Intro to Vertex Pipelines

This document shows the details of creating and running ML Pipelines

1. Setting the project and enabling APIs required to build vertex pipelines

Text

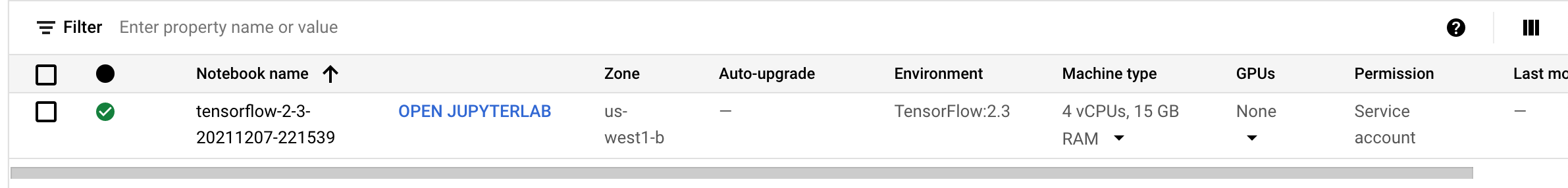
Description automatically generated

1. Creating a Cloud Storage Bucket

Text

Description automatically generated

1. Creating a Vertex AI Workbench instance



\*\*Attaching the Python notebook for the pipeline in github

**Pipeline after completion**

Timeline

Description automatically generated with low confidence

\*\*After clicking on the build-sentence component to see the final output

Graphical user interface

Description automatically generated with medium confidence

Creating an end-to-end ML pipeline

* Using UCI Machine Learning [Dry beans dataset](https://archive.ics.uci.edu/ml/datasets/Dry+Bean+Dataset), from: KOKLU, M. and OZKAN, I.A., (2020), "Multiclass Classification of Dry Beans Using Computer Vision and Machine Learning Techniques."

This pipeline will:

* Create a dataset in Vertex AI
* Train a tabular classification model with AutoML
* Get evaluation metrics on this model
* Deploy the model to an endpoint

\*\*Attaching the Python notebook for the pipeline in github

Output:

INFO:google.cloud.aiplatform.pipeline\_jobs:Creating PipelineJob

INFO:google.cloud.aiplatform.pipeline\_jobs:PipelineJob created. Resource name: projects/267810977261/locations/us-central1/pipelineJobs/automl-tab-beans-training-v2-20211208065510

INFO:google.cloud.aiplatform.pipeline\_jobs:To use this PipelineJob in another session:

INFO:google.cloud.aiplatform.pipeline\_jobs:pipeline\_job = aiplatform.PipelineJob.get('projects/267810977261/locations/us-central1/pipelineJobs/automl-tab-beans-training-v2-20211208065510')

INFO:google.cloud.aiplatform.pipeline\_jobs:View Pipeline Job:

<https://console.cloud.google.com/vertex-ai/locations/us-central1/pipelines/runs/automl-tab-beans-training-v2-20211208065510?project=267810977261>

After navigating to the link given, we see the below results:

1. ML Pipeline

Graphical user interface, application

Description automatically generated

1. Dataset:

Graphical user interface, application

Description automatically generated

1. Model artifacts:

Graphical user interface

Description automatically generated

A picture containing chart

Description automatically generated

Chart, bar chart

Description automatically generated

We also see that the model is deployed to the endpoint:

Graphical user interface, application, Teams

Description automatically generated

1. All other artifacts:

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, table

Description automatically generated

Graphical user interface, text, application, table

Description automatically generated