



Visualise a Relational Database



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Query 3 ✖

File Edit View Insert Tools Window Help

1 • `SELECT * FROM newhire;`

2

Result Grid Filter Rows: A Edit: Edit Insert Delete Export/Import: Export Import Wrap Cell Content: W

#	empno	ename	job	manager	hiredate	salary	comm	department
1	1	JOHNSON	ADMIN	6	1990-12-17 00:00:00	18000.00	NULL	4
2	2	HARDING	MANAGER	9	1998-02-02 00:00:00	52000.00	300.00	3
3	3	TAFT	SALES I	2	1996-01-02 00:00:00	25000.00	500.00	3
4	4	HOOVER	SALES I	2	1990-04-02 00:00:00	27000.00	NULL	3
5	5	LINCOLN	TECH	6	1994-06-23 00:00:00	22500.00	1400.00	4
6	6	GARFIELD	MANAGER	9	1993-05-01 00:00:00	54000.00	NULL	4
7	7	POLK	TECH	6	1997-09-22 00:00:00	25000.00	NULL	4
8	8	GRANT	ENGINEER	10	1997-03-30 00:00:00	32000.00	NULL	2
9	9	JACKSON	CEO	NULL	1990-01-01 00:00:00	75000.00	NULL	4
10	10	FILLMORE	MANAGER	9	1994-08-09 00:00:00	56000.00	NULL	2
11	11	ADAMS	ENGINEER	10	1996-03-15 00:00:00	34000.00	NULL	2
12	12	WASHIN...	ADMIN	6	1998-04-16 00:00:00	18000.00	NULL	4
13	13	MONROE	ENGINEER	10	2000-12-03 00:00:00	30000.00	NULL	2
14	14	ROOSE...	CPA	9	1995-10-12 00:00:00	35000.00	NULL	1

Introducing Today's Project!

What is Amazon RDS?

Amazon RDS is a managed relational database service that automates setup, scaling, backups, and maintenance for databases like MySQL, PostgreSQL, and more. It simplifies database management, enhances performance, and ensures high availability.

How I used Amazon RDS in this project

In today's project, I used Amazon RDS to set up a MySQL database instance, configured security groups for access, and connected it to my QuickSight account, enabling efficient data storage, retrieval and visualization.

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

I didn't expect to be able to customize the access policy in a very flexible way.

This project took me...

This project took me about 2 hours.

TS

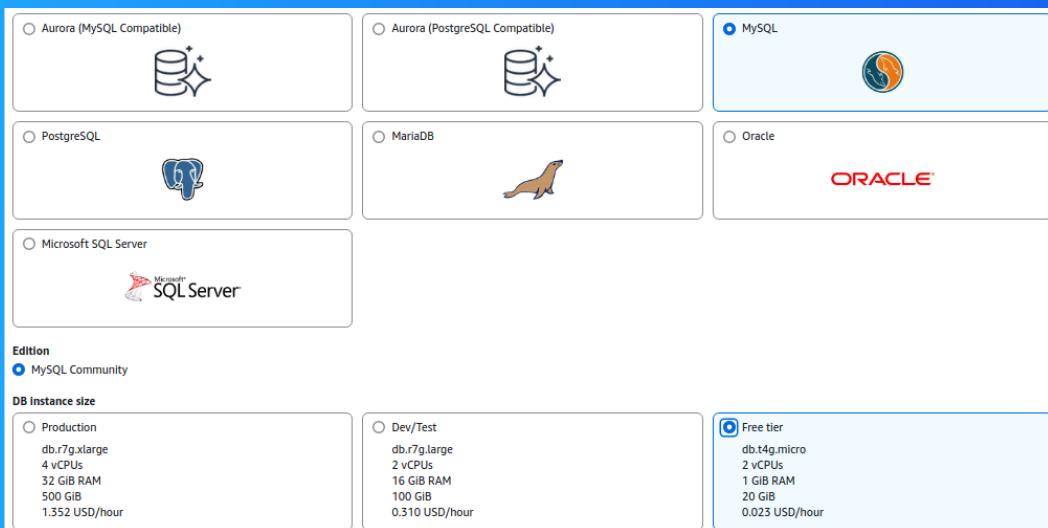
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In the first part of my project...

Creating a Relational Database

I created my relational database using RDS (Relational Database Service).



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.

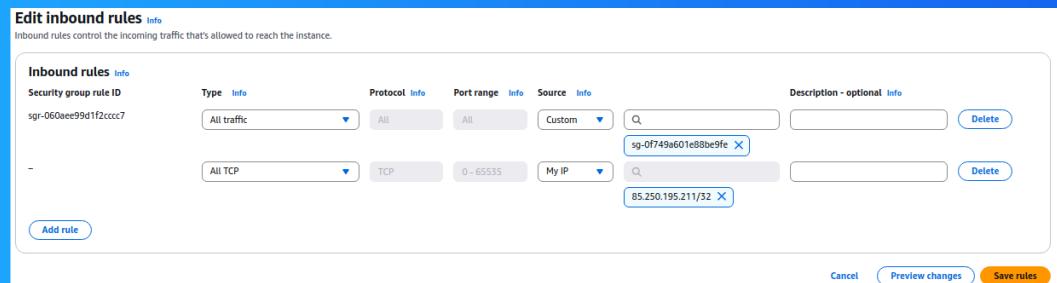
MySQL vs SQL

The difference between MySQL and SQL is that 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.

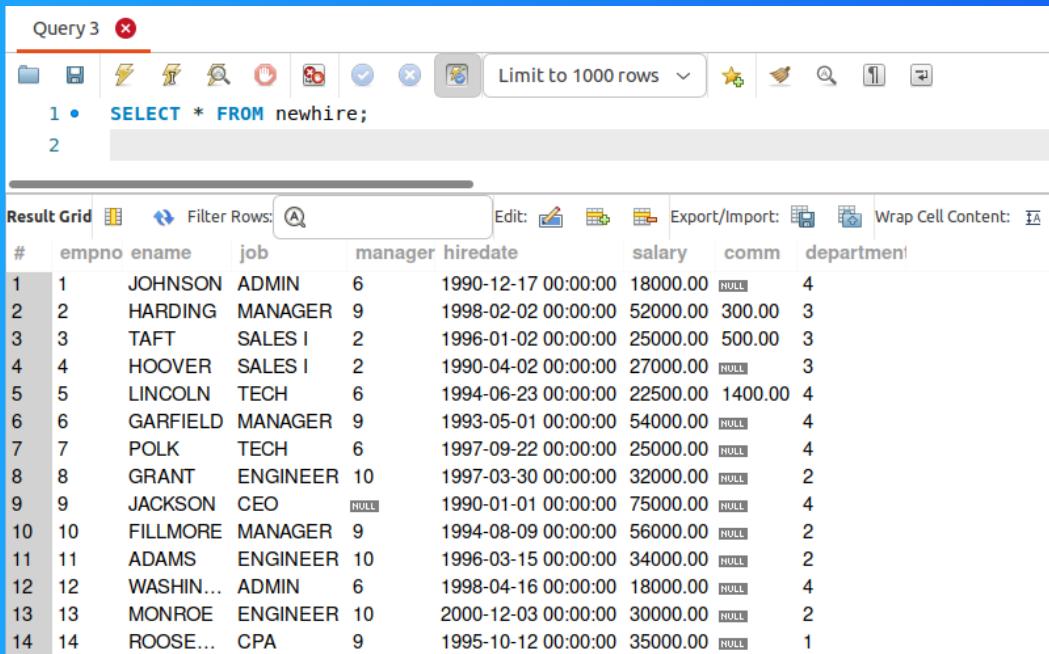
Populating my RDS instance

The first thing I did was make my RDS instance public, as we will need to connect to it from the MySQL Workbench

I had to update the default security group for my RDS schema because I need MySQL Workbench to access my database.



Using MySQL Workbench



The screenshot shows the MySQL Workbench interface with a blue header bar. The main area displays a query results grid titled "Query 3". The query executed is "SELECT * FROM newhire;". The results grid contains 14 rows of data from the "newhire" table, with columns: #, empno, ename, job, manager, hiredate, salary, comm, and department. The data includes various employees like Johnson, Harding, and Monroe, with their respective details such as hire dates and salaries.

#	empno	ename	job	manager	hiredate	salary	comm	department
1	1	JOHNSON	ADMIN	6	1990-12-17 00:00:00	18000.00	NULL	4
2	2	HARDING	MANAGER	9	1998-02-02 00:00:00	52000.00	300.00	3
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14	14	ROOSE...	CPA	9	1995-10-12 00:00:00	35000.00	NULL	1

To populate the database, I executed a query written in SQL. It starts with 'INSERT INTO ...'!

Connecting QuickSight and RDS

To connect my RDS instance to QuickSight I logged in Amazon QuickSight, created a new dataset, selected RDS, filled out all the values and then validated connection.

This solution is risky because my RDS instance is publicly available and anyone can access it, making me vulnerable from hackers and malicious people trying to get my data.

A better strategy

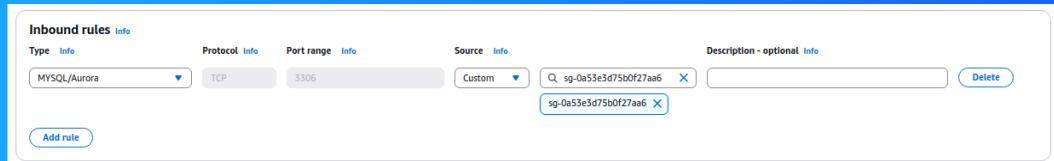
First, I made a new security group for QuickSight.

Next, I connected my new security group to QuickSight by creating a new VPC connection in QuickSight.

Now to secure my RDS instance

To make my RDS instance secure I selected 'Not publicly accessible' option for it and then I created a security group for my RDS instance.

I made sure that my RDS instance could be accessed from QuickSight by creating my own RDS security group, adding inbound rules allowing QuickSight access, and attaching it to the RDS instance.

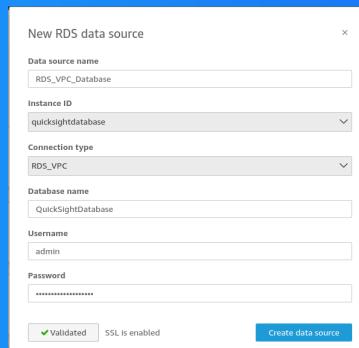


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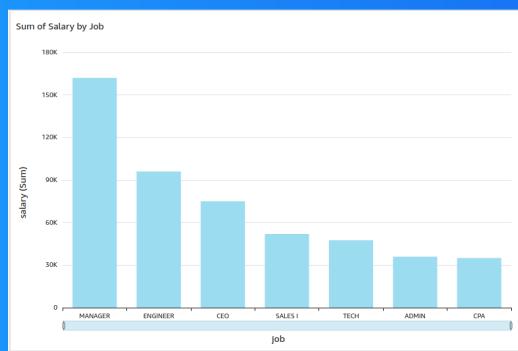
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Adding RDS as a data source for QuickSight



This data source is different from my initial data source because the connection is secure now.





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