How The Web Works

Part One: Solidify Terminology

1. HTTP stands for Hypertext Transfer Protocol. It is a protocol used for communication between web servers and web clients (browsers) on the Internet.

2. A URL (Uniform Resource Locator) is a web address that identifies a specific resource (such as a webpage, image, or file) on the Internet.

3. DNS (Domain Name System) is a system that translates domain names (like google.com) into IP addresses (like 216.58.194.174) that computers use to communicate with each other on the Internet.

4. A query string is a part of a URL that contains data that is sent to a web server as part of an HTTP request. It's usually indicated by a question mark followed by key-value pairs.

5. Two common HTTP verbs are GET and POST. GET is used to retrieve information from a server, while POST is used to submit data to a server.

6. An HTTP request is a message sent by a web client (such as a browser) to a web server, asking for a specific resource.

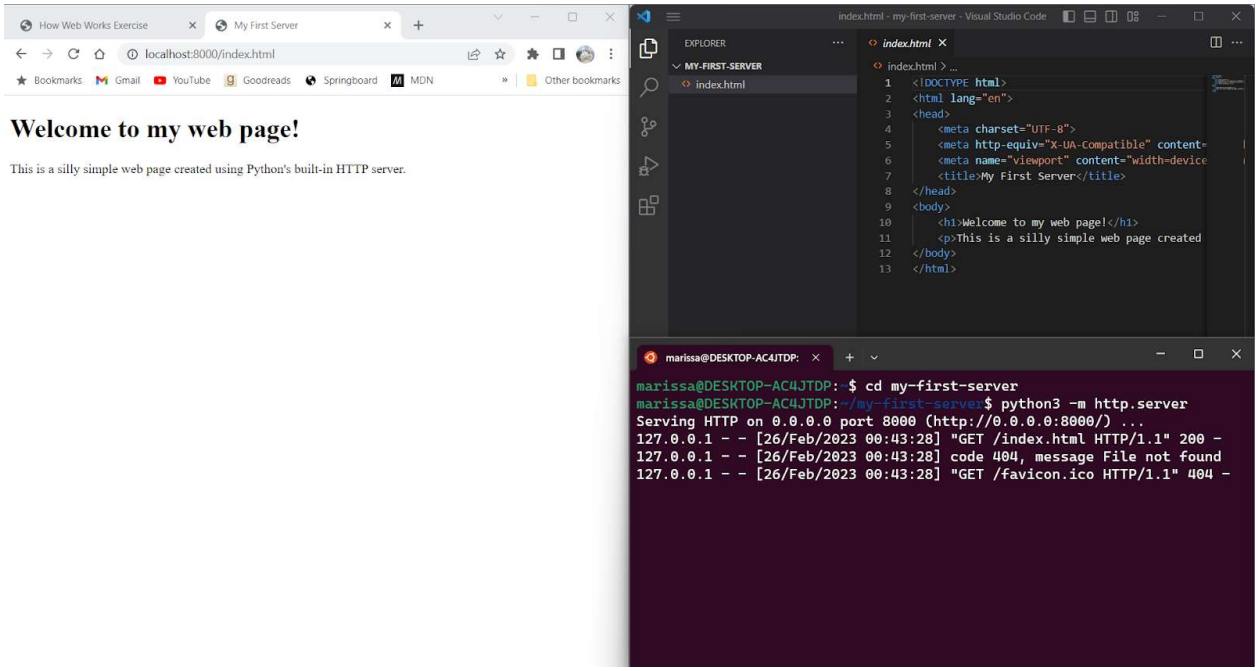
7. An HTTP response is a message sent by a web server to a web client in response to an HTTP request, containing the requested data or resources.

8. An HTTP header is a piece of metadata that provides additional information about an HTTP request or response. Examples of request headers may include "Authorization" which includes credentials (such as a username and password) needed to access a protected resource, and "Accept-Language" (specifying the preferred language for the response). Response headers may include "Date", which indicates the date and time when the response was sent, and "Server" which specifies the name and version of the web server software used to generate the response.

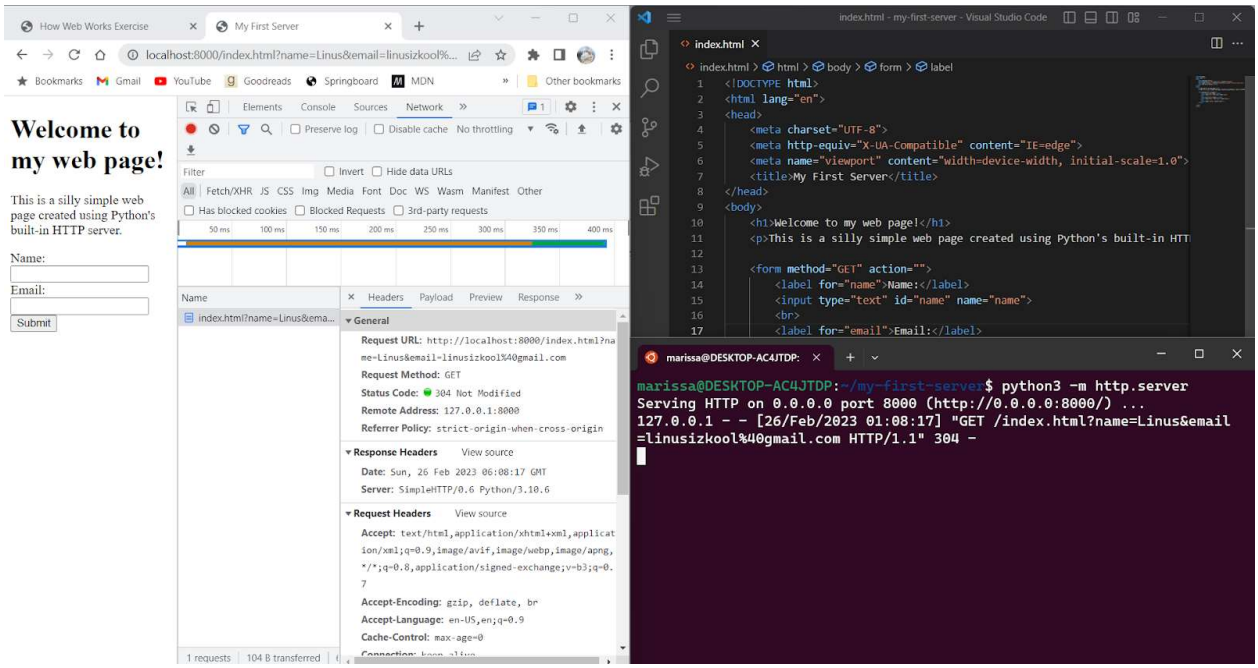
9. When a user types "http://somesite.com/some/page.html" into a browser, several processes occur:

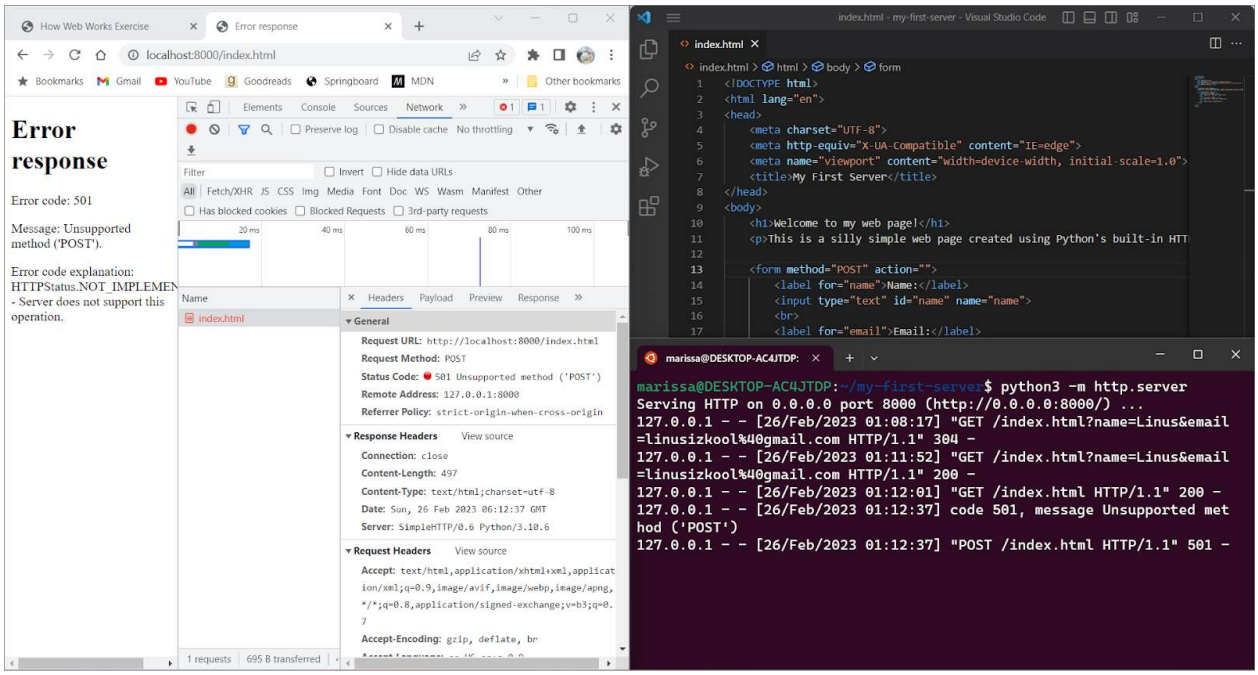
    - The browser parses the URL into its component parts (protocol, domain, and path).
    - The browser uses DNS to look up the IP address associated with the domain name "somesite.com".
    - The browser sends an HTTP GET request to the server at that IP address, requesting the resource at the specified path ("/some/page.html").
    - The server receives the request, processes it, and sends an HTTP response back to the browser containing the requested resource (the HTML file).
    - The browser receives the response, parses the HTML, and renders the page for the user to view.

Part Two: Practice Tools



Part Three: Explore Dev Tools





Part Four: Explore the URL API