

Laboratorio 4: Trabajo con EBS

Tarea 1: Crear un grupo de seguridad para la instancia de base de datos de RDS

Create security group [Info](#)

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

Basic details

Security group name [Info](#)

DB Security Group

Name cannot be edited after creation.

Description [Info](#)

Permit access from Web Security Group

VPC [Info](#)

vpc-011ff32d039ed061e (Lab VPC)

Inbound rules [Info](#)

Type [Info](#) **Protocol** [Info](#) **Port range** [Info](#) **Source** [Info](#) **Description - optional** [Info](#)

MySQL/Aurora TCP 3306 Custom sg-0839f4e22b785212b Delete

Add rule

Tarea 2: Crear un grupo de subredes de base de datos

Create DB subnet group

To create a new subnet group, give it a name and a description, and choose an existing VPC. You will then be able to add subnets related to that VPC.

Subnet group details

Name

You won't be able to modify the name after your subnet group has been created.

DB-Subnet-Group

Must contain from 1 to 255 characters. Alphanumeric characters, spaces, hyphens, underscores, and periods are allowed.

Description

DB-Subnet-Group

VPC

Choose a VPC identifier that corresponds to the subnets you want to use for your DB subnet group. You won't be able to choose a different VPC identifier after your subnet group has been created.

Lab VPC (vpc-011ff32d039ed061e)
4 Subnets, 2 Availability Zones

Add subnets

Availability Zones

Choose the Availability Zones that include the subnets you want to add.

Choose an availability zone

us-east-1a us-east-1b

Subnets

Choose the subnets that you want to add. The list includes the subnets in the selected Availability Zones.

Select subnets

Public Subnet 1
Subnet ID: subnet-0451d7b707ce3e396 CIDR: 10.0.0.0/24

Private Subnet 2
Subnet ID: subnet-02e43ed4e0638051c CIDR: 10.0.3.0/24

For Multi-AZ DB clusters, you must select 3 subnets in 3 different Availability Zones.

Subnets selected (2)

Availability zone	Subnet name	Subnet ID	CIDR block
us-east-1a	Public Subnet 1	subnet-0451d7b707ce3e396	10.0.0.0/24
us-east-1b	Private Subnet 2	subnet-02e43ed4e0638051c	10.0.3.0/24

Cancel Create

Tarea 3: Crear una instancia de base de datos de Amazon RDS

Create database | Aurora and RDS

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

Verify it's you

New Chrome available

aws

Search

[Alt+S]

United States (N. Virginia)

Account ID: 0741-2760-5466

votlabs/user4477288=Vadim_Elshin

Aurora and RDS > Databases > Create database

1

2

3

Create database [Info](#)


Choose a database creation method


☒ Full configuration
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


☐ Microsoft SQL Server


☐ IBM Db2


Edition

☒ MySQL Community

CloudShell

Feedback

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Aurora and RDS > Databases > Create database

1

2

3

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](#)


Availability and durability



Deployment options [Info](#)

Choose the deployment option that provides the availability and durability needed for your use case. AWS is committed to a certain level of uptime depending on the deployment option you choose. Learn more in the [Amazon RDS service level agreement \(SLA\)](#).

☐ Multi-AZ DB cluster deployment (3 instances)
Creates a primary DB instance with two readable standbys in separate Availability Zones. This setup provides:


- 99.95% uptime
- Redundancy across Availability Zones
- Increased read capacity
- Reduced write latency


Write/read endpoint
AZ 1

Primary instance + SSD

Reader endpoints
AZ 2

Readable standby + SSD
AZ 3

Readable standby + SSD

☒ Multi-AZ DB instance deployment (2 instances)
Creates a primary DB instance with a non-readable standby instance in a separate Availability Zone. This setup provides:


- 99.95% uptime
- Redundancy across Availability Zones

Write/read endpoint
AZ 1

Primary instance

Standby (no endpoint)
AZ 2

Standby

☐ Single-AZ DB instance deployment (1 instance)
Creates a single DB instance without standby instances. This setup provides:

- 99.5% uptime
- No data redundancy

Write/read endpoint
AZ 1

Primary instance

Aurora and RDS > Databases > Create database

1

2

3

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.

lab-db

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

Master username [Info](#)

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

main

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: [Average](#)

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

Confirm master password [Info](#)

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Aurora and RDS

Databases

Create database

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

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 vCPUs1 GiB RAMEBS Bandwidth: Up to 2,085 MbpsNetwork: Up to 5 Gbps

Storage

Storage type

Info

Provisioned IOPS SSD (io2) storage volumes are now available.

General Purpose SSD (gp2)

Baseline performance determined by volume size

Allocated storage

Info

20

GiB

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

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 instance.

Lab VPC (vpc-011ff32d039ed061e)

4 Subnets, 2 Availability Zones

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 instance can use in the VPC that you selected.

db-subnet-group

2 Subnets, 2 Availability Zones

Public access

Info

Yes

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.

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

DB Security Group

X

Monitoring

Info

Choose monitoring tools for this database. Database Insights provides a combined view of Performance Insights and Enhanced Monitoring for your fleet of databases. Database Insights pricing is separate from RDS monthly estimates. See Amazon CloudWatch pricing 12.

Database Insights - Advanced

Retains 15 months of performance history

Fleet-level monitoring

Integration with CloudWatch Application Signals

Database Insights - Standard

Additional monitoring settings

Enhanced Monitoring, CloudWatch Logs and DevOps Guru

Enhanced 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

iam-db-auth-error log

Slow query log

IAM role

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

RDS service-linked role

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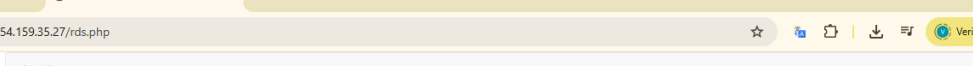
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The screenshot shows the AWS Management Console interface for an Amazon RDS database instance named 'lab-db'. The browser address bar indicates the URL is 'us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#databaseid=lab-dbis-cluster=false'. The console header shows the user is logged in as 'vociabs/user4477288-Vadim_Etshin' from 'United States (N. Virginia)'. The left-hand navigation pane is open, showing options like 'Dashboard', 'Databases', 'Query editor', 'Performance insights', 'Snapshots', 'Exports in Amazon S3', 'Automated backups', 'Reserved instances', 'Proxies', 'Subnet groups', 'Parameter groups', 'Option groups', 'Custom engine versions', 'Zero-ETL integrations', 'Events', and 'Event subscriptions'. The main content area has a green banner at the top stating 'Successfully created database lab-db' with a 'View connection details' button. Below this, the 'lab-db' instance details are shown in a table format. The 'Summary' section includes: DB identifier 'lab-db', CPU, Status 'Modifying', Role 'Instance', Current activity, Region & AZ 'us-east-1b', and Recommendations. A horizontal tab bar below the summary includes 'Connectivity & security' (selected), 'Monitoring', 'Logs & events', 'Configuration', 'Zero-ETL integrations', 'Maintenance & backups', and 'Data migration'. The 'Connectivity & security' tab is active, displaying: Endpoint 'lab-db.cb1d1clctboeth.us-east-1.rds.amazonaws.com', Port '3306', Networking 'Availability Zone us-east-1b', VPC 'Lab VPC (vpc-011f32d039ed061e)', Security 'VPC security groups DB Security Group (sg-0024fb1736fca9839) Active', and Publicly accessible status.

Tarea 4: Interactuar con la base de datos

The screenshot shows a web browser window with the following details:

- Browser Tabs:**
 - lab-db - Database Details | Aurora
 - AWS Technical Essentials v4.1
- Address Bar:**
 - Not secure
 - 54.159.35.27/load.php
 - Icons for star, share, print, and download.
 - Buttons: Verify it's you, New Chrome available
- Page Content:**
 - AWS logo
 - Load Test RDS
 - Generating CPU Load! (auto refresh in 5 seconds)
 - Current CPU Load: **100%**



The screenshot shows a web browser window with the address bar displaying '54.159.35.27/rds.php'. The page title is 'Load Test RDS'. The main content area displays an 'Address Book' with a table of contacts.

Last name	First name	Phone	Email	Admin
Doe	Jane	010-110-1101	janed@someotheraddress.org	Add Contact Edit Remove
Elshin	Vadim	1234567889	vadels@alu.edu.gva.es	Edit Remove
Johnson	Roberto	123-456-7890	roberto@someaddress.com	Edit Remove