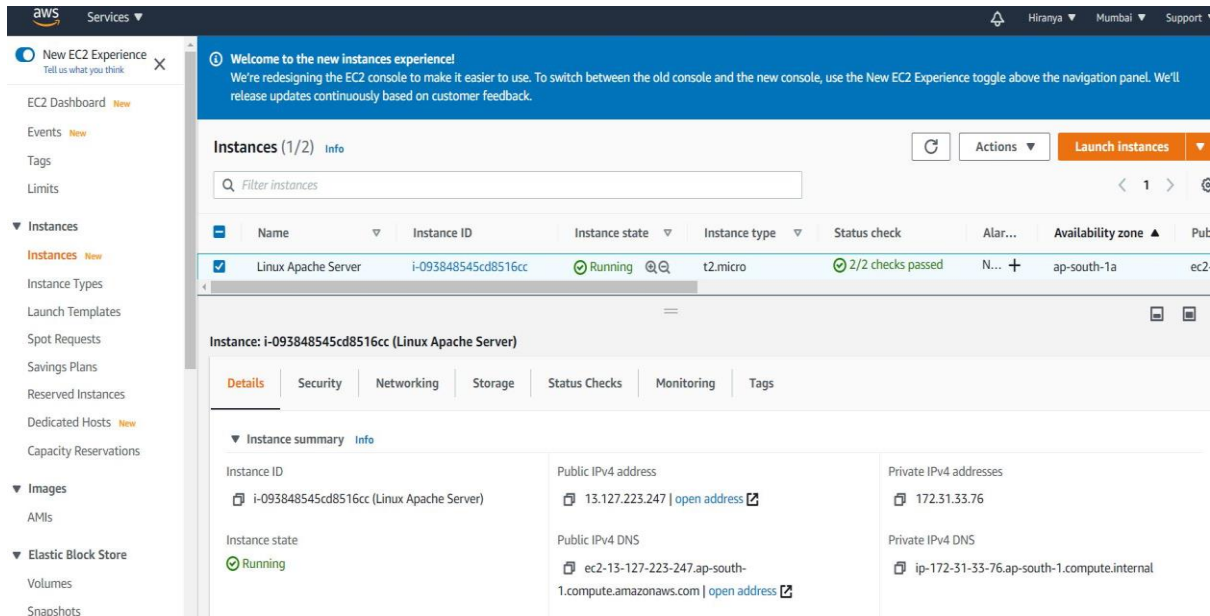


PROJECT 6: WORKING WITH IAM ROLES WITH S3 AND BOOTSTRAPING WITH EC2

TASK 1: Creating a Linux Bootstrapping Instance



aws Services ▾

New EC2 Experience
Tell us what you think

EC2 Dashboard **New**

Events **New**

Tags

Limits

▼ Instances

Instances **New**

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts **New**

Capacity Reservations

▼ Images

AMIs

▼ Elastic Block Store

Volumes

Snapshots

Welcome to the new instances experience!
We're redesigning the EC2 console to make it easier to use. To switch between the old console and the new console, use the New EC2 Experience toggle above the navigation panel. We'll release updates continuously based on customer feedback.

Instances (1/2) Info

Filter instances

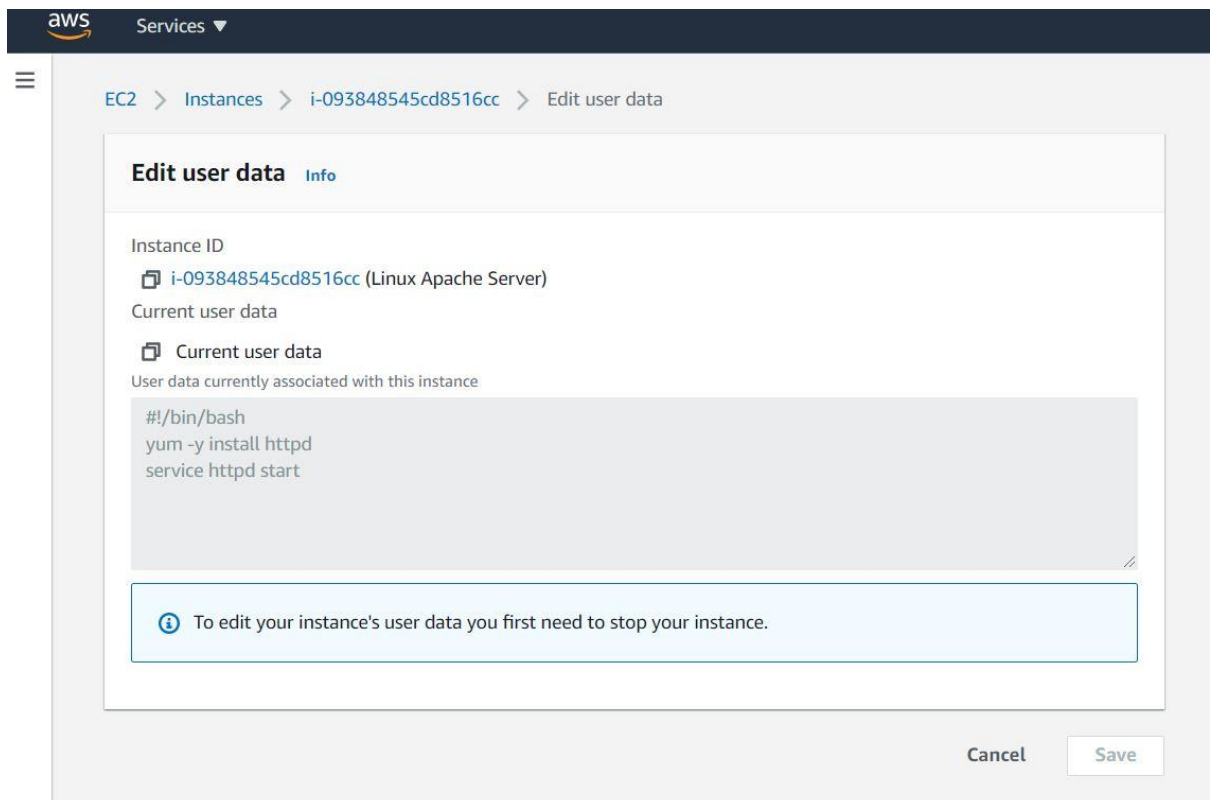
Name	Instance ID	Instance state	Instance type	Status check	Alar...	Availability zone	Pub
Linux Apache Server	i-093848545cd8516cc	Running	t2.micro	2/2 checks passed	N...	ap-south-1a	ec2

Instance: i-093848545cd8516cc (Linux Apache Server)

Details Security Networking Storage Status Checks Monitoring Tags

▼ Instance summary Info

Instance ID	Public IPv4 address	Private IPv4 addresses
i-093848545cd8516cc (Linux Apache Server)	13.127.223.247 open address	172.31.33.76
Instance state	Public IPv4 DNS	Private IPv4 DNS
Running	ec2-13-127-223-247.ap-south-1.compute.amazonaws.com open address	ip-172-31-33-76.ap-south-1.compute.internal



aws Services ▾

EC2 > Instances > i-093848545cd8516cc > Edit user data

Edit user data Info

Instance ID

i-093848545cd8516cc (Linux Apache Server)

Current user data

Current user data

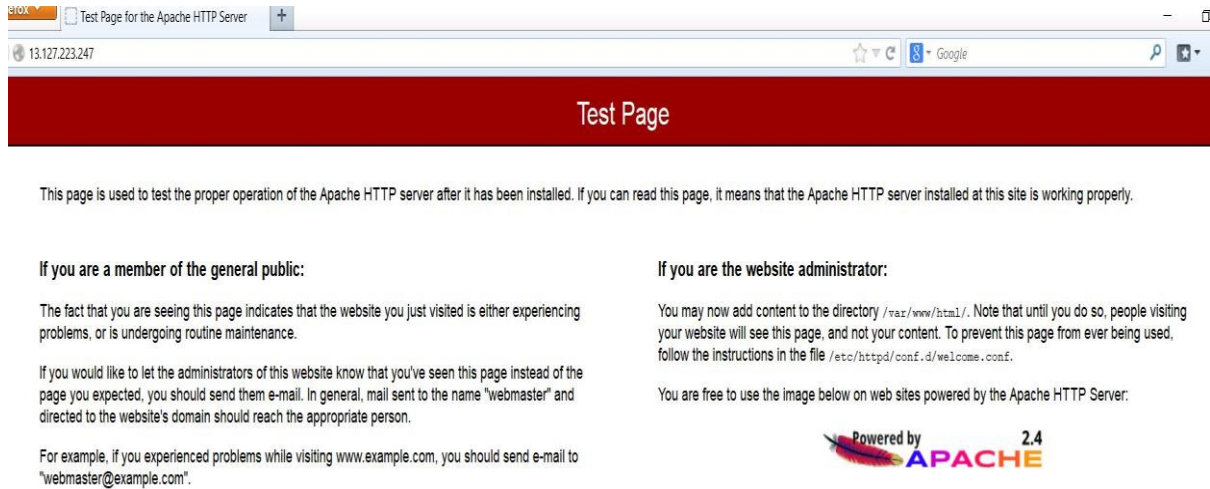
User data currently associated with this instance

```
#!/bin/bash
yum -y install httpd
service httpd start
```

To edit your instance's user data you first need to stop your instance.

Cancel Save

TASK 2: Launching Apache test webpage by using public IP



This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.


If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting `www.example.com`, you should send e-mail to "webmaster@example.com".

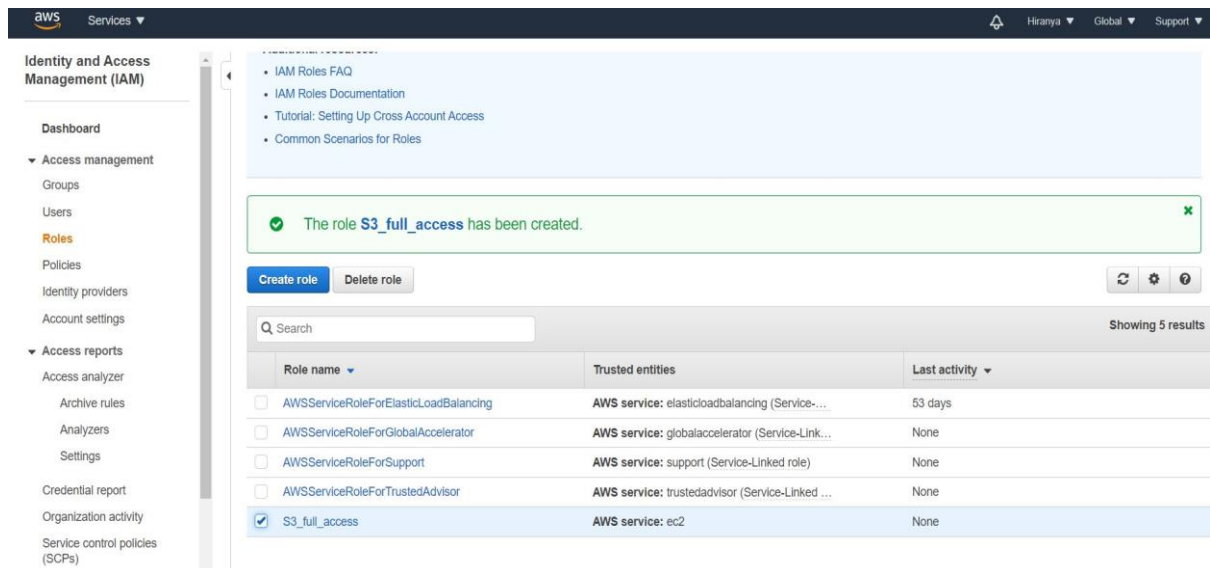
If you are the website administrator:

You may now add content to the directory `/var/www/html/`. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file `/etc/httpd/conf.d/welcome.conf`.

You are free to use the image below on web sites powered by the Apache HTTP Server:



TASK 3: Creating a IAM role named as S3_full_access



Identity and Access Management (IAM)

- Dashboard
- Access management
 - Groups
 - Users
 - Roles**
 - Policies
 - Identity providers
 - Account settings
- Access reports
 - Access analyzer
 - Archive rules
 - Analysers
 - Settings
- Credential report
- Organization activity
- Service control policies (SCPs)

Roles

- IAM Roles FAQ
- IAM Roles Documentation
- Tutorial: Setting Up Cross Account Access
- Common Scenarios for Roles

✓ The role **S3_full_access** has been created.

Create role Delete role

Search Showing 5 results

Role name	Trusted entities	Last activity
<input type="checkbox"/> AWSServiceRoleForElasticLoadBalancing	AWS service: elasticloadbalancing (Service-Linked role)	53 days
<input type="checkbox"/> AWSServiceRoleForGlobalAccelerator	AWS service: globalaccelerator (Service-Linked role)	None
<input type="checkbox"/> AWSServiceRoleForSupport	AWS service: support (Service-Linked role)	None
<input type="checkbox"/> AWSServiceRoleForTrustedAdvisor	AWS service: trustedadvisor (Service-Linked role)	None
<input checked="" type="checkbox"/> S3_full_access	AWS service: ec2	None

TASK 4: Creating a EC2 instance with IAM ROLE S3_full_access

Step 3: Configure Instance Details

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

Auto-assign Public IP ☐ Use subnet setting (Enable)

Placement group ☐ Add instance to placement group

Capacity Reservation ☐ Open

Domain join directory ☐ No directory [Create new directory](#)

IAM role ☐ S3_full_access [Create new IAM role](#)

Shutdown behavior ☐ Stop

Stop - Hibernate behavior ☐ Enable hibernation as an additional stop behavior

Enable termination protection ☐ Protect against accidental termination

Monitoring ☐ Enable CloudWatch detailed monitoring
Additional charges apply.

Tenancy ☐ Shared - Run a shared hardware Instance
Additional charges will apply for dedicated tenancy.

Credit specification ☐ Unlimited
Additional charges may apply

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

Instances (1/3) Info

Filter instances

Name	Instance ID	Instance state	Instance type	Status check	Alar...	Availability zone	Public
-	i-05165fc933dde33aa	Termina...	t2.micro	-	N...	ap-south-1b	-
EC2 with IAM Role	i-0ee661e38973cca0d	Running	t2.micro	2/2 checks passed	N...	ap-south-1b	ec2-13

Instance: i-0ee661e38973cca0d (EC2 with IAM Role)

Details Security Networking Storage Status Checks Monitoring Tags

Instance summary Info

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0ee661e38973cca0d (EC2 with IAM Role)	13.235.86.33 open address	172.31.3.185
Instance state	Public IPv4 DNS	Private IPv4 DNS
Running	ec2-13-235-86-33.ap-south-1.compute.amazonaws.com open address	ip-172-31-3-185.ap-south-1.compute.internal
Instance type	Elastic IP addresses	VPC ID
t2.micro	-	vpc-9e5544f6

TASK 5: Creating 3 S3 buckets

Amazon S3

Buckets

Batch operations

Access analyzer for S3

Block public access (account settings)

Feature spotlight

Access S3-backed file shares on premises and reduce local storage costs using AWS Storage Gateway. [Learn more](#) [Documentation](#)

We've temporarily re-enabled the previous version of the S3 console while we continue to improve the new S3 console experience. [Switch to the new console.](#)

S3 buckets [Discover the console](#)

Search for buckets All access types

[+ Create bucket](#) [Edit public access settings](#) [Empty](#) [Delete](#)

3 Buckets 2 Regions

Bucket name	Access	Region	Date created
hijak12	Bucket and objects not public	Asia Pacific (Mumbai)	Oct 16, 2020 12:05:10 PM GMT+0530
hira123	Bucket and objects not public	Asia Pacific (Mumbai)	Oct 16, 2020 12:04:51 PM GMT+0530
letsupgrade0002	Objects can be public	US East (N. Virginia)	Oct 16, 2020 12:08:45 PM GMT+0530

TASK 6: S3 buckets are accessing on linux EC2 instance

```
Last login: Fri Oct 16 06:33:10 2020 from ec2-13-233-177-0.ap-south-1.compute.amazonaws.com

 _|_ ( _|_ /
_|_ \_|_|_|

Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
2 package(s) needed for security, out of 13 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-3-185 ~]$ aws s3 ls
2020-10-16 06:35:10 hijak12
2020-10-16 06:34:51 hira123
2020-10-16 06:38:45 letsupgrade0002
[ec2-user@ip-172-31-3-185 ~]$
```

TASK 7: New bucket "letsupgrade77777" created by AWS CLI

```
Last login: Fri Oct 16 06:33:10 2020 from ec2-13-233-177-0.ap-south-1.compute.amazonaws.com

 _|_ ( _|_ /
_|_ \_|_|_|

Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
2 package(s) needed for security, out of 13 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-3-185 ~]$ aws s3 ls
2020-10-16 06:35:10 hijak12
2020-10-16 06:34:51 hira123
2020-10-16 06:38:45 letsupgrade0002
[ec2-user@ip-172-31-3-185 ~]$ aws s3 mb s3://letsupgrade77777
make_bucket: letsupgrade77777
[ec2-user@ip-172-31-3-185 ~]$
```

Amazon S3

Access S3-backed file shares on premises and reduce local storage costs using AWS Storage Gateway. [Learn more](#) [Documentation](#)

We've temporarily re-enabled the previous version of the S3 console while we continue to improve the new S3 console experience. [Switch to the new console.](#)

S3 buckets [Discover the console](#)

Search for buckets All access types

[+ Create bucket](#) [Edit public access settings](#) [Empty](#) [Delete](#) 4 Buckets 2 Regions

<input type="checkbox"/> Bucket name	Access	Region	Date created
<input type="checkbox"/> hijak12	Bucket and objects not public	Asia Pacific (Mumbai)	Oct 16, 2020 12:05:10 PM GMT+0530
<input type="checkbox"/> hira123	Bucket and objects not public	Asia Pacific (Mumbai)	Oct 16, 2020 12:04:51 PM GMT+0530
<input type="checkbox"/> letsupgrade0002	Objects can be public	US East (N. Virginia)	Oct 16, 2020 12:08:45 PM GMT+0530
<input type="checkbox"/> letsupgrade77777	Objects can be public	US East (N. Virginia)	Oct 16, 2020 12:12:12 PM GMT+0530

TASK 8: Creating a new S3 bucket uploading one "index.html" file

The screenshot shows the AWS S3 console interface. At the top, there's a navigation bar with the AWS logo and 'Services' dropdown. Below it, the breadcrumb 'Amazon S3 > bhu567' is visible. The bucket name 'bhu567' is prominently displayed. A tabbed interface shows 'Overview', 'Properties', 'Permissions', 'Management', and 'Access points'. A search bar is present with the placeholder text 'Type a prefix and press Enter to search. Press ESC to clear.' Below the search bar, there are buttons for 'Upload', 'Create folder', 'Download', and 'Actions'. The region 'Asia Pacific (Mumbai)' is selected. A table lists the contents of the bucket, showing one file named 'index.html' with a size of 21.0 B and a storage class of 'Standard'. The file was last modified on Oct 16, 2020 at 6:15:24 PM GMT+0530.

TASK 9: Creating a bootstrapped linux instance

The screenshot displays the AWS Management Console for the EC2 service. The left sidebar shows the navigation menu with options like 'New EC2 Experience', 'EC2 Dashboard', 'Events', 'Tags', 'Limits', 'Instances', 'Instance Types', 'Launch Templates', 'Spot Requests', 'Savings Plans', 'Reserved Instances', 'Dedicated Hosts', 'Capacity Reservations', 'Images', 'AMIs', and 'Elastic Block Store'. The main content area shows the 'Instances (1/1)' page. A table lists the instance 'i-00d0fa52f5a7a31eb' with a state of 'Running' and a type of 't2.micro'. Below the table, the 'Details' tab is selected, showing the instance summary. The summary includes the instance ID, name, state, and various addresses (Public IPv4, Private IPv4, Public IPv4 DNS, Private IPv4 DNS).

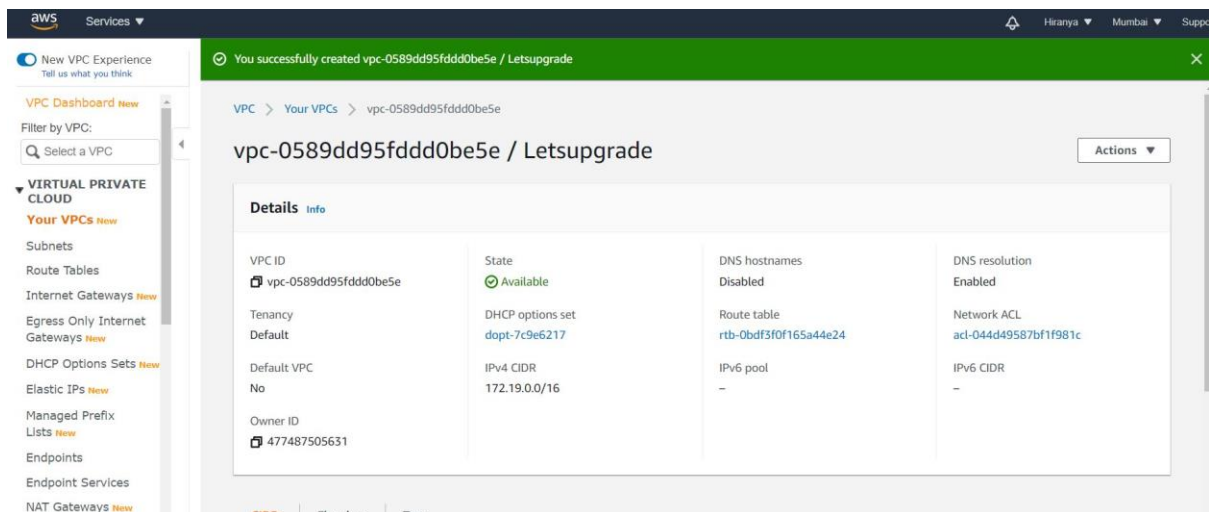
The screenshot shows the 'Edit user data' dialog box in the AWS Management Console. The dialog is titled 'Edit user data' and includes an 'Info' tab. It displays the instance ID 'i-00d0fa52f5a7a31eb' and the current user data. The user data is a shell script that installs httpd, copies the index.html file from an S3 bucket, starts the httpd service, and checks its configuration. A warning message at the bottom states: 'To edit your instance's user data you first need to stop your instance.' The dialog has 'Cancel' and 'Save' buttons at the bottom right.

TASK 10: Launching the webpage

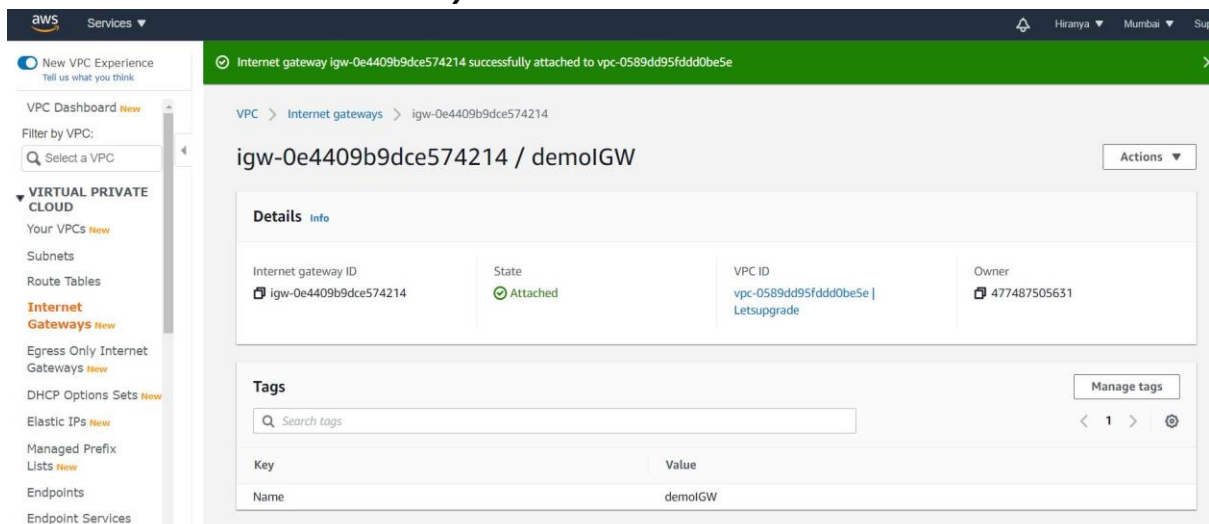


PROJECT 7: WORKING WITH VPC

TASK 1: Create a custom VPC "Letsupgrade"



TASK 2: Create a Internet Gateway "demoIGW" & attached with the custom VPC



TASK 3: Create a new route table “demoroute” and make it as Main route table and add a new route to it

The screenshot shows the AWS Management Console interface for the 'Route Tables' section. The 'demoroute' route table (rtb-04878e6566826affc) is highlighted as the 'Main' route table. The table lists three route tables: 'demoroute', 'rtb-0bd13f0f165a44e24', and 'rtb-4acd1a21'. The 'demoroute' table is associated with VPC 'vpc-0589dd95fddd0be5e' and is marked as 'Main'.

Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID	Owner
demoroute	rtb-04878e6566826affc	-	-	Yes	vpc-0589dd95fddd0be5e ...	477487505631
	rtb-0bd13f0f165a44e24	-	-	No	vpc-0589dd95fddd0be5e ...	477487505631
	rtb-4acd1a21	-	-	Yes	vpc-9e5544f6	477487505631

Route Table: rtb-04878e6566826affc

Summary | Routes | Subnet Associations | Edge Associations | Route Propagation | Tags

Route Table ID: rtb-04878e6566826affc
Main: Yes
Explicitly Associated with: -
Owner: 477487505631
VPC: vpc-0589dd95fddd0be5e | Letsupgrade

The screenshot shows the 'Routes' tab for the 'demoroute' route table. Two routes are listed: one for destination '172.19.0.0/16' targeting 'local', and another for destination '0.0.0.0/0' targeting 'lgw-0e4409b9dce574214'. Both routes are 'active' and have not been propagated.

Destination	Target	Status	Propagated
172.19.0.0/16	local	active	No
0.0.0.0/0	lgw-0e4409b9dce574214	active	No

TASK 4: Create a custom Subnet “upgrade123” and attached with VPC

Subnets

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4	IPv6 CIDR	Availability Zone	Availability
subnet-0dbd0b76	subnet-0dbd0b76	available	vpc-9e5544f6	172.31.16.0/20	4091	-	ap-south-1c	aps1-c
upgrade123	subnet-0e72da411c809350f	available	vpc-0589dd95fdd0be5e Letsupgrade	172.19.0.0/24	251	-	ap-south-1b	aps1-b
subnet-24a19e4c	subnet-24a19e4c	available	vpc-9e5544f6	172.31.32.0/20	4091	-	ap-south-1a	aps1-a
subnet-3aacc076	subnet-3aacc076	available	vpc-9e5544f6	172.31.0.0/20	4091	-	ap-south-1b	aps1-b

Subnet: subnet-0e72da411c809350f

Description	Flow Logs	Route Table	Network ACL	Tags	Sharing
Subnet ID	Subnet ID	Subnet ID	Subnet ID	Subnet ID	Subnet ID
VPC	VPC	VPC	VPC	VPC	VPC
Available IPv4 Addresses	Available IPv4 Addresses	Available IPv4 Addresses	Available IPv4 Addresses	Available IPv4 Addresses	Available IPv4 Addresses
Availability Zone	Availability Zone	Availability Zone	Availability Zone	Availability Zone	Availability Zone
Network ACL	Network ACL	Network ACL	Network ACL	Network ACL	Network ACL
Auto-assign public IPv4 address	Auto-assign public IPv4 address	Auto-assign public IPv4 address	Auto-assign public IPv4 address	Auto-assign public IPv4 address	Auto-assign public IPv4 address
Customer-owned IPv4 pool	Customer-owned IPv4 pool	Customer-owned IPv4 pool	Customer-owned IPv4 pool	Customer-owned IPv4 pool	Customer-owned IPv4 pool
Outpost ID	Outpost ID	Outpost ID	Outpost ID	Outpost ID	Outpost ID

TASK 5: Creating a Windows Instance with custom VPC

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower price.

Number of instances 1 [Launch into Auto Scaling Group](#)

Purchasing option ☐ Request Spot instances

Network vpc-0589dd95fdd0be5e | Letsupgrade [Create new VPC](#)

Subnet subnet-0e72da411c809350f | upgrade123 | ap-south-1b [Create new subnet](#)

Auto-assign Public IP Enable

Placement group ☐ Add instance to placement group

Capacity Reservation Open

Domain join directory No directory [Create new directory](#)

IAM role None [Create new IAM role](#)

Shutdown behavior Stop

Stop - Hibernate behavior ☐ Enable hibernation as an additional stop behavior

aws Services

New EC2 Experience

EC2 Dashboard

Events

Tags

Limits

Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

Images

AMIs

Elastic Block Store

Volumes

Password Decryption Successful
The password for instance i-033e83654d236744d was successfully decrypted.

Instances (1/2)

Filter instances

	Name	Instance ID	Instance state	Instance type	Status check	Alar...	Availability zone
<input type="checkbox"/>	EC2 with IAM role	i-00d0fa52f5a7a31eb	Termina...	t2.micro	-	N...	ap-south-1a
<input checked="" type="checkbox"/>	Custom VPC EC2	i-033e83654d236744d	Running	t2.micro	2/2 checks passed	N...	ap-south-1b

Instance: i-033e83654d236744d (Custom VPC EC2)

Details Security Networking Storage Status Checks Monitoring Tags

Instance summary

Instance ID i-033e83654d236744d (Custom VPC EC2)	Public IPv4 address 65.0.122.40 open address	Private IPv4 addresses 172.19.0.211
Instance state Running	Public IPv4 DNS -	Private IPv4 DNS ip-172-19-0-211.ap-south-1.compute.internal

TASK 6: Launching the instance

Recycle Bin

EC2 Feedback

EC2 Micro...

Administrator: C:\Windows\system32\cmd.exe

```
Microsoft Windows [Version 10.0.17763.1457]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : ap-south-1.compute.internal
    Link-local IPv6 Address . . . . . : fe80::693a:e01f:454d:4abf%4
    IPv4 Address. . . . . : 172.19.0.211
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 172.19.0.1

C:\Users\Administrator>
```

Hostname: EC2AMAZ-VSLT8SJ
Instance ID: i-033e83654d236744d
Public IP Address: 65.0.122.40
Private IP Address: 172.19.0.211
Instance Size: t2.micro
Availability Zone: ap-south-1b
Architecture: AMD64
Total Memory: 1024 MB
Network Performance: Low to Moderate

ENG 2:34 PM
IN 10/16/2020