**Deployment as Web Service in Azure Cloud**

The best model chosen after hyperparameter tuning i.e XGBoost model is saved as .pkl file. Then two functions init() and run functions is developed to load and run the saved pickle model file.

Steps Involved:

Step 1: Create a resource group in Azure Machine module.

Step 2: Register the model using the register menu and upload the picke file of

the model in Lauch studio dialog box

Step 3: Give a name to the model, and upload scripts with init() and run() function

Step 4: Also upload the conda\_dependencies.yaml file with information of

necessary package and library.

Step 5: Click Ok button and wait for the deployment for 10 minutes.

Step 6: Then get the url of the web service and access the model in jupyter

notebook.

Code used:

import xgboost as xg

import sklearn

import pickle

from sklearn.feature\_extraction import DictVectorizer

import json

import flask

from flask import jsonify

from azureml.core import Model

dv = DictVectorizer(sparse=False)

input\_file2='dvf.bin'

with open(input\_file2,'rb') as f\_inn:

    dv=pickle.load(f\_inn)

dv

xg\_model=xg.Booster()

def init():

    global model

    model\_name="airlineticketprice"

    path=Model.get\_model\_path(model\_name)

    model=xg\_model.load\_model(path)

def run(data):

    try:

        data=json.loads(data)

        X=dv.transform([data])

        predd=model.predict(xg.DMatrix(X))

        result={

        'Airline Ticket Price':float(predd)}

        return jsonify(result)

    except Exception as er:

        error=str(er)

        return{'data':error,'message':'Failed to predict'}