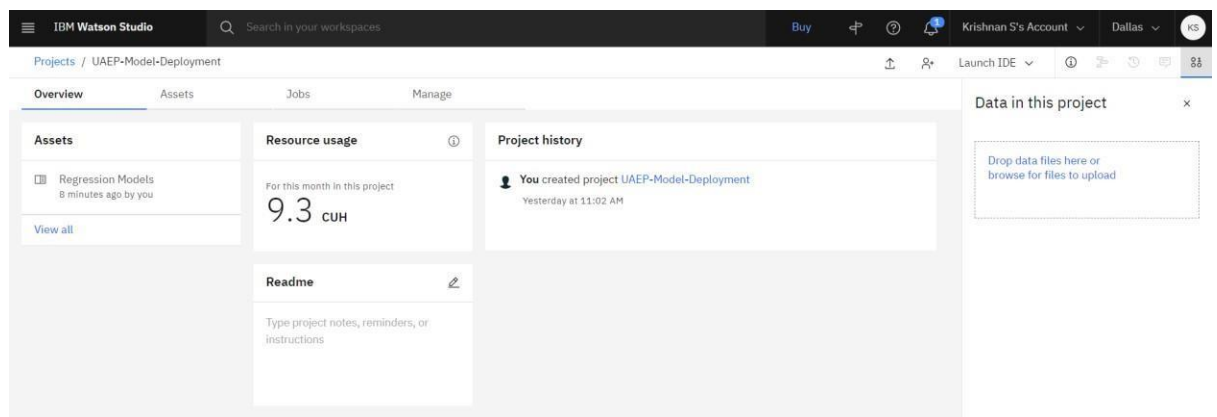





# Training ML Model on IBM Watson

**TEAM ID: PNT2022TMID20961**

**PROJECT:** University Admit Eligibility Predictor

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



All assets			↻
Name		Last modified	↓
 Regression Models Notebook	🔒	9 minutes ago Modified by you	⋮
 Admission_Predict_Ver1.1.csv		24 hours ago Modified by you	⋮
 Admission_Predict.csv		24 hours ago Modified by you	⋮

## 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]: '8083e827-e81f-40d1-84ab-20d511771869'

```

Assets:

Deployments /

Regression-Models  
 Deployment space for the University Admit Eligibility Predictor project

Overview
 Assets
 Deployments
 Jobs
 Manage

Find assets
 Import assets

1 asset
 All assets 1
 Asset types
 Models 1

Name	Last modified	
UAEP_Multiple_Linear_Regression Model	34 minutes ago Service	⋮

Deployments:

Deployments /

Regression-Models  
 Deployment space for the University Admit Eligibility Predictor project

Overview
 Assets
 Deployments
 Jobs
 Manage

Search

Name	Type	Status	Asset	Last modified	
UAEP_Multiple_Linear_Regression_Deployment	Online	Deployed	UAEP_Multiple_Linear_Regression	35 minutes ago Krishnan S (You)	⋮

### iii) 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]]]]}]
```