Unlock IBM Data Insights with Skytap on Azure + Azure Synapse Analytics

A step-by-step guide

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Background

Skytap on Azure: The migration of business-critical applications running on IBM Power on-premises to the cloud is often seen as a difficult and challenging move involving re-platforming. With Skytap on Azure, Microsoft brings the unique capabilities of IBM Power9 servers to Azure, directly integrating with Azure networking enabling Skytap to provide its platform with minimal connectivity latency to Azure native services.

Skytap on Azure is a cloud service purpose-built to natively run traditional IBM Power and x86 workloads in Azure. Skytap on Azure is available for purchase and provisioning directly through the Azure Marketplace. Skytap's services include consumption-based pricing, on-demand access to compute and storage resources, self-service provision and REST APIs for extensibility.

Azure Synapse Analytics: Azure Synapse Analytics is a limitless analytics service that brings together data integration, enterprise data warehousing, and big data analytics. It gives you the freedom to query data on your terms, using either serverless or dedicated options—at scale.

Azure Synapse brings these worlds together with a unified experience to ingest, explore, prepare, transform, manage, and serve data for immediate BI and machine learning needs.

Introduction

This article outlines how to extract data from physical and logical files or a DB2 database stored within your IBM AS/400 libraries hosted on Skytap on Azure using Azure Synapse Analytics DB2 connector (Copy data from DB2 - Azure Data Factory & Azure Synapse | Microsoft Docs).

This connector can be used to land the AS/400 data in ADLS Gen 2 (Azure Data Lake Storage Gen2) which can open endless possibilities to consume the data. A few examples include:

- using code-free transformations and merging it with data from other sources to gain insights (Data flows - Azure Synapse Analytics | Microsoft Docs)
- sharing it using Azure Data Share (What is Azure Data Share? | Microsoft Docs)
- querying it through the Serverless SQL Pool (Serverless SQL pool - Azure Synapse Analytics | Microsoft Docs)
- creating reports through Power BI (Data Visualization | Microsoft Power BI),
- creating machine learning prediction models (What is Azure Machine Learning? - Azure Machine Learning | Microsoft Docs)
- utilizing Azure Purview (Introduction to Azure Purview - Azure Purview | Microsoft Docs) to create a holistic, up-to-date map of your data landscape with automated data discovery, sensitive data classification, and end-to-end data lineage

Overview

Below are high-level steps for extracting data from Skytap on Azure to ADLS Gen 2:

- Create an Azure Synapse Analytics workspace.
- Create linked service to Skytap on Azure using the DB2 connector.
- Create linked service to ADLS Gen 2 connector.
- Create Synapse Pipeline with copy activity having source as Skytap through DB2 linked service and sink as ADLS Gen 2.

Detailed Steps

Step 1: Create an Azure Synapse Analytics Workspace

1. Follow steps in this tutorial to create an Azure Synapse Analytics workspace: Quickstart: create a Synapse workspace - Azure Synapse Analytics | Microsoft Docs

Step 2: Create link service to Skytap on Azure using the DB2 connector.

1. Browse to the Manage tab in your Azure Synapse workspace and select Linked Services, then click New:
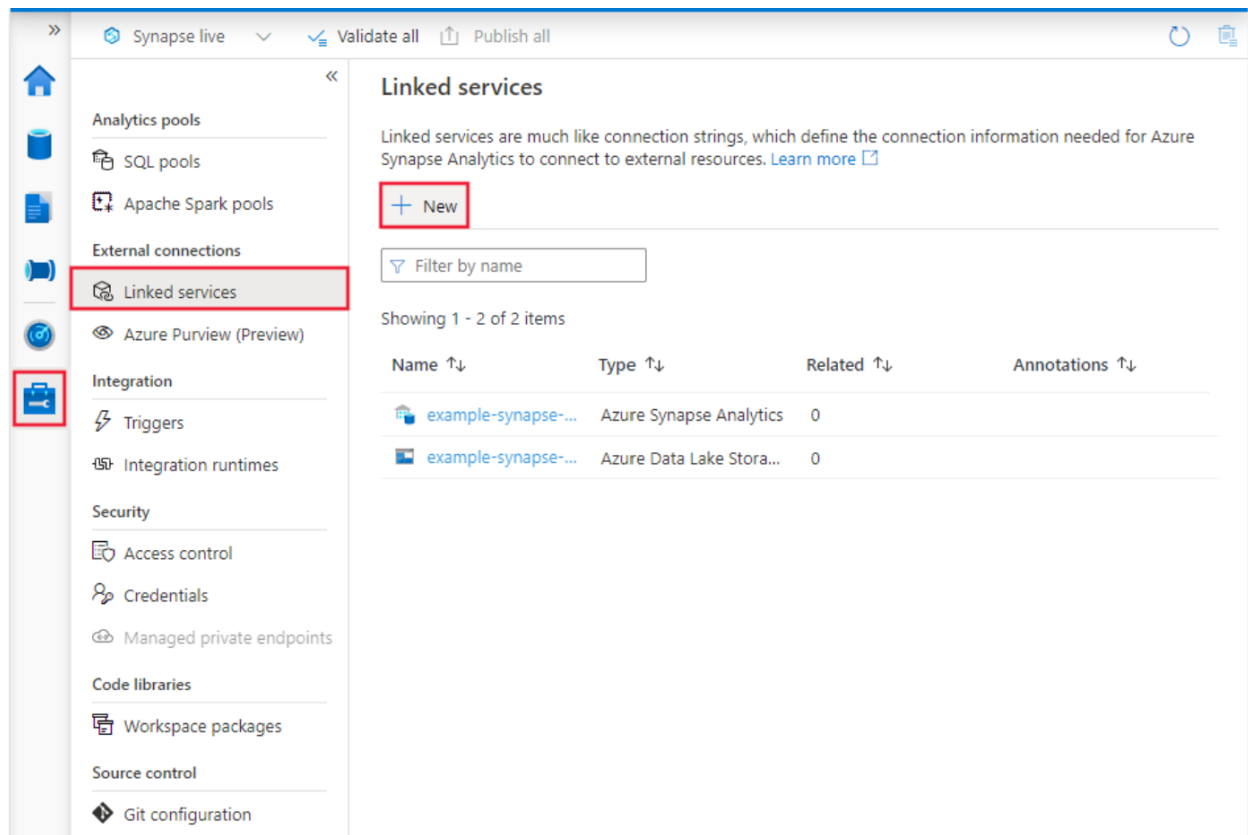
2. Search for DB2 and select the DB2 connector.

3. Configure the service details, test the connection, and create the new linked service.

Edit linked service

DB2 DB2 Learn more ⬈

Name *

    SkytapDB2

Description

Connect via integration runtime * ⓘ

    AutoResolveIntegrationRuntime   ⌄   ✎

    Connection string   **Azure Key Vault**

Server name * ⓘ

Database name *

Package collection

Certificate common name

Authentication type

    Basic   ⌄

User name *

    Password   **Azure Key Vault**

    Password *

    •••••••••

Additional connection properties

    ＋ New

Annotations

    ＋ New

                                                  ✔ Connection successful

    Apply   Cancel   🖧 Test connection

Step 3: Create linked service to ADLS Gen 2 connector.

1. Browse to the Manage tab in your Azure Synapse workspace and select Linked Services, then click New:

2. Search for Data Lake and select the Azure Data Lake Storage Gen2 connector.

3. Configure the service details, test the connection, and create the new linked service.

Step 4: Create Synapse Pipeline with copy activity having source as Skytap and sink as ADLS Gen 2.

1. Click on the ingest tab.
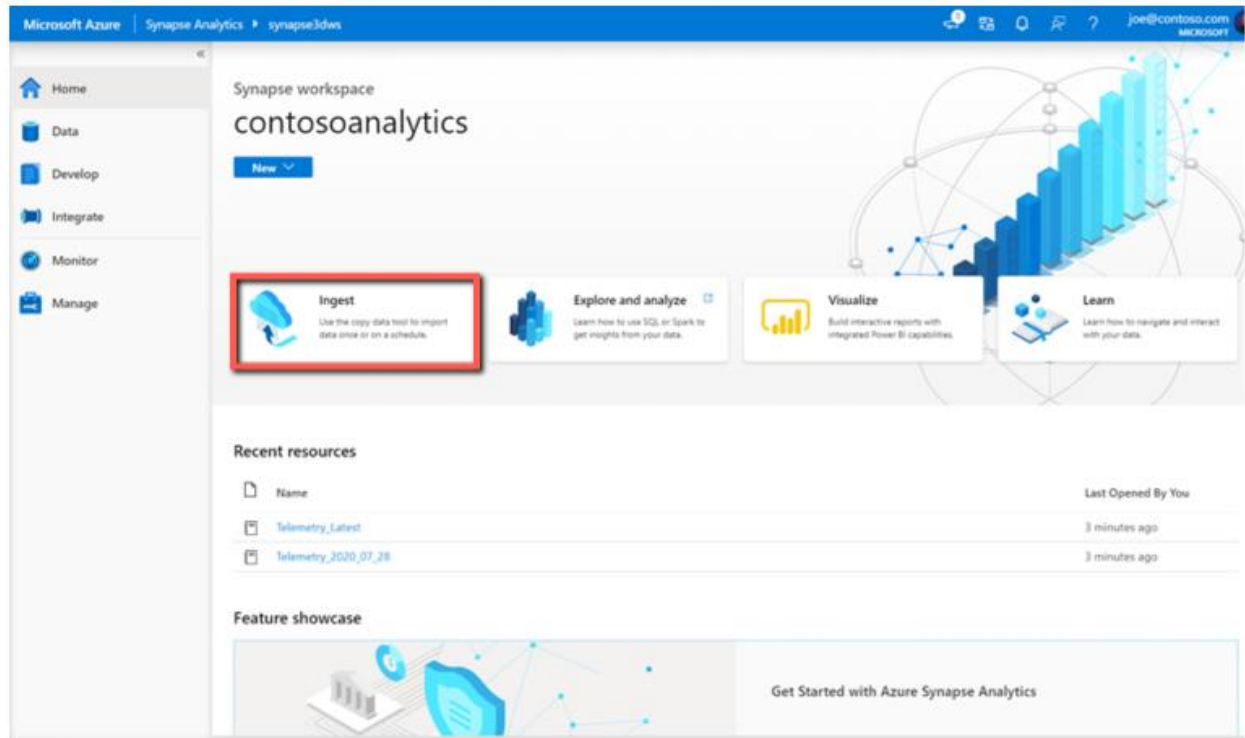
2. Select "Built-in-copy task" and hit next.
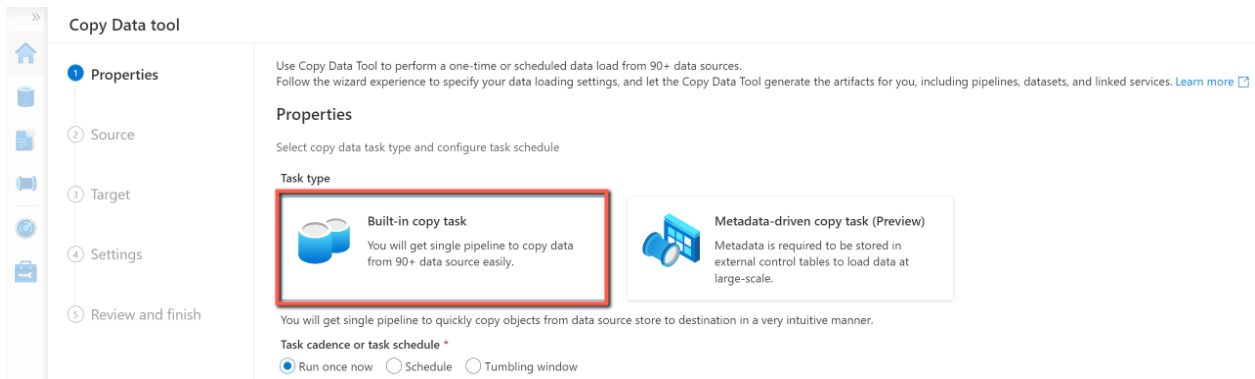
3. Select "Source Type" as DB2 and "Connection" as the name that you provided for your linked service in Step 1. Choose the tables to be copied from the list of existing tables.

4. Select "Preview data" if you would like to see a sample dataset from the selected table.

5. Choose the "Target Type" as Azure Data Lake Storage Gen2, for "Connection" choose the linked service create for ADLS Gen2 in Step 3, provide a folder path to where the tables will be copied within ADLS Gen 2 and also a file name suffix e.g. .txt, .parquet etc.

6. Review the "File format settings" and after choosing the appropriate options, check the "Add header to file" checkbox.

7. Provide an appropriate "Task Name".

8. Review the "Summary" and click next.

9. Once the deployment is complete, click "Finish" to close the copy data tool. If you want to review the logs for the pipeline run click "Monitor".
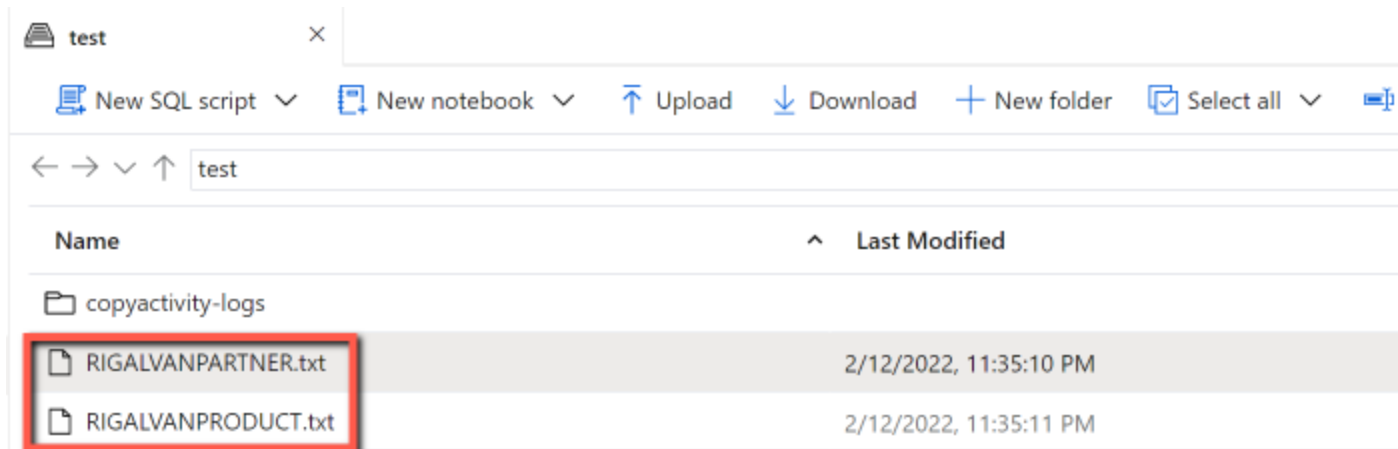
10. Verify tables have been copied to the desired folder in ADLS Gen 2.

Learn more

Skytap on Azure is a fast, flexible solution that natively runs IBM Power and x86 workloads in Azure. You can migrate your workloads to Azure without refactoring, rewriting or rearchitecting. Getting started is easy. It takes just a few minutes and pay-as-you-go pricing lets you work with Skytap risk-free. Find Skytap on Azure in the Azure Marketplace. Learn more about Skytap on Azure here.

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