Serverless Machine Learning - Lab 2 : Getting Started with TensorFlow v1.3

1 hour 30 minutes   1 Credit   ⭐⭐⭐⭐⭐ Rate Lab

Overview

In this lab, you will perform the following tasks:

- Explore the TensorFlow Python API
- Building a graph
- Running a graph
- Feeding values into a graph
- Find the area of a triangle using TensorFlow

For each lab, you get a new GCP project and set of resources for a fixed time at no cost.

1. Make sure you signed into Qwiklabs using an **incognito window**.

2. Note the lab's access time (for example, **02:00:00** and make sure you can

   finish in that time block.

   > There is no pause feature. You can restart if needed, but you have to start at the beginning.

3. When ready, click **START LAB** .

4. Note your lab credentials. You will use them to sign in to Cloud Platform Console.

Open Google Console

Caution: When you are in the console, do not deviate from the lab instructions. Doing so may cause your account to be blocked. Learn more.

Username

google2876526_student@qwiklabs.n 📋

Password

TG959yrKDX 📋

GCP Project ID

qwiklabs-gcp-0855e773352d3560 📋

New to labs? View our introductory video!

5. Click **Open Google Console**.

6. Click **Use another account** and copy/paste credentials for **this** lab into the prompts.

> If you use other credentials, you'll get errors or **incur charges**.

7. Accept the terms and skip the recovery resource page.

> Do not click **End Lab** unless you are finished with the lab or want to restart it. This clears your work and removes the project.
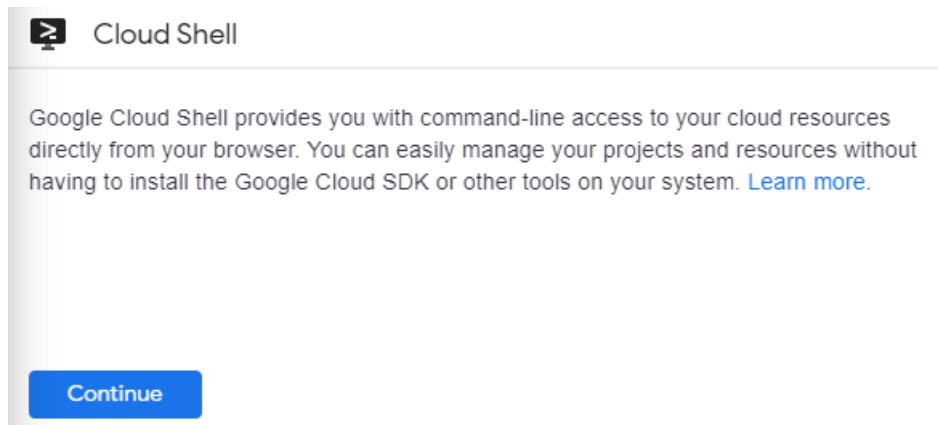
Activate Google Cloud Shell

Google Cloud Shell is a virtual machine that is loaded with development tools. It offers a persistent 5GB home directory and runs on the Google Cloud. Google Cloud Shell provides command-line access to your GCP resources.
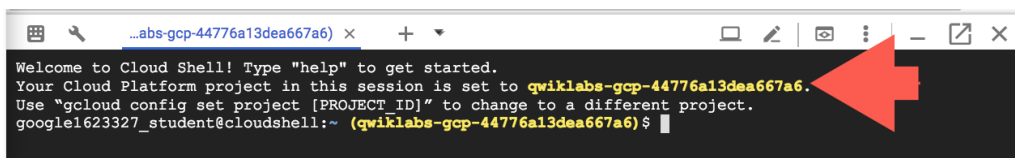
1. In GCP console, on the top right toolbar, click the Open Cloud Shell button.
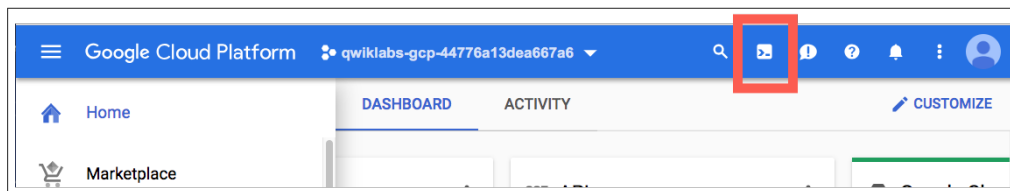
2. Click **Continue**.

It takes a few moments to provision and connect to the environment. When you are connected, you are already authenticated, and the project is set to your *PROJECT_ID*. For example:

gcloud is the command-line tool for Google Cloud Platform. It comes pre-installed on Cloud Shell and supports tab-completion.

You can list the active account name with this command:

```
gcloud auth list
```

Output:

```
Credentialed accounts:
  - <myaccount>@<mydomain>.com (active)
```

Example output:

```
Credentialed accounts:
 - google1623327_student@qwiklabs.net
```

You can list the project ID with this command:

```
gcloud config list project
```

Output:

```
[core]
project = <project_ID>
```

Example output:

```
[core]
project = qwiklabs-gcp-44776a13dea667a6
```
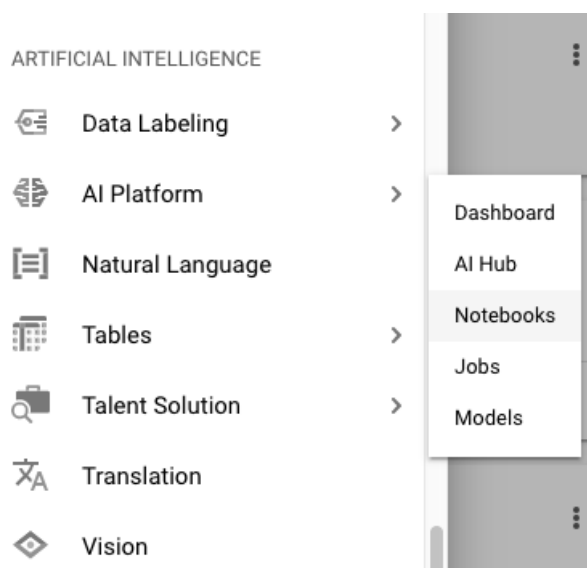
Full documentation of **gcloud** is available on Google Cloud gcloud Overview .

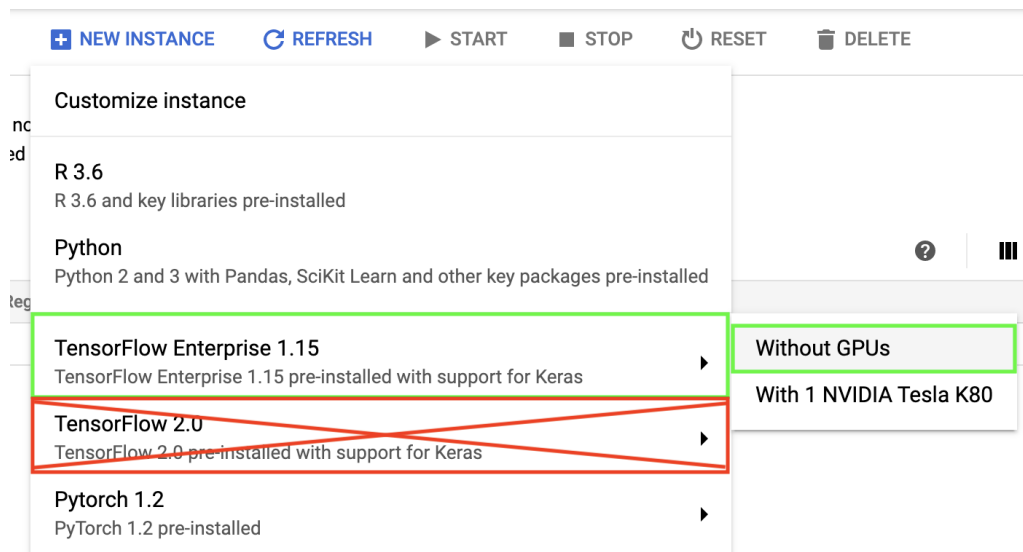# Launch AI Platform Notebooks

To launch AI Platform Notebooks:

Step 1

Click on the **Navigation Menu**. Navigate to **AI Platform**, then to **Notebooks**.

Step 2

On the Notebook instances page, click ➕ NEW INSTANCE . Select a `1.XX` version of

TensorFlow (not a 2.0) *without GPUs*. In the following example, you would select
Tensorflow Enterprise 1.15 > **Without GPUs**:

Tensorflow 1.XX versions change semi-frequently, so the version you pick may be
different.

In the pop-up, confirm the name of the deep learning VM and click **Create**.

New notebook instance

Instance name *

tensorflow-20190910-173036

Environment:

Image: TensorFlow 1.14 (with Intel® MKL-DNN/MKL and CUDA 10.0)
Packages: python2, python3, scikit-learn, pandas, and nltk.

Machine configurations: ?

Region and zone: us-west1-b
Machine type: 4 vCPUs, 15 GB RAM
Boot disk: 100 GB Disk

Networking:

Subnetwork *
default(10.138.0.0/20)

External IP: Ephemeral(Automatic)

Permission:

Compute Engine default service account

Estimated cost: ?

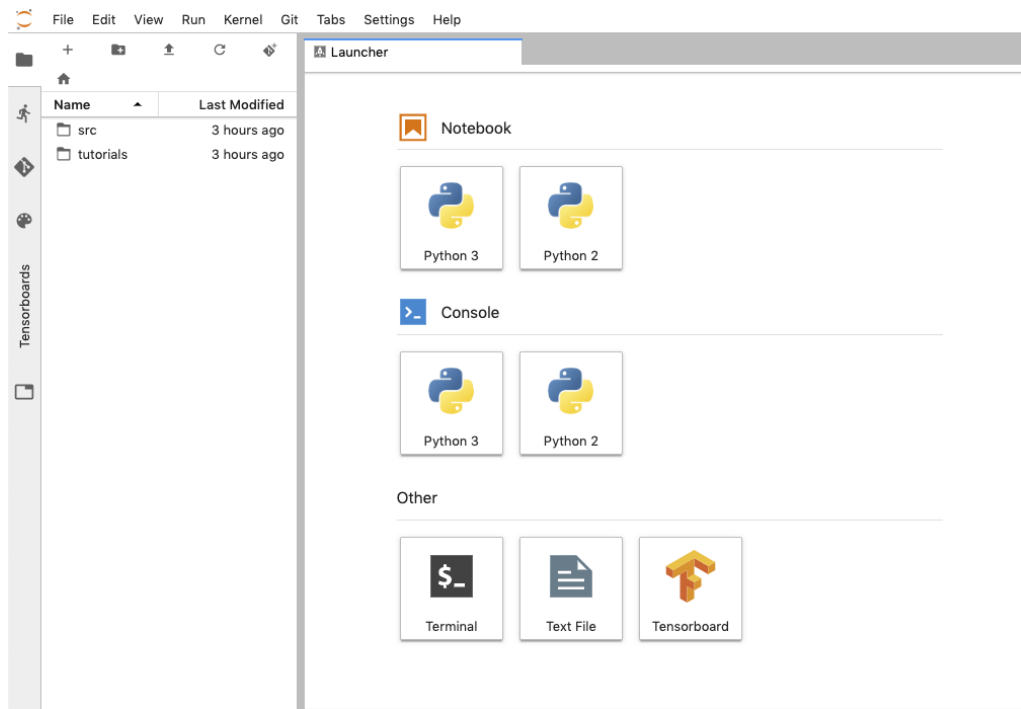$99.89 monthly, $0.137 hourly

CUSTOMIZE   CANCEL   CREATE

The new VM will take 2-3 minutes to start.

Step 3

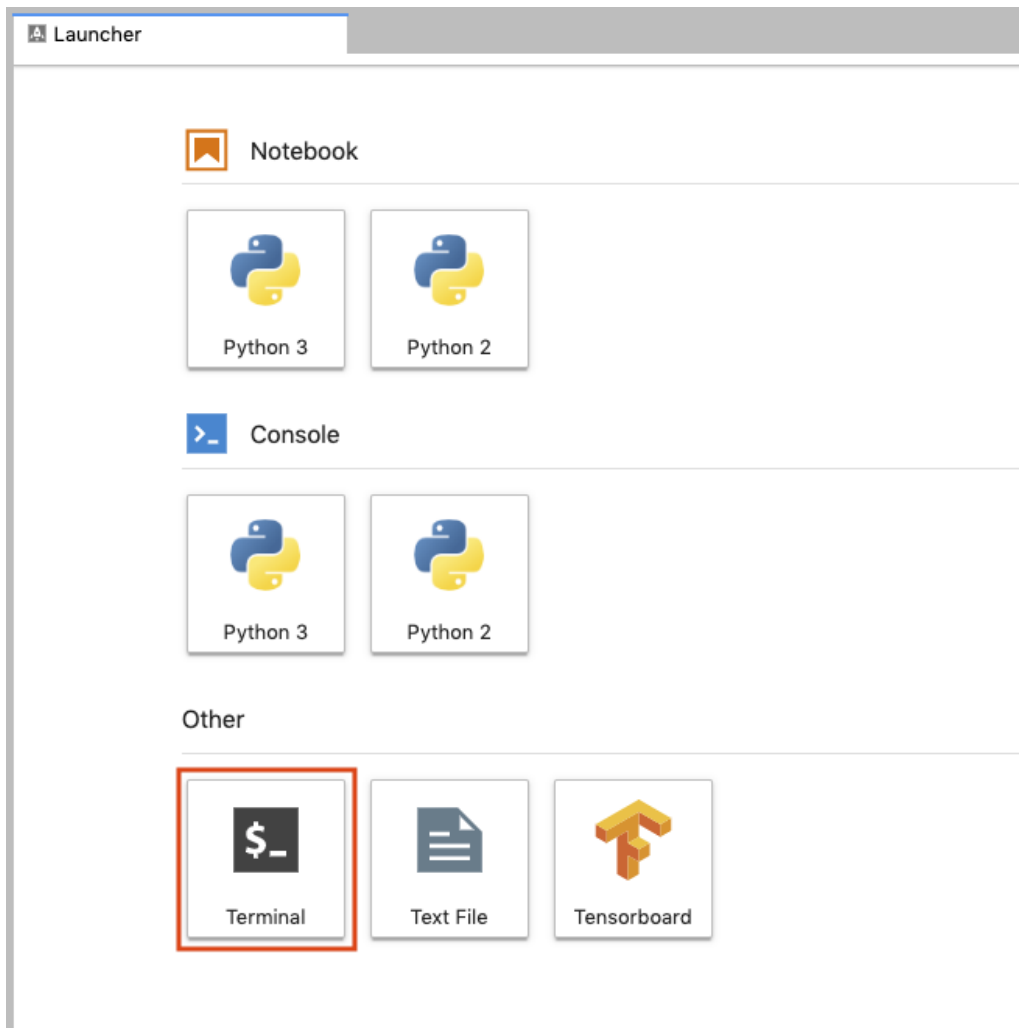Click **Open JupyterLab**. A JupyterLab window will open in a new tab.

Click *Check my progress* to verify the objective. Launch AI Platform Notebooks

Clone course repo within your AI Platform Notebooks instance

To clone the `training-data-analyst` notebook in your JupyterLab instance:

Step 1

In JupyterLab, click the Terminal icon to open a new terminal.

Step 2

At the command-line prompt, type in the following command and press Enter.

```
git clone https://github.com/GoogleCloudPlatform/training-data-analyst
```

Step 3

Confirm that you have cloned the repository by double clicking on the `training-data-analyst` directory and ensuring that you can see its contents. The files for all the Jupyter notebook-based labs throughout this course are available in this directory.
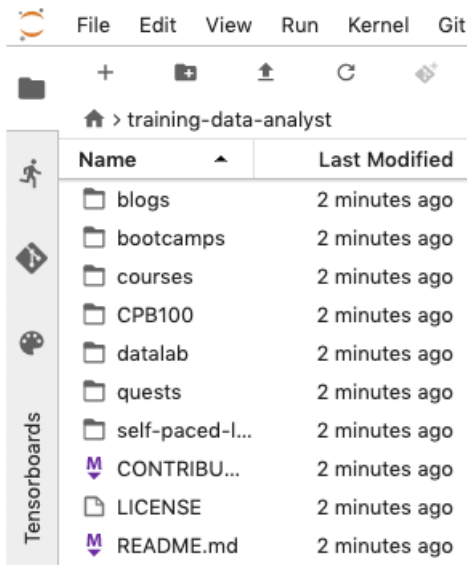
Click *Check my progress* to verify the objective. Clone course repo within your AI Platform Notebooks instance

Continue the lab in the notebook

Step 1

In the notebook interface, navigate to **training-data-analyst/courses/machine_learning/tensorflow** and open **a_tfstart.ipynb**.

Step 2

In the notebook interface, click on **Edit > Clear All Outputs** (click on Edit, then in the drop-down menu, select Clear All Outputs).

Step 3

Read the narrative and execute each cell one by one.

End your lab

When you have completed your lab, click **End Lab**. Qwiklabs removes the resources you've used and cleans the account for you.

You will be given an opportunity to rate the lab experience. Select the applicable number of stars, type a comment, and then click **Submit**.

The number of stars indicates the following:

- 1 star = Very dissatisfied
- 2 stars = Dissatisfied
- 3 stars = Neutral
- 4 stars = Satisfied
- 5 stars = Very satisfied

You can close the dialog box if you don't want to provide feedback.

For feedback, suggestions, or corrections, please use the **Support** tab.

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