← TensorFlow Dataset API

Start Lab 00:45:00

TensorFlow Dataset API

45 minutes Free ★★★★☆ Rate Lab

Setup

Launch Al Platform
Notebooks

Clone course repo within
your Al Platform Notebooks
instance

Manipulate data with tf.data
End your lab

In this lab, you will implement a linear regression so that it takes its data from a

Duration is 1 min

Overview

tf.data.Dataset.

You will also learn how to implement stochastic gradient descent with it.

What you learn

• Learn how use tf.data to read data from memory

In this lab, you will:

Learn how to use tf.data in a training loop

• Learn how use tf.data to read data from disk

- Learn how to write production input pipelines with feature engineering (batching, shuffling, etc.)
- Setup

For each lab, you get a new Google Cloud project and set of resources for a fixed time at no

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

cost.

time block.

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

Open Google Console

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

3. When ready, click START LAB4. Note your lab credentials. You will use them to sign in to the Google Cloud 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

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

Launch Al Platform Notebooks

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

Dashboard

Jobs

Models

On the Notebook instances page, click + NEW INSTANCE . Select TensorFlow 2.x without GPUs.

→ NEW INSTANCE C REFRESH

R 3.6 and key libraries pre-installed

0

your work and removes the project.

To launch AI Platform Notebooks:

ARTIFICIAL INTELLIGENCE

Data Labeling

Al Platform

Tables

Step 2

Al Platform

Al Hub

Data Labeling

Talent Solution

Step 1

[≡] Natural Language Al Hub Notebooks

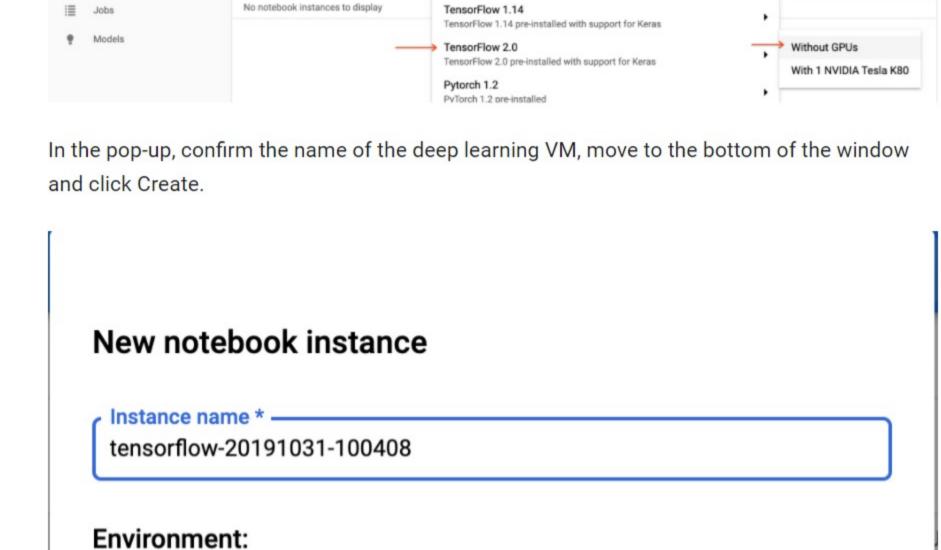
▼A Translation

◆ Vision

Create and use Jupyter Notebooks with a no JupyterLab pre-installed and are configured

frameworks. Learn more

₩ Filter table



Region and zone: us-west1-b

Machine type: 4 vCPUs, 15 GB RAM

Boot disk: 100 GB Disk

Image: TensorFlow 2.0 (with Intel® MKL-DNN/MKL and CUDA 10.0)

Packages: python2, python3, scikit-learn, pandas, and nltk.

Networking: Subnetwork * default(10.138.0.0/20) External IP: Ephemeral(Automatic) Permission: Compute Engine default service account \$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. Launcher **Last Modified** Notebook 3 hours ago 3 hours ago Python 3 Python 2 >_ Console Python 3

Other

\$_

Clone course repo within your Al Platform

Tensorboard

Text File

To clone the training-data-analyst notebook in your JupyterLab instance: Step 1 In JupyterLab, click the Terminal icon to open a new terminal.

Notebook

Python 3

Python 3

Terminal

Other

Console

Launcher

Notebooks instance

\$_

Text File

Tensorboard

Python 2

Python 2

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-dataanalyst 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. Edit View Run Kernel Git **Last Modified** Name blogs 2 minutes ago bootcamps 2 minutes ago courses 2 minutes ago □ CPB100 2 minutes ago datalab 2 minutes ago quests 2 minutes ago self-paced-l... 2 minutes ago CONTRIBU... 2 minutes ago LICENSE 2 minutes ago README.md 2 minutes ago

Manipulate data with tf.data Duration is 30 min

Step 1

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).

hints (they are in white text).

you need to complete the code as needed

Tip: To run the current cell you can click the cell and hit **shift+enter**. Other cell commands are found in the notebook UI under **Run**.

• If you need more help, you may take a look at the complete solution by navigating to

Carefully read through the notebook instructions and fill in lines marked with #TODO where

In the notebook interface, navigate to training-data-analyst > courses > machine_learning >

deepdive2 > introduction_to_tensorflow > labs and open 2_dataset_api.ipynb.

training-data-analyst > courses > machine_learning > deepdive2 > introduction_to_tensorflow > solutions and open 2_dataset_api.ipynb.

• Hints may also be provided for the tasks to guide you along. Highlight the text to read the

End your lab

When you have completed your lab, click End Lab. Qwiklabs removes the resources you've

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

• 1 star = Very dissatisfied

with which they are associated.

• 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.

The number of stars indicates the following:

used and cleans the account for you.

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

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