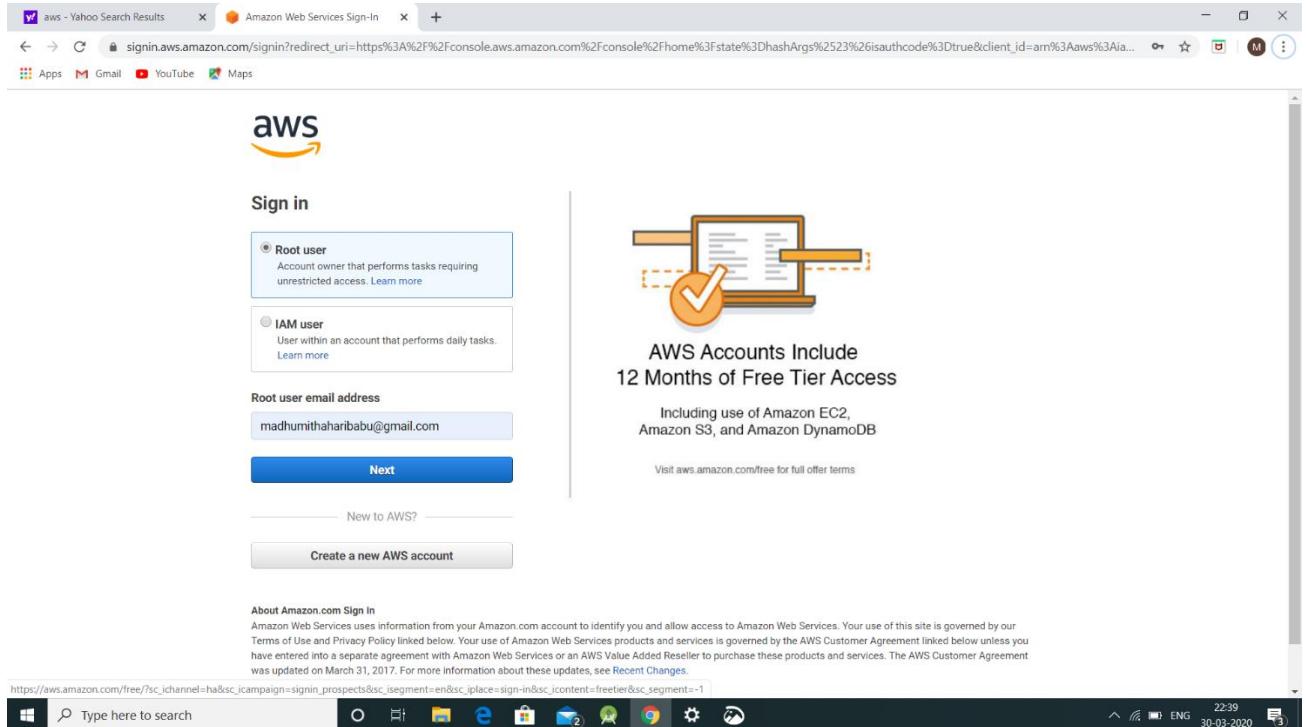
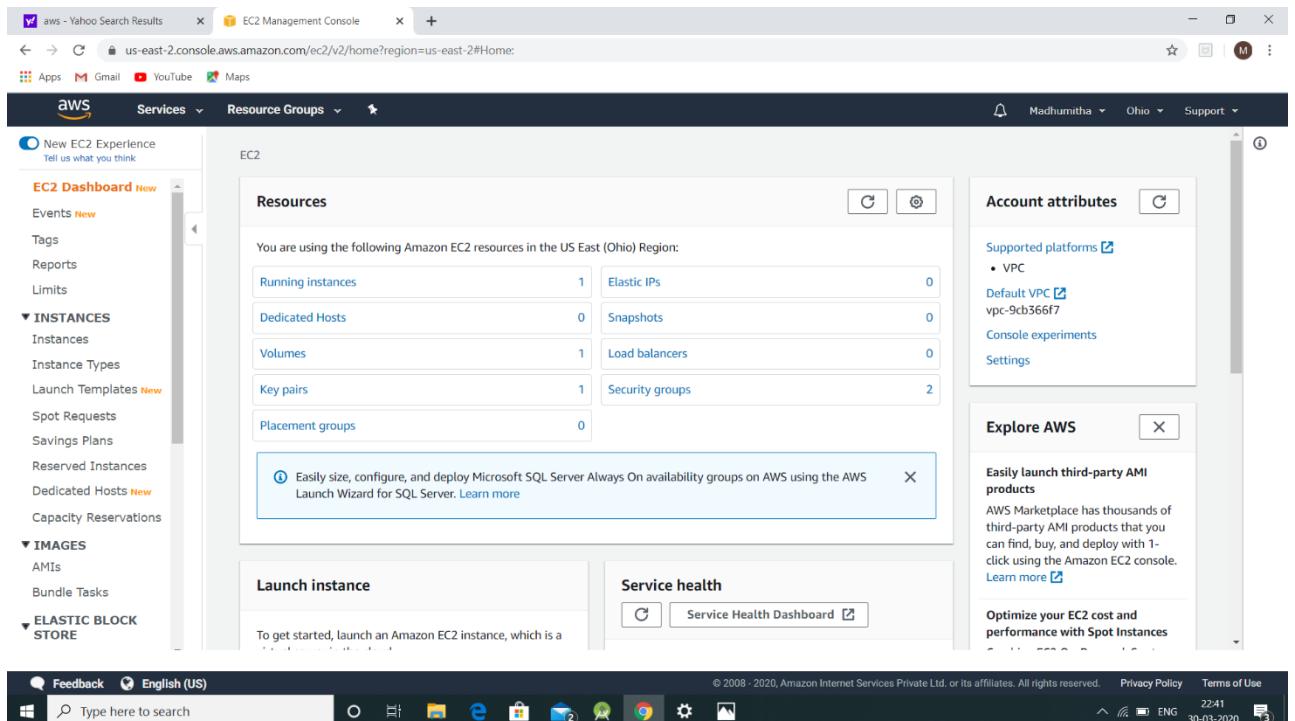


BUILDING AN FACE-DETECTION APP ON AWS

1.AWS login screen with username:



2.EC2 Dashboard:



3.S3 Dashboard:

The screenshot shows the AWS S3 Management Console interface. At the top, there are three tabs: 'aws - Yahoo Search Results', 'S3 Management Console', and '3.20.203.88'. Below the tabs, the address bar shows the URL 's3.console.aws.amazon.com/s3/home?region=us-east-2#'. The main navigation bar includes 'Services' and 'Resource Groups'. On the left, a sidebar for 'Amazon S3' lists 'Buckets', 'Batch operations', 'Access analyzer for S3', 'Block public access (account settings)', and a 'Feature spotlight' section. The central content area is titled 'Amazon S3' and shows a table for 'Buckets (0)'. The table has columns for 'Name', 'Region', 'Access', and 'Bucket created'. A message at the bottom states 'No buckets' and 'You don't have any buckets.' with a 'Create bucket' button.

4.Rekognition Dashboard:

The screenshot shows the AWS Rekognition Console interface. At the top, there are three tabs: 'Rekognition Console', 'us-east-2.console.aws.amazon.com/rekognition/home?region=us-east-2#/'. Below the tabs, the address bar shows the URL 'us-east-2.console.aws.amazon.com/rekognition/home?region=us-east-2#/'. The main navigation bar includes 'Services' and 'Resource Groups'. On the left, a sidebar for 'Amazon Rekognition' lists 'Custom Labels', 'Demos', 'Image moderation', 'Facial analysis', 'Celebrity recognition', 'Face comparison', 'Text in image', 'Video Demos', 'Video analysis', 'Metrics', and 'Additional Resources'. The central content area features a large banner for 'Amazon Rekognition' with the 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' link. Below the banner, there are three sections: 'Easily Integrate Powerful Visual Analysis into Your App', 'Continuously Learning', and 'Integrated with AWS Services'. Each section contains descriptive text and small icons. The footer includes the URL 'https://us-east-2.console.aws.amazon.com/rekognition/home?region=us-east-2#label-detec...', a copyright notice '© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.', and links for 'Privacy Policy' and 'Terms of Use'.

EC2:

1. Choosing AMI:

The screenshot shows the AWS Launch Instance Wizard at Step 1: Choose an Amazon Machine Image (AMI). The interface includes a search bar, a sidebar with 'Quick Start' options like 'My AMIs', 'AWS Marketplace', and 'Community AMIs', and a main list of AMIs. The first item listed is 'Amazon Linux 2 AMI (HVM), SSD Volume Type'. It has a 'Free tier eligible' badge and a 'Select' button. Below it are other options: 'Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type' and 'Red Hat Enterprise Linux 8 (HVM), SSD Volume Type'. Each item has its own 'Select' button and a dropdown menu for choosing 64-bit (x86) or 64-bit (Arm).

2. Choosing Instance Type:

The screenshot shows the AWS Launch Instance Wizard at Step 2: Choose an Instance Type. The interface includes a search bar, a sidebar with 'Quick Start' options, and a main list of instance types. The 'Currently selected' row is 't2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)'. The list includes various instance types such as t2.nano, t2.micro (selected), t2.small, t2.medium, t2.large, t2.xlarge, and t2.2xlarge. Each row provides details like CPU type, memory, storage, and network performance. At the bottom, there are buttons for 'Cancel', 'Previous', 'Review and Launch', and 'Next: Configure Instance Details'.



3.Adding Storage:

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.

Cancel Previous Review and Launch Next: Add Tags

4.Configuring Security group:

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 2020-03-30T22:47:35.242+05:30

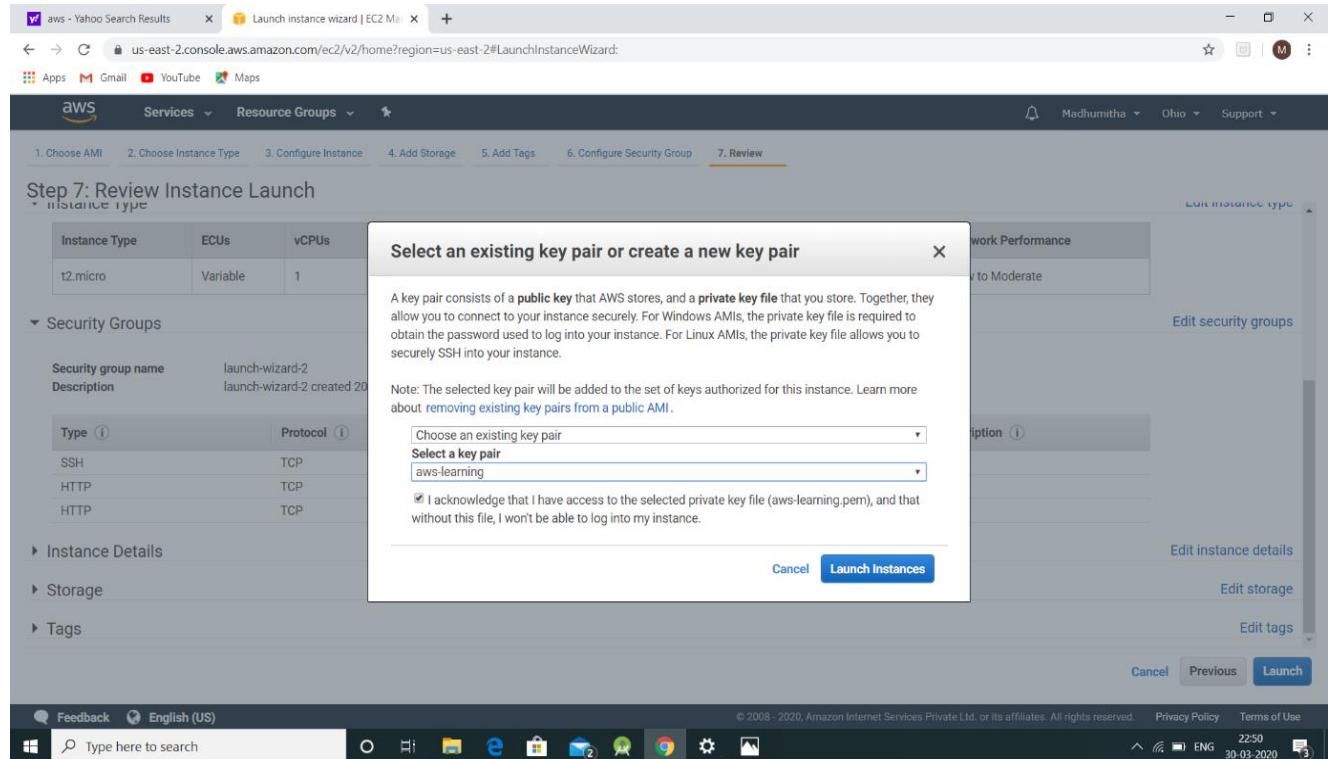
Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
HTTP	TCP	80	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop

Add Rule

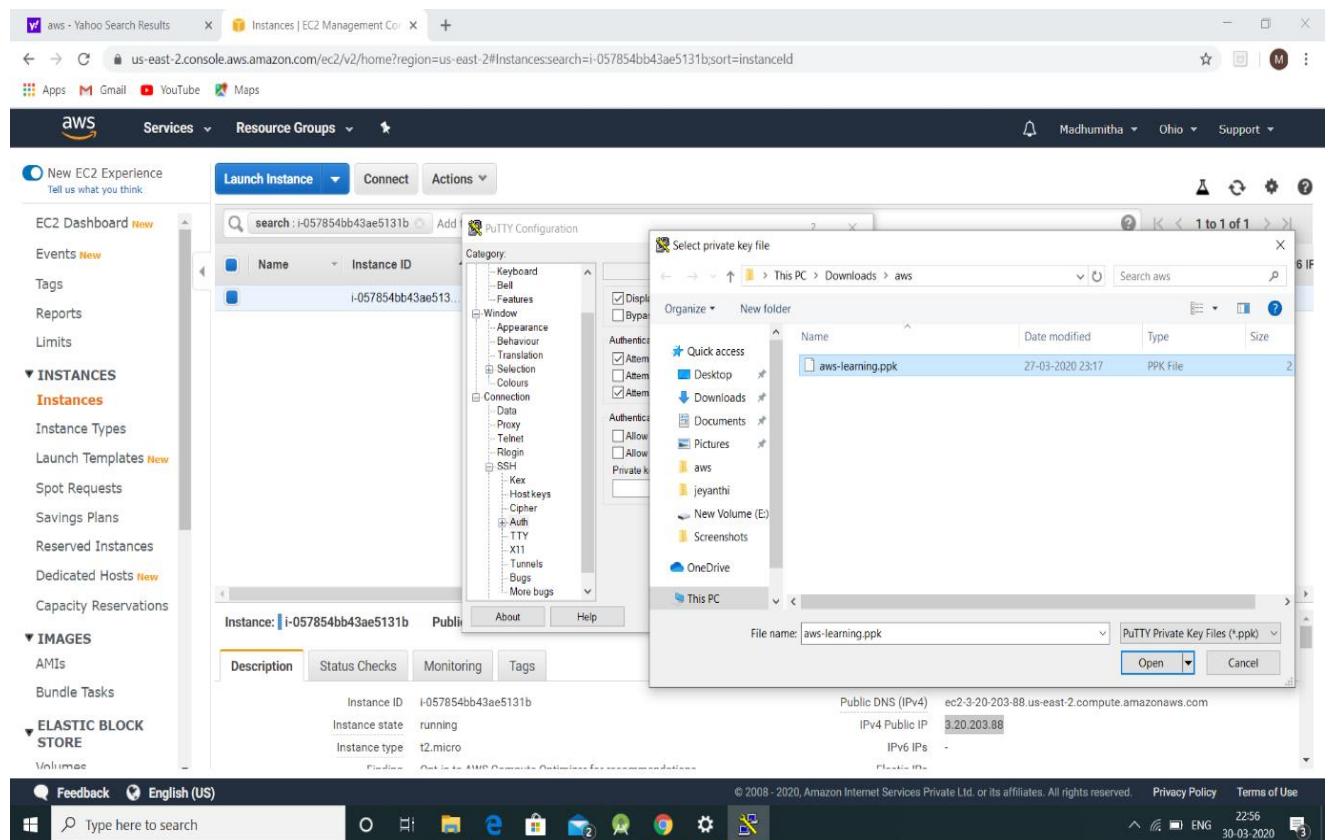
Warning
Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel Previous Review and Launch

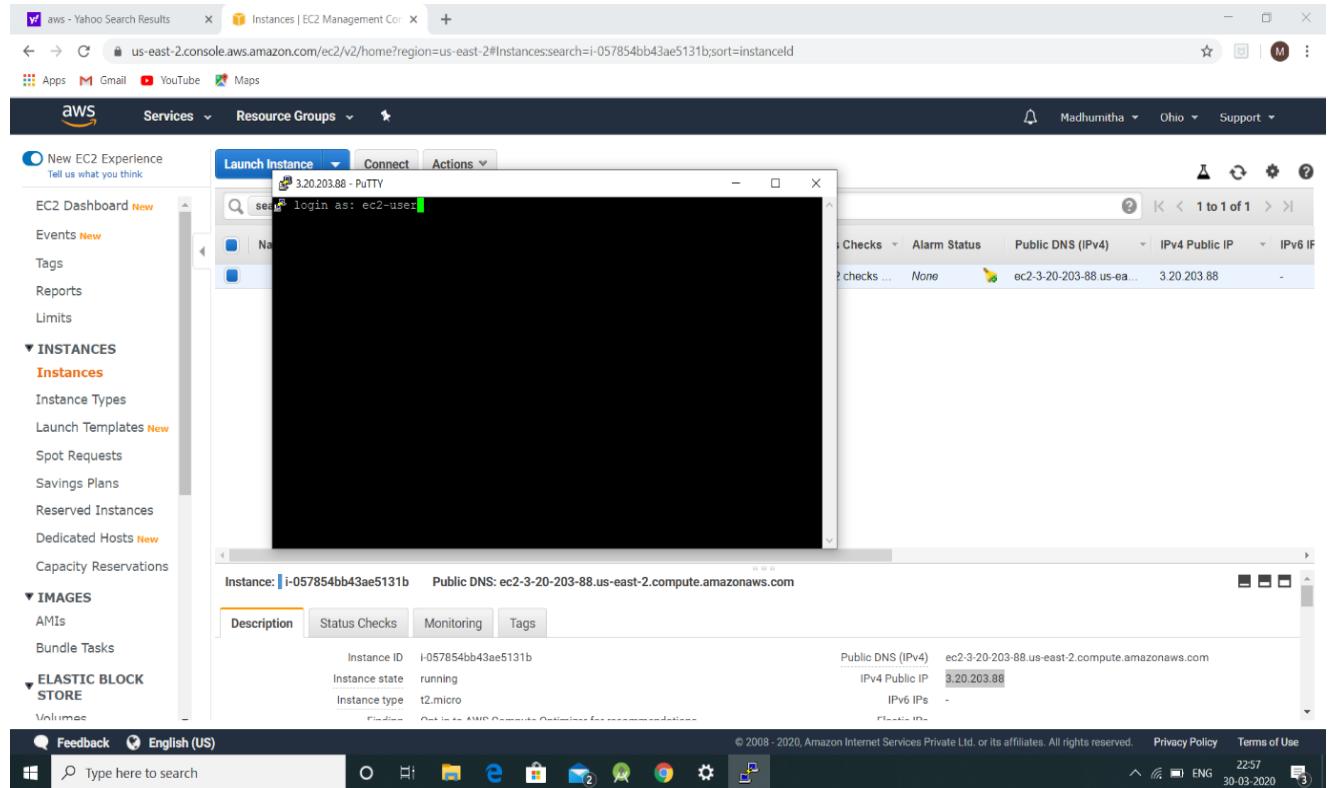
5.Key pair Download:



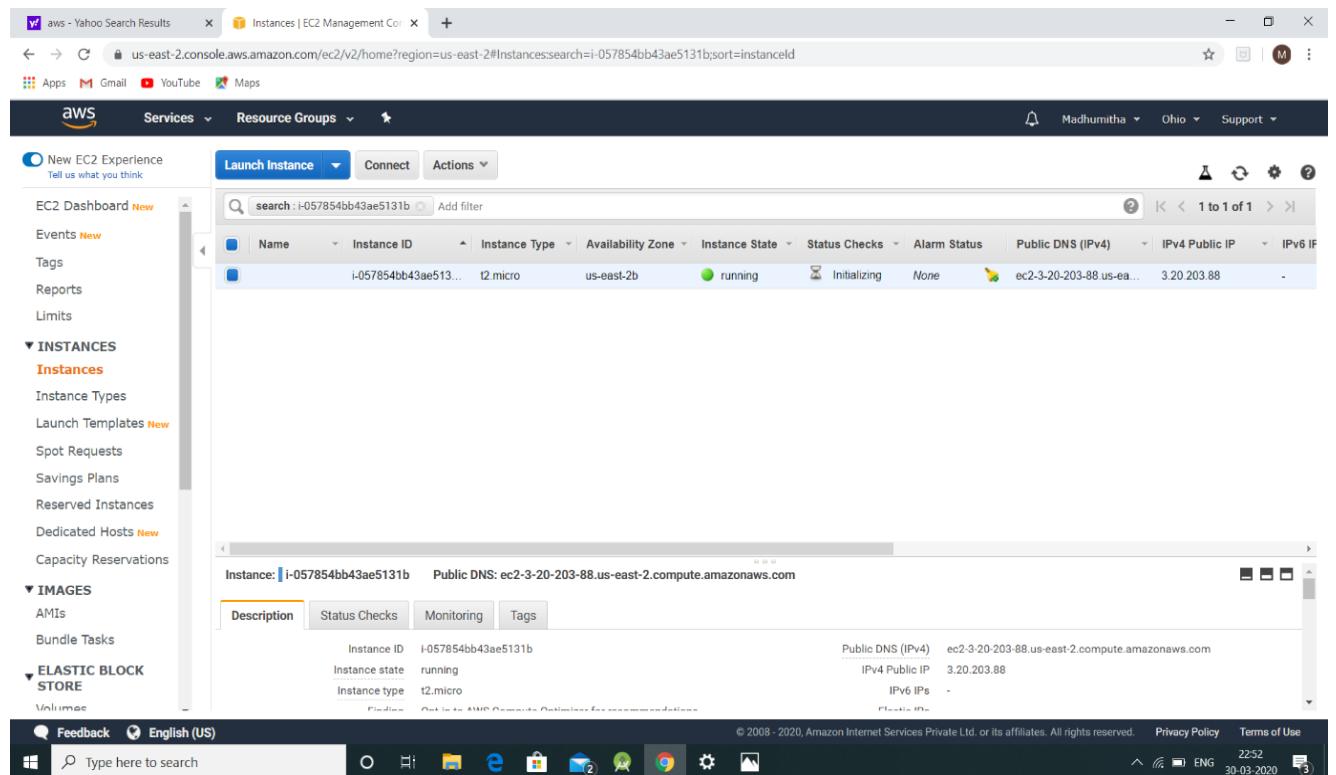
6.Puttygen conversion from pem to ppk:



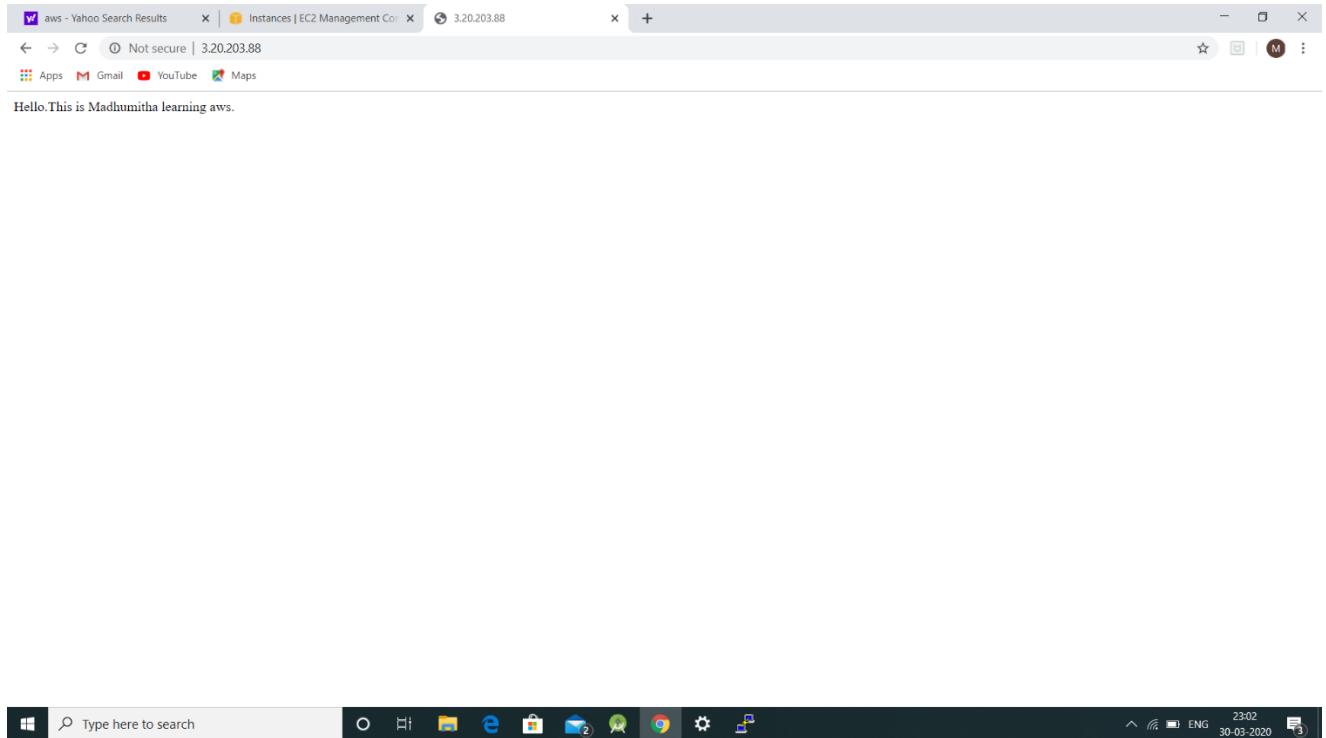
7.Logged into EC2 Black Screen:



8.Instance Launched Successfully:

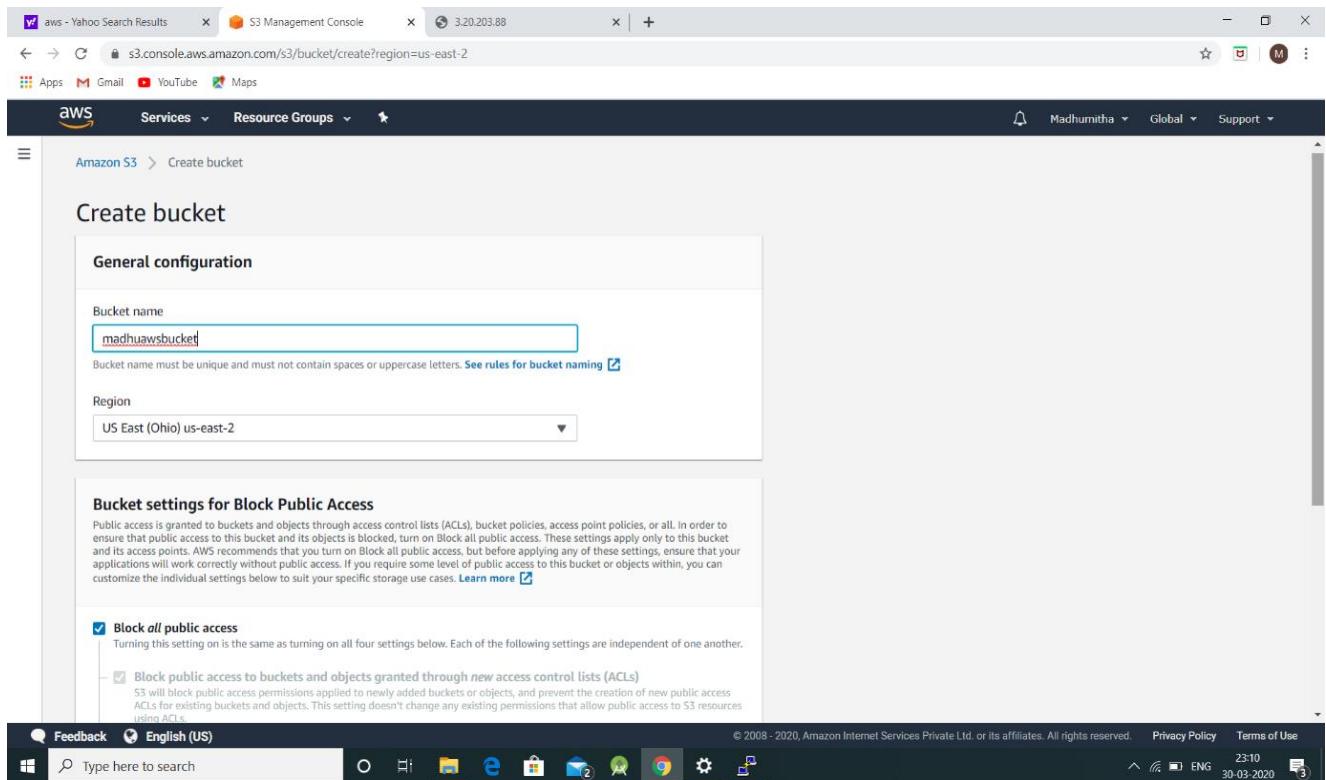


9.Output viewed in the Browser:



S3:

1.Creating a bucket:



2.Bucket created Successfully:

The screenshot shows the AWS S3 Management Console. A green success message at the top states: "Successfully created bucket madhuawsbucket. To upload files and folders, or to configure additional bucket settings such as Bucket Versioning, tags, and default encryption, choose Go to bucket details." Below this, the "Buckets" section displays a table with one row:

Name	Region	Access	Bucket created
madhuawsbucket	US East (Ohio) us-east-2	Not Public	2020-03-30T17:40:26.000Z

3.Uploading an object:

The screenshot shows the AWS S3 Management Console with an open "Upload" dialog box. The dialog has four steps: 1. Select files (with a file named "index.html" selected), 2. Set permissions, 3. Set properties, and 4. Review. The "Select files" step shows the file "index.html" with a size of 81.0 B and a target path of "madhuawsbucket". The "Upload" button is at the bottom left, and the "Next" button is at the bottom right.

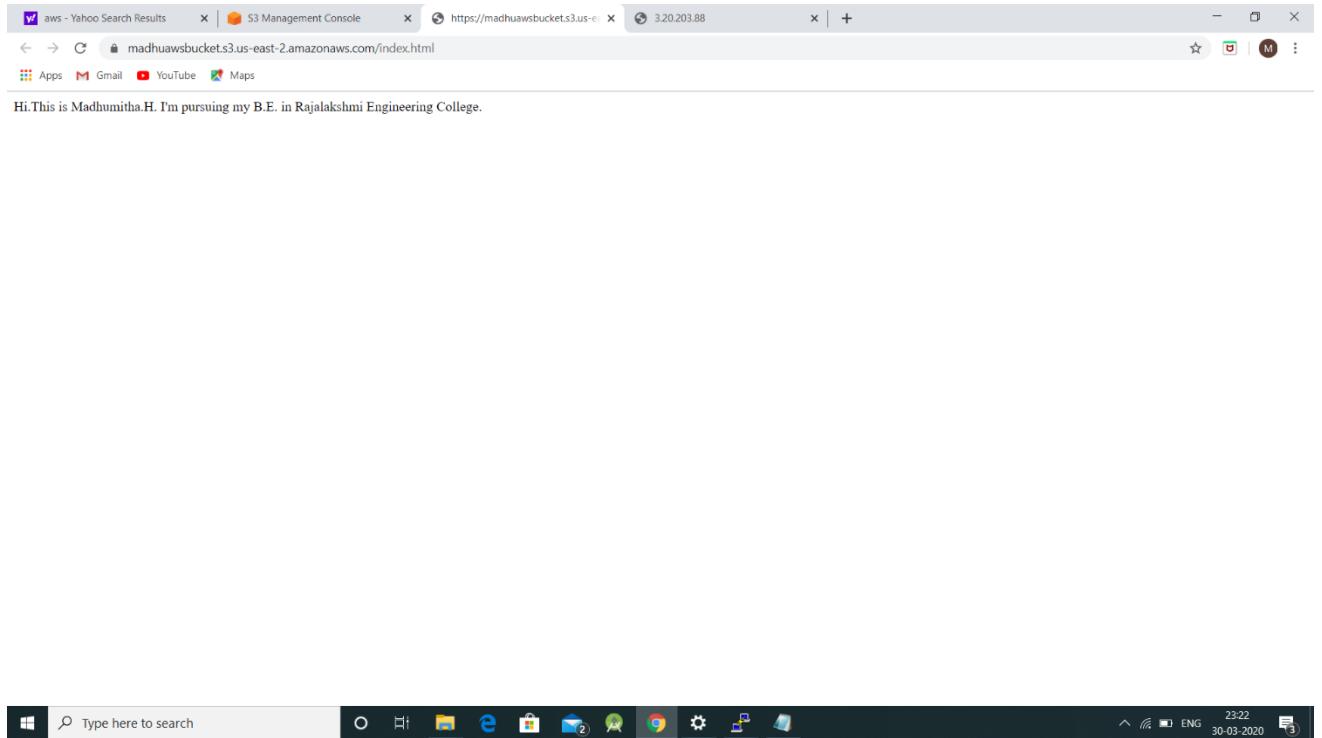
4. Enabling Static Hosting:

The screenshot shows the AWS S3 Management Console with the 'Static website hosting' configuration dialog open. The dialog includes fields for the endpoint (http://madhuawsbucket.s3-website.us-east-2.amazonaws.com), index document (index.html), error document (error.html), and redirection rules. Buttons for 'Cancel' and 'Save' are at the bottom.

5. Making Object public:

The screenshot shows the AWS S3 Management Console with the 'Block public access (bucket settings)' page. It displays a success message: 'Public access settings updated successfully'. Below it, the 'Block all public access' setting is set to 'Off', with several sub-options also set to 'Off'. A 'Edit' button is visible in the top right corner of the settings area.

6. Checking S3 link on Browser:



REKOGNITION:

1. Face Detect:

A screenshot of the AWS Rekognition console. The left sidebar shows various services like Demos, Facial analysis, and Metrics. Under Facial analysis, 'Face detection' is selected. In the main area, there is a sample image of Shah Rukh Khan with a bounding box around his face. Below it, there is a section for uploading your own image with a 'Upload' button and a note about file format and size. To the right, the 'Results' section displays the following analysis for the uploaded image:

Attribute	Value	Confidence (%)
looks like a face	100 %	100 %
appears to be male	97.8 %	97.8 %
age range	24 - 38 years old	99.3 %
not smiling	96.3 %	96.3 %
appears to be confused	83.8 %	83.8 %
not wearing glasses	99.3 %	99.3 %

At the bottom, there are links for 'Feedback', 'English (US)', 'Privacy Policy', and 'Terms of Use'.

2. Face Comparison:

The screenshot shows the AWS Rekognition Face Comparison interface. On the left sidebar, under the 'Face comparison' section, 'Face comparison' is selected. In the main area, there are two sections: 'Reference face' (an image of Virat Kohli holding a trophy) and 'Comparison faces' (an image of the Indian cricket team). Below these are two 'Choose a sample image' sections. On the right, the results show a comparison between the reference face and each member of the team, with a similarity score of 97.4% indicated by a blue bar.

3. Celebrity Recognition:

The screenshot shows the AWS Rekognition Celebrity Recognition interface. On the left sidebar, under the 'Celebrity recognition' section, 'Celebrity recognition' is selected. In the main area, there is a large image of Virat Kohli holding a trophy, with a bounding box highlighting his face. Below this are sections for 'Choose a sample image' and 'Use your own image'. On the right, the results show a high match confidence of 100% for 'Virat Kohli'.

4.Text in Image:

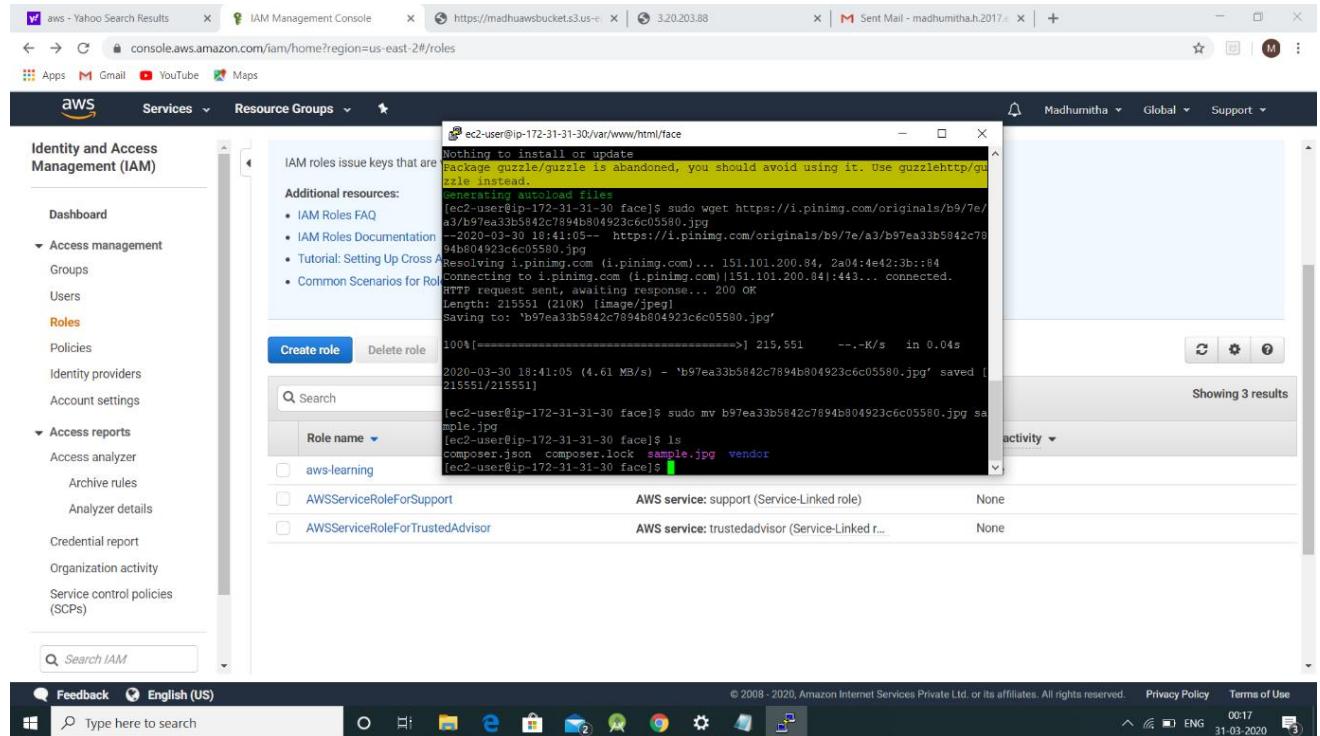
The screenshot shows the AWS Rekognition Console interface. On the left, a sidebar lists various services and demos, with 'Text in Image' selected. The main area displays an image of three jets flying in formation, leaving white smoke trails against a blue sky. Overlaid on the image is the text 'Be bold, and mighty forces will come to your aid.' attributed to 'Goethe'. Below the image, there are sections for 'Choose a sample image' (with two sample images shown) and 'Use your own image' (with fields for 'Upload' and 'Use image URL'). To the right, a 'Results' panel shows the detected text tokens: 'Be', 'bold', 'and', 'mighty', 'forces', 'will', 'come', 'to', 'your', 'aid.', and 'Goethe'. A 'Request' and 'Response' section is also visible.

EC2 And S3 Interface:

1. Installing php:

The screenshot shows the AWS IAM Management Console. The left sidebar is under 'Identity and Access Management (IAM)' and includes options like 'Dashboard', 'Access management', 'Roles', 'Policies', and 'Access reports'. The 'Roles' option is selected. In the main pane, a modal window titled 'ec2-user@ip-172-31-31-30:' shows the output of a terminal session. It displays the installation of PHP 5.4.16-46.amzn2.0.2.x86_64, with 4/4 packages installed. The session also shows dependency installations for libzip010-compat.x86_64, php-common, and others. At the bottom of the terminal window, it says 'Complete!'. Below the terminal, there's a 'Create role' button and a search bar for roles.

2. Installing aws.sdk:



3. index.php file code:

```
ec2-user@ip-172-31-31-30:~/var/www/html/face
$ cd face
$ sudo php -d memory_limit=1 ~/.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/b9/7e/a3/b97ea33b5842c7894b804923c6c05580.jpg
$ sudo mv b97ea33b5842c7894b804923c6c05580.jpg sample.jpg
*/
error_reporting(0);

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

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

$bucket = 'madhuawshbucket';
$keyname = 'sample.jpg';

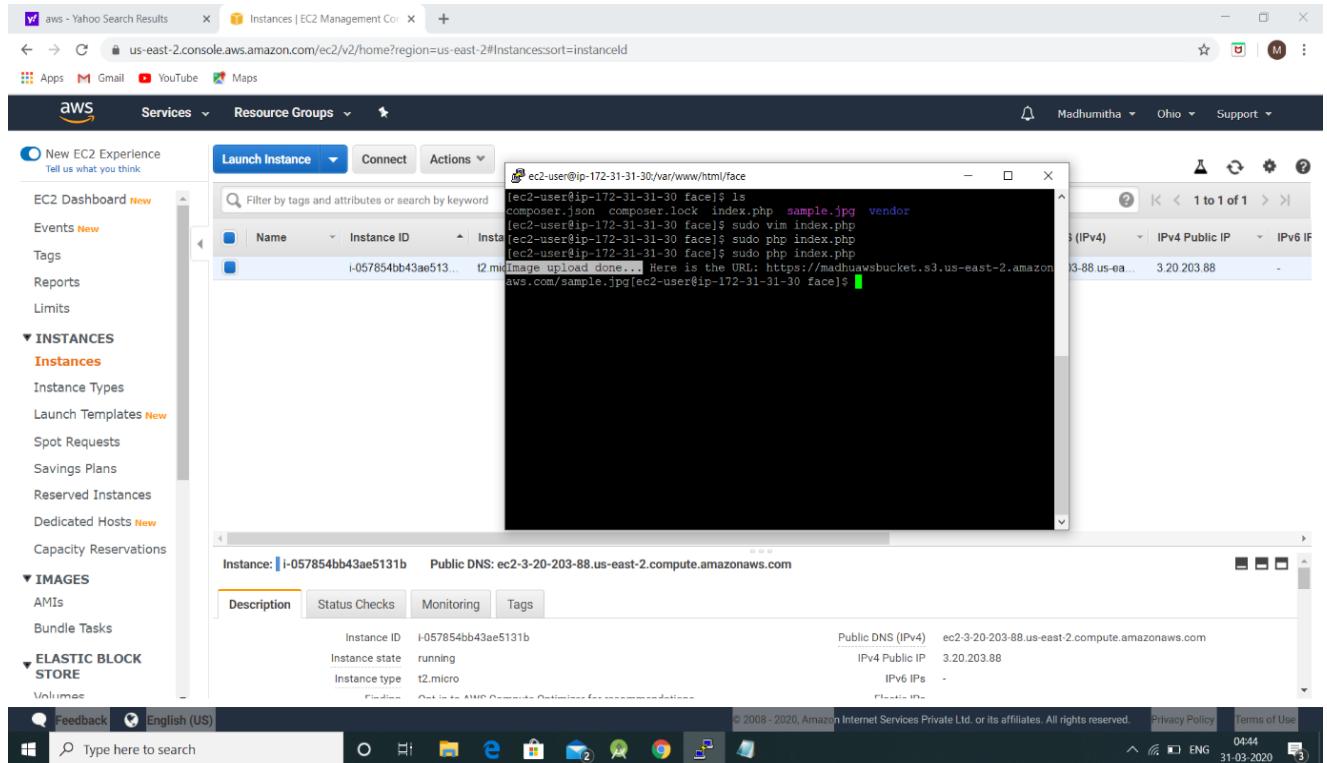
$s3 = S3Client::factory([
    'profile'      => 'default',
    'region'       => 'us-east-2',
    'version'      => '2006-03-01',
    'signature'   => 'v4'
]);

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

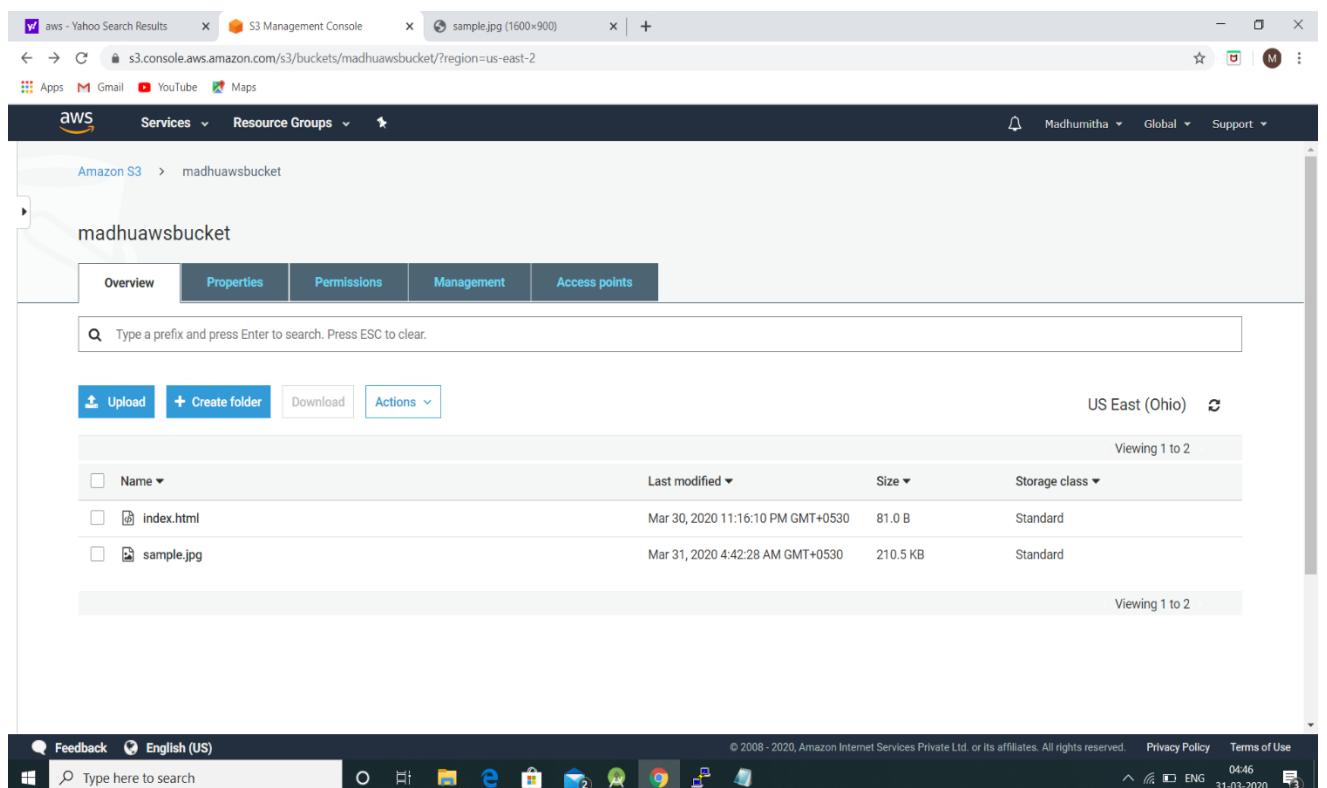
// Print the URL to the object.
$imageUrl = $result['ObjectURL'];
if($imageUrl) {
    echo "Image upload done... Here is the URL: " . $imageUrl;
}
} catch (Exception $e) {
    echo $e->getMessage() . PHP_EOL;
}

```

4. Upload Success Screenshot:



5. Sample.jpg added to the bucket:



EC2 and Rekognition:

1. Face Detect Success:

The screenshot shows the AWS Management Console interface. On the left, the navigation pane is open with sections for EC2 Dashboard, Instances, Images, and Elastic Block Store. The Instances section is currently selected, showing a list of instances. One instance, 'i-057854bb43ae5131b', is highlighted. The main content area displays a terminal session titled 'ec2-user@ip-172-31-31-30:~\$'. The terminal output shows the results of a Composer update command:

```
- Installing symfony/polyfill-mbstring (v1.15.0): Downloading (100%)
- Installing mtakowling/mespath.php (2.5.0): Downloading (100%)
- Installing guzzlehttp/promises (v1.3.1): Downloading (100%)
- Installing ralouphie/getallheaders (3.0.3): Downloading (100%)
- Installing psr/http-message (1.0.1): Downloading (100%)
- Installing guzzlehttp/psr7 (1.6.1): Downloading (100%)
- Installing guzzlehttp/guzzle (6.5.2): Downloading (100%)
- Updating aws/aws-sdk-php (2.8.31 => 3.134.0): Downloading (100%)
guzzlehttp/promises suggests installing zendframework/zend-http (handlerrunner (Emits PHP responses))
guzzlehttp/guzzle suggests installing psr/log (Required for using the Log middleware)
guzzlehttp/guzzle suggests installing ext-intl (Required for Internationalized Domain Name (IDN) support)
Package guzzle/guzzle is abandoned, you should avoid using it. Use guzzlehttp/guzzle instead.
Writing lock file
Generating autoload files
A package you are using is looking for funding.
Use the "composer fund" command to find out more!
[ec2-user@ip-172-31-31-30 face]$ sudo vim index.php
[ec2-user@ip-172-31-31-30 face]$ sudo php index.php
Image upload done... Here is the URL: https://madhuawsbucket.s3.us-east-2.amazonaws.com/sample.jpgTotally there are 9 faces[ec2-user@ip-172-31-31-30 face]$
```

Below the terminal, the instance details for 'i-057854bb43ae5131b' are shown:

Description		Status Checks	Monitoring	Tags
Instance ID	i-057854bb43ae5131b	Public DNS (IPv4)	ec2-3-20-203-88.us-east-2.compute.amazonaws.com	
Instance state	running	IPv4 Public IP	3.20.203.88	
Instance type	t2.micro	IPv6 IPs	-	

The status bar at the bottom of the browser window shows the URL as 'us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#instances;sort=instanceId'.