Azure Databases

Azure offers a wide range of database services tailored for different needs—whether you're building web apps, enterprise systems, or analytics platforms. Here's a quick overview of the main types of Azure Databases:

1. **Relational**
    a. Azure SQL (SQL Server) Database
    b. Azure Database for PostgreSQL
    c. Azure Database for MySQL
    d. Azure Database for MariaDB
    e. Oracle Database@Azure
2. **NoSQL**
    a. Azure Cosmos DB
    b. MongoDB
    c. Azure Table Storage
3. **Data warehouse**
    a. Azure Synapse Analytics

As part of the Azure Bootcamp, we'll dive into Azure Database for MySQL—a fully managed relational database service built on the MySQL Community Edition.

In this session, we'll explore:

- ✅ What is Azure Database for MySQL?
- 🛠️ How to create a MySQL database in Azure
- 🔐 How to access and connect to it securely
- 🗑️ How to delete the database when it's no longer needed

Whether you're new to MySQL or looking to understand how it works in the Azure ecosystem, this hands-on walkthrough will help you get started with ease.

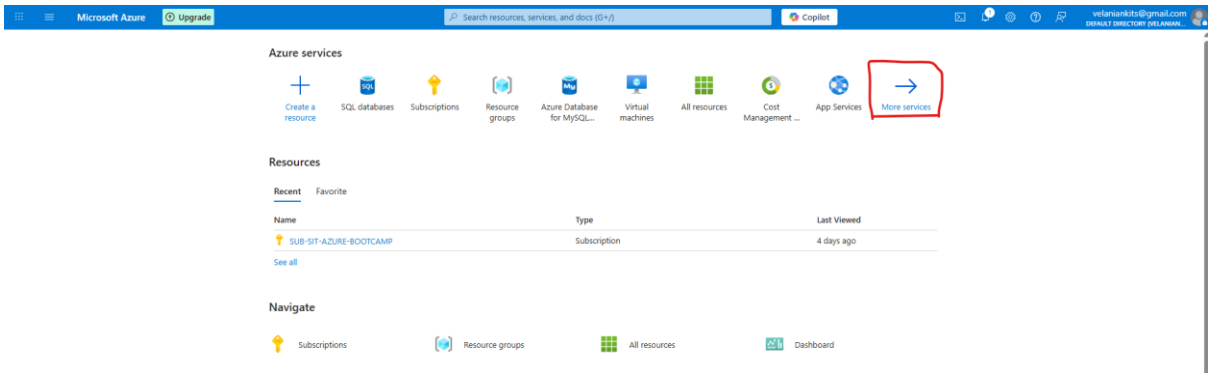
Azure Database for MySQL

Azure Database for MySQL is a fully managed relational database service based on the open-source MySQL Community Edition. It handles maintenance, backups, scaling, and security—so you can focus on building your applications.

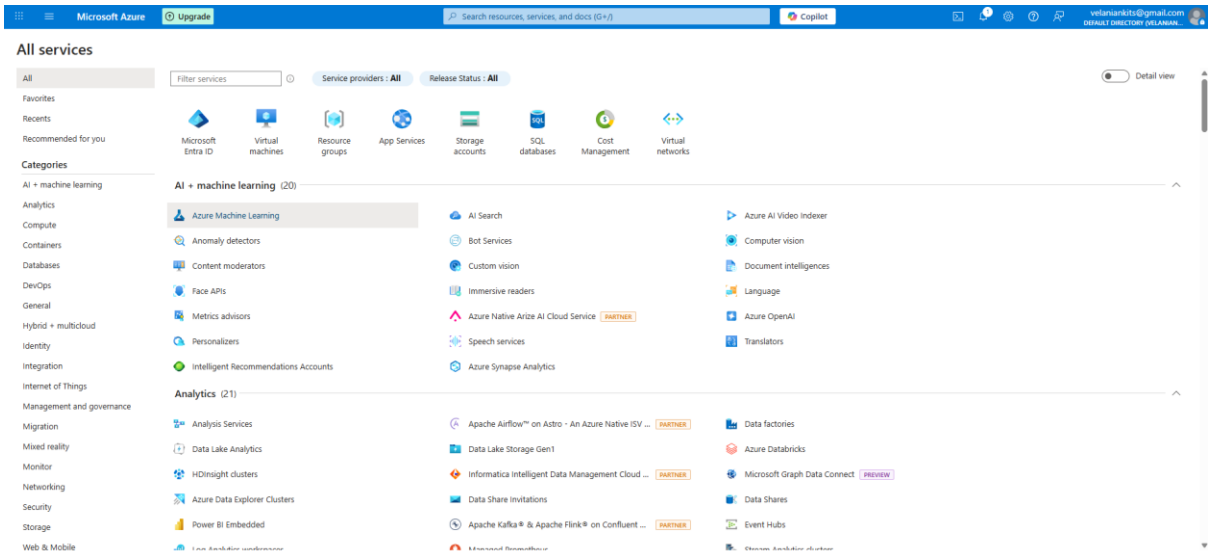
Key Features:

- ✅ **Managed Service**: No need to manage infrastructure or updates.
- 🔐 **Built-in Security**: Data encryption at rest and in transit.
- 📈 **Scalability**: Scale compute and storage independently.
- ♻️ **High Availability**: Automatic failover and backups.
- 💡 **Flexible Pricing**: Pay-as-you-go or reserved capacity.

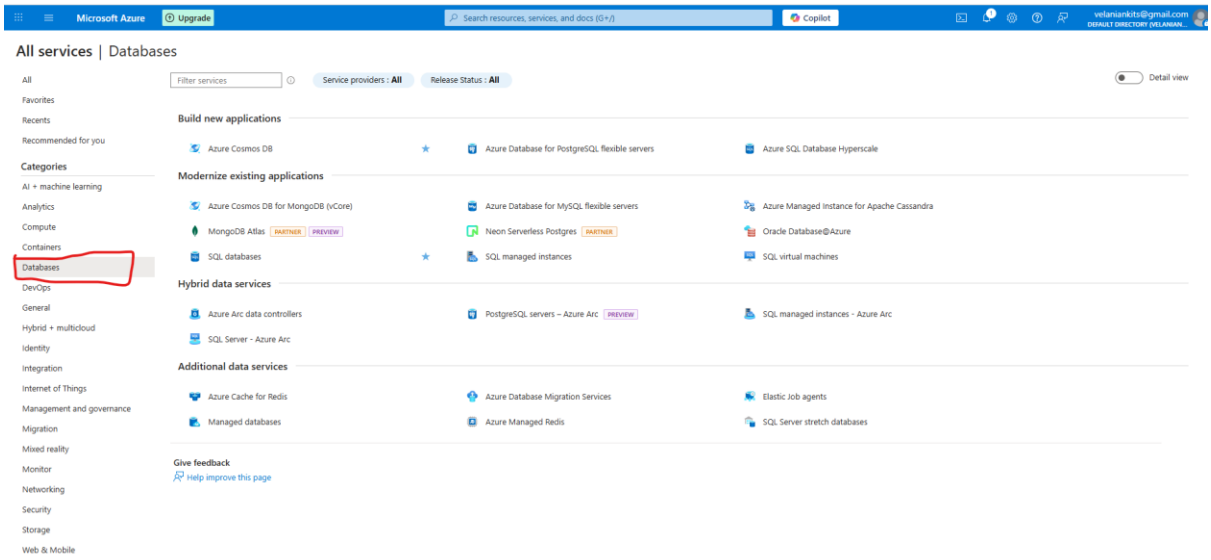
To access the Azure portal, visit https://portal.azure.com/#home ,Once on the homepage, click on **'More/All services'** in the left-hand menu or quick link to view the full list of available Azure services



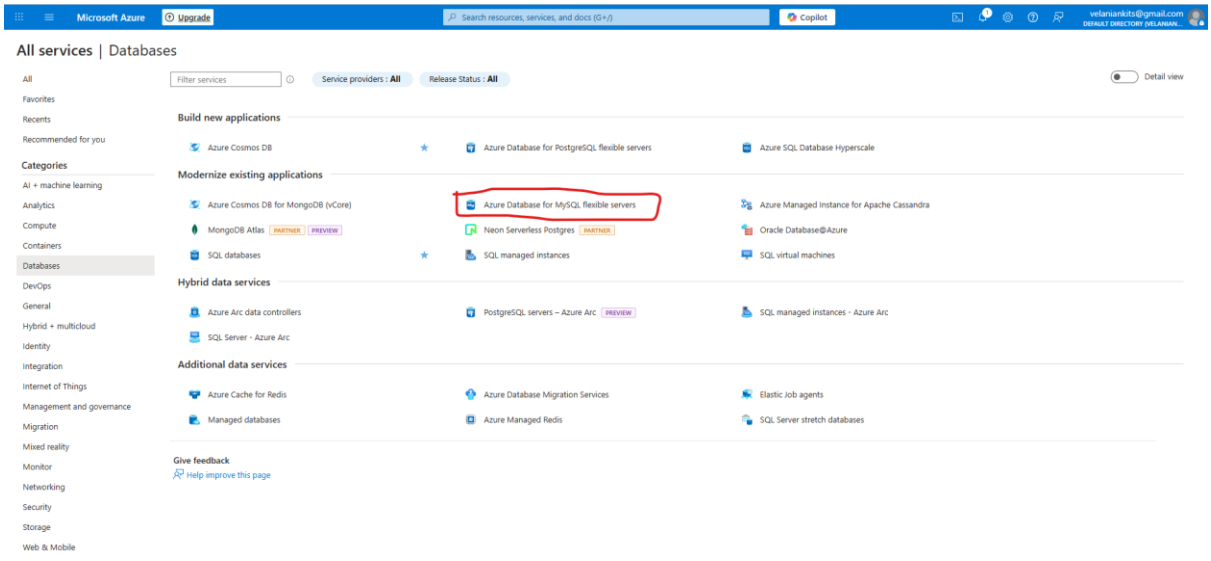
Available Services on Microsoft Azure



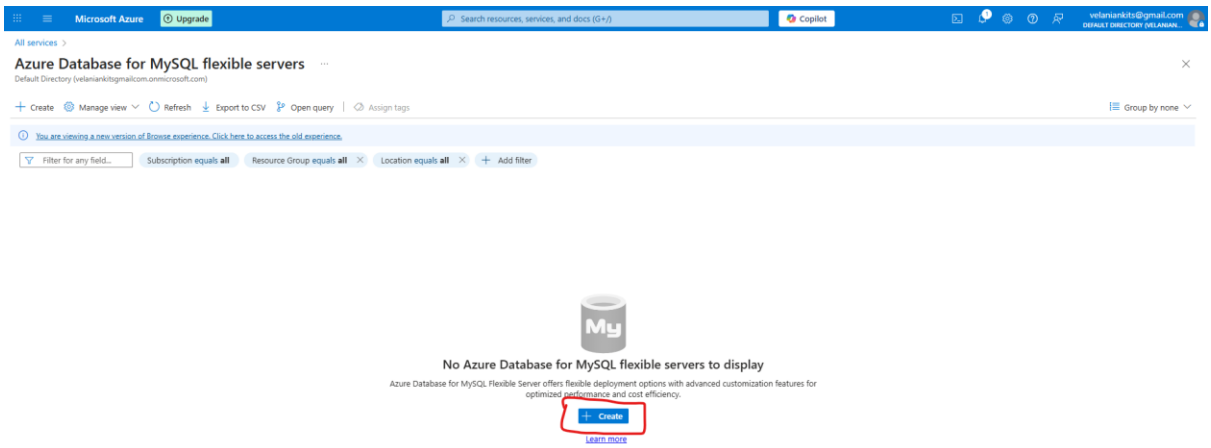
Navigate to **'Databases'** to access the full range of Azure-supported database services



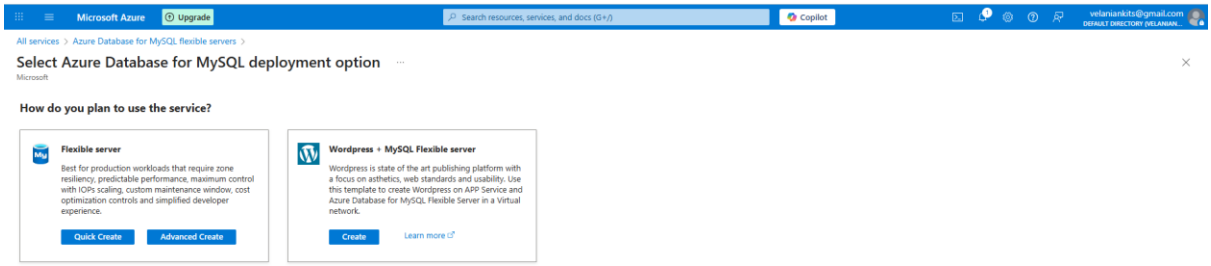
To create a MySQL database on Azure, select **'Azure Database for MySQL – Flexible Server'** from the list of database services.



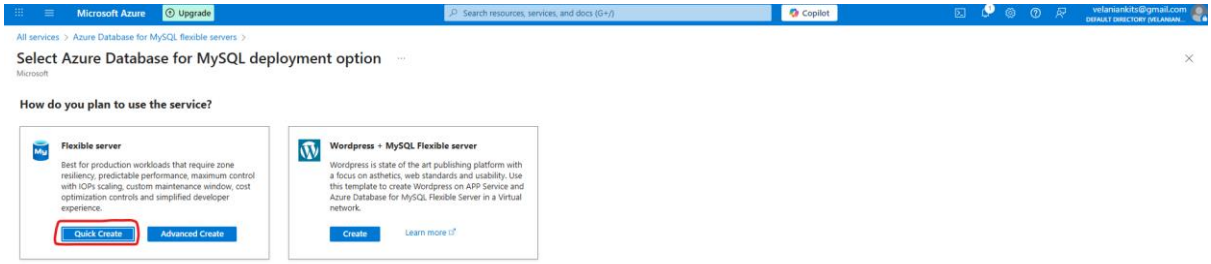
This action will navigate you to the 'Azure Database for MySQL – Flexible Server' section within the Azure portal.



Click on **'Create'** to initiate the setup of a new MySQL database on Azure

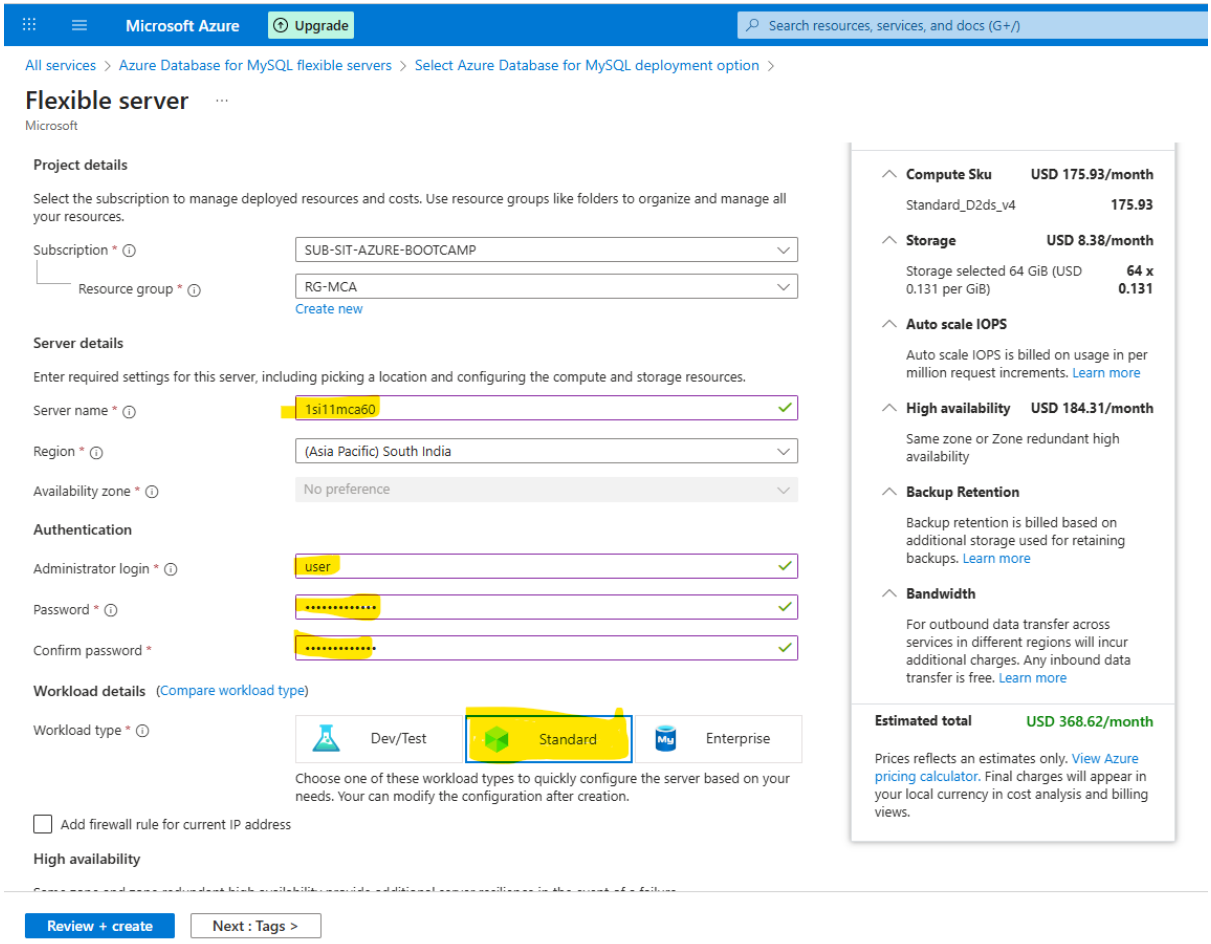


Click on **'Quick Create'** to proceed with a simplified setup of your MySQL database

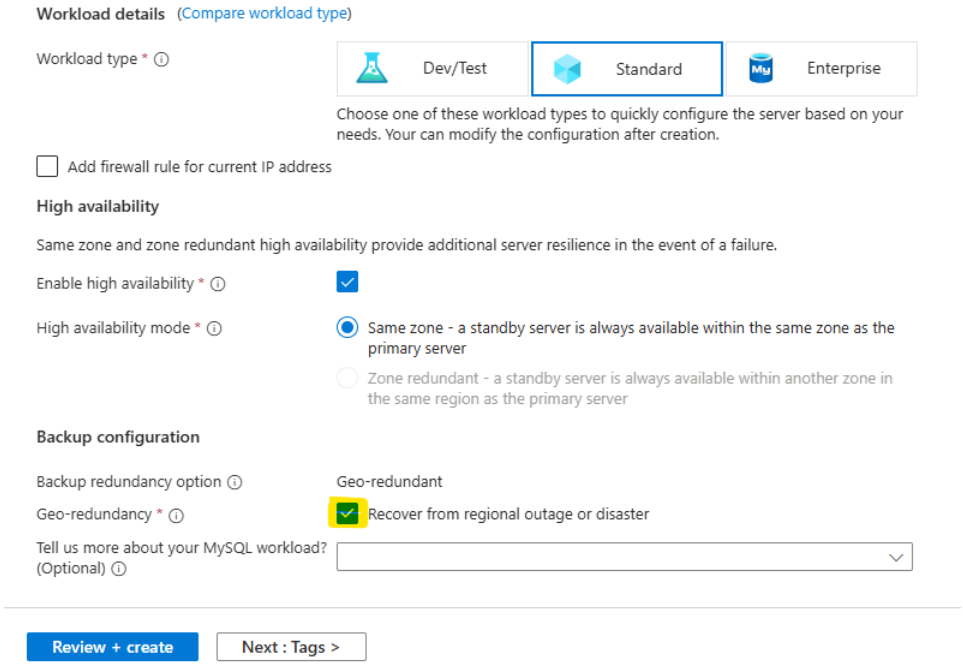


Fill in the required details to create the database. To ensure the database name is unique, please include your USN (University Serial Number) in the name.

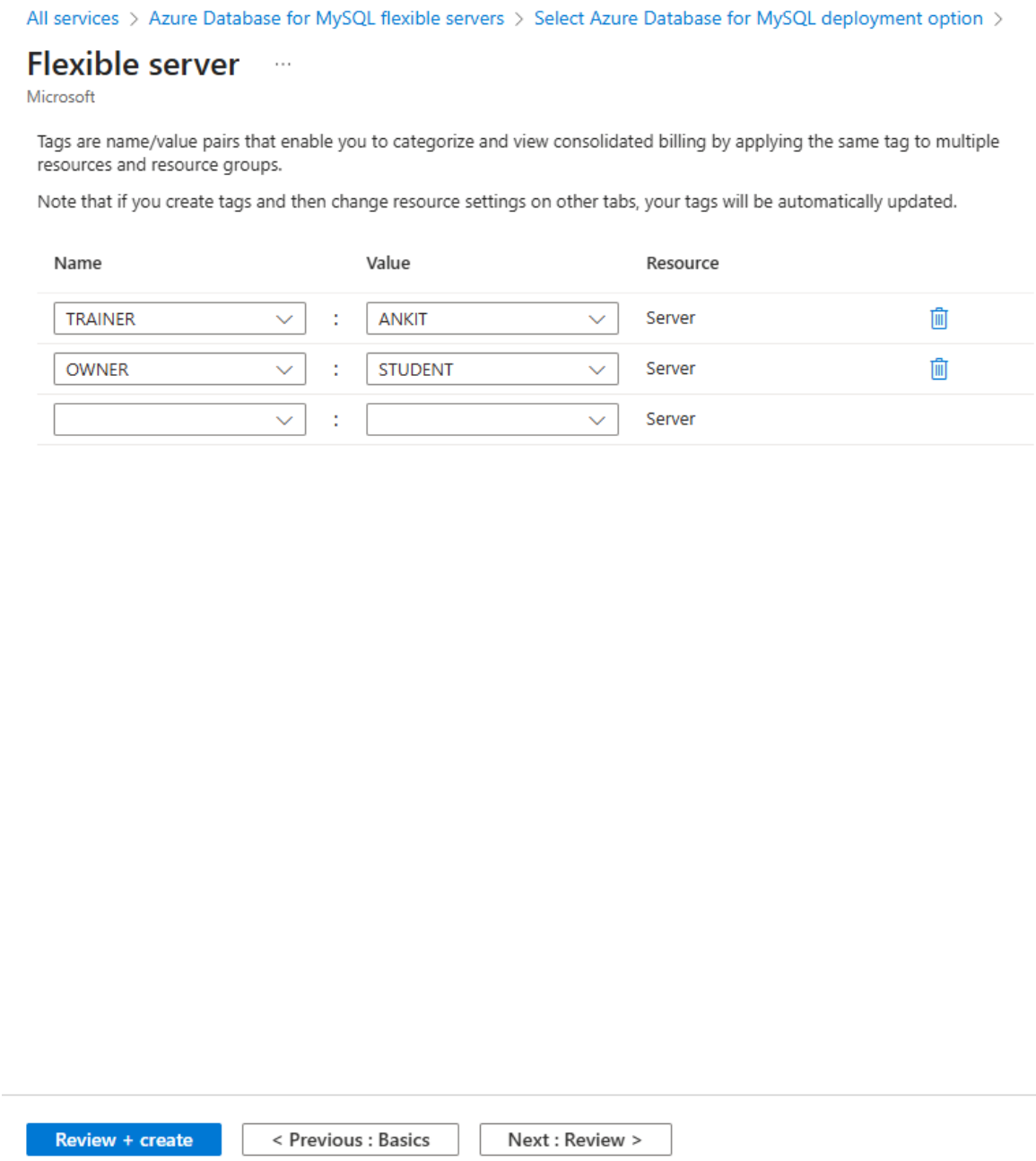
Server Name:	_____your usn_____
Administrator login:	user
Password:	Welcome@Azure



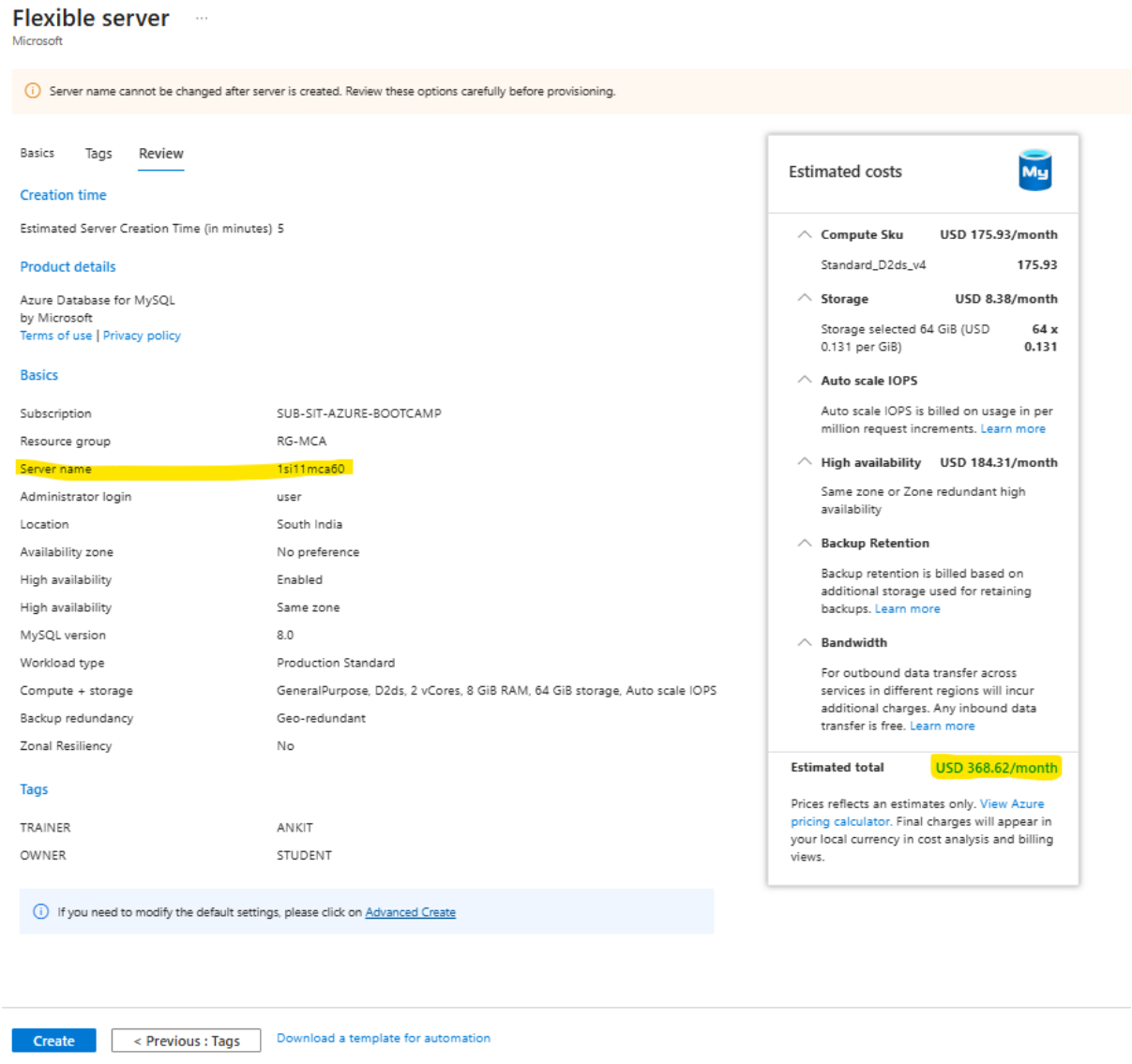
Scroll down, Check on Recover from regional outage or disaster



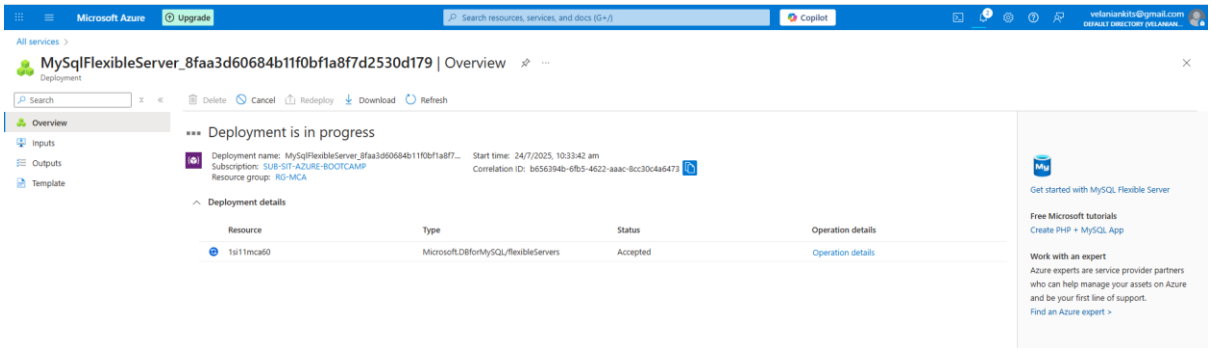
Click on **'Next: Tags'** and specify appropriate tag names to support documentation and resource tracking.



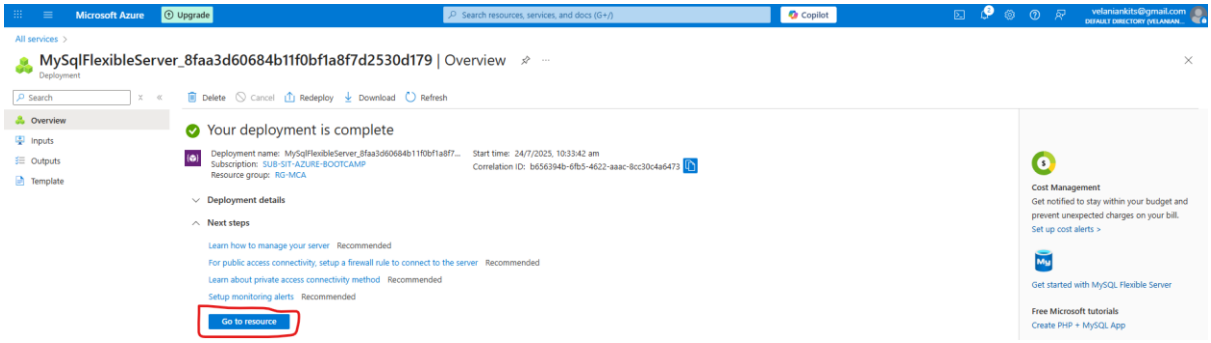
Add relevant tags for your MySQL server to support organization and tracking, then click on **'Next: Review'** to proceed



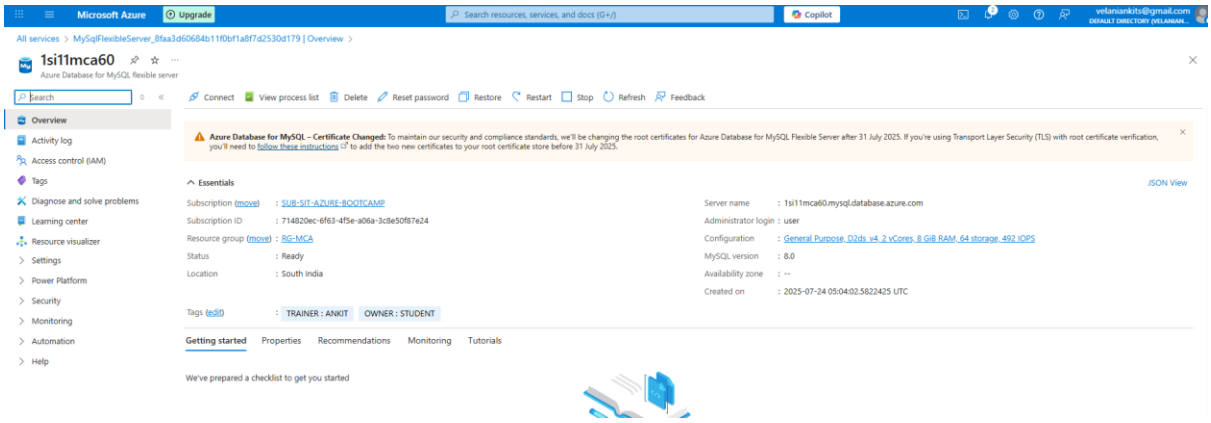
Review the MySQL database configuration and estimated cost. Once everything looks correct, click on **'Create'** to deploy the database.



Deployment is in progress. Your MySQL server will be available shortly and ready for use.



MySQL deployment is complete. Click on 'Go to resource' to access your newly created MySQL server.



Great job! The MySQL server deployment is complete and your environment is ready for use.

Accessing MySQL Server

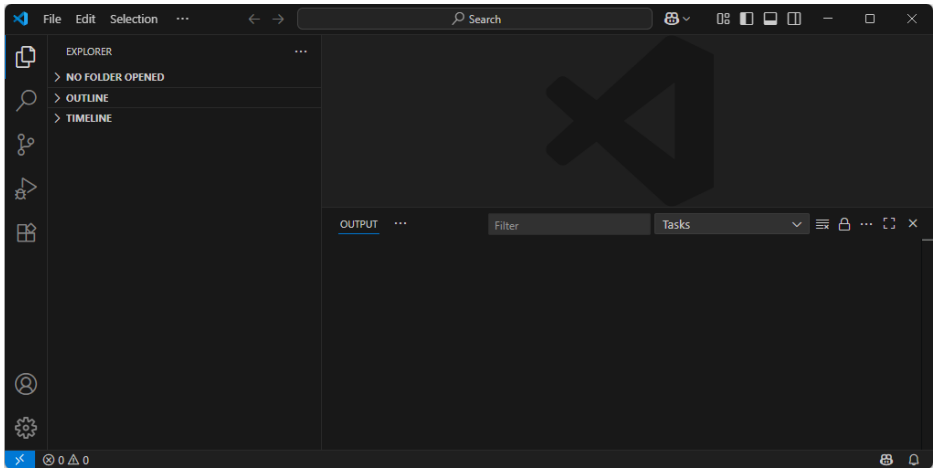
Accessing a MySQL Server using tools like MySQL Workbench, Visual Studio Code (VS Code), or other IDEs involves a few common steps.

Configure the connection

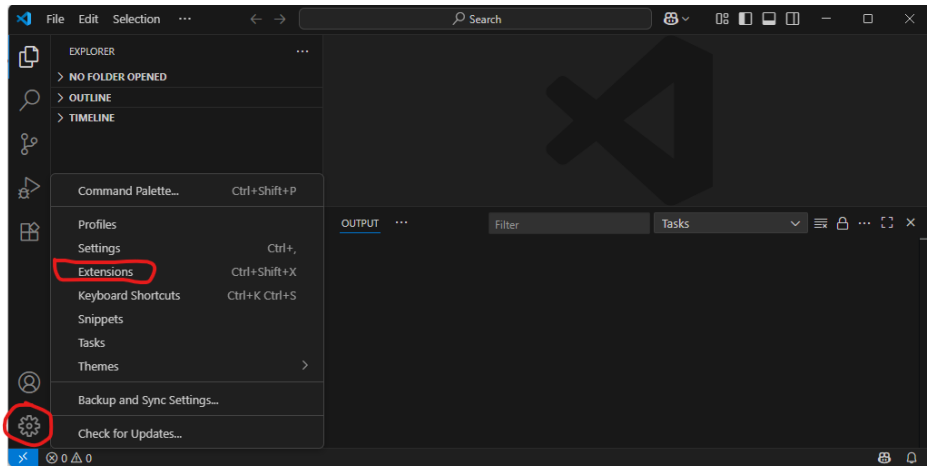
Host/Server:
Port: 3306
User:
Password:
Database (optional):

We will use Visual Studio Code to establish a connection with the Azure Database for MySQL server.

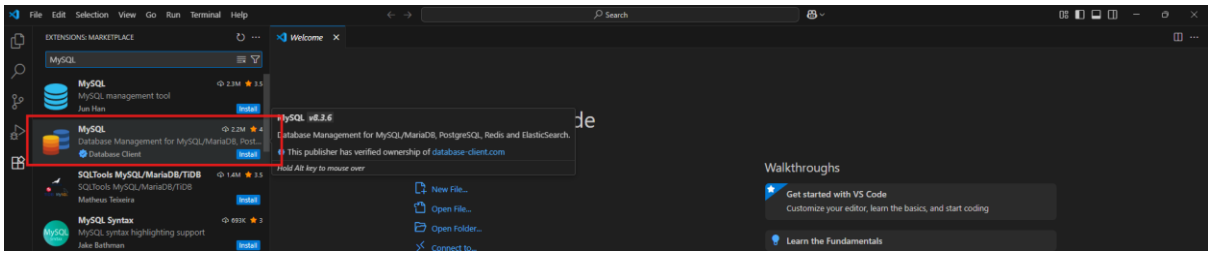
Open VS Code in Personal Laptop/PC.



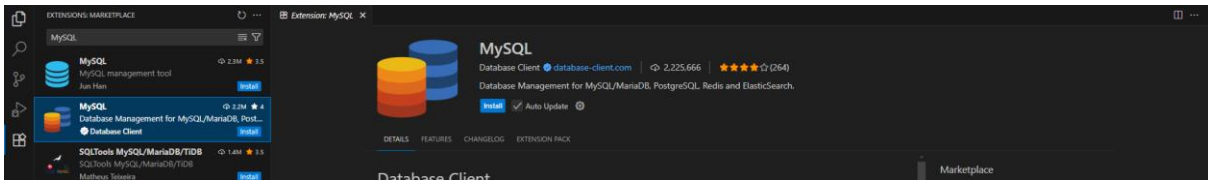
Install MySQL Client from VS Code Extension



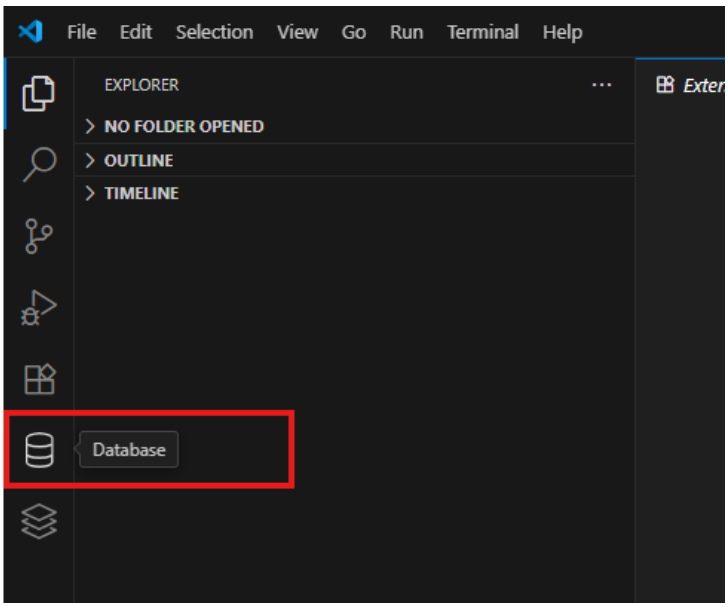
Open the Extensions panel in VS Code and type 'MySQL Oracle' in the search bar to locate the **MySQL Oracle**



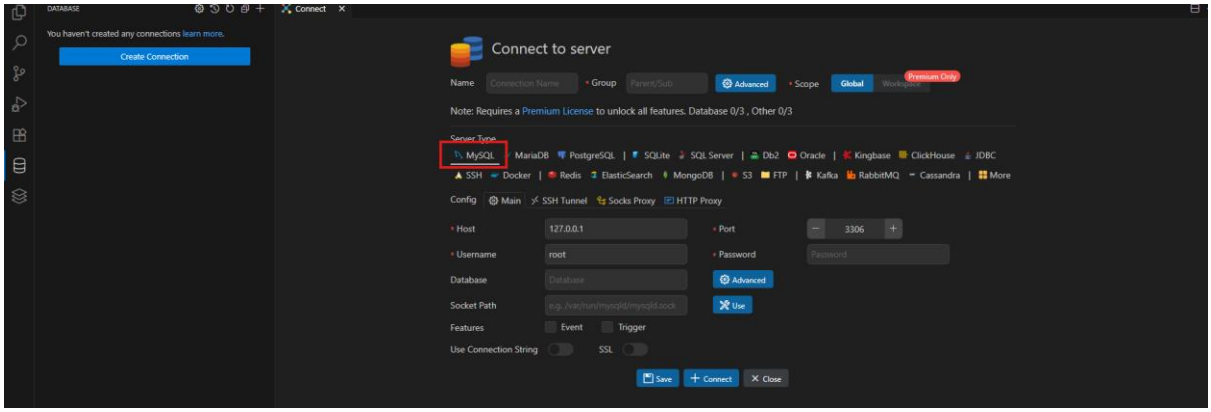
Click on Install

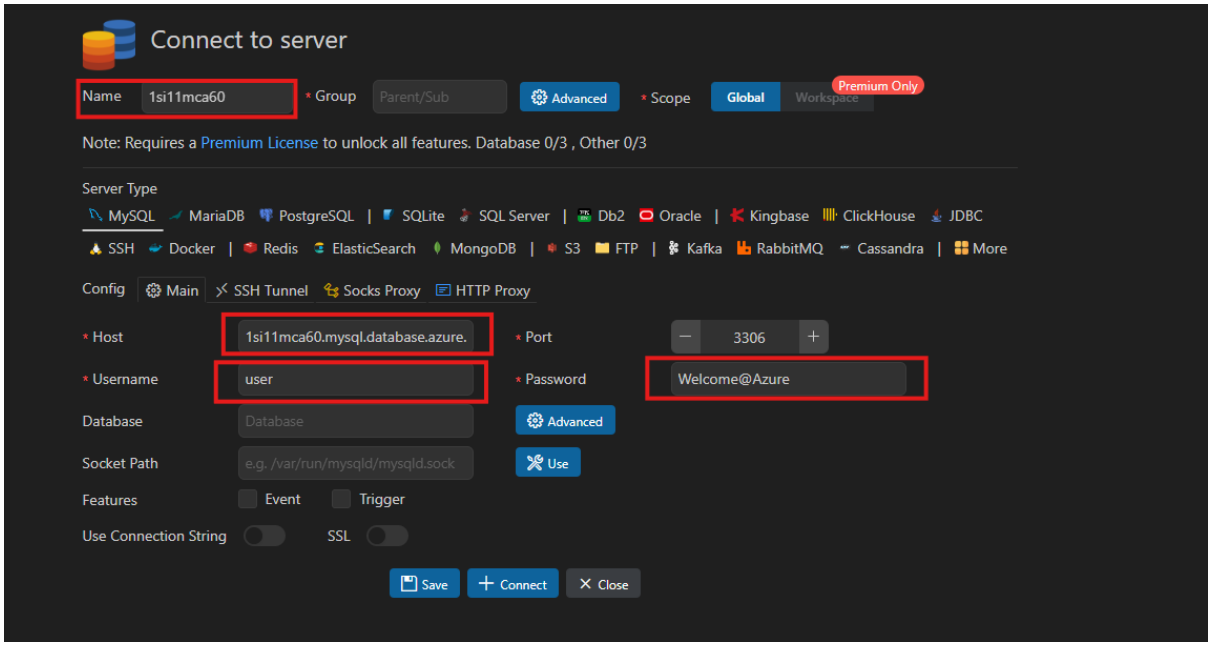


It will be added in left navigation, Click on Database to configure database connection.

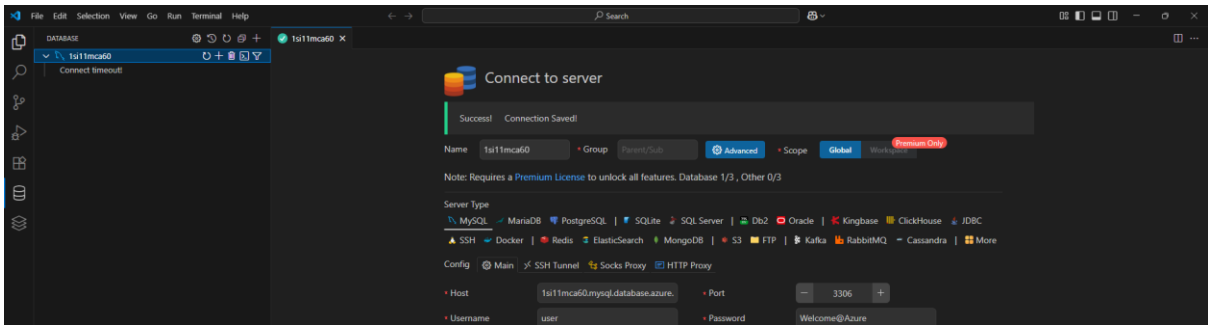


Click on Create Connection

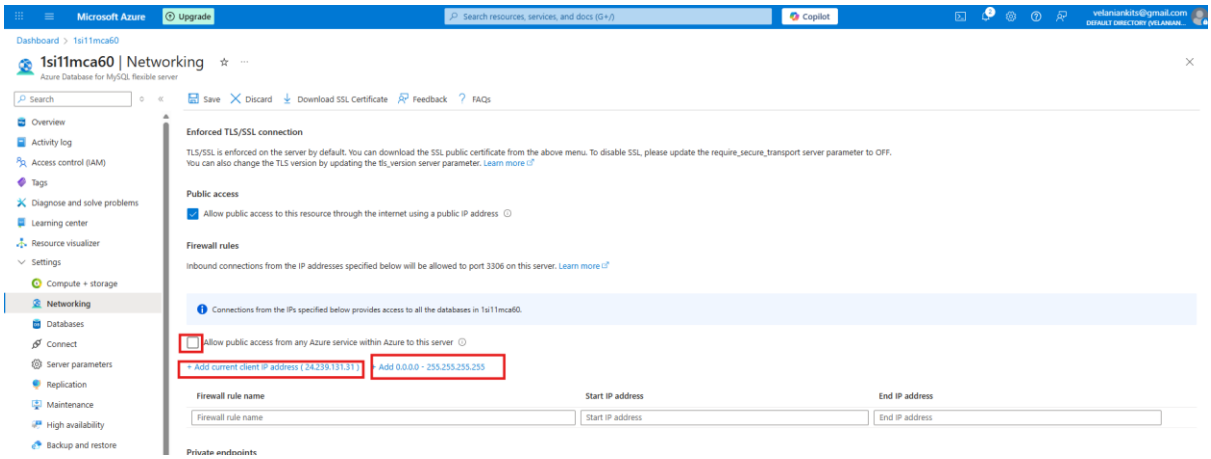




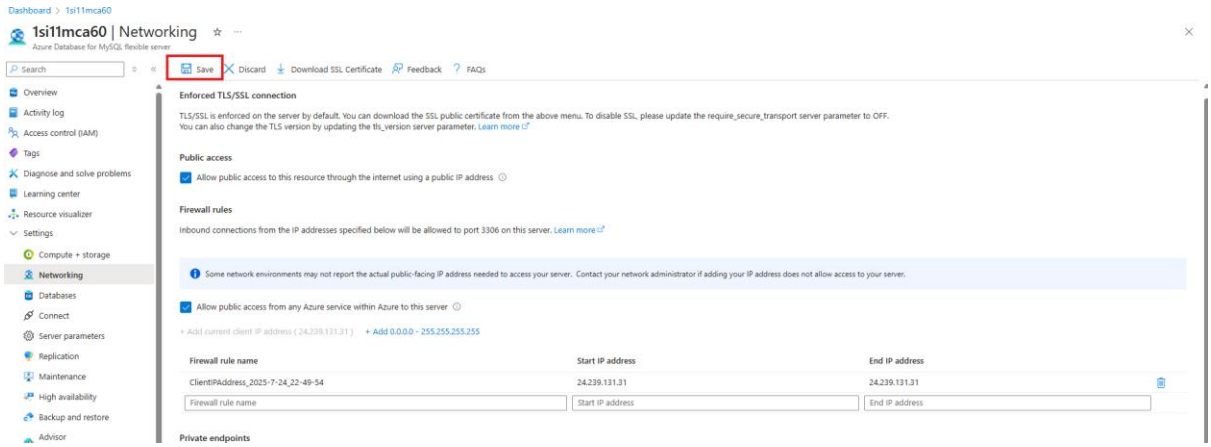
Connection timeout error



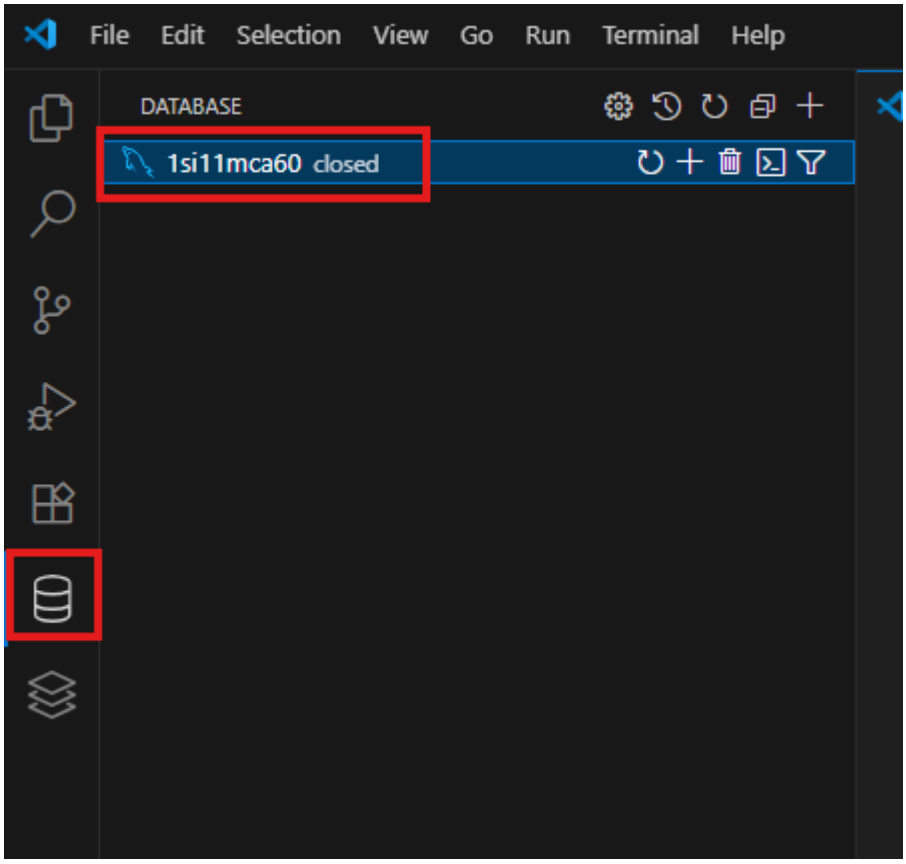
By default, all services on Azure are restricted from public network access. To connect to services like Azure Database, you must explicitly whitelist your IP address in the network settings

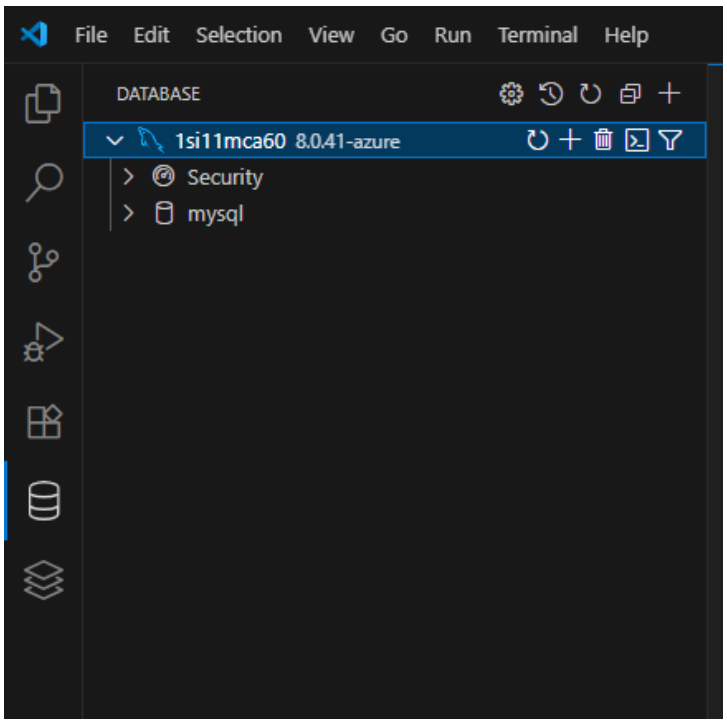


Click on Save button to save the firewall rule for IP Address.

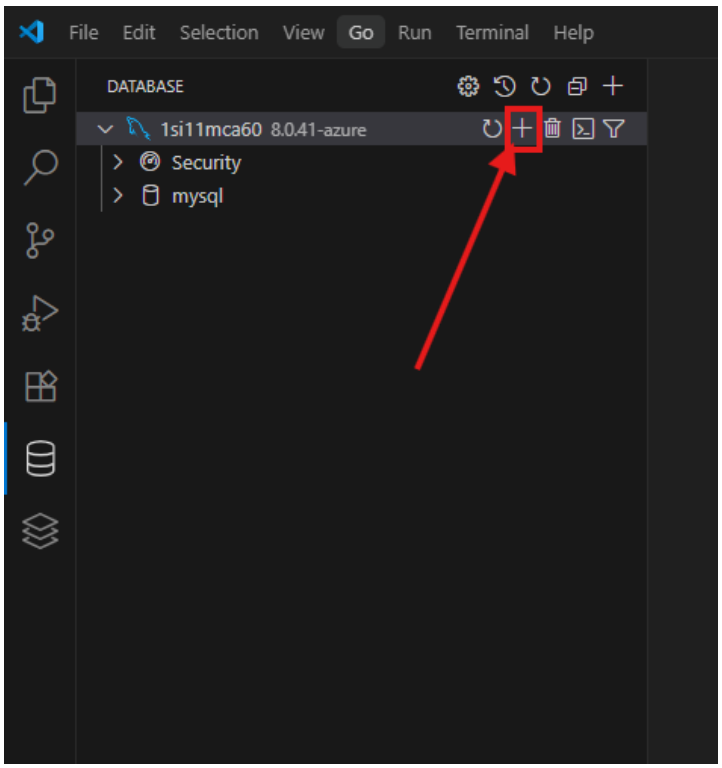


Go back to VS Code and retry on the database connection. Double Click on database connection name,

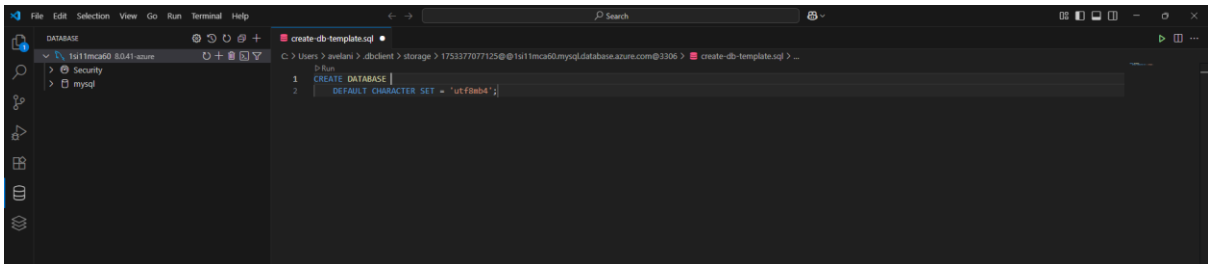


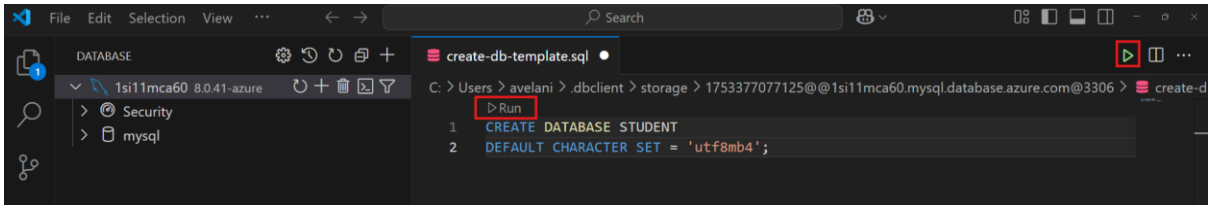


Click on + icon on database connection name



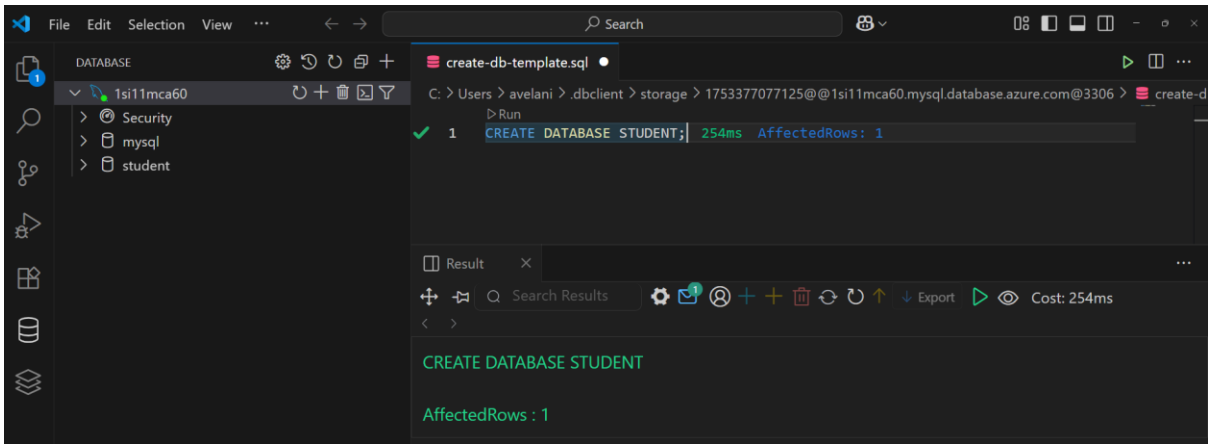
Create new database **STUDENT**

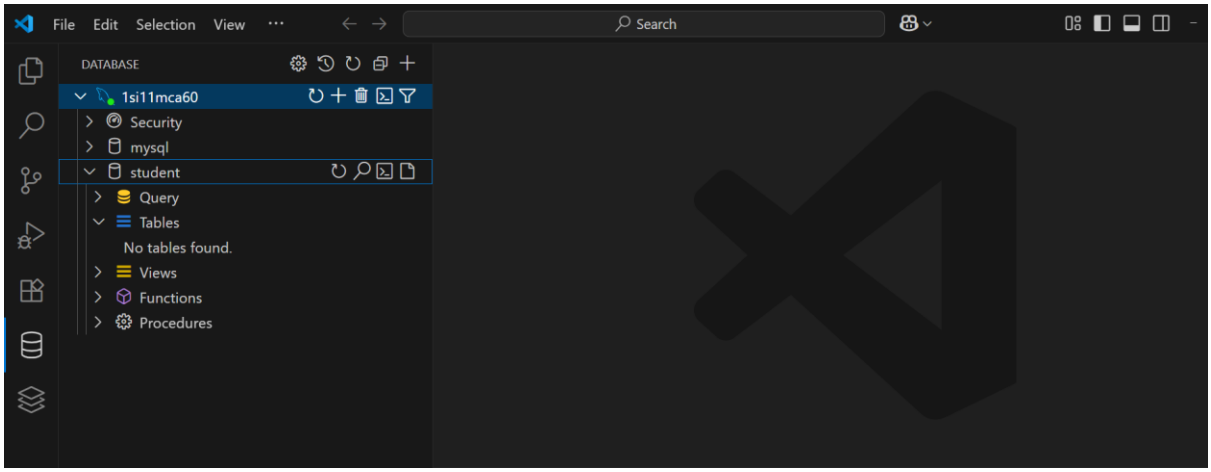




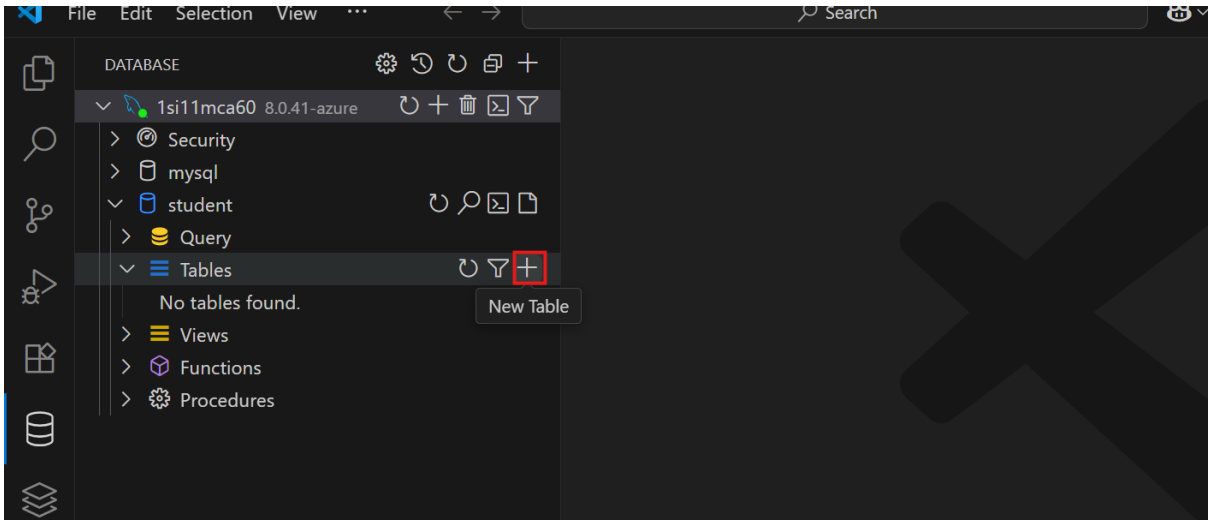
Write Query

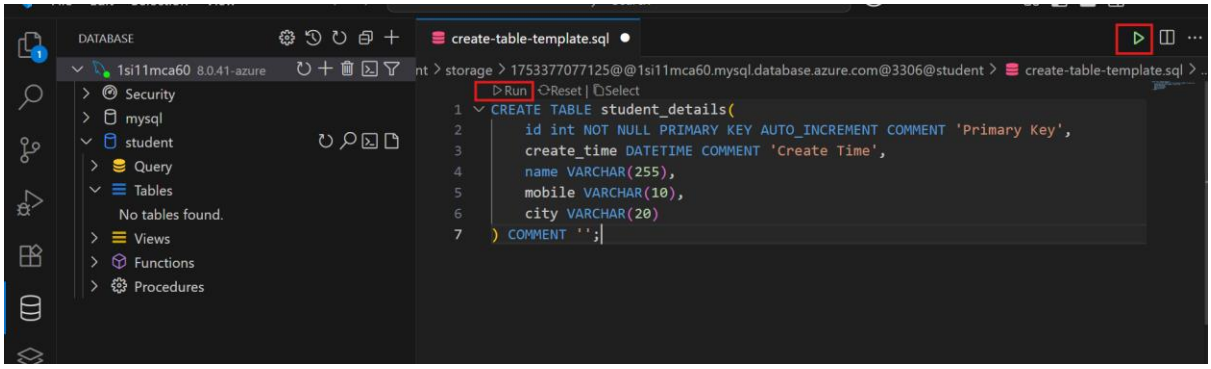
CREATE DATABASE STUDENT;



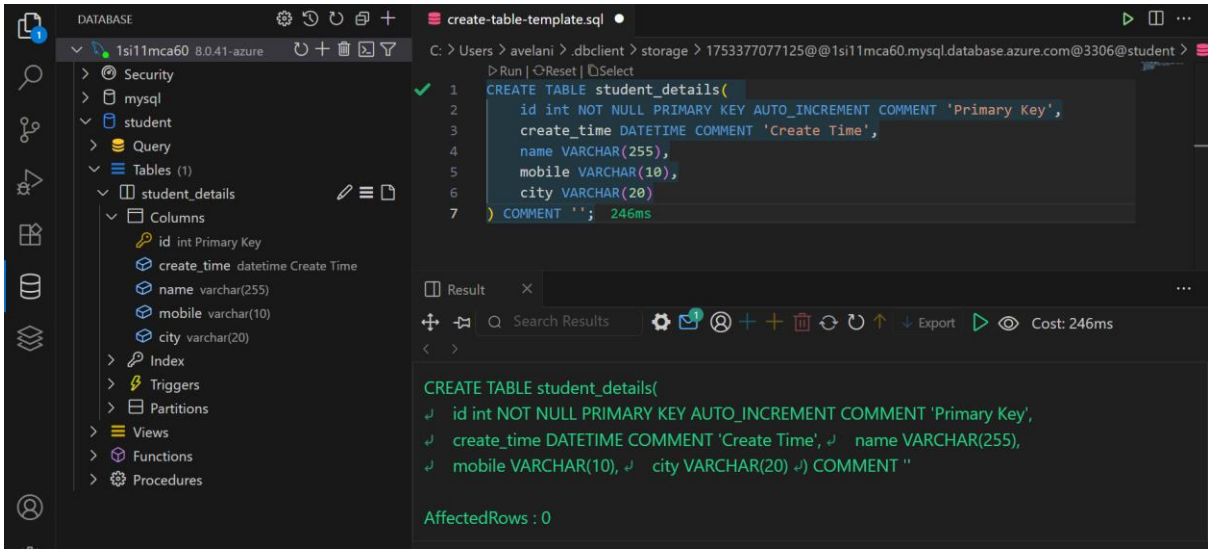


Create **student_details** table in STUDENT database

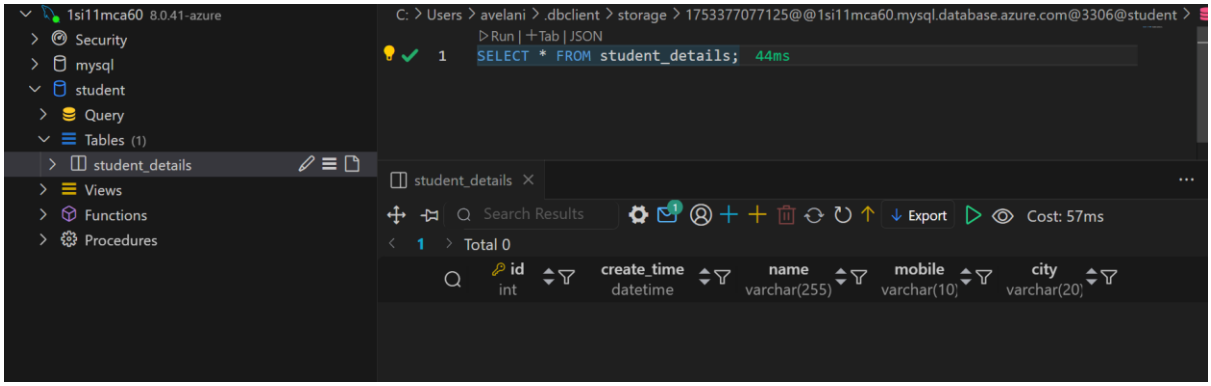




Run CREATE TABLE query, to create student_details table.

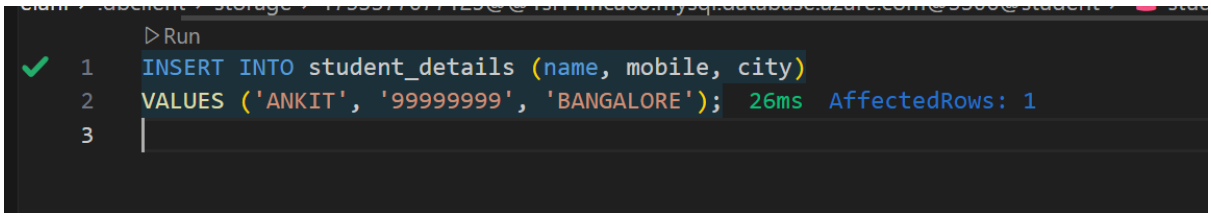


Run Select Query on student_details

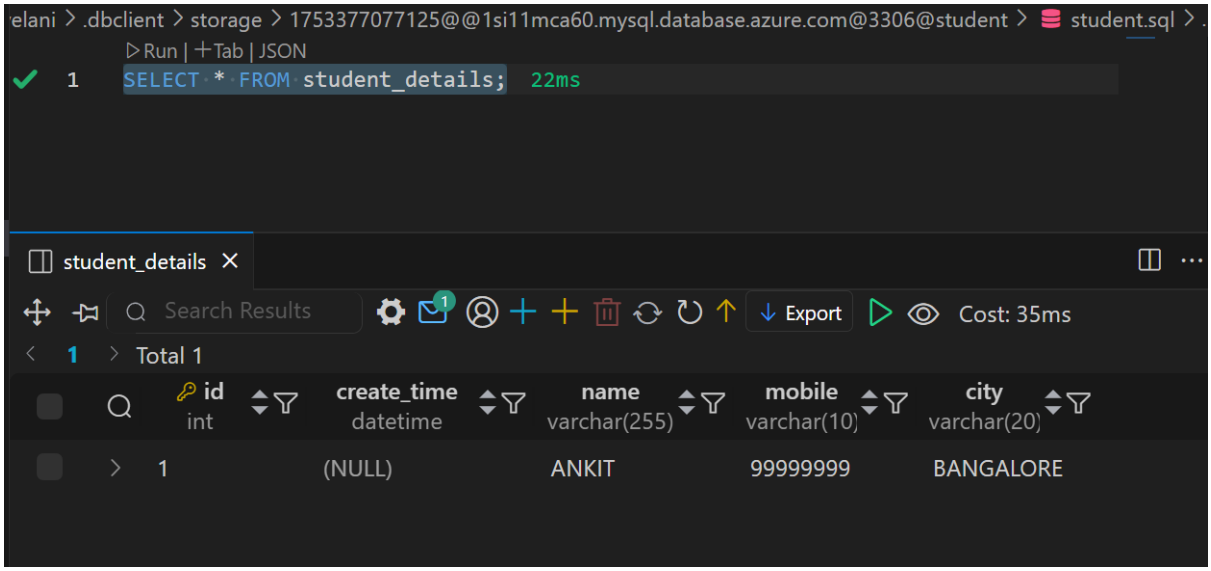


Run Insert query on student_details to insert sample records.

INSERT INTO student_details (name, mobile, city)
VALUES ('ANKIT', '99999999', 'BANGALORE');



Run Select Query on student_details



SELECT * FROM student_details;