



Introduction to Web APIs

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Leslie Barnes, Digital Scholarship Librarian
leslie.barnes@utoronto.ca



What we'll cover today

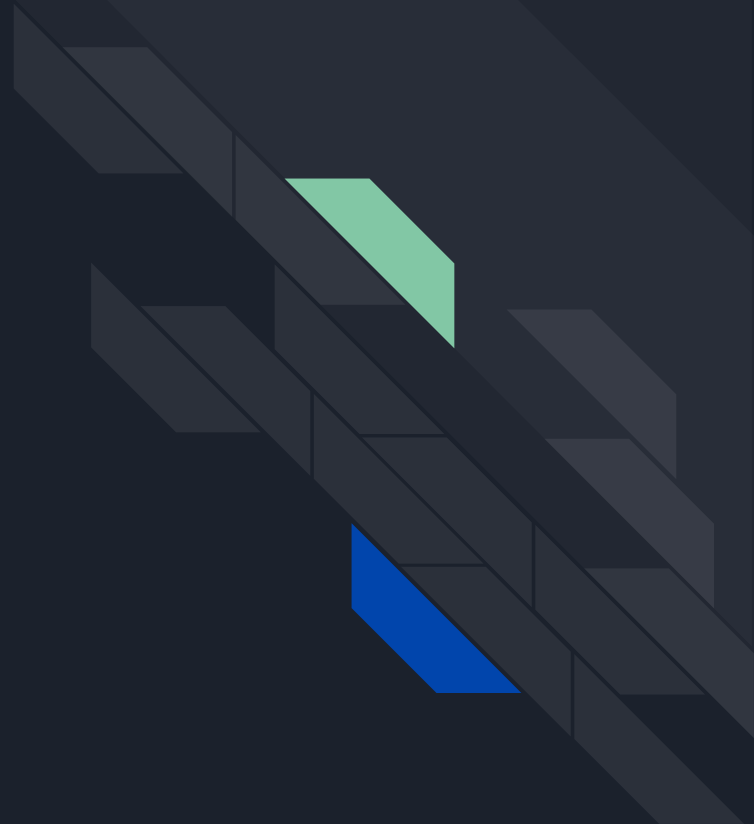
1. Web basics
2. What is an API?
3. Why APIs?
4. Finding APIs
5. Marvel API
 - a. Querying
 - b. Looking at documentation
 - c. Looking at results (JSON)



Goals

1. Understand more about how the Web works
2. You're not super confused when everyone keeps saying "API"
all the time
3. No longer intimidated by documentation
4. Feel comfortable looking at and reading JSON data
5. Know where to find APIs
6. Think about how data and their transfer is shaped by and shapes us


Some Web Basics





Servers and Clients

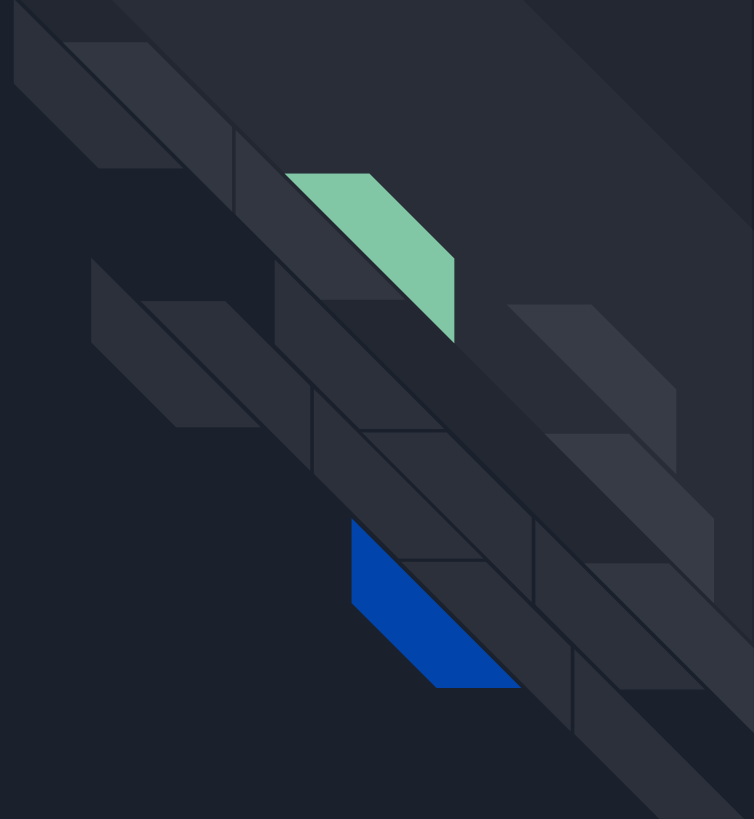
- Servers “give”: data, documents, images, etc
- Clients “ask”
- When you use the internet, your browser (Chrome, Firefox, Safari, Opera, etc) is a client
- It requests a webpage (and other documents, data, and media)



Clients and servers know how to talk to each other...

- Web browsers know how to ask for information
- Servers can understand these requests
- Web browsers know how to interpret the data they receive
- Web browsers can do their thing and show YOU a webpage

What is an API?





What is an API?

- Application Programming Interface
 - Access point for data
 - Rules for communication
- Not a program
- Not the data itself
- Point for accessing and rules for asking for data (and sometimes editing it)



What kind of rules...

- What can you ask for (what pieces of information)
- How you need to ask (the syntax)
- What terms you can use (special vocabulary)
- What actions you can take (can you just get information?)
- Whether you have permission (do you need authentication?)



What's the big deal?

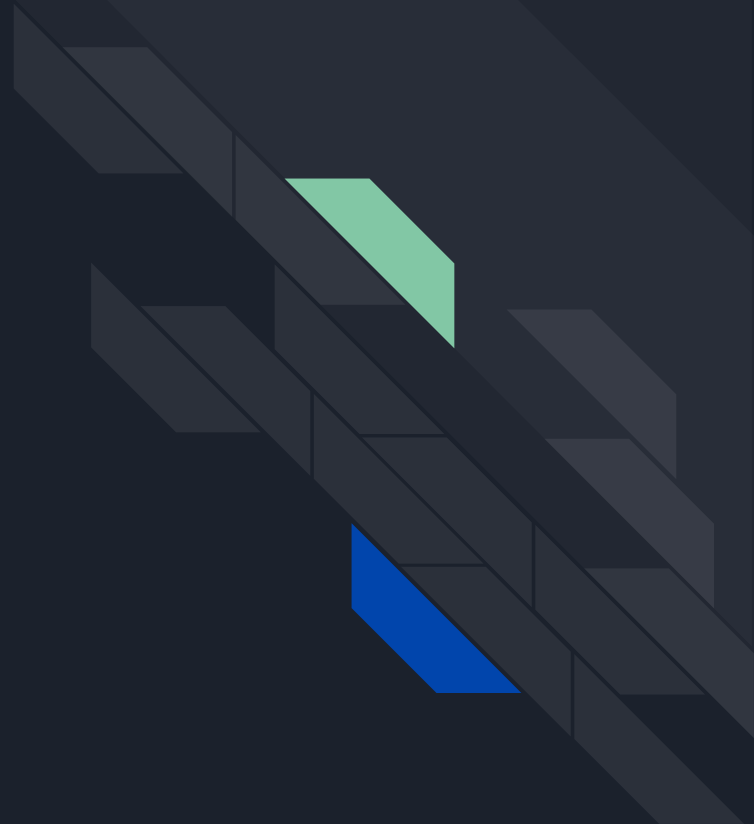
- Sharing data on the Web is fundamental
- It allows sites to make services (some free; some \$)
- Machine readable--applications can act on the data
- Get data more easily
- Manipulate data more easily
- Connect resources, like digital collections or twitter data or map data



Some Web APIs Around the Internet

- Google offers multiple (usually for developers)
- Twitter
- Several publishers offer them--usually to download metadata
- Digital collections
- Cultural heritage institutions
- Governments and government data
- Marvel


When to use an API in Research





Advantages

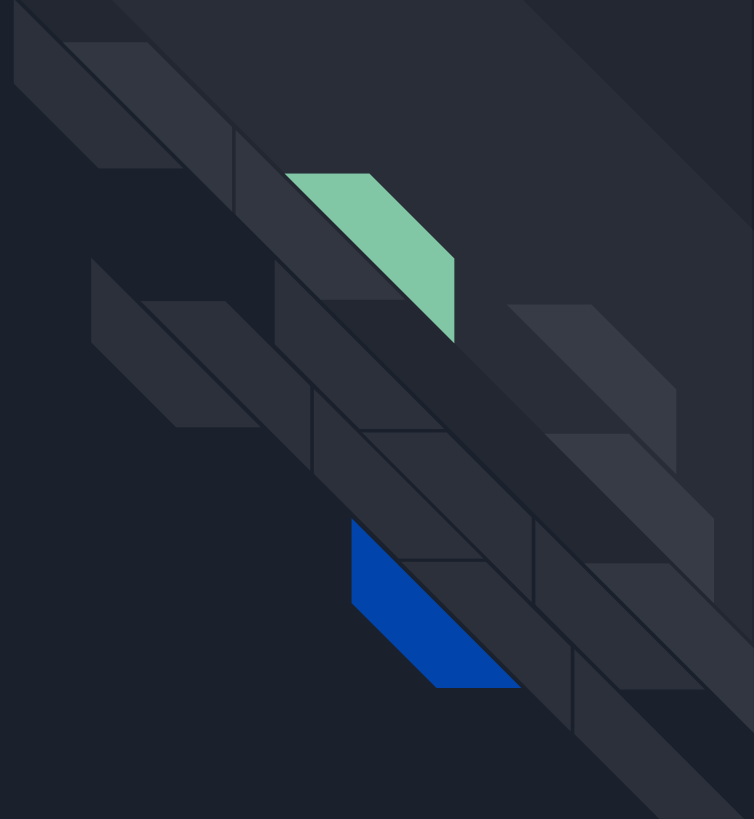
- You need *a lot* of records
- Manual access and downloading would be onerous
- Parameters available in the API are unavailable in UI
- You can access what you need with the API



API Access isn't always better...and also mix and match!

- User Interfaces can help you explore the data
- For more modest numbers of results--a UI may be more convenient
- They are often just different representations of and points of access to the *same thing*

Marvel: Documentation and Simple Queries





Marvel API

<https://developer.marvel.com/docs>



Use Your Browser!

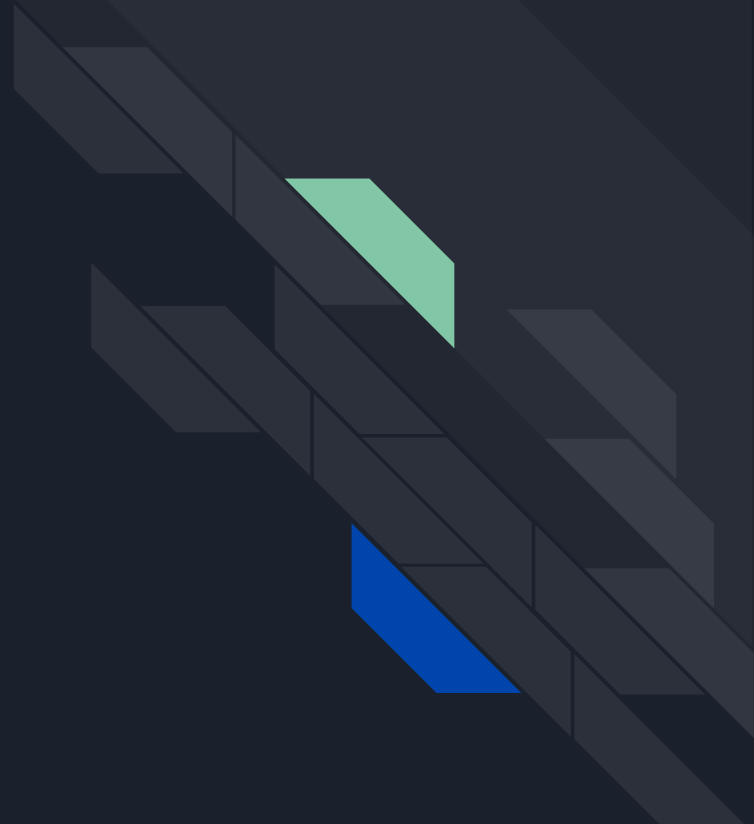
APIs start with a base URL

example.subdomain.com/parameters



Base URL

Where to Find APIs





Some Places to Look

[Digital Scholarship Services Text and Data Mining page](#)

[ProgrammableWeb API Directory](#)

[UTSC Digital Scholarship Unit](#)



What is this for?

PEOPLE

Questions?
leslie.barnes@utoronto.ca

