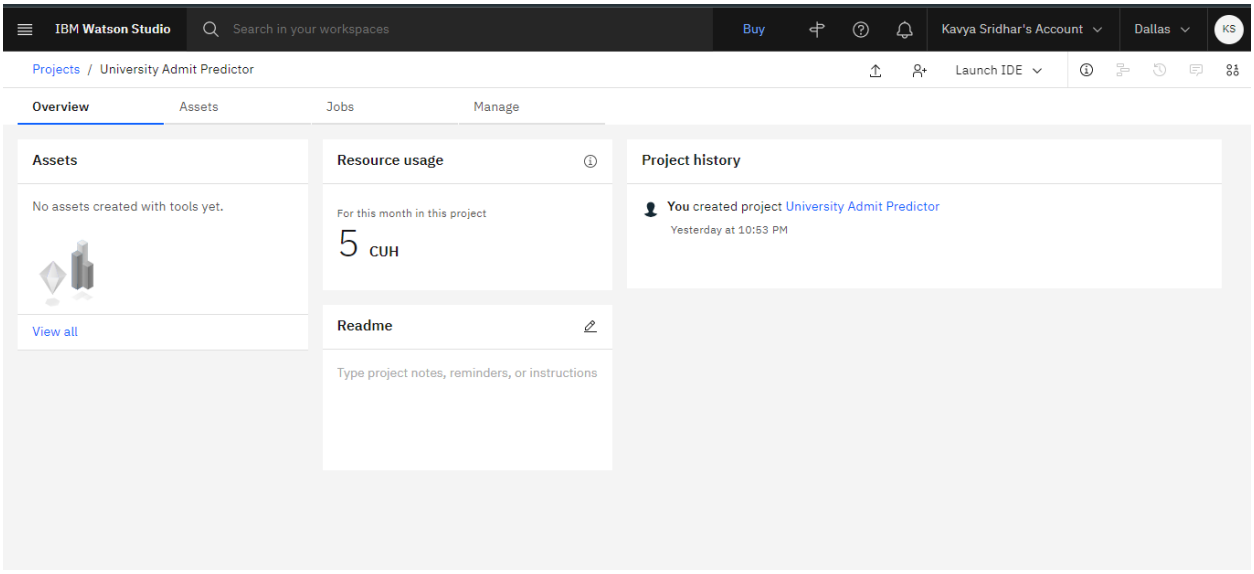
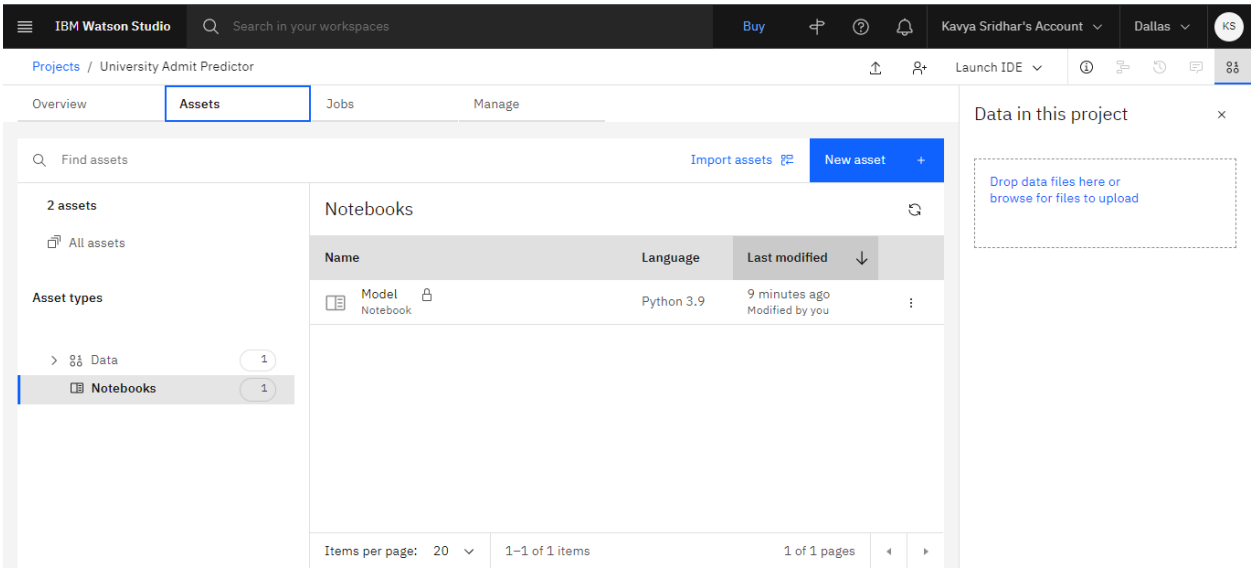
TEAM ID: PNT2022TMID35187

PROJECT: University Admit Eligibility Predictor

TRAINING A ML MODEL ON IBM WATSON

1. SETTING UP WATSON STUDIO FOR RUNNING JUPYTER NOTEBOOKS





2. TRAINING AND SAVING THE MODEL ON IBM WATSON MACHINE LEARNING SERVICE

DEPLOYING THE MULTIPLE LINEAR REGRESSION MODEL TO IBM CLOUD

In [84]:
```
#Set Python Version
software_spec_uid = client.software_specifications.get_uid_by_name("runtime-22.1-py3.9")
software_spec_uid
```

Out[84]:
```
'12b83a17-24d8-5082-900f-0ab31fbfd3cb'
```

In [86]:
```
model_details = client.repository.store_model(model = multiple_lin_reg, meta_props={
    client.repository.ModelMetaNames.NAME: "UAEP_Multiple_Linear_Regression",
    client.repository.ModelMetaNames.TYPE: "scikit-learn_1.0",
    client.repository.ModelMetaNames.SOFTWARE_SPEC_UID: software_spec_uid
}
)

model_id = client.repository.get_model_id(model_details)
```

In [87]:
```
model_id
```

Out[87]:
```
'140f81eb-6494-4a97-bb14-7ab83b2f9600'
```

3. DEPLOYMENTS

Deployments /

Online deployments

1 space

1 × Deployed | Asset type | Space tags | Spaces

Find deployments

Name	Asset type	Status	Space	Copies	Last updated	Created
UniversityPredictore	Model	Deployed	UniversityPredictor	1	Nov 18, 2022, 11:55 PM	Nov 18, 2022, 11:55 PM

4. TESTING THE CREATED MODEL USING THE API CREATED FOR THE DEPLOYED MODEL

UAEP Multiple Linear Regression Model Deployment Test

In [2]:
```
import requests

# NOTE: you must manually set API_KEY below using information retrieved from your IBM Cloud account.
API_KEY = "1GCP5Vh5MbNgiAv9NqmgEfCbZ0IL1FdhuIYROAGPurry"
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": [[326, 110, 2, 3.5, 4, 9.23, 1]]}]}

response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/ml/v4/deployments/1b71fd07-9daf-42eb-a620-453452c7e5a7/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': [[[0.8339846446531018]]]}]}
```

In [3]:
```
probability = response_scoring.json()['predictions'][0]['values'][0][0][0]
probability
```

Out[3]:
```
0.8339846446531018
```