



Visualise a Relational Database



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The screenshot shows the MySQL Workbench interface. The main window displays a query results grid for the 'newline' table. The grid has columns: empno, ename, job, manager, hiredate, salary, comm, and department. The data includes rows for various employees like COOPER, HARDING, TAFT, ROOSEVELT, LINCOLN, POLK, BUREAU, JACKSON, and WILSON. The bottom status bar shows a message about no database selected and the current date and time.

empno	ename	job	manager	hiredate	salary	comm	department
1	COOPER	Clerk	6	1998-12-17 00:00:00	3200.00		3
2	HARDING	MANAGER	9	1998-02-01 00:00:00	3200.00	300.00	3
3	TAFT	SALES_I	2	1996-01-01 00:00:00	2500.00	500.00	3
4	ROOSEVELT	MANAGER	1	1994-02-01 00:00:00	3000.00	100.00	4
5	LINCOLN	Tech	6	1994-02-28 00:00:00	2500.00		4
6	GARFIELD	MANAGER	9	1993-05-01 00:00:00	5400.00	100.00	4
7	POLK	Tech	6	1997-09-21 00:00:00	2500.00		4
8	BUREAU	ENGINEER	1	1993-05-01 00:00:00	2500.00	100.00	2
9	JACKSON	CEO	10	1990-01-01 00:00:00	7500.00	100.00	4
10	FILLMORE	MANAGER	9	1994-08-01 00:00:00	5600.00	100.00	2
11	WILSON	ENGINEER	10	1996-01-01 00:00:00	3000.00	100.00	2
12	WASZON	ARCHITECT	6	1998-04-14 00:00:00	3800.00	100.00	4
13	MONROE	ENGINEER	10	2000-12-03 00:00:00	3000.00	100.00	2
14	ROOSEVELT	CPA	9	1995-05-12 00:00:00	3500.00	100.00	1
15	OBAMA	OBAMA	OBAMA	OBAMA	OBAMA	OBAMA	OBAMA

MySQL Workbench
File Edit View Query Database Server Tools Scripting Help
Migration x AQS-QuickSightDatabase new
Navigator
SCHEMAS
Filter objects
QuickSightDatabase
sys
Query 1 QuickSightDatabase - Schema SQL File TC...
1. SELECT * FROM newline;
2.
Result Grid Filter Rows Edit Export/Import Wrap Cell Content...
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Administration Schemas Information
Schema: QuickSightDatabase
Output Action Output
Object Info Session
Type here to search 26°C Light rain 14:58 05/08/2025



Introducing Today's Project!

What is Amazon RDS?

Amazon RDS is a managed service provided by AWS that makes it easy to set up, operate, and scale a relational database in the cloud. 1. Easy Setup and Management with security 2. It supports multiple database engines, including: Amazon Aurora, MySQL

How I used Amazon RDS in this project

In today's project, I used Amazon RDS to set up our own relational database and visualize it using some fun charts.

One thing I didn't expect in this project was...

One thing I didn't expect in this project was enforcing security policies to a great extent

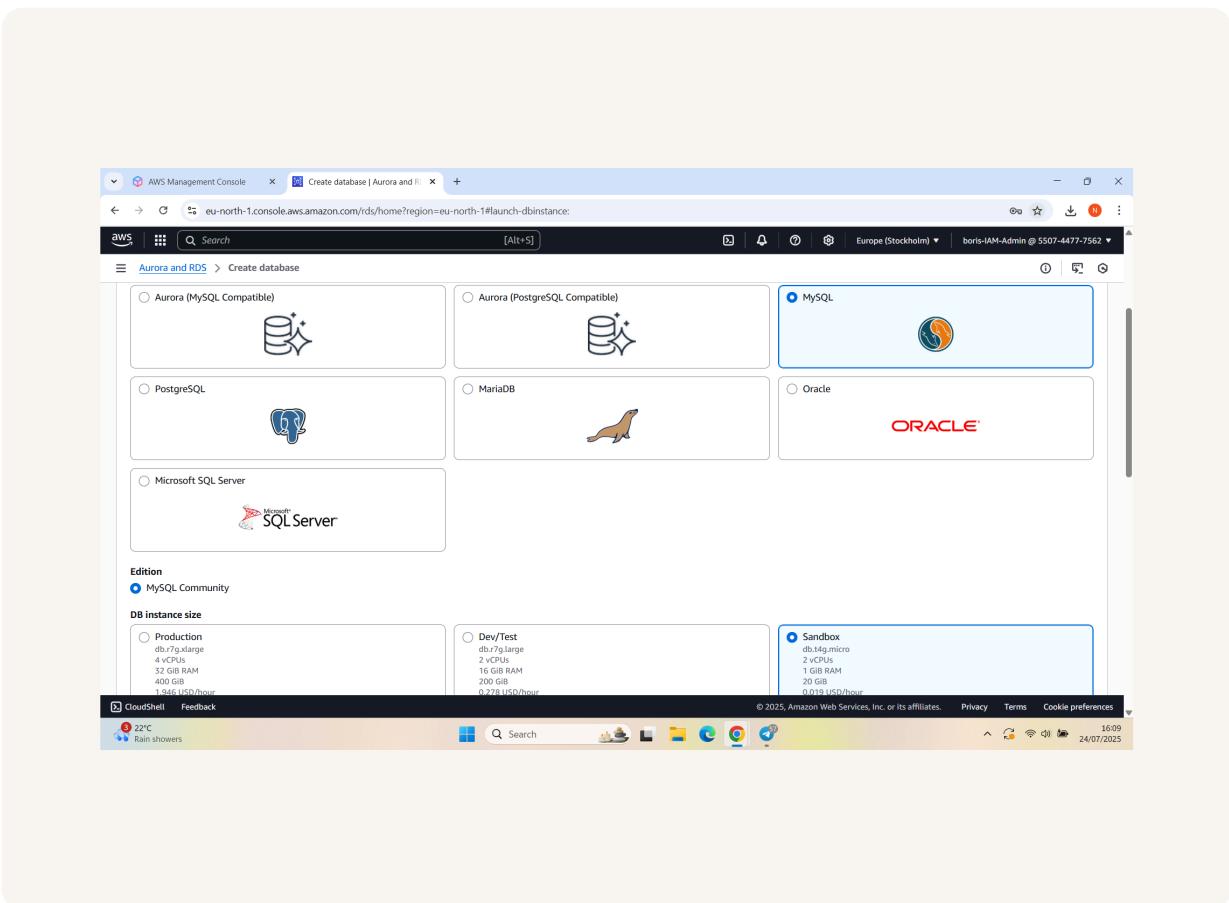
This project took me...

It took me 2 hours to complete

In the first part of my project...

Creating a Relational Database

- search for rds in search bar at the top of the screen. > Databases. > Create Database. > Easy Create. - In the Configuration section: For Engine type >MySQL. For DB instance size >Free tier - For DB instance identifier, type QuickSightDatabase....



Understanding Relational Databases

A relational database is a type of database that organizes data into tables, which are collections of rows and columns. Kind of like a spreadsheet! We call it "relational" because the rows relate to the columns and vice-versa.

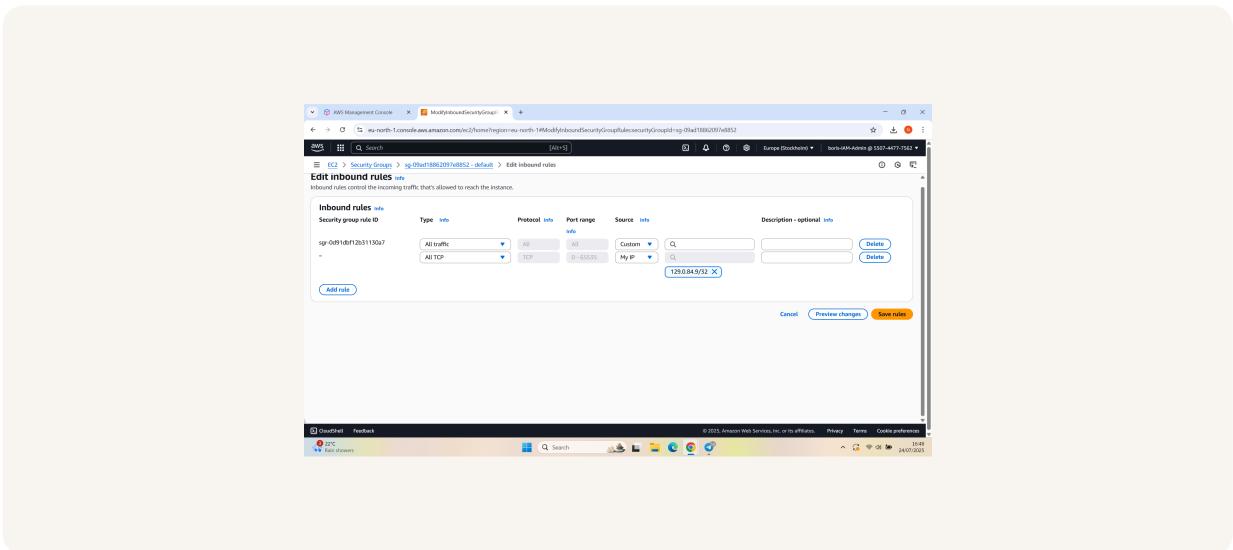
MySQL vs SQL

The difference between MySQL and SQL is SQL is a standard programming language used for managing and manipulating relational databases. MySQL is a relational database management system that uses SQL as the language for database interaction

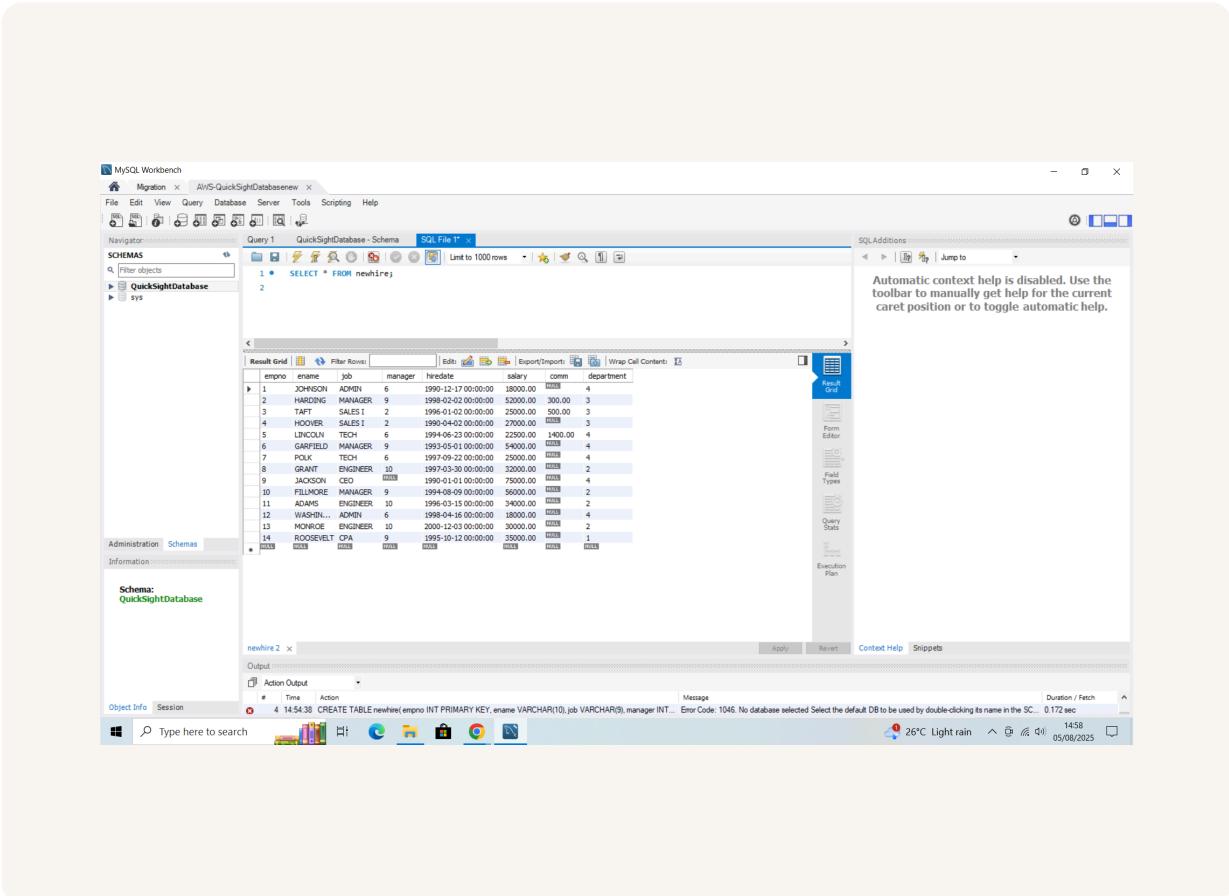
Populating my RDS instance

The first thing I did was make my RDS instance public because I want the AWS database to connect to MySQL Workbench

I had to update the default security group for my RDS schema because it will allow my machine to connect to the database - this will enable MySQL Workbench to connect when I use it from my local computer



Using MySQL Workbench



To populate my database I deleted the current contents of your query script and pasted in the code of data provided

Connecting QuickSight and RDS

To connect my RDS instance to QuickSight; - In QuickSight, I selected Datasets from the left menu. - In the top right of the screen, select New dataset - Selected RDS and Filled out the required values - Selected Validate connection

This solution is risky because our RDS instance is publicly available. This is bad because it means anyone can access it, making us vulnerable from hackers.

A better strategy

First, I made a new security group to help us to connect QuickSight to our RDS instance securely, without RDS being publicly accessible.

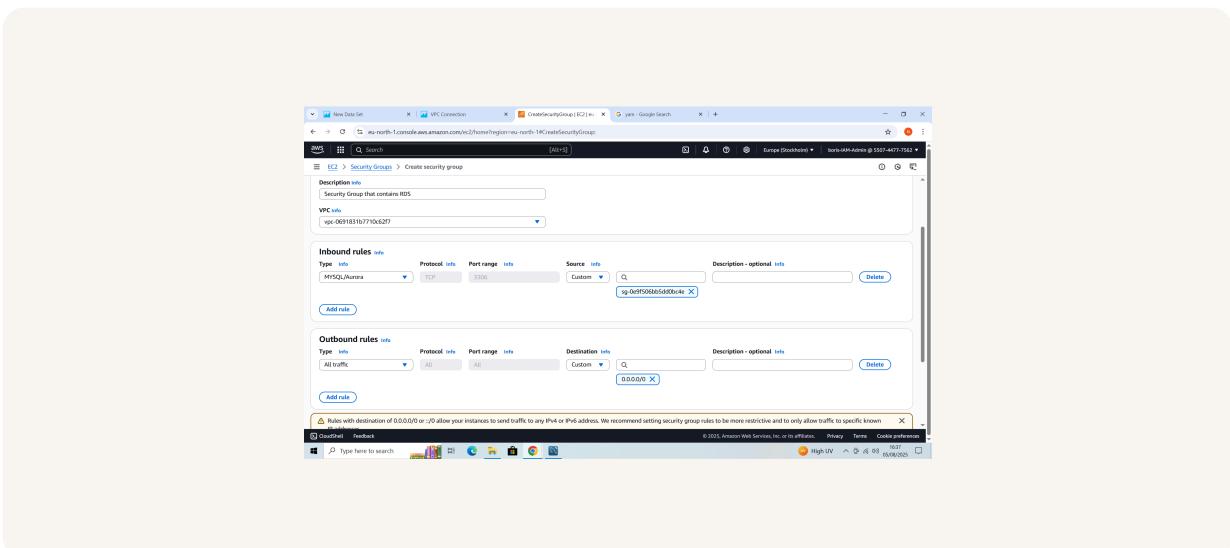
Next, I connected my new security group to QuickSight by; - Create a VPC - Add security group (QuickSight_SecGp) - Edit it to have the proper permissions to execute this task.



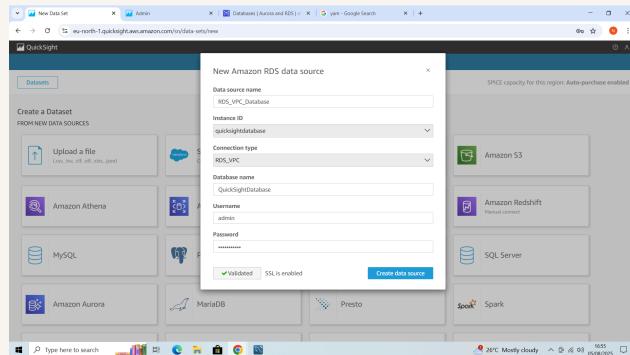
Now to secure my RDS instance

To make my RDS instance secure I; - Modified the DB instance with additional configuration so that it not publicly accessible - Created security group in the default VPC - Added inbound rules to allow QuickSight to query our RDS instance

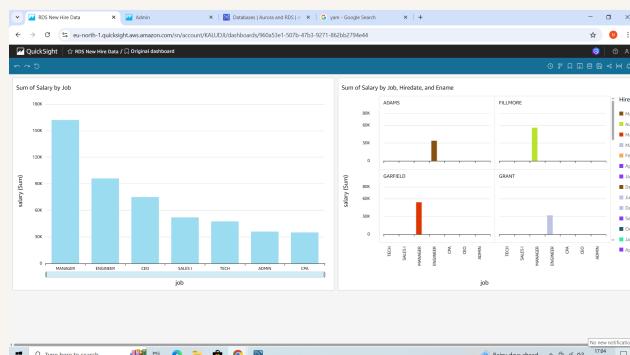
I made sure that my RDS instance could be accessed from QuickSight by; - Return to your RDS instance and select Modify - Under the Connectivity section, look for Security group - Select your newly created RDS_SecGp and apply the modification



Adding RDS as a data source for QuickSight



This data source is different from my initial data source because this data source is now secure not public





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