

Module 6: Database Services

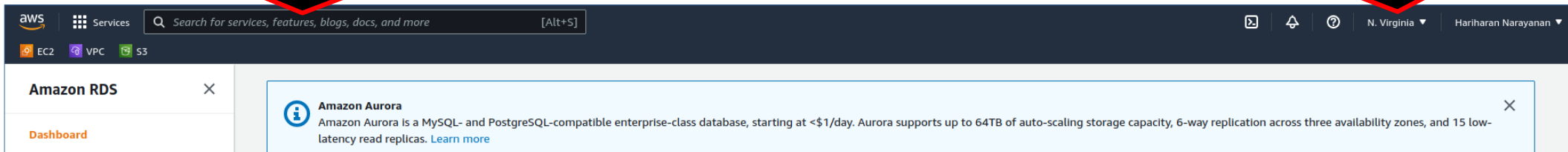
Assignment - 1

You have been asked to:

1. Create an RDS MariaDB database
2. Login into the DB from your PC

1. Type RDS in search bar. Open dashboard

2. Let region remain N. Virginia



Create database

Amazon Relational Database Service (RDS) makes it easy to set up, operate, and scale a relational database in the cloud.

Restore from S3

Create database

3. Create database

Note: your DB instances will launch in the US East (N. Virginia) region

Create database

Choose a database creation method [Info](#)☒ 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](#)☐ Amazon Aurora☐ MySQL☒ MariaDB☐ PostgreSQL☐ Oracle☐ Microsoft SQL Server

Version

MariaDB 10.5.12

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](#)

4. Choose Standard

5. Choose MariaDB

6. Choose Free Tier

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.

m5a1-database-1

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "m5a1-database-1"). It must be 1 to 63 characters in length. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

7. Choose a name

▼ Credentials Settings

Master username [Info](#)

Type a login ID for the master user of your DB instance.

admin

1 to 16 alphanumeric characters. First character must be a letter.

☐ Auto generate a password

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

Master password [Info](#)

.....

8. Keep password as "admin123"

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: `&` (ampersand), `'` (single quote), `"` (double quote), and `@` (at sign).

Confirm password [Info](#)

.....

Connectivity



Virtual private cloud (VPC) [Info](#)

VPC that defines the virtual networking environment for this DB instance.

Create new VPC

Only VPCs with a corresponding DB subnet group are listed.



After a database is created, you can't change its VPC.

Subnet group [Info](#)

DB subnet group that defines which subnets and IP ranges the DB instance can use in the VPC you select.

Create new DB Subnet Group

Public access [Info](#)

☒ Yes

Amazon EC2 instances and devices outside the VPC can connect to your database. Choose one or more subnets to specify which EC2 instances and devices inside the VPC can connect to the database.

☐ No

RDS will not assign a public IP address to the database. Only Amazon EC2 instances and devices inside the VPC can connect to your database.

VPC security group

Choose a VPC security group to allow access to your database. Ensure that the security group rules allow the appropriate incoming traffic.

☐ Choose existing

Choose existing VPC security groups

☒ Create new

Create new VPC security group

New VPC security group name

m5a1-rds-vpc-sg

Availability Zone [Info](#)

No preference

▼ Additional configuration

Database port [Info](#)

TCP/IP port that the database will use for application connections.

3306

9. Select to create new vpc

10. Select to create new subnet

11. Select public access

12. Create new security group

Database options

Initial database name [Info](#)

m5a1_db|

If you do not specify a database name, Amazon RDS does not create a database.

DB parameter group [Info](#)

default.mariadb10.5

Option group [Info](#)

default.mariadb-10-5

Backup

- ☒ Enable automated backups
- Creates a point-in-time snapshot of your database

Backup retention period [Info](#)
Choose the number of days that RDS should retain automatic backups for this instance.

7 days

Backup window [Info](#)
Select the period for which you want automated backups of the database to be created by Amazon RDS.

- ☐ Select window
- ☒ No preference

- ☒ Copy tags to snapshots

Monitoring

- ☐ Enable Enhanced monitoring
- Enabling Enhanced monitoring metrics are useful when you want to see how different processes or threads use the CPU.

Log exports

Select the log types to publish to Amazon CloudWatch Logs

- ☐ Audit log
- ☐ Error log
- ☐ General log
- ☐ Slow query log

IAM role
The following service-linked role is used for publishing logs to CloudWatch Logs.

RDS service-linked role

13. Create a new name for db

You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

Cancel

Create database

14. Create Database

Databases

Q Filter by databases

	DB Identifier	Role	Engine	Region & AZ
<input type="radio"/>	m5a1-database-1	Instance	MariaDB	us-east-1c
<input checked="" type="radio"/>	m5a1-database-2	Instance	MariaDB	

15. Verify DB is created and status is Available. Click on the DB

16. Note the credentials to connect

Password for your database m5a1-database-2

This is the only time you will be able to view this password. Copy and save the password for your reference, otherwise you will need to modify the database to change it.

Master username
admin

Master password
admin123 Copy

Close

17. Install DB GUI client – DBeaver – and open it

18. Select MariaDB

Connect to

Select your database

Create new database connection. Find your database in the list below.

Type part of database/driver name ... Sort by: ☐ Title ☒ Score

- All
- Popular
- SQL
- NoSQL
- Analytical
- Timeseries
- Embedded
- Hadoop / BigData
- Full-text search
- Graph databases

DB2 LUW

DuckDB

MariaDB

MySQL

Oracle

PostgreSQL

SQL Server

SQLite

Apache Drill

Apache Hive

Apache Ignite

Apache Phoenix

Test Connection ...

< Back Next > Cancel Finish

15. Next

Connection "m5a1-database-1.ccqofe5eqzis.us-east-1.rds.amazonaws" configuration

MariaDB connection settings

Connection settings

Initialization
Shell Commands
Client identification
Transactions
General
Metadata
Errors and timeouts
Data editor
SQL Editor

Main Driver properties SSH Proxy SSL

Server

Server Host: m5a1-database-2.ccqofe5eqzis.us-east-1.rds.amazonaws.com Port: 3306

Database: m5a1_db

Authentication (Database Native)

Username: admin

Password: admin123 Save password

Advanced

Server Time Zone: Auto-detect

Local Client:

You can use variables in connection parameters.

Driver name: MariaDB Edit Driver Settings

Test Connection ... Cancel OK

19. Enter server endpoint

20. Provide port

21. Provide username (admin) and password (admin123)

22. Test connection

Driver settings

Download driver files

Download MariaDB driver files

MariaDB driver files are missing. These files can be downloaded automatically. ☐ Force download / overwrite

Files required by driver

File	Version	Description
org.mariadb.jdbc:mariadb-java-client:RELEASE	2.7.1	JDBC driver for MariaDB

You can change driver version by clicking on version column. Then you can choose one of the available versions.

Or you can obtain driver files by yourself and add them in driver editor.

[Vendor website](#) [Download configuration](#)

Edit Driver Cancel Download

23. Download JDBC driver

Connection test

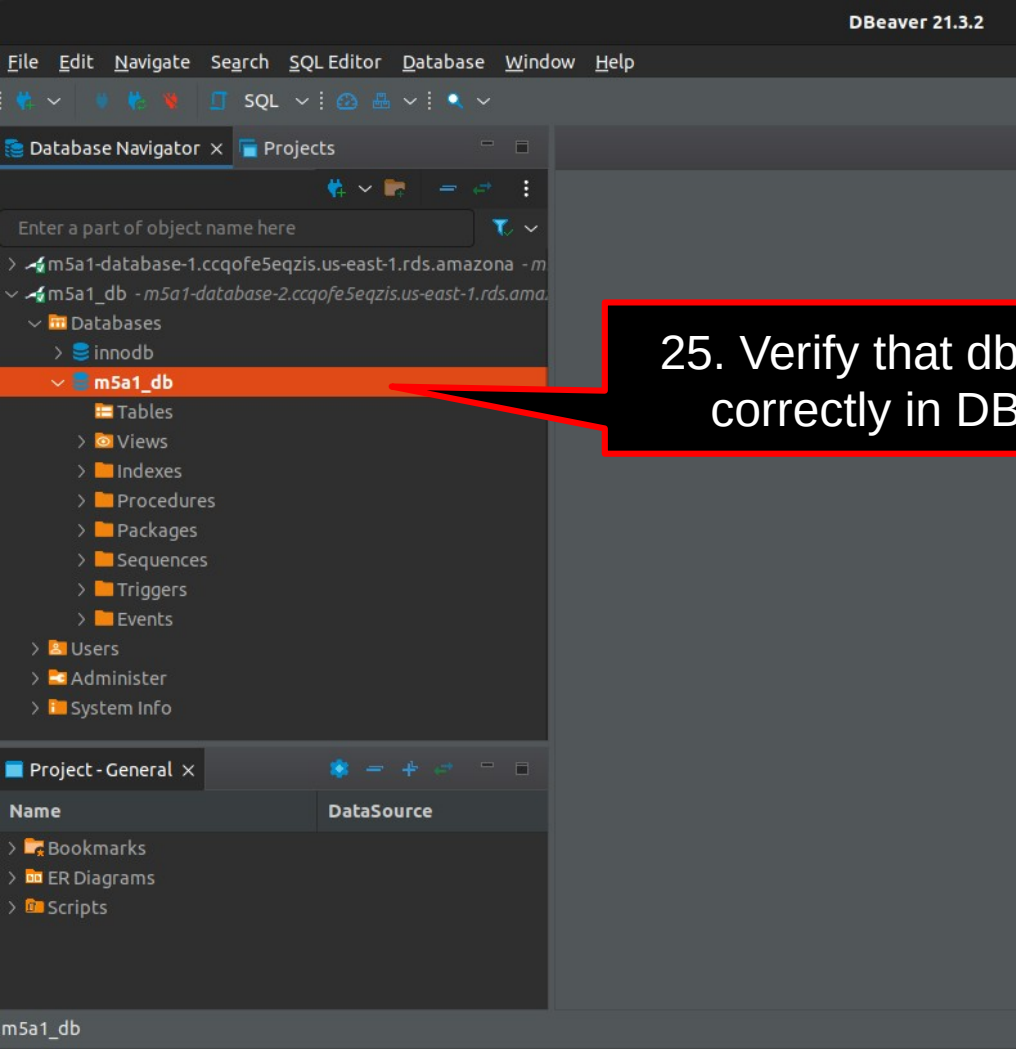
Connected (5171 ms)

Server: MariaDB 10.5.12-MariaDB-log

Driver: MariaDB Connector/J 2.7.1

Details >> OK

24. Verify that connection test passed



25. Verify that db opened correctly in DBeaver