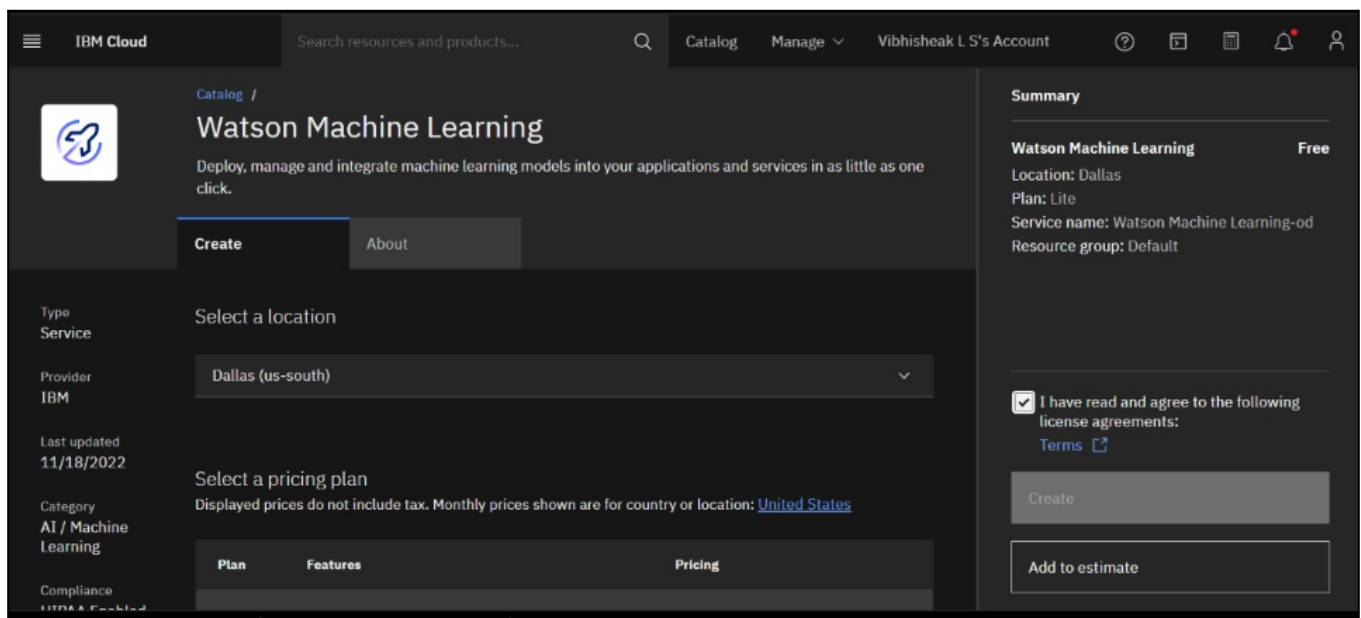
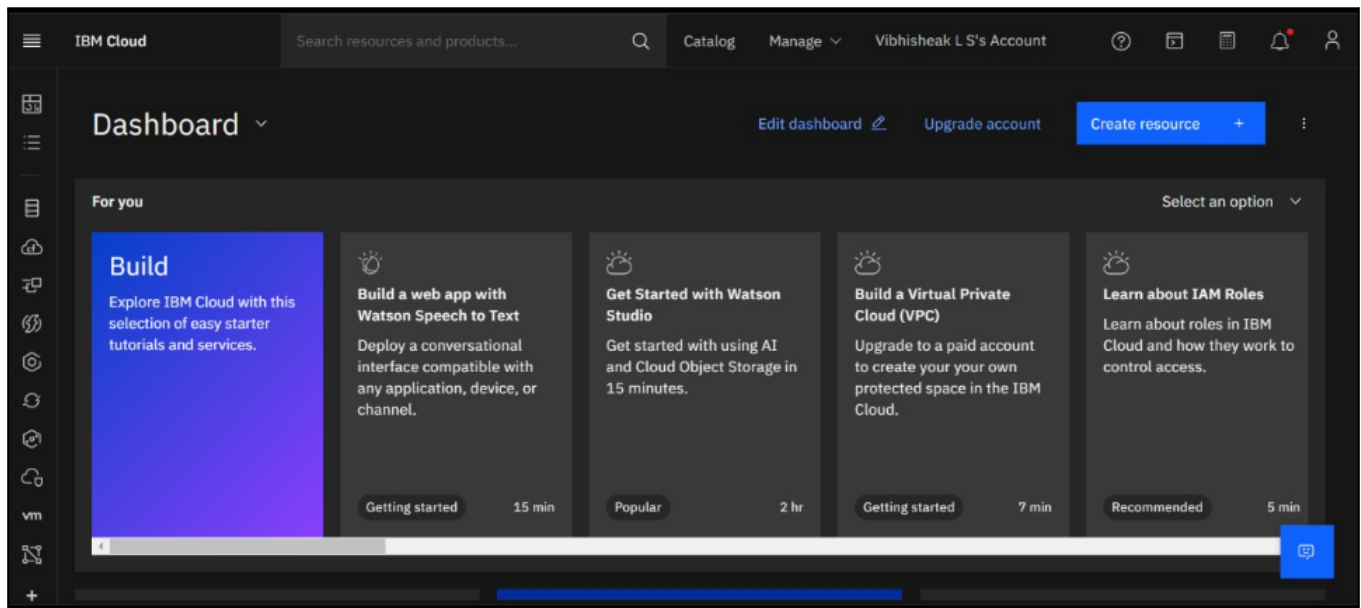


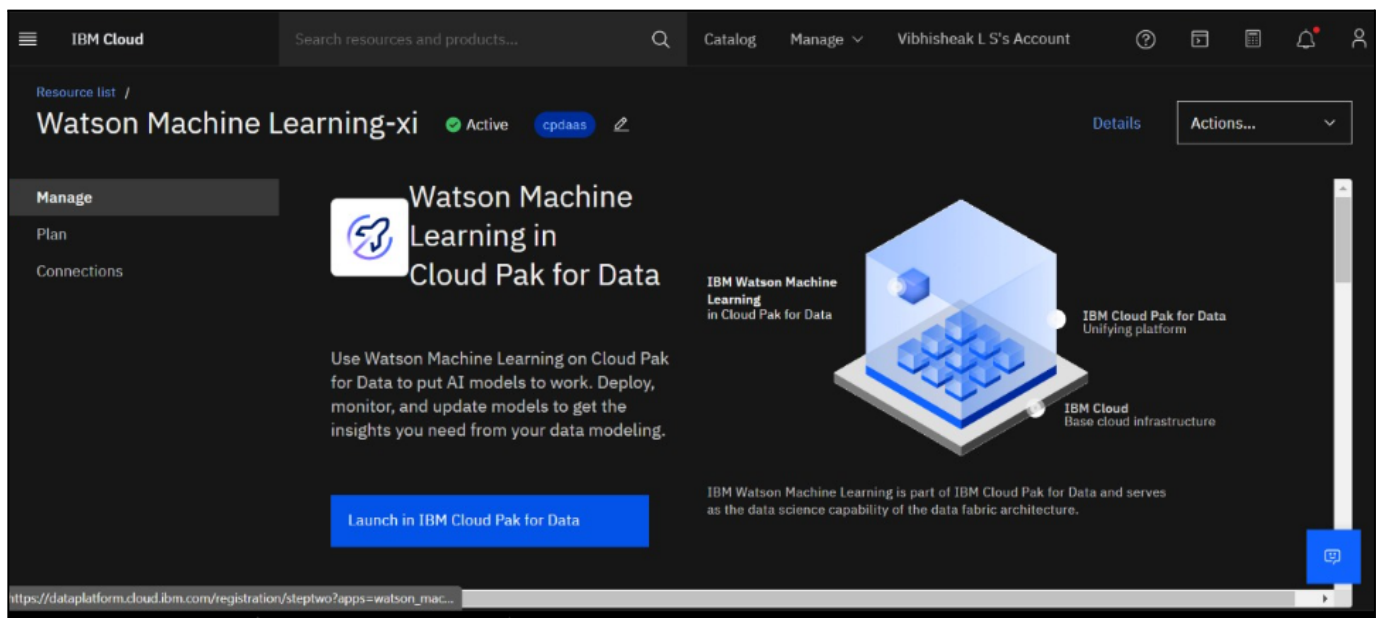
Sprint 4

Train Machine Learning Model on IBM Watson

Date	19 November 2022
Team ID	PNT2022TMID21562
Project Name	University Admit Eligibility Predictor

1)Creating IBM account and setting up Watson Studio





IBM Cloud

Search resources and products...

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Watson Machine Learning-xi

Active cpdaas

Details Actions...

Manage

Plan

Connections

Watson Machine Learning in Cloud Pak for Data

Use Watson Machine Learning on Cloud Pak for Data to put AI models to work. Deploy, monitor, and update models to get the insights you need from your data modeling.

Launch in IBM Cloud Pak for Data

IBM Watson Machine Learning in Cloud Pak for Data

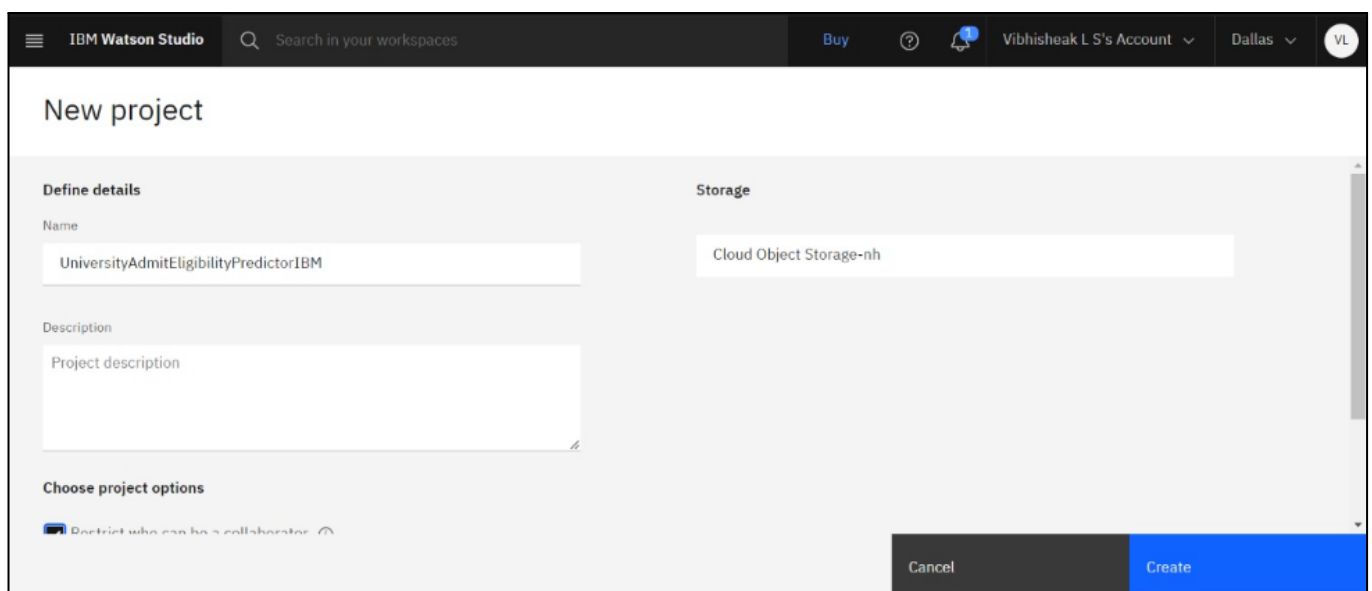
IBM Cloud Pak for Data Unifying platform

IBM Cloud Base cloud infrastructure

IBM Watson Machine Learning is part of IBM Cloud Pak for Data and serves as the data science capability of the data fabric architecture.

https://dataplatfom.cloud.ibm.com/registration/steptwo?apps=watson_mac...

2)Creating a project for the deployment and importing assets



IBM Watson Studio

Search in your workspaces

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New project

Define details

Name

UniversityAdmitEligibilityPredictorIBM

Description

Project description

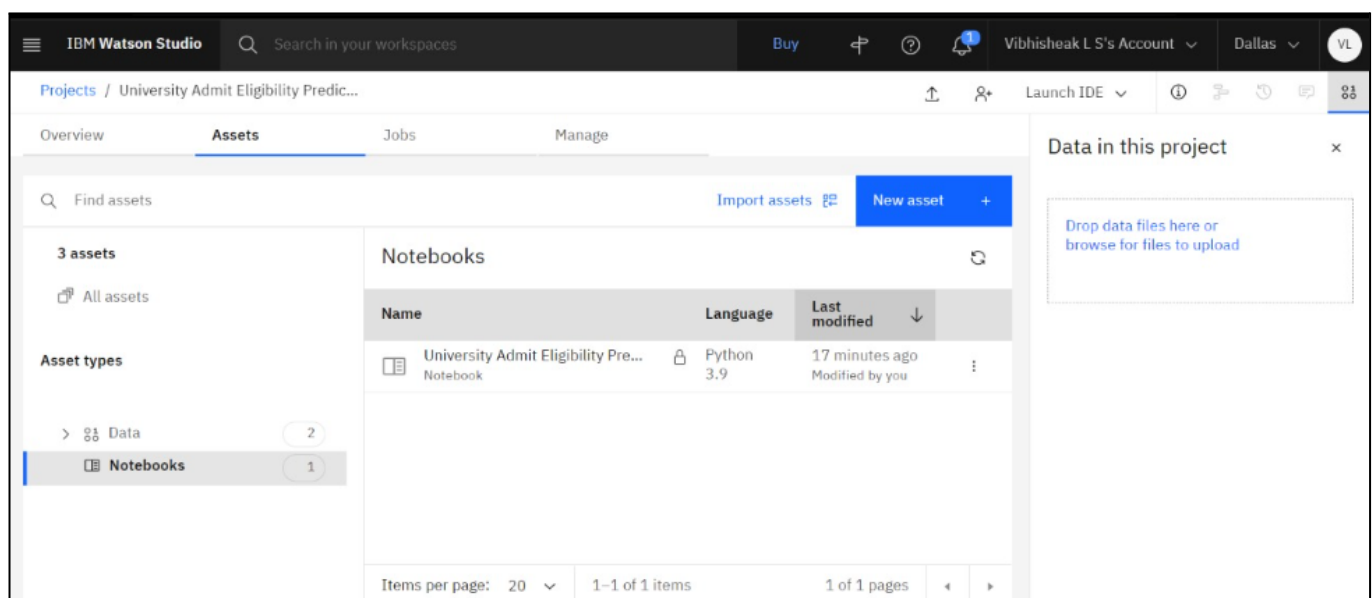
Storage

Cloud Object Storage-nh

Choose project options

Permit who can be a collaborator

Cancel Create



IBM Watson Studio

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Projects / University Admit Eligibility Predictor

Overview Assets Jobs Manage

Find assets

Import assets New asset +

3 assets

All assets

Asset types

Data 2

Notebooks 1

Notebooks

Name	Language	Last modified
University Admit Eligibility Pre... Notebook	Python 3.9	17 minutes ago Modified by you

Items per page: 20 1-1 of 1 items 1 of 1 pages

Data in this project

Drop data files here or browse for files to upload

```

    Importing the libraries

In [1]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

    Importing the dataset

In [2]: import os, types
import pandas as pd
from botocore.client import Config
import ibm_boto3

def __iter__(self): return 0

# @hidden_cell
# The following code accesses a file in your IBM Cloud Object Storage. It includes your credentials.
# You might want to remove those credentials before you share the notebook.
cos_client = ibm_boto3.client(service_name='s3',
                              ibm_api_key_id='hwr_20thIYfyu6mEHakFVvuP02WlxFaxb8VrxgSjC0PI',
                              ibm_auth_endpoint='https://iam.cloud.ibm.com/oidc/token',
                              config=Config(signature_version='oauth'),
                              endpoint_url='https://s3.private.us.cloud-object-storage.appdomain.cloud')
```

```

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

In [48]: software_spec_uid = client.software_specifications.get_uid_by_name("runtime-22.1-py3.9")
software_spec_uid

Out[48]: '12b83a17-24d8-5082-900f-0ab31fbfd3cb'

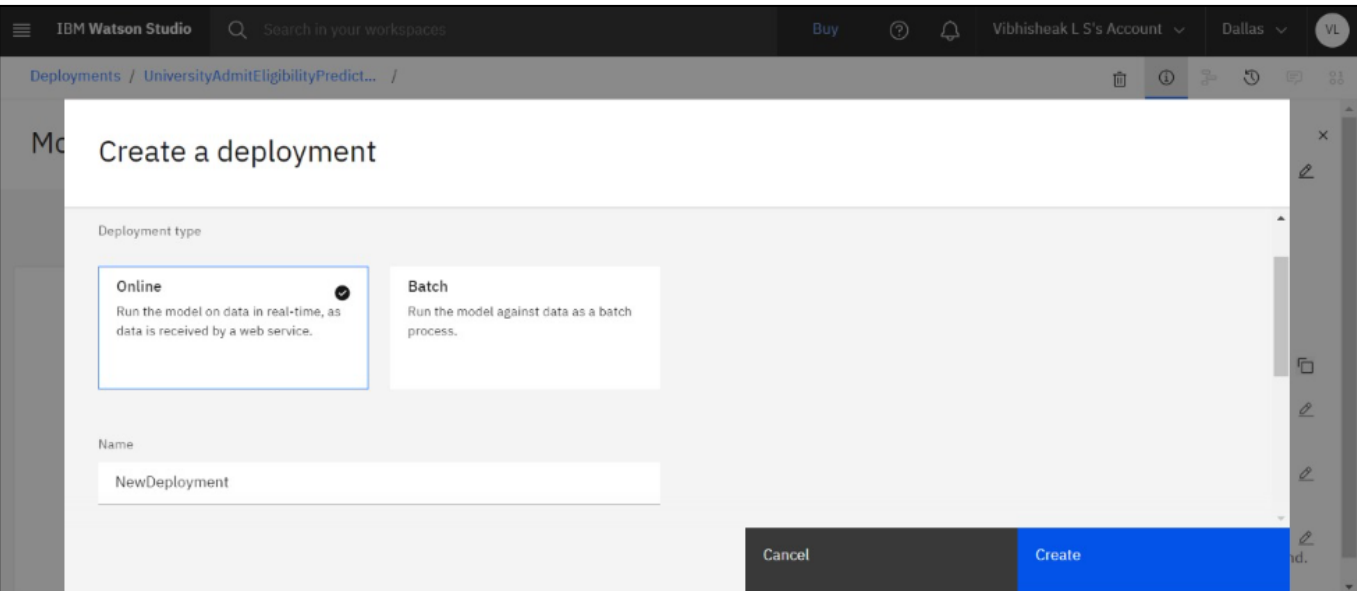
In [49]: model_details = client.repository.store_model(model=rf,meta_props={
client.repository.ModelMetaNames.NAME:"Model",
client.repository.ModelMetaNames.TYPE:"scikit-learn_1.0",
client.repository.ModelMetaNames.SOFTWARE_SPEC_UID:software_spec_uid
})
model_id = client.repository.get_model_id(model_details)

In [50]: model_id

Out[50]: 'c40be99b-e3e6-4a7e-8e24-6bb2408770b6'

In [51]: X_train
```

3)Deployment



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Model

New deployment

DEPLOYMENT TYPES		1 Online Deployment(s)		
		Name	Status	Last modified
Online	(1)			
Batch	(0)			
		NewDeployment	Deployed	Nov 18, 2022, 5:19 PM

Online deployment ready

The online deployment NewDeployment in space UniversityAdmitEligibilityPredictorIB M is ready to accept requests

Today 5:18 PM

Type
scikit-learn_1.0

Model ID
c40be99b-e3e6-4a7e-8e24-6b...

Software specification
runtime-22.1-py3.9

Description
No description provided.

Tags
Add tags to make assets easier to find.

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NewDeployment Deployed Online

API reference

Test

cURL

Java

JavaScript

Python

Scala

```
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": [{"fields": [array_of_input_fields], "values": [array_of_value

response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/ml/v4/deployments/67f91885
headers={'Authorization': 'Bearer ' + mltoken})
```

NewDeployment

Created
Nov 18, 2022, 5:19 PM

Updated
Nov 18, 2022, 5:19 PM

Deployment ID
67f91885-c382-4d94-9b23-60...

Software specification
runtime-22.1-py3.9

Copies
1

Serving name
No serving name.