

Face Rekognition Application Using Amazon Web Services

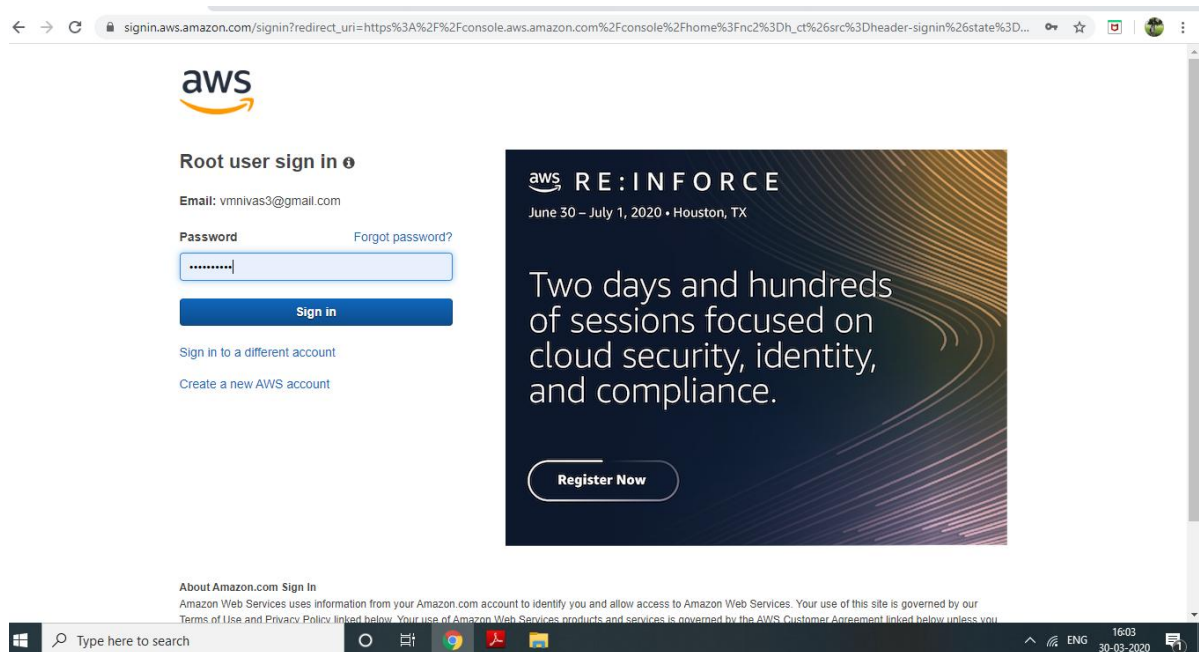
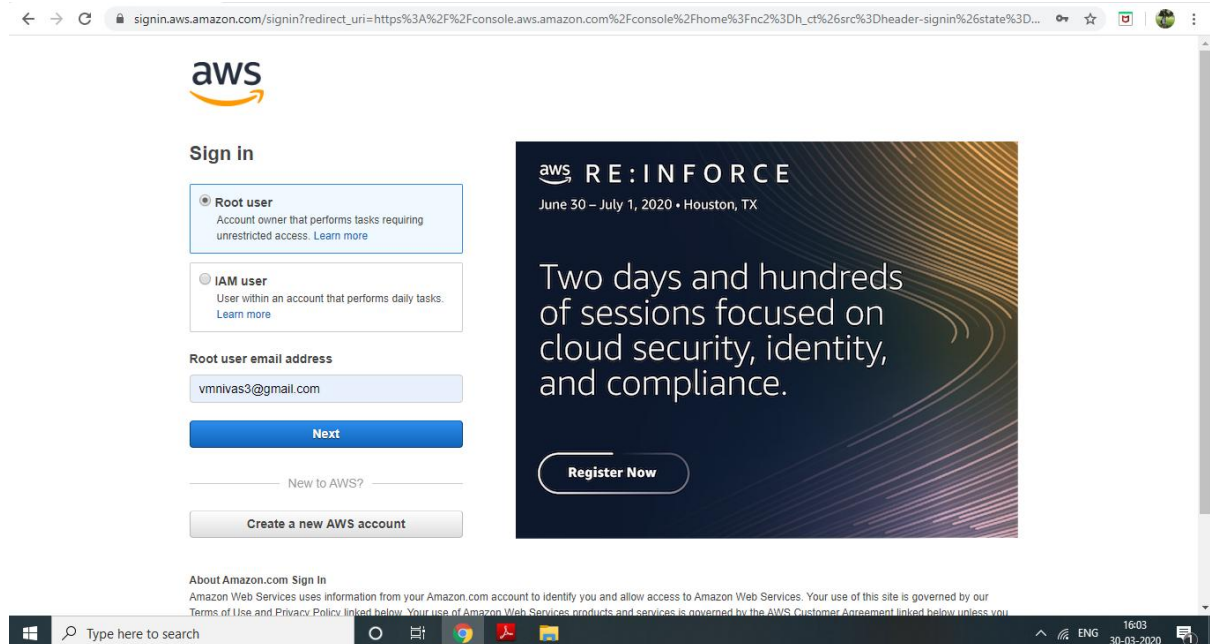
Name : Nivas V M

College : VIT University,vellore

***Email : vmnivas1410@gmail.com /
vmnivas3@gmail.com***

AWS

1. Login Screen with Username



2. EC2 Dashboard

The screenshot shows the AWS EC2 Management Console. The left sidebar contains navigation links for EC2 Dashboard, Events, Tags, Reports, Limits, INSTANCES (Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations), and IMAGES (AMIs, Bundle Tasks). The main content area displays the 'Resources' section, stating 'You are using the following Amazon EC2 resources in the US East (Ohio) Region:'. Below this is a table of resources:

Resource	Count
Running instances	1
Elastic IPs	0
Dedicated Hosts	0
Snapshots	0
Volumes	1
Load balancers	0
Key pairs	1
Security groups	2
Placement groups	0

Below the table is a blue box with a message: 'Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. [Learn more](#)'. To the right of the resources section is the 'Account attributes' section, which includes links for Supported platforms, Default VPC, Console experiments, and Settings. Below that is the 'Explore AWS' section with a 'Save with AMD EPYC-Powered EC2 instances' message. The bottom of the console shows a Windows taskbar with a search bar and system tray icons.

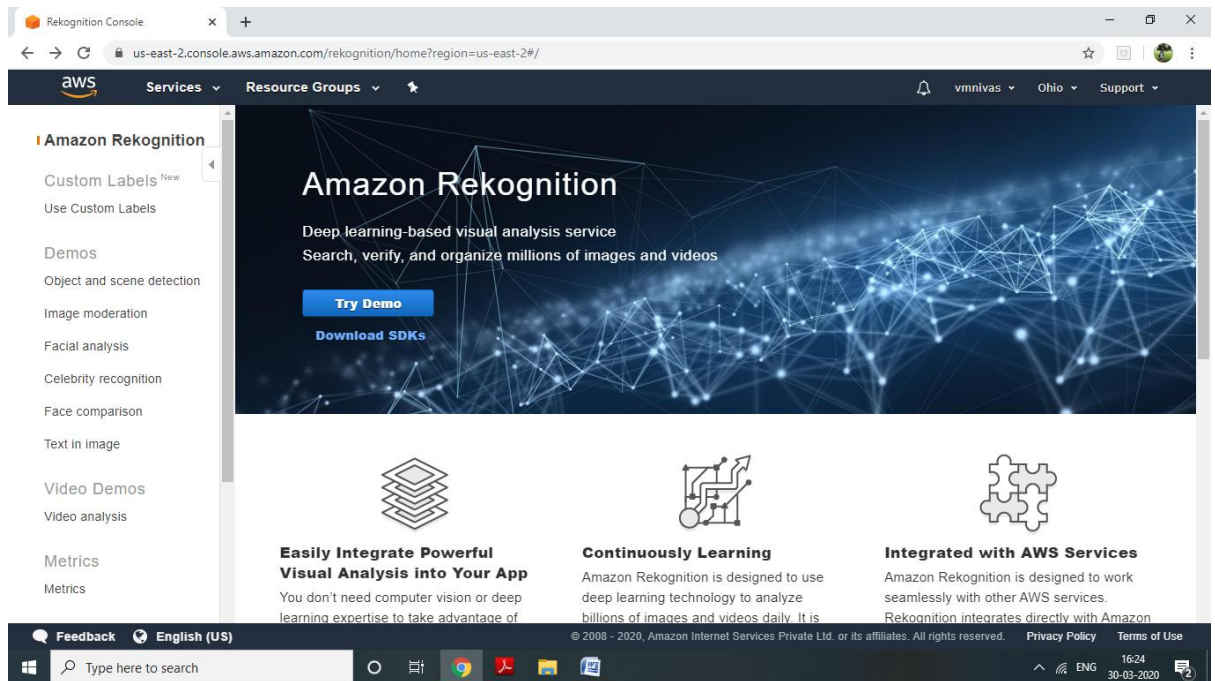
3. S3 Dashboard

The screenshot shows the AWS S3 Management Console. The left sidebar contains navigation links for Amazon S3, Buckets, Batch operations, Access analyzer for S3, Block public access (account settings), and Feature spotlight. The main content area displays the 'Buckets (1)' section, which includes a search bar and a table of buckets:

Name	Region	Access	Bucket created
aws-face-recognition-trial	US East (Ohio) us-east-2	Objects can be public	2020-03-28T11:44:24.000Z

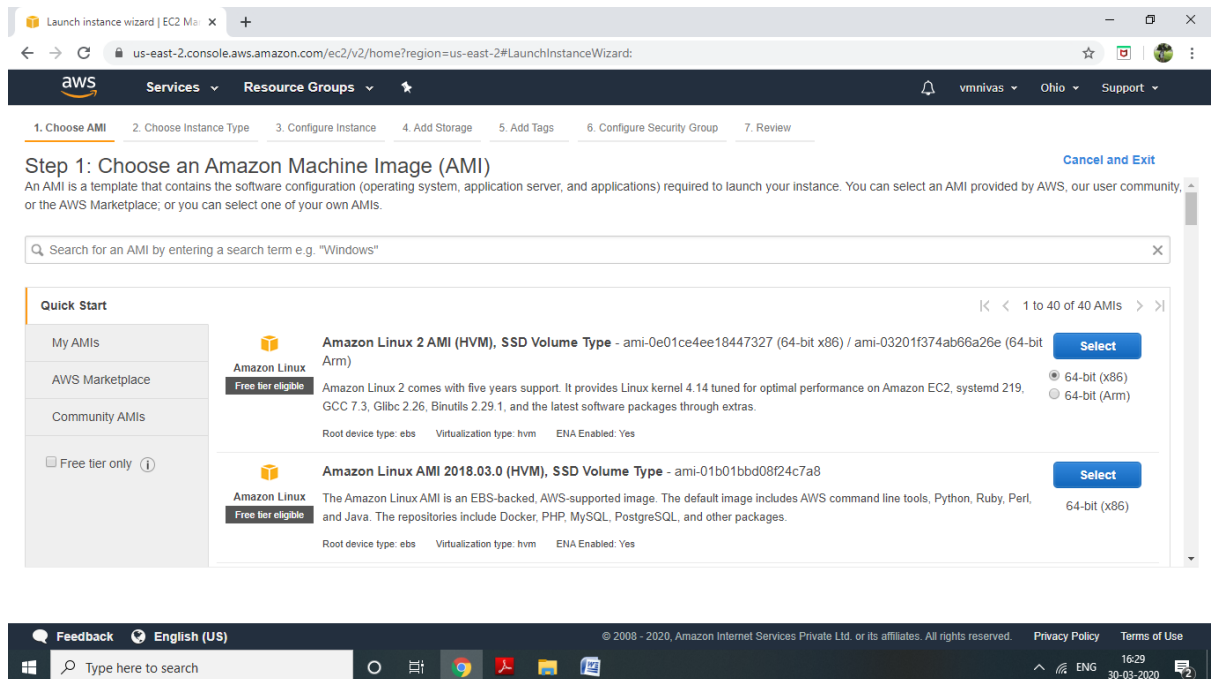
Below the table is a large empty space. The bottom of the console shows a Windows taskbar with a search bar and system tray icons.

4. Rekognition Dashboard



EC2

5. Choosing an AMI



6. Choosing an Instance Type

Launch instance wizard | EC2 Ma x +

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

aws Services Resource Groups

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

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 Free tier eligible	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

Cancel Previous Review and Launch Next: Configure Instance Details

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Type here to search

7. Adding Storage

Launch instance wizard | EC2 Ma x +

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

aws Services Resource Groups

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 Encrypt

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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Type here to search

8. 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:

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

9. Keypair Download

Step 7: Review Instance Launch

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.](#)

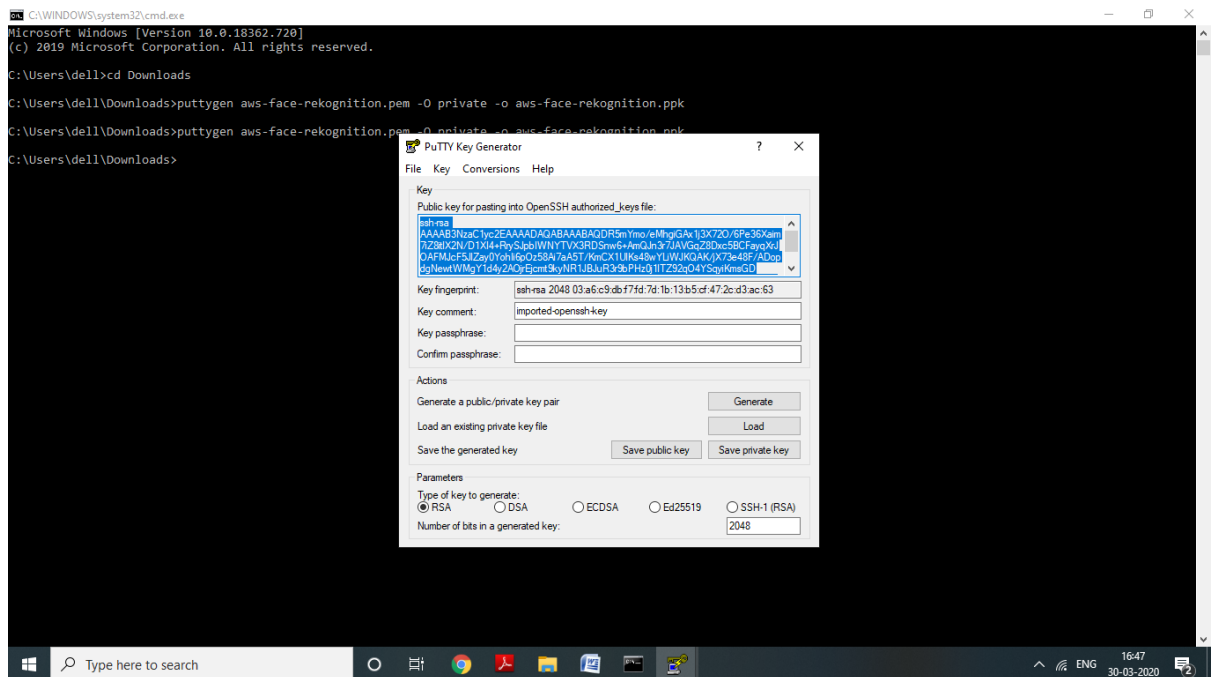
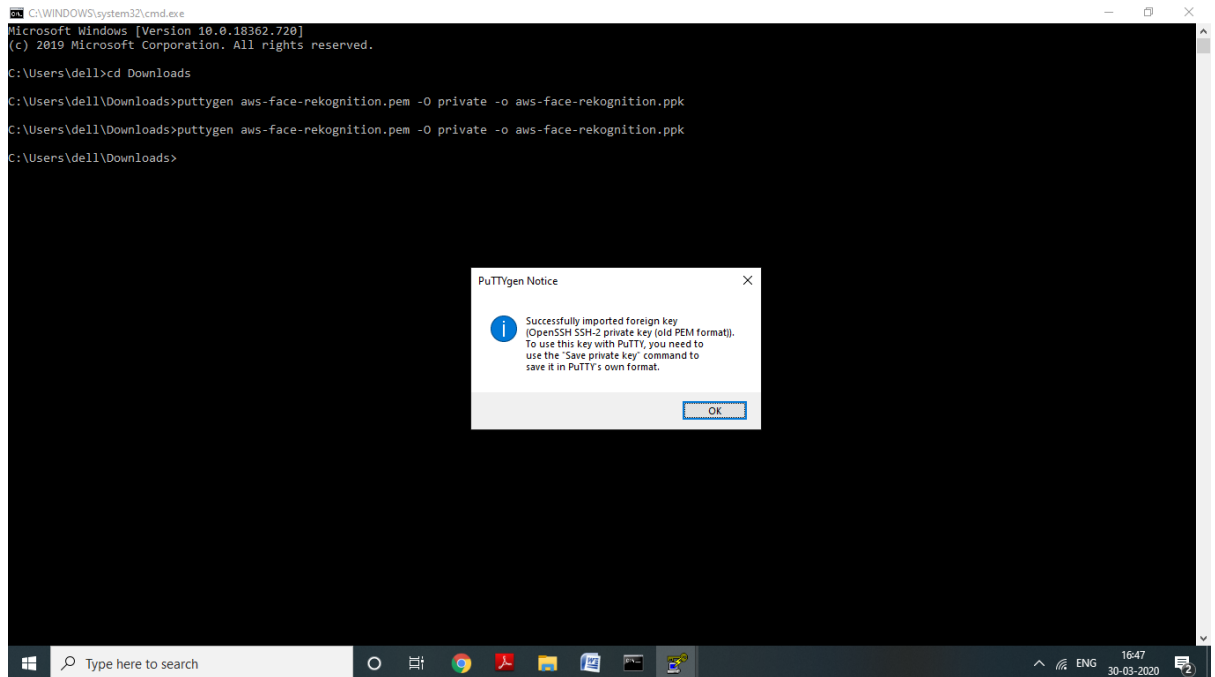
Create a new key pair

Download Key Pair

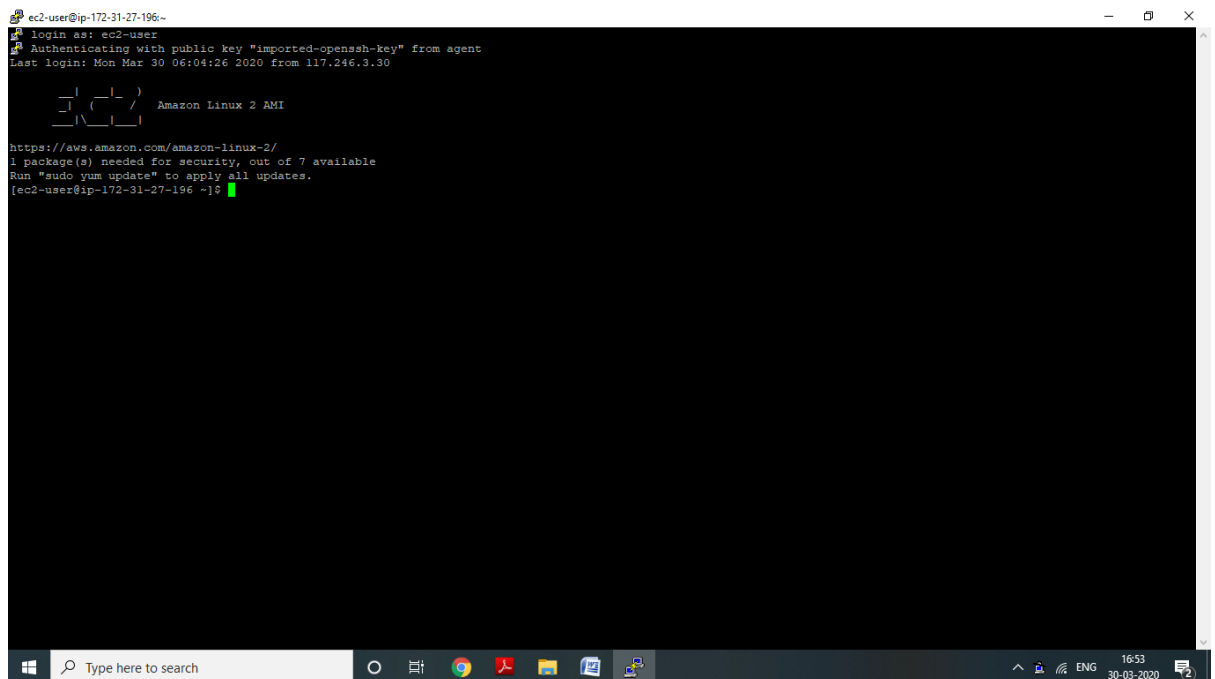
Warning
You have to download the **private key file** (*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Cancel Launch Instances

10. PuTTYgen Conversion from pem to ppk

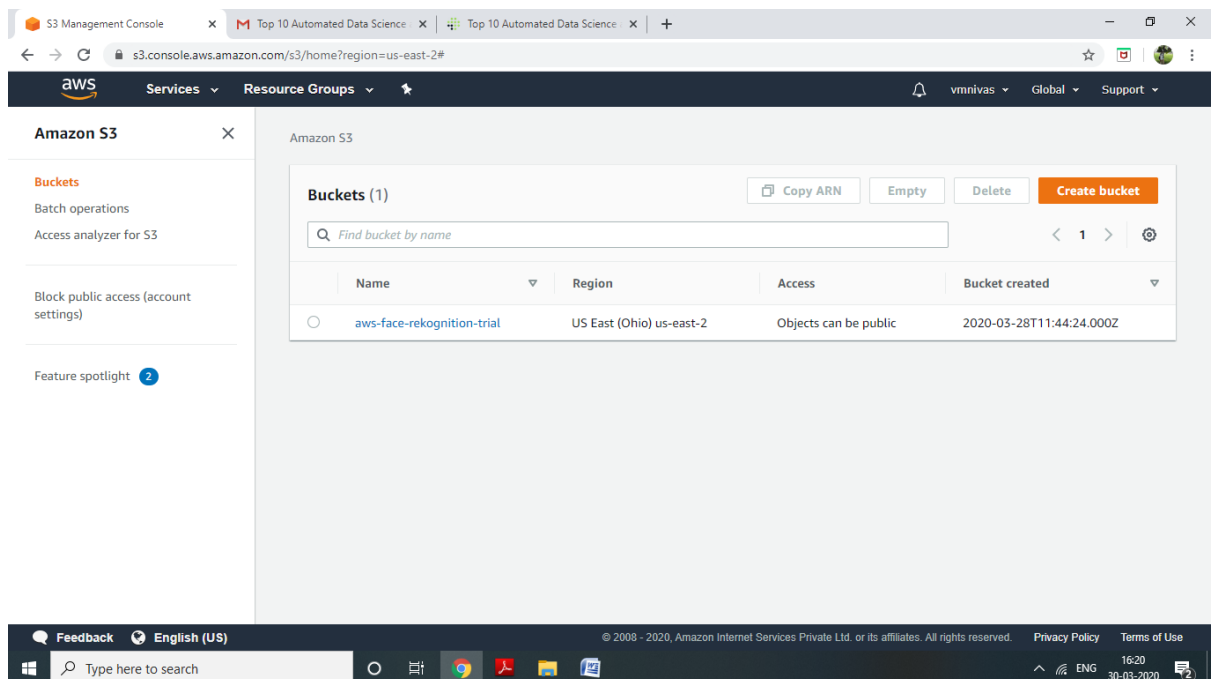


11. Logged in EC2 black screen

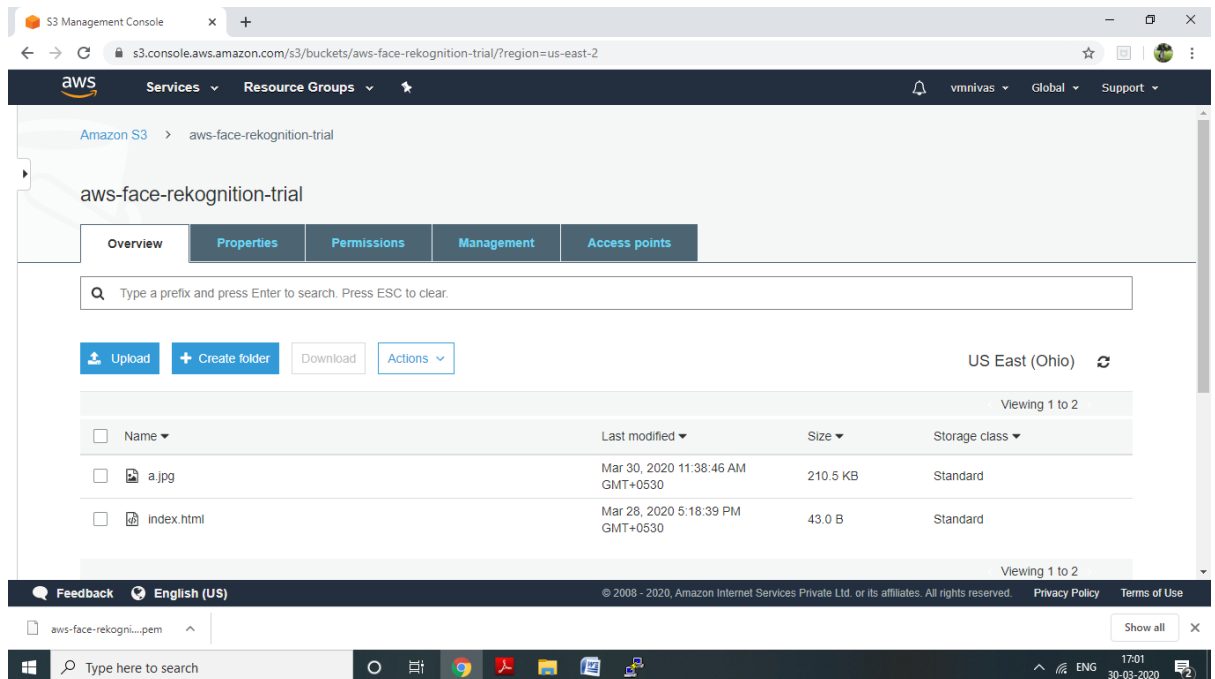


S3

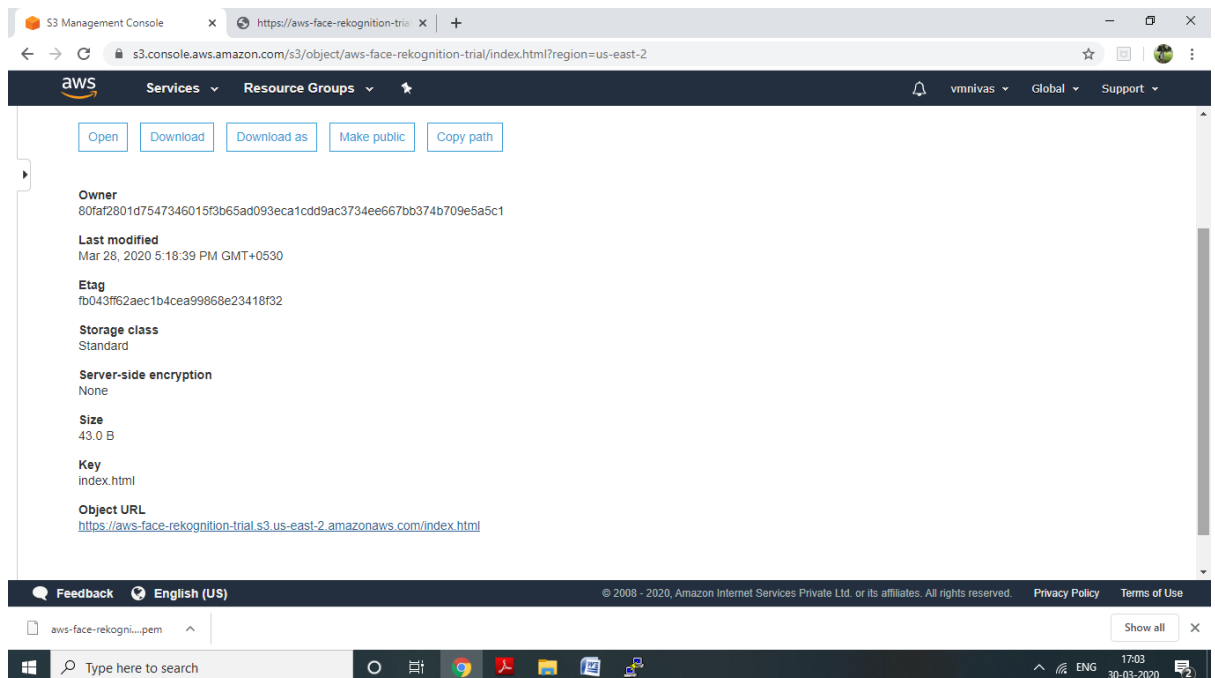
12. Creating a bucket



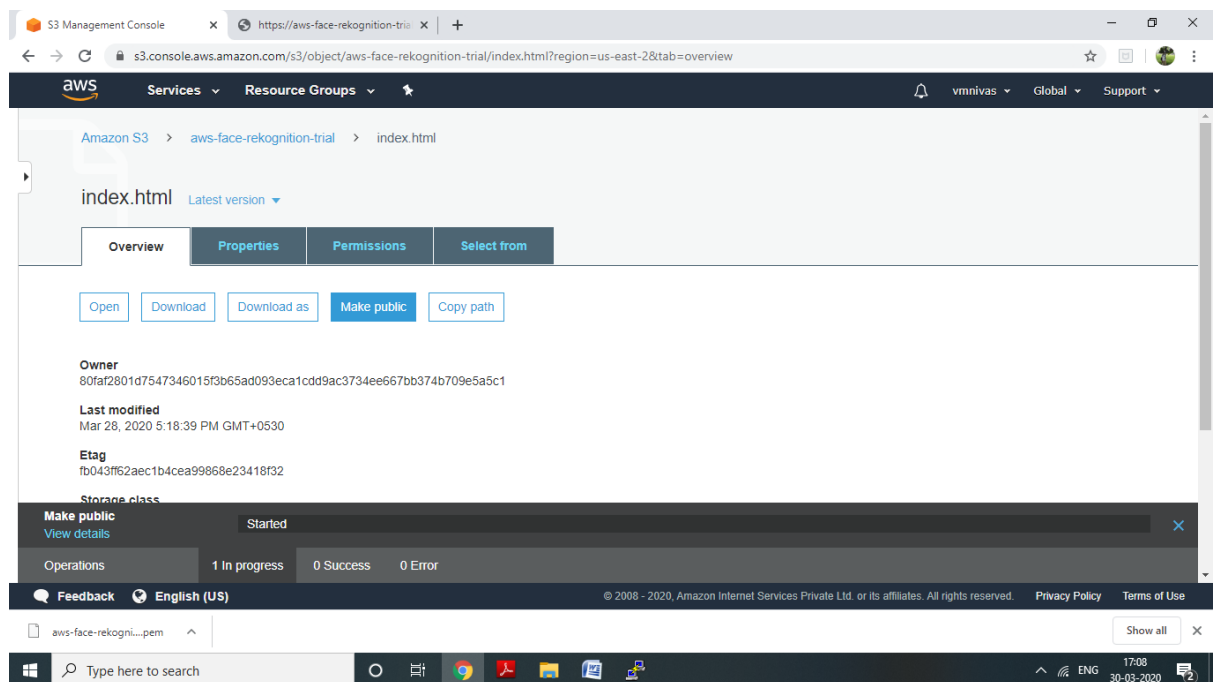
13. Uploading an Object



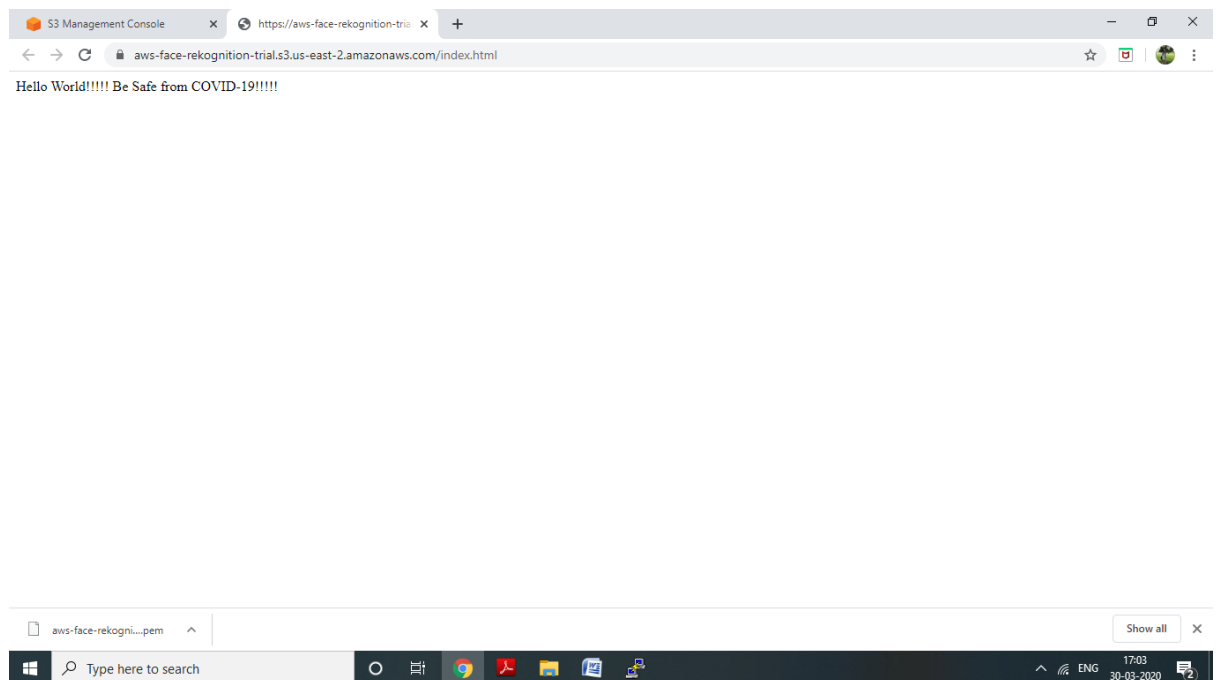
14. Enabling Static Website



15. Making the Object Public



16. Checking the S3 link on browser



Rekognition

17.Face Detect

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	98.4 %
age range	64 - 78 years old
not smiling	79.4 %
not wearing glasses	58.6 %
not wearing sunglasses	90.4 %

Choose a sample image

Use your own image
Image must be .jpeg or .png format and no larger than 5MB. Your image isn't stored.

[Upload](#) or drag and drop

18.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 99.8 %

Request

19. Celebrity Recognition

The screenshot shows the AWS Rekognition console interface for the Celebrity Recognition demo. The left sidebar lists various services, with 'Celebrity recognition' selected. The main content area shows a photo of two men shaking hands, with bounding boxes around their faces. The results panel on the right displays the following information:

- Results:**
 - Chung Mong-koo:** Match confidence 91 %
 - Narendra Modi:** Match confidence 100 %

The bottom of the console shows the Windows taskbar with the search bar and system clock.

20. Text in Image

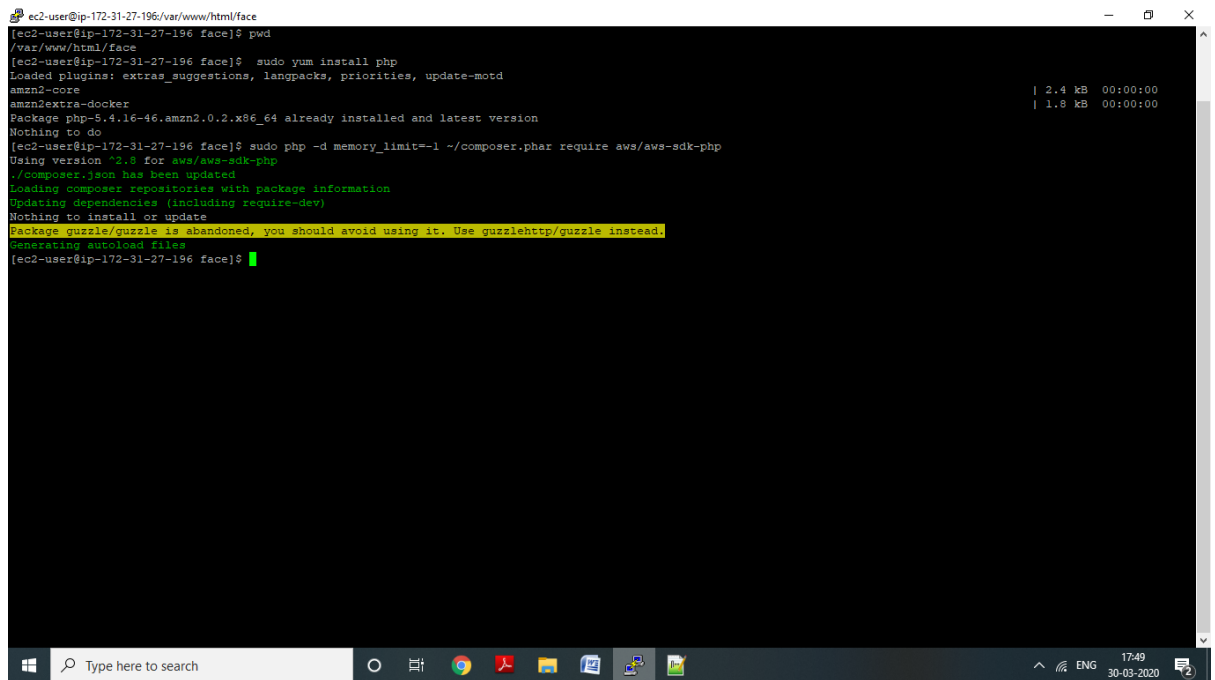
The screenshot shows the AWS Rekognition console interface for the Text in Image demo. The left sidebar lists various services, with 'Text in image' selected. The main content area shows a photo of a building with text. The results panel on the right displays the following information:

- Results:**
 - US English only
 - Detected text: | vit |, | UNVERSEY |, | 51 |, | VELLORE |, | INSTITTE |, | OF |, | TECRNOLOGY |

The bottom of the console shows the Windows taskbar with the search bar and system clock.

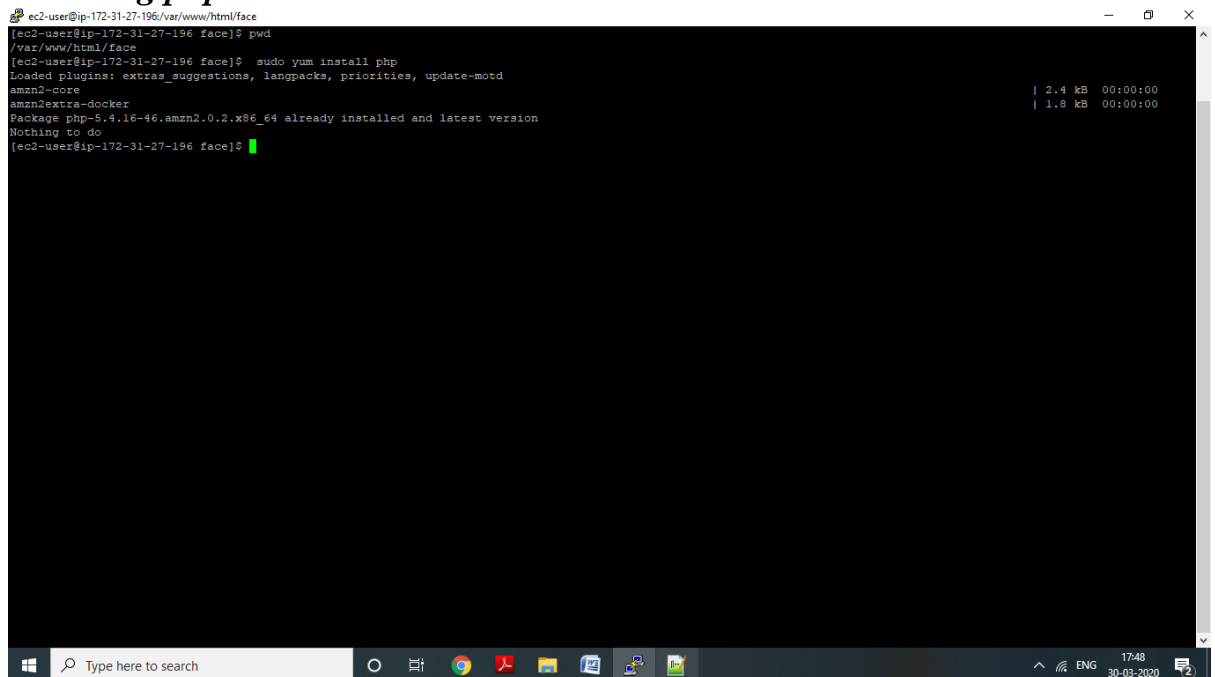
EC2&S3

21. Installing aws-sdk



```
ec2-user@ip-172-31-27-196:/var/www/html/face
[ec2-user@ip-172-31-27-196 face]$ pwd
/var/www/html/face
[ec2-user@ip-172-31-27-196 face]$ sudo yum install php
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                | 2.4 kB  00:00:00
amzn2extra-docker                         | 1.8 kB  00:00:00
Package php-5.4.16-46.amzn2.0.2.x86_64 already installed and latest version
Nothing to do
[ec2-user@ip-172-31-27-196 face]$ sudo php -d memory_limit=-1 ~/composer.phar require aws/aws-sdk-php
Using version ^2.0 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-172-31-27-196 face]$
```

22. Installing php



```
ec2-user@ip-172-31-27-196:/var/www/html/face
[ec2-user@ip-172-31-27-196 face]$ pwd
/var/www/html/face
[ec2-user@ip-172-31-27-196 face]$ sudo yum install php
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                | 2.4 kB  00:00:00
amzn2extra-docker                         | 1.8 kB  00:00:00
Package php-5.4.16-46.amzn2.0.2.x86_64 already installed and latest version
Nothing to do
[ec2-user@ip-172-31-27-196 face]$
```

23. Index.php file code

```
ec2-user@ip-172-31-27-196:/var/www/html/face
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 = 'aws-face-rekognition-trial';
$keyname = 'a.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;
}

"index.php" 55L, 1233C
```

24. Upload Success Screenshot

```
ec2-user@ip-172-31-27-196:/var/www/html/face
[ec2-user@ip-172-31-27-196 face]$ pwd
/var/www/html/face
[ec2-user@ip-172-31-27-196 face]$ ls
a.jpg composer.json composer.lock index.php vendor
[ec2-user@ip-172-31-27-196 face]$ sudo vim index.php
[ec2-user@ip-172-31-27-196 face]$ sudo php index.php
Image upload done... Here is the URL: https://aws-face-rekognition-trial.s3.us-east-2.amazonaws.com/a.jpg[ec2-user@ip-172-31-27-196 face]$
```