

Diplomado en ML Cloud - UCB CBBA

Módulo 4: Machine Learning Cloud MLOps

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Laboratorio 7

Creación y activación del entorno de Azure ML en Conda

```
Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#     $ conda activate azureml
#
# To deactivate an active environment, use
#
#     $ conda deactivate
#
(base) root@a0b6f7779a9:/# conda activate azureml
(azureml) root@a0b6f7779a9:/#
(azureml) root@a0b6f7779a9:/# pip install azure-ai-ml azureml-core azureml-pipeline azureml-dataprep azureml-dataset-runtime azureml-defaults
Collecting azure-ai-ml
  Using cached azure_ai_ml-1.28.1-py3-none-any.whl.metadata (39 kB)
Collecting azureml-core
  Using cached azureml_core-1.60.0-post1-py3-none-any.whl.metadata (3.4 kB)
Collecting azureml-pipeline
  Using cached azureml_pipeline-1.60.0-py3-none-any.whl.metadata (2.0 kB)
Collecting azureml-dataprep
  Using cached azureml_dataprep-5.4.1-py3-none-any.whl.metadata (2.3 kB)
Collecting azureml-dataset-runtime
  Using cached azureml_dataset_runtime-1.60.0-py3-none-any.whl.metadata (1.4 kB)
Collecting azureml-defaults
  Using cached azureml_defaults-1.60.0-py3-none-any.whl.metadata (914 bytes)
Collecting pyyaml<7.0.0,>=5.1.0 (from azure-ai-ml)
  Downloading PyYAML-6.0.2-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (2.1 kB)
Collecting msrest<1.0.0,>=0.6.18 (from azure-ai-ml)
  Using cached msrest-0.7.1-py3-none-any.whl.metadata (21 kB)
Collecting azure-core<1.23.0 (from azure-ai-ml)
  Using cached azure_core-1.35.0-py3-none-any.whl.metadata (44 kB)
Collecting azureml-core-1.60.0-post1-py3-none-any.whl (44 kB)
```

Instalación del SDK v2 de Azure ML

```
Selecting previously unselected package azure-cli.
(Reading database ... 12609 files and directories currently installed.)
Preparing to unpack .../azure-cli-2.77.0-1-bookworm_amd64.deb ...
Unpacking azure-cli (2.77.0-1-bookworm) ...
Setting up azure-cli (2.77.0-1-bookworm) ...
(azureml) root@a0b6f7779a9:/# az login
To sign in, use a web browser to open the page https://microsoft.com/devicelogin and enter the code BSHZ3S4AT to authenticate.
Retrieving tenants and subscriptions for the selection...
[Tenant and subscription selection]
No Subscription name Subscription ID Tenant
----
[1] * Azure for Students ffc4c015-c8d3-44de-982e-2fb248a57ad7
The default is marked with an *; the default tenant is 'usfx.bo' and subscription is 'Azure for Students' (ffc4c015-c8d3-44de-982e-2fb248a57ad7).
Select a subscription and tenant (Type a number or Enter for no changes):
Tenant: k.bo
Subscription: Azure for Students (ffc4c015-c8d3-44de-982e-2fb248a57ad7)
[Announcements]
With the new Azure CLI login experience, you can select the subscription you want to use more easily. Learn more about it and its configuration at
https://go.microsoft.com/fwlink/?linkid=2271236
If you encounter any problem, please open an issue at https://aka.ms/azclibug
[Warning] The login output has been updated. Please be aware that it no longer displays the full list of available subscriptions by default.
(azureml) root@a0b6f7779a9:/#
```

Instalación del Azure CLI con la extensión ML

```
(azureml) root@a0b6f7779a9:/#
(azureml) root@a0b6f7779a9:/#
(azureml) root@a0b6f7779a9:/# az extension add -n ml -y
(azureml) root@a0b6f7779a9:/#
```

Ejecución

Mostrar en consola el mensaje de conexión a azure ml correcta

```
by default or format configured by --output.

To search AI knowledge base for examples, use: az find "az "
(azureml) root@a0b6f7779a9:usr/src# nvim test_azureml.py
(azureml) root@a0b6f7779a9:usr/src# az group list --query "[].name" -o table
Result
-----
rg-mlops-ucb
(azureml) root@a0b6f7779a9:usr/src# az monitor log-analytics workspace list --query "[{.Name:name, ResourceGroup:resourceGroup}]" -o table
Name ResourceGroup
-----
wsmlopsucb6066561856 rg-mlops-ucb
(azureml) root@a0b6f7779a9:usr/src#
```

```
docker run -it continuumio/miniconda3:23.3.1-1 /bin/bash
from azure.ai.ml import MLClient
from azure.identity import DefaultAzureCredential
try:
    client = MLClient(
        DefaultAzureCredential(),
        subscription_id='ffc4c015-cl-4-Je-982e-!48a57ad7',
        resource_group_name='rg-mlops-ucb',
        workspace_name='wsmLopsucb6066561856'
    )
    print('Conexión a Azure ML correcta')
except Exception as e:
    print('Error:', e)
```

```
docker run -it continuumio/miniconda3:23.3.1-1 /bin/bash
(azureml) root@a00b6f7779a9:/usr/src#
(azureml) root@a00b6f7779a9:/usr/src#
(azureml) root@a00b6f7779a9:/usr/src# nvim test_azureml.py
(azureml) root@a00b6f7779a9:/usr/src# python test_azureml.py
Conexión a Azure ML correcta
(azureml) root@a00b6f7779a9:/usr/src#
(azureml) root@a00b6f7779a9:/usr/src#
(azureml) root@a00b6f7779a9:/usr/src#
```