Microsoft Azure - Starter Kits for Partners

Hands on Lab

Power BI Scenario

Power BI with On-Premises DW and APS

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## Overview

In this lab, you will implement Power BI connectivity to an on-premises SQL Server Analysis Services tabular database by installing the On-premises data gateway.

By acting multiple roles, the lab tasks will explore the scenario of surfacing the Tailspin Toys General Ledger data model to enable secure departmental reporting of ledger accounts.

**Estimated time** to complete this lab: **180 minutes**.

**Audience**: IT Pro, Architect, Application Owners and Developers

### Objectives

In this hands-on lab, you will learn how to:

1. Load data into SQL Server or APS using Polybase
2. Connect to On Premise SSAS in Power BI
3. Visualize the data in Power BI

Each task is separated into ‘Parts’ in this demo script.

The following messaging points will be delivered as part of the tasks above:

1. Ease of deployment
2. Region availability
3. Elastic-scale capability including pause
4. Cost friendly
5. Control over compute separate to storage
6. Data encryption
7. Compliance and auditing
8. Integrated experience
9. Common tooling
10. Rapid and rich visualizations

### Prerequisites

The following is required to complete this hands-on lab:

* Power BI subscription - [sign up for a free trial](http://aka.ms/WATK-FreeTrial)
* SQL Server 2016 or APS

## Exercises

## Infrastructure Provisioning

### Exercise 1: Loading data into SQL Server 2016 or APS using Polybase

1. ***Scenario***

Today businesses are collecting more information than ever before to drive insight based on data. To succeed we require three things – scaled data stores, tools to deliver insight and an agile approach to get the business answers quickly.

Let’s start by addressing agility and scale. PolyBase is a technology that accesses and combines both non-relational and relational data, all from within SQL Server. It allows you to run queries on external data in Hadoop or Azure blob storage. The queries are optimized to push computation to Hadoop. What used to take days or weeks to achieve, we can literally do in minutes.

1. ***Steps***

**Step by step:**

<https://msdn.microsoft.com/en-us/library/mt163689.aspx>

<https://blogs.technet.microsoft.com/dataplatforminsider/2014/06/02/polybase-in-aps-yet-another-sql-over-hadoop-solution/>

### Exercise 2: Install On-premises data gateway

1. ***Pre-requisites***
2. .NET 4.5 Framework
3. Windows 7 / Windows Server 2008 R2, or later x64
4. ***Scenario***

The on-premises data gateway acts as a bridge, providing quick and secure data transfer between on-premises data (data that is not in the cloud) and the Power BI, Microsoft Flow, Logic Apps, and PowerApps services.

You can use a single gateway with different services at the same time. If you are using Power BI, as well as PowerApps, a single gateway and be used for both. It is dependent on the account you sign in with.

1. ***Steps***

**Step by step:**

<https://powerbi.microsoft.com/en-us/documentation/powerbi-gateway-onprem/>

### Exercise 3: Manage your data source - Analysis Services in PowerBI

1. ***Pre-requisites***

A Power BI subscription is required (free or premium)

1. We will use the **Microsoft Edge** browser for this lab part.
2. 1. **Browser** (Separate private Mode Browser tabs)
3. Home Page <http://portal.azure.com>
4. Username: **<your live account\azure login>**
5. Password: **<your password>**
6. Home Page http://www.powerbi.com
7. Username: [??????@**yourcompany.com**](mailto:??????@yourcompany.com)
8. Password: ??????
9. ***Scenario***
10. Once you have installed the On-premises Data Gateway, you will need to add data sources that can be used with the gateway. This article will look at how to work with gateways and data sources. You can use the Analysis Services data source either for scheduled refresh or for live connections.
11. ***Steps***

<https://powerbi.microsoft.com/en-us/documentation/powerbi-gateway-enterprise-manage-ssas/>