May13th, 2023

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Reports Consumption Insights Using Azure Synapse & Power BI Rest Api

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Who We Are

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Data & BI - MVP Nominee

Panos Pateas

Data Engineer & BI

Microsoft Certified: Azure Fundamentals

Microsoft 365 Certified: Teams Administrator Associate

Microsoft TechNet

CoZy DaTa PuB

Microsoft Certified: Azure Data Engineer Associate

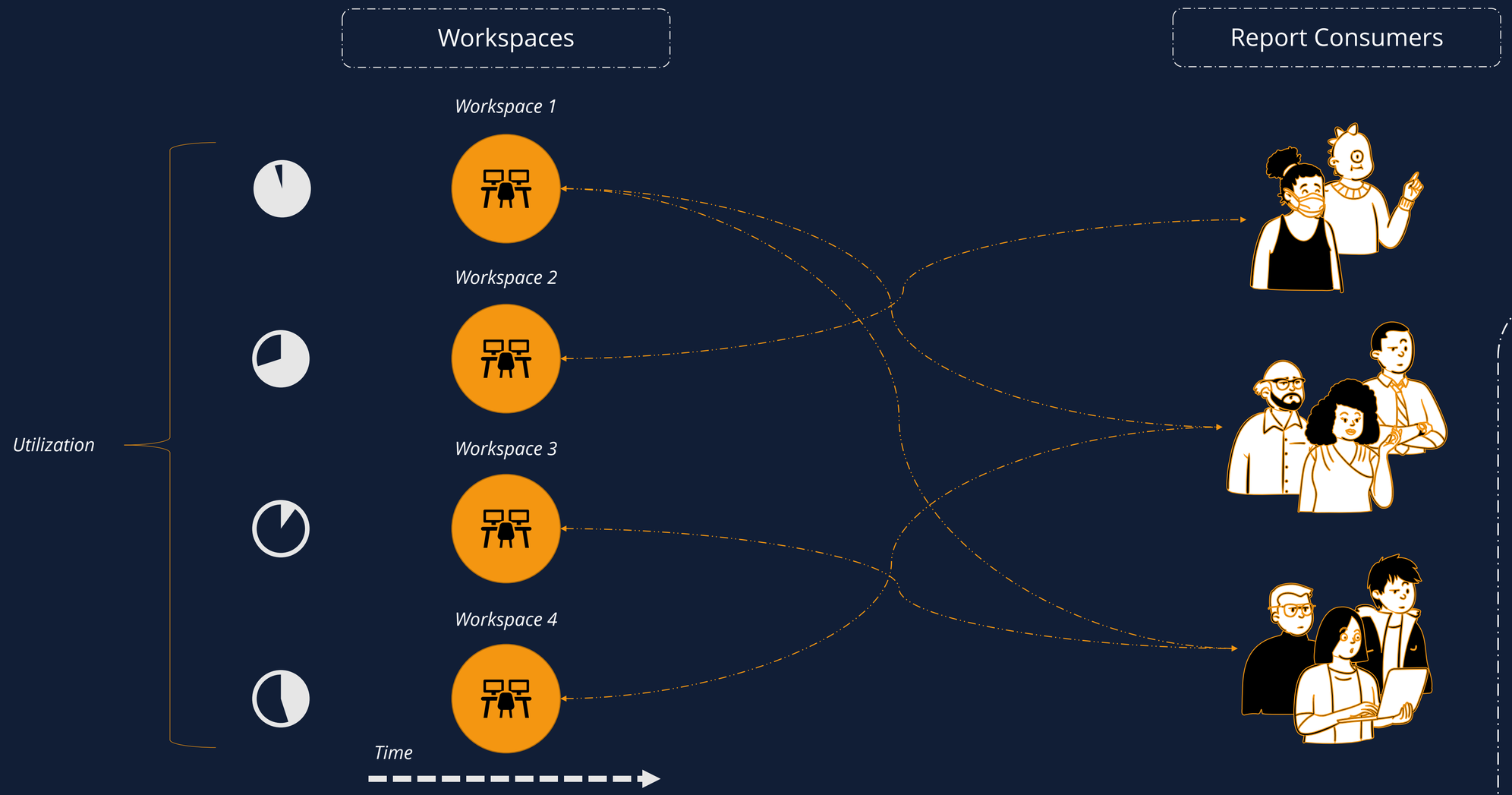
Microsoft Certified: Power BI Data Analyst Associate

CoZy DaTa PuB

Agenda

- The Business Problem
- Our Approach (Synapse Architecture)
- Resources Overview
- Further Enhancements

The Business Problem



- **Identify workspaces/reports with low utilization**
  - The workspace/report is not longer used
  - The dataset is not refreshing properly
  - The business requirements have changed
- **Identify workspaces with high utilization**
  - Set refresh times appropriately so that reports can be up to date throughout the day
- **Prioritization of report building based on relevant requirements, viewers, departments and report consumption**
- **Identify consumption methods for each report, adapt the layout accordingly**

Our Approach

Overview of Synapse Analytics & Power BI Rest Api

Azure Synapse Analytics

- Data Warehousing & Big Data Analytics
- Data Lake Gen2 as Storage Account
- Serverless/Dedicated Resources
- ETL/ELT
- Integration with other Azure Services

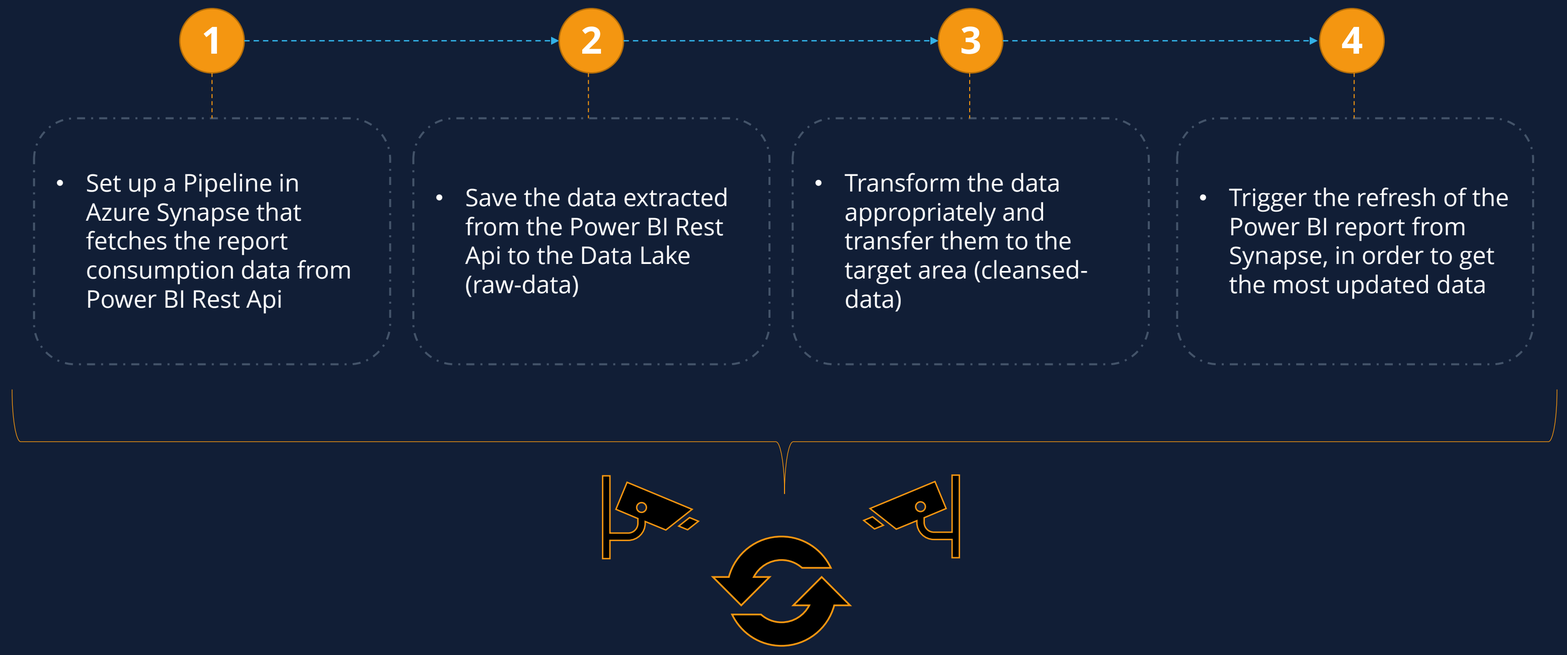
Power BI Rest Api

- Manage Power BI Content
- Perform Admin Operations
- Embed Power Bi Content

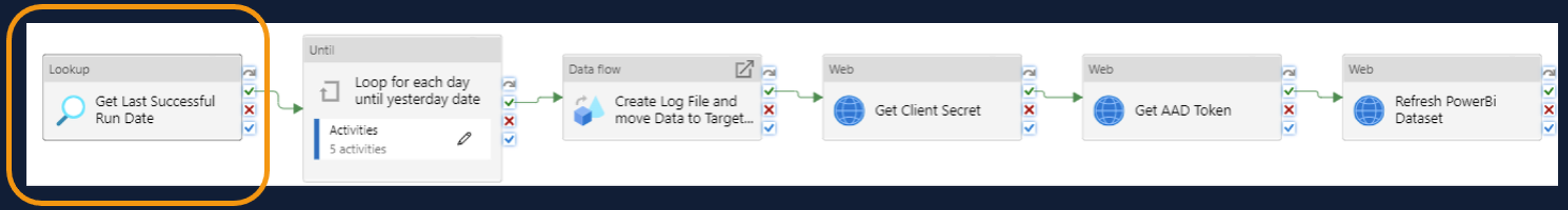
Dev / Test (Branches)

Deploy

Architecture – High Level



Architecture – Deep Dive



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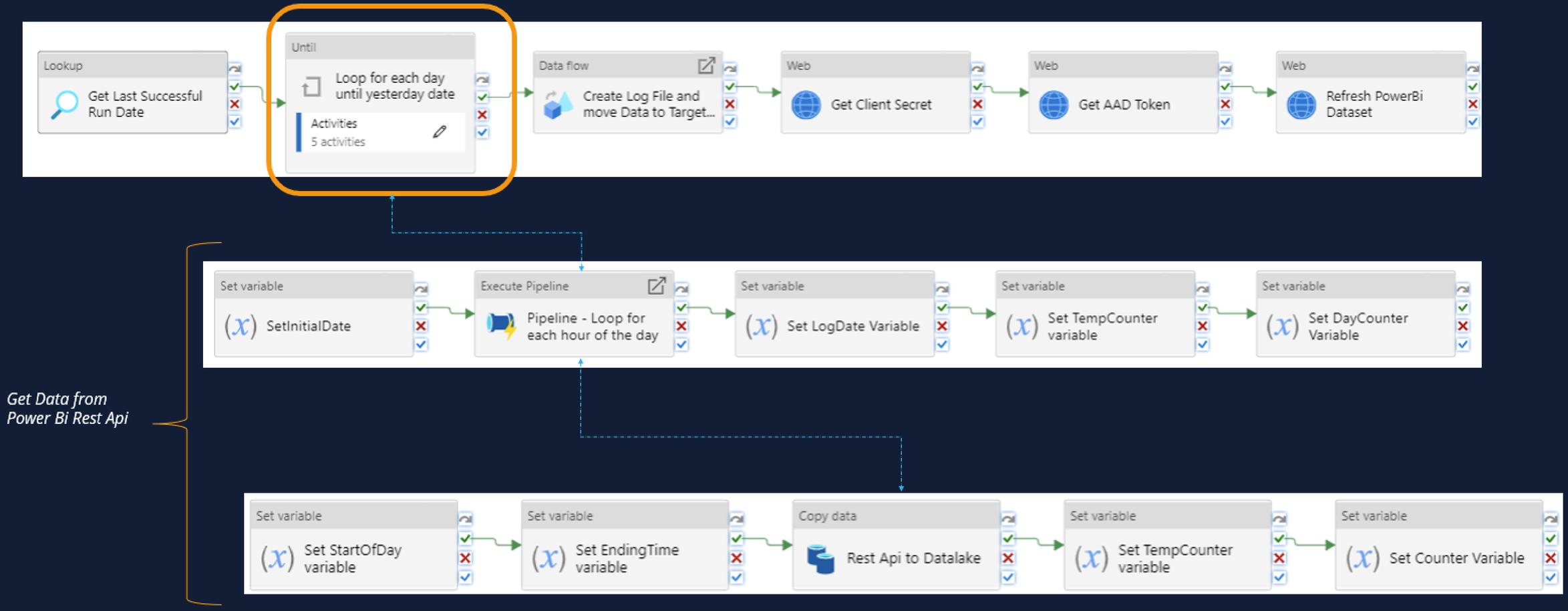

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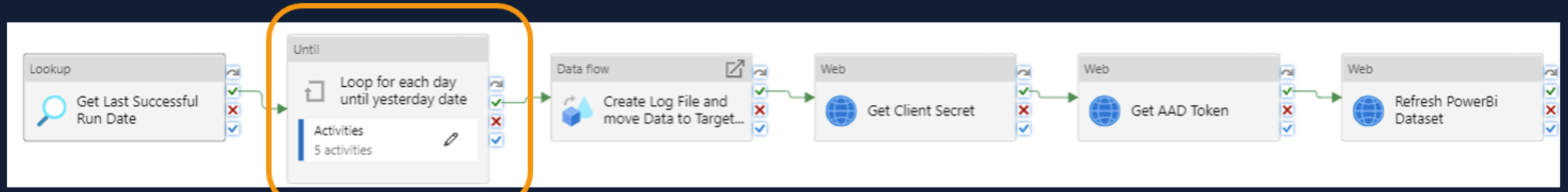


HTTP Copy

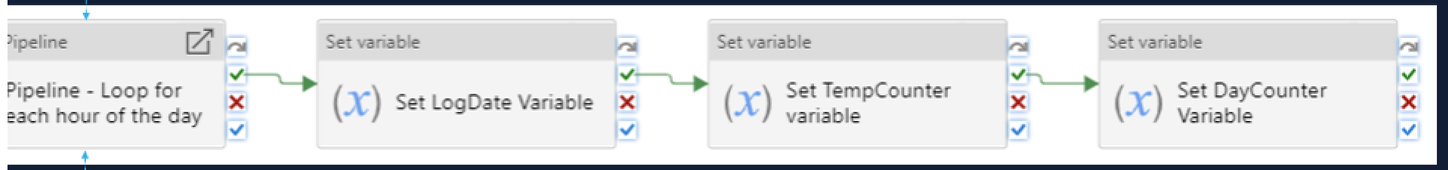
```
GET https://api.powerbi.com/v1.0/myorg/admin/activityevents?startDateTime='2019-08-13T07:55:00.000Z'&endDateTime='2019-08-13T08:55:00.000Z'&$filter=Activity eq 'ViewReport'
```

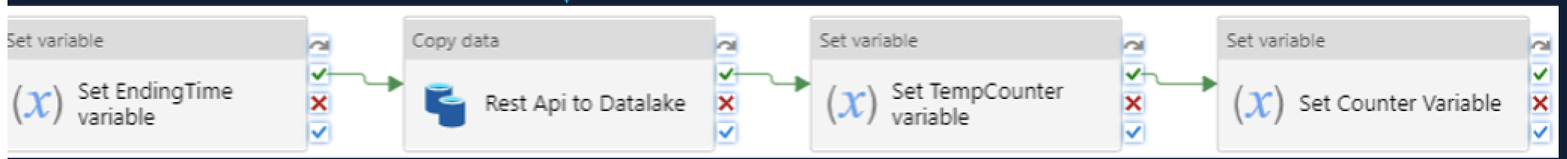
Sample Response

Status code: 200

JSON Copy


```
{
  "activityEventEntities": [
    {
      "Id": "41ce06d1-d81b-4ea0-bc6d-2ce3dd2f8e87",
      "CreationTime": "2019-08-13T07:55:15",
      "Operation": "ViewReport",
      "OrganizationId": "e43e3248-3d83-44aa-a94d-c836bd7f9b79",
      "UserKey": "123456",
      "Activity": "ViewReport",
      "Workload": "PowerBI",
      "UserId": "john@contoso.com",
      "ClientIP": "127.0.0.1"
    },
    {
      "Id": "c632aa64-70fc-4e80-88f3-9fc2cdcacce8",
      "CreationTime": "2019-08-13T07:55:10",
      "Operation": "ViewReport",
      "OrganizationId": "e43e3248-3d83-44aa-a94d-c836bd7f9b79",
      "UserKey": "42343KJK53K45J",
      "Activity": "ViewReport",
      "Workload": "PowerBI",
      "UserId": "john@contoso.com",
      "ClientIP": "131.107.160.240"
    }
  ],
  "continuationUri": "https://api.powerbi.com/v1.0/myorg/admin/activityevents?continuationToken='%2BRI
  "continuationToken": "%2BRID%3A244SAKlHY7YQAAAAAAAAAA%3D%3D%23RT%3A1%23TRC%3A5%23FPC%3AARAAAAAAAAAAF
}
```



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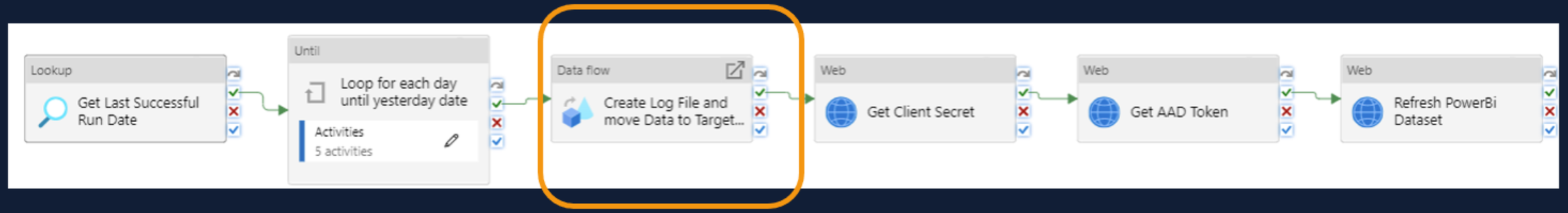
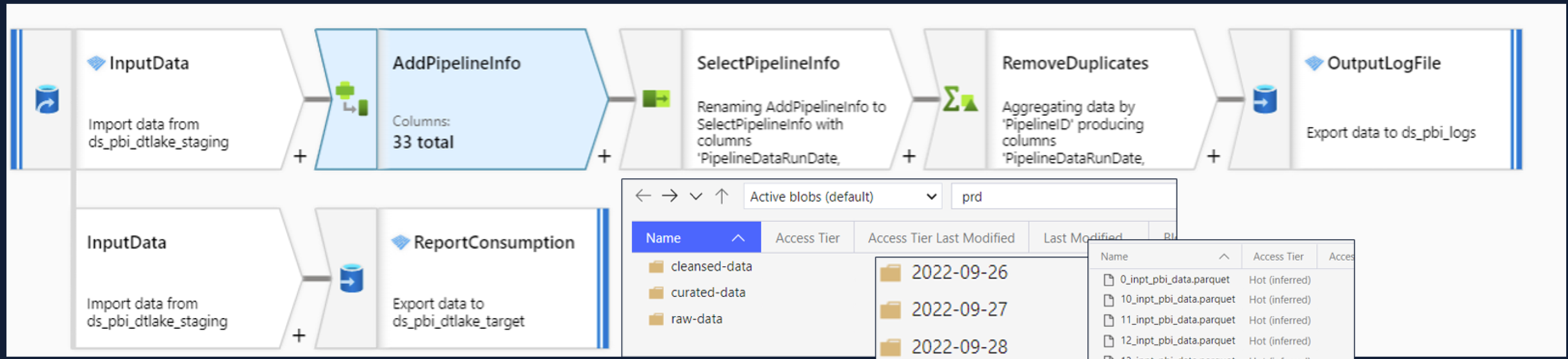


Data Transformation using Dataflow



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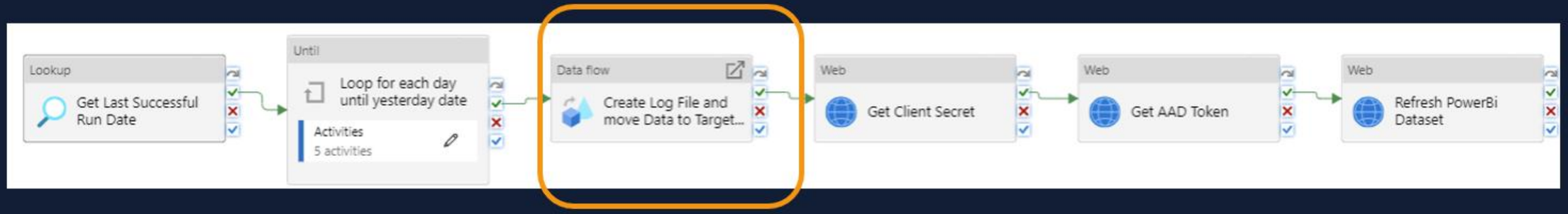

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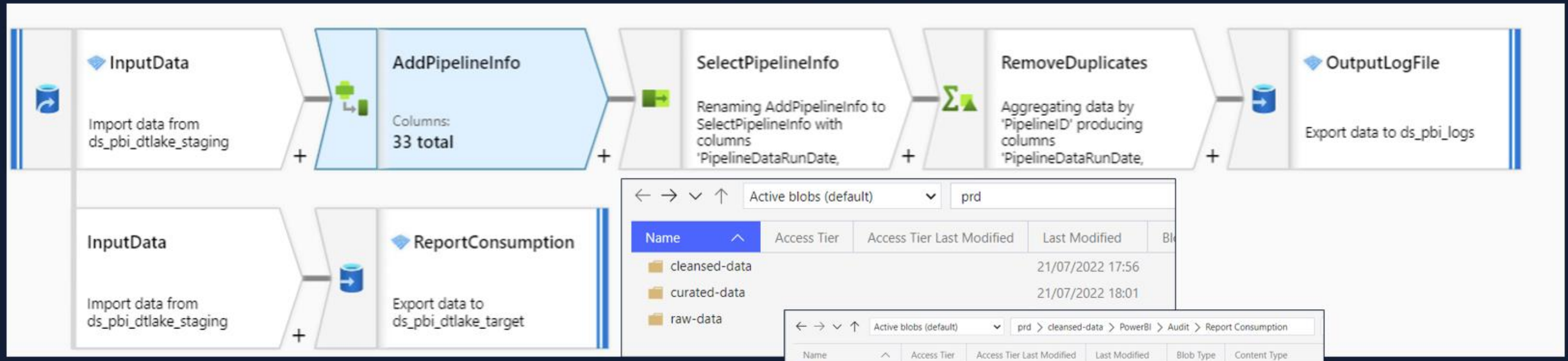
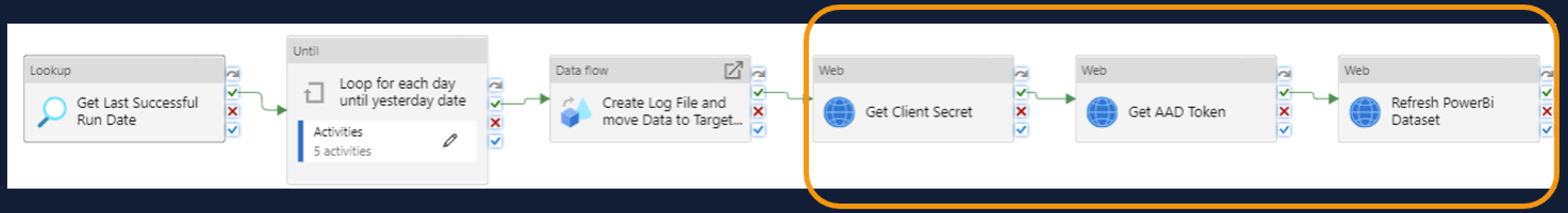


Architecture – Deep Dive

Trigger Refresh of the Power BI Dataset using the Power Bi Rest Api

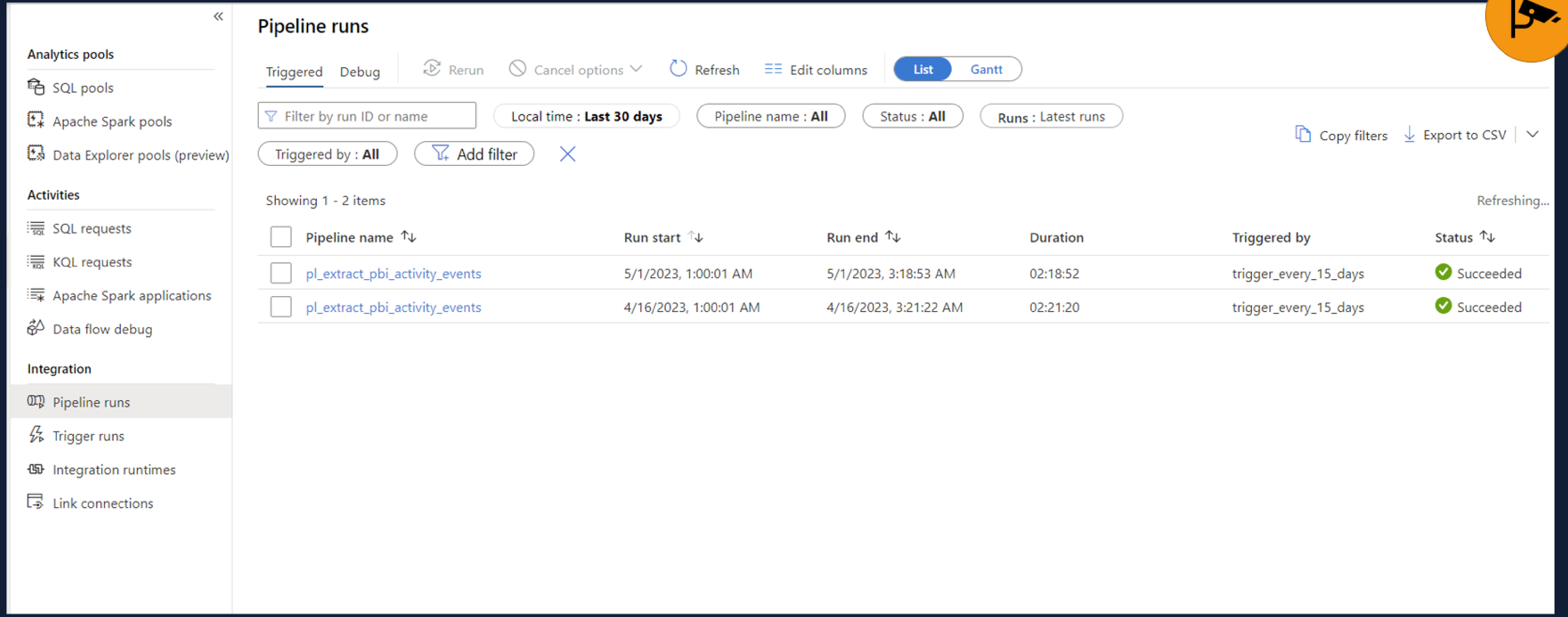


Leverage the functionality of SQL Serverless Pools in Synapse to query the data

Construct Serverless Views in order not to burden the productive system

Feed the data to Power BI

Architecture – Deep Dive



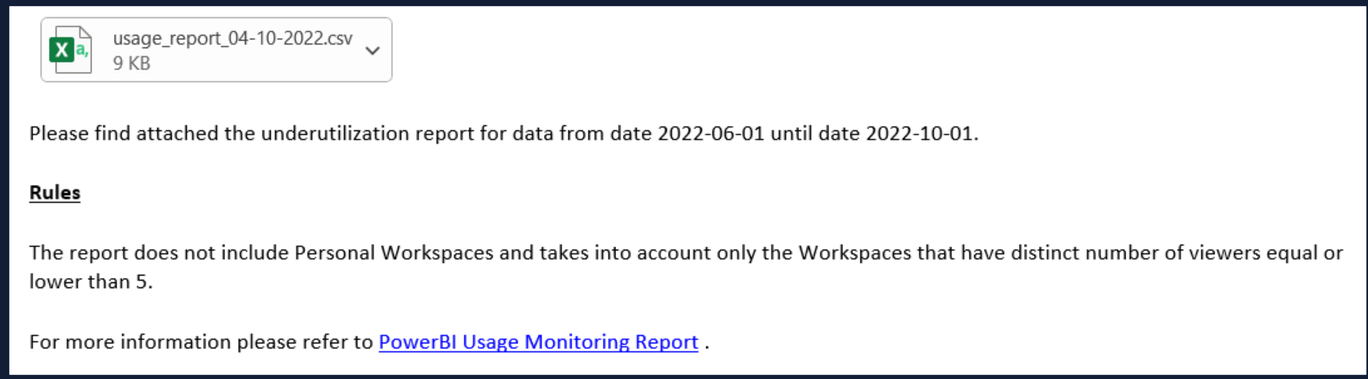
Resources Overview

Further Enhancements

Enhancement 1

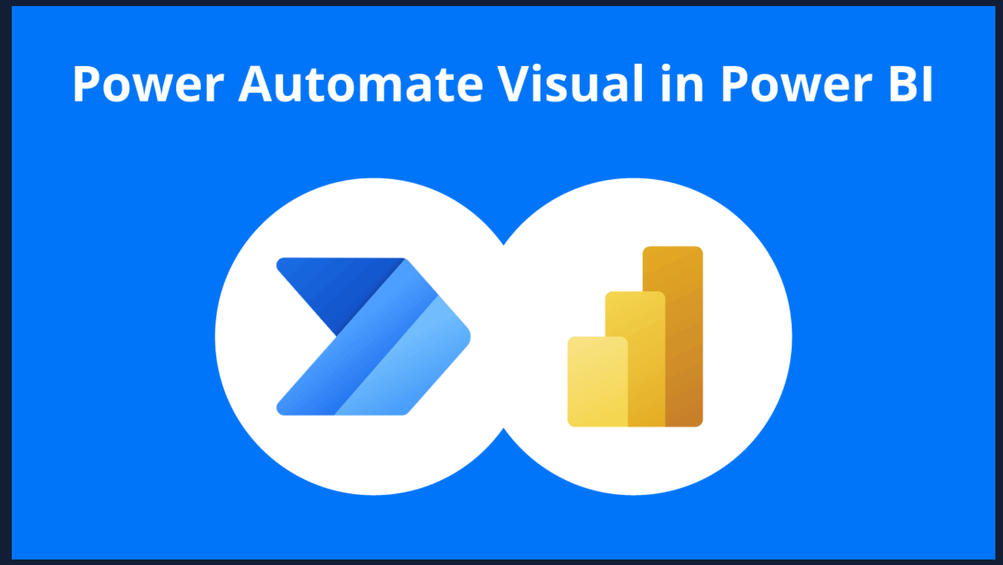
Power Automate, once each month sends out an aggregated excel file for the underutilized areas

Power Automate



Enhancement 2

- *Include idle Reports and Workspaces in the Data Collection pipeline*
- *Leverage Power Automate visual in Power BI, to send a notification to idle Reports/Workspaces owners about potential deletion*



Thank You!!
Q/A

Please evaluate !

A big **thank you** to our sponsors!

https://bit.ly/GA23Evaluation

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