

Deployment of ML Model

dataplatform.cloud.ibm.com/analytics/notebooks/v2/9ce6531b-905b-49ef-81a4-00ebaf74fa97?projectId=199ca3c0-a7e5-4c25-9b7a-0946...

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Projects / basic model deployment / data preprocessing

File Edit View Insert Cell Kernel Help Trusted | Python 3.9

```
In [85]: software_spec_uid=client.software_specifications.get_uid_by_name("runtime-22.1-py3.9")
software_spec_uid

Out[85]: '12b83a17-24d8-5082-900f-0ab31fbfd3cb'

In [86]: import sklearn
sklearn.__version__

Out[86]: '1.0.2'

In [88]: model_details = client.repository.store_model(model=rf,meta_props={
client.repository.ModelMetaNames.NAME:"modeldeployment",
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 [89]: model_id

Out[89]: '21a65b8c-7f36-4748-b76f-4d399013a0f7'

In [ ]:
```

28°C Mostly cloudy 18:14 10-11-2022

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Projects

basic model deployment	Oct 28, 2022 03:09 PM
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NOTEBOOK

Notifications

Online deployment ready
The online deployment newdeployment in space
Yesterday at 06:57 PM

Deployments

modeldeployment	Yesterday at 06:18 PM
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Deployments

1 space

New deployment space +

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Filter by: All spaces Which deployment space are you looking for?

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Associating Instance

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Deployments /

modeldeployment

Overview Assets Deployments Jobs Manage

General

Access control

Environments

Name

modeldeployment

Description

No description provided.

Space GUID

3d7b865c-63f8-414a-9247-2d78f190...

Date created

Nov 4, 2022, 5:03 PM

by Ashwini M S (You)

Last updated

Nov 4, 2022, 5:03 PM

Deployment space tags

No tags are set to this space.

Storage used

293.78 KB used

Name

Cloud Object Storage-jv

Bucket

2c632ed4-e335-440f-b433-56ace3831bfb

Machine learning se...

[Associate instance](#) +

Drop files here or browse for files to upload.

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

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Watson Machine Learning

Author: IBM SPSS • Date of last update: Oct 6, 2022 • Docs • API Docs

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Select a region

Select a region

Dallas

Pricing plan

Displayed prices do not include tax. Monthly prices shown are for country or region: United States

Plan	Features	Pricing
Lite	Service instance	Free

Summary

Watson Machine Learning

Region: Dallas
Plan: Lite
Service name: Watson Machine Learning-wg
Resource group: Default

Create

View terms

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18:16 10-11-2022

Selecting Watson Machine Learning

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Select a region

Select a region

Dallas

Pricing plan

Displayed prices do not include tax. Monthly prices shown are for country or region: United States

Plan	Features	Pricing
Lite	Service instance	Free

Summary

Watson Machine Learning

Region: Dallas
Plan: Lite
Service name: Watson Machine Learning-wg
Resource group: Default

Create

View terms

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18:16 10-11-2022

Clicking on New Deployment

← → ↻

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modeldeployment

New deployment



You don't have any deployments yet

Create your first deployment for this model. [Learn more](#)

🔍

modeldeployment

Created
Nov 10, 2022, 6:07 PM

Type
scikit-learn_1.0


Model ID
21a65b8c-7f36-4748-b76f-4d399...

Software specification
runtime-22.1-py3.9

Description
No description provided.

Tags
Add tags to make assets easier to find.

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Mostly cloudy



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10-11-2022

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Create a deployment

Associated asset
modeldeployment

Deployment type

Online

Run the model on data in real-time, as data is received by a web service.

Batch

Run the model against data as a batch process.


Name

newdeployment

Service name

Cancel Create

27°C
Mostly cloudy

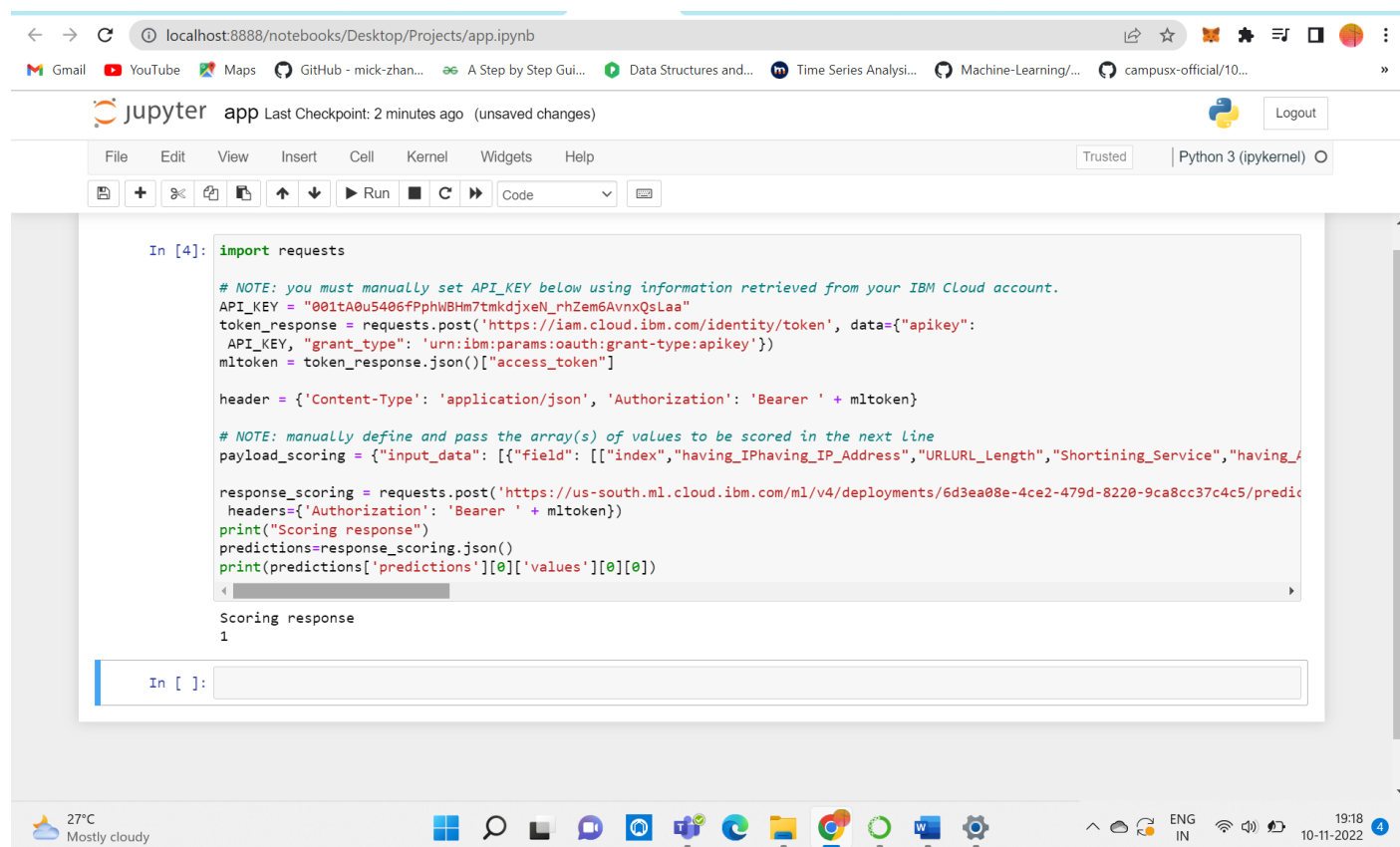


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18:57
10-11-2022

Performing Predictions with the deployed model on the scoring end point



This screenshot shows a Jupyter Notebook interface with a code cell (In [4]:) that performs an API call to the IBM ML scoring endpoint. The code includes comments for manual API key setup and defines a payload for scoring. The output shows the raw JSON response from the endpoint.

```
In [4]: import requests

# NOTE: you must manually set API_KEY below using information retrieved from your IBM Cloud account.
API_KEY = "001tA0u5406fPphWBHm7tmkdjxeN_rhZem6AvnxQsLaa"
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"]

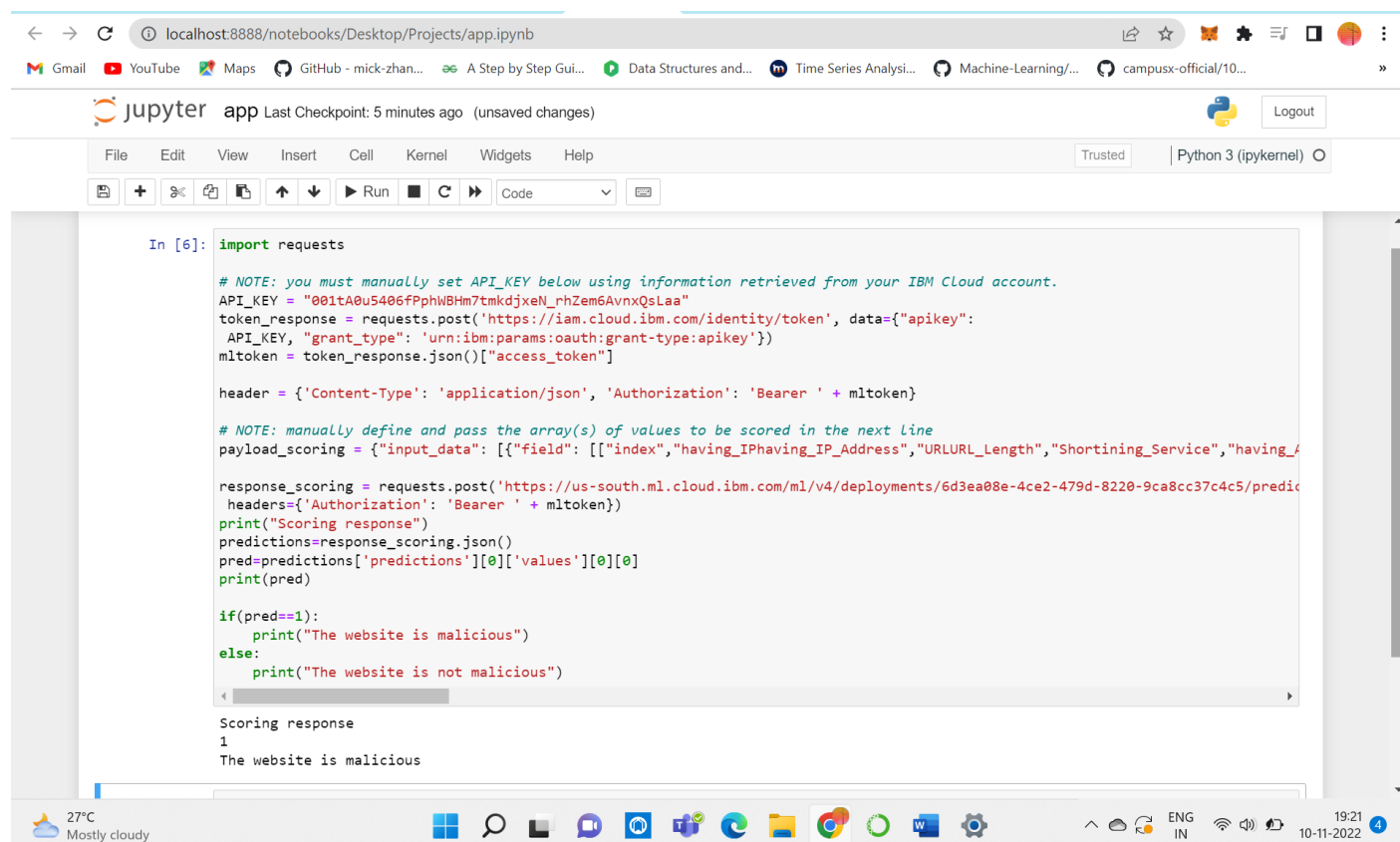
header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' + mltoken}

# NOTE: manually define and pass the array(s) of values to be scored in the next line
payload_scoring = {"input_data": [{"field": [{"index", "having_IPhaving_IP_Address", "URLURL_Length", "Shortining_Service", "having_f

response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/ml/v4/deployments/6d3ea08e-4ce2-479d-8220-9ca8cc37c4c5/predic
headers={'Authorization': 'Bearer ' + mltoken})
print("Scoring response")
predictions=response_scoring.json()
print(predictions['predictions'][0]['values'][0][0])

Scoring response
1
```

The bottom of the interface shows a system tray with weather information (27°C, Mostly cloudy) and a taskbar with various application icons. The system clock indicates 19:18 on 10-11-2022.



This screenshot shows the same Jupyter Notebook interface, but with a modified code cell (In [6]:). The code is identical to the previous one, but it includes a conditional check on the prediction result. The output shows the raw JSON response followed by a printed message indicating the website is malicious.

```
In [6]: import requests

# NOTE: you must manually set API_KEY below using information retrieved from your IBM Cloud account.
API_KEY = "001tA0u5406fPphWBHm7tmkdjxeN_rhZem6AvnxQsLaa"
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": [{"index", "having_IPhaving_IP_Address", "URLURL_Length", "Shortining_Service", "having_f

response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/ml/v4/deployments/6d3ea08e-4ce2-479d-8220-9ca8cc37c4c5/predic
headers={'Authorization': 'Bearer ' + mltoken})
print("Scoring response")
predictions=response_scoring.json()
pred=predictions['predictions'][0]['values'][0][0]
print(pred)

if(pred==1):
    print("The website is malicious")
else:
    print("The website is not malicious")

Scoring response
1
The website is malicious
```

The bottom of the interface shows the same system tray and taskbar as the previous screenshot, with the system clock indicating 19:21 on 10-11-2022.