

# IBM CLOUD DEPLOYMENT

Date	18 November 2022
Team ID	PNT2022TMID25852
Project Name	Machine Learning based vehicle performance analyzer

The screenshot displays the IBM Cloud Pak for Data web interface. The top navigation bar includes the IBM Cloud logo, a search bar, and user account information for 'Narershkumar L's Account' in the 'Dallas' region. The breadcrumb trail indicates the current location: 'Projects / Vehicle performance analyzer m... / Vehicle performance Analysis De...'. The main content area shows a Jupyter Notebook with two code cells. The first cell, titled 'Importing Libraries', contains code to import pandas, numpy, matplotlib, seaborn, and statsmodels. The second cell, titled 'Importing Dataset', contains code to configure the IBM Cloud Object Storage client and define a bucket. The right sidebar provides metadata for the notebook, including its name, last editor (Narershkumar L), last modified date (Nov 19, 2022, 2:47 AM), and the runtime environment (Runtime 22.1 on Python 3.9 XS).

## Importing Libraries

```
In [320]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import statsmodels.formula.api as smf
```

## Importing Dataset

```
In [321]: 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='soQZGMMV1W71xZqnk0sBkx6LpYgUwR3_UrH4r19Va5',
    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')

bucket = 'vehicleperformanceanalyzermodelde-donotdelete-pr-saw6umfbx5l0nv'
```

### Information

- Notebook
- Vehicle performance Analysis Deploy...
- Last editor
- Narershkumar L
- Last modified
- Nov 19, 2022, 2:47 AM
- Last editor
- Narershkumar L
- Environment
- Runtime 22.1 on Python 3.9 XS

Service Details - IBM Cloud IBM Cloud Pak for Data 127.0.0.1:5000/y\_predict

https://datapatform.cloud.ibm.com/ml-runtime/deployments/9bd1d84b-810a-4086-a522-1e4c8d08a1da?space\_id=4db75d14-c84e-4f41-9101-852af55cb0f8&conte...

IBM Cloud Pak for Data Search in your workspaces Buy ? ? Narershkumar L's Account Dallas NL

Deployments / models / vehicle\_performance\_analyzer /

## Deployment Deployed Online

API reference Test Deployment details

Direct link

Endpoint Bearer <token> ⓘ

<https://us-south.ml.cloud.ibm.com/ml/v4/deployments/9bd1d84b-810a-4086-a522-1e4c8d08a1da> IAM

Code snippets

cURL	Java	JavaScript	Python	Scala
<pre># NOTE: you must set \$API_KEY below using information retrieved from your IBM Cloud account.  curl --insecure -X POST --header "Content-Type: application/x-www-form-urlencoded" --header "Accept: application/json" --data-urlencode "grant_type=urn:ibm:params:oauth:grant-type:apikey" --data-urlencode "apikey=\$API_KEY" "https://iam.cloud.ibm.com/identity/token"  # the above CURL request will return an auth token that you will use as \$IAM_TOKEN in the scoring request below # TODO: manually define and pass values to be scored below curl -X POST --header "Content-Type: application/json" --header "Accept: application/json" --header "Authorization: Bearer \$IAM_TOKEN" -d '{"input_data": [{"fields": [{"ARRAY_OF_INPUT_FIELDS}], "values": [{"ARRAY_OF_VALUES_TO_BE_SCORED", \$ANOTHER_ARRAY_OF_VALUES_TO_BE_SCORED}]}]' "https://us-south.ml.cloud.ibm.com/ml/v4/deployments/9bd1d84b-810a-4086-a522-1e4c8d08a1da"</pre>				

Deployment

Created Nov 19, 2022, 2:32 AM

Updated Nov 19, 2022, 2:32 AM

Deployment ID 9bd1d84b-810a-4086-a522-1e...

Software specification runtime-22.1-py3.9

Copies 1

Serving name No serving name.

Description No description provided.

Tags Add tags to make assets easier to find.

File Edit View Navigate Code Refactor Run Tools VCS Window Help Vehicle Performance analyzer [C:\PYTHON\Projects\PYTHON\vehicle performance analyzer] - ..\app.py

vehicle performance analyzer app.py

Project

- vehicle performance analyzer
  - static
    - background.jpg
    - style.css
  - templates
    - index.html
  - venv
    - app.py
    - decision\_model.pkl
    - scoringendpoint.py
  - External Libraries
  - Scratches and Consoles

```
1 import numpy as np
2 from flask import Flask, request, jsonify, render_template
3 import pickle
4
5 app = Flask(__name__)
6 model = pickle.load(open('decision_model.pkl', 'rb'))
7
8
9 @app.route('/')
10 def home():
11     return render_template('index.html')
12
13
14 @app.route('/y_predict', methods=['POST'])
15 def y_predict():
16     """
17     For rendering results on HTML GUI
18     """
19     x_test = [[int(x) for x in request.form.values()]]
```

Run: app

\* Debug mode: on

WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.

\* Running on http://127.0.0.1:5000

Press CTRL+C to quit

Run TODO Terminal Python Console

8:33 CRLF UTF-8 4 spaces Python 3.7

```
File Edit View Navigate Code Refactor Run Tools VCS Window Help Vehicle Performance analyzer [...] Projects(PYTHON)\vehicle performance analyzer] - ... \scoringendpoint.py
vehicle performance analyzer > scoringendpoint.py
Project
  vehicle performance analyzer
    static
      background.jpg
      style.css
    templates
      index.html
    venv
      app.py
      decision_model.pkl
      scoringendpoint.py
    External Libraries
    Scratches and Consoles
Run: app
  * Debug mode: on
  WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
  * Running on http://127.0.0.1:5000
  Press CTRL+C to quit
1 import requests
2 # NOTE: you must manually set API_KEY below using information retrieved from your IBM Cloud account.
3 API_KEY = "d45n5LrUHP4VF_AggbRYvERhNAtgy16RtVnIk55hXMUp"
4 token_response = requests.post('https://iam.cloud.ibm.com/identity/token', data={"apikey":
5 API_KEY, "grant_type": 'urn:ibm:params:oauth:grant-type:apikey'})
6 mltoken = token_response.json()["access_token"]
7
8 header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' + mltoken}
9
10 # NOTE: manually define and pass the array(s) of values to be scored in the next line
11 payload_scoring = {"input_data": [{"fields": [{"f0", 'f1', 'f2', 'f3', 'f4', 'f5'}], "values": [[8,160,380,3584,82,1]]}]
12
13 response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/ml/v4/deployments/9bd1d84b-818a-4086-a522-1e4c8d8a1da/p
14 headers={'Authorization': 'Bearer ' + mltoken})
15 print("Scoring response")
16 print(response_scoring.json())
17 pred=response_scoring.json()
18 output=pred['predictions'][0]['values'][0][0]
19 print(output)
```



