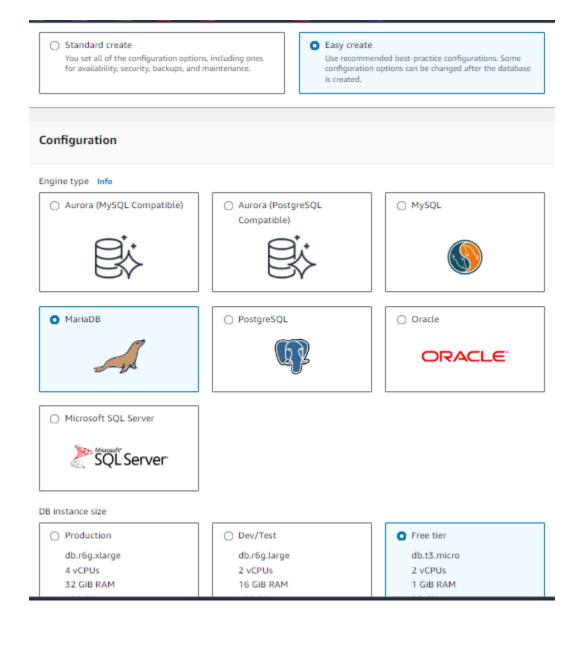
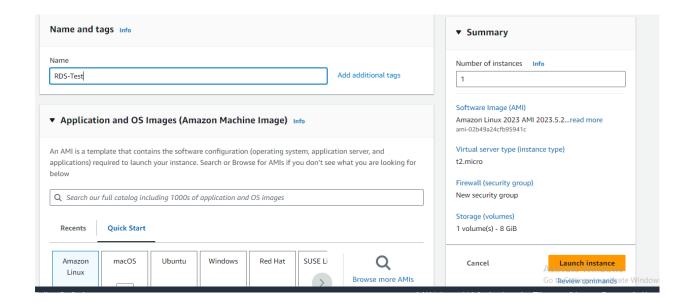
RDS (Relational Database Service)

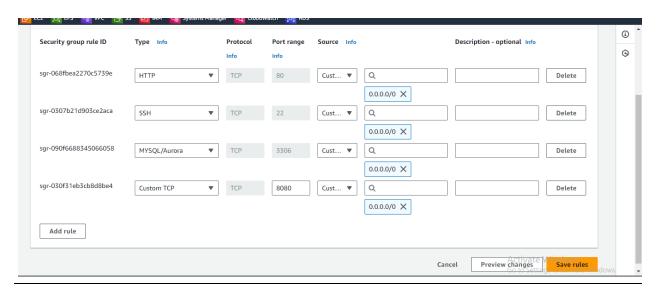
RDS → create database



Create an instance



Edit Security group whitelist SSH, HTTP,3306,8080 port



Install Mariadb*

Systemctl start Mariadb

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ip-172-31-7-110:~# systemctl start mariadb
root@ip-172-31-7-110:~#

.....

Connect to Database

mysql -h database-1.ctq2s4eqkzog.ap-south-1.rds.amazonaws.com -u admin -p

Create a database → create databases studentapp;

Use studentapp;

Download file for query

https://s3-us-west-2.amazonaws.com/studentapicit/student-rds.sql

```
CREATE TABLE if not exists students(student_id INT NOT NULL AUTO_INCREMENT,
    student_name VARCHAR(100) NOT NULL,
    student_addr VARCHAR(100) NOT NULL,
    student_age VARCHAR(3) NOT NULL,
    student_qual VARCHAR(20) NOT NULL,
    student_percent VARCHAR(10) NOT NULL,
    student_year_passed VARCHAR(10) NOT NULL,
    PRIMARY KEY (student_id)
);
```

```
MariaDB [(none)]> create database studentapp;
Query OK, 1 row affected (0.004 sec)
MariaDB [(none)]> show databases;
 Database
  information_schema
 innodb
 mysql
 performance_schema
 studentapp
 rows in set (0.002 sec)
MariaDB [(none)]> use studentapp;
Database changed
MariaDB [studentapp]> CREATE TABLE if not exists students(student_id INT NOT NULL AUTO_INCREMENT,
   -> student_name VARCHAR(100) NOT NULL,
           student_addr VARCHAR(100) NOT NULL,
    -> student_age VARCHAR(3) NOT NULL,
    -> student qual VARCHAR(20) NOT NULL,
    -> student_percent VARCHAR(10) NOT NULL,
-> student_year_passed VARCHAR(10) NOT NULL,
-> PRIMARY KEY (student_id)
    -> );
Query OK, 0 rows affected (0.013 sec)
MariaDB [studentapp]>
```

Condition Condition

Install apache-tomcat

wgethttps://archive.apache.org/dist/tomcat/tomcat-8/v8.5.78/bin/apache-tomcat-8.5.78.tar.gz

Extract the apache file

Tar –xvzf(filename)

Install java environment

Changes in webapps

Change the directory to apache-tomcat

Sudo apt-get install openjdk-11-jdk

Cd webapps → Is

```
Add url \rightarrow
```

wget https://s3-us-west-

2.amazonaws.com/studentapi-cit/student.war

Changes in library

Change dir to lib

Add $url \rightarrow$

wget https://s3-us-west-

2.amazonaws.com/studentapi-cit/mysql-connector.jar

Changes in configuration

Change directory to conf & edit context.xml

Sudo vim context.xml

<Resource name="jdbc/TestDB" auth="Container" type="javax.sql.DataSource"

maxTotal="500" maxIdle="30" maxWaitMillis="1000"

username="admin" password="Pratham123" driverClassName="com.mysql.jdbc.Driver"

url="jdbc:mysql://database-

- 1.ctq2s4eqkzog.ap-south-
- 1.rds.amazonaws.com3306/studentapp"/>

Changes in bin

Change directory to bin

Give execute permission to catalina.sh file

./catalina.sh start

```
root@ip-172-31-7-110:~/apache-tomcat-8.5.78/bin# ./catalina.sh start

Using CATALINA_BASE: /root/apache-tomcat-8.5.78

Using CATALINA_HOME: /root/apache-tomcat-8.5.78

Using CATALINA_TMPDIR: /root/apache-tomcat-8.5.78/temp

Using JRE_HOME: /usr

Using CLASSPATH: /root/apache-tomcat-8.5.78/bin/bootstrap.jar:/root/apache-tomcat-8.5.78/bin/tomcat-juli.jar

Using CATALINA_OPTS:

Tomcat started.

root@ip-172-31-7-110:~/apache-tomcat-8.5.78/bin#
```

Output

http://13.232.233.141:8080/student

Student Registration Form

Student Name	shubham
Student Address	jalna
Student Age	25
Student Qualification	bcom
Student Percentage	65.00
Year Passed	2020
register	

Register Student

Students List

Student ID	StudentName	Student Addrs	Student Age	Student Qualification	Student Percentage	Student Year Passed	Edit	Delete
1	pratham	pune	23	MCA	70.00	2024	<u>edit</u>	<u>delete</u>

```
MariaDB [(none)]> use studentapp;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A
Database changed
MariaDB [studentapp]> select * from students;
  student id | student name | student addr | student age | student qual | student percent | student year passed |
           1 | pratham
                                              | 23
                                                             MCA
                                                                               70.00
                                                                                                2024
                              | pune
           2 | nutan
                                              | 23
                                                             | MCA
                                                                             | 75.00
                                                                                                2024
                              | pune
 rows in set (0.001 sec)
MariaDB [studentapp]>
```

Register Student

Students List

Student ID	StudentName	Student Addrs	Student Age	Student Qualification	Student Percentage	Student Year Passed	Edit	Delete
1	pratham	pune	23	MCA	70.00	2024	<u>edit</u>	<u>delete</u>
2	nutan	pune	23	MCA	75.00	2024	<u>edit</u>	<u>delete</u>
3	shubham	jalna	25	bcom	65.00	2020	<u>edit</u>	<u>delete</u>
4	Gourav	Nagpur	22	MBA	60.00	2023	<u>edit</u>	<u>delete</u>
5	Dinesh	Bhadrawati	24	BCA	55.00	2024	edit	<u>delete</u>

Backup of database (both data & schema) using cli

mysqldump -h database-1.ctq2s4eqkzog.ap-south1.rds.amazonaws.com -u admin -p studentapp >
mydatabase_backup.sql

cat mydatabase_backup.sql

```
PRIMARY KEY ('student id')
  ENGINE-InnoDB AUTO INCREMENT-6 DEFAULT CHARSET-latin1 COLLATE-latin1 swedish ci;
 *!40101 SET character_set_client = @saved_cs_client */;
   Dumping data for table 'students'
LOCK TABLES 'students' WRITE;
/*!40000 ALTER TABLE `students` DISABLE KEYS */;
'*!40000 ALTER TABLE `students` DISABLE KEYS */;
INSERT INTO `students` VALUES
(1, 'pratham', 'pune', '23', 'MCA', '70.00', '2024'),
(2, 'nutan', 'pune', '23', 'MCA', '75.00', '2024'),
(3, 'shubham', 'jalna', '25', 'bcom', '65.00', '2020'),
(4, 'Gourav', 'Nagpur', '22', 'MBA', '60.00', '2023'),
(5, 'Dinesh', 'Bhadrawati', '24', 'BCA', '55.00', '2024');
'*!40000 ALTER TABLE `students` ENABLE KEYS */;
NLOCK TABLES;
/*!40103 SET TIME ZONE=@OLD TIME ZONE */;
*!40101 SET SQL MODE=@OLD SQL MODE */;
*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
*!40101 SET COLLATION CONNECTION=@OLD COLLATION CONNECTION */;
 *!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
  Dump completed on 2024-08-22 18:08:17
 oot@ip-172-31-15-237:~# ls
 pache-tomcat-8.5.78
                                                                  mydatabase_backup.sql pratham backup
                                       backup.sql
```

Backup of data only

mysqldump -h database-1.ctq2s4eqkzog.ap-south-1.rds.amazonaws.com -u admin -p --no-create-info studentapp > databackup.sql

```
oot@ip-172-31-15-237:~# ls
  pache-tomcat-8.5.78 apache-tomcat-8.5.78.tar.gz backup.sql mydatabase_backup.sql nutan.sql pratham_backup.sql snap
oot@ip-172-31-15-237:*‡ mysqldump -h database-1.ctq2s4eqkzoq.ap-south-1.rds.amazonaws.com -u admin -p --no-create-info studentapp > databackup.s
                                             st-8.5.78_tar.gz backup.sql databackup.sql mydatabase_backup.sql nutan.sql pratham_backup.sql snap
   wache-tomcat-8.3./8 apache-tomcat-8.5./8.tar.gz backup.sql databackup.sql

obt@ip-172-31-15-237:~‡ cat databackup.sql

!999999/- enable the sandbox mode */

• MariaDB dump 10.19 Distrib 10.11.8-MariaDB, for debian-linux-gnu (x86_64)
   Host: database-1.ctq2s4eqkzog.ap-south-1.rds.amazonaws.com Database: studentapp
   Server version
                              10.11.8-MariaDB-log
  *!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
 **140101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;

**140101 SET NAMES UFFBMA */;

**140103 SET NAMES UFFBMA */;

**140103 SET TIME_ZONE=*#O:00 * */;

**140103 SET TIME_ZONE=*#O:00 * */;

**140010 SET @OLD_POREIGN_KEY_CHECKS=##OFFOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;

**140101 SET @OLD_SQL_MODE=##SQL_MODE, SQL_MODE=**NO_AUTO_VALUE_ON_ZERO* */;

**140111 SET @OLD_SQL_MOTES=##SQL_MOTES, SQL_MOTES=0 */;
   EC2 🛱 EFS 🎧 VPC 🔁 S3 🔠 IAM 🔷 Systems Manager 🙋 CloudWatch 👸 RDS
/*!40103 SET @OLD TIME ZONE=@@TIME ZONE */;
/*!40103 SET TIME ZONE='+00:00' */;
/*!40014 SET @OLD FOREIGN KEY CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
/*!40101 SET @OLD SQL MODE=@@SQL MODE, SQL MODE='NO AUTO VALUE ON ZERO' */;
/*!40111 SET @OLD SQL NOTES=@@SQL NOTES, SQL NOTES=0 */;
  - Dumping data for table 'students'
LOCK TABLES `students` WRITE;

/*!40000 ALTER TABLE `students` DISABLE KEYS */;
INSERT INTO `students` VALUES

(1,'pratham','pune','23','MCA','70.00','2024'),
(2, 'nutan', 'pune', '23', 'MCA', '75.00', '2024'),
(3, 'shubham', 'jalna', '25', 'bcom', '65.00', '2020'), (4, 'Gourav', 'Nagpur', '22', 'MBA', '60.00', '2023'),
(5, 'Dinesh', 'Bhadrawati', '24', 'BCA', '55.00', '2024');
```

/*!40000 ALTER TABLE `students` ENABLE KEYS */;

/*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION CONNECTION=@OLD COLLATION CONNECTION */;

/*!40103 SET TIME ZONE=@OLD TIME ZONE */;

/*!40111 SET SQL NOTES=@OLD SQL NOTES */;

- Dump completed on 2024-08-22 18:18:47

root@ip-172-31-15-237:~#

/*!40101 SET SQL MODE=@OLD SQL MODE */;

UNLOCK TABLES;

Backup of schema only

mysqldump -h database-1.ctq2s4eqkzog.ap-south-1.rds.amazonaws.com -u admin -p --no-data studentapp > rsdbackup.sql

```
- Table structure for table `students`
DROP TABLE IF EXISTS `students`;
/*!40101 SET @saved_cs_client = @@character_set_client */;
/*!40101 SET character_set_client = utf8 */;
CREATE TABLE `students` (
 `student_id` int(11) NOT NULL AUTO_INCREMENT,
 'student name' varchar(100) NOT NULL,
 `student addr` varchar(100) NOT NULL,
 `student_age` varchar(3) NOT NULL,
`student_qual` varchar(20) NOT NULL,
 `student_percent` varchar(10) NOT NULL,
 `student_year_passed` varchar(10) NOT NULL,
PRIMARY KEY (`student_id`)
 ENGINE=InnoDB AUTO_INCREMENT=6 DEFAULT CHARSET=latin1 COLLATE=latin1_swedish_ci;
/*!40101 SET character_set_client = @saved_cs_client */;
/*!40103 SET TIME ZONE=@OLD TIME_ZONE */;
/*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
/*!40014 SET FOREIGN KEY CHECKS=@OLD FOREIGN KEY CHECKS */;
/*!40014 SET UNIQUE CHECKS=@OLD UNIQUE CHECKS */;
/*!40101 SET CHARACTER SET CLIENT=@OLD CHARACTER SET CLIENT */;
/*!40101 SET CHARACTER SET RESULTS=@OLD CHARACTER SET RESULTS */;
/*!40101 SET COLLATION CONNECTION=@OLD COLLATION CONNECTION */;
/*!40111 SET SQL NOTES=@OLD SQL NOTES */;
 - Dump completed on 2024-08-22 18:24:16
root@ip-172-31-15-237:~#
```

> CloudShell Feedback