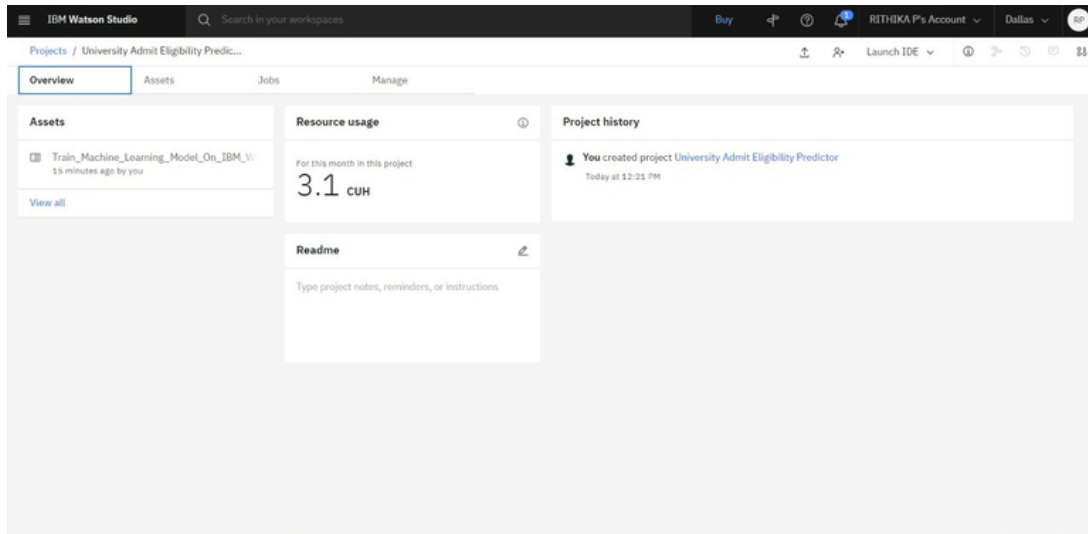


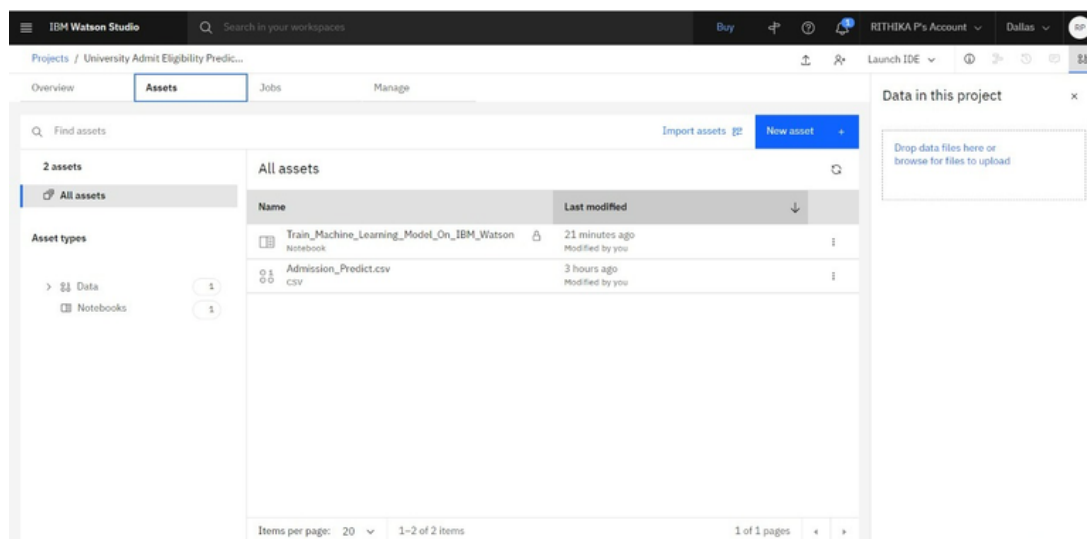
# TRAINING ML MODEL ON IBM WATSON UNIVERSITY ADMIT ELIGIBILITY PREDICTOR

Team ID : PNT2022TMID20988

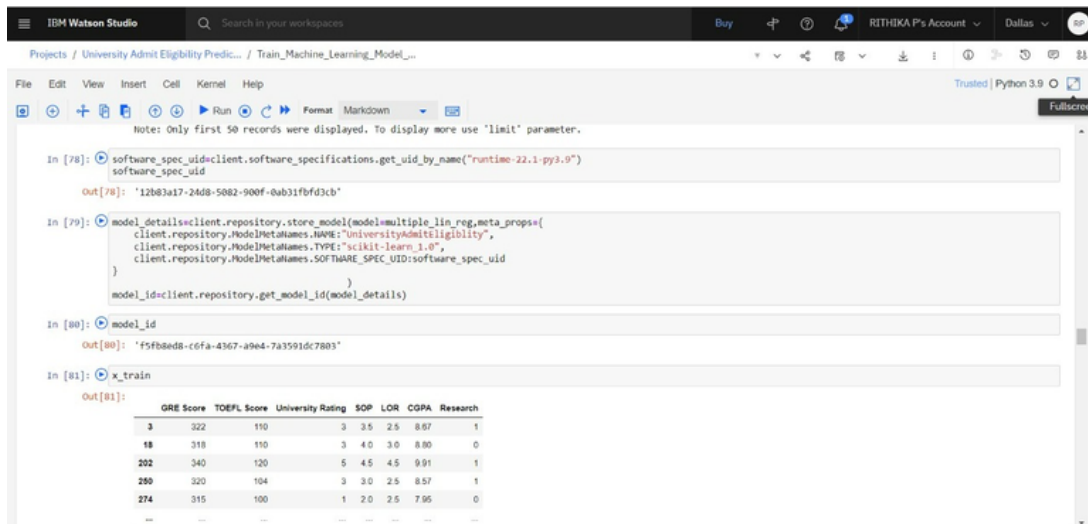
## 1.Setting up Watson studio for running Jupyter notebooks



## 2.Training and saving the model in IBM Machine learning service



### 3. Persisting the multiple linear regression model and deploying in IBM cloud



Note: Only first 50 records were displayed. To display more use 'limit' parameter.

```
In [78]: software_spec_uid=client.software_specifications.get_uid_by_name("runtime-22.1-py3.9")
software_spec_uid
Out[78]: '12b83a17-24d8-5082-900f-0ab31fbfd3cb'
```

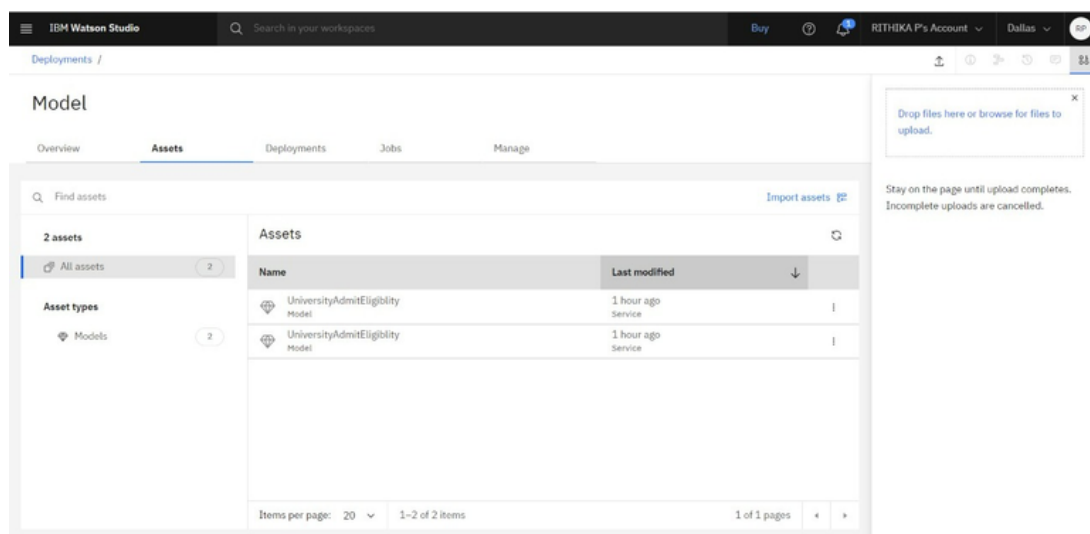
```
In [79]: model_details=client.repository.store_model(model=multiple_lin_reg,meta_props={
client.repository.ModelMetadata.NAME:"UniversityAdmitEligibility",
client.repository.ModelMetadata.TYPE:"scikit-learn-1.0",
client.repository.ModelMetadata.SOFTWARE_SPEC_UID:software_spec_uid
})
model_id=client.repository.get_model_id(model_details)
Out[79]: 'f5fb8ed8-c6fa-4367-a9e4-7a3591dc7803'
```

```
In [80]: model_id
Out[80]: 'f5fb8ed8-c6fa-4367-a9e4-7a3591dc7803'
```

```
In [81]: x_train
Out[81]:
```

	GRE Score	TOEFL Score	University Rating	SOP	LOR	CGPA	Research
3	322	110	3	3.5	2.5	8.87	1
18	318	110	3	4.0	3.0	8.80	0
202	340	120	5	4.5	4.5	9.91	1
250	320	104	3	3.0	2.5	8.57	1
274	315	100	1	2.0	2.5	7.95	0

### 4.Assets



Model

Overview **Assets** Deployments Jobs Manage

Find assets [Import assets](#)

2 assets

Asset types

- Models 2

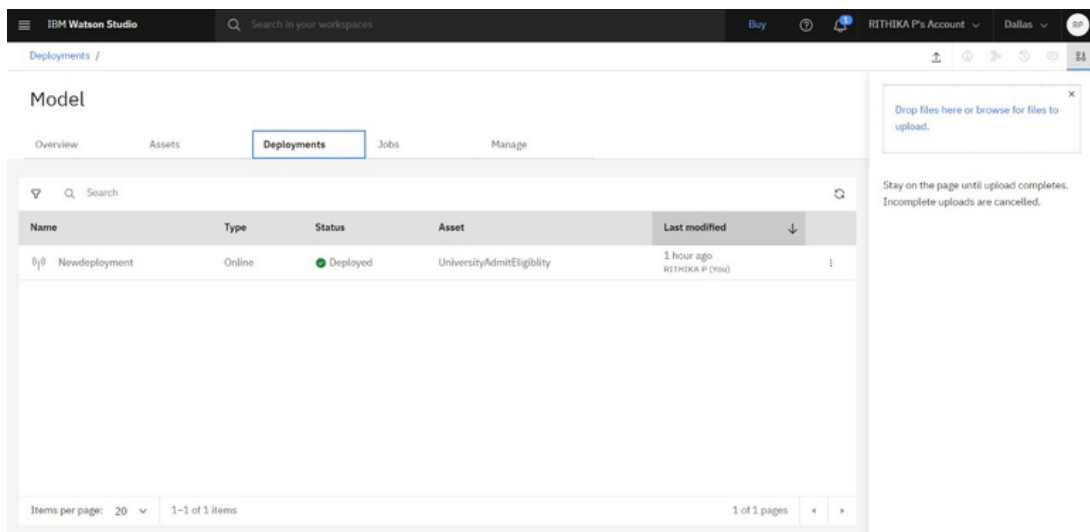
Name	Last modified
UniversityAdmitEligibility Model	1 hour ago Service
UniversityAdmitEligibility Model	1 hour ago Service

Items per page: 20 1-2 of 2 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.

## 5. Deployments



## 6. Testing the created model using API created for the deployed model

```
import requests

# NOTE: you must manually set API_KEY below using information retrieved from your IBM Cloud account.
API_KEY = "ew-pwIA_AsZyd0q47rdunoSyBS3DO41dvTqVVL6bEeJ3"
token_response = requests.post('https://iam.cloud.ibm.com/identity/token', data={"apikey":
    API_KEY, "grant_type": 'urn:ibm:params:oauth:grant-type:apikey'})
mltoken = token_response.json()["access_token"]

header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' + mltoken}

# NOTE: manually define and pass the array(s) of values to be scored in the next line
payload_scoring = {"input_data": [{"field": ["GRE Score", "TOEFL Score", "University Rating", "SOP", "LOR", "CGPA", "Research"], "values": [[315, 90, 2, 3, 4, 8.23, 0]]}]

response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/ml/v4/deployments/b53b2edf-bea8-49a6-a700-7935b4e03e09/predictions?version=2022-11-18', json=payload_scoring,
    headers={'Authorization': 'Bearer ' + mltoken})
print("Scoring response")
print(response_scoring.json())
```

Scoring response

```
{'predictions': [{'fields': ['prediction'], 'values': [[[0.6222734570109485]]]]}]}
```