

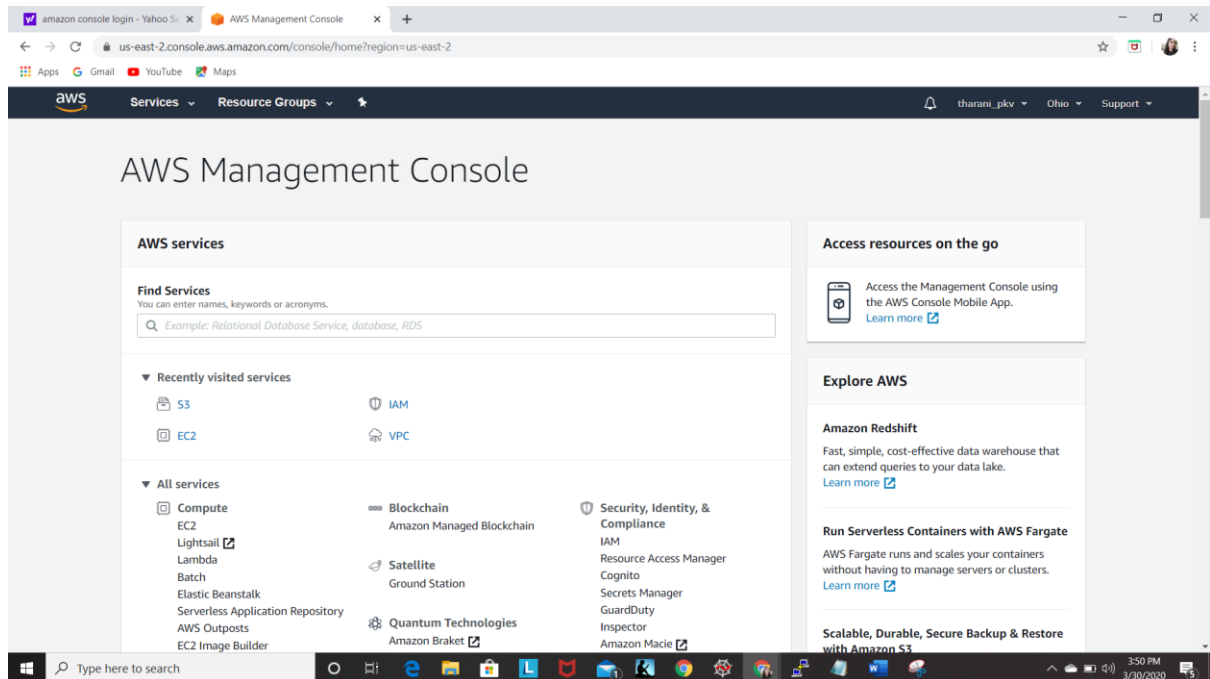
# BUILDING A FACE DETECTION APP ON AWS

Name : Tharani V

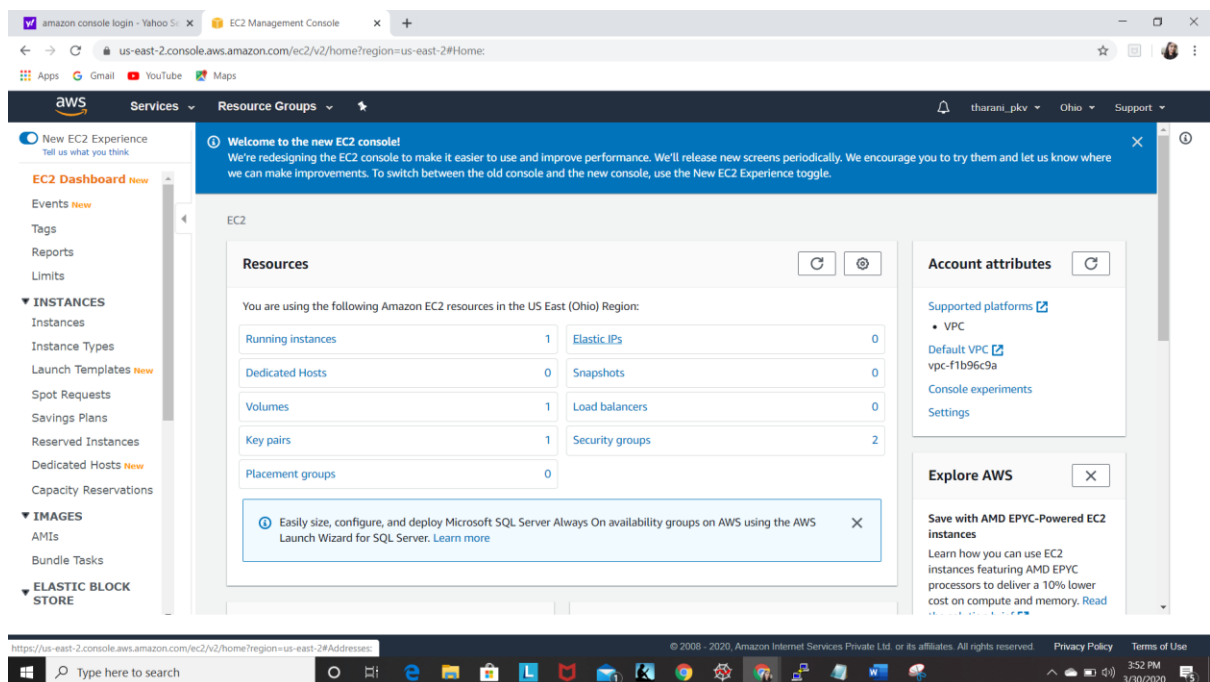
Mail\_ID : tharani.vmp@gmail.com

## AMAZON WEB SERVICE :

Aws login screen and username : tharani\_pkv



## EC2 Dashboard :



## S3 Dashboard :

The screenshot shows the Amazon S3 Management Console in a web browser. The top navigation bar includes the AWS logo, 'Services', 'Resource Groups', and user information. A left-hand sidebar lists navigation options: Buckets, Batch operations, Access analyzer for S3, Block public access (account settings), and Feature spotlight. The main content area displays a notification about design updates, followed by the 'Amazon S3' section. Under 'Buckets (1)', there is a search bar and a table listing the bucket 'aws-tharani-bucket' in the 'US East (Ohio) us-east-2' region. The table also shows the access level 'Objects can be public' and the creation date '2020-03-28T15:03:29.000Z'. The bottom of the screen shows the Windows taskbar with various application icons and the system clock.

Name	Region	Access	Bucket created
aws-tharani-bucket	US East (Ohio) us-east-2	Objects can be public	2020-03-28T15:03:29.000Z

## Amazon Rekognition :

The screenshot displays the Amazon Rekognition console. The top navigation bar is consistent with the S3 dashboard. The left sidebar lists various features: Custom Labels, Demos, Image moderation, Facial analysis, Celebrity recognition, Face comparison, Text in image, Video Demos, Metrics, and Additional Resources. The main content area features a large header with the text 'Amazon Rekognition' and 'Deep learning-based visual analysis service'. Below this, there are buttons for 'Try Demo' and 'Download SDKs'. The lower section of the dashboard is divided into three columns, each with an icon and a title: 'Easily Integrate Powerful Visual Analysis into Your App', 'Continuously Learning', and 'Integrated with AWS Services'. Each column contains a brief description of the service's capabilities. The bottom of the screen shows the Windows taskbar.

**Easily Integrate Powerful Visual Analysis into Your App**  
You don't need computer vision or deep learning expertise to take advantage of Rekognition's high quality image and video analysis for your web, mobile, enterprise or device applications. Amazon Rekognition removes the complexity of building

**Continuously Learning**  
Amazon Rekognition is designed to use deep learning technology to analyze billions of images and videos daily. It is continuously learning as we add support for new capabilities and learn from more and more data.

**Integrated with AWS Services**  
Amazon Rekognition is designed to work seamlessly with other AWS services. Rekognition integrates directly with Amazon S3 and AWS Lambda so you can build scalable, affordable, and reliable visual analysis applications. You can start analyzing images and videos stored in Amazon S3

## EC2

### Choosing an AMI :

**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**
- AWS Marketplace**
- Community AMIs**
- ☐ Free tier only

**Amazon Linux 2 AMI (HVM), SSD Volume Type** - ami-0e01ce4ee18447327 (64-bit x86) / ami-03201f374ab66a26e (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.

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

**Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type** - ami-01b01bbd08f24c7a8

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 (64-bit x86) / ami-0099847d600887c9f (64-bit Arm)

### Choosing an Instance type:

**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** [Show/Hide 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
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.xlarge	4	16	EBS only	-	Moderate	Yes

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Instance Details](#)

## Adding Storage :

amazon console login - Yahoo S... x Instances | EC2 Management Co... x https://aws-tharani-bucket.s3.us... x dhoni pictures - Yahoo Image S... x (2) WhatsApp x +

us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#LaunchInstanceWizard:

aws Services Resource Groups tharani\_pkv Ohio Support

1 Choose AMI 2 Choose Instance Type 3 Configure Instance 4 Add Storage 5 Add Tags 6 Configure Security Group 7 Review

### 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](#)

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AWS face detect...docx 5\_60531799632663...txt Removed 5\_63389410338705...txt dhoni.jpg Show all x

Type here to search 6:31 PM 3/30/2020

## Configuring Security Group :

amazon console login - Yahoo S... x Instances | EC2 Management Co... x https://aws-tharani-bucket.s3.us... x dhoni pictures - Yahoo Image S... x (2) WhatsApp x +

us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#LaunchInstanceWizard:

aws Services Resource Groups tharani\_pkv Ohio Support

1 Choose AMI 2 Choose Instance Type 3 Configure Instance 4 Add Storage 5 Add Tags 6 Configure Security Group 7 Review

### 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:

Description:

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	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.

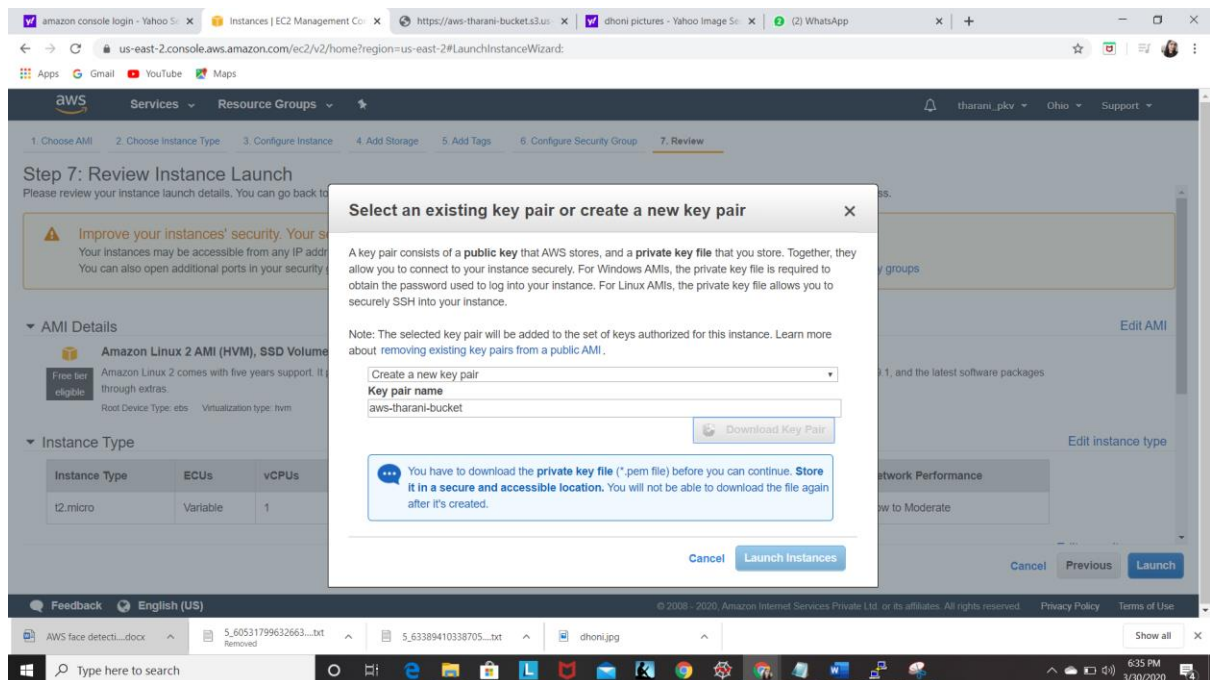
[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Tags](#)

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AWS face detect...docx 5\_60531799632663...txt Removed 5\_63389410338705...txt dhoni.jpg Show all x

Type here to search 6:32 PM 3/30/2020

## Key Pair download :



## PuTTYgen conversion from pem to ppk:

```
Microsoft Windows [Version 10.0.18363.720]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\dazzl>cd Downloads/

C:\Users\dazzl\Downloads>puttygen aws-tharani-key.pem -o aws-tharani-key.ppk

C:\Users\dazzl\Downloads>
```

Logged in EC2 Black Screen:

```
ec2-user@ip-172-31-42-83:~  
login as: ec2-user  
Authenticating with public key "imported-openssh-key"  
  
  _ | _ | _ )  
  _ | ( _ | /  Amazon Linux 2 AMI  
  _ | \ _ | _ |  
  
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-172-31-42-83 ~]$
```

S3:

A ) Creating a bucket : **aws-tharani-bucket**

### Create bucket

**General configuration**

Bucket name  
  
Bucket name must be unique and must not contain spaces or uppercase letters. [See rules for bucket naming](#)

Region

---

amazon console login - Yahoo S... S3 Management Console

s3.console.aws.amazon.com/s3/home?region=us-east-2

Services Resource Groups

Amazon S3

Buckets  
Batch operations  
Access analyzer for S3

Block public access (account settings)

Feature spotlight

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.

Amazon S3

Buckets (1)

Copy ARN Empty Delete Create bucket

Find bucket by name

Name	Region	Access	Bucket created
aws-tharani-bucket	US East (Ohio) us-east-2	Objects can be public	2020-03-28T15:03:29.000Z

## B) Uploading an Object :

The screenshot shows the Amazon S3 console interface for a bucket named 'aws-tharani-bucket'. The 'Overview' tab is selected. Below the bucket name, there are buttons for 'Upload', 'Create folder', 'Download', and 'Actions'. An 'Upload' modal window is open, showing a progress bar and a list of files being uploaded. The file 'index.html' is listed with a size of 41.0 B. The modal has four steps: 1. Select files, 2. Set permissions, 3. Set properties, and 4. Review. Below the modal, the main console shows a table of objects in the bucket:

Name	Last modified	Size	Storage class
<input checked="" type="checkbox"/> index.html	Mar 28, 2020 8:42:54 PM GMT+0530	41.0 B	Standard
<input type="checkbox"/> sample.jpg	Mar 30, 2020 1:08:21 PM GMT+0530	210.5 KB	Standard

The table is sorted by 'Name'. The 'index.html' file is highlighted. The console also shows a search bar and a 'US East (Ohio)' region selector.

## C) Enabling Static Website:

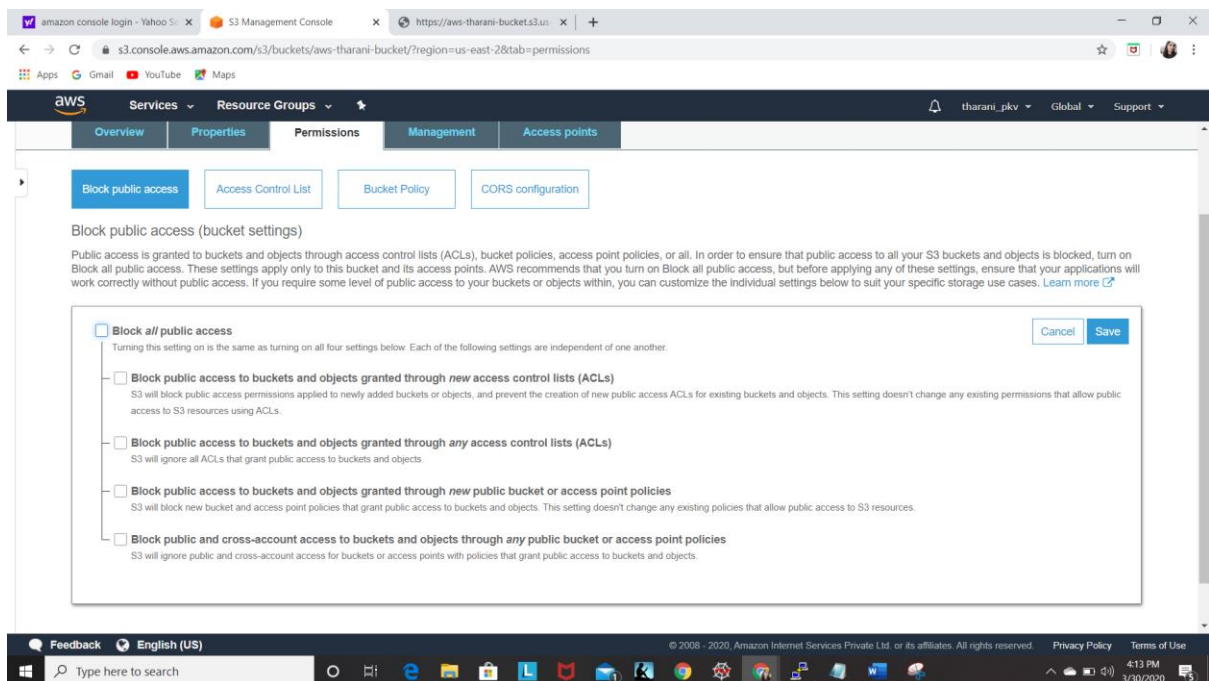
The screenshot shows the Amazon S3 console interface for a bucket named 'aws-tharani-bucket'. The 'Properties' tab is selected. A 'Static website hosting' configuration window is open, showing the following settings:

- Endpoint: <http://aws-tharani-bucket.s3-website-us-east-2.amazonaws.com>
- Use this bucket to host a website: ☒ (Selected)
- Index document:
- Error document:
- Redirection rules (optional):
- Redirect requests: ☐ (Unselected)
- Disable website hosting: ☐ (Unselected)
- Bucket hosting: ☒ (Selected)

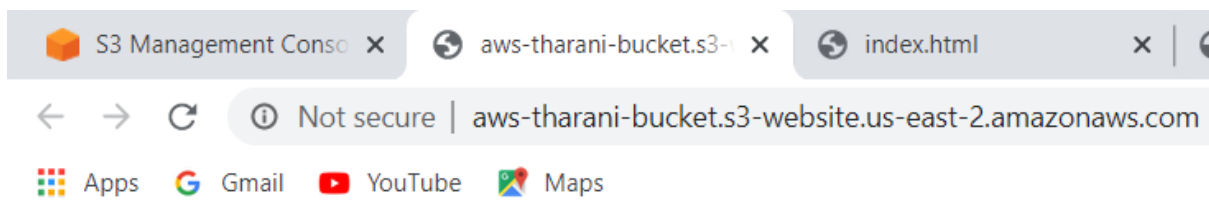
The 'Save' button is visible at the bottom right of the configuration window. The console also shows a search bar and a 'US East (Ohio)' region selector.



## D) Making the Object Public:



## E) Checking the S3 link on the browser :

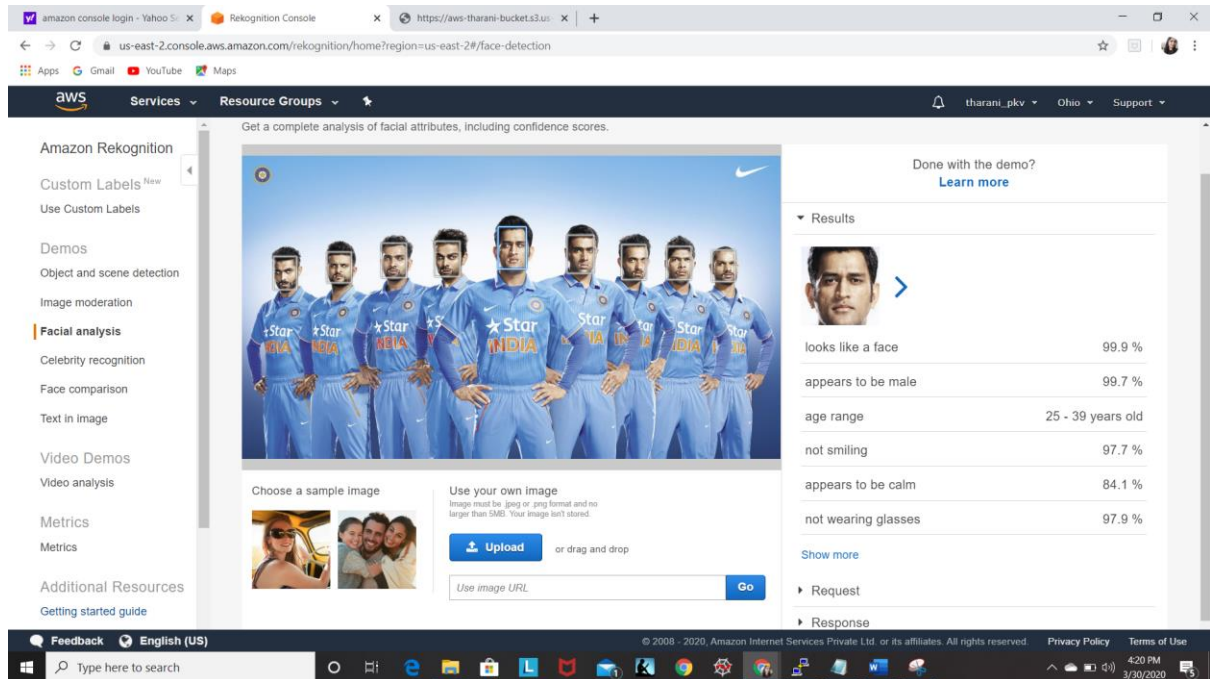


Hey, This is tharani, Iam learning aws!!!



# AMAZON REKOGNITION :

## Face Detect :



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

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

Results

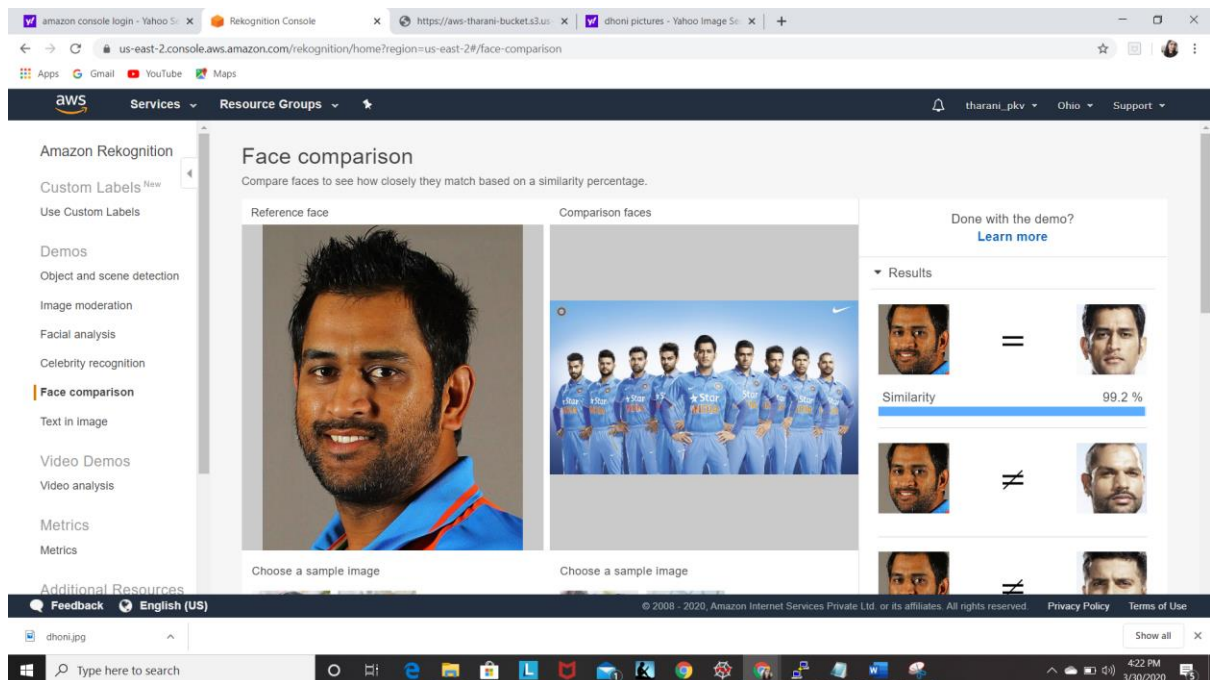
looks like a face	99.9 %
appears to be male	99.7 %
age range	25 - 39 years old
not smiling	97.7 %
appears to be calm	84.1 %
not wearing glasses	97.9 %

[Show more](#)

Request

Response

## Face Compare :



Face comparison

Compare faces to see how closely they match based on a similarity percentage.

Reference face

Comparison faces

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

Results

Similarity	99.2 %
------------	--------

## Celebrity Recognition :

amazon console login - Yahoo S... x Rekognition Console x https://aws-tharani-buckets3.us... x +

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

aws Services Resource Groups tharani\_pkv Ohio Support

Amazon Rekognition

Custom Labels <sup>New</sup>  
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


Rekognition automatically recognizes celebrities in images and provides confidence scores.

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

▼ Results

 **MS Dhoni**  
Match confidence 98 %

 **Ajinkya Rahane**  
Match confidence 100 %

 **Virat Kohli**  
Match confidence 100 %

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.

[Upload](#) or drag and drop

Use image URL [Go](#)

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## Text in Image :

amazon console login - Yahoo S... x Rekognition Console x https://aws-tharani-buckets3.us... x +

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

aws Services Resource Groups tharani\_pkv Ohio Support

Amazon Rekognition

Custom Labels <sup>New</sup>  
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

Rekognition automatically detects and extracts text in your images. [Learn More](#)

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

▼ Results US English only

Star	Star	tar	Star			
Star	kStar	Star	IA	IN	IA	Star
DIA	NDIA	NDVA	INDIA	DIA	I	DIA

► 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.

[Upload](#) or drag and drop

Use image URL [Go](#)

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## EC2 & S3

Installing aws and sdk :

```
login as: ec2-user
Authenticating with public key "imported-openssh-key"
Last login: Mon Mar 30 07:09:43 2020 from 223.228.134.163

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

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-42-83 ~]$ sudo php -d memory_limit=-1 ~/composer.phar require
aws/aws-sdk-php
Using version ^3.133 for aws/aws-sdk-php
./composer.json has been created
Loading composer repositories with package information
Updating dependencies (including require-dev)
Package operations: 8 installs, 0 updates, 0 removals
  - Installing symfony/polyfill-mbstring (v1.15.0): Loading from cache
  - Installing mtdowling/jmespath.php (2.5.0): Loading from cache
  - Installing guzzlehttp/promises (v1.3.1): Loading from cache
  - Installing ralouphie/getallheaders (3.0.3): Loading from cache
  - Installing psr/http-message (1.0.1): Loading from cache
  - Installing guzzlehttp/psr7 (1.6.1): Loading from cache
  - Installing guzzlehttp/guzzle (6.5.2): Loading from cache
  - Installing aws/aws-sdk-php (3.133.46): Loading from cache
guzzlehttp/psr7 suggests installing zendframework/zend-httphandler (Emit P
SR-7 responses)
guzzlehttp/guzzle suggests installing psr/log (Required for using the Log middle
ware)
guzzlehttp/guzzle suggests installing ext-intl (Required for Internationalized D
omain Name (IDN) support)
aws/aws-sdk-php suggests installing doctrine/cache (To use the DoctrineCacheAdap
ter)
aws/aws-sdk-php suggests installing aws/aws-php-sns-message-validator (To valida
te incoming SNS notifications)
Writing lock file
Generating autoload files
1 package you are using is looking for funding.
Use the `composer fund` command to find out more!
[ec2-user@ip-172-31-42-83 ~]$
```

Installing php:

```
ec2-user@ip-172-31-42-83:~
Total 22 MB/s | 4.7 MB 00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : libzip010-compat-0.10.1-9.amzn2.0.5.x86_64 1/4
  Installing : php-common-5.4.16-46.amzn2.0.2.x86_64 2/4
  Installing : php-cli-5.4.16-46.amzn2.0.2.x86_64 3/4
  Installing : php-5.4.16-46.amzn2.0.2.x86_64 4/4
  Verifying : php-5.4.16-46.amzn2.0.2.x86_64 1/4
  Verifying : libzip010-compat-0.10.1-9.amzn2.0.5.x86_64 2/4
  Verifying : php-cli-5.4.16-46.amzn2.0.2.x86_64 3/4
  Verifying : php-common-5.4.16-46.amzn2.0.2.x86_64 4/4

Installed:
  php.x86_64 0:5.4.16-46.amzn2.0.2

Dependency Installed:
  libzip010-compat.x86_64 0:0.10.1-9.amzn2.0.5
  php-cli.x86_64 0:5.4.16-46.amzn2.0.2
  php-common.x86_64 0:5.4.16-46.amzn2.0.2

Complete!
[ec2-user@ip-172-31-42-83 ~]$ clear
```

Index.php file code :

```
[ec2-user@ip-172-31-42-83 face]$ sudo vim index.php
```



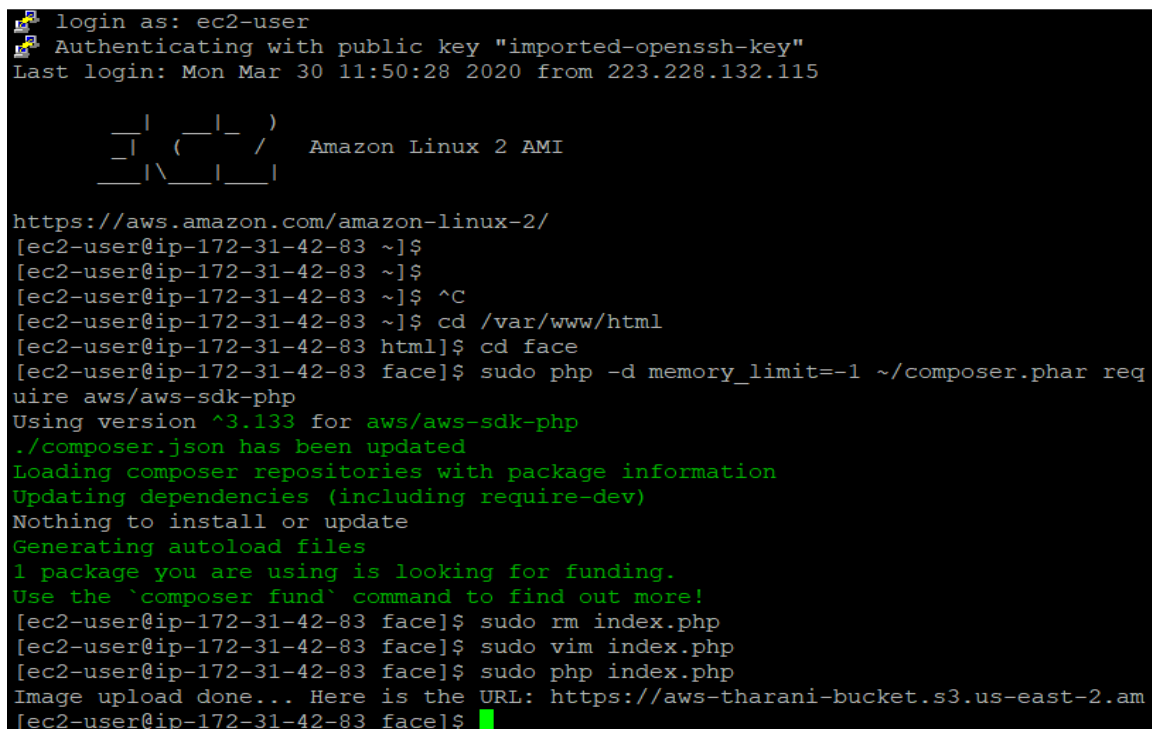
```
ec2-user@ip-172-31-42-83:/var/www/html/face

    $rekognition = new RekognitionClient([
        'region'      => 'us-east-2',
        'version'     => 'latest',
    ]);

    $result = $rekognition->detectFaces([
        'Attributes' => ['DEFAULT'],
        'Image' => [
            'S3Object' => [
                'Bucket' => $bucket,
                'Name'   => $keyname,
                'Key'    => $keyname,
            ],
        ],
    ]);

    echo "Totally there are " . count($result["FaceDetails"]) . " fa
ces";
}
} catch (Exception $e) {
    echo $e->getMessage() . PHP_EOL;
}
:wg
```

Success screenshot:




```
login as: ec2-user
Authenticating with public key "imported-openssh-key"
Last login: Mon Mar 30 11:50:28 2020 from 223.228.132.115

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

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-42-83 ~]$
[ec2-user@ip-172-31-42-83 ~]$
[ec2-user@ip-172-31-42-83 ~]$ ^C
[ec2-user@ip-172-31-42-83 ~]$ cd /var/www/html
[ec2-user@ip-172-31-42-83 html]$ cd face
[ec2-user@ip-172-31-42-83 face]$ sudo php -d memory_limit=-1 ~/composer.phar req
uire aws/aws-sdk-php
Using version ^3.133 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
Generating autoload files
1 package you are using is looking for funding.
Use the `composer fund` command to find out more!
[ec2-user@ip-172-31-42-83 face]$ sudo rm index.php
[ec2-user@ip-172-31-42-83 face]$ sudo vim index.php
[ec2-user@ip-172-31-42-83 face]$ sudo php index.php
Image upload done... Here is the URL: https://aws-tharani-bucket.s3.us-east-2.am
[ec2-user@ip-172-31-42-83 face]$
```

## EC2 & REKOGNITION

 PuTTY (inactive)

```
[ec2-user@ip-172-31-42-83 face]$ sudo wget https://i.pinimg.com/originals/b9/7e/a3/b97ea33b5842c7894b804923c6c05580.jpg
--2020-03-30 07:33:26-- https://i.pinimg.com/originals/b9/7e/a3/b97ea33b5842c7894b804923c6c05580.jpg
Resolving i.pinimg.com (i.pinimg.com)... 151.101.248.84, 2a04:4e42:3b::84
Connecting to i.pinimg.com (i.pinimg.com)|151.101.248.84|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 215551 (210K) [image/jpeg]
Saving to: 'b97ea33b5842c7894b804923c6c05580.jpg'

100%[=====>] 215,551      --.-K/s   in 0.03s

2020-03-30 07:33:26 (6.15 MB/s) - 'b97ea33b5842c7894b804923c6c05580.jpg' saved [
215551/215551]

[ec2-user@ip-172-31-42-83 face]$ sudo mv b97ea33b5842c7894b804923c6c05580.jpg sa
mple.jpg
[ec2-user@ip-172-31-42-83 face]$ ls
composer.json  composer.lock  sample.jpg  vendor
[ec2-user@ip-172-31-42-83 face]$ sudo vim index.php
[ec2-user@ip-172-31-42-83 face]$ ls
composer.json  composer.lock  index.php  sample.jpg  vendor
[ec2-user@ip-172-31-42-83 face]$ sudo rm index.php
[ec2-user@ip-172-31-42-83 face]$ sudo vim index.php
[ec2-user@ip-172-31-42-83 face]$ sudo php index.php
Image upload done... Here is the URL: https://aws-tharani-bucket.s3.us-east-2.am
azonaws.com/sample.jpgTotally there are 9 faces[ec2-user@ip-172-31-42-83 face]$
```