Vidyavardhini's College of Engineering and Technology

Department of Artificial Intelligence & Data Science

AY: 2023-24

Class:		**Semester:**	
Course Code:		**Course Name:**	

Name of Student:	
Roll No. :	
Experiment No.:	6
Title of the Experiment:	To study and Implement Database as a Service on SQL/NOSQL databases like AWS RDS, AZURE SQL/ MongoDB Lab/ Firebase.
Date of Performance:	
Date of Submission:	

Evaluation

Performance Indicator	Max. Marks	Marks Obtained
Performance	5	
Understanding	5	
Journal work and timely submission	10	
Total	20	

Performance Indicator	Exceed Expectations (EE)	Meet Expectations (ME)	Below Expectations (BE)
Performance	4-5	2-3	1
Understanding	4-5	2-3	1
Journal work and timely submission	8-10	5-8	1-4

Checked by

Name of Faculty :

Signature :

Date

Experiment No. 6

Aim: To study and Implement Database as a Service on SQL/NOSQL databases like AWS RDS, AZURE SQL/ MongoDB Lab/ Firebase.

Objective: To learn concept of DBaaS and implement using Own Cloud which gives universal access to files through a web interface.

Theory:

- Database as a Service (DBaaS) is self service/ on demand database consumption coupled with automation of operations.
- Cloud computing services are like pay per use so DBaaS also based on same payment structure like how much you will use just pay for your usage.
- This DBaaS provides same function as like standard traditional and relational database models. So using DBaaS, organizations can avoid data base configuration, management, upgradation and security.
- A fully managed info service helps to line up, manage, and administer your info within the cloud and conjointly offer services for hardware provisioning and Backup.
- DBaaS permits the availability of info's effortlessly to Database shoppers from numerous backgrounds and IT expertise.
- Provides on demand services.
- Supported the resources offered, it delivers a versatile info platform that tailors itself to the environment's current desires.
- A team of consultants at your disposal, endlessly watching the Databases.
- Automates info administration and watching.
- Leverages existing servers and storage

- Advantages of DBaaS :
    - DBaaS is responsible of the info supplier to manage and maintain info hardware and code.
    - The hefty power bills for ventilation and cooling bills to stay the servers running area unit eliminated.
    - An organization that subscribes to DBaaS is free from hiring info developers or constructing a info system in-house.
    - Make use of the most recent automation, straightforward outs of clouds area unit possible at low price and fewer time.
    - Human resources needed to manage the upkeep of the system is eliminated.
    - Since DBaaS is hosted off-site, the organization is free from the hassles of power or network failure.
    - Explore the portfolio of Oracle info as a service.

- Disadvantages of DBaaS :
    - Traditional enterprises may have objections to cloud-based services generally.
    - In case of significant failure of the DBaaS server or network, the organization might lose its knowledge.
    - Companies already equipped with resources and IT-related human resources might not realize DBaaS solutions economically viable.
    - Intrinsic network connected problems with cloud can impact the performance of a DBaaS.
    - Features offered within the typical RDBMS might not perpetually be offered during a DBaaS system.
    - The use of DBaaS may result in revenue loss in alternative areas of code updates and hardware management.

Steps:

Step1 : Login to aws console and search RDS

Step2: Click on to RDS and create database

Step 3: Select standard database

Step 4: Select MySQL and MySQL Community edition

Step 5:In Templates select Free tier

Step 6: Mention database name (default is database1) and username and password

Step 7: Instance is t2.micro

Step 8: Select Public Acess -Yes

Step 9: Click on to create Database

Step 10: It will take some time

Step 11: Go to google type mysql workbench

Step 12: Click on to download

Step 13: MySQL community download – Microsoft Windows

Step 14: Click on to – No thanks , just download

Step 15: Go to downloads of your machine and install it with default settings

Check your database is created and status is available

Step 16: Click on to view credential

Step 17: Click on to database

Step 18: Copy Endpoint

Step 19: Go back to workbench

Step 20: Click on to mysql connection

Step 21: Paste copied endpoint in Hostname Connection Name : databaseShilpa Username : admin Click on to Test Connection

Enter admin password

Step 22: Go to vpc security group

Step 23: Click on to inbound rules

Step 24: First select Click on to Edit inbound rule add rule select ipv4 --all traffic (add 0.0.0.0./0) and save Rules (important step to add inbound rule)

Step 25: Goto workbench (after giving details click on to Test Connection)

Click on Ok button Go to workbench double click on connection(databaseshilpa)

It will get opened

Step 26: Write query and execute Create database tsec; Use tsec; Show tables

Create table for eg: create table student(roll int, name varchar(10), city varchar(10));

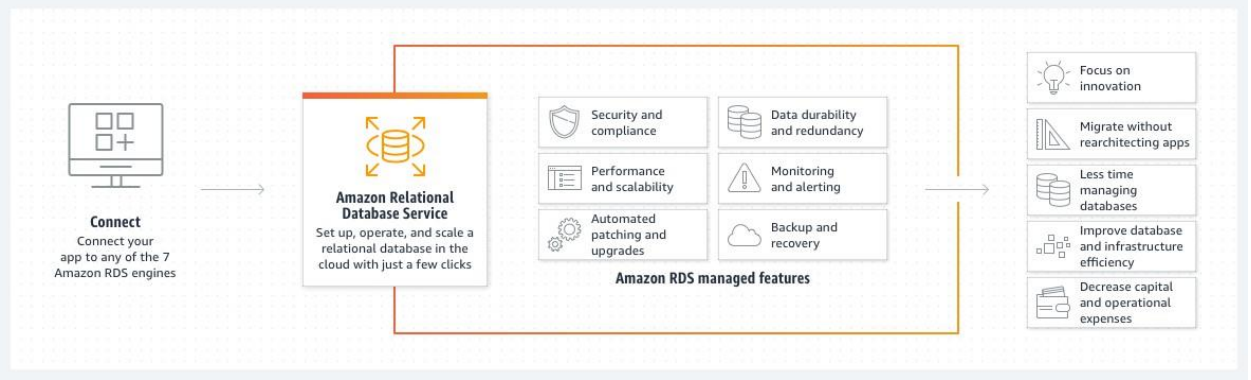
Describe student

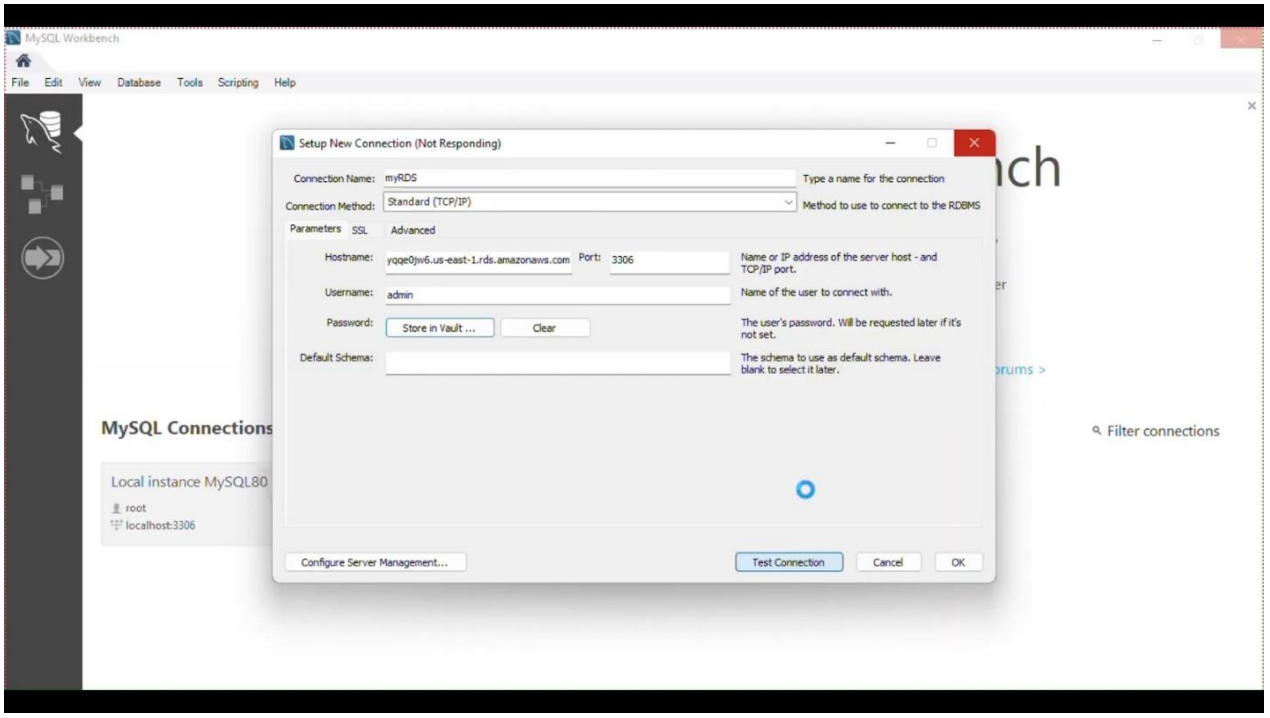
insert into student values(1,'shilpa','thane'); (Perform all CURD) operations)

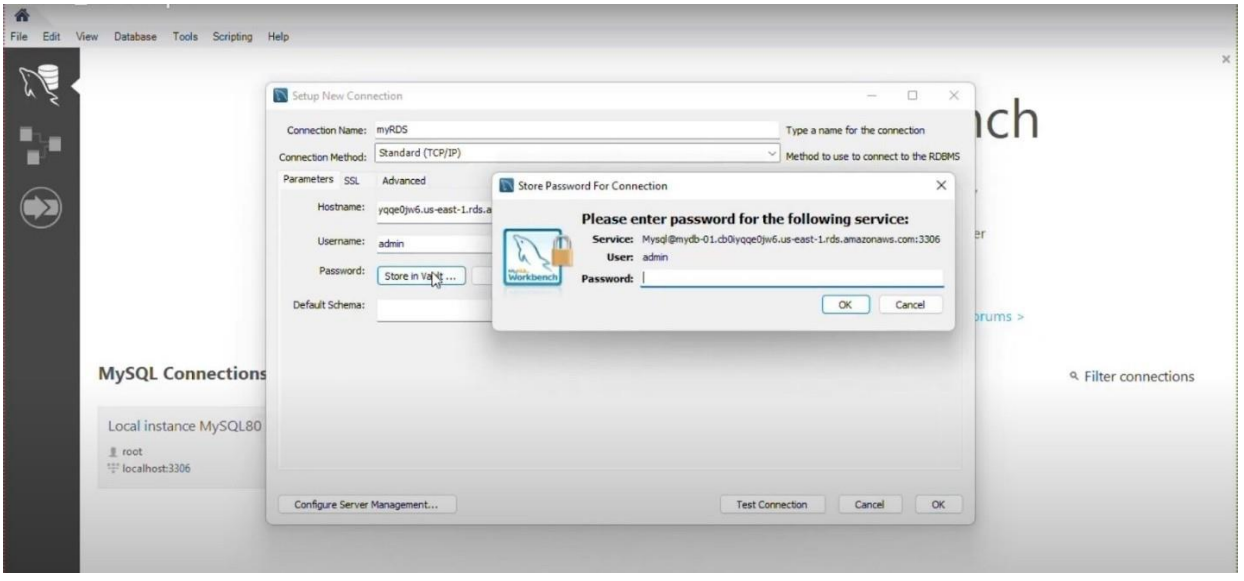
Step 27: Now delete the instance (once you have done with it) Select instance go to action stop instance and then delete instance

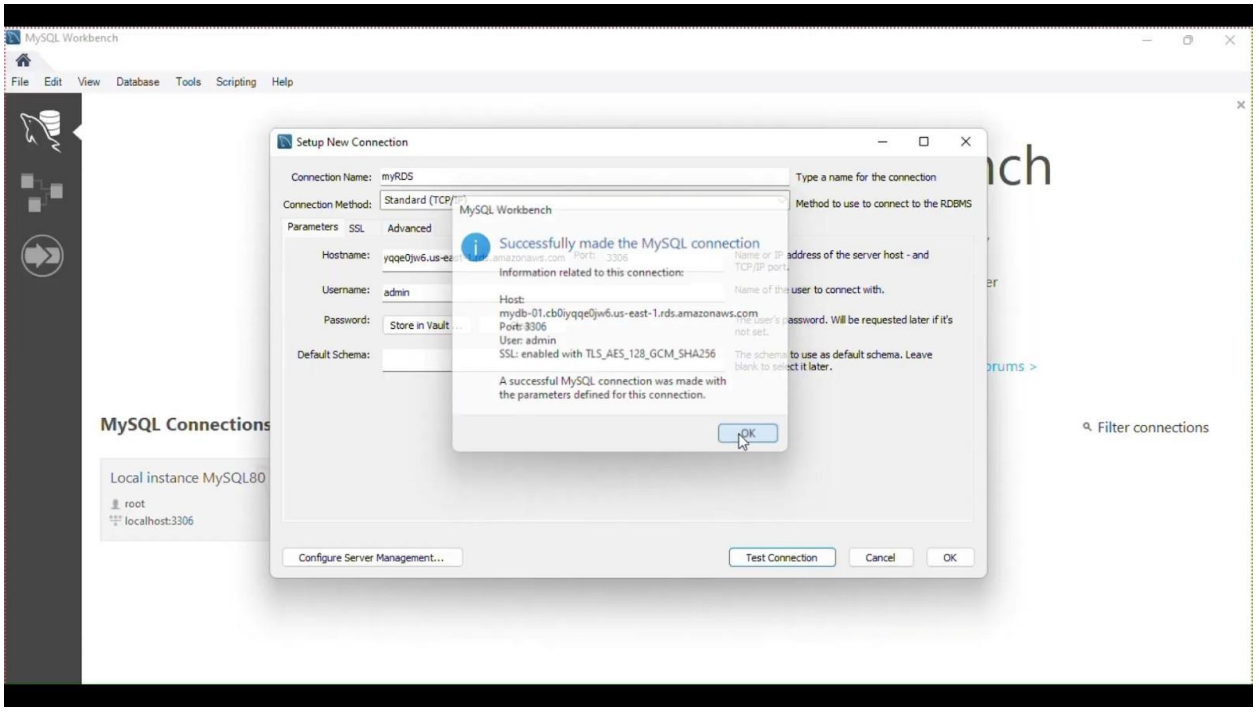
Uncheck create final shapshot

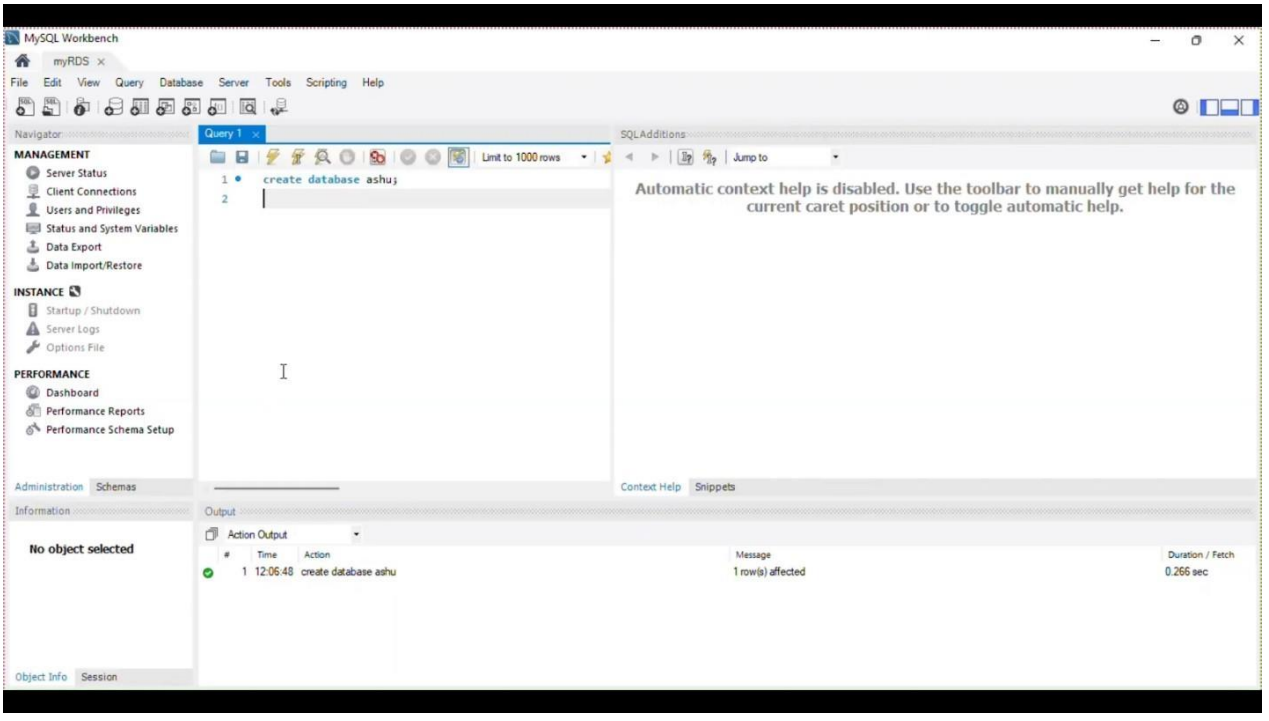
Output/Observation:




MySQL Workbench
File Edit View Database Tools Scripting Help
Setup New Connection (Not Responding)
Connection Name: myRDS
Type a name for the connection
Connection Method: Standard (TCP/IP)
Method to use to connect to the RDBMS
Parameters SSL Advanced
Hostname: yqqe0jw6.us-east-1.rds.amazonaws.com Port: 3306
Name or IP address of the server host - and TCP/IP port.
Username: admin
Name of the user to connect with.
Password: Store in Vault ... Clear
The user's password. Will be requested later if it's not set.
Default Schema:
The schema to use as default schema. Leave blank to select it later.
Configure Server Management...
Test Connection
Cancel
OK
MySQL Connections
Filter connections
Local instance MySQL80
root
localhost:3306


File Edit View Database Tools Scripting Help
Setup New Connection
Connection Name: myRDS
Type a name for the connection
Connection Method: Standard (TCP/IP)
Method to use to connect to the RDBMS
Parameters SSL Advanced
Store Password For Connection
Please enter password for the following service:
Service: Mysql@mydb-01.cb0iyqqe0jw6.us-east-1.rds.amazonaws.com:3306
User: admin
Password:
OK
Cancel
Hostname:
Username: admin
Password: Store in Vault ...
Default Schema:
Configure Server Management...
Test Connection
Cancel
OK
MySQL Connections
Filter connections
Local instance MySQL80
root
localhost:3306


MySQL Workbench
File Edit View Database Tools Scripting Help
Setup New Connection
Connection Name: myRDS
Type a name for the connection
Connection Method: Standard (TCP/IP)
Method to use to connect to the RDBMS
Parameters SSL Advanced
Hostname:
Username: admin
Password: Store in Vault ...
Default Schema:
MySQL Workbench
Successfully made the MySQL connection
Information related to this connection:
Host: mydb-01.cb0iyqqe0jw6.us-east-1.rds.amazonaws.com
Port: 3306
User: admin
SSL: enabled with TLS_AES_128_GCM_SHA256
A successful MySQL connection was made with the parameters defined for this connection.
OK
MySQL Connections
Local instance MySQL80
root
localhost:3306
Filter connections
Configure Server Management...
Test Connection
Cancel
OK


MySQL Workbench
myRDS
File Edit View Query Database Server Tools Scripting Help
Navigator
MANAGEMENT
Server Status
Client Connections
Users and Privileges
Status and System Variables
Data Export
Data Import/Restore
INSTANCE
Startup / Shutdown
Server Logs
Options File
PERFORMANCE
Dashboard
Performance Reports
Performance Schema Setup
Administration Schemas
Information
No object selected
Object Info Session
Query 1
Limit to 1000 rows
1 create database ashu;
2
SQLAdditions
Jump to
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Context Help Snippets
Output
Action Output
Time Action Message Duration / Fetch
1 12:06:48 create database ashu 1 row(s) affected 0.266 sec

Conclusion: Database as a Service (DBaaS) in Amazon Web Services (AWS) provides a range of fully managed database services that offer scalability, reliability, and ease of use for storing. AWS offers fully managed database services, relieving users from the burden of managing underlying infrastructure, including hardware provisioning, software installation, patching, and backups. This allows users to focus on their core business activities rather than administrative tasks.