



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.

The screenshot shows the 'Azure for Students' subscription page. The left sidebar contains navigation links: Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Security, and Events. The main content area has a top bar with a search box and action links: Upgrade, Cancel subscription, Rename, Change directory, Transfer billing ownership, and Feedback. Below this is a warning banner about checking remaining credit. The 'Essentials' section displays subscription details in a table format.

Subscription ID	[Redacted]	Subscription name	: Azure for Students
Directory	: Seneca (seneca.onmicrosoft.com)	Current billing period	: 9/13/2021-10/12/2021
My role	: Account admin	Currency	: CAD
Offer	: Azure for Students	Status	: Active
Offer ID	: MS-AZR-0170P	Secure score	: Not available

Reference: [AZ-900T0X-MICROSOFTAZUREFUNDAMENTALS](#)

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	<i>Select the checkbox</i>

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

5.


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


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	<i>use default</i>
Enable advanced data security	Not now

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 >](#)

9.

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.

SQL databases

Microsoft

[+ Add](#) [⌚ Reservations](#) [☰ Edit columns](#) [↺ Refresh](#) | [🏷 Assign tags](#) [🗑 Delete](#)

1 items

<input type="checkbox"/>	Name ^{↑↓}	Status	Replication role	Server	Pricing tier	Location ^{↑↓}	Subscription ^{↑↓}
<input type="checkbox"/>	 db1	Online	None	mysqlserverces	General Purpose: Gen5, 2 vCores	East US	Visual Studio Enterprise

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 *

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 \(sqlserverxxx1\)](#)

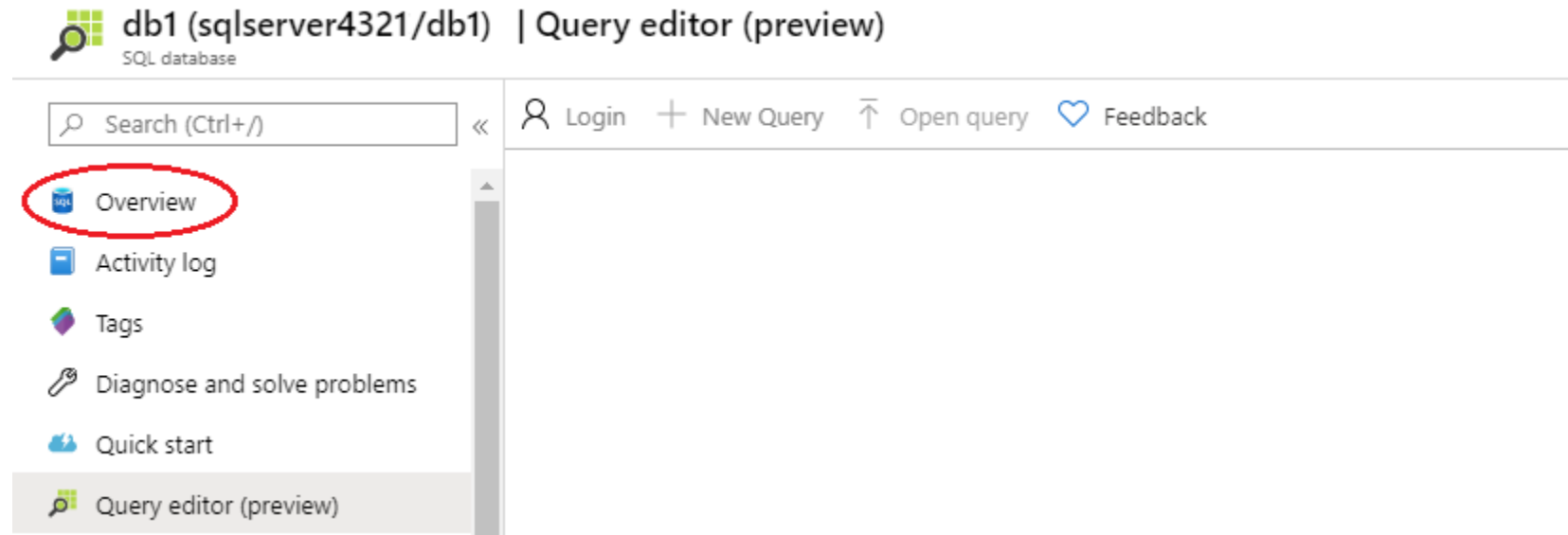
Active Directory authentication

Continue as [REDACTED]


OR





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.

**Firewall settings**
sqlserver4321 (SQL server)


 Save

 Discard

 Add client IP

Deny public network access ⓘ

Yes **No**


 Setting to **Yes** allows connections via approved private endpoint only and disables any existing firewall rules. [Learn more.](#)

Connection Policy ⓘ

Default Proxy Redirect

Allow Azure services and resources to access this server

Yes **No**

 Connections from the IPs specified below provides access to all the databases in sqlserver43210.

Client IP address

your IP address

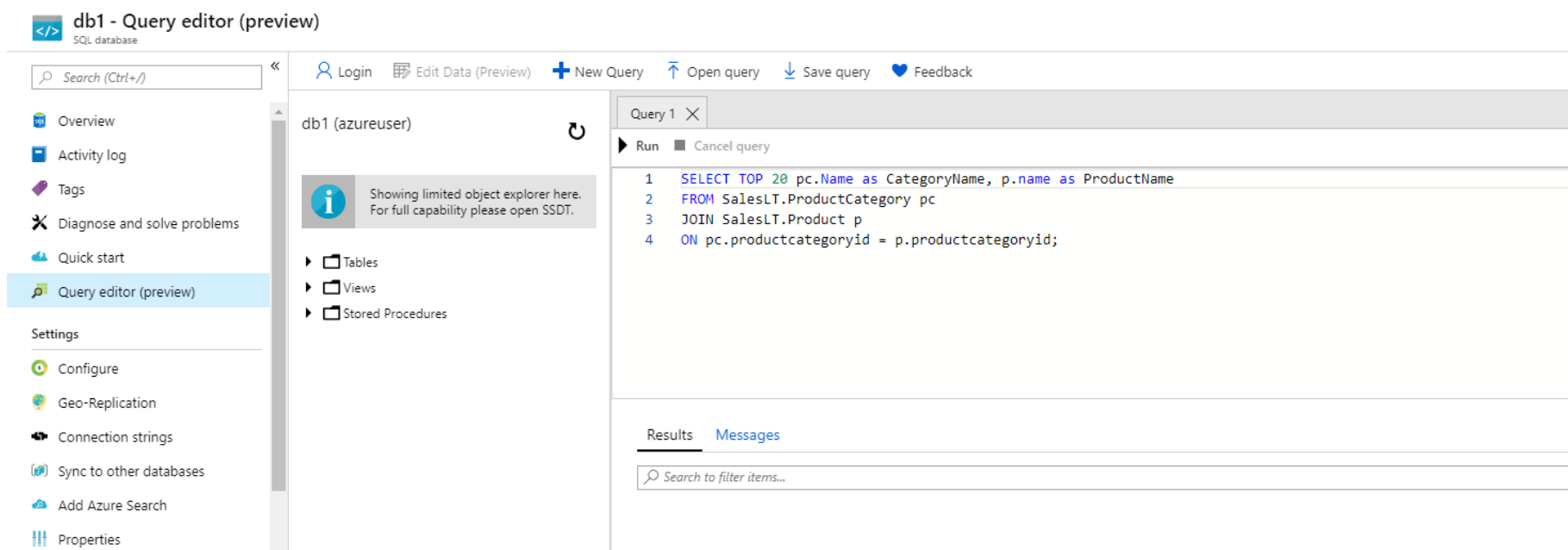
Rule name	Start IP	End IP	
			...
ClientIPAddress_2020-5-...	<i>your IP address</i>	<i>your IP address</i>	...

- 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 X

▶ 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.

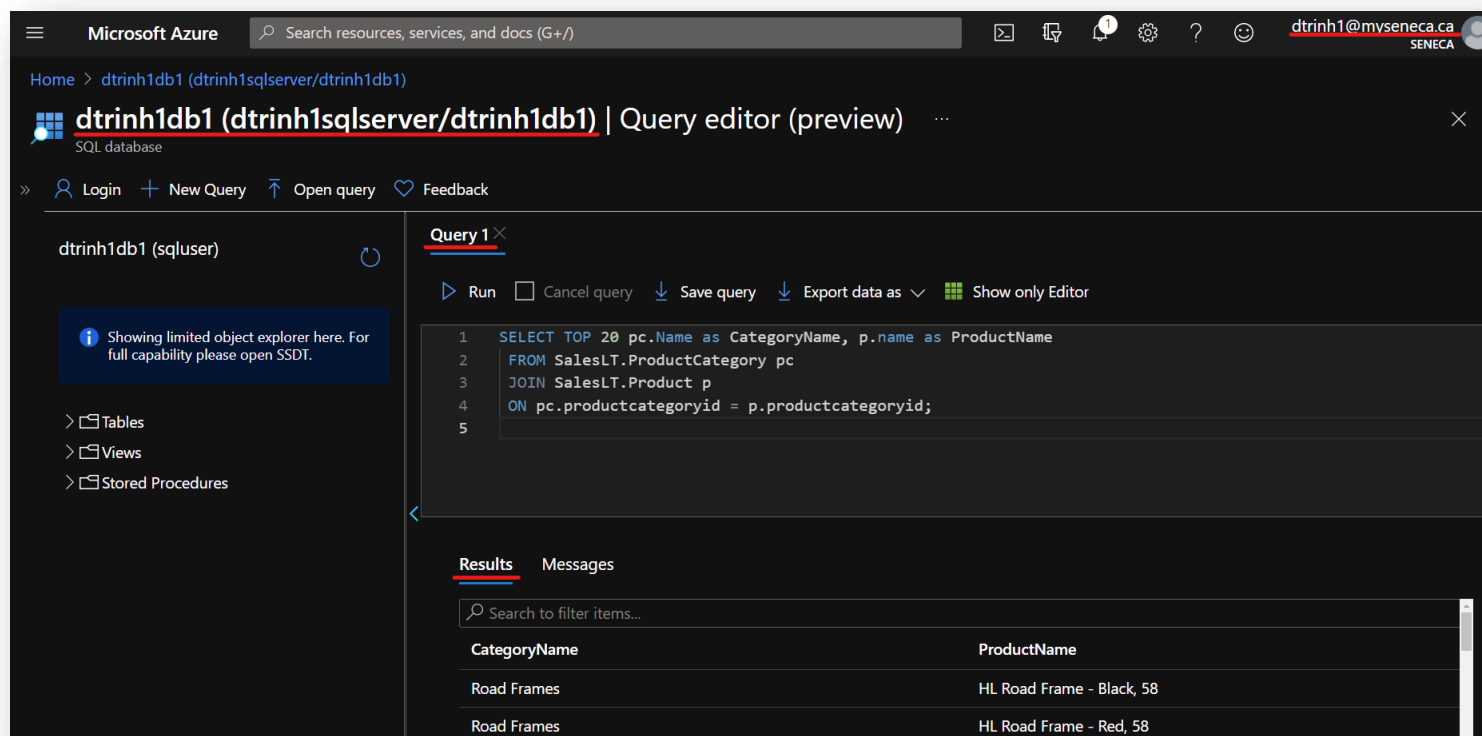
Note: To avoid additional costs, you can remove all resources in the resource group. Search for resource groups, click your resource group, and then delete the resources within the resource group. **DO NOT DELETE YOUR RESOURCE GROUP.**

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!**

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the 'Microsoft Azure' logo, a search bar, and user information for 'dtrinh1@myseneca.ca'. The main content area is titled 'Resource groups' and shows the 'myRG' resource group. The left sidebar contains a list of resource group settings: Overview, Activity log, Access control (IAM), Tags, Resource visualizer, Events, Deployments, Security, Policies, Properties, and Locks. The 'Resources' tab is selected, showing a table with columns 'Name', 'Type', and 'Location'. The table is currently empty, with a status bar at the bottom indicating 'Showing 0 to 0 of 0 records'.

Name	Type	Location
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