

Creating VPC -PROJECTEMP with CIDR 10.10.0.0/16 in Oregon Region (US-West 2a)

The screenshot shows the 'Create VPC' wizard in the AWS VPC Management Console. The 'VPC settings' step is selected. A 'Name tag - optional' field contains 'PROJECTEMP'. Under 'IPv4 CIDR block', 'IPv4 CIDR manual input' is selected, and the 'IPv4 CIDR' field contains '10.10.0.0/16'. Under 'IPv6 CIDR block', 'No IPv6 CIDR block' is selected. In the 'Tenancy' dropdown, 'Default' is chosen. The 'Tags' section shows a single tag 'Name: PROJECTEMP'. At the bottom, there are 'Feedback', 'English (US)', and 'Cookie preferences' buttons.

VPC – PROJECTEMP with CIDR 10.10.0.0/16 created

The screenshot shows the 'Details' tab for the newly created VPC 'vpc-0ad237d95e2ea7e4c / PROJECTEMP'. Key details include:

VPC ID	State	DNS hostnames	DNS resolution
vpc-0ad237d95e2ea7e4c	Available	Disabled	Enabled
Tenancy	DHCP options set	Main route table	Main network ACL
Default	dopt-996a3da1	rtb-071ffa53302c24b0d	acl-0a39e4e1eed7d2544
Default VPC	IPv4 CIDR	IPv6 pool	IPv6 CIDR (Network border group)
No	10.10.0.0/16	-	-
Route 53 Resolver DNS Firewall rule groups	Owner ID		
-	022477872568		

Below the details, there are tabs for 'CIDRs', 'Flow logs', and 'Tags'. The 'CIDRs' tab shows one entry: 'CIDR: 10.10.0.0/16 Status: Associated'. The 'IPv4 CIDRs' and 'IPv6 CIDRs' sections are also visible.

Creating one Private (Subnet_Private01 – 10.10.3.0/24) and two Public subnet (Subnet_Public01 – 10.10.1.0/24, Subnet_Public02 – 10.10.2.0/24) in PROJECTTEMP VPC

The screenshot shows the 'Create subnet' wizard in the AWS VPC Management Console. In the 'VPC' section, the VPC ID is set to 'vpc-0ad237d95e2ea7e4c (PROJECTTEMP)'. Under 'Associated VPC CIDRs', the IPv4 CIDR is listed as '10.10.0.0/16'. In the 'Subnet settings' section, the 'Subnet name' is 'Subnet_Public01', 'Availability Zone' is 'US West (Oregon) / us-west-2a', and the 'IPv4 CIDR block' is '10.10.1.0/24'. A tag 'Key' is also defined.

Subnet Created

The screenshot shows the 'Subnets (1/3)' page in the AWS VPC Management Console. It displays three subnets: Subnet_Public02, Subnet_Public01, and Subnet_Private01. Subnet_Private01 is selected. The table provides details such as Subnet ID, State, VPC, IPv4 CIDR, Available IPv4 range, Availability Zone, and Availability Zone ID. The 'Details' pane at the bottom shows the subnet's ARN, available IPv4 addresses (251), state (Available), availability zone (us-west-2a), and availability zone ID (usw2-az2).

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4...	Availability Z...	Availability Zone I...
Subnet_Public02	subnet-02a555012384e0088	Available	vpc-0ad237d95e2ea7e4c PR...	10.10.2.0/24	-	251	us-west-2b
Subnet_Public01	subnet-0d158cdbb6b95956a	Available	vpc-0ad237d95e2ea7e4c PR...	10.10.1.0/24	-	251	us-west-2a
Subnet_Private01	subnet-06e0b4e7f04b762eb	Available	vpc-0ad237d95e2ea7e4c PR...	10.10.3.0/24	-	251	us-west-2a

Public Route creation – ProjEmpPublicRoute

The screenshot shows the 'Create route table' wizard in the AWS VPC Management Console. The 'Route table settings' step is active. A new route table is being created with the name 'ProjEmpPublicRoute'. The VPC selected is 'vpc-0ad237d95e2ea7e4c (PROJECTEMP)'. Under the 'Tags' section, a single tag 'Name' is added with the value 'ProjEmpPublicRoute'. At the bottom right, the 'Create route table' button is highlighted.

Public Route created

The screenshot shows the details of the newly created route table 'rtb-0ab8db7f9cfae678a / ProjEmpPublicRoute'. A success message at the top states 'Route table rtb-0ab8db7f9cfae678a | ProjEmpPublicRoute was created successfully.' The 'Details' tab is selected, displaying information such as Route table ID (rtb-0ab8db7f9cfae678a), Main status, and Owner ID (022477872568). The VPC is listed as 'vpc-0ad237d95e2ea7e4c | PROJECTEMP'. The 'Routes' tab shows one route entry: Destination 10.10.0.0/16, Target local, Status Active, and Propagated No. The 'Actions' dropdown menu is visible on the right.

Private route ProjEmpPrivateRoute creation

The screenshot shows the 'Create route table' wizard in the AWS VPC Management Console. The 'Route table settings' section is filled out with:

- Name**: ProjEmpPrivateRoute
- VPC**: vpc-0ad237d95e2ea7e4c (PROJECTEMP)

The 'Tags' section contains one tag:

Key	Value - optional
Q Name	Q ProjEmpPrivateRoute

At the bottom right, there are 'Cancel' and 'Create route table' buttons.

Public & Private route created

The screenshot shows the 'Route tables' list in the AWS VPC Management Console. A success message at the top states: "Route table rtb-03724d35fc413c7d5 | ProjEmpPrivateRoute was created successfully." The table lists four route tables:

Name	Route table ID	Explicit subnet associat...	Edge associations	Main	VPC	Owner ID
ProjEmpPrivateRoute	rtb-03724d35fc413c7d5	-	-	No	vpc-0ad237d95e2ea7e4c PR...	022477872568
ProjEmpPublicRoute	rtb-0ab8db7f9cfae678a	-	-	No	vpc-0ad237d95e2ea7e4c PR...	022477872568
-	rtb-a85e65d3	-	-	Yes	vpc-566e302e	022477872568
-	rtb-071ffa53302c24b0d	-	-	Yes	vpc-0ad237d95e2ea7e4c PR...	022477872568

Internet Gateway creation – ProjEmpI-Gateway

The screenshot shows the 'Create internet gateway' page in the AWS VPC console. The 'Name tag' field contains 'ProjEmpI-Gateway'. Under 'Tags - optional', there is one tag named 'Name' with value 'ProjEmpI-Gateway'. The 'Create internet gateway' button is at the bottom right.

Internet Gateway attachment with VPC

The screenshot shows the 'Attach to VPC' page for the internet gateway 'igw-064f3b0f3975e40dd'. A VPC with ID 'vpc-0ad257d95e2ea7e4d' is selected for attachment. The 'Attach internet gateway' button is at the bottom right.

Internet Gateway attached with VPC

The screenshot shows the AWS VPC Management Console in a Firefox browser window. The URL is <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#InternetGateway:internetGatewayId=igw-064f3b0f3975e40dd>. The page title is "Internet gateway igw-064f3b0f3975e40dd successfully attached to vpc-0ad237d95e2ea7e4c". The left sidebar shows the navigation menu for VPC, including "Your VPCs", "Internet Gateways", "Route Tables", "Security Groups", "Network ACLs", "Reachability Analyzer", and "Network Access Analyzer". The main content area displays the details of the Internet Gateway "igw-064f3b0f3975e40dd / ProjEmpl-Gateway". The "Details" tab is selected, showing the Internet gateway ID (igw-064f3b0f3975e40dd), State (Attached), VPC ID (vpc-0ad237d95e2ea7e4c | PROJECTTEMP), and Owner (022477872568). A "Tags" section shows a single tag named "Name" with the value "ProjEmpl-Gateway". The bottom right of the page includes links for "Feedback", "English (US)", "© 2022, Amazon Internet Services Private Ltd. or its affiliates.", "Privacy", "Terms", and "Cookie preferences".

Public Route with Internet Gateway creation

The screenshot shows the AWS VPC Management Console in a Firefox browser window. The URL is <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#EditRoutes:RouteTableId=rtb-0ab8db7f9cfae678a>. The page title is "Edit routes". The left sidebar shows the navigation menu for VPC, including "Route tables", "Edit routes", and "Add route". The main content area displays the "Edit routes" table. The table has columns: Destination, Target, Status, and Propagated. There are two rows: one for "10.10.0.0/16" with Target "local" and Status "Active"; and another for "0.0.0.0/0" with Target "igw-064f3b0f3975e40dd" and Status "Active". At the bottom right of the table are "Cancel", "Preview", and "Save changes" buttons. The bottom right of the page includes links for "Feedback", "English (US)", "© 2022, Amazon Internet Services Private Ltd. or its affiliates.", "Privacy", "Terms", and "Cookie preferences".

Public Route with Internet Gateway created / attached

The screenshot shows the AWS VPC Management Console interface. On the left, the navigation pane is open, showing various VPC-related options like Route Tables, Subnets, and Internet Gateways. The main content area displays a route table named 'rtb-0ab8db7f9cfae678a' under the 'ProjEmpPublicRoute' VPC. The 'Details' tab is selected, showing the route table ID, VPC, and some basic associations. The 'Routes' tab is active, showing two routes: one for '10.10.0.0/16' pointing to 'local' and another for '0.0.0.0/0' pointing to the Internet Gateway 'igw-064f3b0f3f975e40dd'. The 'Actions' button is visible in the top right corner.

Public Subnet association with Internet Gateway

The screenshot shows the 'Edit subnet associations' page for the same route table. It lists available subnets (Subnet_Public02, Subnet_Public01, Subnet_Private01) and selected subnets (Subnet_Public02 and Subnet_Public01). The 'Save associations' button is at the bottom right. The interface includes a search bar and a table for managing subnet associations.

Public Subnet association completed

The screenshot shows the AWS VPC Management Console interface. A success message at the top states: "You have successfully updated subnet associations for rtb-0ab8db7f9cfiae678a / ProjEmpPublicRoute." The main page displays details for the route table "rtb-0ab8db7f9cfiae678a / ProjEmpPublicRoute". Under the "Details" tab, it shows the Route table ID as "rtb-0ab8db7f9cfiae678a", Main status as "No", and VPC as "vpc-0ad237d95e2ea7e4c | PROJECTEMP". The "Explicit subnet associations" section lists two subnets: "subnet-02a550123b4e0088 / Subnet_Public02" and "subnet-0d158cdbbb95956a / Subnet_Public01", both associated with the IPv4 CIDR "10.10.2.0/24". The "Subnets without explicit associations" section lists one subnet: "subnet-0d158cdbbb95956a / Subnet_Public01" with the IPv4 CIDR "10.10.1.0/24". The bottom of the page includes copyright information: "© 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences".

NAT Gateway creation with Elastic IP

The screenshot shows the AWS VPC Management Console interface. A success message at the top states: "Elastic IP address 52.35.200.225 (eipalloc-06633f1d679504664) allocated." The main page displays the "Create NAT gateway" settings. The "NAT gateway settings" section includes fields for "Name - optional" (set to "ProjectEmp-NAT"), "Subnet" (set to "subnet-0d158cdbbb95956a (Subnet_Public01)"), "Connectivity type" (set to "Public"), and "Elastic IP allocation ID" (set to "eipalloc-06633f1d679504664"). The "Tags" section shows a single tag: "Name" (ProjectEmp-NAT). The bottom of the page includes copyright information: "© 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences".

NAT Gateway available with EIP

The screenshot shows the AWS VPC Management Console. On the left, there's a navigation sidebar with various VPC-related options like New VPC Experience, VPC Dashboard, and NAT Gateways. The main content area displays a NAT gateway named "nat-0e83fd0cef2712857 / ProjectEmp-NAT". The "Details" tab is selected, showing information such as NAT gateway ID (nat-0e83fd0cef2712857), Connectivity type (Public), State (Available), and Subnet (subnet-0d158cddb6b95956a / Subnet_Public01). Below this, the "Monitoring" tab is visible, showing network traffic metrics over time.

Private Route with NAT Gateway association

The screenshot shows the AWS VPC Management Console with the "Edit routes" interface for a specific route table. The route table ID is rtb-03724d35fc413c7d3. The table lists a single route: Destination 10.10.0.0/16 with Target "local" and Status "Active". A new route is being added with Destination 0.0.0.0/0 and Target "nat-0e83fd0cef2712857". At the bottom right, there are "Cancel", "Preview", and "Save changes" buttons.

Private subnet with NAT gateway association

The screenshot shows the AWS VPC Management Console in Firefox. The URL is <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#EditRouteTableSubnetAssociations:RouteTableId=rtb-03724d35fc413c7d3>. The page title is "Edit subnet associations".

Available subnets (1/3)

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
Subnet_Public02	subnet-02a555012384e0088	10.10.2.0/24	-	rtb-0ab8db7f9cfae678a / ProjEmpPublicRoute
Subnet_Public01	subnet-0d158cd8bb95956a	10.10.1.0/24	-	rtb-0ab8db7f9cfae678a / ProjEmpPublicRoute
<input checked="" type="checkbox"/> Subnet_Private01	subnet-06e0b4e7f04b762eb	10.10.3.0/24	-	Main (rtb-071ffa53302c24b0d)

Selected subnets

subnet-06e0b4e7f04b762eb / Subnet_Private01	X
---	---

Buttons: Cancel, Save associations

Private Route with NAT Gateway associated

The screenshot shows the AWS VPC Management Console in Firefox. The URL is <https://us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#RouteTableDetails:RouteTableId=rtb-03724d35fc413c7d3>. A green success message says "You have successfully updated subnet associations for rtb-03724d35fc413c7d3 / ProjEmpPrivateRoute.".

rtb-03724d35fc413c7d3 / ProjEmpPrivateRoute

Details

Route table ID rtb-03724d35fc413c7d3	Main No	Explicit subnet associations subnet-06e0b4e7f04b762eb / Subnet_Private01	Edge associations -
VPC vpc-0ad237d95e2ea7e4c PROJECTEMP	Owner ID 022477872568		

Routes (2)

Destination	Target	Status	Propagated
10.10.0.0/16	local	Active	No
0.0.0.0/0	nat-0e83fd0cef2712857	Active	No

Security Group Creation for Project Employee

The screenshot shows the 'Create security group' wizard in the AWS VPC Management Console. The 'Basic details' section is filled with the following information:

- Security group name:** ProjectEmpSG
- Description:** Project Employee Security Group
- VPC:** vpc-0ad237d95e2ea7e4c

The 'Inbound rules' section contains one rule:

Type	Protocol	Port range	Source	Description - optional
All traffic	All	All	Anywhere...	0.0.0.0/0

The 'Outbound rules' section is currently empty.

Security Group Created

The screenshot shows the details of the newly created security group, sg-099ec113ad196a02c, named ProjectEmpSG. The 'Details' section displays the following information:

Security group name: ProjectEmpSG	Security group ID: sg-099ec113ad196a02c	Description: Project Employee Security Group	VPC ID: vpc-0ad237d95e2ea7e4c
Owner: 022477872568	Inbound rules count: 1 Permission entry	Outbound rules count: 1 Permission entry	

The 'Inbound rules' section shows one rule:

Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
-	sgr-0fdd82f0228e84c71	IPv4	All traffic	All	All	0.0.0.0/0	-

Instance selection for Bastion Host – T2.micro

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-066333d9c572b0680 (64-bit x86) / ami-0deb314c20acdd478 (64-bit Arm)

Amazon Linux 2 comes with five years support. It provides Linux kernel 5.10 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. This AMI is the successor of the Amazon Linux AMI that is now under maintenance only mode and has been removed from this wizard.

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

Select

Amazon Linux 2 AMI (HVM) - Kernel 4.14, SSD Volume Type - ami-0ecf760d3d7e1feba (64-bit x86) / ami-0fea997624092f92 (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. This AMI is the successor of the Amazon Linux AMI that is now under maintenance only mode and has been removed from this wizard.

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

Select

Red Hat Enterprise Linux 8 (HVM), SSD Volume Type - ami-0b28dfc7adc325ef4 (64-bit x86) / ami-07465754c59218cdb (64-bit Arm)

Red Hat Enterprise Linux version 8 (HVM), EBS General Purpose (SSD) Volume Type

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

Select

SUSE Linux Enterprise Server 15 SP3 (HVM), SSD Volume Type - ami-0b27a874cbfc4d53 (64-bit x86) / ami-07d3d385798a0ee0 (64-bit Arm)

SUSE Linux Enterprise Server 15 Service Pack 3 (HVM). EBS General Purpose (SSD) Volume Type. Amazon EC2 AMI Tools preinstalled. Apache 2.2, MySQL 5.5, PHP 5.3, and Ruby 1.8.7 available.

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

Select

Ubuntu Server 20.04 LTS (HVM), SSD Volume Type - ami-0892d3c7ee96c0bf (64-bit x86) / ami-078278691222aae06 (64-bit Arm)

Ubuntu Server 20.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).

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

Select

Feedback English (US) ▾

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Bastion Host creation in Public Subnet

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 pricing, assign an access management role to the instance, and more.

Number of instances: 1 Launch into Auto Scaling Group

Purchasing option: Request Spot instances

Network: vpc-0ad237d99e2ea7e4c | PROJECTTEMP Create new VPC

Subnet: subnet-01158c0dbb6b59596a | Subnet_Public01 us- Create new subnet
250 IP Addresses available

Auto-assign Public IP: Enable

Hostname type: Use subnet setting (IP name)

DNS Hostname: Enable IP name IPv4 (A record) DNS requests
Enable resource-based IPv4 (A record) DNS requests
Enable resource-based IPv6 (AAAA record) DNS requests

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

Enable termination protection: Protect against accidental termination

Monitoring: Enable CloudWatch detailed monitoring
Additional charges apply

Cancel Previous Review and Launch Next: Add Storage

Feedback English (US) ▾

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Bastion Host created

The screenshot shows the AWS VPC Management Console with the Instances page open. A single instance named "BastionHost" is listed, showing it is running and has a public IPv4 address of 54.184.26.19. The instance is in the us-west-2a availability zone.

Application Server creation to host application in Private Subnet

The screenshot shows the AWS Launch Instance Wizard Step 3: Configure Instance Details. The wizard is set to launch one instance into a private subnet within a specific VPC. The configuration includes selecting the VPC (vpc-0ad237d95e2ea7e4c | PROJECTTEMP), Subnet (subnet-06e04e7f04b762eb | Subnet_Private01 | us), and Auto-assign Public IP (Disable). Other settings include Hostname type (Use subnet setting (IP name)), DNS Hostname (Enable resource-based IPv4 (A record) DNS requests), and IAM role (None). The wizard also includes sections for Shutdown behavior, Stop - Hibernate behavior, Enable termination protection, and Monitoring.

Application Server instance created

The screenshot shows the AWS EC2 Management Console interface. On the left, there's a sidebar with various navigation options like EC2 Dashboard, Instances, Images, and Network & Security. The main area displays a table of instances. One instance, named "ApplicationServer" with the ID "i-0e73bb87ad73065b4", is highlighted and shown in a detailed view on the right. This detailed view includes tabs for Details, Security, Networking, Storage, Status checks, Monitoring, and Tags. Under the Details tab, you can see information such as Instance ID (i-0e73bb87ad73065b4), Public IPv4 address (10.10.3.158), Instance state (Running), Hostname type (IP name: ip-10-10-3-158.us-west-2.compute.internal), and IAM Role (Ubuntu (Inferred)).

S3 Bucket creation for Image storage of Employee

The screenshot shows the AWS S3 Management Console. In the top navigation bar, the URL is https://s3.console.aws.amazon.com/s3/bucket/create?region=us-west-2. The main page is titled "Create bucket" and contains a "General configuration" section. In this section, the "Bucket name" field is filled with "projempbucket". Below it, the "AWS Region" is set to "US West (Oregon) us-west-2". There's also a "Copy settings from existing bucket - optional" section with a "Choose bucket" button. Further down, there's an "Object Ownership" section with two options: "ACLs disabled (recommended)" (selected) and "ACLs enabled". At the bottom, there's a "Block Public Access settings for this bucket" section.

S3 Bucket created

The screenshot shows the AWS S3 Management Console interface. At the top, there is a green success message: "Successfully created bucket 'projembucket'". Below this, the "Account snapshot" section provides an overview of storage usage. The main area displays a table of buckets, with one entry for "projembucket" listed:

Name	AWS Region	Access	Creation date
projembucket	US West (Oregon) us-west-2	Bucket and objects not public	January 27, 2022, 12:27:42 (UTC+05:30)

Uploading index.html to s3 bucket

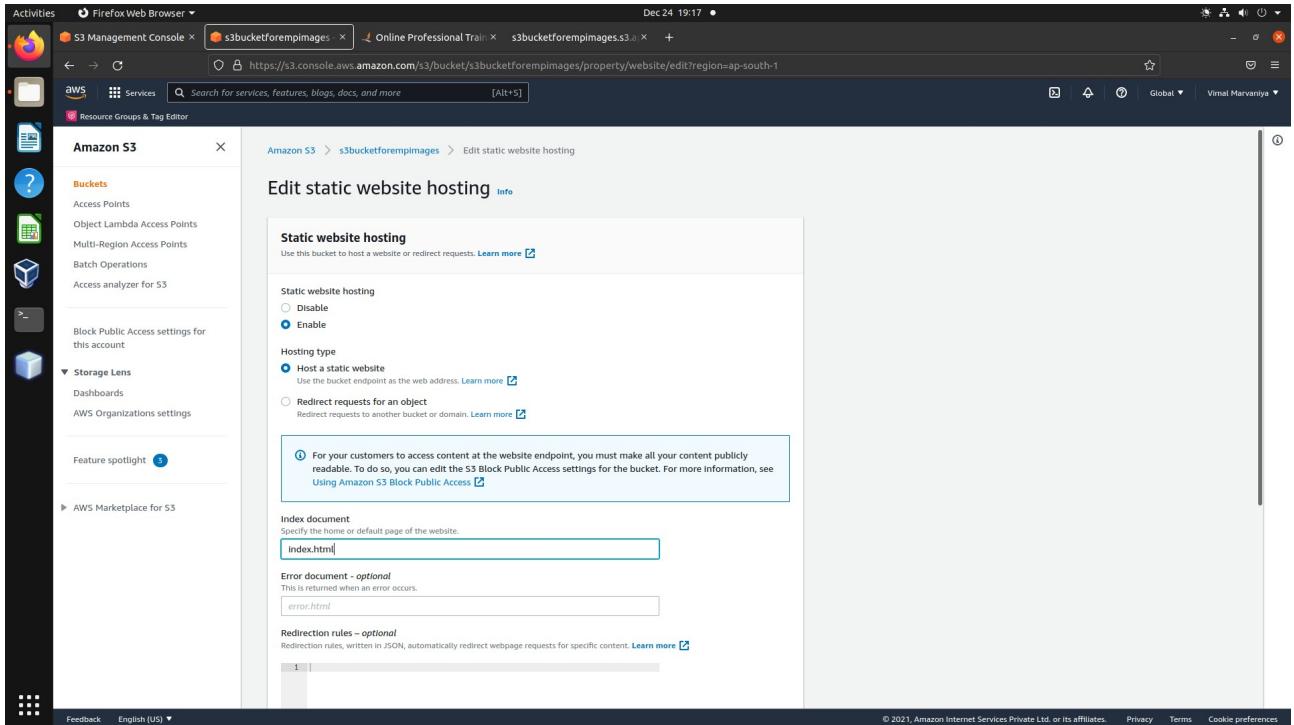
The screenshot shows the AWS S3 Management Console interface, specifically the "Upload: status" page. A green header bar indicates "Upload succeeded". The summary table shows the upload results:

Destination	Succeeded	Failed
s3://s3bucketforempimages	1 file, 1.3 KB (100.00%)	0 files, 0 B (0%)

The "Files and folders" tab is selected, showing a table of uploaded files:

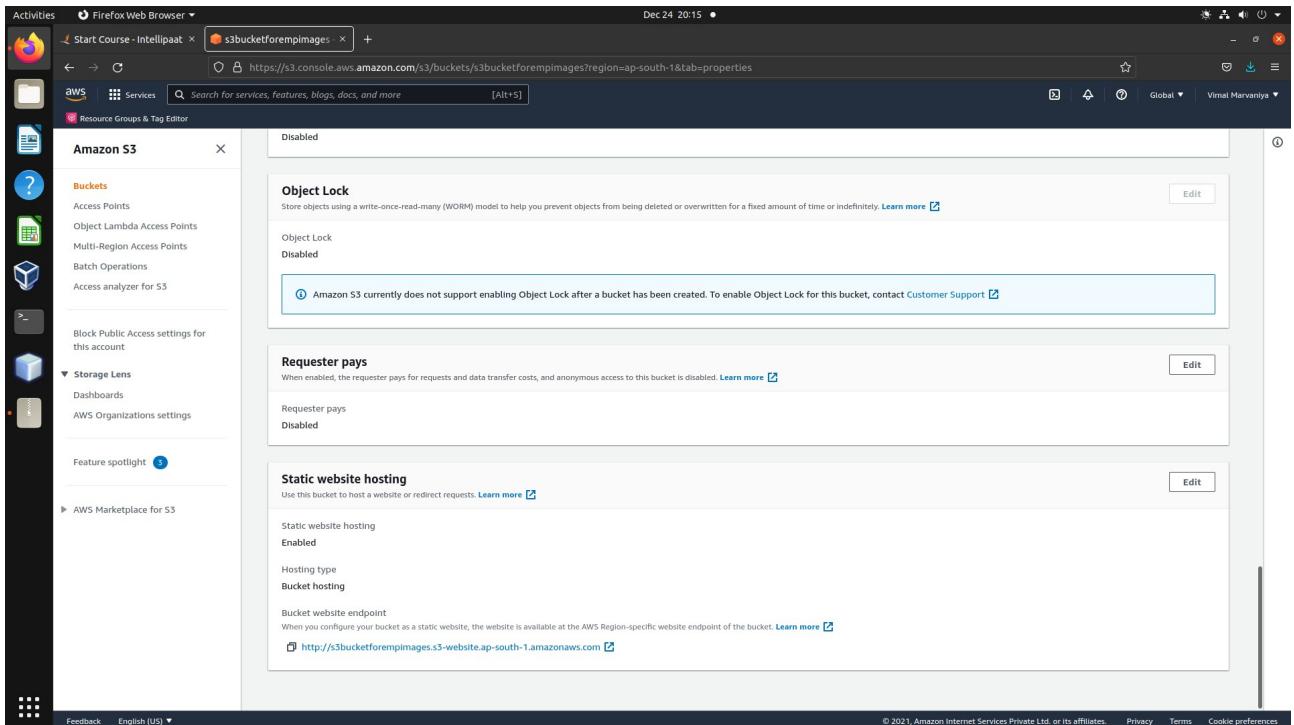
Name	Folder	Type	Size	Status	Error
index.html	-	text/html	1.3 KB	Succeeded	-

Static Website Hosting configuration in S3 for index.html



The screenshot shows the AWS S3 Management Console with the 'Edit static website hosting' configuration page open. The 'Index document' field is set to 'index.html'. The 'Hosting type' section shows 'Host a static website' selected. A note indicates that for customers to access content at the website endpoint, all content must be publicly readable.

Static Website Hosting enabled



The screenshot shows the AWS S3 Management Console with the 'Edit static website hosting' configuration page open. The 'Hosting type' section shows 'Bucket hosting' selected. The 'Bucket website endpoint' field displays the URL <http://s3bucketforempimages.s3-website.ap-south-1.amazonaws.com>.

Object permission change

The screenshot shows the AWS S3 console in a Firefox browser window. The URL is <https://s3.console.aws.amazon.com/s3/buckets/projempbucket?region=us-west-2&tab=permissions>. A green success message at the top says "Successfully edited Block Public Access settings for this bucket." The left sidebar shows the "Permissions" tab is selected. The main content area is titled "projempbucket" and "Permissions overview". It shows "Objects can be public". Under "Block public access (bucket settings)", it says "Block all public access" is off. There is a link to "Individual Block Public Access settings for this bucket". The "Bucket policy" section shows "No policy to display." At the bottom right, there are "Edit" and "Delete" buttons.

Object Making Public

The screenshot shows the AWS S3 console in a Firefox browser window. The URL is https://s3.console.aws.amazon.com/s3/buckets/projempbucket/object/edit_public_read_access?region=us-west-2&showversions=false. The left sidebar shows the "Permissions" tab is selected. The main content area is titled "Make public" and "Specified objects". It shows a table with one item: "index.html" (Type: html, Last modified: January 27, 2022, 12:53:17 (UTC+05:30), Size: 1.3 KB). A "Make public" button is at the bottom right. A warning message in a box says: "When public read access is enabled and not blocked by Block Public Access settings, anyone in the world can access the specified objects."

Hosting Enabled on S3

The screenshot shows the AWS S3 console with the 'Edit static website hosting' page for a bucket named 'projempbucket'. The 'Static website hosting' section has the 'Enable' radio button selected. Under 'Hosting type', the 'Host a static website' radio button is selected. The 'Index document' field contains 'index.html'. The 'Error document - optional' field contains 'error.html'. A note at the bottom states: 'For your customers to access content at the website endpoint, you must make all your content publicly readable. To do so, you can edit the S3 Block Public Access settings for the bucket. For more information, see Using Amazon S3 Block Public Access.'

Hosting tested with url of index.html

The screenshot shows a Firefox browser window with the URL 'projempbucket.s3-website-us-west-2.amazonaws.com'. The page content includes the heading 'My First Heading' and the text 'My first paragraph.'

MySQL DB creation for Employee record storage

The screenshot shows the 'Create database' wizard in the AWS RDS Management Console. The 'Choose a database creation method' section has 'Standard create' selected. The 'Engine options' section shows various engine types: Amazon Aurora, MySQL (selected), MariaDB, PostgreSQL, Oracle, and Microsoft SQL Server. The 'Edition' dropdown is set to 'MySQL Community'. A note at the bottom states: 'Known issues/limitations Review the Known issues/limitations link to learn about potential compatibility issues with specific database versions.'

DB creation in process

The screenshot shows the 'Creating database projempmysqldb' progress bar. It indicates that the database might take a few minutes to launch. The main interface shows the 'Databases' table with one entry: projempmysqldb, Instance: MySQL Community, Region & AZ: us-west-2a, Status: Creating, and other details like CPU, Current activity, Maintenance, and VPC.

DB identifier	Instance	Engine	Region & AZ	Size	Status	CPU	Current activity	Maintenance	VPC
projempmysqldb	MySQL Community	us-west-2a	db.t2.micro	Creating	-	none	vpc-0		

DB Creation completed and available

The screenshot shows the Amazon RDS Management Console interface. The top navigation bar includes tabs for 'Activities', 'Firefox Web Browser', 'RDS Management Console', 'Service | Amazon DynamoDB', 'Start Course - Intellipaat', and 'projempbucket.s3-website-us-west-2'. The date and time 'Jan 27 16:26' are displayed. The main content area is titled 'Successfully created database projempmysqlfdb'. Below this, the 'Databases' section lists the newly created database 'projempmysqlfdb'. The database details are as follows:

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU	Current activity	Maintenance	VPC
projempmysqlfdb	Instance	MySQL Community	us-west-2a	db.t2.micro	Available	-	none	vpc-C	

The left sidebar contains links for Dashboard, Databases (selected), Performance Insights, Snapshots, Automated backups, Reserved instances, Proxies, Subnet groups, Parameter groups, Option groups, Custom engine versions, Events, Event subscriptions, Recommendations, and Certificate update.

DynamoDB table creation for storing S3 metadata

The screenshot shows the Amazon DynamoDB Management Console interface. The top navigation bar includes tabs for 'Activities', 'Firefox Web Browser', 'projempbucket - S3 buck', 'RDS Management Console', 'View table | Amazon Dyn...', 'Start Course - Intellipaat', and 'projempbucket.s3-website-us-west-2'. The date and time 'Jan 27 16:29' are displayed. The main content area is titled 'employee_image_table'. The table details are as follows:

Partition key	Sort key	Capacity mode	Table status
empid (Number)	-	Provisioned	Active No active alarms

The left sidebar contains links for Dashboard, Tables (selected), Update settings, Explore items, PartiQL editor, Backups, Exports to S3, Reserved capacity, Clusters, Subnet groups, Parameter groups, Events, and Tell us what you think.

Domain registration – myfirstapponcloud.tk

Activities Firefox Web Browser • Jan 27 16:35 •

Client Area - Freenom

Services Partners About Freenom Support Hello Jim English

My Domains

View & manage all the domains you have registered with us from here...

Enter Domain to Find Filter

Domain	Registration Date	Expiry Date	Status	Type
myfirstapponcloud.tk	2021-12-24	2022-12-24	Active	Free

Results Per Page: 10 1 Records Found, Page 1 of 1

Route53 Hosted Zone creation

Activities Firefox Web Browser • Jan 27 16:39 •

Route 53 Console Hosted zones Create hosted zone

Services Search for services, features, blogs, docs, and more [Alt+S]

Resource Groups & Tag Editor

Route 53 > Hosted zones > Create hosted zone

Create hosted zone [Info](#)

Hosted zone configuration

A hosted zone is a container that holds information about how you want to route traffic for a domain, such as example.com, and its subdomains.

Domain name [Info](#)

This is the name of the domain that you want to route traffic for.

Valid characters: a-z, 0-9, !#\$%& ()*+, /;,<>?@{}^_-`{|},-

Description - optional [Info](#)

This value lets you distinguish hosted zones that have the same name.

The description can have up to 256 characters. 0/256

Type [Info](#)

The type indicates whether you want to route traffic on the Internet or in an Amazon VPC.

Public hosted zone A public hosted zone determines how traffic is routed on the Internet.

Private hosted zone A private hosted zone determines how traffic is routed within an Amazon VPC.

Tags [Info](#)

Apply tags to hosted zones to help organize and identify them.

No tags associated with the resource.

[Add tag](#)

You can add up to 50 more tags.

Feedback English (US) © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

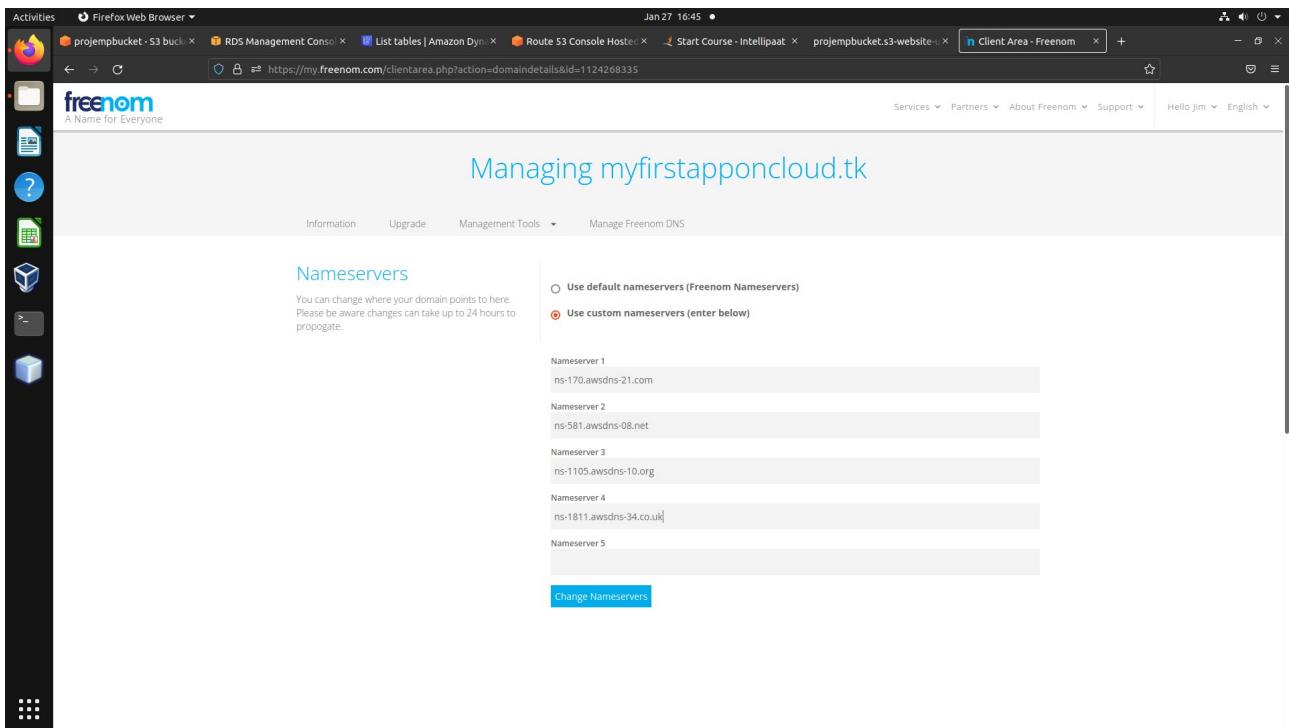
myfirstapponcloud.tk hosting registration

The screenshot shows the 'Create hosted zone' wizard in the AWS Route 53 console. The 'Hosted zone configuration' step is active. The 'Domain name' field contains 'myfirstapponcloud.tk'. The 'Description - optional' field has the placeholder 'The hosted zone is used for...'. Under 'Type', 'Public hosted zone' is selected. There are no tags applied to the hosted zone.

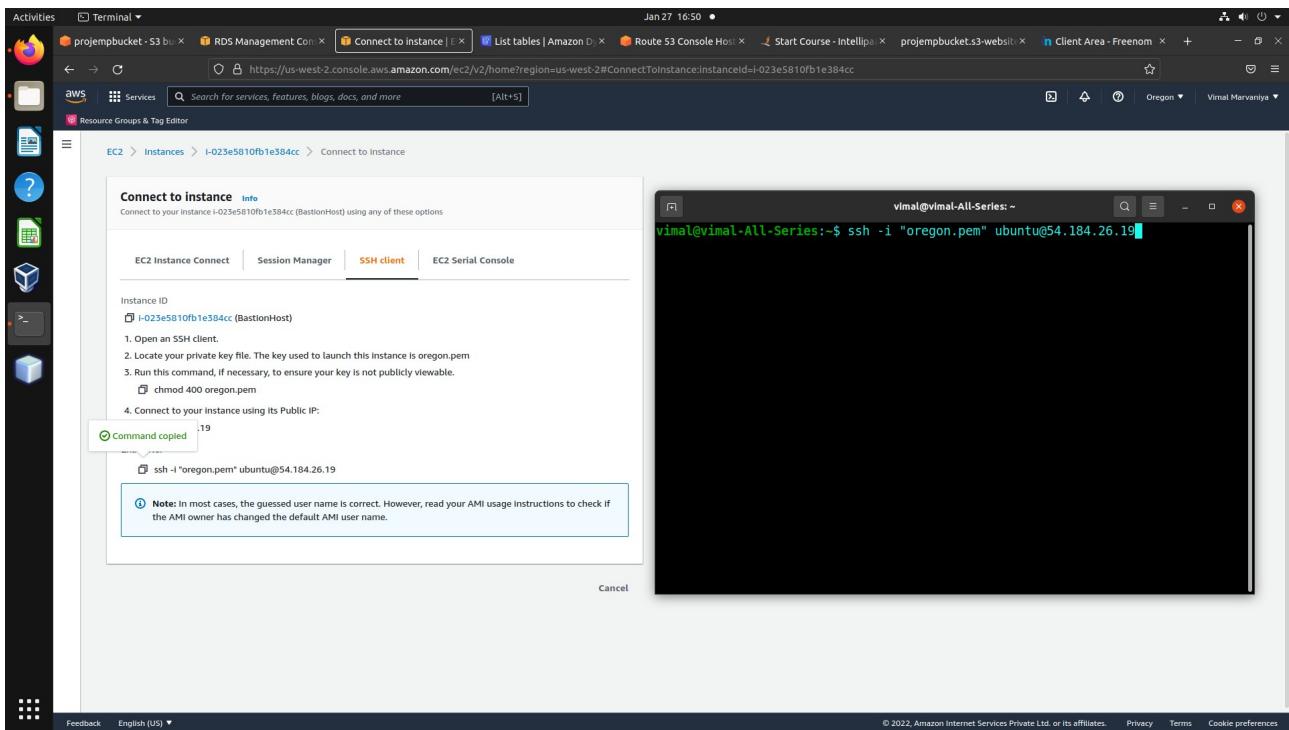
Hosted Zones creation

The screenshot shows the 'List Record Sets' page for the 'myfirstapponcloud.tk' hosted zone. A green success message states 'myfirstapponcloud.tk was successfully created.' Below it, the 'Hosted zone details' section shows two records: an NS record for 'myfirstapponcloud.tk' pointing to AWS nameservers, and an SOA record for 'myfirstapponcloud.tk' with the same details. The 'Records (2)' tab is selected.

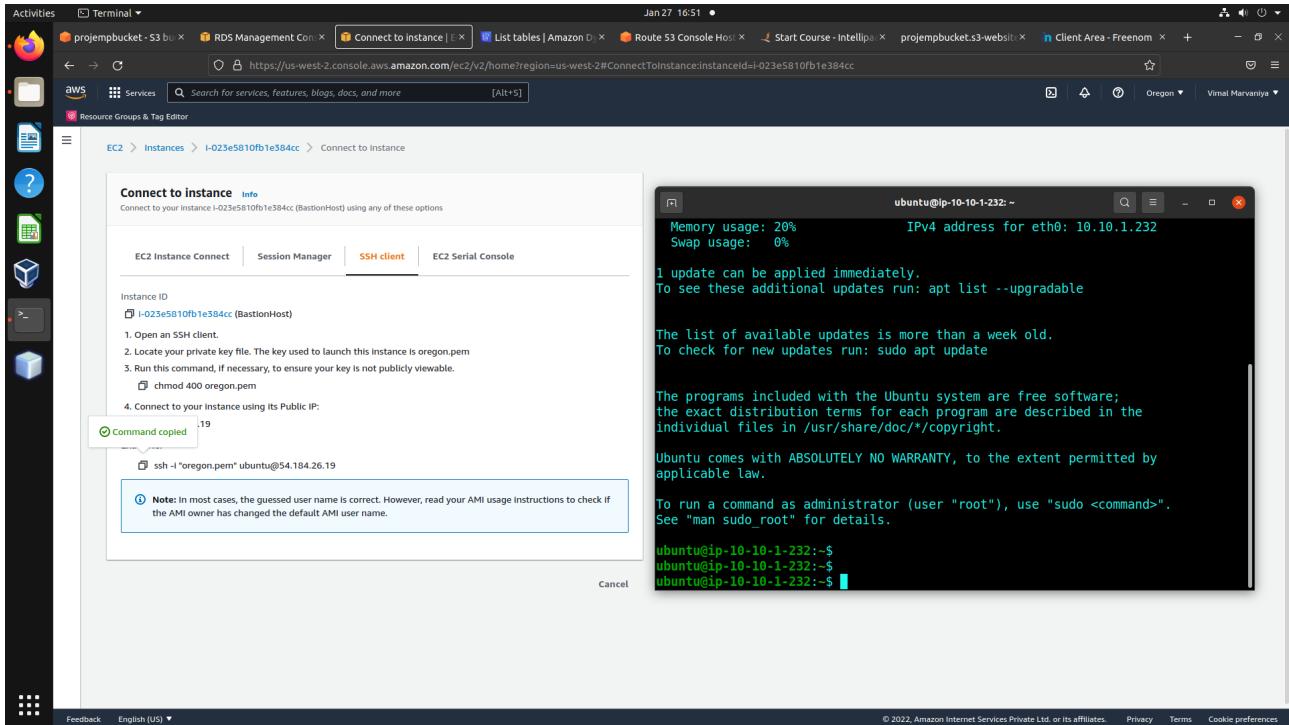
Name Server Updation



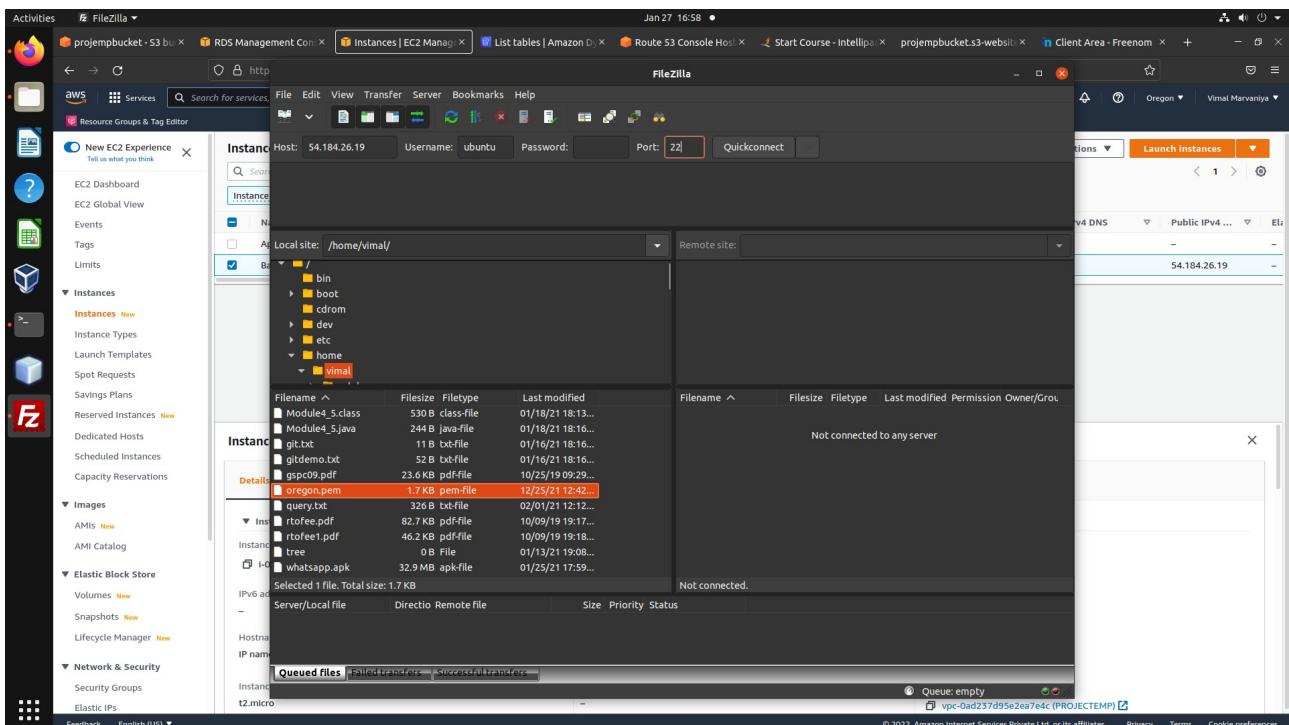
Connecting to Bastion Host



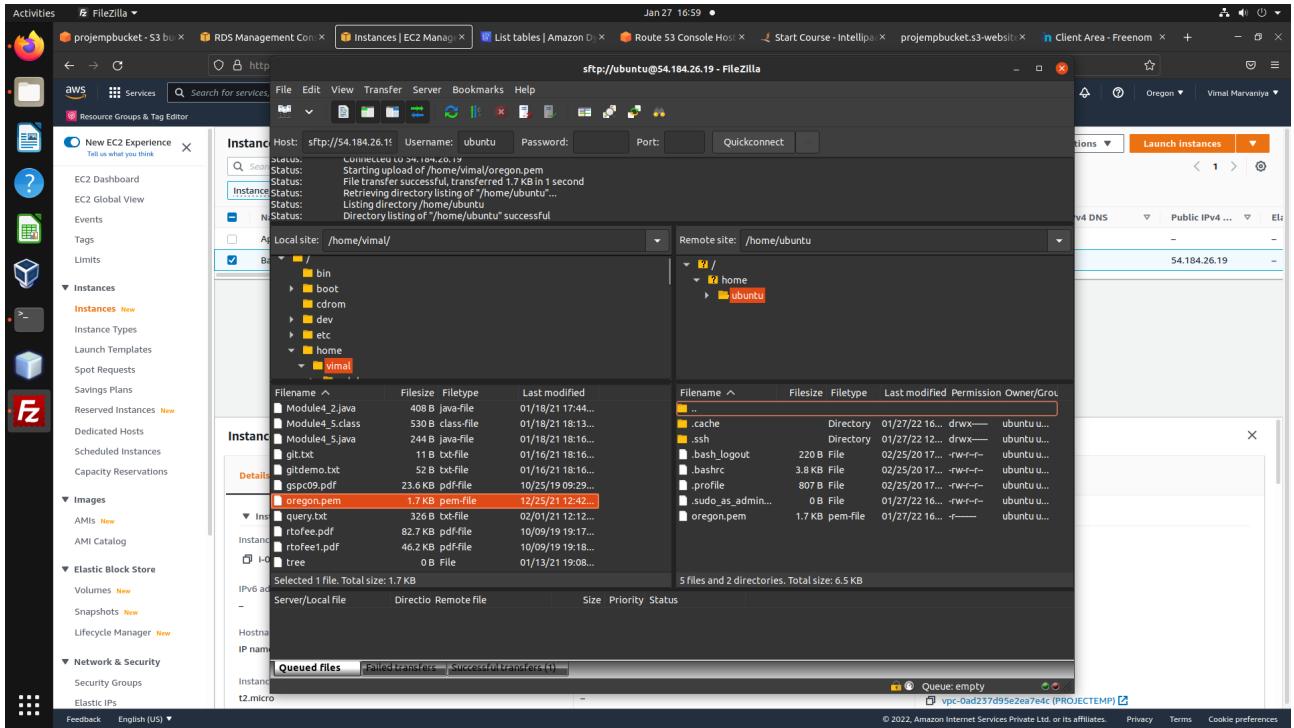
Bastion Host connected



Transferring Key file to Bastion host via FileZilla to access Application server



Key file transferred to bastion host for application server access



Key file permission changed

```
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '54.184.26.19' (EDSA) to the list of known hosts.
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.11.0-1022-aws x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/advantage

 System information as of Thu Jan 27 11:20:55 UTC 2022

 System load: 0.0          Processes:         99
 Usage of /: 18.4% of 7.69GB Users logged in: 0
 Memory usage: 20%
 Swap usage:  0%

 1 update can be applied immediately.
 To see these additional updates run: apt list --upgradable

 The list of available updates is more than a week old.
 To check for new updates run: sudo apt update

 The programs included with the Ubuntu system are free software;
 the exact distribution terms for each program are described in the
 individual files in /usr/share/doc/*copyright.

 Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
 applicable law.

 To run a command as administrator (user "root"), use "sudo <command>".
 See "man sudo_root" for details.

ubuntu@ip-10-10-1-232:~$ 
ubuntu@ip-10-10-1-232:~$ sudo su
root@ip-10-10-1-232:/home/ubuntu#
root@ip-10-10-1-232:/home/ubuntu#
root@ip-10-10-1-232:/home/ubuntu# ls -l
total 4
-r----- 1 ubuntu ubuntu 1700 Jan 27 11:29 oregon.pem
root@ip-10-10-1-232:/home/ubuntu# chmod 400 oregon.pem
root@ip-10-10-1-232:/home/ubuntu# 
```

Connected to app server via bastion host

```
root@ip-10-10-1-232:/home/ubuntu# ssh -i oregon.pem ubuntu@10.10.3.158
The authenticity of host '10.10.3.158 (10.10.3.158)' can't be established.
ECDSA key fingerprint is SHA256:JYmIfDEBxNGkE90vZl/pgfIrb7CjVFZ7h7yqhXvmqE.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.10.3.158' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.11.0-1022-aws x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/advantage

System information as of Thu Jan 27 11:35:19 UTC 2022

System load: 0.0          Processes:      99
Usage of /: 18.4% of 7.69GB   Users logged in: 0
Memory usage: 20%           IPV4 address for eth0: 10.10.3.158
Swap usage: 0%

* Ubuntu Pro delivers the most comprehensive open source security and
compliance features.

https://ubuntu.com/aws/pro

1 update can be applied immediately.
To see these additional updates run: apt list --upgradable

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

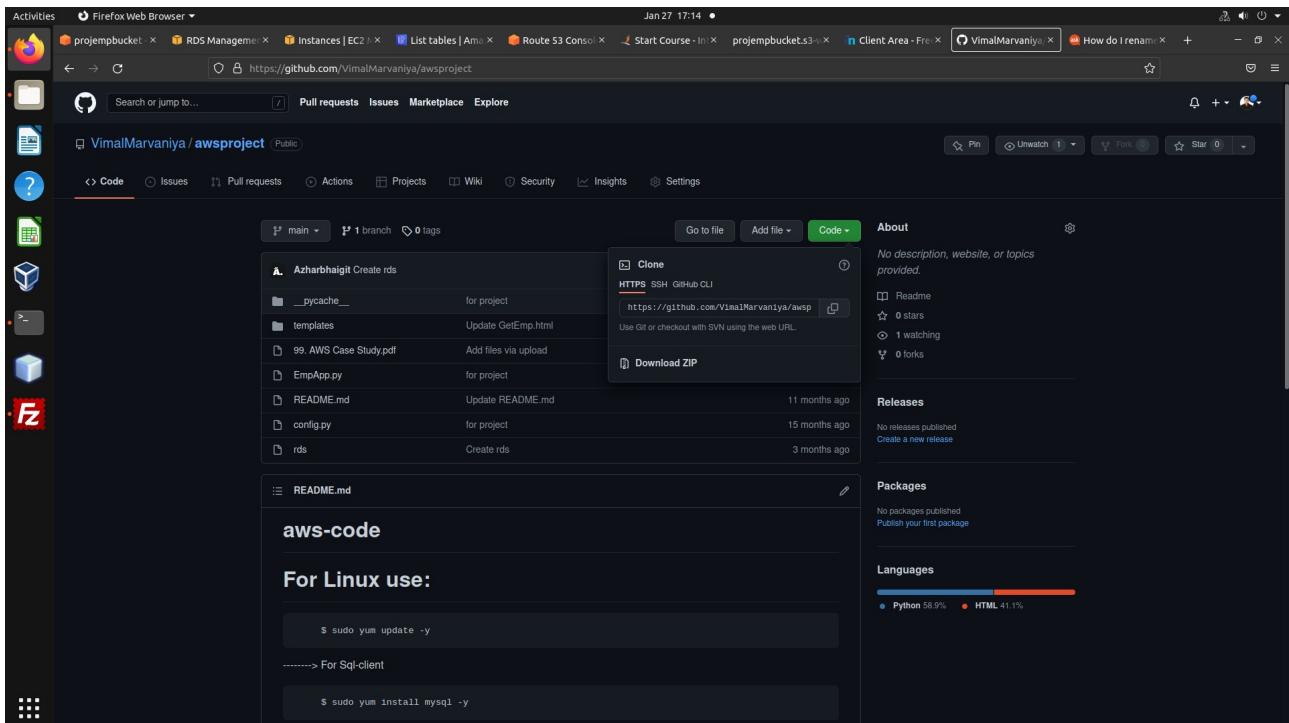
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-10-10-3-158:~$
```

Cloning app code from GitHub repository to Application Server



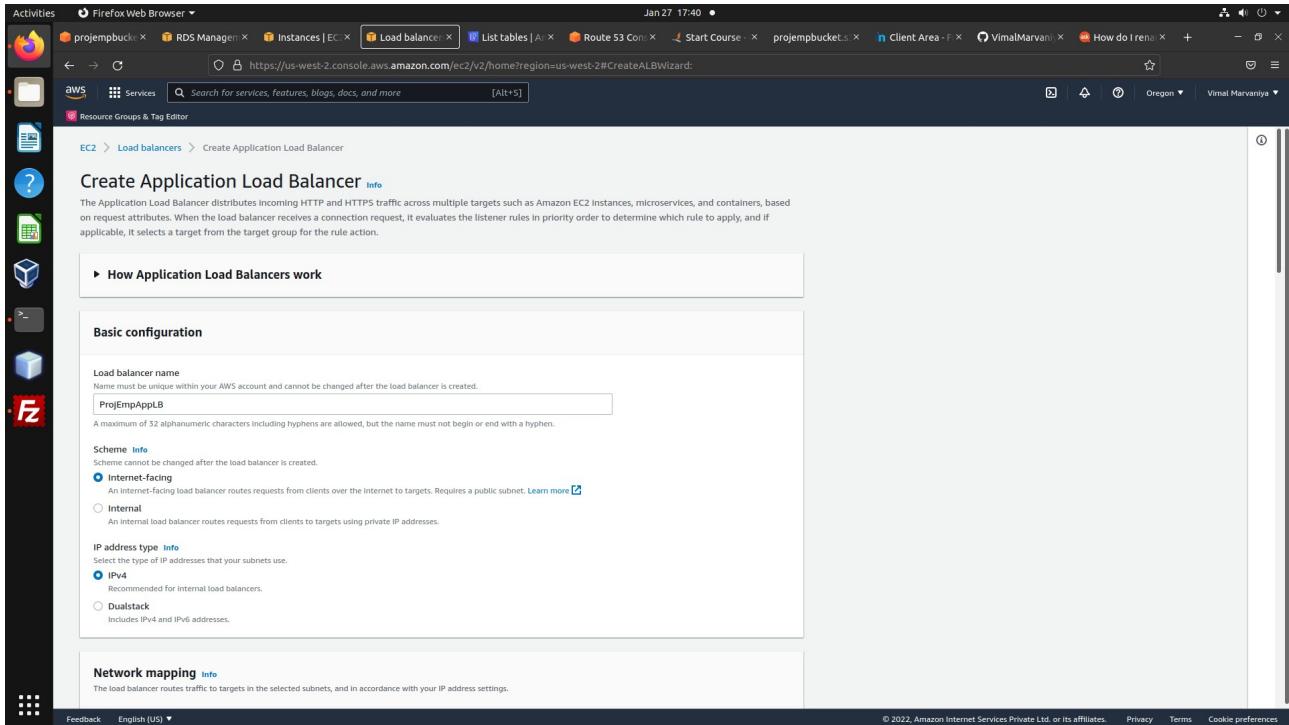
App file cloned successfully

A screenshot of a terminal window titled "root@ip-10-10-3-158: /home/ubuntu/awsproject". The terminal shows the command "git clone https://github.com/VimalMarvaniya/awsproject" being run, followed by the output of the cloning process. The output includes details about remote objects being enumerated, compressed, and reused, along with the unpacking of objects. The terminal also shows the user navigating to the directory and listing the contents of the cloned project.

Copying RDS Endpoint

A screenshot of the AWS RDS console in Firefox. The user has created a new database named "projempmysqldb". The screenshot shows the "Summary" tab of the database configuration, including details like DB identifier, CPU usage, status, and engine. It also shows the "Connectivity & security" tab, where the endpoint URL "projempmysqldb.csquhxe80vvg.us-west-2.rds.amazonaws.com" is highlighted. The RDS sidebar on the left shows other options like Databases, Query Editor, and Monitoring.

Application Load Balancer creation



The screenshot shows the 'Create Application Load Balancer' wizard step. In the 'Basic configuration' section, the 'Load balancer name' is set to 'ProjEmpApplB'. The 'Scheme' dropdown is set to 'Internet-facing'. Under 'IP address type', 'IPv4' is selected. In the 'Network mapping' section, a VPC is selected with subnet IDs 'subnet-0d158cddb6b95956a' and 'subnet-02a55012384e0088'. Both subnets are assigned to Availability Zones 'us-west-2a' and 'us-west-2b' respectively. Security groups are listed at the bottom.

Load balancer name: ProjEmpApplB

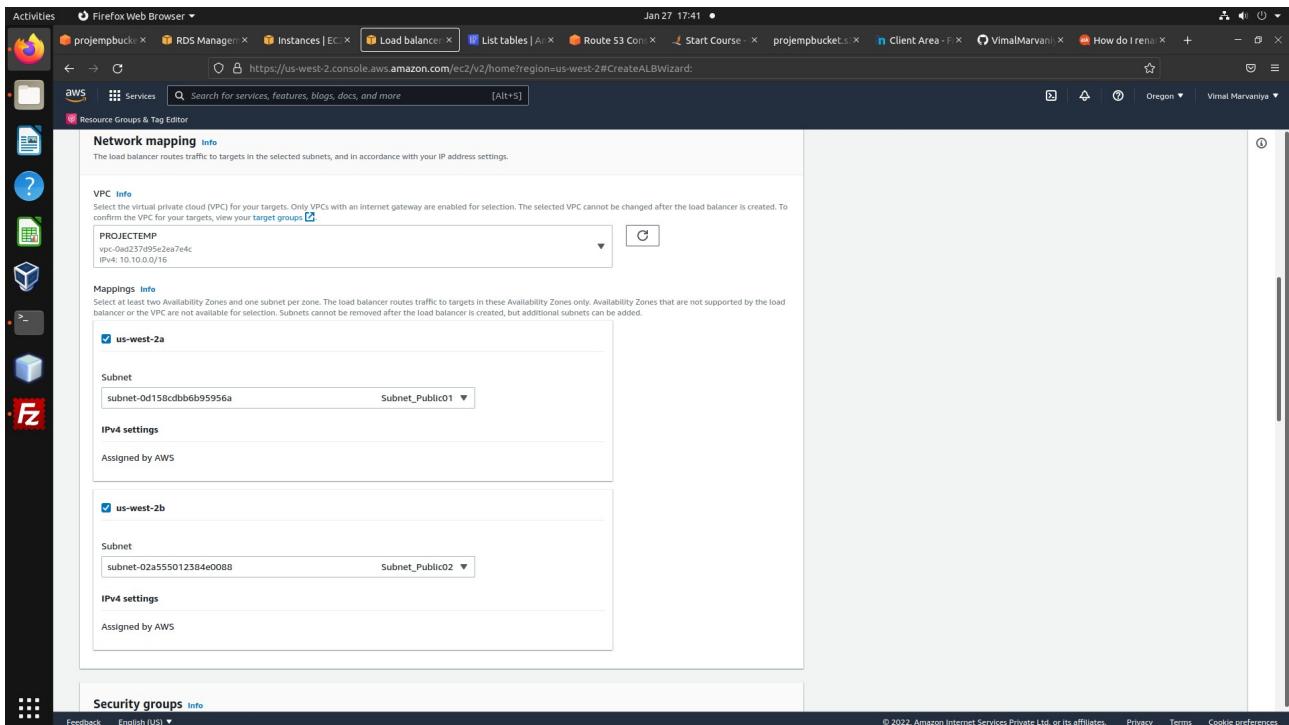
Scheme: Internet-facing

IP address type: IPv4

Network mapping:

- VPC: PROJECTEMP (vpc-0a0237095e2ea7e4c, IPv4: 10.10.0.0/16)
- Mappings:
 - us-west-2a: Subnet: subnet-0d158cddb6b95956a, Subnet_Public01
 - us-west-2b: Subnet: subnet-02a55012384e0088, Subnet_Public02

Application Load Balancer creation continue...



The screenshot shows the 'Create Application Load Balancer' wizard step. In the 'Basic configuration' section, the 'Load balancer name' is set to 'ProjEmpApplB'. The 'Scheme' dropdown is set to 'Internet-facing'. Under 'IP address type', 'IPv4' is selected. In the 'Network mapping' section, a VPC is selected with subnet IDs 'subnet-0d158cddb6b95956a' and 'subnet-02a55012384e0088'. Both subnets are assigned to Availability Zones 'us-west-2a' and 'us-west-2b' respectively. Security groups are listed at the bottom.

Load balancer name: ProjEmpApplB

Scheme: Internet-facing

IP address type: IPv4

Network mapping:

- VPC: PROJECTEMP (vpc-0a0237095e2ea7e4c, IPv4: 10.10.0.0/16)
- Mappings:
 - us-west-2a: Subnet: subnet-0d158cddb6b95956a, Subnet_Public01
 - us-west-2b: Subnet: subnet-02a55012384e0088, Subnet_Public02

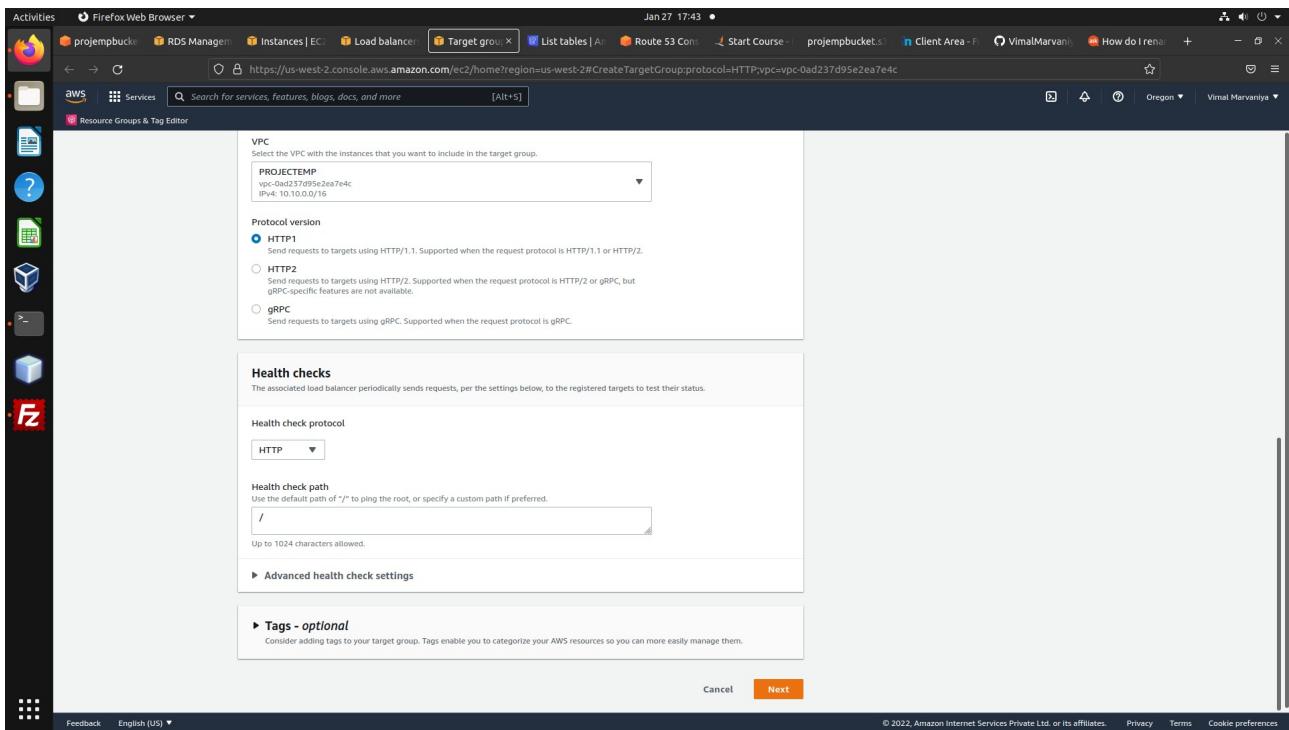
Application Load Balancer Creation continue...

The screenshot shows the AWS Lambda console with the URL <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#CreateALBWizard>. The 'Listeners and routing' section is displayed, showing a listener for port 80 configured to forward traffic to a target group.

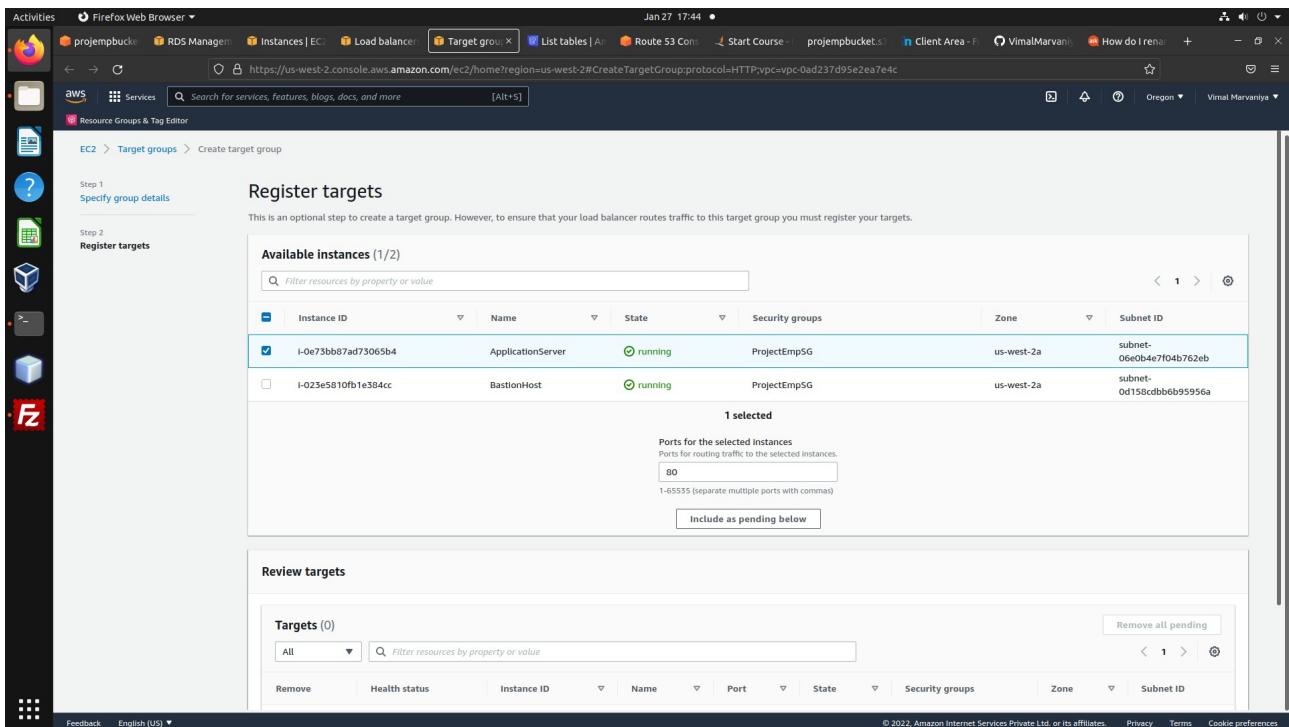
Creating Target Group for ALB

The screenshot shows the AWS Lambda console with the URL <https://us-west-2.console.aws.amazon.com/ec2/home?region=us-west-2#CreateTargetGroup;protocol=HTTP;vpc=vpc-0ad237d95e2ea7e4c>. The 'Specify group details' step is shown, where the target type is set to 'Instances'.

Target group creation continue...



Selecting target instance – Application Server



ALB created with target group

The screenshot shows the 'Listeners and routing' configuration step of the 'Create ALB Wizard'. It includes a table for defining listeners and their routing rules:

Protocol	Port	Default action
HTTP	80	Forward to AppLBTarget Target type: Instance, IPv4
	1-65535	

Below the table, there is a 'Create target group' button. The 'Listeners and routing' section also contains a note about optional add-on services.

ALB Provisioning

The screenshot shows the 'Load balancers' page in the AWS EC2 Management console. It displays the details of a newly created Application Load Balancer named 'ProjEmpAppLB'.

Name	DNS name	State	VPC ID	Availability Zones	Type	Created At	Monitoring
ProjEmpAppLB	ProjEmpAppLB-571210337... us-west-2.elb.amazonaws.com	Provisioning	vpc-0ad237d95e2ea7e4c	us-west-2b, us-west-2a	application	January 27, 2022 at 5:47:34 ...	

The 'Basic Configuration' section provides detailed information about the load balancer, including its name, ARN, DNS name, state, type, scheme, IP address type, VPC, availability zones, hosted zone, and creation time.

Route53 Record updation

The screenshot shows the 'Create record' page in the AWS Route 53 console. The URL is <https://console.aws.amazon.com/route53/v2/hostedzones#CreateRecordSet/Z03393502ZW41IXW1B53V>. The page title is 'Route 53 > Hosted zones > myfirstapponcloud.tk > Create record'. It displays two options: 'Quick create (recommended for expert users)' and 'Wizard (recommended for new users)'. The 'Quick create' method is selected. The form fields include:

- Record name:** blog (highlighted)
- Record type:** A – Routes traffic to an IPv4 address and so... (highlighted)
- Route traffic to:** Alias (radio button selected)
- Alias to Application and Classic Load Balancer:** US West (Oregon) [us-west-2] (highlighted)
- Target:** 71210337.us-west-2.elb.amazonaws.com (highlighted)
- Routing policy:** Simple routing (highlighted)
- Evaluate target health:** Yes (radio button selected)

Buttons at the bottom include 'Cancel' and 'Create records'.

Record for hosted zone created

The screenshot shows the 'Hosted zone details' page for the domain 'myfirstapponcloud.tk'. The URL is <https://console.aws.amazon.com/route53/v2/hostedzones#ListRecordSets/Z03393502ZW41IXW1B53V>. The page title is 'Route 53 > Hosted zones > myfirstapponcloud.tk'. A success message states: 'Record for myfirstapponcloud.tk was successfully created. Route 53 propagates your changes to all of the Route 53 authoritative DNS servers within 60 seconds. Use "View status" button to check propagation status.' The 'Records' tab is selected, showing three entries:

Record name	Type	Routing policy	Value/Route traffic to
myfirstapponcloud.tk	A	Simple	dualstack.projempapplib-571210337.us-west-2.elb.amazonaws.com. ns-170.awsdns-21.co... ns-581.awsdns-08.net. ns-1105.awsdns-10.org. ns-1811.awsdns-21.com. awsdns-hostmaster.amazon.com. 1 7200 900 1209600 86400
myfirstapponcloud.tk	NS	Simple	-
myfirstapponcloud.tk	SOA	Simple	-

Buttons at the top right include 'Delete zone', 'Test record', and 'Configure query logging'. Buttons at the bottom right include 'Edit hosted zone', 'Import zone file', and 'Create record'.

ALB activated and available

The screenshot shows the AWS EC2 Target Groups page. At the top, a green banner says "Successfully created target group: AppLBTarget". The main area has a table titled "Target groups (1) Info" with one row:

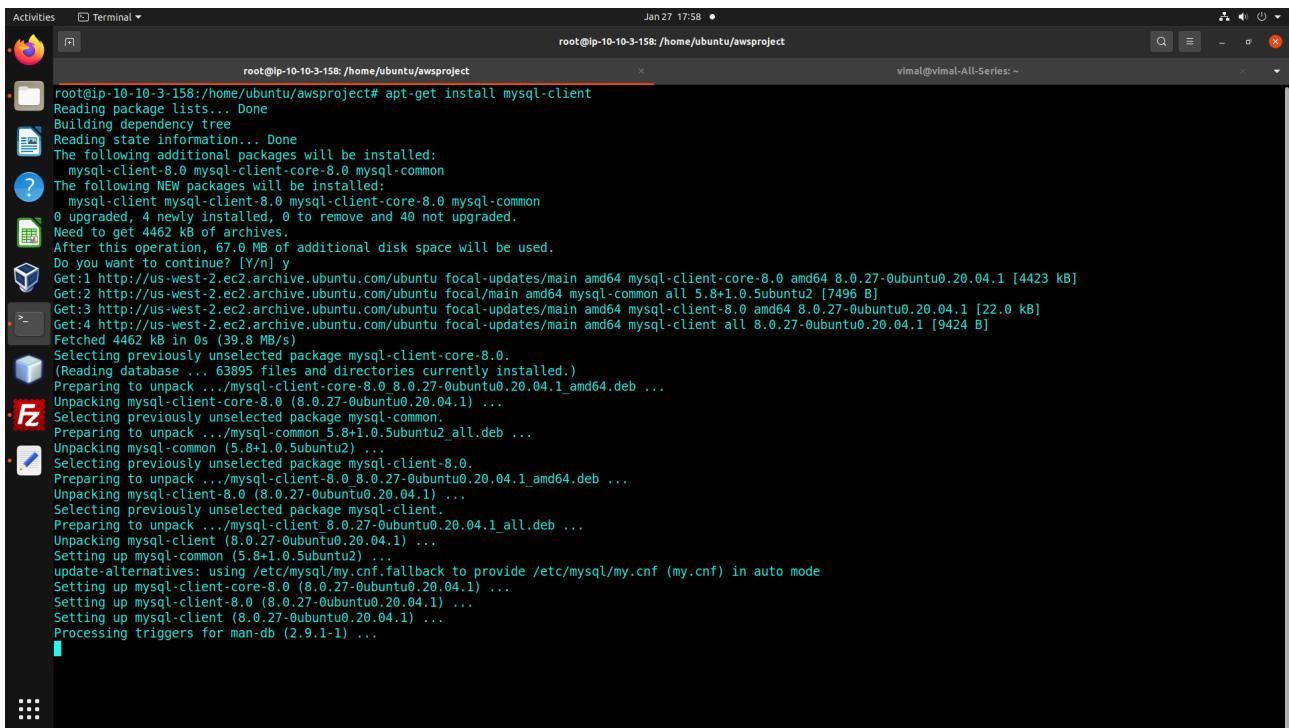
Name	ARN	Port	Protocol	Target type	Load balancer	VPC ID
AppLBTarget	arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/AppLBTarget/5555555555555555	80	HTTP	Instance	ProjEmpAppLB	vpc-0ad237d95e2ea7e4c

Below the table, a message says "Select a target group above." The left sidebar shows navigation links for EC2 services like Instances, Images, Elastic Block Store, and Network & Security.

Updating App Server

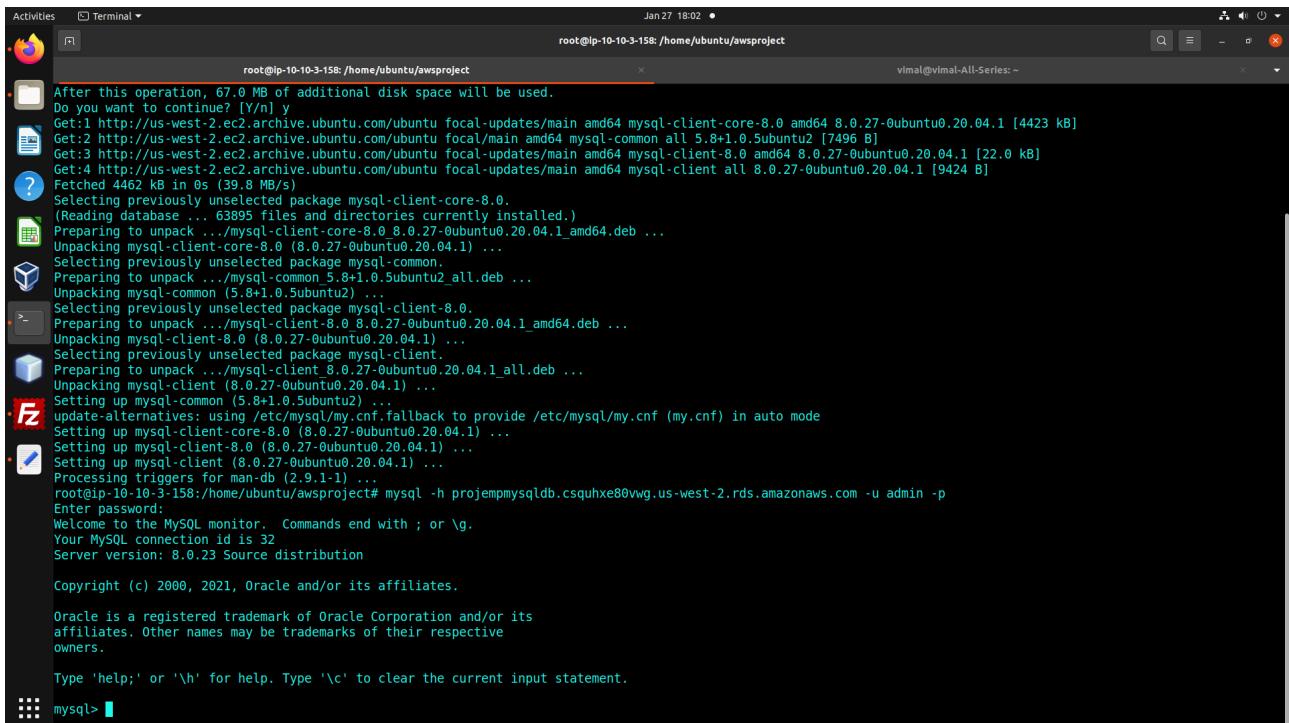
```
root@ip-10-10-3-158: /home/ubuntu/awsproject
Get:5 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:6 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/universe Translation-en [5124 kB]
Get:7 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 c-n-f Metadata [265 kB]
Get:8 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/multiverse amd64 Packages [144 kB]
Get:9 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/multiverse Translation-en [104 kB]
Get:10 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/multiverse amd64 c-n-f Metadata [9136 B]
Get:11 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [1510 kB]
Get:12 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [296 kB]
Get:13 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [14.7 kB]
Get:14 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [736 kB]
Get:15 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [105 kB]
Get:16 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 c-n-f Metadata [532 B]
Get:17 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [894 kB]
Get:18 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [1178 kB]
Get:19 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [196 kB]
Get:20 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [20.1 kB]
Get:21 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [24.8 kB]
Get:22 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse Translation-en [6928 B]
Get:23 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 c-n-f Metadata [620 B]
Get:24 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-backports/main amd64 Packages [42.0 kB]
Get:25 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-backports/main Translation-en [10.0 kB]
Get:26 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-backports/main amd64 c-n-f Metadata [864 B]
Get:27 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-backports/restricted amd64 c-n-f Metadata [116 B]
Get:28 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-backports/universe amd64 Packages [20.8 kB]
Get:29 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-backports/universe Translation-en [14.3 kB]
Get:30 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-backports/universe amd64 c-n-f Metadata [692 B]
Get:31 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:32 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [210 kB]
Get:33 http://security.ubuntu.com/ubuntu focal-security/main amd64 c-n-f Metadata [9132 B]
Get:34 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [686 kB]
Get:35 http://security.ubuntu.com/ubuntu focal-security/restricted Translation-en [97.9 kB]
Get:36 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 c-n-f Metadata [536 B]
Get:37 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages [677 kB]
Get:38 http://security.ubuntu.com/ubuntu focal-security/universe Translation-en [115 kB]
Get:39 http://security.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [13.0 kB]
Get:40 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 Packages [21.8 kB]
Get:41 http://security.ubuntu.com/ubuntu focal-security/multiverse Translation-en [4948 B]
Get:42 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 c-n-f Metadata [536 B]
Fetched 21.5 MB in 4s (5596 B/s)
Reading package lists... Done
root@ip-10-10-3-158: /home/ubuntu/awsproject#
```

MySQL Client installation on app server



```
root@ip-10-10-3-158:/home/ubuntu/awsproject# apt-get install mysql-client
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  mysql-client-8.0 mysql-client-core-8.0 mysql-common
The following NEW packages will be installed:
  mysql-client mysql-client-8.0 mysql-client-core-8.0 mysql-common
0 upgraded, 4 newly installed, 0 to remove and 40 not upgraded.
Need to get 4462 kB of archives.
After this operation, 67.0 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-client-core-8.0 amd64 8.0.27-0ubuntu0.20.04.1 [4423 kB]
Get:2 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 mysql-common all 5.8+1.0.5ubuntu2 [7496 B]
Get:3 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-client-8.0 amd64 8.0.27-0ubuntu0.20.04.1 [22.0 kB]
Get:4 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-client all 8.0.27-0ubuntu0.20.04.1 [9424 B]
Fetched 4462 kB in 0s (39.8 MB/s)
Selecting previously unselected package mysql-client-core-8.0.
(Reading database ... 63895 files and directories currently installed.)
Preparing to unpack .../mysql-client-core-8.0 8.0.27-0ubuntu0.20.04.1_amd64.deb ...
Unpacking mysql-client-core-8.0 (8.0.27-0ubuntu0.20.04.1) ...
Selecting previously unselected package mysql-common.
Preparing to unpack .../mysql-common 5.8+1.0.5ubuntu2_all.deb ...
Unpacking mysql-common (5.8+1.0.5ubuntu2) ...
Selecting previously unselected package mysql-client-8.0.
Preparing to unpack .../mysql-client-8.0 8.0.27-0ubuntu0.20.04.1_amd64.deb ...
Unpacking mysql-client-8.0 (8.0.27-0ubuntu0.20.04.1) ...
Selecting previously unselected package mysql-client.
Preparing to unpack .../mysql-client 8.0.27-0ubuntu0.20.04.1_all.deb ...
Unpacking mysql-client (8.0.27-0ubuntu0.20.04.1) ...
Setting up mysql-common (5.8+1.0.5ubuntu2) ...
update-alternatives: using /etc/mysql/my.cnf fallback to provide /etc/mysql/my.cnf (my.cnf) in auto mode
Setting up mysql-client-core-8.0 (8.0.27-0ubuntu0.20.04.1) ...
Setting up mysql-client-8.0 (8.0.27-0ubuntu0.20.04.1) ...
Setting up mysql-client (8.0.27-0ubuntu0.20.04.1) ...
Setting up mysql-client (8.0.27-0ubuntu0.20.04.1) ...
Processing triggers for man-db (2.9.1-1) ...
```

MySQL connected



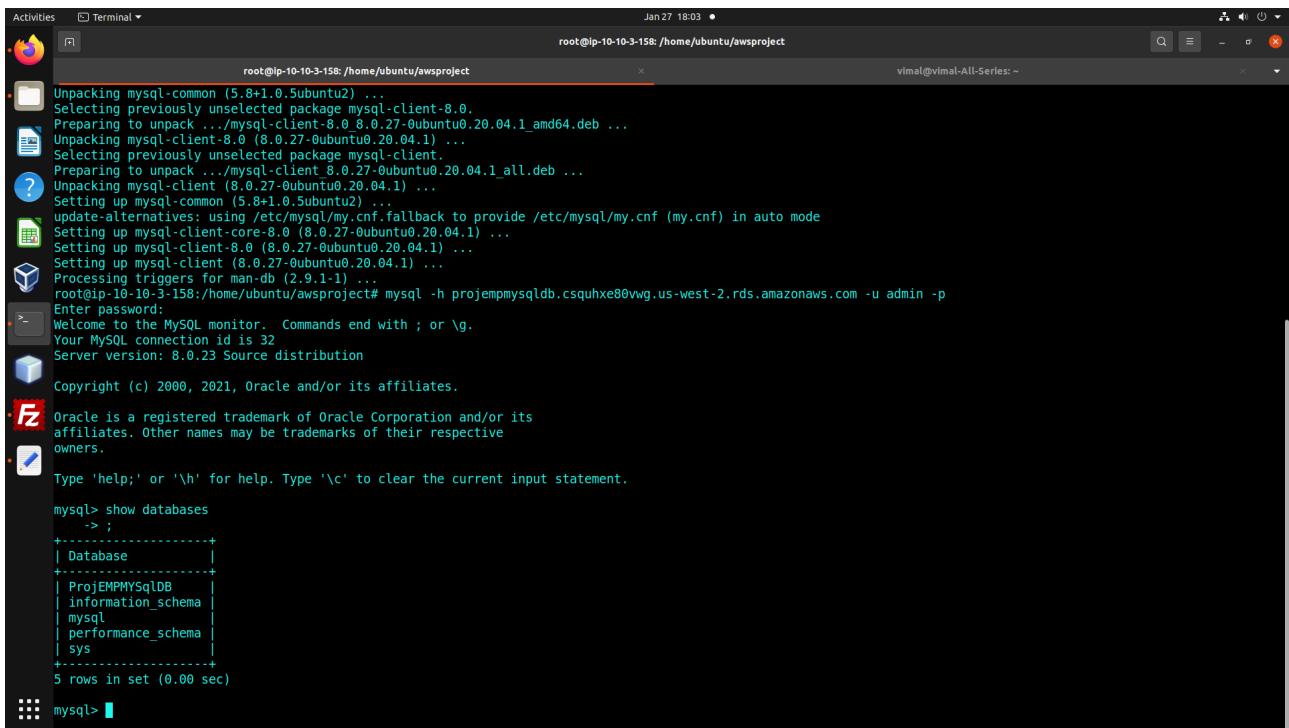
```
root@ip-10-10-3-158:/home/ubuntu/awsproject# mysql -h projempmysqldb.csquhxe80vwg.us-west-2.rds.amazonaws.com -u admin -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 32
Server version: 8.0.23 Source distribution

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
mysql> 
```

Checking databases



A screenshot of a Linux terminal window titled "root@ip-10-10-3-158:/home/ubuntu/awsproject". The terminal shows the MySQL monitor. It starts with the MySQL setup process, then logs in as root with the password "admin". It displays the MySQL version (8.0.23) and copyright information. It then runs the command "show databases" which lists the databases: "information_schema", "mysql", "performance_schema", "ProjEMPMYSqlDB", and "sys". The output ends with "5 rows in set (0.00 sec)".

```
root@ip-10-10-3-158:/home/ubuntu/awsproject
Unpacking mysql-common (5.8+1.0.5ubuntu2) ...
Selecting previously unselected package mysql-client-8.0.
Preparing to unpack .../mysql-client-8.0_8.0.27-0ubuntu0.20.04.1_amd64.deb ...
Unpacking mysql-client-8.0 (8.0.27-0ubuntu0.20.04.1) ...
Selecting previously unselected package mysql-client.
Preparing to unpack .../mysql-client_8.0.27-0ubuntu0.20.04.1_all.deb ...
Unpacking mysql-client (8.0.27-0ubuntu0.20.04.1) ...
Setting up mysql-common (5.8+1.0.5ubuntu2) ...
update-alternatives: using /etc/mysql/my.cnf.fallback to provide /etc/mysql/my.cnf (my.cnf) in auto mode
Setting up mysql-client-core-8.0 (8.0.27-0ubuntu0.20.04.1) ...
Setting up mysql-client-8.0 (8.0.27-0ubuntu0.20.04.1) ...
Setting up mysql-client_8.0.27-0ubuntu0.20.04.1 ...
Processing triggers for man-db (2.9.1-1) ...
root@ip-10-10-3-158:/home/ubuntu/awsproject# mysql -h projempmysqlcdb.csquhx80vvg.us-west-2.rds.amazonaws.com -u admin -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 32
Server version: 8.0.23 Source distribution

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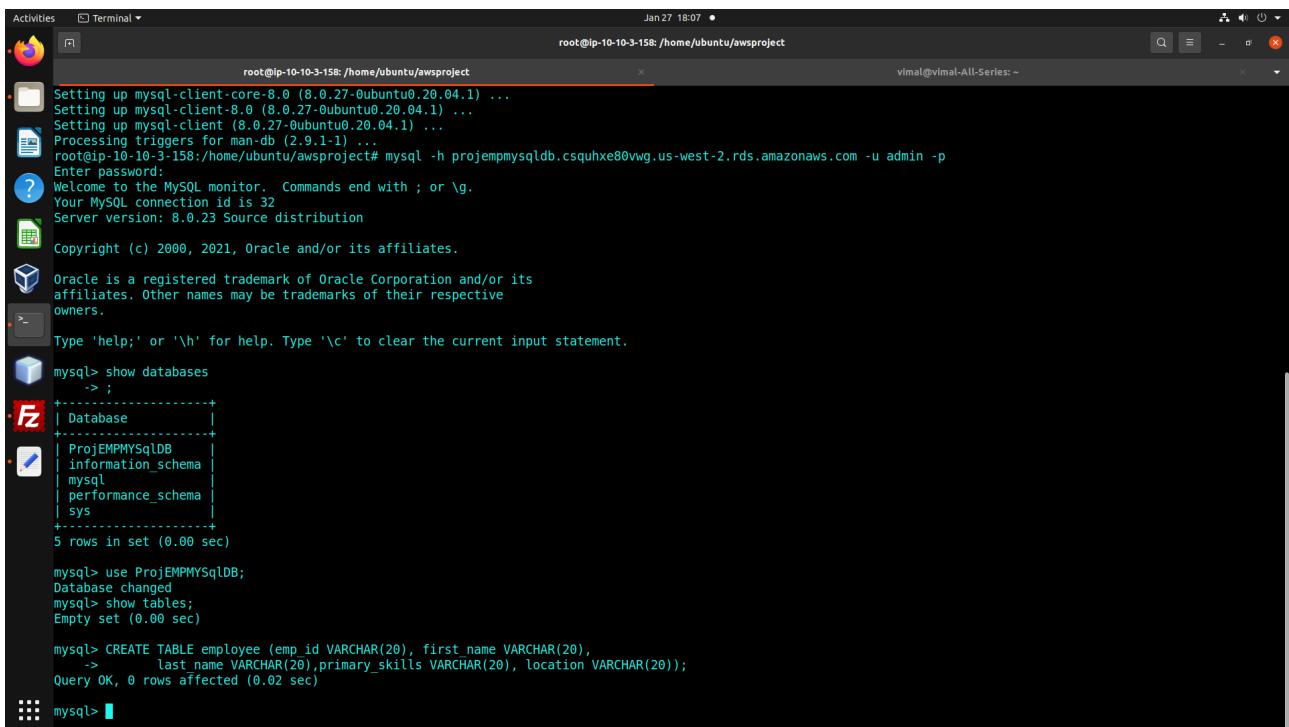
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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases
    -> ;
+-----+
| Database |
+-----+
| ProjEMPMYSqlDB |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.00 sec)

mysql>
```

Employee Table created



A screenshot of a Linux terminal window titled "root@ip-10-10-3-158:/home/ubuntu/awsproject". The terminal shows the MySQL monitor. It starts with the MySQL setup process, then logs in as root with the password "admin". It displays the MySQL version (8.0.23) and copyright information. It then runs the command "show databases" which lists the databases: "information_schema", "mysql", "performance_schema", "ProjEMPMYSqlDB", and "sys". The output ends with "5 rows in set (0.00 sec)". Next, it runs "use ProjEMPMYSqlDB;" followed by "show tables;". The output shows an empty table set with "Empty set (0.00 sec)". Finally, it runs "CREATE TABLE employee (emp_id VARCHAR(20), first_name VARCHAR(20), last_name VARCHAR(20), primary_skills VARCHAR(20), location VARCHAR(20));" and gets a response "Query OK, 0 rows affected (0.02 sec)". The session ends with "mysql>".

```
root@ip-10-10-3-158:/home/ubuntu/awsproject
Setting up mysql-client-core-8.0 (8.0.27-0ubuntu0.20.04.1) ...
Setting up mysql-client-8.0 (8.0.27-0ubuntu0.20.04.1) ...
Processing triggers for man-db (2.9.1-1) ...
root@ip-10-10-3-158:/home/ubuntu/awsproject# mysql -h projempmysqlcdb.csquhx80vvg.us-west-2.rds.amazonaws.com -u admin -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 32
Server version: 8.0.23 Source distribution

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases
    -> ;
+-----+
| Database |
+-----+
| ProjEMPMYSqlDB |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.00 sec)

mysql> use ProjEMPMYSqlDB;
Database changed
mysql> show tables;
Empty set (0.00 sec)

mysql> CREATE TABLE employee (emp_id VARCHAR(20), first_name VARCHAR(20),
-> last_name VARCHAR(20),primary_skills VARCHAR(20), location VARCHAR(20));
Query OK, 0 rows affected (0.02 sec)

mysql>
```

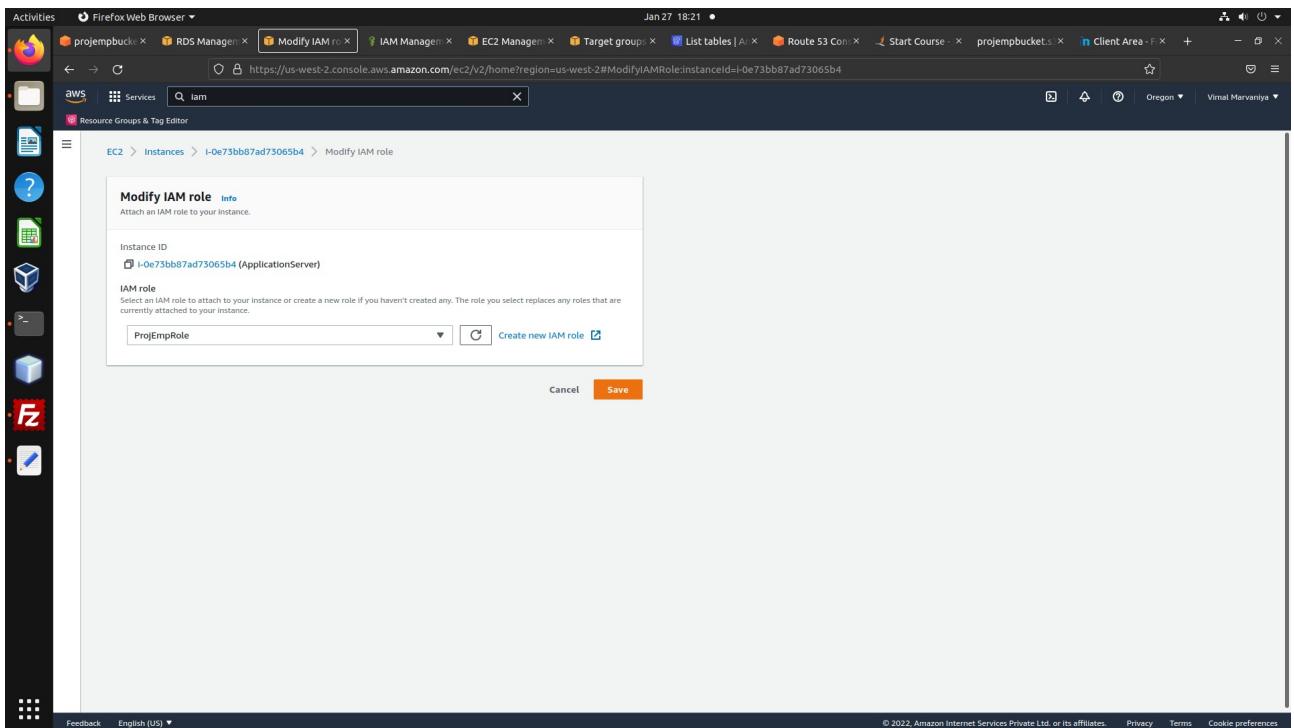
IAM Role creation

The screenshot shows the 'Create role' wizard in the AWS IAM console. Step 1 is titled 'Select type of trusted entity'. It lists four options: 'AWS service' (selected), 'Another AWS account', 'Web identity', and 'SAML 2.0 federation'. Below this, a note says 'Allows AWS services to perform actions on your behalf. Learn more'. Step 2, 'Choose a use case', is shown below. It includes a section for 'Common use cases' with 'EC2' selected (allowing EC2 instances to call AWS services) and 'Lambda' (allowing Lambda functions to call AWS services). A large table lists various AWS services and their corresponding use cases. At the bottom are 'Cancel' and 'Next: Permissions' buttons.

Role creation continue...

The screenshot shows the 'Create role' wizard in the AWS IAM console, Step 4: 'Review'. It displays the role information: 'Role name' is 'ProjEmpRole', 'Role description' is 'Allows EC2 instances to call AWS services on your behalf.', and 'Trusted entities' is 'AWS service: ec2.amazonaws.com'. Under 'Policies', three policies are selected: 'AmazonS3FullAccess', 'AmazonRDSFullAccess', and 'AmazonDynamoDBFullAccess'. The 'Permissions boundary' is noted as 'Permissions boundary is not set'. At the bottom, it says 'No tags were added.' and has 'Required', 'Cancel', 'Previous', and 'Create role' buttons.

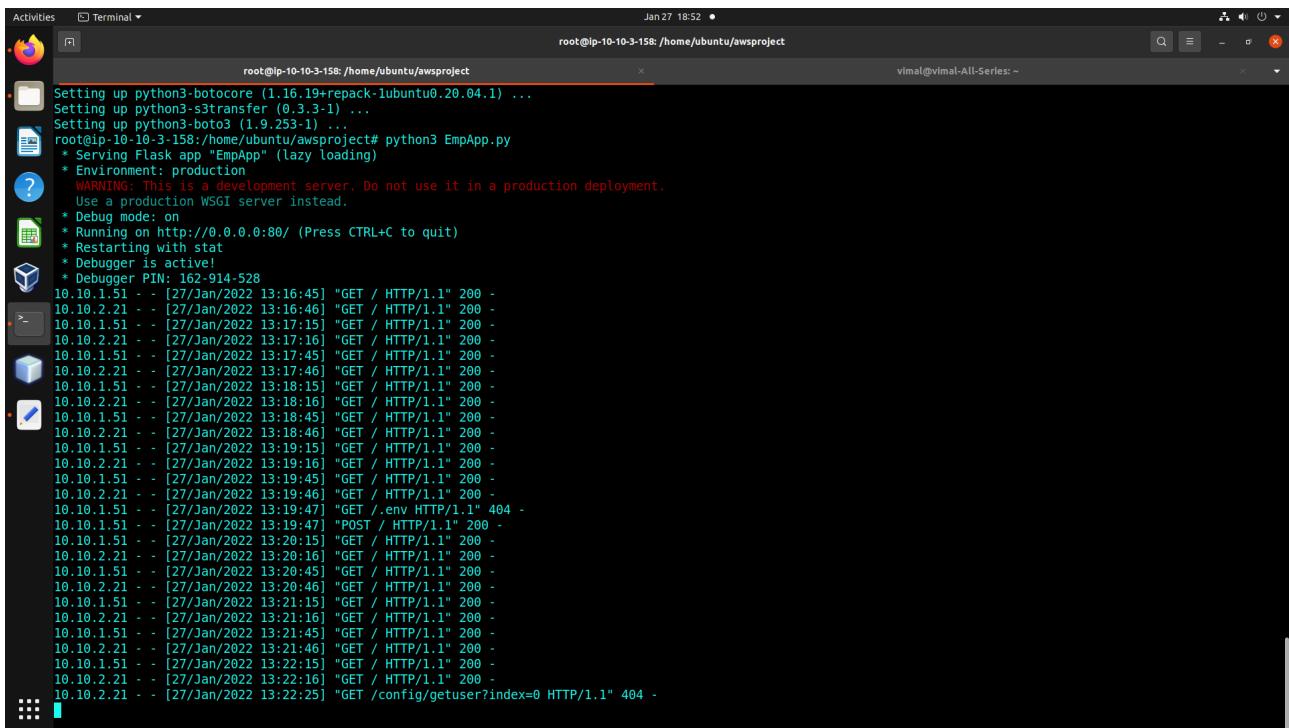
Role attached to Application server



Installing dependencies to app server

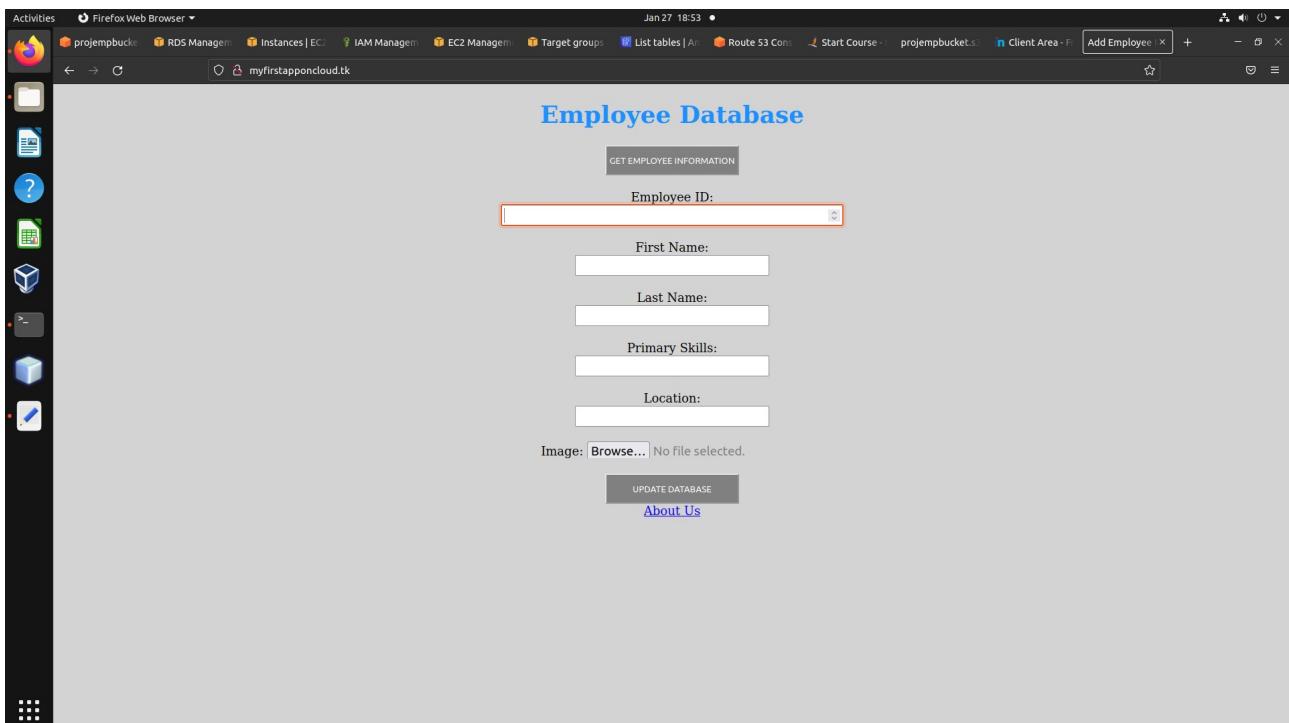
```
root@ip-10-10-3-158:/home/ubuntu/awsproject
Suggested packages:
  apache2 | lighttpd | httpd python-flask-doc python-pyinotify-doc ipython3 python-werkzeug-doc python3-lxml python3-termcolor python3-watchdog
The following NEW packages will be installed:
  javascript-common libjs-jquery python3-flask python3-itsdangerous python3-pyinotify python3-werkzeug
0 upgraded, 6 newly installed, 0 to remove and 40 not upgraded.
Need to get 637 kB of archives.
After this operation, 2296 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 javascript-common all 11 [6066 B]
Get:2 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 libjs-jquery all 3.3.1-dfsg-3 [329 kB]
Get:3 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 python3-itsdangerous all 1.1.0-1 [14.6 kB]
Get:4 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 python3-werkzeug all 0.16.1+dfsg1-2 [183 kB]
Get:5 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 python3-flask all 1.1.1-2 [80.3 kB]
Get:6 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 python3-pyinotify all 0.9.6-1.2ubuntu1 [24.8 kB]
Fetched 637 kB in 0s (14.4 MB/s)
Selecting previously unselected package javascript-common.
(Reading database ... 63955 files and directories currently installed.)
Preparing to unpack .../0-javascript-common_11_all.deb ...
Unpacking javascript-common (11) ...
Selecting previously unselected package libjs-jquery.
Preparing to unpack .../1-libjs-jquery_3.3.1-dfsg-3_all.deb ...
Unpacking libjs-jquery (3.3.1-dfsg-3) ...
Selecting previously unselected package python3-itsdangerous.
Preparing to unpack .../2-python3-itsdangerous_1.1.0-1_all.deb ...
Unpacking python3-itsdangerous (1.1.0-1) ...
Selecting previously unselected package python3-werkzeug.
Preparing to unpack .../3-python3-werkzeug_0.16.1+dfsg1-2_all.deb ...
Unpacking python3-werkzeug (0.16.1+dfsg1-2) ...
Selecting previously unselected package python3-flask.
Preparing to unpack .../4-python3-flask_1.1.1-2_all.deb ...
Unpacking python3-flask (1.1.1-2) ...
Selecting previously unselected package python3-pyinotify.
Preparing to unpack .../5-python3-pyinotify_0.9.6-1.2ubuntu1_all.deb ...
Unpacking python3-pyinotify (0.9.6-1.2ubuntu1) ...
Setting up javascript-common (11) ...
Setting up python3-pyinotify (0.9.6-1.2ubuntu1) ...
Setting up python3-itsdangerous (1.1.0-1) ...
Setting up libjs-jquery (3.3.1-dfsg-3) ...
Setting up python3-werkzeug (0.16.1+dfsg1-2) ...
Setting up python3-flask (1.1.1-2) ...
root@ip-10-10-3-158:/home/ubuntu/awsproject#
```

App server started successfully

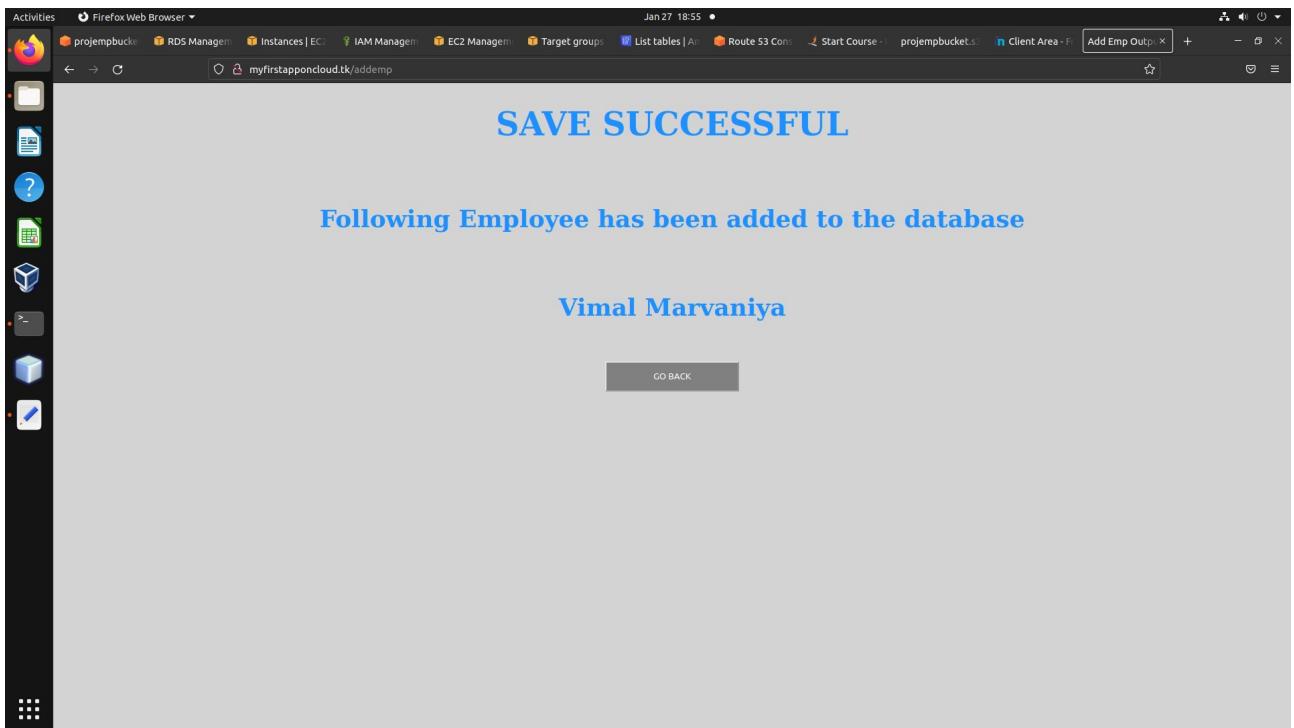


```
root@ip-10-10-3-158:/home/ubuntu/awsproject
Setting up python3-botocore (1.16.10+repack-ubuntu0.20.04.1) ...
Setting up python3-s3transfer (0.3.3-1) ...
Setting up python3-boto3 (1.9.253-1) ...
root@ip-10-10-3-158:/home/ubuntu/awsproject# python3 EmpApp.py
 * Serving Flask app "EmpApp" (lazy loading)
 * Environment: production
   WARNING: This is a development server. Do not use it in a production deployment.
   Use a production WSGI server instead.
 * Debug mode: on
 * Running on http://0.0.0.0:80/ (Press CTRL+C to quit)
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 162-914-528
10.10.1.51 - - [27/Jan/2022 13:16:45] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:16:46] "GET / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:17:15] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:17:16] "GET / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:17:45] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:17:46] "GET / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:18:15] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:18:16] "GET / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:18:45] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:18:46] "GET / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:19:15] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:19:16] "GET / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:19:45] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:19:46] "GET / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:19:47] "GET /env HTTP/1.1" 404 -
10.10.1.51 - - [27/Jan/2022 13:19:47] "POST / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:20:15] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:20:16] "GET / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:20:45] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:20:46] "GET / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:21:15] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:21:16] "GET / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:21:45] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:21:46] "GET / HTTP/1.1" 200 -
10.10.1.51 - - [27/Jan/2022 13:22:15] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:22:16] "GET / HTTP/1.1" 200 -
10.10.2.21 - - [27/Jan/2022 13:22:25] "GET /config/getuser?index=0 HTTP/1.1" 404 -
```

App started successfully



Database updated successfully



Updating Database and dynamoDB table

```
Activities Terminal Jan 27 18:57 • root@ip-10-10-3-158: /home/ubuntu/awsproject vimal@vimal-All-Series: ~
[27/Jan/2022 13:21:45] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:21:46] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:22:15] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:22:16] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:22:25] "GET /config/getuser?index=0 HTTP/1.1" 404 -
[27/Jan/2022 13:22:45] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:22:46] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:23:15] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:23:16] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:23:32] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:23:45] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:23:47] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:24:15] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:24:17] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:24:46] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:24:47] "GET / HTTP/1.1" 200 -
Data inserted in MySQL RDS... uploading image to S3...
Uploading to S3 success... saving metadata in dynamodb...
all modification done...
[27/Jan/2022 13:25:06] "POST /addemp HTTP/1.1" 200 -
[27/Jan/2022 13:25:16] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:25:17] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:25:46] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:25:47] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:26:16] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:26:17] "GET / HTTP/1.1" 200 -
Data inserted in MySQL RDS... uploading image to S3...
Uploading to S3 success... saving metadata in dynamodb...
all modification done...
[27/Jan/2022 13:26:28] "POST /addemp HTTP/1.1" 200 -
[27/Jan/2022 13:26:46] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:26:47] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:27:16] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:27:17] "GET / HTTP/1.1" 200 -
Data inserted in MySQL RDS... uploading image to S3...
Uploading to S3 success... saving metadata in dynamodb...
all modification done...
[27/Jan/2022 13:27:23] "POST /addemp HTTP/1.1" 200 -
[27/Jan/2022 13:27:46] "GET / HTTP/1.1" 200 -
[27/Jan/2022 13:27:47] "GET / HTTP/1.1" 200 -
```

S3 bucket populated

The screenshot shows the AWS S3 console interface. The left sidebar has a dark theme with various icons. The main area shows a bucket named "projempbucket". The "Objects" tab is selected, displaying four items:

Name	Type	Last modified	Size	Storage class
emp-id-100_image_file	-	January 27, 2022, 18:55:06 (UTC+05:30)	4.0 KB	Standard
emp-id-200_image_file	-	January 27, 2022, 18:56:29 (UTC+05:30)	5.7 KB	Standard
emp-id-300_image_file	-	January 27, 2022, 18:57:24 (UTC+05:30)	7.5 KB	Standard
index.html	html	January 27, 2022, 12:56:46 (UTC+05:30)	104.0 B	Standard

DynamoDB Table populated

The screenshot shows the AWS DynamoDB console interface. The left sidebar has a dark theme with various options like Dashboard, Tables, Update settings, Explore items, PartiQL editor, Backups, Exports to S3, Reserved capacity, DAX, Clusters, Subnet groups, Parameter groups, and Events. The main area shows a table named "employee_image_table".

Tables (1)

- Tag: Any table tag
- Find tables by name

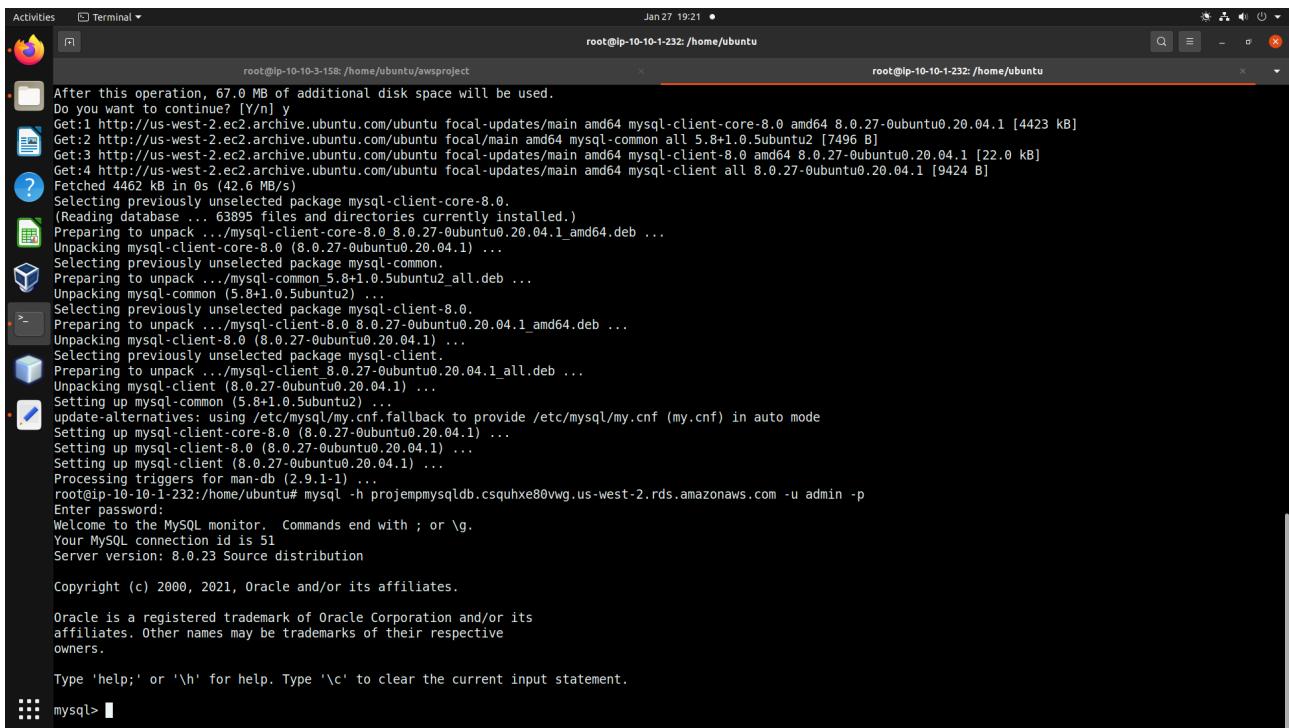
employee_image_table

Autopreview Actions Create item Update table settings

Items returned (3)

empid	image_url
300	https://s3-us-west-2.amazonaws.com/projempbucket/emp-id-300_image_file
200	https://s3-us-west-2.amazonaws.com/projempbucket/emp-id-200_image_file
100	https://s3-us-west-2.amazonaws.com/projempbucket/emp-id-100_image_file

MySQL connected from bastion host



```
After this operation, 67.0 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-client-core-8.0 amd64 8.0.27-0ubuntu0.20.04.1 [4423 kB]
Get:2 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal/main amd64 mysql-common all 5.8+1.0.5ubuntu2 [7496 B]
Get:3 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-client-8.0 amd64 8.0.27-0ubuntu0.20.04.1 [22.0 kB]
Get:4 http://us-west-2.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 mysql-client all 8.0.27-0ubuntu0.20.04.1 [9424 B]
Fetched 4462 kB in 0s (42.6 MB/s)
Selecting previously unselected package mysql-client-core-8.0.
(Reading database ... 6389 files and directories currently installed.)
Preparing to unpack .../mysql-client-core-8.0 8.0.27-0ubuntu0.20.04.1_amd64.deb ...
Unpacking mysql-client-core-8.0 (8.0.27-0ubuntu0.20.04.1) ...
Selecting previously unselected package mysql-common.
Preparing to unpack .../mysql-common_5.8+1.0.5ubuntu2_all.deb ...
Unpacking mysql-common (5.8+1.0.5ubuntu2) ...
Selecting previously unselected package mysql-client-8.0.
Preparing to unpack .../mysql-client-8.0 8.0.27-0ubuntu0.20.04.1_amd64.deb ...
Unpacking mysql-client-8.0 (8.0.27-0ubuntu0.20.04.1) ...
Selecting previously unselected package mysql-client.
Preparing to unpack .../mysql-client_8.0.27-0ubuntu0.20.04.1_all.deb ...
Unpacking mysql-client (8.0.27-0ubuntu0.20.04.1) ...
Setting up mysql-common (5.8+1.0.5ubuntu2) ...
Processing triggers for man-db (2.9.1-1) ...
root@ip-10-10-1-232:/home/ubuntu# mysql -h projempmysqldb.csquhxe80vvg.us-west-2.rds.amazonaws.com -u admin -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 51
Server version: 8.0.23 Source distribution

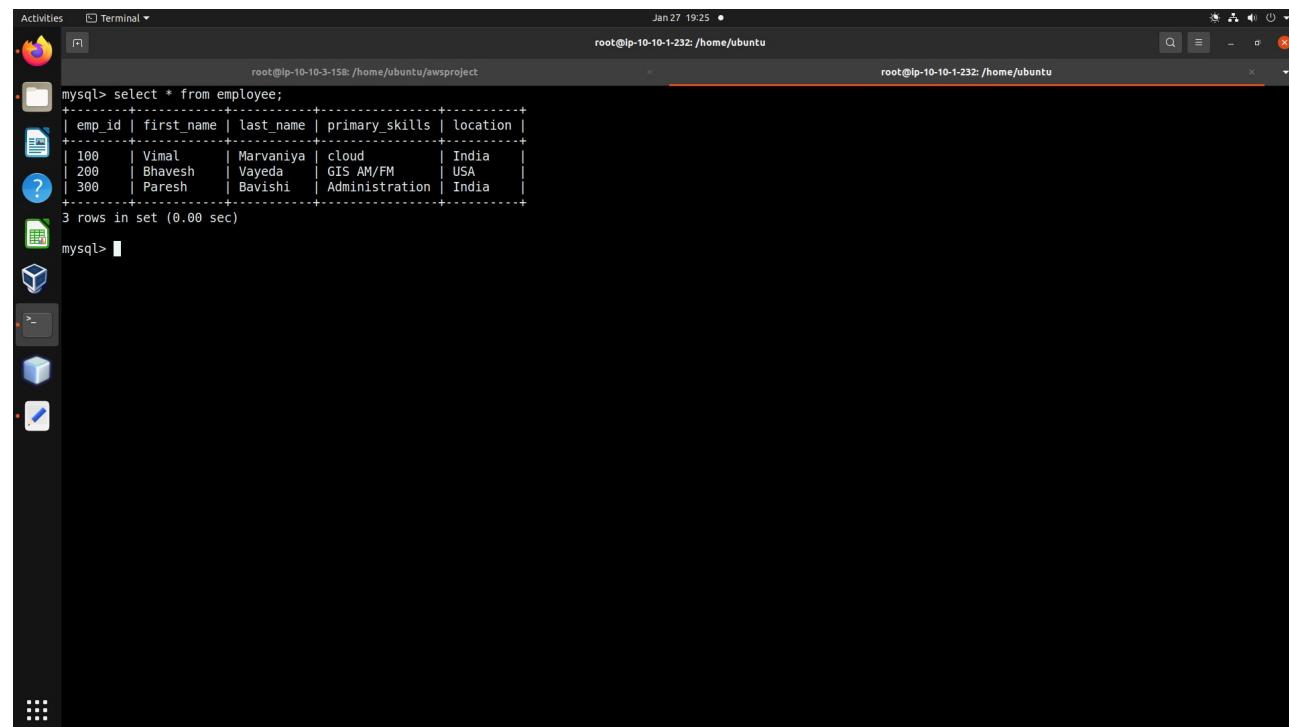
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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> 
```

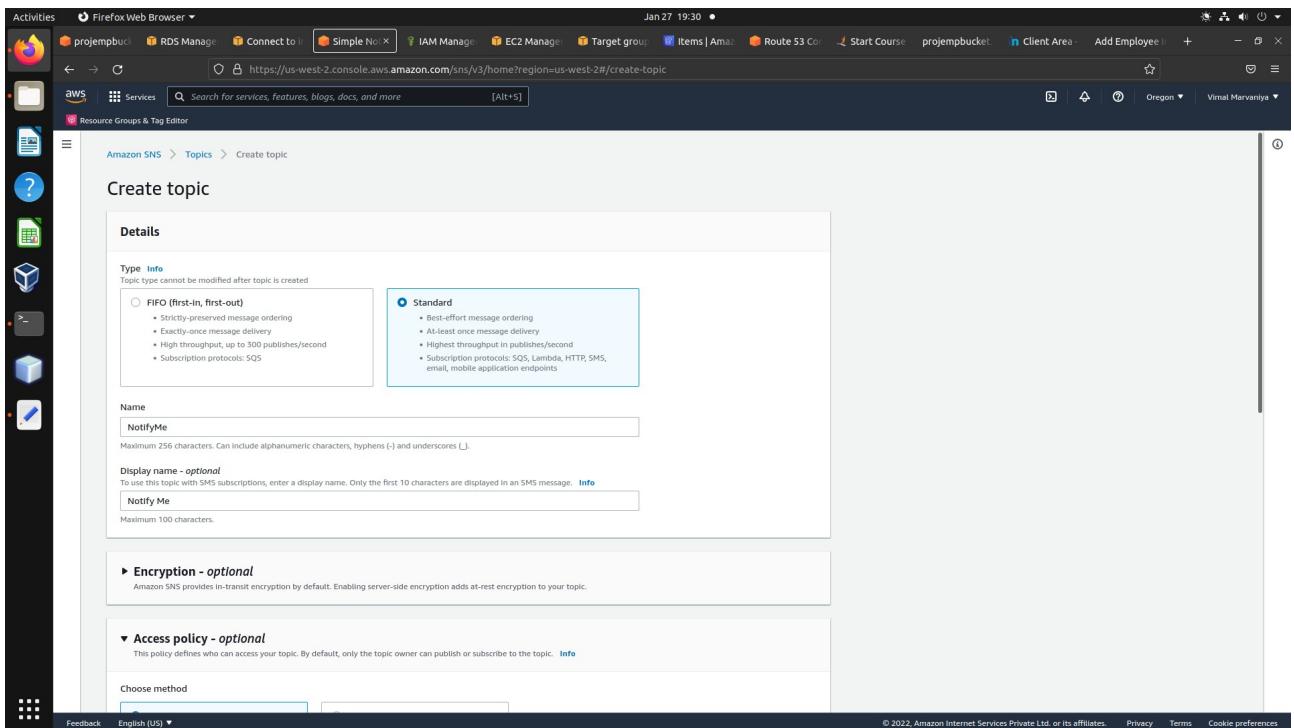
MySQL records from bastion host



```
Activities Terminal
root@ip-10-10-1-232:/home/ubuntu
root@ip-10-10-1-232:/home/ubuntu
mysql> select * from employee;
+----+-----+-----+-----+-----+
| emp_id | first_name | last_name | primary_skills | location |
+----+-----+-----+-----+-----+
| 100 | Vimal | Marvaniya | cloud | India |
| 200 | Bhavesh | Vayeda | GIS AM/FM | USA |
| 300 | Paresh | Bavishi | Administration | India |
+----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

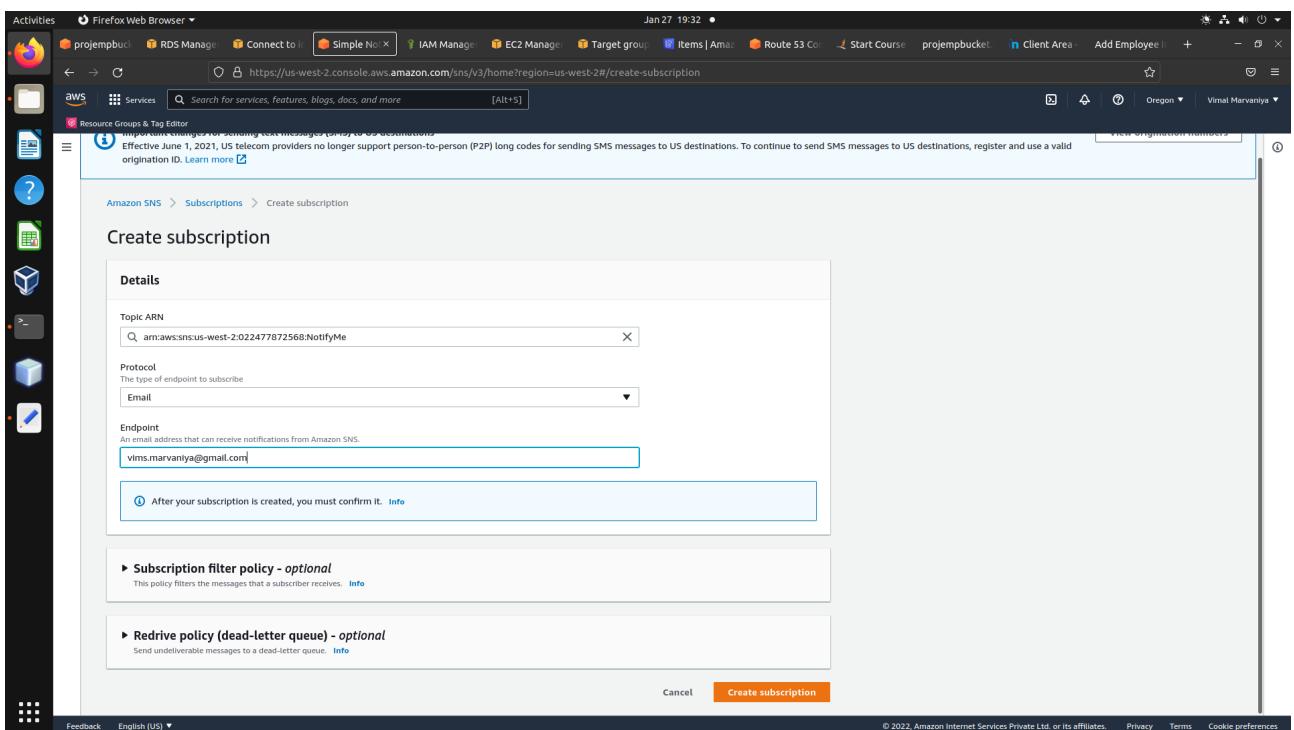
mysql> 
```

SNS topic creation for notification while record insert-deletion activity happens



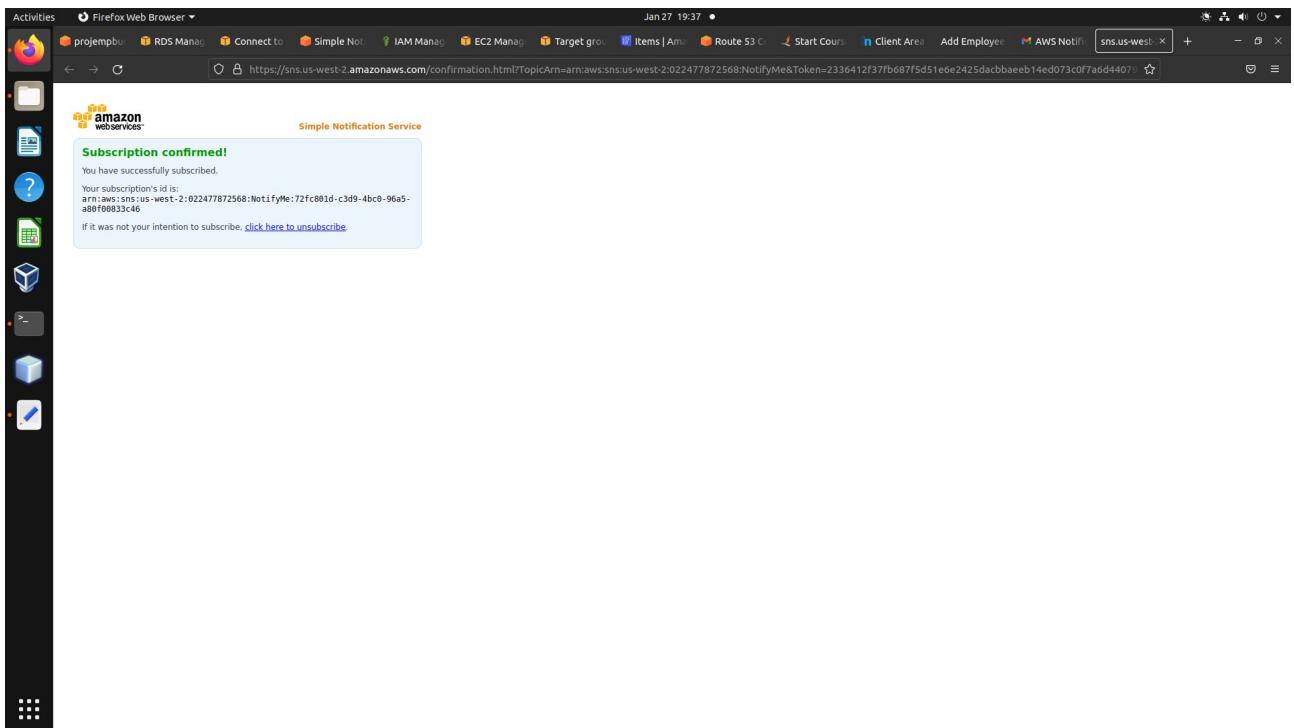
The screenshot shows the 'Create topic' page in the AWS SNS console. The 'Type' section is expanded, showing two options: 'FIFO (first-in, first-out)' and 'Standard'. 'Standard' is selected, which is described as providing 'Best-effort message ordering' and 'At-least once message delivery'. Below the type selection, there are fields for 'Name' (set to 'NotifyMe') and 'Display name - optional' (set to 'Notify Me'). The 'Encryption - optional' section indicates that server-side encryption is enabled by default. The 'Access policy - optional' section shows a placeholder policy. The 'Choose method' section is collapsed. At the bottom, there are links for 'Feedback', 'English (US)', and copyright information.

SNS topic subscription



The screenshot shows the 'Create subscription' page in the AWS SNS console. The 'Details' section is expanded, showing the 'Topic ARN' (set to 'arn:aws:sns:us-west-2:022477872568:NotifyMe'), 'Protocol' (set to 'Email'), and 'Endpoint' (set to 'vims.marvaniya@gmail.com'). A note below the endpoint states: 'After your subscription is created, you must confirm it.' The 'Subscription filter policy - optional' and 'Redrive policy (dead-letter queue) - optional' sections are collapsed. At the bottom, there are 'Cancel' and 'Create subscription' buttons.

SNS notification confirmation



Event Notification creation

The screenshot shows the 'Create event notification' interface for an S3 bucket named 'projempbucket'. The 'General configuration' section has 'Event name' set to 'NotifyEvent'. Under 'Event types', 'All object create events' is checked. In the 'Object creation' section, 'Put' (s3:ObjectCreated:Put) is selected. The browser's address bar shows the URL: <https://s3.console.aws.amazon.com/s3/bucket/projempbucket/property/notification/create?region=us-west-2>.

Event Notification target group selection

The screenshot shows the AWS S3 console with the URL <https://s3.console.aws.amazon.com/s3/bucket/projempbucket/property/notification/create?region=us-west-2>. The page is titled 'Create New Target Group'. It displays a list of events from an S3 bucket's lifecycle configuration:

- s3:ObjectCreated:*
- s3:LifecycleExpiration:*
- s3:LifecycleExpiration:Delete
- s3:LifecycleExpiration:DeleteMarkerCreated

Below this, there are two sections: 'Intelligent-Tiering' and 'Destination'.

Intelligent-Tiering: Contains a single item: 'Intelligent-Tiering archive events' (s3:IntelligentTiering).

Destination: A note states: 'Before Amazon S3 can publish messages to a destination, you must grant the Amazon S3 principal the necessary permissions to call the relevant API to publish messages to an SNS topic, an SQS queue, or a Lambda function.' Below this, the 'Destination' section is expanded, showing the following options:

- Lambda function**: Run a Lambda function script based on S3 events.
- SNS topic**: Send notifications to email, SMS, or an HTTP endpoint.
- SQS queue**: Send notifications to an SQS queue to be read by a server.

Under 'Specify SNS topic':
 Choose from your SNS topics
 Enter SNS topic ARN

SNS topic: NotifyMe

Buttons at the bottom: Cancel, Save changes

Email notification received

The screenshot shows a Gmail inbox with the URL <https://mail.google.com/mail/u/0/#inbox/FMfcgzGmthfdjkhKgZMLxGChCKNmzQkC>. The subject of the email is 'Amazon S3 Notification'.

The email content is as follows:

Notify Me <no-reply@sns.amazonaws.com>
to me • 7:49 PM (1 minute ago)

If you wish to stop receiving notifications from this topic, please click or visit the link below to unsubscribe:
<https://sns.us-west-2.amazonaws.com/console/listen.html?SubscriptionArn=arn:aws:sns:us-west-2:022477872569:NotifyMe-72f901d-c3d9-4bc0-96a5-a80f00833c46&Endpoint=vims.marvaniya@gmail.com>

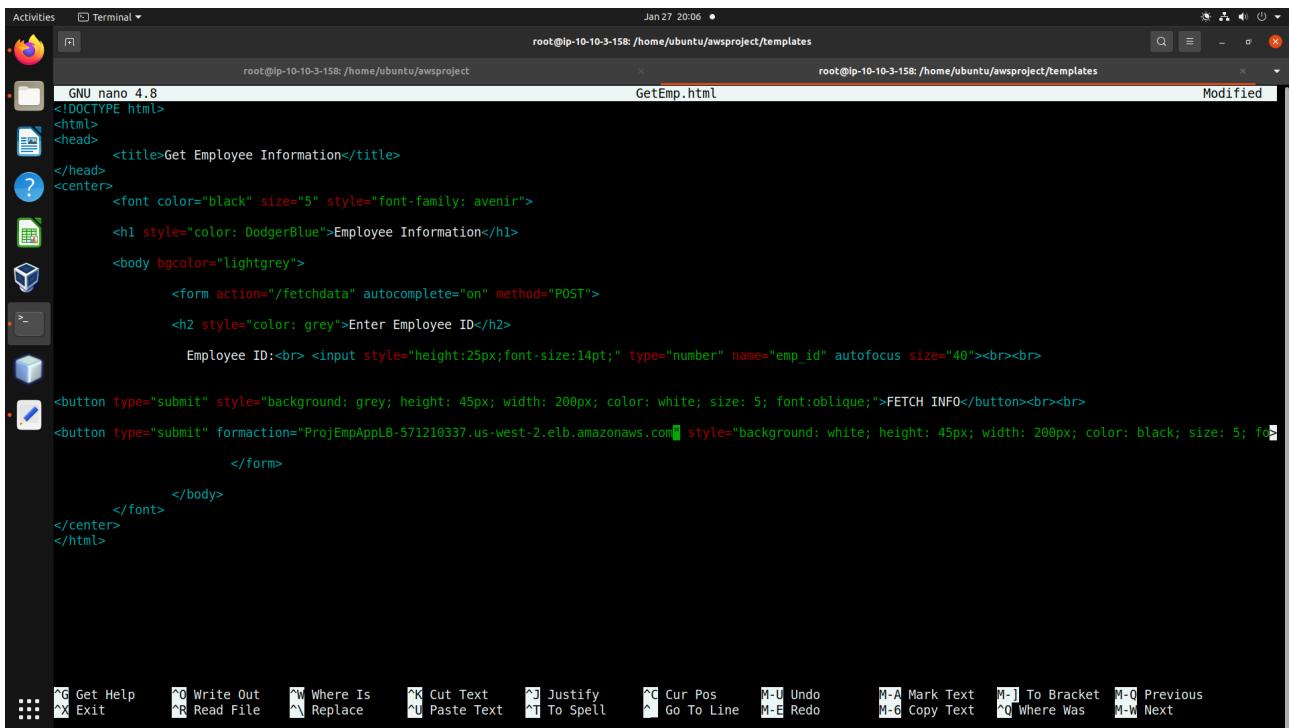
Please do not reply directly to this email. If you have any questions or comments regarding this email, please contact us at <https://aws.amazon.com/support>.

Notify Me <no-reply@sns.amazonaws.com>
to me • 7:50 PM (0 minutes ago)

[REDACTED]

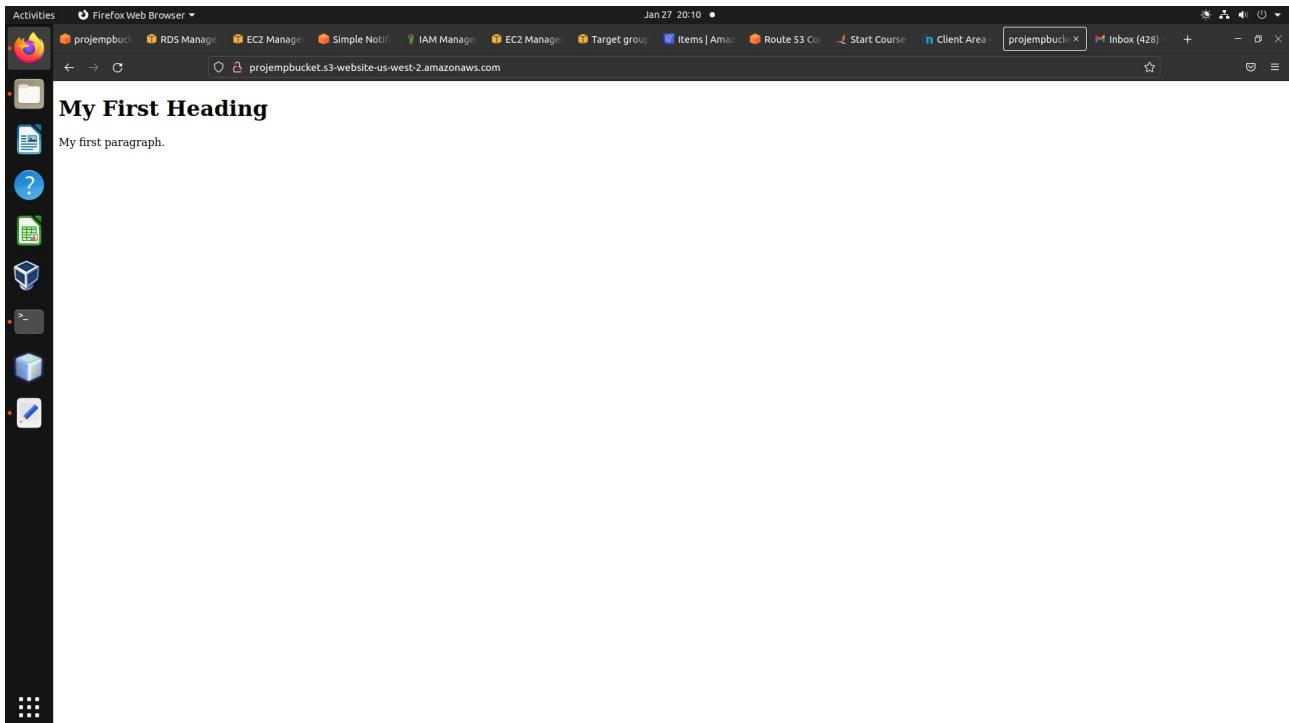
Buttons at the bottom: Reply, Forward

Updating python code for loadbalancer path



```
root@ip-10-10-3-158:/home/ubuntu/awsproject/templates
GNU nano 4.8
<!DOCTYPE html>
<html>
<head>
    <title>Get Employee Information</title>
</head>
<center>
    <font color="black" size="5" style="font-family: avenir">
        <h1 style="color: DodgerBlue">Employee Information</h1>
    </font>
    <body bgcolor="lightgrey">
        <form action="/fetchdata" autocomplete="on" method="POST">
            <h2 style="color: grey">Enter Employee ID</h2>
            Employee ID:<br> <input style="height:25px;font-size:14pt;" type="number" name="emp_id" autofocus size="40"><br><br>
            <button type="submit" style="background: grey; height: 45px; width: 200px; color: white; size: 5; font:oblique;">FETCH INFO</button><br><br>
            <button type="submit" formaction="ProjEmpAppLB-571210337.us-west-2.elb.amazonaws.com" style="background: white; height: 45px; width: 200px; color: black; size: 5; font:oblique;">Logout</button>
        </form>
    </body>
</center>
</html>
```

about us page working with back button



Thank you