# Experienced Track

The experienced track will be a more self-guided session where you will go through various online trainings in order to build up your experience of some key Python libraries and techniques. These techniques will be very useful when it comes to the upcoming projects.

## Reading Materials

Follow these online tutorials in order to get a better understanding of some key libraries and techniques.

* Logging - <https://docs.python.org/3.6/howto/logging.html#logging-basic-tutorial>
* Unit testing (unittest library) - <https://realpython.com/python-testing/>
* Pandas / Numpy - <http://www.gregreda.com/2013/10/26/intro-to-pandas-data-structures/>
* CSV parsing - <https://realpython.com/python-csv/>
* Internet connectivity / API use - <https://www.dataquest.io/blog/python-api-tutorial/>
* Concurrency - <https://realpython.com/python-concurrency/>
* Socket programming - <https://realpython.com/python-sockets/>
* JSON parsing - <https://docs.python-guide.org/scenarios/json/#parsing-json>
* GUI Programming – QT or GTK no preference (not required)

## Example Python Project

An example of a well-structured Python project can be seen here - <https://gitlab/jconcanon/python-example-project>

Feel free to copy this format when developing your projects, it will be especially useful when working on larger projects.

## Git Training

Git is a source code management tool that allows multiple developers to work on the same project simultaneously. It can seem a bit overwhelming at the start but becomes very useful quickly. The main actions of Git are **commits, merges and branches**.

Take a look at the interactive training provided by Github - <https://learngitbranching.js.org/>

## Small Task

Depending on your experience level and how quickly you get through the training there is a small, optional, task that can be completed by you.

### Description

Using the Quandl API - <https://www.quandl.com/tools/api> - retrieve stock information for any listed stock (AAPL, GOOG), display this data in an easy to consume way; this could be a simple command line text summary or a GUI that could be used to display a graph using matplotlib.

### Additional Features

These features can be done very easily using Pandas and Numpy

* Apply a linear regression to get a predicted future stock price
* Find the top five traded days (e.g. most volume)
* Find the largest spread between open price and close price (negative and positive)
* Choose between multiple ticker names