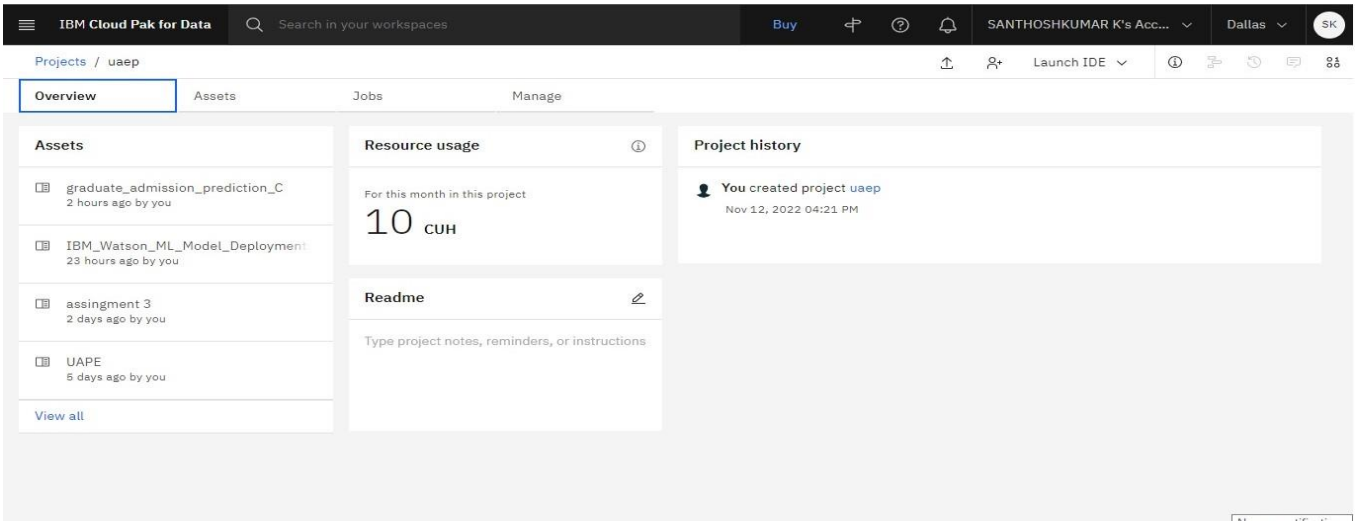
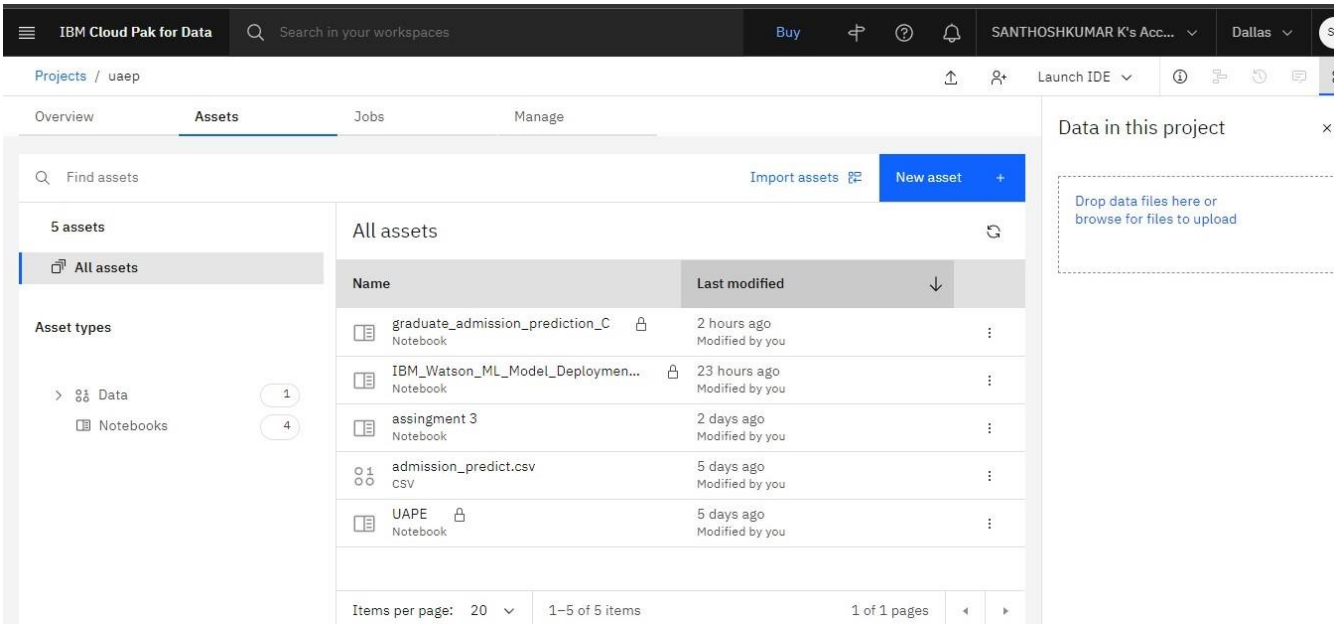
# Training ML Model on IBM Watson

**TEAM ID:** PNT2022TMID38951

**PROJECT:** University Admit Eligibility Predictor

## i) Setting up Watson Studio for running Jupyter notebooks




**Training and saving the model in IBM Watson Machine Learning Service**

## PERSISTING THE MULTIPLE LINEAR REGRESSION MODEL AND DEPLOYING IT IN IBM CLOUD

In [60]:
```
#Set Python Version
software_spec_uid = client.software_specifications.get_uid_by_name("runtime-22.1-py3.9")
software_spec_uid
```

Out[60]:
```
'12b83a17-24d8-5082-900f-0ab31fbfd3cb'
```

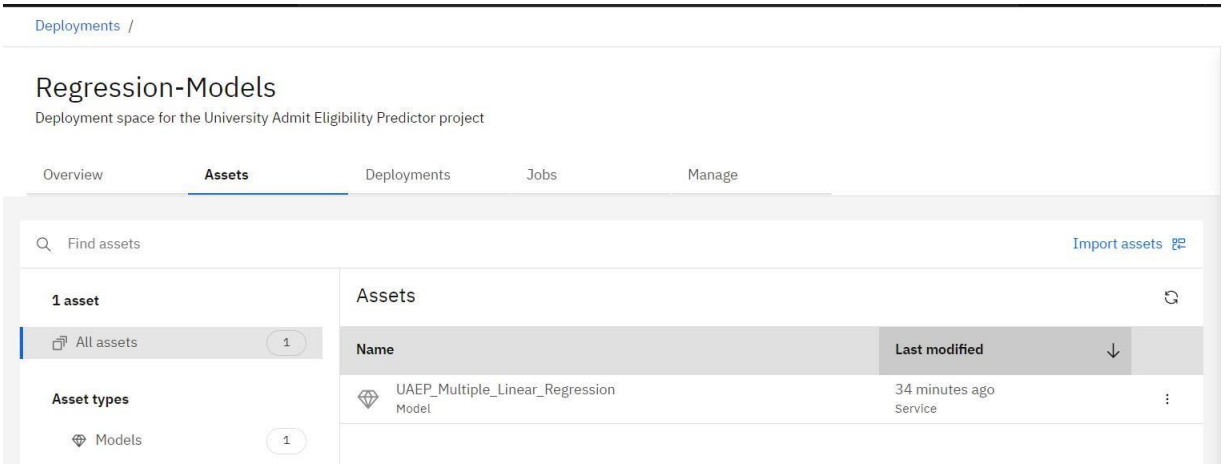
In [61]:
```
model_details = client.repository.store_model(model = multiple_lin_reg, meta_props={
    client.repository.ModelMetaNames.NAME: "UAEP_Multiple_Linear_Regression",
    client.repository.ModelMetaNames.TYPE: "scikit-learn_1.0",
    client.repository.ModelMetaNames.SOFTWARE_SPEC_UID: software_spec_uid
}
)

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

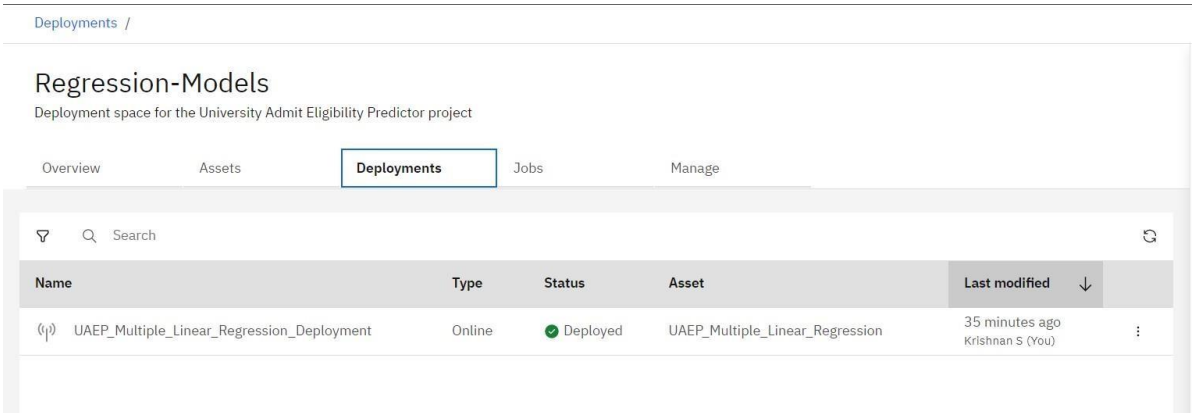
In [62]:
```
model_id
```

Out[62]:
```
'8083e827-e81f-40d1-84ab-20d511771869'
```

### Assets:




### Deployments:



## ii) Testing the created model using the 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 = "<Your-API-Key>"
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/uaep_deployment/predictions?version=2022-11-12', json=payload_scoring,
 headers={'Authorization': 'Bearer ' + mltoken})
print("Scoring response")
print(response_scoring.json())
```

```
Scoring response
{'predictions': [{'fields': ['prediction'], 'values': [[[0.8448151378927107]]]}]}
```