

Web Development and HTML

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Outline

- How does Internet Work?
- Web Development
- HTML
 - Block vs. Inline elements
 - Lists
 - Links and Attributes
 - Tables
 - Forms

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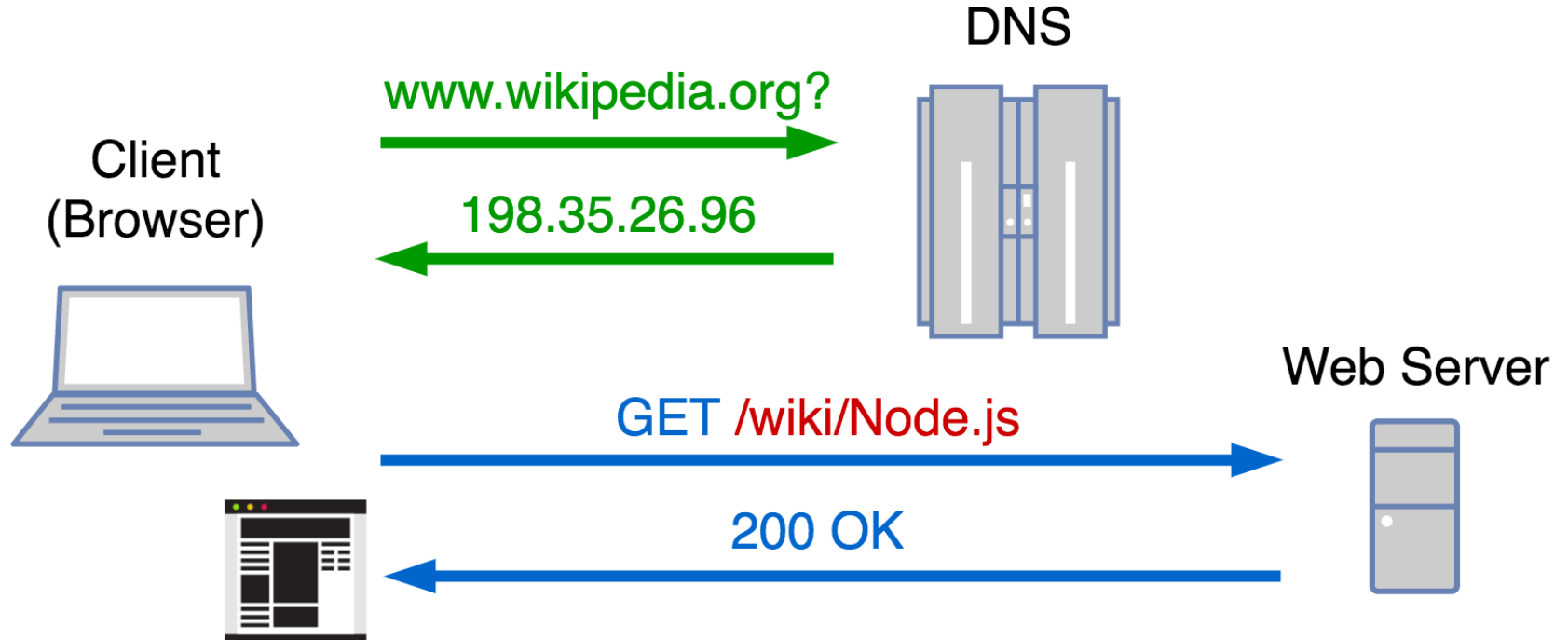
What Happened?

<https://www.wikipedia.org/wiki/Node.js>



From URL to Web Page

<https://www.wikipedia.org/wiki/Node.js>



HTTP

- A ***protocol*** is language spoken by machines
 - Defines structure of messages to be exchanged
- HyperText Transfer Protocol (HTTP) defines:
 - Messages: HTTP ***request*** and HTTP ***response***
 - Requests: accessing ***resources*** (web pages) via **GET, POST, PUT**, and **DELETE** methods
 - Responses: **200** OK, **301** Moved, **404** Not Found, **500** Server Error, etc.

HTTP Messages

- Each HTTP message have
 - Initial line, header lines, and optionally body

Request:

```
GET /wiki/Node.js HTTP/1.1
Host: www.wikipedia.org
Accept: text/html,
        application/json
```

Response:

```
HTTP/1.1 200 OK
Content-Type: text/html
Content-Length: 3324
```

```
<!DOCTYPE html>
<html>
  <head> ... </head>
  <body> ... </body>
</html>
```

- A resource can have different ***presentations***
 - HTML, XML, JSON, etc.

Chrome Inspector

URI vs. URL vs. URN

- An Uniform Resource Identifier (URI) identifies a resource on the Internet
- An Uniform Resource Locator (URL) is a specialized URI that identifies a resource **by reachable location**
 - E.g., “http://...”, “https://...”, “ftp://...”
 - Case sensitive
 - Must be URL encoded
 - “http://host/hello world!” → “http://host/hello%20world%21”
- An Uniform Resource Name (URN) is a specialized URI that identifies a resource **by name**
 - E.g., “urn:isbn:0451450523”

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Web Development

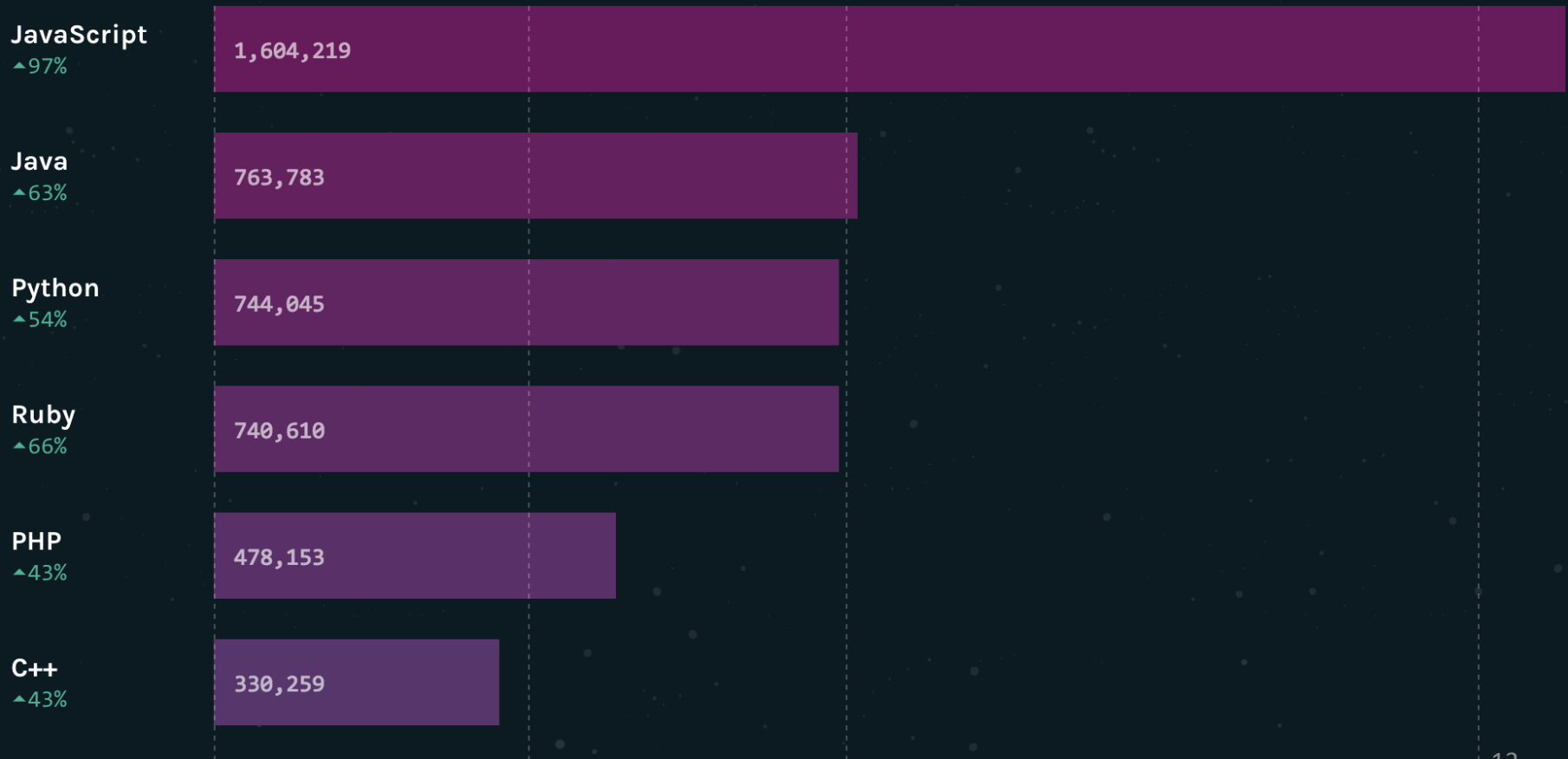
- To build a website that serves web pages
- Code to be run at client side (front end):
 - Displays pages
 - Interacts with user
 - Sends additional requests
- Code to be run at server side (back end):
 - Handles requests (from multiple clients)
 - Stores data
 - Sends “personalized” responses
- Currently, we focus on client-side development

What's Inside a Web Page?

- Hyper-Text Markup Language (**HTML**)
 - Content and structure
- Cascade Style Sheet (**CSS**):
 - Styles (e.g., color, font, width, height, etc.)
- **JavaScript**:
 - Interactions
 - A general-purpose programming language

Javascript Lies beyond Browsers

15 most popular languages used on GitHub by opened Pull Request and percentage change from previous period



Hello HTML

Viewport & Responsiveness

`<meta name="viewport" content="width=device-width, initial-scale=1.0">`



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Block vs. Inline Elements

Lists

Links and Attributes

Tables

Forms

Interacting with Servers

- Queries
 - E.g., specialized presentation for current user
- Passing arguments
 - E.g., user login

Form Validation

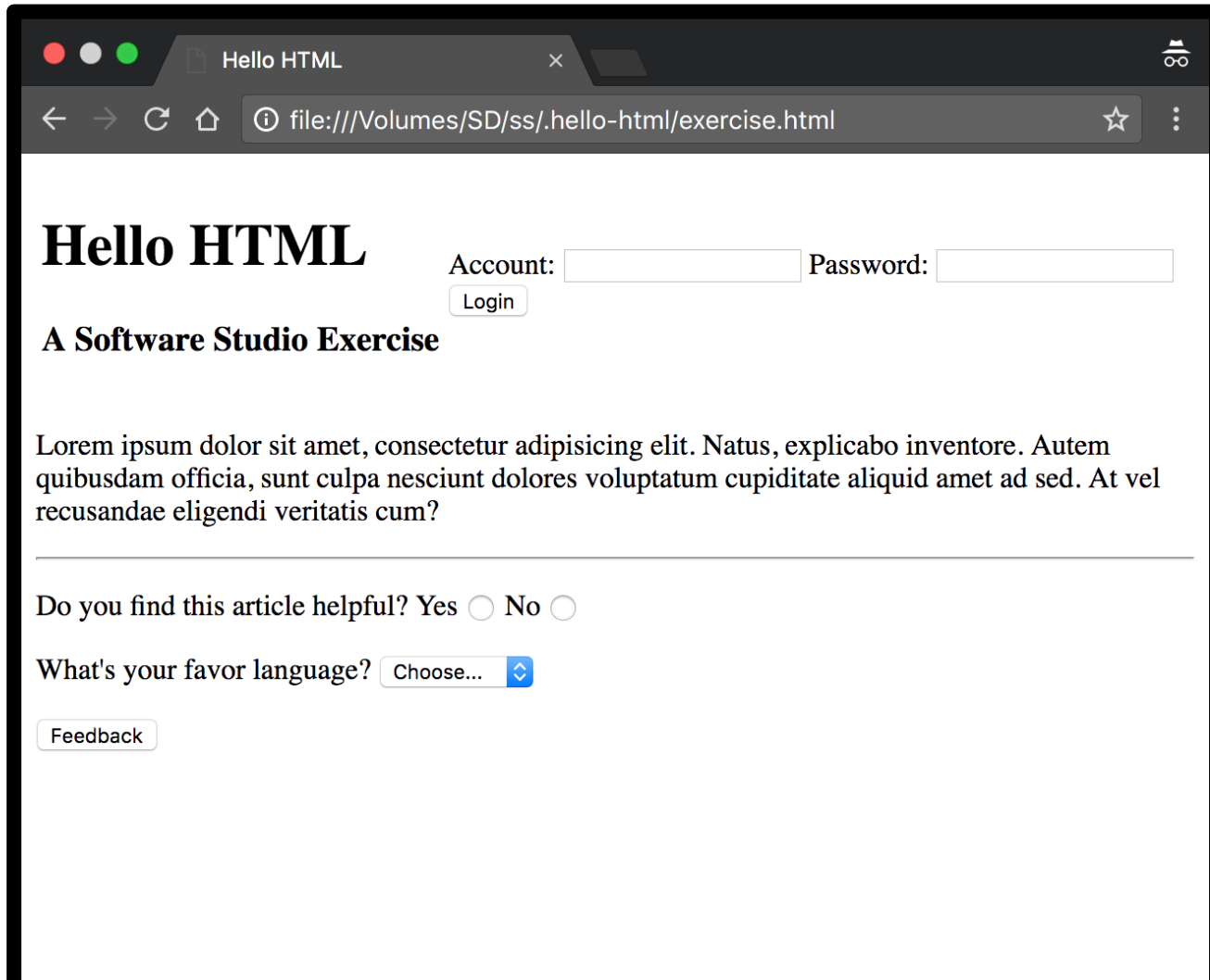
Assigned Reading

- [HTML5 tutorial](#)

Reference

- [Mozilla Developer Network](#) (MDN)

Exercise



A screenshot of a web browser window. The title bar shows 'Hello HTML' and a close button. The address bar shows the file path 'file:///Volumes/SD/ss/.hello-html/exercise.html'. The page content includes a heading 'Hello HTML', a login form with 'Account:' and 'Password:' labels, a 'Login' button, a subheading 'A Software Studio Exercise', a paragraph of Lorem Ipsum text, a feedback question 'Do you find this article helpful?' with 'Yes' and 'No' radio buttons, a language selection dropdown 'What's your favor language?' with a 'Choose...' button, and a 'Feedback' button.

Hello HTML

Account: Password:

A Software Studio Exercise

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Do you find this article helpful? Yes ☐ No ☐

What's your favor language?