Data Science Immersive Installation Guide

Welcome! We're excited to have you in the Data Science Immersive (DSI). Our program application stack includes **git**, **Visual Studio Code**, and the **Anaconda distribution of Python**. Please install and test these programs **before** the first class using the step-by-step installation guide provided here for your operating system. **MacOS and Ubuntu Linux are supported in the DSI, not Windows**. If you have a Windows PC, read through the note below.

Note: The easiest DSI solution for a Windows PC, especially newer models, is to install Ubuntu Linux in an Oracle Virtual Box.[1] This will allow you to run Linux in a virtual machine alongside Windows 10. Though the linked guide may seem daunting, some IT skills are expected of Data Scientists so consider this valuable training. After you have set-up your Linux environment in the Virtual Box, use the Linux program install instructions in your Virtual Box Linux environment to install programs for the DSI. Try to give your Virtual Box about 50 GB of hard drive space and 8 GB of RAM (be sure to leave some for Windows!)

For a bigger challenge, Ubuntu Linux can be installed alongside Windows in a Dual-Boot configuration, where you log into Windows or Linux when you boot your machine. The process consists of partitioning the hard-drive and installing Linux on one of the partitions. Newer versions of Windows 10 laptops using UEFI firmware complicate the installation. Install directions are computer specific. Search Google with the search term "Install Ubuntu Linux Dual Boot *your computer make and model*" and see if a reputable guide comes up. There is some risk to this approach - you could be left without either operating system, so your computer is only an expensive "brick" - so if you just spent a lot of money on a new PC running Windows it's much safer to go the Virtual Box route.

If you have an older PC with at least 8 GB of RAM running Windows that you no longer use, you could simply download the Ubuntu disk image[2] and install Ubuntu, wiping the hard drive and with it the Windows operating system.[3] You'll be amazed at how well your older laptop works on Ubuntu Linux. There are PCs that are certified to work with Ubuntu.[4]

Finally, you can buy a Mac, a Google Pixelbook[5] (newer ones allow you to make a Linux partition), or a PC with Linux already installed. System 76[6] and Dell[7] sell Linux laptops.

The Data Science Immersive doesn't require a powerful computer - that's what the cloud is for. Old Macbooks and PCs with Linux on them do just fine in the DSI (as long as they have 8 GB of RAM).

Click on the guide for your OS:

MacOS guide
Linux guide
Pixelbook

[1] https://itsfoss.com/install-linux-in-virtualbox/
[2] https://www.ubuntu.com/download/desktop
[3] https://www.ubuntu.com/download/desktop/install-ubuntu-desktop
[4] https://certification.ubuntu.com/desktop/
[5] https://support.google.com/pixelbook/answer/9031351?hl=en
[6] https://system76.com/
[7] Search for the Dell XPS 13 Developer Edition. Some are <$1000.

MacOS Installation Guide

Installing Git

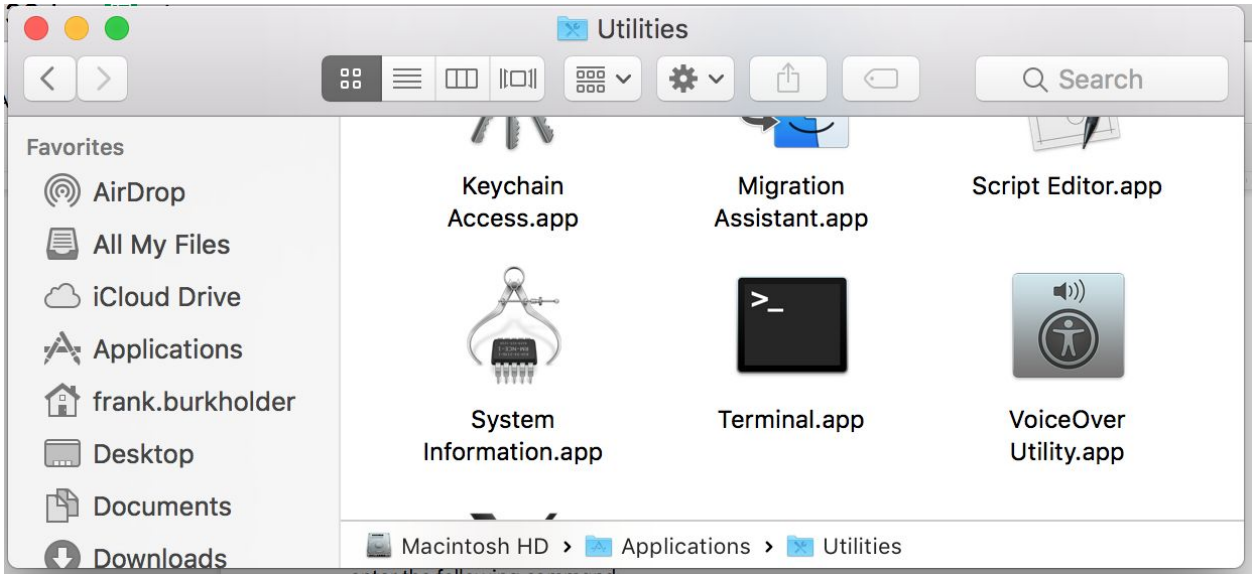
Git is a free and open source distributed version control system. It allows you to track changes in files that you work on both locally on your computer and remotely in the cloud. Galvanize and many other companies use Github as an online remote repository of Git directories. If you have 15 minutes for a quick tutorial, try:

https://try.github.io/levels/1/challenges/1

Codecademy offers a free, roughly 6-hour course on Git that is **strongly recommended**:

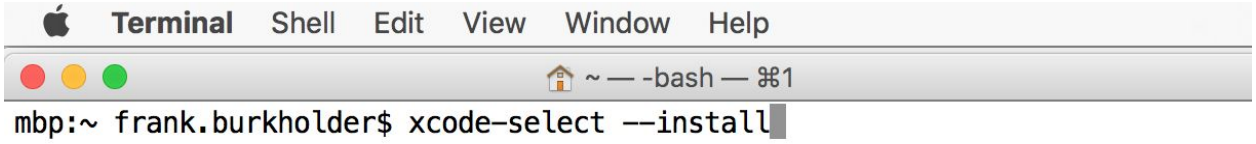
https://www.codecademy.com/learn/learn-git

1.) You'll be installing git from the Terminal. To find your Terminal, go to Finder > Applications > Utilities:



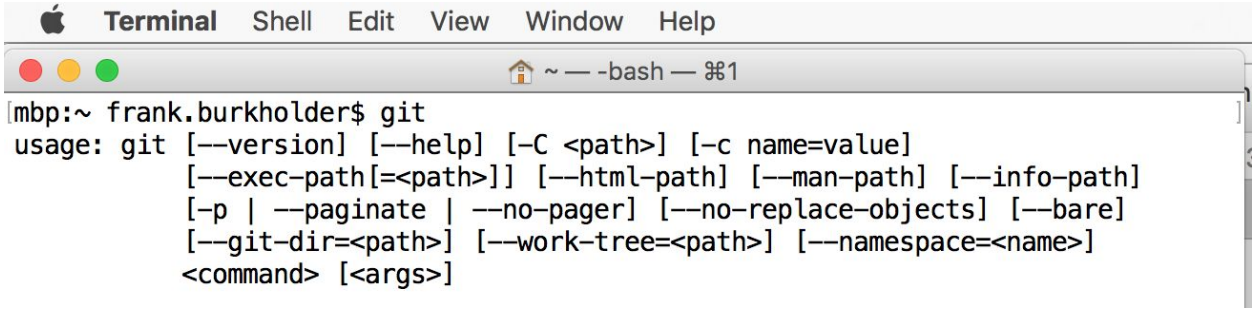
After Terminal is running and you can see it in your Dock, click on the icon in the Dock, go to options and select "Keep in Dock."

2.) Now on to installing git. In the terminal, type `xcode-select --install` and press return:



3.) Follow the prompts to install (if you get an error telling you that it is already installed, skip to step 4). What this will do is take care of installing git for you, and making sure it is in the right place on your computer.

4.) In the terminal, type git and press return. You should see something along these lines if it has installed correctly:



Installing Visual Studio Code

Visual Studio Code (aka VS Code) is "a lightweight but powerful" source code text editor with a few IDE (Integrated Development Environment) features, such as Intellisense and Live Share. It's the text editor most popular with developers.

1) Go to https://code.visualstudio.com/download and click on Mac option. Click on the zip file once it has downloaded, creating the "Visual Studio Code.app" (most likely in your Downloads folder).
2) In the Finder, drag the Visual Studio Code.app into the Applications folder.
3) VS Code can now be accessed from the Applications folder on the Dock. Open it. Once it is open, you should select "Keep in Dock" from Options like you did for the Terminal.
4) Go through these directions so that you can also launch VS Code from the command line (Terminal).

Installing the Anaconda distribution of Python

Anaconda is a freemium open source distribution of the Python programming language for large-scale data processing, predictive analytics, and scientific computing. It also simplifies package management and deployment. It's the required Python package for the Data Science Immersive, and recommended for Python Fundamentals.

All Galvanize curriculum is in Python 3.

1) Go to https://www.anaconda.com/distribution/ and select the MacOs option, and the Python 3 version. Click on the rectangular green Download button.
2) Most likely the file will download into your Downloads folder and have a filename similar to `Anaconda3-2019.07-MacOSX-x86_64.pkg` Note that this file takes a little while (minutes) to download. Let it finish.

3) Navigate to your Downloads folder (or wherever it downloaded to) and double click it to start the Installer. As you “Continue” through the steps, “Agree” to the software license agreement. Perform a “Standard Install” and don’t change the install location. You’ll need to enter your password. The installation will take a few minutes. You don’t need to download the PyCharm IDE - we’ll be using VS Code instead.
4) Start a new Terminal, and enter $ `python --version` You should see some version of Python 3.

Ubuntu Linux Installation Guide

Installing Git

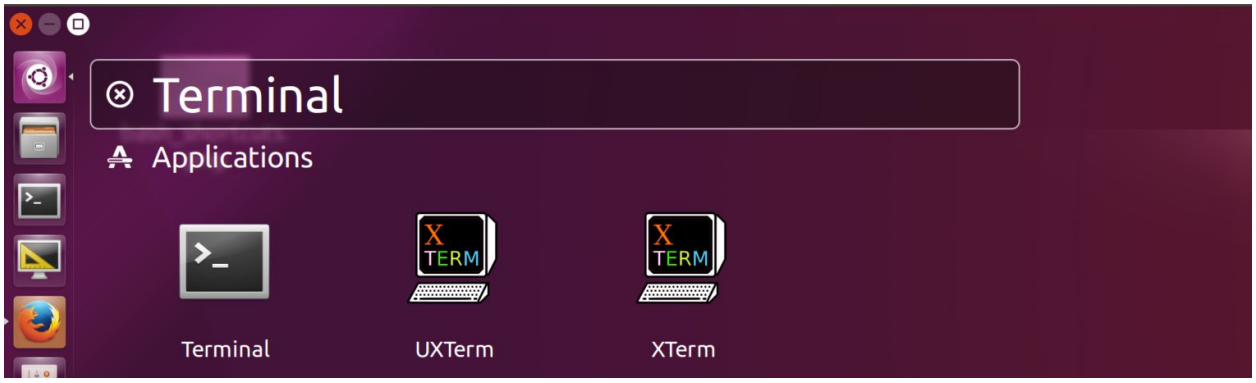
Git is a free and open source distributed version control system. It allows you to track changes in files that you work on both locally on your computer and remotely in the cloud. Galvanize and many other companies use Github as an online remote repository of Git directories. If you have 15 minutes for a quick tutorial, try:

https://try.github.io/levels/1/challenges/1

Codecademy offers a free, roughly 6 hour course on Git that is **strongly recommended**:

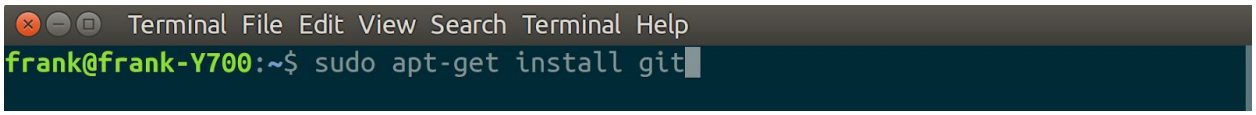
https://www.codecademy.com/learn/learn-git

1.) Open a Terminal using Ctrl-Alt-T. Alternatively, push the Windows key and the Dash should open up where you can search for Terminal.

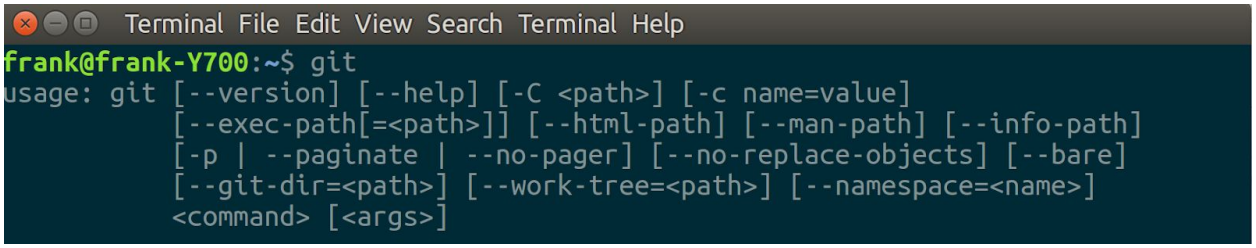


When the Terminal is running, on the sidebar right-click on it and Lock it to Launcher.

2.) Now on to installing git. In the terminal, type `sudo apt-get install git` and press return. You'll have to enter your password. But that's it.



3.) To test it, in Terminal, type `git` and press return. You should see something along these lines if it has installed correctly:



You may have to scroll up to see it.

Installing Visual Studio Code

Visual Studio Code (aka VS Code) is “a lightweight but powerful” source code text editor with a few IDE (Integrated Development Environment) features, such as Intellisense and Live Share. It’s the text editor most popular with developers.

1) Go to https://code.visualstudio.com/download and click on the .deb (Debian & Ubuntu) button under the Linux penguin.
2) Choose ‘Save File’ instead of Open.
3) The file will most likely be downloaded to the Downloads folder. Use Debian’s (Ubuntu is based on Debian) package manager to install it from Terminal:
   $ `sudo dpkg -i code_1.36.1-1234233_am64.deb` (your numbers may vary, but it should be a .deb file).
4) You should be able to launch it from Terminal, $ `code`

Installing the Anaconda distribution of Python

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All Galvanize curriculum is in Python 3.

1) Go to https://www.anaconda.com/distribution/ and select the Linux (penguin) option, and the Python 3 version. Click on the rectangular green Download button. Choose ‘Save File’ instead of ‘Open with’.
2) Most likely the file will download into your Downloads folder and have a filename similar to `Anaconda3-2019.07-Linux-x86_64.sh` Note that this file takes a little while (minutes) to download. Let it finish.
3) Navigate to your Downloads folder using Terminal. In Terminal, use `bash` to run the `.sh` shell script to install it:
   $ `bash Anaconda3-2019.07-Linux-x86_64.sh`
4) Press enter to page through the install documentation. Reply ‘yes’ when asked if you agree to the license terms. Allow anaconda3 to be installed in the suggested directory. **When asked if you wish the installer to initialize Anaconda3 by running conda init, say ‘yes’.**
5) Close the Terminal, open a new Terminal, and enter $ `python --version` You should see some version of Python 3.

Pixelbook Installation Guide

A new Pixelbook only comes with one operating system: ChromeOS. However, with a single change in Settings, a Debian Linux partition is created. Ubuntu is built on Debian, and so you can follow the Ubuntu Installation Guide after you create the Debian Linux partition.

You're going to want to make sure that files that are the ChromeOS side (such as what's in your Downloads folder) can be shared with the Linux side, and vice-versa. In the Files app, click on the folder you wish to share and then select "Share with Linux"

For example, let's say you want to share your ChromeOS Downloads folder with Linux. Using the Files app, share it as described above. The Downloads folder can now be accessed from the Linux side as:

```
$ cd /mnt/chromeos/MyFiles/Downloads
```