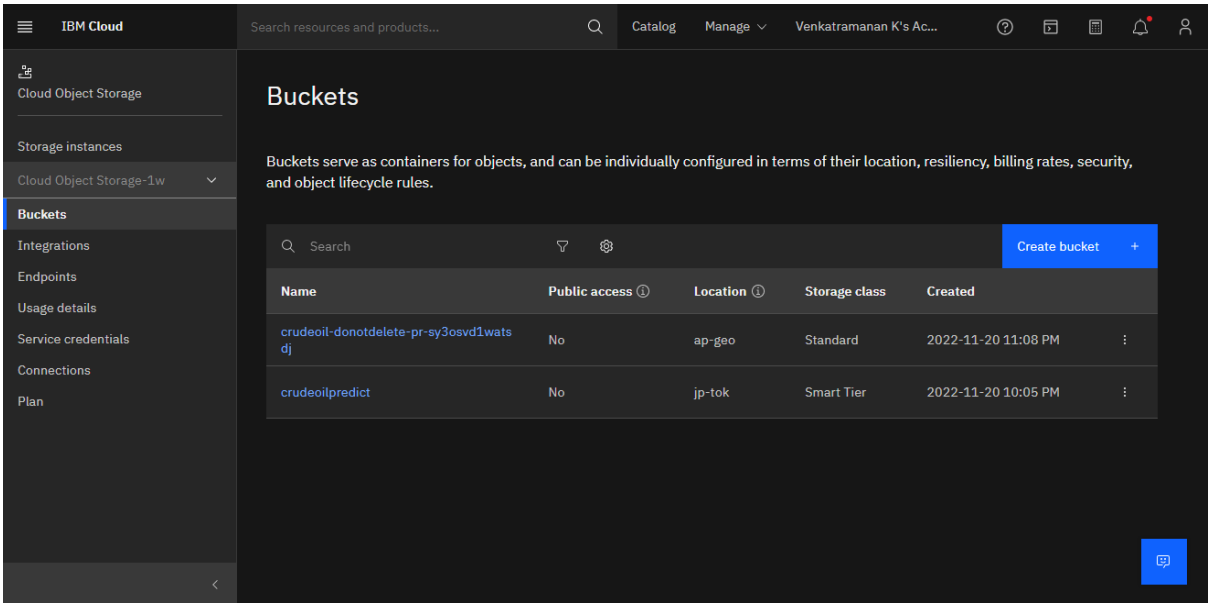
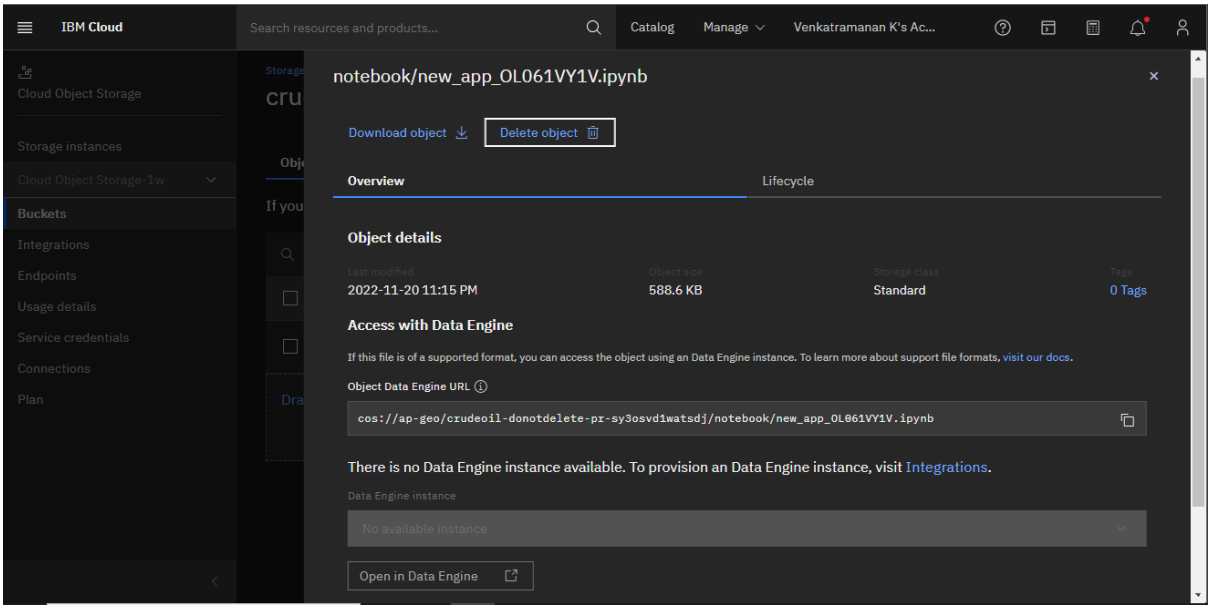
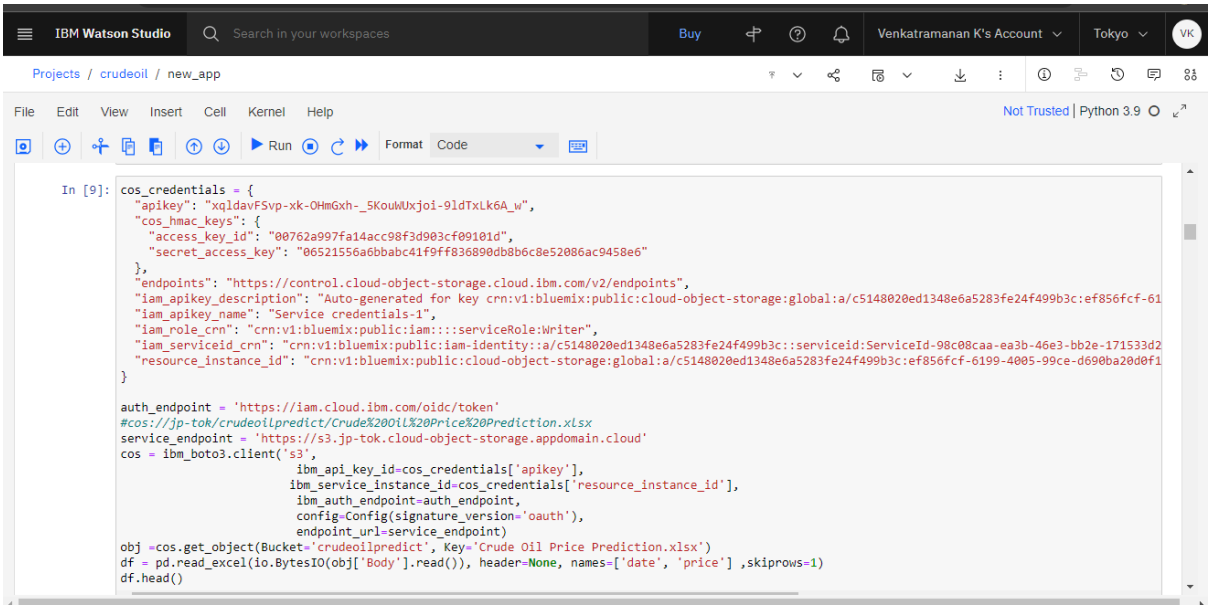
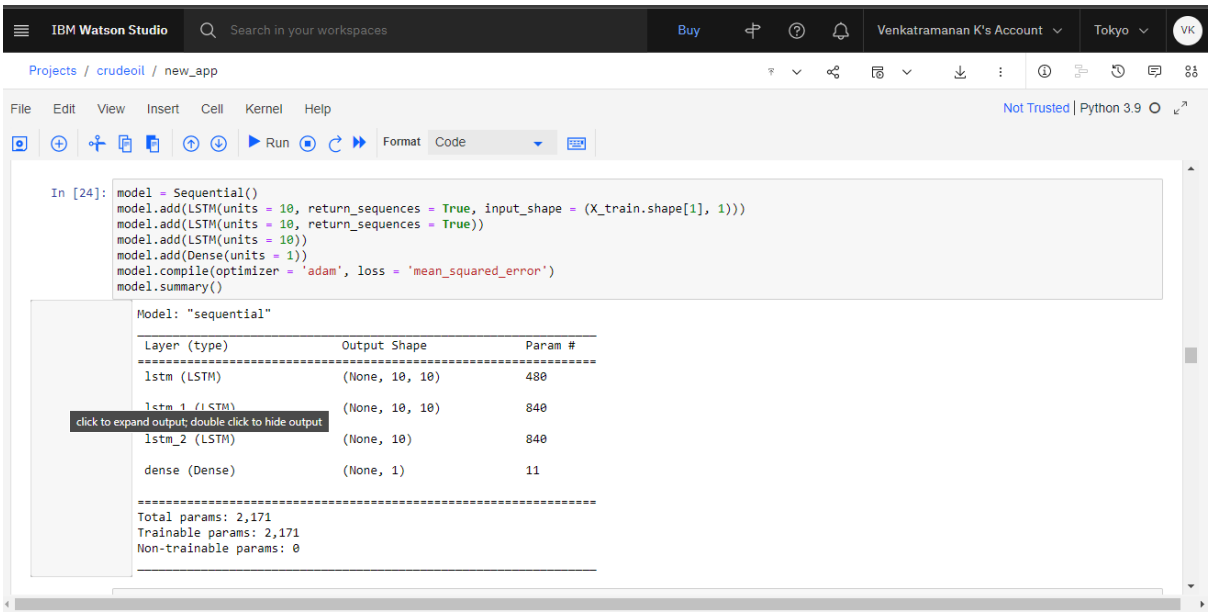
Registering on IBM Cloud and Training the Model

NAME	20 November 2022
TEAM ID	PNT2022TMID44242
PROJECT NAME	Crude Oil Price Prediction






IBM Watson Studio
Search in your workspaces
Buy
Venkatramanan K's Account
Tokyo
VK
Projects / crudeoil / new_app
File Edit View Insert Cell Kernel Help
Not Trusted | Python 3.9
Run
Format
Code
In [9]:
cos_credentials = {
"apikey": "xqldavFSvp-xk-OHmGxh-_5KouWUxjoi-9ldTxLk6A_w",
"cos_hmac_keys": {
"access_key_id": "00762a997fa14acc98f3d903cf09101d",
"secret_access_key": "06521556a6bbabc41f9ff836890db8b6c8e52086ac9458e6"
},
"endpoints": "https://control.cloud-object-storage.cloud.ibm.com/v2/endpoints",
"iam_apikey_description": "Auto-generated for key crn:v1:bluemix:public:cloud-object-storage:global:a/c5148020ed1348e6a5283fe24f499b3c:ef856fcf-61
"iam_apikey_name": "Service credentials-1",
"iam_role_crn": "crn:v1:bluemix:public:iam::::serviceRole:Writer",
"iam_serviceid_crn": "crn:v1:bluemix:public:iam-identity::a/c5148020ed1348e6a5283fe24f499b3c::serviceid:ServiceId-98c08caa-ea3b-46e3-bb2e-171533d2
"resource_instance_id": "crn:v1:bluemix:public:cloud-object-storage:global:a/c5148020ed1348e6a5283fe24f499b3c:ef856fcf-6199-4005-99ce-d690ba20d0f1
}
auth_endpoint = 'https://iam.cloud.ibm.com/oidc/token'
#cos://jp-tok/crudeoilpredict/Crude%20Oil%20Price%20Prediction.xlsx
service_endpoint = 'https://s3.jp-tok.cloud-object-storage.appdomain.cloud'
cos = ibm_boto3.client('s3',
ibm_api_key_id=cos_credentials['apikey'],
ibm_service_instance_id=cos_credentials['resource_instance_id'],
ibm_auth_endpoint=auth_endpoint,
config=Config(signature_version='oauth'),
endpoint_url=service_endpoint)
obj =cos.get_object(Bucket='crudeoilpredict', Key='Crude Oil Price Prediction.xlsx')
df = pd.read_excel(io.BytesIO(obj['Body'].read()), header=None, names=['date', 'price'] ,skiprows=1)
df.head()


IBM Watson Studio
Search in your workspaces
Buy
Venkatramanan K's Account
Tokyo
VK
Projects / crudeoil / new_app
File Edit View Insert Cell Kernel Help
Not Trusted | Python 3.9
Run
Format
Code
In [24]:
model = Sequential()
model.add(LSTM(units = 10, return_sequences = True, input_shape = (X_train.shape[1], 1)))
model.add(LSTM(units = 10, return_sequences = True))
model.add(LSTM(units = 10))
model.add(Dense(units = 1))
model.compile(optimizer = 'adam', loss = 'mean_squared_error')
model.summary()
Model: "sequential"
Layer (type) Output Shape Param #
lstm (LSTM) (None, 10, 10) 480
lstm_1 (LSTM) (None, 10, 10) 840
click to expand output; double click to hide output
lstm_2 (LSTM) (None, 10) 840
dense (Dense) (None, 1) 11
Total params: 2,171
Trainable params: 2,171
Non-trainable params: 0