

Cloud computing

Migrating a Database to Amazon RDS

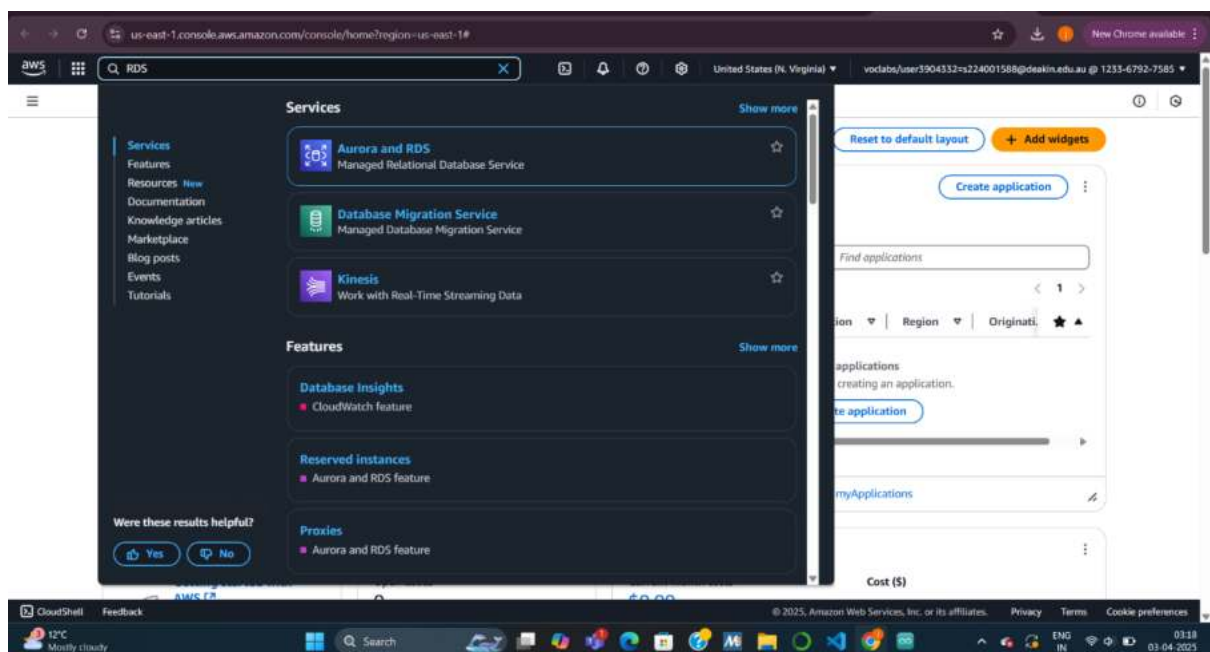
Task 1: Creating an RDS instance

Summary:

I created a managed MariaDB instance using Amazon RDS to replace the self-hosted database on the EC2 instance. We chose this approach to improve database reliability, automate backups, and reduce manual maintenance work.

Explanation:

We configured the instance with the identifier CafeDatabase, used admin as the username, and set a secure password. I selected a lightweight instance type (db.t3.micro) and allocated 20 GiB of SSD storage. The instance was placed in the lab VPC and subnet group with restricted access via the dbSG security group. Public access was disabled for security. This setup gave us a scalable, durable foundation to migrate the café's database.



us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#

Aurora and RDS > Dashboard

Introducing Aurora I/O-Optimized
Aurora's I/O-Optimized is a new cluster storage configuration that offers predictable pricing for all applications and improved price-performance, with up to 40% costs savings for I/O-intensive applications.

Resources
You are using the following Amazon RDS resources in the US East (N. Virginia) region (used/quota)

- DB Instances (0/40)
 - Allocated storage (0 TB/100 TB)
 - Instances and storage include Neptune and DocumentDB. Increase DB instances limit
- DB Clusters (0/40)
 - Reserved instances (0/40)
 - Snapshots (0)
 - Manual
 - DB Cluster (0/100)
 - DB Instance (0/100)
 - Automated
 - DB Cluster (0)
 - DB Instance (0)
 - Recent events (0)
 - Event subscriptions (0/20)
- Parameter groups (0)
 - Default (0)
 - Custom (0/100)
- Option groups (0)
 - Default (0)
 - Custom (0/20)
- Subnet groups (1/50)
- Supported platforms VPC
 - Default network vpc-01049c80414080088

Recommended services
Customers like you also use these services.

No recommendations yet
Recommended services will display based on your AWS console usage.

Recommended for you
Test Your DR Strategy in Minutes
Amazon Aurora Global Database now supports planned managed failover, making disaster recovery drills a breeze. [Learn more](#)

Build RDS Operational Tasks
Watch how to enable users to perform common tasks such as snapshots or restart DB instances in Amazon RDS. [Learn more](#)

CloudShell Feedback

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us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#databases

Aurora and RDS > Databases

Consider creating a blue/green deployment to minimize downtime during upgrades
You may want to consider using Amazon RDS Blue/Green Deployments and minimize your downtime during upgrades. A Blue/Green Deployment provides a staging environment for changes to production databases. [RDS User Guide](#) [Aurora User Guide](#)

Notifications 0 0 0 0 4 0

Databases (0) Group resources Modify Actions Create database

Filter by databases

DB identifier	Status	Role	Engine	Region ...	Size	Recommendations
No instances found						

1

https://us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#databases

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us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-dbinstance:

AWS

Search

[Alt+S]

United States (N. Virginia)

voclabs/user:3904332-rs224001588@deakin.edu.au @ 1233-6792-7585

Aurora and RDS > Create database

Create database [info](#)


Choose a database creation method


☒ Standard create
You set all of the configuration options, including ones for availability, security, backups, and maintenance.


☐ Easy create
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.


Engine options


Engine type [info](#)


☐ Aurora (MySQL Compatible)



☒ Aurora (PostgreSQL Compatible)



☐ MySQL


☐ PostgreSQL


☐ MariaDB


☐ Oracle


☐ IBM Db2


☐ Microsoft SQL Server


Engine version [info](#)

View the engine versions that support the following database features.

▼ Hide filters

☒ Show only versions that support the Amazon RDS Optimized Writes [info](#)
Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.

Engine version
Engine version

MariaDB [>](#)

MariaDB Community Edition is a MySQL-compatible database with strong support from the open source community, and extra features and performance optimizations.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.
- Supports global transaction ID (GTID) and thread pooling.
- Developed and supported by the MariaDB open source community.

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Search

03:19 03-04-2025

us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-db-instance

AWS

Search

[Alt+S]

United States (N. Virginia)

vocalabs/User3904332~c224001588@deakin.edu.au @ 1233-6792-7585

Aurora and RDS

Create database

▼ Hide filters

☐ Show only versions that support the Amazon RDS Optimized Writes

Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.

Engine version

MariaDB 11.4.4

Templates

Choose a sample template to meet your use case.

☐ Production

Use defaults for high availability and fast, consistent performance.

☒ Dev/Test

This instance is intended for development use outside of a production environment.

☐ Free tier

Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS.

Settings

DB instance identifier

CafeDatabase

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 63 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ Credentials Settings

MariaDB

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CloudShell

Feedback

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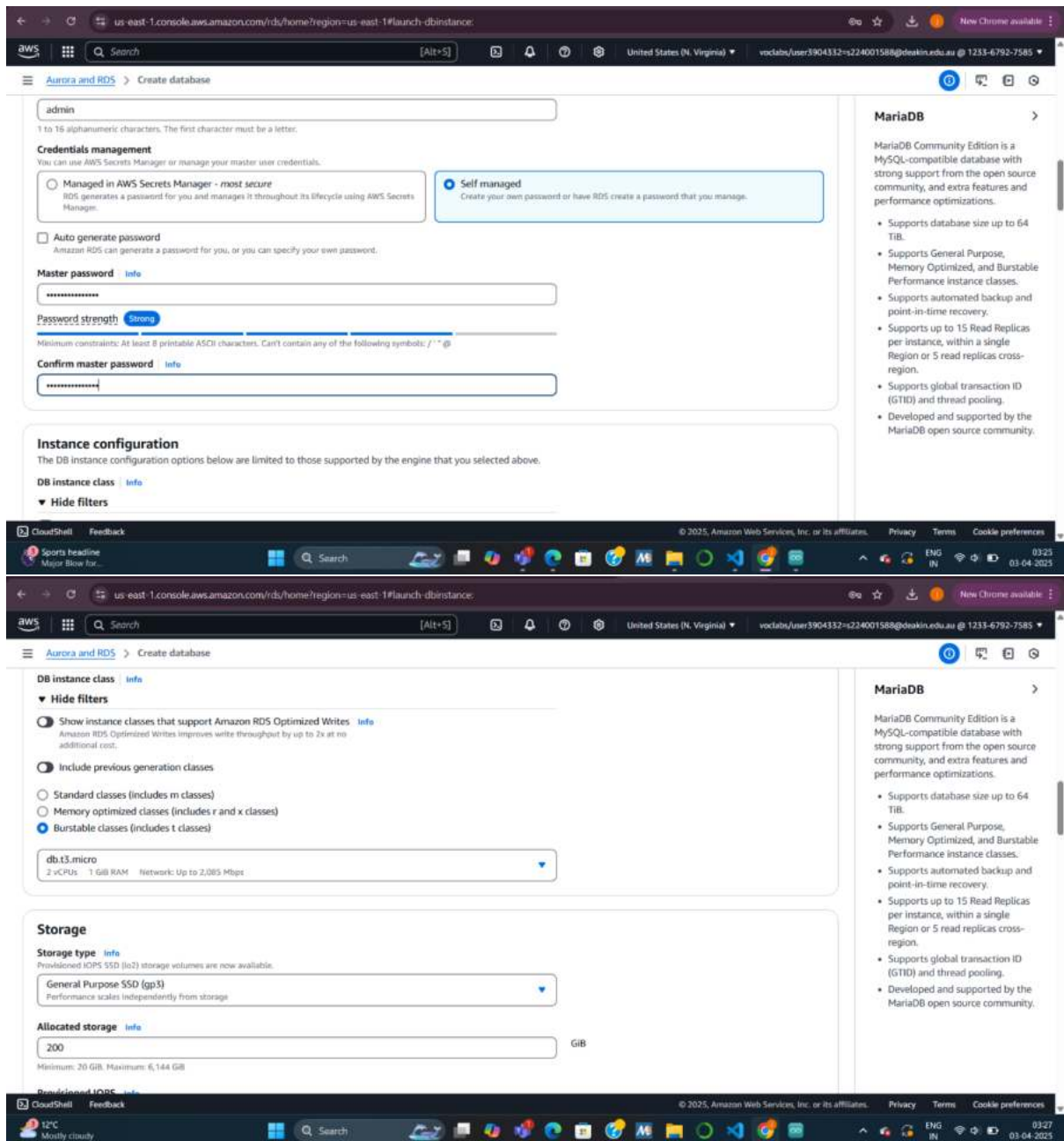
12°C

Mostly cloudy

Search

03:20

03-04-2025



us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-db-instance

Search [Alt+S]

United States (N. Virginia) | voclake/user:3904532-c224001568@deakin.edu.au @ 1233-6792-7585

Create database

☒ Include previous generation classes

☐ Standard classes (includes m classes)

☐ Memory optimized classes (includes r and x classes)

☒ Burstable classes (includes t classes)

db.t3.micro
2 vCPUs 1 GiB RAM Network: Up to 2,085 Mbps

Storage

Storage type [Info](#)
Provisioned IOPS SSD (io2) storage volumes are now available.

General Purpose SSD (gp2)
Baseline performance determined by volume size

Allocated storage [Info](#)
20 GiB

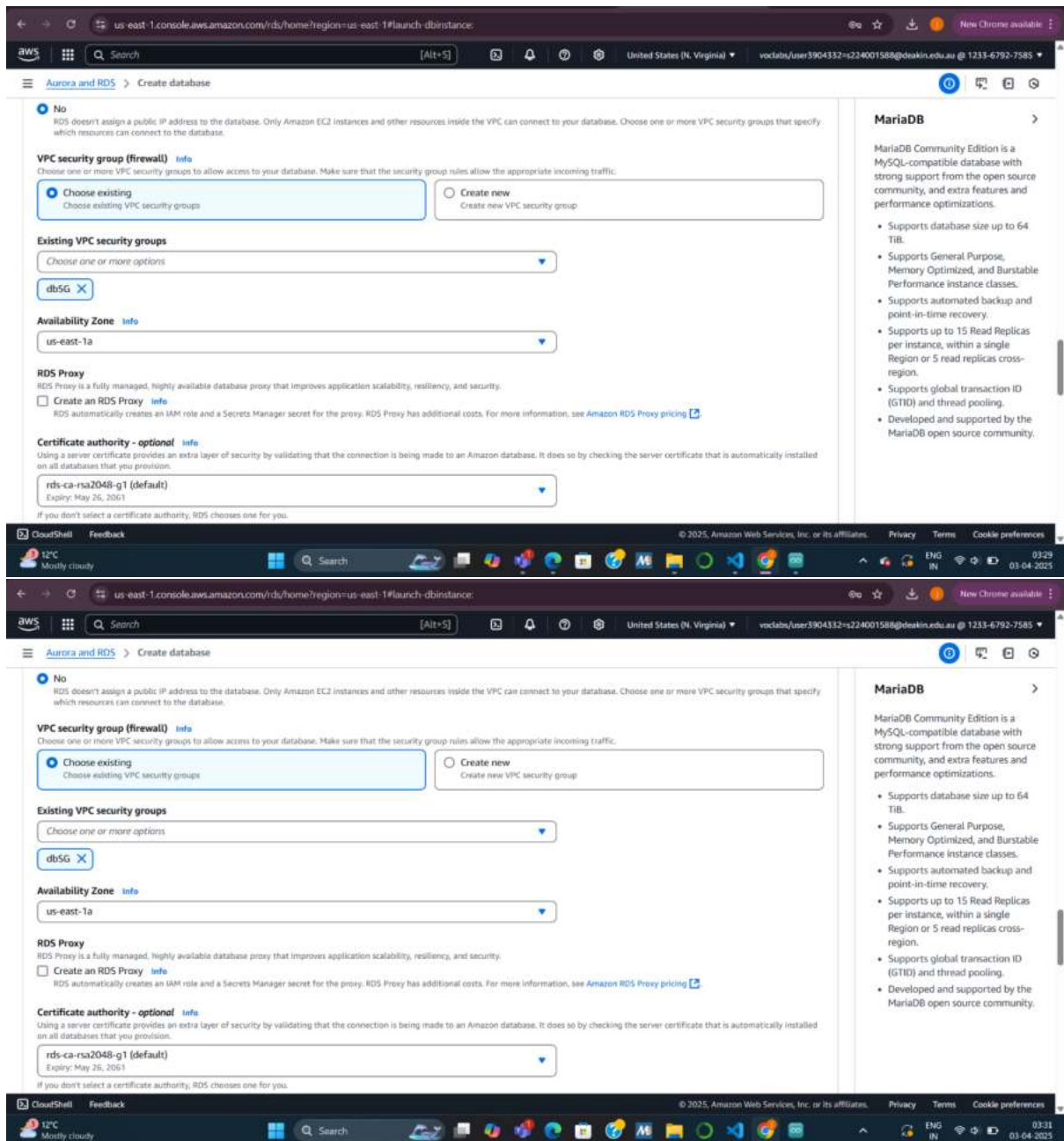
Allocated storage value must be 20 GiB to 6,144 GiB

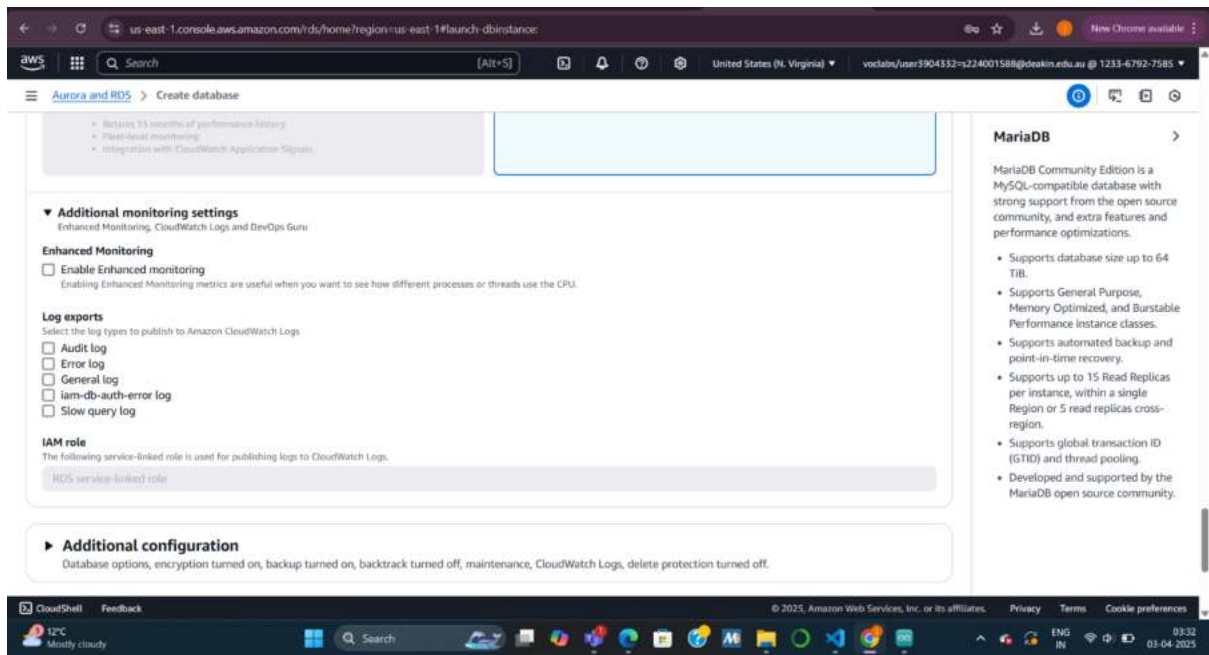
☒ Provisioning less than 100 GiB of General Purpose (SSD) storage for high throughput workloads could result in higher latencies upon exhaustion of the initial General Purpose (SSD) IO credit balance. [Learn more](#)

MariaDB

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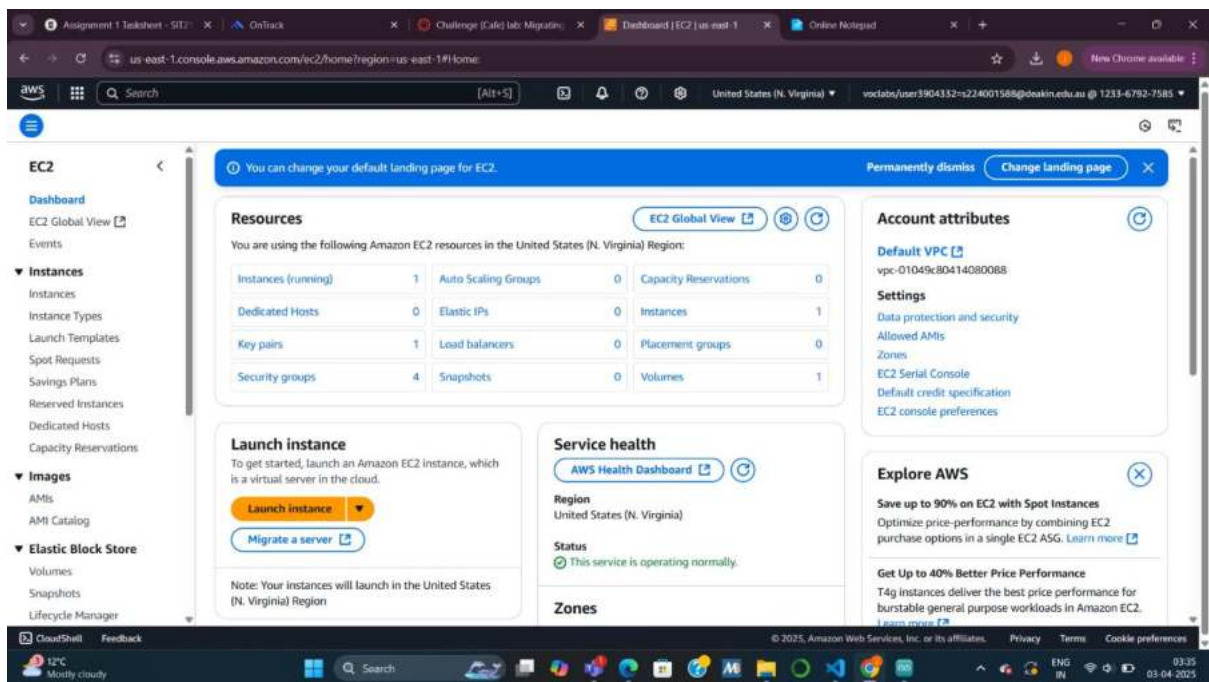
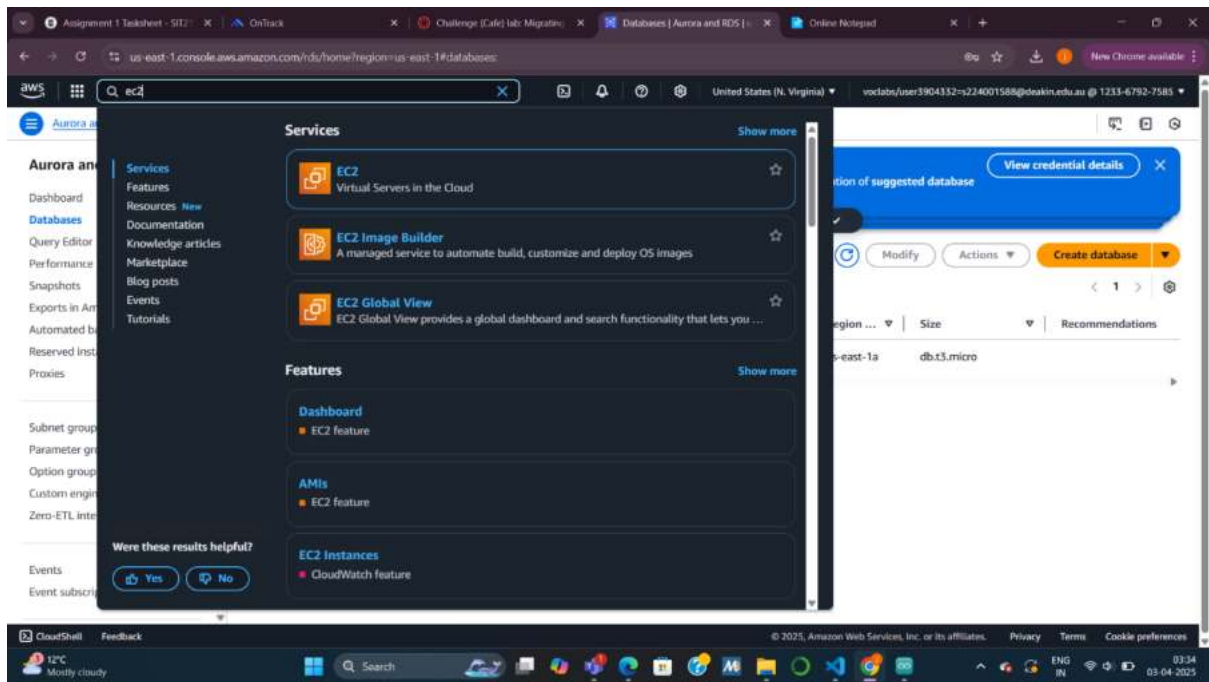
Task 2: Analyzing the existing café application deployment

Summary:

I verified that the current café web application was running correctly on an EC2 instance by placing a test order and reviewing the order history. Then, I connected to the EC2 instance using AWS Systems Manager to prepare for the database export.

Explanation:

We used the public IP of the EC2 instance to load the app and confirm that it stores order data properly. After that, I accessed the instance terminal through Session Manager, which allowed me to work on the server without using SSH keys. This connection set me up for working directly with the local MariaDB database.



Assignment 1 TaskSheet - SIT2 | OnTrack | Challenge [Cafe] lab: Migration | Instances [EC2] | us-east-1 | Online Notepad

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:

EC2 > Instances

Instances (1) info

Last updated less than a minute ago

Find Instance by attribute or tag (case-sensitive)

All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
CafeServer	i-044416c2fa40c9496	Running	t2.micro	2/2 checks passed	View alarms	us-east-1a	ec2-54-89-140-230

Select an instance

EC2 Dashboard

- EC2 Global View
- Events
- Instances
 - Instances
 - Instance Types
 - Launch Templates
 - Spot Requests
 - Savings Plans
 - Reserved Instances
 - Dedicated Hosts
 - Capacity Reservations
- Images
 - AMIs
 - AMI Catalog
- Elastic Block Store
 - Volumes
 - Snapshots
 - Lifecycle Manager

CloudShell Feedback

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us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#InstanceDetails:instanceId=i-044416c2fa40c9496

EC2 > Instances > i-044416c2fa40c9496

Instance summary for i-044416c2fa40c9496 (CafeServer) info

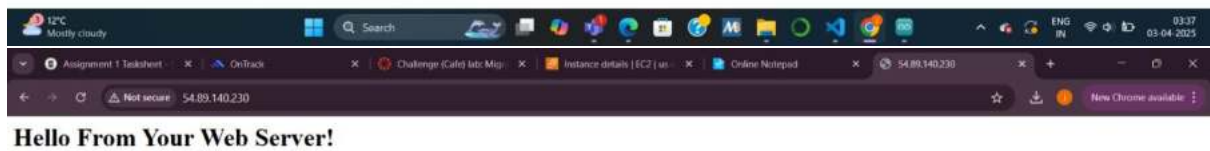
Updated less than a minute ago

Connect Instance state Actions

Instance ID i-044416c2fa40c9496	Public IPv4 address 54.89.140.230 open address	Private IPv4 addresses 10.0.0.205
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-54-89-140-230.compute-1.amazonaws.com open address
Hostname type IP name: ip-10-0-0-205.ec2.internal	Private IP DNS name (IPv4 only) ip-10-0-0-205.ec2.internal	Elastic IP addresses -
Answer private resource DNS name -	Instance type t2.micro	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendation Learn more
Auto-assigned IP address 54.89.140.230 [Public IP]	VPC ID vpc-0b29688b72235d345 (Lab VPC)	Auto Scaling Group name -
IAM Role CafeRole	Subnet ID subnet-06dd913b7c379fa95 (Public Subnet)	Managed false
IMDSv2 Optional EC2 recommends setting IMDSv2 to required Learn more	Instance ARN arn:aws:ec2:us-east-1:123367927585:instance/i-044416c2fa40c9496	

EC2 Dashboard

- EC2 Global View
- Events
- Instances
 - Instances
 - Instance Types
 - Launch Templates
 - Spot Requests
 - Savings Plans
 - Reserved Instances
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 - Capacity Reservations
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 - AMIs
 - AMI Catalog
- Elastic Block Store
 - Volumes
 - Snapshots
 - Lifecycle Manager



Assignment 1 TaskSheet

OnTrack

Challenge (Café) lab: Mig...

Instance details | EC2 | us...

Online Notepad



Café

Not secure 54.89.140.230/café/

New Chrome available

Café

[Home](#)[About Us](#)[Contact Us](#)[Menu](#)[Order History](#)



Our café offers an assortment of delicious and delectable pastries and coffees that will put a smile on your face. From cookies to croissants, tarts and cakes, each treat is especially prepared to excite your tastebuds and brighten your day!

Frank bakes a rich variety of cookies. Try them all!

Tea, Coffee.

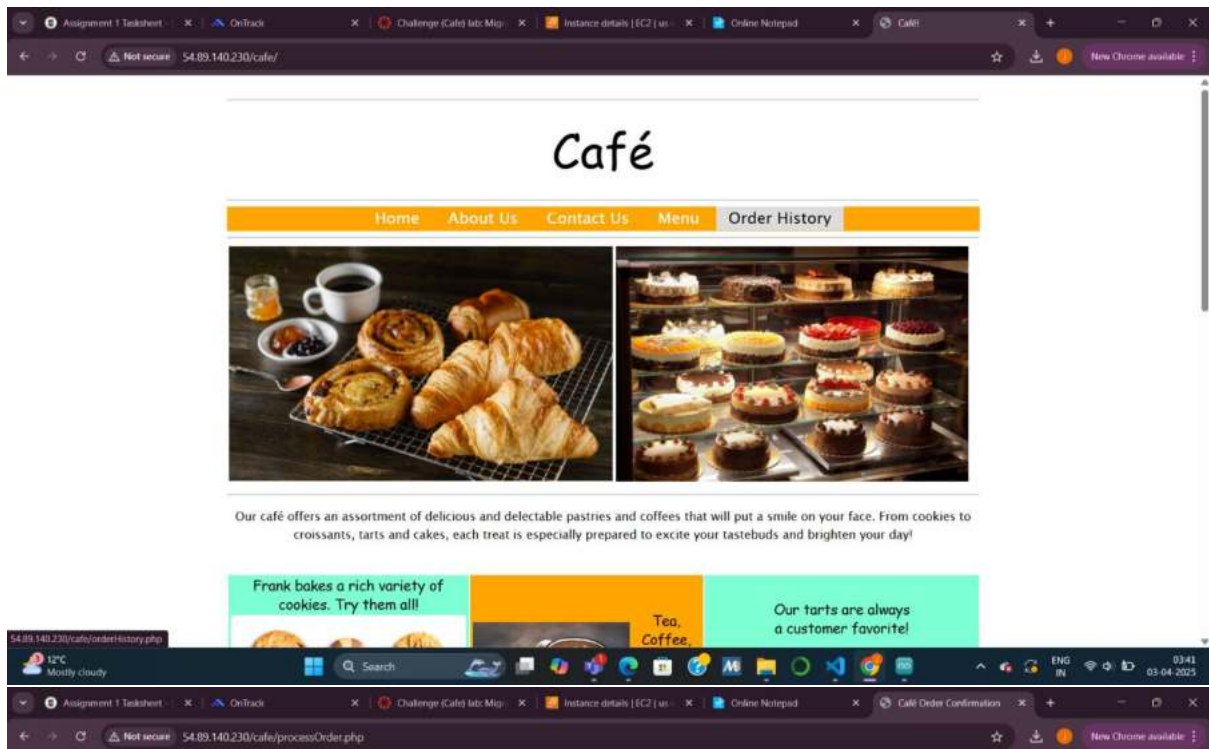
Our tarts are always a customer favorite!

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Search

ENG IN

03:40 03-04-2025



Assignment 1 Tasklist | OnTrack | Challenge (Cafe) lab Map | Connect to instance | EC2 | Online Notepad | Call Order Confirmation

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ConnectToInstance:instanceId=i-044416c2fa40c9496

RWS | Search | [Alt+S] | United States (N. Virginia) | voclabs/user3904332-s224001588@deakin.edu.au @ 1233-6792-7585

EC2 > Instances > i-044416c2fa40c9496 > Connect to instance

Connect to instance Info

Connect to your instance i-044416c2fa40c9496 (CafeServer) using any of these options:

EC2 Instance Connect

Session Manager

SSH client

EC2 serial console

Instance ID

i-044416c2fa40c9496 (CafeServer)

Connection Type

☒ Connect using EC2 Instance Connect

Connect using the EC2 Instance Connect browser-based client, with a public IPv4 or IPv6 address.

☐ Connect using EC2 Instance Connect Endpoint

Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.

Public IPv4 address

54.89.140.230

IPv6 address

Username

Enter the username defined in the AMI used to launch the instance. If you didn't define a custom username, use the default username, ec2-user.

ec2-user

Note: In most cases, the default username, ec2-user, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

Cancel

Connect

CloudShell Feedback

Temporarily drop Next Monday

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03:49 03-04-2025

Assignment 1 Tasklist | OnTrack | Challenge (Cafe) lab | Instance details | EC2 | Systems Manager | Online Notepad | Call Order Confirmation

us-east-1.console.aws.amazon.com/systems-manager/session-manager/i-044416c2fa40c9496?region=us-east-1#

Session ID: user3904332-s224001588@deakin.edu.au-ja2gobghdqtzvmu9hds547nae

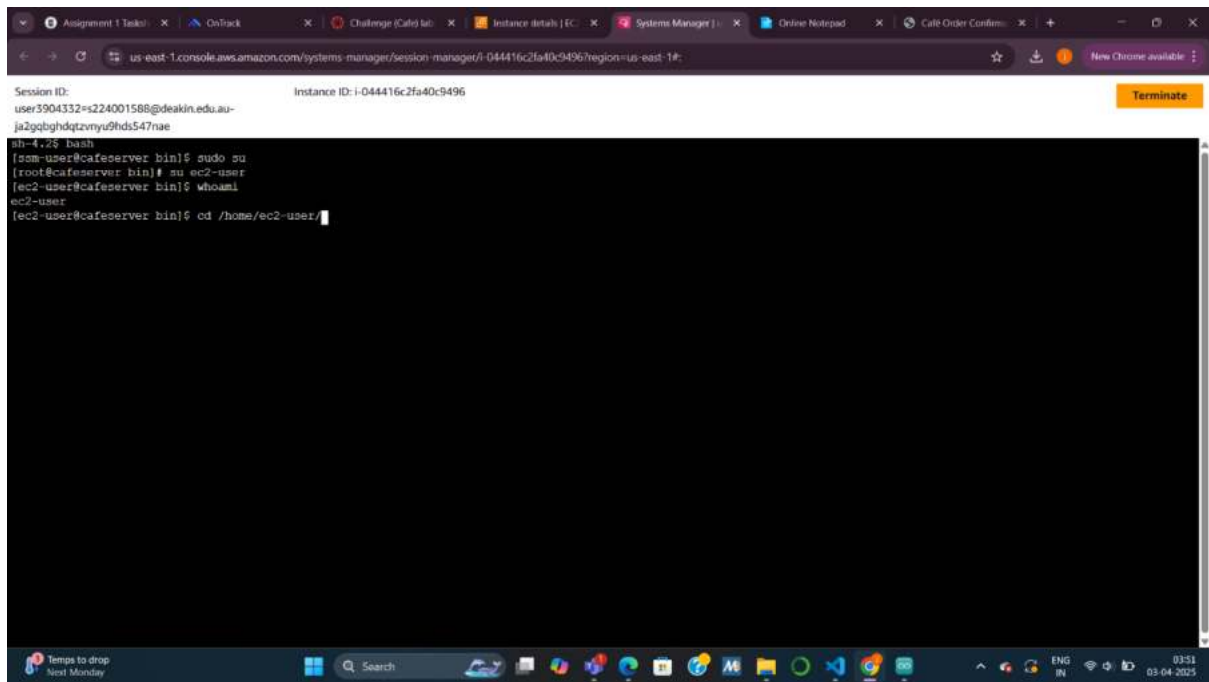
Instance ID: i-044416c2fa40c9496

Terminate

```
ssh-4-26
```

Temporarily drop Next Monday

03:38 03-04-2025



Task 3: Exporting data from EC2 database

Summary:

I connected to the local MariaDB database on the EC2 instance, reviewed its contents, and used mysqldump to export the café's data into a SQL file for migration.

Explanation:

We first checked that MariaDB was running and confirmed its version. I retrieved the root password securely from Secrets Manager and logged into the database. After reviewing the cafe_db tables and data, I ran the mysqldump command to generate CafeDbDump.sql. This file included all existing customer order data, ready to be imported into the new RDS instance.

```
Assignment 1 Task1 x OnTrack x Challenge (Cali) la: x Instance details (EC x Systems Manager x Online Notepad x Call Order Confirm: x + - x x
us-east-1.console.aws.amazon.com/systems-manager/session-manager/?i-044416c2fa40c9496;region=us-east-1#
Session ID: Instance ID: i-044416c2fa40c9496 Terminate
user3904332+s224001588@deakin.edu.au-
ja2gqbghdqtzvyu9hds547nae
sh-4.2$ bash
[sam-user@cafeserver bin]$ sudo su
[root@cafeserver bin]# su ec2-user
[ec2-user@cafeserver bin]$ whoami
ec2-user
[ec2-user@cafeserver bin]$ cd /home/ec2-user/
[ec2-user@cafeserver ~]$ service mariadb status
Redirecting to /bin/systemctl status mariadb.service
● mariadb.service - MariaDB 10.2 database server
   Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; vendor preset: disabled)
   Drop-In: /usr/lib/systemd/system/mariadb.service.d
            ↳ tokydb.conf
   Active: active (running) since Wed 2025-04-02 16:17:47 UTC; 35min ago
   Process: 3800 ExecStartPost=/usr/libexec/mysql-check-upgrade (code=exited, status=0/SUCCESS)
   Process: 3596 ExecStartPre=/usr/libexec/mysql-prepare-db-dir %n (code=exited, status=0/SUCCESS)
   Process: 3572 ExecStartPre=/usr/libexec/mysql-check-socket (code=exited, status=0/SUCCESS)
   Main PID: 3729 (mysqld)
   Status: "Taking your SQL requests now..."
   CGroup: /system.slice/mariadb.service
            ↳3729 /usr/libexec/mysqld --basedir=/usr
Apr 02 16:17:47 ip-10-0-0-205.ec2.internal mysql-check-upgrade[3800]: ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be preloaded (can...ignored.
Apr 02 16:17:47 ip-10-0-0-205.ec2.internal mysql-check-upgrade[3800]: ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be preloaded (can...ignored.
Apr 02 16:17:47 ip-10-0-0-205.ec2.internal mysql-check-upgrade[3800]: ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be preloaded (can...ignored.
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Apr 02 16:17:47 ip-10-0-0-205.ec2.internal system[1]: Started MariaDB 10.2 database server.
Hint: Some lines were ellipsized, use -l to show in full.
[ec2-user@cafeserver ~]$ mysql --version
```

Session ID: Instance ID: i-044416c2fa40c9496
user:3904332~s224001588@deakin.edu.au-
ja2qgbghdqtzvyu9hds547nae

Terminate

```
sh-4.2$ bash
[sam-user@cafeserver bin]$ sudo su
[root@cafeserver bin]# su ec2-user
[ec2-user@cafeserver bin]$ whoami
ec2-user
[ec2-user@cafeserver bin]$ cd /home/ec2-user/
[ec2-user@cafeserver ~]$ service mariadb status
Redirecting to /bin/systemctl status mariadb.service
* mariadb.service - MariaDB 10.2 database server
   Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; vendor preset: disabled)
   Drop-In: /usr/lib/systemd/system/mariadb.service.d
            └─tokudb.conf
   Active: active (running) since Wed 2025-04-02 16:17:47 UTC; 35min ago
   Process: 3800 ExecStartPost=/usr/libexec/mysql-check-upgrade (code=exited, status=0/SUCCESS)
   Process: 3596 ExecStartPre=/usr/libexec/mysql-prepare-db-dir %n (code=exited, status=0/SUCCESS)
   Process: 3572 ExecStartPre=/usr/libexec/mysql-check-socket (code=exited, status=0/SUCCESS)
   Main PID: 3729 (mysqld)
   Status: "Taking your SQL requests now..."
   CGroup: /system.slice/mariadb.service
           └─3729 /usr/libexec/mysqld --basedir=/usr

Apr 02 16:17:47 ip-10-0-0-205.ec2.internal mysql-check-upgrade[3800]: ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be preloaded (can...ignored.
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Apr 02 16:17:47 ip-10-0-0-205.ec2.internal system[1]: Started MariaDB 10.2 database server.
Hint: Some lines were ellipsized, use -l to show in full.
[ec2-user@cafeserver ~]$ mysql --version
mysql Ver 15.1 Distrib 10.2.38-MariaDB, for Linux (x86_64) using EditLine wrapper
[ec2-user@cafeserver ~]$
```

Secrets

Filter secrets by name, description, tag key, tag value, owning service or primary Region

Secret name	Description	Last retrieved (UTC)
/cafe/dbPassword	-	April 2, 2025
/cafe/dbUser	-	April 2, 2025
/cafe/dbName	-	April 2, 2025
/cafe/dbUrl	-	April 2, 2025
/cafe/currency	-	April 2, 2025
/cafe/timeZone	-	April 2, 2025
/cafe/showServerInfo	-	April 2, 2025

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```
Assignment 1 Task1 x OnTrack x Challenge (Cafe) lab x /cafe/db/Password | x Systems Manager | x Online Notepad x Call Order Confirm: x + - x x
us-east-1.console.aws.amazon.com/systems-manager/session-manager/?i-044416c2fa40c9496;region=us-east-1#
Session ID: user3904332+s224001588@deakin.edu.au- Instance ID: i-044416c2fa40c9496 Terminate
ja2qgbghdqtzvyu9hds547nae

Drop-In: /usr/lib/systemd/system/mariadb.service.d
└─tokudb.conf
Active: active (running) since Wed 2025-04-02 16:17:47 UTC; 35min ago
Process: 3800 ExecStartPost=/usr/libexec/mysql-check-upgrade (code=exited, status=0/SUCCESS)
Process: 3596 ExecStartPre=/usr/libexec/mysql-check-prepare-db-dir %n (code=exited, status=0/SUCCESS)
Process: 3572 ExecStartPre=/usr/libexec/mysql-check-socket (code=exited, status=0/SUCCESS)
Main PID: 3729 (mysqld)
Status: "Taking your SQL requests now..."
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Apr 02 16:17:47 ip-10-0-0-205.ec2.internal mysql-check-upgrade[3800]: ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be preloaded (can...ignored.
Apr 02 16:17:47 ip-10-0-0-205.ec2.internal mysql-check-upgrade[3800]: ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be preloaded (can...ignored.
Apr 02 16:17:47 ip-10-0-0-205.ec2.internal mysql-check-upgrade[3800]: ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be preloaded (can...ignored.
Apr 02 16:17:47 ip-10-0-0-205.ec2.internal mysql-check-upgrade[3800]: ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be preloaded (can...ignored.
Apr 02 16:17:47 ip-10-0-0-205.ec2.internal mysql-check-upgrade[3800]: ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be preloaded (can...ignored.
Apr 02 16:17:47 ip-10-0-0-205.ec2.internal mysql-check-upgrade[3800]: ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be preloaded (can...ignored.
Apr 02 16:17:47 ip-10-0-0-205.ec2.internal mysql-check-upgrade[3800]: ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be preloaded (can...ignored.
Apr 02 16:17:47 ip-10-0-0-205.ec2.internal system[1]: Started MariaDB 10.2 database server.
Hint: Some lines were ellipsized, use -l to show in full.
[ec2-user@cafe-server ~]$ mysql --version
mysql Ver 15.1 Distrib 10.2.38-MariaDB, for Linux (x86_64) using EditLine wrapper
[ec2-user@cafe-server ~]$ mysql -u root -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 13
Server version: 10.2.38-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]>
```

```
Assignment 1 Task1 x OnTrack x Challenge (Cafe) lab x /cafe/db/Password | x Systems Manager | x Online Notepad x Call Order Confirm: x + - x x
us-east-1.console.aws.amazon.com/systems-manager/session-manager/?i-044416c2fa40c9496;region=us-east-1#
Session ID: user3904332+s224001588@deakin.edu.au- Instance ID: i-044416c2fa40c9496 Terminate
ja2qgbghdqtzvyu9hds547nae

Server version: 10.2.38-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| cafe_db |
| information_schema |
| mysql |
| performance_schema |
| test |
+-----+
5 rows in set (0.00 sec)

MariaDB [(none)]> use cafe_db;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [cafe_db]> show tables;
+-----+
| Tables_in_cafe_db |
+-----+
| order |
| order_item |
| product |
| product_group |
+-----+
4 rows in set (0.00 sec)

MariaDB [cafe_db]> select * from 'order';
```

Assignment 1 Task1 x OnTrack x Challenge (Cafe) lab x /cafe/db/Password x Systems Manager x Online Notepad x Cafe Order Confirm x +

us-east-1.console.aws.amazon.com/systems-manager/session-manager/?i-044416c2fa40c9496®ion=us-east-1#:

Session ID: user3904332+s224001588@deakin.edu.au-ja2gqbghdqtzyny9hds547nae Instance ID: i-044416c2fa40c9496 Terminate

```
4 rows in set (0.00 sec)

MariaDB [cafe_db]> select * from 'order';
+-----+-----+-----+
| order_number | order_date_time | amount |
+-----+-----+-----+
| 1 | 2020-06-20 13:09:07 | 20.00 |
| 2 | 2020-06-21 13:09:23 | 24.00 |
| 3 | 2020-06-22 13:09:38 | 32.50 |
| 4 | 2020-06-22 13:09:49 | 10.50 |
| 5 | 2020-06-24 13:10:02 | 42.00 |
| 6 | 2020-06-25 13:10:20 | 14.00 |
| 7 | 2020-06-25 13:10:30 | 35.00 |
| 8 | 2020-06-27 13:10:36 | 6.00 |
| 9 | 2020-06-28 13:10:46 | 18.00 |
| 10 | 2020-07-02 13:10:58 | 18.00 |
| 11 | 2020-07-03 13:11:08 | 19.50 |
| 12 | 2020-07-04 13:11:17 | 9.00 |
| 13 | 2020-07-05 13:11:27 | 26.50 |
| 14 | 2020-07-05 13:11:40 | 42.00 |
| 15 | 2020-07-06 13:12:27 | 35.00 |
| 16 | 2020-07-09 13:12:35 | 19.50 |
| 17 | 2020-07-12 13:12:48 | 57.50 |
| 18 | 2020-07-14 13:13:04 | 34.00 |
| 19 | 2020-07-15 13:13:17 | 29.00 |
| 20 | 2020-07-18 13:13:27 | 14.00 |
| 21 | 2020-07-20 13:13:36 | 17.50 |
| 22 | 2020-07-21 13:13:47 | 33.50 |
| 23 | 2020-07-28 13:13:54 | 6.00 |
| 24 | 2020-07-28 13:14:07 | 35.00 |
| 25 | 2025-04-02 16:48:47 | 5.00 |
+-----+-----+-----+

25 rows in set (0.00 sec)

MariaDB [cafe_db]>
```

IPC Mostly cloudy

us-east-1.console.aws.amazon.com/systems-manager/session-manager/?i-044416c2fa40c9496®ion=us-east-1#:

Session ID: user3904332+s224001588@deakin.edu.au-ja2gqbghdqtzyny9hds547nae Instance ID: i-044416c2fa40c9496 Terminate

```
12 | 1 | 1 | 2 | 9.00 |
12 | 2 | 7 | 2 | 6.00 |
13 | 1 | 3 | 4 | 10.00 |
13 | 2 | 5 | 3 | 10.50 |
13 | 3 | 8 | 2 | 6.00 |
14 | 1 | 6 | 8 | 29.00 |
14 | 2 | 9 | 4 | 14.00 |
15 | 1 | 6 | 10 | 35.00 |
16 | 1 | 5 | 3 | 10.50 |
16 | 2 | 8 | 3 | 9.00 |
17 | 1 | 1 | 15 | 22.50 |
17 | 2 | 5 | 10 | 35.00 |
18 | 1 | 3 | 8 | 20.00 |
18 | 2 | 9 | 4 | 14.00 |
19 | 1 | 4 | 2 | 6.00 |
19 | 2 | 5 | 4 | 14.00 |
19 | 3 | 7 | 2 | 6.00 |
19 | 4 | 8 | 1 | 3.00 |
20 | 1 | 2 | 5 | 5.00 |
20 | 2 | 8 | 3 | 9.00 |
21 | 1 | 9 | 5 | 17.50 |
22 | 1 | 3 | 3 | 7.50 |
22 | 2 | 5 | 4 | 14.00 |
22 | 3 | 7 | 4 | 12.00 |
23 | 1 | 7 | 2 | 6.00 |
24 | 1 | 5 | 4 | 14.00 |
24 | 2 | 6 | 3 | 10.50 |
24 | 3 | 9 | 3 | 10.50 |
25 | 1 | 1 | 1 | 1.50 |
25 | 2 | 2 | 1 | 1.00 |
25 | 3 | 3 | 1 | 2.50 |

54 rows in set (0.00 sec)

MariaDB [cafe_db]>
```

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Assignment 1 Task1 X OnTrack X Challenge (Cafe) lab X /cafe/db/Password X Systems Manager X Online Notepad X Cafe Order Confirm X +

us-east-1.console.aws.amazon.com/systems-manager/session-manager/?i-044416c2fa40c9496:region=us-east-1#:

Session ID: user3904332+s224001588@deakin.edu.au-ja2qbgbdqztvnyu9hds547nae Instance ID: i-044416c2fa40c9496 Terminate

```
13 | 1 | 3 | 4 | 10.00 |
13 | 2 | 5 | 3 | 10.50 |
13 | 3 | 8 | 2 | 6.00 |
14 | 1 | 6 | 8 | 25.00 |
14 | 2 | 9 | 4 | 14.00 |
15 | 1 | 6 | 10 | 35.00 |
16 | 1 | 5 | 3 | 10.50 |
16 | 2 | 8 | 3 | 9.00 |
17 | 1 | 1 | 15 | 22.50 |
17 | 2 | 5 | 10 | 35.00 |
18 | 1 | 3 | 8 | 20.00 |
18 | 2 | 9 | 4 | 14.00 |
19 | 1 | 4 | 2 | 6.00 |
19 | 2 | 5 | 4 | 14.00 |
19 | 3 | 7 | 2 | 6.00 |
19 | 4 | 8 | 1 | 3.00 |
20 | 1 | 2 | 5 | 5.00 |
20 | 2 | 8 | 3 | 9.00 |
21 | 1 | 9 | 5 | 17.50 |
22 | 1 | 3 | 3 | 7.50 |
22 | 2 | 5 | 4 | 14.00 |
22 | 3 | 7 | 4 | 12.00 |
23 | 1 | 7 | 2 | 6.00 |
24 | 1 | 5 | 4 | 14.00 |
24 | 2 | 6 | 3 | 10.50 |
24 | 3 | 9 | 3 | 10.50 |
25 | 1 | 1 | 1 | 1.50 |
25 | 2 | 2 | 1 | 1.00 |
25 | 3 | 3 | 1 | 2.50 |
```

54 rows in set (0.00 sec)

MariaDB [cafe_db]> exit;
Bye
[ec2-user@cafeserver ~]\$

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Assignment 1 Task1 X OnTrack X Challenge (Cafe) lab X /cafe/db/Password X Systems Manager X Online Notepad X Cafe Order Confirm X +

us-east-1.console.aws.amazon.com/systems-manager/session-manager/?i-044416c2fa40c9496:region=us-east-1#:

Session ID: user3904332+s224001588@deakin.edu.au-ja2qbgbdqztvnyu9hds547nae Instance ID: i-044416c2fa40c9496 Terminate

```
13 | 3 | 8 | 2 | 6.00 |
14 | 1 | 6 | 8 | 25.00 |
14 | 2 | 9 | 4 | 14.00 |
15 | 1 | 6 | 10 | 35.00 |
16 | 1 | 5 | 3 | 10.50 |
16 | 2 | 8 | 3 | 9.00 |
17 | 1 | 1 | 15 | 22.50 |
17 | 2 | 5 | 10 | 35.00 |
18 | 1 | 3 | 8 | 20.00 |
18 | 2 | 9 | 4 | 14.00 |
19 | 1 | 4 | 2 | 6.00 |
19 | 2 | 5 | 4 | 14.00 |
19 | 3 | 7 | 2 | 6.00 |
19 | 4 | 8 | 1 | 3.00 |
20 | 1 | 2 | 5 | 5.00 |
20 | 2 | 8 | 3 | 9.00 |
21 | 1 | 9 | 5 | 17.50 |
22 | 1 | 3 | 3 | 7.50 |
22 | 2 | 5 | 4 | 14.00 |
22 | 3 | 7 | 4 | 12.00 |
23 | 1 | 7 | 2 | 6.00 |
24 | 1 | 5 | 4 | 14.00 |
24 | 2 | 6 | 3 | 10.50 |
24 | 3 | 9 | 3 | 10.50 |
25 | 1 | 1 | 1 | 1.50 |
25 | 2 | 2 | 1 | 1.00 |
25 | 3 | 3 | 1 | 2.50 |
```

54 rows in set (0.00 sec)

MariaDB [cafe_db]> exit;
Bye
[ec2-user@cafeserver ~]\$ mysqldump --databases cafe_db -u root -p > CafeDbDump.sql
Enter password:
[ec2-user@cafeserver ~]\$

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```
Assignment 1 Task: X OnTrack X Challenge (Café) lab: X /café/db/Password X Systems Manager X Online Notepad X Café Order Confirm: X + - X X
us-east-1.console.aws.amazon.com/systems-manager/session-manager/044416c2fa40c9496?region=us-east-1#

Session ID: user3904332+s224001588@deakin.edu.au-ja2gqbghdqtzvnv9hds547nae Instance ID: i-044416c2fa40c9496 Terminate

14 | 2 | 9 | 4 | 14.00 |
15 | 1 | 6 | 10 | 35.00 |
16 | 1 | 5 | 3 | 10.50 |
16 | 2 | 8 | 3 | 9.00 |
17 | 1 | 1 | 15 | 22.50 |
17 | 2 | 5 | 10 | 35.00 |
18 | 1 | 3 | 8 | 20.00 |
18 | 2 | 9 | 4 | 14.00 |
19 | 1 | 4 | 2 | 6.00 |
19 | 2 | 5 | 4 | 14.00 |
19 | 3 | 7 | 2 | 6.00 |
19 | 4 | 8 | 1 | 3.00 |
20 | 1 | 2 | 5 | 5.00 |
20 | 2 | 8 | 3 | 9.00 |
21 | 1 | 9 | 5 | 17.50 |
22 | 1 | 3 | 3 | 7.50 |
22 | 2 | 5 | 4 | 14.00 |
22 | 3 | 7 | 4 | 12.00 |
23 | 1 | 7 | 2 | 6.00 |
24 | 1 | 5 | 4 | 14.00 |
24 | 2 | 6 | 3 | 10.50 |
24 | 3 | 9 | 3 | 10.50 |
25 | 1 | 1 | 1 | 1.50 |
25 | 2 | 2 | 1 | 1.00 |
25 | 3 | 3 | 1 | 2.50 |

54 rows in set (0.00 sec)

MariaDB [café_db]> exit;
Bye
[ec2-user@caféserver ~]$ mysqldump --databases café_db -u root -p > CaféDbDump.sql
Enter password:
[ec2-user@caféserver ~]$ ls
CaféDbDump.sql
[ec2-user@caféserver ~]$
```

```
Assignment 1 Task: X OnTrack X Challenge (Café) lab: X /café/db/Password X Systems Manager X Online Notepad X Café Order Confirm: X + - X X
us-east-1.console.aws.amazon.com/systems-manager/session-manager/044416c2fa40c9496?region=us-east-1#

Session ID: user3904332+s224001588@deakin.edu.au-ja2gqbghdqtzvnv9hds547nae Instance ID: i-044416c2fa40c9496 Terminate

-- Table structure for table 'product_group'
--
DROP TABLE IF EXISTS 'product_group';
/*!40101 SET @saved_cs_client = @@character_set_client */;
/*!40101 SET character_set_client = utf8 */;
CREATE TABLE 'product_group' (
  'product_group_number' int(3) NOT NULL,
  'product_group_name' varchar(25) NOT NULL DEFAULT '',
  PRIMARY KEY ('product_group_number')
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
/*!40101 SET character_set_client = @saved_cs_client */;

-- Dumping data for table 'product_group'
--

LOCK TABLES 'product_group' WRITE;
/*!40000 ALTER TABLE 'product_group' DISABLE KEYS */;
INSERT INTO 'product_group' VALUES (1,'Pastries'),(2,'Drinks');
/*!40000 ALTER TABLE 'product_group' ENABLE KEYS */;
UNLOCK TABLES;
/*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;

/*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
/*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
/*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
/*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;

-- Dump completed on 2025-04-02 17:01:12
[ec2-user@caféserver ~]$
```

Task 4: Connecting to the new RDS instance

Summary:

I confirmed that the RDS instance was up and running, and then successfully connected to it from the EC2 instance to ensure everything was correctly configured.

Explanation:

We checked the instance status and details such as subnet and security groups to answer lab questions. From the EC2 terminal, I used the MySQL client to connect to the RDS

endpoint using the admin credentials. At this point, we confirmed network connectivity, although the RDS database was still empty (as expected).

Assignment 11: Loading... Challenge (Lab) c144539a373690981474811w123367927585-htmlbucket-guo1cphequ5f.s3-website.us-east-1.amazonaws.com

Submit

Question 2: Does the RDS instance have an IPv4 Public IP address assigned to it?

☐ Yes

☒ No

Submit

Question 3: What is the Name tag value applied to the subnet in which the RDS instance is running? (Tip: you may want to open another browser tab and browse to the VPC console to compare the information found in the RDS console's Connectivity & security panel with the VPC service's subnets page details)

☐ Public Subnet

☒ Private Subnet 1

☐ Private Subnet 2

Submit

Question 4: How many security group rules are defined for the RDS instance?

☒ 1

☐ 2

☐ 3

☐ 4

Submit

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AWS Academy Cloud Architecting - Module 5 Challenge Lab Questions

View questions in: [English](#)

Question 1: Where is the RDS instance running? Choose the answer that is true and that is the most specific.

☐ At the Region level

☒ At the Availability Zone level

☐ In an edge location

☐ All of the above

Submit

Question 2: Does the RDS instance have an IPv4 Public IP address assigned to it?

☐ Yes

☒ No

Submit

Question 3: What is the Name tag value applied to the subnet in which the RDS instance is running? (Tip: you may want to open another browser tab and browse to the VPC console to compare the information found in the RDS console's Connectivity & security panel with the VPC service's subnets page details)

☐ Public Subnet

☒ Private Subnet 1

☐ Private Subnet 2

Submit

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Assignment 1 Task1 x Challenge (Café lat) x c144539a37369090 x Dashboard | Aurora x Systems Manager x Online Notepad x Call Order Confirm x +

us-east-1.console.aws.amazon.com/rds/home?region=us-east-1

RWS Search [Alt+S] United States (N. Virginia) voclabs/user3904332-q224001568@deakin.edu.au @ 1233-6792-7585

Aurora and RDS > Dashboard

Aurora and RDS

- Dashboard
- Databases
- Query Editor
- Performance insights
- Snapshots
- Exports in Amazon S3
- Automated backups
- Reserved instances
- Proxies
- Subnet groups
- Parameter groups
- Option groups
- Custom engine versions
- Zero-ETL integrations [New](#)
- Events
- Event subscriptions

Introducing Aurora I/O-Optimized
Aurora's I/O-Optimized [I/O](#) is a new cluster storage configuration that offers predictable pricing for all applications and improved price-performance, with up to 40% costs savings for I/O-intensive applications.

Resources [Refresh](#)

You are using the following Amazon RDS resources in the US East (N. Virginia) region (used/quota)

DB Instances (1/40)

- Allocated storage (0.02 TB/100 TB)
- Instances and storage include Neptune and DocumentDB. Increase DB instances limit [↗](#)

Parameter groups (1)

- Default (1)
- Custom (0/100)

Option groups (1)

- Default (1)
- Custom (0/20)

Subnet groups (1/50)

- Supported platforms [↗](#) VPC
- Default network vpc-01049c80414080088

DB Clusters (0/40)

- Reserved instances (0/40)

Snapshots (1)

- Manual
 - DB Cluster (0/100)
 - DB Instance (0/100)
- Automated
 - DB Cluster (0)
 - DB Instance (1)

Recent events (7)

- Event subscriptions (0/20)

Recommended services [↗](#)

Customers like you also use these services.

No recommendations yet
Recommended services will display based on your AWS console usage.

Recommended for you

Test Your DR Strategy in Minutes
Amazon Aurora Global Database now supports planned managed failover, making disaster recovery drills a breeze. [Learn more](#)

Build RDS Operational Tasks
Watch how to enable users to perform common tasks such as snapshots or restart DB instances in Amazon RDS. [Learn more](#)

CloudShell Feedback

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Assignment 1 Task1 x Challenge (Café lat) x c144539a37369090 x Databases | Aurora x Systems Manager x Online Notepad x Call Order Confirm x +

us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#databases

RWS Search [Alt+S] United States (N. Virginia) voclabs/user3904332-q224001568@deakin.edu.au @ 1233-6792-7585

Aurora and RDS > Databases

Aurora and RDS

- Dashboard
- Databases
- Query Editor
- Performance insights
- Snapshots
- Exports in Amazon S3
- Automated backups
- Reserved instances
- Proxies
- Subnet groups
- Parameter groups
- Option groups
- Custom engine versions
- Zero-ETL integrations [New](#)
- Events
- Event subscriptions

Consider creating a blue/green deployment to minimize downtime during upgrades
You may want to consider using Amazon RDS Blue/Green Deployments and minimize your downtime during upgrades. A Blue/Green Deployment provides a staging environment for changes to production databases. [RDS User Guide](#) [Aurora User Guide](#) [↗](#)

Notifications 0 0 0 0 4 0 0 0

Databases (1) [Group resources](#) [Modify](#) [Actions](#) [Create database](#)

Filter by databases

DB identifier	Status	Role	Engine	Region ...	Size	Recommendations
cafedatabase	Available	Instance	MariaDB	us-east-1a	db.t3.micro	

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04:10 03-04-2025

Assignment 1 Task1 X Challenge (Café) lab X c144539a3736909f X Database Details X Systems Manager X Online Notepad X Call Order Confirm X

us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#database-id=cafedatabase&cluster=false

RWS Search [Alt+S] United States (N. Virginia) voclabs/user3904332-q224001588@deakin.edu.au @ 1233-6792-7585

Aurora and RDS > Databases > cafedatabase

Aurora and RDS

- Dashboard
- Databases**
- Query Editor
- Performance insights
- Snapshots
- Exports in Amazon S3
- Automated backups
- Reserved instances
- Proxies

- Subnet groups
- Parameter groups
- Option groups
- Custom engine versions
- Zero-ETL integrations [New](#)

- Events
- Event subscriptions

cafedatabase

[Modify](#) [Actions](#)

Summary

DB identifier cafedatabase	Status Available	Role Instance	Engine MariaDB	Recommendations
CPU 2.67%	Class db.t3.micro	Current activity 0 Connections	Region & AZ us-east-1a	

< [Connectivity & security](#) [Monitoring](#) [Logs & events](#) [Configuration](#) [Maintenance & backups](#) [Data migrations - new](#) [Tags](#) >

Connectivity & security

Endpoint & port

Endpoint
cafedatabase.cjoeakcdqr.us-east-1.rds.amazonaws.com

Port
3306

Networking

Availability Zone
us-east-1a

VPC
Lab VPC (vpc-0b29688b72235d345)

Subnet group
lab-db-subnet-group

Subnets

Security

VPC security groups
dbSG (sg-0aa901d1bf83b5556)
Active

Publicly accessible
No

Certificate authority
rds-ca-rsa2048-g1 [info](#)

CloudShell Feedback

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Assignment 1 Task1 X Challenge (Café) lab X c144539a3736909f X EC2 (us-east-1) X Systems Manager X Online Notepad X Call Order Confirm X

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#SecurityGroups/search=sg-0aa901d1bf83b5556

RWS Search [Alt+S] United States (N. Virginia) voclabs/user3904332-q224001588@deakin.edu.au @ 1233-6792-7585

EC2 > Security Groups (1) [info](#) [Actions](#) [Export security groups to CSV](#) [Create security group](#)

Find resources by attribute or tag

sg-0aa901d1bf83b5556 [Clear filters](#)

<input type="checkbox"/>	Name	Security group ID	Security group name	VPC ID	Description
<input type="checkbox"/>	-	sg-0aa901d1bf83b5556	dbSG	vpc-0b29688b72235d345	dbSG

EC2

- Dashboard
- EC2 Global View
- Events

▼ Instances

- Instances
- Instance Types
- Launch Templates
- Spot Requests
- Savings Plans
- Reserved Instances
- Dedicated Hosts
- Capacity Reservations

▼ Images

- AMIs
- AMI Catalog

▼ Elastic Block Store

- Volumes
- Snapshots
- Lifecycle Manager

CloudShell Feedback

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Edit inbound rules [Info](#)

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules [Info](#)

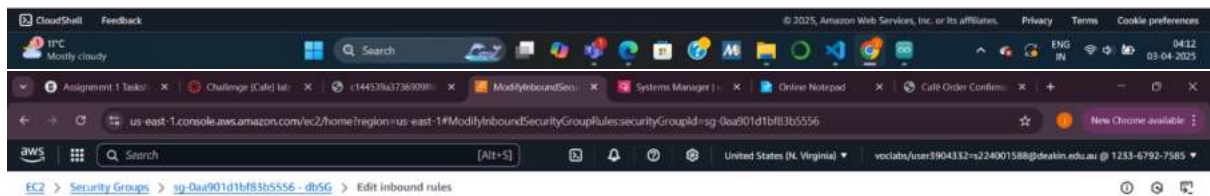
This security group has no inbound rules.

[Add rule](#)

[Cancel](#)

[Preview changes](#)

[Save rules](#)



Edit inbound rules [Info](#)

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules [Info](#)

Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info	Description - optional Info
-	MySQL/Aurora	TCP	3306	Custom Info sg-020d728a6d8b24b70 sg-020d728a6d8b24b70	

[Add rule](#)

[Cancel](#)

[Preview changes](#)

[Save rules](#)



Assignment 1 Task1Challenge (Café) lat:14453863736999SecurityGroup | EC2Systems Manager | Online NotepadCall Order ConfirmNew Chrome availableus-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#SecurityGroup:group-id=sg-0aa901d1bf83b5556

Search[Alt+S]United States (N. Virginia)vociabz/user3904332-cs224001588@deakin.edu.au @ 1233-6792-7585

EC2Security Groupssg-0aa901d1bf83b5556 - dbSG

EC2

DashboardEC2 Global ViewEvents

▼ Instances

InstancesInstance TypesLaunch TemplatesSpot RequestsSavings PlansReserved InstancesDedicated HostsCapacity Reservations

▼ Images

AMIsAMI Catalog

▼ Elastic Block Store

VolumesSnapshotsLifecycle Manager

Inbound security group rules successfully modified on security group (sg-0aa901d1bf83b5556 | dbSG)Details

sg-0aa901d1bf83b5556 - dbSGActions

Details

Security group name

dbSG

Owner

123367927585

Security group ID

sg-0aa901d1bf83b5556

Inbound rules count

1 Permission entry

Description

dbSG

Outbound rules count

1 Permission entry

VPC ID

vpc-0b29688b72235d543

Inbound rules

Outbound rulesSharing - newVPC associations - newTags

Inbound rules (1)

Search

Manage tagsEdit inbound rules

	Name	Security group rule ID	IP version	Type	Protocol	Port range
<input type="checkbox"/>	-	sgr-014ea0e1b68699256	-	MYSQL/Aurora	TCP	3306

CloudShellFeedback

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IPCMostly cloudy

Search

ENGIN04:1403-04-2025

Assignment 1 Task1 x Challenge (Café) lat x c144539a37369090 x SecurityGroup | EC2 x Systems Manager | x Online Notepad x Call Order Confirm x +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#SecurityGroup:group-id=sg-0aa901d1bf83b5556

EC2 > Security Groups > sg-0aa901d1bf83b5556 - dbSG

Dashboard

EC2 Global View

Events

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

Images

AMIs

AMI Catalog

Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

Inbound security group rules successfully modified on security group (sg-0aa901d1bf83b5556 | dbSG)

Details

sg-0aa901d1bf83b5556 - dbSG

Actions

Details

Security group name dbSG

Security group ID sg-0aa901d1bf83b5556

Description dbSG

VPC ID vpc-0b29688b72235d543

Owner 123367927585

Inbound rules count 1 Permission entry

Outbound rules count 1 Permission entry

Inbound rules

Outbound rules

Sharing - new

VPC associations - new

Tags

Inbound rules (1)

Search

Manage tags

Edit inbound rules

1

Table with 7 columns: Name, Security group rule ID, IP version, Type, Protocol, Port range

CloudShell Feedback

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11°C Mostly cloudy

Assignment 1 Task1 x Challenge (Café) lat x c144539a37369090 x Databases | Aurora x Systems Manager | x Online Notepad x Call Order Confirm x +

us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#databases

AWS

Aurora and RDS > Databases

Dashboard

Databases

Query Editor

Performance insights

Snapshots

Exports in Amazon S3

Automated backups

Reserved Instances

Proxies

Subnet groups

Parameter groups

Option groups

Custom engine versions

Zero-ETL integrations New

Events

Event subscriptions

Consider creating a blue/green deployment to minimize downtime during upgrades

Notifications 0 0 0 0 4 0 0

Databases (1)

Filter by databases

Group resources

Modify

Actions

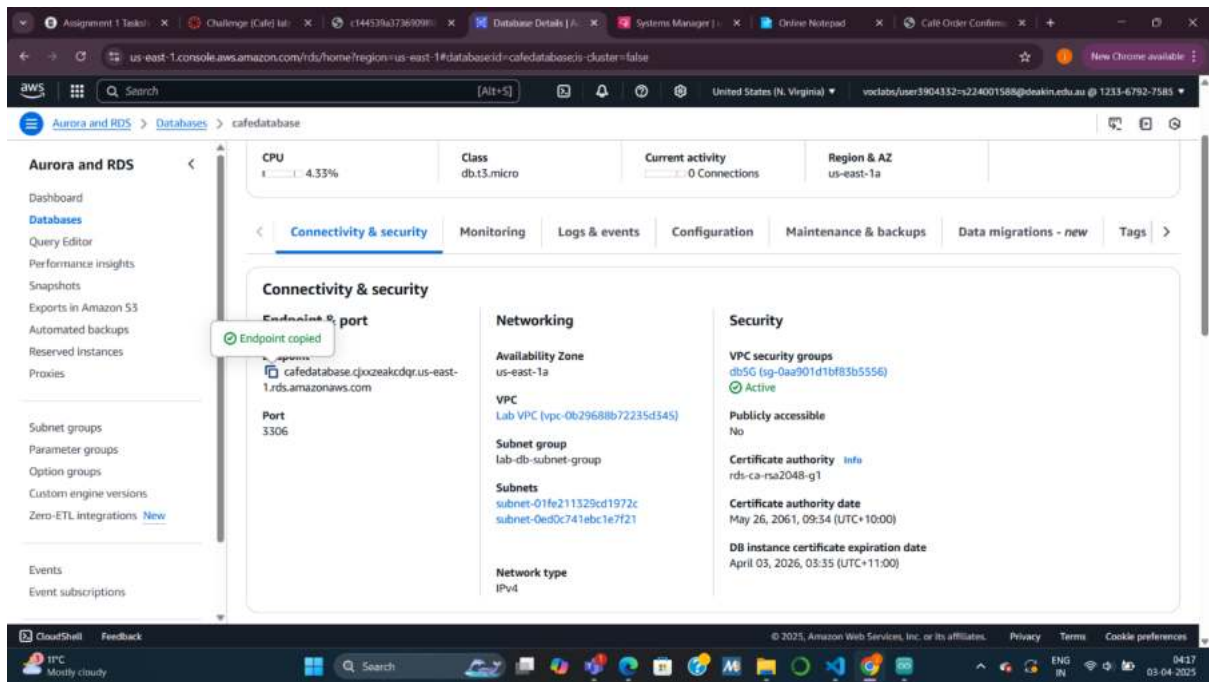
Create database

Table with 7 columns: DB identifier, Status, Role, Engine, Region, Size, Recommendations

CloudShell Feedback

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Task 5: Importing data into RDS

Summary:

I imported the previously exported SQL data file into the new RDS MariaDB instance, then verified that all café order data was restored successfully.

Explanation:

We ran a command to import the contents of CafeDbDump.sql into the RDS instance. After importing, I logged into the RDS database and used SQL queries to confirm the presence of the cafe_db, including tables like order and order_item. The data matched what we had exported, indicating a successful migration.

```
Assignment 1 Task1 X Challenge (Café) lab X c144539a3736909f X Database Details | A X Systems Manager | X Online Notepad X Call Order Confirm X + - X
us-east-1.console.aws.amazon.com/systems-manager/session-manager/044416c2fa40c9496?region=us-east-1#
Session ID: user:3904332+s224001588@deakin.edu.au-ja2gqbghdqtzyny9hds547nae Instance ID: i-044416c2fa40c9496 Terminate

/**40101 SET character_set_client = @saved_cs_client */;
--
-- Dumping data for table 'product_group'
--

LOCK TABLES `product_group` WRITE;
/**40000 ALTER TABLE `product_group` DISABLE KEYS */;
INSERT INTO `product_group` VALUES (1,'Pastries'),(2,'Drinks');
/**40000 ALTER TABLE `product_group` ENABLE KEYS */;
UNLOCK TABLES;
/**40103 SET TIME_ZONE=@OLD_TIME_ZONE */;

/**40101 SET SQL_MODE=@OLD_SQL_MODE */;
/**40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
/**40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
/**40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/**40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/**40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
/**40111 SET SQL_NOTES=@OLD_SQL_NOTES */;

-- Dump completed on 2025-04-02 17:01:12
[ec2-user@cafe-server ~]$ mysql -u admin -p --host cafedatabase.cjxxzeakodqr.us-east-1.rds.amazonaws.com
mysql: unknown option '--host cafedatabase.cjxxzeakodqr.us-east-1.rds.amazonaws.com'
[ec2-user@cafe-server ~]$ mysql -u admin -p --host cafedatabase.cjxxzeakodqr.us-east-1.rds.amazonaws.com
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 74
Server version: 11.4.4-MariaDB-log managed by https://aws.amazon.com/rds/

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]>
```

```
Assignment 1 Task1 X Challenge (Café) lab X c144539a3736909f X Database Details | A X Systems Manager | X Online Notepad X Call Order Confirm X + - X
us-east-1.console.aws.amazon.com/systems-manager/session-manager/044416c2fa40c9496?region=us-east-1#
Session ID: user:3904332+s224001588@deakin.edu.au-ja2gqbghdqtzyny9hds547nae Instance ID: i-044416c2fa40c9496 Terminate

/**40101 SET SQL_MODE=@OLD_SQL_MODE */;
/**40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
/**40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
/**40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/**40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/**40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
/**40111 SET SQL_NOTES=@OLD_SQL_NOTES */;

-- Dump completed on 2025-04-02 17:01:12
[ec2-user@cafe-server ~]$ mysql -u admin -p --host cafedatabase.cjxxzeakodqr.us-east-1.rds.amazonaws.com
mysql: unknown option '--host cafedatabase.cjxxzeakodqr.us-east-1.rds.amazonaws.com'
[ec2-user@cafe-server ~]$ mysql -u admin -p --host cafedatabase.cjxxzeakodqr.us-east-1.rds.amazonaws.com
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 74
Server version: 11.4.4-MariaDB-log managed by https://aws.amazon.com/rds/

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| innodb |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.01 sec)

MariaDB [(none)]>
```

```
Assignment 1 Task1 X Challenge (Café) lat X c144379a3736909f X Database Details J A X Systems Manager J X Online Notepad X Call Order Confirm X + - X X
us-east-1.console.aws.amazon.com/systems-manager/session-manager/044416c2fa40c9496?region=us-east-1#
Session ID: user3904332+s224001588@deakin.edu.au- Instance ID: i-044416c2fa40c9496 Terminate
ja2gqbghdqtzyny9hds547nae

-- Dump completed on 2025-04-02 17:01:12
[ec2-user@cafeserver ~]$ mysql -u admin -p --host cafedatabase.cjxxreakodqr.us-east-1.rds.amazonaws.com
mysql: unknown option '--hostcafedatabase.cjxxreakodqr.us-east-1.rds.amazonaws.com'
[ec2-user@cafeserver ~]$ mysql -u admin -p --host cafedatabase.cjxxreakodqr.us-east-1.rds.amazonaws.com
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 74
Server version: 11.4.4-MariaDB-log managed by https://aws.amazon.com/rds/

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| innodb |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.01 sec)

MariaDB [(none)]> exit;
Bye
[ec2-user@cafeserver ~]$ mysql -u admin -p --host <rds-endpoint> < CafeDbDump.sql
```

```
Assignment 1 Task1 X Challenge (Café) lat X c144379a3736909f X Database Details J A X Systems Manager J X Online Notepad X Call Order Confirm X + - X X
us-east-1.console.aws.amazon.com/systems-manager/session-manager/044416c2fa40c9496?region=us-east-1#
Session ID: user3904332+s224001588@deakin.edu.au- Instance ID: i-044416c2fa40c9496 Terminate
ja2gqbghdqtzyny9hds547nae

-- Dump completed on 2025-04-02 17:01:12
[ec2-user@cafeserver ~]$ mysql -u admin -p --host cafedatabase.cjxxreakodqr.us-east-1.rds.amazonaws.com
mysql: unknown option '--hostcafedatabase.cjxxreakodqr.us-east-1.rds.amazonaws.com'
[ec2-user@cafeserver ~]$ mysql -u admin -p --host cafedatabase.cjxxreakodqr.us-east-1.rds.amazonaws.com
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 74
Server version: 11.4.4-MariaDB-log managed by https://aws.amazon.com/rds/

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| innodb |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.01 sec)

MariaDB [(none)]> exit;
Bye
[ec2-user@cafeserver ~]$ mysql -u admin -p --host <rds-endpoint> < CafeDbDump.sql
bash: syntax error near unexpected token '<'
[ec2-user@cafeserver ~]$ mysql -u admin -p --host <rds-endpoint> < CafeDbDump.sql
bash: syntax error near unexpected token '<'
[ec2-user@cafeserver ~]$ mysql -u admin -p --host cafedatabase.cjxxreakodqr.us-east-1.rds.amazonaws.com < CafeDbDump.sql
Enter password:
[ec2-user@cafeserver ~]$
```

Assignment 1 Task1 X Challenge (Café) lat X c144539a3736909f X Database Details J A X Systems Manager J X Online Notepad X Call Order Confirm X + -

us-east-1.console.aws.amazon.com/systems-manager/session-manager/?i-044416c2fa40c9496/region=us-east-1#

Session ID: user3904332+s224001588@deakin.edu.au-ja2gqbghdqtzvyu9hds547nae Instance ID: i-044416c2fa40c9496 Terminate

```
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| innodb |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.01 sec)

MariaDB [(none)]> exit;
Bye
[ec2-user@cafe-server ~]$ mysql -u admin -p --host <rds-endpoint> < CafeDBDump.sql
bash: mysql: command not found
[ec2-user@cafe-server ~]$ mysql -u admin -p --host <rds-endpoint> < CafeDBDump.sql
bash: mysql: command not found
[ec2-user@cafe-server ~]$ mysql -u admin -p --host cafedatabase.cjxxreakodqr.us-east-1.rds.amazonaws.com < CafeDBDump.sql
Enter password:
[ec2-user@cafe-server ~]$ mysql -u admin -p --host cafedatabase.cjxxreakodqr.us-east-1.rds.amazonaws.com
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 90
Server version: 11.4.4-MariaDB-log managed by https://aws.amazon.com/rds/

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]>
```

Tempo to drop Next Monday

Assignment 1 Task1 X Challenge (Café) lat X c144539a3736909f X Database Details J A X Systems Manager J X Online Notepad X Call Order Confirm X + -

us-east-1.console.aws.amazon.com/systems-manager/session-manager/?i-044416c2fa40c9496/region=us-east-1#

Session ID: user3904332+s224001588@deakin.edu.au-ja2gqbghdqtzvyu9hds547nae Instance ID: i-044416c2fa40c9496 Terminate

```
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| cafe_db |
| information_schema |
| innodb |
| mysql |
| performance_schema |
| sys |
+-----+
6 rows in set (0.00 sec)

MariaDB [(none)]> use cafe_db;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [cafe_db]> show tables;
+-----+
| Tables_in_cafe_db |
+-----+
| order |
| order_item |
| product |
| product_group |
+-----+
4 rows in set (0.00 sec)

MariaDB [cafe_db]> select * from 'order';
```

Tempo to drop Next Monday

```
4 rows in set (0.00 sec)

MariaDB [cafe_db]> select * from 'order';
+-----+-----+-----+
| order_number | order_date_time | amount |
+-----+-----+-----+
| 1 | 2020-06-20 13:09:07 | 20.00 |
| 2 | 2020-06-21 13:09:23 | 24.00 |
| 3 | 2020-06-22 13:09:38 | 32.50 |
| 4 | 2020-06-22 13:09:49 | 10.50 |
| 5 | 2020-06-24 13:10:02 | 42.00 |
| 6 | 2020-06-25 13:10:20 | 14.00 |
| 7 | 2020-06-25 13:10:30 | 35.00 |
| 8 | 2020-06-27 13:10:36 | 6.00 |
| 9 | 2020-06-28 13:10:46 | 18.00 |
| 10 | 2020-07-02 13:10:58 | 18.00 |
| 11 | 2020-07-03 13:11:08 | 19.50 |
| 12 | 2020-07-04 13:11:17 | 9.00 |
| 13 | 2020-07-05 13:11:27 | 26.50 |
| 14 | 2020-07-05 13:11:40 | 42.00 |
| 15 | 2020-07-06 13:12:27 | 35.00 |
| 16 | 2020-07-09 13:12:35 | 19.50 |
| 17 | 2020-07-12 13:12:48 | 57.50 |
| 18 | 2020-07-14 13:13:04 | 34.00 |
| 19 | 2020-07-15 13:13:17 | 29.00 |
| 20 | 2020-07-18 13:13:27 | 14.00 |
| 21 | 2020-07-20 13:13:36 | 17.50 |
| 22 | 2020-07-21 13:13:47 | 33.50 |
| 23 | 2020-07-28 13:13:54 | 6.00 |
| 24 | 2020-07-28 13:14:07 | 35.00 |
| 25 | 2025-04-02 16:48:47 | 5.00 |
+-----+-----+-----+

25 rows in set (0.00 sec)

MariaDB [cafe_db]>
```

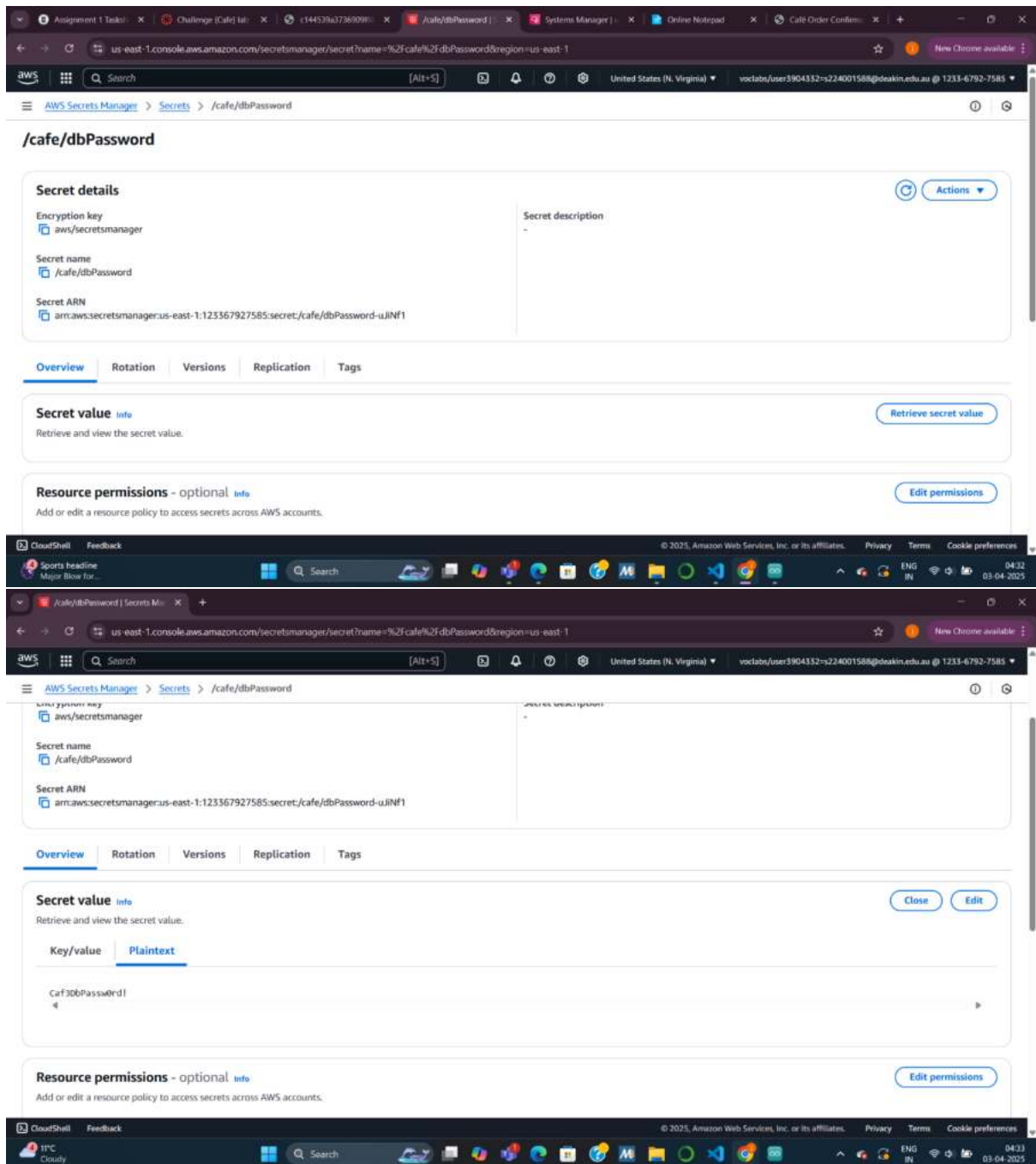
Task 6: Connecting the café application to the new database

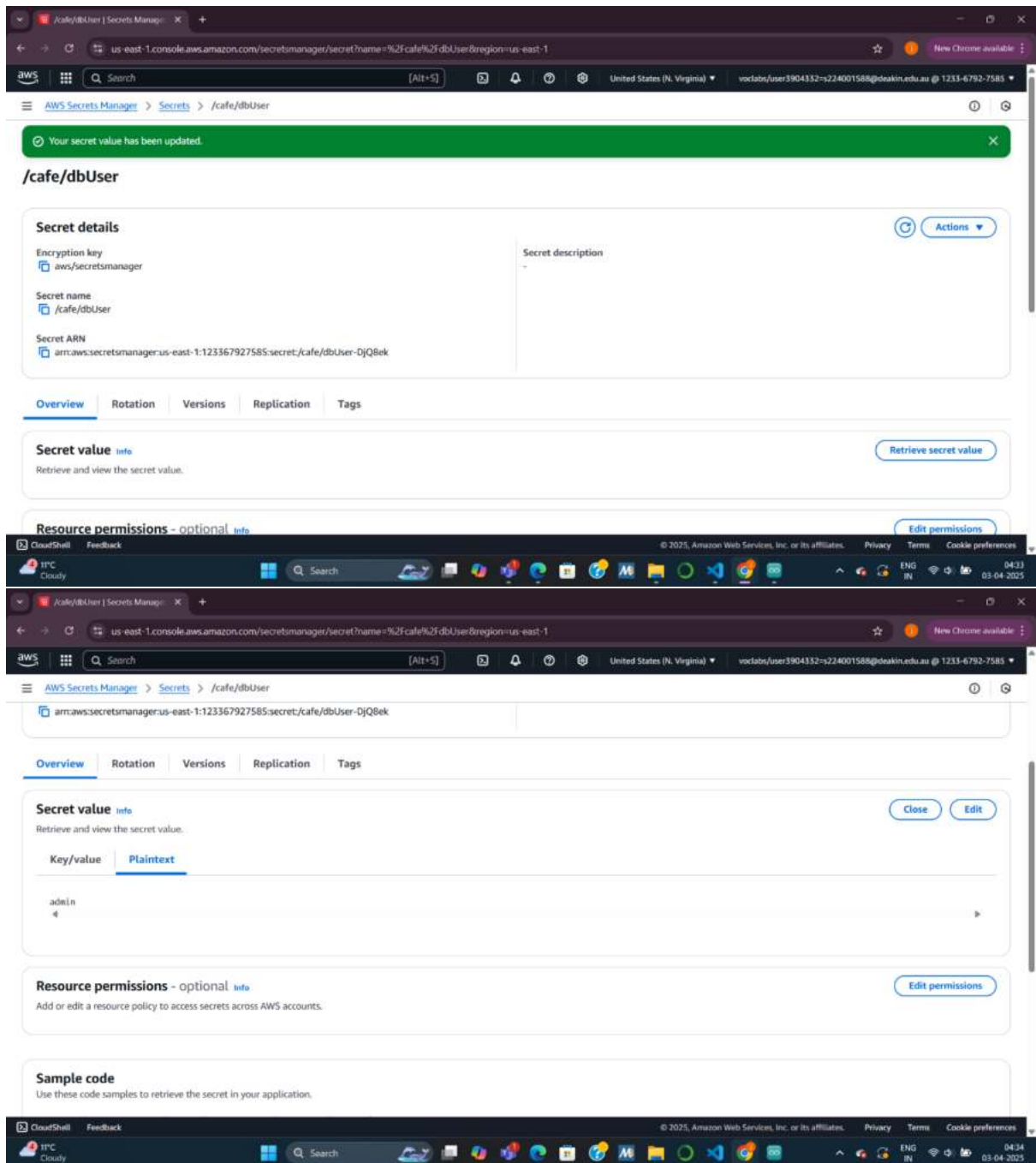
Summary:

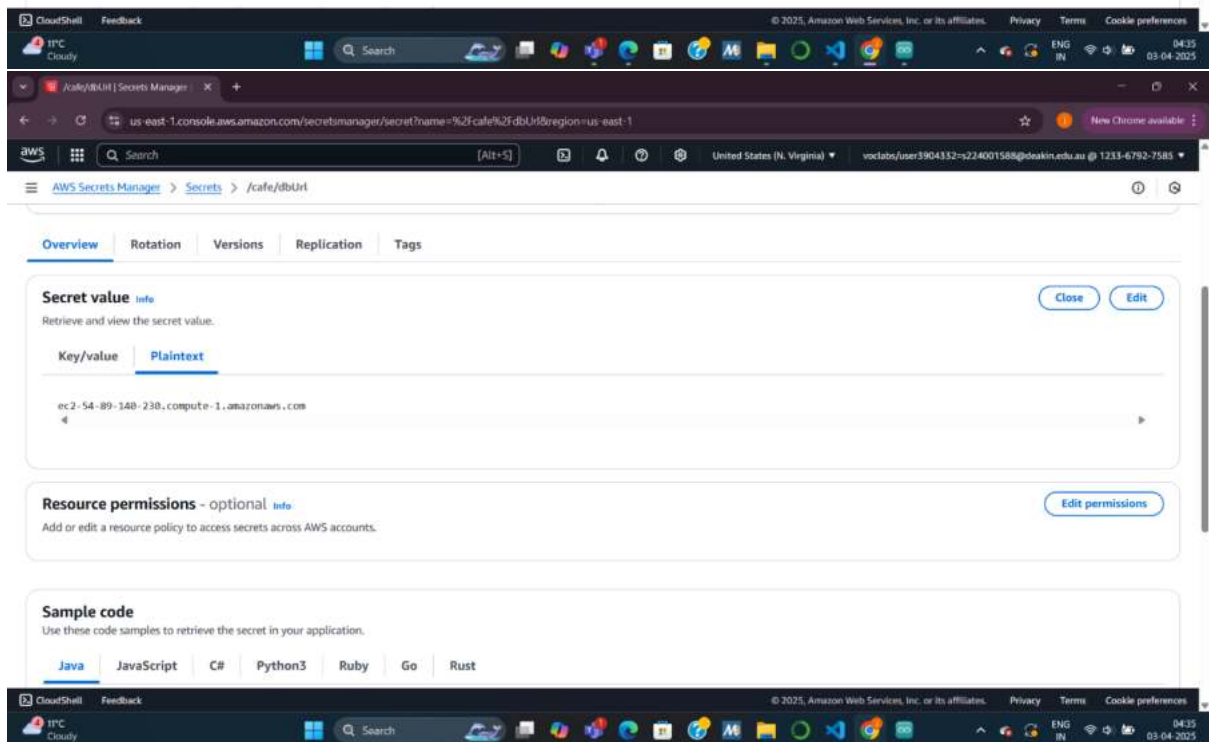
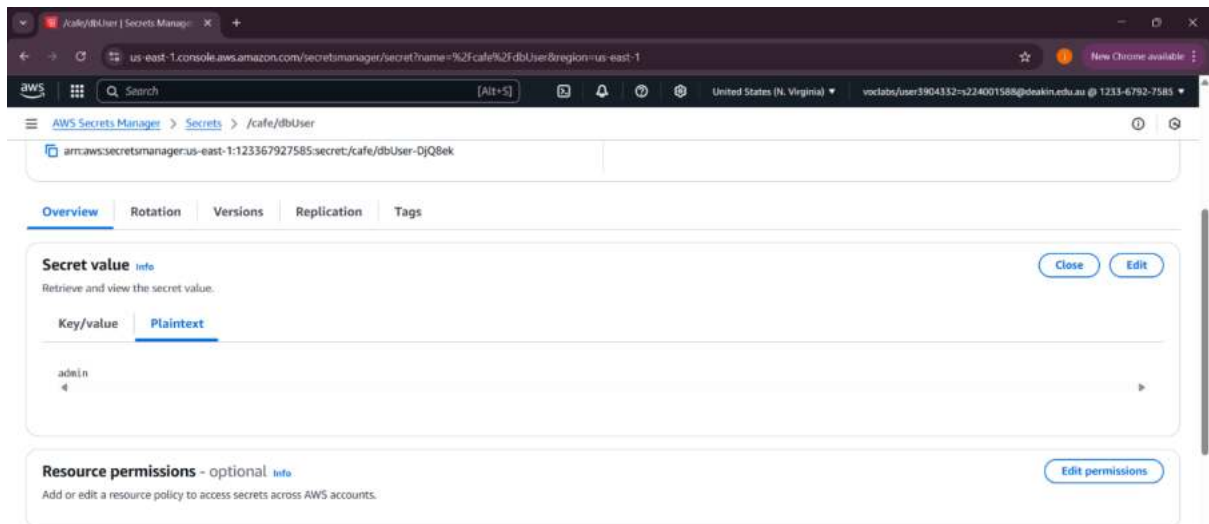
I updated the café web application to use the RDS instance instead of the local database, and confirmed that the app still works by placing a new order and viewing order history.

Explanation:

We updated the database endpoint stored in AWS Secrets Manager so the application would point to the RDS database. I then stopped the local MariaDB service on the EC2 instance to avoid any accidental usage. Finally, I tested the app again by placing an order and confirmed that the data was saved and retrieved from the RDS instance.







The screenshot displays two windows from a virtual machine environment.

The top window is the AWS Secrets Manager console, showing the details for a secret named `cafe/dburl` in the `us-east-1` region. The secret value is `cafedatabase.cxjzeakcdqr.us-east-1.rds.amazonaws.com`. The console also shows tabs for Overview, Rotation, Versions, Replication, and Tags, and a section for Resource permissions.

The bottom window is a terminal running on an EC2 instance. It shows the session ID `i-044416c2fa40c9496` and the user `user3904332+s224001588@ideakin.edu.au`. The terminal output shows a list of orders with columns `order_number`, `order_date_time`, and `amount`. The list contains 25 rows of data. The terminal also shows the command `exit;` and the command `sudo service mariadb stop`, which results in the message `Redirecting to /bin/systemctl stop mariadb.service`.

Assignment Database Di Instance det Challenge (C) c144539a27 Systems Ma Online Notif Café Order RDS connect New Chrome available

awsacademy.instructure.com/courses/104153/assignments/1147508/module_item_id=9702651

ACAv3EN... > Assignments
Challenge (Café) lab: Migrating a Database to Amazon RDS

Home Modules Discussions Grades Lucid (Whiteboard)

Due No Due Date Points 25 Submitting an external tool

AWS 00:43 Start Lab End Lab AWS Details Details

EN_US

also stop the database that runs locally on the EC2 instance.

43. Return to the Secrets Manager console browser tab.

44. In the left navigation pane, choose **Secrets**.

Recall from an earlier challenge lab that the café application's PHP code references these values. For example, it uses the values to retrieve the connection information for the database.

45. Connect the café application to the RDS instance.

Because the database connection information has changed, you must update these values to connect the application to the new RDS database instance instead of to the database running on the EC2 instance.

▼ Tip 5

Submit Submission Report Grades

[Task 1B] DB engine	2/2
[Task 3] sqldump file	3/3
[Task 4A] DB port access	5/5
[Task 4B] SG configuration	2/2
[Task 5] Data import	3/3
[Task 6] Use new DB	1/3

IPC Mostly cloudy

Assignment Database Di Instance det Challenge (C) c144539a27 Systems Ma Online Notif Café Order RDS connect New Chrome available

Not secure 54.89.140.230/cafe/order/history.php

Café

Home Menu Order History

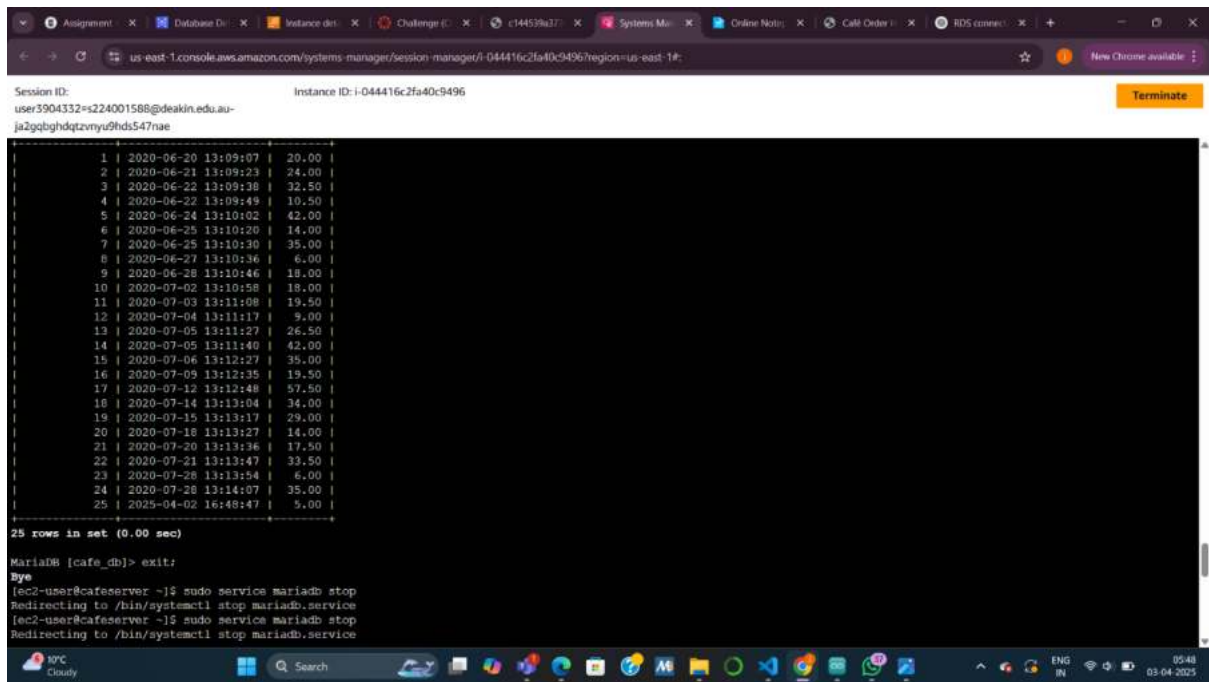
Order History

Connection failed: Access denied for user 'admin'@'10.0.0.205' (using password: YES)

IPC Cloudy

Search

ENG IN 05:47 03-04-2025



```
1 | 2020-06-20 13:09:07 | 20.00 |
2 | 2020-06-21 13:09:23 | 24.00 |
3 | 2020-06-22 13:09:38 | 32.50 |
4 | 2020-06-22 13:09:49 | 10.50 |
5 | 2020-06-24 13:10:02 | 42.00 |
6 | 2020-06-25 13:10:20 | 14.00 |
7 | 2020-06-25 13:10:30 | 35.00 |
8 | 2020-06-27 13:10:36 | 6.00 |
9 | 2020-06-28 13:10:46 | 18.00 |
10 | 2020-07-02 13:10:58 | 18.00 |
11 | 2020-07-03 13:11:08 | 19.50 |
12 | 2020-07-04 13:11:17 | 9.00 |
13 | 2020-07-05 13:11:27 | 26.50 |
14 | 2020-07-05 13:11:40 | 42.00 |
15 | 2020-07-06 13:12:27 | 35.00 |
16 | 2020-07-09 13:12:35 | 19.50 |
17 | 2020-07-12 13:12:48 | 57.50 |
18 | 2020-07-14 13:13:04 | 34.00 |
19 | 2020-07-15 13:13:17 | 29.00 |
20 | 2020-07-18 13:13:27 | 14.00 |
21 | 2020-07-20 13:13:36 | 17.50 |
22 | 2020-07-21 13:13:47 | 33.50 |
23 | 2020-07-28 13:13:54 | 6.00 |
24 | 2020-07-28 13:14:07 | 35.00 |
25 | 2025-04-02 16:48:47 | 5.00 |

25 rows in set (0.00 sec)

MariaDB [cafe_db]> exit;
Bye
[ec2-user@cafe-server ~]$ sudo service mariadb stop
Redirecting to /bin/systemctl stop mariadb.service
[ec2-user@cafe-server ~]$ sudo service mariadb stop
Redirecting to /bin/systemctl stop mariadb.service
```

Task 6 – not working successfully

Explanation

Even though I updated the Secrets Manager values, stopped the local MariaDB service, and restarted the web server, the café application still failed to connect to the RDS instance. This suggests a network connectivity issue between the EC2 instance and the RDS database.

RDS instances are placed in a VPC, and their connectivity is controlled through subnets and security groups. If the RDS security group (e.g., dbSG) does not allow inbound MySQL traffic (port 3306) from the EC2 instance, the connection attempt will silently fail — and the application will not be able to access the database.

How do I rectify it :

Make sure that I am connected to a well connected internet connection.

Make sure that ive completed all the steps.

Make sure ive added appropriate inbound rules.

Questions :

. Where is the RDS instance running?

How to find it:

Go to the Amazon RDS Console → Click on your instance CafeDatabase → Under Connectivity & security, check the Availability Zone (AZ) or Region.

Example Answer:

The RDS instance is running in the us-east-1a Availability Zone, within the Lab VPC.

. Does the RDS instance have an IPv4 public IP address assigned to it?

How to find it:

Still in the Connectivity & security tab, look under Network & security → check the Public access setting.

Example Answer:

No, the RDS instance does not have an IPv4 public IP address assigned to it. Public access is disabled.

. What is the Name tag applied to the subnet in which the RDS instance is running?

- *How to find it:*

From the RDS instance details, note the subnet ID.

Then go to the VPC Console → Subnets → Search for that subnet ID, and view the "Name" tag.

- *Example Answer:*

The Name tag applied to the subnet is private-subnet-a (replace with the actual name you see).

. How many security group rules are defined for the RDS instance

- *How to find it:*

From the RDS instance page → Under Connectivity & security, find the Security group (dbSG) → Click it → Count the Inbound and Outbound rules.

- *Example Answer:*

The RDS instance has 1 inbound rule and 1 outbound rule defined in its security group.

