

Step 1: Prepare the Data Infrastructure

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adlsnycpayroll-oluwatobi-b

Container

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Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Shared access tokens

Manage ACL

Access policy

Properties

Metadata

Authentication method: Access key (Switch to Azure AD User Account)

Location: adlsnycpayroll-oluwatobi-b

Search blobs by prefix (case-sensitive)

Show deleted objects

Name	Modified	Access tier	Archive status	Blob type	Size	Lease state
<input type="checkbox"/> dirhistoryfiles						- ***
<input type="checkbox"/> dirpayrollfiles						- ***
<input type="checkbox"/> dirstaging						- ***

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Authentication method: Access key (Switch to Azure AD User Account)

Location: adlsnycpayroll-oluwatobi-b / dirpayrollfiles

Search blobs by prefix (case-sensitive)

Show deleted objects

Name	Modified	Access tier	Archive status	Blob type	Size	Lease state
<input type="checkbox"/> AgencyMaster.csv	8/19/2023, 1:54:27 PM	Hot (Inferred)		Block blob	4.9 KiB	Available ***
<input type="checkbox"/> EmpMaster.csv	8/19/2023, 1:54:29 PM	Hot (Inferred)		Block blob	23.04 KiB	Available ***
<input type="checkbox"/> nycpayroll_2021.csv	8/19/2023, 1:54:29 PM	Hot (Inferred)		Block blob	16.45 KiB	Available ***
<input type="checkbox"/> TitleMaster.csv	8/19/2023, 1:54:31 PM	Hot (Inferred)		Block blob	49.04 KiB	Available ***

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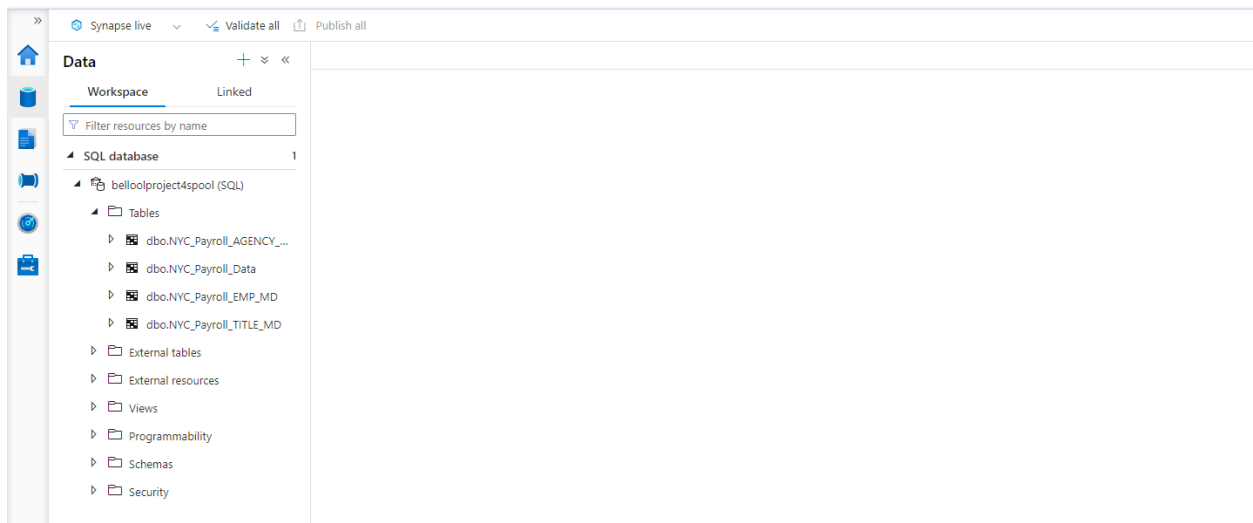
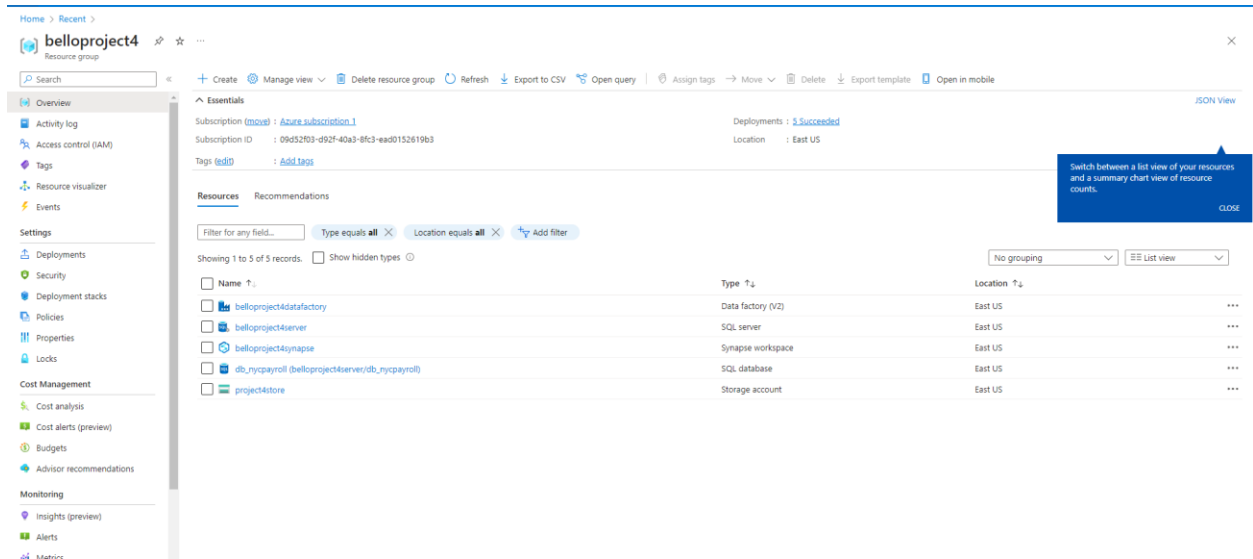
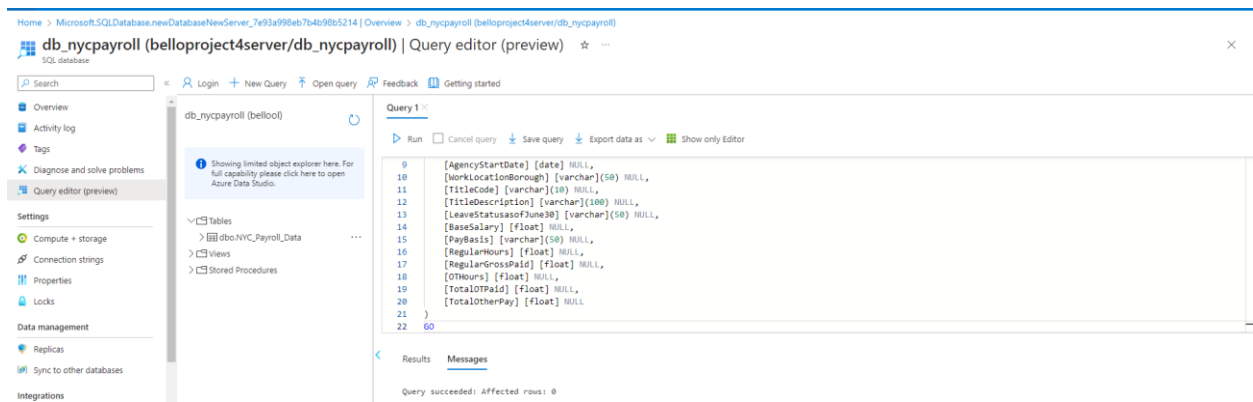
Authentication method: Access key (Switch to Azure AD User Account)

Location: adlsnycpayroll-oluwatobi-b / dirhistoryfiles

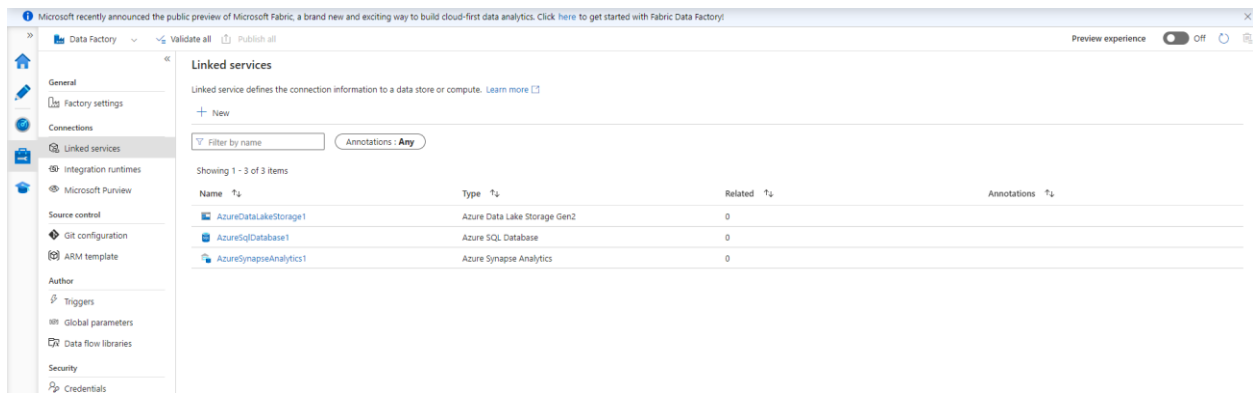
Search blobs by prefix (case-sensitive)

Show deleted objects

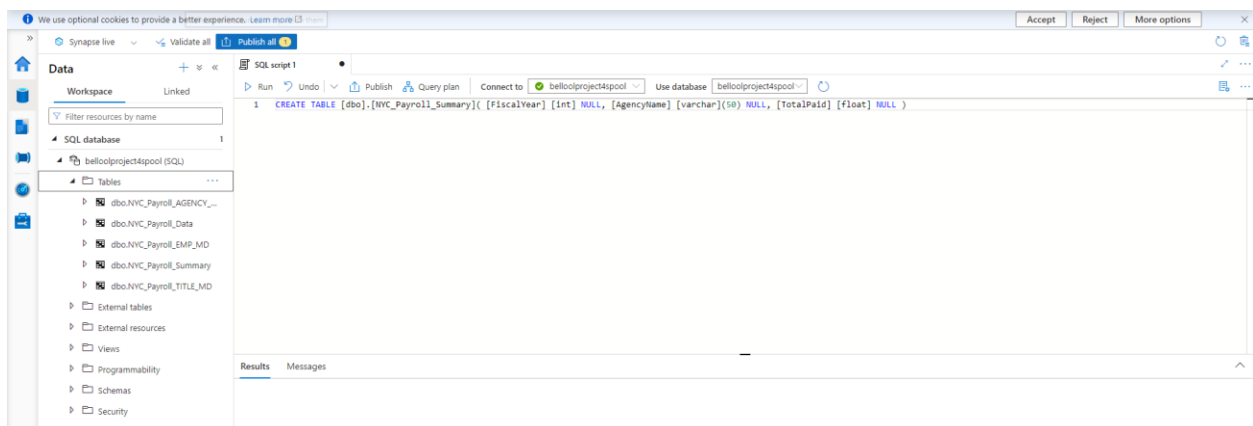
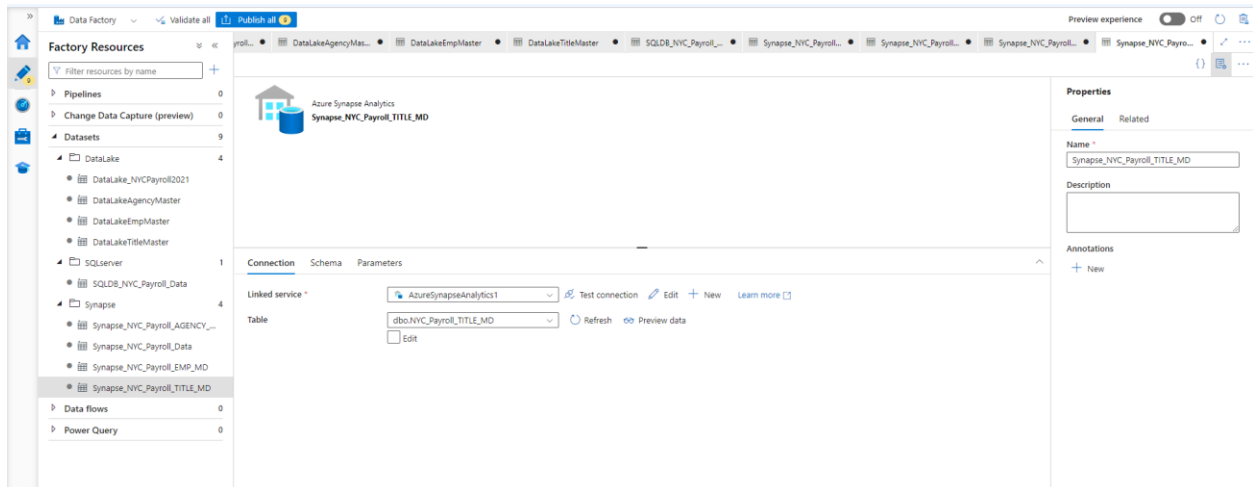
Name	Modified	Access tier	Archive status	Blob type	Size	Lease state
<input type="checkbox"/> nycpayroll_2020.csv	8/19/2023, 1:56:24 PM	Hot (Inferred)		Block blob	17.07 KiB	Available ***

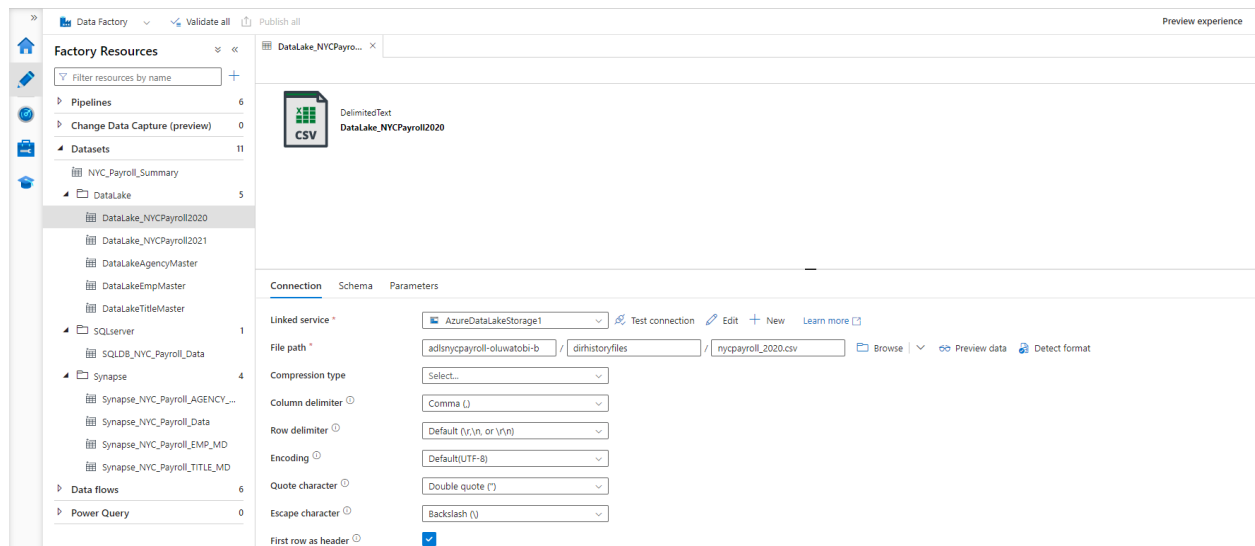


Step 2: Create Linked Services

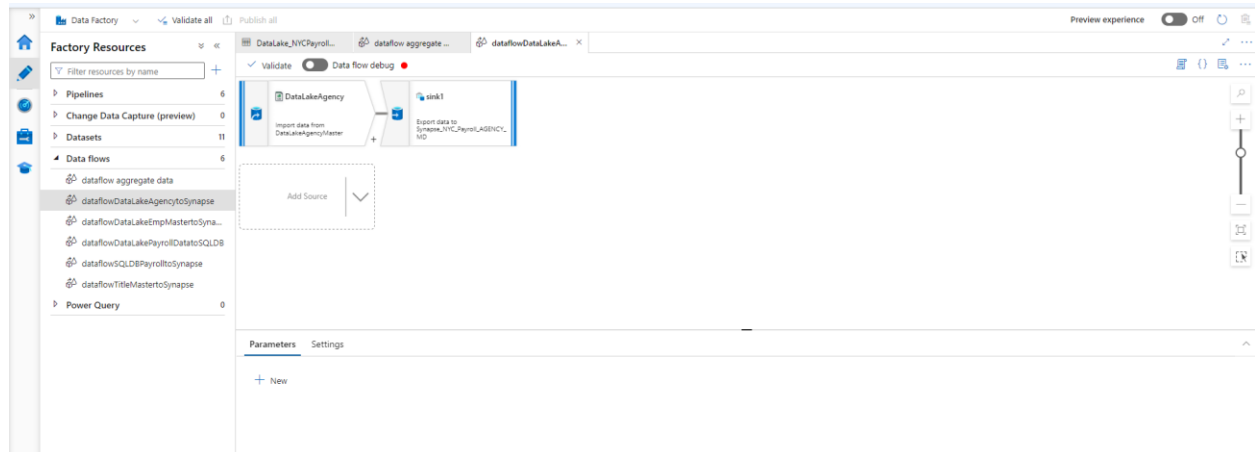


Step 3: Create Datasets in Azure Data Factory





Step 4: Create Data Flows



Step 5: Data Aggregation and Parameterization

Factory Resources

Filter resources by name

- Pipelines 6
- Change Data Capture (preview) 0
- Datasets 11
- Data flows 6
 - dataflow aggregate data
 - dataflowDataLakeAgencytoSynapse
 - dataflowDataLakeEmpMastertoSyna...
 - dataflowDataLakePayrollDataToSQLDB
 - dataflowSQLDBPayrolltoSynapse
 - dataflowTitleMastertoSynapse
- Power Query 0

DataLake_NYCPayroll...

dataflow aggregate ...

Validate Data flow debug Debug Settings

sqlldbNYCPayrollData Import data from SQLDB_NYCPayrollData

union1 Combining rows from transformation sqlldbNYCPayrollData dppayrollhistory

filter1 Filtering rows using expressions on columns FiscalYear

derivedColumn1 Creating/updating the columns FiscalYear, PayrollNumber, AgencyID, AgencyName, EmployeeID, LastName

aggregate1 Aggregating data by AgencyName, FiscalYear producing columns TotalPaid

sink1 Export data to NYC_Payroll_Summary

Parameters Settings

New Delete

Name	Type	Default value
fiscalyear	integer	2020

Pipeline runs

Triggered Debug Rerun Cancel options Refresh Edit columns List Gantt

Filter by run ID or name West Central Africa (Last 24 hours) Pipeline name: All Status: All Runs: Latest runs Triggered by: All Add filter

Showing 1 - 6 items Last refreshed 0 minutes ago

Pipeline name	Run start	Run end	Duration	Triggered by	Status	Run	Parameters	Annotations	Run ID
pipeline dataflow aggregate ...	8/19/2023, 9:48:03 PM	8/19/2023, 9:51:35 PM	3m 32s	Manual trigger	Succeeded	Original			b5d635fe-e4cf-495d-9b90-50bef9d7f1c
pipelineTitletoSynapse	8/19/2023, 5:20:32 PM	8/19/2023, 5:24:00 PM	3m 28s	Manual trigger	Succeeded	Original			f9f5a2b3-d556-4195-bf16-e09b4cef725
pipelineSQLDBPayrolltoSyna...	8/19/2023, 5:20:09 PM	8/19/2023, 5:23:35 PM	3m 27s	Manual trigger	Succeeded	Original			0190593b-0825-4ed7-9e83-05ccc3112c
pipelineEmpDLtoSynapse	8/19/2023, 5:19:52 PM	8/19/2023, 5:23:53 PM	4m 2s	Manual trigger	Succeeded	Original			02aacbca-9b35-4465-b8e5-f06a897239
pipelineAgencytoSynapse	8/19/2023, 5:19:37 PM	8/19/2023, 5:23:08 PM	3m 32s	Manual trigger	Succeeded	Original			42b35e2d-0b09-4114-bfc3-28f3e6adf37
pipelinePayrollDataToSQLDB	8/19/2023, 5:19:22 PM	8/19/2023, 5:22:22 PM	3m 1s	Manual trigger	Succeeded	Original			2dfba839-a7c2-4319-b802-119377eb67

Synapse live Validate all Publish all

Data

Workspace Linked

Filter resources by name

SQL database 1

bellcoipproject4spool (SQL)

- Tables
 - dbo.NYCPayroll_AGENCY...
 - dbo.NYCPayroll_Data
 - dbo.NYCPayroll_EMP_MD
 - dbo.NYCPayroll_Summary
 - dbo.NYCPayroll_TITLE_MD
- External tables
- External resources
- Views
- Programmability
- Schemas
- Security

SQL script 1

Run Undo Publish Query plan Connect to bellcoipproject4spool Use database bellcoipproject4spool

```
1 SELECT TOP (100) [FiscalYear]
2 , [AgencyName]
3 , [TotalPaid]
4 FROM [dbo].[NYC_Payroll_Summary]
```

Results Messages

View Table Chart Export results

Search

FiscalYear	AgencyName	TotalPaid
2021	OFFICE OF THE ACTUARY	305032.32
2021	COMMUNITY COLLEGE (QUEENS...	297484.08
2021	DEPT OF CITYWIDE ADMIN SVCS	1873220.39
2021	DISTRICT ATTORNEY-MANHATT...	274437.01
2021	POLICE DEPARTMENT	777911.43
2021	DEPT OF ENVIRONMENT PROTE...	858802.4
2021	FIRE DEPARTMENT	2376229.55
2021	COMMUNITY COLLEGE (MANHA...	275437.88
2021	OFFICE OF THE MAYOR	284742.28
2021	DEPT OF ED PEDAGOGICAL	552992.85
2021	COMMUNITY COLLEGE (HOSTOS)	266087.63