

Problem Statement:

You work for XYZ Corporation. Their application requires a SQL service that can store data which can be retrieved if required. Implement a suitable RDS engine for the same.

While migrating, you are asked to perform the following tasks:

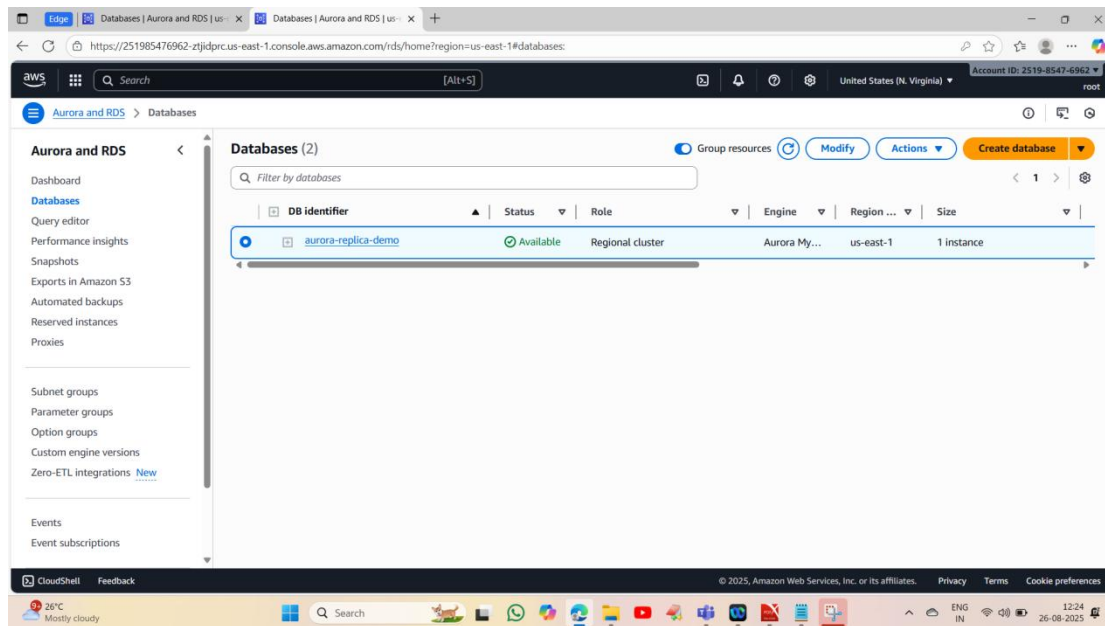
1. Create an AuroraDB Engine based RDS Database.
2. Create 2 Read Replicas in different availability zones for better infrastructure availability.

1. Create an AuroraDB Engine based RDS Database.

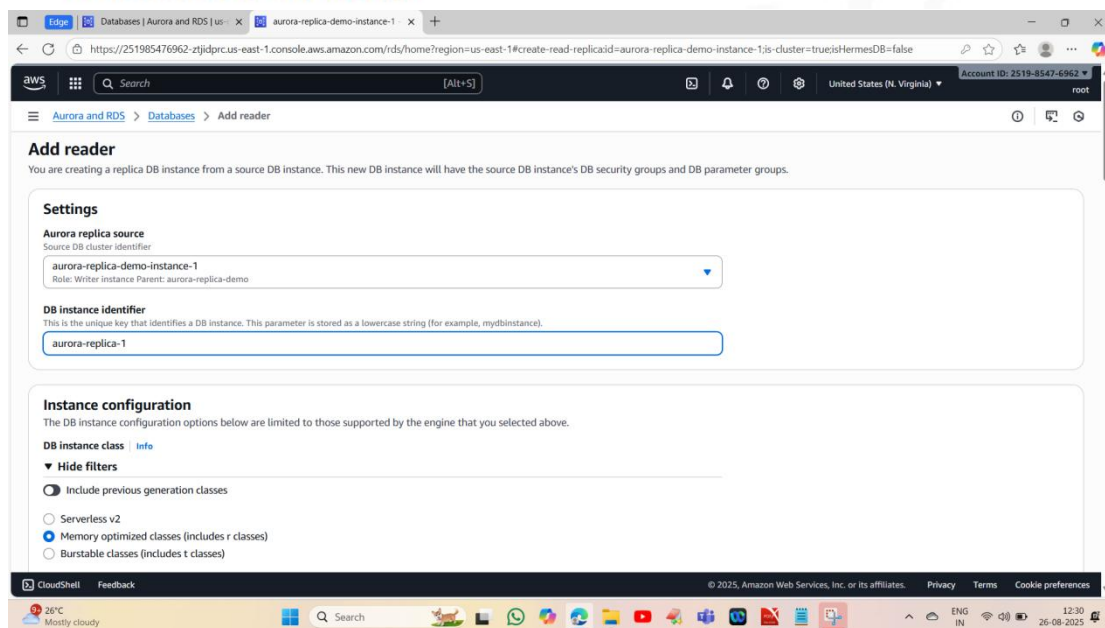
The screenshot displays the AWS Management Console's 'Create database' wizard for AuroraDB Engine. The interface is divided into several sections:

- Choose a database creation method:** Two options are shown: 'Standard create' (selected) and 'Easy create'.
- Engine options:** A grid of database engine choices. 'Aurora (MySQL Compatible)' is selected. Other options include Aurora (PostgreSQL Compatible), MySQL, PostgreSQL, MariaDB, Oracle, Microsoft SQL Server, and IBM Db2.
- Settings:** This section contains configuration details for the database cluster.
 - DB cluster identifier:** A text field containing 'Aurora-replica-demo'.
 - Credentials Settings:** Includes a 'Master username' field with 'admin' and a 'Credentials management' section with 'Self managed' selected.
 - Master password:** A field with a masked password and a 'Password strength' indicator showing 'Strong'.

The bottom of the screen shows the Windows taskbar with various application icons and system status information.



2. Create 2 Read Replicas in different availability zones for better infrastructure availability.



EdgeDatabases | Aurora and RDS | us-east-1aurora-replica-demo-instance-1

https://251985476962-ztjdprc-us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#create-read-replica&id=aurora-replica-demo-instance-1&is-cluster=true&isHermesDB=false

Search[Alt+S]United States (N. Virginia)Account ID: 2519-8547-6962root

Aurora and RDS > Databases > Add reader

Connectivity

Public access

☒ Publicly accessible

RDS assigns a public IP address to the database. Amazon EC2 instances and other resources outside of the VPC can connect to your database. Resources inside the VPC can also connect to the database. Choose one or more VPC security groups that specify which resources can connect to the database.

☐ Not publicly accessible

No IP address is assigned to the DB instance. EC2 instances and devices outside the VPC can't connect.

Availability Zone

info

The EC2 Availability Zone that the database will be created in.

us-east-1b

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.

rdc-ca-rsa2048-g1 (default)

Expiry: May 26, 2061

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

Additional configuration

Database authentication

info

Password authentication is always active for your database engine. You can also turn on additional authentication methods for your database below.

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EdgeDatabases | Aurora and RDS | us-east-1aurora-replica-demo-instance-1

https://251985476962-ztjdprc-us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#create-read-replica&id=aurora-replica-demo-instance-1&is-cluster=true&isHermesDB=false

Search[Alt+S]United States (N. Virginia)Account ID: 2519-8547-6962root

Aurora and RDS > Databases > Add reader

Add reader

You are creating a replica DB instance from a source DB instance. This new DB instance will have the source DB instance's DB security groups and DB parameter groups.

Settings

Aurora replica source

Source DB cluster identifier

aurora-replica-demo-instance-1

Role: Writer Instance Parent: aurora-replica-demo

DB instance identifier

This is the unique key that identifies a DB instance. This parameter is stored as a lowercase string (for example, mydbinstance).

aurora-replica-2

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

☐ Include previous generation classes

☐ Serverless v2

☒ Memory optimized classes (includes r classes)

☐ Burstable classes (includes t classes)

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EdgeDatabases | Aurora and RDS | us-east-1aurora-replica-demo-instance-1

https://251985476962-ztjdpcr.us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#create-read-replica&id=aurora-replica-demo-instance-1&is-cluster=true&isHermesDB=false

Search[Alt+S]United States (N. Virginia)Account ID: 2519-8547-6962root

Aurora and RDSDatabasesAdd reader

Availability Zone info

The EC2 Availability Zone that the database will be created in.

us-east-1c

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)
Expiry: May 26, 2061

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

Additional configuration

Database authentication info

Password authentication is always active for your database engine. You can also turn on additional authentication methods for your database below.

☐ IAM database authentication
Authenticates using IAM database authentication.

☐ Kerberos authentication
Authenticates using Kerberos authentication through an AWS Directory Service for Microsoft Active Directory.

Tags - optional

A tag consists of a case-sensitive key-value pair.

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EdgeDatabases | Aurora and RDS | us-east-1

https://251985476962-ztjdpcr.us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#databases:

Search[Alt+S]United States (N. Virginia)Account ID: 2519-8547-6962root

Aurora and RDS

Databases (4)

Filter by databases

DB identifier	Status	Role	Engine	Region	Size
aurora-replica-demo	Available	Regional cluster	Aurora MySQL	us-east-1	3 instances
aurora-replica-1	Available	Reader instance	Aurora MySQL	us-east-1b	db.r5.large
aurora-replica-2	Available	Reader instance	Aurora MySQL	us-east-1c	db.r5.large
aurora-replica-demo-instance-1	Available	Writer instance	Aurora MySQL	us-east-1a	db.r5.large

Create database

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