

Practical Task 8: Creating and Querying an Azure SQL Database

Learn to create and query an Azure SQL Database using the Azure portal.

Requirements:

1. Create an Azure SQL Database named "test-db" in a new logical SQL server.
2. Set the pricing tier to the free tier for cost optimization.
3. Use the Query Editor in the Azure portal to create a table named "Products" with columns for ID, Name, and Price.
4. Insert a few sample records into the "Products" table using a SQL query.
5. Query the table to display all records and verify the data.

Practical Task 9: Deploying an Azure SQL Database with Automated Backup Configuration

Set up an Azure SQL Database and configure automated backups.

The screenshot displays the Azure portal interface for a SQL database named "test-db (dev-test-db-20250124/test-db)". The "Query editor (preview)" tab is active, showing a SQL query: `SELECT * FROM clients;`. The query has been executed successfully, as indicated by the "Query succeeded | 0s" message at the bottom. The results are displayed in a table with the following data:

Id	FirstName	LastName	Age
1	Alice	Smith	25
2	Bob	Johnson	40
3	Charlie	Brown	35

The left sidebar shows the navigation menu with options like Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview), Mirror database in Fabric (preview), Settings, Data management, Integrations, Power Platform, Security, Intelligent performance, Monitoring, Alerts, Metrics, and Diagnostic settings. The right sidebar shows the object explorer with a tree view of the database schema, including Tables, Views, and Stored Procedures.

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portal.azure.com/#@dmytroslovinskygmail.onmicrosoft.com/resource/subscriptions/9a6ae428-d8c3-44fe-bdf2-4...

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DEFAULT DIRECTORY (DMYTROS...

test-db (dev-test-db-20250124/test-db) > dev-test-db-20250124 | SQL databases > test-db (dev-test-db-20250124/test-db)

test-db (dev-test-db-20250124/test-db) | Query editor (preview) ☆

SQL database

Search

Login + New Query ↑ Open query Feedback Getting started

Overview

Activity log

Tags

Diagnose and solve problems

Query editor (preview)

Mirror database in Fabric (preview)

Settings

Data management

Integrations

Power Platform

Security

Intelligent performance

Monitoring

Alerts

test-db (StanislavKostenich@dmytr...)

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Tables

Views

sys.database_firewall_rules

id (int, not null)

name (sysname, not null)

start_ip_address (varchar, not null)

end_ip_address (varchar, not null)

create_date (datetime, not null)

modify_date (datetime, not null)

Stored Procedures

Query 1 ×

Run Cancel query Save query Export data as Show only Editor

1 INSERT INTO clients (FirstName, LastName, Age)
2 VALUES
3 ('Alice', 'Smith', 25),
4 ('Bob', 'Johnson', 40),
5 ('Charlie', 'Brown', 35);
6

Results Messages

Search to filter items...

Ready

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test-db (dev-test-db-20250124/test-db) | Query editor (preview)

SQL database

SearchLoginNew QueryOpen queryFeedbackGetting started

OverviewActivity logTagsDiagnose and solve problemsQuery editor (preview)Mirror database in Fabric (preview)SettingsData managementIntegrationsPower PlatformSecurityIntelligent performanceMonitoringAlertsMetricsDiagnostic settings

test-db (StanislavKostenich@dmytr...
Showing limited object explorer here. For full capability please click here to open Azure Data Studio.
TablesViewsStored Procedures

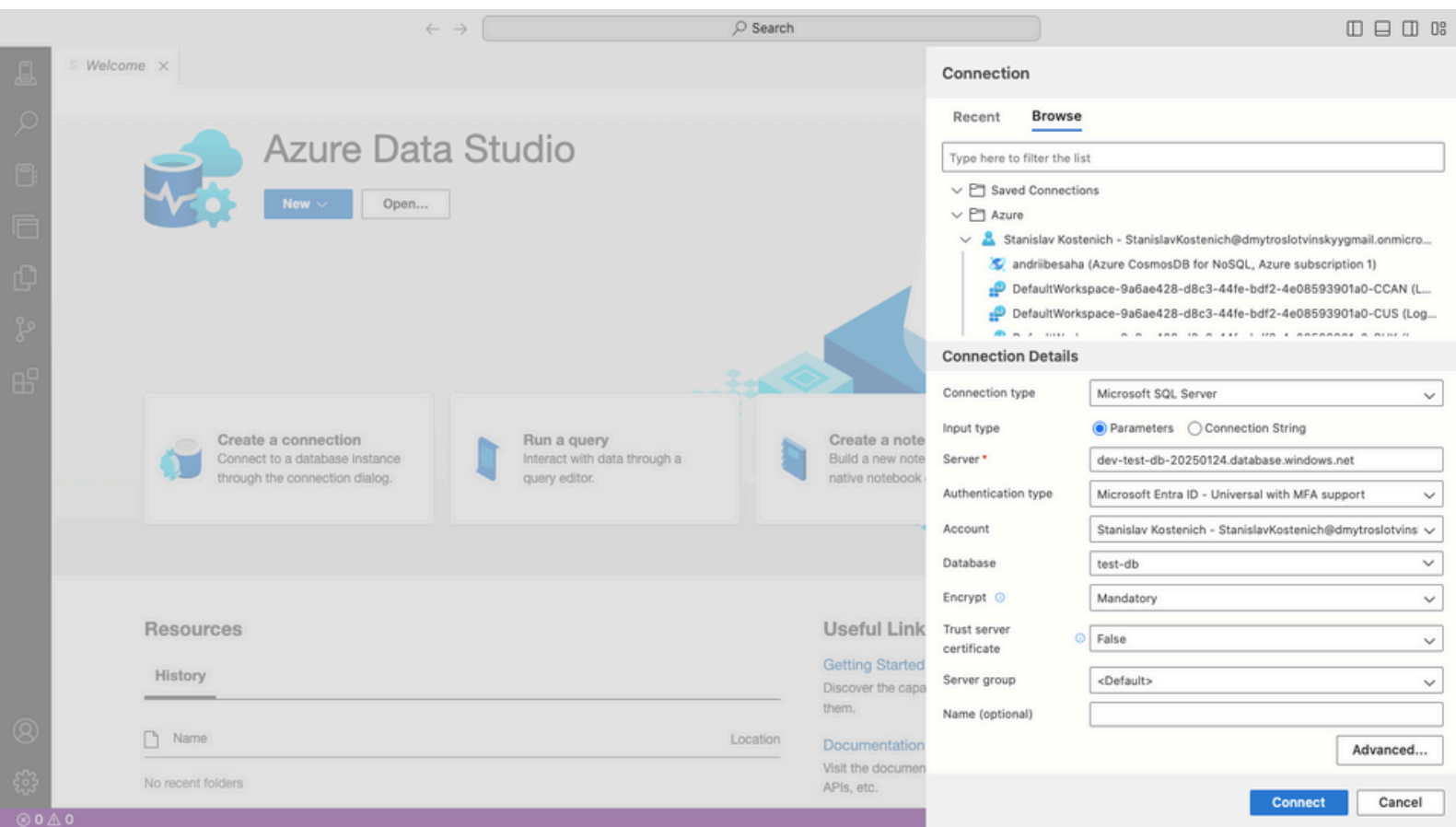
Query 1
RunCancel querySave queryExport data asShow only EditorOpen Copilot

```
1 CREATE TABLE clients (  
2   Id INT IDENTITY(1,1) PRIMARY KEY,  
3   FirstName NVARCHAR(50) NOT NULL,  
4   LastName NVARCHAR(50) NOT NULL,  
5   Age INT CHECK (Age >= 0) -- Ensures Age is non-negative  
6 );  
7
```

ResultsMessages

Search to filter items...

Ready



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Home > Microsoft.SQLDatabase.newDatabaseNewServer_a8475348846047fc809db | Overview > test-db (dev-test-db-20250124/test-db) > dev-test-db-20250124

dev-test-db-20250124 | NetworkingSQL server

Search

Please save public network access value before adding new virtual networks.

Overview

Activity log

Access control (IAM)

Tags

Quick start

Diagnose and solve problems

Settings

Microsoft Entra ID

SQL databases

SQL elastic pools

Properties

Locks

Data management

Backups

Deleted databases

Failover groups

Import/Export history

Security

Virtual networks

Allow virtual networks to connect to your resource using service endpoints. [Learn more](#)

+ Add a virtual network rule

Rule	Virtual network	Subnet	Address range	Endpoint status	Resource group	Subscription	State
------	-----------------	--------	---------------	-----------------	----------------	--------------	-------

Firewall rules

Allow certain public internet IP addresses to access your resource. [Learn more](#)

+ Add your client IPv4 address (91.210.250.95) + Add a firewall rule

Rule name	Start IPv4 address	End IPv4 address ↓	
ClientIPAddress_2025-1-24_22-16-21	91.210.250.95	91.210.250.95	🗑️

Exceptions

☒ Allow Azure services and resources to access this server ⓘ

Save

Discard

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

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Home > SQL databases >

Create SQL Database

Microsoft

BasicsNetworkingSecurityAdditional settingsTagsReview + create

Product details

SQL database
by Microsoft
Terms of use | Privacy policy

Estimated cost
Storage cost -- -- / month + Compute cost -- -- / vCore second

Terms

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. For additional details see [Azure Marketplace Terms](#).

Basics

Subscription

Azure subscription 1

Resource group

StanislavKostenich

Region

East US

Database name

test-db

Server


(new) dev-test-db-20250124

Authentication method

Microsoft Entra-only authentication

Create

Create < Previous Download a template for automation



Cost summary

General Purpose (GP_S_Gen5_2)

Cost per GB (in --)

--

Max storage selected (in GB)

x 41.6

First 32 GB storage free

First 100,000 vCore seconds free

Overage billing¹

Disabled

ESTIMATED STORAGE COST / MONTH

-- --

COMPUTE COST / VCORE SECOND²

-- --

1 There will be no charges for usage within the free limits. The database will be paused automatically when the free limits are reached.

2 Serverless databases are billed in vCore seconds based on a combination of CPU and memory utilization. [Learn more about serverless billing](#)

Service and compute tier

☒ Applied

☒ Auto-pause the database until next month

☐ Continue using database for additional charges

SQL Database Hyperscale: Low price, high scalability, and best feature set. [Learn more](#)

Apply



Cost summary

General Purpose (GP_5_Gen5_2)

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x 41.6

- ◆ First 32 GB storage free

- First 100,000 vCore seconds free

Overage billing¹

Disabled

ESTIMATED STORAGE COST / MONTH

COMPUTE COST / VCORE SECOND 2

¹ There will be no charges for usage within the free limits. The database will be paused automatically when the free limits are reached.

² Serverless databases are billed in vCore seconds based

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Microsoft Azure

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Home > SQL databases >

Create SQL Database

Microsoft

Changing Basic options may reset selections you have made. Review all options prior to creating the resource.

Server ⓘ

(new) dev-test-db-20250124 (East US)

Create new

Compute + storage ⓘ

General Purpose - Serverless

Standard-series (Gen5), 2 vCores, 32 GB storage, zone redundant disabled

Configure database

Behavior when free offer limit reached

Behavior when free offer limit reached ⓘ

☒ Auto-pause the database until next month

When free offer limit is reached, the database will not be accessible until the beginning of next calendar month when free amount is renewed. There will be no additional charges.

☐ Continue using database for additional charges

Database continues to be accessible after free offer limit is reached. Additional usage beyond the free offer amount for that month will be charged at general purpose serverless tier rates. The free amount will be renewed at the beginning of the next calendar month.

Backup storage redundancy

Choose how your PITR and LTR backups are replicated. Geo restore or ability to recover from regional outage is only available when zone-redundant storage is selected.

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portal.azure.com/#view/SqlAzureExtension/SharedCreateServer/IsNewServer~/true/subscriptionId/9a6ae428-d8c3-44fe-...

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Home > SQL databases > Create SQL Database >Create SQL Database Server

Microsoft

Server details

Enter required settings for this server, including providing a name and location. This server will be created in the same subscription and resource group as your database.

Server name *

dev-test-db-20250124

.database.windows.net

Location *

(US) East US

Authentication

Azure Active Directory (Azure AD) is now Microsoft Entra ID. [Learn more](#)

Select your preferred authentication methods for accessing this server. Create a server admin login and password to access your server with SQL authentication, select only Microsoft Entra authentication [Learn more](#) or using an existing Microsoft Entra user, group, or application as Microsoft Entra admin [Learn more](#) , or select both SQL and Microsoft Entra authentication.

Authentication method

☒ Use Microsoft Entra-only authentication

☐ Use both SQL and Microsoft Entra authentication

☐ Use SQL authentication

OK

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DEFAULT DIRECTORY (DMYTROS...

Home > SQL databases >

Create SQL Database

Microsoft

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

Subscription *

Azure subscription 1

Resource group *

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Create new

Database details

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

Database name *

test-db

Server *

Select a server

Create new

The value must not be empty.

Want to use SQL elastic pool?

Yes

No

Workload environment

Development

Production

COMPUTE COST / VCORE SECOND ¹

NOTES

¹ Serverless databases are billed in vCore seconds based on a combination of CPU and memory utilization. [Learn more about serverless billing](#)

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