

36°

Lab - AWS re/Start

Introducción a Amazon Aurora



Amazon
Aurora



Tarea 01

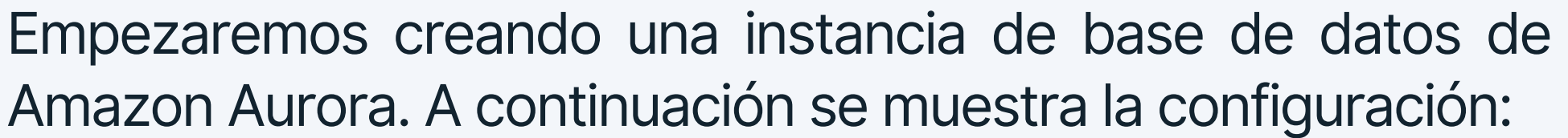


Explorando Amazon Aurora

A continuación, se muestra los objetivos del laboratorio:

- Crear una instancia de Aurora
- Conectarse a una instancia de Amazon Elastic Compute Cloud (Amazon EC2)
- Configurar la instancia de Amazon EC2 para conectarse a Aurora
- Consultar la instancia de Aurora

Nota. Aurora es un **motor de base de datos** relacional completamente administrado, compatible con MySQL que combina el rendimiento y la fiabilidad de las bases de datos comerciales de alto nivel con la simplicidad y la rentabilidad de las bases de datos de código abierto. Brinda **hasta cinco veces más rendimiento que MySQL** sin requerir cambios a la mayoría de sus aplicaciones insistentes que usan bases de datos MySQL.



Tarea 01



Y esta es la configuración de networking, donde seleccionamos el grupo de seguridad de la DB, así como el grupo de subredes disponibles para esta instancia.

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

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

LabVPC (vpc-011fad051fc4a25e3)
2 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 cluster can use in the VPC that you selected.

dbsubnetgroup
2 Subnets, 2 Availability Zones

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

DBSecurityGroup X

Tarea 01



Nota. Es necesario entender que son los *Aurora Endpoints* (*Puntos de enlace de Aurora*). Uno de ellos es el de *clúster*, el cual se conecta a la base de datos primaria y permite realizar las operaciones de escritura. Me refiero a las inserciones, actualizaciones, eliminaciones y cambios de DDL. También puede usar el punto de enlace de clúster para operaciones de lectura, como consultas.

Otro tipo es el de *lector*, el cual se conecta a una BD réplica. Sirve para dirigir las solicitudes de lectura hacia las réplicas disponibles. Con ayuda de los puntos de enlace, podemos dirigirnos a la BD primaria (en caso de necesitar hacer alguna acción de escritura - *cluster*) o a las réplicas (para lecturas - *reader*)

```
us-west-2.console.aws.amazon.com/systems-manager/session-manager/i-05e348bd72ef910a8?region=us-west-2
Session ID: 783c9c4b-e126-4728-9951-0a7c5c23e5f5-Oba8eef940432404e Instance ID: i-05e348bd72ef910a8 Terminate

=====
Package Arch Version Repository Size
-----
Installing: mariadb x86_64 1:5.5.68-1.amzn2.0.1 amzn2-core 8.8 M
=====
Transaction Summary
-----
Install 1 Package

Total download size: 8.8 M
Installed size: 49 M
Downloading packages:
mariadb-5.5.68-1.amzn2.0.1.x86_64.rpm | 8.8 MB 00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Installing : 1:mariadb-5.5.68-1.amzn2.0.1.x86_64 1/1
Verifying : 1:mariadb-5.5.68-1.amzn2.0.1.x86_64 1/1
Installed:
mariadb.x86_64 1:5.5.68-1.amzn2.0.1

Complete!
sh-4.2$ mysql -u admin --password='admin123' -h aurora.cluster-cz20mm2ci9cq.us-west-2.rds.amazonaws.com
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MySQL connection id is 83
Server version: 5.7.12 MySQL Community Server (GPL)

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| world |
+-----+
5 rows in set (0.00 sec)

MySQL [(none)]>
```

Tarea 01



Ahora, como hemos ingresado por el *punto de enlace cluster* (de la BD primaria), podemos insertar algunos datos en la tabla *country* de la db *world*

```
MySQL [(none)]> use world;
Database changed
MySQL [world]> CREATE TABLE `country` (
  -> `Code` CHAR(3) NOT NULL DEFAULT '',
  -> `Name` CHAR(52) NOT NULL DEFAULT '',
  -> `Continent` enum('Asia','Europe','North America','Africa','Oceania','Antarctica','South America') NOT NULL DEFAULT 'Asia',
  -> `Region` CHAR(26) NOT NULL DEFAULT '',
  -> `SurfaceArea` FLOAT(10,2) NOT NULL DEFAULT '0.00',
  -> `IndepYear` SMALLINT(6) DEFAULT NULL,
  -> `Population` INT(11) NOT NULL DEFAULT '0',
  -> `LifeExpectancy` FLOAT(3,1) DEFAULT NULL,
  -> `GNP` FLOAT(10,2) DEFAULT NULL,
  -> `GNPold` FLOAT(10,2) DEFAULT NULL,
  -> `LocalName` CHAR(45) NOT NULL DEFAULT '',
  -> `GovernmentForm` CHAR(45) NOT NULL DEFAULT '',
  -> `Capital` INT(11) DEFAULT NULL,
  -> `Code2` CHAR(2) NOT NULL DEFAULT '',
  -> PRIMARY KEY (`Code`)
  -> );
Query OK, 0 rows affected (0.04 sec)

MySQL [world]> INSERT INTO `country` VALUES ('GAB','Gabon','Africa','Central Africa',267668.00,1960,1226000,50.1,5493.00,5279.00,'Le Gabon','Republic',902,'GA');
Query OK, 1 row affected (0.01 sec)

MySQL [world]>
MySQL [world]> INSERT INTO `country` VALUES ('IRL','Ireland','Europe','British Islands',70273.00,1921,3775100,76.8,75921.00,73132.00,'Ireland/Éire','Republic',1447,'IE');
Query OK, 1 row affected (0.01 sec)

MySQL [world]>
MySQL [world]> INSERT INTO `country` VALUES ('THA','Thailand','Asia','Southeast Asia',513115.00,1350,61399000,68.6,116416.00,153907.00,'Prathet Thai','Constitutional Monarchy',3320,'TH');
Query OK, 1 row affected (0.01 sec)

MySQL [world]>
MySQL [world]> INSERT INTO `country` VALUES ('CRI','Costa Rica','North America','Central America',51100.00,1821,4023000,75.8,10226.00,9757.00,'Costa Rica','Republic',584,'CR');
Query OK, 1 row affected (0.01 sec)

MySQL [world]>
MySQL [world]> INSERT INTO `country` VALUES ('AUS','Australia','Oceania','Australia and New Zealand',7741220.00,1901,18886000,79.8,351182.00,392911.00,'Australia','Constitutional Monarchy, Federation',135,'AU');
Query OK, 1 row affected (0.02 sec)
```

Y vemos los nuevos registros, pero de aquellos países su Producto Bruto Interno es mayor a 35000 y tienen una población mayor a 10M de personas:

```
MySQL [world]> SELECT * FROM country WHERE GNP > 35000 and Population > 10000000;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Code | Name      | Continent | Region              | SurfaceArea | IndepYear | Population | LifeExpectancy | GNP      | GNPold  | LocalName | GovernmentForm | Capital | Code2 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| AUS  | Australia | Oceania   | Australia and New Zealand | 7741220.00 | 1901      | 18886000  | 79.8           | 351182.00 | 392911.00 | Australia | Constitutional Monarchy, Federation | 135    | AU   |
| THA  | Thailand  | Asia      | Southeast Asia         | 513115.00  | 1350      | 61399000  | 68.6           | 116416.00 | 153907.00 | Prathet Thai | Constitutional Monarchy | 3320   | TH   |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.02 sec)

MySQL [world]>
```