[Amazon Relational Database Service (RDS)](https://aws.amazon.com/rds/)

Amazon Relational Database Service (Amazon **RDS**) makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient.

Amazon Relational Database Service (**RDS**) is a managed SQL database service provided by Amazon Web Services (**AWS**). Amazon **RDS** supports an array of database ..

It is a region specific service

Data Base :-

* Manage, arrange, store data
* Instance through launch kar sakte hai data base

SQL/relational database :- query, used for complex structure, scaleup in vertical form, tabular formate,

More scalable, blank spaces not allowed, schema is static( matlab isme coloum nahi chhod sakte), focus on quantity.

Ex.:- MariaDB, my sql, amazon ARORA

NON-SQL/ distributed database :- not used for complex structure, scaleup in horizontally form, non s-structured format, less scalable, blank space allowd. Schema is dynamic (Colom chhod sakte ho), focus on quality.

Ex:- DynamoDB,

RDS :-

( relational database server)

* Serverless computing
* Database instances……not required administration process
* Automatic backup
* Hardware related issues (scaleup and scaledown )
* High durable
* Easy to use (easy to management and easy to configure)
* Cost effective
* Storage facility
* Monitor itself

**RDS database instance types :-**

1. Single availability zone ( can launch only one instance)
2. Multiple availability zone ( can launch multiple instances)
3. Read replica database instance type (here we will create replica of single availability zone )( as a backup of single availability zone)

STEPS:-

1. Create database
2. Choose a database creation method :-
3. Stander create :- you need to create manually
4. Easy create :- by default created database
5. Engine option :- select database that you want (mariaDB)
6. Version :- select version that you want (10.5.12)
7. Template :- free tier (production I ive)
8. Name of database instances (saif)
9. Master username (Admin)
10. Give password
11. Confirm
12. DB instance class:-
13. Standard (select)
14. Memory optimize
15. Burstable
16. Storage process:-
17. Provisional iops ssd
18. General
19. Auto scaling (disable)
20. Availability and durability (do not create)
21. Connectivity :- ( by default)
22. Subnet group (default)
23. Public access (no)
24. VPC security group (create new)
25. New vpc group
26. Availability zone
27. Additional configuration:-

Database name

DBgroup

Backup (disable)

Encryption (off)

Performance insight(off)

Monitoring (off) ( granarity means refreshing time)

Logs (error logs,

1. Maintenance (enable auto minor version update)
2. Delete protection
3. Estimate monthly costs
4. Create database
5. Launch instance
6. Get ssh
7. Sudo su
8. Yum install mysql –y
9. Check netwoeking in RDS inbond rule and add mysql port from edit endpoint rule
10. Mysql -h (select from RDSendpoint select and paste) –u admin –p type password
11. You will get the access
12. Show database(it is a cmd)
13. Create database
14. Show database
15. Create table student (name varchar(10), rol \_no int, course varchar(10));
16. Insert into student values(‘yogesh’, 101,’AWS’
17. Select \* from student;
18. Practical done of RDS service

Monitor database by application server:-

Difference between Web server and application

Web server :-

* Work on Front end
* Based multiple language
* Web server hosting
* Static content
* Web applications
* Ex.;- apache, http, nginx (servers)
* Languages :- Html, php,

Application server :-

* Application (web server inside application server)
* Dynamic content
* Web applications and EJB container
* Ex:- Weblogic, JBOSS, apache tomcat (servers)
* Languages :- java, nodeJS,

Artifacts:- .war or .jar type

EJP server :- it is a server side container

Multithreading :-

A technique by which a single set of code can be used by several processes at different stages of execution.

(jdbc ) (odbc) :- (java database connectivity)

TomCat server :- (port no 8080)

* It is opensource service
* Made by apache
* Java based on application
* Version should define properly

Steps :-

* Create database RDS
* launch instance
* Get ssh
* Yum install java –y ( tomcat is java based environment create hai)
* Yum provides tomcat ( to see the version of tomcat)
* Go to tpmcat.apache.org and install version that you want
* Curl –O and past link of version
* Tar –xzf appche-tomcat-8.5.73.tar.gz –C/mnt/ ( for extract)
* Cd /mnt
* Cd apache-tomcat-8.5.73
* Ls
* /bin/catalina.sh start (instance ke secuirity group me inpond me 8080 pot add karna hoga)
* Give portno after ip (add in outbond rule port no 8080)
* Mv /home/centos/students.war /mnt/ appche-tomcat-8.5.73/webapps
* Ls and check file
* Enter the ip with portno/student

Webapps :- it is a root dir of tomcat

* Less logs/
* Ls lib/
* Mv /home/centos/msql-connector.jar lib/
* Configure the page (sir will provide notes)
* Copy parts of file
* Go to apache-tomcat vim conf/context.xlm
* Paste in line no 23 (4 lines paste here)
* Put the details in that paste file
* ./bin/catlina.sh stop
* ./bin/catlina.sh start
* Fill details (if error then check logs) (because we had not created database in mariaDB)
* Less logs/catlina.sh
* Yum install mysql
* Mysql -h endpoint -uadmin -predhat123
* Create database students; ( add schema )
* Fill details in that page and run again (error:- check logs)
* Go to RDS and secuirity froup edit enbond rule and on the place of custom to anywhere

Short steps :-

* Install
* Students.jar
* Java database connectivity (/lib)
* Configure