**AY: 2023-24**

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

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| --- | --- |
| **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:**

**Conclusion:** Comment on database as a service in Amazon Web Services (AWS).