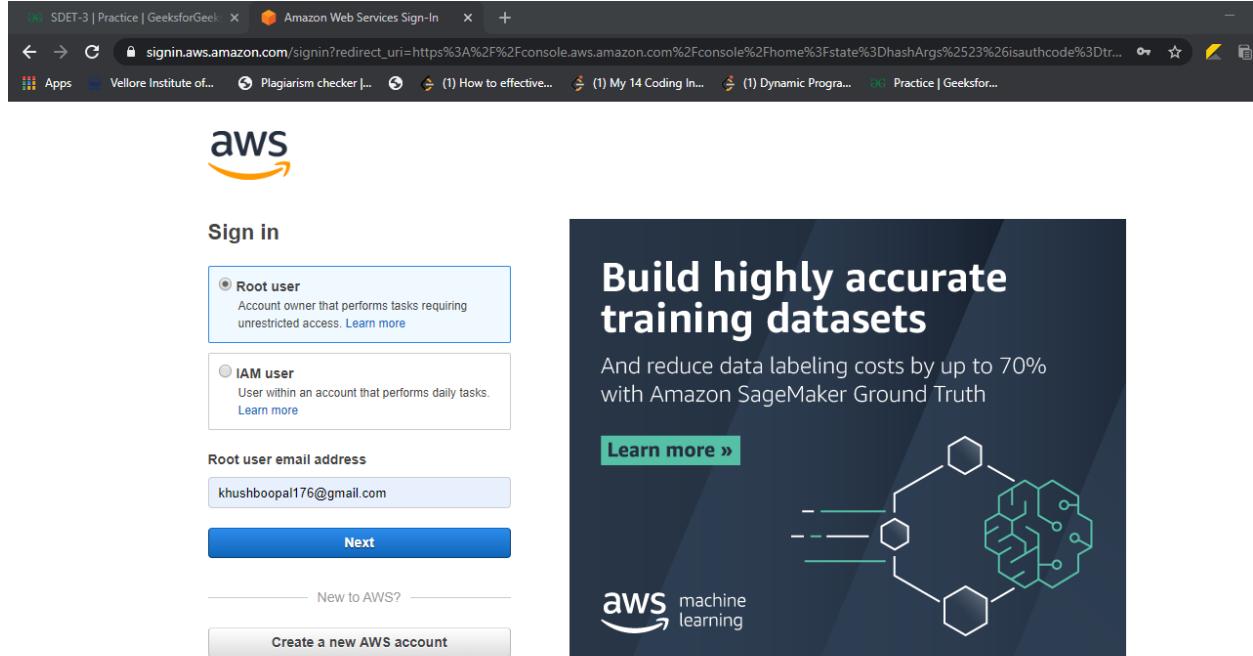


Masterclass on Aws cloud- by Aravind Sir

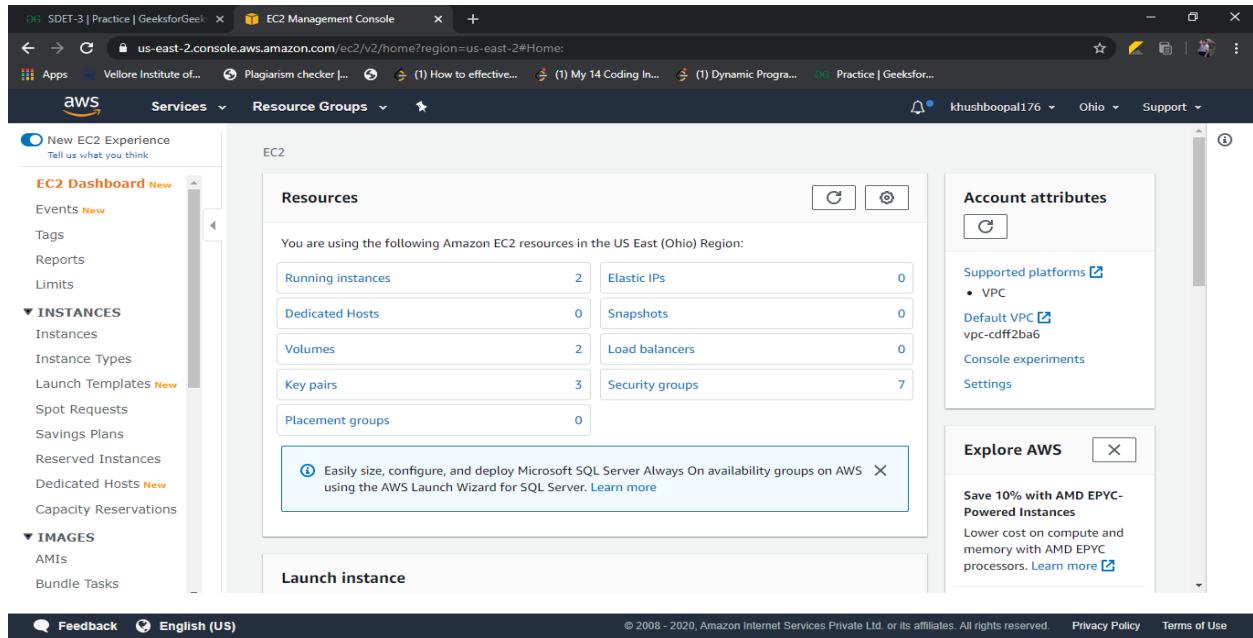
Screenshots Required:

1.)



The screenshot shows two side-by-side web pages. On the left is the AWS sign-in page, which asks for a root user or IAM user email address. A radio button for 'Root user' is selected. The email address 'khushboopal176@gmail.com' is entered. Below the input field is a 'Next' button. At the bottom, there are links for 'New to AWS?' and 'Create a new AWS account'. On the right is an advertisement for Amazon SageMaker Ground Truth. It features the text 'Build highly accurate training datasets' and 'And reduce data labeling costs by up to 70% with Amazon SageMaker Ground Truth'. It includes a 'Learn more >' button and a diagram showing a brain-like structure connected to a network of hexagonal shapes, labeled 'aws machine learning'.

2.)



The screenshot shows the AWS EC2 Management Console. The left sidebar has sections for 'New EC2 Experience', 'Events New', 'Tags', 'Reports', 'Limits', 'INSTANCES' (with sub-options like 'Instances', 'Instance Types', 'Launch Templates New', 'Spot Requests', 'Savings Plans', 'Reserved Instances', 'Dedicated Hosts New', 'Capacity Reservations'), 'IMAGES' (with sub-options like 'AMIs', 'Bundle Tasks'), and 'Feedback English (US)'. The main content area is titled 'EC2' and shows 'Resources'. It lists the following counts: Running instances (2), Elastic IPs (0), Dedicated Hosts (0), Snapshots (0), Volumes (2), Load balancers (0), Key pairs (3), Security groups (7), and Placement groups (0). A callout box says 'Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. Learn more'. Below this is a 'Launch instance' button. To the right is an 'Account attributes' panel listing 'Supported platforms' (VPC), 'Default VPC' (vpc-cdff2ba6), 'Console experiments', and 'Settings'. A 'Explore AWS' panel offers 'Save 10% with AMD EPYC-Powered Instances' and 'Lower cost on compute and memory with AMD EPYC processors'. The footer includes links for 'Feedback', 'English (US)', '© 2008 - 2020, Amazon Internet Services Private Ltd, or its affiliates. All rights reserved.', 'Privacy Policy', and 'Terms of Use'.

3.)

The screenshot shows the AWS S3 Management Console. On the left, a sidebar titled "Amazon S3" has sections for "Buckets", "Batch operations", "Access analyzer for S3", "Block public access (account settings)", and "Feature spotlight". The main area is titled "Amazon S3" and shows a table of "Buckets (2)". The table includes columns for Name, Region, Access, and Bucket created. The data is as follows:

Name	Region	Access	Bucket created
aws-webinar-codemithra	US East (Ohio) us-east-2	Objects can be public	2020-04-05T08:39:05.000Z
aws-project-khushboo	US East (Ohio) us-east-2	Objects can be public	2020-04-04T06:22:54.000Z

At the bottom, there are links for "Feedback", "English (US)", and copyright information: "© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use".

4.)

The screenshot shows the AWS Rekognition Console. On the left, a sidebar titled "Amazon Rekognition" lists features: 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), and Metrics. The main area is titled "Amazon Rekognition" and describes it as a "Deep learning-based visual analysis service" that "Search, verify, and organize millions of images and videos". It features a "Try Demo" button and a "Download SDKs" button. Below this, there are three sections: "Easily Integrate Powerful Visual Analysis into Your App" (with an icon of stacked squares), "Continuously Learning" (with an icon of a circuit board), and "Integrated with AWS Services" (with an icon of puzzle pieces). At the bottom, there are links for "Feedback", "English (US)", and copyright information: "© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use".

5.)

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

Category	AMI Name	Description	Select
My AMIs	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.	<input checked="" type="button"/>
AWS Marketplace	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.	<input type="button"/>
Community AMIs			
Free tier only			

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6.)

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
General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
General purpose	t2.micro	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

Cancel Previous Review and Launch Next: Configure Instance Details

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7.)

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

8.)

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

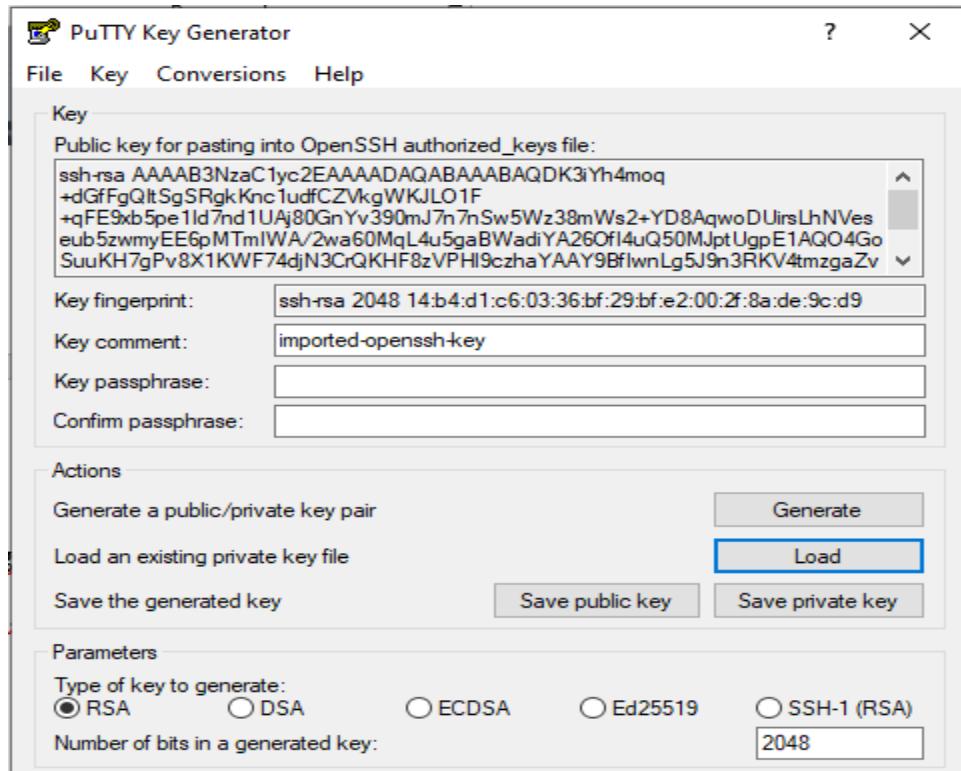
Warning
Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel Previous Review and Launch

9.)

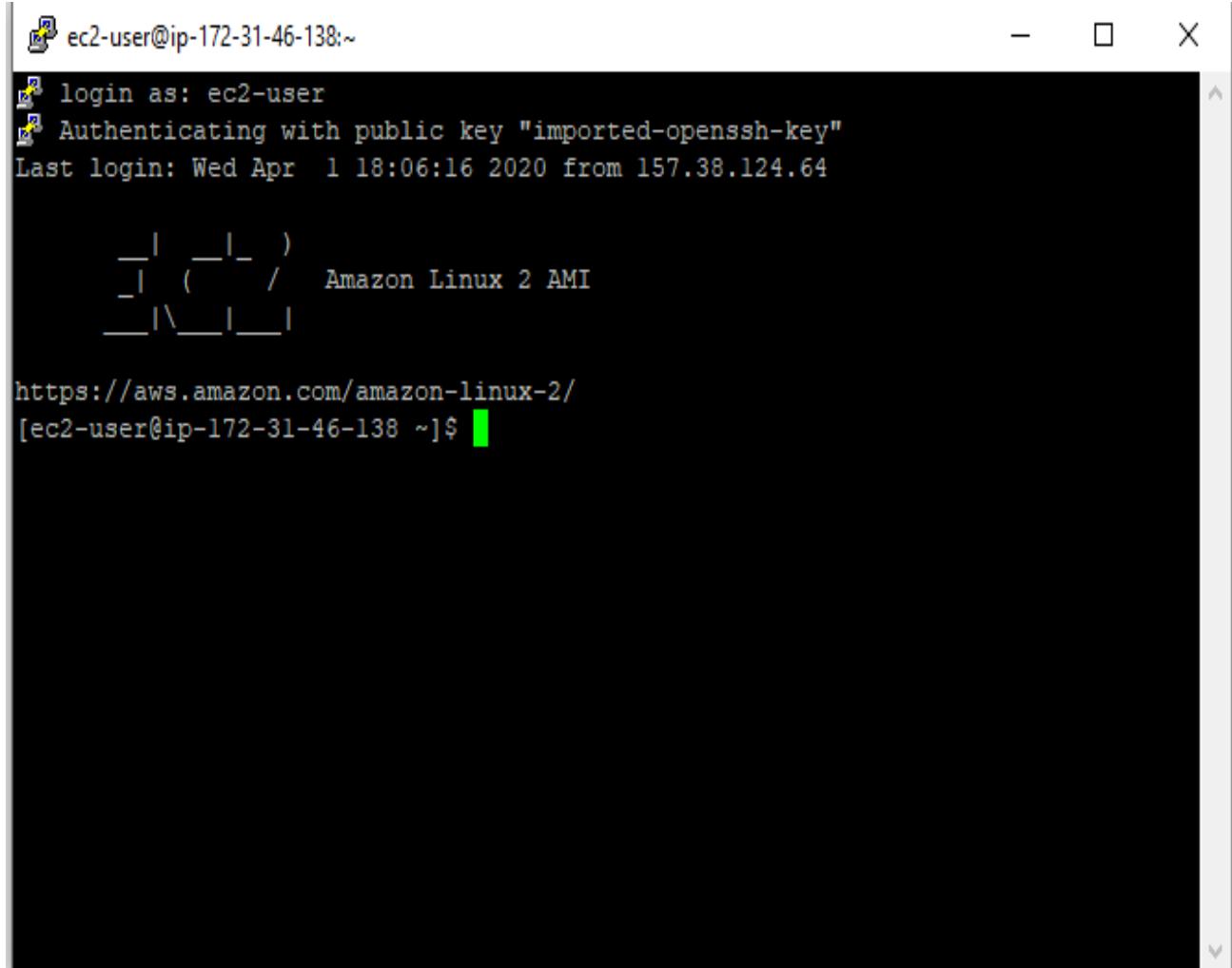
The screenshot shows the AWS Launch Instance Wizard at Step 7: Review Instance Launch. The main page displays instance details like AMI (Amazon Linux 2 AMI (HVM), S), Instance Type (t2.micro), and Network Performance (Low to Moderate). A modal window titled "Select an existing key pair or create a new key pair" is overlaid. It contains instructions about key pairs, a note about selecting a key pair, and a dropdown menu currently set to "Select a key pair". Below the dropdown is a dropdown set to "amazon-cloud". At the bottom of the modal are "Cancel" and "Launch Instances" buttons.

10.)



Converting amazon-cloud.pem to amazon-cloud.ppk

11.)



A screenshot of a terminal window titled "ec2-user@ip-172-31-46-138:~". The window shows the following text:

```
login as: ec2-user
Authenticating with public key "imported-openssh-key"
Last login: Wed Apr  1 18:06:16 2020 from 157.38.124.64

[ec2-user@ip-172-31-46-138 ~]$
```

The terminal window has standard operating system window controls (minimize, maximize, close) at the top right.

12.)

The screenshot shows the 'Create bucket' wizard in the AWS S3 Management Console. The 'General configuration' step is selected. A bucket named 'aws-project-khushbod' is being created in the 'US East (Ohio) us-east-2' region. Under 'Bucket settings for Block Public Access', the 'Block all public access' checkbox is checked. This setting applies to new buckets and objects but does not affect existing ones. The status bar at the bottom indicates the copyright year from 2008 to 2020.

13.)

The screenshot shows the 'Upload' wizard in the AWS S3 Management Console. A file named 's.jpg' is being uploaded to the 'aws-webinar-face' bucket. The upload progress is at 24.0 B. The wizard steps are: Select files (done), Set permissions (done), Set properties (done), and Review (in progress). The review step shows the file details: 1 File, Size: 24.0 B, Permissions (1 grantee), Properties (Encryption: No, Storage class: Standard), and Tag. The status bar at the bottom indicates the copyright year from 2008 to 2020.

14.)

The screenshot shows the AWS S3 Management Console for the bucket 'aws-project-khushboo'. The 'Properties' tab is selected. On the left, there's a sidebar with 'Amazon S3' and 'aws-project-khushboo'. Below the sidebar, there are five cards:

- 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 (indicated by a checkmark).
- 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: Enabled.

At the bottom, there are links for 'Feedback', 'English (US)', and copyright information: '© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.' and 'Privacy Policy Terms of Use'.

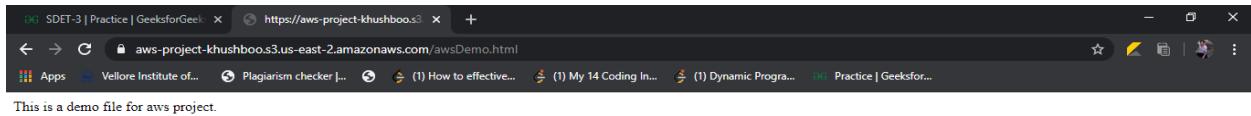
15.)

The screenshot shows the AWS S3 Management Console for the bucket 'aws-project-khushboo'. The 'Permissions' tab is selected. The interface is divided into several sections:

- Access for bucket owner**: Shows a table with one row for the canonical ID of the account owner.
- Access for other AWS accounts**: Shows a table with a row for 'Everyone'.
- Public access**: Shows a table with a row for 'Everyone'.
- S3 log delivery group**: Shows a table with a row for 'Log Delivery'.

A modal window is open for the 'Everyone' entry under 'Access for other AWS accounts'. The modal title is 'Everyone'. It contains two sections: 'Access to the objects' and 'Access to this bucket's ACL'. Under 'Access to the objects', there are checkboxes for 'List objects' and 'Write objects', both of which are checked. Under 'Access to this bucket's ACL', there are checkboxes for 'Read bucket permissions' and 'Write bucket permissions', both of which are checked. At the bottom of the modal are 'Cancel' and 'Save' buttons.

16.)



17.)

A screenshot of the Amazon Rekognition console in a web browser. The URL is us-east-2.console.aws.amazon.com/rekognition/home?region=us-east-2#/face-detection. The left sidebar shows various services like Custom Labels, Demos, Facial analysis (which is selected), and Metrics. The main area is titled "Facial analysis" and shows a woman driving a yellow car with a bounding box around her face. Below the image are two sections: "Choose a sample image" with a thumbnail of a person in sunglasses, and "Use your own image" with a "Upload" button. To the right, there's a "Results" section with a list of attributes and their confidence scores:

Attribute	Score (%)
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 %

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

18.)

The screenshot shows the AWS Rekognition Face comparison interface. On the left sidebar, under the 'Face comparison' section, 'Face comparison' is selected. The main area is titled 'Face comparison' with the sub-instruction 'Compare faces to see how closely they match based on a similarity percentage.' It displays two images: a 'Reference face' (a girl smiling) and 'Comparison faces' (two girls smiling). Below these are two 'Choose a sample image' buttons. To the right, a results panel shows a comparison between the reference face and another girl, with a similarity score of 99.8%. There are also other comparison results shown below.

19.)

The screenshot shows the AWS Rekognition Celebrity recognition interface. On the left sidebar, under the 'Celebrity recognition' section, 'Celebrity recognition' is selected. The main area is titled 'Celebrity recognition' with the sub-instruction 'Rekognition automatically recognizes celebrities in images and provides confidence scores.' It displays a large image of a man's face with a bounding box around it. Below this are 'Choose a sample image' and 'Use your own image' buttons. To the right, a results panel shows a match with 'Andy Jassy' at 100% confidence. There are also 'Request' and 'Response' sections.

20.)

The screenshot shows the 'Text in image' demo page of the Amazon Rekognition console. The left sidebar lists various services like Custom Labels, Demos, and Metrics. The main area displays a green car on a city street with the license plate 'J389 NLT'. Below the image are two input options: 'Choose a sample image' (with a small thumbnail) and 'Use your own image' (with a 'Upload' button). To the right, the results are shown for 'US English only', displaying the detected text 'J389 NLT'. There are also sections for 'Request' and 'Response'.

21.)

```
[ec2-user@ip-172-31-18-152:~]
[ec2-user login as: ec2-user
[ec2-user Authenticating with public key "imported-openssh-key"
Last login: Sun Apr  5 11:35:36 2020 from 157.39.13.126

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

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-18-152 ~]$ sudo php -d memory_limit=-1 ~/composer.phar require aws/aws-sdk-php
Using version ^3.134 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 (3.134.3): Loading from cache
guzzlehttp/psr7 suggests installing zendframework/zend-httphandlerrunner (Emit PSR-7 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)
aws/aws-sdk-php suggests installing doctrine/cache (To use the DoctrineCacheAdapter)
aws/aws-sdk-php suggests installing aws/aws-php-sns-message-validator (To validate 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-172-31-18-152 ~]$
```

22.)

```
[ec2-user@ip-172-31-46-138 ~]$ sudo yum install php
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
Resolving Dependencies
--> Running transaction check
--> Package php.x86_64 0:7.2.28-1.amzn2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
 Package      Arch      Version       Repository      Size
 ===
 Installing:
 php          x86_64    7.2.28-1.amzn2   amzn2extra-php7.2  2.9 M

 Transaction Summary
 =====
 Install 1 Package

 Total download size: 2.9 M
 Installed size: 9.1 M
 Is this ok [y/d/N]: y
```

23.)

```
$bucket = 'aws-project-khushboo';
$keyname = 'sample.jpg';

$s3 = new S3Client([
    '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-write'
    ]);
}

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

rekognition = new RekognitionClient([
    'region'      => 'us-east-2',
    'version'     => 'latest',
]);
$result = $rekognition->detectFaces([
    'Attributes'  => ['DEFAULT'],
    'Image'       => [
        'S3Object' => [
            'Bucket' => $bucket,
            'Name'  => $keyname,
            'Key'   => $keyname,
        ],
        1,
    ],
    1,
]);
echo "Totally there are " . count($result["FaceDetails"]) . " faces";
}
} catch (Exception $e) {
    echo $e->getMessage() . PHP_EOL;
}
```

24.)

```
ec2-user@ip-172-31-46-138:~/var/www/html/face
[ec2-user@ip-172-31-46-138 ~]$ cd /var/www/html
[ec2-user@ip-172-31-46-138 html]$ cd face
[ec2-user@ip-172-31-46-138 face]$ pwd
/var/www/html/face
[ec2-user@ip-172-31-46-138 face]$ ls
composer.json composer.lock index.php s.jpg vendor
[ec2-user@ip-172-31-46-138 face]$ sudo php index.php
Image upload done... Here is the URL: https://aws-webinar-face.s3.us-east-2.amaz
[ec2-user@ip-172-31-46-138 face]$
```

25.) Final Output: (Faces Recognized successfully)

```
ec2-user@ip-172-31-18-152:~/var/www/html/face
[ec2-user@ip-172-31-18-152 ~]$ cd /var/www/html/face
[ec2-user@ip-172-31-18-152 face]$ sudo vim index.php
[ec2-user@ip-172-31-18-152 face]$ sudo php index.php
Image upload done... Here is the URL: https://aws-project-khushboo.s3.us-east-2.amazonaws.com/sample.jpgTotally there are 9 faces[ec2-user@ip-172-31-18-152 face]$
```