



# Visualise a Relational Database



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empno	ename	job	manager	hiredate	salary	comm	department
1	JOHNSON	ADMIN	6	1990-12-17 00:00:00	18000.00	NULL	4
2	HARDING	MANAGER	9	1998-02-02 00:00:00	52000.00	300.00	3
3	TAFT	SALES I	2	1996-01-02 00:00:00	25000.00	500.00	3
4	HOOVER	SALES I	2	1990-04-02 00:00:00	27000.00	NULL	3
5	LINCOLN	TECH	6	1994-06-23 00:00:00	22500.00	1400.00	4
6	GARFIELD	MANAGER	9	1993-05-01 00:00:00	54000.00	NULL	4
7	POLK	TECH	6	1997-09-22 00:00:00	25000.00	NULL	4
8	GRANT	ENGINEER	10	1997-03-30 00:00:00	32000.00	NULL	2
9	JACKSON	CEO	NULL	1990-01-01 00:00:00	75000.00	NULL	4
10	FILLMORE	MANAGER	9	1994-08-09 00:00:00	56000.00	NULL	2
11	ADAMS	ENGINEER	10	1996-03-15 00:00:00	34000.00	NULL	2
12	LEWIS	ANALYST	6	1990-04-16 00:00:00	10000.00	NULL	4

# Introducing Today's Project!

## What is Amazon RDS?

Amazon RDS is a managed service for relational databases that simplifies setup, scaling, and maintenance. It saves time by automating tasks like backups and updates, ensuring high availability and security.

## How I used Amazon RDS in this project

I used Amazon RDS to create an RDS instance and visualize a couple of tables using Amazon QuickSight

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

I didn't expect the back and forth working of giving access to security groups and then connecting again to see the differences and work around access issues

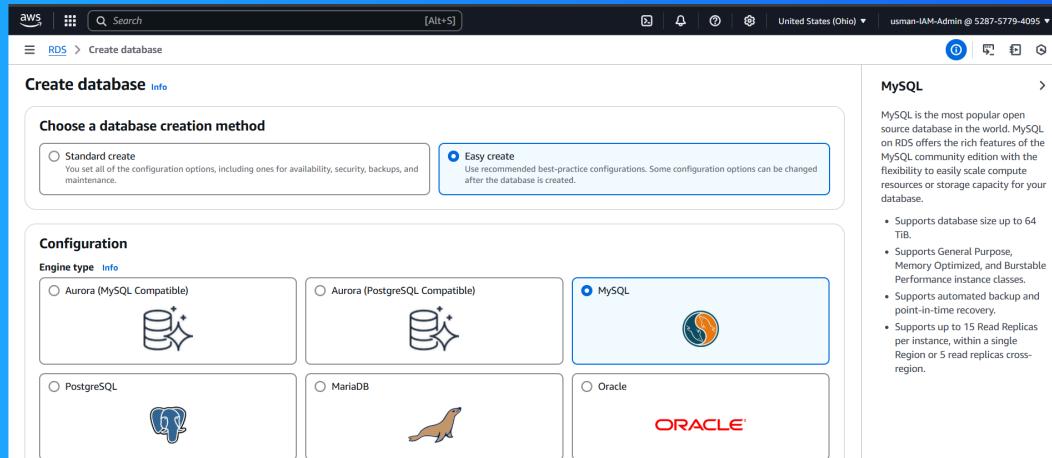
## This project took me...

This project took me around 1 hour to complete

# In the first part of my project...

## Creating a Relational Database

I created my relational database by searching RDS in the console and clicked on databases from the left navigation pane. Then I followed the steps that were prompted.



# Understanding Relational Databases

A relational database is a type of database that organizes data into tables, which are collections of rows and columns. We call it "relational" because the rows relate to the columns and it's easy to find rows and columns using SQL queries.

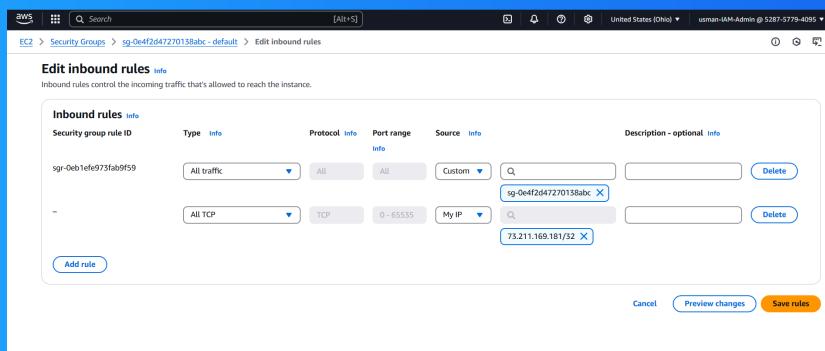
## MySQL vs SQL

The difference between MySQL and SQL is that MySQL is a relational database management system (RDBMS) that uses SQL as the language for database interaction.

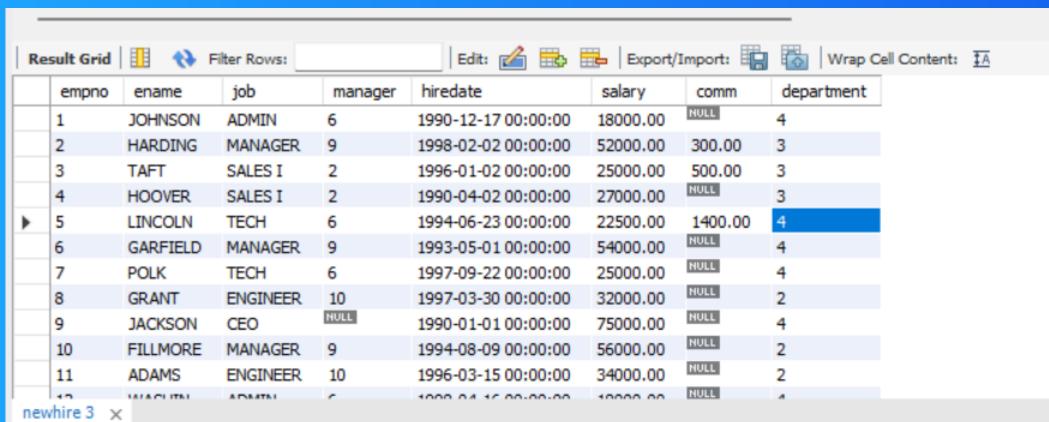
# Populating my RDS instance

The first thing I did was make my RDS instance public because I want to connect my RDS to mySQL workbench and import data and tables from my local machine.

I had to update the default security group for my RDS schema because I wanted to access the MySQL workbench from outside the security group and had to create a custom IP to allow access



# Using MySQL Workbench



The screenshot shows a MySQL Workbench result grid displaying data from a table. The columns are labeled: empno, ename, job, manager, hiredate, salary, comm, and department. The data consists of 12 rows of employee information. Row 5, which contains the values for LINCOLN, is highlighted with a blue background.

empno	ename	job	manager	hiredate	salary	comm	department
1	JOHNSON	ADMIN	6	1990-12-17 00:00:00	18000.00	NULL	4
2	HARDING	MANAGER	9	1998-02-02 00:00:00	52000.00	300.00	3
3	TAFT	SALES I	2	1996-01-02 00:00:00	25000.00	500.00	3
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11	ADAMS	ENGINEER	10	1996-03-15 00:00:00	34000.00	NULL	2
12	MACARTHUR	ADMIN	6	1999-04-15 00:00:00	10000.00	NULL	4

To populate my database I first created the database using the Create statement and then using the Insert statement I populated the values inside the columns of the table

# Connecting QuickSight and RDS

To connect my RDS instance to QuickSight I clicked on datasets and choose RDS as a connection option and followed the steps to connect to the RDS instance

This solution is risky because anyone can come in and this makes it risky and allows hackers to access our data

## A better strategy

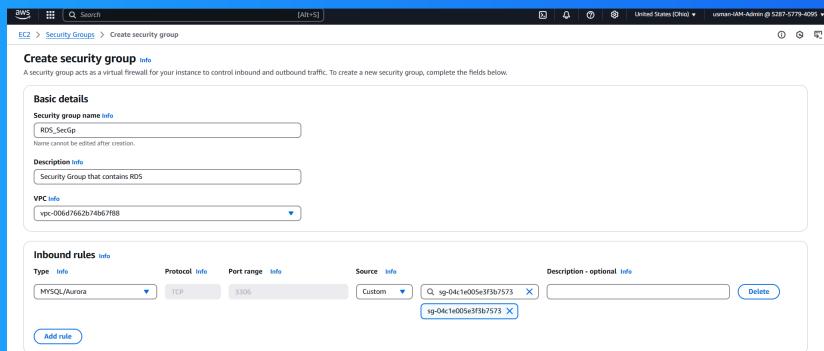
First, I made a new security group so that I can attach QuickSight with this security group

Next, I connected my new security group to QuickSight by editing the role and adding a new policy within the role in IAM console

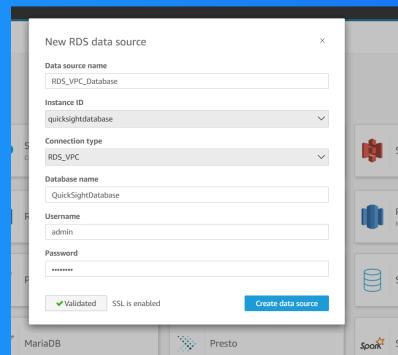
# Now to secure my RDS instance

To make my RDS instance secure, I created a new RDS security group to control access, implemented IAM roles, and restricted public accessibility.

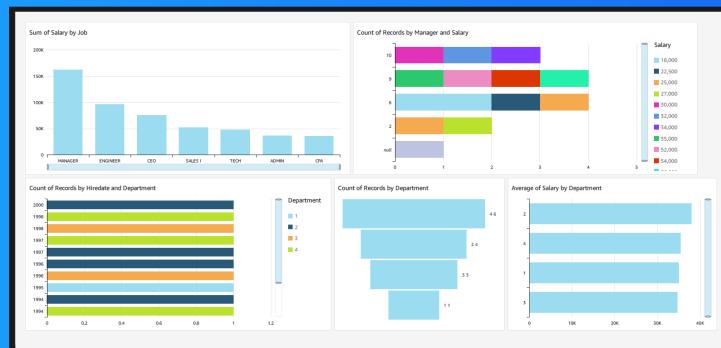
I made sure that my RDS instance could be accessed from QuickSight by making sure I add the security group ID of my QuickSight\_SecGp when selecting the source for inbound rules while creating the RDS security group



# Adding RDS as a data source for QuickSight



This data source is different from my initial data source because it is now secure and does use public access





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