

Cloud computing

Migrating a Database to Amazon RDS

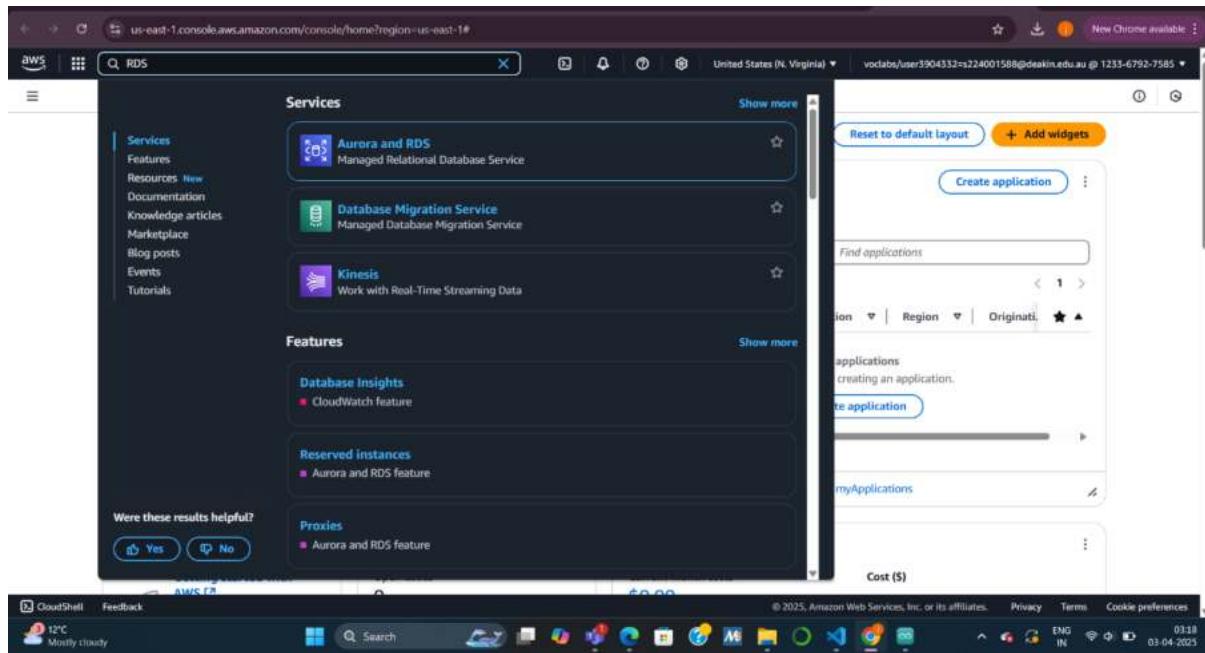
Task 1: Creating an RDS instance

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.*



Screenshot of the AWS RDS Dashboard (us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#) showing the Aurora and RDS section.

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% cost 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 [Edit](#)
- DB Clusters (0/40)
 - Reserved instances (0/40)
 - 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)

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](#)

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Screenshot of the AWS RDS Databases section (us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#databases) showing the Aurora and RDS section.

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](#)

Databases (0)

Notifications 0 □ 0 0 0 0 4 0 0 □ Actions □ Create database □

Group resources Modify Recommendations

Filter by databases

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

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

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

CloudShell Feedback 12°C Mostly cloudy Search Privacy Terms Cookie preferences 03:19 EN IN 03-04-2025 us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-dbinstance:

Aurora and RDS > Create database

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.

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

CloudShell Feedback 12°C Mostly cloudy Search Privacy Terms Cookie preferences 03:19 EN IN 03-04-2025 us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-dbinstance:

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

Aurora and RDS > Create database

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

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. [Info](#)

Settings

DB instance identifier [Info](#)
Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.
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

CloudShell Feedback

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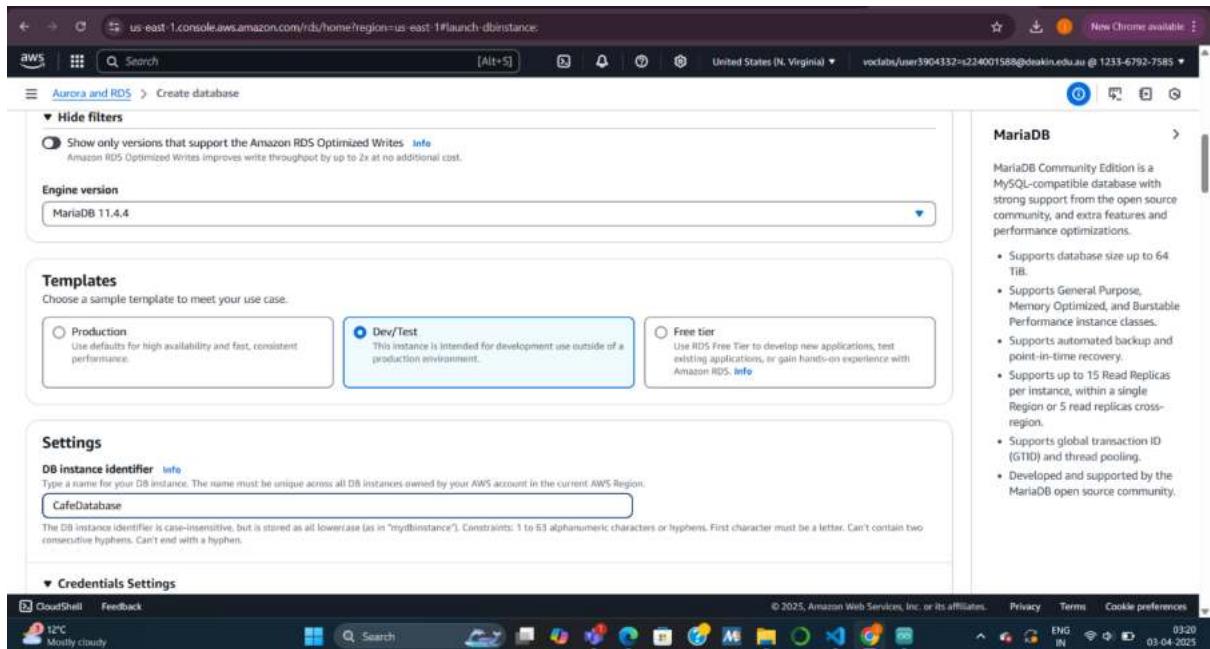
Search

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

Aurora and RDS > Create database

admin

1 to 16 alphanumeric characters. The first character must be a letter.

Credentials management

You can use AWS Secrets Manager or manage your master user credentials.

Managed in AWS Secrets Manager - most secure
RDS generates a password for you and manages it throughout its lifecycle using AWS Secrets Manager.

Self managed
Create your own password or have RDS create a password that you manage.

Auto generate password
Amazon RDS can generate a password for you, or you can specify your own password.

Master password [Info](#)

Password strength **Strong**

Minimum constraints: At least 8 printable ASCII characters. Can't contain any of the following symbols: / " @

Confirm master password [Info](#)

Instance configuration

The DB instance configuration options below are limited to those supported by the engine that you selected above.

DB instance class [Info](#)

▼ Hide filters

CloudShell Feedback

Sports heading Major Blow Fox...

Search

03:25 03-04-2025

aws Search [Alt+S] United States (N. Virginia) vodcasts/user3904332=224001588@deakin.edu.au @ 1233-6792-7585

Aurora and RDS > Create database

DB instance class [Info](#)

▼ Hide filters

Show instance classes that support Amazon RDS Optimized Writes [Info](#)
Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.

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

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Storage

Storage type [Info](#)

Provisioned IOPS SSD (io1) storage volumes are now available.

General Purpose SSD (gp3)
Performance scales independently from storage

Allocated storage [Info](#)

200 GiB

Minimum: 20 GiB. Maximum: 6,144 GiB

Provisioned IOPS [Info](#)

CloudShell Feedback

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03:27 03-04-2025

Screenshot of the AWS RDS Create Database wizard, Step 1: Launch DB instance.

Storage

Storage type: General Purpose SSD (gp2)

Allocated storage: 20 GiB

MariaDB

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Additional storage configuration

Network type: IPv4

Virtual private cloud (VPC): Lab VPC (vpc-0b2968b72235d545)

Public access: No

VPC security group (firewall): Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriate incoming traffic.

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

AWS Search [Alt+S] United States (N. Virginia) voctain/user5904332=s224001568@deakin.edu.au @ 1233-6792-7585

Aurora and RDS > Create database

No
RDS doesn't assign a public IP address to the database. Only Amazon EC2 instances and other resources inside the VPC can connect to your database. Choose one or more VPC security groups that specify which resources can connect to the database.

VPC security group (firewall) [Info](#)
Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriate incoming traffic.

Choose existing
Choose existing VPC security groups

Create new
Create new VPC security group

Existing VPC security groups
Choose one or more options

dbSG X

Availability Zone [Info](#)
No preference

RDS Proxy
RDS Proxy is a fully managed, highly available database proxy that improves application scalability, resiliency, and security.

Create an RDS Proxy [Info](#)
RDS automatically creates an IAM role and a Secrets Manager secret for the proxy. RDS Proxy has additional costs. For more information, see [Amazon RDS Proxy pricing](#).

Certificate authority - optional [Info](#)
Using a server certificate provides an extra layer of security by validating that the connection is being made to an Amazon database. It does so by checking the server certificate that is automatically installed on all databases that you provision.

rds-ca-rsa2048-g1 (default)
Expires: May 26, 2061

If you don't select a certificate authority, RDS chooses one for you.

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

Aurora and RDS > Create database

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VPC security group (firewall) [Info](#)
Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriate incoming traffic.

Choose existing
Choose existing VPC security groups

Create new
Create new VPC security group

Existing VPC security groups
Choose one or more options

dbSG X

Availability Zone [Info](#)
us-east-1a

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rds-ca-rsa2048-q1 (default)
Expiry: May 26, 2021

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

Aurora and RDS > Create database

No
RDS doesn't assign a public IP address to the database. Only Amazon EC2 instances and other resources inside the VPC can connect to your database. Choose one or more VPC security groups that specify which resources can connect to the database.

VPC security group (firewall) [Info](#)
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Choose existing
Choose existing VPC security groups

Create new
Create new VPC security group

Existing VPC security groups
Choose one or more options

dbSG X

Availability Zone [Info](#)
us-east-1a

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Expiry: May 26, 2021

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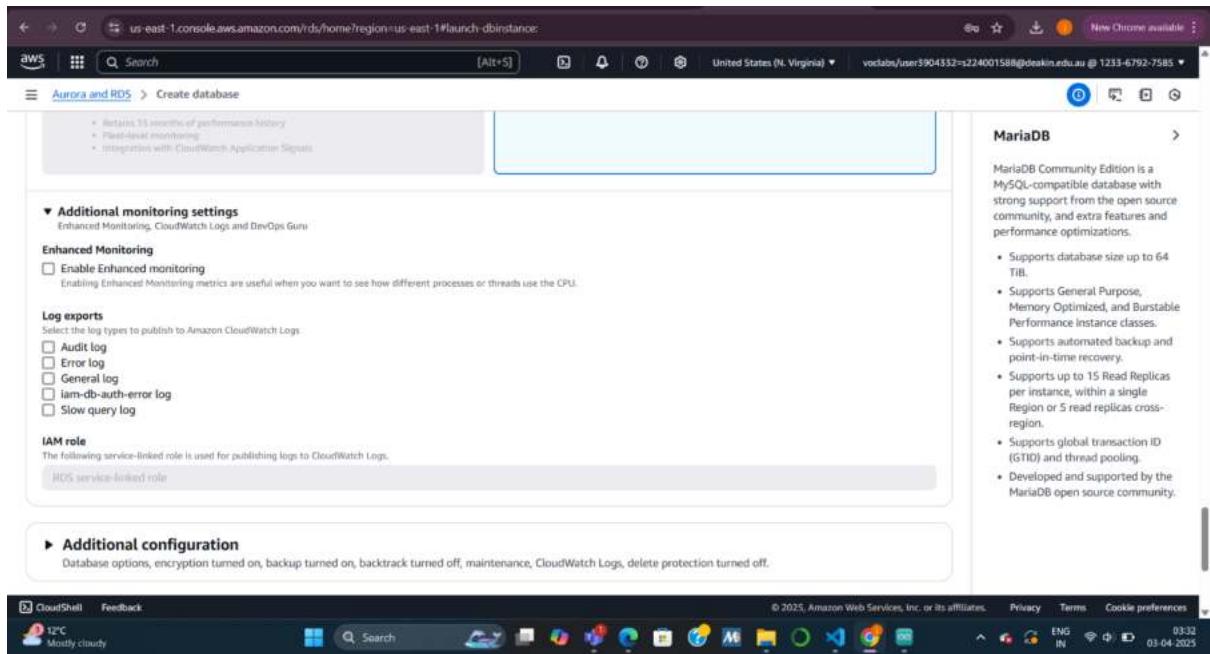
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CloudShell Feedback

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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.

The screenshot shows the AWS Aurora service console. In the search bar at the top, 'ec2' is typed. The main content area displays 'Services' and 'Features' sections. Under 'Services', there are three items: 'EC2' (Virtual Servers in the Cloud), 'EC2 Image Builder' (A managed service to automate build, customize and deploy OS images), and 'EC2 Global View' (Provides a global dashboard and search functionality). Under 'Features', there are three items: 'Dashboard' (EC2 feature), 'AMIs' (EC2 feature), and 'EC2 Instances' (CloudWatch feature). A sidebar on the left lists various Aurora and AWS services like Dashboard, Databases, Query Editor, Performance, Snapshots, Exports in Amazon S3, Automated backups, Reserved Instances, Proxies, Subnet groups, Parameter groups, Option groups, Custom engines, Zero-ETL integrations, Events, and Event subscriptions. At the bottom, a feedback section asks 'Were these results helpful?' with 'Yes' and 'No' buttons.

The screenshot shows the AWS EC2 service console. The search bar at the top has 'Search' typed. The main content area includes a banner stating 'You can change your default landing page for EC2.' with 'Permanently dismiss' and 'Change landing page' buttons. The 'Resources' section displays a table of EC2 resources: Instances (running) 1, Auto Scaling Groups 0, Capacity Reservations 0; Dedicated Hosts 0, Elastic IPs 0, Instances 1; Key pairs 1, Load balancers 0, Placement groups 0; Security groups 4, Snapshots 0, Volumes 1. To the right, the 'Account attributes' section shows 'Default VPC' (vpc-01049c804140800B8) and 'Settings' for Data protection and security, Allowed AMIs, Zones, EC2 Serial Console, Default credit specification, and EC2 console preferences. Below this is the 'Explore AWS' section with banners for 'Save up to 90% on EC2 with Spot Instances', 'Get Up to 40% Better Price Performance', and 'AWS Health Dashboard'. A note at the bottom states 'Note: Your Instances will launch in the United States (N. Virginia) Region'. The sidebar on the left lists '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), and 'Elastic Block Store' (Volumes, Snapshots, Lifecycle Manager). The bottom navigation bar includes CloudShell, Feedback, and a weather widget showing 12°C Mostly cloudy.

The screenshot shows the AWS EC2 Instances page. On the left, the navigation menu is visible with sections like EC2, Dashboard, EC2 Global View, Events, Instances (selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, and AMI Catalog. The main content area displays a table titled 'Instances (1) Info' with one row for 'CafeServer'. The instance details are as follows:

| 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 | ec2-54-81- |

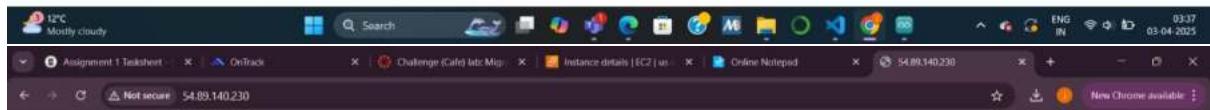
Below the table, a modal window titled 'Select an instance' is open, showing the same instance information.

The screenshot shows the 'Instance summary for i-044416c2fa40c9496 (CafeServer)' page. The left sidebar has the same navigation as the previous screen. The main content area is divided into several sections:

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



Hello From Your Web Server!



Hello From Your Web Server!



A screenshot of a Microsoft Edge browser window showing a website for a cafe. The address bar shows the URL <http://54.89.140.230/cafe/>. The page title is "Café". A navigation bar at the top includes links for Home, About Us, Contact Us, Menu, and Order History. Below the navigation bar are two images: one of various pastries like croissants and cinnamon rolls, and another of a display case filled with different种类的蛋糕 (tarts). A text block below the images reads: "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!" There are three callout boxes: one on the left saying "Frank bakes a rich variety of cookies. Try them all!", one in the center saying "Tea, Coffee.", and one on the right saying "Our tarts are always a customer favorite!". The bottom of the screen shows the Windows taskbar with icons for Start, Search, File Explorer, and other applications, along with system status indicators like battery level, signal strength, and date/time.



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!



Café

Home Menu Order History

Order Confirmation

Thank for your order! It will be available for pickup within 15 minutes. Your order number and details are shown below.

Order Number: 25 Date: 2025-04-02 Time: 16:48:47 Total Amount: \$5.00

| Item | Price | Quantity | Amount |
|-----------------------|--------|----------|--------|
| Croissant | \$1.50 | 1 | \$1.50 |
| Donut | \$1.00 | 1 | \$1.00 |
| Chocolate Chip Cookie | \$2.50 | 1 | \$2.50 |

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The screenshot shows the 'Connect to instance' page for an EC2 instance. The instance ID is i-044416c2fa40c9496 (CafeServer). The 'EC2 Instance Connect' tab is selected. Under 'Connection Type', the 'Public IPv4 address' option is chosen, showing the IP 54.89.140.230. A note at the bottom states: '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.' There are 'Cancel' and 'Connect' buttons at the bottom right.

The screenshot shows the 'Instance details | EC2' page for the same instance. The 'Session ID' is listed as user3904332=s224001588@deakin.edu.au-ja2gqbghdqzvnyu9hds547nae. A large terminal window is open, showing a black screen with the text 'Session ID: i-044416c2fa40c9496'. At the top of the terminal window, there are 'CloudShell' and 'Feedback' buttons. The bottom of the terminal window shows the Windows taskbar with various icons and the date/time 03-04-2025.

```
Session ID: user3904332=s224001588@deakin.edu.au-ja2gpbqghdqtzvnyu9hds547nae
Instance ID: i-044416c2fa40c9496
Terminate

Session ID: user3904332=s224001588@deakin.edu.au-ja2gpbqghdqtzvnyu9hds547nae
Instance ID: i-044416c2fa40c9496?region=us-east-1#
sh-4.2$ bash
[sm-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/
```

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 Test | X | Ontrack | X | Challenge (Card tab) | X | Instance details | EC | X | Systems Manager | X | Online Notepad | X | Cafe Order Confirmation | X | + | - | O | X

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

Instance ID: i-044416c2fa40c9496

Terminate

```
Session ID: user3904332=s224001588@deakin.edu.au-ja2gzbjghdqtzvnyu9hds547nae
sh-4.2$ bash
[ec2-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
             └─tokubc.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: 3599 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.
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 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]: Hint: Some lines were ellipsized, use -l to show in full.
[ec2-user@cafeserver ~]$ mysql --version
```



Assignment 1 Tasks | X | OnTrack | Challenge (Cafe lab) | X | Instance details | EC2 | X | Systems Manager | X | Online Notepad | X | Cafe Order Confirmation | X | + | - | O | X

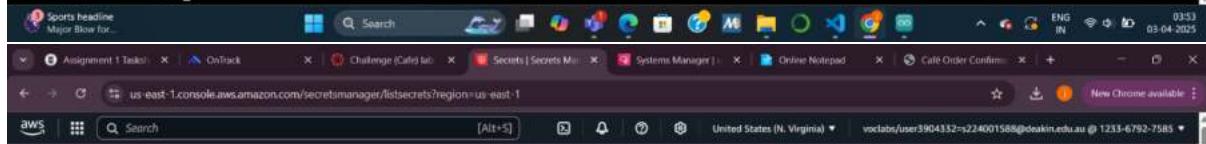
Session ID: us-east-1.console.aws.amazon.com/systems-manager/session-manager/i-044416c2fa40c9496?region=us-east-1#

Instance ID: i-044416c2fa40c9496

Terminate

```
sh-4.2$ bash
[ec2-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
             └─tokubt.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: 3598 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).
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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).
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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 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]: Hint: Some lines were ellipsized, use -l to show it 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 ~]$ 
```



| 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 |



```

Session ID: Instance ID: i-044416c2fa40c9496
user5904332=s224001588@deakin.edu.au- ja2gqbghdqtzvny9hds547nae
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: 3598 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).
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).
Hint: Some lines were ellipsized, use -l to show in full.
[ec2-user@cafereserver ~]$ mysql -version
mysql Ver 15.1 Distrib 10.2.38-MariaDB, for Linux (x86_64) using EditLine wrapper
[ec2-user@cafereserver ~]$ 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)]>

```

IPC Mostly cloudy 03:57 03-04-2025

```

Session ID: Instance ID: i-044416c2fa40c9496
user5904332=s224001588@deakin.edu.au- ja2gqbghdqtzvny9hds547nae
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';

```

IPC Mostly cloudy 03:58 03-04-2025

Session ID: s224001588@deakin.edu.au-ja2gqbghdqtzvny9hds547nae 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 13:12:46 | 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 | 2020-07-29 13:13:54 | 6.00 |
| 24 | 2020-07-29 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 03:58 03-04-2025

Assignment 1 Test/ OnTrack Challenge (Cafe) lab /cafe/dbPassword Systems Manager Online Notepad Cafe Order Confirmation

Session ID: s224001588@deakin.edu.au-ja2gqbghdqtzvny9hds547nae Instance ID: i-044416c2fa40c9496

Terminate

54 rows in set (0.00 sec)

```
MariaDB [cafe_db]>
```

IPC Mostly cloudy 03:59 03-04-2025

Assignment 1 Test/ OnTrack Challenge (Cafe) lab /cafe/dbPassword Systems Manager Online Notepad Cafe Order Confirmation

```

Assignment 1 Test| X | OnTrack | X | Challenge (Cafe lab) | X | /cafe/dbPassword | X | Systems Manager | X | Online Notepad | X | Cafe Order Confirmation | X | + | - | O | X
← → C: us-east-1.console.aws.amazon.com/systems-manager/session-manager/i-044416c2fa40c9496?region=us-east-1#
Session ID: s224001588@deakin.edu.au-
Instance ID: i-044416c2fa40c9496
ja2gqbghdqtzvnyu9hds547nae
Terminate

+-----+
| 13 |   1 |   3 |   4 | 10.00 |
| 13 |   2 |   5 |   3 | 10.50 |
| 13 |   3 |   8 |   2 |  6.00 |
| 14 |   1 |   6 |   8 | 28.00 |
| 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 |   1 | 1.50 |
| 25 |   1 |   2 |   1 |  1.00 |
| 25 |   2 |   3 |   1 |  2.50 |
| 25 |   3 |   3 |   1 |  2.50 |
+-----+
54 rows in set (0.00 sec)

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

IPC Mostly cloudy
Q Search 0400 03-04-2025
Assignment 1 Test| X | OnTrack | X | Challenge (Cafe lab) | X | /cafe/dbPassword | X | Systems Manager | X | Online Notepad | X | Cafe Order Confirmation | X | + | - | O | X
← → C: us-east-1.console.aws.amazon.com/systems-manager/session-manager/i-044416c2fa40c9496?region=us-east-1#
Session ID: s224001588@deakin.edu.au-
Instance ID: i-044416c2fa40c9496
ja2gqbghdqtzvnyu9hds547nae
Terminate

+-----+
| 13 |   1 |   3 |   2 |  6.00 |
| 14 |   1 |   6 |   8 | 28.00 |
| 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 |   1 | 1.50 |
| 25 |   1 |   2 |   1 |  1.00 |
| 25 |   2 |   3 |   1 |  2.50 |
| 25 |   3 |   3 |   1 |  2.50 |
+-----+
54 rows in set (0.00 sec)

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

IPC Mostly cloudy
Q Search 0401 03-04-2025

```

```

Session ID: i-044416c2fa40c9496
Instance ID: i-044416c2fa40c9496
ja2gpbghdqtzvny9hd547nae

| 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 ~]$ ls
CafeDbDump.sql
[ec2-user@cafeserver ~]$
```

IPC Mostly cloudy ENG IN 0401 03-04-2025

```

Session ID: i-044416c2fa40c9496
Instance ID: i-044416c2fa40c9496
ja2gpbghdqtzvny9hd547nae

-- Table structure for table 'product_group'

DROP TABLE IF EXISTS `product_group`;
/*140101 SET @saved_cs_client      = @@character_set_client */;
/*140101 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;
/*140101 SET character_set_client = @saved_cs_client */;

-- Dumping data for table 'product_group'

LOCK TABLES `product_group` WRITE;
/*140000 ALTER TABLE `product_group` DISABLE KEYS */;
INSERT INTO `product_group` VALUES (1,'Pastries'),(2,'Drinks');
/*140000 ALTER TABLE `product_group` ENABLE KEYS */;
UNLOCK TABLES;
/*140103 SET TIME_ZONE=@OLD_TIME_ZONE */;

/*140101 SET SQL_MODE=@OLD_SQL_MODE */;
/*140014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
/*140014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
/*140101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*140101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*140101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
/*140111 SET SQL_NOTES=@OLD_SQL_NOTES */;

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

IPC Mostly cloudy ENG IN 0402 03-04-2025

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).

The screenshot shows a web browser window with four questions related to an RDS instance:

- 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

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

The screenshot shows the AWS RDS Dashboard for the US East (N. Virginia) region. On the left, a sidebar lists various RDS management options like Dashboard, Databases, Query Editor, and Aurora and RDS. The main content area displays a summary of Amazon RDS resources:

- 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).
- 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).

A blue banner at the top right introduces the Aurora I/O-Optimized storage configuration. To the right, a "Recommended services" section is shown, indicating "No recommendations yet".

The screenshot shows the "Databases" page under the Aurora and RDS section. It displays a table with one database entry:

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

A notification banner at the top suggests creating a blue/green deployment. The bottom of the screen shows the Windows taskbar with various pinned icons.

Aurora and RDS - Database Details

DB identifier: cafedatabase

Status: Available

Role: Instance

Engine: MariaDB

CPU: 2.67%

Class: db.t3.micro

Current activity: 0 Connections

Region & AZ: us-east-1a

Connectivity & security

Endpoint & port

- Endpoint: cafedatabase.cjozeakcdqr.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

EC2 - Security Groups

Security Groups (1) [Info](#)

| Name | Security group ID | Description |
|----------------------|-------------------|-----------------------|
| sg-0aa901d1bf83b5556 | dbSG | vpc-0b29688b72235d345 |

The screenshot shows the AWS CloudWatch Metrics interface. At the top, there's a navigation bar with links like 'Assignment 1 Test', 'Challenge (Cafe) lab', 'ModifyInboundSecurityGroupRules', 'Systems Manager', 'Online Notepad', 'Cafe Order Confirmation', and 'New Chrome available'. Below the navigation is a search bar and a dropdown for 'United States (N. Virginia)'. The main content area displays a table of metrics with columns for 'Metric Name', 'Unit', 'Value', 'Timestamp', and 'Source'. One row is highlighted in yellow, showing 'cpu_utilization' with a value of 100.00% at 2025-03-04T08:00:00Z from 'AWS Lambda'. At the bottom right, there are buttons for 'Preview changes' and 'Save rules'.

This screenshot is identical to the one above, showing the AWS CloudWatch Metrics Insights page with the same navigation, search, and table of metrics. The highlighted row for 'cpu_utilization' is also present, along with the 'Preview changes' and 'Save rules' buttons at the bottom right.

This screenshot is identical to the previous ones, showing the AWS CloudWatch Metrics Insights page with the same navigation, search, and table of metrics. The highlighted row for 'cpu_utilization' is also present, along with the 'Preview changes' and 'Save rules' buttons at the bottom right.

A screenshot of the AWS Cloud Console showing the EC2 Security Groups page. A success message at the top states: "Inbound security group rules successfully modified on security group (sg-0aa901d1bf83b5556) dbSG".

The main content area displays the details for the security group "sg-0aa901d1bf83b5556 - dbSG". Key information includes:

- Security group name:** dbSG
- Security group ID:** sg-0aa901d1bf83b5556
- Description:** dbSG
- VPC ID:** vpc-0b29588b72235d345
- Owner:** 123367927585
- Inbound rules count:** 1 Permission entry
- Outbound rules count:** 1 Permission entry

The "Inbound rules" tab is selected, showing one rule:

| Name | Security group rule ID | IP version | Type | Protocol | Port range |
|------|------------------------|------------|--------------|----------|------------|
| - | sgr-014ea0e1b68699256 | - | MySQL/Aurora | TCP | 3306 |

At the bottom of the page, there are navigation links for "CloudShell", "Feedback", and "CloudWatch Metrics". The status bar shows the date as 03-04-2025 and the time as 04:14.

The screenshot shows two AWS console windows side-by-side.

Top Window (EC2 - Security Groups):

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

| | | | |
|---------------------------|---|--|------------------------------|
| Security group name: dbSG | Security group ID: sg-0aa901d1bf83b5556 | Description: dbSG | VPC ID: vpc-0b2958b72235d345 |
| Owner: 123367927585 | Inbound rules count: 1 Permission entry | Outbound rules count: 1 Permission entry | |
- Inbound rules:** (1)

| Name | Security group rule ID | IP version | Type | Protocol | Port range |
|------|------------------------|------------|--------------|----------|------------|
| - | sgr-014ea0e1b68699256 | - | MySQL/Aurora | TCP | 3306 |

Bottom Window (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](#)
- Databases (1):**

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

The screenshot shows the AWS RDS Database Details page for a MySQL database named 'cafedatabase'. The 'Connectivity & security' tab is selected. Key details shown include:

- Endpoint & port**: cafedatabase.cjx0zeakcdgr.us-east-1.rds.amazonaws.com, Port 3306
- VPC**: Lab VPC [vpc-0b29688b72235d345]
- Networking**: Availability Zone us-east-1a, Subnet group lab-db-subnet-group, Subnets subnet-01fe211329cd1972c, subnet-0ed0c741ebc1e7f21, Network type IPv4
- Security**: VPC security groups db5G (sg-0aa901d1bf83b5556) (Active), Publicly accessible No, Certificate authority rds-ca-rsa2048-g1, Certificate authority date May 26, 2061, 09:34 (UTC+10:00), DB instance certificate expiration date April 03, 2026, 03:35 (UTC+11:00)

The left sidebar shows other RDS management options like Databases, Query Editor, and Performance insights.

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 Test | Challenge (Data) lab | c144539a37369098 | Database Details | Systems Manager | Online Notepad | Cafe Order Confirmation | + | - | O | X | us-east-1.console.aws.amazon.com/systems-manager/session-manager/i-044416c2fa40c9496?region=us-east-1# | New Chrome available | Terminate | Session ID: user5904332=s224001588@deakin.edu.au-ja2qpbghdqtzvny9hd547nae Instance ID: i-044416c2fa40c9496 /*140101 SET character_set_client = @saved_cs_client */; -- Dumping data for table 'product_group' -- LOCK TABLES `product_group` WRITE; /*140000 ALTER TABLE `product_group` DISABLE KEYS */; INSERT INTO `product_group` VALUES (1,'Pastries'),(2,'Drinks'); /*140000 ALTER TABLE `product_group` ENABLE KEYS */; UNLOCK TABLES; /*140103 SET TIME_ZONE=@OLD_TIME_ZONE */; /*140101 SET SQL_MODE=@OLD_SQL_MODE */; /*140014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */; /*140014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */; /*140101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */; /*140101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */; /*140101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */; /*140111 SET SQL_NOTES=@OLD_SQL_NOTES */; -- Dump completed on 2025-04-02 17:01:12 [ec2-user@cafeserver ~]$ mysql -u admin -p --hostcafedatabase.cjxxzeakodqr.us-east-1.rds.amazonaws.com mysql: unknown option '--hostcafedatabase.cjxxzeakodqr.us-east-1.rds.amazonaws.com' [ec2-user@cafeserver ~]$ 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 Test | Challenge (Data) lab | c144539a37369098 | Database Details | Systems Manager | Online Notepad | Cafe Order Confirmation | + | - | O | X | us-east-1.console.aws.amazon.com/systems-manager/session-manager/i-044416c2fa40c9496?region=us-east-1# | New Chrome available | Terminate | Session ID: user5904332=s224001588@deakin.edu.au-ja2qpbghdqtzvny9hd547nae Instance ID: i-044416c2fa40c9496 /*140101 SET SQL_MODE=@OLD_SQL_MODE */; /*140014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */; /*140014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */; /*140101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */; /*140101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */; /*140101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */; /*140111 SET SQL_NOTES=@OLD_SQL_NOTES */; -- Dump completed on 2025-04-02 17:01:12 [ec2-user@cafeserver ~]$ mysql -u admin -p --hostcafedatabase.cjxxzeakodqr.us-east-1.rds.amazonaws.com mysql: unknown option '--hostcafedatabase.cjxxzeakodqr.us-east-1.rds.amazonaws.com' [ec2-user@cafeserver ~]$ 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 Test | Challenge (Cafe) lab | c144539a37369098 | Database Details | Systems Manager | Online Notepad | Cafe Order Confirmation | + | - | O | X | us-east-1.console.aws.amazon.com/systems-manager/session-manager/i-044416c2fa40c9496?region=us-east-1#
Session ID: i-044416c2fa40c9496
Instance ID: i-044416c2fa40c9496
ja2qbqghdqtzvnyu9hds547nae
Terminate

/*140014 SET FOREIGN_KEY_CHECKS=OLD_FOREIGN_KEY_CHECKS */;
/*140014 SET UNIQUE_CHECKS=OLD_UNIQUE_CHECKS */;
/*140101 SET CHARACTER_SET_CLIENT=OLD_CHARACTER_SET_CLIENT */;
/*140101 SET CHARACTER_SET_RESULTS=OLD_CHARACTER_SET_RESULTS */;
/*140101 SET COLLATION_CONNECTION=OLD_COLLATION_CONNECTION */;
/*140111 SET SQL_NOTES=OLD_SQL_NOTES */;

-- Dump completed on 2025-04-02 17:01:12
[ec2-user@cafeserver ~]$ mysql -u admin -p --hostcafedatabase.cjxxzeakcdqr.us-east-1.rds.amazonaws.com
mysql: unknown option '--hostcafedatabase.cjxxzeakcdqr.us-east-1.rds.amazonaws.com'
[ec2-user@cafeserver ~]$ mysql -u admin -p --host cafedatabase.cjxxzeakcdqr.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
Tempo drop
Saturday
Windows Search
Q Search
A Microsoft Edge
B Google Chrome
C Internet Explorer
D Mozilla Firefox
E Microsoft Edge
F Google Chrome
G Microsoft Edge
H Mozilla Firefox
I Microsoft Edge
J Google Chrome
K Microsoft Edge
L Mozilla Firefox
ENG IN 0423 03-04-2025

Assignment 1 Test | Challenge (Cafe) lab | c144539a37369098 | Database Details | Systems Manager | Online Notepad | Cafe Order Confirmation | + | - | O | X | us-east-1.console.aws.amazon.com/systems-manager/session-manager/i-044416c2fa40c9496?region=us-east-1#
Session ID: i-044416c2fa40c9496
Instance ID: i-044416c2fa40c9496
ja2qbqghdqtzvnyu9hds547nae
Terminate

-- Dump completed on 2025-04-02 17:01:12
[ec2-user@cafeserver ~]$ mysql -u admin -p --hostcafedatabase.cjxxzeakcdqr.us-east-1.rds.amazonaws.com
mysql: unknown option '--hostcafedatabase.cjxxzeakcdqr.us-east-1.rds.amazonaws.com'
[ec2-user@cafeserver ~]$ mysql -u admin -p --host cafedatabase.cjxxzeakcdqr.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.cjxxzeakcdqr.us-east-1.rds.amazonaws.com < CafeDbDump.sql
Enter password:
[ec2-user@cafeserver ~]$
```

```
Session ID: i-044416c2fa40c9496
Instance ID: i-044416c2fa40c9496
user3904332=s224001588@deakin.edu.au
ja2gpbghdqtzvnyu9hds547nae
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> < CafeDbump.sql
mysql: syntax error near unexpected token `<`'
[ec2-user@cafeserver ~]$ mysql -u admin -p --host <rds-endpoint> < CafeDbump.sql
mysql: syntax error near unexpected token `<`'
[ec2-user@cafeserver ~]$ mysql -u admin -p --host cafedatabase.cjxxzeakcdqr.us-east-1.rds.amazonaws.com < CafeDbump.sql
Enter password:
[ec2-user@cafeserver ~]$ mysql -u admin -p --host cafedatabase.cjxxzeakcdqr.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)]>

[ec2-user@cafeserver ~]$ Temp to drop
Next Monday
[ec2-user@cafeserver ~]$ Search
[ec2-user@cafeserver ~]$ Q Search
[ec2-user@cafeserver ~]$ File
[ec2-user@cafeserver ~]$ Applications
[ec2-user@cafeserver ~]$ M
[ec2-user@cafeserver ~]$ Chrome
[ec2-user@cafeserver ~]$ ENG IN 0429 03-04-2025
[ec2-user@cafeserver ~]$ Database Details | A | X | c144539a37369098 | Systems Manager | I | Online Notepad | X | Call Order Confirmation | X | + | - | O | X |
[ec2-user@cafeserver ~]$ New Chrome available [ ]
[ec2-user@cafeserver ~]$ Terminate

Session ID: i-044416c2fa40c9496
Instance ID: i-044416c2fa40c9496
user3904332=s224001588@deakin.edu.au
ja2gpbghdqtzvnyu9hds547nae
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';
[ec2-user@cafeserver ~]$ Temp to drop
Next Monday
[ec2-user@cafeserver ~]$ Search
[ec2-user@cafeserver ~]$ Q Search
[ec2-user@cafeserver ~]$ File
[ec2-user@cafeserver ~]$ Applications
[ec2-user@cafeserver ~]$ M
[ec2-user@cafeserver ~]$ Chrome
[ec2-user@cafeserver ~]$ ENG IN 0429 03-04-2025
[ec2-user@cafeserver ~]$ Database Details | A | X | c144539a37369098 | Systems Manager | I | Online Notepad | X | Call Order Confirmation | X | + | - | O | X |
[ec2-user@cafeserver ~]$ New Chrome available [ ]
[ec2-user@cafeserver ~]$ Terminate
```

```

Session ID: user3904332=s224001588@deakin.edu.au
Instance ID: i-044416c2fa40c9496
ja2gqbghdqtzvnyu9hds547nac
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 13:12:46 | 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 | 2020-07-29 13:13:54 | 6.00 |
| 24 | 2020-07-29 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 shows the AWS Secrets Manager console with a secret named "/cafe/dbPassword". The secret details page is displayed, showing the following information:

- Encryption key:** aws/secretsmanager
- Secret name:** /cafe/dbPassword
- Secret ARN:** arn:aws:secretsmanager:us-east-1:123367927585:secret:/cafe/dbPassword-ujnf1

The "Overview" tab is selected. Below it, the "Secret value" section shows the secret value as "Caf3dbPassword!". The "Resource permissions" section is present but empty. The browser's address bar shows the URL: "us-east-1.console.aws.amazon.com/secretsmanager/secret?name=%2Fcafe%2FdbPassword®ion=us-east-1".

Secret details

Encryption key
aws/secretsmanager

Secret name
/cafe/dbPassword

Secret ARN
arn:aws:secretsmanager:us-east-1:123367927585:secret:/cafe/dbPassword-ujnf1

Actions

Overview Rotation Versions Replication Tags

Secret value Info Retrieve secret value

Resource permissions - optional Info Edit permissions

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us-east-1.console.aws.amazon.com/secretsmanager/secret?name=%2Fcafe%2FdbPassword®ion=us-east-1

AWS Secrets Manager > Secrets > /cafe/dbPassword

Encryption key
aws/secretsmanager

Secret name
/cafe/dbPassword

Secret ARN
arn:aws:secretsmanager:us-east-1:123367927585:secret:/cafe/dbPassword-ujnf1

Overview Rotation Versions Replication Tags

Secret value Info Close Edit

Retrieve and view the secret value.

Key/value Plaintext

Caf3dbPassword!

Resource permissions - optional Info Edit permissions

Add or edit a resource policy to access secrets across AWS accounts.

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Your secret value has been updated.

/cafe/dbUser

Secret details

| | |
|--|--------------------|
| Encryption key aws/secretsmanager | Secret description |
| Secret name /cafe/dbUser | - |
| Secret ARN arn:aws:secretsmanager:us-east-1:123367927585:secret:/cafe/dbUser-DjQ8ek | - |

Actions

Overview | **Rotation** | **Versions** | **Replication** | **Tags**

Secret value Info

Retrieve and view the secret value.

Resource permissions - optional Info

Edit permissions

CloudShell | **Feedback**

Search United States (N. Virginia) voclabs/user3904332=s224001588@deakin.edu.au @ 1233-6792-7585

0433 ENG IN 03-04-2025

Overview | **Rotation** | **Versions** | **Replication** | **Tags**

Secret value Info

Retrieve and view the secret value.

Key/value **Plaintext**

admin
4

Resource permissions - optional Info

Edit permissions

Add or edit a resource policy to access secrets across AWS accounts.

Sample code

Use these code samples to retrieve the secret in your application.

CloudShell | **Feedback**

Search United States (N. Virginia) voclabs/user3904332=s224001588@deakin.edu.au @ 1233-6792-7585

0434 ENG IN 03-04-2025

The screenshot shows the AWS Secrets Manager console for a secret named "/cafe/dbUser". The "Secret value" section displays a single key-value pair: "admin". The "Resource permissions" section is optional and contains a link to "Edit permissions". The "Sample code" section provides code samples for Java, JavaScript, C#, Python3, Ruby, Go, and Rust. The Java sample is selected.

Secret value Info

Retrieve and view the secret value.

Key/value **Plaintext**

admin

Resource permissions - optional Info

Add or edit a resource policy to access secrets across AWS accounts.

Edit permissions

Sample code

Use these code samples to retrieve the secret in your application.

Java JavaScript C# Python3 Ruby Go Rust

Secret value Info

Retrieve and view the secret value.

Key/value **Plaintext**

ec2-54-89-140-230.compute-1.amazonaws.com

Resource permissions - optional Info

Add or edit a resource policy to access secrets across AWS accounts.

Edit permissions

Sample code

Use these code samples to retrieve the secret in your application.

Java JavaScript C# Python3 Ruby Go Rust

Screenshot of the AWS Secrets Manager console showing a secret named '/cafe/dbUrl' with its value set to 'cafedatabase.cjxxzeakcdqr.us-east-1.rds.amazonaws.com'. Below it, a 'Resource permissions' section is shown as optional.

Sample code section:

```

Session ID: i-044416c2fa40c9496
Instance ID: i-044416c2fa40c9496
ja2gqbghdqzvnyu9tds547nae

+-----+
| 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 | 2020-07-01 13:10:58 | 18.00 |
| 11 | 2020-07-01 13:11:08 | 19.50 |
| 12 | 2020-07-01 13:11:17 | 9.00 |
| 13 | 2020-07-05 13:11:27 | 26.50 |
| 14 | 2020-07-05 13:11:40 | 42.00 |
| 15 | 2020-07-08 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 | 2020-07-16 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 [cate_db]> exit;
Bye
[ec2-user@cafeserver ~]$ sudo service mariadb stop
Redirecting to /bin/systemctl stop mariadb.service
[ec2-user@cafeserver ~]$ 
```

The screenshot shows a browser window for the AWS Academy challenge lab titled "Challenge (Cafe) lab: Migrating a Database to Amazon RDS". The left sidebar includes links for Home, Modules, Discussions, Grades, and Courses. The main content area displays a challenge task with steps 43 through 45. Step 43 instructs to stop the database locally on the EC2 instance. Step 44 asks to choose "Secrets" from the navigation pane. Step 45 requires connecting the cafe application to the RDS instance. A sidebar on the right lists tasks with their status and points: [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), and [Task 6] Use new DB (-/3). The bottom of the screen shows a Windows taskbar with various icons and system status.

The screenshot shows a browser window for the "Café" application. The title bar indicates the URL is 54.89.140.230/cafe/order/history.php. The main content area displays a heading "Café" and a navigation bar with "Home", "Menu", and "Order History" (which is highlighted). Below the navigation bar is a section titled "Order History" with the message "Connection failed: Access denied for user 'admin'@'10.0.0.205' (using password: YES)". The bottom of the screen shows a Windows taskbar with various icons and system status.

Session ID: user3904332=s224001588@deakin.edu.au-ja2gqbjghdqtzvnyu9hds547nae Instance ID: i-044416c2fa40c9496

Terminate

```

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 13:10:12 | 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 | 2020-07-08 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 | 2020-07-26 13:13:54 | 6.00 |
24 | 2020-07-26 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@cafeserver ~]$ sudo service mariadb stop
Redirecting to /bin/systemctl stop mariadb.service
[ec2-user@cafeserver ~]$ sudo service mariadb stop
Redirecting to /bin/systemctl stop mariadb.service

```

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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 I have completed all the steps.

Make sure I have 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.

