MSc. Enterprise Software Systems

Module: Enterprise Web Development

Website: *https://tutors-svelte.netlify.app/#/course/ewd-2023-setu.netlify.app*

Overview

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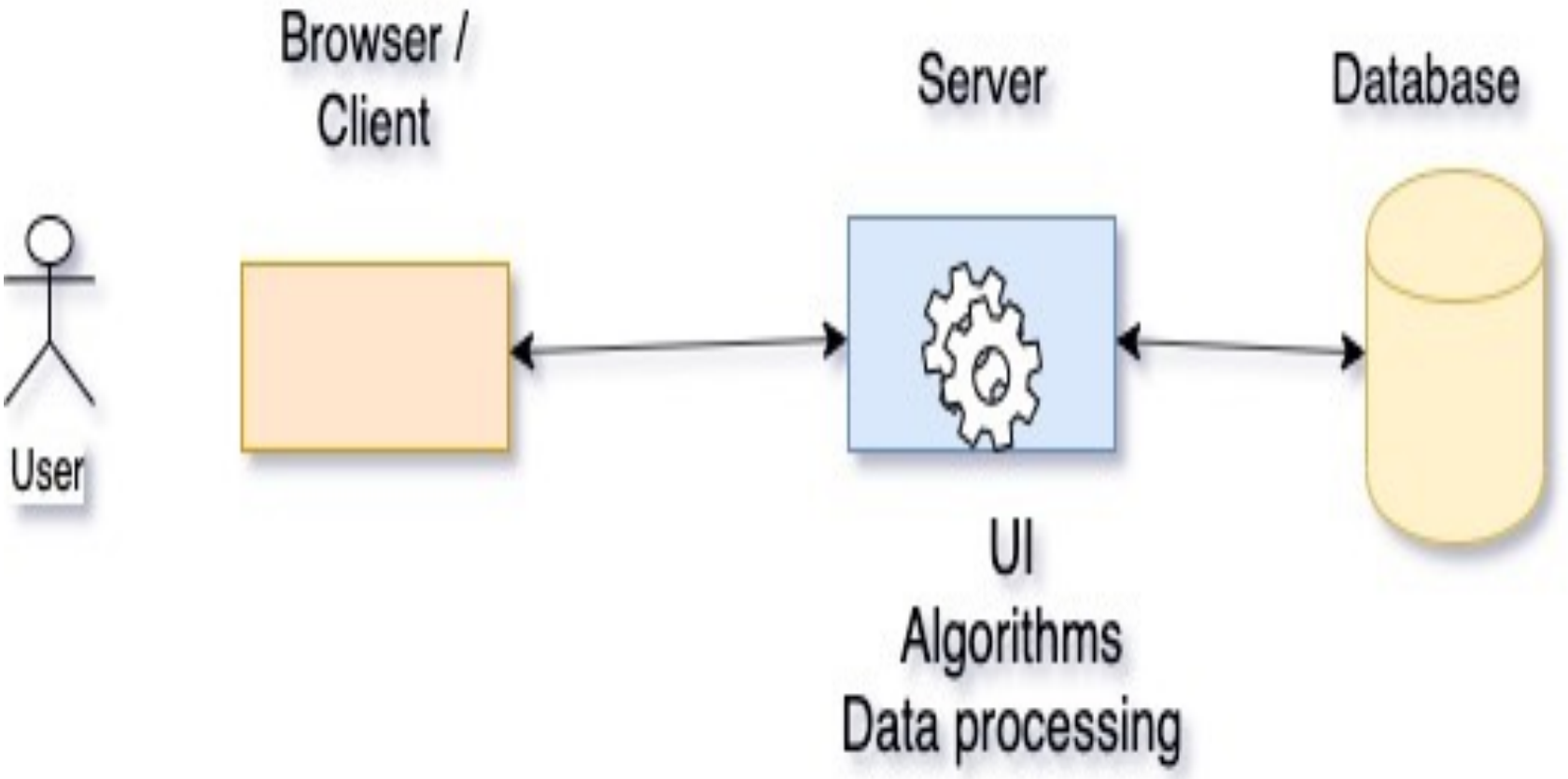
TL;DR

Design, implement, and deploy, performant, secure, client-side rendering Web apps using industry-standard frameworks and tools.

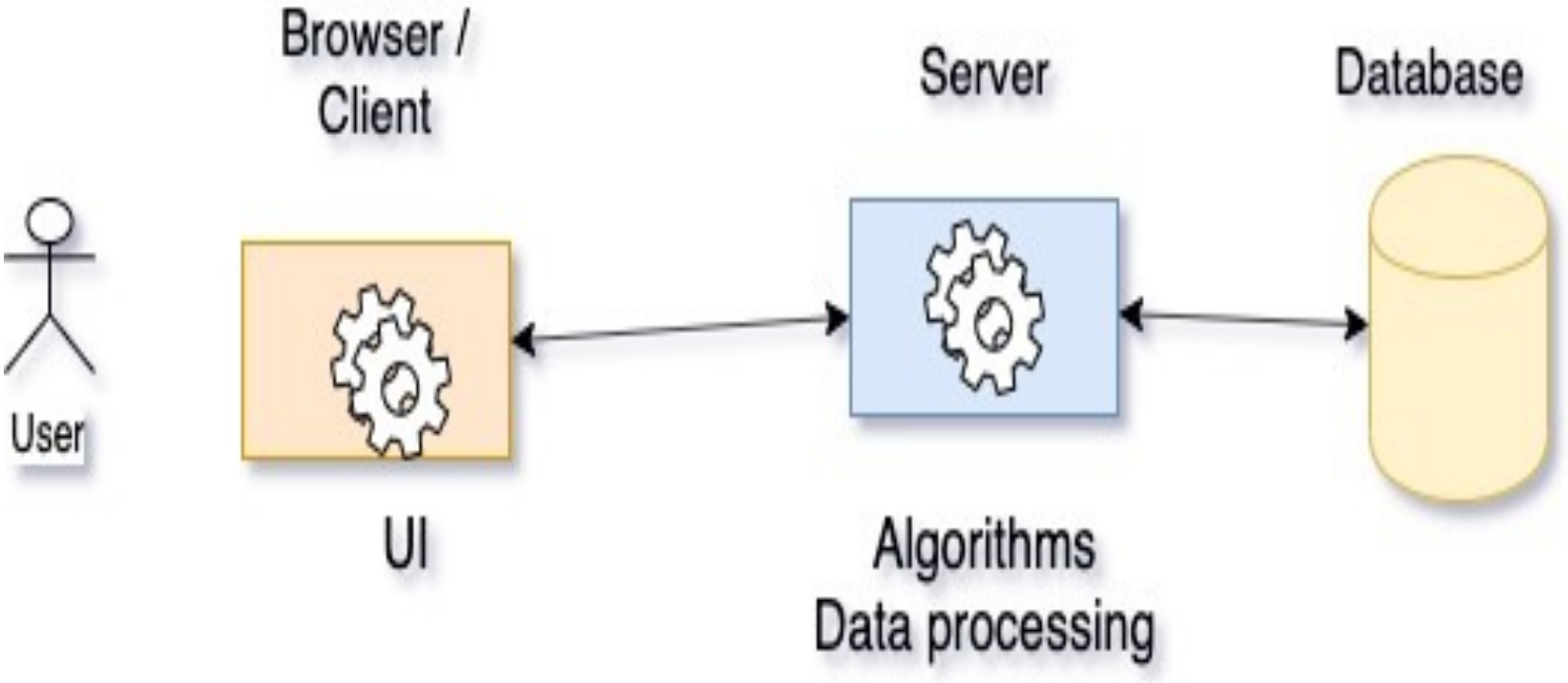
Agenda

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

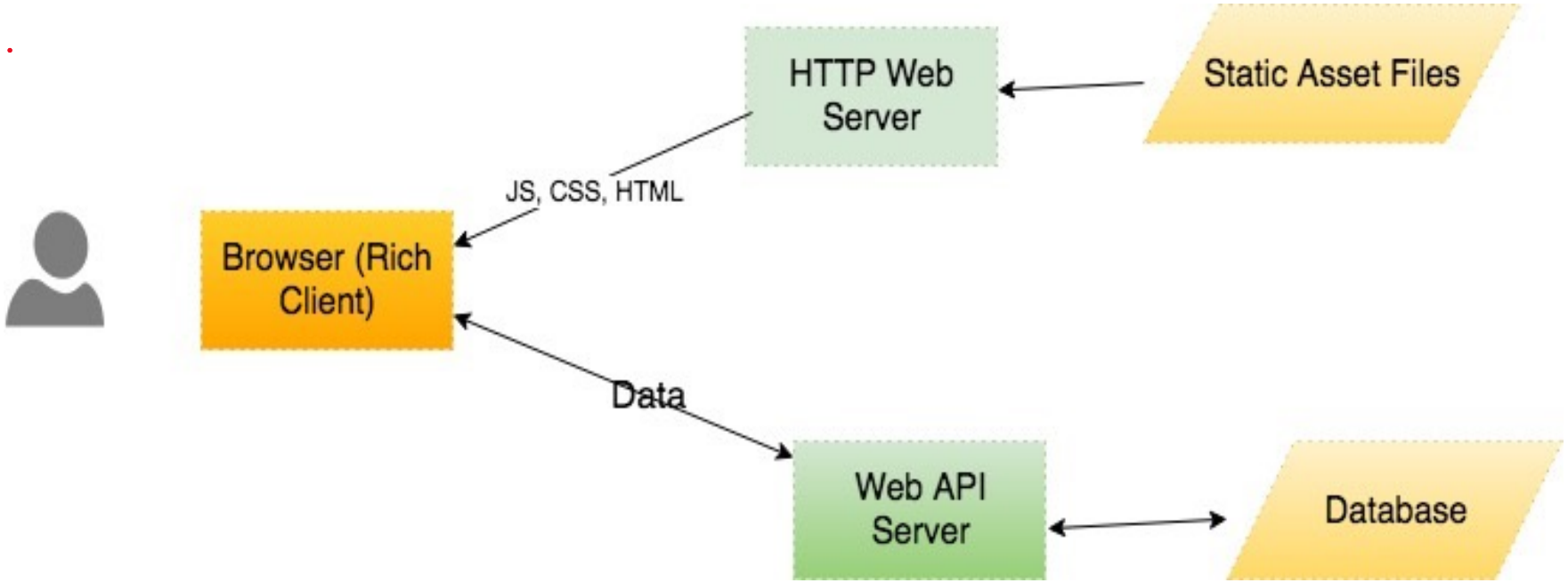
Web Apps Architecture – **Server-Side** Rendering (SSR)



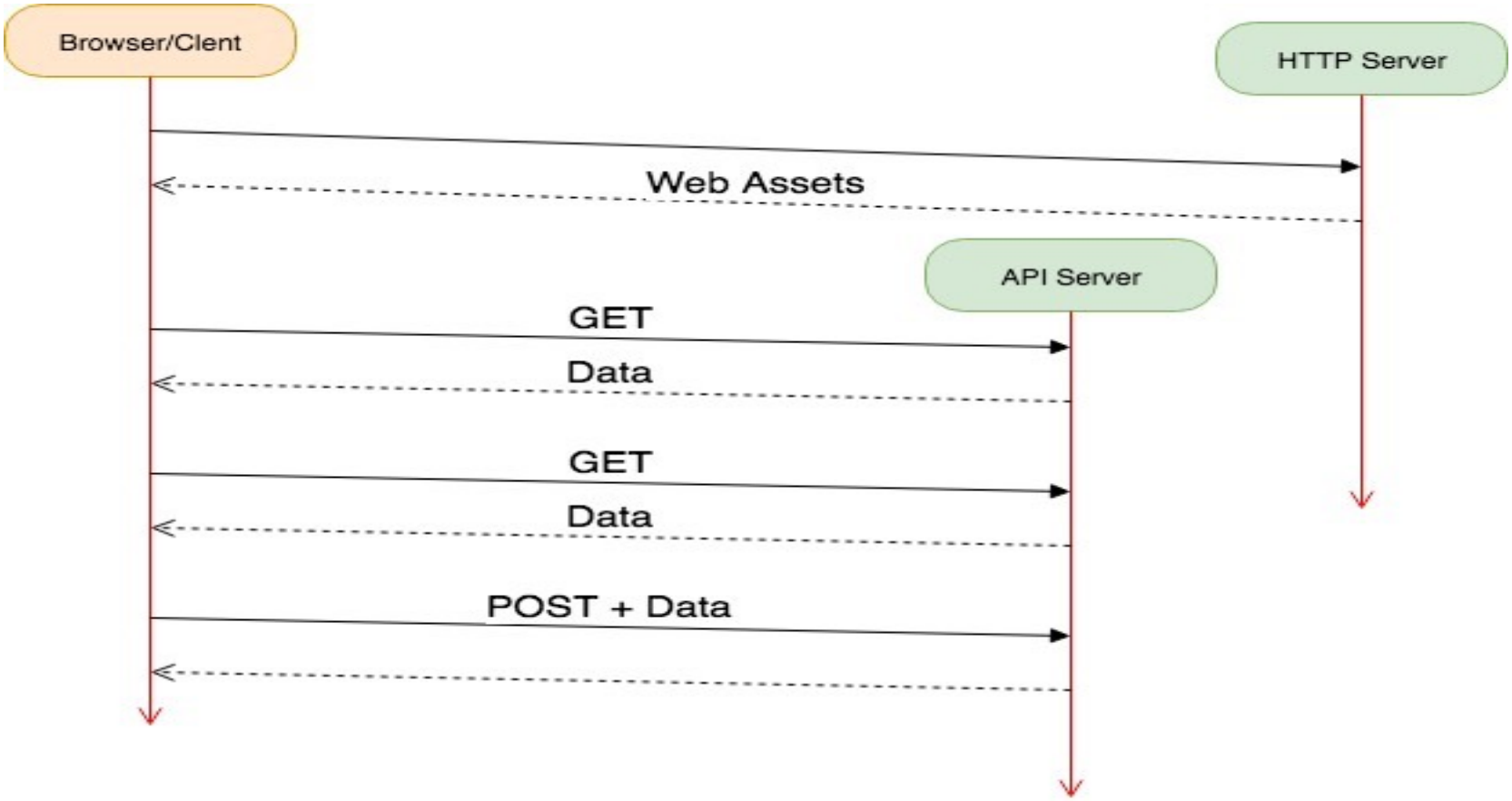
Web Apps Architecture – **Client-Side** Rendering (CSR)



CSR Web Apps - Architecture



CSR Web Apps – HTTP Communications flow



CSR Web Apps - Evolution.

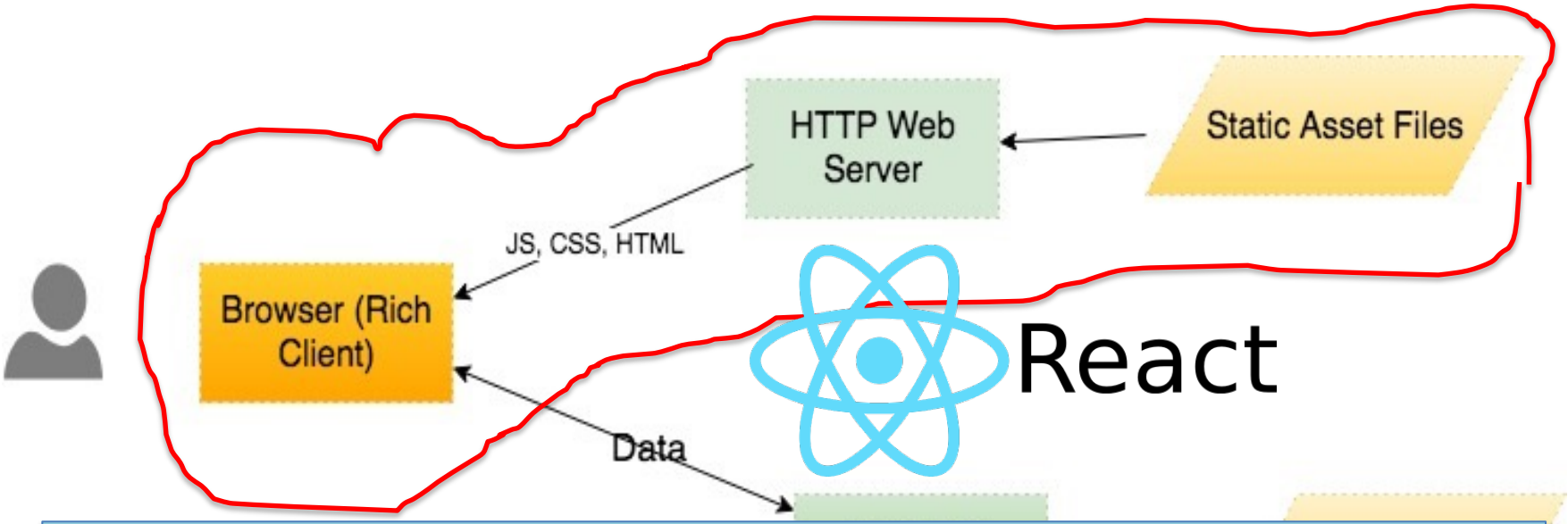
1. **Early Examples: Gmail (2004), YouTube (1st generation)**
   - **Disadvantage:**
     - **Poor developer experience (DX) – code bloat; poor maintainability; browser inconsistencies.**
     - **Lacked addressability (Key principle of the web).**

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

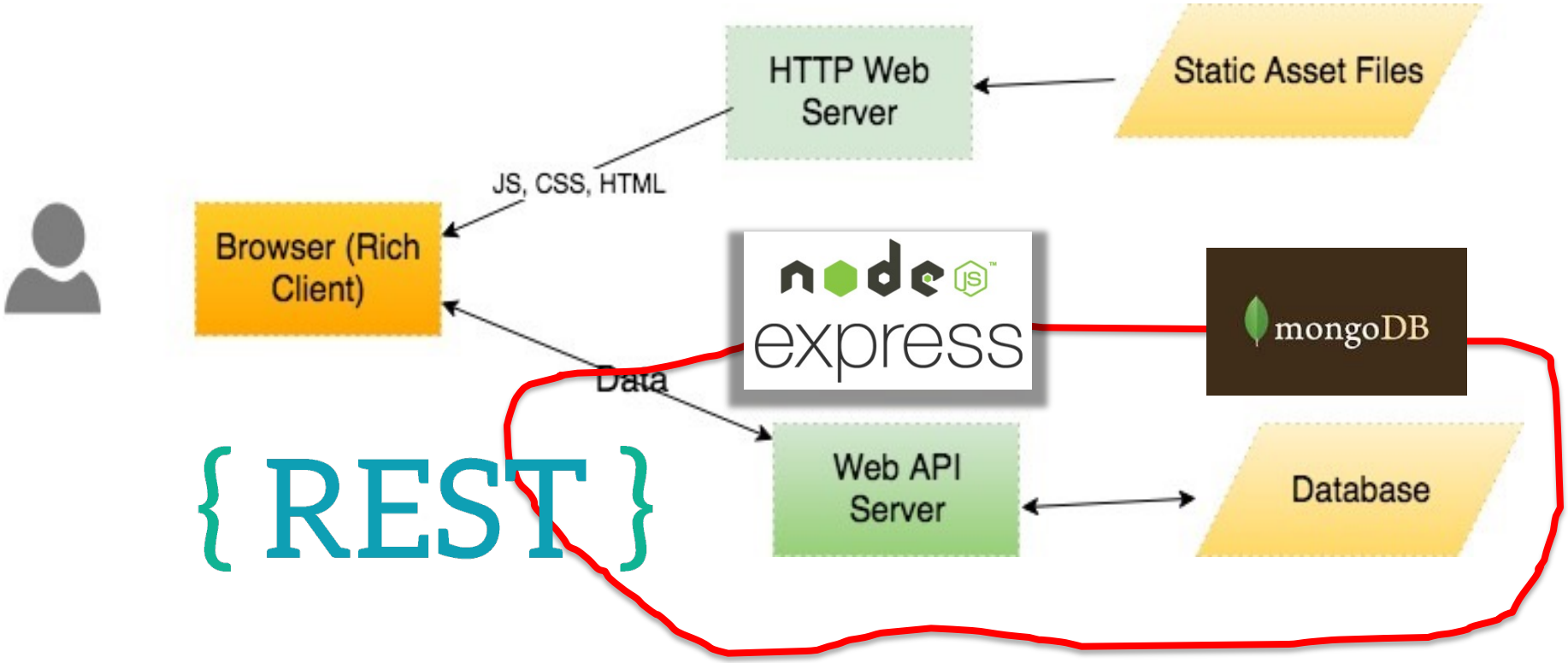
- Context. ☑
- This module's focus

Our Technology stack - Client.

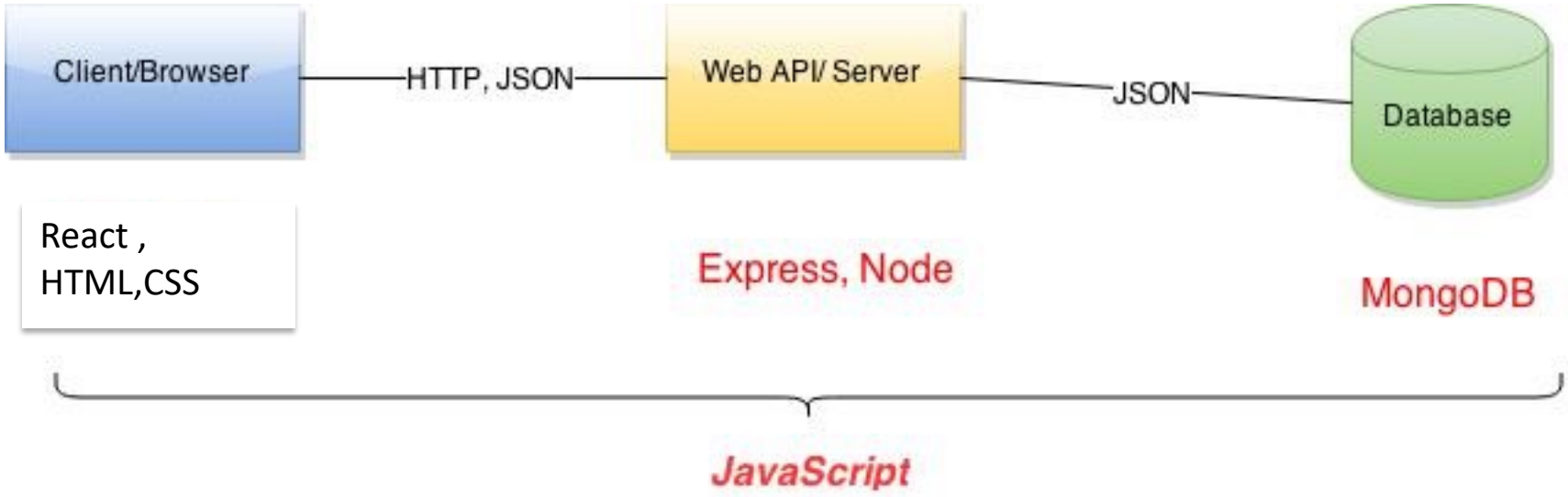


A JavaScript library for building user interfaces

Our Technology stack - Server.

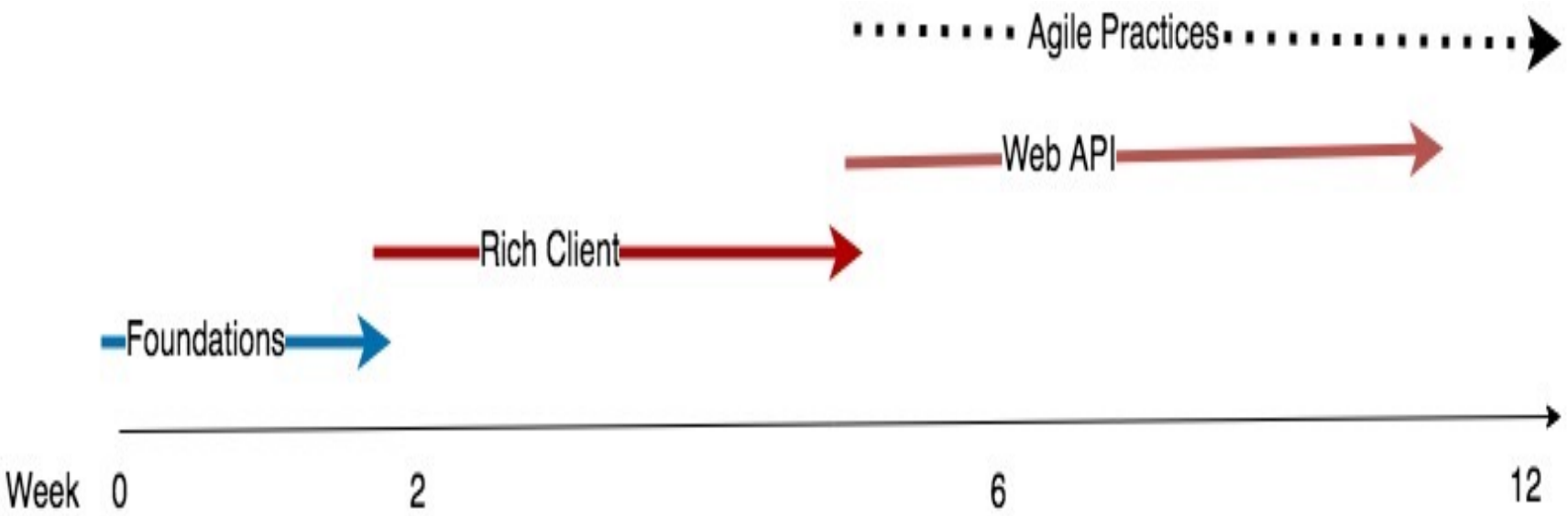


MERN Technology stack.
(MERN - Mongo, Express, React, Node)



Industry-standard Frameworks.

Outline schedule



Agenda

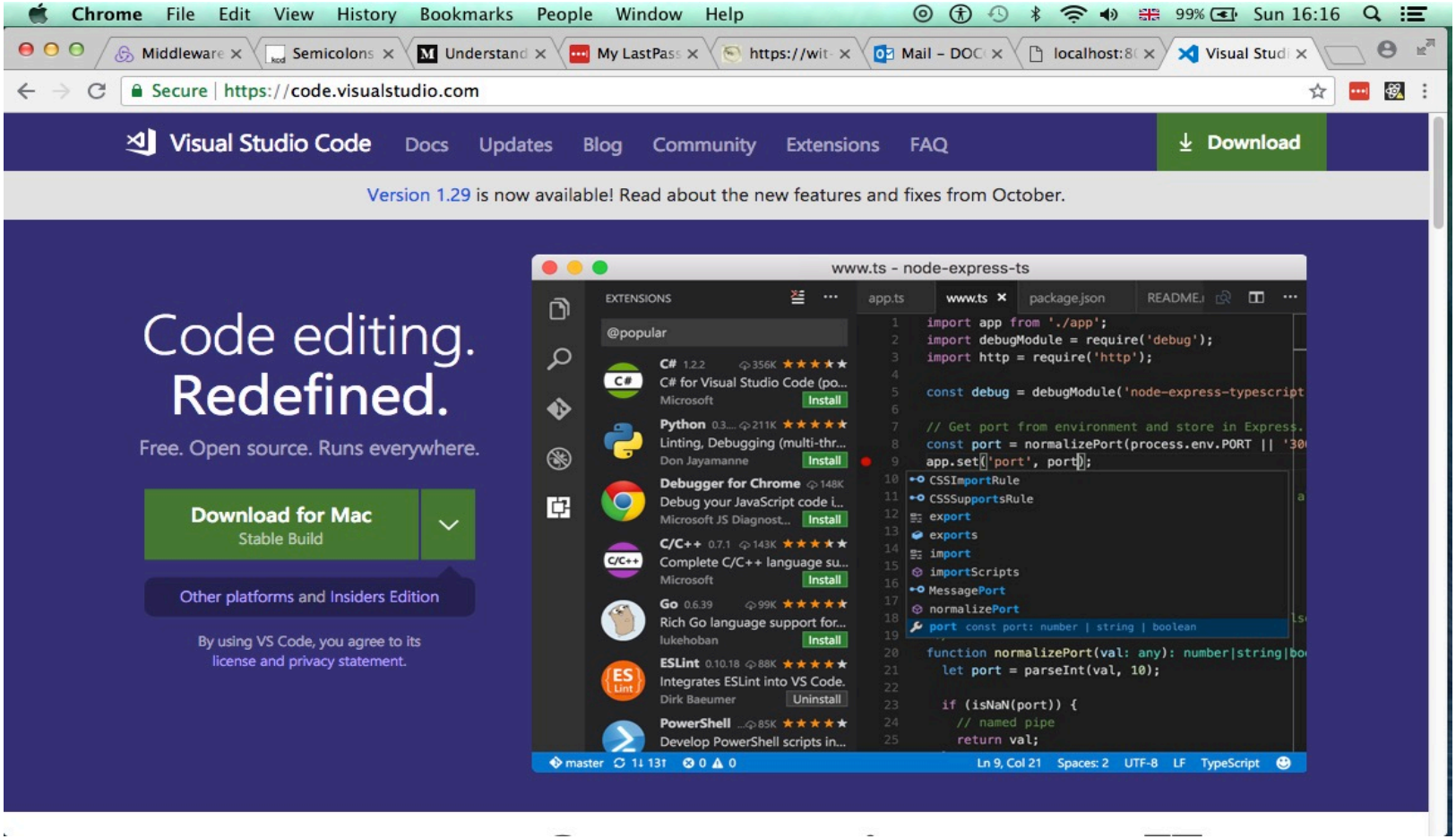
- Context. ☑

- This module's focus
  - Single Page Apps, using React ☑
  - Web APIs, using Node and MongoDB ☑

- Software Installation Requirements

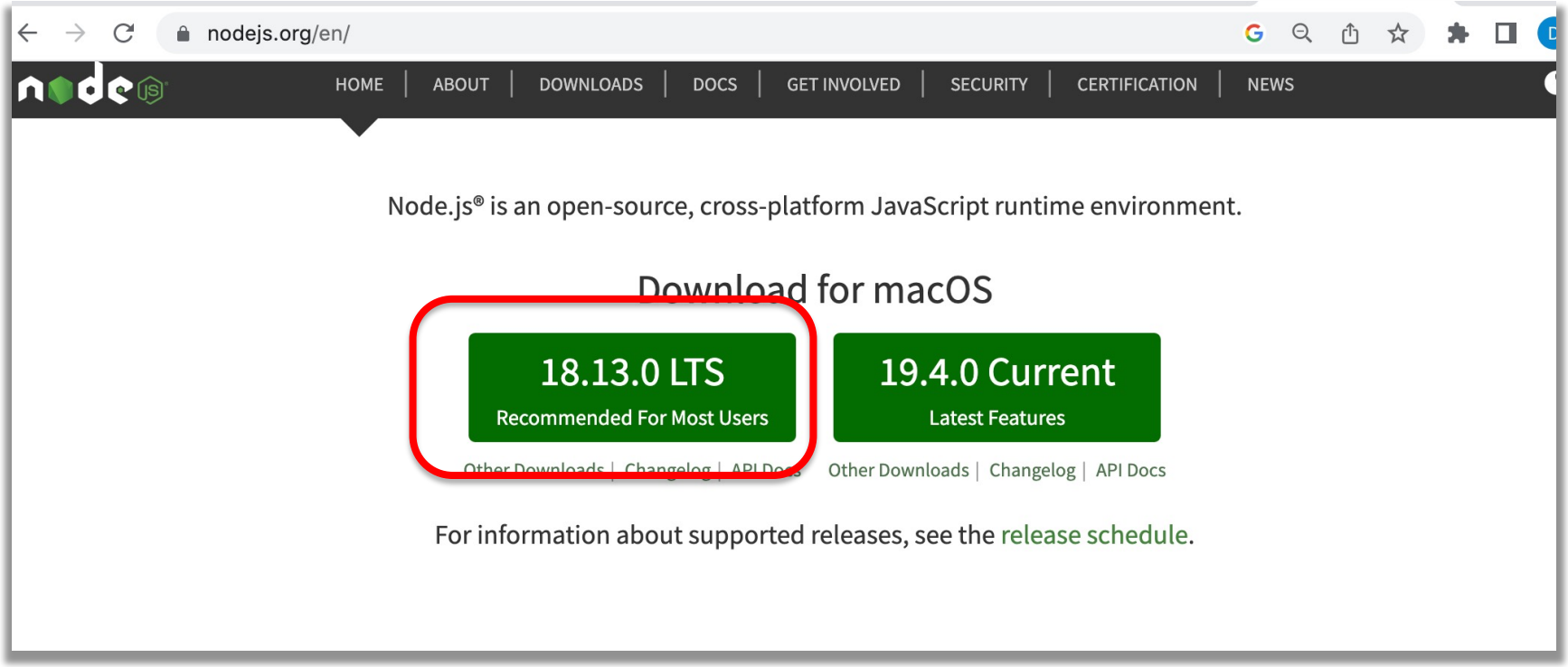
Text Editor

(Not a heavyweight IDE, thankfully)



Node.js

(A JavaScript runtime platform)



Git

Chrome File Edit View History Bookmarks People Window Help
96% Mon 10:35
Git
Secure | https://git-scm.com
git --distributed-even-if-your-workflow-isnt
Search entire site...
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.
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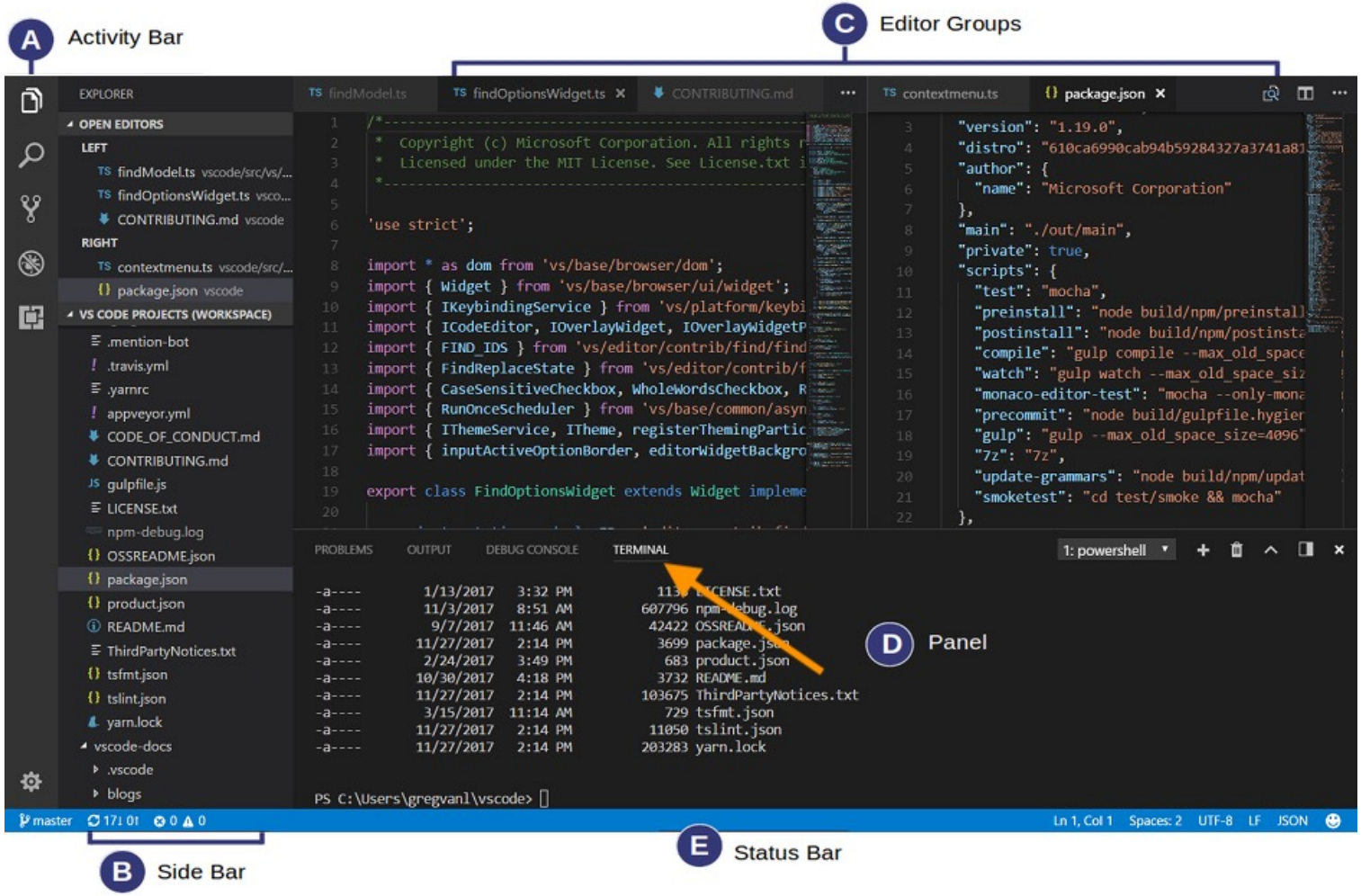
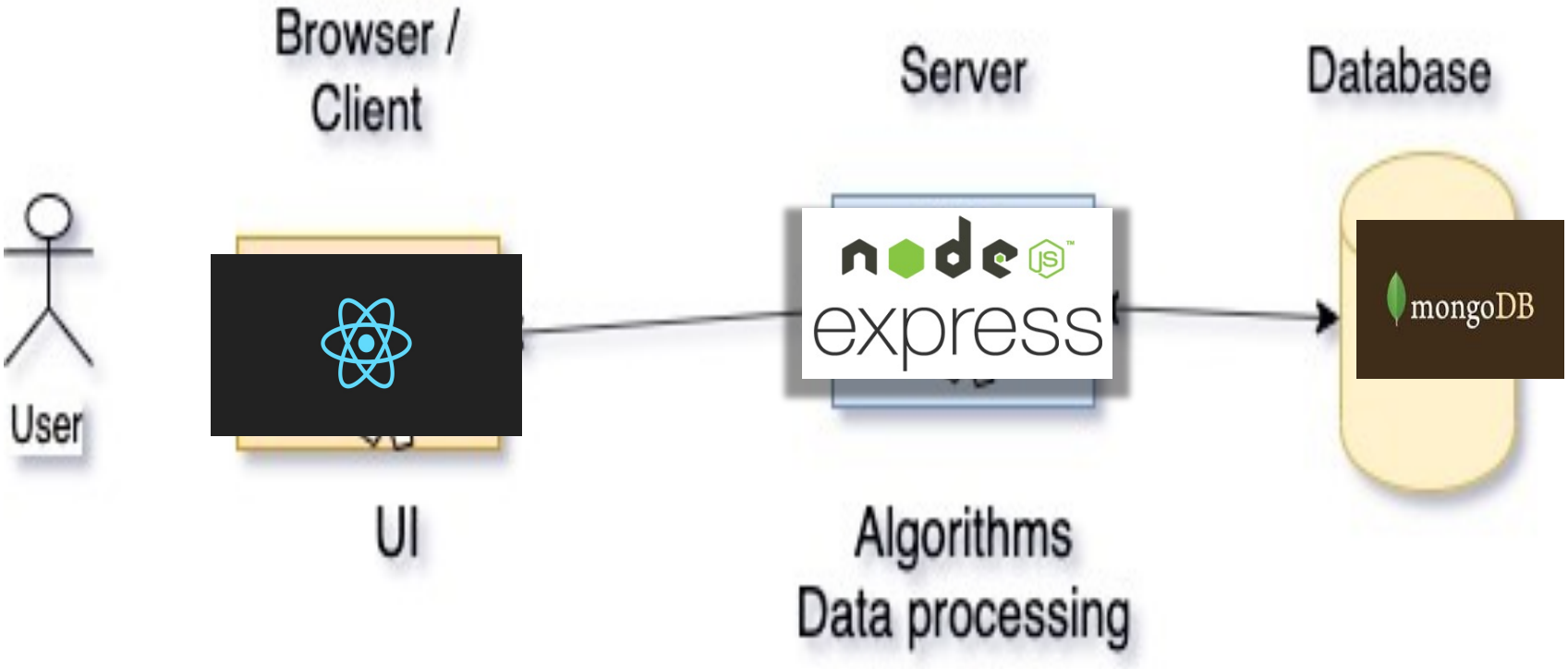
About
The advantages of Git compared
Documentation
Command reference pages, Pro
Latest source Release
2.15.1
console.log(acar.owner + ' drives a ' + acar.type.make);
Line 33, Column 76
35 misspelled words
Spaces: 4
Markdown
GUI clients and binary releases for all major platforms.
Get involved! Bug reporting, mailing list, chat, development

VS Code's Integrated Terminal.



Full-Stack Developer



Summary.

- **Two models of web apps:**
  - **Server Side Rendering (SSR)**
  - **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.**