



**Create a Single Database in
Azure SQL Database using Azure Portal**

Azure DP200 Training

Single database is one of three deployment options for Azure SQL Database. The other two are elastic pools and managed instance. The single database deployment option creates a database in Azure SQL Database with its own set of resources and is managed via a SQL Database server. With a single database, each database is isolated from each other and portable, each with its own service tier within the DTU-based purchasing model or vCore-based purchasing model and a guaranteed compute size.

A single database can be moved into or out of an elastic pool for resource sharing. For many businesses and applications, being able to create single databases and dial performance up or down on demand is enough, especially if usage patterns are relatively predictable.

Create a single database

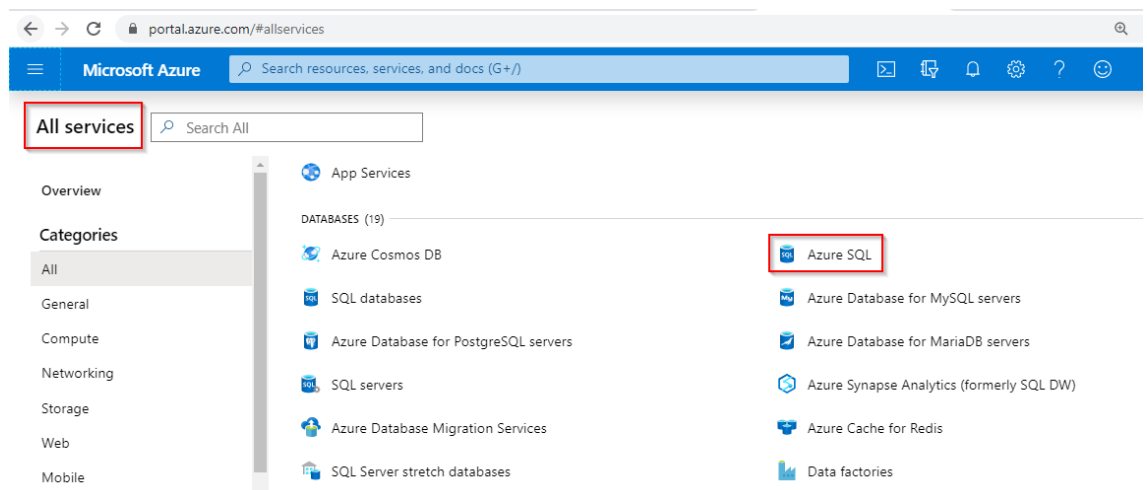
A single database can either be created in the **provisioned** or **serverless compute tier**.

- A single database in the **provisioned compute tier** is pre-allocated a fixed amount of compute resources including CPU and memory using one of two purchasing models.
- A single database in the **serverless compute tier** has a range of compute resources including CPU and memory that are auto-scaled and is only available in the vCore-based purchasing models.

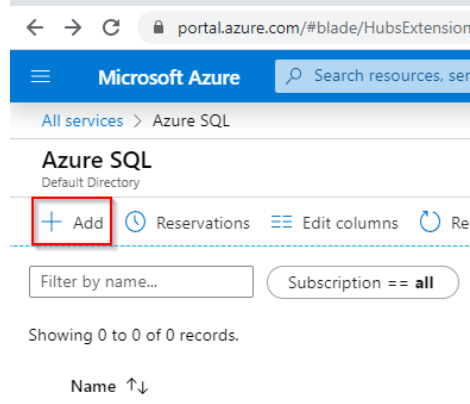
Note: When you create a single database, you also define a SQL Database server to manage it and place it within Azure resource group in a specified region.

Create your resource group and single database using the Azure portal.

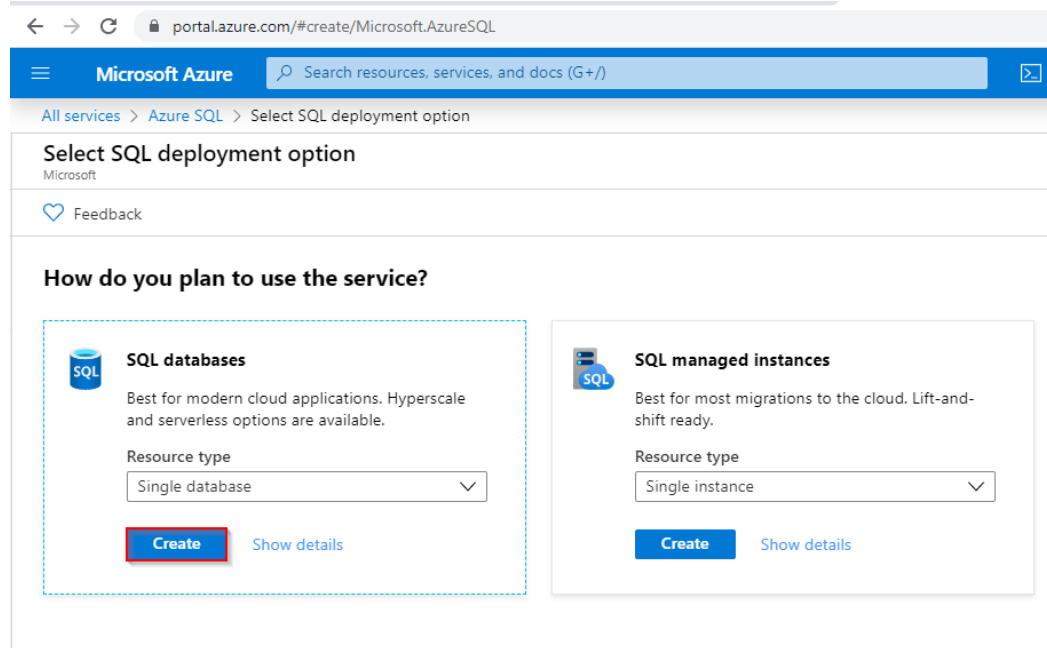
1. Go to Azure Portal and Select **Azure SQL** from **All services**



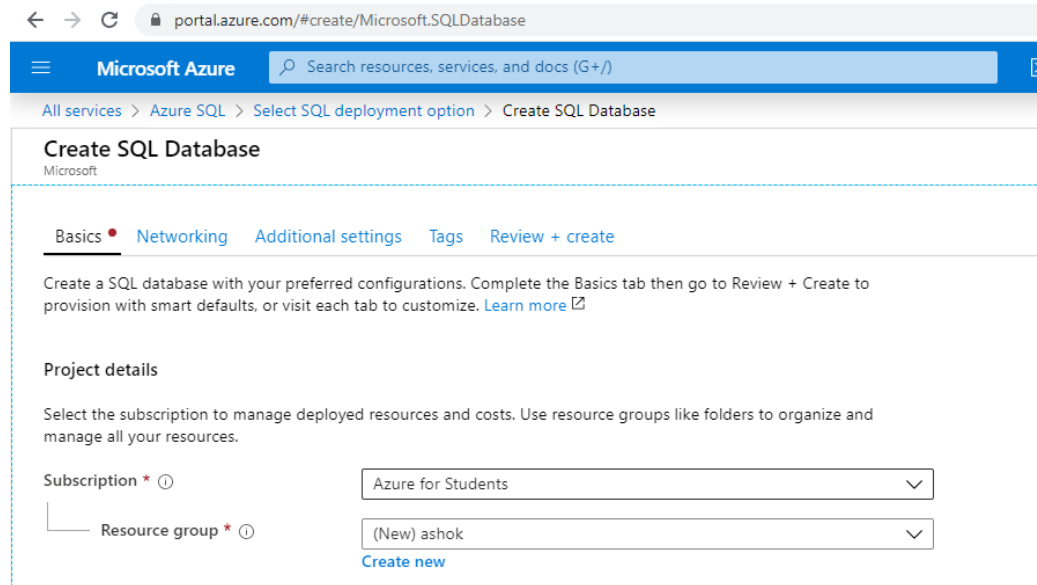
2. Select **+ Add** to open the Select **SQL deployment** option page.



3. Select **Create**:



4. On the **Basics tab**, in the **Project Details** section, type or select the following values:
Subscription: Drop down and select the correct subscription, if it doesn't appear.
Resource group: Select Create new, type your resource name, and select OK.



portal.azure.com/#create/Microsoft.SQLDatabase

Microsoft Azure

Search resources, services, and docs (G+)

All services > Azure SQL > Select SQL deployment option > Create SQL Database

Create SQL Database

Microsoft

Basics • Networking Additional settings Tags Review + create

Create a SQL database with your preferred configurations. Complete the Basics tab then go to Review + Create to provision with smart defaults, or visit each tab to customize. [Learn more](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

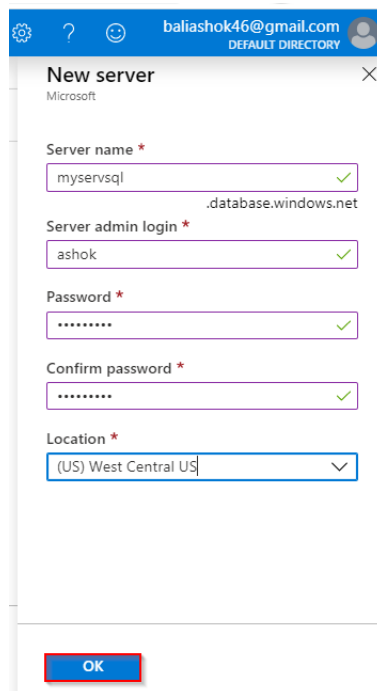
Subscription * Azure for Students

Resource group * (New) ashok

[Create new](#)

5. In the **Database Details** section, type or select the following values:

- **Database name:** Enter myddb
- **Server:** Select **Create new**, enter the following values and then select **Select**.
 - **Server name:** Type myservsql
 - **Server admin login:** Type ashok
 - **Password:** Type a complex password that meets password requirements.
 - **Location:** Choose a location from the drop-down, such as West US.



balishok46@gmail.com
DEFAULT DIRECTORY

New server

Microsoft

Server name *
myservsql ✓
.database.windows.net

Server admin login *
ashok ✓

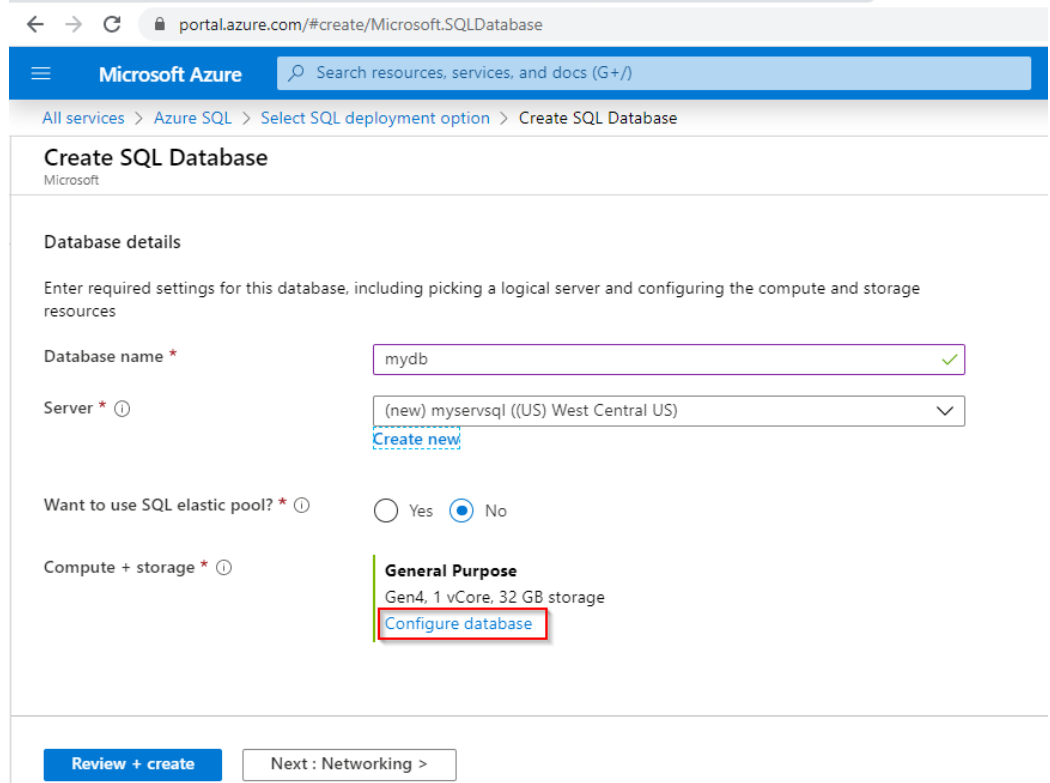
Password *
..... ✓

Confirm password *
..... ✓

Location *
(US) West Central US ✓

OK

- **Want to use SQL elastic pool:** Select the No option.
- **Compute + storage:** Select Configure database.



portal.azure.com/#create/Microsoft.SQLDatabase

Microsoft Azure Search resources, services, and docs (G+)

All services > Azure SQL > Select SQL deployment option > Create SQL Database

Create SQL Database

Microsoft

Database details

Enter required settings for this database, including picking a logical server and configuring the compute and storage resources

Database name * mydb ✓

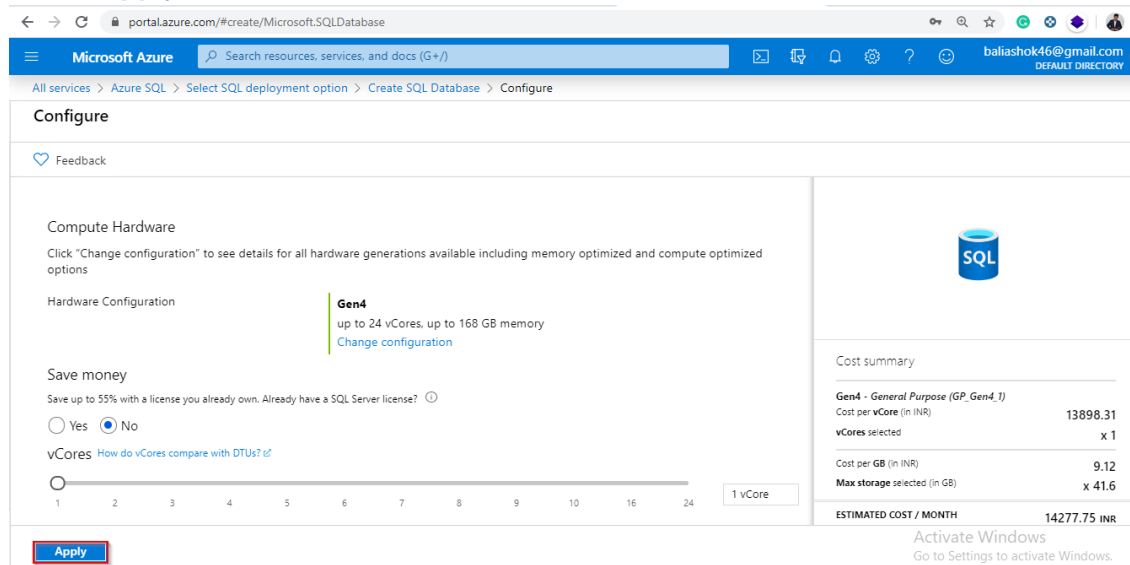
Server * ⓘ (new) myservsql ((US) West Central US) ✓
[Create new](#)

Want to use SQL elastic pool? * ⓘ ☐ Yes ☒ No

Compute + storage * ⓘ **General Purpose**
Gen4, 1 vCore, 32 GB storage
[Configure database](#)

[Review + create](#) [Next : Networking >](#)

- Review the settings for **vCores**, and **Data max size**. Change these as desired.
 - Optionally, you can also select **Change configuration** to change the hardware generation.
- **Select Apply.**



portal.azure.com/#create/Microsoft.SQLDatabase

Microsoft Azure Search resources, services, and docs (G+)

All services > Azure SQL > Select SQL deployment option > Create SQL Database > Configure

Configure

Feedback

Compute Hardware

Click "Change configuration" to see details for all hardware generations available including memory optimized and compute optimized options

Hardware Configuration **Gen4**
up to 24 vCores, up to 168 GB memory
[Change configuration](#)

Save money

Save up to 55% with a license you already own. Already have a SQL Server license? ⓘ

☐ Yes ☒ No

vCores [How do vCores compare with DTUs? ↗](#)

1 2 3 4 5 6 7 8 9 10 16 24 1 vCore

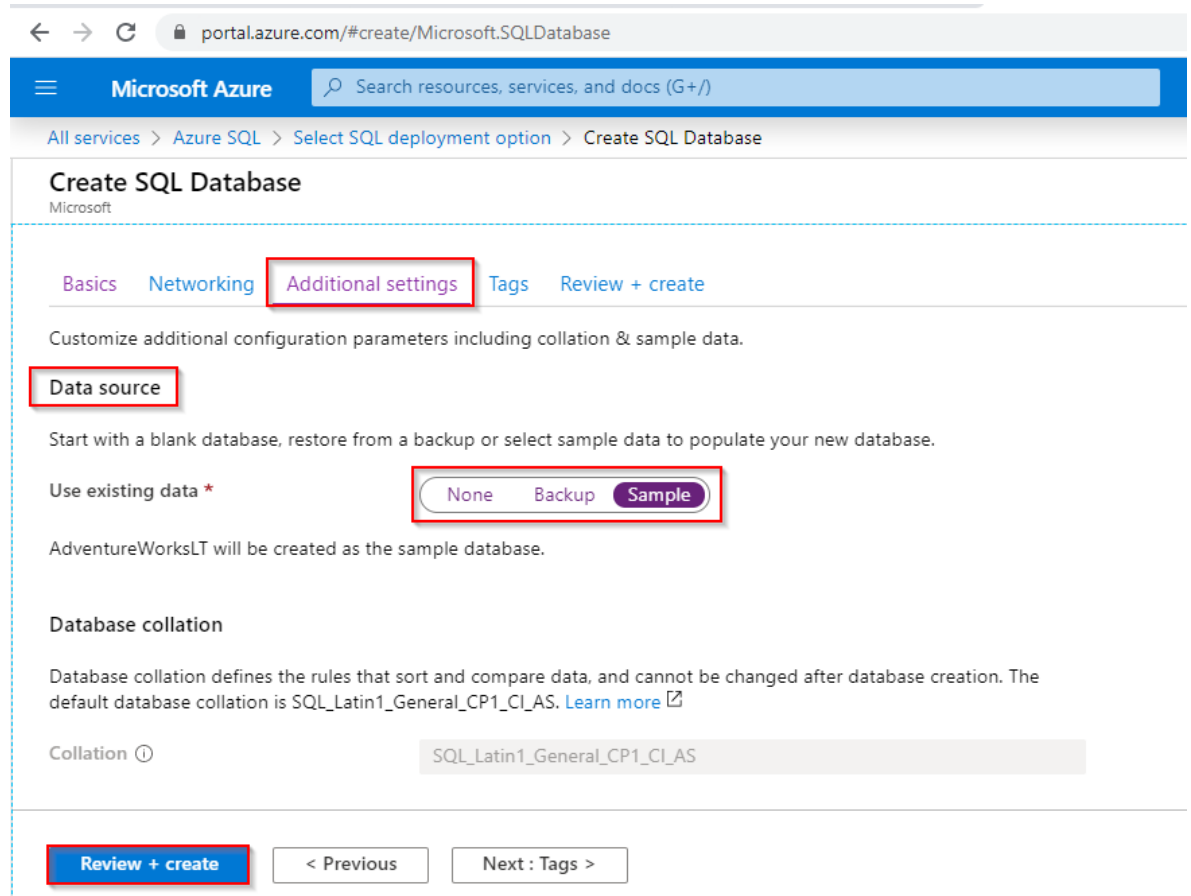
[Apply](#)

Cost summary

| Gen4 - General Purpose (GP, Gen4, 1) | |
|--------------------------------------|---------------------|
| Cost per vCore (in INR) | 13898.31 |
| vCores selected | x 1 |
| Cost per GB (in INR) | 9.12 |
| Max storage selected (in GB) | x 41.6 |
| ESTIMATED COST / MONTH | 14277.75 INR |

Activate Windows
Go to Settings to activate Windows.

6. Select the **Additional settings** tab.
7. In the **Data source** section, under **Use existing data**, select **Sample** and select **Review + Create** at the bottom of the form.



The screenshot shows the 'Create SQL Database' page in the Azure portal, specifically the 'Additional settings' tab. The 'Data source' section is highlighted with a red box, showing the 'Use existing data' dropdown set to 'Sample'. The 'Database collation' section is also visible, with the default 'SQL_Latin1_General_CP1_CI_AS' selected. At the bottom, the 'Review + create' button is highlighted with a red box.

portal.azure.com/#create/Microsoft.SQLDatabase

Microsoft Azure Search resources, services, and docs (G+/)

All services > Azure SQL > Select SQL deployment option > Create SQL Database

Create SQL Database

Microsoft

Basics Networking **Additional settings** Tags Review + create

Customize additional configuration parameters including collation & sample data.

Data source

Start with a blank database, restore from a backup or select sample data to populate your new database.

Use existing data * None Backup **Sample**

AdventureWorksLT will be created as the sample database.

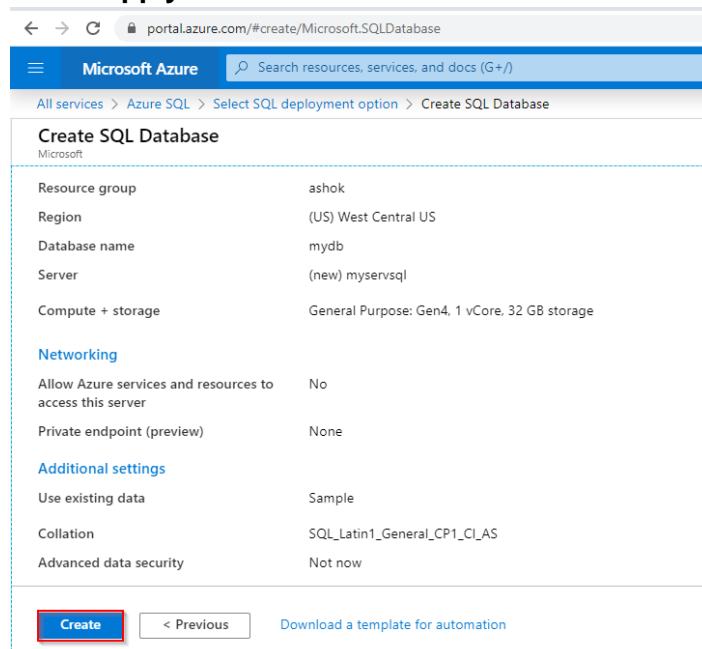
Database collation

Database collation defines the rules that sort and compare data, and cannot be changed after database creation. The default database collation is SQL_Latin1_General_CP1_CI_AS. [Learn more](#)

Collation ⓘ SQL_Latin1_General_CP1_CI_AS

Review + create < Previous Next : Tags >

8. Select **Apply**



The screenshot shows the 'Create SQL Database' page in the Azure portal, specifically the 'Review + create' tab. The 'Create' button at the bottom is highlighted with a red box. The page displays a summary of the configuration, including resource group, region, database name, server, compute + storage, networking, and additional settings.

portal.azure.com/#create/Microsoft.SQLDatabase

Microsoft Azure Search resources, services, and docs (G+/)

All services > Azure SQL > Select SQL deployment option > Create SQL Database

Create SQL Database

Microsoft

| | |
|-------------------|---|
| Resource group | ashok |
| Region | (US) West Central US |
| Database name | mydb |
| Server | (new) myservsql |
| Compute + storage | General Purpose: Gen4, 1 vCore, 32 GB storage |

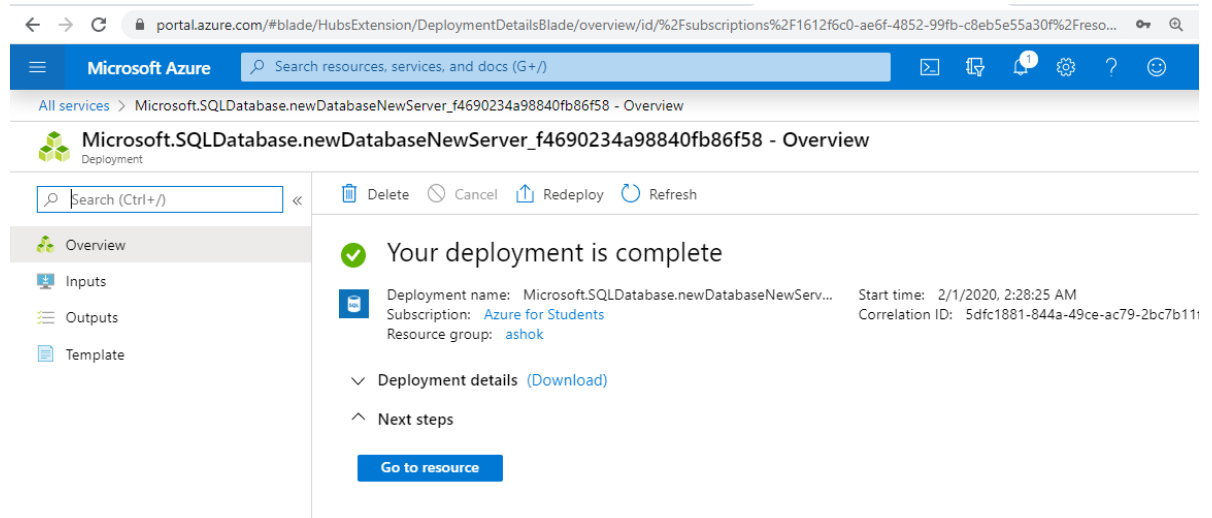
Networking

| | |
|--|------|
| Allow Azure services and resources to access this server | No |
| Private endpoint (preview) | None |

Additional settings

| | |
|------------------------|------------------------------|
| Use existing data | Sample |
| Collation | SQL_Latin1_General_CP1_CI_AS |
| Advanced data security | Not now |

Create < Previous [Download a template for automation](#)



Microsoft Azure

Search resources, services, and docs (G+)

All services > Microsoft.SQLDatabase.newDatabaseNewServer_f4690234a98840fb86f58 - Overview

Microsoft.SQLDatabase.newDatabaseNewServer_f4690234a98840fb86f58 - Overview

Deployment

Search (Ctrl+/)

Delete Cancel Redeploy Refresh

Your deployment is complete

Deployment name: Microsoft.SQLDatabase.newDatabaseNewServ... Start time: 2/1/2020, 2:28:25 AM
Subscription: [Azure for Students](#) Correlation ID: 5dfc1881-844a-49ce-ac79-2bc7b111
Resource group: [ashok](#)

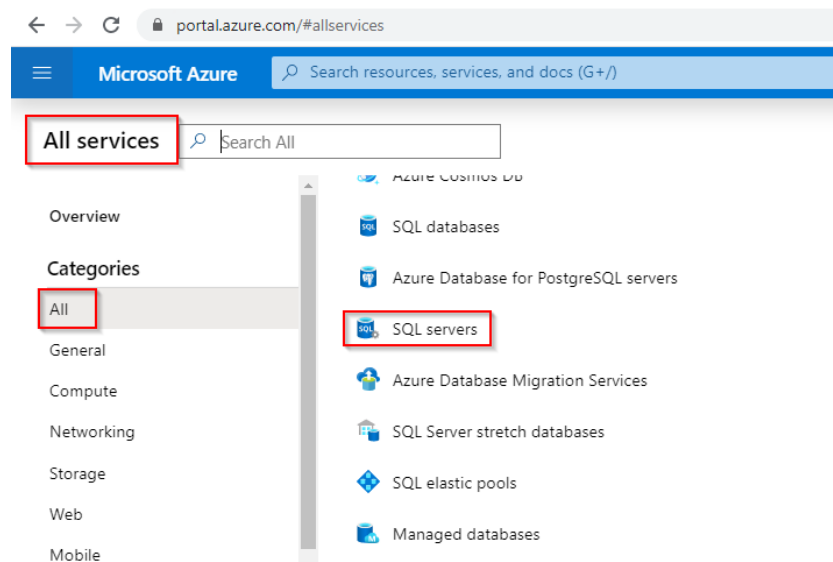
Deployment details (Download)

Next steps

[Go to resource](#)

9. You need to configure the Firewall and manage the IP addresses in SQL Server
Once you have selected the SQL Server, not the SQL database.

- Go to **all services** and select **SQL Servers**



Microsoft Azure

Search resources, services, and docs (G+)

All services Search All

Overview

Categories

All

General

Compute

Networking

Storage

Web

Mobile

Azure Cosmos DB

SQL databases

Azure Database for PostgreSQL servers

SQL servers

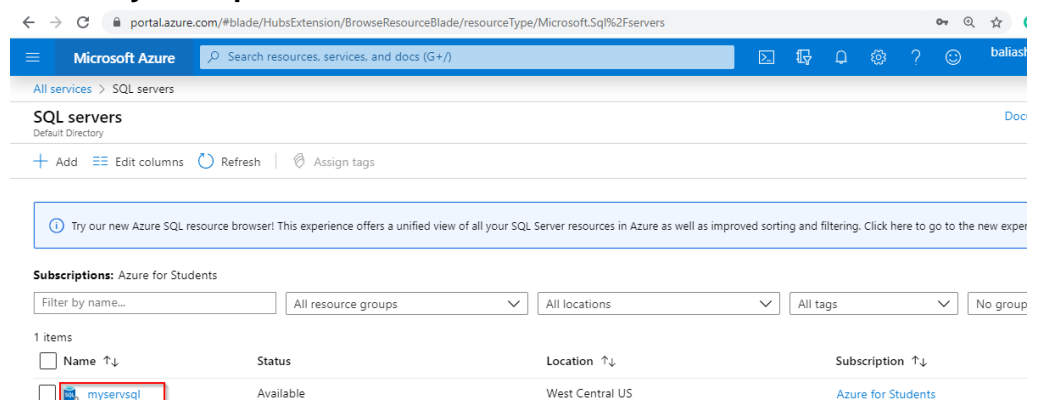
Azure Database Migration Services

SQL Server stretch databases

SQL elastic pools

Managed databases

- Select **myservsql**



Microsoft Azure

Search resources, services, and docs (G+)

All services > SQL servers

SQL servers

Default Directory

+ Add Edit columns Refresh Assign tags

Try our new Azure SQL resource browser! This experience offers a unified view of all your SQL Server resources in Azure as well as improved sorting and filtering. Click here to go to the new experience

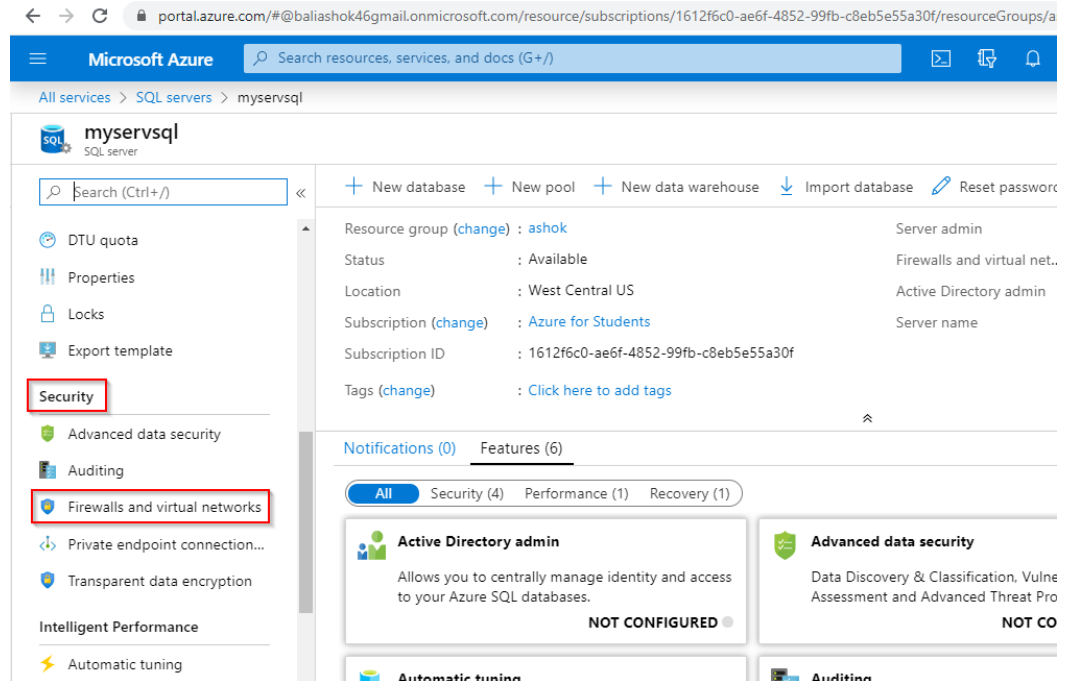
Subscriptions: Azure for Students

Filter by name... All resource groups All locations All tags No group

1 items

| Name ↑↓ | Status | Location ↑↓ | Subscription ↑↓ |
|------------------|-----------|-----------------|--------------------|
| myservsql | Available | West Central US | Azure for Students |

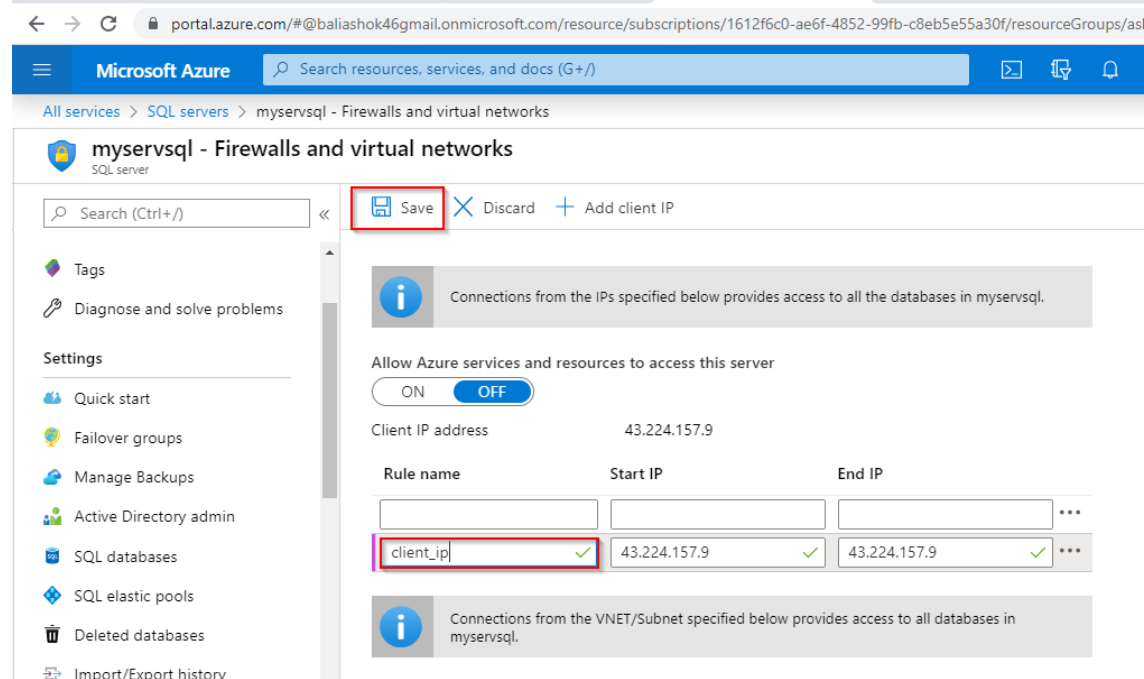
- Click on **Security -> Firewalls and virtual networks**



The screenshot shows the Azure portal interface for a SQL server named 'myservsql'. The left-hand navigation pane has 'Security' and 'Firewalls and virtual networks' highlighted with red rectangles. The main area displays server details and a list of features, including 'Active Directory admin', 'Advanced data security', 'Automatic tuning', and 'Auditing'. The 'Firewalls and virtual networks' feature is currently 'NOT CONFIGURED'.

- Click on **add client IP**.
- Add a name and enter the IP address(or the range) that will access the database.

Note: Azure automatically detects your current IP.



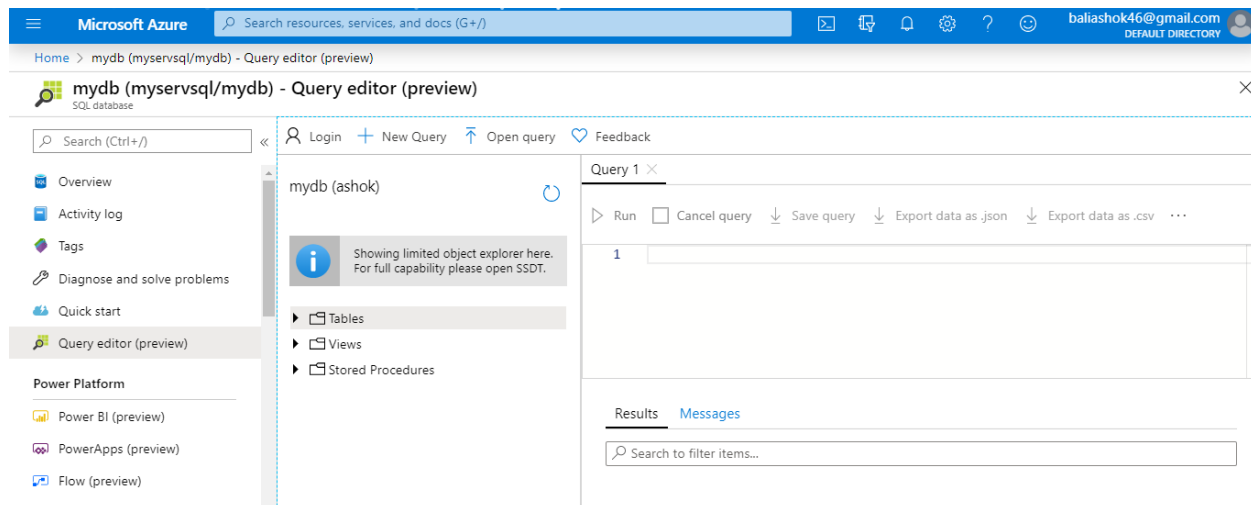
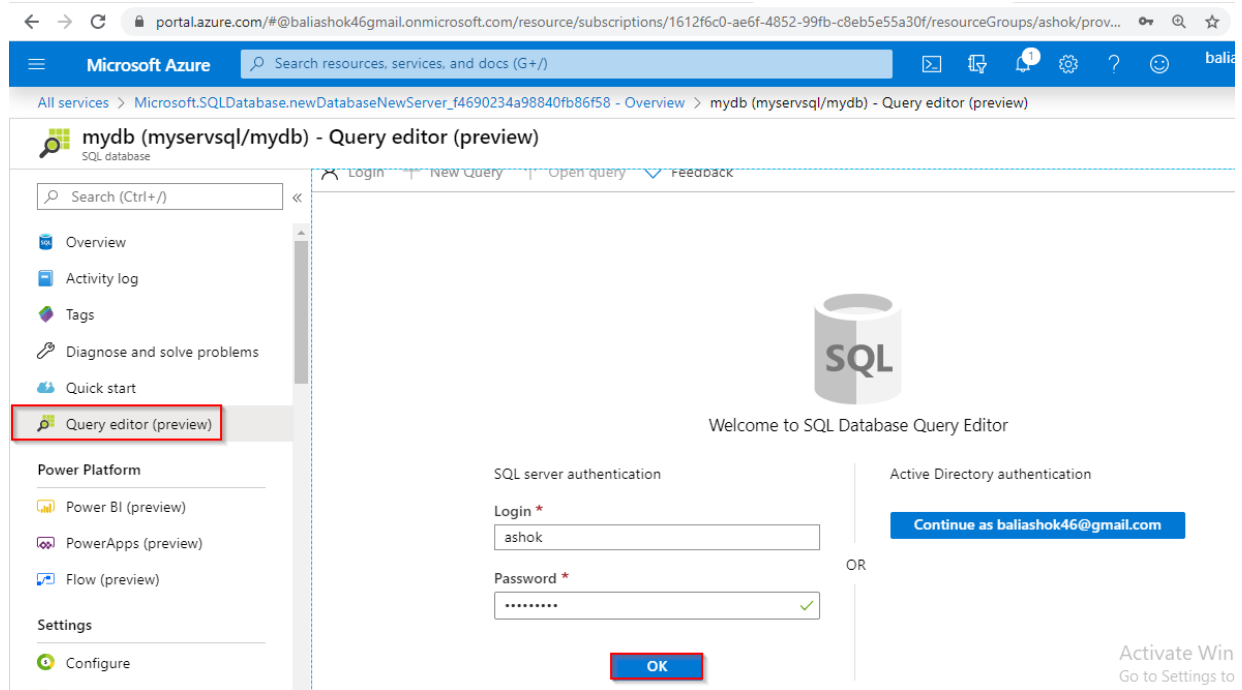
This screenshot shows the 'Firewalls and virtual networks' configuration page for the 'myservsql' server. The 'Save' button at the top is highlighted with a red box. Below, there's a section for 'Add client IP' with a table for defining rules. A new rule named 'client_ip' is being added, with the Start IP and End IP both set to 43.224.157.9. The 'Allow Azure services and resources to access this server' toggle is currently turned OFF.

| Rule name | Start IP | End IP |
|-----------|--------------|--------------|
| client_ip | 43.224.157.9 | 43.224.157.9 |

Query the database

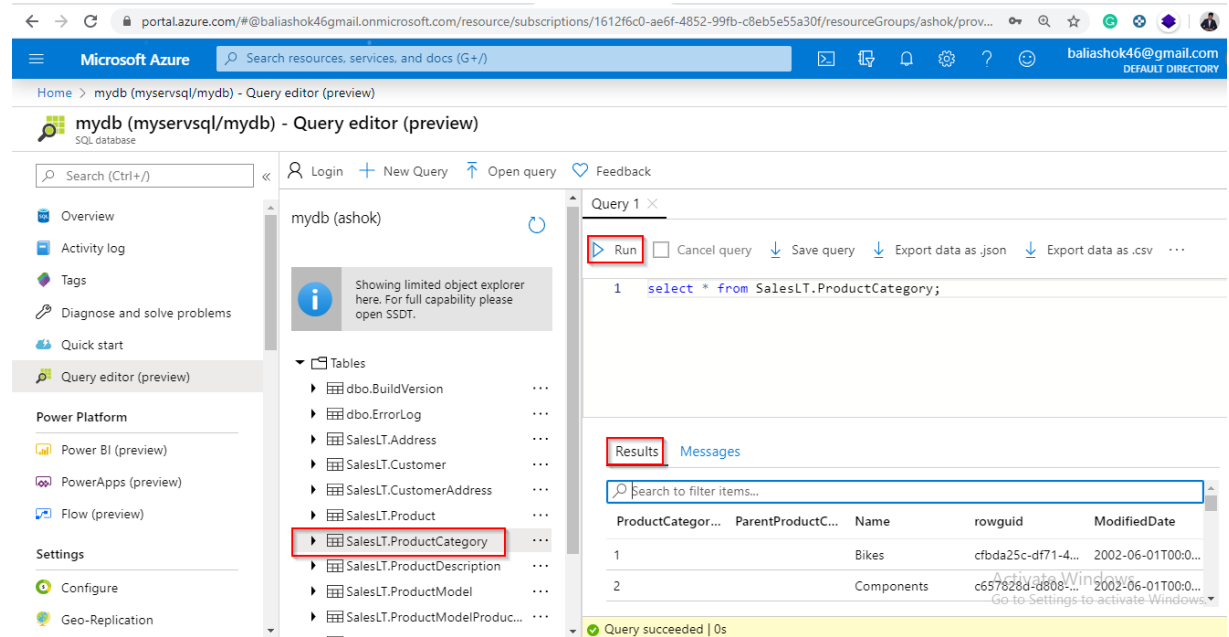
We have already created the database. Now we are going to use the built-in query tool in the Azure portal to connect to the database and query the data.

1. On the **SQL Database** page for your database, select **Query editor (preview)** in the left menu. Enter your login information, and select **OK**.



2. Enter the following query in the Query editor pane. select Run, and then review the query results in the Results pane.

```
select * from SalesLT.ProductCategory;
```



The screenshot shows the Azure portal interface for the 'mydb (mysql/mydb) - Query editor (preview)' page. The left sidebar contains navigation links for Overview, Activity log, Tags, Diagnose and solve problems, Quick start, Query editor (preview), Power Platform, Power BI (preview), PowerApps (preview), Flow (preview), Settings, Configure, and Geo-Replication. The main area displays the 'mydb (ashok)' database with a table explorer on the left. The 'SalesLT.ProductCategory' table is highlighted. The query editor on the right shows the query 'select * from SalesLT.ProductCategory;' and a 'Run' button. The 'Results' pane shows the query results in a table format.

| ProductCategory... | ParentProductC... | Name | rowguid | ModifiedDate |
|--------------------|-------------------|------------|--------------------|--------------------|
| 1 | | Bikes | cfbda25c-df71-4... | 2002-06-01T00:0... |
| 2 | | Components | c657628d-8808-... | 2002-06-01T00:0... |

Query succeeded | 0s

3. Close the Query editor page and select OK when prompted to discard your unsaved edits.