



Waterford Institute of Technology
INSTITIÚID TEICNEOLAÍOCHTA PHORT LÁIRGE

MSc. Enterprise Software Systems

Module: Enterprise Web Development

Website: *<https://tutors-svelte.netlify.app/#/course/ewd-2022-wit.netlify.app>*

Overview

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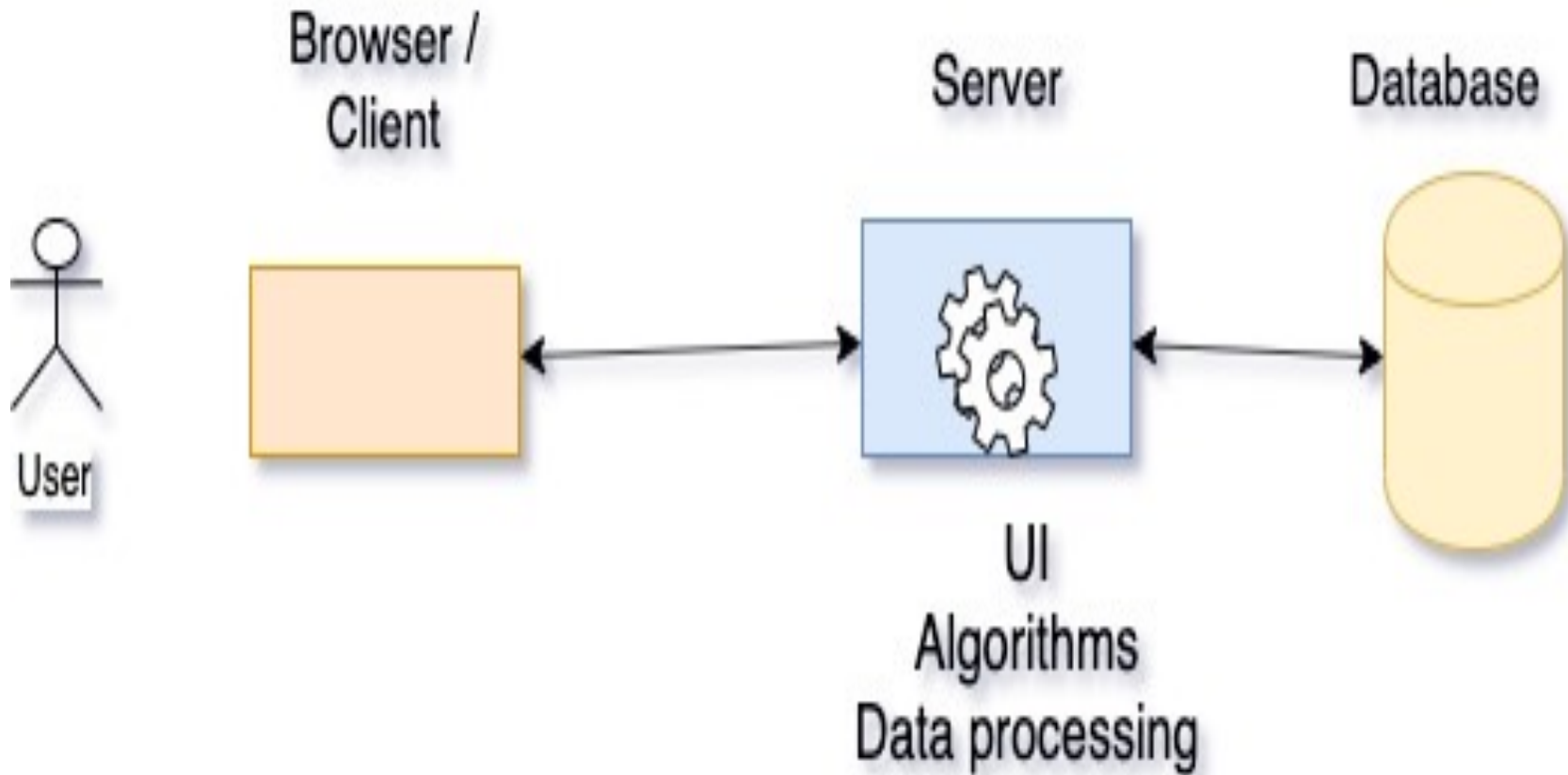
TL;DR

**Design, implement, and deploy,
performant, secure, modern Web
apps using industry-standard
frameworks and tools.**

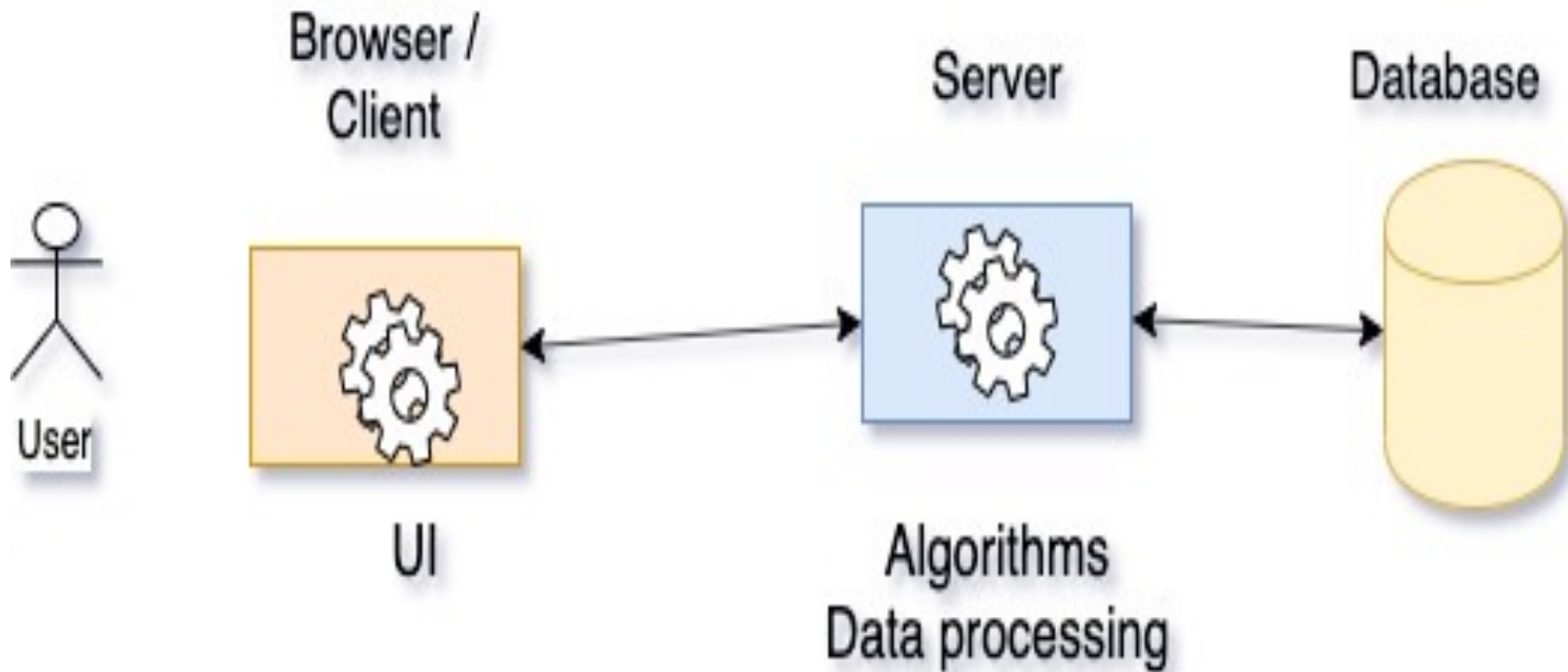
Agenda

- Context.
- This module's focus
- Software installation requirements

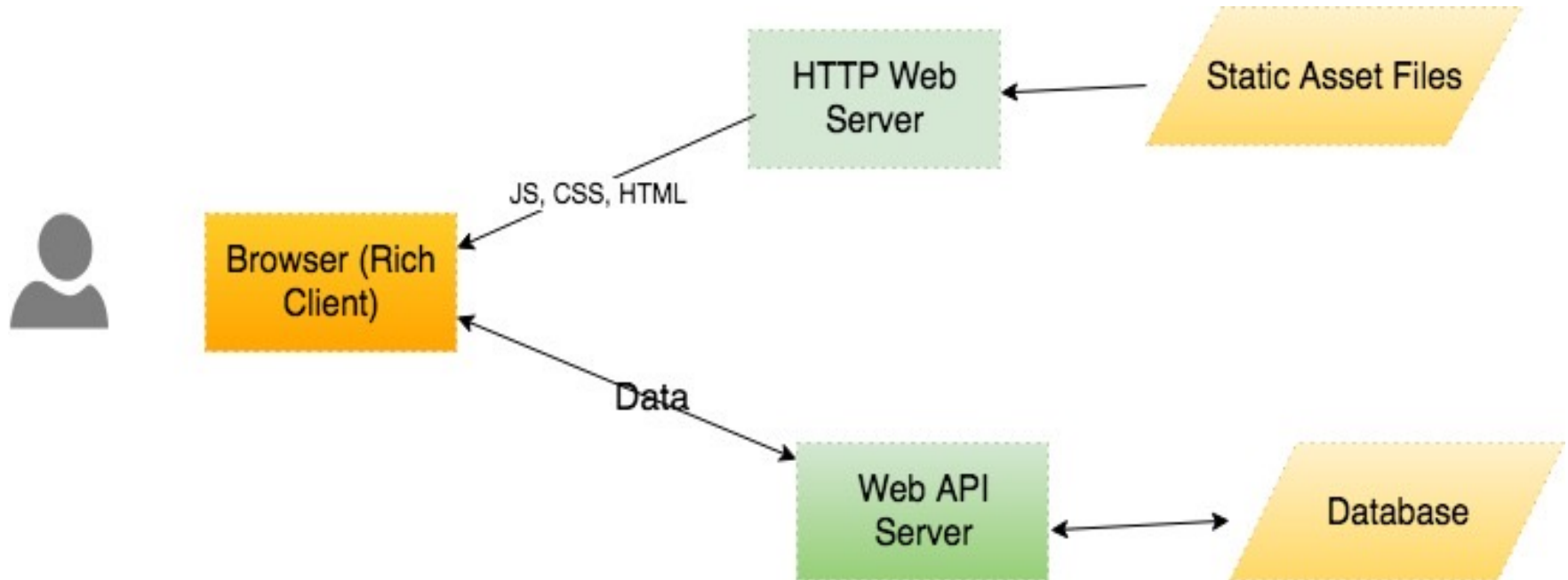
Web Apps Architecture – Server-Side Rendering (SSR)



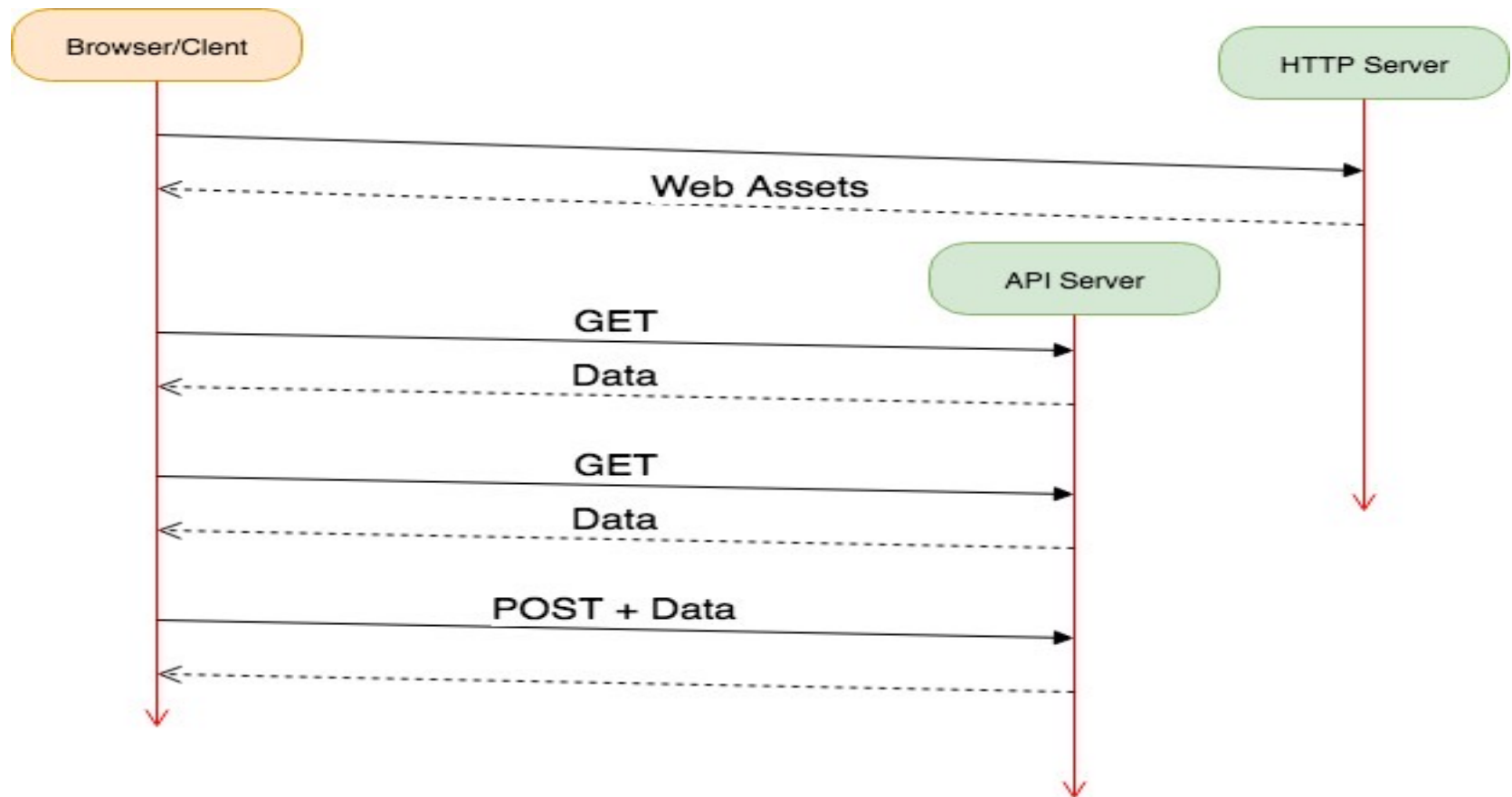
Web Apps Architecture – Client-Side Rendering (CSR)



Modern (CSR) Web Apps - Architecture



Modern Web Apps – HTTP Communications flow



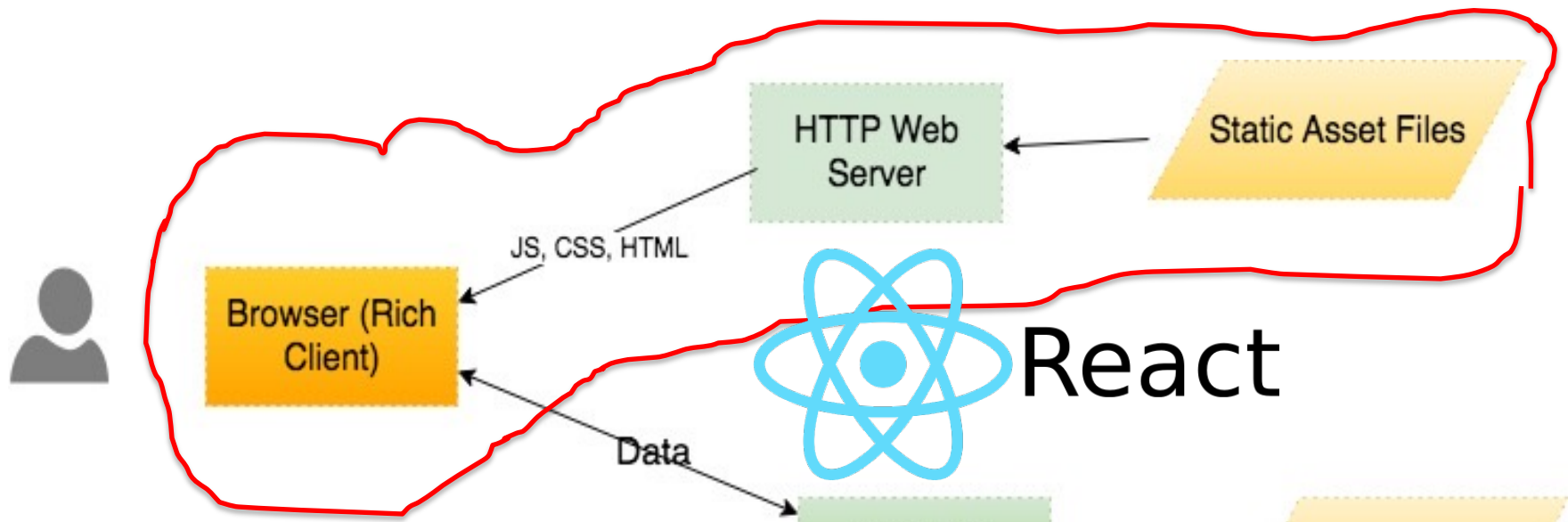
Modern Web Apps.

1. **Early Examples: Gmail (2004), YouTube (1st generation)**
 - **Disadvantage:**
 - **Poor developer experience (DX) – code bloat; poor maintainability; browser inconsistencies.**
 - **Lacked addressability (Key principle of the web).**
2. **Jquery – A cross-platform JavaScript library to simplify the client-side scripting of HTML pages. (2006)**
 - **Adv.: Better developer productivity; reduced code bloat**
 - **Disadvantages:**
 - **Lacked Addressability.**
 - **Poor code maintainability (spaghetti code).**
3. **Single Page App (SPA) *frameworks*. (2010 ish)**
 - **Support addressability; Improved DX; Improved maintainability.**

Agenda

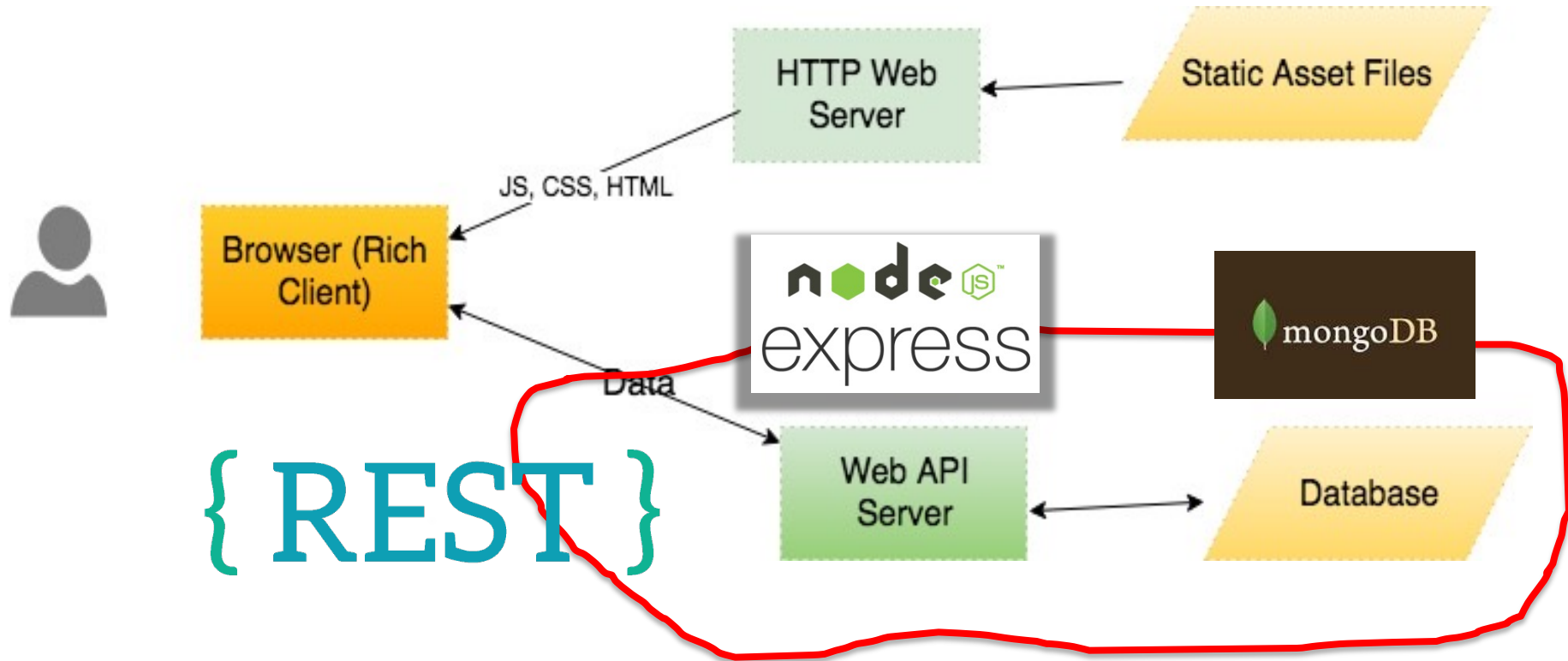
- Context. ☒
- This module's focus

Client-side Rendering Web Apps – Technology stack.



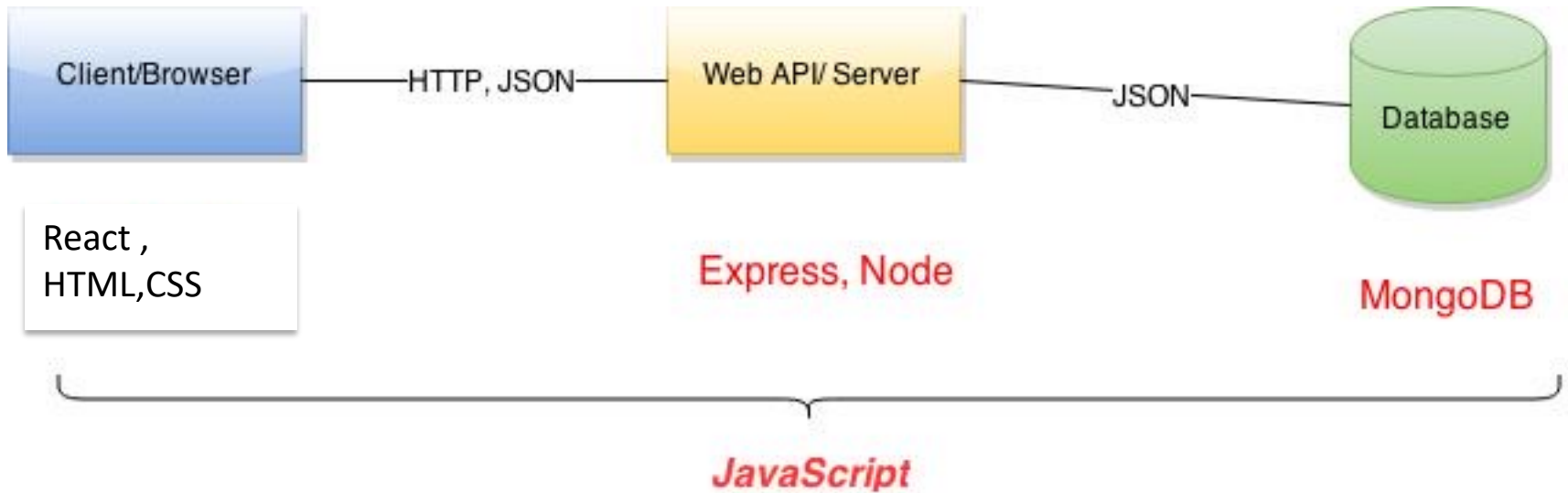
A JavaScript library for building user interfaces

Client-side Rendering Web Apps – Technology stack.



MERN Technology stack.

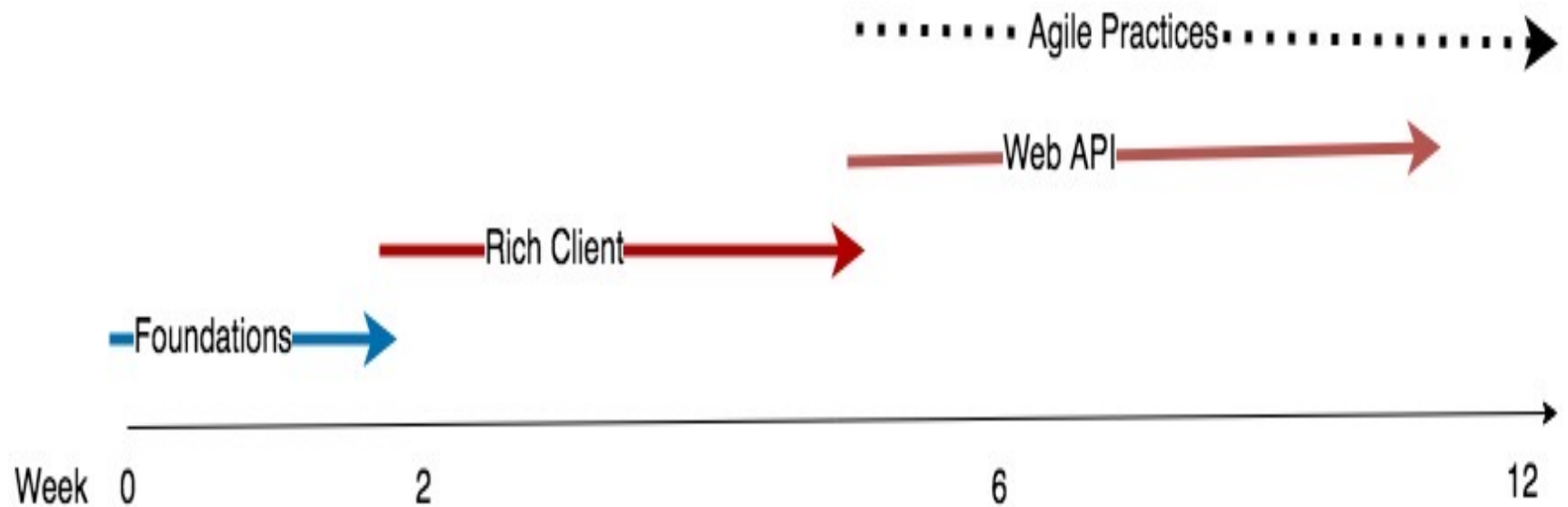
(MERN - Mongo, Express, React, Node)



Industry-standard Frameworks.



Outline schedule

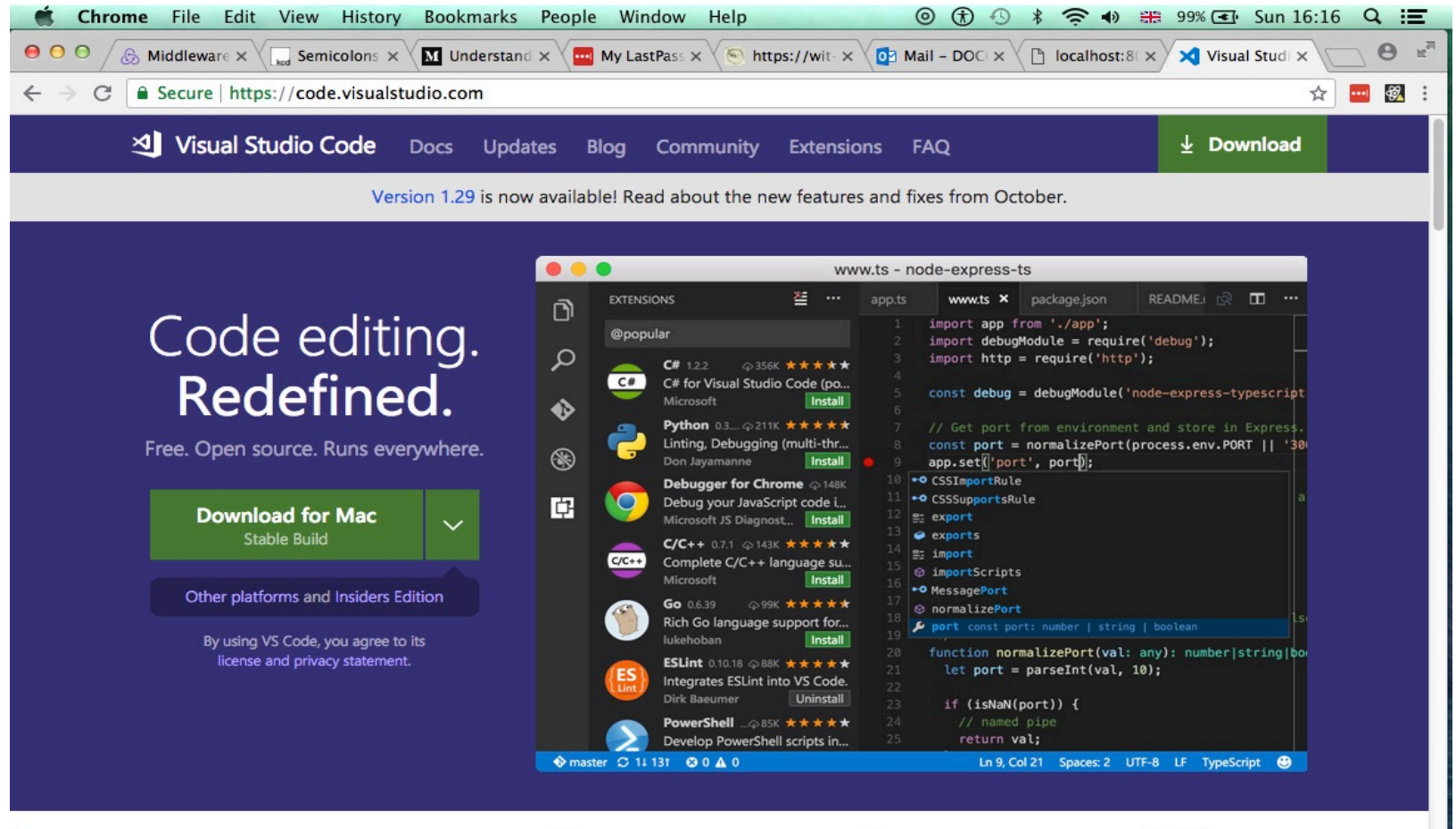


Agenda

- Context. ☒
- This module's focus
 - Single Page Apps, using React ☒
 - Web APIs, using Node and MongoDB ☒
- Software Installation Requirements

Text Editor

(Not a heavyweight IDE, thankfully)



Node.js

(A JavaScript runtime platform)

Chrome File Edit View History Bookmarks Profiles Tab Window Help

nodejs.org/en/

node

HOME | ABOUT | DOWNLOADS | DOCS | GET INVOLVED | SECURITY | CERTIFICATION | NEWS

Node.js® is a JavaScript runtime built on [Chrome's V8 JavaScript engine](#).

New security releases now available for Node.js 12, 14, 16, and 17 release lines

Download for macOS (x64)

16.13.2 LTS
Recommended For Most Users

17.3.0 Current

Other Downloads | Changelog | API Docs

Or have a look at the [Long Term Support \(LTS\) schedule](#)


OpenJS

Git

git --distributed-even-if-your-workflow-isnt

Git is a **free and open source** distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

Git is **easy to learn** and has a **tiny footprint with lightning fast performance**. It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with features like **cheap local branching**, convenient **staging areas**, and **multiple workflows**.

 **Learn Git in your browser for free with Try Git.**

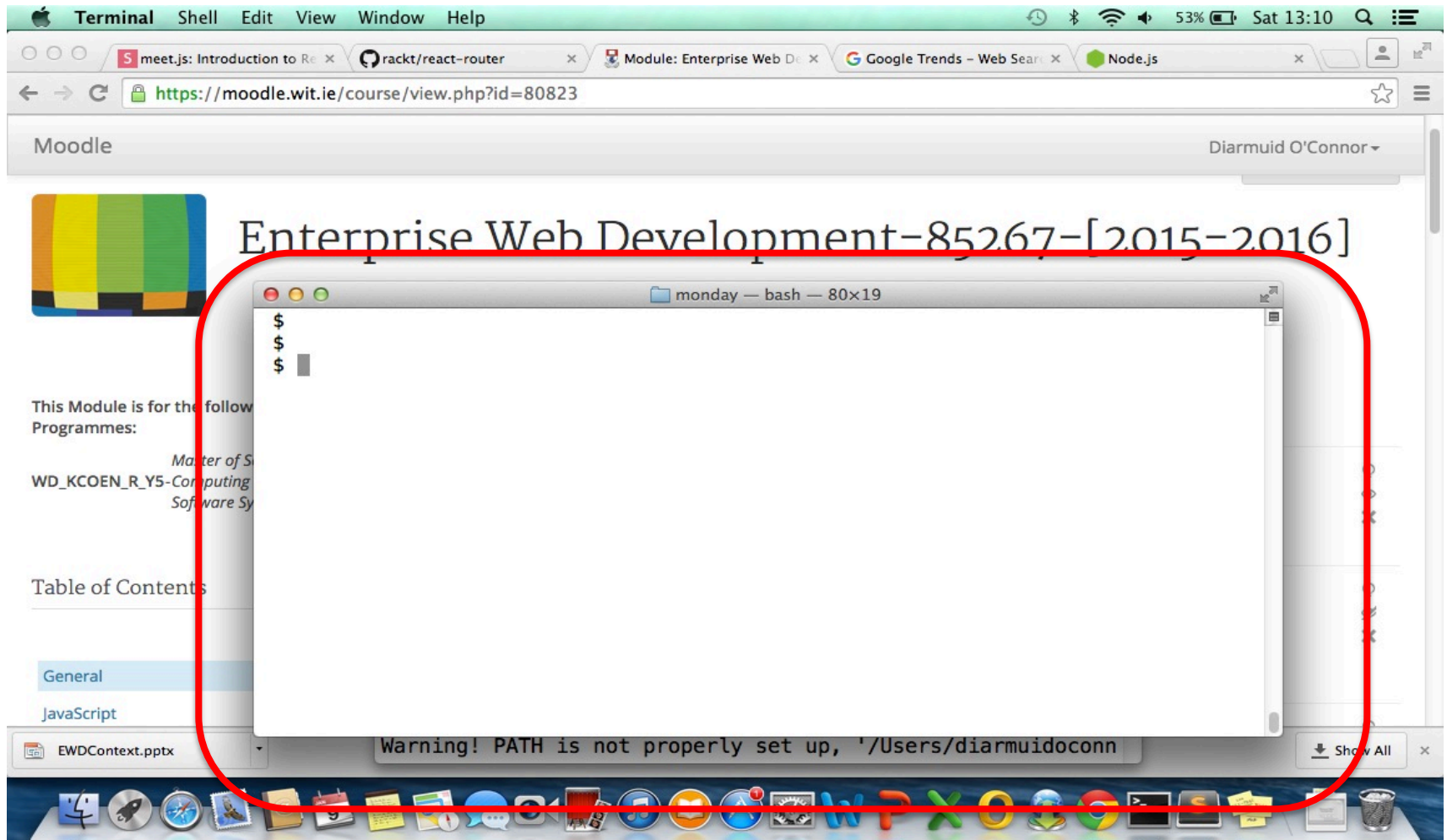
About
The advantages of Git compared to other source control systems

Documentation
Command reference pages, Pro Git book content, videos and more

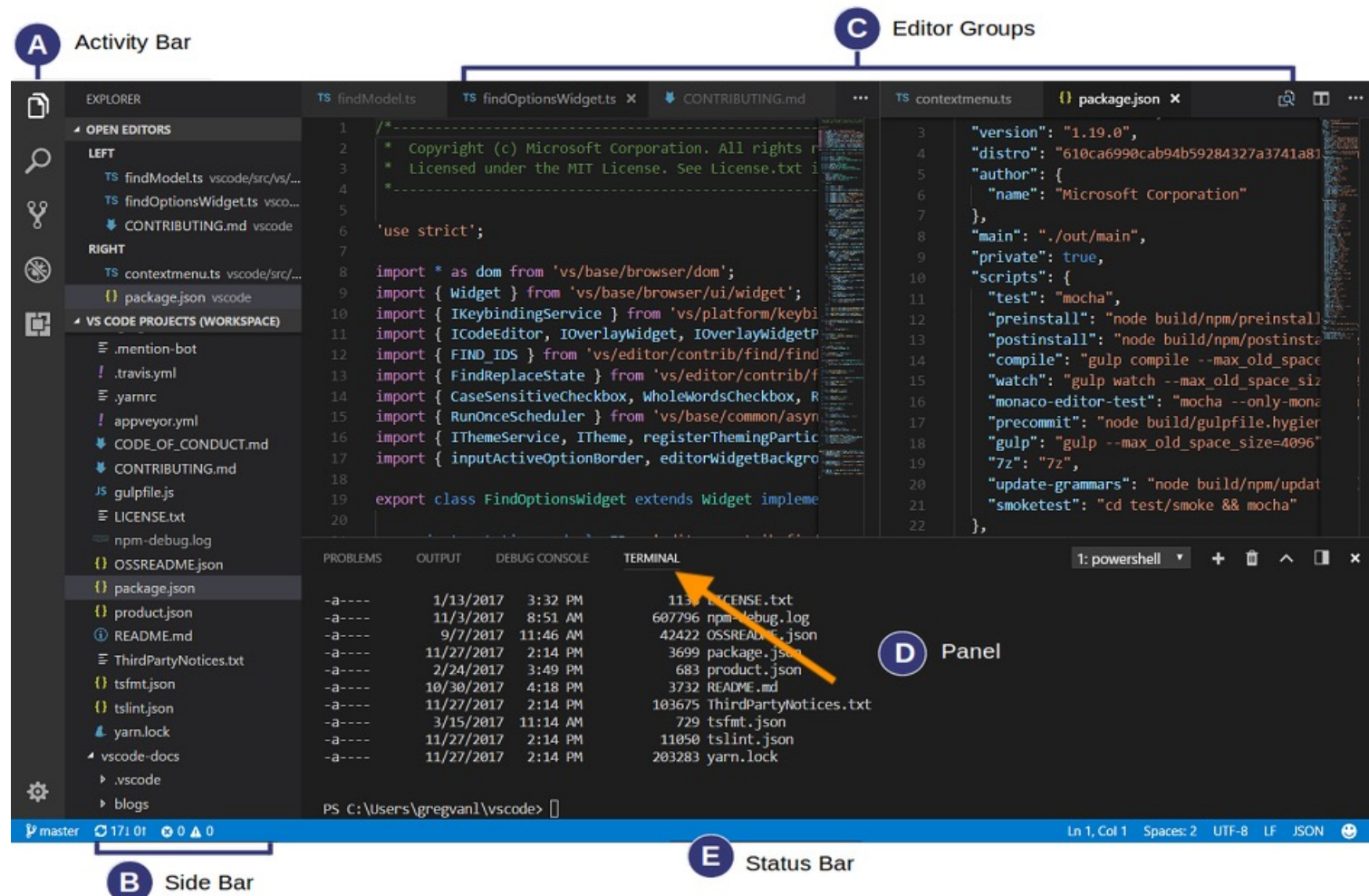
Latest source Release 2.15.1

35 misspelled words Spaces: 4 Markdown

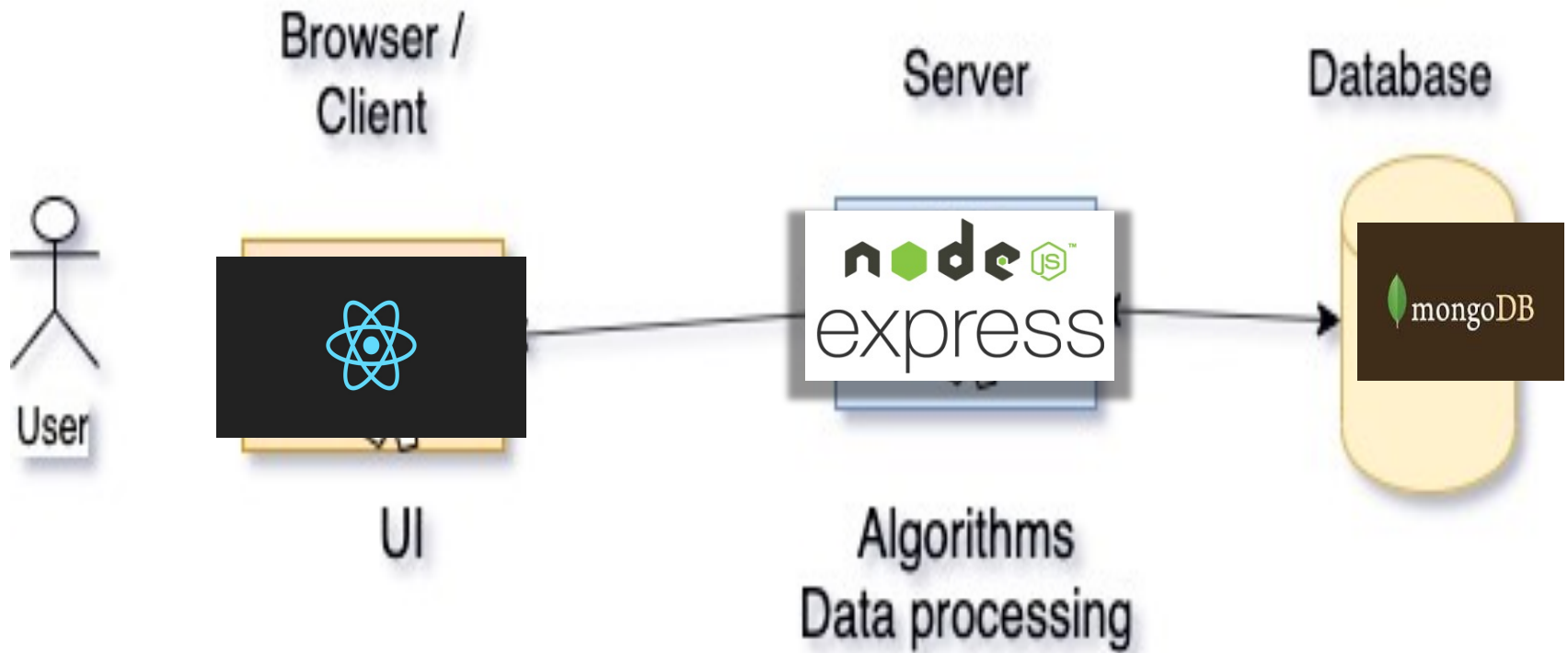
DOS/Terminal window.



VS Code's Integrated Terminal.



Full-Stack Developer



Summary.

- **Two models of web apps:**
 - **Traditional – Server Side Rendering (SSR)**
 - **Modern – Client Side Rendering (CSR)**
- **CSR model has evolved:**
 - **Unmaintainable JS codebase to SPA framework based codebase**
 - **No addressability to addressable**
- **Server-side.**
 - **From SSR web applications to Web APIs.**
- **NoSQL databases.**

