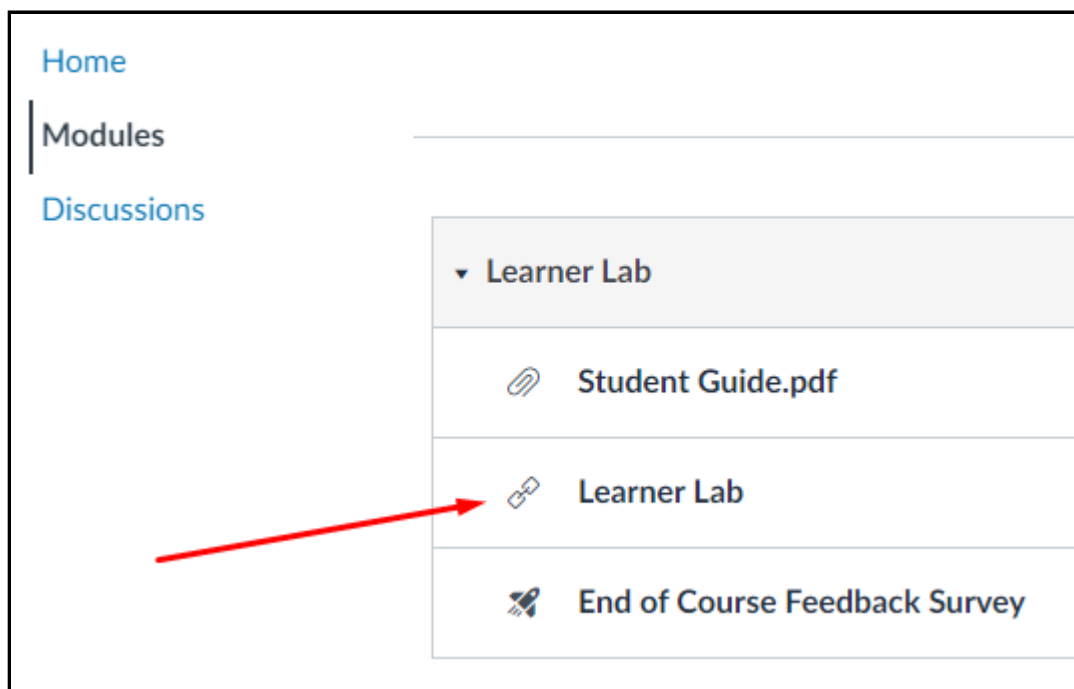
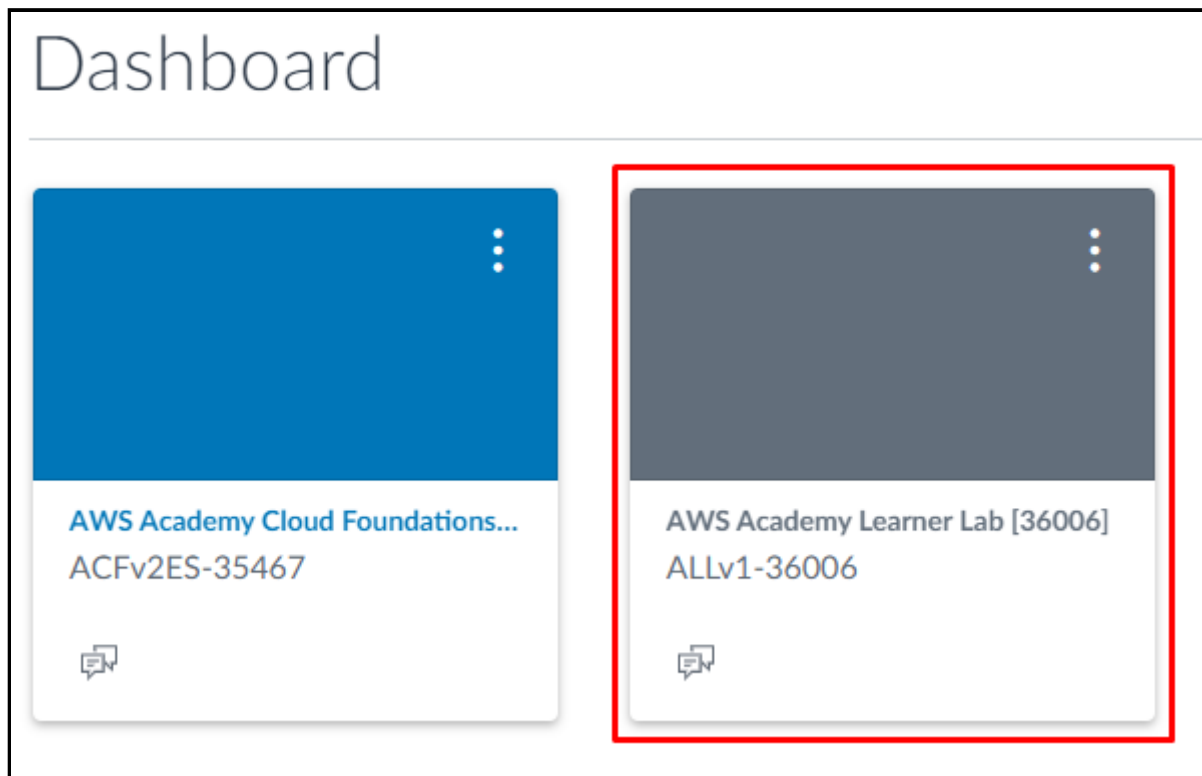


SQL SERVER EN AWS

CHRISTIAN MILLÁN SORIA

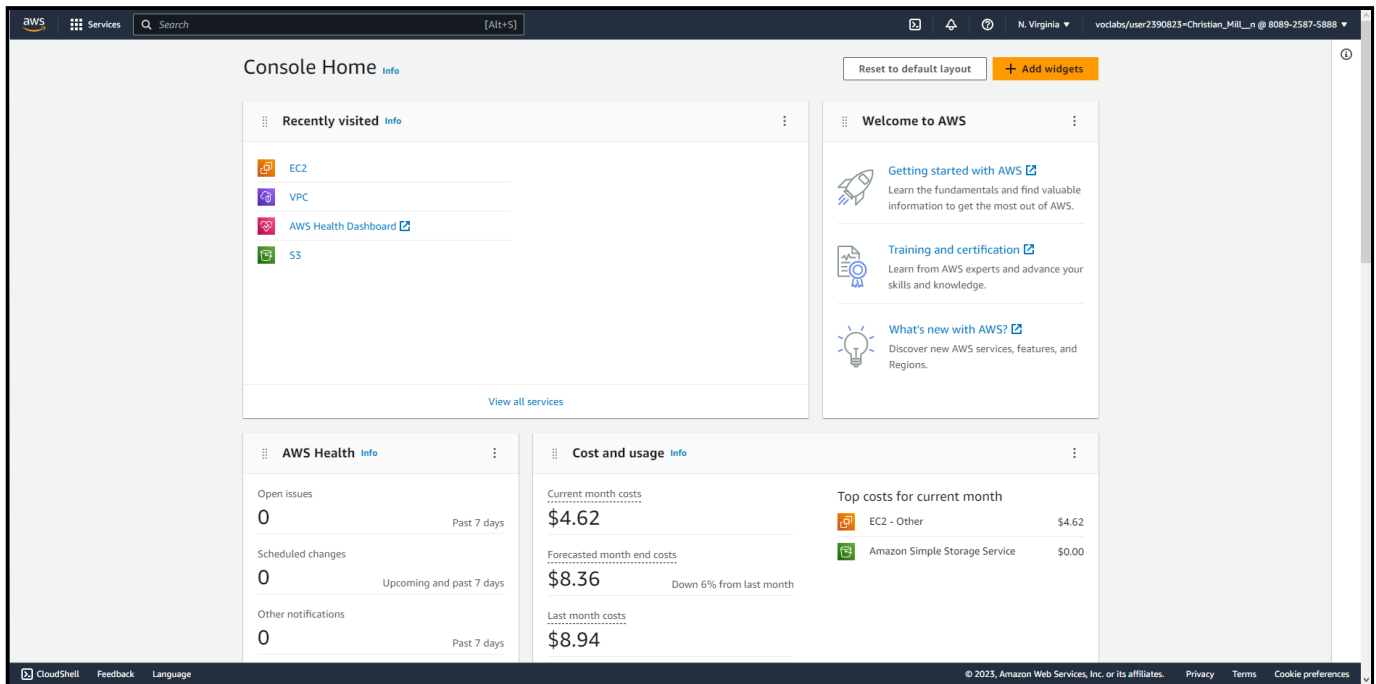
Accedemos primero a nuestra cuenta de AWS. Entramos en el "laboratorio" de AWS.



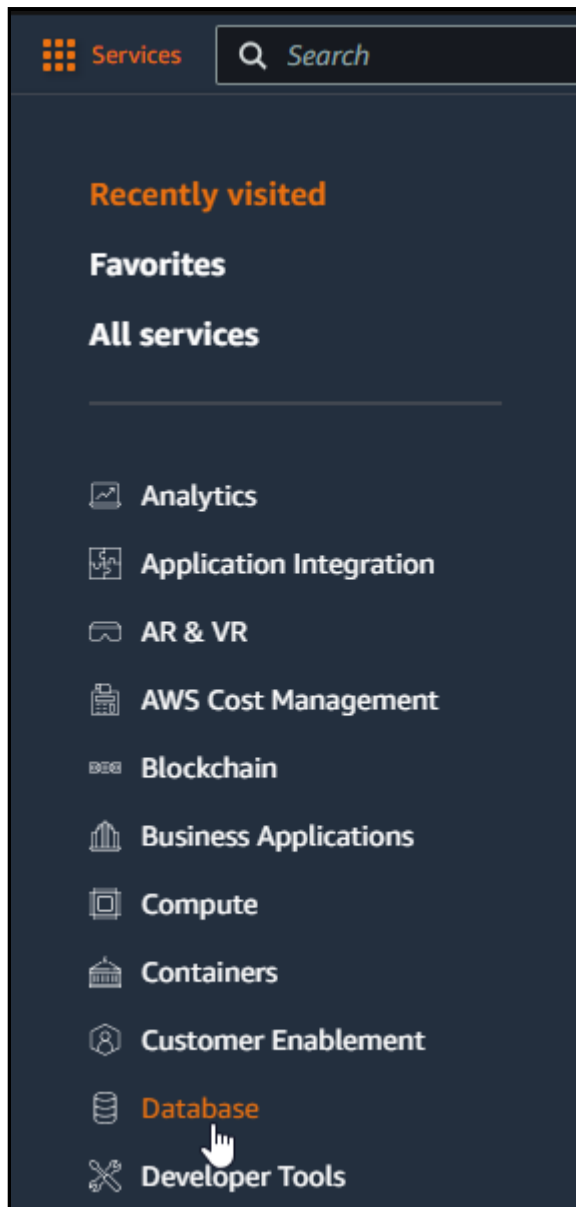
Encendemos el entorno de trabajo.



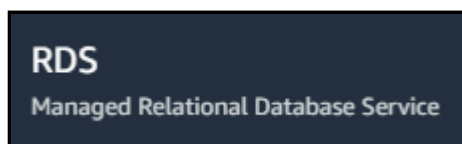
Accedemos al panel de control.



En el apartado de "Servicios", hacemos clic en la opción "Base de datos".



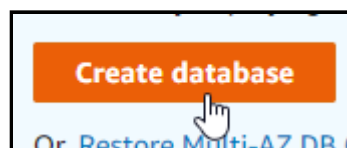
Dentro de esta opción, entramos en la de "RDS".



Nos encontramos con otro panel de control:

The screenshot shows the Amazon RDS console interface. At the top, there's a navigation bar with the AWS logo, 'Services', a search bar, and a user profile. A left-hand sidebar contains a menu with 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', 'Events', 'Event subscriptions', 'Recommendations', and 'Certificate update'. The main content area features a top banner with a message about the new Multi-AZ deployment option for MySQL and PostgreSQL, including a 'Create database' button. Below this is a 'Resources' section listing various RDS resources like DB Instances, DB Clusters, Reserved instances, Snapshots, Manual DB Cluster, DB Instance, Automated DB Cluster, DB Instance, Recent events, and Event subscriptions. To the right of the Resources section is a 'Recommended for you' section with links to 'Test Your DR Strategy in Minutes', 'Migrate SSRS to RDS for SQL Server', 'Build RDS Operational Tasks', and 'Time-Series Tables in PostgreSQL'. At the bottom of the main content area is a 'Create database' section with a brief description of Amazon RDS and two buttons: 'Restore from S3' and 'Create database'. The footer of the console shows 'CloudShell', 'Feedback', 'Language', and copyright information for Amazon Web Services, Inc.

Hacemos clic en la opción "Crear base de datos".



De esta forma, entramos a la configuración de la nueva base de datos a crear.

[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](#)


☐ Aurora (MySQL Compatible)



☐ Aurora (PostgreSQL Compatible)


☐ MySQL


☐ MariaDB


☒ PostgreSQL


☐ Oracle


☐ Microsoft SQL Server


Para empezar, dejamos el método de creación de la base de datos en tipo "Estándar".

☒ **Standard create**
You set all of the configuration options, including ones for availability, security, backups, and maintenance.

Seleccionamos el tipo de servidor que vamos a crear:



Dejamos el Amazon RDS por defecto.

Database management type [Info](#)

☒ **Amazon RDS**
RDS fully manages your database, including automatic patching. Choose this option if you don't need to customize your environment.

☐ **Amazon RDS Custom**
RDS manages your database and gives you privileged access to the OS. Use this option if you want to customize the database, OS, and infrastructure.

Hacemos lo mismo con la edición a instalar.

Edition

☒ **SQL Server Express Edition**
Affordable database management system that supports database sizes up to 10 GB.

☐ **SQL Server Web Edition**
In accordance with Microsoft's licensing policies, it can only be used to support public and Internet-accessible webpages, websites, web applications, and web services.

☐ **SQL Server Standard Edition**
Core data management and business intelligence capabilities for mission-critical applications and mixed workloads.

☐ **SQL Server Enterprise Edition**
Comprehensive high-end capabilities for mission-critical applications with demanding database workloads and business intelligence requirements.

De igual manera, la versión del motor será la que viene por defecto (la más actualizada).

Engine Version

SQL Server 2019 15.00.4236.7.v1

Establecemos un nombre para la base de datos.

database-1

Elegimos un nombre para el usuario administrador de la base de datos.

Master username [Info](#)
Type a login ID for the master user of your DB instance.

Y le establecemos una contraseña.

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 master password [Info](#)

Dejamos el hardware dedicado a la base de datos por defecto.

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

DB instance class [Info](#)
☒ Burstable classes (includes t classes)

db.t3.small

2 vCPUs 2 GiB RAM Network: 2,085 Mbps

▼

☐ Include previous generation classes

Dejamos también el tamaño de la base de datos en 20GB.

Storage

Storage type [Info](#)

General Purpose SSD (gp2)

Baseline performance determined by volume size

Allocated storage [Info](#)

20

GiB

The minimum value is 20 GiB and the maximum value is 16,384 GiB

Provisioning less than 100 GiB of General Purpose (SSD) storage for high throughput workloads could result in higher latencies upon exhaustion of the initial General Purpose (SSD) IO credit balance. [Learn more](#) [↗](#)

Storage autoscaling [Info](#)

Provides dynamic scaling support for your database's storage based on your application's needs.

☒

Enable storage autoscaling
Enabling this feature will allow the storage to increase after the specified threshold is exceeded.

Maximum storage threshold [Info](#)

Charges will apply when your database autoscales to the specified threshold

1000

GiB

The minimum value is 22 GiB and the maximum value is 16,384 GiB

Habilitamos el acceso público a la misma.

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.

Una vez hecho todo esto, creamos la base de datos.

Estimated monthly costs

DB instance	32.12 USD
Storage	2.30 USD
Total	34.42 USD

This billing estimate is based on on-demand usage as described in [Amazon RDS Pricing](#). Estimate does not include costs for backup storage, IOs (if applicable), or data transfer.

Estimate your monthly costs for the DB Instance using the [AWS Simple Monthly Calculator](#).

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

Si es la primera vez, se producirá un error en la creación. Esto se debe a la configuración del firewall.

Failed to turn on Enhanced Monitoring for database null because of missing permissions

User: am:awssts::808925875888:assumed-role/voclabs/user2390823-Christian_Mill_n is not authorized to perform: iam:CreateRole on resource: am:aws:iam::808925875888:role/rds-monitoring-role because no identity-based policy allows the iam:CreateRole action

Creating database database-1

Your database might take a few minutes to launch. You can use settings from database-1 to simplify configuration of suggested database add-ons while we finish creating your DB for you.

How was your experience creating an Amazon RDS database? [Provide feedback](#)

View credential details

Para arreglar esto, primero debemos entrar al resumen de instalación de la base de datos haciendo clic en la propia base de datos en la lista de bases de datos creadas.

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter by databases

DB identifier	Role	Engine	Region & AZ	Size	Status	Actions	CPU	Current activity	Mainten
database-1	Instance	SQL Server Express Edition	us-east-1c	db.t3.small	Creating	-	-	-	none

En el apartado de resumen de todos los elementos de la misma, vemos un apartado de seguridad. Entramos a la configuración de seguridad del VPC de nuestra base de datos.

Security

VPC security groups

default (sg-0b6b15181459a02a5)

Active

Publicly accessible

Yes

Certificate authority

Info

rds-ca-2019

Certificate authority date

August 22, 2024, 19:08 (UTC+02:00)

Se nos abre un panel con los grupos de seguridad que existen.

Security Groups (1/1) Info

Filter security groups

search: sg-0b6b15181459a02a5

Clear filters

Actions

Export security groups to CSV

Create security group

	Name	Security group ID	Security group name	VPC ID	Description	Owner	Inbound rules count	Outbound rule
<input checked="" type="checkbox"/>	-	sg-0b6b15181459a02a5	default	vpc-0319a0fe077aa36dc	default VPC security gr...	808925875888	1 Permission entry	1 Permission en

sg-0b6b15181459a02a5 - default

Details

Inbound rules

Outbound rules

Tags

You can now check network connectivity with Reachability Analyzer

Run Reachability Analyzer

Details

Security group name

default

Security group ID

sg-0b6b15181459a02a5

Description

default VPC security group

VPC ID

vpc-0319a0fe077aa36dc

Entramos en la pestaña de "Reglas de entrada" y hacemos clic en el botón de edición.

Details

Inbound rules

Outbound rules

Tags

You can now check network connectivity with Reachability Analyzer

Run Reachability Analyzer

Inbound rules (1/1)

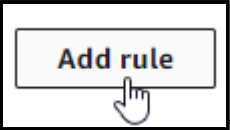
Filter security group rules

Manage tags

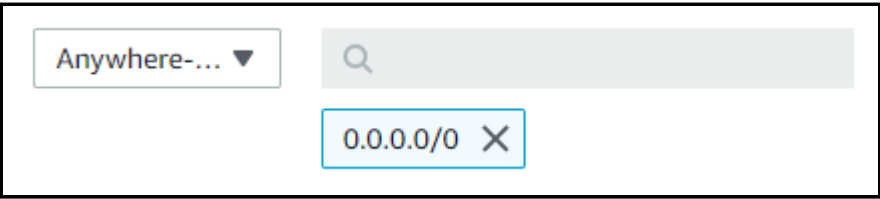
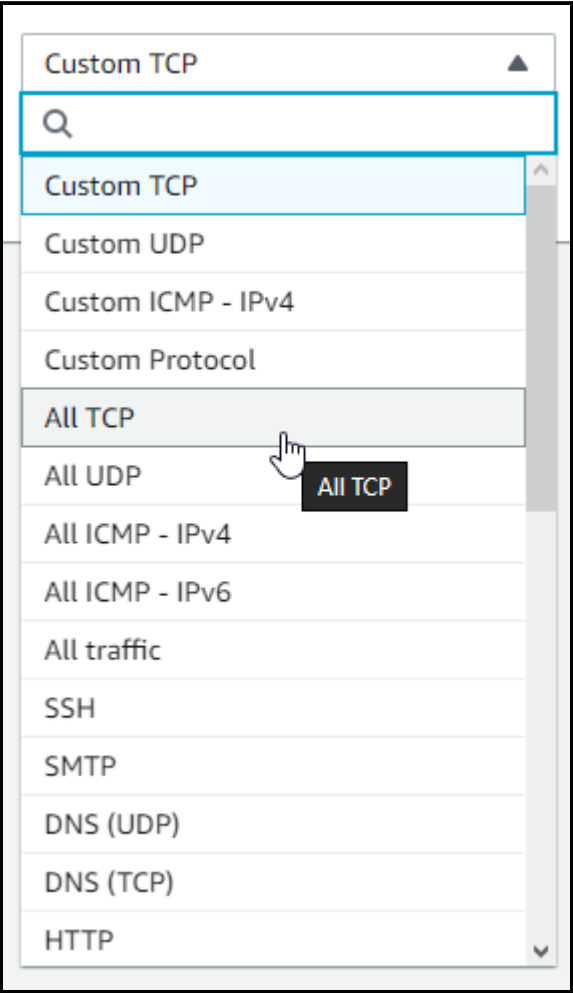
Edit inbound rules

	Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
<input checked="" type="checkbox"/>	-	sg-0af18d627250065...	-	All traffic	All	All	sg-0b6b15181459a02...	-

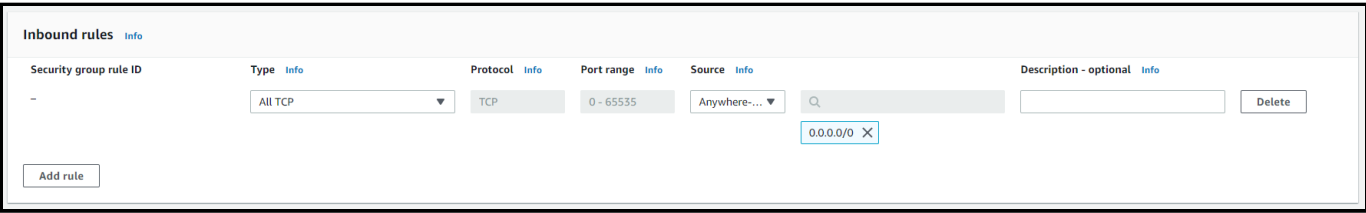
Primero borramos la única regla de seguridad que aparece. Acto seguido creamos una nueva.



Establecemos conexión con todos los TCP y agregamos el rango de IP general para que pueda establecer conexión con cualquier IP.



Guardamos los cambios una vez la regla se ve tal que así:



Podemos ver los cambios realizados en la lista nada más guardar:

Inbound security group rules successfully modified on security group (sg-0b6b15181459a02a5 | default)

Details

Security Groups (1/7) Info

Filter security groups

Actions

Export security groups to CSV

Create security group

< 1 >

<input type="checkbox"/>	Name	Security group ID	Security group name	VPC ID	Description	Owner	Inbound rules count	Outbound rule
<input type="checkbox"/>	-	sg-0d7518c5f7cf54dbf	launch-wizard-1	vpc-0319a0fe077aa36dc	launch-wizard-1 create...	808925875888	3 Permission entries	1 Permission en
<input type="checkbox"/>	-	sg-0ce2c4a3baf5689ff	launch-wizard-3	vpc-0319a0fe077aa36dc	launch-wizard-3 create...	808925875888	3 Permission entries	1 Permission en
<input checked="" type="checkbox"/>	-	sg-0b6b15181459a02a5	default	vpc-0319a0fe077aa36dc	default VPC security gr...	808925875888	1 Permission entry	1 Permission en
<input type="checkbox"/>	-	sg-0770eace6d636e2d0	sg_ubuntu_cms	vpc-09555c98614ee63ff	launch-wizard-3 create...	808925875888	3 Permission entries	1 Permission en
<input type="checkbox"/>	-	sg-0034844df407e34c1	launch-wizard-2	vpc-0319a0fe077aa36dc	launch-wizard-2 create...	808925875888	3 Permission entries	1 Permission en
<input type="checkbox"/>	-	sg-02a263ea993a4a91f	sg_ubuntu	vpc-09555c98614ee63ff	launch-wizard-3 create...	808925875888	1 Permission entry	1 Permission en
<input type="checkbox"/>	-	sg-03b48d7214441f073	default	vpc-09555c98614ee63ff	default VPC security gr...	808925875888	1 Permission entry	1 Permission en

Ahora aparecerá esta nueva regla en el resumen de la base de datos.

Inbound rules (1/1)

Filter security group rules

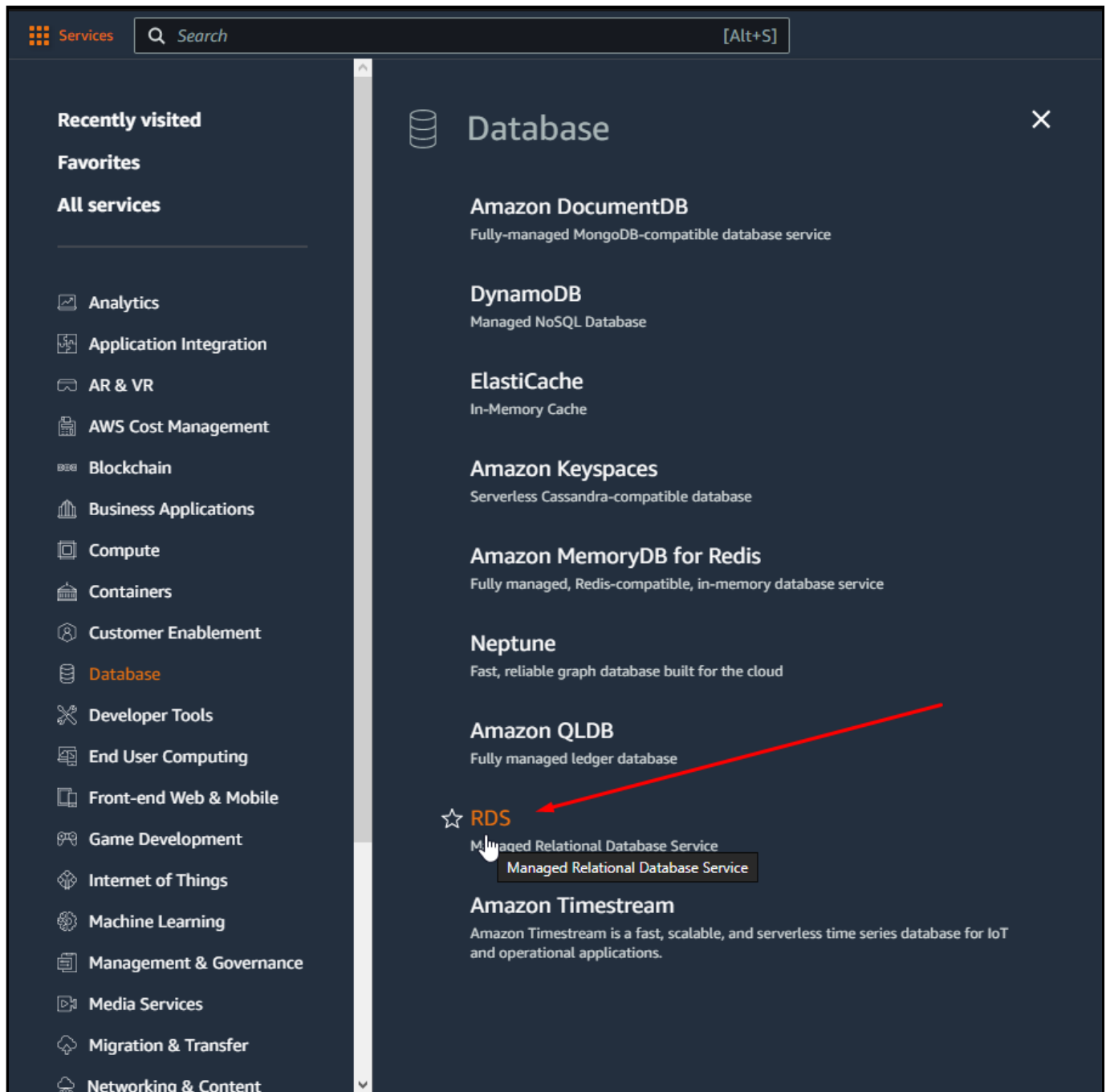
Manage tags

Edit inbound rules

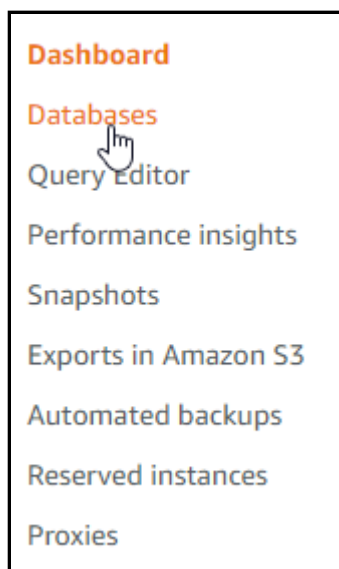
< 1 >

<input checked="" type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
<input checked="" type="checkbox"/>	-	sgr-054606e8a561f36e9	IPv4	All TCP	TCP	0 - 65535	0.0.0.0/0	-

Volvemos al panel de RDS.



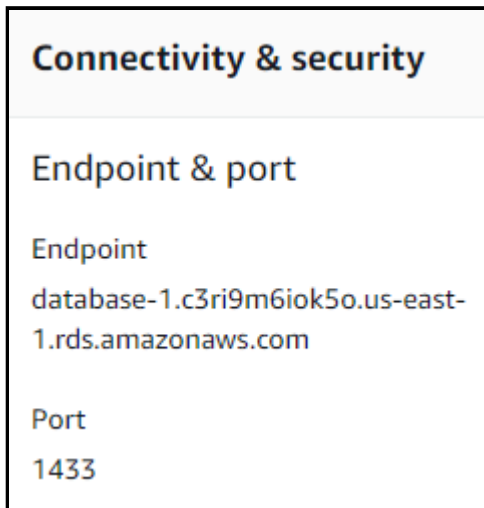
Esta vez entramos en la opción de "Bases de datos" en el menú lateral izquierdo.



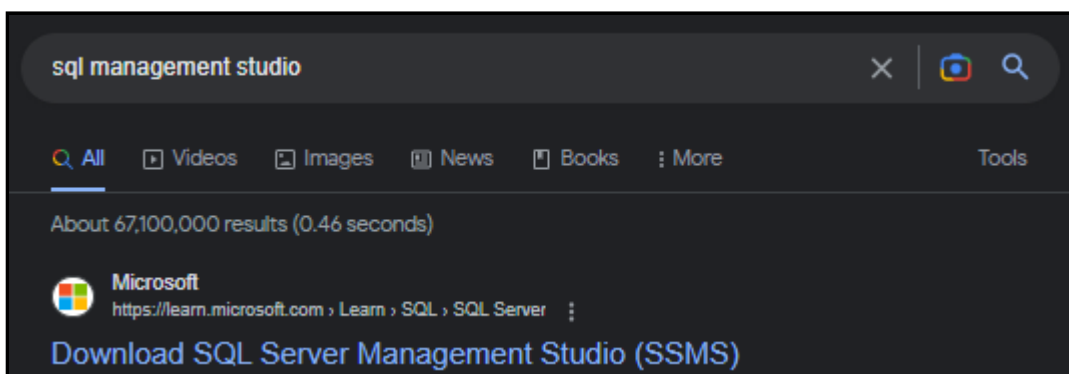
Entramos en nuestra recién creada base de datos.



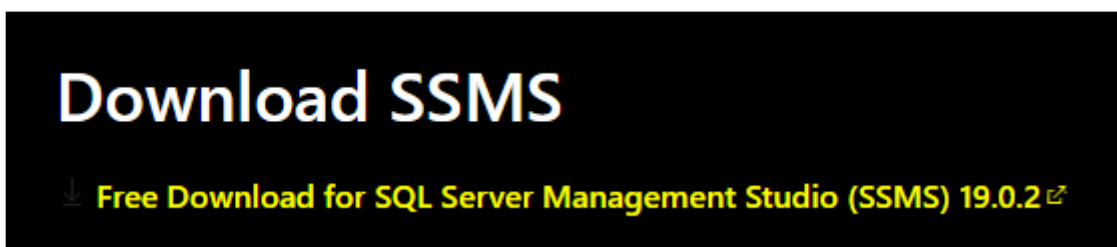
Podemos ver en el resumen de la base de datos que aparecen una credenciales de conexión. Copiamos el token de endpoint.



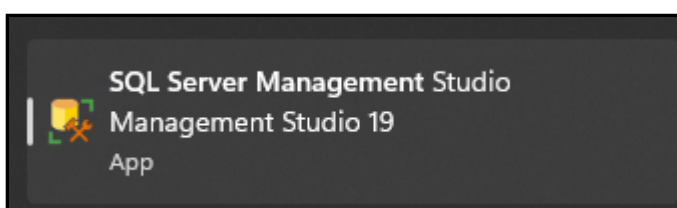
Nos dirigimos a un navegador web y buscamos lo siguiente:



Entramos en el enlace oficial de Microsoft y descargamos el siguiente archivo.



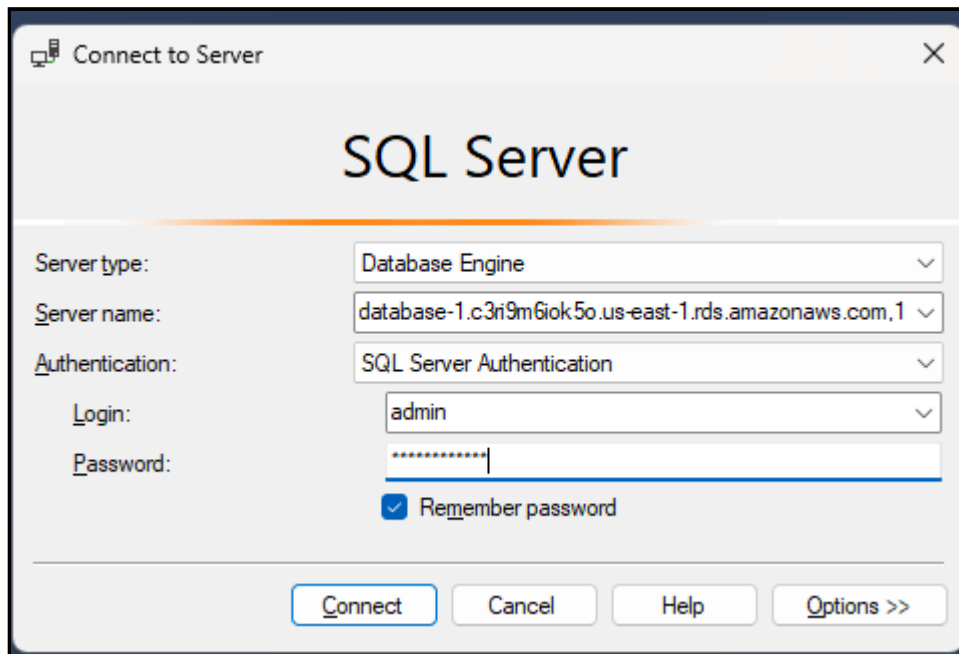
Una vez instalado mediante el archivo con extensión ".exe" que se descarga, ejecutamos el programa.



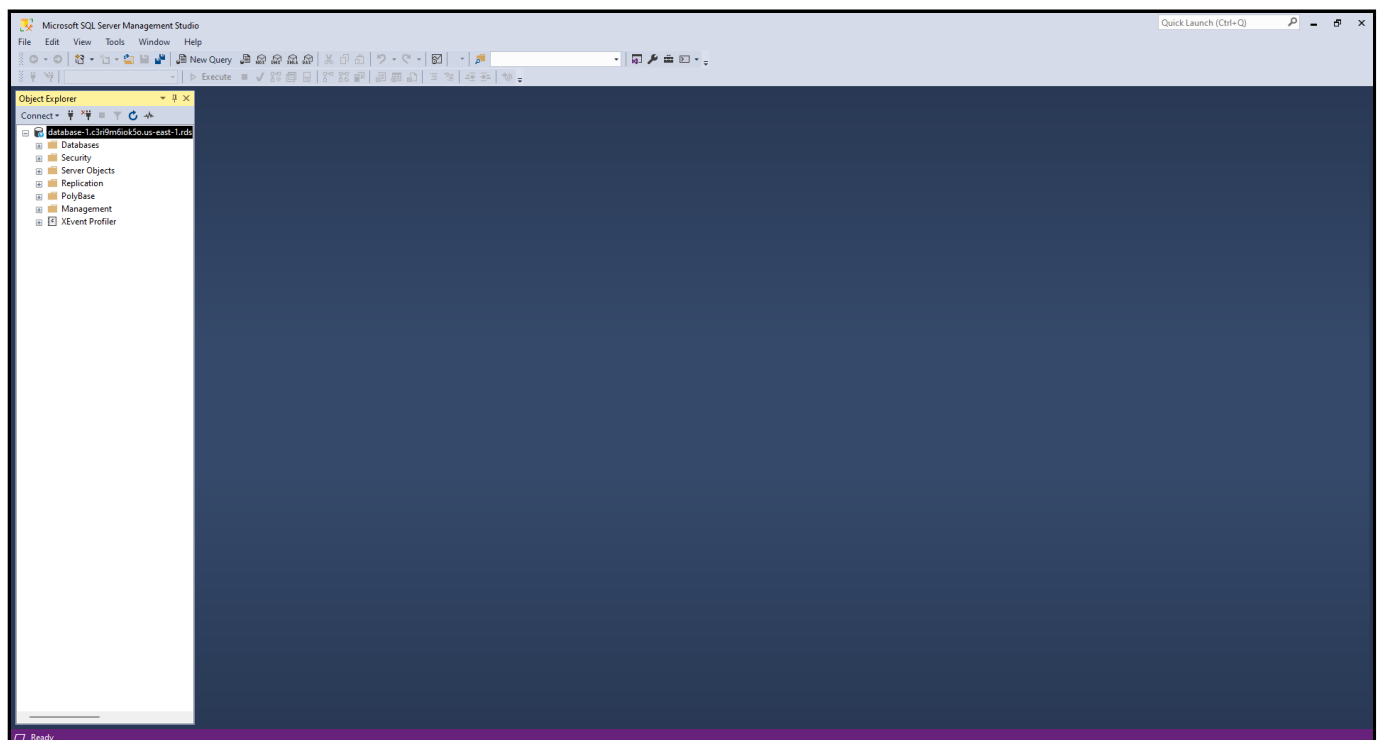
Se nos presenta un cuadro donde podemos ingresar las credenciales anteriormente copiadas del resumen de la base de datos.

Debemos dejar el tipo de servidor por defecto. En el nombre del servidor ingresamos el token copiado anteriormente y añadimos ",1433" al final, ya que es el puerto de conexión que se nos muestra en el resumen.

En el apartado de autenticación seleccionamos "SQL Server Authentication" y escribimos el usuario administrador que establecimos en la creación de la base de datos y su contraseña.

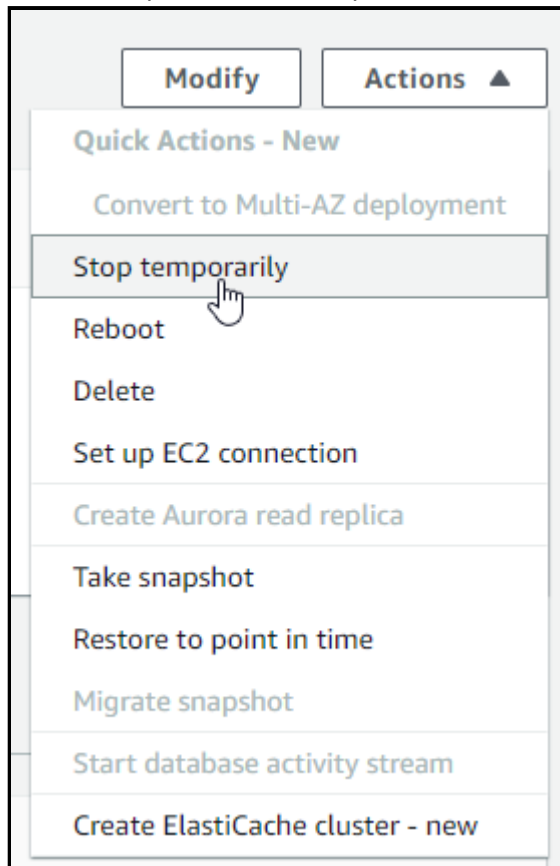


Finalmente, hemos establecido conexión con la base de datos recién creada.



Para detener la base de datos hay que seguir los siguientes paso, debido a que apagar el laboratorio no sirve, ya que se vuelve a encender sola y gasta dinero del que pertenece a nuestra cuenta de AWS:

- En el resumen de la base de datos, hacemos clic en la opción "Acciones" en la esquina superior derecha y en la sub-opción "Parar temporalmente".



- Marcamos las dos casillas del cuadro de aviso que se abre y escribimos el nombre de la base de datos a apagar.

Stop DB instance temporarily

You are stopping this DB instance for up to 7 days. You can restart the DB instance manually at any time. To stop the DB instance permanently, save it in a snapshot and delete it. [Learn more](#)

Acknowledgement

☒ I acknowledge that the DB instance will restart automatically after 7 days, on April 25, 2023, 17:12 (UTC+02:00).

Snapshot - optional

☒ Save the DB instance in a snapshot
The snapshot enables you to restore the DB instance to its last state before it was stopped.

Snapshot name

database-1

Cancel **Stop temporarily**

- Mientras se queda cargando intentando apagarse, apagamos el laboratorio.

