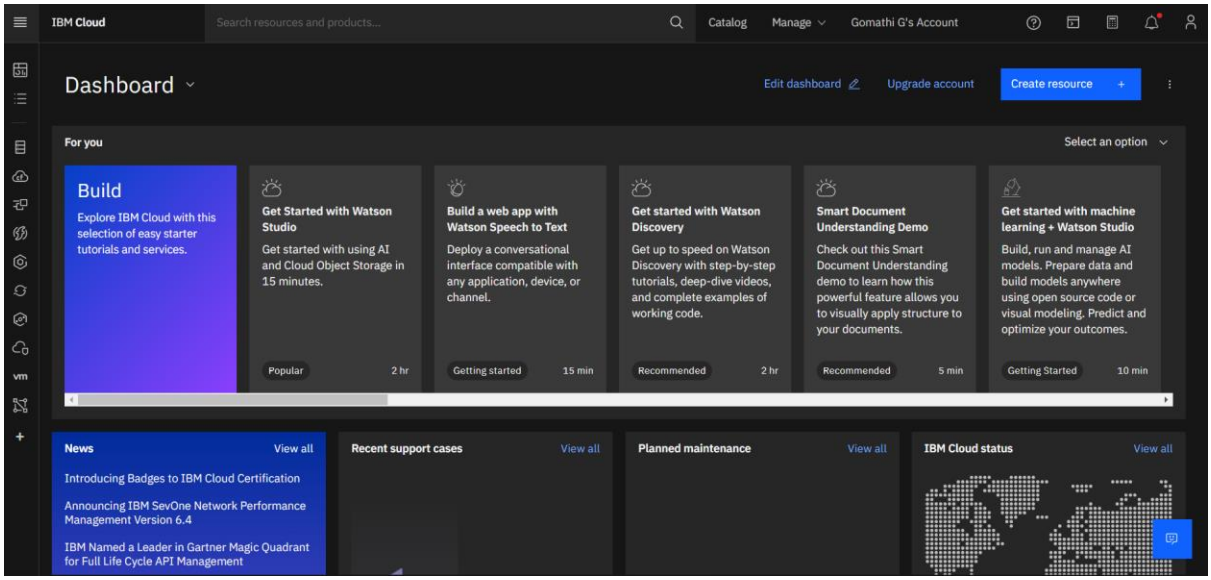
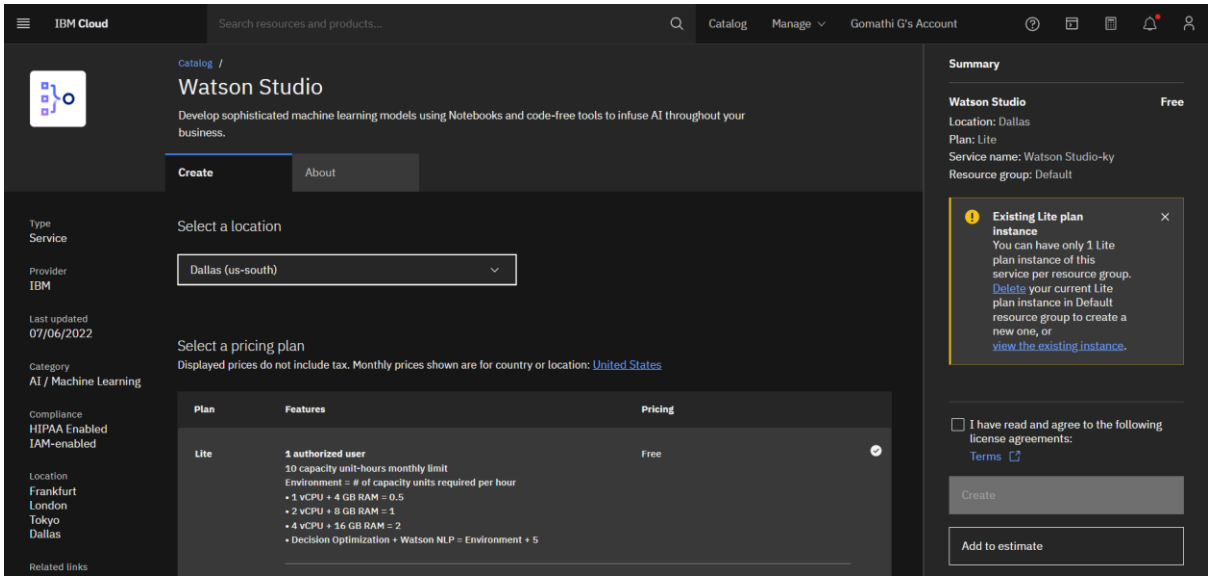
Sprint 4

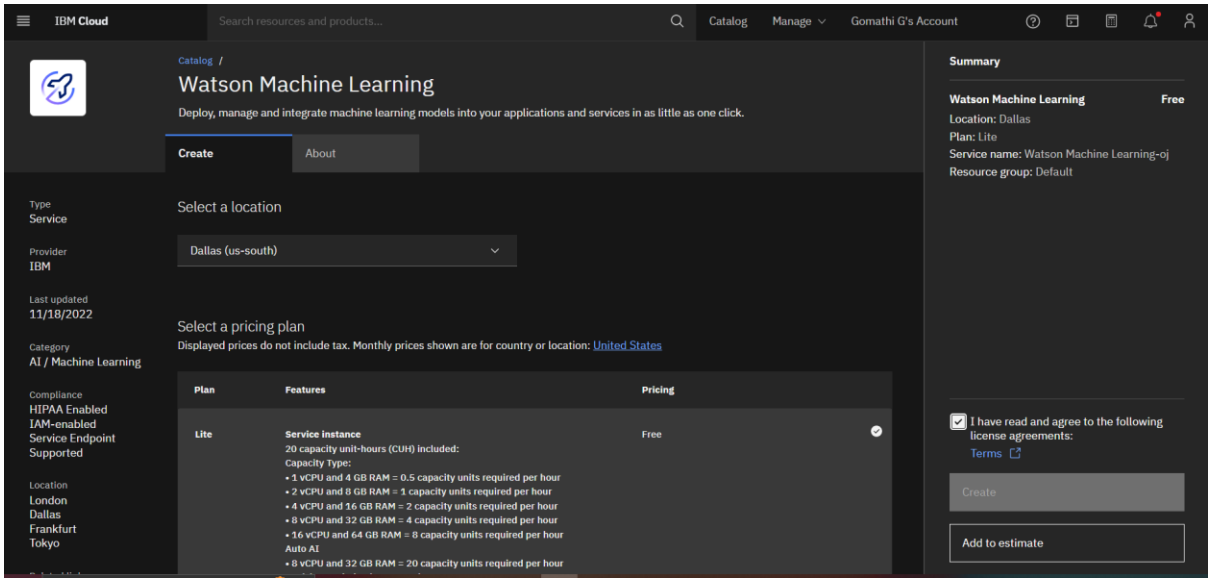
Train Machine Learning Model on IBM Watson

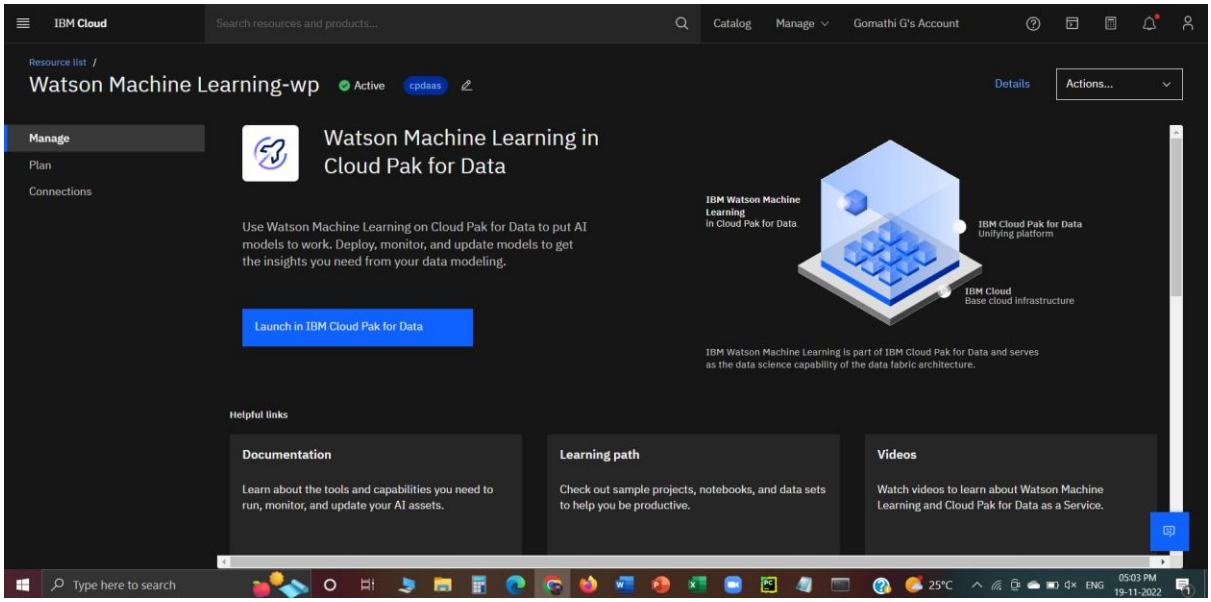
Date	19 November 2022
Team ID	PNT2022TMID21492
Project Name	University Admit Eligibility Predictor

1)Creating IBM account and setting up Watson Studio

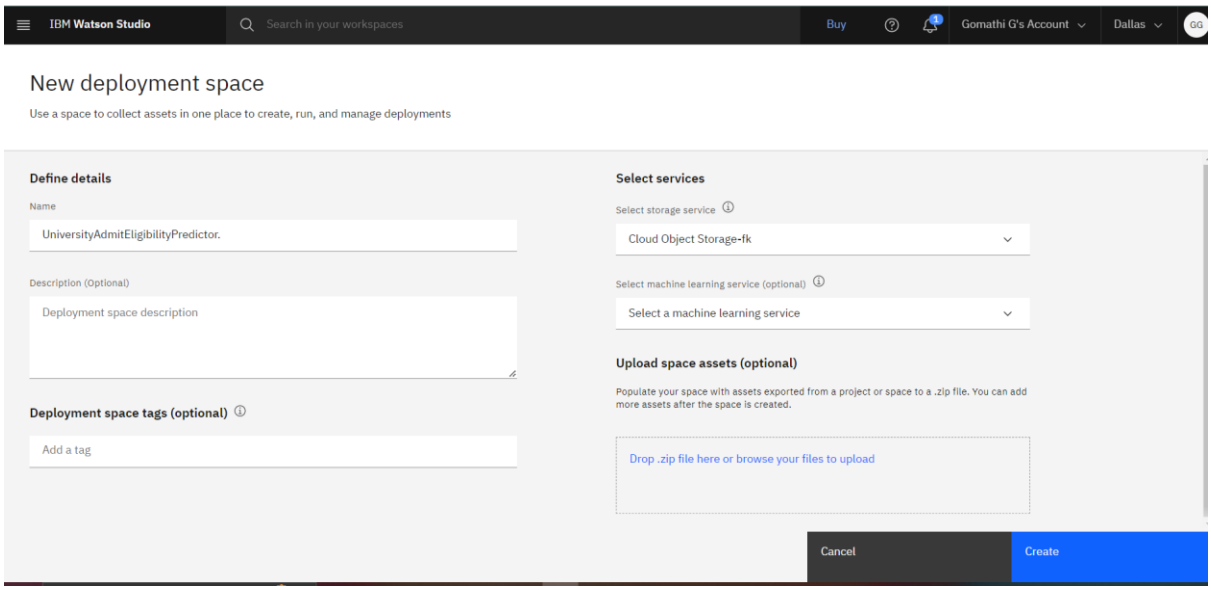


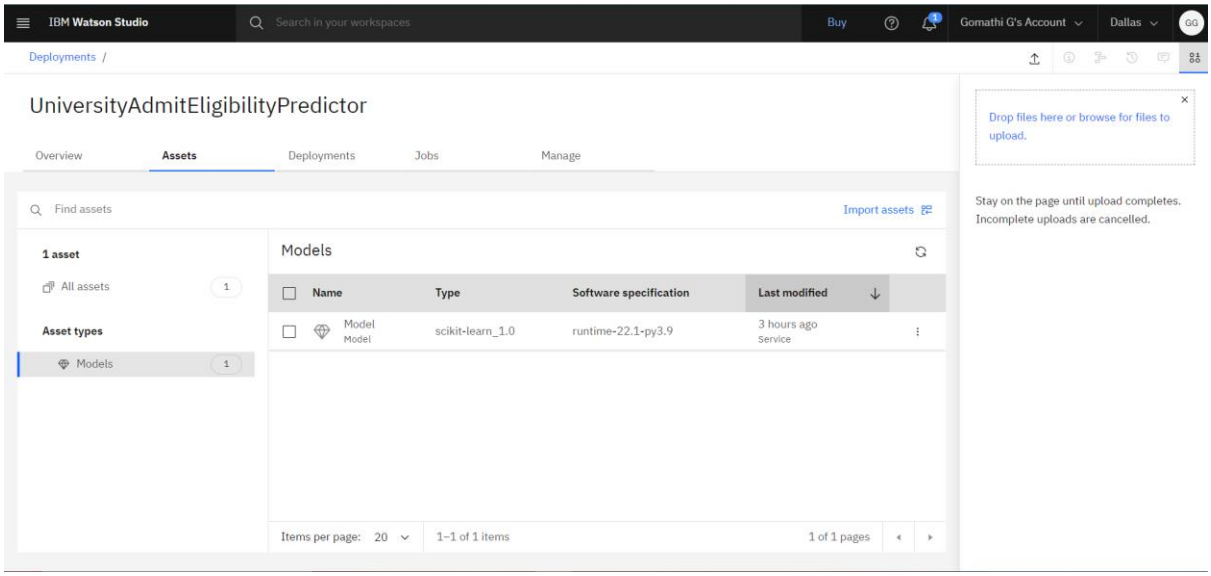


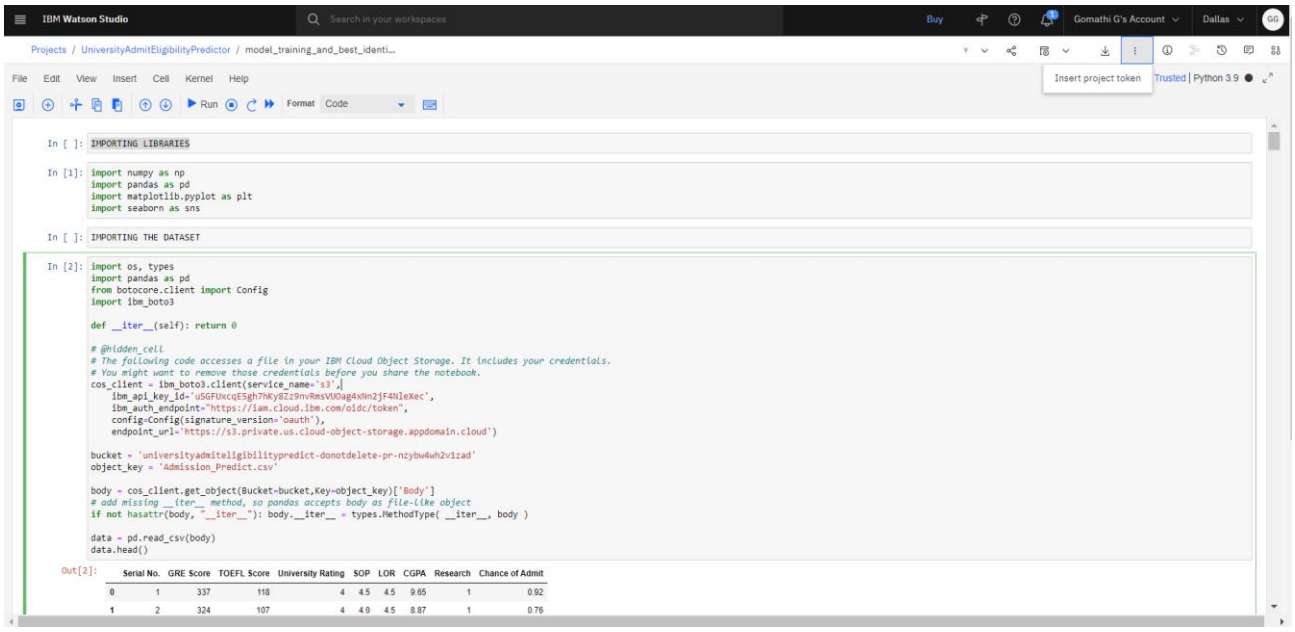


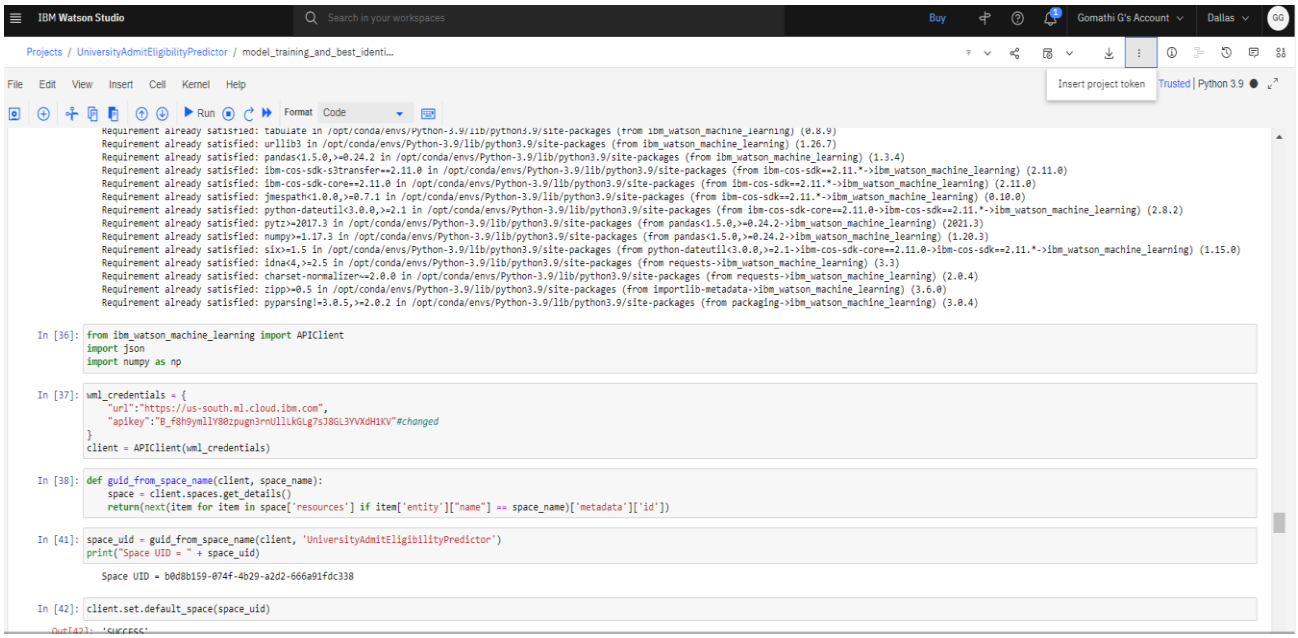


2)Creating a project for the deployment and importing assets




IBM Watson Studio
Search in your workspaces
Buy
Gomathi G's Account
Dallas
Deployments /
UniversityAdmitEligibilityPredictor
Overview
Assets
Deployments
Jobs
Manage
Find assets
Import assets
1 asset
All assets 1
Asset types
Models 1
Models
Name
Type
Software specification
Last modified
Model
Model
scikit-learn_1.0
runtime-22.1-py3.9
3 hours ago
Service
Items per page: 20
1–1 of 1 items
1 of 1 pages
Drop files here or browse for files to upload.
Stay on the page until upload completes.
Incomplete uploads are cancelled.


IBM Watson Studio
Projects / UniversityAdmitEligibilityPredictor / model_training_and_best_identi...
File Edit View Insert Cell Kernel Help
Run Format Code
Insert project token
Trusted | Python 3.9
In [ ]: IMPORTING LIBRARIES
In [1]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
In [ ]: IMPORTING THE DATASET
In [2]: import os, types
import pandas as pd
from botocore.client import Config
import ibm_boto3
def __iter__(self): return 0
# @hidden_cell
# The following code accesses a file in your IBM Cloud Object Storage. It includes your credentials.
# You might want to remove those credentials before you share the notebook.
cos_client = ibm_boto3.client(service_name='s3',
ibm_api_key_id='uSGFUxcqE5gh7hKy8Zz9nvRmsVUOag4xNn2jF4NleXec',
ibm_auth_endpoint="https://iam.cloud.ibm.com/oidc/token",
config=Config(signature_version='oauth'),
endpoint_url='https://s3.private.us.cloud-object-storage.appdomain.cloud')
bucket = 'universityadmiteligibilitypredict-donotdelete-pr-nzybw4wh2v1zad'
object_key = 'Admission_Predict.csv'
body = cos_client.get_object(Bucket=bucket,Key=object_key)['Body']
# add missing __iter__ method, so pandas accepts body as file-like object
if not hasattr(body, "__iter__"): body.__iter__ = types.MethodType(__iter__, body)
data = pd.read_csv(body)
data.head()
Out[2]:
Serial No. GRE Score TOEFL Score University Rating SOP LOR CGPA Research Chance of Admit
0 1 337 118 4 4.5 4.5 9.65 1 0.92
1 2 324 107 4 4.0 4.5 8.87 1 0.76


IBM Watson Studio
Projects / UniversityAdmitEligibilityPredictor / model_training_and_best_identi...
File Edit View Insert Cell Kernel Help
Run Format Code
Insert project token
Trusted | Python 3.9
Requirement already satisfied: tabulate in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (0.8.9)
Requirement already satisfied: urllib3 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (1.26.7)
Requirement already satisfied: pandas<1.5.0,>=0.24.2 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (1.3.4)
Requirement already satisfied: ibm-cos-sdk-s3transfer==2.11.0 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm-cos-sdk==2.11.*->ibm_watson_machine_learning) (2.11.0)
Requirement already satisfied: ibm-cos-sdk-core==2.11.0 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm-cos-sdk==2.11.*->ibm_watson_machine_learning) (2.11.0)
Requirement already satisfied: jmespath<1.0.0,>=0.7.1 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm-cos-sdk==2.11.*->ibm_watson_machine_learning) (0.10.0)
Requirement already satisfied: python-dateutil<3.0.0,>=2.1 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm-cos-sdk-core==2.11.0->ibm-cos-sdk==2.11.*->ibm_watson_machine_learning) (2.8.2)
Requirement already satisfied: pytz>=2017.3 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from pandas<1.5.0,>=0.24.2->ibm_watson_machine_learning) (2021.3)
Requirement already satisfied: numpy>=1.17.3 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from pandas<1.5.0,>=0.24.2->ibm_watson_machine_learning) (1.20.3)
Requirement already satisfied: six>=1.5 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from python-dateutil<3.0.0,>=2.1->ibm-cos-sdk-core==2.11.0->ibm-cos-sdk==2.11.*->ibm_watson_machine_learning) (1.15.0)
Requirement already satisfied: idna<4,>=2.5 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from requests->ibm_watson_machine_learning) (3.3)
Requirement already satisfied: charset-normalizer~=2.0.0 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from requests->ibm_watson_machine_learning) (2.0.4)
Requirement already satisfied: zipp>=0.5 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from importlib-metadata->ibm_watson_machine_learning) (3.6.0)
Requirement already satisfied: pyparsing!=3.0.5,>=2.0.2 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from packaging->ibm_watson_machine_learning) (3.0.4)
In [36]: from ibm_watson_machine_learning import APIClient
import json
import numpy as np
In [37]: wml_credentials = {
"url":"https://us-south.ml.cloud.ibm.com",
"apikey":"B_f8h9ym1lY80zpugn3rnUllLkGLg7sJ8GL3YVXdH1KV"#changed
}
client = APIClient(wml_credentials)
In [38]: def guid_from_space_name(client, space_name):
space = client.spaces.get_details()
return(next(item for item in space['resources'] if item['entity']["name"] == space_name)['metadata']['id'])
In [41]: space_uid = guid_from_space_name(client, 'UniversityAdmitEligibilityPredictor')
print("Space UID = " + space_uid)
Space UID = b0d8b159-074f-4b29-a2d2-666a91fdc338
In [42]: client.set.default_space(space_uid)
Out[42]: 'SUCCESS'

3)Deployment: