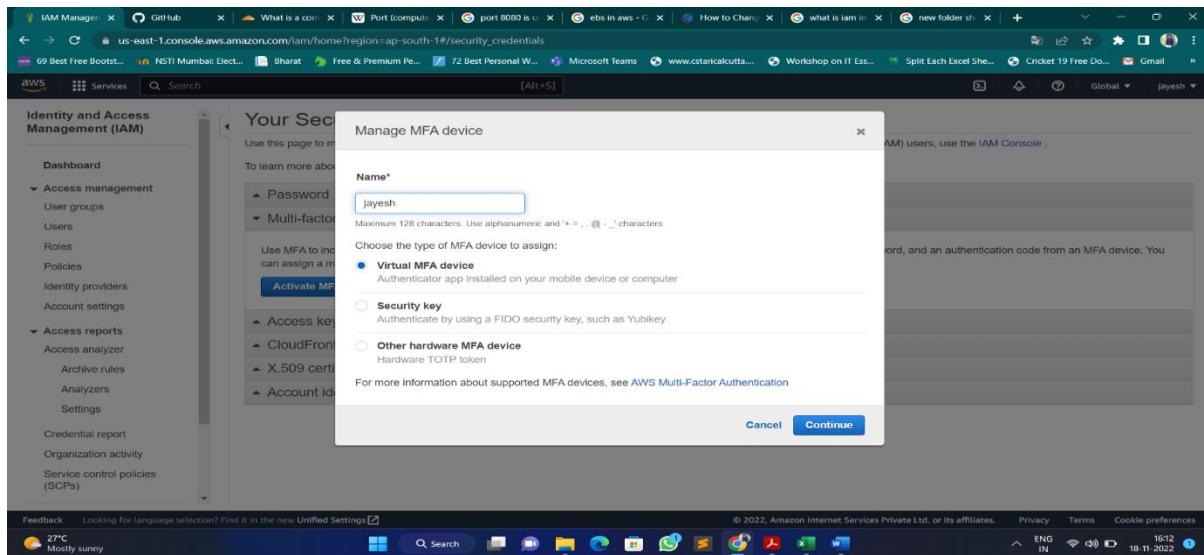
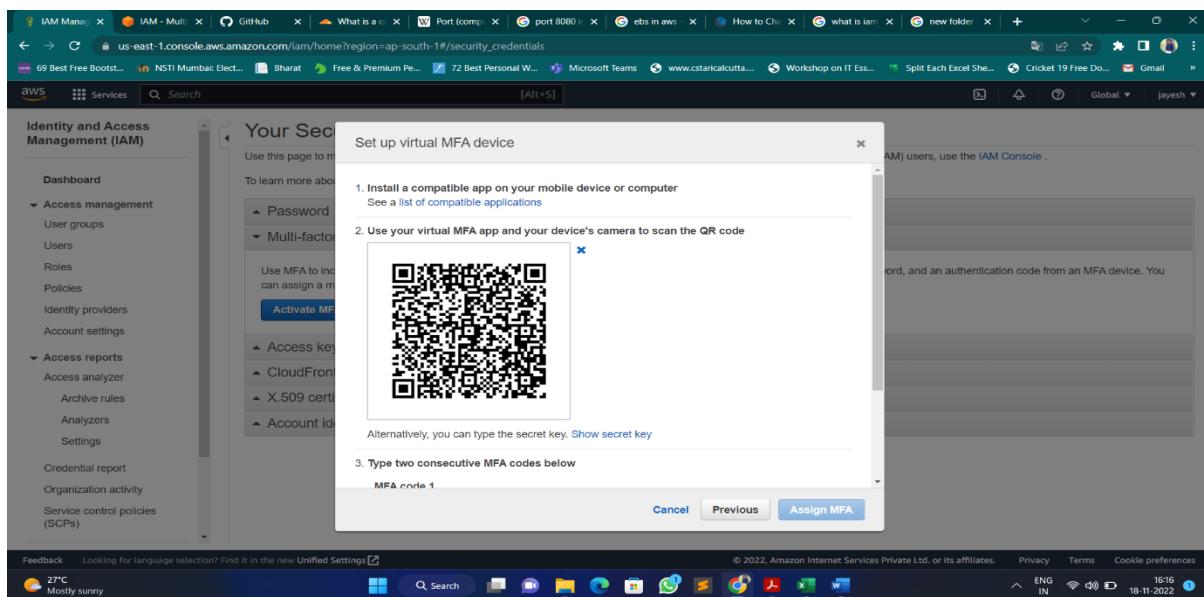


Mini Project 2 – AWS Web Services

LAB 1: IAM Hands-On



- Setting up MFA to our root account
- Enter name and select virtual MFA device and click on continue.
- Then download any supported Authenticator application to your mobile.



- Scan the QR code from the supported authenticator app you downloaded.
- The setup will finish now and we get key to login.
- After activating MFA we have to enter MFA code every time for login.

Add user

Review

Review your choices. After you create the user, you can view and download the autogenerated password and access key.

This user has no permissions

You haven't given this user any permissions. This means that the user has no access to any AWS service or resource. Consider returning to the previous step and adding some type of permissions.

User details

User name	jayesh
AWS access type	AWS Management Console access - with a password
Console password type	Custom
Require password reset	No
Permissions boundary	Permissions boundary is not set

Tags

No tags were added.

Create user

- Add a new user to our AWS account.
- Given only Access control permissions to the user and checked the other services are working or not.

Resources

You are using the following Amazon EC2 resources in the Asia Pacific (Tokyo) Region:

Instances (running)	API Error	Dedicated Hosts	API Error	Elastic IPs	API Error
Instances	API Error	Key pairs	API Error	Load balancers	API Error
Placement groups	API Error	Security groups	API Error	Snapshots	API Error
Volumes	API Error				

Account attributes

Supported platforms

- An error occurred
An error occurred retrieving supported platforms
- An error occurred
An error occurred checking for a default VPC

Explore AWS

Amazon GuardDuty Malware Protection

- After logging in from the user with only access control permissions no service is working.
- Every service is showing API Error or permission denied.

Identity and Access Management (IAM)

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

Summary

User ARN: arn:aws:iam::420321112085:user/jayesh
Path: /
Creation time: 2022-11-18 16:42 UTC+0530

Permissions (1 policy applied)

Add permissions Add inline policy

Policy name	Policy type
AmazonEC2FullAccess	AWS managed policy

Attached directly: AmazonEC2FullAccess (AWS managed policy)

Permissions boundary (not set)

- Assigned only EC2 service permission to the new user and checked it is working or not and if any other services are working or not.

EC2 Dashboard

- EC2 Global View
- Events
- Tags
- Limits
- Instances**
 - Instances New
 - Instance Types
 - Launch Templates
 - Spot Requests
 - Savings Plans
 - Reserved Instances New
 - Dedicated Hosts
 - Capacity Reservations
- Images
- AMIs
- AMI Catalog
- Elastic Block Store

Resources

You are using the following Amazon EC2 resources in the Asia Pacific (Mumbai) Region:

Instances (running)	0	Dedicated Hosts	0	Elastic IPs	0
Instances	5	Key pairs	2	Load balancers	0
Placement groups	0	Security groups	12	Snapshots	0
Volumes	5				

Launch instance Launch instance Migrate a server

Service health

Region: Asia Pacific (Mumbai)
Status: This service is operating normally.

Account attributes

Supported platforms: VPC
Default VPC: vpc-0db8772bd3c84bd4
Settings
EBS encryption
Zones
EC2 Serial Console
Default credit specification
Console experiments

Explore AWS

Amazon GuardDuty Malware Protection
GuardDuty now provides agentless malware detection in Amazon EC2 & EC2 container workloads. [Learn more](#)

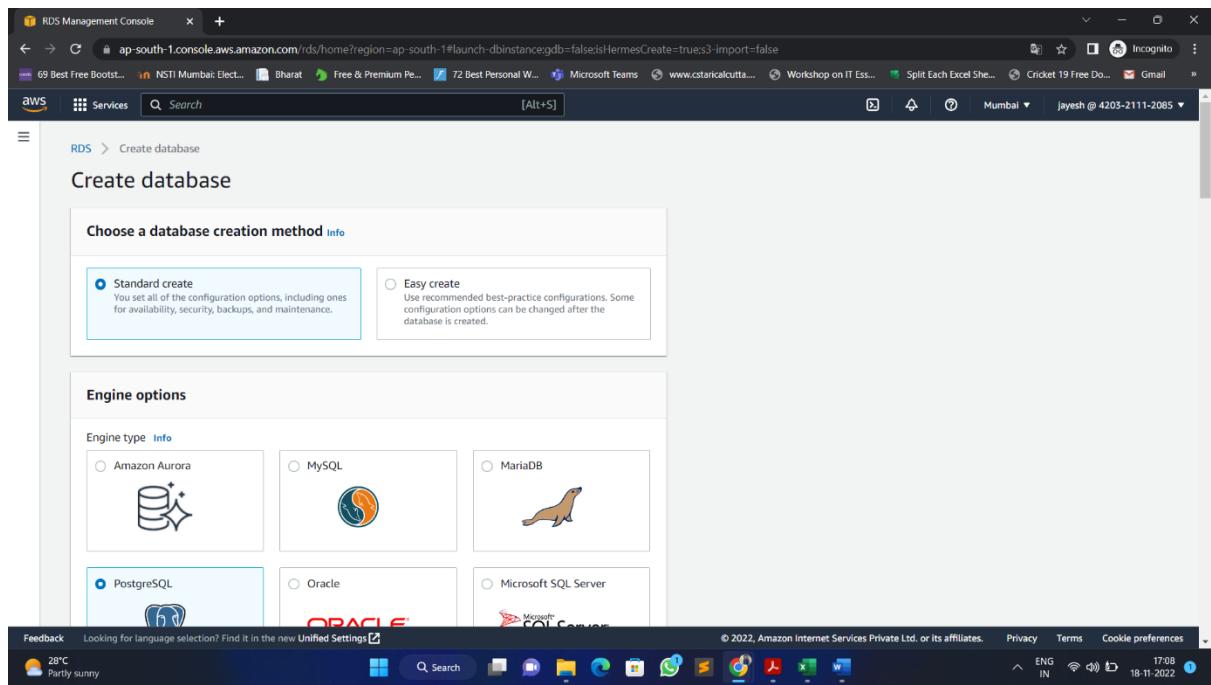
- After giving EC2 permission only the EC2 services are available to use.
- Now checked for another service is it working or not.

The screenshot shows the AWS RDS Management Console. At the top, there's a banner with the message "We listened to your feedback! Now, create a database with a single click using our pre-built configurations! Or choose your own configurations." Below this, the main heading is "Create database". A red-bordered error box contains the message "Error loading resource" and the detailed text: "User: arn:aws:iam::420321112085:user/jayesh is not authorized to perform: rds:DescribeDBInstances on resource: arn:aws:rds:ap-south-1:420321112085:db:* because no identity-based policy allows the rds:DescribeDBInstances action".

- After assigned only EC2 permission other services not working, showing not authorized.

The screenshot shows the AWS IAM Management Console. The left sidebar is titled "Identity and Access Management (IAM)" and includes sections for "Dashboard", "Access management" (with "Users" selected), "Roles", "Policies", "Identity providers", and "Account settings". The main area is titled "Summary" for the user "jayesh". It shows the "User ARN" as "arn:aws:iam::420321112085:user/jayesh", "Path" as "/", and "Creation time" as "2022-11-18 16:42 UTC+0530". Below this, the "Permissions" tab is selected, showing "Permissions policies (2 policies applied)". Two policies are listed: "AmazonEC2FullAccess" and "AdministratorAccess", both identified as "AWS managed policy".

- Then assigned Administrator access to the user account.



- After assigning Administrator access every service has started working.

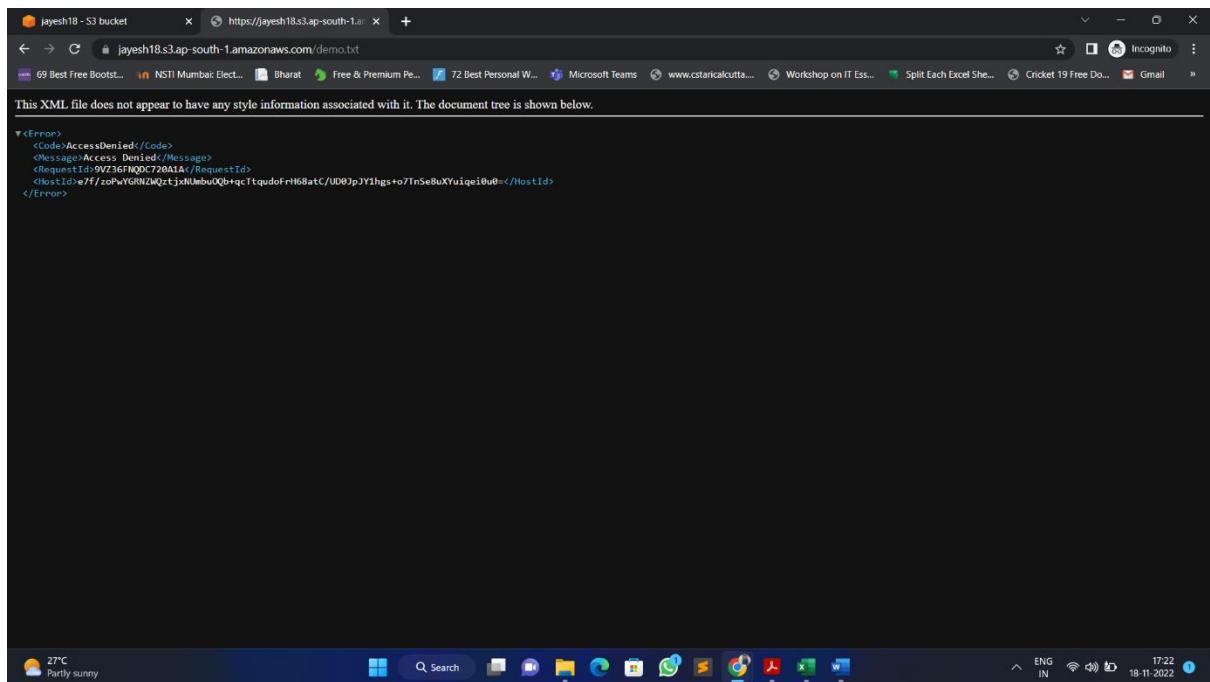
LAB 3: S3 BUCKET

The screenshot shows the AWS S3 Management Console. A green success message at the top states: "Successfully created bucket 'jayesh18'. To upload files and folders, or to configure additional bucket settings choose View details." On the left sidebar, under the "Buckets" section, there is a list of options: Access Points, Object Lambda Access Points, Multi-Region Access Points, Batch Operations, Access analyzer for S3, Block Public Access settings for this account, Storage Lens (Dashboards, AWS Organizations settings), Feature spotlight, and AWS Marketplace for S3. The main content area displays an "Account snapshot" with a "Storage lens provides visibility into storage usage and activity trends. Learn more" link. Below it is a table titled "Buckets (1) Info". The table has columns: Name, AWS Region, Access, and Creation date. It shows one entry: "jayesh18" (Asia Pacific (Mumbai) ap-south-1), "Bucket and objects not public", and "November 18, 2022, 17:19:27 (UTC+05:30)". At the bottom of the page, there are links for Feedback, Unified Settings, Privacy, Terms, and Cookie preferences, along with a weather widget showing 27°C and Partly sunny.

➤ Create an S3 bucket, make sure it's a unique name.



The screenshot shows the AWS S3 Management Console. A green success message at the top states: "Successfully created bucket 'jayesh18'. To upload files and folders, or to configure additional bucket settings choose View details." On the left sidebar, under the "Buckets" section, there is a list of options: Access Points, Object Lambda Access Points, Multi-Region Access Points, Batch Operations, Access analyzer for S3, Block Public Access settings for this account, Storage Lens (Dashboards, AWS Organizations settings), Feature spotlight, and AWS Marketplace for S3. The main content area displays an "Account snapshot" with a "Storage lens provides visibility into storage usage and activity trends. Learn more" link. Below it is a table titled "Buckets (1) Info". The table has columns: Name, AWS Region, Access, and Creation date. It shows one entry: "jayesh18" (Asia Pacific (Mumbai) ap-south-1), "Bucket and objects not public", and "November 18, 2022, 17:19:27 (UTC+05:30)". At the bottom of the page, there are links for Feedback, Unified Settings, Privacy, Terms, and Cookie preferences, along with a weather widget showing 27°C and Partly sunny.



The screenshot shows the AWS S3 console for the bucket 'jayesh18'. A green success message at the top states 'Successfully edited Block Public Access settings for this bucket.' The 'Permissions overview' section shows 'Objects can be public'. Under 'Block public access (bucket settings)', it is set to 'Off'. The 'Bucket policy' section shows a JSON policy for the bucket. The browser's address bar and taskbar are visible at the top and bottom respectively.

Successfully edited Block Public Access settings for this bucket.

Amazon S3

Buckets

- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- Access analyzer for S3

Block Public Access settings for this account

Storage Lens

- Dashboards
- AWS Organizations settings

Feature spotlight

AWS Marketplace for S3

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jayesh18 - S3 bucket https://jayesh18.s3.ap-south-1.amazonaws.com/ +

s3.console.aws.amazon.com/s3/bucket/jayesh18/property/versioning/edit?region=ap-south-1

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Amazon S3

Buckets

- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- Access analyzer for S3

Block Public Access settings for this account

▼ Storage Lens

- Dashboards
- AWS Organizations settings

Feature spotlight

► AWS Marketplace for S3

Edit Bucket Versioning

Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

Suspend This suspends the creation of object versions for all operations but preserves any existing object versions.

Enable

ⓘ After enabling Bucket Versioning, you might need to update your lifecycle rules to manage previous versions of objects.

Multi-factor authentication (MFA) delete An additional layer of security that requires multi-factor authentication for changing Bucket Versioning settings and permanently deleting object versions. To modify MFA delete settings, use the AWS CLI, AWS SDK, or the Amazon S3 REST API. [Learn more](#)

Disabled

Cancel Save changes

https://docs.aws.amazon.com/console/s3/bucket-versioning-mfa-delete led Settings

27°C Partly sunny

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S3 Management Console https://jayesh18.s3.ap-south-1.amazonaws.com/demo.txt?response-content-disposition=inline&X-Amz-Security-Token=IQoJb3jPZ2luX2VjEDwaCmFwLXNvdXR0LTEiRzBFAjBEjoNFzbUXKmS2kAWDv...

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Hello this is testing document 1234

27°C Partly sunny

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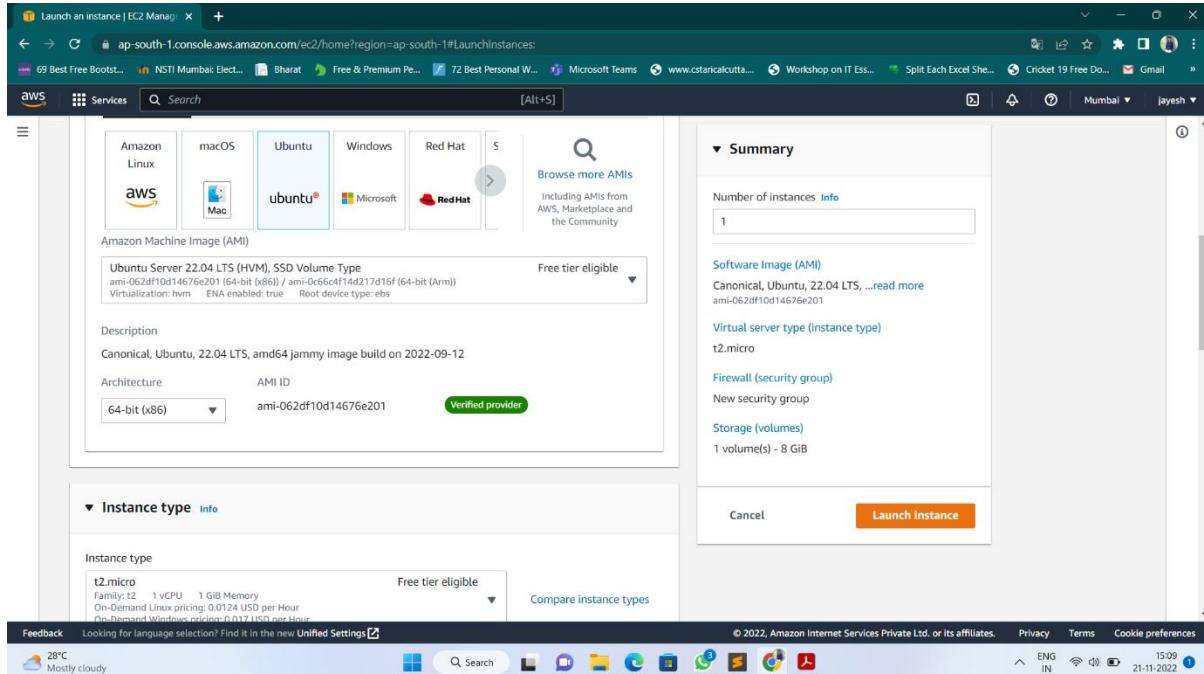
The screenshot shows the AWS S3 console with a modal dialog titled "Delete objects?". The dialog contains a message: "To confirm deletion, type *delete* in the text input field." Below this is a text input field containing the word "delete". At the bottom right of the dialog is a blue "Delete objects" button. The background shows the S3 bucket list with one object named "demo.txt". Above the list, there is a warning message: "If a folder is selected for deletion, all objects in the folder will be deleted, and any new objects added while the delete action is in progress might also be deleted. If an object is selected for deletion, any new objects with the same name that are uploaded before the delete action is completed will also be deleted." A "Learn more" link is provided for this message.

The screenshot shows the AWS S3 console on the "Info" tab of the "jayesh18" bucket. The left sidebar includes sections for Buckets, Storage Lens, and AWS Marketplace for S3. The main area displays the "Objects (3)" section. One object, "demo.txt", is selected, indicated by a checked checkbox. The table lists three versions of "demo.txt":

Name	Type	Version ID	Last modified	Size	Storage class
demo.txt	Delete marker	2bMwyRIAy75AY8Y4zEfAfMO1Rbsh7	November 18, 2022, 17:39:59 (UTC+05:30)	0 B	-
demo.txt	txt	AcWk1YUM9Bxt6KREmgnGcDGXEGMTo0EG	November 18, 2022, 17:35:05 (UTC+05:30)	35.0 B	Standard
demo.txt	txt	null	November 18, 2022, 17:21:52 (UTC+05:30)	30.0 B	Standard

At the top of the page, there is a navigation bar with links for Feedback, Unified Settings, and various system status indicators like weather and time.

LAB 4: EC2 Instance



```
ubuntu@ip-172-31-44-98: ~ + \ 
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\jayed> cd downloads
PS C:\Users\jayed\downloads> ssh -i "devops.pem" ubuntu@ec2-13-235-18-211.ap-south-1.compute.amazonaws.com
The authenticity of host 'ec2-13-235-18-211.ap-south-1.compute.amazonaws.com (13.235.18.211)' can't be established.
ED25519 key fingerprint is SHA256:xydFW/Ogp+R0pgQ0Q2w5For/exsmnThKYJ3b52rup4.
This key is not known by any other names.
Are you sure you want to connect? (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-13-235-18-211.ap-south-1.compute.amazonaws.com' (ED25519) to the list of known hosts.
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-1019-ams x86_64)

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

 System information as of Mon Nov 21 09:47:48 UTC 2022

System load: 0.0128953125 Processes: 102
Usage of /: 19.6% of 7.57GB Users logged in: 0
Memory usage: 21% IPv4 address for eth0: 172.31.44.98
Swap usage: 0%

0 updates can be applied immediately.

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

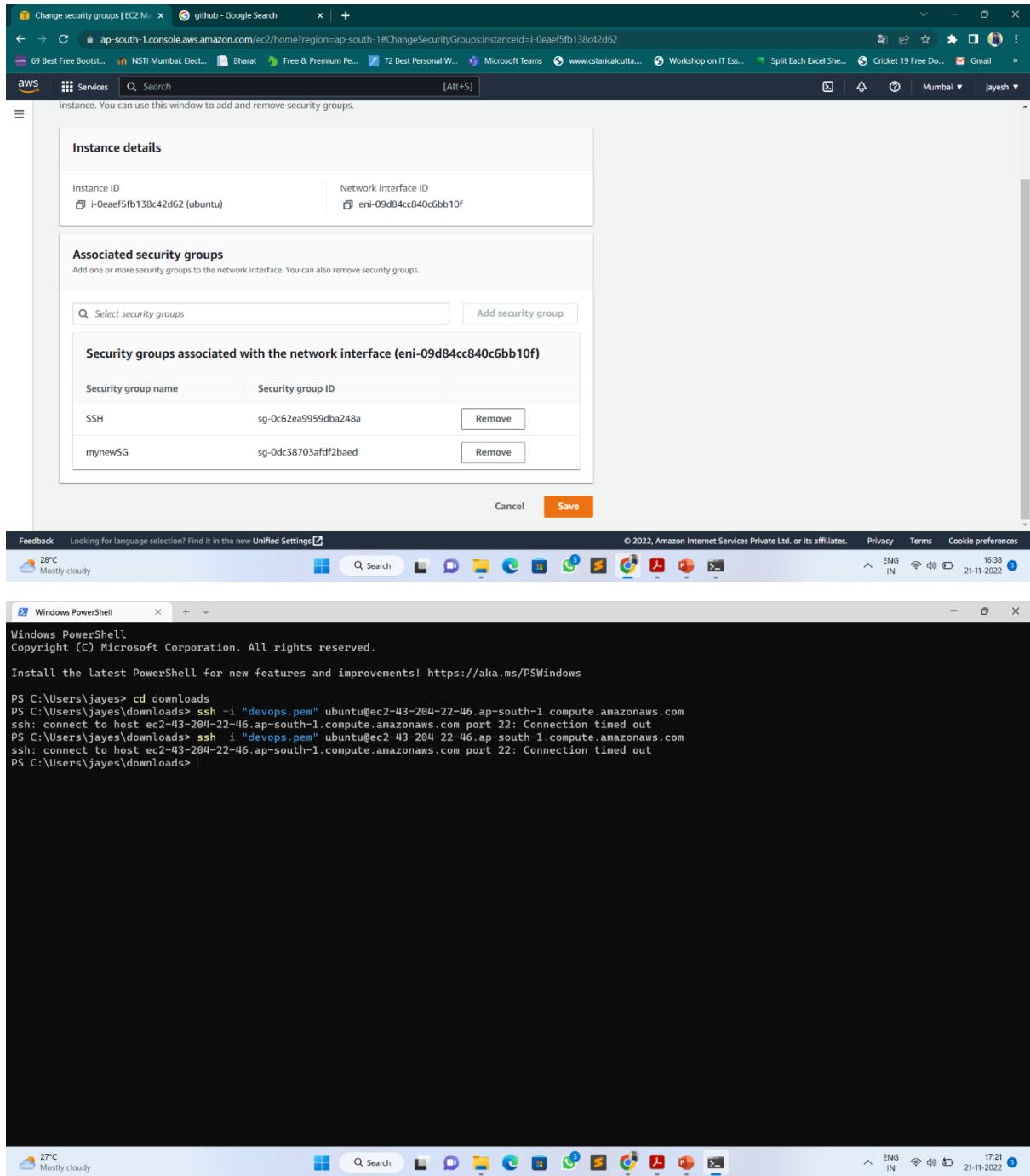
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

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-172-31-44-98:~$ |
```

LAB 5: Security Group



LAB 6: Volumes and Snapshots

The screenshot shows the AWS EC2 Management Console with the 'Attach volume' dialog open. The volume ID is `vol-09353c49a72b60818`, located in the availability zone `ap-south-1a`. The instance selected is `i-0eaef5fb138c42d62`. The device name is set to `/dev/sdf`. A note indicates that newer Linux kernels may rename devices to `/dev/xvdf` through `/dev/xvdp` internally. The 'Attach volume' button is at the bottom right.

The screenshot shows the AWS EC2 Management Console with the 'Create snapshot' dialog open. The volume ID is `vol-09353c49a72b60818`. The description field contains the word `snapshot`. The 'Create snapshot' button is at the bottom right.

Instances | EC2 Management Con... | Billing Management Console | Volumes | EC2 Management Con... | Create volume | EC2 Management Con... +

← → 🔍 ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateVolumeFromSnapshot;snapshotId=snap-0f6f163b216cd495a

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aws Services Search [Alt+S]

EC2 > Snapshots > snap-0f6f163b216cd495a > Create volume

Create volume Info

Create an Amazon EBS volume to attach to any EC2 instance in the same Availability Zone.

Volume settings

Snapshot ID Info
snap-0f6f163b216cd495a

Volume type Info
General Purpose SSD (gp2)

Size (GiB) Info
8
Min: 1 GiB, Max: 16384 GiB. The value must be an integer.

IOPS
100 / 3000
Baseline of 10 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS.

Throughput (MiB/s) Info
Not applicable

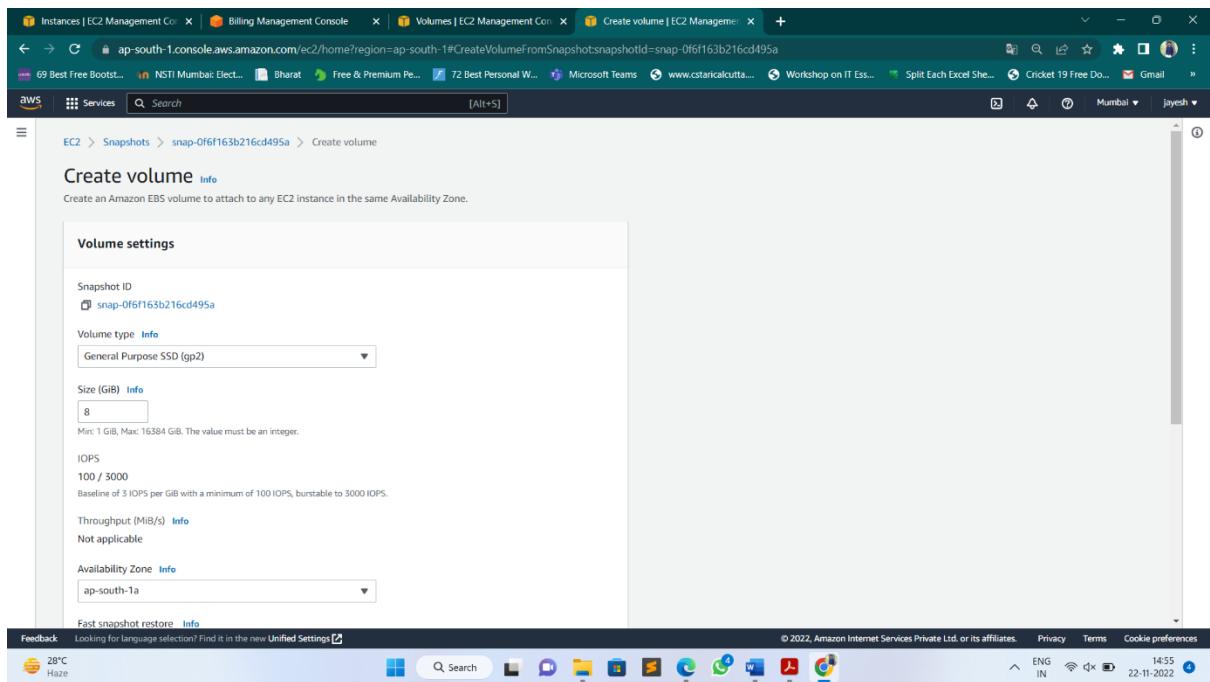
Availability Zone Info
ap-south-1a

Fast snapshot restore Info

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ENG IN 14:55 22-11-2022



LAB 7: AMIs

Instances (1/3) Info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Mini-Project	i-0a25281e151ee52a2	Stopped	t2.micro	-	No alarms	ap-south-1a
ubuntu	i-0eaef5fb138c42d62	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a
Jenkins	i-068e01bf248ee816a	Terminated	t2.micro	-	No alarms	ap-south-1b

Create image
Create template from instance
Launch more like this

Instance: i-0eaef5fb138c42d62 (ubuntu)

Create Image | EC2 Management

Instance ID: i-0eaef5fb138c42d62 (ubuntu)

Image name: ubuntu image

Image description - optional: Image description

No reboot Enable

Instance volumes

Volume type	Device	Snapshot	Size	Volume type	IOPS	Throughput	Delete on termination	Encrypted
EBS	/dev/...	Create new snapshot fr...	8	EBS General Purpose S...	100	500	<input checked="" type="checkbox"/> Enable	<input checked="" type="checkbox"/> Enable

Tags - optional
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Tag image and snapshots together
Tag the image and the snapshots with the same tag.

Tag image and snapshots separately
Tag the image and the snapshots with different tags.

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LAB 8: Load Balancers

The screenshot shows the AWS EC2 Management Console interface. The left sidebar includes links for EC2 Dashboard, Events, Tags, Limits, Instances (selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances (New), Dedicated Hosts, Capacity Reservations, Images (AMIs, AMI Catalog), and Elastic Block Store (Volumes, Snapshots, Lifecycle Manager). The main content area displays a table titled "Instances (5) Info" with columns: Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, Public IPv4 DNS, and Public IPV4. The instances listed are: Mini-Project (terminated), ubuntu (terminated), Jenkins (terminated), nginx (running), and apache (running). A search bar at the top allows filtering by attribute or tag.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPV4
Mini-Project	i-025281e151ee52a2	Terminated	t2.micro	-	No alarms	ap-south-1a	-	-
ubuntu	i-0eaef5fb13bc42d62	Terminated	t2.micro	-	No alarms	ap-south-1a	-	-
Jenkins	i-068e0bf248ee816a	Terminated	t2.micro	-	No alarms	ap-south-1b	-	-
nginx	i-0806463410b4a2eca	Running	t2.micro	Initializing	No alarms	ap-south-1a	ec2-3-108-196-210.ap...	3.108.196.210
apache	i-0ceb2bc510413c5f	Running	t2.micro	Initializing	No alarms	ap-south-1a	ec2-65-1-86-21.ap-sout...	65.1.86.21

EC2 Manager | Welcome to EC2 Manager | Instance Details | How to Install | how to install | techthings | Index of / | Apache Tomcat | +

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org

Commercial support is available.



The screenshot shows the Apache Tomcat 7.0.92 homepage. At the top, there's a banner with the text "If you're seeing this, you've successfully installed Tomcat. Congratulations!" Below it is a cartoon cat icon and some recommended reading links: "Security Considerations HOW-TO", "Manager Application HOW-TO", and "Clustering/Session Replication HOW-TO". To the right are buttons for "Server Status", "Manager App", and "Host Manager". The main content area has sections for "Developer Quick Start", "Documentation", and "Getting Help". The "Developer Quick Start" section includes links for "Tomcat Setup", "First Web Application", "Realms & AAA", "JDBC DataSources", "Examples", "Servlet Specifications", and "Tomcat Versions". The "Documentation" section links to "Tomcat 7.0 Documentation" and "Tomcat 7.0 Configuration". The "Getting Help" section links to "FAQ and Mailing Lists" and lists several mailing lists: "tomcat-announce", "tomcat-users", "taglibs-user", and "tomcat-dev". The browser taskbar at the bottom shows multiple tabs related to AWS services like EC2, RDS, and Lambda.

The screenshot shows the AWS Load Balancer Creation Status page. It displays a green box with a checkmark and the text "Successfully created load balancer" followed by "Load balancer ngnxtomcat was successfully created. Note: It may take a few minutes for your instances to become active in the new load balancer." A "Close" button is located in the bottom right corner. On the left, there's a sidebar with navigation links for EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances (with sub-links for Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations), Images (with sub-links for AMIs, AMI Catalog), and Elastic Block Store (with sub-links for Volumes, Snapshots, Lifecycle Manager). The browser taskbar at the bottom shows multiple tabs related to AWS services like EC2, RDS, and Lambda.