Azure SQL DW Lab Introduction

Overview

In this workshop, you will work on a series of lab modules that teach you best practices for getting the most out of your Azure SQL Data Warehouse. These modules cover the entire lifecycle of data in your Azure SQL Data Warehouse from loading, to securing, querying, and optimizing the data.

The dataset you'll be working with is weather data from the National Oceanic and Atmospheric Organization (NOAA)

Lab initialization:

1. Create your Azure lab environment

    Click on the link below to create your Azure lab environment with all the necessary services. Please note that the environment is available for 10 hours since the time you sign up for it. Once the environment has been created, you will be presented with the login credentials to Azure portal and other relevant details. *Record these details in a safe location*.

    Sign-up link : http://bit.ly/2pBZVJU

    Activation Code : ACTIVATE4724

2. Log into Portal

    Open your internet browser in safety mode (InPrivate) and navigate to portal.azure.com and enter the login credentials.

3. Start your SQL DW Instance

    Click on 'All resources' and select your SQL Data Warehouse (AdventureWorksDW).

    Click on 'Resume' to start your SQL DW instance

4. Configure SQL Server Firewall Settings

    Click on the SQL Server name

    Click on 'Show Firewall Settings'

    Click on 'Add Client IP' and click 'Save'

This will add your client IP address to the firewall so you can use client tools on your laptop to access your Azure SQL Server.

5. Access Key

   Click on 'All resources' and select the gen1 storage account from the list (it starts with the name 'labsql)

   Click on 'Access Keys' and note down the storage account name and access key details

6. Open SQL Server Management Studio on your laptop and connect to your SQLDW instance using the credentials provided during the sign-up.

   Open a new query window connected to 'Master' database (right-click on Master and click 'New Query') and execute the following command:
   ```
   Create Login usgsloader with PASSWORD = 'Password!1234'
   ```

   Open another query window connected to 'AdventureWorksDW' and execute the following commands:

   ```
   Create user usgsloader from login usgsloader
   EXEC sp_addrolemember 'staticrc60', 'usgsloader'
   EXEC sp_addrolemember 'db_ddladmin', 'usgsloader'
   EXEC sp_addrolemember 'db_datawriter', 'usgsloader'
   EXEC sp_addrolemember 'db_datareader', 'usgsloader'
   ```

   ## Congratulations! You are ready to dive into labs now 😊

Lab modules:

Lab 1: Data Loading Scenarios and Best Practices

- Impact of File Format on Loading
- Impact of Single File Compression
- Impact of Table Distribution
- DMVs to review Load Speeds
- Impact of CTAS vs INSERT INTO SELECT
- COPY Command (out soon)

Lab 2: Performance Tuning Best Practices

- Replicated Table Behavior
- Performance Tuning
- Resource Class Usage
- Result Set Caching