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RDS (Relational Database Service)
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-> Every application will have 3 layers

                        1) Front End (User interface)

                        2) Back End (Business Logic)

                        3) Database

-> End users will communicate with our application using frontend (user interface)

-> When end-user performs some operation in the front-end then it will send request to backend.
Backend contains business logic

-> Backend logic will communicate with Database to perform DB operations

        (insert / update / retrieve / delete)


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Challenges with On-Premise Database
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1) Setup Machine to install Database Server
2) Purchase Database Server License
3) Install Database Server in our Machine
4) Setup Network for our machine
5) Setup power for machine
6) Setup a server room to keep our machines
7) Setup AC for room for cool temperature
8) Setup Security for room
9) Setup DB backups
10) Diaster Recovery

-> If we use AWS cloud, then AWS will take care of all the above works which are required to setup
Database for our application

-> In AWS we have RDS service to create and setup database required for our applications

-> We just need to pay the money and use Database using AWS RDS service. DB setup and maintenence
will be taken care by AWS people.

**********Using RDS we can Easily set up, operate, and scale a relational database in the cloud*******


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Steps to create MYSQL DB using AWS RDS
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1) Login into AWS management console

2) Goto RDS Service

3) Click on 'Create Database'

                Choose a database creation method : Standard Create
                Engine Option : MySQL
                Template : Free Tier
                DB instance Identifier : sbidb (Note : you can give anything)
                Username : admin
                Password : Choose a passord
                public access: Yes

                    initial database name : ihis (Note: you can give anything)

  4) Click on 'Create Database' (It will take few minutes of time to create)

          Note: Notedown username and password of the database

  5) Once Database created, it will provide database Endpoint URL to access

  MySQL DB Properties
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  Endpoint / Hostname : database-1.cqrc41bryfex.ap-south-1.rds.amazonaws.com
  Uname : admin
  Pwd : Ashok123
  Port : 3306 (it is default port for mysql db)
  Database Name : sbidb

  Note: We need to provide DB properties to project team

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  Steps to test AWS RDS - MYSQL DB Setup
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  1) Download and install Visual Studio using below link

          Link : https://aka.ms/vs/17/release/vc_redist.x64.exe

  2) Download and install MySQL Workbench using below link

          Link : https://dev.mysql.com/downloads/workbench/

  3) Create Database Connection in MySQL workbench using Database properties

  4) Once we are able to connect with Database then we can execute below queries in Workbench

  *******************************Note: Enable 3306 port in security group**************************

  MySQL Queries
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  show databases;

  use sbidb;

  show tables;

  create table emp_dtls(emp_id integer(10), emp_name varchar(20), emp_salary integer(10));

  insert into emp_dtls values(101, 'Raju', 5000);

  insert into emp_dtls values(102, 'Rani', 6000);

  insert into emp_dtls values(103, 'Ashok', 7000);

  select * from emp_dtls;

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  Working with MySQL client in Ubuntu
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$ sudo apt-get update

$ sudo apt-get install mysql-client

$ mysql -h <endpoint> -u <username> -p (click enter and give password)


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Working with MySQL client in AMAZON Linux
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$ sudo yum update

$ sudo yum install mysql

$ mysql -h <endpoint-url> -u <username> -p (click enter and give password)

Ex :      $  mysql -h database-1.cqrc41bryfex.ap-south-1.rds.amazonaws.com -u admin -p


-h : It represents host (DB edpoint)

-u : It represents DB username

-p : It represents DB password
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