Azure Data Pipeline Project Breakdown

1. **Environmental setup**
    - Microsoft SQL Server and SSMS
    - Azure Portal
        - Resource group
            - Data Factory (V2)
            - Azure Databricks Service
            - Key Vault
            - Storage Account (ADLS Gen 2)
            - Synapse Analytics Workspace
            - Access Control (IAM)
                - Owner
                - Azure Active Directory Security Group
                - Storage Blob Data Container - User and Managed Identity
                - Storage Blob Data Reader - User and Managed Identity
            - Key Vault
                - Username
                - Password
                - Databricks Access Token

2. **Data Ingestion**
    - Azure Data Factory
        - Self-Hosted Integration Runtime (for SQL Server)
        - Auto Resolve Integration Runtime (for ADLS Gen 2)
        - Linked service
            - SQL Server
            - Key vault
            - ADLS Gen 2
        - Pipeline
            - Lookup Tables
            - For Each Table - Copy Data Activity
            - Parquet Data Format
            - Data Ingestion into Bronze Container

3. **Data Transformation**
    - Azure Databricks
        - Access Token
        - Compute - Cluster creation
        - Workspace
            - Notebooks
                - Storage Mount - to mount ADLS Gen 2 containers (Refer Azure Documentation)
                - Bronze to Silver - PySpark
                - Silver to Gold - PySpark

2. **Azure Data Factory**
    - Linked service
        - Azure Databricks
    - Pipeline
        - Lookup Tables
        - For each - Copy data into Bronze Container
        - Bronze to Silver Databricks Notebook
        - Silver to Gold Databricks Notebook

4. **Data Loading**
    - Azure Synapse Analytics (Synapse Studio)
        - Create Serverless SQL Database
        - SQL scripts - Stored procedure script
        - Linked service
            - Azure SQL Database
        - From Synapse Workspace Properties - Collect Serverless SQL Endpoint
        - Integrate - Pipeline - Views Creation
            - Get Metadata - Binary format - Connect to Gold container
            - For each - Stored procedure Activity

5. **Data Reporting**
    - Power BI
        - Get Data - Azure - Synapse Analytics (SQL DW)
        - Provide Credentials and Sign in your Microsoft account
        - Select and Load Data Tables
        - Create visuals and Develop relevant Dashboard