The goal of this challenge is to evaluate your ability to process, transform, and visualize IT service management (ITSM) data using our data stack: Apache Airflow, Apache Superset, DBT, and PostgresDB.

**Instructions:**

1. **Dataset Provided:** You will be given a ServiceNow ticket dump in CSV format with fields like:
   * Ticket ID, Category, Sub-Category, Priority, Created Date, Resolved Date, Status, Assigned Group, Technician, Resolution Time (Hrs), and Customer Impact.
2. **Goal:** Perform data transformation, load it into a PostgresDB, and generate insights through visual dashboards for service delivery performance.

**Tasks:**

**1. Data Ingestion and Transformation (DBT & PostgresDB)**

* Load the provided ticket dump into a PostgresDB.
* Create a DBT project with the following transformations:
  + Clean data (remove duplicates, handle null values, standardize date formats).
  + Extract Year, Month, and Day from the Created Date.
  + Calculate the **average resolution time** per Category and Priority.
  + Calculate **ticket closure rate** per Assigned Group.
  + Create a Monthly Ticket Summary table aggregating the number of tickets, average resolution time, and closure rate per month.
  + Ensure the data models are appropriately version controlled using DBT versioning best practices.

**2. Workflow Orchestration (Apache Airflow)**

* Develop an Airflow DAG to orchestrate the following tasks:
  + Ingest the CSV into the PostgresDB.
  + Trigger the DBT models to run transformations.
  + Validate the completion of the DBT models.
* Ensure the DAG is scheduled to run once every 24 hours.

**3. Data Visualization (Apache Superset)**

* Connect Superset to the PostgresDB.
* Build a dashboard with the following metrics and charts:
  + **Ticket Volume Trends:** Line chart showing the number of tickets created per day.
  + **Resolution Time:** Bar chart comparing average resolution time across Categories.
  + **Closure Rate:** Pie chart of closure rate by Assigned Group.
  + **Ticket Backlog:** Table displaying open tickets grouped by Priority.
  + **Filters:** Add filters for week, Category, and Priority.

**Deliverables:**

* **GitHub Repository:** Share a repository containing:
  + Airflow DAG file.
  + DBT Project files and SQL transformations.
  + Superset Dashboard export (JSON).
  + A README.md explaining the approach, assumptions, and instructions for running the project locally.