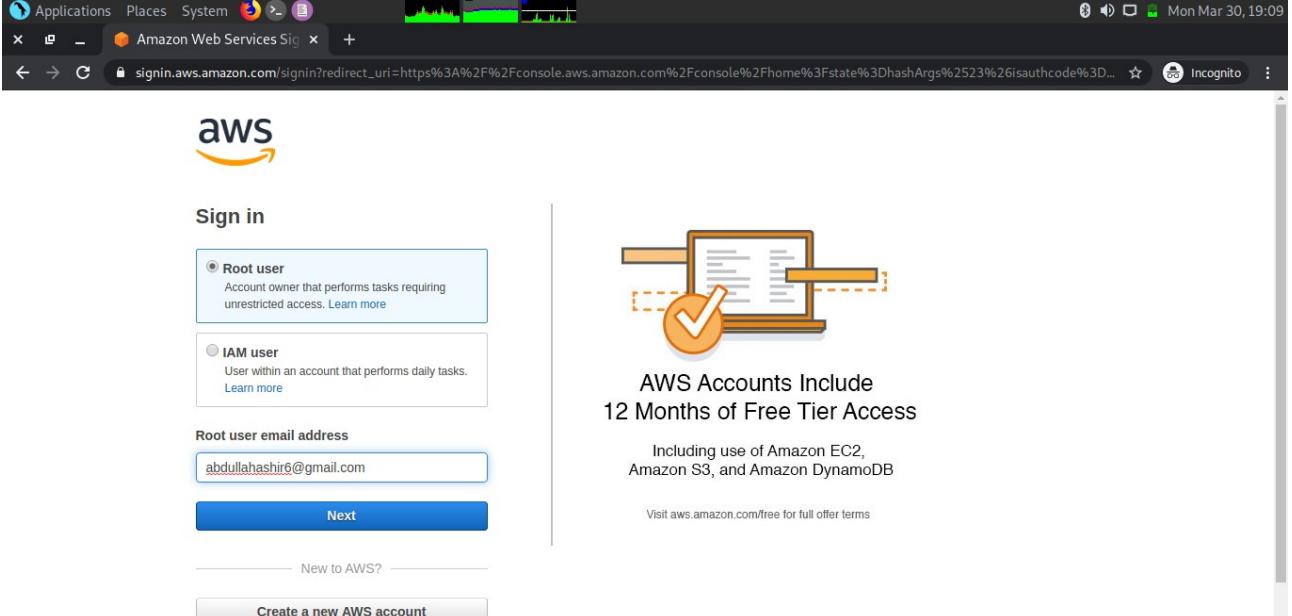
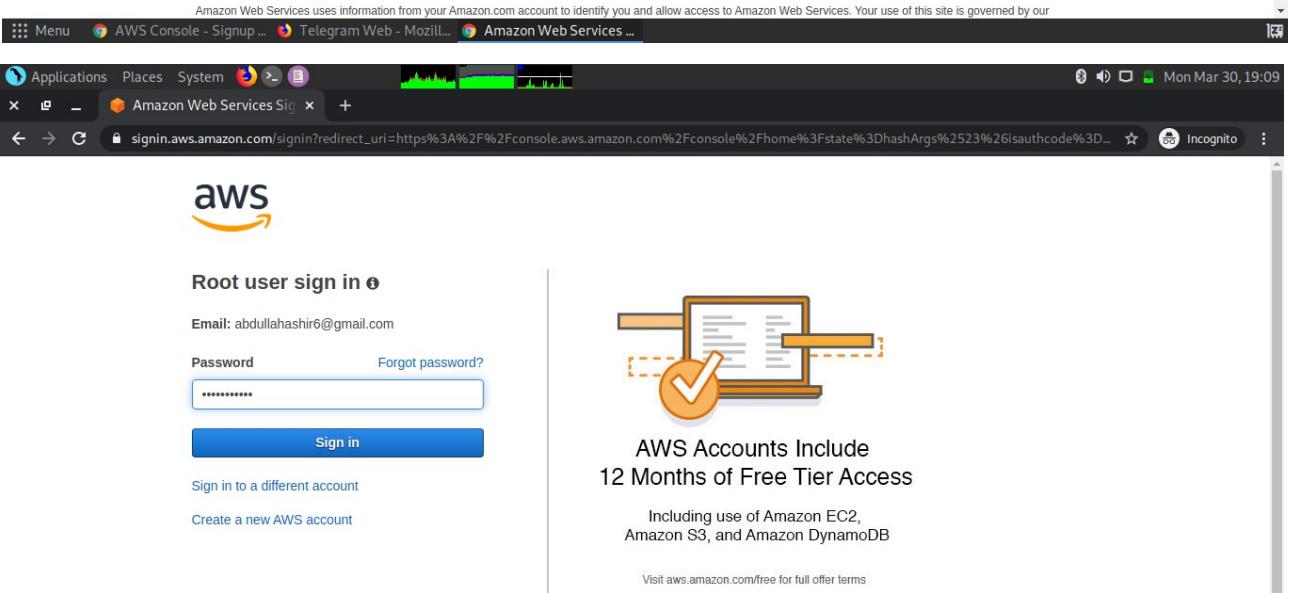


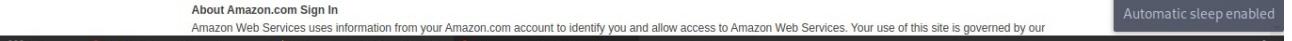
AWS Login screen with username :



The screenshot shows the AWS sign-in interface. On the left, there are two radio button options: "Root user" (selected) and "IAM user". Below these is a field for the "Root user email address" containing "abdullahashir6@gmail.com". A large blue "Next" button is centered below the input fields. To the right, there is a promotional graphic for "AWS Accounts Include 12 Months of Free Tier Access", featuring a checkmark icon and text about EC2, S3, and DynamoDB. At the bottom left, there are links for "About Amazon.com Sign In" and "Create a new AWS account". The browser status bar at the bottom indicates "Mon Mar 30, 19:09".



The screenshot shows the "Root user sign in" page. It features a "Email" field with "abdullahashir6@gmail.com" and a "Password" field with masked input. A "Sign in" button is located below the password field. To the right, the same promotional graphic for free tier access is displayed. At the bottom left, there are links for "Sign in to a different account" and "Create a new AWS account". The browser status bar at the bottom indicates "Mon Mar 30, 19:09".



This screenshot is identical to the previous one, showing the "Root user sign in" page. However, it includes a blue status bar at the bottom right corner that says "Automatic sleep enabled". The browser status bar at the bottom indicates "Mon Mar 30, 19:09".

EC2 Dashboard :

The screenshot shows the AWS EC2 Dashboard. On the left, a sidebar lists navigation options: New EC2 Experience, EC2 Dashboard, Events, Tags, Reports, Limits, Instances (selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Scheduled Instances, Capacity Reservations, and Images.

The main "Resources" section displays the following counts for the US East (N. Virginia) Region:

Category	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

A tooltip message at the bottom of the resources section reads: "Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. Learn more".

The "Account attributes" panel on the right shows the following information:

- Supported platforms: VPC
- Default VPC: vpc-864743fc
- Console experiments: Settings

The "Explore AWS" panel on the right says: "Easily launch third-party AMI products. AWS Marketplace has thousands of third-party AMI products that you can find,".

At the bottom, the footer includes links for Feedback, English (US), Menu, Instances | EC2 Manager, Login to EC2 using Putty, AWS Project Submissi..., and aws, along with copyright information: © 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use.

The screenshot shows the "Instances" page. A search bar at the top contains the query "search : i-042ea56b283273bc5;sort=instanceId". The results table shows one instance:

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
	i-042ea56b283273bc5	t2.micro	us-east-1c	running	Initializing	None	ec2-52-23-253-98.com...

The instance details page for "i-042ea56b283273bc5" shows the following information:

Description	Status Checks	Monitoring	Tags
Instance ID: i-042ea56b283273bc5	Public DNS: ec2-52-23-253-98.compute-1.amazonaws.com		
Instance state: running	Public DNS (IPv4): ec2-52-23-253-98.compute-1.amazonaws.com		
	IPv4 Public IP: 52.23.253.98		

At the bottom, the footer includes links for Feedback, English (US), Menu, Instances | EC2 Manager, Login to EC2 using Putty, AWS Project Submissi..., and aws, along with copyright information: © 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use.

S3 Dashboard :

The screenshot shows the AWS S3 Management Console interface. At the top, there's a navigation bar with links for Applications, Places, System, and a search bar. Below the navigation bar, the main title is "Amazon S3". On the left, a sidebar titled "Amazon S3" contains sections for Buckets, Batch operations, Access analyzer for S3, and Block public access (account settings). A "Feature spotlight" section is also present. The main content area is titled "Buckets (1)" and displays a table with one row. The table columns are Name, Region, Access, and Bucket created. The single entry is "hashichennad" located in "US East (N. Virginia) us-east-1", with "Not Public" access and created on "2020-05-31T16:09:06.000Z". Action buttons for Copy ARN, Empty, Delete, and Create bucket are at the top right of the table. The bottom of the page includes standard footer links for Feedback, English (US), Privacy Policy, Terms of Use, and a link to root@ip-172-31-86-45... .

Name	Region	Access	Bucket created
hashichennad	US East (N. Virginia) us-east-1	Not Public	2020-05-31T16:09:06.000Z

Rekognition Dashboard :

The screenshot shows the Amazon Rekognition console dashboard. At the top, there's a navigation bar with tabs for 'Applications', 'Places', 'System', 'Rekognition Console' (which is active), 'amazon aws', '7-Day Free Masterclass', and 'Inbox (20,867)'. Below the navigation bar, the main header reads 'Amazon Rekognition' with a sub-header 'Deep learning-based visual analysis service'. It features a 'Try Demo' button and a 'Download SDKs' link. The background has a blue-toned network graph. On the left, a sidebar lists various services: 'Custom Labels' (with a 'New' badge), 'Demos', 'Object and scene detection', 'Image moderation', 'Facial analysis', 'Celebrity recognition', 'Face comparison', 'Text in image', 'Video Demos', 'Video analysis', and 'Metrics'. On the right, three main features are highlighted: 'Easily Integrate Powerful Visual Analysis into Your App' (with an icon of overlapping squares), 'Continuously Learning' (with an icon of a circuit board), and 'Integrated with AWS Services' (with an icon of puzzle pieces). The bottom of the page includes a footer with links for 'Feedback', 'English (US)', copyright information ('© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.'), 'Privacy Policy', 'Terms of Use', and a 'Menu' link.

Screenshots needed for 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	Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-0fc61db8544a617ed (64-bit x86) / ami-0f90a34c9df977efb (64-bit Arm)
AWS Marketplace	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.
Community AMIs	Root device type: ebs Virtualization type: hvm ENA Enabled: Yes
<input type="checkbox"/> Free tier only ⓘ	Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-09a5b0b7edf08843d
	Amazon Linux 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

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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

	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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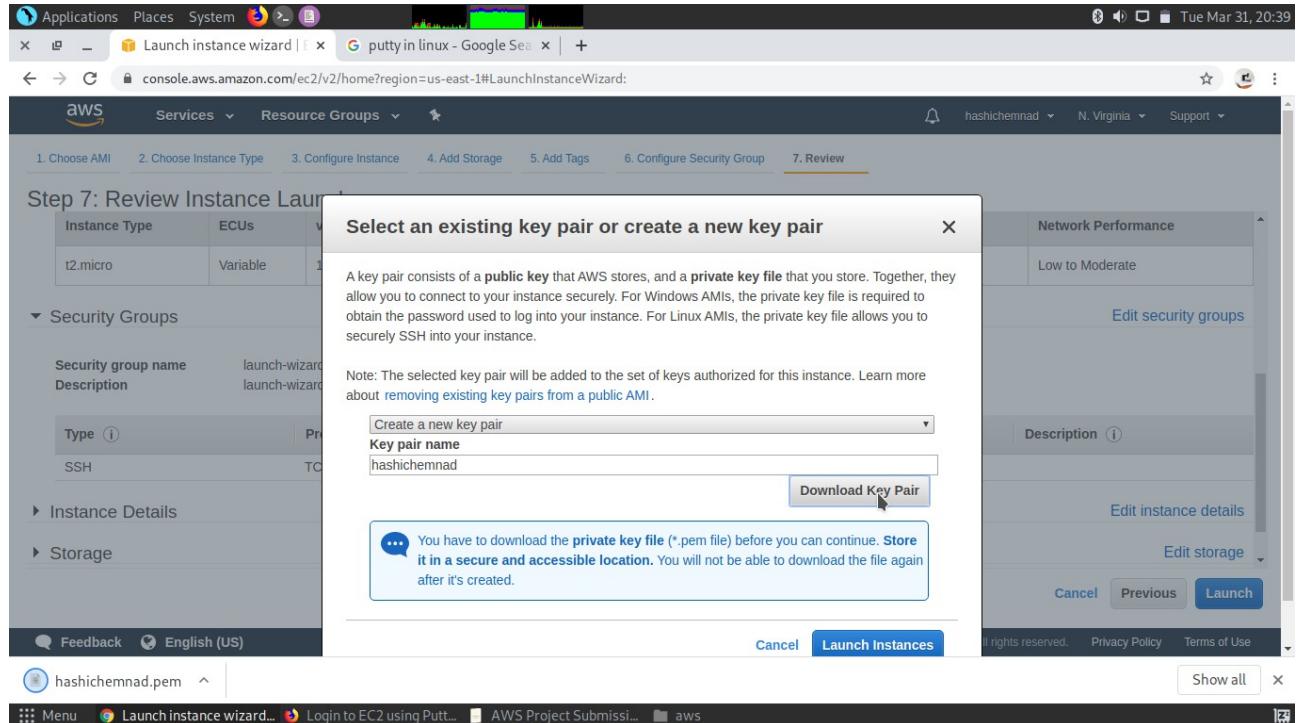
Adding Storage :

The screenshot shows the AWS Launch Instance Wizard at Step 4: Add Storage. The page title is "Step 4: Add Storage". It displays a table for adding storage volumes. A row for the "Root" volume is selected, showing details: Volume Type (General Purpose SSD (gp2)), Size (8 GiB), IOPS (100 / 3000), Throughput (N/A), Delete on Termination (checked), and Encryption (Not Encrypted). Below the table is a note: "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." At the bottom right are buttons for "Cancel", "Previous", "Review and Launch", and "Next: Add Tags".

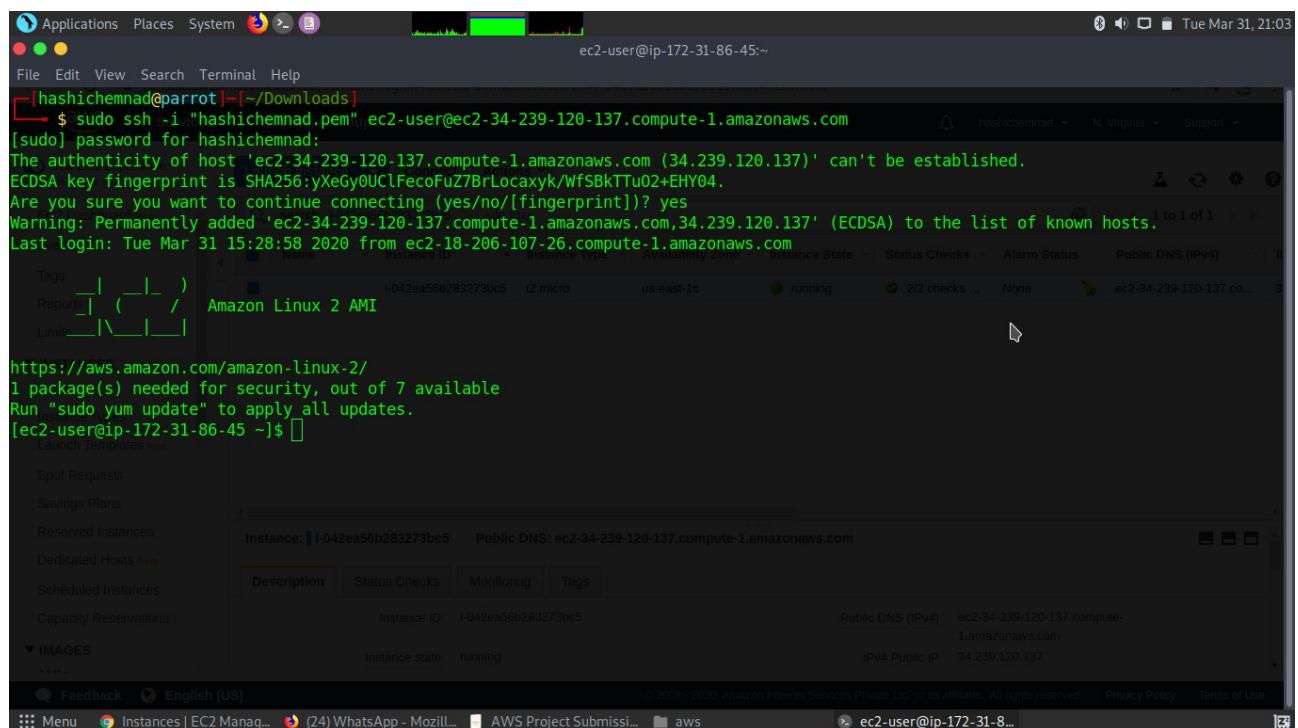
Configuring Security Group :

The screenshot shows the AWS Launch Instance Wizard at Step 6: Configure Security Group. The page title is "Step 6: Configure Security Group". It displays a form for creating a new security group. The "Create a new security group" option is selected. The "Security group name" field contains "launch-wizard-1" and the "Description" field contains "launch-wizard-1 created 2020-03-31T20:38:08.364+05:30". Below the form is a table for defining security rules. A row for an SSH rule is shown: Type (SSH), Protocol (TCP), Port Range (22), Source (Custom, 0.0.0.0/0), and Description (e.g. SSH for Admin Desktop). A warning message at the bottom states: "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." At the bottom right are buttons for "Cancel", "Previous", "Review and Launch", and "Next: Review and Launch".

Key Pair Download :

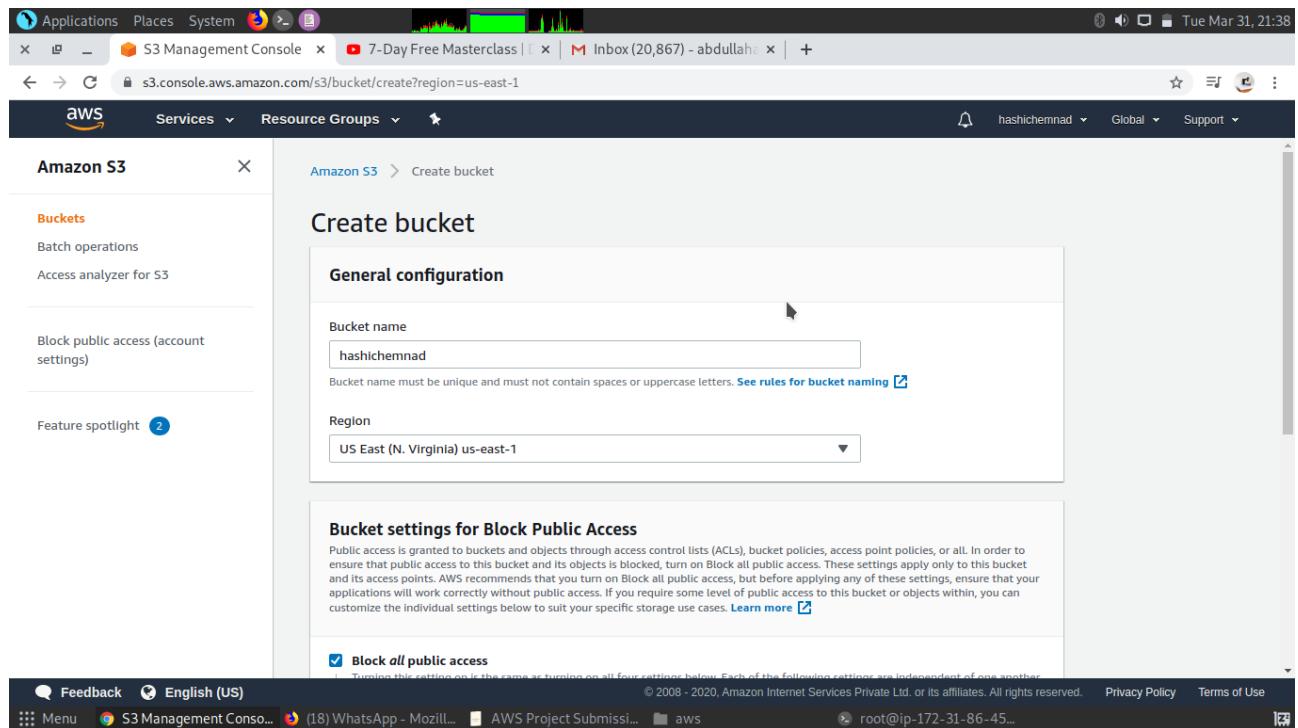


Logged in EC2 black screen :

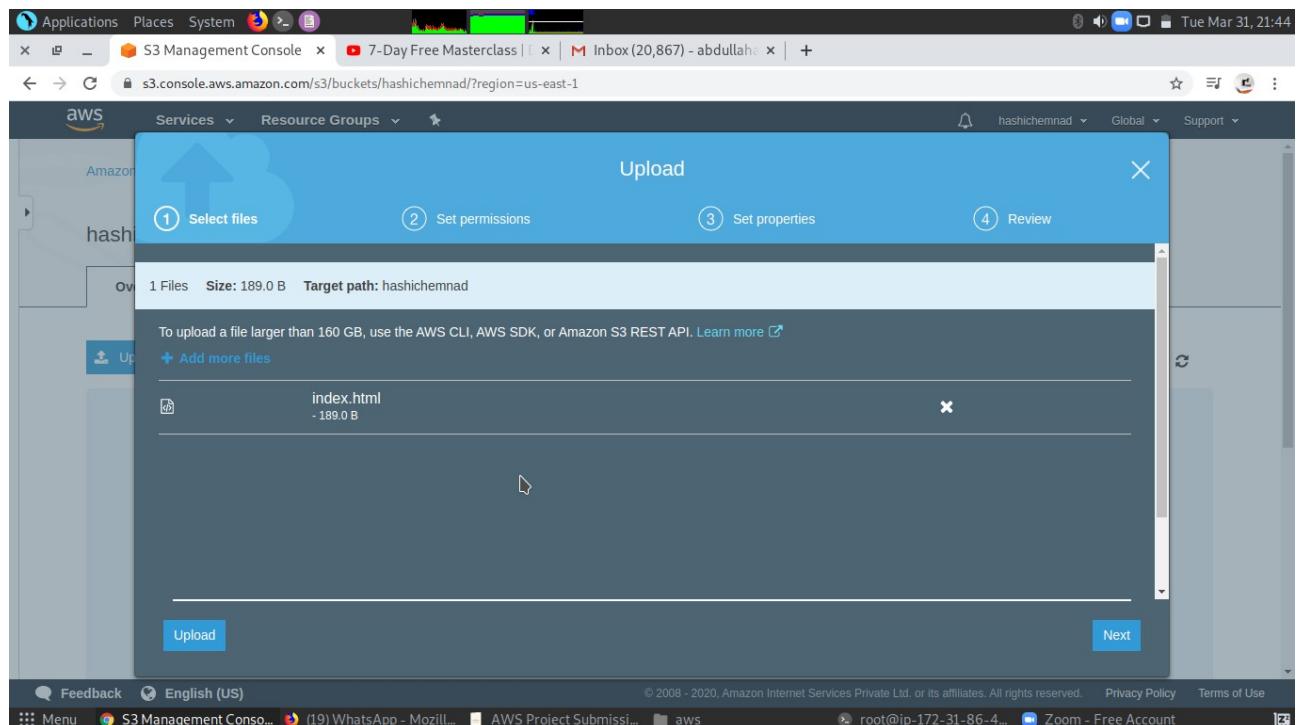


Screenshots needed for S3 :

Creating a bucket:



Uploading an Object :



Enabling Static Website :

The screenshot shows the AWS S3 Management Console with the 'Static website hosting' configuration page open. The 'Endpoint' is set to <http://hashichennad.s3-website-us-east-1.amazonaws.com>. Under 'Index document', 'index.html' is selected. Under 'Error document', 'error.html' is selected. The 'Bucket hosting' checkbox is checked. On the right, there is a section titled 'Object-level logging' with a note about CloudTrail data events and a 'Disabled' status.

The screenshot shows the AWS S3 Management Console with the bucket properties page open for 'hashichennad'. The 'Bucket hosting' checkbox is checked. Other tabs like 'Overview', 'Properties', 'Permissions', 'Management', and 'Access points' are visible. The 'Static website hosting' section is highlighted, showing it is enabled.

Making the Object Public

The screenshot shows the AWS S3 Management Console interface. A context menu is open over the 'index.html' object, with the 'Make public' option highlighted. The object details panel on the right shows the following information:

Overview	Key	index.html
Size	189.0 B	
Expiration date	N/A	
Expiration rule	N/A	
ETag	e9dedd8d2b59ac4c873ed831f38fe26d	
Last modified	Mar 31, 2020 10:04:05 PM GMT+0530	
Object URL	https://hashichennad.s3.amazonaws.com/index.html	

Properties section:

Storage class	Standard
Encryption	None
Metadata	1

The screenshot shows the 'Make public' confirmation dialog box. It displays the following information:

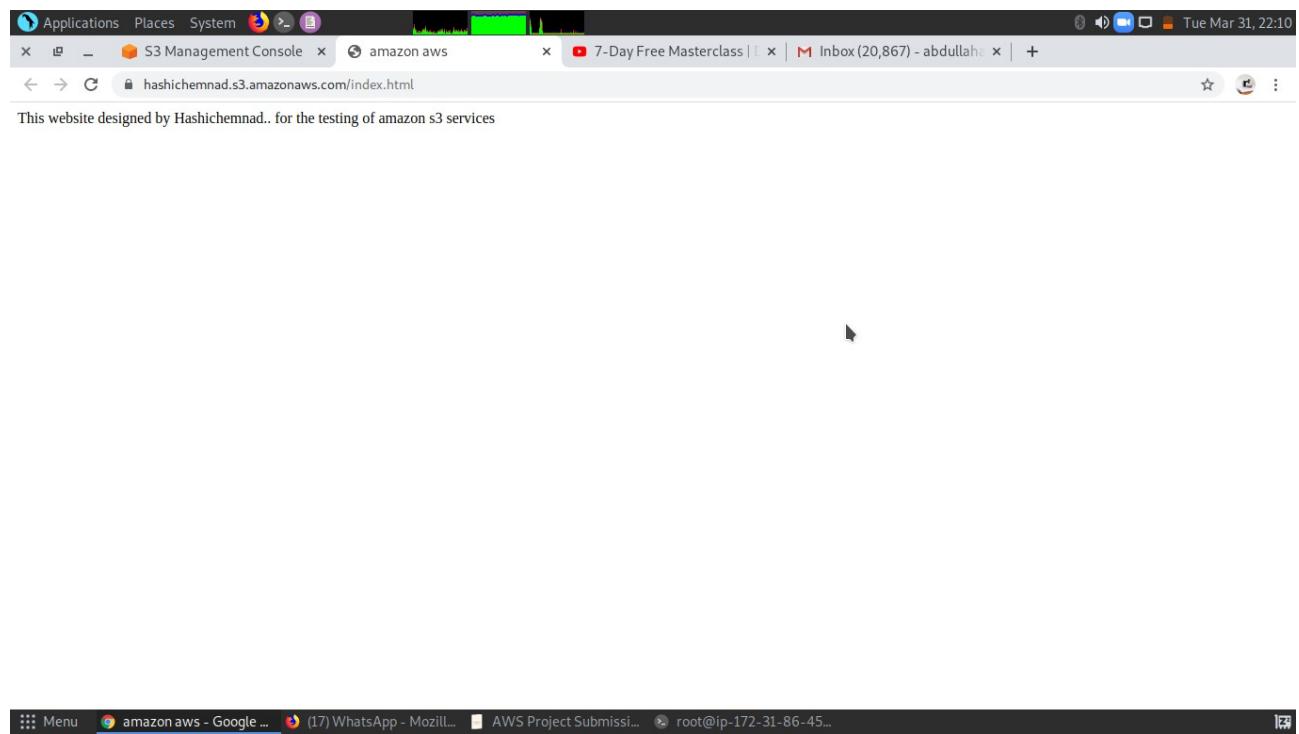
Selection: 1 Objects, 0 Folders Total size: 189.0 B Total objects: 1

index.html
- 189.0 B

Everyone will have access to one or all of the following: read this object, read and write permissions.

Cancel Make public

Checking the S3 link on the browser :



Screenshots needed for Rekognition :

Face Detect :

The screenshot shows the 'Facial analysis' section of the Rekognition console. On the left, a sidebar lists various features: Custom Labels, Use Custom Labels, Demos, Object and scene detection, Image moderation, Facial analysis (which is selected), Celebrity recognition, Face comparison, Text in image, Video Demos, Video analysis, and Metrics. The main area displays a group photo of the Indian Women's Cricket team. Numerous faces are highlighted with bounding boxes and analyzed. Below the image are two input options: 'Choose a sample image' and 'Use your own image'. To the right, a results panel shows the following analysis:

Attribute	Value	Confidence
looks like a face	99.9 %	
appears to be female	52.5 %	
age range	23 - 37 years old	
smiling	54.8 %	

Face Compare :

The screenshot shows the 'Face comparison' section of the Rekognition console. The sidebar is identical to the previous screenshot. The main area has two sections: 'Reference face' (a photo of a woman in a blue India cricket uniform) and 'Comparison faces' (a photo of a group of women). Below each section is an 'Choose a sample image' button. To the right, a results panel shows the following comparison:

Comparison	Similarity
Photo 1 vs Reference	97.6 %
Photo 2 vs Reference	97.6 %
Photo 3 vs Reference	97.6 %

Celebrity Recognition :

The screenshot shows the AWS Rekognition console interface. On the left sidebar, under the 'Celebrity recognition' section, 'Text in image' is selected. In the main area, three celebrities are shown with bounding boxes around their faces: Michael Jackson, Kim Basinger, and Mike Tyson. Below each result is a 'Match confidence' of 100%. The results are listed as follows:

- Mike Tyson (Match confidence: 100%)
- Kim Basinger (Match confidence: 100%)
- Michael Jackson (Match confidence: 100%)

The interface includes a sidebar with various services like Amazon Rekognition, Custom Labels, Demos, and Metrics. At the bottom, there are file navigation buttons for 'Sd4c3de0ef8...jpeg' and 'India-Women.jpg'.

Text in Image :

The screenshot shows the AWS Rekognition console interface. On the left sidebar, under the 'Text in image' section, 'Text in image' is selected. In the main area, a blue building sign is displayed with the text 'WEST BENGAL BOARD OF MADRASAH EDUCATION MAULANA ABUL KALAM AZAD BHAWAN DD-45 Sector 1, Salt Lake City Kolkata - 700 064'. The detected text is listed on the right side under the 'Results' section, with 'US English only' specified. The results are:

- | WEST | BENGAL | KALAM | AZAD |
- | BHAWAN |
- | BOARD | OF | MADRASAH | EDUCATION |
- | MAULANA | ABUL | Salt | Lake | City |
- | DD-45, | Sector- | 1, |
- | Kolkata- | 700 | 064 |

The interface includes a sidebar with various services like Amazon Rekognition, Custom Labels, Demos, and Metrics. At the bottom, there are file navigation buttons for 'Rekognition Console - ...' and 'aws_webinar.odt - Libr...'. A message 'Done with the demo?' with a 'Learn more' link is also visible.

Screenshots needed for EC2 & S3 :

Installing aws-sdk:

```
Applications Places System Terminal Help
File Edit View Search Terminal Help
10373741824 bytes (1.1 GB) copied, 13.4397 s, 79.9 MB/s
[ec2-user@ip-172-31-86-45 face]$ sudo /sbin/mkswap /var/swap.1
mkswap: /var/swap.1: insecure permissions 0644, 0600 suggested.
Setting up swapspace version 1, size = 1024 MiB (103737728 bytes)
no label, UUID=26dc7901-694c-4f8d-a1eb-edbe7a356411
[ec2-user@ip-172-31-86-45 face]$ sudo /sbin/swapon /var/swap.1
swapon: /var/swap.1: insecure permissions 0644, 0600 suggested.
[ec2-user@ip-172-31-86-45 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 created
Loading composer repositories with package information
Updating dependencies (including require-dev)
Package operations: 3 installs, 0 updates, 0 removals
- Installing symfony/event-dispatcher (v2.8.52): Loading from cache
- Installing guzzle/guzzle (v3.9.3): Downloading (100%)
- Installing aws/aws-sdk-php (2.8.31): Downloading (100%)
symfony/event-dispatcher suggests installing symfony/dependency-injection
symfony/event-dispatcher suggests installing symfony/http-kernel
guzzle/guzzle suggests installing guzzlehttp/guzzle (Guzzle 5 has moved to a new package name. The package you have installed, Guzzle 3, is deprecated.)
aws/aws-sdk-php suggests installing doctrine/cache (Adds support for caching of credentials and responses)
aws/aws-sdk-php suggests installing ext-apc (Allows service description opcode caching, request and response caching, and credentials caching)
aws/aws-sdk-php suggests installing monolog/monolog (Adds support for logging HTTP requests and responses)
aws/aws-sdk-php suggests installing symfony/yaml (Eases the ability to write manifests for creating jobs in AWS Import/Export)
Package guzzle/guzzle is abandoned, you should avoid using it. Use guzzlehttp/guzzle instead.
Writing lock file
Generating autoload files
[ec2-user@ip-172-31-86-45 face]$
```

Installing php :

```

Applications Places System Terminal aws ec2-user@ip-172-31-86-45:/var/www/html
File Edit View Search Terminal Help
Total 18 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 0 at 2020-03-30 19:09:07.
  Installing : php-common-5.4.16-46.amzn2.0.2.x86_64 0 at 2020-03-31 20:36:22.
  Installing : php-cli-5.4.16-46.amzn2.0.2.x86_64 0 at 2020-03-31 20:37:01.
  Installing : php-5.4.16-46.amzn2.0.2.x86_64 0 at 2020-03-31 20:42:05.
  Verifying : libzip010-compat-0.10.1-9.amzn2.0.5.x86_64 0 at 2020-03-31 20:34:47.
  Verifying : php-common-5.4.16-46.amzn2.0.2.x86_64 0 at 2020-03-31 20:42:05.
  Verifying : php-cli-5.4.16-46.amzn2.0.2.x86_64 0 at 2020-03-31 20:38:36.

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-172-31-86-45 ~]$ 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

```

index.php file code :

```

Applications Places System Terminal aws ec2-user@ip-172-31-86-45:/var/www/html/face
File Edit View Search Terminal Help
error_reporting(0);
require_once(__DIR__ . '/vendor/autoload.php');

use Aws\S3\S3Client;
use Aws\Rekognition\RekognitionClient; // Celebrity Recognition
use Aws\S3\ObjectMetadata;

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

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

```

Screenshots needed for Rekognition

1. Detect Face

2. Face Compare

3. Text in Image

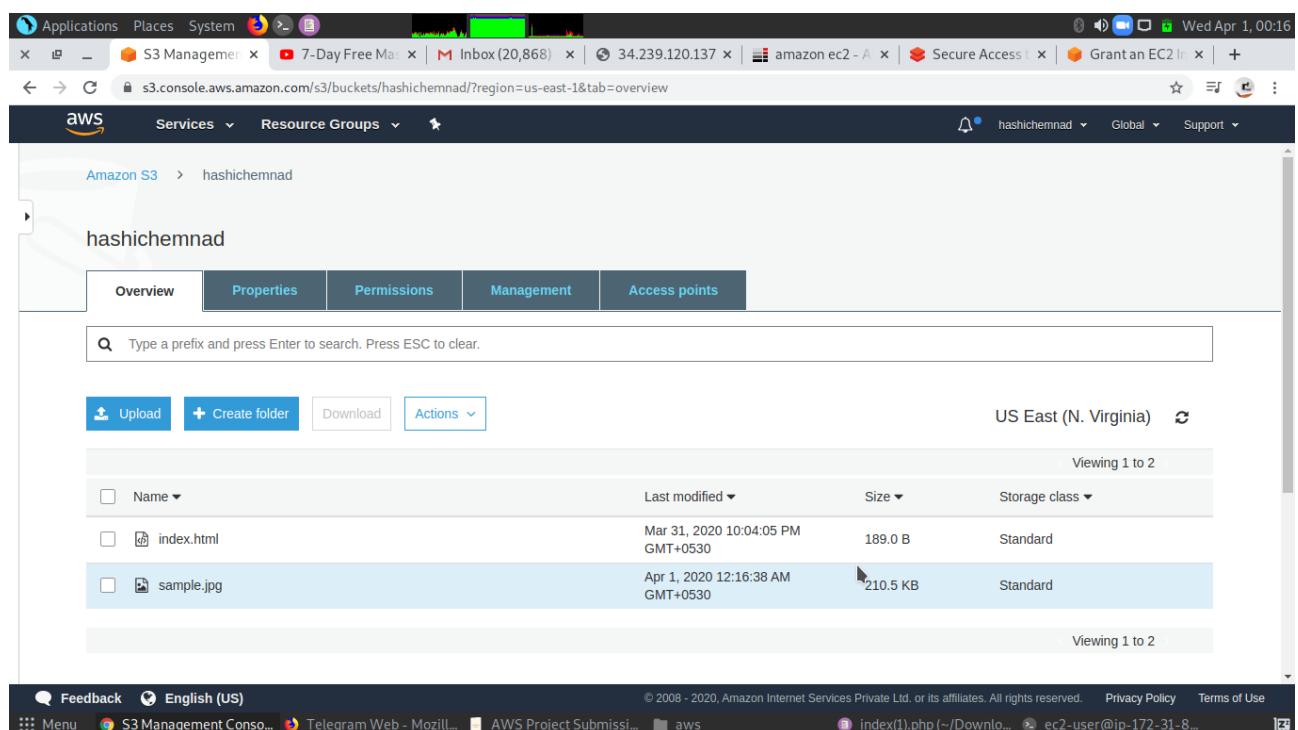
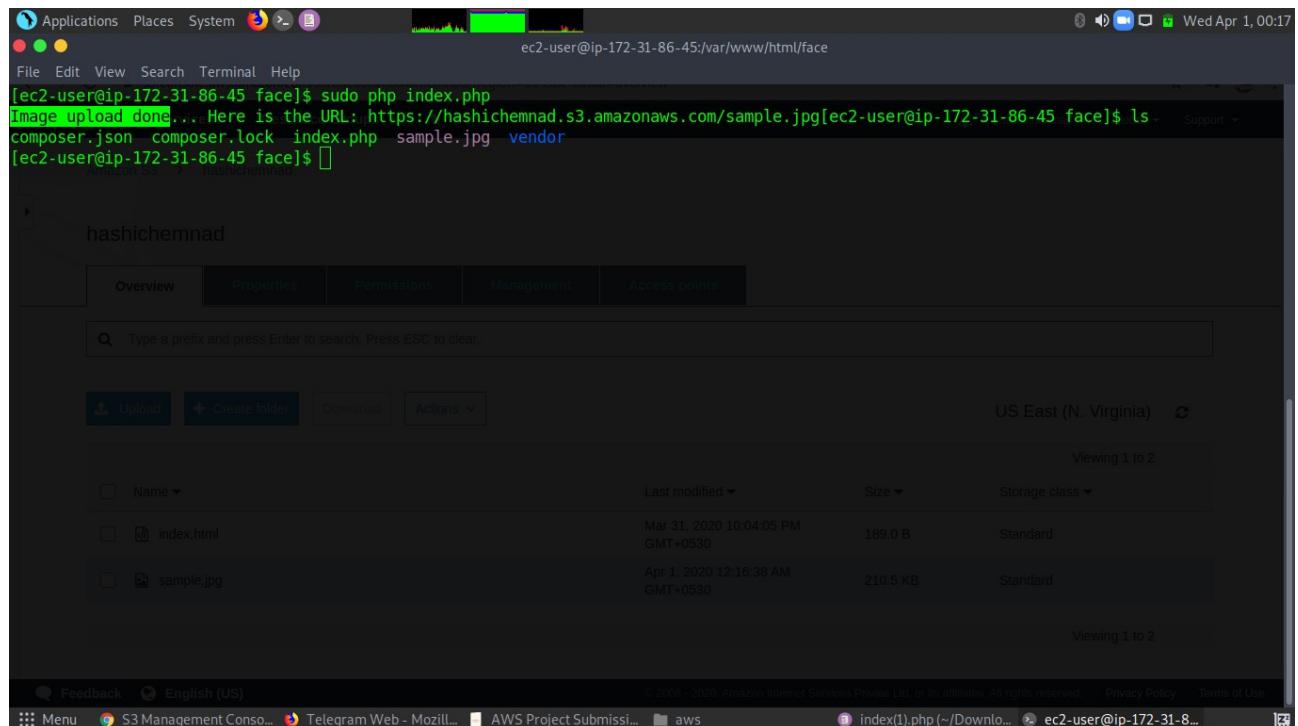
4. Upload success screenshot

Screenshots needed for EC2 & S3

1. Index.php file code

2. Marking Scheme

Upload success screenshot :



Screenshots needed for EC2 & Rekognition :

Face Detect success screenshot :

The screenshot shows a terminal window on an Amazon Linux 2 AMI system. The terminal output is as follows:

```
student.db
tensorflow_speech_recognition_demo-master.zip Getting Started...
u318319558_iot.sql
u763341086_akkalla.sql
u763341086_kt.sql
u848604133_pacecs.sql
'Unconfirmed 439529.crdownload'
'vdrip (1).sql'
vdrip.sql
'WhatsApp Image 2020-02-19 at 2.07.06 PM.jpeg'
'WhatsApp Image 2020-02-26 at 5.04.50 PM.jpeg'
zoom_amd64.deb
[root@parrot]~[~/home/hashichennad/Downloads]
[ ]# sudo ssh -i "hashichennad.pem" ec2-user@ec2-34-239-120-137.compute-1.amazonaws.com
Last login: Wed Apr  1 08:06:31 2020 from ec2-18-206-107-25.compute-1.amazonaws.com

[ ]|_ _|_)  Search Google or type a URL
[ ]| (   /  Amazon Linux 2 AMI
[ ]| \_ |_)
```

Below the terminal, a browser window is open to <https://aws.amazon.com/amazon-linux-2/>. The page displays a success message: "Image upload done... Here is the URL: https://hashichennad.s3.amazonaws.com/sample.jpg". It also states "Totally there are 9 faces".

At the bottom of the browser window, the URL is shown as [ec2-user@ip-172-31-86-45:~\\$](ec2-user@ip-172-31-86-45:~$).