

The background is a light blue gradient. At the top, there are several small white stars and a few larger, more detailed white stars. In the center, there is a stylized orange and red rocket ship with a white flame trail, moving towards the right. To the right of the rocket is a dark blue planet with a white ring and three small white circles on its surface. Below the planet, there is a single white star. At the bottom of the image, there are several large, light blue, stylized clouds.

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

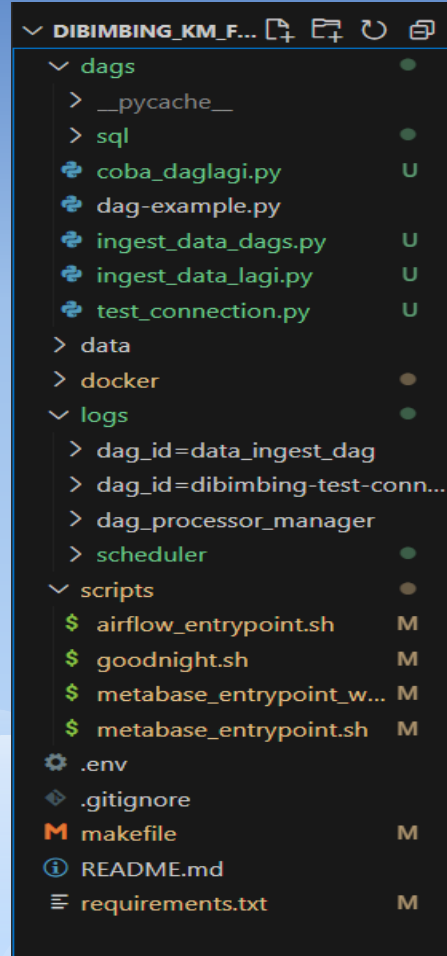


Project Description

ETL/ELT Job Creation using Airflow



Struktur Folder



DAG

```
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': 'kels',
    '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,
    )
```

```
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,
)

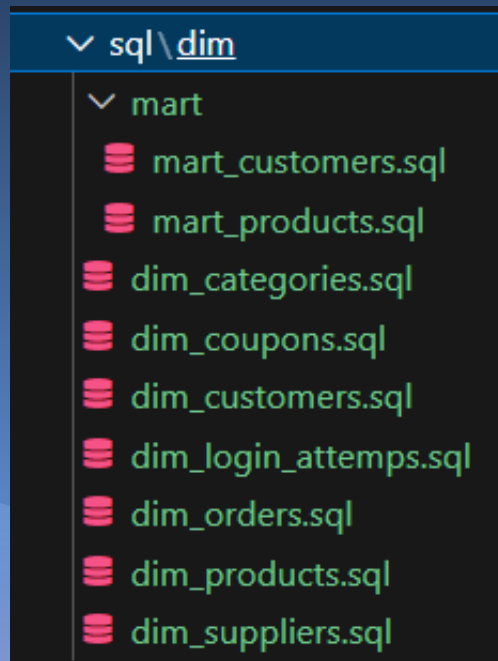
# End of DAG
end = DummyOperator(
    task_id='end',
    trigger_rule='none_failed'
)

# 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
```

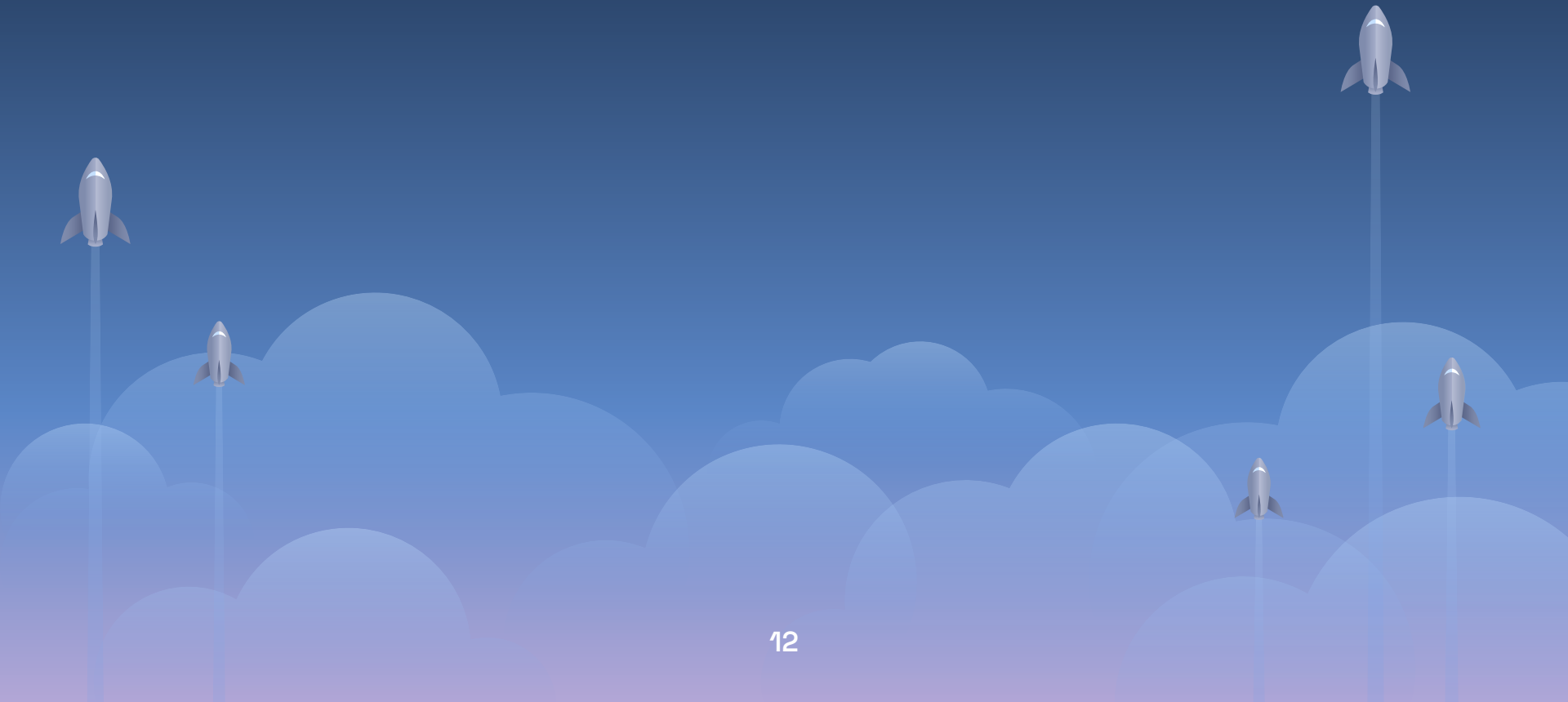
DAG

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

Data Modeling in Postgres



Priview Data Modeling in Postgres





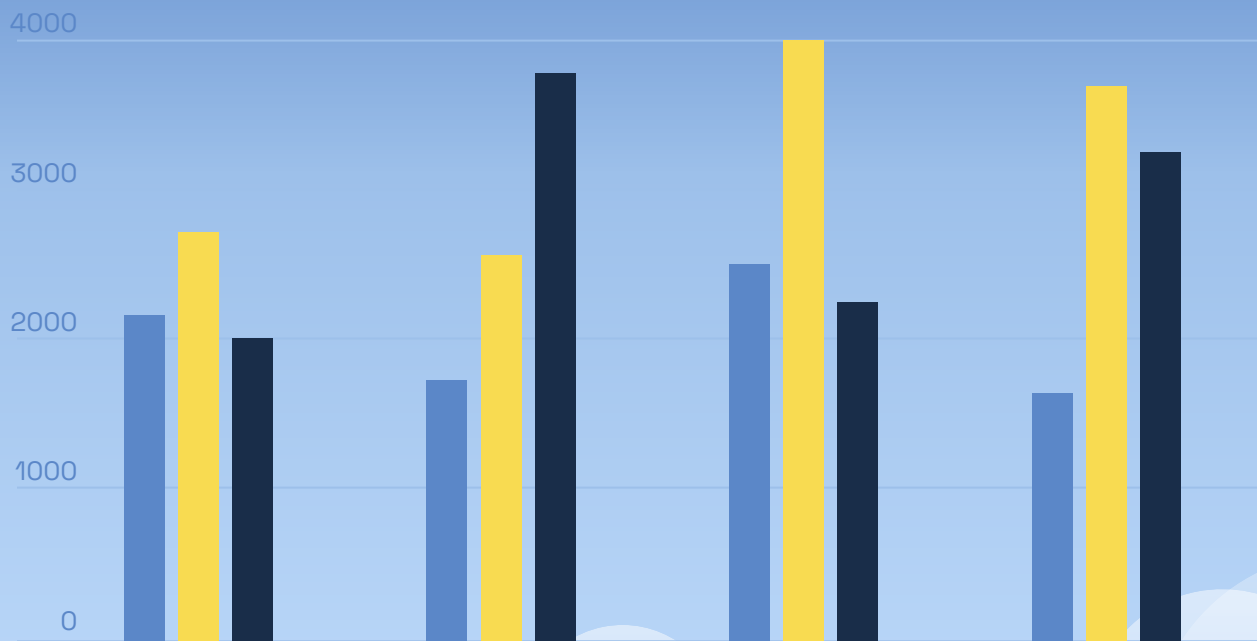
Analysis and Visualization

Dashboard Creation with Data Visualization



The background is a vertical gradient from purple at the top to yellow at the bottom. It features several stylized rockets: one in the center-left flying right, and five others (two on the left, three on the right) flying upwards from the bottom. A large planet with a ring and three small moons is in the upper right. Numerous white stars of different sizes are scattered across the sky. The text "Technical improvisation" is centered in a bold, dark blue font, with a small white star positioned between the words "improvisation" and "Technical".

Technical improvisation



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