

Project name	Car resale value prediction
Team ID	PNT2022TMID11620
Sprint number	4

In this sprint we deployed our model in the IBM cloud

The below code is used to insert the dataset into the IBM cloud where we must train and run our model

```
import os, types
import pandas as pd
from boto3.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='nDK3erqrsighqUE5UEOFDu-ZyuiImZ6U4QoP2_2Ri2Zu',
                              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 = 'carresalevaluepredictionibmklncei-donotdelete-pr-x5jz12jrfwjnzx'
object_key = 'autos1.csv'

body = cos_client.get_object(Bucket=bucket, Key=object_key)['Body']
# add missing __iter__ method, so pandas accepts body as file-like object
if not hasattr(body, "__iter__"): body.__iter__ = types.MethodType( __iter__, body )

df = pd.read_csv(body)
df.head()
```

Then we need to install the `ibm_watson_machine_learning` package

```
!pip install ibm_watson_machine_learning
```

Now we must get our url and api key and must insert in the below code

```
from ibm_watson_machine_learning import APIClient
wml_credentials = {
    "url": "https://us-south.ml.cloud.ibm.com",
    "apikey": "DceKrEN9EBsmpXev8x021lXYhIohOV5BPm4DVs72adUW"
}
client=APIClient(wml_credentials)
```

You can get your region link from <https://cloud.ibm.com/docs/overview?topic=overview-locations>

Then get the API key

API key details

Name

carresalemodel

Description**ID**

ApiKey-3180b458-2d3c-4f49-808e-e824c007187f

Status

Unlocked

Email

910619205068@smartinternz.com

Created by

Venkatesh T

Date created

2022-11-20 06:47 GMT

Last authentication

2022-11-21 10:00:12:192 GMT

Auth count

69

Now create space and then give the software spec needed

```
def guid_from_space_name(client,space_name):  
    space = client.spaces.get_details()  
    return(next(item for item in space['resources'] if item['entity']['name'] == space_name)['metadata']['id'])
```

```
space_uid=guid_from_space_name(client,'carresale model')  
print(space_uid)
```

```
2c9c0aec-de8e-4fa1-8dd6-9f48044b8de2
```

```
client.set.default_space(space_uid)
```

```
'SUCCESS'
```

```
client.software_specifications.list()
```

```
software_spec_uid = client.software_specifications.get_uid_by_name('runtime-22.1-py3.9')  
software_spec_uid
```

```
'12b83a17-24d8-5082-900f-0ab31fbfd3cb'
```



```
model_details=client.repository.store_model(model=r,meta_props={  
    client.repository.ModelMetaNames.NAME:"resale_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)
```

```
model_id
```

```
'8480c953-e0a8-47e7-b573-be0d6370b164'
```

Now your model will be deployed once you have clicked the deploy button from the assets
carresale model

Overview	Assets	Deployments	Jobs	Manage
<div>▽ 🔍 Search</div>				
Name	Type	Status	Asset	Last modified ↓
 resale_model_deployment	Online	 Deployed	resale_model	1 day ago Venkatesh T. (You)

Screenshots of the dashboards

Projects / Car resale value prediction IBM ...

Overview Assets Jobs Manage

Assets

resale_value_predict
1 day ago by you

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Resource usage

For this month in this project

4 CUH

Readme

Type project notes, reminders, or instructions

Project history

You created project [Car resale value prediction IBM KLNCE IT](#)
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→

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Quick start

- Create data pipelines with DataStage
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- Build and manage ML models with Watson Studio
- Query data anywhere

Projects

Car resale value prediction IBM KLNCE IT
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New in gallery

SAMPLE PROJECT
AI governance

Notifications

Online deployment ready
The online deployment [resale_model_deployment](#) in space [carres](#)
Yesterday at 03:23 PM

Deployments

carresale model
Yesterday at 03:22 PM

The endpoint and response coding are below

API reference Test

Direct link

Endpoint

<https://us-south.ml.cloud.ibm.com/ml/v4/deployments/31dd747d-b3a7-49f4-981a-0b257dbfc041/predictions?version=2022-11-20>

Bearer <token>

API

Code snippets

cURL	Java	JavaScript	Python	Scala
<pre>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_values_to_be_scored, another_array_of_values_to_be_scored]}]} response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/ml/v4/deployments/31dd747d-b3a7-49f4-981a-0b257dbfc041/predictions?version=2022-11-20', json=payload_scoring, headers={'Authorization': 'Bearer ' + mltoken})</pre>				