

DATE	19 November 2022
TEAM ID	PNT2022TMID26108
PROJECT NAME	Crude Oil Price Prediction

REGISTERING ON IBM AND TRAINING THE MODEL

IBM Cloud console showing the bucket **crudeoilpriceprediction-donotdelete-pr-lshrp8ismpavqe**. The **Objects** tab is selected, displaying a list of files:

Object name	Size	Last modified
Crude Oil...Daily.xlsx	143.5 KB	2022-11-09 2:05 PM
notebook/CRUDE-OIL-PREDICTION-MODEL_cg7t_7v1G.ipynb	281.0 KB	2022-11-09 2:23 PM

An **Upload** button is visible in the top right corner.

IBM Cloud console showing the details of the object **notebook/CRUDE-OIL-PREDICTION-MODEL_cg7t_7v1G.ipynb**. The **Overview** tab is selected, displaying object details:

Object details
Last modified: 2022-11-09 2:23 PM
Object size: 281.0 KB
Storage class: Standard
Tags: 0 Tags

The **Access with Data Engine** section shows the Object Data Engine URL and a message: "There is no Data Engine instance available. To provision an Data Engine instance, visit [Integrations](#)."

CRUDE-OIL-PREDICTION-MODEL

eu-de.dataplatform.cloud.ibm.com/analysis/notebooks/v2/3ba3145-2b90-492f-b636-a52263a82daf?projectId=7d892b95-148d-4b45-ba01-005c607c2bb5&context=cpdaas

IBM Watson Studio

Projects / CRUDE-OIL-PRICE-PREDICTION / CRUDE-OIL-PREDICTION-MODEL

File Edit View Insert Cell Kernel Help

Not Trusted | Python 3.9

```
from pylib import rcParams
import matplotlib.pyplot as plt
import warnings
import itertools
import statsmodels.api as sm
from keras.models import Sequential
from keras.layers import Dense
from keras.layers import LSTM
from keras.layers import Dropout
from sklearn.metrics import mean_squared_error
from keras.callbacks import ReduceLROnPlateau, EarlyStopping, ModelCheckpoint
from sklearn.metrics import mean_squared_error
from sklearn.metrics import mean_absolute_error
import seaborn as sns
sns.set_context("paper", font_scale=1.3)
sns.set_style("white")
import os
from sklearn.preprocessing import MinMaxScaler
# Input data files are available in the "../input/" directory.
# For example, running this (by clicking run or pressing Shift+Enter) will list all files under the input directory
warnings.filterwarnings("ignore")
plt.style.use("fivethirtyeight")
import os
for dirname, _, filenames in os.walk('/kaggle/input'):
    for filename in filenames:
        print(os.path.join(dirname, filename))
```

IMPORTING DATA

```
In [6]: dateparse = lambda x: pd.datetime.strptime(x, '%d %b, %Y')
#read csv file
```

Data

Files

Upload one file at a time. All file types accepted. 5 GB max file size.

Crude Oil Prices Daily.xlsx

Insert to code

CRUDE-OIL-PREDICTION-MODEL

eu-de.dataplatform.cloud.ibm.com/analysis/notebooks/v2/3ba3145-2b90-492f-b636-a52263a82daf?projectId=7d892b95-148d-4b45-ba01-005c607c2bb5&context=cpdaas

IBM Watson Studio

Projects / CRUDE-OIL-PRICE-PREDICTION / CRUDE-OIL-PREDICTION-MODEL

File Edit View Insert Cell Kernel Help

Not Trusted | Python 3.9

```
#read csv file

In [8]:
import os, types
import pandas as pd
from boto3.client import Config
import 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 = boto3.client(service_name='s3',
    iam_api_key_id='02f01ba0579e9d70000222d00e1b11j8sTrLL',
    iam_auth_endpoint='https://iam.cloud.ibm.com/oidc/token',
    config=Config(signature_version='oauth'),
    endpoint_url='https://s3.private.eu.cloud-object-storage.appdomain.cloud')

bucket = 'crudeoilpriceprediction-donotdelete-pr-1shrp8ismmpavge'
object_key = 'Crude Oil Prices Daily.xlsx'

body = cos_client.get_object(Bucket=bucket,Key=object_key)['Body']

df = pd.read_excel(body.read())
df.head()
```

Out[8]:

	Date	Closing Value
0	1986-01-02	25.56
1	1986-01-03	26.00

Data

Files

Upload one file at a time. All file types accepted. 5 GB max file size.

Crude Oil Prices Daily.xlsx

Insert to code

IBM Watson Studio

PNT2022TMID13214 - IBM Wats...

dataplatform.cloud.ibm.com/ml-runtime/spaces/0570a6bf-fbb3-4149-b9fd-3a7d7008a00b/overview?context=cpdaas

IBM Watson Studio

Search in your workspaces

Buy

Sanjay Krishna Sriram's Ac...

Dallas

SS

Deployments /

model

Overview

Assets

Deployments

Jobs

Manage

Assets

CrudeOil Price Prediction
13 minutes ago

CrudeOil Price Prediction
1 hour ago

CrudeOil Price Prediction
4 hours ago

CrudeOil Price Prediction
5 hours ago

View all (4)

Deployments

All

0

0

Deployed

Failed

View deployments

Job runs

0

0

Active

Failed last 24 hours

View jobs

Space activity

No notifications

You will see your most recent notifications here.

Drop files here or browse for files to upload.

Stay on the page until upload completes. Incomplete uploads are cancelled.

PNT2022TMID1...ipynb

Crude Oil Prices D...xlsx

Crude Oil Prices D...xlsx

Show all

Crude Oil Price Prediction

Enter the Oil price for 10 days

99.98,99.67,99.99,99.75,99.98,99.15,99.17,99.18,99.19,99.20

Submit

Reset