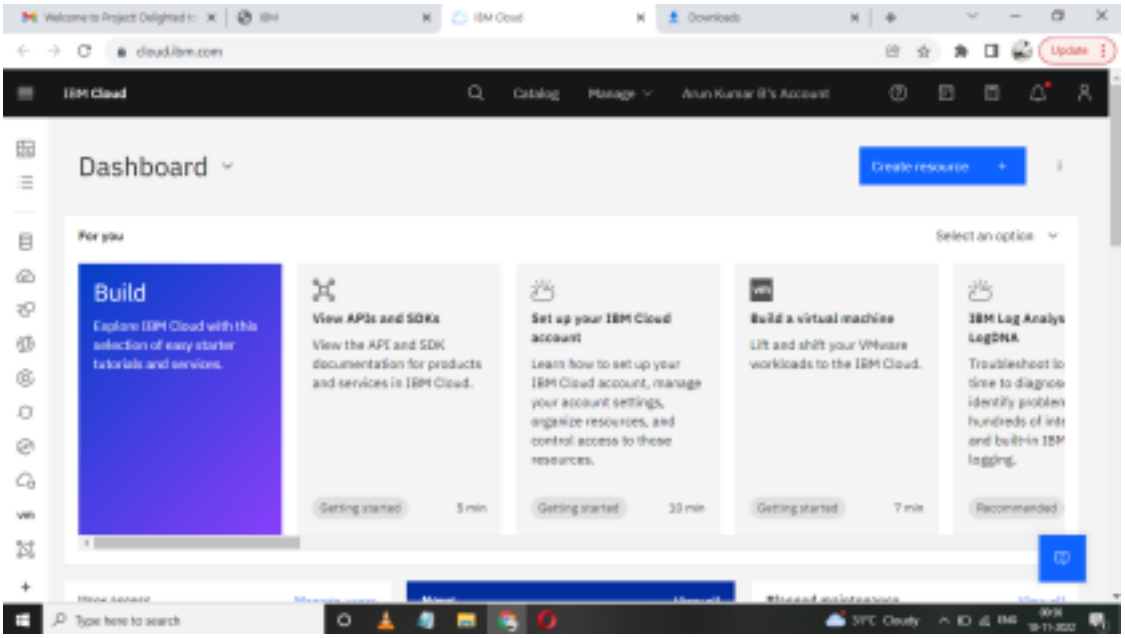
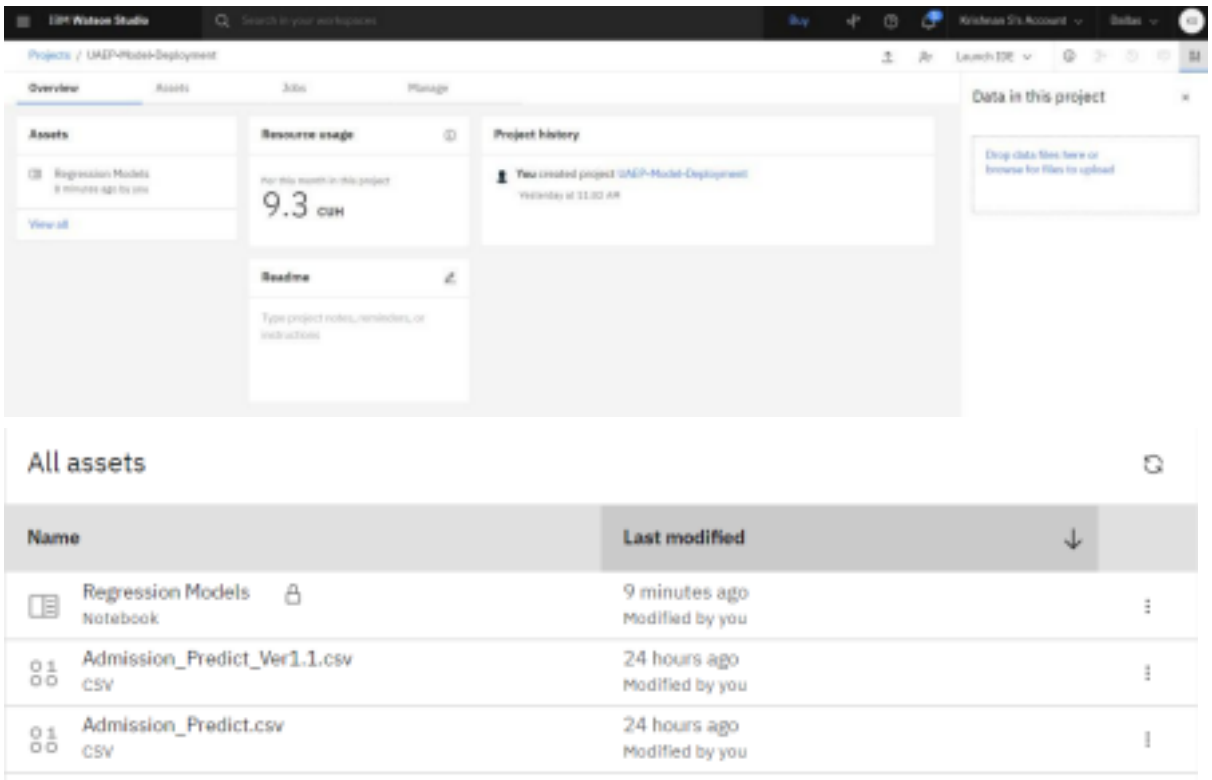
Training ML Model on IBM Watson

TEAM ID: PNT2022TMID01414

PROJECT: University Admit Eligibility Predictor

i) Setting up Watson Studio for running Jupyter notebooks



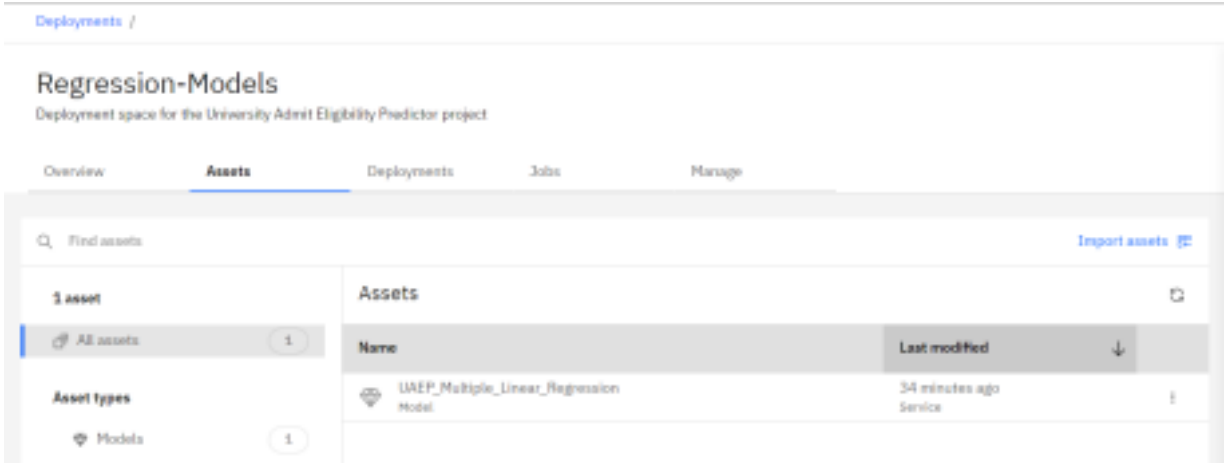


ii) Training and saving the model in IBM Watson Machine Learning Service

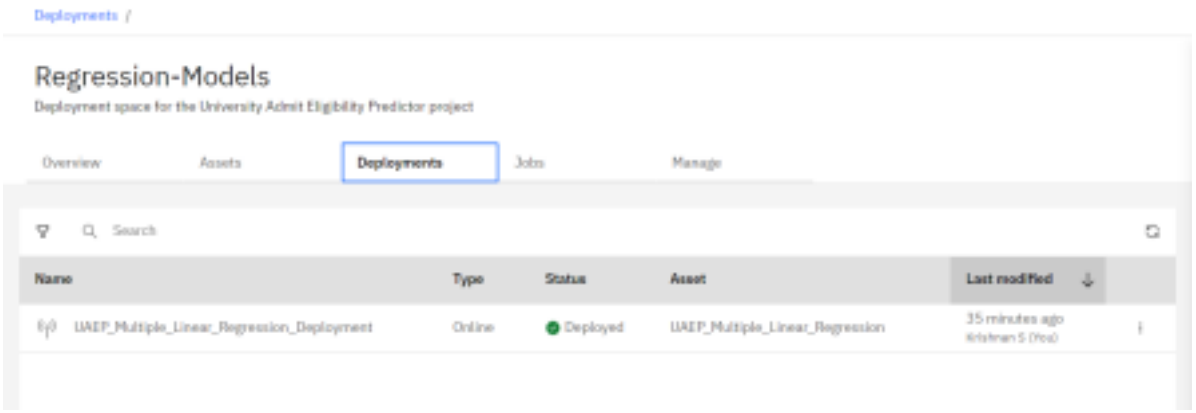
PERSISTING THE MULTIPLE LINEAR REGRESSION MODEL AND DEPLOYING IT IN IBM CLOUD

```
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]: '8883e827-e81f-48d1-8dab-28d511771869'
```

Assets:



Deployments:



iii) Testing the created model using the API created for the deployedmodel:

```
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, 118, 3, 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': [[0.8268151170827107]]}]}
```