Introduction to Anaconda & Git

Tutorial 1

Agenda

- Survey of skills.

- What is Anaconda?
- Installing Anaconda.

- What is Git?
- Installing Git.
- The common commands.

Survey of Skills

Rank yourself with regards to Python.

Know Nothing	Somewhat Familiar	Familiar	Somewhat Skilled	Very Skilled

Rank yourself with regards to Git.

Know Nothing	Somewhat Familiar	Familiar	Somewhat Skilled	Very Skilled

What is Anaconda?

- Anaconda is a distribution of Python (i.e. Python with libraries pre-bundled).

- Why not just download Python and skip Anaconda?
  - Anaconda gets a scientific python user up and running much faster than downloading Python and then installing all of the libraries you'll want for data analytics.
  - Things like Numpy, Scipy, and Pandas aren't included with the base installation of Python.
  - Jupyter Notebooks aren't installed with the base installation of Python.
  - i-Python (interactive Python) isn't included with the base installation of Python.

Software available through Anaconda.

Installing Anaconda

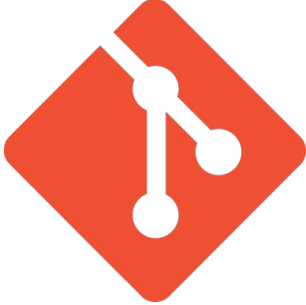
- https://www.anaconda.com/distribution/
  - Select your OS and then download the Python 3.7 version.
  - Python 2.7 has been an extremely long lived version of Python but will officially be retired starting January 1, 2020.

- Click through the visual installer.
  - For Windows, I don't recommend adding Anaconda to your path environment variables. This can cause some problems. If you need to install packages using conda, just use the conda shell that gets installed.

Other softwares with Anaconda?

- You'll get the option of using R with the Anaconda Distribution as well.
  - This isn't recommended. I've seen reports of the Anaconda distribution of R having issues. If you'd like to use R, download it and R Studio separately from your Anaconda distribution.

What is Git?



- Git is a version control system.
  - Version control is a system by which you can save code to a repository or directory and the system will keep a record of the changes you've made.

- Git is NOT the same thing as GitHub (despite the similar name).
  - GitHub is a hosting service for Git repositories (and where all the materials for these tutorials are located).
  - You'll need

Installing Git.

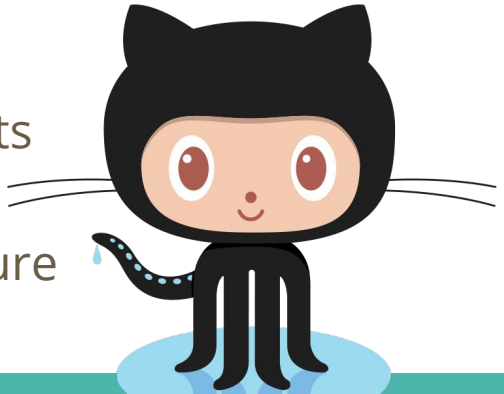
- https://git-scm.com/book/en/v2/Getting-Started-Installing-Git
- Windows
  - https://git-scm.com/download/win
- MacOs
  - Install xCode from the App Store - Git should be bundled with the developer tools included.
  - Try running `git --version` ; This should start a visual download if it's not installed.
- Linux
  - sudo dnf install git-all (Fedora, CentOS, RHEL)
  - sudo apt-get git-all (debian based)

Alternative…

- If you don’t think you need the command line tool for Git (or would like to not use the command line tools on your local machine) there is an alternative.

- GitHub Desktop (available for Windows, Mac, or Linux) https://desktop.github.com/ allows you to directly integrate with your repositories hosted on GitHub.

- Note: This really isn’t a viable solution for some projects since everything (data and all) can’t be hosted on GitHub due to the size of the data or the sensitive nature of the project.



The common Git commands.

- In your command line, navigate to the directory you want your git repository in and execute `git init REPO_NAME` ; This will initialize a repository with your desired name.
- Write your code and save the files to that git directory you just made.
- Navigate into your git repository and execute `git add -A` to add your files (all new, modified, and deleted). This will stage the changes for saving them to your repository.
- Execute `git commit` , your files are now committed to the repository.
- If you have a remote repository you're connected to (like GitHub) then you'll need to execute `git push` to sync your changes there as well.

Git Data Transport Commands

http://osteele.com