

# LAB1B: CONNECTING AND RETRIEVING DATA FROM SQL SERVER

## code explain

Used pyodbc to connect and execute query on database. Data given in

AdventureWorks2019.bak . Used pandas to save queried data to dataframe and csv file.

Data joined by key AddressID .

```
In [2]: import pandas as pd
import pyodbc
```

```
In [5]: server = 'MINHLAP\SQLEXPRESS'
conn = pyodbc.connect('DRIVER={SQL Server};SERVER='+server+';DATABASE=AdventureWork
cursor = conn.cursor()

# query data từ preson.EmailAddress, preson.BusinessEntityAddress, và preson.Address
cursor.execute('''
    SELECT a.AddressID,
           e.EmailAddress,
           a.AddressLine1,
           a.AddressLine2,
           a.StateProvinceID,
           a.City,
           a.PostalCode,
           a.SpatialLocation,
           a.rowguid,
           a.ModifiedDate
    FROM Person.EmailAddress as e
    JOIN Person.BusinessEntityAddress as bea
        ON e.BusinessEntityID = bea.BusinessEntityID
    JOIN Person.Address as a
        ON bea.AddressID = a.AddressID
''')
# Lưu tất cả data vào dataframe
rows = cursor.fetchall()

columns = [column[0] for column in cursor.description]

df = pd.DataFrame.from_records(rows, columns=columns)

df
```

```
<>:1: SyntaxWarning: invalid escape sequence '\S'
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C:\Users\quang\AppData\Local\Temp\ipykernel_9332\3704467224.py:1: SyntaxWarning: invalid escape sequence '\S'
    server = 'MINHLAP\SQLEXPRESS'
```

Out[5]:

	AddressID	EmailAddress	AddressLine1	AddressLine2	StateProvinceID	
0	1	thierry0@adventure-works.com	1970 Napa Ct.	None	79	
1	2	vamsi0@adventure-works.com	9833 Mt. Dias Blv.	None	79	
2	3	syed0@adventure-works.com	7484 Roundtree Drive	None	79	
3	4	mikael0@adventure-works.com	9539 Glenside Dr	None	79	
4	5	kim0@adventure-works.com	1226 Shoe St.	None	79	
...	...	...	...	...	...	
18793	32517	ryan0@adventure-works.com	177 11th Ave	None	79	Samir
18794	32518	sairaj0@adventure-works.com	8040 Hill Ct	None	79	Re
18795	32519	barbara1@adventure-works.com	137 Mazatlan	None	79	
18796	32520	dan1@adventure-works.com	5863 Sierra	None	79	E
18797	32521	barbara0@adventure-works.com	7145 Matchstick Drive	None	79	Samir

18798 rows × 10 columns



```
In [6]: # Lưu thành file csv  
df.to_csv('persondata.csv', index=True)
```