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**SECTION:** F

## **LAB- 3(FDE)**

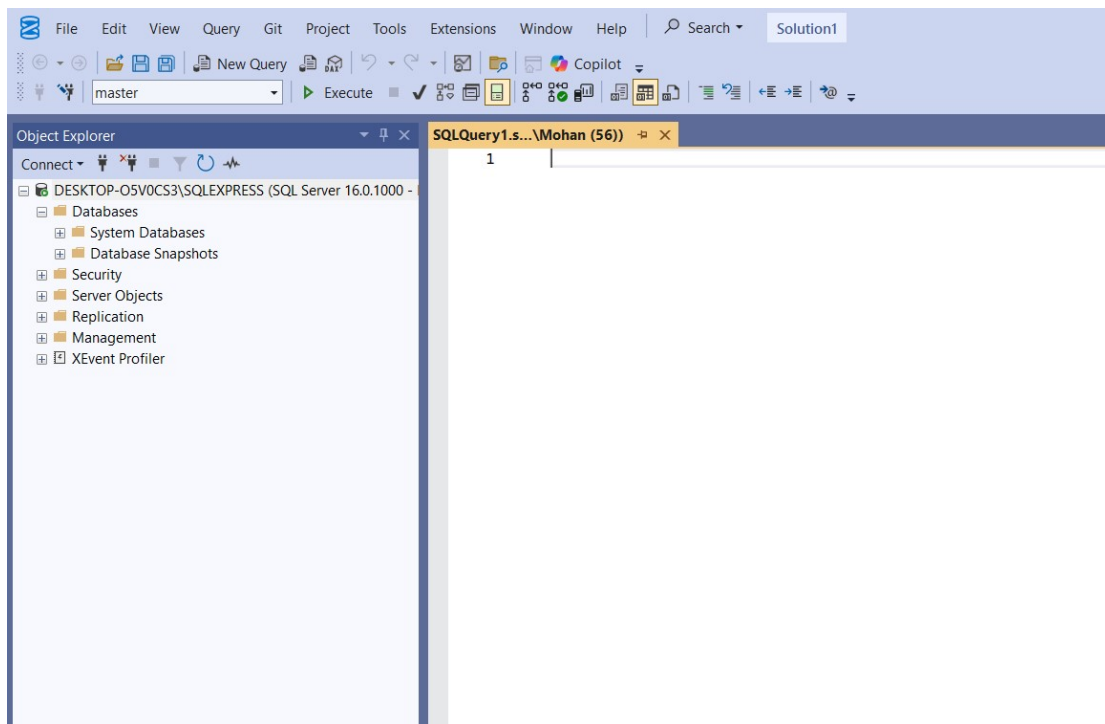
### **1. Install the following software :**

SQL Server Express + SQL Server Management Studio (SSMS)

- Links: [SQL Server Downloads](#)
- Install SQL Server Express with default settings.
- Install SSMS to manage the database.

AdventureWorks Sample Database

- Use the link: AdventureWorks Installation
- Make sure it's installed in your SQL Server.



## PostgreSQL

Download & install: [PostgreSQL Downloads](#)

- Default password: 12345 (you can use demopass for your ETL role as in your code).
- Also install pgAdmin (optional but helps to visualize database).

## Python environment

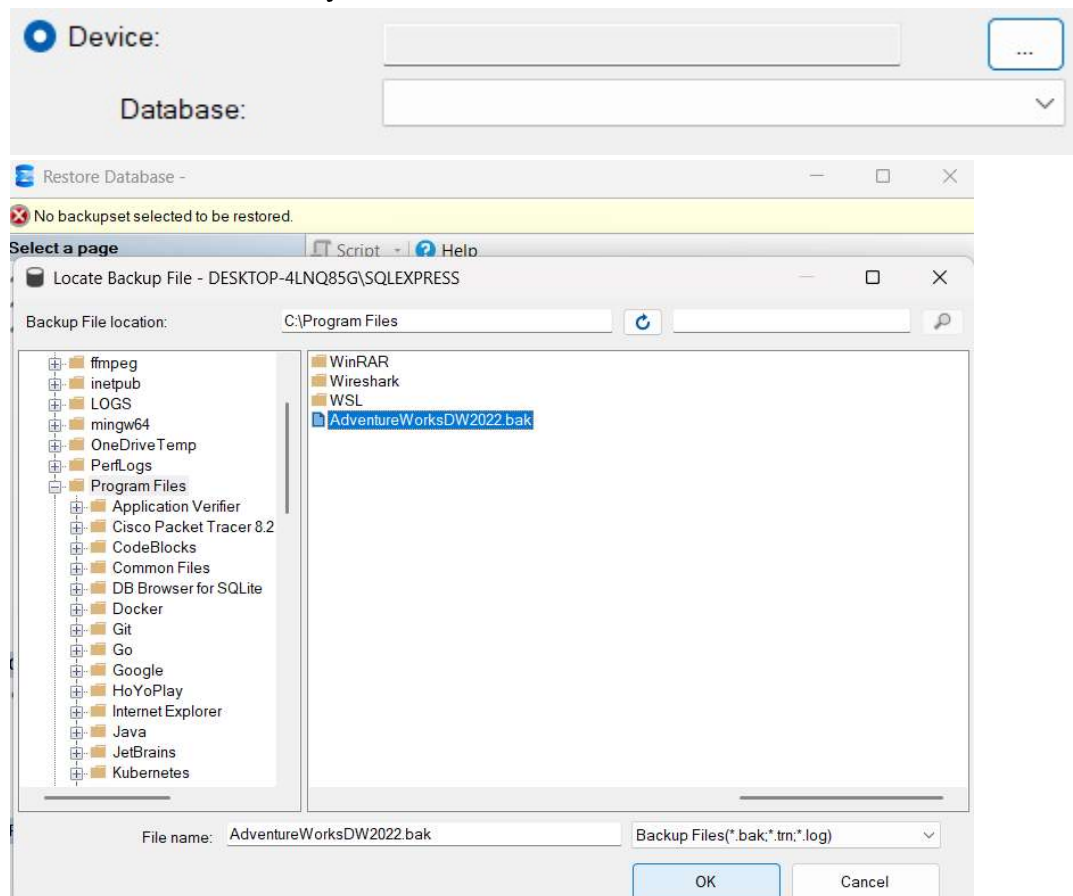
- Make sure you have Python 3.9+, pandas, sqlalchemy, and psycopg2 installed.
- Install via pip

## ODBC Driver for SQL Server

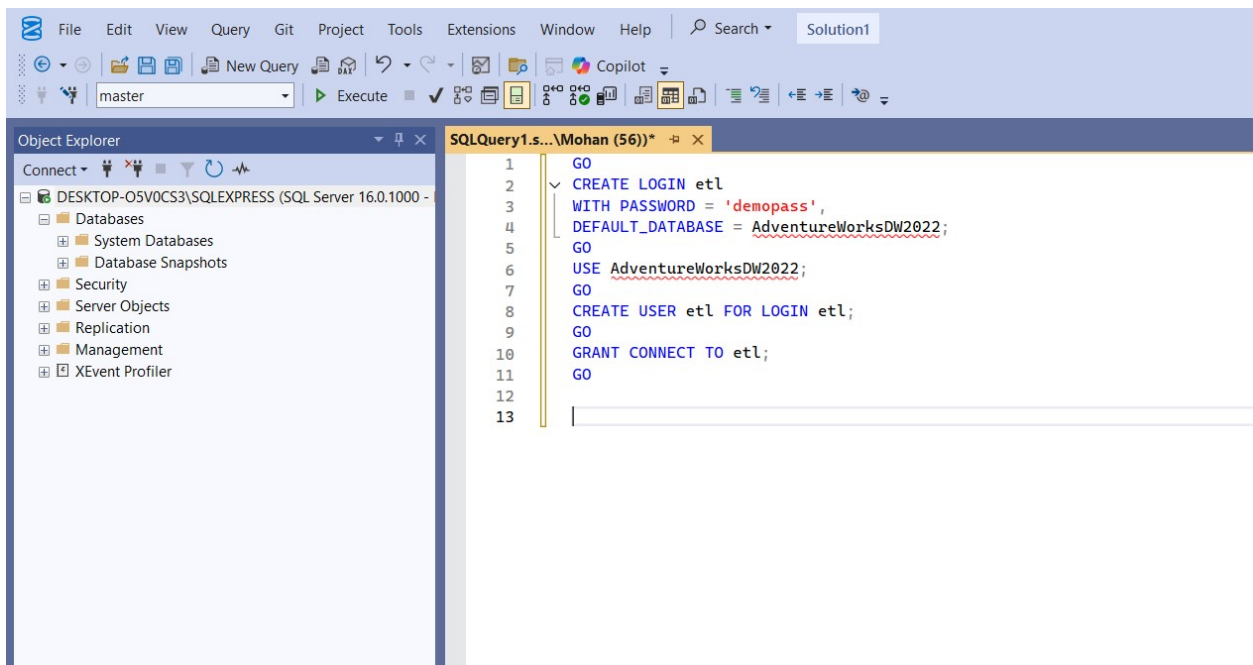
- Download [ODBC Driver 17](#)

## 2. Open SSMS( Through Visual Studio):

1. Connect to the sql server that you downloaded(usually ends with \SQLEXPRESS)
2. After connecting, Databases->restore databases->device, click on the three dots and click on add, then select your adventureworks.bak file.



- Now open 'New Query' and run the following code:  
USE master;  
GO  
CREATE LOGIN etl  
WITH PASSWORD = 'demopass',  
DEFAULT\_DATABASE = AdventureWorksDW2022;  
GO  
USE AdventureWorksDW2022;  
GO  
CREATE USER etl FOR LOGIN etl;  
GO  
GRANT CONNECT TO etl;  
GO



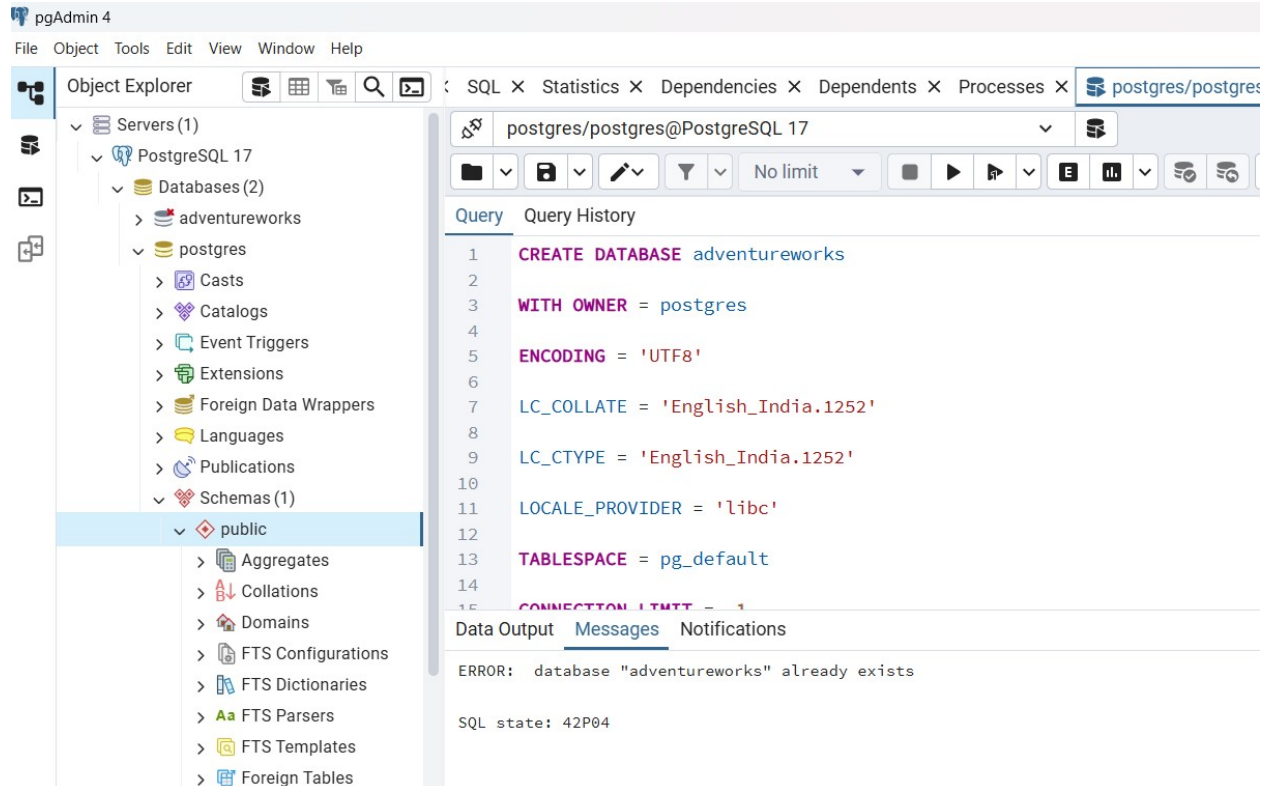
### 3.Open PGADMIN4:

- Click on 'Databases' -> Create -> Database -> name it 'adventureworks' -> save
- Open Query Tool and run the following code :  
-- Creating the Role and Granting the privileges  
CREATE ROLE etl WITH  
LOGIN  
PASSWORD 'demopass';  
GRANT ALL PRIVILEGES ON DATABASE adventureworks TO etl;  
  
-- Run this while connected to adventureworks

```

GRANT USAGE, CREATE ON SCHEMA public TO etl;
GRANT ALL PRIVILEGES ON ALL TABLES IN SCHEMA public TO etl;
GRANT ALL PRIVILEGES ON ALL SEQUENCES IN SCHEMA public TO
etl;
ALTER DEFAULT PRIVILEGES IN SCHEMA public
GRANT ALL PRIVILEGES ON TABLES TO etl;
ALTER DEFAULT PRIVILEGES IN SCHEMA public
GRANT ALL PRIVILEGES ON SEQUENCES TO etl;

```



## 4. Open cmd:

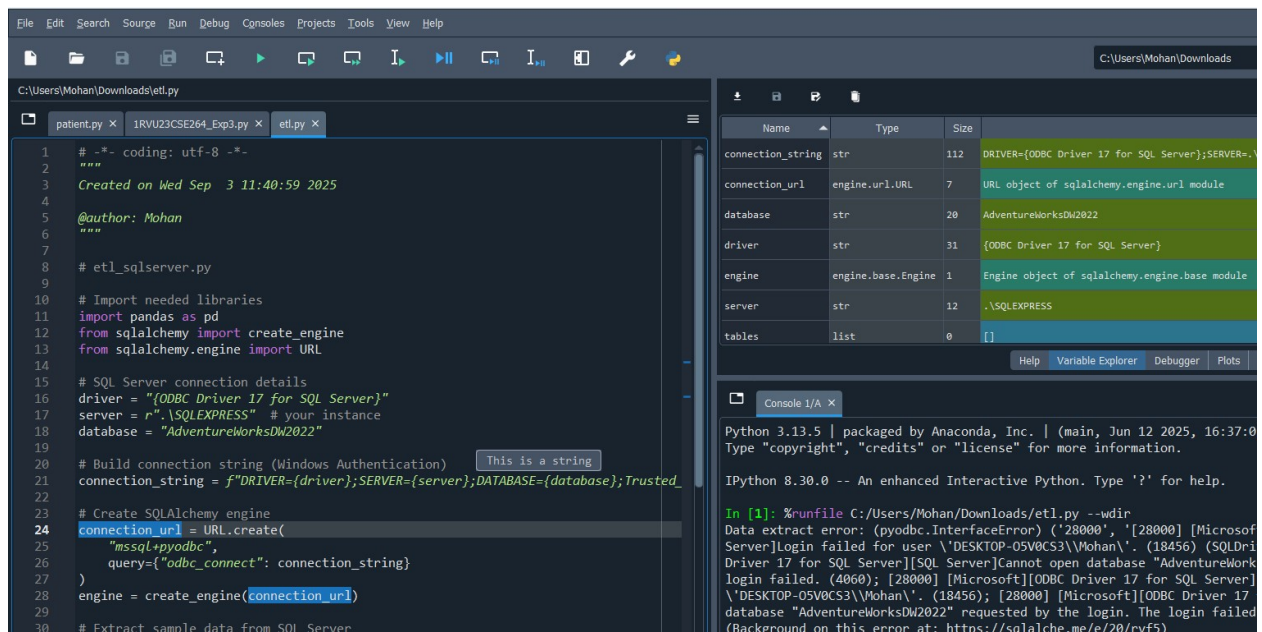
1. Run the following code to install dependencies:  

```
pip install psycopg2-binary pandas sqlalchemy pyodbc
```

## 5. Running Python Script:

In the python script, on line 10, '**server = r".\SQLEXPRESS" # your instance**', you need to replace it with your SQL server name. For eg: if you sql server name is **DESKTOP-4LNQ85G\SQLEXPRESS** then your line of code will be: **server = r"DESKTOP-4LNQ85G\SQLEXPRESS"**. **THIS IS THE SAME SERVER THAT YOU CONNECTED TO SSMS.**

Now run the script and you should see the output in the terminal.



## 6. OUTPUT

Open PgAdmin->Databases->adventureworks->schemas->public->tables-> right click on any one(stg\_dimproduct

stg\_dimproductcategory

stg\_dimproductsubcategory

stg\_dimsalesterritory

stg\_factinternetsales) ->View and Edit-> Take an ss and submit

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Databases (2)
  - adventureworks
    - Casts
    - Catalogs
    - Event Triggers
    - Extensions
    - Foreign Data Wrappers
    - Languages
    - Publications
    - Schemas (1)
      - public
        - Aggregates
        - Collations
        - Domains
        - FTS Configurations
        - FTS Dictionaries
        - FTS Parsers
        - FTS Templates
        - Foreign Tables
        - Functions
        - Materialized Views
        - Operators
        - Procedures
        - Sequences
        - Tables (5)
          - stg\_DimProduct
          - stg\_DimProductCate
          - stg\_DimProductSubc
          - stg\_DimSalesTerritor
          - stg\_FactInternetSale

public.stg\_DimProduct/adventureworks/postgre

No limit

Data Output Messages Notifications

	ProductKey bigint		ProductAlternateKey text		ProductSubca double preci
1		1	AR-5381		
2		2	BA-8327		
3		3	BE-2349		
4		4	BE-2908		
5		5	BL-2036		
6		6	CA-5965		
7		7	CA-6738		
8		8	CA-7457		
9		9	CB-2903		
10		10	CN-6137		
11		11	CR-7833		
12		12	CR-9981		
13		13	CS-2812		
14		14	DC-8732		
15		15	DC-9824		
16		16	DT-2377		
17		17	EC-M092		
18		18	EC-R098		
19		19	EC-T209		
20		20	FE-3760		
21		21	FH-2981		