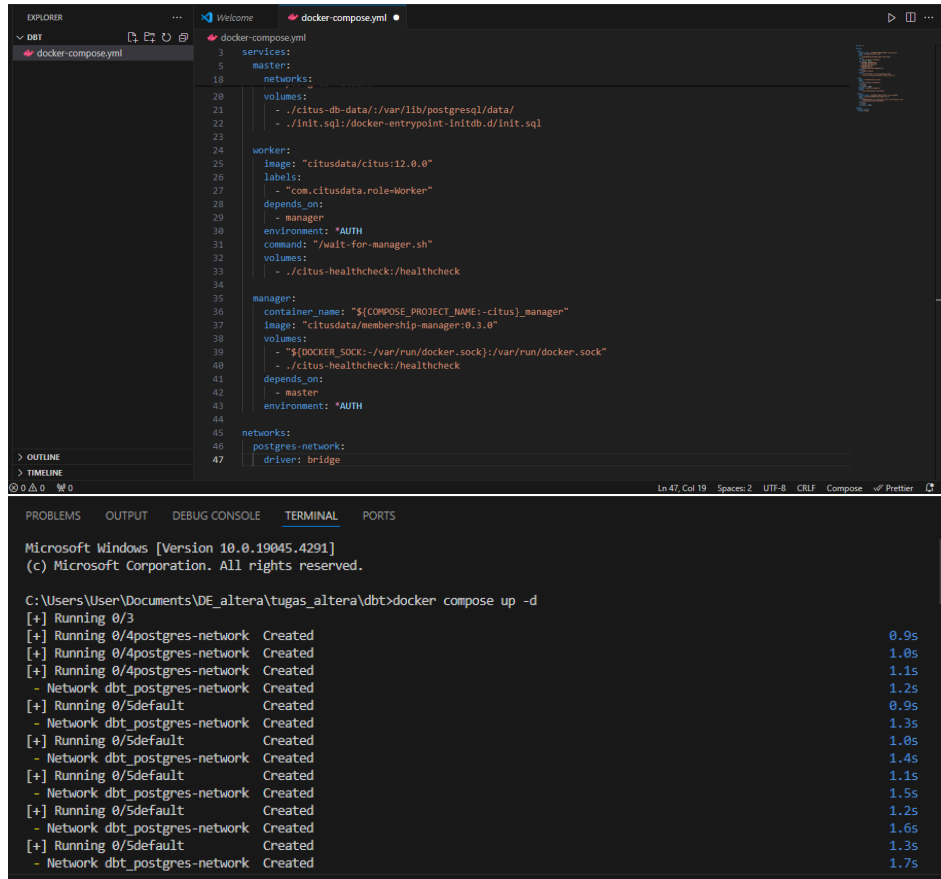


1. Create and run docker compose



The screenshot shows a Visual Studio Code editor with a file named `docker-compose.yml` open. The file defines a Docker Compose configuration for a Citus database cluster. It includes a `master` service, a `worker` service, and a `manager` service, all using Citus Docker images. The `master` service has a volume for PostgreSQL data and an init script. The `worker` service has a volume for the healthcheck. The `manager` service has a volume for the Docker socket and a healthcheck. A `postgres-network` is also defined.

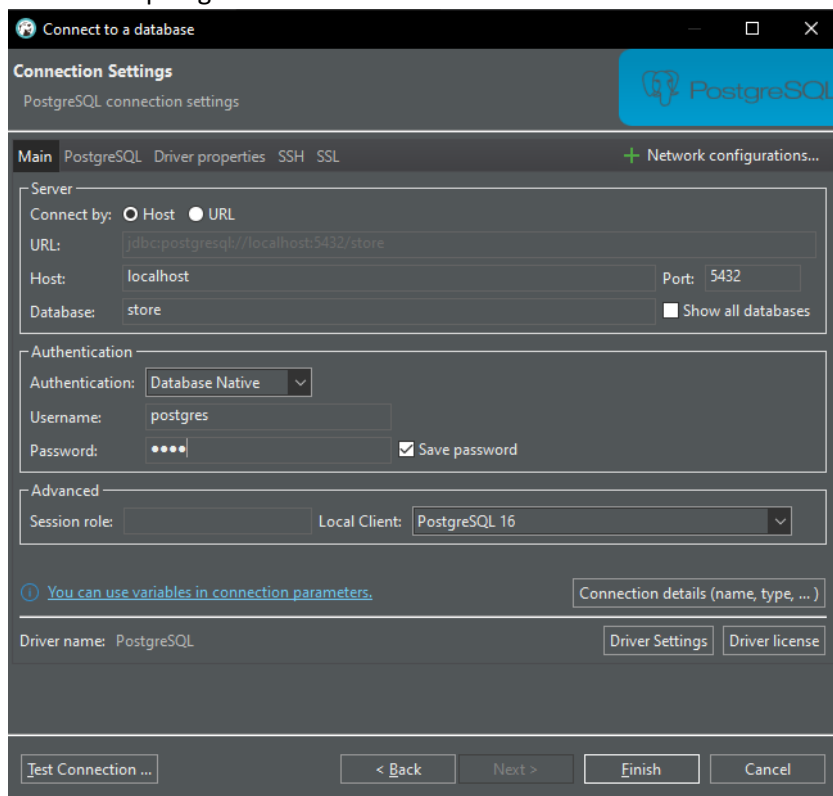
```
3 services:
4   master:
5     image: "citusdata/citus:12.0.0"
6     labels:
7       - "com.citusdata.role=master"
8     depends_on:
9       - manager
10    environment: "AUTH"
11    command: "/wait-for-manager.sh"
12    volumes:
13      - ./citus-db-data:/var/lib/postgresql/data/
14      - ./init.sql:/docker-entrypoint-initdb.d/init.sql
15
16  worker:
17    image: "citusdata/citus:12.0.0"
18    labels:
19      - "com.citusdata.role=worker"
20    depends_on:
21      - manager
22    environment: "AUTH"
23    command: "/wait-for-manager.sh"
24    volumes:
25      - ./citus-healthcheck:/healthcheck
26
27  manager:
28    container_name: "${COMPOSE_PROJECT_NAME:-citus}_manager"
29    image: "citusdata/membership-manager:0.3.0"
30    labels:
31      - "com.citusdata.role=manager"
32    depends_on:
33      - master
34    environment: "AUTH"
35
36  networks:
37    postgres-network:
38      driver: bridge
```

The terminal output shows the command `docker compose up -d` being executed, which successfully starts the services. The output is as follows:

```
Microsoft Windows [Version 10.0.19045.4291]
(c) Microsoft Corporation. All rights reserved.

C:\Users\User\Documents\DE_altera\tugas_altera\dbt>docker compose up -d
[+] Running 0/3
[+] Running 0/4postgres-network Created                                0.9s
[+] Running 0/4postgres-network Created                                1.0s
[+] Running 0/4postgres-network Created                                1.1s
- Network dbt postgres-network Created                                1.2s
[+] Running 0/5default Created                                         0.9s
- Network dbt postgres-network Created                                1.3s
[+] Running 0/5default Created                                         1.0s
- Network dbt postgres-network Created                                1.4s
[+] Running 0/5default Created                                         1.1s
- Network dbt postgres-network Created                                1.5s
[+] Running 0/5default Created                                         1.2s
- Network dbt postgres-network Created                                1.6s
[+] Running 0/5default Created                                         1.3s
- Network dbt postgres-network Created                                1.7s
```

2. Connect to postgres



The screenshot shows a "Connect to a database" dialog box with the "Main" tab selected. The "PostgreSQL" driver is chosen. The "Server" section shows "Connect by" set to "URL", with the URL `jdbc:postgresql://localhost:5432/store`. The "Host" is `localhost` and the "Port" is `5432`. The "Database" is `store`. The "Authentication" section shows "Authentication" set to "Database Native", "Username" is `postgres`, and "Password" is masked. The "Advanced" section shows "Session role" and "Local Client" set to "PostgreSQL 16". At the bottom, there are buttons for "Test Connection ...", "< Back", "Next >", "Finish", and "Cancel".

3. Create and activate venv

```
(.venv) C:\Users\User\Documents\DE_altera\tugas_altera\dbt\venv>
```

4. Install dbt postgres

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

(.venv) C:\Users\User\Documents\DE_altera\tugas_altera\dbt>pip install dbt-postgres
Collecting dbt-postgres
  Using cached dbt_postgres-1.7.13-py3-none-any.whl (28 kB)
Collecting psycogp2-binary~=2.8
  Using cached psycogp2_binary-2.9.9-cp310-cp310-win_amd64.whl (1.2 MB)
Collecting dbt-core==1.7.13
  Using cached dbt_core-1.7.13-py3-none-any.whl (1.0 MB)
Collecting agate
  Downloading agate-1.10.1-py2.py3-none-any.whl (95 kB)
    95.4/95.4 kB 1.1 MB/s eta 0:00:00
Collecting pathspec<0.12,>=0.9
  Using cached pathspec-0.11.2-py3-none-any.whl (29 kB)
Collecting agate
  Using cached agate-1.7.1-py2.py3-none-any.whl (97 kB)
Collecting packaging>20.9
  Using cached packaging-24.0-py3-none-any.whl (53 kB)
```

5. Buat list package ke requirements.txt dan install requirements.txt

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

(.venv) C:\Users\User\Documents\DE_altera\tugas_altera\dbt>pip freeze | findstr dbt >> requirements.txt

(.venv) C:\Users\User\Documents\DE_altera\tugas_altera\dbt>pip install -r requirements.txt
Requirement already satisfied: dbt-core==1.7.13 in c:\users\user\documents\de_altera\tugas_altera\dbt\venv\lib\site-packages
(from -r requirements.txt (line 1)) (1.7.13)
Requirement already satisfied: dbt-extractor==0.5.1 in c:\users\user\documents\de_altera\tugas_altera\dbt\venv\lib\site-pack
ages (from -r requirements.txt (line 2)) (0.5.1)
Requirement already satisfied: dbt-postgres==1.7.13 in c:\users\user\documents\de_altera\tugas_altera\dbt\venv\lib\site-pack
ages (from -r requirements.txt (line 3)) (1.7.13)
Requirement already satisfied: dbt-semantic-interfaces==0.4.4 in c:\users\user\documents\de_altera\tugas_altera\dbt\venv\lib
\site-packages (from -r requirements.txt (line 4)) (0.4.4)

Ln 33, Col 41 Spaces: 2 UTF-8 CRLF Com
```

6. Setup DBT project

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

(.venv) C:\Users\User\Documents\DE_altera\tugas_altera\dbt>pip freeze | findstr dbt >> requirements.txt

(.venv) C:\Users\User\Documents\DE_altera\tugas_altera\dbt>pip install -r requirements.txt
Requirement already satisfied: dbt-core==1.7.13 in c:\users\user\documents\de_altera\tugas_altera\dbt\venv\lib\site-packages
(from -r requirements.txt (line 1)) (1.7.13)
Requirement already satisfied: dbt-extractor==0.5.1 in c:\users\user\documents\de_altera\tugas_altera\dbt\venv\lib\site-pack
ages (from -r requirements.txt (line 2)) (0.5.1)
Requirement already satisfied: dbt-postgres==1.7.13 in c:\users\user\documents\de_altera\tugas_altera\dbt\venv\lib\site-pack
ages (from -r requirements.txt (line 3)) (1.7.13)
Requirement already satisfied: dbt-semantic-interfaces==0.4.4 in c:\users\user\documents\de_altera\tugas_altera\dbt\venv\lib
\site-packages (from -r requirements.txt (line 4)) (0.4.4)

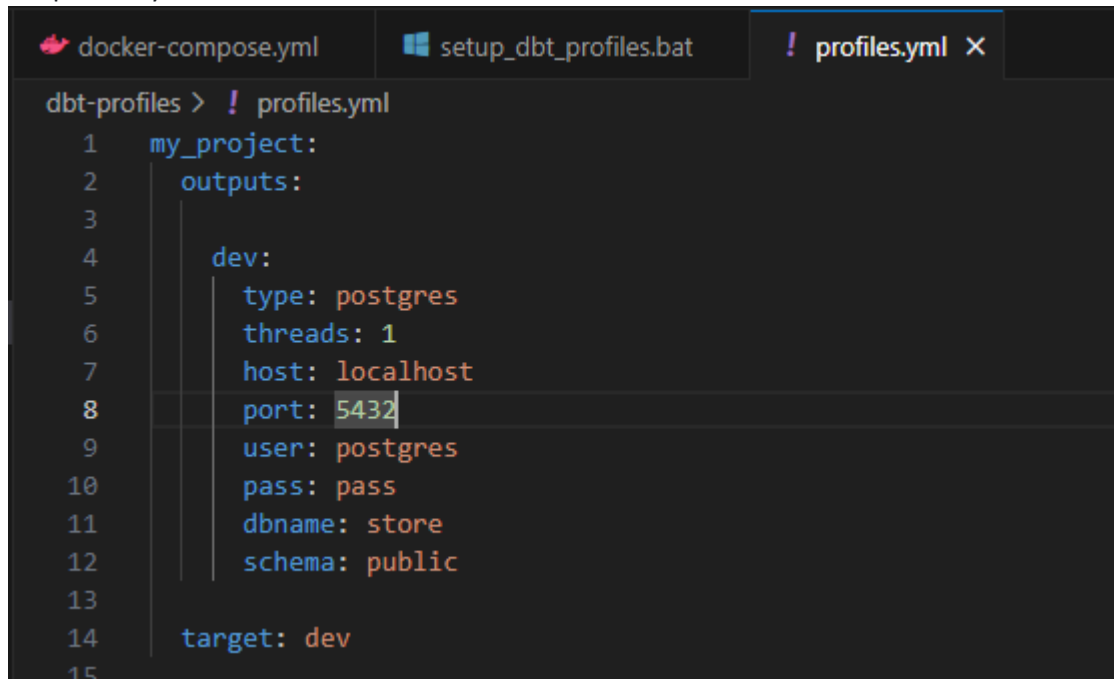
Ln 33, Col 41 Spaces: 2 UTF-8 CRLF Com
```

7. Setup DBT Profile

```
(.venv) C:\Users\User\Documents\DE_altera\tugas_altera\dbt>setup_dbt_profiles.bat
1 file(s) copied.
```

note : saya telah menyimpan perintah" yang diperlukan kedalam file setup_dbt_profiles.bat agar bisa dijalankan di CMD Prompt

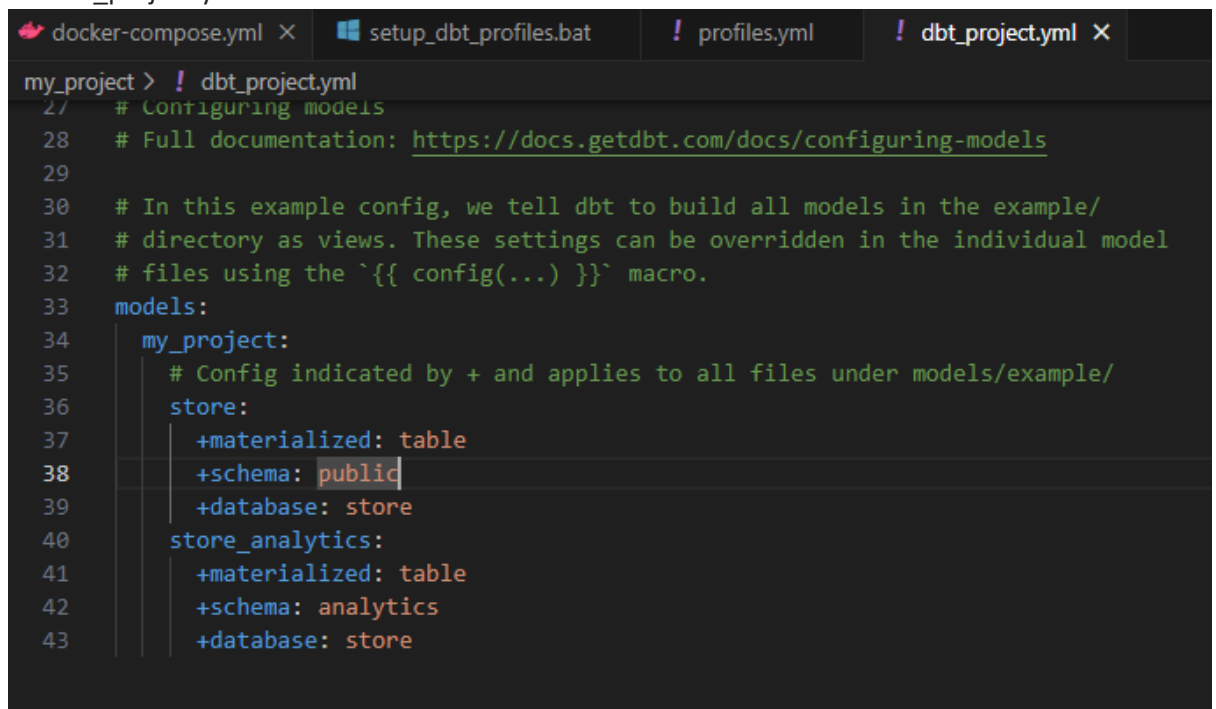
8. Set profiles.yml



The screenshot shows a VS Code editor with three tabs: 'docker-compose.yml', 'setup_dbt_profiles.bat', and 'profiles.yml'. The 'profiles.yml' tab is active, showing a terminal window with the following content:

```
dbt-profiles > ! profiles.yml
1  my_project:
2    outputs:
3
4    dev:
5      type: postgres
6      threads: 1
7      host: localhost
8      port: 5432
9      user: postgres
10     pass: pass
11     dbname: store
12     schema: public
13
14   target: dev
15
```

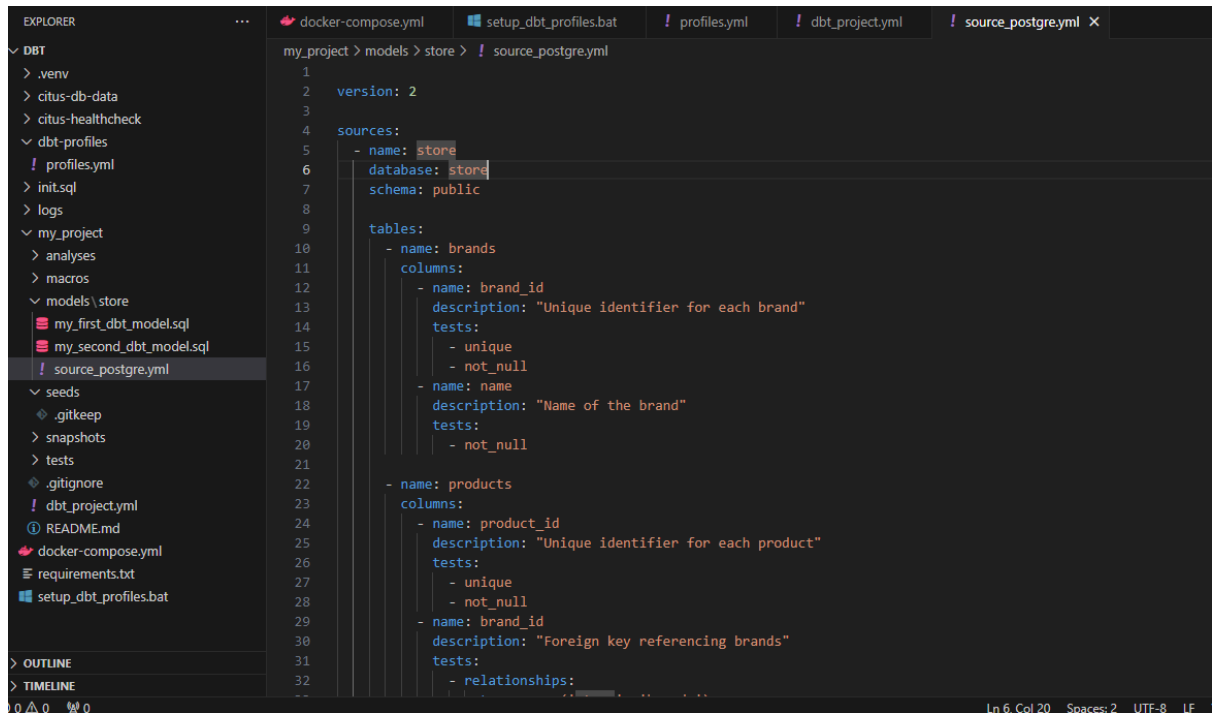
9. Set dbt_project.yml.



The screenshot shows a VS Code editor with four tabs: 'docker-compose.yml', 'setup_dbt_profiles.bat', 'profiles.yml', and 'dbt_project.yml'. The 'dbt_project.yml' tab is active, showing a terminal window with the following content:

```
my_project > ! dbt_project.yml
27  # Configuring models
28  # Full documentation: https://docs.getdbt.com/docs/configuring-models
29
30  # In this example config, we tell dbt to build all models in the example/
31  # directory as views. These settings can be overridden in the individual model
32  # files using the `{{ config(...) }}` macro.
33  models:
34    my_project:
35      # Config indicated by + and applies to all files under models/example/
36      store:
37        +materialized: table
38        +schema: public
39        +database: store
40      store_analytics:
41        +materialized: table
42        +schema: analytics
43        +database: store
```

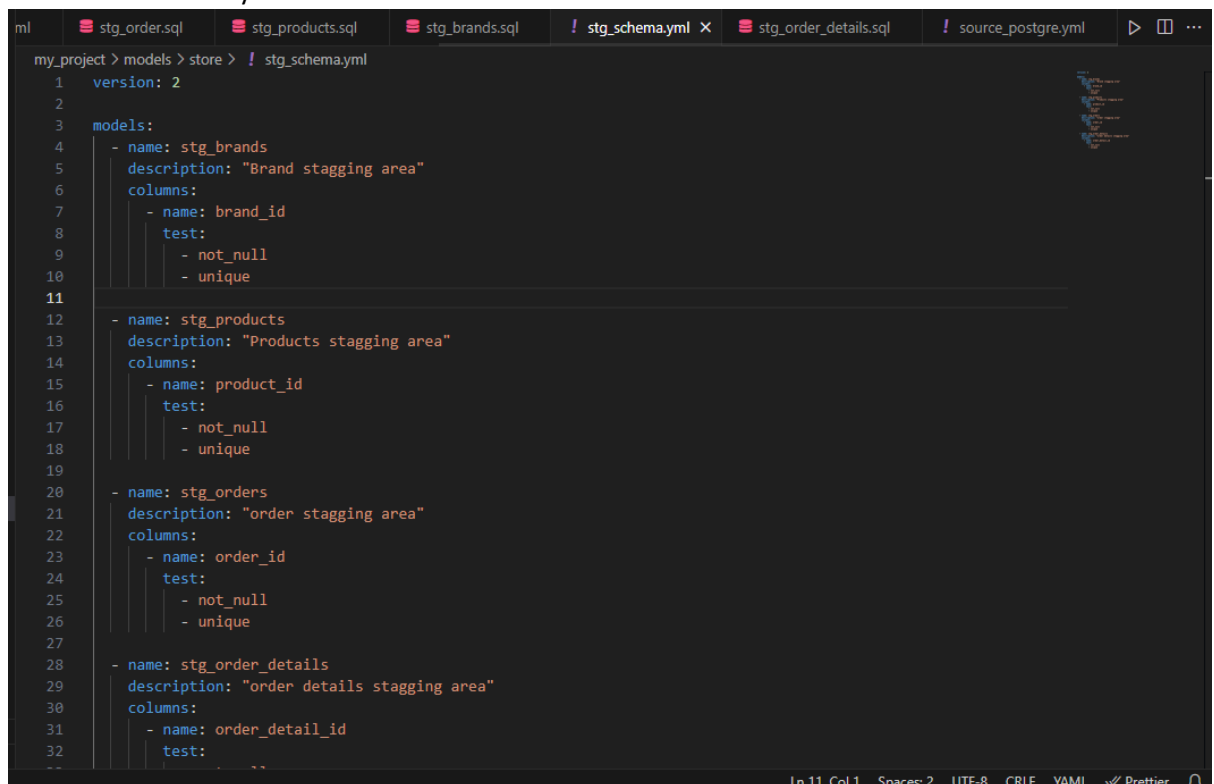
10. Mendefinisikan Sumber



```
1 version: 2
2
3
4 sources:
5   - name: store
6     database: store
7     schema: public
8
9   tables:
10    - name: brands
11      columns:
12        - name: brand_id
13          description: "Unique identifier for each brand"
14          tests:
15            - unique
16            - not_null
17        - name: name
18          description: "Name of the brand"
19          tests:
20            - not_null
21
22    - name: products
23      columns:
24        - name: product_id
25          description: "Unique identifier for each product"
26          tests:
27            - unique
28            - not_null
29        - name: brand_id
30          description: "Foreign key referencing brands"
31          tests:
32            - relationships:
```

11. Creating a Models

- Define the schema.yml



```
1 version: 2
2
3 models:
4   - name: stg_brands
5     description: "Brand staging area"
6     columns:
7       - name: brand_id
8         test:
9           - not_null
10           - unique
11
12   - name: stg_products
13     description: "Products staging area"
14     columns:
15       - name: product_id
16         test:
17           - not_null
18           - unique
19
20   - name: stg_orders
21     description: "order staging area"
22     columns:
23       - name: order_id
24         test:
25           - not_null
26           - unique
27
28   - name: stg_order_details
29     description: "order details staging area"
30     columns:
31       - name: order_detail_id
32         test:
```

- Define Stg.sql

```
my_project > models > store > stg_brands.sql
```

```
1  select
2    brand_id::int brand_id
3    , name as brand_name
4  from {{source('store','brands')}}
```

```
my_project > models > store > stg_order_details.sql
```

```
1  select
2    order_detail_id::int as order_detail_id
3    , order_id::int as order_id
4    , product_id:: int product_id
5    , quantity
6    , price
7  from {{ source('store','order_details')}}
```

```
my_project > models > store > stg_order.sql
```

```
1  select
2    order_id::int as order_id
3    , order_date::timestamp as order_date
4    , customer_phone
5  from {{ source('store','orders')}}
```

```
my_project > models > store > stg_products.sql
```

```
1  select
2    product_id::int as product_id
3    , brand_id::int as brand_id
4    , name as product_name
5    , price as product_price
6  from {{ source('store','products')}}
```

12. Lakukan dbt run

```
(.venv) C:\Users\User\Documents\DE_altera\dbt\my_project>dbt run
05:32:45 Running with dbt=1.7.13
05:32:46 Registered adapter: postgres=1.7.13
05:32:47 Found 17 tests, 6 models, 4 sources, 0 exposures, 0 metrics, 401 macros, 0 groups, 0 semantic models
05:32:47
05:32:48 Concurrency: 1 threads (target='dev')
05:32:48
05:32:48 1 of 6 START sql table model public_public.stg_brands ..... [RUN]
05:32:49 1 of 6 OK created sql table model public_public.stg_brands ..... [SELECT 3 in 0.80s]
05:32:49 2 of 6 START sql table model public_public.stg_order_details ..... [RUN]
05:32:49 2 of 6 OK created sql table model public_public.stg_order_details ..... [SELECT 435 in 0.23s]
05:32:49 3 of 6 START sql table model public_public.stg_orders ..... [RUN]
05:32:50 3 of 6 OK created sql table model public_public.stg_orders ..... [SELECT 435 in 0.22s]
05:32:50 4 of 6 START sql table model public_public.stg_products ..... [RUN]
05:32:50 4 of 6 OK created sql table model public_public.stg_products ..... [SELECT 4 in 0.24s]
05:32:50 5 of 6 START sql table model public_analytics.int_order_task2 ..... [RUN]
05:32:50 5 of 6 OK created sql table model public_analytics.int_order_task2 ..... [SELECT 435 in 0.35s]
05:32:50 6 of 6 START sql table model public_analytics.int_products ..... [RUN]
05:32:51 6 of 6 OK created sql table model public_analytics.int_products ..... [SELECT 4 in 0.26s]
05:32:51
05:32:51 Finished running 6 table models in 0 hours 0 minutes and 3.56 seconds (3.56s).
05:32:51
05:32:51 Completed successfully
05:32:51
05:32:51 Done. PASS=6 WARN=0 ERROR=0 SKIP=0 TOTAL=6

(.venv) C:\Users\User\Documents\DE_altera\dbt\my_project>
```

13. Lakukan dbt test

```
(.venv) C:\Users\User\Documents\DE_altera\dbt\my_project>dbt test
05:35:04 Running with dbt=1.7.13
05:35:05 Registered adapter: postgres=1.7.13
05:35:05 Found 17 tests, 6 models, 4 sources, 0 exposures, 0 metrics, 401 macros, 0 groups, 0 semantic models
05:35:05
05:35:06 Concurrency: 1 threads (target='dev')
05:35:06
05:35:06 1 of 17 START test source_not_null_store_brands_brand_id ..... [RUN]
05:35:06 1 of 17 PASS source_not_null_store_brands_brand_id ..... [PASS in 0.25s]
05:35:06 2 of 17 START test source_not_null_store_brands_name ..... [RUN]
05:35:06 2 of 17 PASS source_not_null_store_brands_name ..... [PASS in 0.21s]
05:35:06 3 of 17 START test source_not_null_store_order_details_order_detail_id ..... [RUN]
05:35:06 3 of 17 PASS source_not_null_store_order_details_order_detail_id ..... [PASS in 0.17s]
05:35:06 4 of 17 START test source_not_null_store_order_details_price ..... [RUN]
05:35:07 4 of 17 PASS source_not_null_store_order_details_price ..... [PASS in 0.17s]
05:35:07 5 of 17 START test source_not_null_store_order_details_quantity ..... [RUN]
05:35:07 5 of 17 PASS source_not_null_store_order_details_quantity ..... [PASS in 0.22s]
05:35:07 6 of 17 START test source_not_null_store_orders_order_date ..... [RUN]
05:35:07 6 of 17 PASS source_not_null_store_orders_order_date ..... [PASS in 0.23s]
05:35:07 7 of 17 START test source_not_null_store_orders_order_id ..... [RUN]
05:35:07 7 of 17 PASS source_not_null_store_orders_order_id ..... [PASS in 0.23s]
05:35:07 8 of 17 START test source_not_null_store_products_name ..... [RUN]
05:35:08 8 of 17 PASS source_not_null_store_products_name ..... [PASS in 0.28s]
05:35:08 9 of 17 START test source_not_null_store_products_price ..... [RUN]
05:35:08 9 of 17 PASS source_not_null_store_products_price ..... [PASS in 0.20s]
05:35:08 10 of 17 START test source_not_null_store_products_product_id ..... [RUN]
05:35:08 10 of 17 PASS source_not_null_store_products_product_id ..... [PASS in 0.19s]
05:35:08 11 of 17 START test source_relationships_store_order_details_order_id_order_id_source_store_orders_ [RUN]
05:35:08 11 of 17 PASS source_relationships_store_order_details_order_id_order_id_source_store_orders_ [PASS in 0.20s]
```