

Power-BI using serverless SQL pools with Synapse

This document describes how to create a Power-BI dashboard by creating serverless SQL-pools with Azure Synapse.

- [Create a Synapse workspace](#)
 - [Set up connection to a blobstorage](#)
 - [Create linked service to key vault](#)
 - [Create linked service to blob storage](#)
 - [Set up access control and permissions to users/groups](#)
- [Create a serverless SQL pool](#)
 - [Create SQL database](#)
 - [Create SQL table](#)
- [Create a Power-BI dashboard](#)

Create a Synapse workspace

In order to create Power-BI dashboards based on serverless SQL pools we need to create these serverless SQL-pools and we do that in Azure Synapse.

In our case we have already created a Synapse workspace with the purpose of creating SQL pools for Power-BI named **advancedanalytics**.

However, if we need to create a new blob-connections in the future here are simple instructions on what needs to be done in order to create the workspace and how to configure it in order to read data from blob-storages.

Set up connection to a blobstorage

We need to create a link between the Synapse Workspace and blob-storage. To do this we start by creating a linked service to a keyvault and a blob storage.

Create linked service to key vault

simply by navigating to Manage -> Linked Services and then click on +New.

We choose Azure Key Vault and give it an appropriate name

Authentication method = Managed identity

Azure Key Vault Selection Method can be entered manually by copying the BASE url to the Key Vault to be used. Then we test the connection and click on commit.

Create linked service to blob storage

The same principle here. Click +new then choose Azure Data Lake Storage Gen2. then fill in the following:

Connect via integration runtime * ⓘ

AutoResolveIntegrationRuntime

Authentication method

Account key

Account selection method ⓘ

From Azure subscription

Enter manually

URL *

https://<accountname>.dfs.core.windows.net

Storage account key

Azure Key Vault

AKV linked service * ⓘ

Select...

Secret name * ⓘ

No secret

Edit

Secret version ⓘ

Latest version

Edit

Set up access controll and permissions to users/groups

Each linked service with a blob storage needs certain permissions. Make sure that the blob storage has the following permissions:
Assignments for the selected user, group, service principal, or managed identity at this scope or inherited to this scope.

Search by assignment name or description

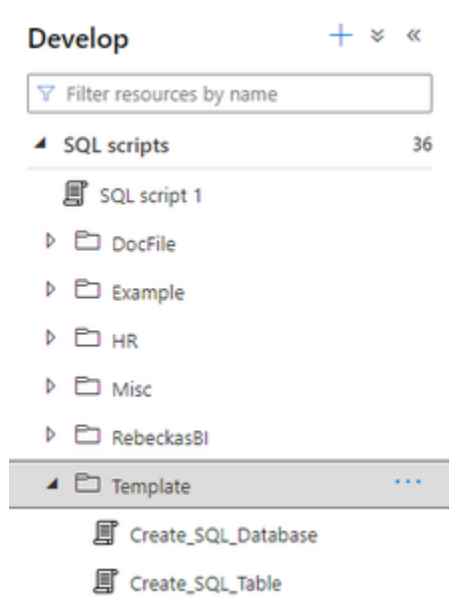
Role assignments (4) ⓘ				
Role	Description	Scope	Group assignment	Condition
Contributor	Grants full access to manage all re...	Resource group (Inher...	SEC User Advanced Analytics Contributors	None
Data Factory Contributor	Create and manage data factories,...	Resource group (Inher...	SEC User Advanced Analytics Contributors	None
Owner	Grants full access to manage all re...	Subscription (Inherited)	--	None
Storage Blob Data Contr	Allows for read, write and delete a...	This resource	SEC User Advanced Analytics Contributors	Add

In the case we are creating an entire new workspace we need to add permissions to people and groups under Manage - Access control.
We need to add SEC user advanced analytics contributors under Synapse administrator and Synapse Cintributor
placeholder - am I missing something here?

Create a serverless SQL pool

So we have a Synapse workspace with all connections established to our blob-storages where the data is. Now we can create serverless SQL pools.

We have template scripts in the folder named Template. These can be used to create/initialize a database and then create specific tables with given schema for that database



Create SQL database

Copy the initialize database script to a folder and change it according to the template

Create SQL table

Copy the create table script to a folder and change it according to the template

Create a Power-BI dashboard