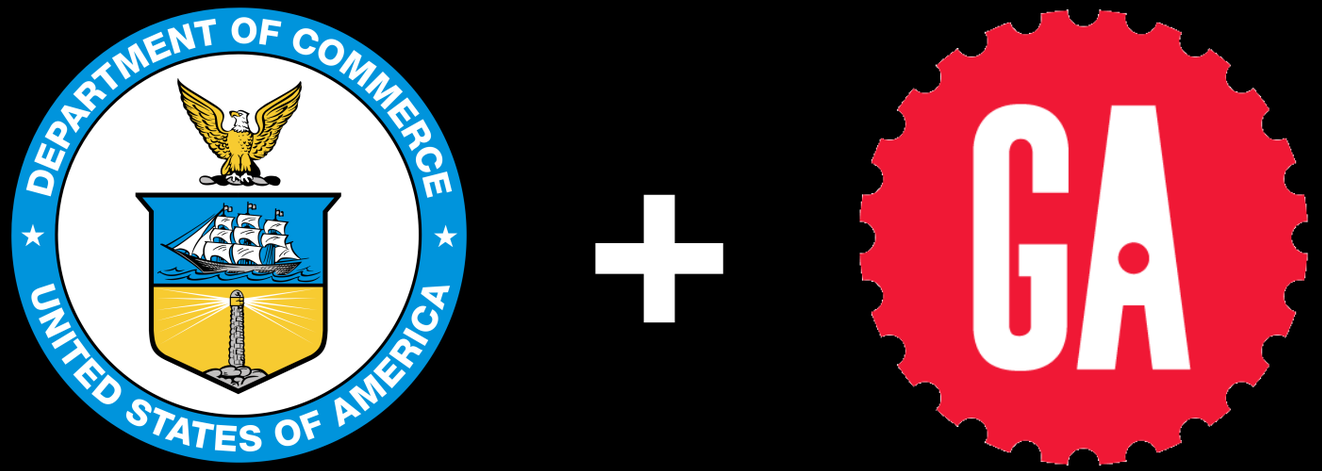
GENERAL ASSEMBLY

WORKING WITH APIS IN PYTHON



Joseph Nelson, Data Science Immersive

AGENDA

- **Intro**
- Intro, Confirm Install
- What is an API, and why is it valuable?

- **Let's Learn**
- The mechanics of the web (HTTP)
- Working with an API in the Web Interface
- Python data types (Review Code)
- Working with JSON data in Python (Coding implementation)

AGENDA

- **LEARNING OBJECTIVES:**

- Have a clear understanding of how APIs work, and why they are increasingly prevalent
- Know how the HTTP protocol works
- Understand the basics of data types in Python
- Gain first-hand experience using your very first (and second!) API
- Develop an exposure to various Python development tools (Spyder, Jupyter Notebooks)

GENERAL ASSEMBLY

- General Assembly is an innovative technology company offering classes in key 21st century skills: web development, data science, user experience design, etc

- GA is four years old and has 15+ campuses around the world

WHO ARE YOU, JOSEPH?

- George Box: All models are wrong. Some are useful.

BASIC INFO

- Data Science Immersive Instructor

- **From:** Des Moines, Iowa
- **Likes:** Hockey, bad data science puns, SaaS startups, running, reading
- **Influences**: Marc Andreessen & Ben Horowitz, Zuckerberg, Andrew Ng, Yann LeCun, Jürgen Schmidhuber
- **Professionally:**

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WHO ARE YOU, CLASS?

- We have a lot here! Lightning quick:

- Name
- Scale of 0 to 5 Python experience
- Favorite app/tech company (e.g. FB, Airbnb, Evernote)

CONFIRM INSTALL

- Did we all download Anaconda with Python 2.7?

- In the terminal, type:
- `python –V`
- `which python`

- If you're a Chrome user, grab this extension (no problem if not): https://chrome.google.com/webstore/detail/json-formatter/bcjindcccaagfpapjjmafapmmgkkhgoa

WHAT IS AN API?

- Toss this out to the class: what is an API? Best guesses!

WHAT IS AN API?

- An Application Programming Interface is a set of protocols, routines, and tools for building software applications.

- They’re (partially) the reason a number of your favorite applications work. The ability for Uber to load Google Maps is a prime example!

WHY ARE APIS VALUABLE?

- Class suggestions? Why?

- From the standpoint of a company, why would you make it easier to access information you've worked hard to collect to make your product a success?

WHY ARE APIS VALUABLE?

- **APIs are channel to new customers and markets:** Attracting new users via your app being baked into other services – this grows your exposure

- **APIs can be private:** Internal APIs power apps (Communicate with server)

- **APIs promote innovation:** Third party developers build on top of your service, and your service may learn and make these features default (FollowerWonk)

- **APIs retain current users:** By continually providing value to current users or making your platform the default for, say, mapping the world, your service becomes harder to displace (Google Maps, sign in with FB)

LET'S LEARN

- We'll now transition to the following documents to walkthrough APIs, make our first request, learn the basics of Python, and make basic API calls:

- HTTP: https://github.com/josephofiowa/GA-DSI/blob/master/intro-to-apis-python/HTTP-protocol.md

- Python Data Types Review: https://github.com/josephofiowa/GA-DSI/blob/master/intro-to-apis-python/code/Intro.ipynb

- Using APIs and formatting JSON data in Python: https://github.com/josephofiowa/GA-DSI/blob/master/intro-to-apis-python/code/api-usage-example.py + https://github.com/josephofiowa/GA-DSI/blob/master/intro-to-apis-python/code/dept-of-commerce-example.py

NEXT STEPS

- Please! Consider visiting the additional resources I've made available on the readme in our repository. The best thing you can do is keep practicing your skills.

- Notably:
- Python for Data Analysis Workshop
- Intermediate Python Workshop
- Part-time Data Science
- Data Science Immersive
- Storytelling with Data – Tuesday, 10/25
- https://generalassemb.ly/education/storytelling-with-data/washington-dc/29171

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