<WA1/>

2020

Applicazioni Web I
Web Applications I

Introduction to the course

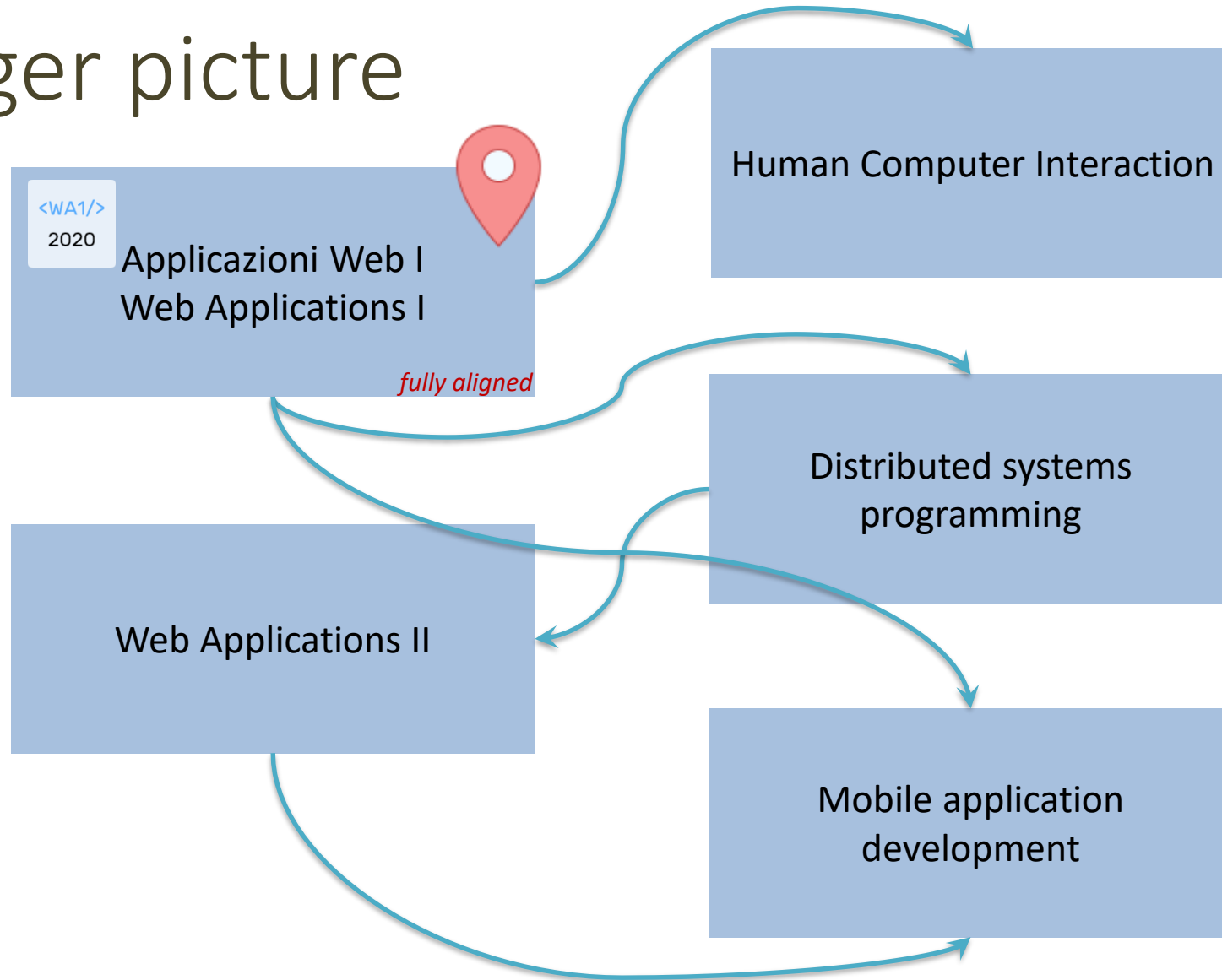|	
Enrico Masala	Fulvio Corno
Luigi De Russis	Alberto Monge Roffarello
	Luigi De Russis

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

Web Applications II

Human Computer Interaction

Distributed systems programming

Mobile application development

- Usability
- Interface design
- Human centered processes

- Distributed Architectures
- Protocols
- Foundations

- Mobile Front-End
- Mobile device programming

You are here

What we will learn

Javascript as a Language

- EcmaScript ES6
- Language constructs
- In-depth semantics
- Functional, Asynchronous, Modular, …

The browser ecosystem

- HTML, CSS, page structure
- DOM
- Javascript in the browser
- Events, Properties, Handlers, APIs

Single Page Applications

- Server-side (bare minimum) with node
- REST API development
- Backend storage
- Sessions and Authentication

React framework
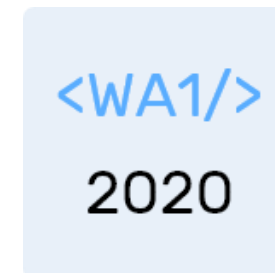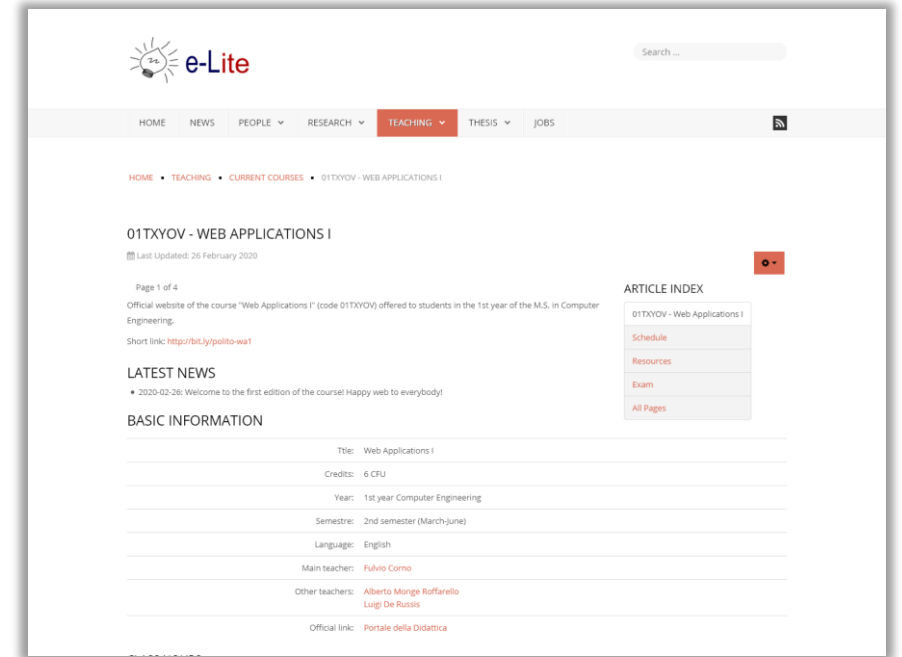
- Components, Properties, State
- JSX
- Hooks
- Router

Course organization (Corno)

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

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

- **Exception**: first 2 weeks, Class instead of Lab

	MO	TU	WE	TH	FR
08:30				4T	LABINF
10:00				4T	LABINF
11:30					
13:00					
14:30					
16:00					
17:30					

Learning material (Corno)

- Course website – http://bit.ly/polito-wa1
  - Slides (in English)
  - Full schedule
  - Links and Supplementary material

- Video lectures (screencasts)
  - YouTube - https://www.youtube.com/playlist?list=PLqRTLlwsxDL-e9RexPadqEVaaUgy-Ge8O
  - 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
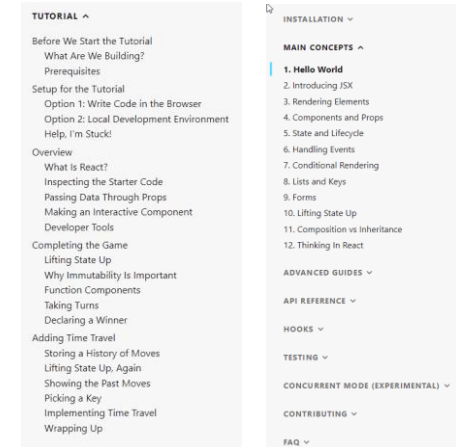 - Running the application
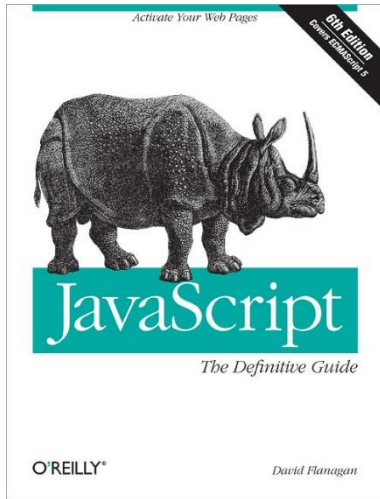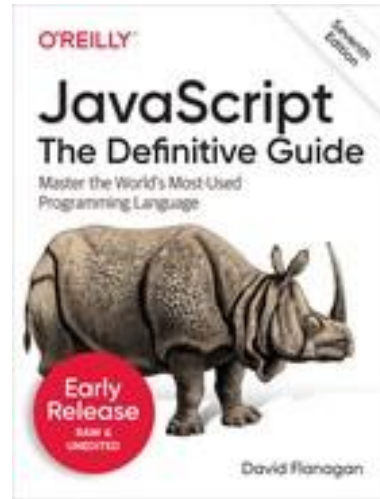 - Examining the code

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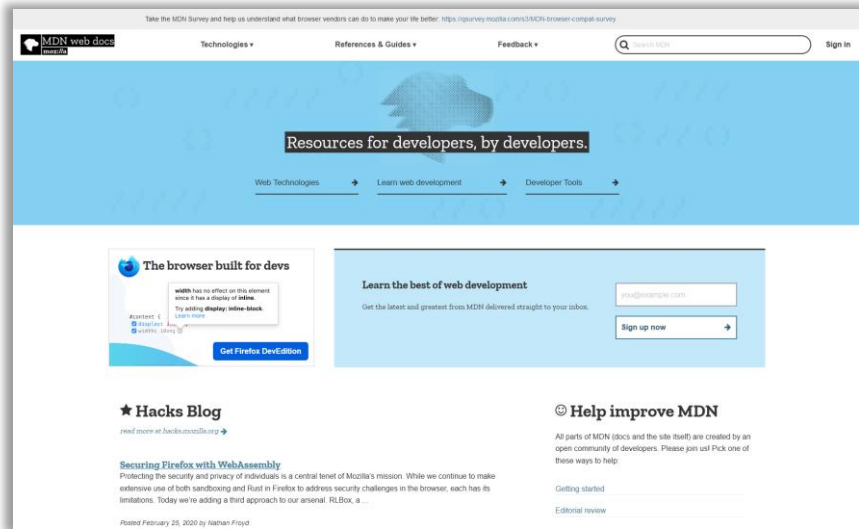
Mozilla Developer Network
(**MDN**)
https://developer.mozilla.org/
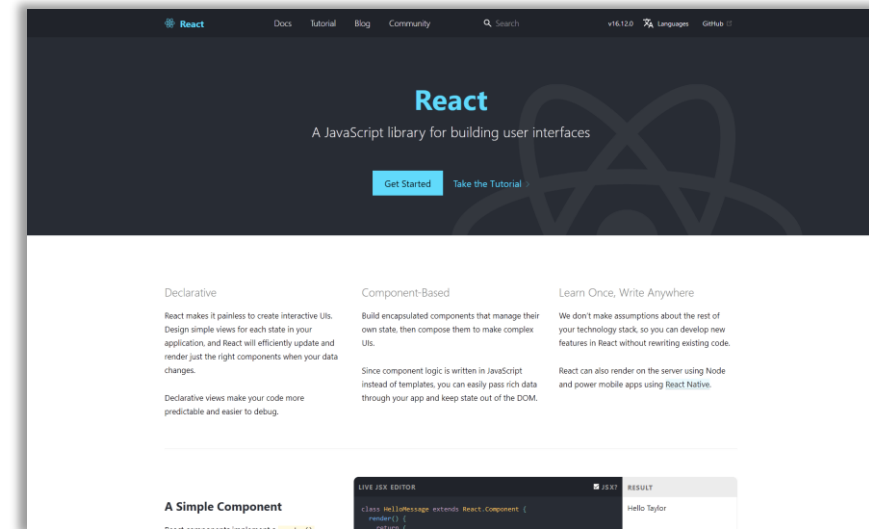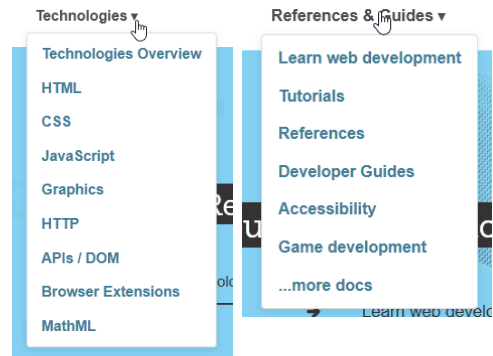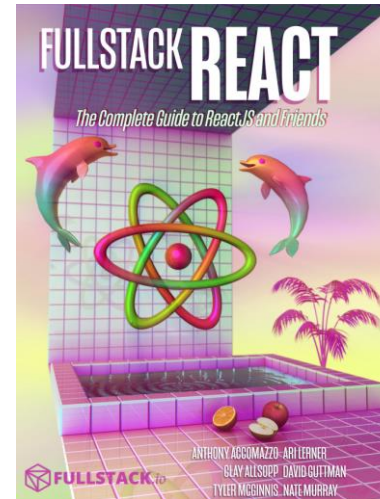
React Library
https://reactjs.org/

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)
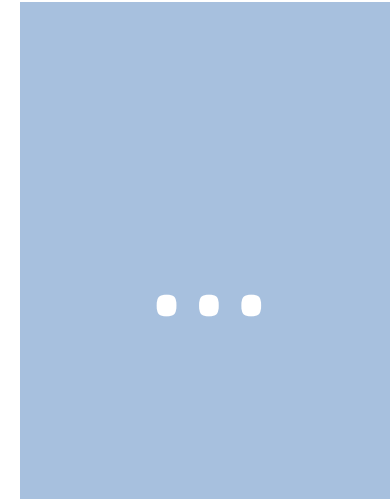
… and many others

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
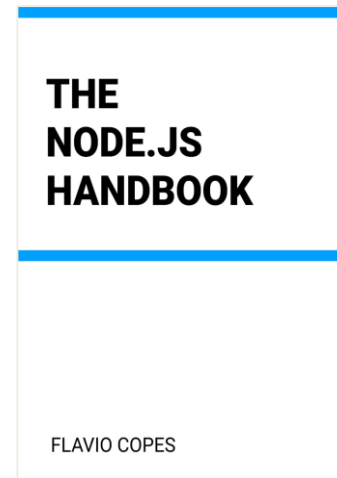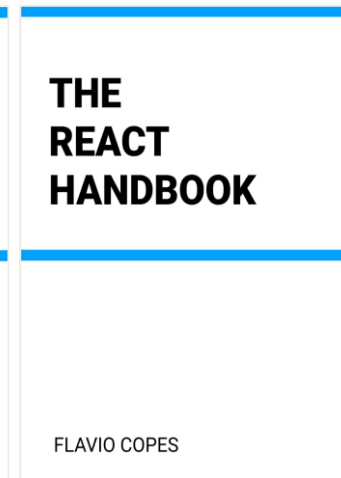
Flavio Copes Handbooks
https://flaviocopes.com/

More resources…
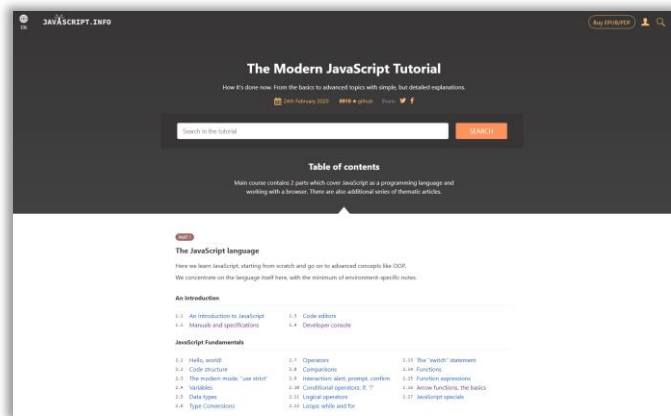
The Modern JavaScript Tutorial
https://javascript.info/
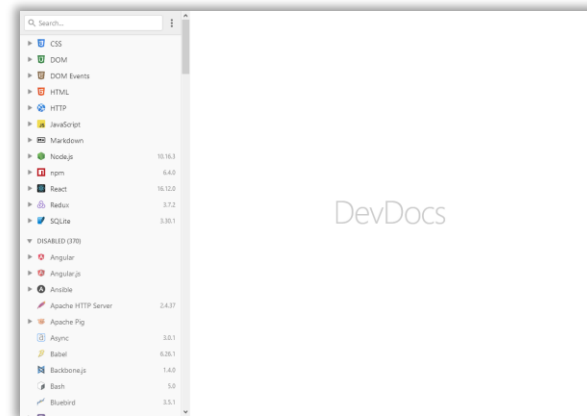
DevDocs: API Documentation Browser
https://devdocs.io/
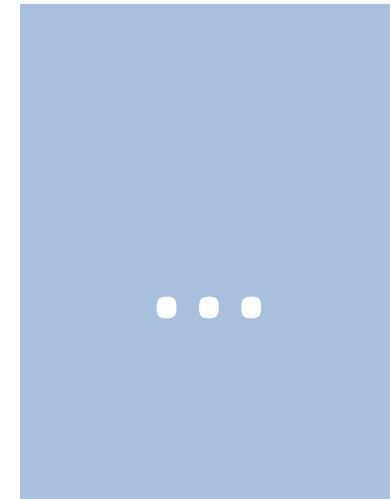
… and many others

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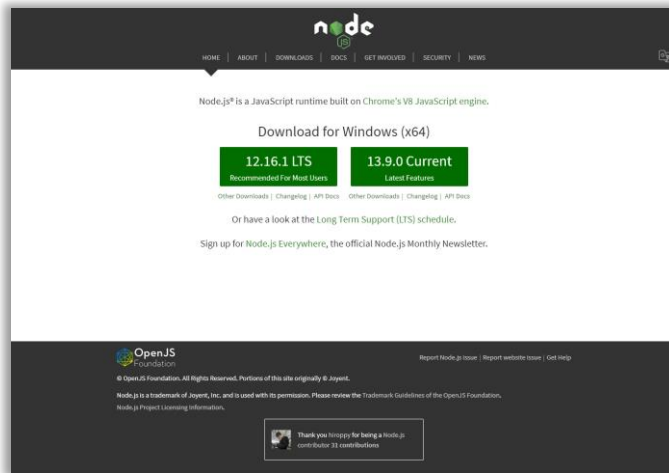
Node.js runtime
Version 12 LTS
https://nodejs.org/en/

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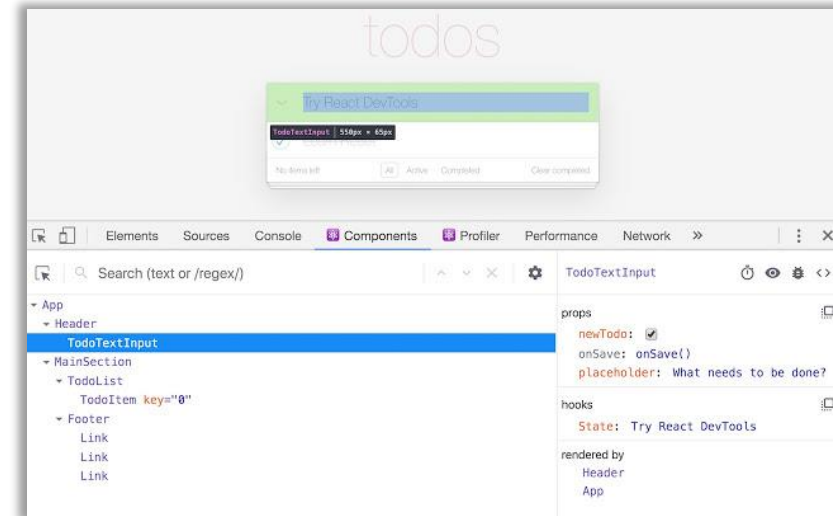
React Developer Tools
Extension for Chrome and Firefox

Programming Environments

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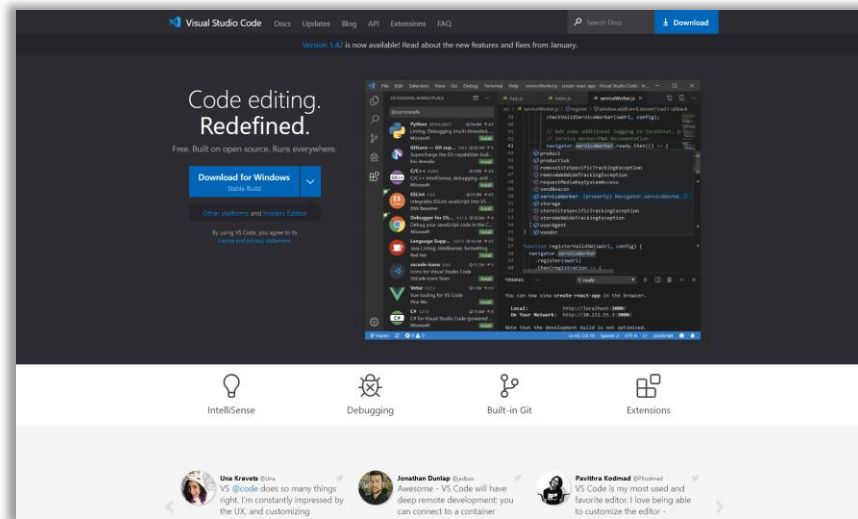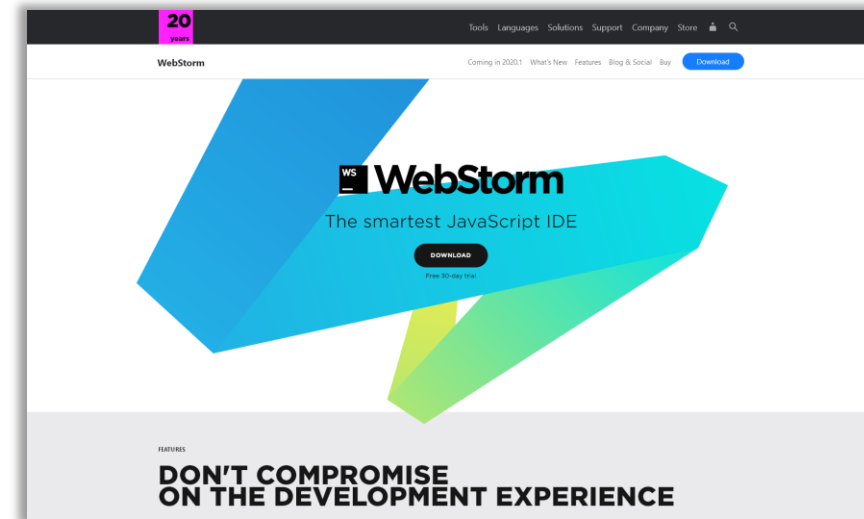
JetBrains WebStorm
https://www.jetbrains.com/webstorm/

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