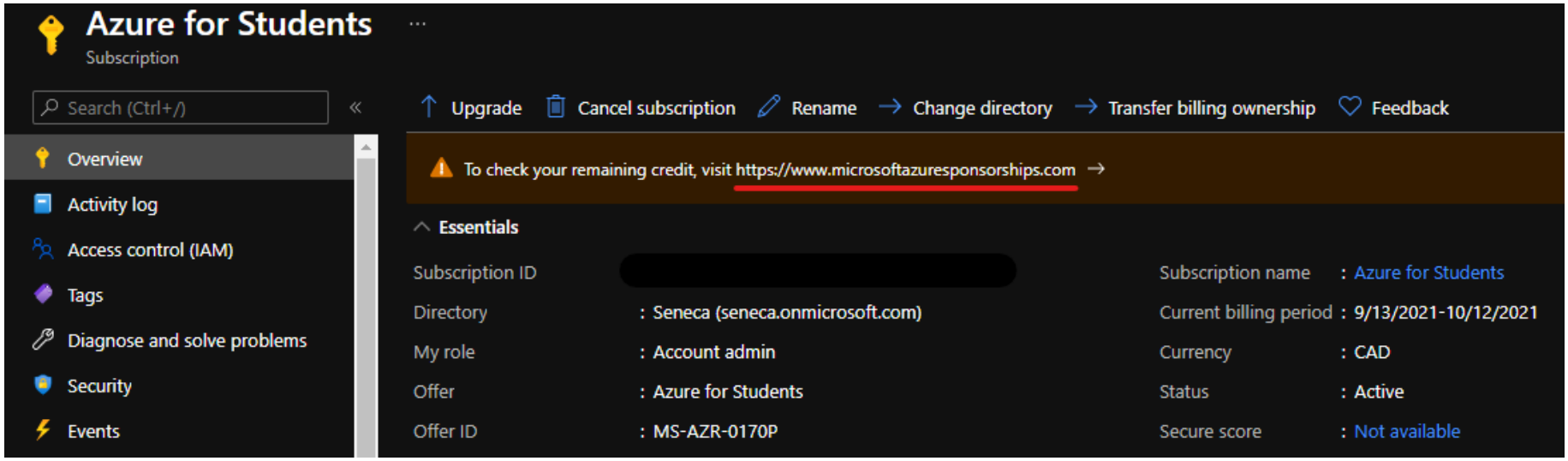
Seneca

Lab 6: Create a SQL database

At the end of each lab, any resources you created in your account will be preserved. Some Azure resources, such as VM instances, may be automatically shut down, while other resources, such as storage services will be left running. Keep in mind that some Azure features cannot be stopped and can still incur charges (i.e. Azure Bastion). To minimize your costs, delete all resources and recreate them as needed to test your work during a session.



Reference: AZ-900T0X-MICROSOFTAZUREFUNDAMENTALS

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06 - Create a SQL database

In this walkthrough, we will create a SQL database in Azure and then query the data in that database.

Task 1: Create the database (5 min)

In this task, we will create a SQL database based on the AdventureWorksLT sample database.

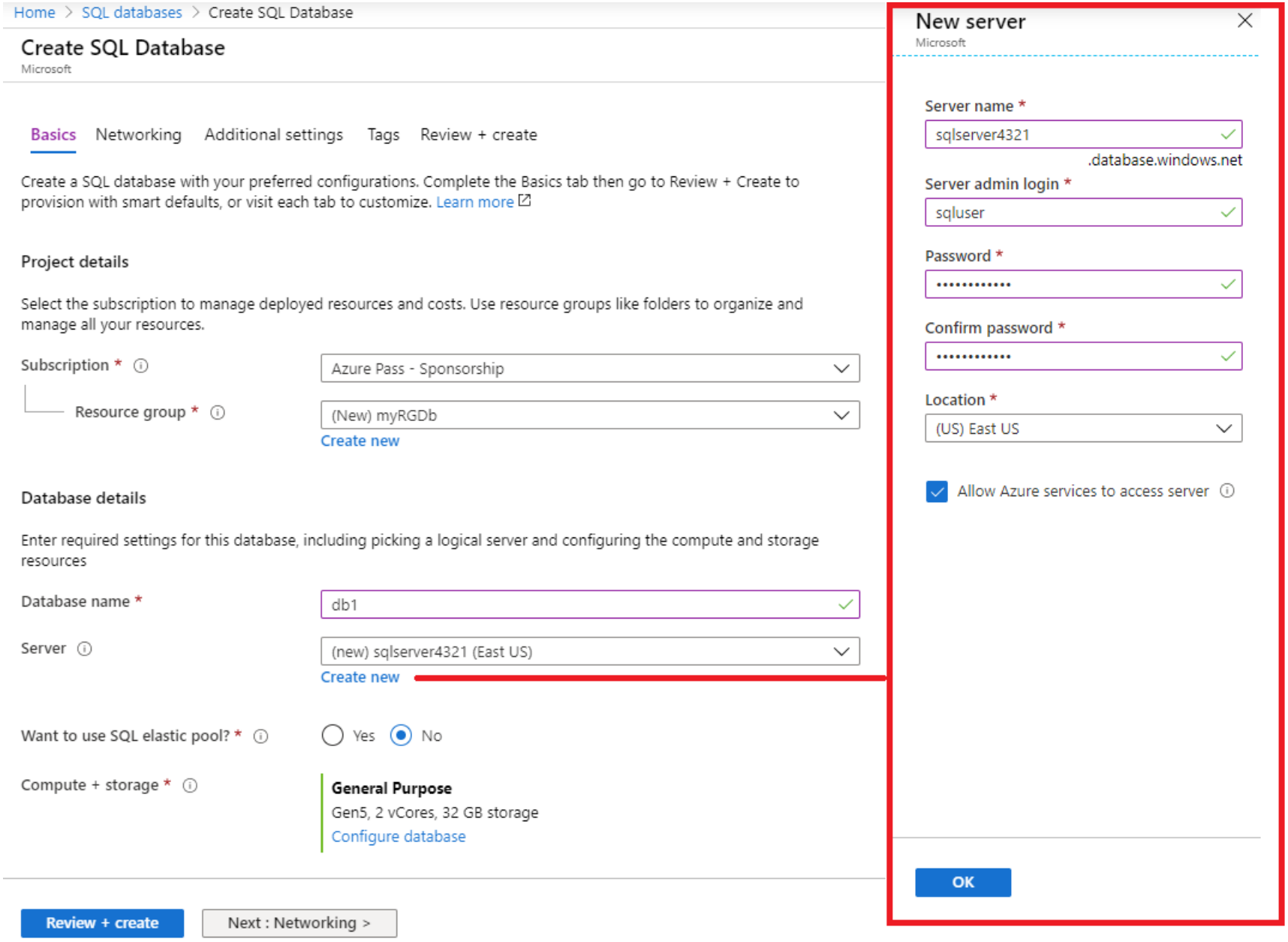
1. Sign in to the Azure portal at **https://portal.azure.com**.
2. From the **All services** blade, search for and select **SQL databases**, and then click **+ Add**.
3. On the **Basics** tab, fill in this information.

Setting	Value
Subscription	**Choose your subscription**
Resource group	**myRGDb** (create new)
Database name	**<studentID>db1 (example: dtrinh1db1)**

4. Next to the **Server** drop down list, click **Create new** and enter this information (replace **xxxx** in the name of the server with letters and digits such that the name is globally unique). Click **OK** when finished.

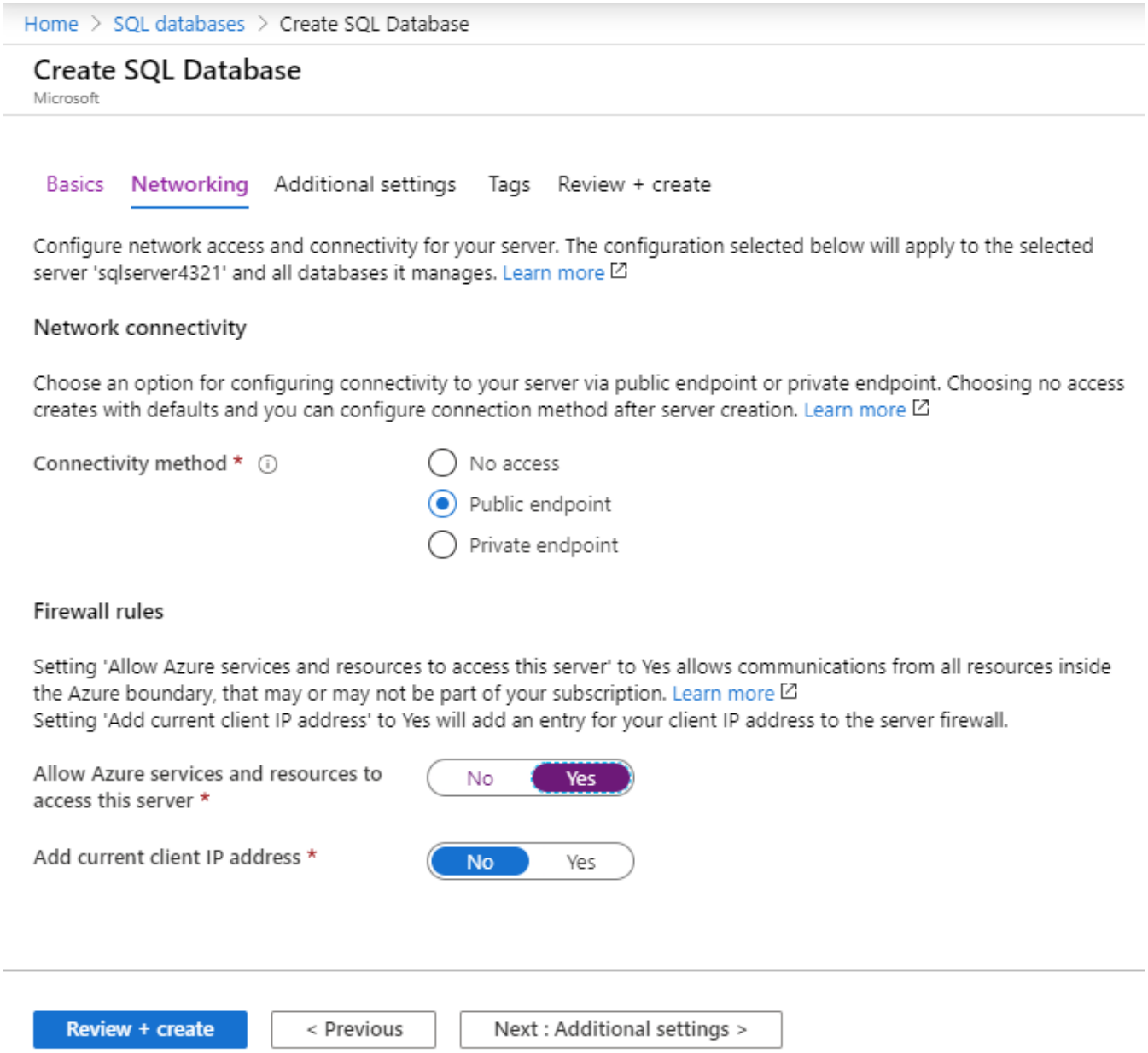
Setting	Value
Server name	**<studentID>sqlserverxxxx (example: dtrinh1sqlserver)**
Server admin login	**sqluser**
Password	**Pa$$w0rd1234**
Location	**(US) East US**
Allow Azure services to access server	***Select the checkbox***

5.


Home > SQL databases > 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 Pass - Sponsorship
Resource group *
(New) myRGDb
Create new
Database details
Enter required settings for this database, including picking a logical server and configuring the compute and storage resources
Database name *
db1
Server
(new) sqlserver4321 (East US)
Create new
Want to use SQL elastic pool? *
Yes
No
Compute + storage *
General Purpose
Gen5, 2 vCores, 32 GB storage
Configure database
Review + create
Next : Networking >
New server
Microsoft
Server name *
sqlserver4321
.database.windows.net
Server admin login *
sqluser
Password *
Confirm password *
Location *
(US) East US
Allow Azure services to access server
OK

6. Move to the **Networking** tab and configure the following settings (leave others with their defaults)

Setting	Value
Connectivity method	**Public endpoint**
Allow Azure services and resources to access this server	**Yes**
Add current client IP address	**No**

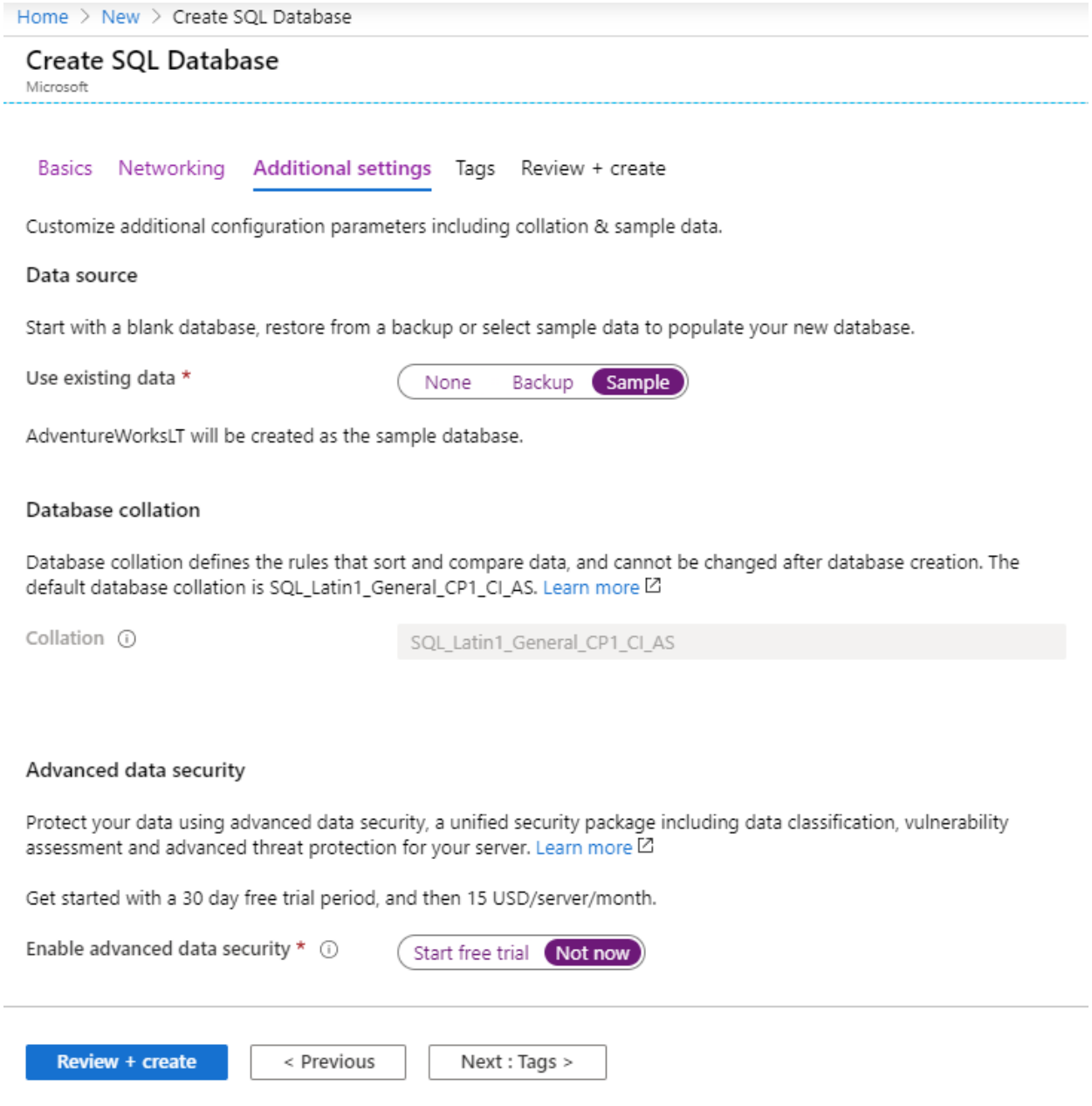

Home > SQL databases > Create SQL Database
Create SQL Database
Microsoft
Basics
Networking
Additional settings
Tags
Review + create
Configure network access and connectivity for your server. The configuration selected below will apply to the selected server 'sqlserver4321' and all databases it manages. Learn more
Network connectivity
Choose an option for configuring connectivity to your server via public endpoint or private endpoint. Choosing no access creates with defaults and you can configure connection method after server creation. Learn more
Connectivity method *
No access
Public endpoint
Private endpoint
Firewall rules
Setting 'Allow Azure services and resources to access this server' to Yes allows communications from all resources inside the Azure boundary, that may or may not be part of your subscription. Learn more
Setting 'Add current client IP address' to Yes will add an entry for your client IP address to the server firewall.
Allow Azure services and resources to access this server *
No
Yes
Add current client IP address *
No
Yes
Review + create
< Previous
Next : Additional settings >

7.

8. Move to the **Additional settings** tab. We will be using the AdventureWorksLT sample database.

Setting	**Value**
Use existing data	**Sample**
Collation	***use default***
Enable advanced data security	**Not now**

9.

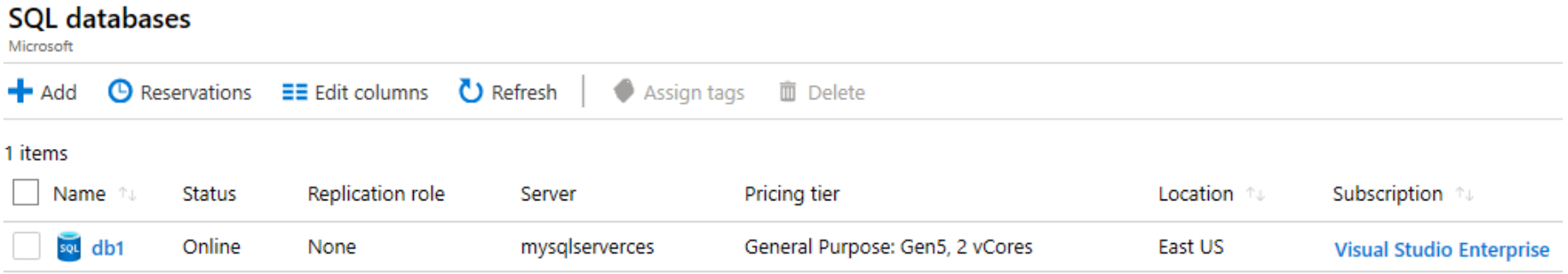

Home > New > Create SQL Database
Create SQL Database
Microsoft
Basics
Networking
Additional settings
Tags
Review + create
Customize additional configuration parameters including collation & sample data.
Data source
Start with a blank database, restore from a backup or select sample data to populate your 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
Advanced data security
Protect your data using advanced data security, a unified security package including data classification, vulnerability assessment and advanced threat protection for your server. Learn more
Get started with a 30 day free trial period, and then 15 USD/server/month.
Enable advanced data security *
Start free trial
Not now
Review + create
< Previous
Next : Tags >

10. Click **Review + create** and then click **Create** to deploy and provision the resource group, server, and database. It can take approx. 2 to 5 minutes to deploy.
11. Go to the resource tab to locate the SQL database you created. You may need to refresh.

Task 2: Test the database.

In this task, we will configure the SQL server and run a SQL query.

1. From the **All services** blade, search and select **SQL databases** and ensure your new database was created. You may need to **Refresh** the page.



2. Click the **db1** entry representing the SQL database you created, and then click **Query editor (preview)**.
3. Login as **sqluser** with the password **Pa$$w0rd1234**.
4. You will not be able to login. Read the error closely and make note of the IP address that needs to be allowed through the firewall.

Welcome to SQL Database Query Editor

SQL server authentication

Login *

sqluser

Password *

••••••••••••

Cannot open server 'sqlserverxxx1' requested by the login. Client with IP address [redacted] is not allowed to access the server. To enable access, use the Windows Azure Management Portal or run sp_set_firewall_rule on the master database to create a firewall rule for this IP address or address range. It may take up to five minutes for this change to take effect.

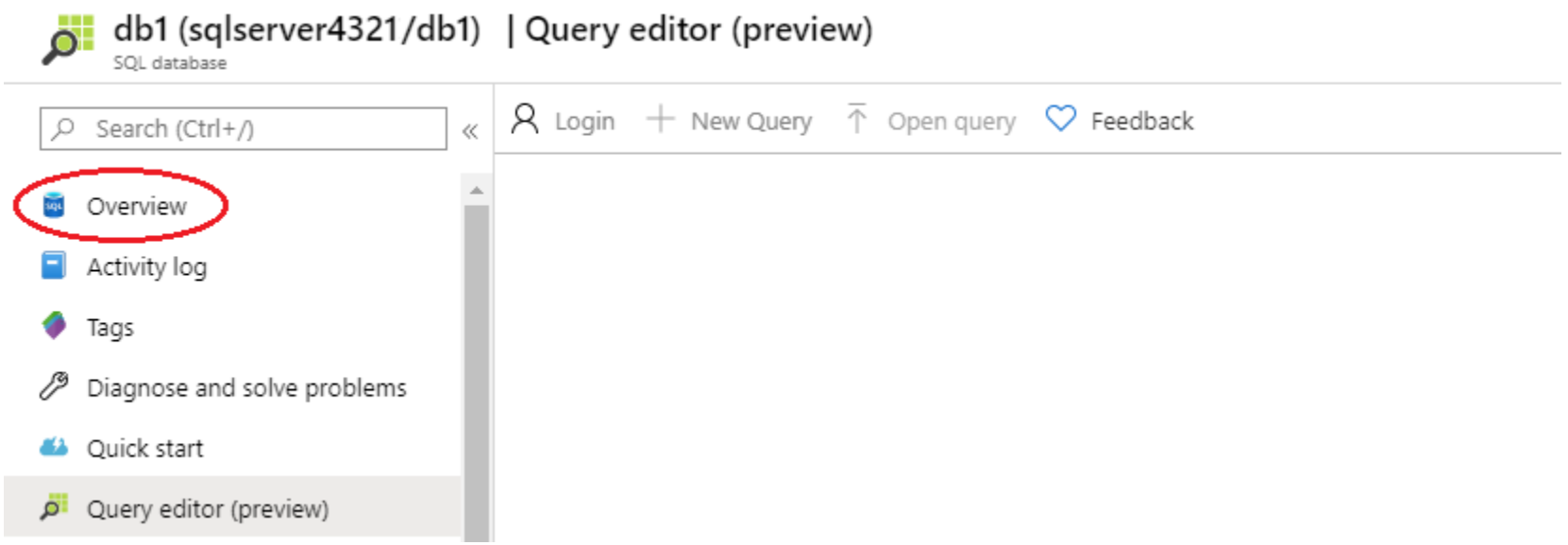
Set server firewall (sqlserverxxx1)

OR

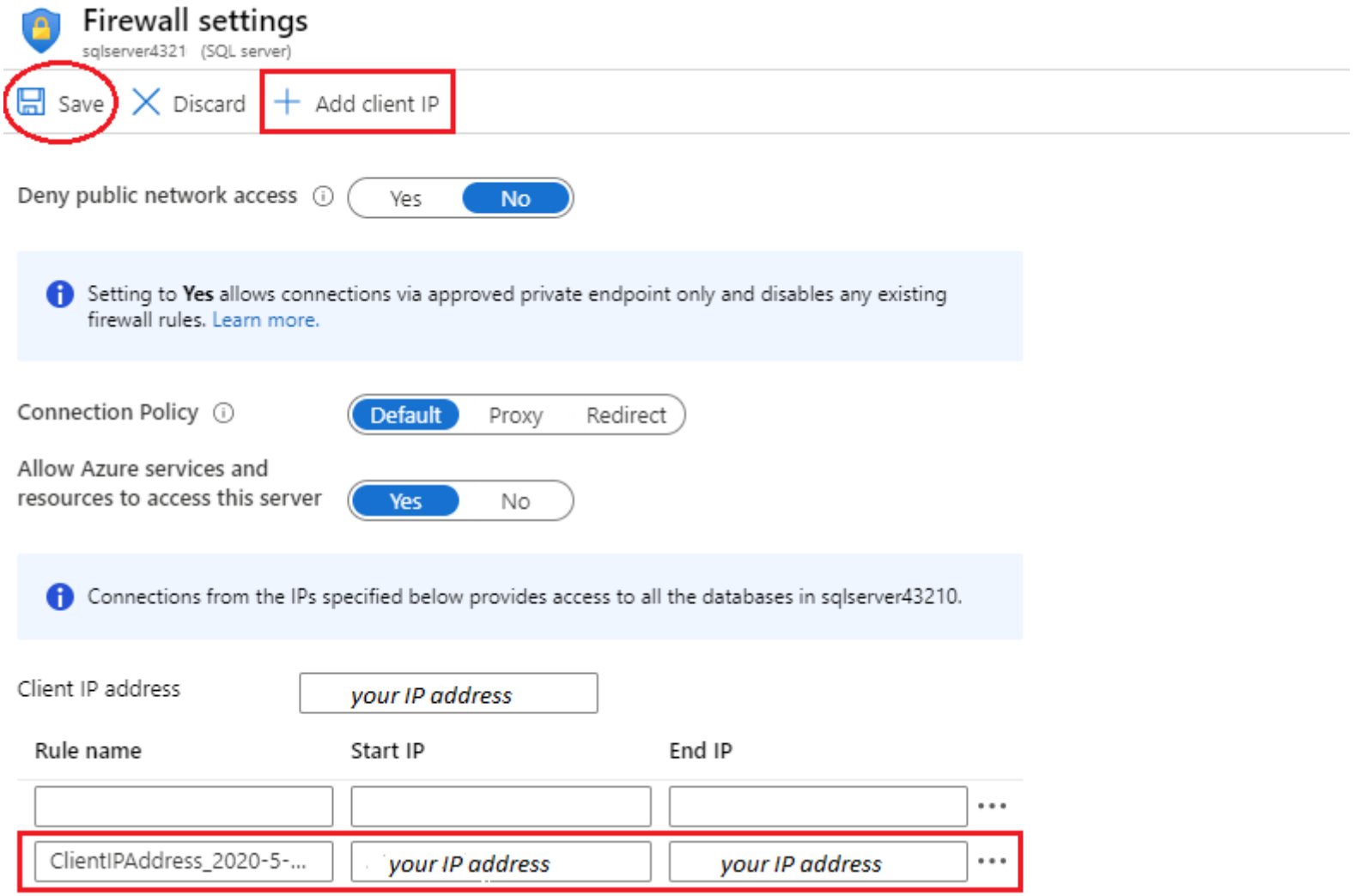
Active Directory authentication

Continue as [redacted]

5. From the **db1** blade, click **Overview**.



6. From the SQL server **Overview** blade, click **Set server firewall**.
7. Click **Add client IP** (top menu bar) to add the IP address referenced in the error. Be sure to **Save** your changes.

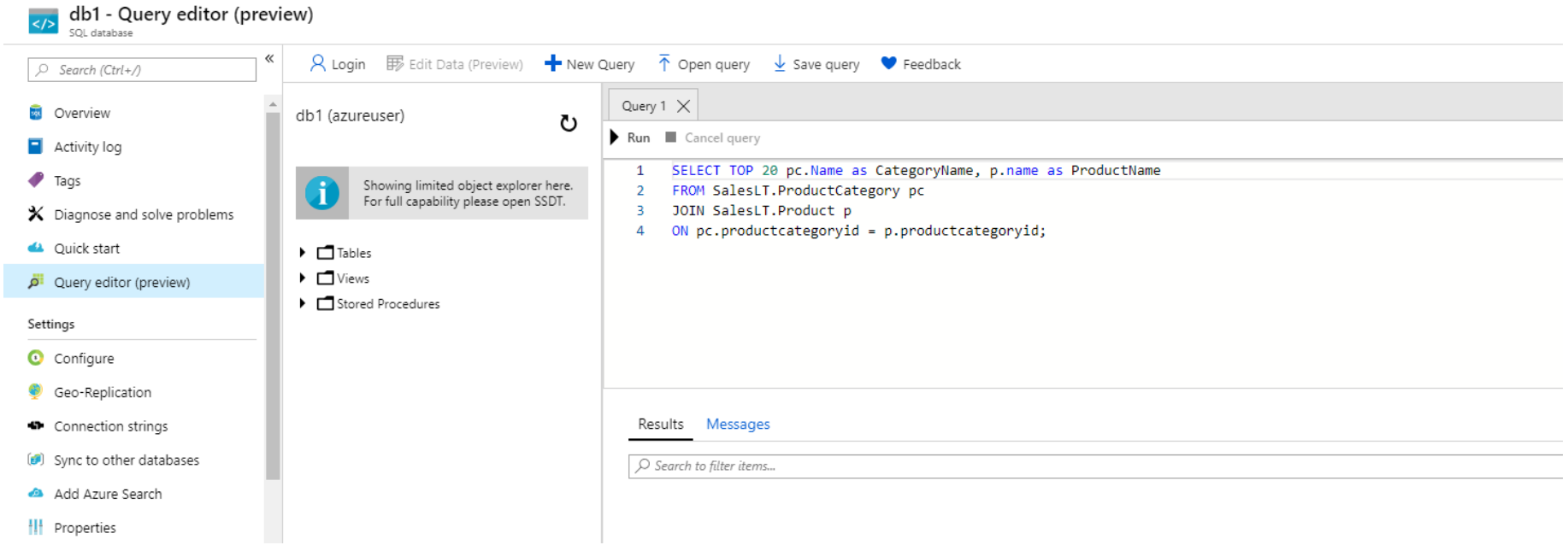


8. Return to your SQL database and the **Query Editor (Preview)** login page. Try to login again as **sqluser** with the password **Pa$$w0rd1234**. This time you should succeed. Note that it may take a couple of minutes for the new firewall rule to be deployed.

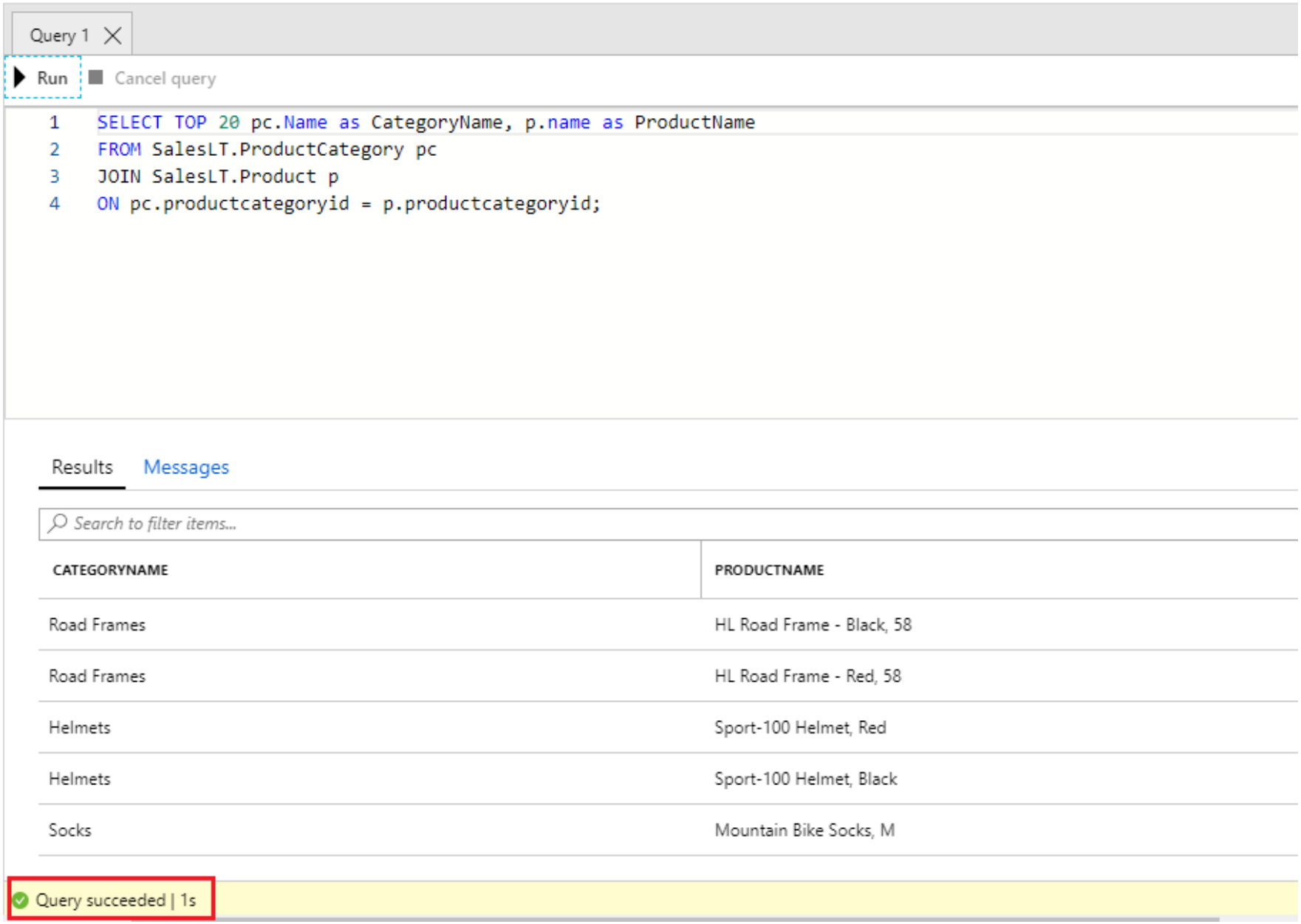
9. Once you log in successfully the query pane appears, enter the following query into the editor pane.

CodeCopy

```
SELECT TOP 20 pc.Name as CategoryName, p.name as ProductName
FROM SalesLT.ProductCategory pc
JOIN SalesLT.Product p
ON pc.productcategoryid = p.productcategoryid;
```



10. Click **Run**, and then review the query results in the **Results** pane. The query should run successfully.


Query 1
Run
Cancel query
1 SELECT TOP 20 pc.Name as CategoryName, p.name as ProductName
2 FROM SalesLT.ProductCategory pc
3 JOIN SalesLT.Product p
4 ON pc.productcategoryid = p.productcategoryid;
Results
Messages
Search to filter items...
CATEGORYNAME
PRODUCTNAME
Road Frames
HL Road Frame - Black, 58
Road Frames
HL Road Frame - Red, 58
Helmets
Sport-100 Helmet, Red
Helmets
Sport-100 Helmet, Black
Socks
Mountain Bike Socks, M
Query succeeded | 1s

Congratulations! You have created a SQL database in Azure and successfully queried the data in that database.

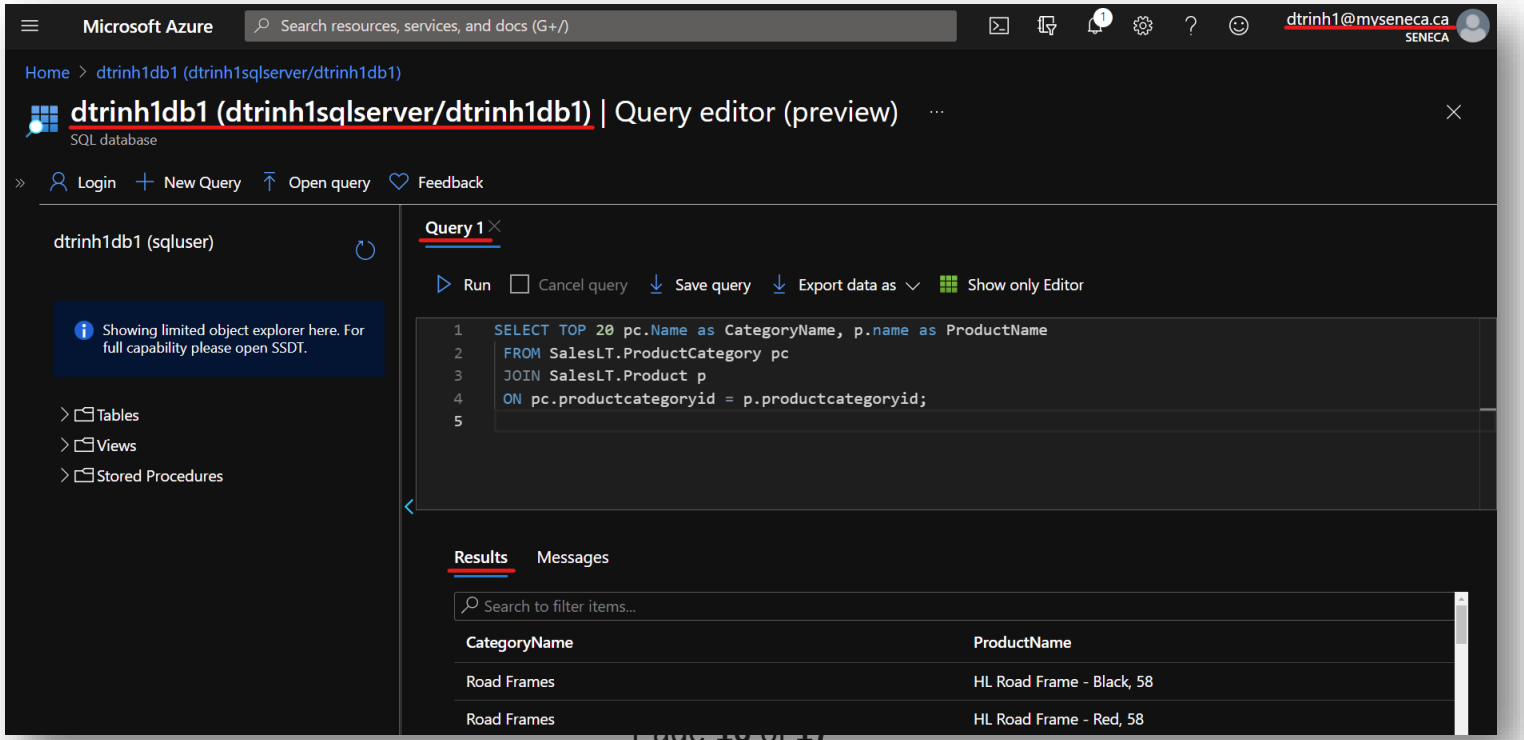
Note: To avoid additional costs, you can remove all resources in the resource group. Search for resource groups, click your resource group, and then delete the resources within the resource group. **DO NOT DELETE YOUR RESOURCE GROUP.**

Submission Requirements

Submit a screenshot with the following information:

Screenshot #1:

- A successful query of sample data from your SQL database
- The Azure Portal with your login ID



Screenshot #2:

- Successful deletion of resources within resource group. **DO NOT DELETE YOUR RESOURCE GROUP!**