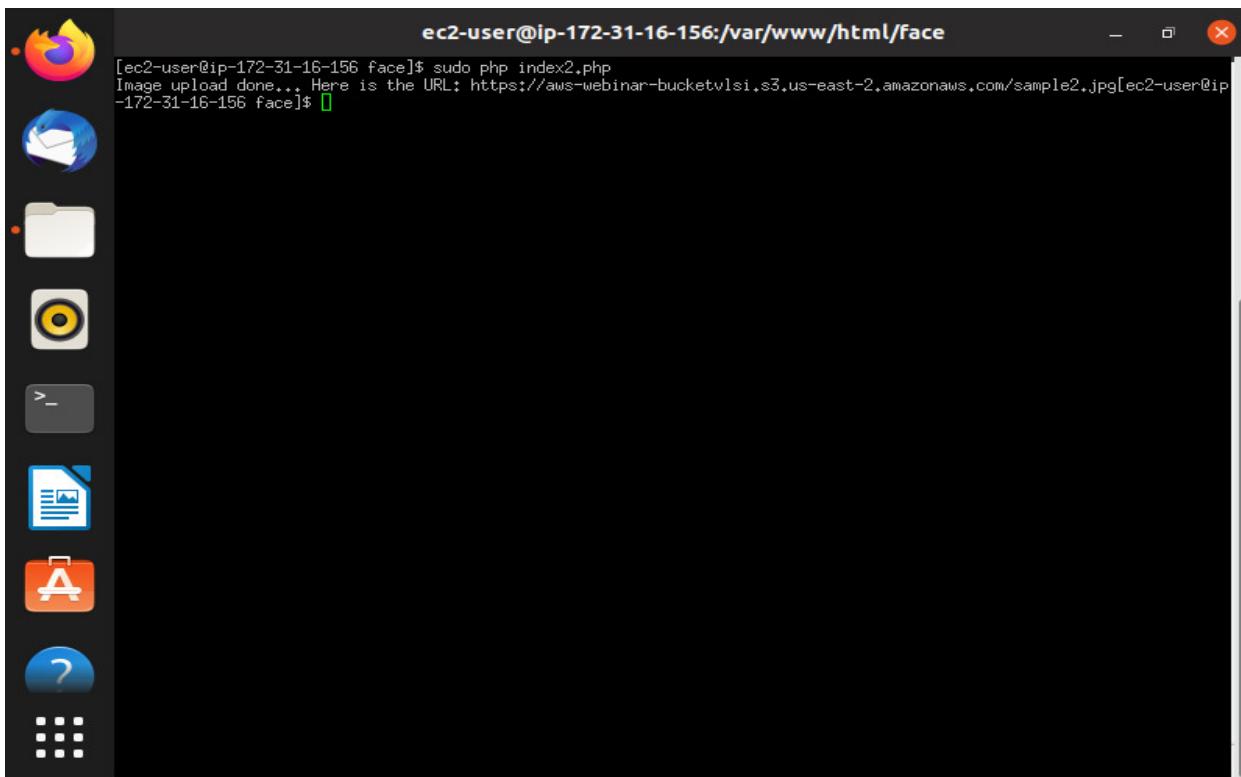
{

echo $e->getMessage() . PHP_EOL;

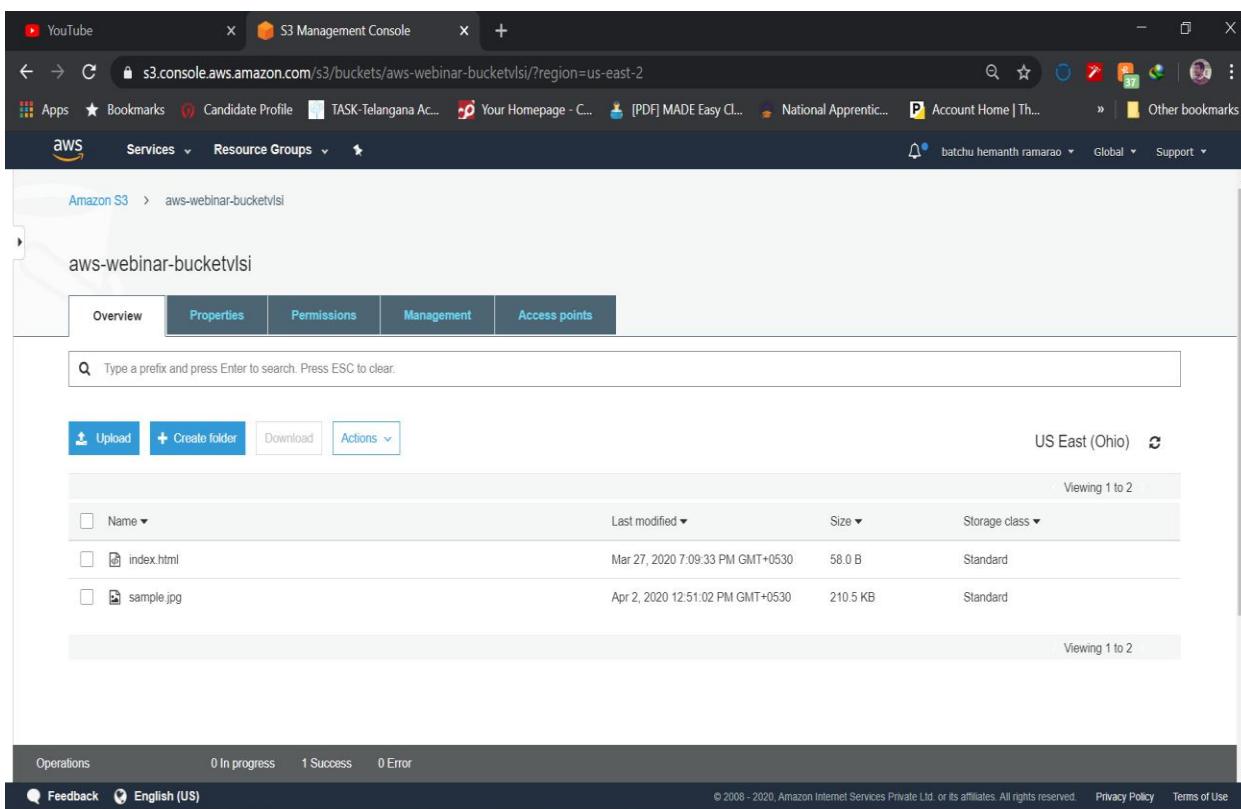
}
```

Here, we have to create a IAM role and attach it to bucket so that we can give access and then upload the image to bucket using bucket name in code.

## 24.Upload Success screenshot:



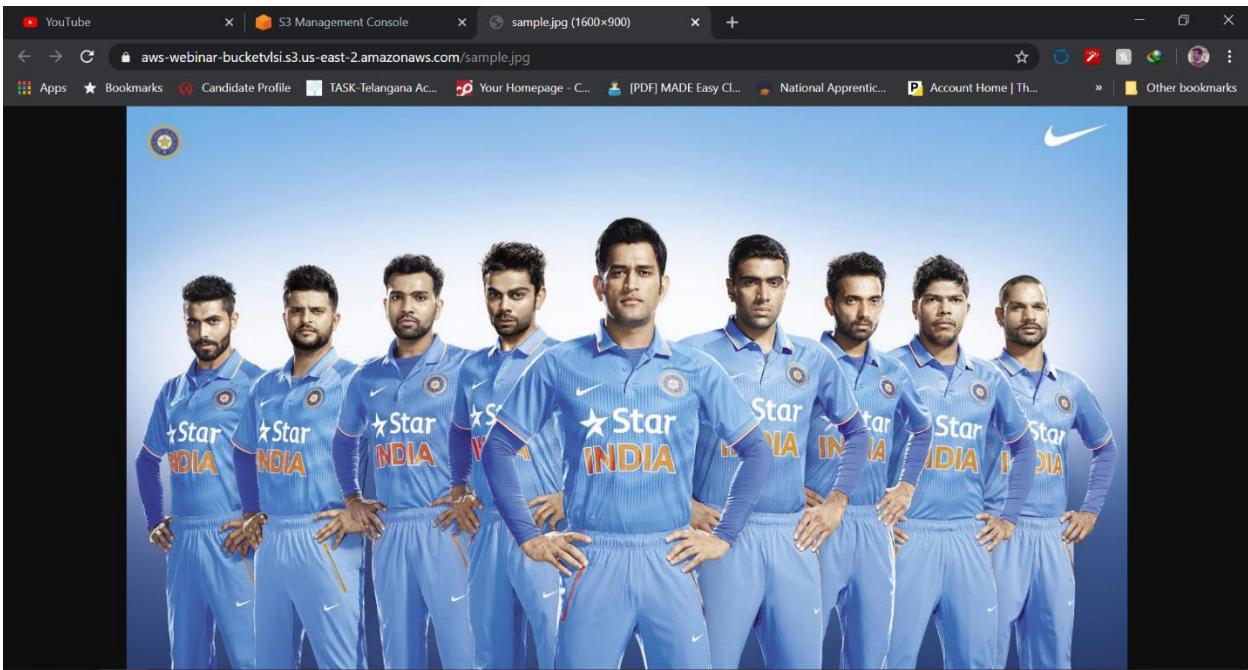
```
[ec2-user@ip-172-31-16-156 face]$ sudo php index2.php
Image upload done... Here is the URL: https://aws-webinar-bucketvlsi.s3.us-east-2.amazonaws.com/sample2.jpg[ec2-user@ip-172-31-16-156 face]$
```



The screenshot shows the AWS S3 Management Console interface. The top navigation bar includes links for YouTube, S3 Management Console, and other AWS services like Lambda, CloudWatch, and CloudFront. The main content area displays the contents of the 'aws-webinar-bucketvlsi' bucket. The 'Overview' tab is selected. A search bar at the top allows for file name filtering. Below the search bar, there are buttons for 'Uploaded', '+ Create folder', 'Download', and 'Actions'. The main list shows two objects: 'index.html' and 'sample.jpg'. Both files were uploaded from the EC2 instance. The table provides details such as last modified date, size, and storage class.

| Name       | Last modified                    | Size     | Storage class |
|------------|----------------------------------|----------|---------------|
| index.html | Mar 27, 2020 7:09:33 PM GMT+0530 | 58.0 B   | Standard      |
| sample.jpg | Apr 2, 2020 12:51:02 PM GMT+0530 | 210.5 KB | Standard      |

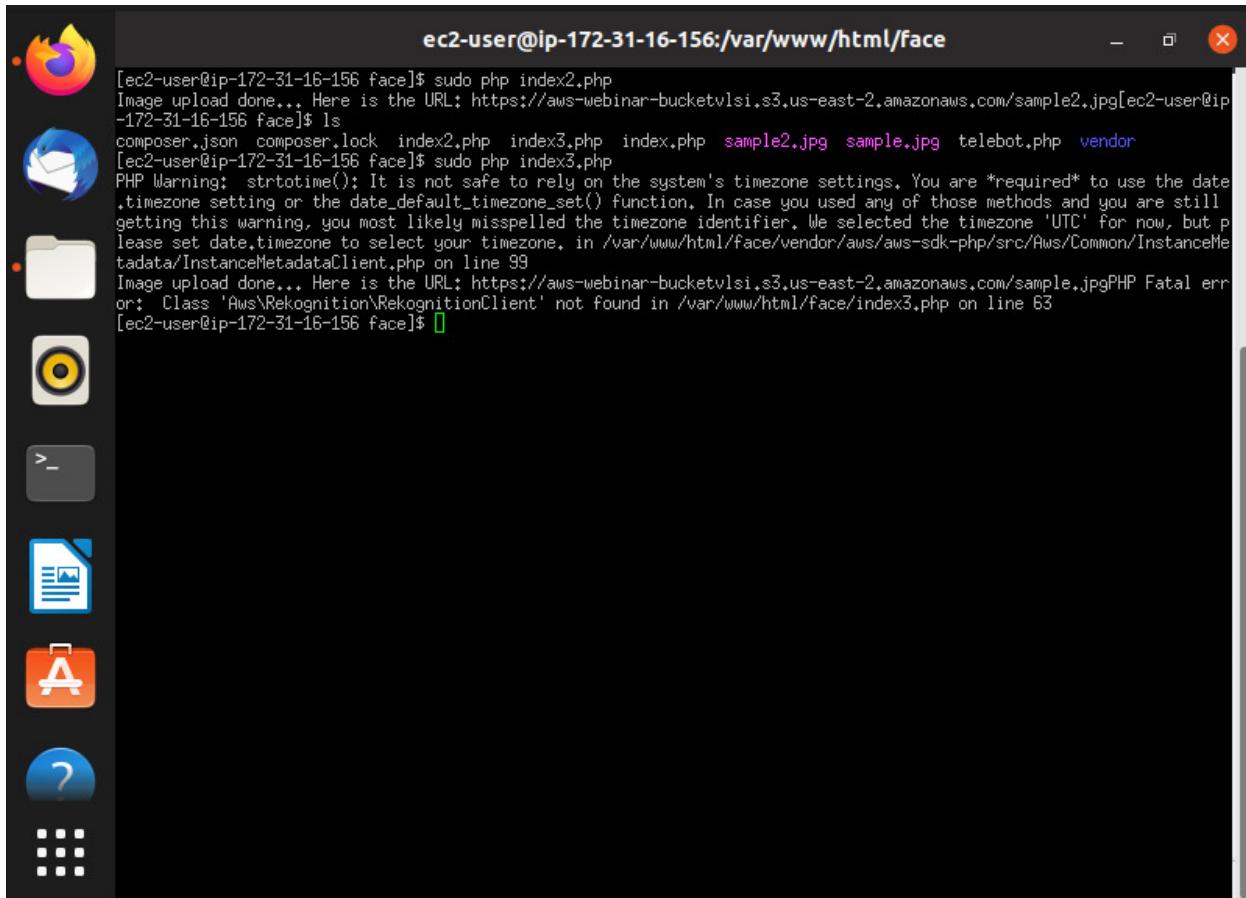
At the bottom of the page, there is an 'Operations' summary showing 0 In progress, 1 Success, and 0 Error. The footer contains links for Feedback, English (US), Privacy Policy, and Terms of Use.



Clearly, we can observe the url and image that got displayed and hence fix that the object upload was successful. Thus an object is uploaded from EC2 and day 3 task is completed successfully

## Part 5: EC2 and Rekognition

### 25. Face Detect success screenshot:



```
ec2-user@ip-172-31-16-156:/var/www/html/face
[ec2-user@ip-172-31-16-156 face]$ sudo php index2.php
Image upload done... Here is the URL: https://aws-webinar-bucketvlsi.s3.us-east-2.amazonaws.com/sample2.jpg[ec2-user@ip-172-31-16-156 face]$ ls
composer.json  composer.lock  index2.php  index3.php  index.php  sample2.jpg  sample.jpg  telebot.php  vendor
[ec2-user@ip-172-31-16-156 face]$ sudo php index3.php
PHP Warning:  strtotime(): It is not safe to rely on the system's timezone settings. You are *required* to use the date
.timezone setting or the date_default_timezone_set() function. In case you used any of those methods and you are still
getting this warning, you most likely misspelled the timezone identifier. We selected the timezone 'UTC' for now, but p
lease set date.timezone to select your timezone. in /var/www/html/face/vendor/aws/aws-sdk-php/src/Aws/Common/Instancemetadata/InstanceMetadataClient.php on line 99
Image upload done... Here is the URL: https://aws-webinar-bucketvlsi.s3.us-east-2.amazonaws.com/sample.jpgPHP Fatal err
or: Class 'Aws\Rekognition\RekognitionClient' not found in /var/www/html/face/index3.php on line 63
[ec2-user@ip-172-31-16-156 face]$
```

here, image upload is done but recognition of the image was not done due to the error which was not rectified. I reported it in the google form also but there is no response. i hope this is not a issue in certification.

Thus, face detection through aws is done.

Thank you.