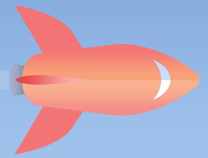


FINAL PROJECT

DIBIMBING -Modeling And Optimization Techniques In Data Warehousing Bootcamp 2023

KELOMPOK 5

Headline

Introduction

Analysis and Visualization

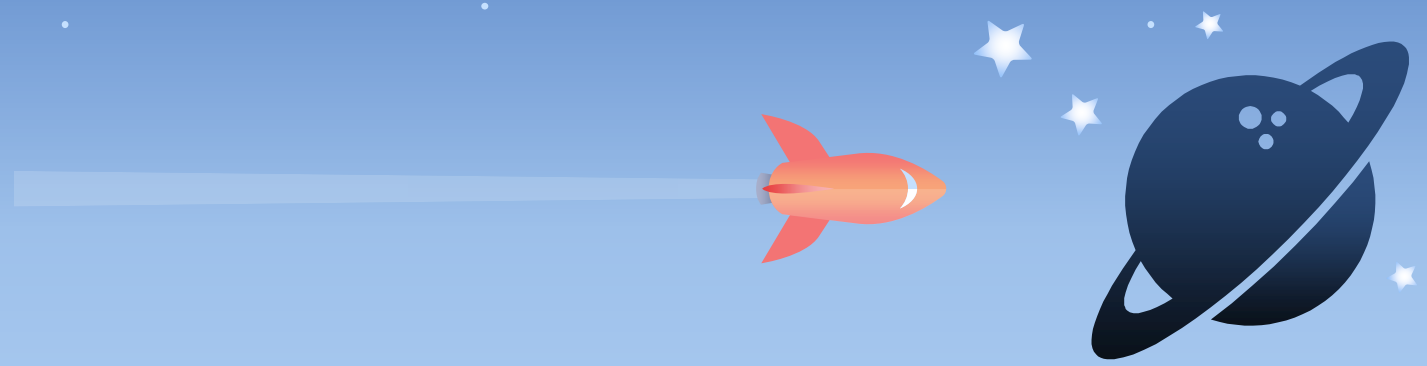
Project Description

Technical improvisation

Introduction

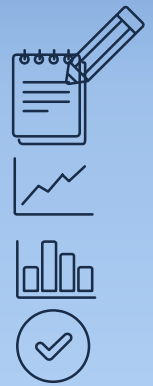
Task

- [ ] ETL/ELT Job Creation using Airflow
- [ ] Data Modeling in Postgres
- [ ] Dashboard Creation with Data Visualization
- [ ] Craft a Presentation Based on Your Work

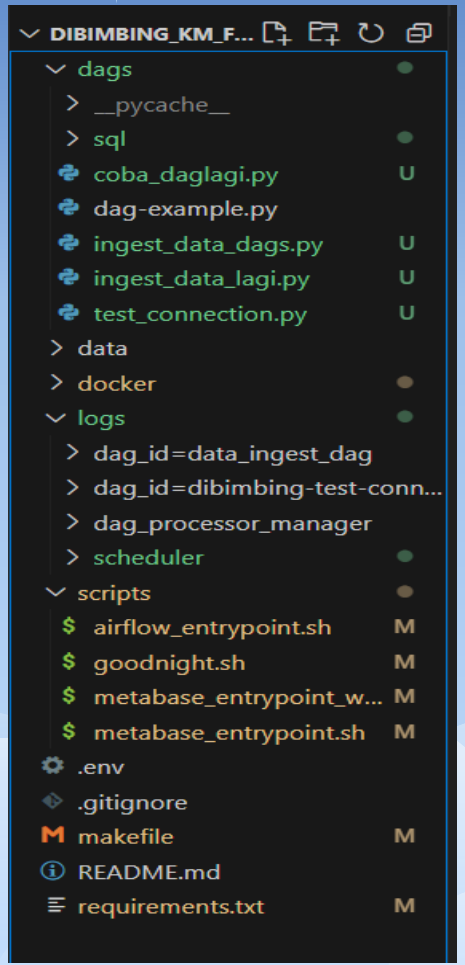


Project Description

ETL/ELT Job Creation using Airflow



Struktur Folder



DAG

```python
from airflow import DAG
from airflow.operators.python_operator import PythonOperator
from airflow.operators.dummy_operator import DummyOperator

from datetime import datetime

# DAG definition
default_args = {
    'owner': 'kel5',
    'depends_on_past': False,
    'start_date': datetime(2023, 11, 30),
    'catchup': False,
}

dag = DAG(
    'ingest_data_dags',
    default_args=default_args,
    description='DAG for ingesting data files into PostgreSQL',
    schedule_interval='@once',
    tags=['ingesting']
)

data_folder_path = 'data/'

def test_conn():
    print("Testing connection...")

    return True
with dag:
# Task to test the connection
test_conn_task = PythonOperator(
    task_id='test_connection',
    python_callable=test_conn,
    dag=dag,
)
```

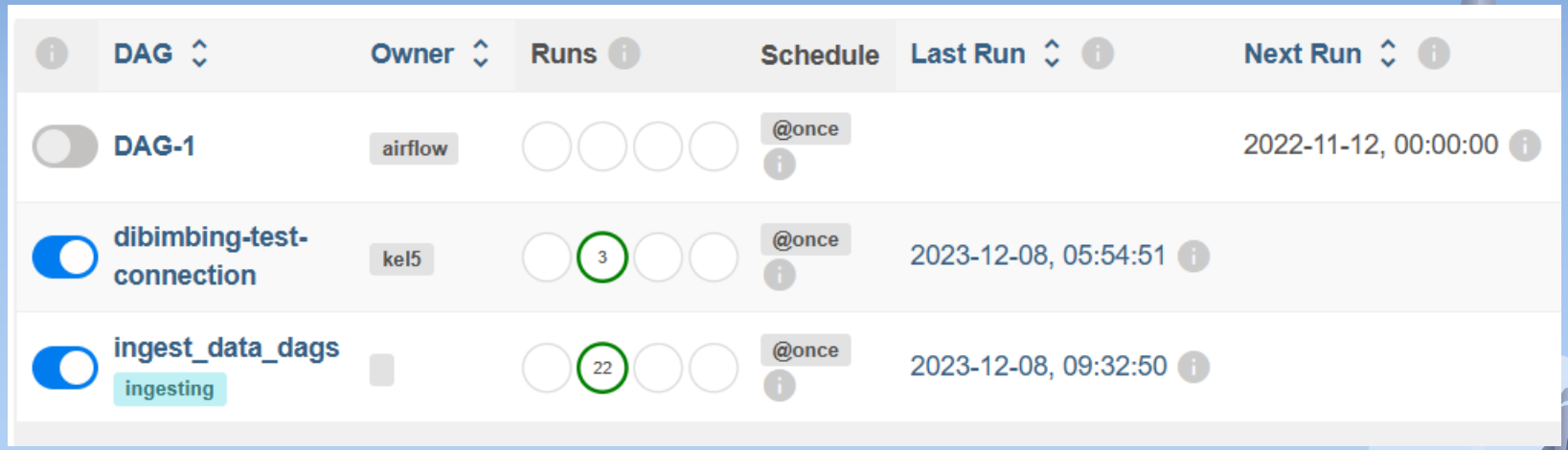
```python
data_folder_path = 'data/'

def test_conn():
    print("Testing connection...")

    return True
with dag:
# Task to test the connection
test_conn_task = PythonOperator(
    task_id='test_connection',
    python_callable=test_conn,
    dag=dag,
)

# CSV task
ingest_csv_task = PythonOperator(
    task_id='ingest_csv',
    python_callable=ingest_csv_files,
    op_kwargs={'folder_path': data_folder_path, 'table_name': 'customers'},
    dag=dag,
)

# JSON tasks
ingest_json_files_login_attempts_task = PythonOperator(
    task_id='ingest_json_login_attempts',
    python_callable=ingest_json_files_login_attempts,
    op_kwargs={'folder_path': data_folder_path, 'table_name': 'login_attempt_history'},
    dag=dag,
)

ingest_json_files_coupons_task = PythonOperator(
    task_id='ingest_json_coupons',
    python_callable=ingest_json_files_coupons,
    op_kwargs={'folder_path': data_folder_path, 'table_name': 'coupons'},
    dag=dag,
)
```

DAG

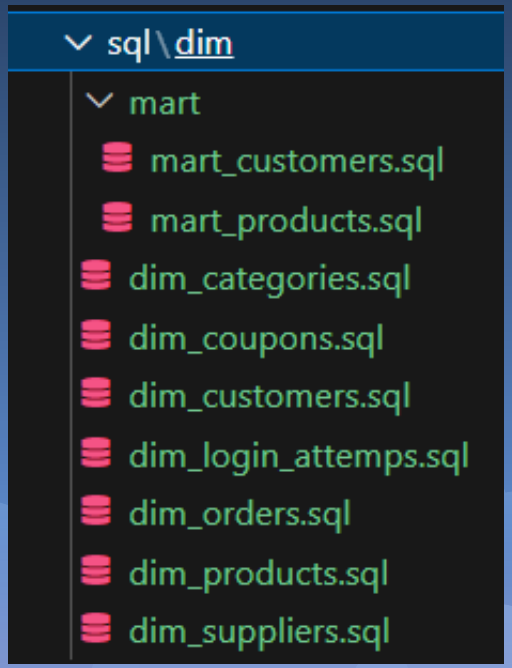
```
# XLS tasks
ingest_xls_files_supplier_task = PythonOperator(
    task_id='ingest_xls_supplier',
    python_callable=ingest_xls_files_supplier,
    op_kwargs={'folder_path': data_folder_path, 'table_name': 'suppliers'},
    dag=dag,
)

ingest_xls_files_product_task = PythonOperator(
    task_id='ingest_xls_product',
    python_callable=ingest_xls_files_product,
    op_kwargs={'folder_path': data_folder_path, 'table_name': 'product'},
    dag=dag,
)

ingest_xls_files_product_category_task = PythonOperator(
    task_id='ingest_xls_product_category',
    python_callable=ingest_xls_files_product_category,
    op_kwargs={'folder_path': data_folder_path, 'table_name': 'product_category'},
    dag=dag,
)

# PARQUET task
ingest_parquet_task = PythonOperator(
    task_id='ingest_parquet',
    python_callable=ingest_parquet_file,
    op_kwargs={'file_path': f'{data_folder_path}/order.parquet', 'table_name': 'orders'},
    dag=dag,
)
```

```
# AVRO task
ingest_avro_task = PythonOperator(
    task_id='ingest_avro',
    python_callable=ingest_avro_file,
    op_kwargs={'file_path': f'{data_folder_path}/order_item.avro', 'table_name': 'order_items'},
    dag=dag,
)

# End of DAG
end = DummyOperator(
    task_id='end',
    trigger_rule='none_failed'
)

# Setting dependencies
test_conn_task >> ingest_csv_task >> end
test_conn_task >> ingest_json_files_login_attempts_task >> end
test_conn_task >> ingest_json_files_coupons_task >> end
test_conn_task >> ingest_xls_files_supplier_task >> end
test_conn_task >> ingest_xls_files_product_task >> end
test_conn_task >> ingest_xls_files_product_category_task >> end
test_conn_task >> ingest_parquet_task >> end
test_conn_task >> ingest_avro_task >> end
```

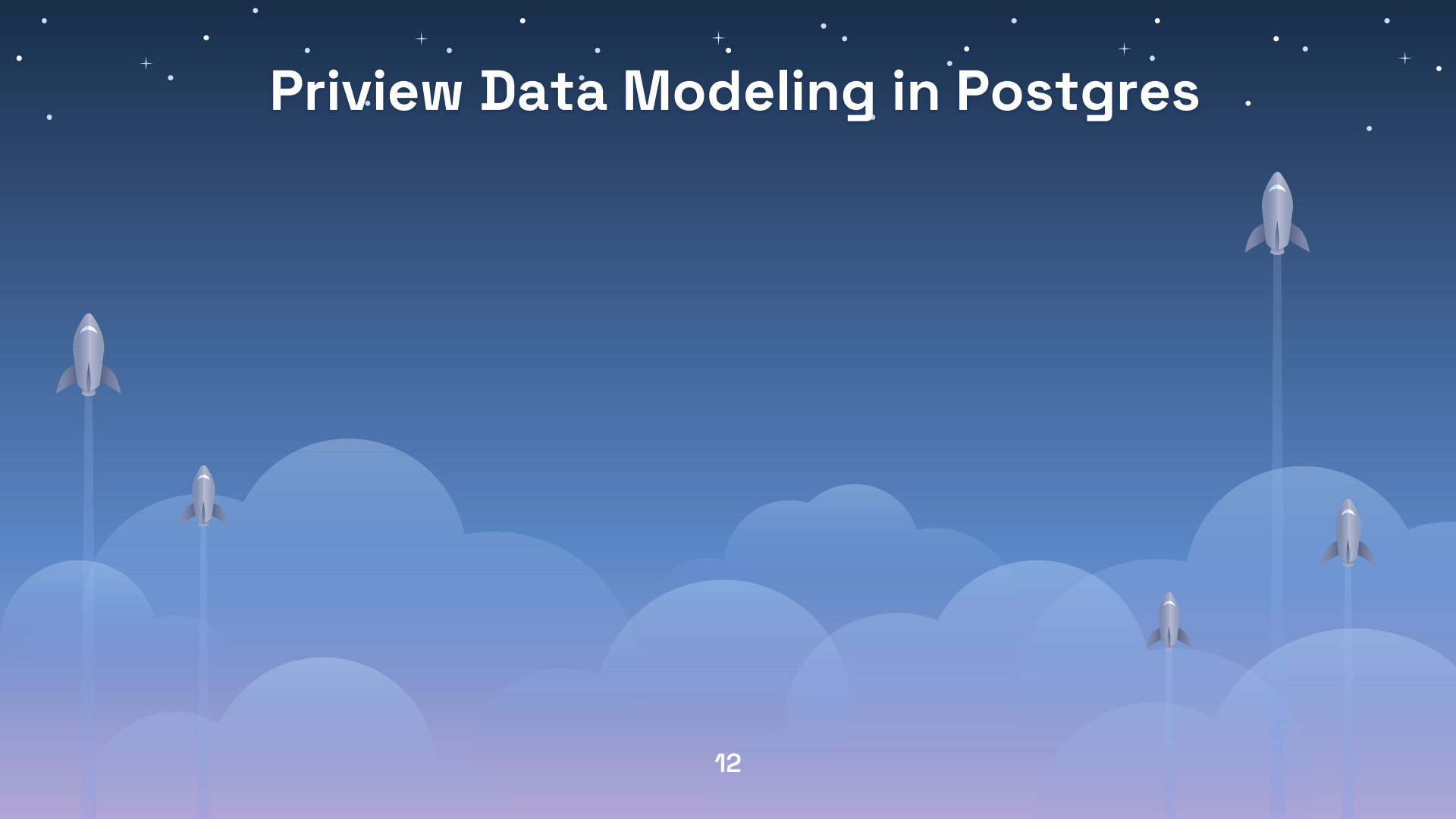
DAG

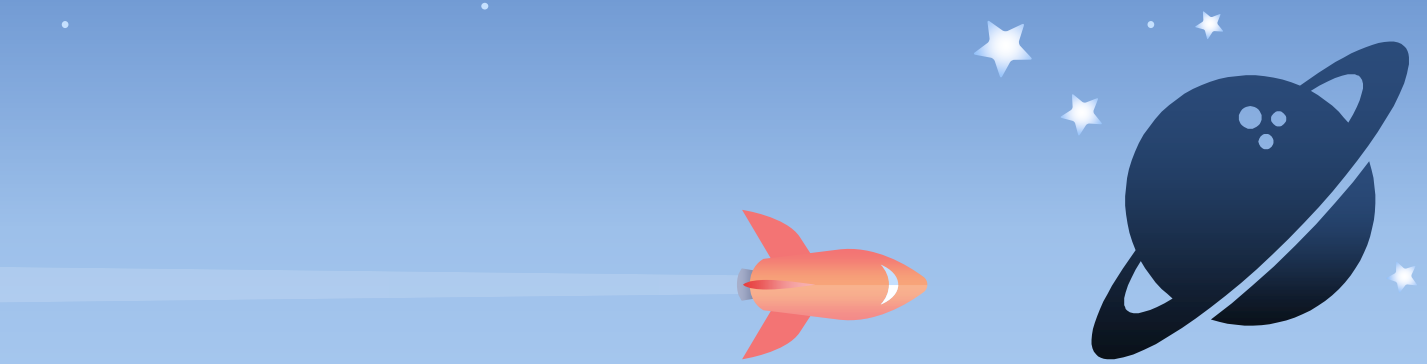

DAG
Owner
Runs
Schedule
Last Run
Next Run
DAG-1
airflow
@once
2022-11-12, 00:00:00
dibimbing-test-connection
kel5
3
@once
2023-12-08, 05:54:51
ingest_data_dags
ingesting
22
@once
2023-12-08, 09:32:50

Data Modeling in Postgres



Priview Data Modeling in Postgres

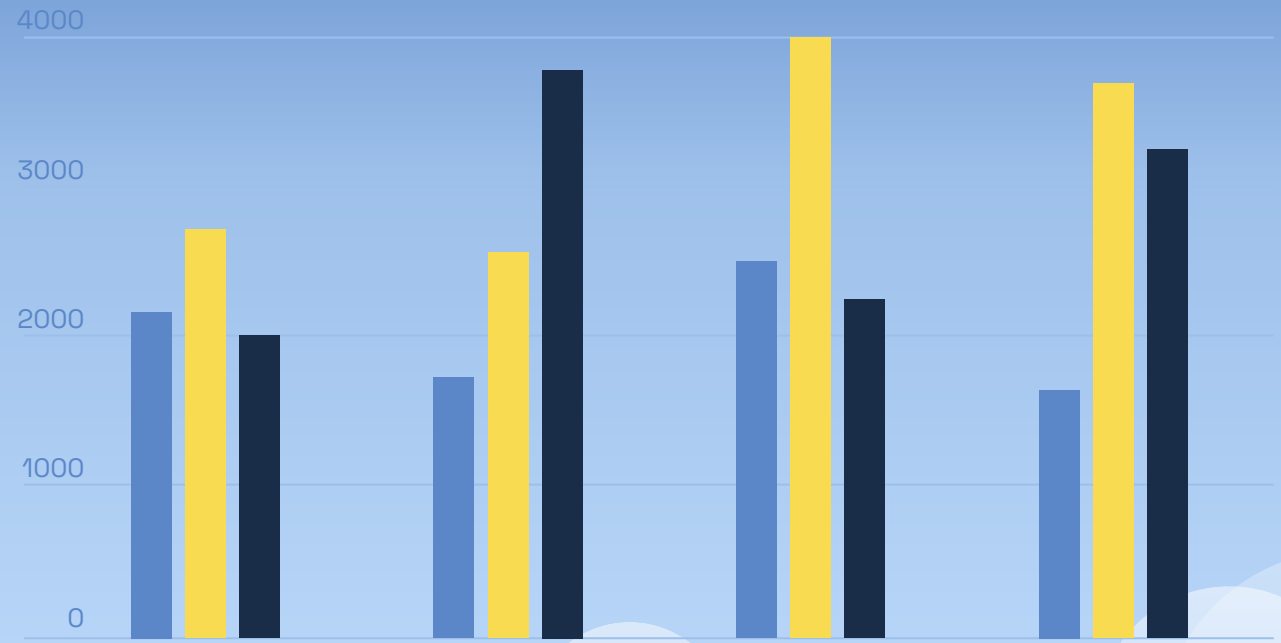




Analysis and Visualization

Dashboard Creation with Data Visualization


Technical improvisation



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