<WA1/>

2020

Applicazioni Web I
Web Applications I

Introduction to the course

Enrico Masala   Fulvio Corno

Luigi De Russis   Alberto Monge Roffarello

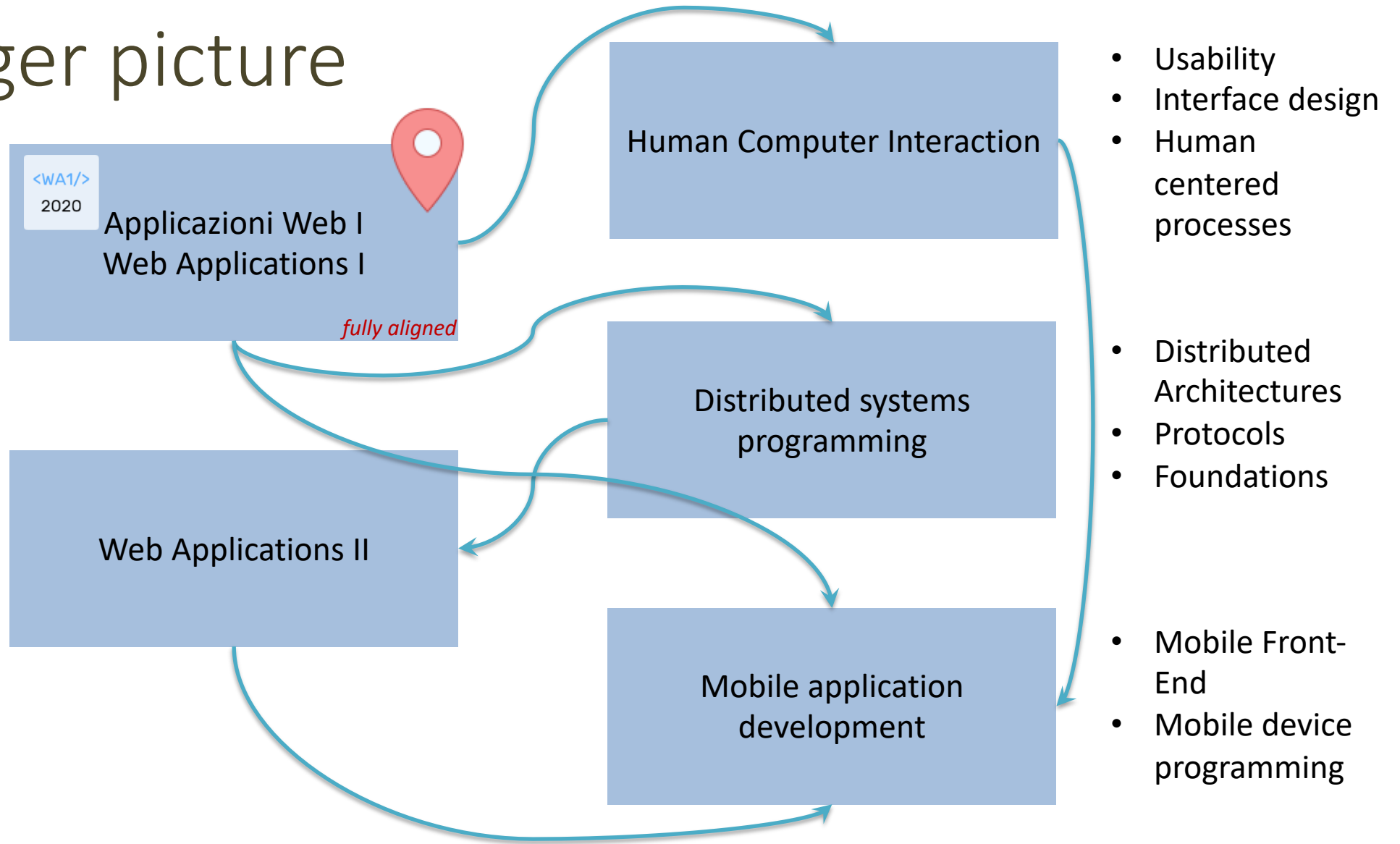   Luigi De Russis

Goal

- Understanding web architectures
- Understanding and mastering web application design and development
- Gaining in-depth knowledge of the JavaScript language and ecosystem
- Becoming familiar with one of the most popular JavaScript framework (React)
- …with special focus on the front-end

The bigger picture

- Web architecture
- JavaScript
- Browsers
- Front-End programming

- Back-end programming
- Scalability
- Large-scale

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2020

Applicazioni Web I Web Applications I

fully aligned

Human Computer Interaction

- Usability
- Interface design
- Human centered processes

Distributed systems programming

Web Applications II

- Distributed Architectures
- Protocols
- Foundations

Mobile application development

- Mobile Front-End
- Mobile device programming

You are here

What we will learn

Javascript as a Language	The browser ecosystem	Single Page Applications	React framework
• EcmaScript ES6 • Language constructs • In-depth semantics • Functional, Asynchronous, Modular, …	• HTML, CSS, page structure • DOM • Javascript in the browser • Events, Properties, Handlers, APIs	• Server-side (bare minimum) with node • REST API development • Backend storage • Sessions and Authentication	• Components, Properties, State • JSX • Hooks • Router

Course organization (Masala)

- <u>Classes</u>
  - 3 h/week
  - Lectures + Exercises (*mixed*)
  - Bring your own laptop

- <u>Laboratories</u> (@LABINF)
  - 1.5 h/week
  - 2 Lab groups (A-L, M-Z)
  - 11 Labs, starting 3rd week

- **Exception**: first 2 weeks, <u>Class</u> instead of <u>Lab</u>

	MO	TU	WE	TH	FR
08:30				LABINF	7I
10:00				LABINF	7I
11:30					
13:00					
14:30					
16:00					
17:30					

Learning material (Masala)

- Course website – http://media.polito.it/aw1
  - Portale della Didattica
  - Slides (in English)
  - Full schedule
  - Links and Supplementary material
- Video lectures (screencasts)
  - YouTube - https://www.youtube.com/playlist?list=PLuZyhAOPm9pMSXjyRc83gBSUqHIkIE564
  - Portale della Didattica
- GitHub - https://github.com/polito-WA1-2020
  - Examples, exercises, labs, exams, …
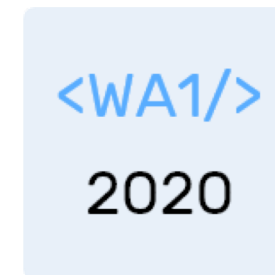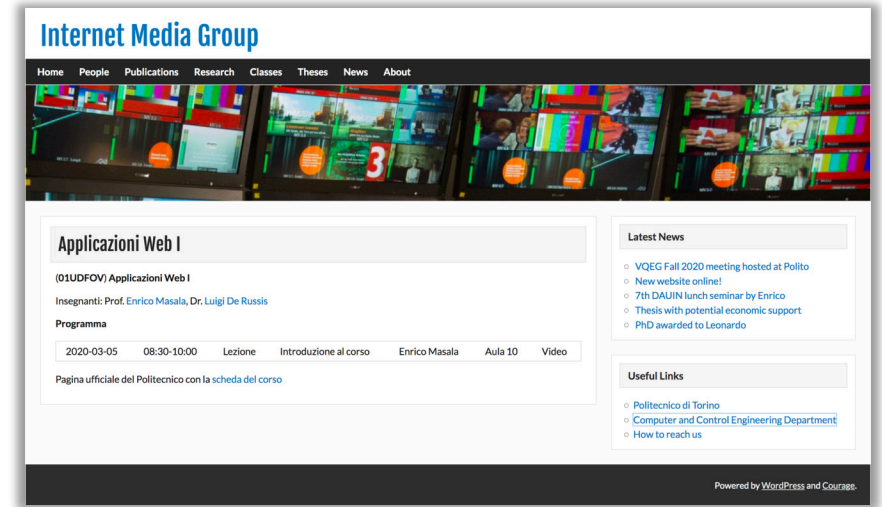
About the exam

What

- Develop a web application using
  - React + JavaScript
  - Node + Express
  - SQLite
  - Linux
- Based on a skeleton project (given some days in advance)
- According to a functional specification

How

- Using LABINF computers
- May use Internet resources
- Using GitHub Classroom
  - Clone Skeleton project
  - Commit+push final project
- Off-line evaluation
  - Running the application
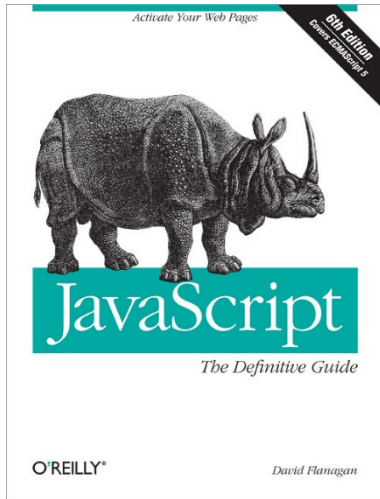 - Examining the code

Resources (fundamentals)
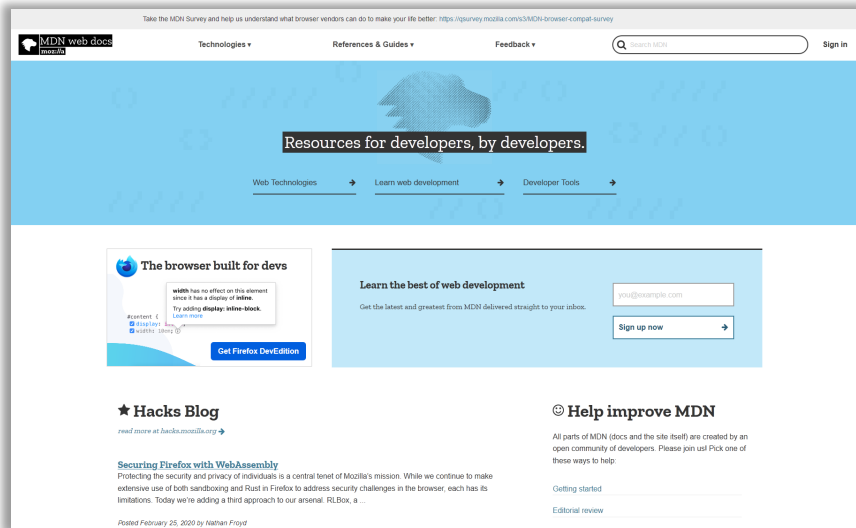
Mozilla Developer Network
(**MDN**)
https://developer.mozilla.org/
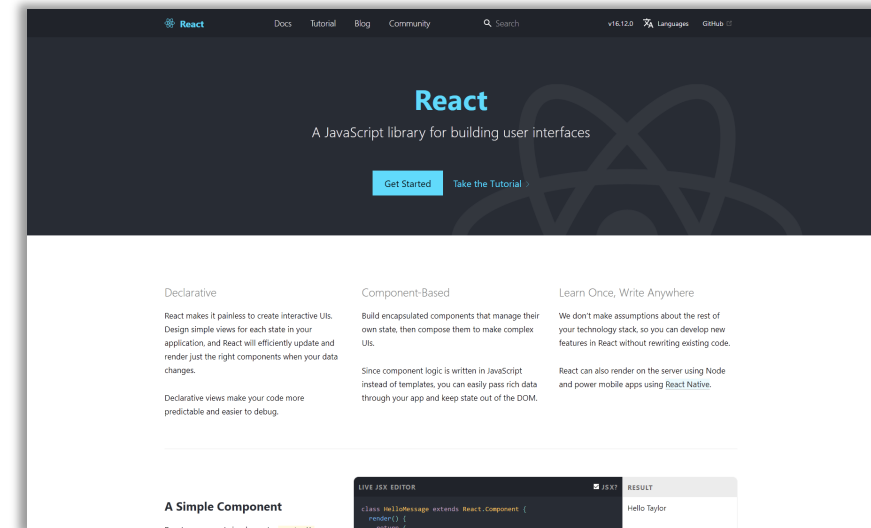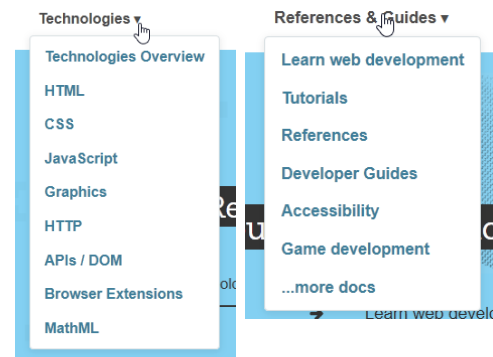
React Library
https://reactjs.org/
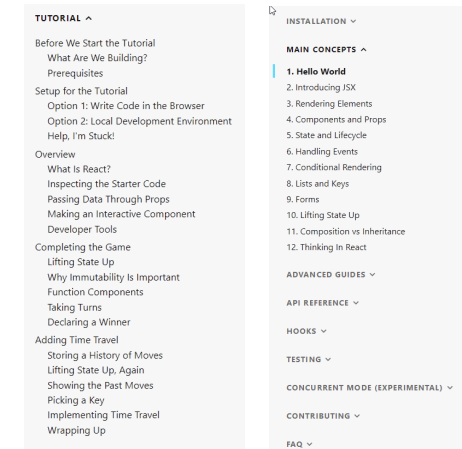
Resources (books)

JavaScript: The Definitive Guide,
6th Edition
By David Flanagan
ISBN 978-0596805524
Release Date: May 2011
(not very updated…)
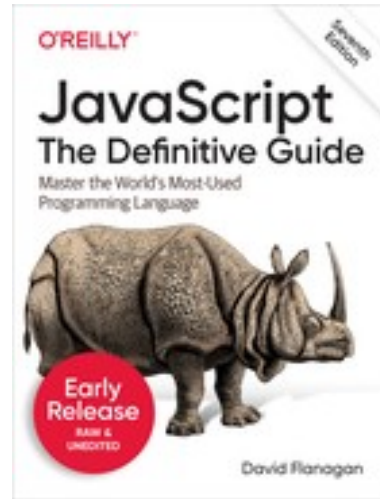
JavaScript: The Definitive Guide,
7th Edition
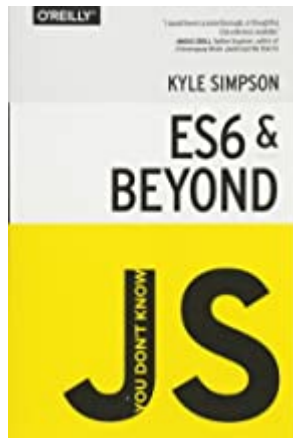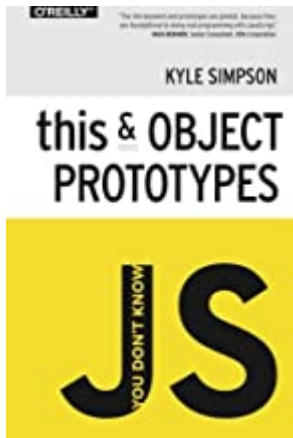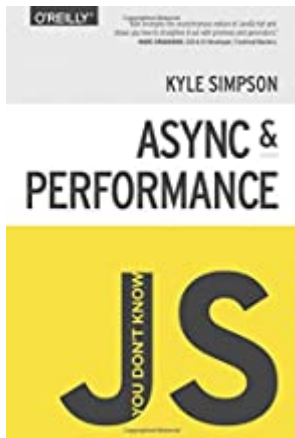By David Flanagan
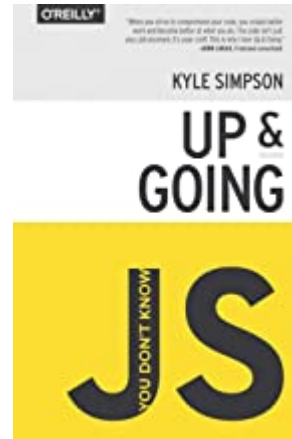ISBN 978-1491952023
Release Date: July 2020
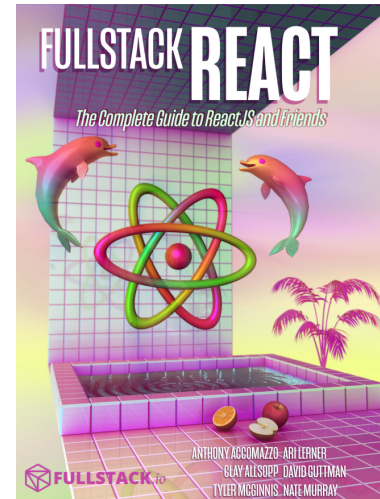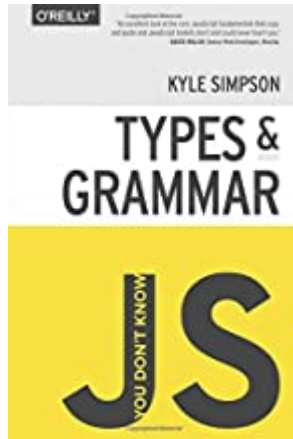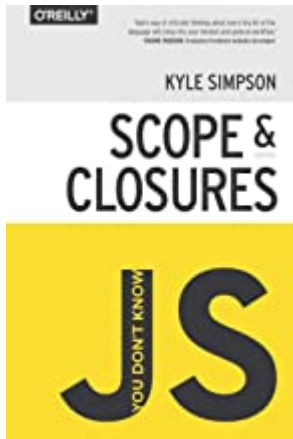

Fullstack React
By Anthony Accomazzo, Nate
Murray, Ari Lerner, Clay
Allsopp, David Guttman, and
Tyler McGinnis
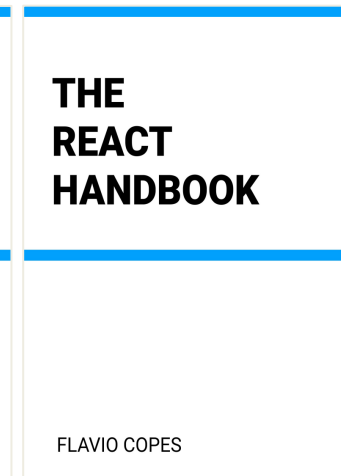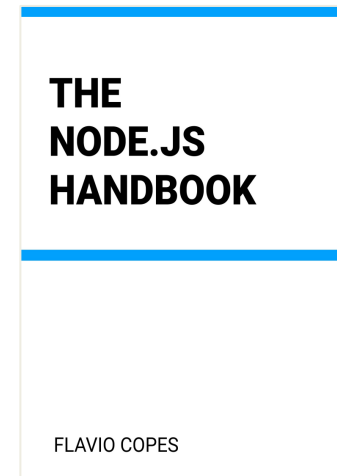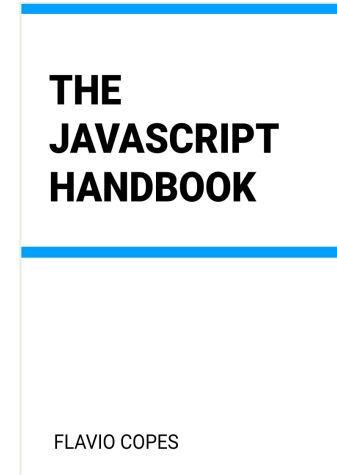https://www.newline.co/fullstack-react
Release: r40 (January 2020)
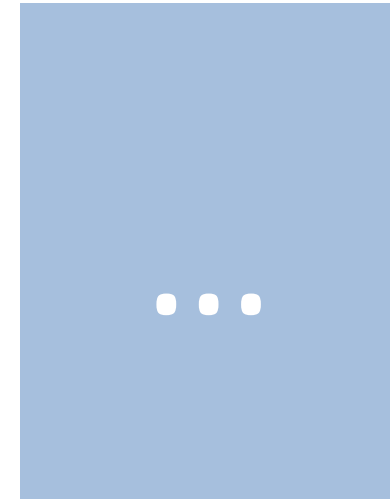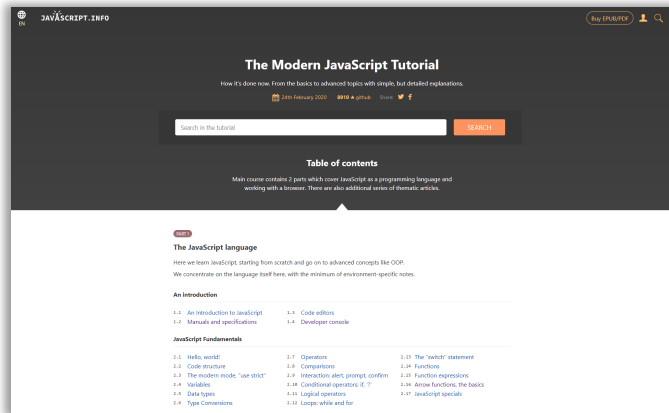
… and many others

Resources (on-line books)

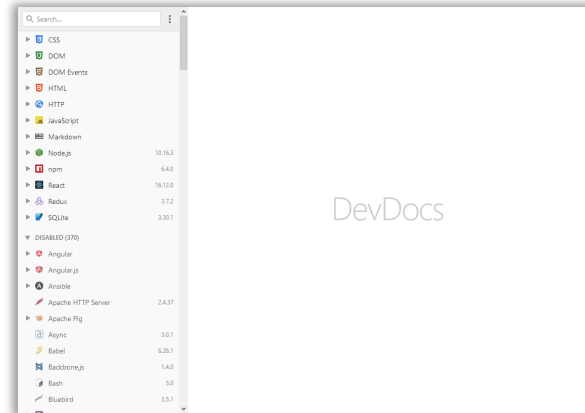You Don't Know JS Yet (book series) - 2nd Edition
By Kyle Simpson (@getify)
https://github.com/getify/You-Dont-Know-JS

THE JAVASCRIPT HANDBOOK

FLAVIO COPES

THE CSS HANDBOOK

Flavio Copes

THE HTML HANDBOOK

Flavio Copes

THE NODE.JS HANDBOOK

FLAVIO COPES

THE REACT HANDBOOK

FLAVIO COPES

Flavio Copes Handbooks
https://flaviocopes.com/

More resources…

The Modern JavaScript Tutorial
https://javascript.info/

DevDocs: API Documentation
Browser
https://devdocs.io/
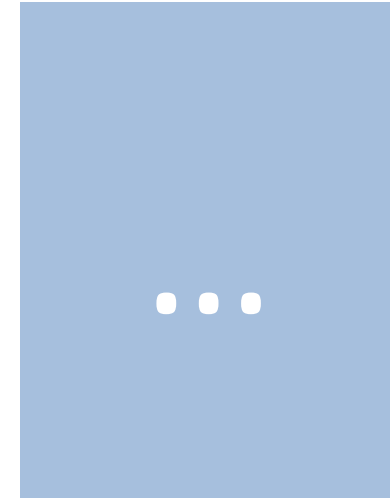
… and many others

Tools
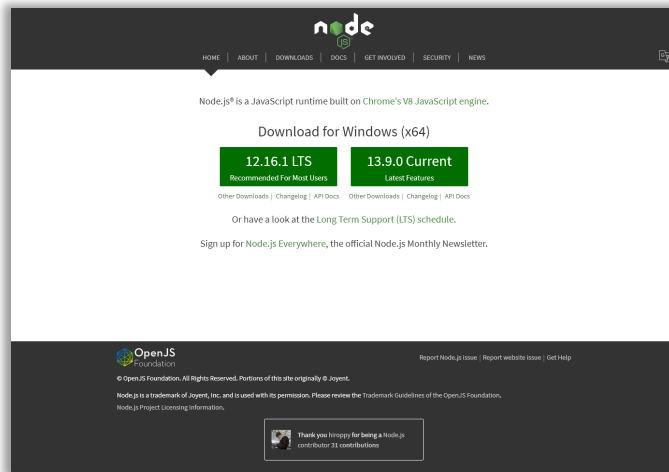
Node.js runtime
Version 12 LTS
https://nodejs.org/en/

Install on Linux using the instructions on
https://github.com/nodesource/distributions
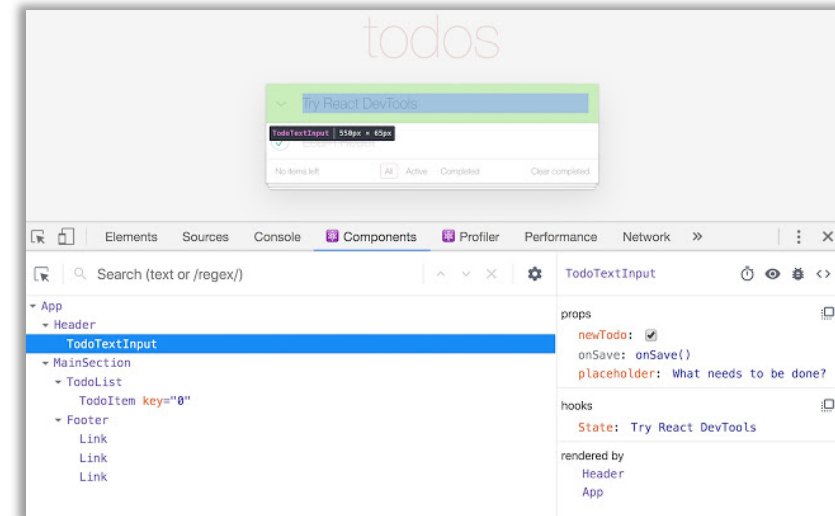
React Developer Tools
Extension for Chrome and Firefox

Programming Environments

Visual Studio Code
https://code.visualstudio.com/
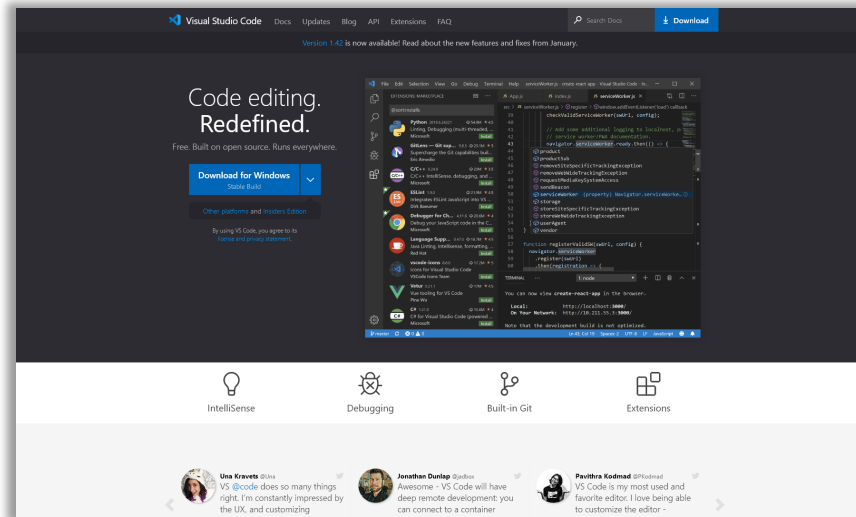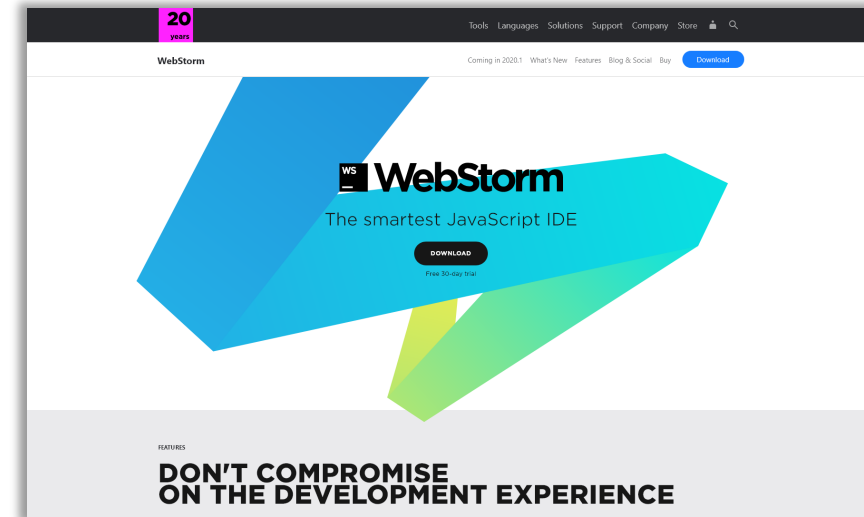
JetBrains WebStorm
https://www.jetbrains.com/webstorm/

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