











Ride Wise-Smart Insights for Bike Sales

Introduction:

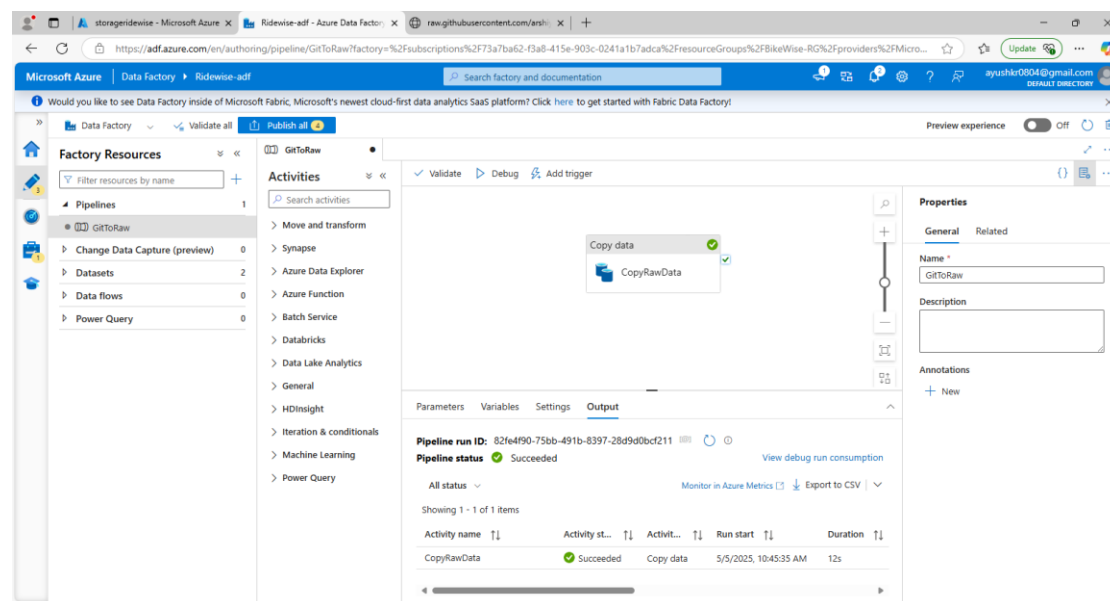
Ride Wise is a data engineering project aimed at analysing historical bike sales data using the Adventure Works dataset. The project focuses on building a modern data pipeline using **Azure-based technologies** to enable insightful business reporting through **Power BI**. The solution is designed with the **Medallion Architecture** in mind to ensure scalability, data quality, and efficient data transformations.

Solution

Raw Data Tables:

 RideWise_Calendar.csv	2k records data
 RideWise_Customers.csv	2k records data
 RideWise_Product_Categories.csv	2k records data
 RideWise_Product_Subcategories.csv	2k records data
 RideWise_Products.csv	2k records data
 RideWise>Returns.csv	2k records data
 RideWise_Sales_2015.csv	2k records data
 RideWise_Sales_2016.csv	2k records data
 RideWise_Sales_2017.csv	2k records data
 RideWise_Territories.csv	2k records data

Initial Static Pipeline



The screenshot displays the Microsoft Azure Data Factory portal interface. The left sidebar shows the 'Factory Resources' tree with 'Pipelines' expanded, listing 'GitToRaw'. The main canvas shows the 'GitToRaw' pipeline with a single 'Copy data' activity. The 'Properties' pane on the right shows the activity details, including the 'Name' 'CopyRawData' and 'Description'. The 'Output' tab at the bottom shows the pipeline run ID '82fe4f90-75bb-491b-8397-28d9d0bc211' and a table of activity results.

Activity name	Activity st...	Activit...	Run start	Duration
CopyRawData	Succeeded	Copy data	5/5/2025, 10:45:35 AM	12s

Dynamic Pipeline:

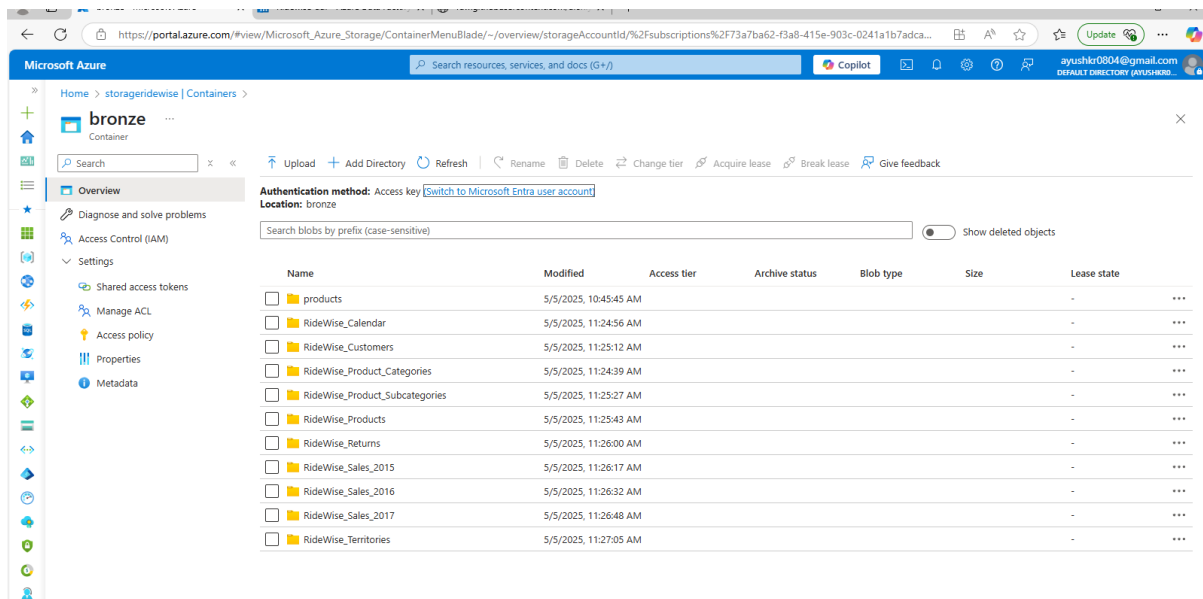
The screenshot displays the Microsoft Azure Data Factory portal interface. On the left, the 'Factory Resources' pane shows a list of pipelines, with 'Dynamic_GitToRaw' selected. The main canvas shows a pipeline diagram with a 'Lookup' activity connected to a 'ForEach' activity. The 'Output' tab is active, showing the pipeline run ID: 1c060ed6-e4a9-4909-8be6-34c29491e1db. The pipeline status is 'In progress'. Below the status, a table shows the activity run details:

Activity name	Activity st...	Activit...	Run start	Duration	Integration runtime
Dynamic_copy	In progress	Copy data	5/5/2025, 11:24:43 AM	14s	
Dynamic_copy	Succeeded	Copy data	5/5/2025, 11:24:28 AM	13s	AutoResolveIntegrationRuntime (Central India)
ForEachGit	In progress	ForEach	5/5/2025, 11:24:28 AM	29s	

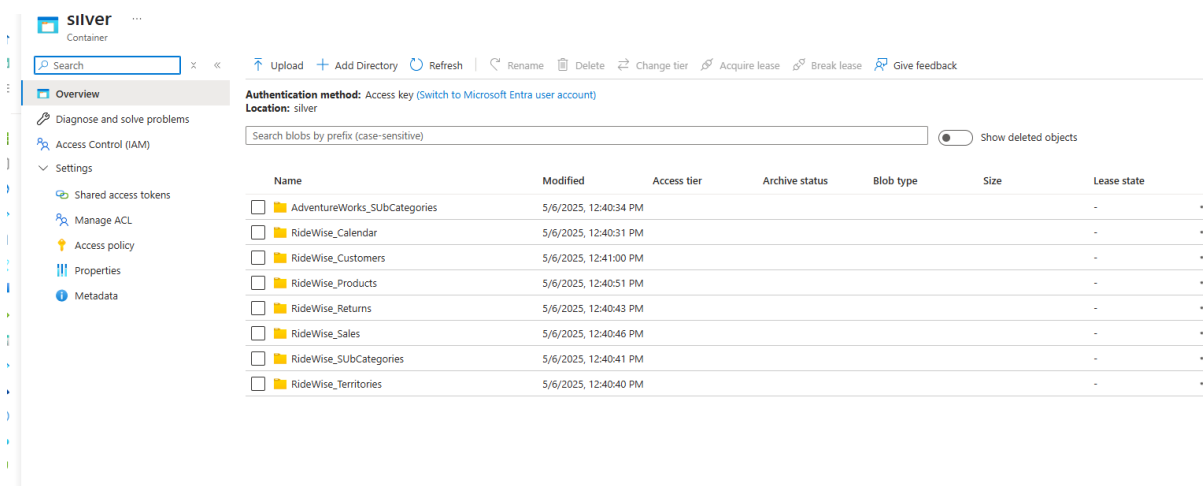
The screenshot displays the Microsoft Azure Data Factory portal interface, showing the same pipeline as the previous screenshot, but now completed. The 'Output' tab is active, showing the pipeline run ID: 1c060ed6-e4a9-4909-8be6-34c29491e1db. The pipeline status is 'Succeeded'. Below the status, a table shows the activity run details:

Activity name	Activity st...	Activit...	Run start	Duration	Integration runtime
Dynamic_copy	Succeeded	Copy data	5/5/2025, 11:26:51 AM	16s	AutoResolveIntegrationRuntime (Central India)
Dynamic_copy	Succeeded	Copy data	5/5/2025, 11:26:36 AM	14s	AutoResolveIntegrationRuntime (Central India)
Dynamic_copy	Succeeded	Copy data	5/5/2025, 11:26:20 AM	14s	AutoResolveIntegrationRuntime (Central India)
Dynamic_copy	Succeeded	Copy data	5/5/2025, 11:26:04 AM	15s	AutoResolveIntegrationRuntime (Central India)
Dynamic_copy	Succeeded	Copy data	5/5/2025, 11:25:46 AM	16s	AutoResolveIntegrationRuntime (Central India)
Dynamic_copy	Succeeded	Copy data	5/5/2025, 11:25:29 AM	15s	AutoResolveIntegrationRuntime (Central India)
Dynamic_copy	Succeeded	Copy data	5/5/2025, 11:25:15 AM	13s	AutoResolveIntegrationRuntime (Central India)
Dynamic_copy	Succeeded	Copy data	5/5/2025, 11:25:00 AM	14s	AutoResolveIntegrationRuntime (Central India)
Dynamic_copy	Succeeded	Copy data	5/5/2025, 11:24:43 AM	15s	AutoResolveIntegrationRuntime (Central India)
Dynamic_copy	Succeeded	Copy data	5/5/2025, 11:24:28 AM	13s	AutoResolveIntegrationRuntime (Central India)
ForEachGit	Succeeded	ForEach	5/5/2025, 11:24:28 AM	2m 41s	
LookupGit	Succeeded	Lookup	5/5/2025, 11:24:09 AM	18s	AutoResolveIntegrationRuntime (Central India)

Uploaded Files to Bronze Container



Databricks Notebook is attached.



Synapse Workspace

CREATE SCHEMA gold;

-- CREATE VIEW CALENDAR

CREATE VIEW gold.calendar

AS

SELECT

*

FROM

OPENROWSET

(

BULK

'https://storageridewise.blob.core.windows.net/silver/RideWise_Calendar/',

```

        FORMAT = 'PARQUET'
    ) as QUER1

SELECT * FROM gold.calendar;
-----
-- CREATE VIEW CUSTOMERS
-----
CREATE VIEW gold.customers
AS
SELECT
    *
FROM
    OPENROWSET
        (
            BULK
            'https://storageridewise.blob.core.windows.net/silver/RideWise Customers/',
            FORMAT = 'PARQUET'
        ) as QUER1;

-----
-- CREATE VIEW PRODUCTS
-----
CREATE VIEW gold.products
AS
SELECT
    *
FROM
    OPENROWSET
        (
            BULK
            'https://storageridewise.blob.core.windows.net/silver/RideWise Products/',
            FORMAT = 'PARQUET'
        ) as QUER1;

-----
-- CREATE VIEW RETURNS
-----
CREATE VIEW gold.returns
AS
SELECT
    *
FROM
    OPENROWSET

```

```

        (
            BULK
'<a href="https://storageridewise.blob.core.windows.net/silver/RideWise>Returns/">https://storageridewise.blob.core.windows.net/silver/RideWise Returns/'>,
            FORMAT = 'PARQUET'
        ) as QUER1;

-----
-- CREATE VIEW SALES
-----

CREATE VIEW gold.sales
AS
SELECT
    *
FROM
    OPENROWSET
        (
            BULK
'<a href="https://storageridewise.blob.core.windows.net/silver/RideWiseSales/">https://storageridewise.blob.core.windows.net/silver/RideWise Sales/'>,
            FORMAT = 'PARQUET'
        ) as QUER1;

-----
-- CREATE VIEW SUBCAT
-----

CREATE VIEW gold.subcat
AS
SELECT
    *
FROM
    OPENROWSET
        (
            BULK
'<a href="https://storageridewise.blob.core.windows.net/silver/RideWiseSubCategories/">https://storageridewise.blob.core.windows.net/silver/RideWise SUBCategories/'>
,
            FORMAT = 'PARQUET'
        ) as QUER1;

-----
-- CREATE VIEW TERRITORIES
-----

CREATE VIEW gold.territories
AS

```

```
SELECT
    *
FROM
    OPENROWSET
        (
            BULK
            'https://storageridewise.blob.core.windows.net/silver/Ridewise\_Territories/',
            FORMAT = 'PARQUET'
        ) as QUER1;
```

To view parquet files of Gold Layer, I have attached a file named gold which helps to view parquet files.

Finally, Synapse workspace is linked to Power BI where we can build a dashboard.

Get data

Excel workbook

Display Options

synapse-ridewise-ondemand.sql.azure.synapse...

RideWise_Database [9]

calendar

gold.calendar

gold.customers

gold.products

gold.returns

gold.sales

gold.subcat

gold.territories

☒ gold.extsales

OrderDate	StockDate	OrderNumber	Product
1/8/2015	12/14/2001 12:00:00 AM	TO45115	
1/8/2015	11/21/2001 12:00:00 AM	TO45117	
1/8/2015	11/24/2001 12:00:00 AM	TO45116	
1/8/2015	11/1/2001 12:00:00 AM	TO45114	
1/8/2015	9/20/2001 12:00:00 AM	TO45115	
1/8/2015	10/29/2001 12:00:00 AM	TO45118	
1/8/2015	11/11/2001 12:00:00 AM	TO45113	
1/8/2015	11/25/2001 12:00:00 AM	TO45120	
1/9/2015	11/22/2001 12:00:00 AM	TO45124	
1/9/2015	12/23/2001 12:00:00 AM	TO45122	
1/9/2015	12/12/2001 12:00:00 AM	TO45123	
1/9/2015	9/24/2001 12:00:00 AM	TO45121	
1/10/2015	11/20/2001 12:00:00 AM	TO45129	
1/10/2015	12/12/2001 12:00:00 AM	TO45127	
1/10/2015	10/7/2001 12:00:00 AM	TO45128	
1/10/2015	12/26/2001 12:00:00 AM	TO45126	
1/11/2015	9/22/2001 12:00:00 AM	TO45136	
1/11/2015	11/30/2001 12:00:00 AM	TO45130	
1/11/2015	11/13/2001 12:00:00 AM	TO45134	

Navigator

Display Options

synapse-ridewise-ondemand.sql.azure.synapse...

RideWise_Database [9]

calendar

gold.calendar

gold.customers

gold.products

gold.returns

gold.sales

gold.subcat

gold.territories

☒ gold.extsales

gold.extsales

OrderDate	StockDate	OrderNumber	ProductKey	CustomerKey
1/8/2015	12/14/2001 12:00:00 AM	TO45115	319	
1/8/2015	11/21/2001 12:00:00 AM	TO45117	342	
1/8/2015	11/24/2001 12:00:00 AM	TO45116	311	
1/8/2015	11/1/2001 12:00:00 AM	TO45114	310	
1/8/2015	9/20/2001 12:00:00 AM	TO45115	348	
1/8/2015	10/29/2001 12:00:00 AM	TO45118	314	
1/8/2015	11/11/2001 12:00:00 AM	TO45113	313	
1/8/2015	11/25/2001 12:00:00 AM	TO45120	344	
1/9/2015	11/22/2001 12:00:00 AM	TO45124	313	
1/9/2015	12/23/2001 12:00:00 AM	TO45122	314	
1/9/2015	12/12/2001 12:00:00 AM	TO45123	311	
1/9/2015	9/24/2001 12:00:00 AM	TO45121	310	
1/10/2015	11/20/2001 12:00:00 AM	TO45129	350	
1/10/2015	12/12/2001 12:00:00 AM	TO45127	313	
1/10/2015	10/7/2001 12:00:00 AM	TO45128	310	
1/10/2015	12/26/2001 12:00:00 AM	TO45126	311	
1/11/2015	9/22/2001 12:00:00 AM	TO45136	312	
1/11/2015	11/30/2001 12:00:00 AM	TO45130	313	
1/11/2015	12/13/2001 12:00:00 AM	TO45134	314	
1/11/2015	11/13/2001 12:00:00 AM	TO45138	349	
1/11/2015	12/7/2001 12:00:00 AM	TO45132	350	

The data in the preview has been truncated due to size limits.

Select Related Tables

Load

Transform Data

Cancel

