

Welcome, Sachin!

Take a tutorial

Step through implementing a Data fabric use case in a sample project.



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A Novel Method for Handwritten Digit

Nov 08, 2022
02:58 PM



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MNISTCNN

Today at 04:04 PM

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Account settings

Upgrade your account, activate special features, and redeem discounts.



Resource groups

Group your resources so you can quickly assign users access to multiple resources at a time. Resource groups are available for all resources that are managed by IBM Cloud Identity and Access Management.

Cloud Foundry orgs

Adjust resource quotas, users, spaces, and custom domains.

Licenses and entitlements

Assign licenses to your account for account members to use when installing software.

Tags

Use tags to manage your resources.

File Edit View Insert Cell Kernel Help

Notebook saved Trusted | Python 3.9

A toolbar with icons for Run, Format, and Code. The Run icon is a blue play button. The Format icon is a blue square with a white 'F'. The Code icon is a blue square with a white 'C'. The Run button is highlighted with a blue background.

```
In [8]: import numpy as np
import tensorflow
from tensorflow.keras.datasets import mnist
from tensorflow.keras.models import Sequential
from tensorflow.keras import layers
from tensorflow.keras.layers import Dense, Flatten, MaxPooling2D, Dropout

from tensorflow.keras.layers import Conv2D
from tensorflow.keras.optimizers import Adam
from keras.utils import np_utils
import matplotlib.pyplot as plt
```

```
In [9]: (x_train, y_train), (x_test, y_test) = mnist.load_data()

Downloading data from https://storage.googleapis.com/tensorflow/tf-keras-datasets/mnist.npz
11493376/11490434 [=====] - 0s 0us/step
11501568/11490434 [=====] - 0s 0us/step
```

```
In [10]: x_train = x_train.reshape(60000, 28, 28, 1).astype('float32')
x_test = x_test.reshape(10000, 28, 28, 1).astype('float32')
```

```
In [11]: model= Sequential()

model.add(Conv2D(64, (3,3),input shape=(28, 28, 1), activation="relu"))
```

```
1.01574847e-06 9.31028069e-07]
[2.42185621e-07 8.97349917e-10 6.18237763e-08 ... 1.05009434e-07
1.49167624e-06 3.82207546e-08]
[5.24425695e-06 8.10224332e-09 1.24899611e-06 ... 1.19593530e-10
1.31901152e-06 1.33131306e-05]]
```

```
In [18]: print(np.argmax(predictions[0]))
```

7

```
In [23]: model.save('mnistCNN.h5')
```

```
In [27]: # Compress the file
!tar -zcvf Handwritten-recognition-model.tgz mnistCNN.h5
```

mnistCNN.h5

In []:

In [32]: client

Out[32]: <ibm_watson_machine_learning.client.APIClient at 0x7f3f14b62040>

In [33]: client.spaces.list()

Note: 'limit' is not provided. Only first 50 records will be displayed if the number of records exceed 50

ID	NAME	CREATED
101561d3-485c-41d6-9699-ccc0910823b0	MNISTCNN	2022-11-14T10:33:58.152Z

In [34]: space_id = "101561d3-485c-41d6-9699-ccc0910823b0"

In [35]: client.set.default_space(space_id)

Out[35]: 'SUCCESS'

In []: |


```
In [2]: !pip install ibm_watson_machine_learning
```

Collecting ibm_watson_machine_learning

Downloading ibm_watson_machine_learning-1.0.257-py3-none-any.whl (1.8 MB)

```
----- 1.8/1.8 MB 1.3 MB/s eta 0:00:00
```

```
Collecting ibm-cos-sdk==2.11.*
```

Downloading ibm-cos-sdk-2.11.0.tar.gz (53 kB)

```
----- 53.3/53.3 kB 551.9 kB/s eta 0:00:00
```

```
Preparing metadata (setup.py): started
```

```
Preparing metadata (setup.py): finished with status 'done'
```

```
Requirement already satisfied: urllib3 in c:\users\elcot\anaconda3\lib\site-packages (from ibm_watson
machine learning) (1.26.11)
```

```
Collecting lomond
```

Downloading lomond-0.3.3-py2.py3-none-any.whl (35 kB)

Requirement already satisfied: tabulate in c:\users\elcot\anaconda3\lib\site-packages (from ibm_watson machine learning) (0.8.10)

Requirement already satisfied: packaging in c:\users\elcot\anaconda3\lib\site-packages (from ibm_watson_machine_learning) (21.3)

```
Requirement already satisfied: importlib-metadata in c:\users\elcot\anaconda3\lib\site-packages (from
ibm watson machine learning) (4.11.3)
```

Requirement already satisfied: pandas<1.5.0,>=0.24.2 in c:\users\elcot\anaconda3\lib\site-packages (from ibm watson machine learning) (1.4.4)

Requirement already satisfied: requests in c:\users\elcot\anaconda3\lib\site-packages (from ibm_watson-machine-learning) (2.28.1)



d 50

ID

101561d3-485c-41d6-9699-ccc0910823b0

NAME _____

MNISTCNN

CREATED

2022-11-14T10:33:58.152Z

```
In [14]: space_id = "101561d3-485c-41d6-9699-ccc0910823b0"
```

```
In [15]: client.set.default_space(space_id)
```

```
Out[15]: 'SUCCESS'
```

```
In [16]: model_id = "504d76ad-a25e-42de-879d-dad5b7c388fa"
```

```
In [20]: client.repository.download(model_id, 'mnistCNN.tgz')
```

Successfully saved model content to file: 'mnistCNN.tgz'

```
Out[20]: 'C:\\Users\\ELCOT\\mnistCNN.tgz'
```

In []:

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Space Details

Name

MNISTCNN

Description

No description provided.

Space GUID

101561d3-485c-41d6-9699-ccc091082...

Date created

Nov 14, 2022, 4:03 PM

by Sachin Siyam (You)

Last updated

Nov 14, 2022, 4:04 PM

Cloud Obj...

Storage used

924.78 KB

used

Name

Cloud Object Storage-jt

Bucket

6e7ce925-274c-4ba5-a1a6-856a82f9f6b7

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eu-de.dataplatform.cloud.ibm.com/ml-runtime/spaces/101561d3-485c-41d6-9699-ccc0910823b0/assets?context=cpdaas

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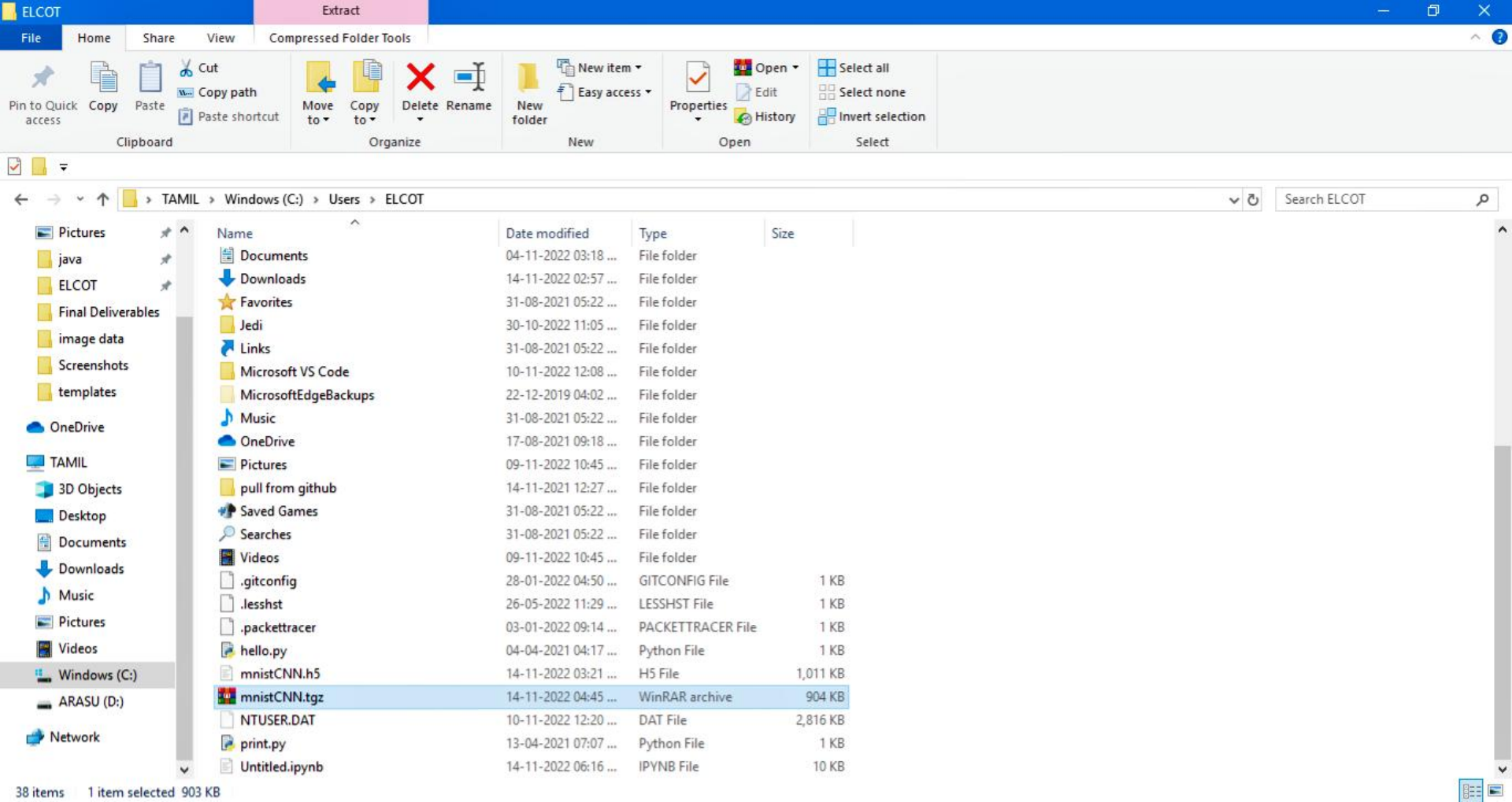
1 space

New deployment space +

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New: New folder, Easy access

Open: Properties, Open, History

Select: Select all, Select none, Invert selection

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	Name	Date modified	Type	Size
Pictures	Documents	04-11-2022 03:18 ...	File folder	
java	Downloads	14-11-2022 02:57 ...	File folder	
ELCOT	Favorites	31-08-2021 05:22 ...	File folder	
Final Deliverables	Jedi	30-10-2022 11:05 ...	File folder	
image data	Links	31-08-2021 05:22 ...	File folder	
Screenshots	Microsoft VS Code	10-11-2022 12:08 ...	File folder	
templates	MicrosoftEdgeBackups	22-12-2019 04:02 ...	File folder	
OneDrive	Music	31-08-2021 05:22 ...	File folder	
TAMIL	OneDrive	17-08-2021 09:18 ...	File folder	
3D Objects	Pictures	09-11-2022 10:45 ...	File folder	
Desktop	pull from github	14-11-2021 12:27 ...	File folder	
Documents	Saved Games	31-08-2021 05:22 ...	File folder	
Downloads	Searches	31-08-2021 05:22 ...	File folder	
Music	Videos	09-11-2022 10:45 ...	File folder	
Pictures	.gitconfig	28-01-2022 04:50 ...	GITCONFIG File	1 KB
Videos	.lessht	26-05-2022 11:29 ...	LESSHST File	1 KB
Windows (C:)	.packettracer	03-01-2022 09:14 ...	PACKETTRACER File	1 KB
ARASU (D:)	hello.py	04-04-2021 04:17 ...	Python File	1 KB
Network	mnistCNN.h5	14-11-2022 03:21 ...	H5 File	1,011 KB
	mnistCNN.tgz	14-11-2022 04:45 ...	WinRAR archive	904 KB
	NTUSER.DAT	10-11-2022 12:20 ...	DAT File	2,816 KB
	print.py	13-04-2021 07:07 ...	Python File	1 KB
	Untitled.ipynb	14-11-2022 06:16 ...	IPYNB File	10 KB