

TEAM ID : PNT2022TMID07294

IBM-Project-29403-1660125174

This pdf shows the sequence of images , that
occurs during deploying our model on IBM
WATSON .

TEAM MEMBERS: Shrvanatirha
Rishiram,
Janarthanan ,
Mithun

WATSON STUDIO FOR ML

Watson Machine Learning-iy

Active

cpdaas



Details

Actions...

Manage

Plan

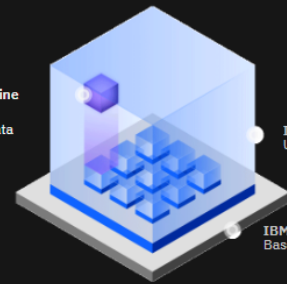
Connections



Watson Machine Learning in Cloud Pak for Data

Use Watson Machine Learning on Cloud Pak for Data to put AI models to work. Deploy, monitor, and update models to get the insights you need from your data modeling.

Launch in IBM Cloud Pak for Data



IBM Watson Machine Learning in Cloud Pak for Data

IBM Cloud Pak for Data
Unifying platform

IBM Cloud
Base cloud infrastructure

IBM Watson Machine Learning is part of IBM Cloud Pak for Data and serves as the data science capability of the data fabric architecture.

Helpful links

Documentation

Learn about the tools and capabilities you

Learning path

Check out sample projects, notebooks, and

Videos

Watch videos to learn about Watson

CREATING NEW PROJECT

Service Details - IBM Cloud x IBM Watson Studio x +

dataplatfrom.cloud.ibm.com/home?context=peaa&type=ai&son_machine_learning&locale=en=true&quick_start_target=data_science_experience

IBM Watson Studio Search in your workspaces Buy ? Sanjai P's Account Dallas SP

Welcome, Sanjai

Build and manage ML models with Watson Studio

Watson Studio is a service that you use to build, deploy, and manage AI models and to optimize decisions. Work within a project to build models. Customize how you work by choosing from notebooks, graphical canvases, and no-code tools.

Get started

- Sample project**
Open a sample project with pre-built Watson Studio assets.
- New project** ✓
Create a project and then add your own data to get started.

Cancel Next

Take a tutorial
Step through implementing a Data Science Fabric use case in a sample project. →

Quick start

- Create data pipelines with DataStage
- Build customer profiles with IBM Match 360 with Watson

Feedback

22:38 10-11-2022

NEW PROJECT DESCRIPTION

New project

Define details


Name

Real Time Communication For Specially Abled People

Description

The project deals on building an application which helps the specially challenged people to communicate between them and the common people. Communication between a person with hearing/speech impairment and a normal person has always been a challenging task. This application tries to reduce the barrier of communication by

Choose project options

☐ Restrict who can be a collaborator ⓘ☐ Mark as complete 

Storage

Cloud Object Storage-sm

Cancel

Create

LINKING CLOUD OBJECT SERVICE

Final_Code x (1) White x Service D x IBM Watson x IBM Watson x IBM x IBM-EP x IBM Proj x (no subje x

dataplatform.cloud.ibm.com/data/catalog/cloud-object-storage?context=cpdaas&target=cloud-object-storage&cloud-object-storage

IBM Watson Studio Search in your workspaces Buy ? Bell Rupesh Vijayan's Account Dallas RV

Services catalog /

Cloud Object Storage

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

Create About

workloads.

Configure your resource

Service name

Cloud Object Storage-mv

Select a resource group

Default

Tags

Examples: env:dev, version-1

Summary

Cloud Object Storage

Region: Global

Plan: Lite

Service name: Cloud Object Storage-mv

Resource group: Default

Creating...

View terms

Type here to search

18:06 11-11-2022

UPLOADING THE PYTHON FILES

Service Details - IBM Cloud x IBM Watson Studio x New Tab x

dataplatfom.cloud.ibm.com/project/2eb593f2-b040-4c34-9411c-eb5bb1f7027/assets?context=cpd&as

IBM Watson Studio Search in your workspaces Buy ? Sanjai P's Account Dallas SP

Projects / Real Time Communication For Sp...

Blank From file From URL

Name
Model Building

Select runtime
Runtime 22.1 on Python 3.9 XXS (1 vCPU 4 GB RAM) v

Description (optional)
This file contains the code for building the model and training the model.

The selected runtime has 1 vCPU and 4 GB RAM. It consumes 0.5 capacity units per hour. [Learn more](#) about capacity unit hours and Watson Studio pricing plans.

Notebook file
Upload only .ipynb files. 52 MB max file size.

Drag and drop files here or upload.

Model_building.ipynb x

Cancel Create

Type here to search

23:21 10-11-2022 ENG

LINKING WATSON MACHINE LEARNING

Final_Code.ipynb - Co x WhatsApp x Service Details - IBM x IBM Watson Studio x IBM x (no subject) - sanjain x

← → ↻ dataplatform.cloud.ibm.com/home?context=opdas&app=data_science_experience&locale=true&quick_start_target=data_science_experience

IBM Watson Studio Search in your workspace Buy ↗ ⌚ 🔔 Rupesh Vijayan's Account Dallas RV

Services catalog /

Watson Machine Learning

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

Create About

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 20 capacity unit-hours (CUH) included:	Free ✓

Summary

Watson Machine Learning

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

Create

[View terms](#)

Type here to search

17:39 11-11-2022 ENG

ADDING ASSETS TO PROJECT

Service Details - IBM Cloud

IBM Watson Studio

+

← → ↺

dataplatfom.cloud.ibm.com/projects/3ea19512-1061-4e14-9311-c265b2b1f7027/context=cp1aa3

🔍 📄 ☆ ⚙️ 📱 🌐

Watson Studio

Search in your workspaces

Buy

🔗

?

🔔

Sanjai P's Account

▼

Dallas

▼

SP

Real Time Communication For Sp...

📶

👤

Launch IDE

▼

🔔

📄

🕒

💬

⚙️


Assets

Jobs

Manage

Assets

Assets that you create with tools show here. See data assets on the Assets page.



[View all](#)

Resource usage

For this month in this project

0 CUH

Readme

Type project notes, reminders, or instructions


Project history

👤

You created project [Real Time Communication For Specially Abled People](#)

Today at 10:49 PM

Type here to search



🔊

📶

ENG

22:50

10-11-2022

🗨️

CREATING JUPYTER EDITOR

Service Details - IBM Cloud

IBM Watson Studio

New Tab

dataplatfrom.cloud.ibm.com/projects/3c2b93f2-3060-4e54-911c-e64b2a117027/assets.context=cpeaas

IBM Watson Studio

Search in your workspaces

Buy

Sanjai P's Account

Dallas

SP

Projects / Real Time Communication For Sp...

Launch IDE

New notebook

Blank

From file

From URL

Name

Model Building

Description (optional)

This file contains the code for building the model and training the model.

Select runtime

Runtime 22.1 on Python 3.9 XS (2 vCPU 8 GB RAM)

The selected runtime has 2 vCPU and 8 GB RAM.
It consumes 1 capacity unit per hour.
[Learn more](#) about capacity unit hours and Watson Studio pricing plans.

Language

☒ Python 3.9

Cancel

Create

Type here to search

22:59
10-11-2022

UPLOADING JUPYTER FILE ON EDITOR

Service Details - IBM Cloud | IBM Watson Studio | New Tab

dataplatfor.cloud.ibm.com/projects/2c0a03f2-0103-4e54-b91c-00602b1f7027/asset?context=cptdaas

IBM Watson Studio | Search in your workspaces | Buy | Sanjai P's Account | Dallas | SP

Projects / Real Time Communication For Sp...

New notebook

Blank | **From file** | From URL

Name: Model Building

Description (optional): This file contains the code for building the model and training the model.

Select runtime: Runtime 22.1 on Python 3.9 XXS (1 vCPU 4 GB RAM) ▾

The selected runtime has 1 vCPU and 4 GB RAM. It consumes 0.5 capacity units per hour. [Learn more](#) about capacity unit hours and Watson Studio pricing plans.

Notebook file: Upload only .ipynb files. 52 MB max file size.

Drag and drop files here or upload

Cancel | Create

Type here to search | 23:21 10-11-2022

Service Details - IBM Cloud

Model Building - IBM Watson Stu

New Tab

← → ↻

dataplatfom.cloud.ibm.com/analytics/notebooks/v2/aefe2b93-f10b-4359-b8fc-da049692a699?projectid=3eba93f2-b0f0-4e54-911c-e66b2b1f7027&context...

🔍 📌 ☆ 🛠️ 🖨️ 🌐

IBM Watson Studio

Search in your workspaces

Buy

🔗

?

🔔

Sanjai P's Account

Dallas

SP

Projects / Real Time Communication For Sp... / Model Building

🔧 ⌵ 🔗 📄 ⌵ ⬇️ ⋮ ⓘ 📄 ⌛ 💬 🛠️

UPLOADING STARTED

16%

Instantiating runtime for Model Building

The selected runtime has 1 vCPU and 4 GB RAM.
It consumes 0.5 capacity units per hour.

🪟 🔍 Type here to search

📁

🌐

🛒

📧

🎮

🕒

🌐


🔧

🔗

🔧

👤 ⬆️ 🔊 🔊 ENG 23:21 10-11-2022

🗨️



87%

Windows taskbar showing search bar, taskbar icons (File Explorer, Edge, etc.), and system tray (clock, network, volume).

ADDING STREAMING BODY

Model Building - x Downloads x IBM Cloud x Model Building x Identity & Access x python - Keras x New tab

dataplatfom.cloud.ibm.com/analytics/notebooks/v2/cb90d87a-dbfa-4065-954b-e77d97a01156?projectid=0744a4cd-1444-435b-97cd-ed722aa21b7f&context=cp...

IBM Watson Studio Search in your workspaces Buy Rupesh Vijayan's Account Dallas RV

Projects / Real Time Communication for sp... / Model Building

File Edit View Insert Cell Kernel Help Trusted Python 3.9

In [100]:
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='aqprHZFuH38ECUn869hHk4qyvS_iKJfrZAWUJJQ-mQKx',
 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 = 'realtimecommunicationforspecially-donotdelete-pr-rfqndcvwgch6fu'
object_key = 'Dataset.zip'

streaming_body_4 = cos_client.get_object(Bucket=bucket, Key=object_key)['Body']

Your data file was Loaded into a botocore.response.StreamingBody object.
Please read the documentation of ibm_boto3 and pandas to learn more about the possibilities to load the data.
ibm_boto3 documentation: https://ibm.github.io/ibm-cos-sdk-python/
pandas documentation: http://pandas.pydata.org/

Format
Code

Data

Files Connections

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

Drag and drop files here or upload.

1.png
Insert to code

Dataset.zip
Insert to code

Type here to search

23:46 11-11-2022

Service Details - IBM Cloud x Model Building - IBM Watson Studio x New Tab

dataplatform.cloud.ibm.com/analytics/notebooks/v2/aefe2b93-f10b-4359-b8fc-da049692a699?projectid=3eba93f2-b0f0-4e54-911c-e66b2b1f7027&context...

IBM Watson Studio Search in your workspaces Buy Sanjai P's Account Dallas

Projects / Real Time Communication For Sp... / Model Building

File Edit View Insert Cell Kernel Help Not Trusted Python 3.9

```
In [14]: model.add(Dense(units=512, activation='relu'))
In [15]: model.add(Dense(units=9, activation='softmax'))
In [16]: model.compile(loss='categorical_crossentropy', optimizer='adam', metrics=['accuracy'])
In [17]: model.fit_generator(x_train, steps_per_epoch=24, epochs=10, validation_data=x_test, validation_steps=40)

/usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:1: UserWarning: "Model.fit_generator" is deprecated and will be removed in a future version. Please use "Model.fit", which supports generators.
    """Entry point for launching an IPython kernel.

Epoch 1/10
24/24 [=====] - 17s 666ms/step - loss: 1.9786 - accuracy: 0.5628
Epoch 2/10
24/24 [=====] - 16s 662ms/step - loss: 1.4525 - accuracy: 0.6621
Epoch 3/10
24/24 [=====] - 16s 676ms/step - loss: 0.9580 - accuracy: 0.6842
Epoch 4/10
24/24 [=====] - 16s 675ms/step - loss: 0.7076 - accuracy: 0.7240
Epoch 5/10
24/24 [=====] - 16s 659ms/step - loss: 0.6103 - accuracy: 0.7488
Epoch 6/10
24/24 [=====] - 16s 663ms/step - loss: 0.5805 - accuracy: 0.8054
Epoch 7/10
24/24 [=====] - 17s 679ms/step - loss: 0.4164 - accuracy: 0.8904
Epoch 8/10
24/24 [=====] - 18s 723ms/step - loss: 0.3408 - accuracy: 0.8994
Epoch 9/10
24/24 [=====] - 16s 659ms/step - loss: 0.2641 - accuracy: 0.9536
Epoch 10/10
24/24 [=====] - 16s 664ms/step - loss: 0.1676 - accuracy: 0.9672

Out[17]: <keras.callbacks.History at 0x7f8d786377d0>

In [18]: model.save('RSL.h5')
```

MODEL FITTING

Type here to search 23:26 10-11-2022

CLIENT SOFTWARE

CLIENT SOFTWARE

Model Building - x Downloads x IBM Cloud x Model Building - x Identity & Access x Python - Keras In x New Tab x +

< → ↺ dataplatform.cloud.ibm.com/analytics/notebooks/vz/cb90d07a-dbf4-4065-954b-e77d9fa01156/projectId=674aa4cd-1444-435b-97cd-ed722aa21b7f&context=cp... ☆ ⚙ □ S :

IBM Watson Studio 🔍 Search in your workspaces Buy ⓘ ? 🛔 Rupesh Vijayan's Account ▾ Dallas ▾ RV

Projects / Real Time Communication for sp... / Model Building 🔊 ▾ 🔗 ▾ ⬇ : ⌚ ⚙ ⏮ ☰

File Edit View Insert Cell Kernel Help Trusted | Python 3.9 ○ ↻

📁 ⊕ ✂ 📄 📄 ⊕ ⊖ ▶ Run ⏸ ↺ ▶▶ Format Code 🧑‍💻

```
CLIENT

In [ ]: def guid_space_name(client, animal_deploy):
        space = client.spaces.get_details()
        return(next(item for item in space['resources'] if item['entity']['name'] == animal_deploy))["metadata"]["id"])

In [ ]: space_uid = guid_space_name(client, 'animal_deploy')
        print("Space UID "+space_uid)

In [ ]: client.set_default_space(space_uid)

In [ ]: client.software_specifications.list(200)

In [ ]: software_space_uid = client.software_specifications.get_uid_by_name('tensorflow_rt22.1-py3.9')

In [ ]: software_space_uid

In [ ]: model_details = client.repository.store_model(model='animal-classification-model.tgz', meta_props={
        client.repository.ModelMetaNames.NAME: "CNN Model Building",
        client.repository.ModelMetaNames.TYPE: 'tensorflow_2.7',
        client.repository.ModelMetaNames.SOFTWARE_SPEC_UID: software_space_uid
    })
```

Data X

Files Connections

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

Drag and drop files here or upload.

1.png
Insert to code ▾

Dataset.zip
Insert to code ▾

Type here to search 🖨️ 📱 📅 📁 💰 🔄 🎯 🌀 🌐 🧠 🔄 ENG 23:46 11-11-2022 🗨️

Spyder (Python 3.9)

File Edit Search Source Run Debug Consoles Projects Tools View Help

C:\Users\ELCOT\jupyter\untitled2.py

```
1 import cv2 #importing opencv Library this i to open camera and take the video
2 import numpy as np # to convert image to array and expand dimensions
3 from tensorflow.keras.models import load_model # to Load the saved model
4 from tensorflow.keras.preprocessing import image # to preprocess the image
5 model = load_model("dataset.h5") # we are loading the saved moodek
6 video = cv2.VideoCapture(0) # two parameters 1, bool 0 or 1, frame
7 index = ["A","B","C","D","E"]
8 index=['A','B','C','D','E','']
9 #from playsound import playsound
10 while(1):
11     success,frame = video.read()
12     cv2.imwrite("image.jpg",frame)
13     img = image.load_img("image.jpg",target_size = (64,64))
14     x = image.img_to_array(img)
15     x = np.expand_dims(x,axis = 0)
16     pred = np.argmax(model.predict(x),axis=1)
17     p = index [pred[0]]
18     print("detected animal is: "+ str(p))
19     #playsound("animal"+str(str(index [p]))+"is detected"))
20     cv2.putText (frame, "predicted animal is "+str(p), (100, 100), cv2. FONT_HERSHEY_SIMPLEX,
21                 (0,0,0), 4)
22     cv2.imshow("showcasewindow", frame)
23
24     if cv2.waitKey(1) & 0xFF == ord('a'):
25         break
26 video.release()
27 cv2.destroyAllWindows()
```

Usage

Here you can get help of any object by pressing **Ctrl+I** in front of it, either on the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in *Preferences > Help*.

New to Spyder? Read our [tutorial](#)

Help Variable Explorer Plots Files

Console 1/A x

In [3]: |

DEPLOYING JUPYTER

IPython console History

LSP Python: ready conda (Python 3.9.7) Line 8, Col 29 UTF-8 CRLF RW Mem 61%

Type here to search

01:12 11-11-2022