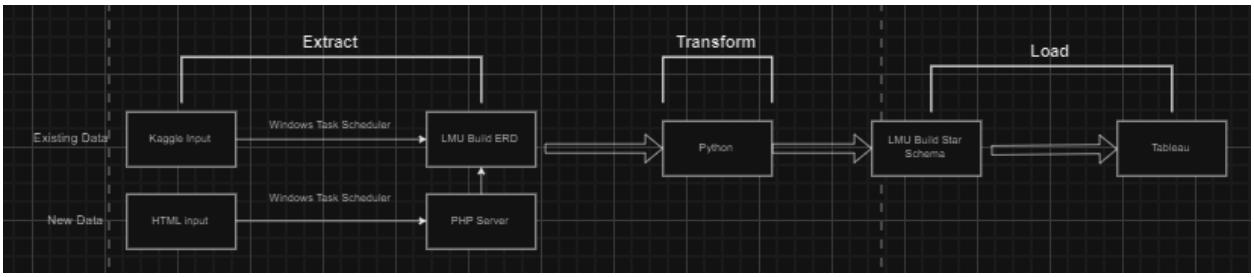
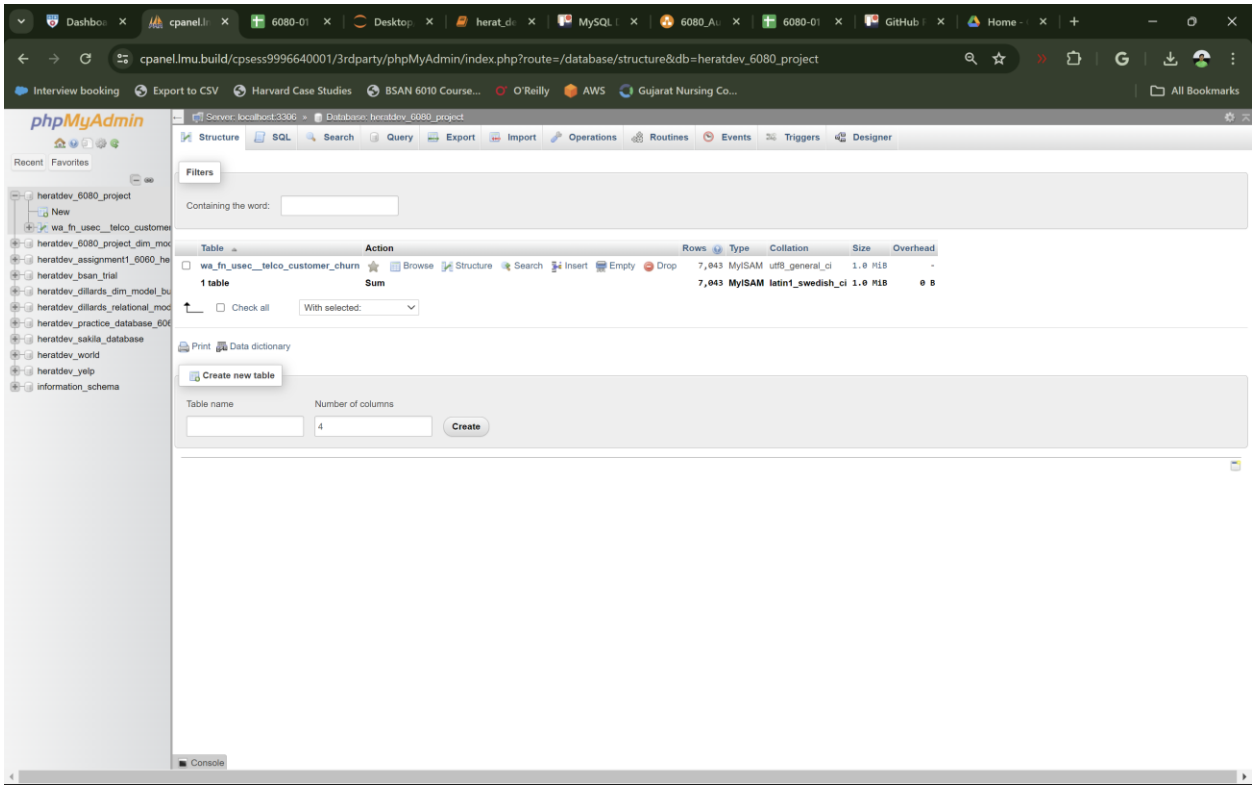
Automated ETL Pipeline:



1. **Extract:**

- There are 2 data sources, one is the existing data from Kaggle and the other is from a HTML format.
- The data from Kaggle goes directly into the LMU Build database and here are it's login credentials:

- Here are the connection details to our LMU Build for existing data:
- Hostname: heratdevisha.lmu.build
  Username: heratdev_6080
  Password: $HEMAproject
  Schema: heratdevisha_6080_project
  Port: 3306



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- We don't have an HTML form but if we are inputting new data then we can create the form and have the data host in an PHP server and then transfer it into the LMU build.

2. Transform:

- We made the connection into Python and then made our Star-Schema in it, here is a python and MySQL snippet.

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dim_model

Don't Limit

```
1  CREATE TABLE DimCustomer (
2      CustomerID varchar(10) NOT NULL,
3      Gender varchar(6),
4      SeniorCitizen int(1),
5      Partner varchar(3),
6      Dependents varchar(3),
7      Tenure int(2),
8      PRIMARY KEY (CustomerID)
9  );
10
11 CREATE TABLE FactChargesAndChurn (
12     CustomerID varchar(10) NOT NULL,
13     MonthlyCharges decimal(5,2),
14     TotalCharges varchar(6),
15     Churn varchar(3),
16     PRIMARY KEY (CustomerID),
17     FOREIGN KEY (CustomerID) REFERENCES DimCustomer(CustomerID)
18 );
19
20 select * FROM DimCustomer;
21 select * from FactChargesAndChurn;
```

```
In [13]: dim_customer_df = df_master_table[['customerID', 'gender', 'SeniorCitizen', 'Partner', 'Dependents', 'tenure']].copy()

In [14]: dim_customer_df
```

Out[14]:

	customerID	gender	SeniorCitizen	Partner	Dependents	tenure
0	7590-VHVEG	Female	0	Yes	No	1
1	5575-GNVDE	Male	0	No	No	34
2	3668-QPYBK	Male	0	No	No	2
3	7795-CFOCW	Male	0	No	No	45
4	9237-HQITU	Female	0	No	No	2
...	...	...	...	...	...	...
7038	6840-RESVB	Male	0	Yes	Yes	24
7039	2234-XADUH	Female	0	Yes	Yes	72
7040	4801-JZAZL	Female	0	Yes	Yes	11
7041	8361-LTMKD	Male	1	Yes	No	4
7042	3186-AJIEK	Male	0	No	No	66

```
In [15]: fact_charges_and_churn_df = df_master_table[['customerID', 'MonthlyCharges', 'TotalCharges', 'Churn']].copy()

In [17]: fact_charges_and_churn_df
```

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3. Load:

- Then we make the connection to our Dim_Model schema for loading the tables in our Star Schema database in LMU Build. Here are the login credentials:
- Hostname: heratdevisha.lmu.build
  Username: heratdev_admin
  Password: $2608HBdevisha

Schema: heratdevisha_6080_project
Port: 3306

- Here is a python snippet for loading the tables:

```
In [18]:
# Setting the login credentials for dimenstion modelb

MYSQL_HOST1 = 'heratdevisha.lmu.build'
MYSQL_USER1 = 'heratdev_admin'
MYSQL_PASSWORD1 = '$2608HBdevisha'
MYSQL_DB1 = 'heratdev_6080_project_dim_model'

lmubuildengine1 = create_engine(f'mysql+mysqlconnector://{MYSQL_USER1}:{MYSQL_PASSWORD1}@{MYSQL_HOST1}/{MYSQL_DB1}')
```

```
In [19]:
# Upload the DataFrame to the MySQL database
dim_customer_df.to_sql('DimCustomer', con=lmubuildengine1, if_exists='append', index=False)
```

```
Out[19]: 7043
```

```
In [20]:
# Upload the DataFrame to the MySQL database
fact_charges_and_churn_df.to_sql('FactChargesAndChurn', con=lmubuildengine1, if_exists='append', index=False)
```

```
Out[20]: 7043
```

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- Lastly we make our Tableau Dashboards by connecting to the Dim_Model database.