← Machine Learning in TensorFlow using the Estimator API

Start Lab 02:00:00

Machine Learning in TensorFlow using the Estimator API

2 hours Free Rate Lab

Overview

In this lab, you will create a machine learning model using the TensorFlow Estimator class and evaluate its performance.

Objectives

In this lab, you will learn about the following:

- Using the Estimator API to read data from a Pandas DataFrame.
- Building and evaluating a linear regression model using Estimators.

Setup

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.

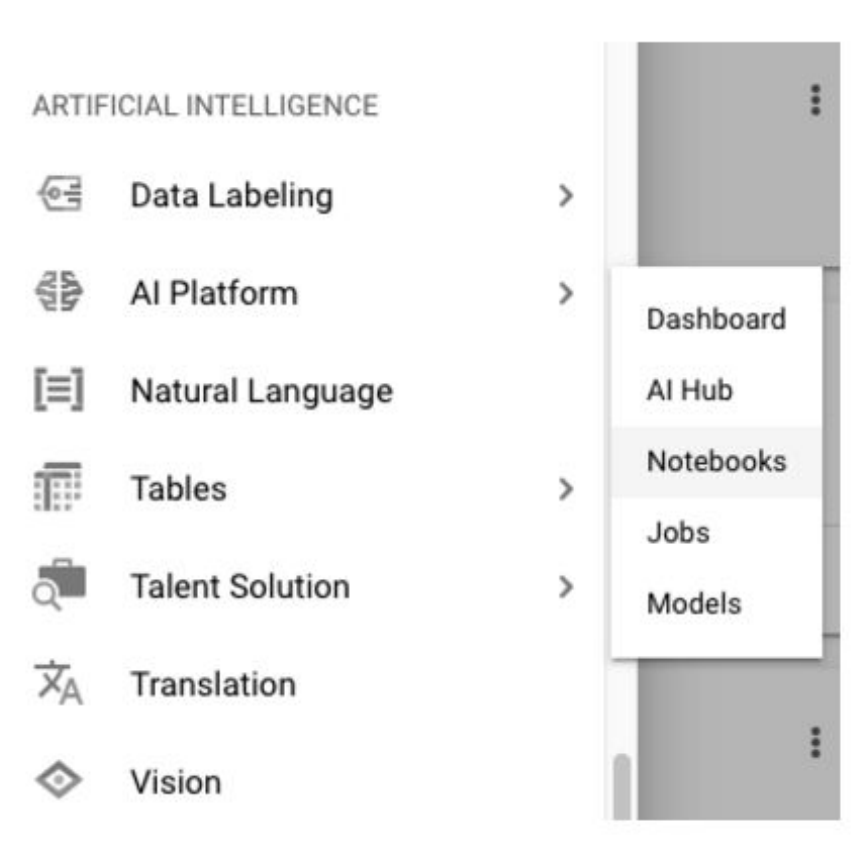
   Do not click **End Lab** unless you are finished with the lab or want to restart it. This clears your work and removes the project.

Launch AI Platform Notebooks

To launch AI Platform Notebooks:

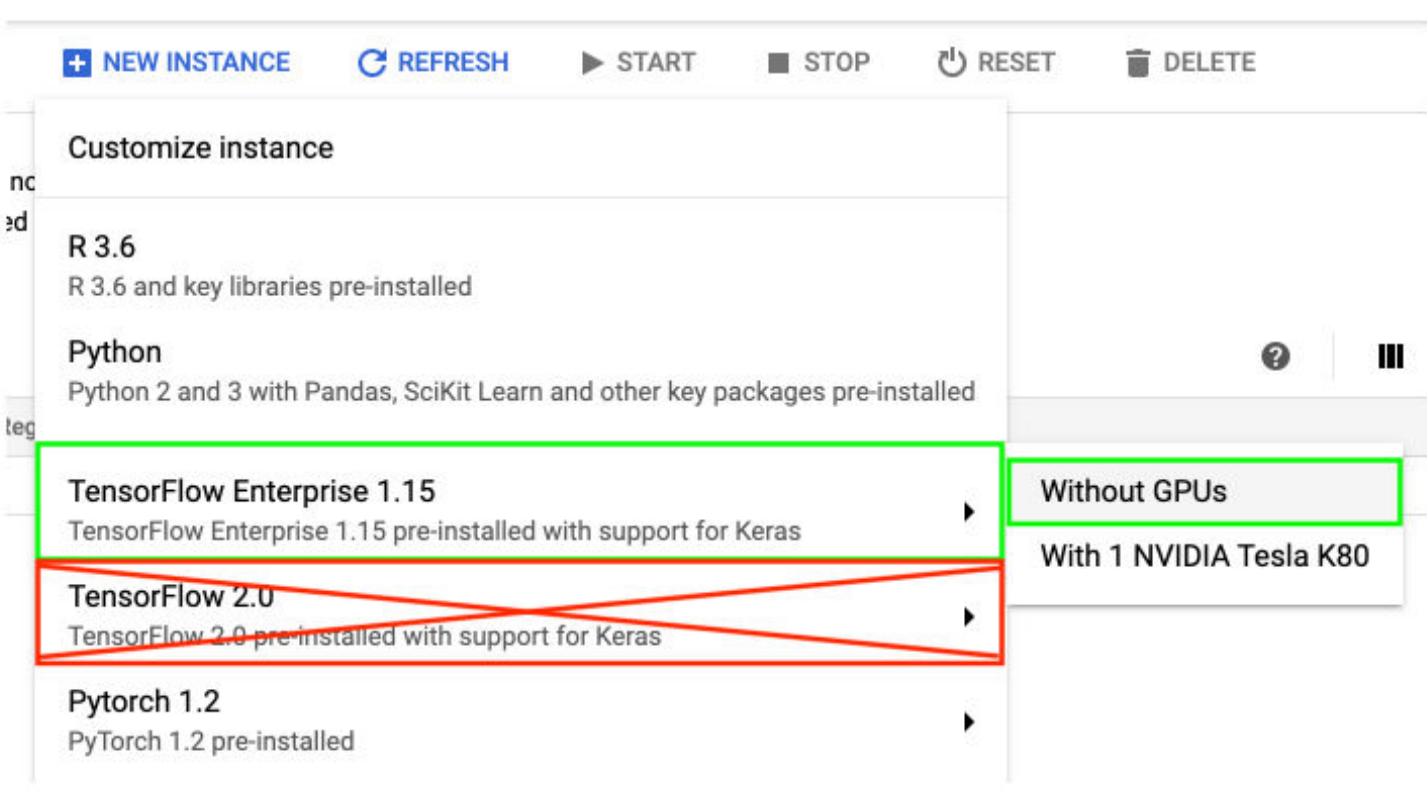
Step 1

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



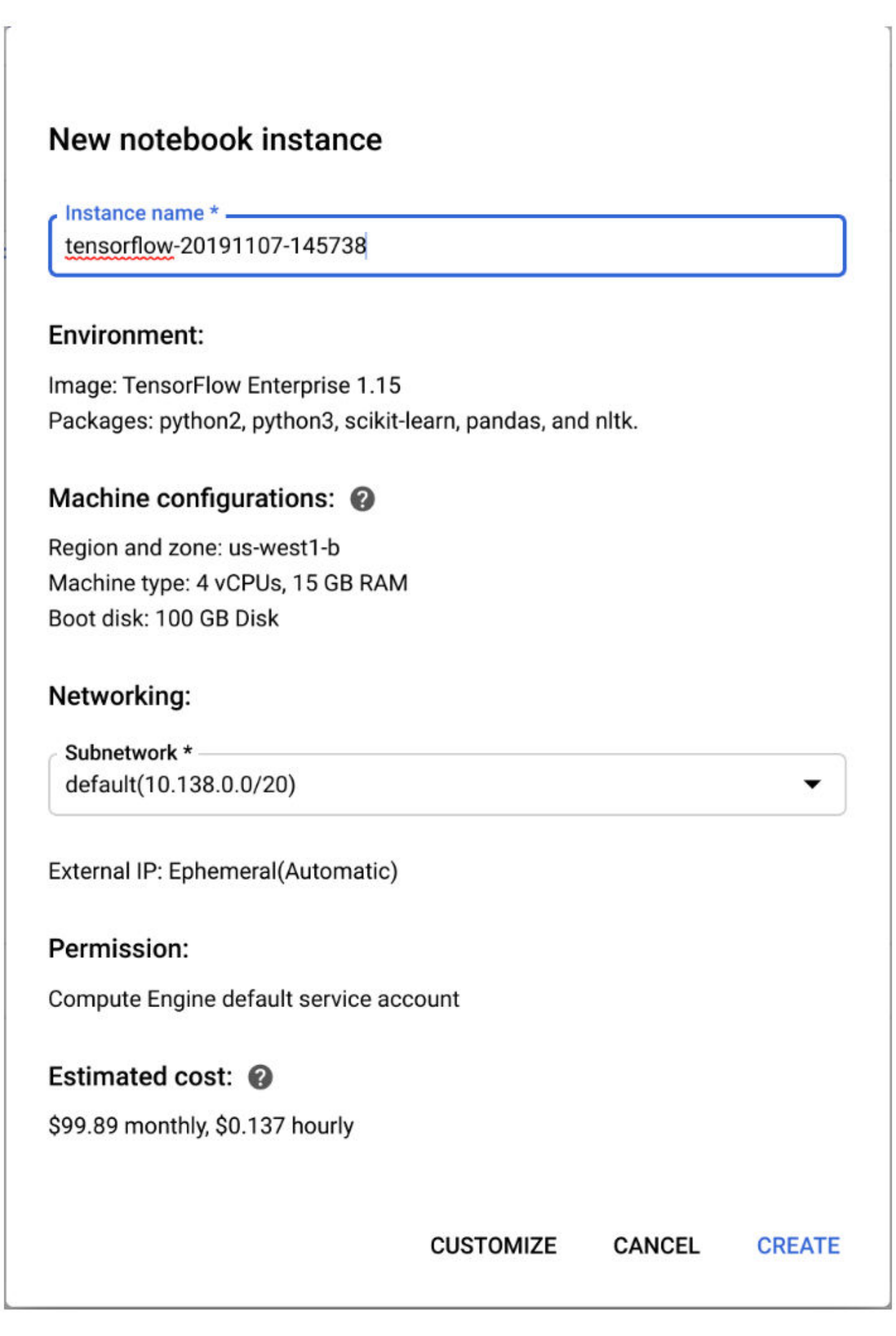
Step 2

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.

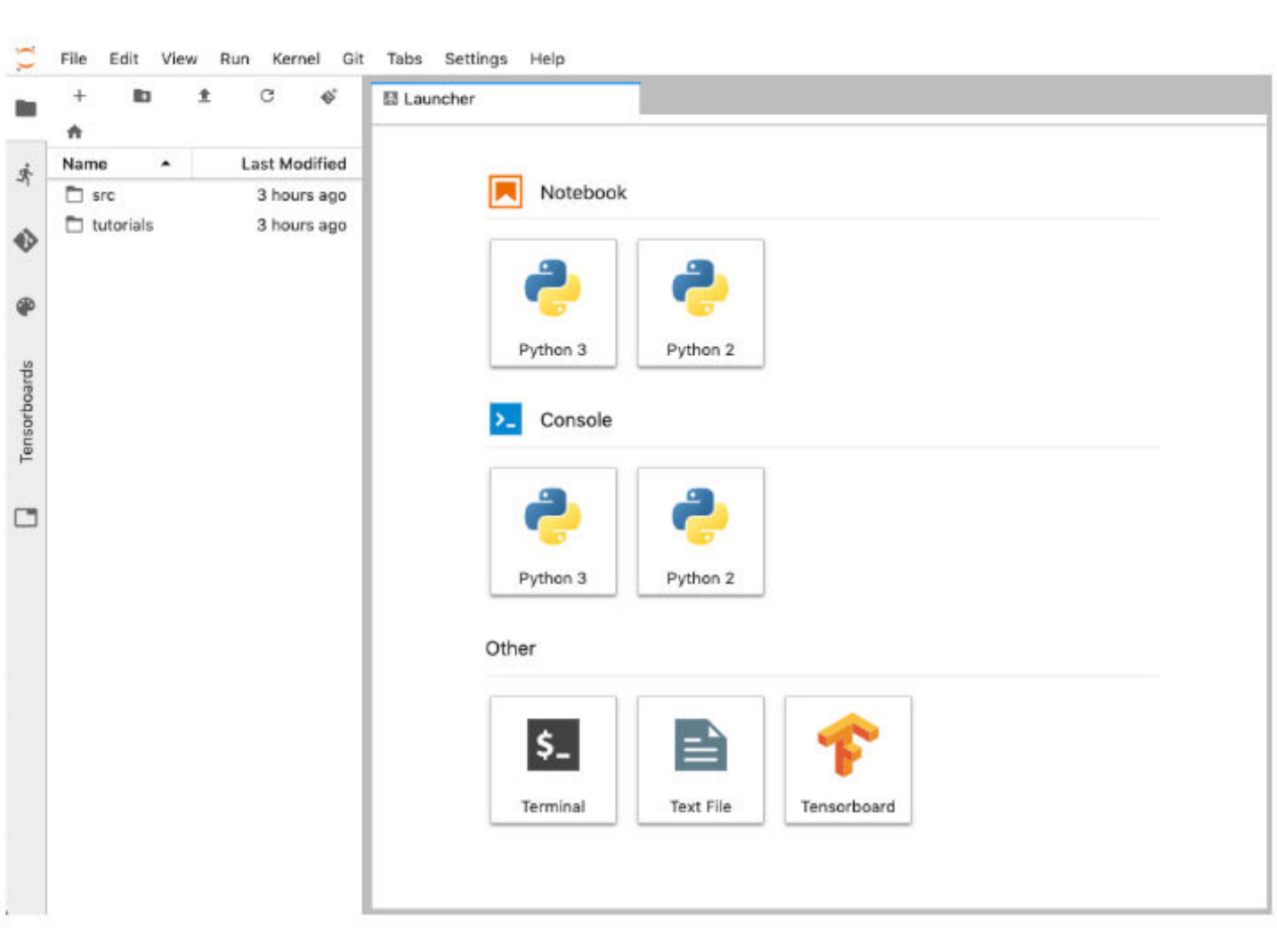
In the pop-up, confirm the name of the deep learning VM and click **Create**.



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

Step 3

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

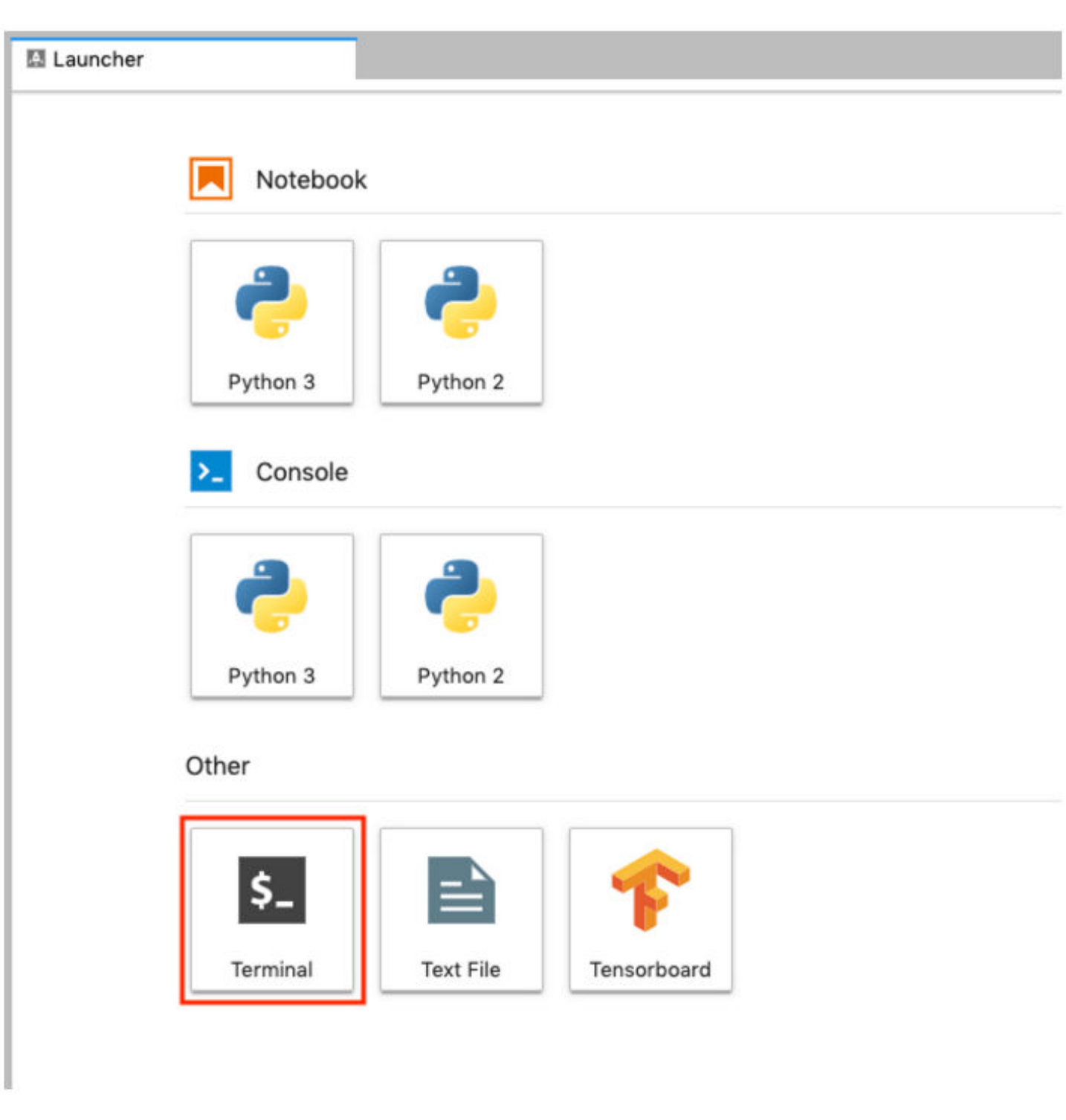


Clone course repo within your AI Platform Notebooks instance

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

Step 1

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



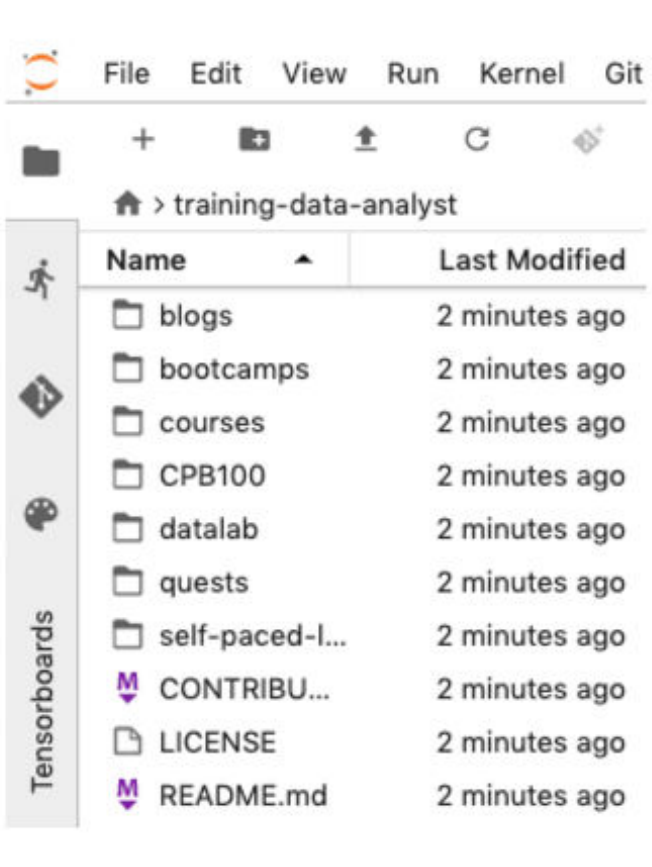
Step 2

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.



Machine Learning using tf.estimator

Step 1

In the notebook interface, navigate to **training-data-analyst > courses > machine_learning > deepdive > 03_tensorflow > labs** and open **b_estimator.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

Compare to solution

In the parent level 03_tensorflow folder (above labs/) there is the solution notebook with the same title for comparison.

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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在线交谈