

Module-6: Database Services Assignment - 3

You have been asked to:

1. Create an Amazon Aurora database with 2 Read Replicas
-



aws

Services



RDS > Create database

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



Edition

Amazon Aurora MySQL-Compatible Edition

Amazon Aurora PostgreSQL-Compatible Edition



Edition

- Amazon Aurora MySQL-Compatible Edition
- Amazon Aurora PostgreSQL-Compatible Edition

Engine version [Info](#)

View the engine versions that support the following database features.

▶ **Show filters**

Available versions (56/56) [Info](#)

Aurora (MySQL 5.7) 2.10.2



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.

Settings

DB cluster identifier [Info](#)

Type a name for your DB cluster. The name must be unique across all DB clusters owned by your AWS account in the current AWS Region.

vaibhav-aurora

The DB cluster identifier is case-insensitive, but is stored as all lowercase (as in "mydbcluster"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ Credentials Settings

Master username [Info](#)

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



Services



▼ Credentials Settings

Master username [Info](#)

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

admin

1 to 32 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](#)

.....

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

Confirm 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](#)

- Memory optimized classes (includes r classes)
- Burstable classes (includes t classes)

db.t3.small

2 vCPUs 2 GiB RAM Network: 2,085 Mbps

- Include previous generation classes

Availability & durability

Availability & durability

Multi-AZ deployment [Info](#)

- Create an Aurora Replica or Reader node in a different AZ (recommended for scaled availability)
Creates an Aurora Replica for fast failover and high availability.
- Don't create an Aurora Replica

Connectivity [Info](#)



Compute resource

Choose whether to set up a connection to a compute resource for this database. Setting up a connection will automatically change connectivity settings so that the compute resource can connect to this database.

- Don't connect to an EC2 compute resource
Don't set up a connection to a compute resource for this database. You can manually set up a connection to a compute resource later.

- Connect to an EC2 compute resource
Set up a connection to an EC2 compute resource for this database.

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

Choose the VPC. The VPC defines the virtual networking environment for this DB cluster.

Default VPC (vpc-0b03f01cba75ff067)



Only VPCs with a corresponding DB subnet group are listed.

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

DB Subnet group [Info](#)

Choose the DB subnet group. The DB subnet group defines which subnets and IP ranges the DB cluster can use in the VPC that you selected.

default-vpc-0b03f01cba75ff067



Public access [Info](#)



Public access Info

Yes

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

No

RDS doesn't assign a public IP address to the cluster. Only Amazon EC2 instances and other resources inside the VPC can connect to your cluster. Choose one or more VPC security groups that specify which resources can connect to the cluster.

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

default

► Additional configuration

Database authentication

Database authentication options Info

Password authentication

Authenticates using database passwords.

Password and IAM database authentication

Authenticates using the database password and user credentials through AWS IAM users and roles.



Database authentication

Database authentication options [Info](#)

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Monitoring

Monitoring

Enable Enhanced monitoring

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

▼ Additional configuration

Database options, encryption turned on, failover, backup turned on, backtrack turned off, maintenance, CloudWatch Logs, delete protection turned off.

Database options

Initial database name [Info](#)

vaibhav_aurora_database

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

DB cluster parameter group [Info](#)



Services



- 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

- i** Ensure that general, slow query, and audit logs are turned on. Error logs are enabled by default. [Learn more](#)

Maintenance

Auto minor version upgrade [Info](#)

- Enable auto minor version upgrade

Enabling auto minor version upgrade will automatically upgrade to new minor versions as they are released. The automatic upgrades occur during the maintenance window for the database.

Maintenance window [Info](#)

Select the period you want pending modifications or maintenance applied to the database by Amazon RDS.

- Choose a window
 No preference

Deletion protection

- Enable deletion protection

Protects the database from being deleted accidentally. While this option is enabled, you can't delete the database.

- i** 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



N. Virginia

VAIBHAV VERMA

RDS > Databases

Databases

 Group resources

Modify

Actions ▾

Restore from S3

Create database

Filter by databases

< 1 >

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU	Current activity
vaibhav-aurora	Regional cluster	Aurora MySQL	us-east-1	2 instances	<input checked="" type="checkbox"/> Available	-	
vaibhav-aurora-instance-1	Writer instance	Aurora MySQL	us-east-1b	db.t3.small	<input checked="" type="checkbox"/> Available	9.49%	3 Selects/Sel
vaibhav-aurora-instance-1-us-east-1d	Reader instance	Aurora MySQL	us-east-1d	db.t3.small	<input checked="" type="checkbox"/> Available	13.91%	2 Selects/Sel



Group resources **C** Modify Actions ▲ Restore from S3 Create database

Stop temporarily
Delete
Add AWS Region
Add reader 
Create cross-Region read replica
Create clone
Promote
Take snapshot
Restore to point in time
Backtrack
Add replica auto scaling

< 1 > 

Current activity

10.89%	3 Selects
10.87%	2 Selects

Add reader

You are creating an Aurora reader DB instance in the DB cluster.

Settings

Aurora replica source

vaibhav-aurora-instance-1 (DB cluster: vaibhav-aurora)



DB instance identifier

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

reader



Instance configuration

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

DB instance class [Info](#)

- Memory optimized classes (includes r classes)
- Burstable classes (includes t classes)

db.t3.small

2 vCPUs 2 GiB RAM Network: 2,085 Mbps



- Include previous generation classes

AWS Region

AWS Region

Destination Region

The Region where the replica will be launched.

US East (N. Virginia)



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.

No preference



► Additional configuration

Database authentication

Database authentication options [Info](#)

Password authentication

Authenticates using database passwords.

Password and IAM database authentication

Authenticates using the database password and user credentials through AWS IAM users and

Database authentication

Database authentication options [Info](#)

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Authenticates using the database password and user credentials through AWS IAM users and roles.

▼ Additional configuration

encryption turned off, failover, Enhanced Monitoring turned off, maintenance, CloudWatch Logs, delete protection turned off

DB parameter group [Info](#)

default.aurora-mysql5.7



Failover priority

No preference



Encryption

Enable encryption

Choose to encrypt the given instance. Master key IDs and aliases appear in the list after they have been created using the AWS Key Management Service console. [Info](#)

Monitoring

Enable Enhanced monitoring

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

Maintenance

Auto minor version upgrade [Info](#)

Enable auto minor version upgrade

Additional configuration

encryption turned off, failover, Enhanced Monitoring turned off, maintenance, CloudWatch Logs, delete protection turned off

DB parameter group [Info](#)

default.aurora-mysql5.7



Failover priority

No preference



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Enable encryption

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Maintenance

Auto minor version upgrade [Info](#)

Enable auto minor version upgrade

Enabling auto minor version upgrade will automatically upgrade to new minor versions as they are released. The automatic upgrades occur during the maintenance window for the database.

Deletion protection

Enable deletion protection

Protects the database from being deleted accidentally. While this option is enabled, you can't delete the database.

Cancel

Add reader

Creating replica reader in US East (N. Virginia).

Your database might take a few minutes to launch.

RDS > Databases

Databases

Group resources



Modify

Actions ▾

Restore from S3

Create database

< 1 >

DB Identifier	Role	Engine	Region & AZ	Size	Status	CPU	Current activity
vaibhav-aurora	Regional cluster	Aurora MySQL	us-east-1	3 instances	<input checked="" type="checkbox"/> Available	-	
vaibhav-aurora-instance-1	Writer instance	Aurora MySQL	us-east-1b	db.t3.small	<input checked="" type="checkbox"/> Available		
reader	Reader instance	Aurora MySQL	us-east-1a	db.t3.small	<input checked="" type="checkbox"/> Available		
vaibhav-aurora-instance-1-us-east-1d	Reader instance	Aurora MySQL	us-east-1d	db.t3.small	<input checked="" type="checkbox"/> Available		

Creating replica reader in US East (N. Virginia).

Your database might take a few minutes to launch.

RDS > Databases

Databases

Group resources



Modify

Restore from S3

Create database

DB identifier	Role	Engine	Region & AZ	Size	Current activity
vaibhav-aurora	Regional cluster	Aurora MySQL	us-east-1	3.1 GB	
vaibhav-aurora-instance-1	Writer instance	Aurora MySQL	us-east-1b	db.1.0	11.47% 3 Selects,
reader	Reader instance	Aurora MySQL	us-east-1a	db.1.0	10.77% 2 Selects,
vaibhav-aurora-instance-1-us-east-1d	Reader instance	Aurora MySQL	us-east-1d	db.1.0	11.11% 2 Selects,

Actions ▲

- Stop temporarily
- Delete
- Add AWS Region
- Add reader**
- Create cross-Region read replica
- Create clone
- Promote
- Take snapshot
- Restore to point in time
- Backtrack
- Add replica auto scaling

< 1 >

Add reader

You are creating an Aurora reader DB instance in the DB cluster.

Settings

Aurora replica source

vaibhav-aurora-instance-1 (DB cluster: vaibhav-aurora)



DB instance identifier

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

reader-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](#)

- Memory optimized classes (includes r classes)
- Burstable classes (includes t classes)

db.t3.small

2 vCPUs 2 GiB RAM Network: 2,085 Mbps



- Include previous generation classes

AWS Region

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.

No preference



► Additional configuration

Database authentication

Database authentication options [Info](#)

Password authentication

Authenticates using database passwords.

Password and IAM database authentication

Authenticates using the database password and user credentials through AWS IAM users and roles.

▼ Additional configuration

encryption turned off, failover, Enhanced Monitoring turned off, maintenance, CloudWatch Logs, delete protection turned off

DB parameter group [Info](#)

Additional configuration

encryption turned off, failover, Enhanced Monitoring turned off, maintenance, CloudWatch Logs, delete protection turned off

DB parameter group [Info](#)

default.aurora-mysql5.7



Failover priority

No preference



Encryption

Enable encryption

Choose to encrypt the given instance. Master key IDs and aliases appear in the list after they have been created using the AWS Key Management Service console. [Info](#)

Monitoring

Enable Enhanced monitoring

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

Maintenance

Auto minor version upgrade [Info](#)

Enable auto minor version upgrade

Enabling auto minor version upgrade will automatically upgrade to new minor versions as they are released. The automatic upgrades occur during the maintenance window for the database.

Deletion protection

Enable deletion protection

Protects the database from being deleted accidentally. While this option is enabled, you can't delete the database.

Cancel

Add reader

Creating replica reader-2 in US East (N. Virginia).

Your database might take a few minutes to launch.

Creating replica reader in US East (N. Virginia).

Your database might take a few minutes to launch.

RDS > Databases > vaibhav-aurora > reader-2

reader-2

[Modify](#)[Actions ▾](#)

Related

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU	Current activi
vaibhav-aurora	Regional cluster	Aurora MySQL	us-east-1	4 instances	Available	-	
vaibhav-aurora-instance-1	Writer instance	Aurora MySQL	us-east-1b	db.t3.small	Available	11.19%	3 Sele
reader	Reader instance	Aurora MySQL	us-east-1a	db.t3.small	Available	10.56%	2 Sele
reader-2	Reader instance	Aurora MySQL	us-east-1b	db.t3.small	Available	0.00%	0 Sele
vaibhav-aurora-instance-1-us-east-1d	Reader instance	Aurora MySQL	us-east-1d	db.t3.small	Available	9.94%	2 Sele

[Connectivity & security](#)[Monitoring](#)[Logs & events](#)[Configuration](#)[Maintenance](#)[Tags](#)

Connectivity & security