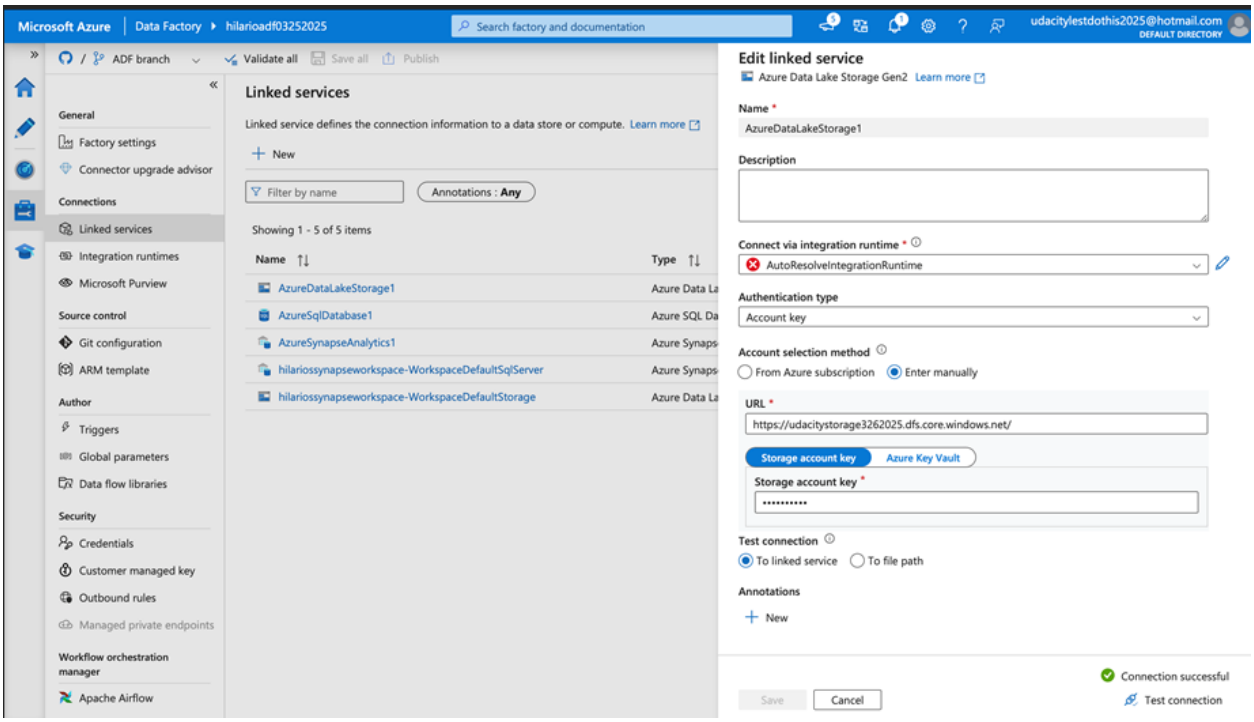
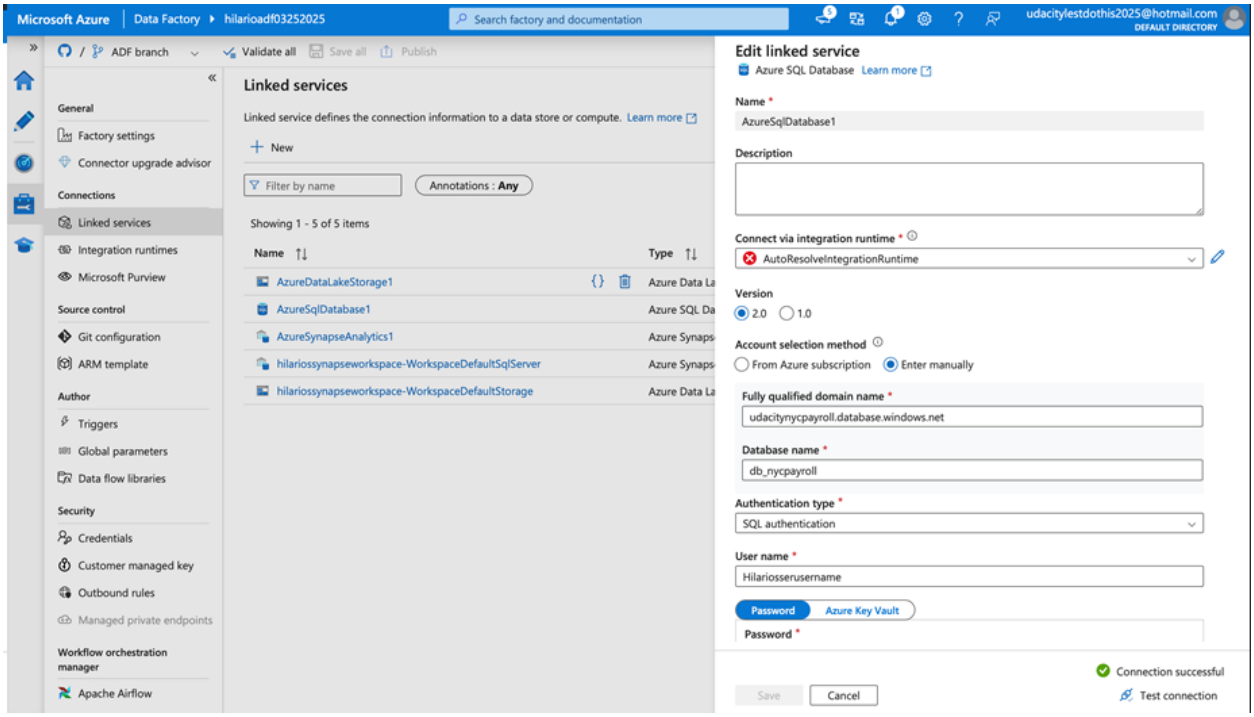
Linked Services

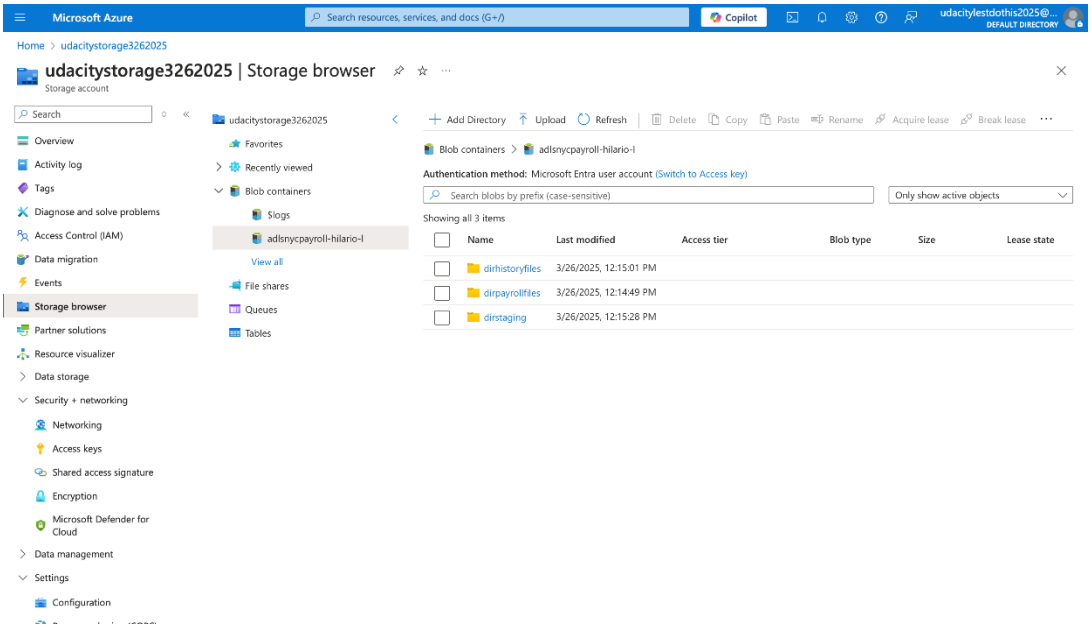
Criteria	Submission Requirements
The learner will be able to create a Linked Service to configure a connection to Azure Data Lake Gen2 containing master data and payroll data	A Linked Service object is present in the data pipeline repository of type "AzureBlobFS" that configures a connection to Azure Data Lake Gen2 containing master data and payroll data.
The learner will be able to create a Linked Service in Azure Data Factory from Azure SQL Database to configure a connection to Azure SQL Database containing master data and payroll data	A Linked Service object is present in the data pipeline repository of type "AzureSQLDatabase" that configures a connection to Azure SQL Database containing master data and payroll data.





Datasets

Criteria	Submission Requirements
The learner will be able to create datasets to provide views of master data and payroll data in Azure Data Lake Gen2.	Multiple dataset objects are present in the data pipeline repository of type "AzureBlobFSLocation" with schemas from "AgencyMaster.csv", "TitleMaster.csv", "EmpMaster.csv", “nycpayroll_2020.csv” and "nycpayroll_2021.csv" to provide datasets for data views from Azure Data Lake Gen2.
The learner will be able to create a dataset to provide a view of master data and payroll data in the Azure SQL DB table.	Multiple dataset objects are present in the data pipeline repository of type "AzureSqlTable" with schemas from the NYC Payroll Data, Agency, Employee, Title SQL DB tables SQL DB tables to provide a dataset for a data view.


Microsoft Azure
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Copilot
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Storage account
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Activity log
Tags
Diagnose and solve problems
Access Control (IAM)
Data migration
Events
Storage browser
Partner solutions
Resource visualizer
Data storage
Security + networking
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Access keys
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Paste
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Break lease
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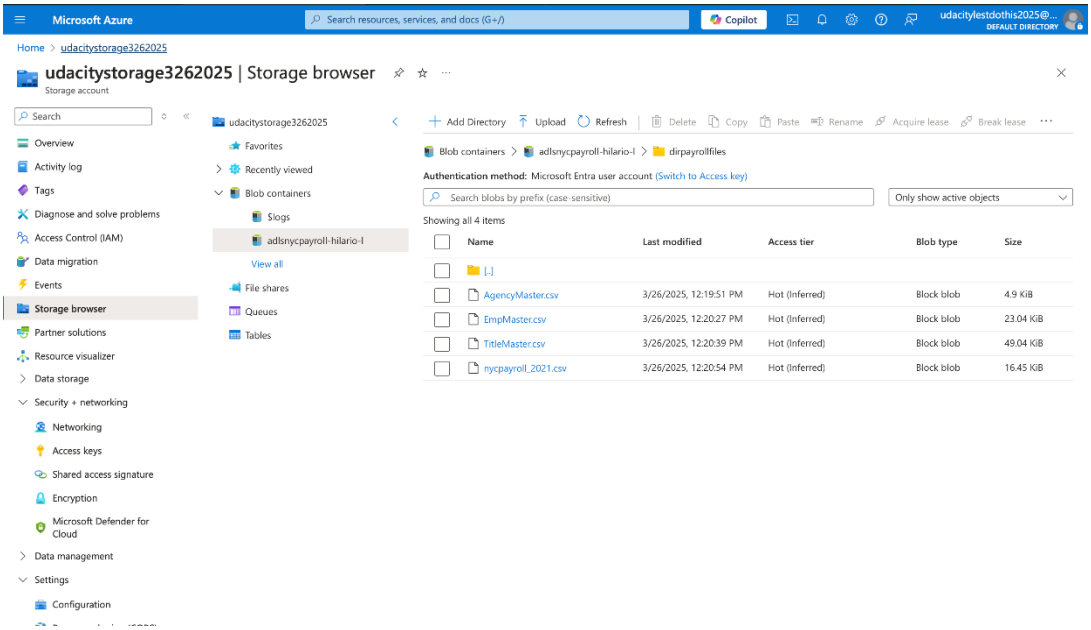
Authentication method: Microsoft Entra user account (Switch to Access key)
Search blobs by prefix (case-sensitive)
Only show active objects
Showing all 3 items
Name
Last modified
Access tier
Blob type
Size
Lease state
dirhistoryfiles
3/26/2025, 12:15:01 PM
dirpayrollfiles
3/26/2025, 12:14:49 PM
dirstaging
3/26/2025, 12:15:28 PM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Acquire lease
Break lease
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Showing all 4 items
Name
Last modified
Access tier
Blob type
Size
[..]
AgencyMaster.csv
3/26/2025, 12:19:51 PM
Hot (Inferred)
Block blob
4.9 KiB
EmpMaster.csv
3/26/2025, 12:20:27 PM
Hot (Inferred)
Block blob
23.04 KiB
TitleMaster.csv
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Hot (Inferred)
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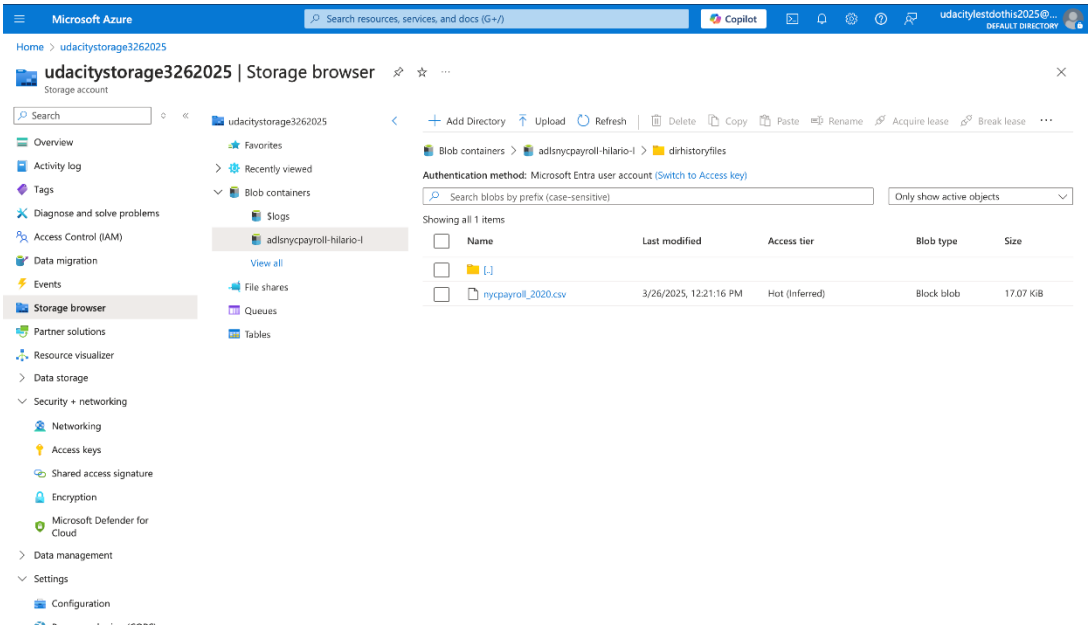
Block blob
16.45 KiB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Partner solutions
Resource visualizer
Data storage
Security + networking
Networking
Access keys
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Encryption
Microsoft Defender for Cloud
Data management
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Favorites
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Blob containers
$logs
adlsnycpayroll-hilario-l
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File shares
Queues
Tables
Add Directory
Upload
Refresh
Delete
Copy
Paste
Rename
Acquire lease
Break lease
Blob containers > adlsnycpayroll-hilario-l > dirhistoryfiles
Authentication method: Microsoft Entra user account (Switch to Access key)
Search blobs by prefix (case-sensitive)
Only show active objects
Showing all 1 items
Name
Last modified
Access tier
Blob type
Size
[..]
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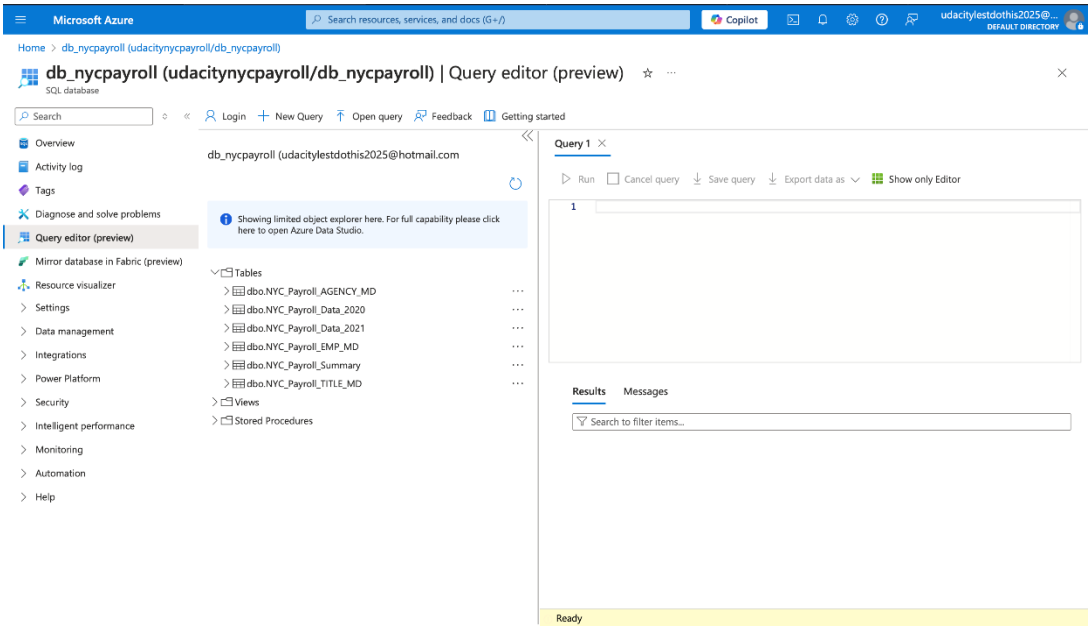
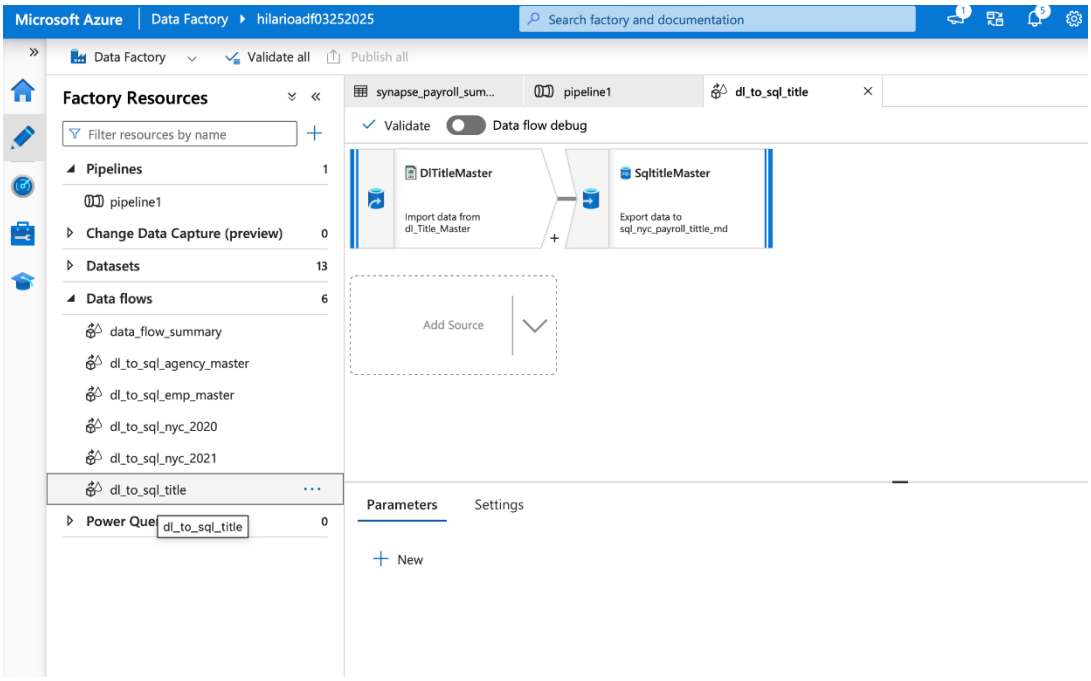


Data Flows

Criteria	Submission Requirements
The learner will be able to create data flows to aggregate payroll data from Azure SQL DB and NYC Payroll history files o the SQL DB destination table and dirstaging Datalake Gen2 storage	A Dataflow object is present in the data pipeline repository of type "MappingDataFlow" with a union to create a derived aggregated column with the total amount paid to an employee (TotalPaid = RegularGrossPaid + TotalOTPaid + TotalOtherPay). The data sources for this aggregate column should be the data from Azure SQL DB tables
The learner should be able to create data flows to move data from one data storage system to another.	Multiple Dataflow objects are present in the data pipeline repository of type "MappingDataFlow". Data flows should map data in datasets from Azure Data Lake Gen2 to Azure SQL DB. Data flows should map data from Azure SQL DB and Data Lake Gen2 to move it to the Data Lake staging directory and SQL DB destination table.


Microsoft Azure
Data Factory
hilarioadf03252025
Search factory and documentation
Validate all
Publish all
Factory Resources
Filter resources by name
Pipelines 1
pipeline1
Change Data Capture (preview) 0
Datasets 13
Data flows 6
data_flow_summary
dl_to_sql_agency_master
dl_to_sql_emp_master
dl_to_sql_nyc_2020
dl_to_sql_nyc_2021
dl_to_sql_title
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dl_to_sql_title
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pipeline1
dl_to_sql_title
Validate
Data flow debug
DlTitleMaster
Import data from dl_Title_Master
SqltitleMaster
Export data to sql_nyc_payroll_tittle_md
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Parameters
Settings
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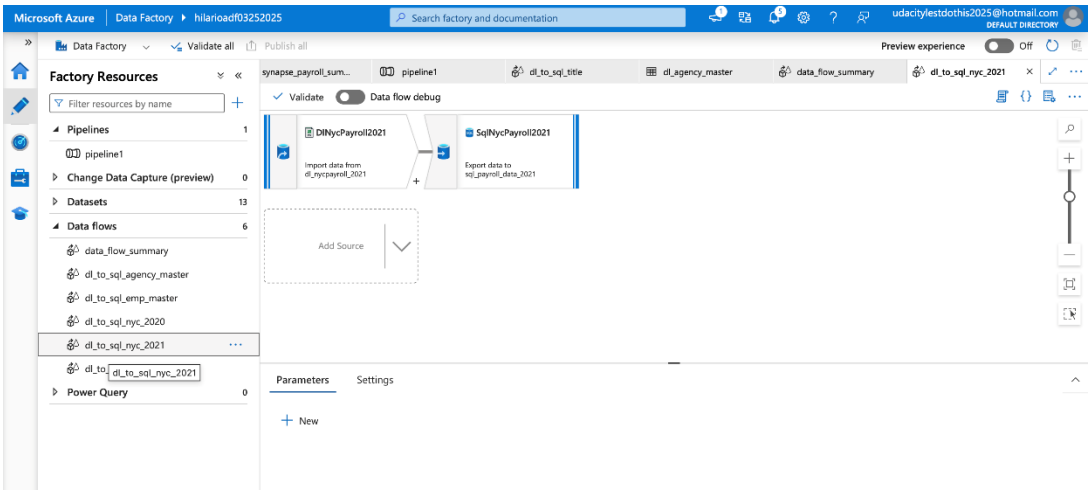
Microsoft Azure
Data Factory
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Validate all
Publish all
Preview experience
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Factory Resources
Filter resources by name
Pipelines 1
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Change Data Capture (preview) 0
Datasets 13
Data flows 6
data_flow_summary
dl_to_sql_agency_master
dl_to_sql_emp_master
dl_to_sql_nyc_2020
dl_to_sql_nyc_2021
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dl_to_sql_title
dl_agency_master
data_flow_summary
dl_to_sql_nyc_2021
Validate
Data flow debug
DlNycPayroll2021
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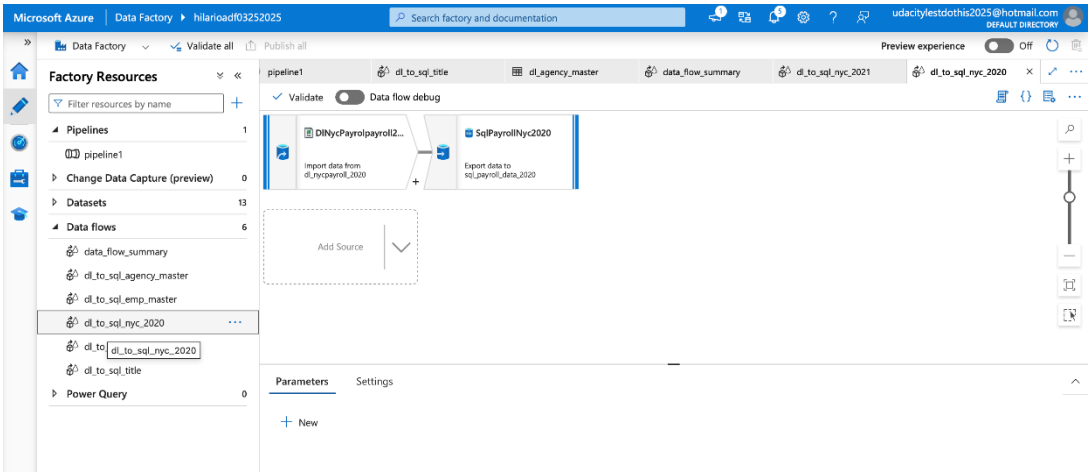
SqlNycPayroll2021
Export data to sql_payroll_data_2021
Add Source
Parameters
Settings
New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Pipelines 1
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Change Data Capture (preview) 0
Datasets 13
Data flows 6
data_flow_summary
dl_to_sql_agency_master
dl_to_sql_emp_master
dl_to_sql_nyc_2020
dl_to_sql_nyc_2021
dl_to_sql_title
Power Query 0
pipeline1
dl_to_sql_title
dl_agency_master
data_flow_summary
dl_to_sql_nyc_2021
dl_to_sql_nyc_2020
Validate
Data flow debug
DlNycPayrolpayroll2...
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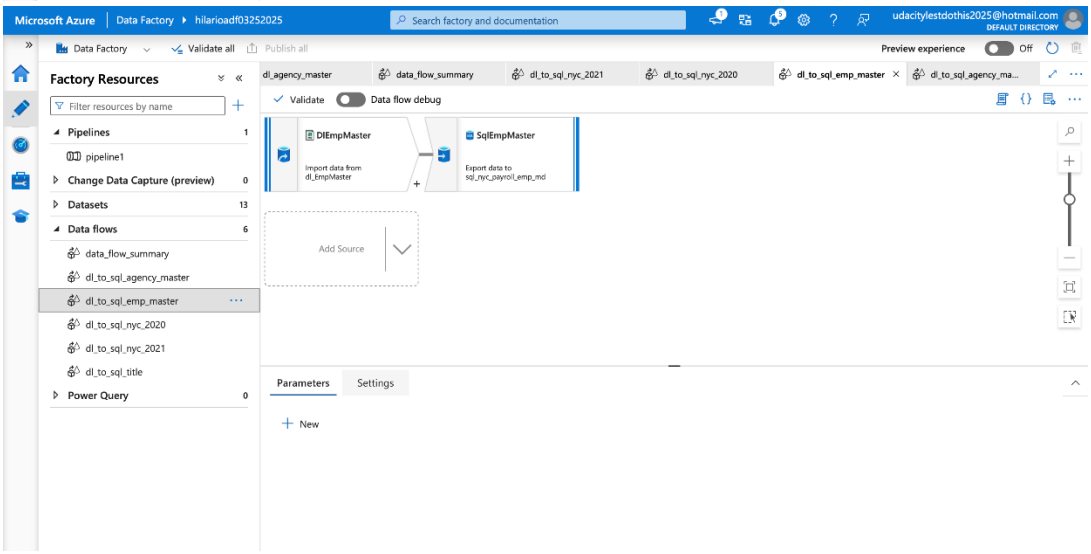
SqlPayrollNyc2020
Export data to sql_payroll_data_2020
Add Source
Parameters
Settings
New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Factory Resources
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Pipelines 1
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Datasets 13
Data flows 6
data_flow_summary
dl_to_sql_agency_master
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dl_to_sql_nyc_2020
dl_to_sql_emp_master
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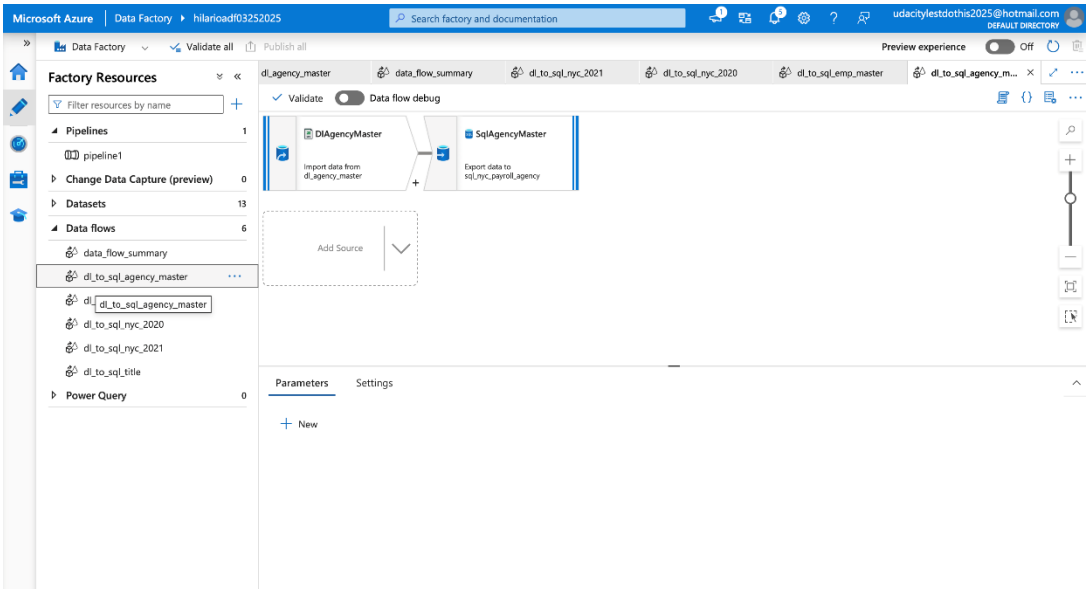
Validate
Data flow debug
DlEmpMaster
Import data from dl_EmpMaster
SqlEmpMaster
Export data to sql_nyc_payroll_emp_md
Add Source
Parameters
Settings
New


Microsoft Azure
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udacitylestdothis2025@hotmail.com
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Data Factory
Validate all
Publish all
Preview experience
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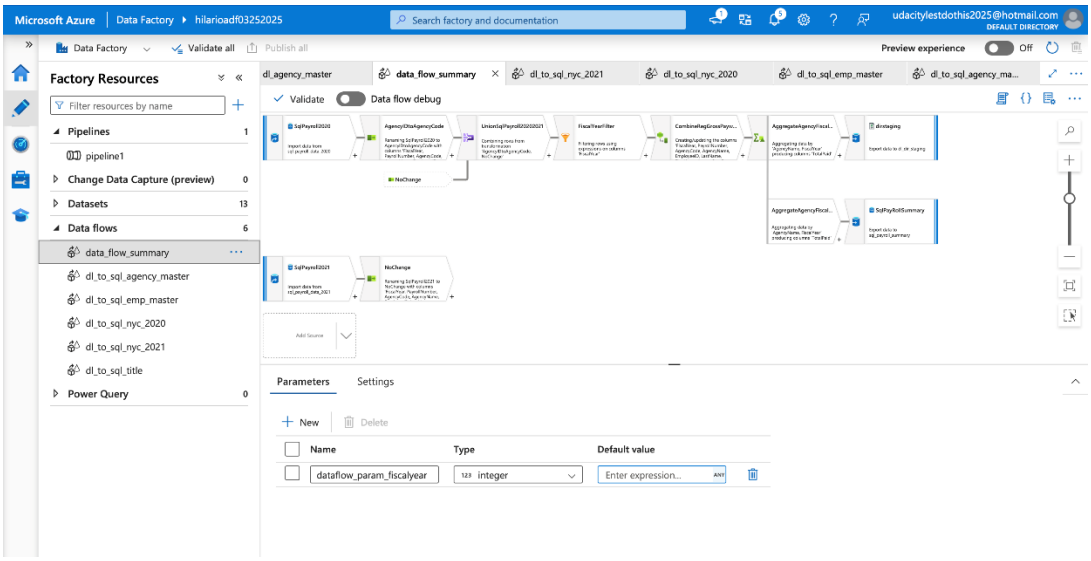
Factory Resources
Filter resources by name
Pipelines 1
pipeline1
Change Data Capture (preview) 0
Datasets 13
Data flows 6
data_flow_summary
dl_to_sql_agency_master
dl_to_sql_nyc_2020
dl_to_sql_nyc_2021
dl_to_sql_title
Power Query 0
dl_agency_master
data_flow_summary
dl_to_sql_nyc_2021
dl_to_sql_nyc_2020
dl_to_sql_emp_master
dl_to_sql_agency_m...
Validate
Data flow debug
DlAgencyMaster
Import data from dl_agency_master
SqlAgencyMaster
Export data to sql_nyc_payroll_agency
Add Source
Parameters
Settings
New

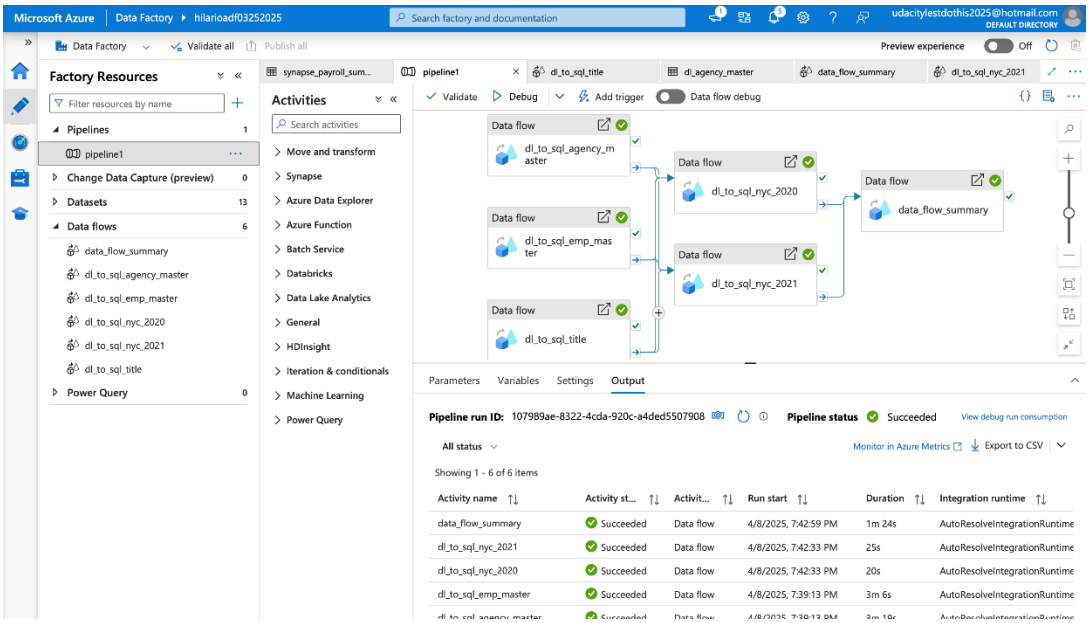


Pipeline

Criteria	Submission Requirements
The student will be able to create a data pipeline containing Dataflow activities.	Multiple pipeline objects are present in the data pipeline repository with activities of type "ExecuteDataFlow" in the pipeline directory which contain Dataflow objects.
The learner should be able to trigger a pipeline and execute the Dataflows in it.	A screenshot is present showing a successful pipeline execution in Azure Data Factory

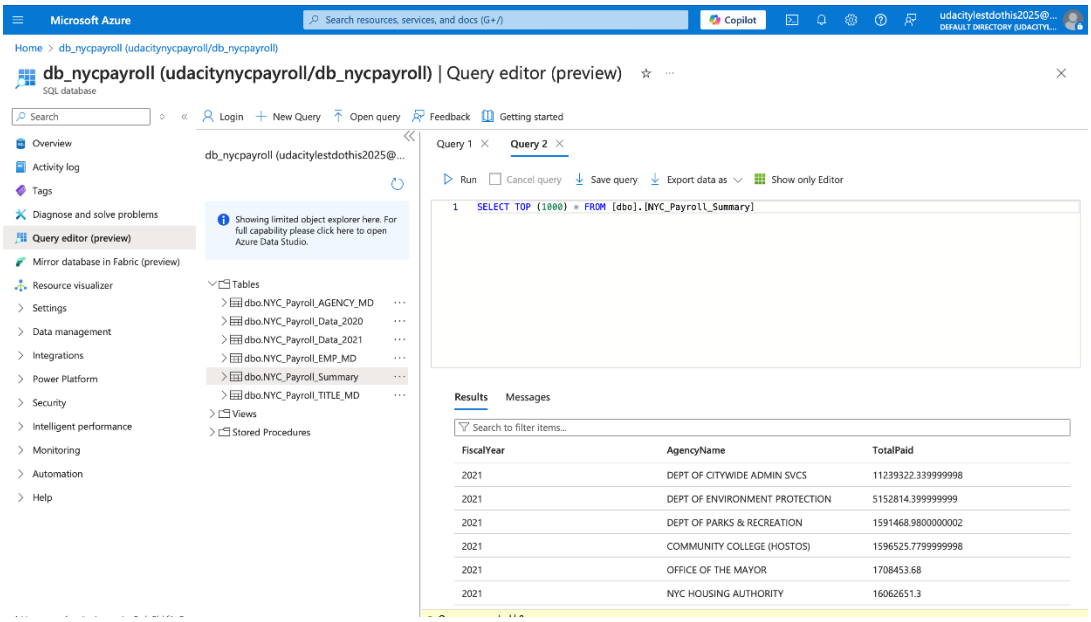
Data Verification

Criteria	Submission Requirements
The student will be able to verify the final data after pipeline run in Datalake Gen2 storage, SQL DB table and Synapse table	Screenshots are present to show the data is saved in Gen2 storage, and query on SQL DB table and Synapse external table returns results.



Data Verification

Criteria	Submission Requirements
The student will be able to verify the final data after pipeline run in Datalake Gen2 storage, SQL DB table and Synapse table	Screenshots are present to show the data is saved in Gen2 storage, and query on SQL DB table and Synapse external table returns results.


Microsoft Azure
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Copilot
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Home > db_nycpayroll (udacitynycpayroll/db_nycpayroll)
db_nycpayroll (udacitynycpayroll/db_nycpayroll) | Query editor (preview)
SQL database
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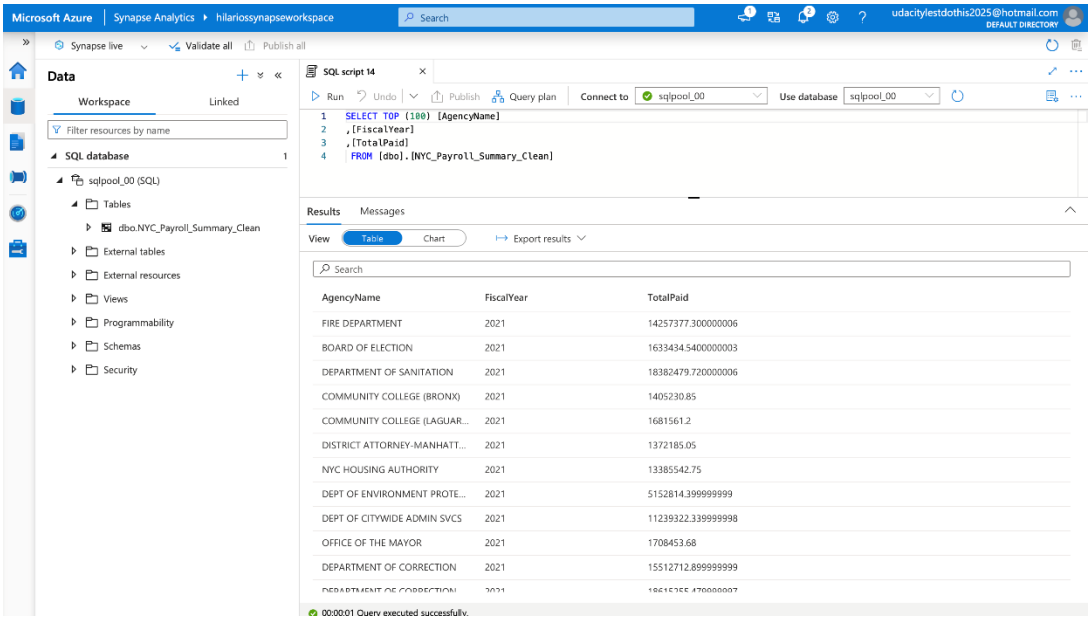
Login
New Query
Open query
Feedback
Getting started
Overview
Activity log
Tags
Diagnose and solve problems
Query editor (preview)
Mirror database in Fabric (preview)
Resource visualizer
Settings
Data management
Integrations
Power Platform
Security
Intelligent performance
Monitoring
Automation
Help
db_nycpayroll (udacitylestdothis2025@...
Showing limited object explorer here. For full capability please click here to open Azure Data Studio.
Tables
dbo.NYC_Payroll_AGENCY_MD
dbo.NYC_Payroll_Data_2020
dbo.NYC_Payroll_Data_2021
dbo.NYC_Payroll_EMP_MD
dbo.NYC_Payroll_Summary
dbo.NYC_Payroll_TITLE_MD
Views
Stored Procedures
Query 1
Query 2
Run
Cancel query
Save query
Export data as
Show only Editor
1 SELECT TOP (1000) * FROM [dbo].[NYC_Payroll_Summary]
Results
Messages
Search to filter items...
FiscalYear
AgencyName
TotalPaid
2021 DEPT OF CITYWIDE ADMIN SVCS 11239322.339999998
2021 DEPT OF ENVIRONMENT PROTECTION 5152814.399999999
2021 DEPT OF PARKS & RECREATION 1591468.9800000002
2021 COMMUNITY COLLEGE (HOSTOS) 1596525.7799999998
2021 OFFICE OF THE MAYOR 1708453.68
2021 NYC HOUSING AUTHORITY 16062651.3


Microsoft Azure
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udacitylestdothis2025@hotmail.com
DEFAULT DIRECTORY
Synapse live
Validate all
Publish all
Data
Workspace
Linked
Filter resources by name
SQL database
sqlpool_00 (SQL)
Tables
dbo.NYC_Payroll_Summary_Clean
External tables
External resources
Views
Programmability
Schemas
Security
SQL script 14
Run
Undo
Publish
Query plan
Connect to
sqlpool_00
Use database
sqlpool_00
1 SELECT TOP (100) [AgencyName]
2 ,[FiscalYear]
3 ,[TotalPaid]
4 FROM [dbo].[NYC_Payroll_Summary_Clean]
Results
Messages
View
Table
Chart
Export results
Search
AgencyName
FiscalYear
TotalPaid
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BOARD OF ELECTION 2021 1633434.5400000003
DEPARTMENT OF SANITATION 2021 18382479.720000006
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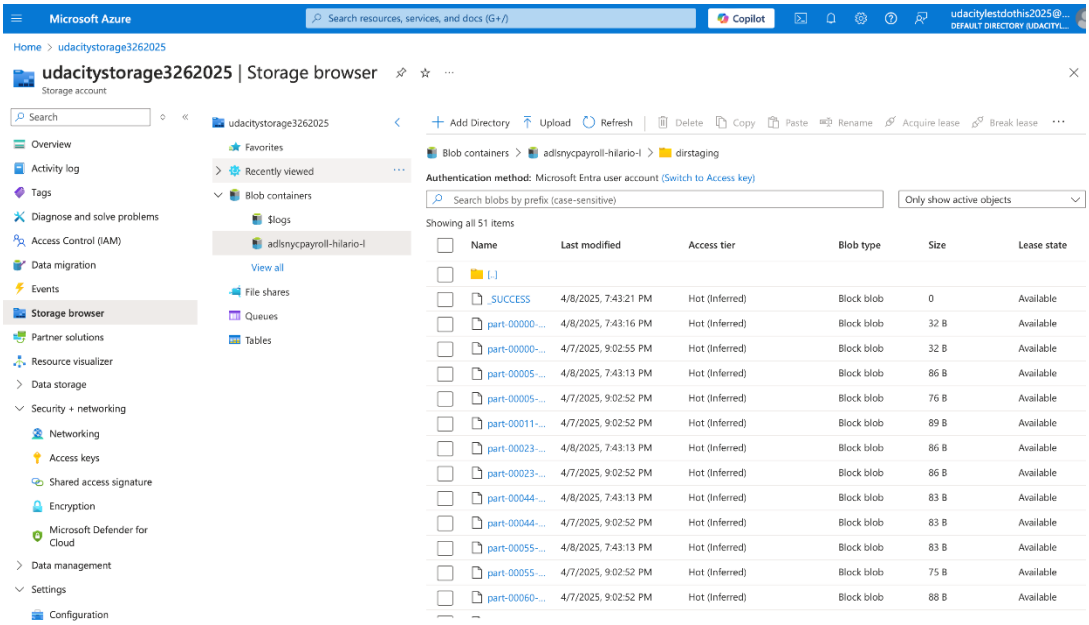
DISTRICT ATTORNEY-MANHATT... 2021 1372185.05
NYC HOUSING AUTHORITY 2021 13385542.75
DEPT OF ENVIRONMENT PROTE... 2021 5152814.399999999
DEPT OF CITYWIDE ADMIN SVCS 2021 11239322.339999998
OFFICE OF THE MAYOR 2021 1708453.68
DEPARTMENT OF CORRECTION 2021 15512712.899999999
00:00:01 Query executed successfully.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Delete
Copy
Paste
Rename
Acquire lease
Break lease
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Search blobs by prefix (case-sensitive)
Only show active objects
Showing all 51 items
Name
Last modified
Access tier
Blob type
Size
Lease state
[..]
_SUCCESS 4/8/2025, 7:43:21 PM Hot (Inferred) Block blob 0 Available
part-00000-... 4/8/2025, 7:43:16 PM Hot (Inferred) Block blob 32 B Available
part-00000-... 4/7/2025, 9:02:55 PM Hot (Inferred) Block blob 32 B Available
part-00005-... 4/8/2025, 7:43:13 PM Hot (Inferred) Block blob 86 B Available
part-00005-... 4/7/2025, 9:02:52 PM Hot (Inferred) Block blob 76 B Available
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part-00044-... 4/8/2025, 7:43:13 PM Hot (Inferred) Block blob 83 B Available
part-00044-... 4/7/2025, 9:02:52 PM Hot (Inferred) Block blob 83 B Available
part-00055-... 4/8/2025, 7:43:13 PM Hot (Inferred) Block blob 83 B Available
part-00055-... 4/7/2025, 9:02:52 PM Hot (Inferred) Block blob 75 B Available
part-00060-... 4/7/2025, 9:02:52 PM Hot (Inferred) Block blob 88 B Available