

Data X

About Me:

Data-X at Berkeley:
Install instructions for Mac OSX / Linux
(also works for Windows)

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Install Anaconda with Python 3.X

<https://www.anaconda.com/download/>

Download for Your Preferred Platform



Windows



macOS



Linux

Anaconda 4.4.0 For macOS Graphical Installer

Python 3.6 version *
Graphical Installer (442 MB) ?



DOWNLOAD

Command-Line Installer (380 MB) ?

Python 2.7 version *
Graphical Installer (438 MB) ?



DOWNLOAD

Command-Line Installer (375 MB) ?

Extra Windows Instructions

For Windows, when you install Anaconda, choose to also install **Anaconda Prompt**.

This will make everything easier.

Create Virtual Environment for Data-X

- Open Terminal

- Run the command:

```
conda create -n data-x python=3 anaconda tensorflow
```

To activate Virtual environment:

```
source activate data-x
```

on Windows: activate data-x

To deactivate Virtual environment:

```
source deactivate
```

on Windows: deactivate

OPTIONAL: Create Virtual Environment (e.g. for Python 2.7)

We have chosen to work with Python 3.X in this class, however it is easy to also install a Python 2.7 Virtual Environment(if you'd ever need it)

- **Open Terminal**

- **Run the command:**

```
conda create -n py2 python=2 anaconda
```

To activate the Python 2.7 Virtual environment:

```
source activate py2
```

on Windows: activate py2

To deactivate (any) Virtual environment:

```
source deactivate
```

on Windows: deactivate

Please note, many functions, modules and libraries differ between Python 2.x and Python 3.x (Python 3 is not backwards compatible). However, many scripts / notebooks can be compatible with both Python 3 and Python 2 by running the code below first in your script / notebook:

```
from __future__ import absolute_import, division, print_function
```

Before you install packages or run a notebook Always Activate the Virtual Environment first!

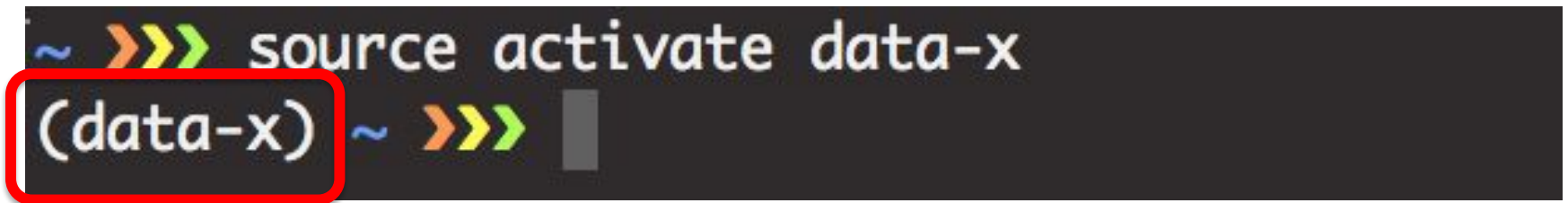
(This way you will never run into problem with crashing your root Python / Anaconda installation)

Run:

```
source activate data-x
```

(on Windows: activate data-x)

every time you open a new terminal window.

A terminal window with a dark background. The first line shows a prompt '~' followed by three green chevrons '»»»' and the command 'source activate data-x'. The second line shows the prompt '(data-x)' followed by '~' and three green chevrons '»»»'. A red rectangle highlights the '(data-x)' prompt. A grey cursor bar is visible to the right of the second prompt.

```
~ »»» source activate data-x  
(data-x) ~ »»»
```

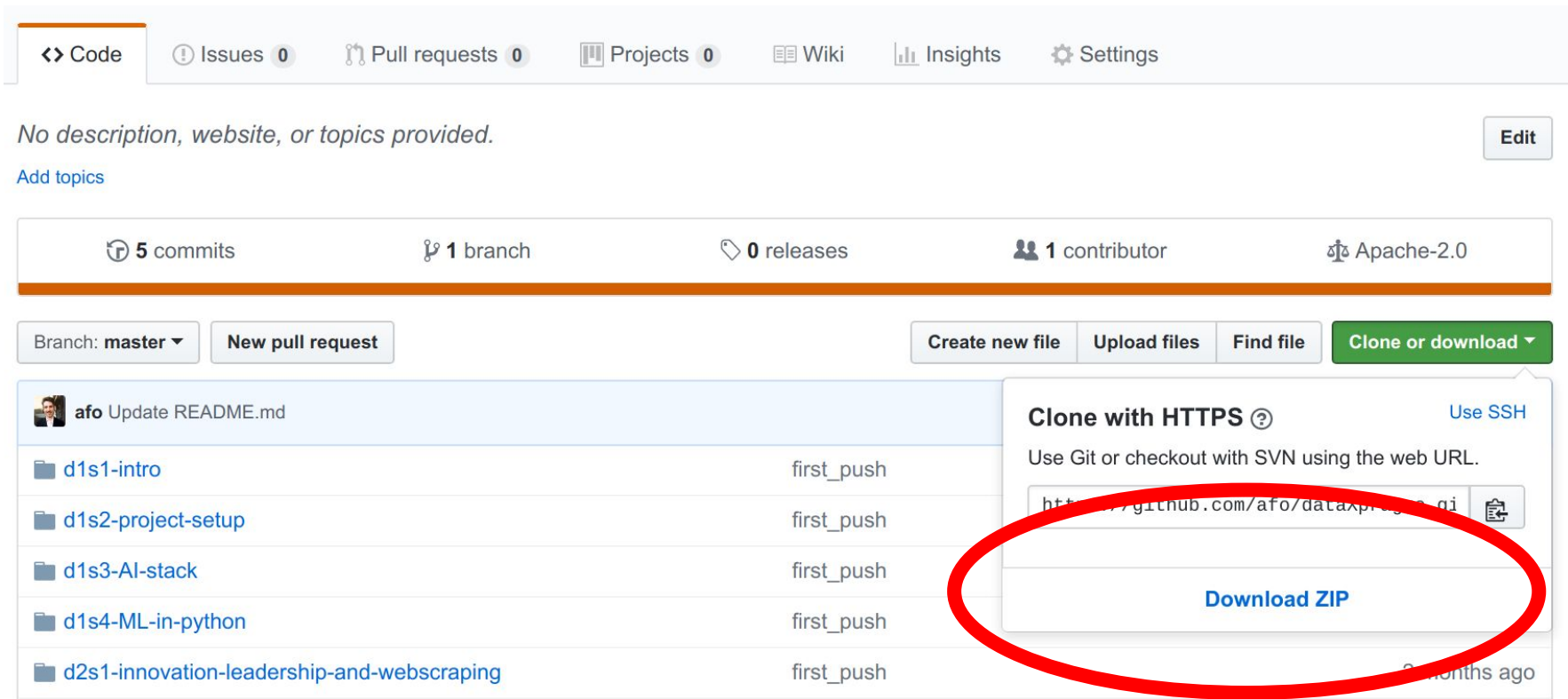
The word within the parenthesis at the start of every line in the command prompt indicate what Virtual Environment you have activated



Download the class content from

<https://github.com/afo/dataXthai>

Download by **cloning the Github repository** (if you know Git). Otherwise we recommend going to the website and downloading the content as a zip file



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d1s4-ML-in-python	first_push
d2s1-innovation-leadership-and-webscraping	first_push

Clone with HTTPS ? Use SSH

Use Git or checkout with SVN using the web URL.

<https://github.com/afo/dataXthai>

[Download ZIP](#)

How to Install packages into your Virtual Environment

Anaconda comes with many packages pre-installed, but if you want to install additional packages (or update existing ones) you can run:

Install a package by running:

```
conda install [package name]
```

Install packages by running:

```
conda install [pkg1] [pkg2] [pkg3]
```

```
(data-x) → ~ conda install tensorflow keras html5lib
```

Data X

Required packages

The packages you need can be installed by running the command below:

Install a package by running:

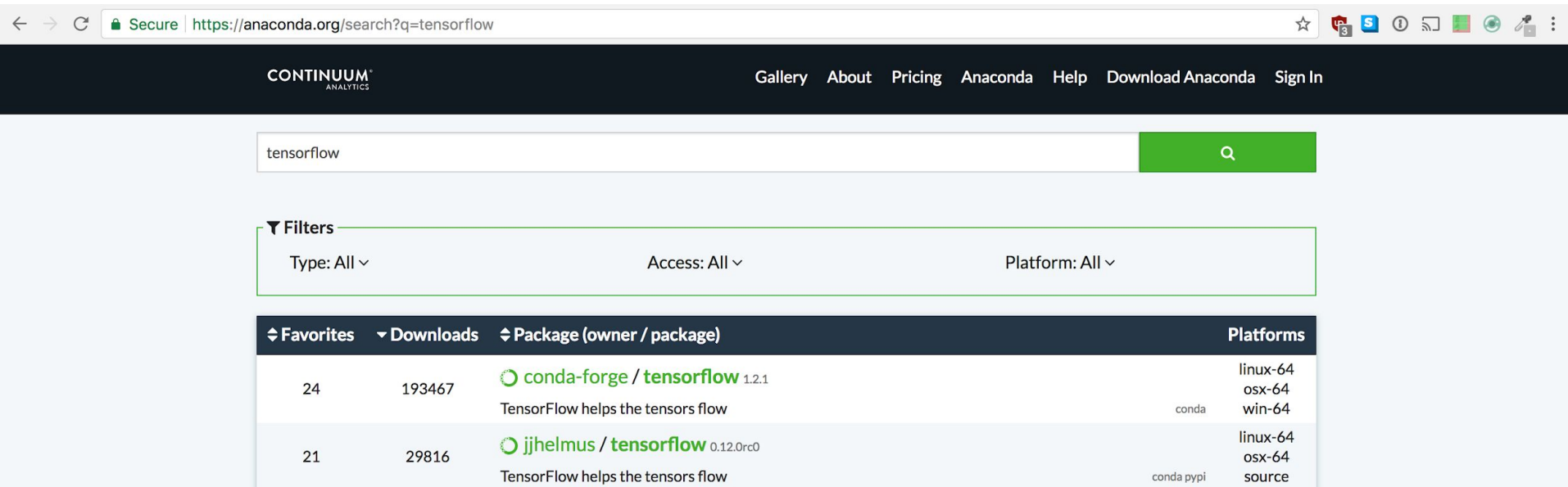
```
conda install html5lib py-xgboost
```

Installing packages not available via conda



Some packages are not available via conda, instead you can visit <https://anaconda.org/> (Anaconda Cloud, a package management service) and search for the package you want to install. Here you can usually find any Python package for your specific machine settings.

Install a package by (for example) running:

```
conda install -c conda-forge PACKAGE-X
```



The screenshot shows a web browser window with the URL <https://anaconda.org/search?q=tensorflow>. The page displays search results for the package 'tensorflow'. The search bar contains 'tensorflow' and a green search button. Below the search bar, there are filters for 'Type: All', 'Access: All', and 'Platform: All'. The results table shows two entries:

⬆ Favorites	⬇ Downloads	⬆ Package (owner / package)	Platforms
24	193467	 conda-forge / tensorflow 1.2.1 TensorFlow helps the tensors flow	linux-64 osx-64 win-64 conda
21	29816	 jjhelmus / tensorflow 0.12.0rc0 TensorFlow helps the tensors flow	linux-64 osx-64 source conda pypi

Run your first notebook

Anaconda comes with Jupyter notebooks which we will work with a lot. In order to run your first Jupyter notebook, open the terminal, source your Virtual Environment, `cd` into the specific working directory and then run the command `jupyter notebook` a new browser window with your current directory will open and you can either create a new notebook or open an existing one.

```
~ ▶ source activate data-x
(data-x) ~ ▶ cd data-x
(data-x) ~/data-x ▶ jupyter notebook
[I 13:16:46.601 NotebookApp] Serving notebooks from local directory: /Users/F0/data-x
[I 13:16:46.601 NotebookApp] 0 active kernels
[I 13:16:46.601 NotebookApp] The Jupyter Notebook is running at: http://localhost:8888/?token=eae7a2506a950b2d995199cd59297bd7ddb70f33aba5f67b
[I 13:16:46.601 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 13:16:46.602 NotebookApp]
```

Copy/paste this URL into your browser when you connect for the first time, to login with a token:

<http://localhost:8888/?token=eae7a2506a950b2d995199cd59297bd7ddb70f33aba5f67b>

```
[I 13:16:47.083 NotebookApp] Accepting one-time-token-authenticated connection from ::1
```

Troubleshooting / In-depth explanations

Please refer to the material below and / or Google if you encounter any problems or would like a more in-depth explanation:

- <https://machinelearningmastery.com/setup-python-environment-machine-learning-deep-learning-anaconda/>
- <https://medium.com/k-folds/setting-up-a-data-science-environment-5e6fd1cbd572>
- <https://drivendata.github.io/pydata-setup/>

OPTIONAL Install **pyspark** for Big Data locally:

<http://mortada.net/3-easy-steps-to-set-up-pyspark.html>



Good Luck!

