

my-first-vertex-AI-LAB

September 13, 2023

```
[2]: USER_FLAG="--user"
```

```
[3]: !pip3 install {USER_FLAG} google-cloud-aiplatform
```

```
Requirement already satisfied: google-cloud-aiplatform in
/opt/conda/lib/python3.7/site-packages (1.29.0)
Requirement already satisfied: google-api-core[grpc]!=2.0.*,!=2.1.*,!=2.2.*,!=2.
3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0 in
/opt/conda/lib/python3.7/site-packages (from google-cloud-aiplatform) (1.34.0)
Requirement already satisfied: proto-plus<2.0.0dev,>=1.22.0 in
/opt/conda/lib/python3.7/site-packages (from google-cloud-aiplatform) (1.22.3)
Requirement already satisfied: protobuf!=3.20.0,!=3.20.1,!=4.21.0,!=4.21.1,!=4.2
1.2,!=4.21.3,!=4.21.4,!=4.21.5,<5.0.0dev,>=3.19.5 in
/opt/conda/lib/python3.7/site-packages (from google-cloud-aiplatform) (3.19.6)
Requirement already satisfied: packaging>=14.3 in /opt/conda/lib/python3.7/site-
packages (from google-cloud-aiplatform) (23.1)
Requirement already satisfied: google-cloud-storage<3.0.0dev,>=1.32.0 in
/opt/conda/lib/python3.7/site-packages (from google-cloud-aiplatform) (2.10.0)
Requirement already satisfied: google-cloud-bigquery<4.0.0dev,>=1.15.0 in
/opt/conda/lib/python3.7/site-packages (from google-cloud-aiplatform) (3.11.4)
Requirement already satisfied: google-cloud-resource-manager<3.0.0dev,>=1.3.3 in
/opt/conda/lib/python3.7/site-packages (from google-cloud-aiplatform) (1.10.3)
Requirement already satisfied: shapely<2.0.0 in /opt/conda/lib/python3.7/site-
packages (from google-cloud-aiplatform) (1.8.5.post1)
Requirement already satisfied: googleapis-common-protos<2.0dev,>=1.56.2 in
/opt/conda/lib/python3.7/site-packages (from google-api-core[grpc]!=2.0.*,!=2.1.
*,!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-
cloud-aiplatform) (1.56.4)
Requirement already satisfied: google-auth<3.0dev,>=1.25.0 in
/opt/conda/lib/python3.7/site-packages (from google-api-core[grpc]!=2.0.*,!=2.1.
*,!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-
cloud-aiplatform) (2.22.0)
Requirement already satisfied: requests<3.0.0dev,>=2.18.0 in
/opt/conda/lib/python3.7/site-packages (from google-api-core[grpc]!=2.0.*,!=2.1.
*,!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-
cloud-aiplatform) (2.31.0)
Requirement already satisfied: grpcio<2.0dev,>=1.33.2 in
/opt/conda/lib/python3.7/site-packages (from google-api-core[grpc]!=2.0.*,!=2.1.
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,!=2.2.,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-cloud-aiplatform) (1.48.1)

Requirement already satisfied: grpcio-status<2.0dev,>=1.33.2 in /opt/conda/lib/python3.7/site-packages (from google-api-core[grpc]!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-cloud-aiplatform) (1.48.1)

Requirement already satisfied: google-cloud-core<3.0.0dev,>=1.6.0 in /opt/conda/lib/python3.7/site-packages (from google-cloud-bigquery<4.0.0dev,>=1.15.0->google-cloud-aiplatform) (2.3.3)

Requirement already satisfied: google-resumable-media<3.0dev,>=0.6.0 in /opt/conda/lib/python3.7/site-packages (from google-cloud-bigquery<4.0.0dev,>=1.15.0->google-cloud-aiplatform) (2.5.0)

Requirement already satisfied: python-dateutil<3.0dev,>=2.7.2 in /opt/conda/lib/python3.7/site-packages (from google-cloud-bigquery<4.0.0dev,>=1.15.0->google-cloud-aiplatform) (2.8.2)

Requirement already satisfied: grpc-google-iam-v1<1.0.0dev,>=0.12.4 in /opt/conda/lib/python3.7/site-packages (from google-cloud-resource-manager<3.0.0dev,>=1.3.3->google-cloud-aiplatform) (0.12.6)

Requirement already satisfied: cachetools<6.0,>=2.0.0 in /opt/conda/lib/python3.7/site-packages (from google-auth<3.0dev,>=1.25.0->google-api-core[grpc]!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-cloud-aiplatform) (4.2.4)

Requirement already satisfied: pyasn1-modules>=0.2.1 in /opt/conda/lib/python3.7/site-packages (from google-auth<3.0dev,>=1.25.0->google-api-core[grpc]!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-cloud-aiplatform) (0.2.7)

Requirement already satisfied: rsa<5,>=3.1.4 in /opt/conda/lib/python3.7/site-packages (from google-auth<3.0dev,>=1.25.0->google-api-core[grpc]!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-cloud-aiplatform) (4.9)

Requirement already satisfied: six>=1.9.0 in /opt/conda/lib/python3.7/site-packages (from google-auth<3.0dev,>=1.25.0->google-api-core[grpc]!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-cloud-aiplatform) (1.16.0)

Requirement already satisfied: urllib3<2.0 in /opt/conda/lib/python3.7/site-packages (from google-auth<3.0dev,>=1.25.0->google-api-core[grpc]!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-cloud-aiplatform) (1.26.15)

Requirement already satisfied: google-crc32c<2.0dev,>=1.0 in /opt/conda/lib/python3.7/site-packages (from google-resumable-media<3.0dev,>=0.6.0->google-cloud-bigquery<4.0.0dev,>=1.15.0->google-cloud-aiplatform) (1.5.0)

Requirement already satisfied: charset-normalizer<4,>=2 in /opt/conda/lib/python3.7/site-packages (from requests<3.0.0dev,>=2.18.0->google-api-core[grpc]!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-cloud-aiplatform) (2.1.1)

Requirement already satisfied: idna<4,>=2.5 in /opt/conda/lib/python3.7/site-packages (from requests<3.0.0dev,>=2.18.0->google-api-core[grpc]!=2.0.*,!=2.1.*,

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!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-
cloud-aiplatform) (3.4)
Requirement already satisfied: certifi>=2017.4.17 in
/opt/conda/lib/python3.7/site-packages (from requests<3.0.0dev,>=2.18.0->google-
api-core[grpc]!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.*,!=2.4.*,!=2.5.*,!=2.6.*,!=2.7.*,<3
.0.0dev,>=1.32.0->google-cloud-aiplatform) (2023.7.22)
Requirement already satisfied: pyasn1<0.5.0,>=0.4.6 in
/opt/conda/lib/python3.7/site-packages (from pyasn1-modules>=0.2.1->google-
auth<3.0dev,>=1.25.0->google-api-core[grpc]!=2.0.*,!=2.1.*,!=2.2.*,!=2.3.*,!=2.4
.*,!=2.5.*,!=2.6.*,!=2.7.*,<3.0.0dev,>=1.32.0->google-cloud-aiplatform) (0.4.8)
```

```
[4]: !pip3 install {USER_FLAG} kfp google-cloud-pipeline-components --quiet
```

```
WARNING: The script tabulate is installed in '/home/jupyter/.local/bin'
which is not on PATH.

Consider adding this directory to PATH or, if you prefer to suppress this
warning, use --no-warn-script-location.

WARNING: The scripts dsl-compile, dsl-compile-deprecated and kfp are
installed in '/home/jupyter/.local/bin' which is not on PATH.

Consider adding this directory to PATH or, if you prefer to suppress this
warning, use --no-warn-script-location.
```

```
[5]: import os

if not os.getenv("IS_TESTING"):
    # Automatically restart kernel after installs
    import IPython

    app = IPython.Application.instance()
    app.kernel.do_shutdown(True)
```

```
[1]: !python3 -c "import kfp; print('KFP SDK version: {}'.format(kfp.__version__))"
!python3 -c "import google_cloud_pipeline_components;
↪print('google_cloud_pipeline_components version: {}'.
↪format(google_cloud_pipeline_components.__version__))"
```

```
KFP SDK version: 2.1.3
google_cloud_pipeline_components version: 2.3.1
```

```
[2]: import os
PROJECT_ID = ""

# Get your Google Cloud project ID from gcloud
```

```

if not os.getenv("IS_TESTING"):
    shell_output=!gcloud config list --format 'value(core.project)' 2>/dev/null
    PROJECT_ID = shell_output[0]
    print("Project ID: ", PROJECT_ID)

```

Project ID: serverless-gcp-391314

```

[3]: import kfp

from kfp.v2 import compiler, dsl
from kfp.v2.dsl import component, pipeline, Artifact, ClassificationMetrics,
↳ Input, Output, Model, Metrics

from google.cloud import aiplatform
from google_cloud_pipeline_components import aiplatform as gcc_aip
from typing import NamedTuple

```

/opt/conda/lib/python3.7/site-packages/ipykernel_launcher.py:3:

DeprecationWarning: The module `kfp.v2` is deprecated and will be removed in a future version. Please import directly from the `kfp` namespace, instead of `kfp.v2`.

This is separate from the ipykernel package so we can avoid doing imports until

```

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ImportError                                Traceback (most recent call last)
/tmp/ipykernel_1/2856779575.py in <module>
      5
      6 from google.cloud import aiplatform
----> 7 from google_cloud_pipeline_components import aiplatform as gcc_aip
      8 from typing import NamedTuple

ImportError: cannot import name 'aiplatform' from
↳ 'google_cloud_pipeline_components' (/home/jupyter/.local/lib/python3.7/
↳ site-packages/google_cloud_pipeline_components/__init__.py)

```