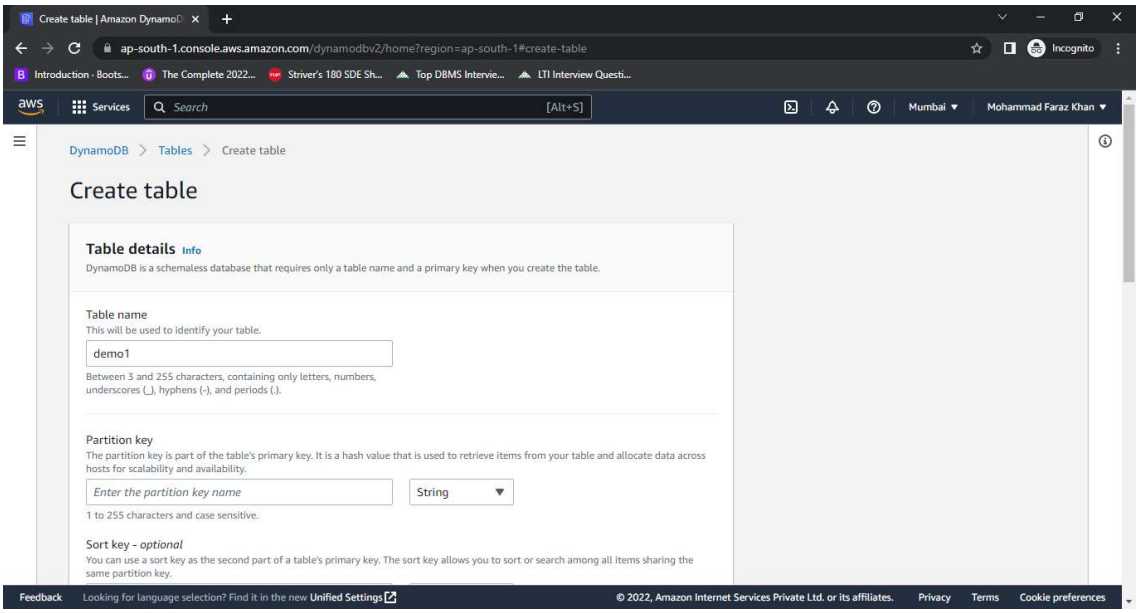
Name : Mohammad Faraz M Khan
Enrollment No. : A70405219039
Course : B.Tech (CSE) Sem-7
Subject : Cloud Computing Lab

Experiment : 7

Problem Statements:

1. Create DynamoDB in AWS.
2. Create RDS using MySQL in AWS.
3. Connect RDS in AWS through SQL workbench and EC2 Instance.

1. Create DynamoDB in AWS.



Put partition key as id and create the table.

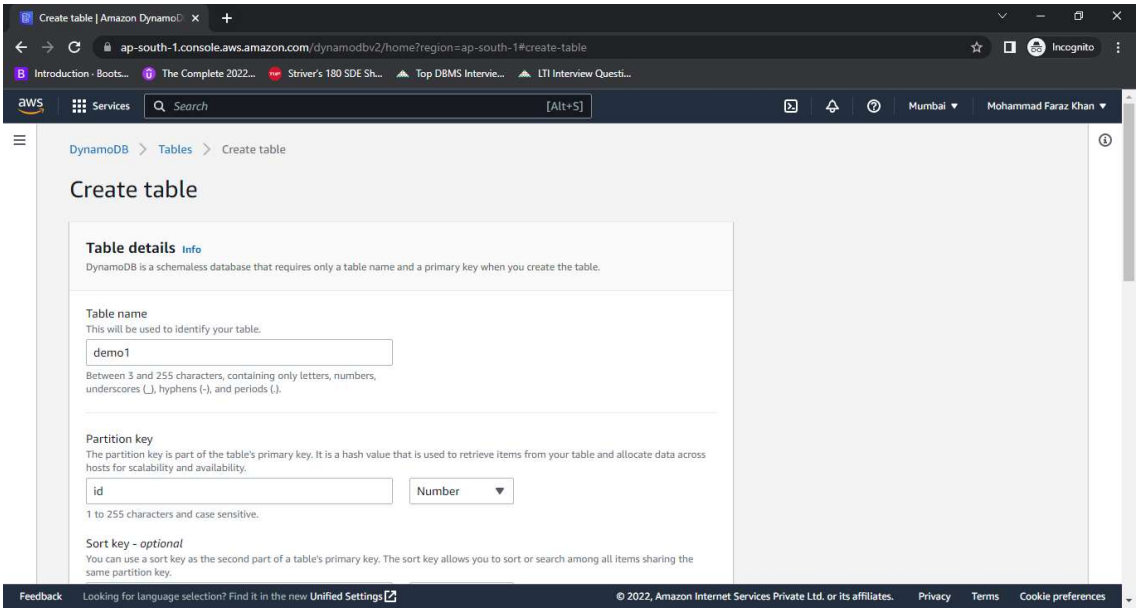
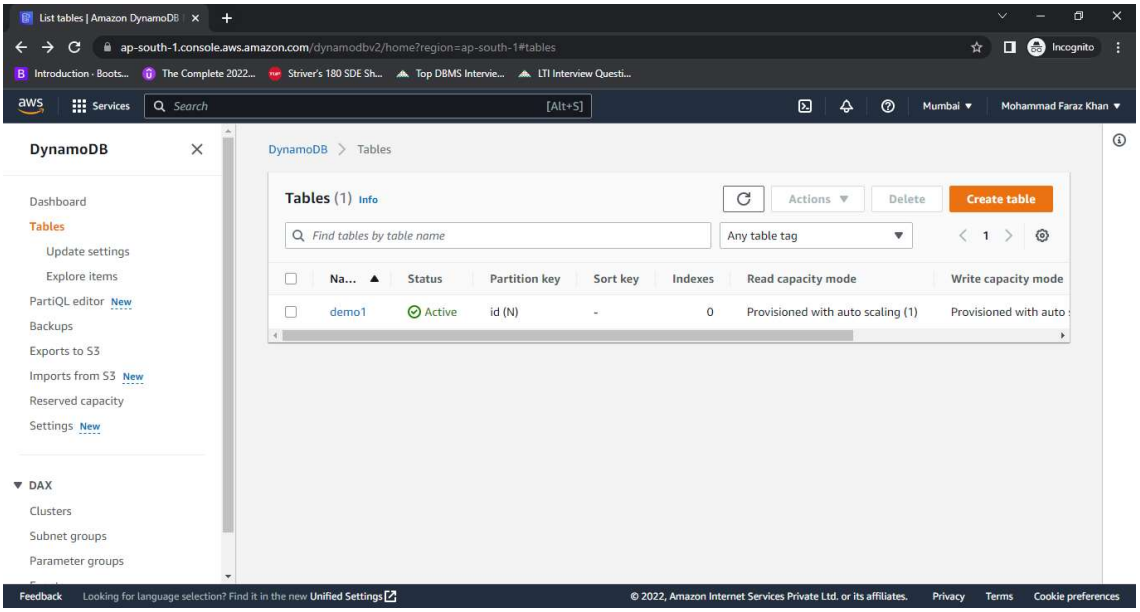
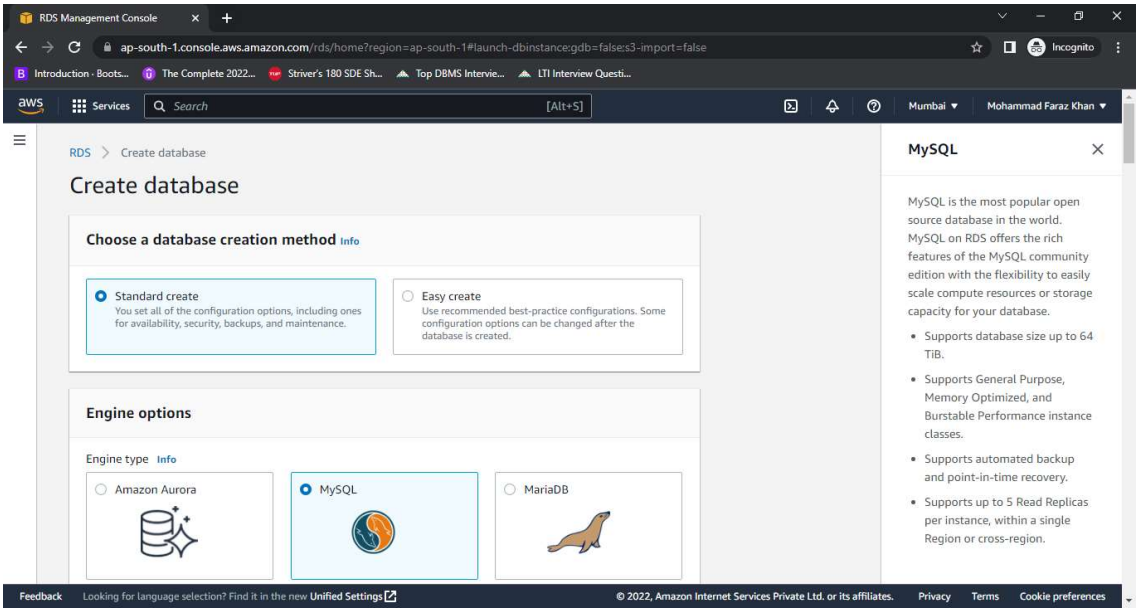


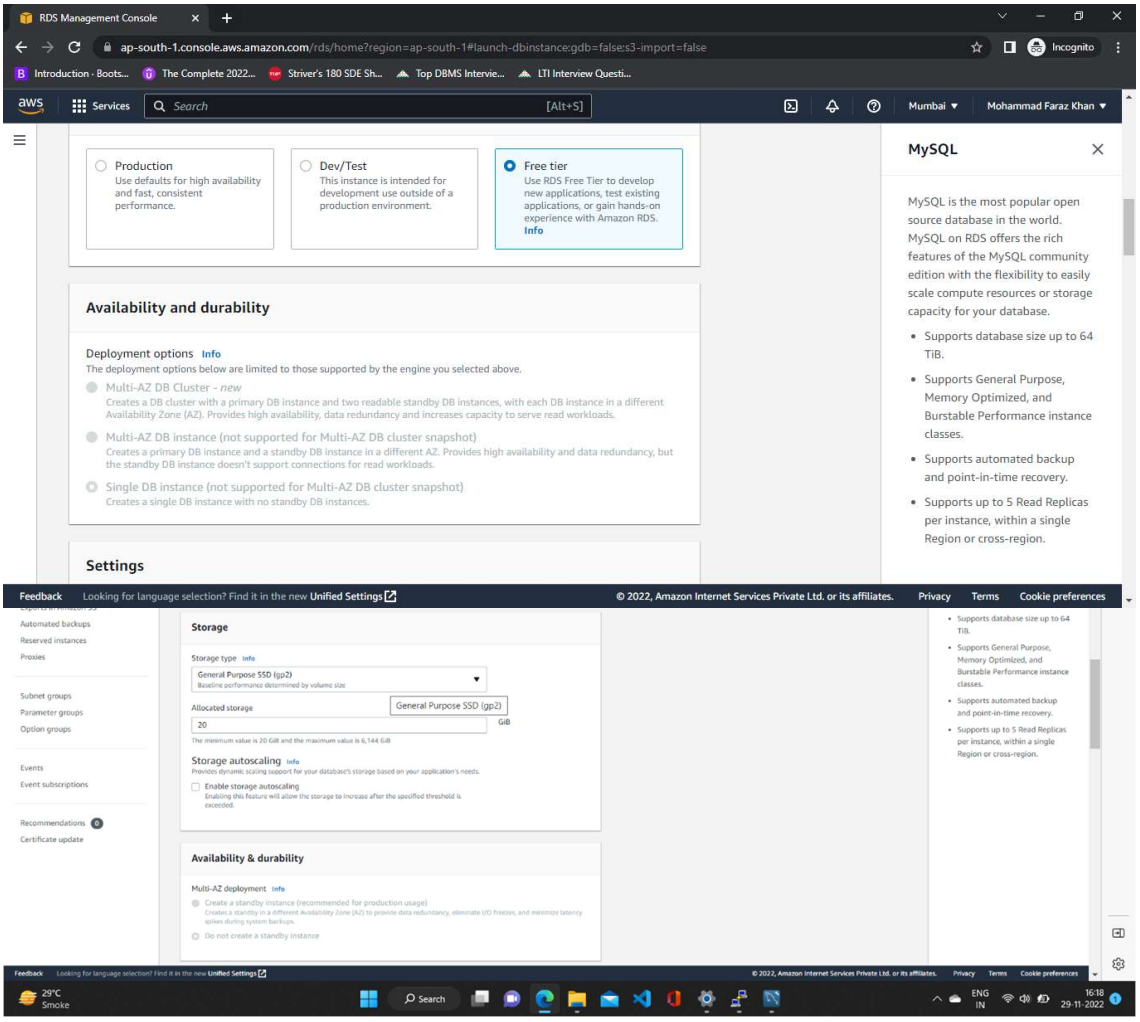
Table created

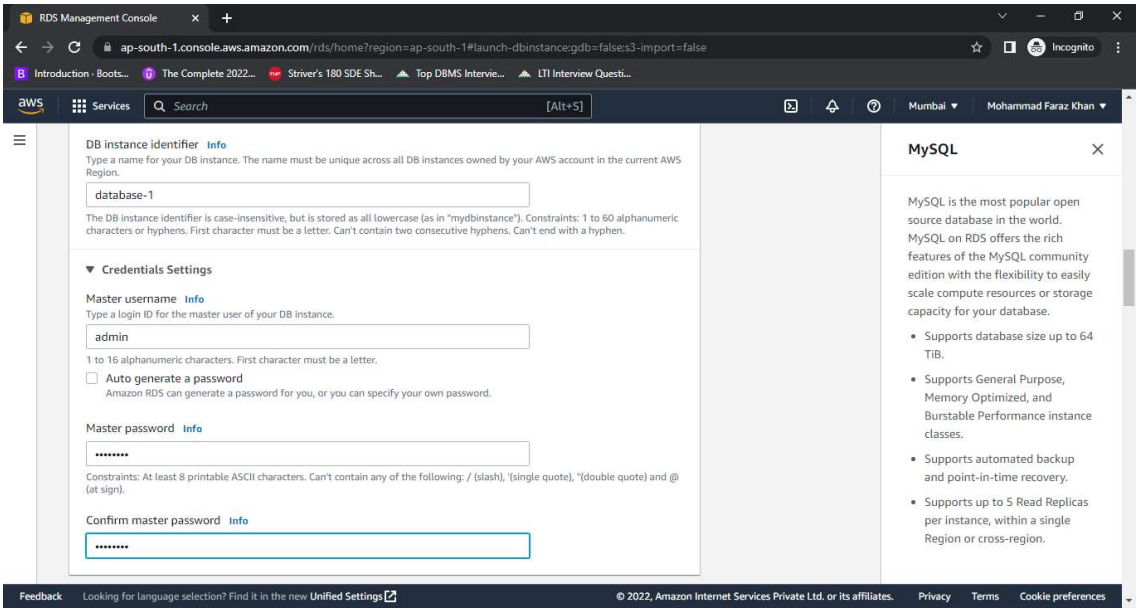


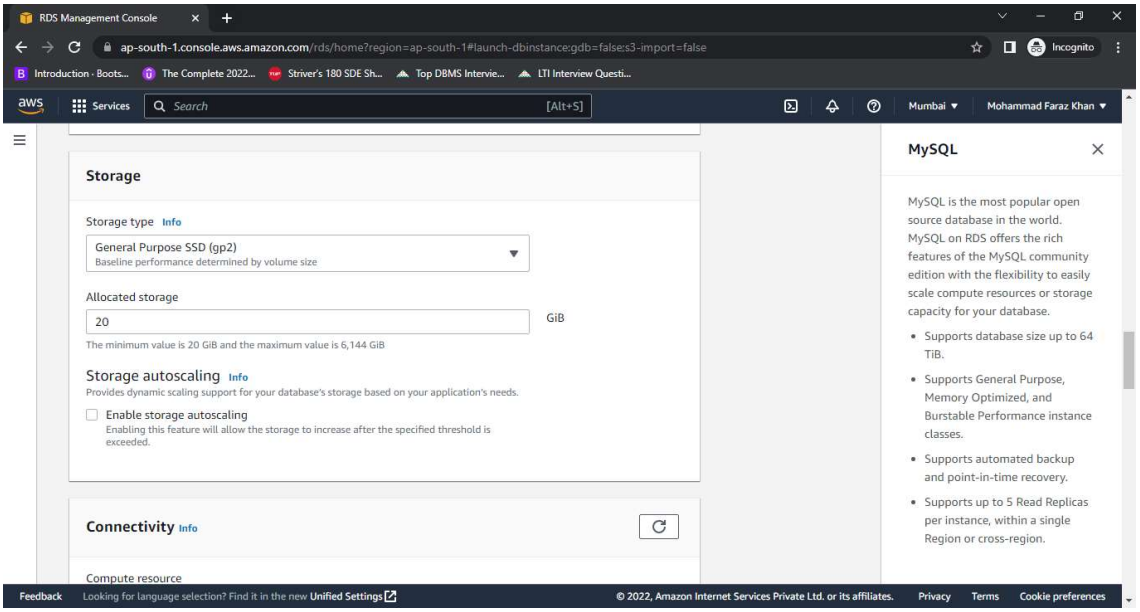
2. Create RDS using MySQL in AWS.

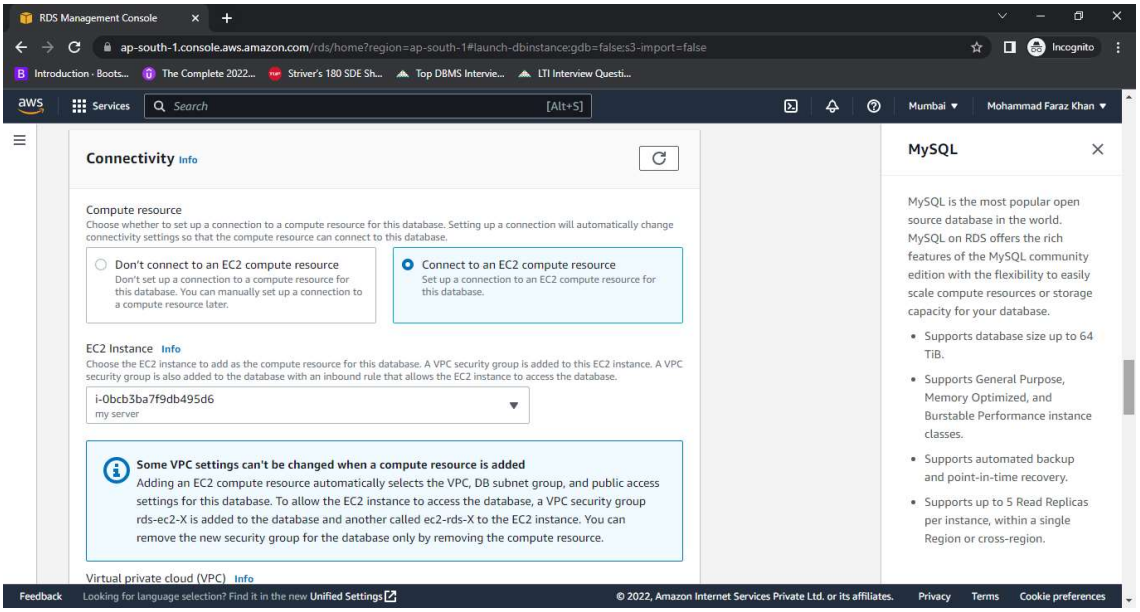
Create Database in RDS

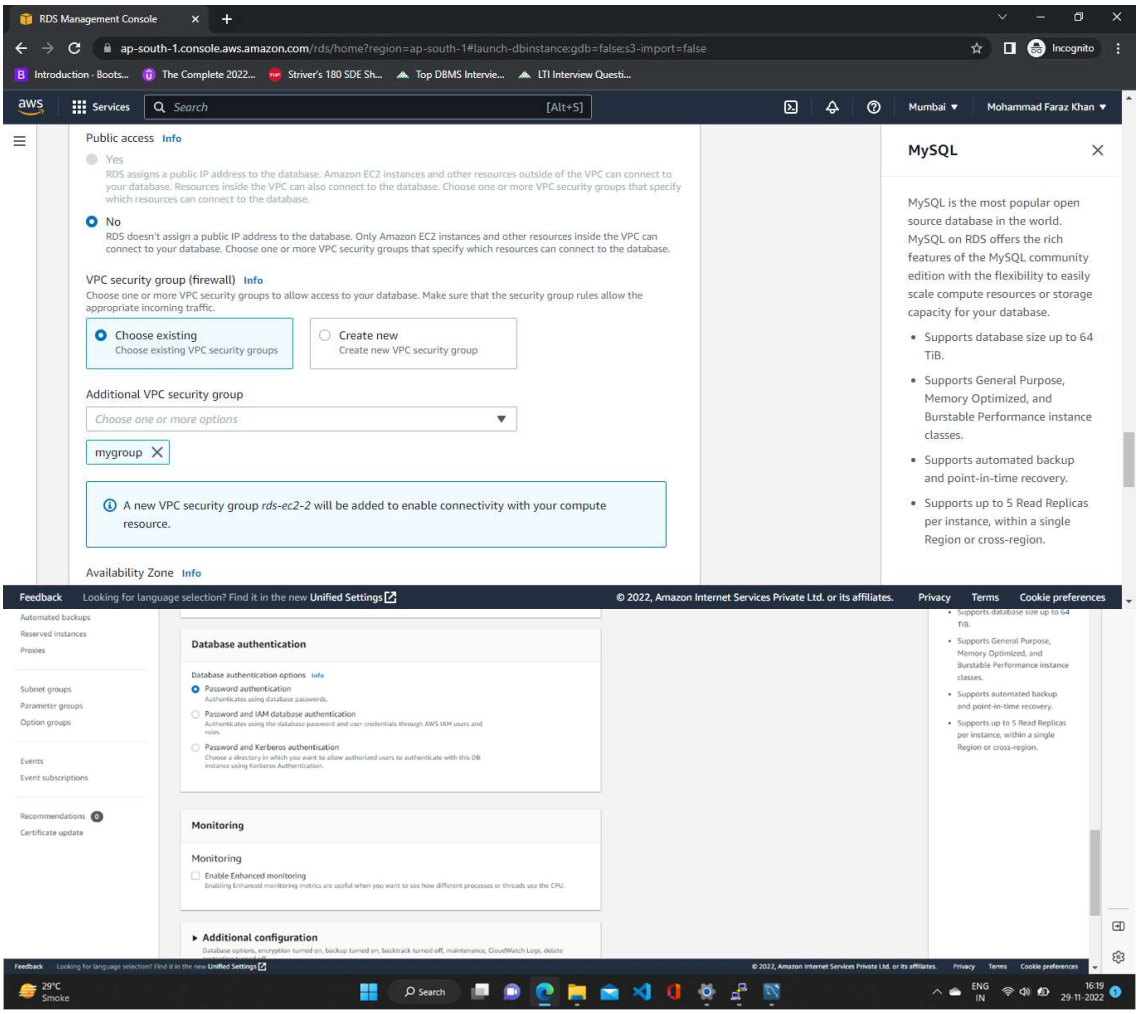


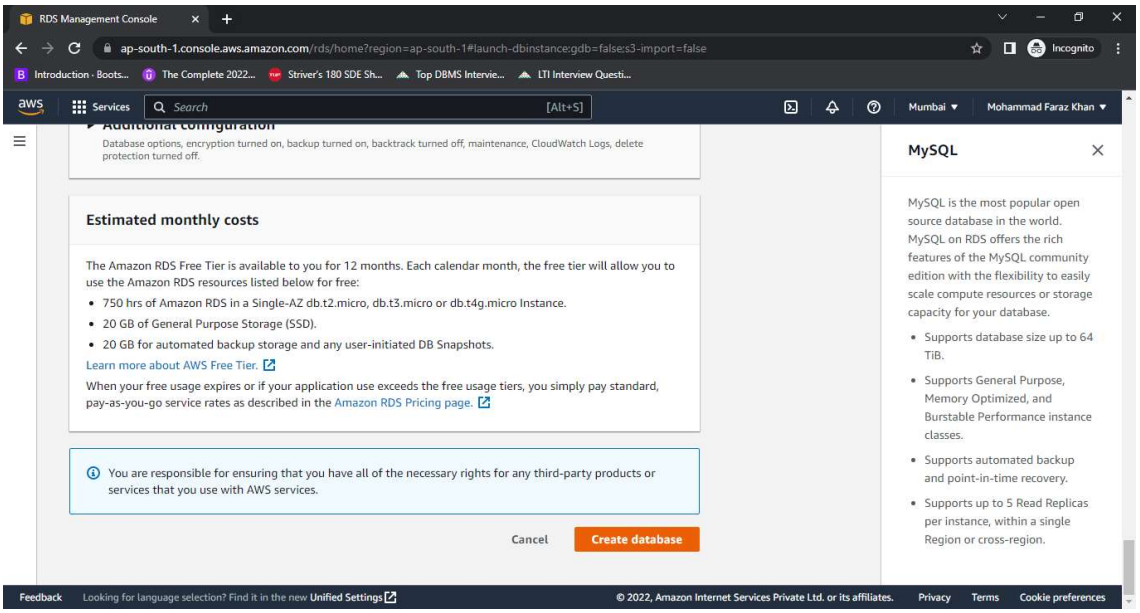

RDS Management Console
ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false
Incognito
Introduction - Boots...
The Complete 2022...
Striver's 180 SDE Sh...
Top DBMS Intervie...
LTI Interview Questi...
aws
Services
Search
[Alt+S]
Mumbai
Mohammad Faraz Khan
Production
Use defaults for high availability and fast, consistent performance.
Dev/Test
This instance is intended for development use outside of a production environment.
Free tier
Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS.
Info
Availability and durability
Deployment options Info
The deployment options below are limited to those supported by the engine you selected above.
Multi-AZ DB Cluster - new
Creates a DB cluster with a primary DB instance and two readable standby DB instances, with each DB instance in a different Availability Zone (AZ). Provides high availability, data redundancy and increases capacity to serve read workloads.
Multi-AZ DB instance (not supported for Multi-AZ DB cluster snapshot)
Creates a primary DB instance and a standby DB instance in a different AZ. Provides high availability and data redundancy, but the standby DB instance doesn't support connections for read workloads.
Single DB instance (not supported for Multi-AZ DB cluster snapshot)
Creates a single DB instance with no standby DB instances.
Settings
MySQL
MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.
Supports database size up to 64 TiB.
Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
Supports automated backup and point-in-time recovery.
Supports up to 5 Read Replicas per instance, within a single Region or cross-region.
Feedback
Looking for language selection? Find it in the new Unified Settings
© 2022, Amazon Internet Services Private Ltd. or its affiliates.
Privacy
Terms
Cookie preferences
Storage
Storage type Info
General Purpose SSD (gp2)
Baseline performance determined by volume size
Allocated storage
General Purpose SSD (gp2)
20
GiB
The minimum value is 20 GiB and the maximum value is 6,144 GiB
Storage autoscaling Info
Provides dynamic scaling support for your database's storage based on your application's needs.
Enable storage autoscaling
Enabling this feature will allow the storage to increase after the specified threshold is exceeded.
Availability & durability
Multi-AZ deployment Info
Create a standby instance (recommended for production usage)
Creates a standby in a different Availability Zone (AZ) to provide data redundancy, eliminate I/O freezes, and minimize latency spikes during system backups.
Do not create a standby instance
Automated backups
Reserved instances
Proxies
Subnet groups
Parameter groups
Option groups
Events
Event subscriptions
Recommendations
Certificate update
29°C
Smoke
Search
ENG
IN
16:18
29-11-2022

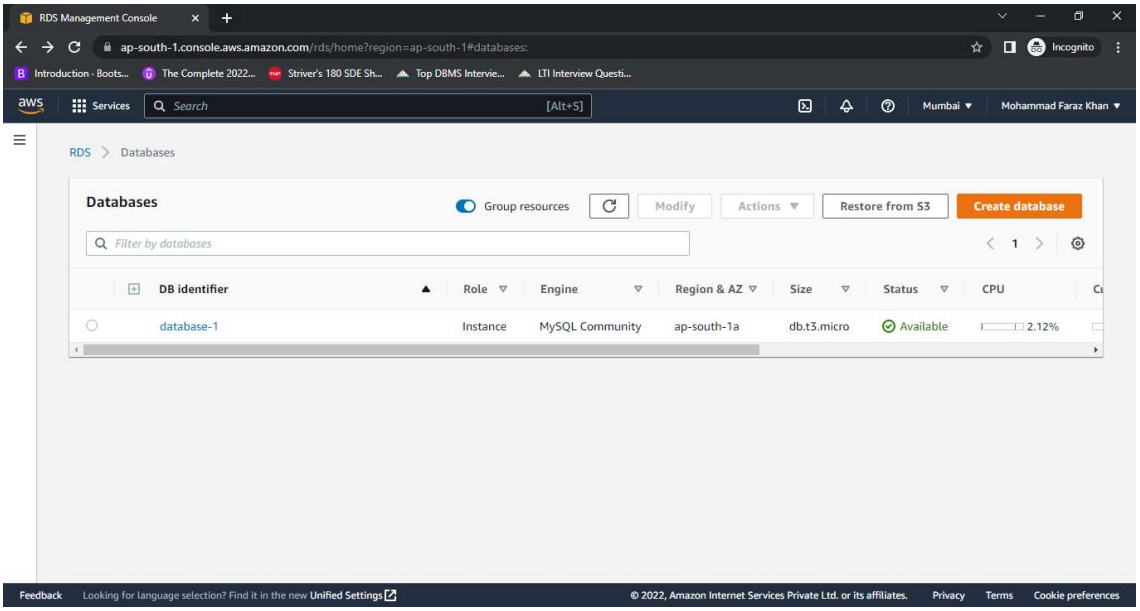

RDS Management Console
ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false
Incognito
Introduction - Boots...
The Complete 2022...
Striver's 180 SDE Sh...
Top DBMS Intervie...
LTI Interview Questi...
aws
Services
Search
[Alt+S]
Mumbai
Mohammad Faraz Khan
DB instance identifier Info
Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.
database-1
The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.
Credentials Settings
Master username Info
Type a login ID for the master user of your DB instance.
admin
1 to 16 alphanumeric characters. First character must be a letter.
Auto generate a password
Amazon RDS can generate a password for you, or you can specify your own password.
Master password Info
Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), '(single quote), "(double quote) and @ (at sign).
Confirm master password Info
MySQL
MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.
Supports database size up to 64 TiB.
Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
Supports automated backup and point-in-time recovery.
Supports up to 5 Read Replicas per instance, within a single Region or cross-region.
Feedback
Looking for language selection? Find it in the new Unified Settings
© 2022, Amazon Internet Services Private Ltd. or its affiliates.
Privacy
Terms
Cookie preferences


RDS Management Console
ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false
Incognito
Introduction - Boots...
The Complete 2022...
Striver's 180 SDE Sh...
Top DBMS Intervie...
LTI Interview Questi...
aws
Services
Search
[Alt+S]
Mumbai
Mohammad Faraz Khan
Storage
Storage type Info
General Purpose SSD (gp2)
Baseline performance determined by volume size
Allocated storage
20
GiB
The minimum value is 20 GiB and the maximum value is 6,144 GiB
Storage autoscaling Info
Provides dynamic scaling support for your database's storage based on your application's needs.
Enable storage autoscaling
Enabling this feature will allow the storage to increase after the specified threshold is exceeded.
Connectivity Info
Compute resource
MySQL
MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.
Supports database size up to 64 TiB.
Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
Supports automated backup and point-in-time recovery.
Supports up to 5 Read Replicas per instance, within a single Region or cross-region.
Feedback
Looking for language selection? Find it in the new Unified Settings
© 2022, Amazon Internet Services Private Ltd. or its affiliates.
Privacy
Terms
Cookie preferences


RDS Management Console
ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false
Incognito
Introduction - Boots...
The Complete 2022...
Striver's 180 SDE Sh...
Top DBMS Intervie...
LTI Interview Questi...
aws
Services
Search
[Alt+S]
Mumbai
Mohammad Faraz Khan
Connectivity Info
Compute resource
Choose whether to set up a connection to a compute resource for this database. Setting up a connection will automatically change connectivity settings so that the compute resource can connect to this database.
Don't connect to an EC2 compute resource
Don't set up a connection to a compute resource for this database. You can manually set up a connection to a compute resource later.
Connect to an EC2 compute resource
Set up a connection to an EC2 compute resource for this database.
EC2 Instance Info
Choose the EC2 instance to add as the compute resource for this database. A VPC security group is added to this EC2 instance. A VPC security group is also added to the database with an inbound rule that allows the EC2 instance to access the database.
i-0bcb3ba7f9db495d6
my server
Some VPC settings can't be changed when a compute resource is added
Adding an EC2 compute resource automatically selects the VPC, DB subnet group, and public access settings for this database. To allow the EC2 instance to access the database, a VPC security group rds-ec2-X is added to the database and another called ec2-rds-X to the EC2 instance. You can remove the new security group for the database only by removing the compute resource.
Virtual private cloud (VPC) Info
MySQL
MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.
Supports database size up to 64 TiB.
Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
Supports automated backup and point-in-time recovery.
Supports up to 5 Read Replicas per instance, within a single Region or cross-region.
Feedback
Looking for language selection? Find it in the new Unified Settings
© 2022, Amazon Internet Services Private Ltd. or its affiliates.
Privacy
Terms
Cookie preferences

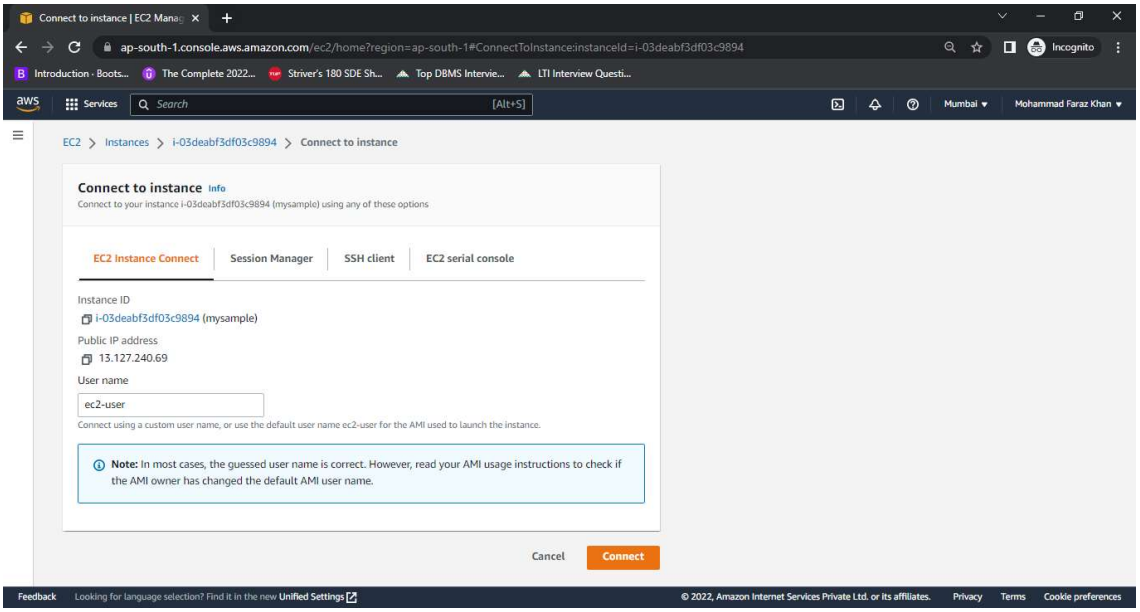

RDS Management Console
ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false
Incognito
Introduction - Boots...
The Complete 2022...
Striver's 180 SDE Sh...
Top DBMS Intervie...
LTI Interview Questi...
aws
Services
Search
[Alt+S]
Mumbai
Mohammad Faraz Khan
Public access Info
Yes
RDS assigns a public IP address to the database. Amazon EC2 instances and other resources outside of the VPC can connect to your database. Resources inside the VPC can also connect to the database. Choose one or more VPC security groups that specify which resources can connect to the database.
No
RDS doesn't assign a public IP address to the database. Only Amazon EC2 instances and other resources inside the VPC can connect to your database. Choose one or more VPC security groups that specify which resources can connect to the database.
VPC security group (firewall) Info
Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriate incoming traffic.
Choose existing
Choose existing VPC security groups
Create new
Create new VPC security group
Additional VPC security group
Choose one or more options
mygroup
A new VPC security group rds-ec2-2 will be added to enable connectivity with your compute resource.
Availability Zone Info
MySQL
MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.
Supports database size up to 64 TiB.
Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
Supports automated backup and point-in-time recovery.
Supports up to 5 Read Replicas per instance, within a single Region or cross-region.
Feedback
Looking for language selection? Find it in the new Unified Settings
© 2022, Amazon Internet Services Private Ltd. or its affiliates.
Privacy
Terms
Cookie preferences
Automated backups
Reserved instances
Proxies
Subnet groups
Parameter groups
Option groups
Events
Event subscriptions
Recommendations
Certificate update
Database authentication
Database authentication options Info
Password authentication
Authenticates using database passwords.
Password and IAM database authentication
Authenticates using the database password and user credentials through AWS IAM users and roles.
Password and Kerberos authentication
Choose a directory in which you want to allow authorized users to authenticate with this DB instance using Kerberos Authentication.
Monitoring
Monitoring
Enable Enhanced monitoring
Enabling Enhanced monitoring metrics are useful when you want to see how different processes or threads use the CPU.
Additional configuration
Database options, encryption turned on, backup turned on, backtrack turned off, maintenance, CloudWatch Logs, delete
29°C
Smoke
Search
ENG
IN
16:19
29-11-2022

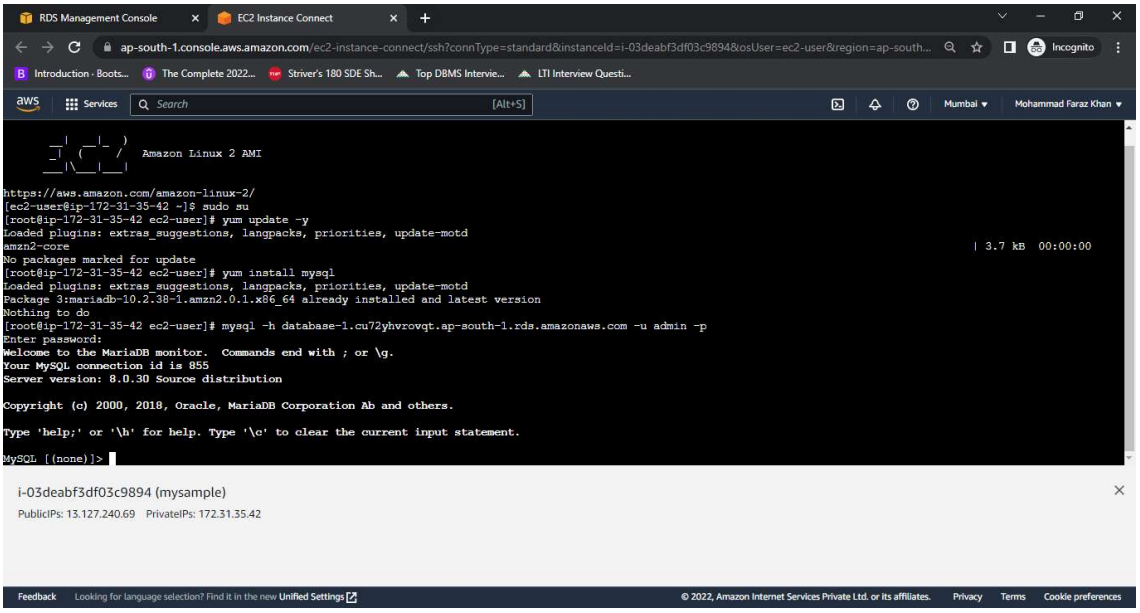

RDS Management Console
ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false
Incognito
Introduction - Boots...
The Complete 2022...
Striver's 180 SDE Sh...
Top DBMS Intervie...
LTI Interview Questi...
aws
Services
Search
[Alt+S]
Mumbai
Mohammad Faraz Khan
Additional configuration
Database options, encryption turned on, backup turned on, backtrack turned off, maintenance, CloudWatch Logs, delete protection turned off.
Estimated monthly costs
The Amazon RDS Free Tier is available to you for 12 months. Each calendar month, the free tier will allow you to use the Amazon RDS resources listed below for free:
750 hrs of Amazon RDS in a Single-AZ db.t2.micro, db.t3.micro or db.t4g.micro Instance.
20 GB of General Purpose Storage (SSD).
20 GB for automated backup storage and any user-initiated DB Snapshots.
Learn more about AWS Free Tier.
When your free usage expires or if your application use exceeds the free usage tiers, you simply pay standard, pay-as-you-go service rates as described in the Amazon RDS Pricing page.
You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.
Cancel
Create database
MySQL
MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.
Supports database size up to 64 TiB.
Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
Supports automated backup and point-in-time recovery.
Supports up to 5 Read Replicas per instance, within a single Region or cross-region.
Feedback
Looking for language selection? Find it in the new Unified Settings
© 2022, Amazon Internet Services Private Ltd. or its affiliates.
Privacy
Terms
Cookie preferences


RDS Management Console
ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#databases:
Incognito
Introduction - Boots...
The Complete 2022...
Striver's 180 SDE Sh...
Top DBMS Intervie...
LTI Interview Questi...
aws
Services
Search
[Alt+S]
Mumbai
Mohammad Faraz Khan
RDS
Databases
Databases
Group resources
Modify
Actions
Restore from S3
Create database
Filter by databases
1
DB identifier
Role
Engine
Region & AZ
Size
Status
CPU
database-1
Instance
MySQL Community
ap-south-1a
db.t3.micro
Available
2.12%
Feedback
Looking for language selection? Find it in the new Unified Settings
© 2022, Amazon Internet Services Private Ltd. or its affiliates.
Privacy
Terms
Cookie preferences

3. Connect RDS in AWS through SQL workbench and EC2 Instance.

A) Connect using EC2





```
Server version: 8.0.28 Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> Create database University;
Query OK, 1 row affected (0.00 sec)

MySQL [(none)]> show database;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'database' at line 1
MySQL [(none)]> show databases;
+--------------------+
| Database           |
+--------------------+
| University         |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)

MySQL [(none)]>
```

```
MySQL [(none)]> show databases;
+--------------------+
| Database           |
+--------------------+
| University         |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)

MySQL [(none)]> create table University_details(School_id varchar(20) primary key ,School_Name varchar(20),Teaching_Staff int,NonTeaching_staff int,Student int);
ERROR 1046 (3D000): No database selected
MySQL [(none)]> use University
Database changed
MySQL [University]>
MySQL [University]> create table University_details(School_id varchar(20) primary key ,School_Name varchar(20),Teaching_Staff int,NonTeaching_staff int,Student int);
Query OK, 0 rows affected (0.03 sec)

MySQL [University]>
```

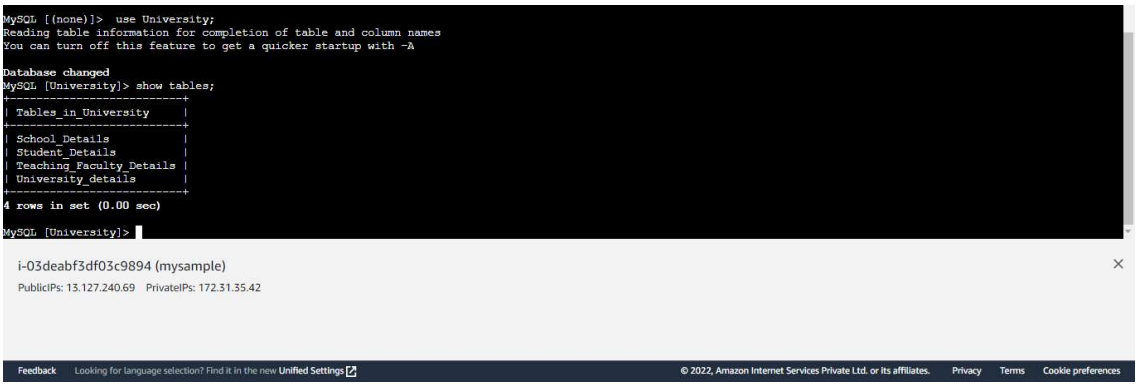
```
MySQL [University]> create table School_Details(School_id varchar(20),Dept_id varchar(20) primary key ,Dept_Name varchar(20),School_Name  varchar(20),Teaching_Staff in
t,NonTeaching_staff int,Student int,foreign key (School_id) references University_Details(School_id));
ERROR 1824 (HY000): Failed to open the referenced table 'University_Details'
MySQL [University]> show tables;
+----------------------+
| Tables_in_University |
+----------------------+
| University_details   |
+----------------------+
1 row in set (0.00 sec)

MySQL [University]> create table School_Details(School_id varchar(20),Dept_id varchar(20) primary key ,Dept_Name varchar(20),School_Name  varchar(20),Teaching_Staff  i
nt,NonTeaching_staff int,Student int,foreign key (School_id) references University_details(School_id));
Query OK, 0 rows affected (0.03 sec)

MySQL [University]>
```

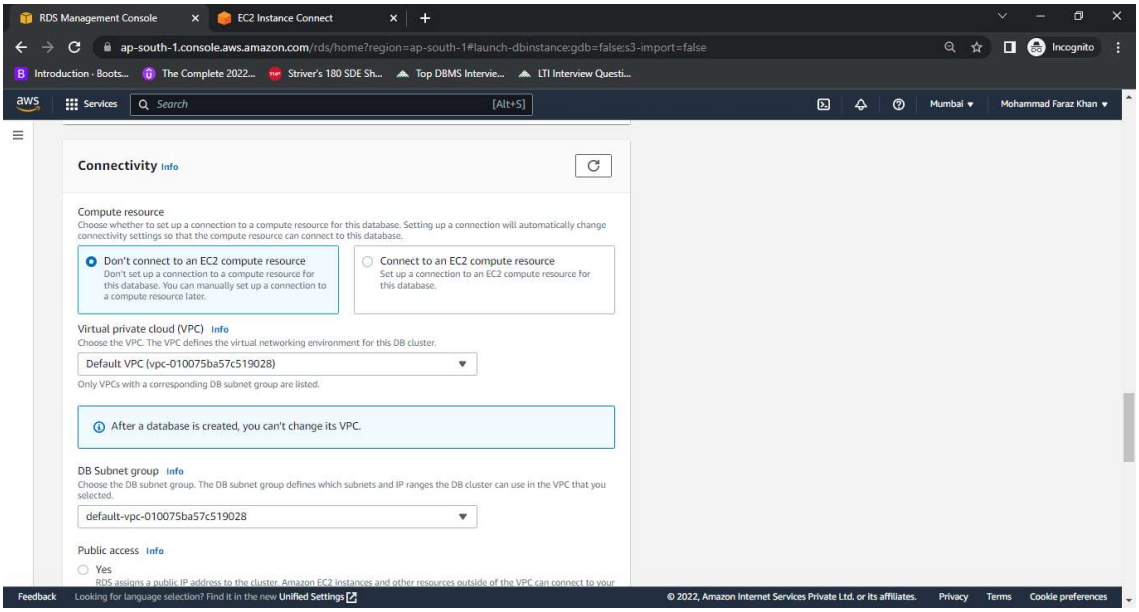
```
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '/-details(Sc
hool_id),foreign Key (Dept_id) references School_Details(Dept_id))' at line 1
MySQL [University]> Create table Student_Details(School_id varchar(20),Dept_id varchar(20),Enrollment_no varchar(20) primary key,Dept_Name varchar(20),Student_Name var
char(20),DoB varchar(20),Email_id varchar(20),phone_no int ,foreign key (School_id) references University_details(School_id),foreign Key (Dept_id) references School_De
tails(Dept_id));
Query OK, 0 rows affected (0.04 sec)
```

```
MySQL [University]> Create table Student_Details(School_id varchar(20),Dept_id varchar(20),Enrollment_no varchar(20) primary key,Dept_Name varchar(20),Student_Name
char(20),DoB varchar(20),Email_id varchar(20),phone_no int ,foreign key (School_id) references University_details(School_id),foreign Key (Dept_id) references School
tails(Dept_id));
Query OK, 0 rows affected (0.04 sec)
```

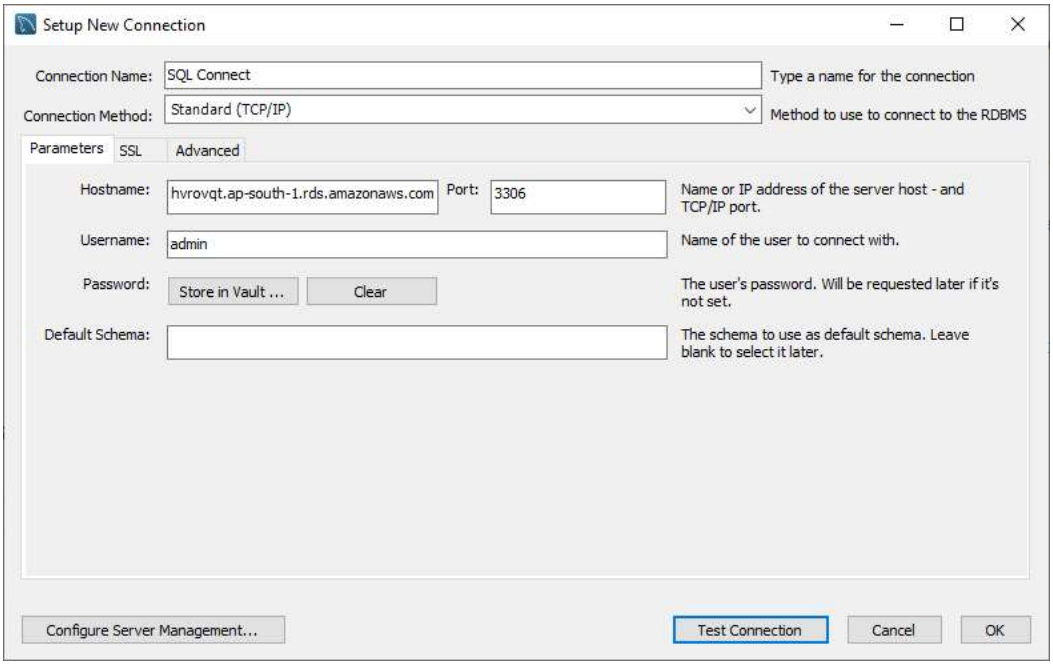


B) Connect using Workbench

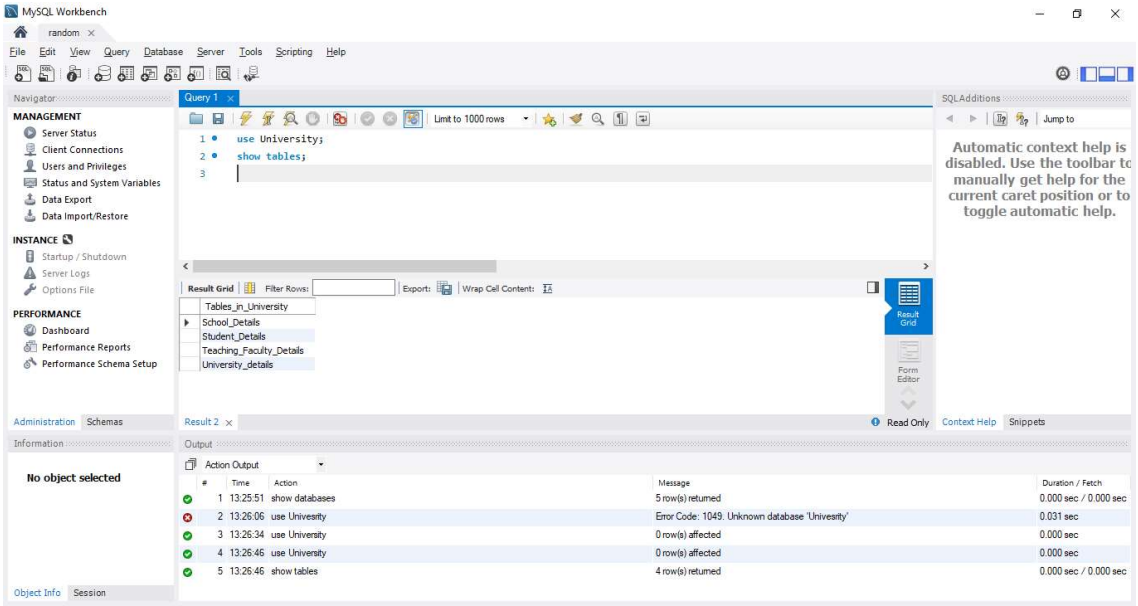
now just we need to change in previous step and connect with endpoint of database with password.

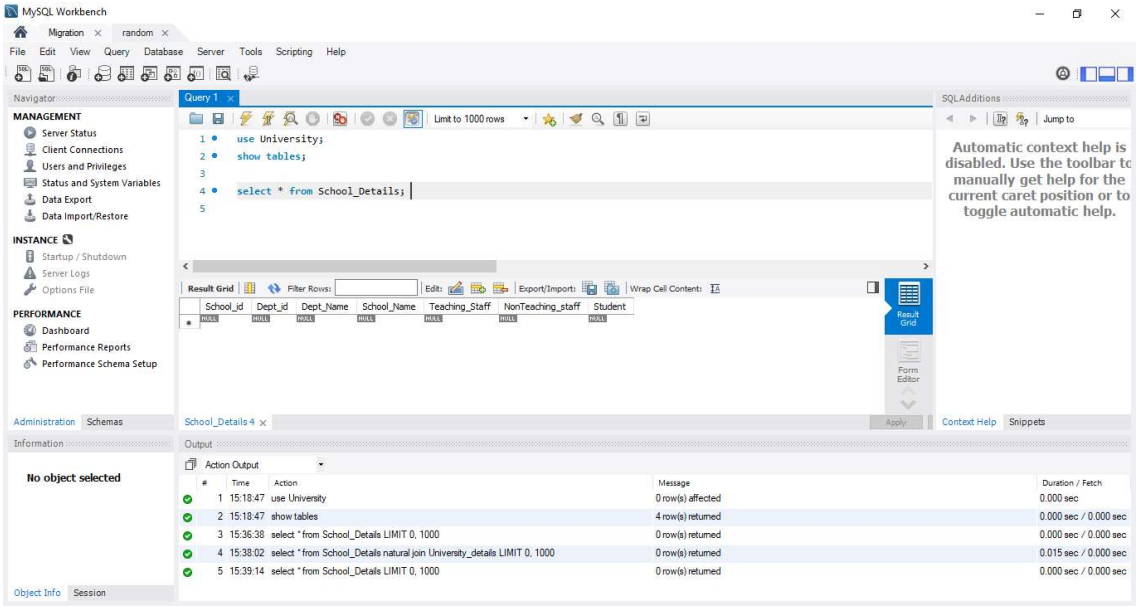


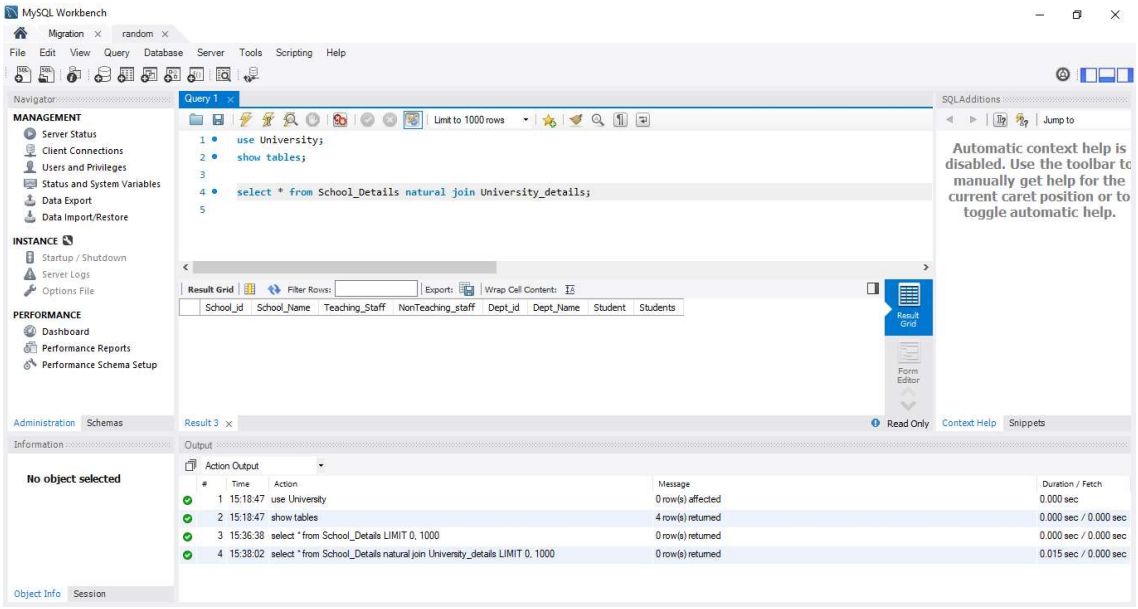
Put that all things in workbench and connect database there.



Then result can be given as after connection:




MySQL Workbench
Migration
random
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 use University;
2 show tables;
3
4 select * from School_Details;
5
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
School_id Dept_id Dept_Name School_Name Teaching_Staff NonTeaching_staff Student
Result Grid
Form Editor
School_Details 4
Apply
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 15:18:47 use University 0 row(s) affected 0.000 sec
2 15:18:47 show tables 4 row(s) returned 0.000 sec / 0.000 sec
3 15:36:38 select * from School_Details LIMIT 0, 1000 0 row(s) returned 0.000 sec / 0.000 sec
4 15:38:02 select * from School_Details natural join University_details LIMIT 0, 1000 0 row(s) returned 0.015 sec / 0.000 sec
5 15:39:14 select * from School_Details LIMIT 0, 1000 0 row(s) returned 0.000 sec / 0.000 sec


MySQL Workbench
Migration
random
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 use University;
2 show tables;
3
4 select * from School_Details natural join University_details;
5
Result Grid Filter Rows: Export: Wrap Cell Content:
School_id School_Name Teaching_Staff NonTeaching_staff Dept_id Dept_Name Student Students
Result Grid
Form Editor
Result 3
Read Only
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 15:18:47 use University 0 row(s) affected 0.000 sec
2 15:18:47 show tables 4 row(s) returned 0.000 sec / 0.000 sec
3 15:36:38 select * from School_Details LIMIT 0, 1000 0 row(s) returned 0.000 sec / 0.000 sec
4 15:38:02 select * from School_Details natural join University_details LIMIT 0, 1000 0 row(s) returned 0.015 sec / 0.000 sec