



# MGMWERX's WERX Wednesday: Elements of Modern Web Development

Yes it is that simple.  
Fast, Flexible and Free  
Development

# Agenda

- Introductions
- Demo - Creating/Deploying a Web App in 15 Minutes.
- Web and App Development What Has Changed ?
- Hands on Demo with Tools for Fast, Flexible and Free App Development
- Q/A

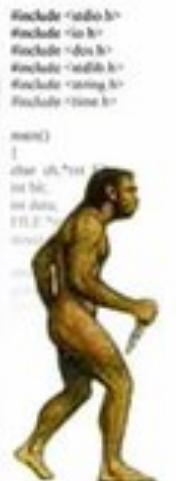
# The Evolution Of Computer Programming Languages



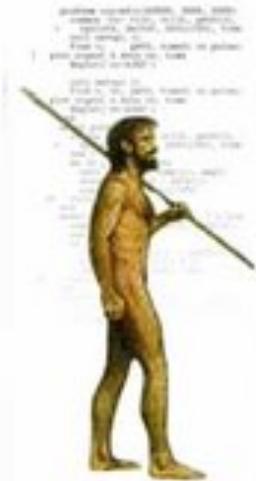
Hex Codes  
Assembler



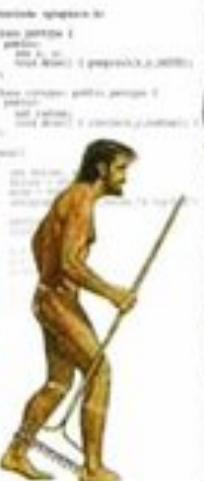
Basic  
C  
Cobol  
Fortran  
Pascal



C++  
Smalltalk  
ProLog  
4GL



Java  
PHP/Perl  
Ruby  
ObjC



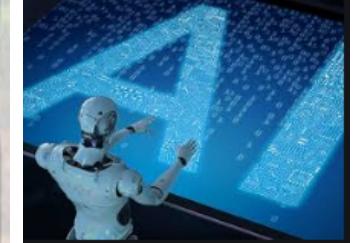
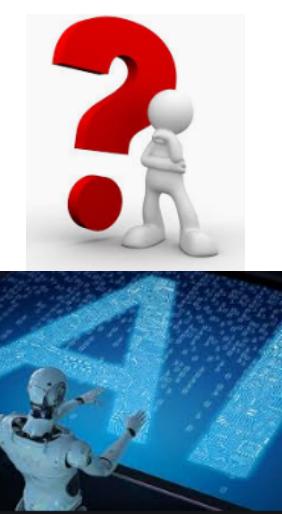
Python  
JavaScript  
Swift



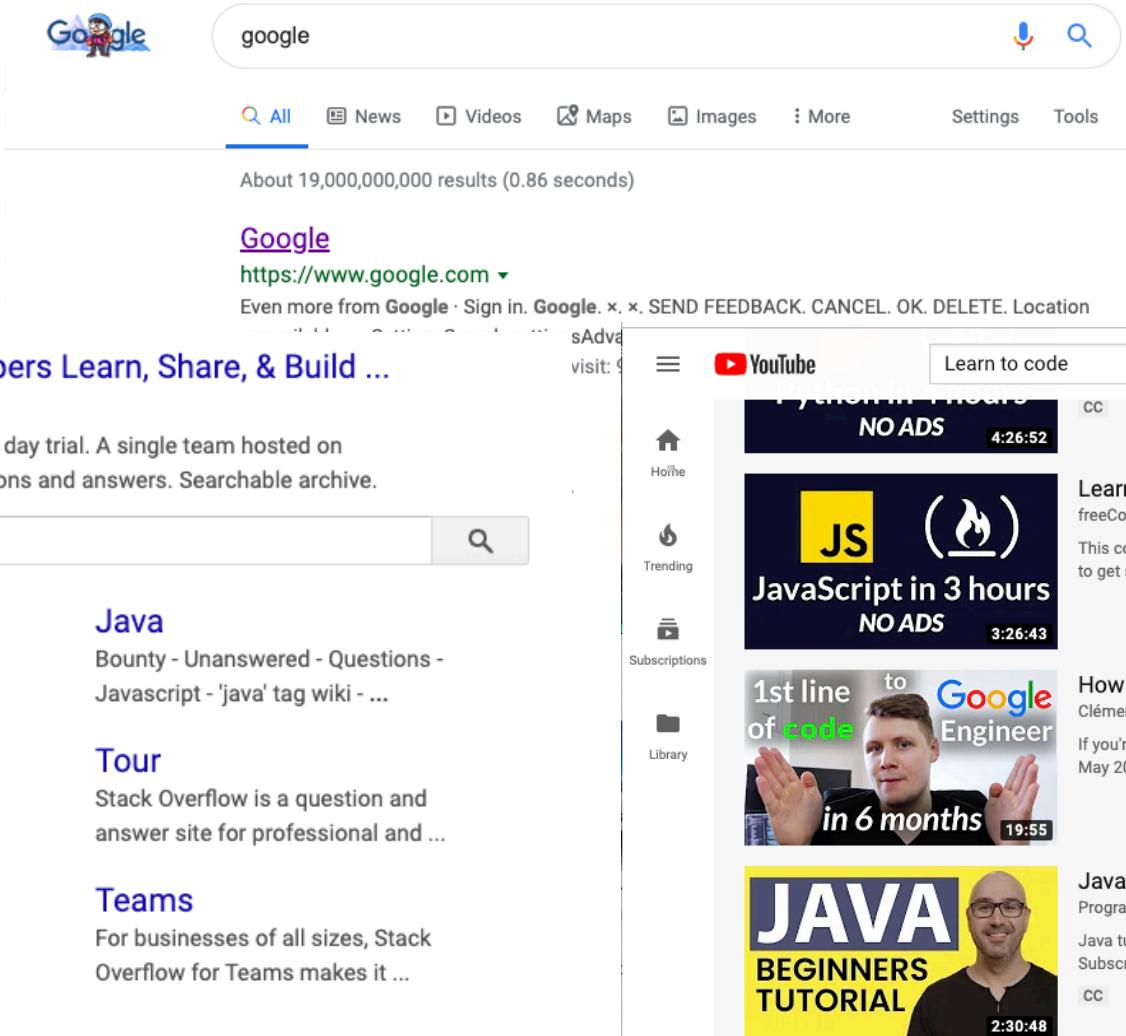
Node.js  
Scala



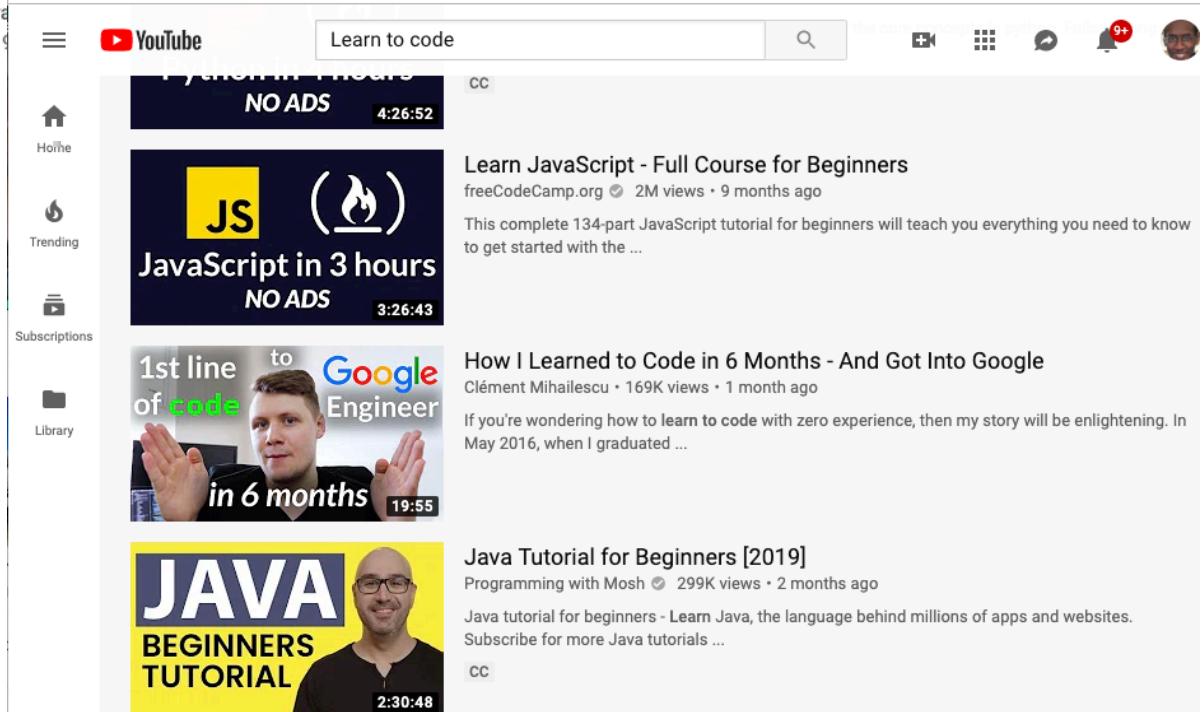
DApps  
Go  
Kotlin  
Solidity



# What's Changed and Changing



Google search results for "google". The search bar shows "google". Below it, the navigation bar includes "All", "News", "Videos", "Maps", "Images", "More", "Settings", and "Tools". The search results page displays "About 19,000,000,000 results (0.86 seconds)". The top result is the official Google homepage at <https://www.google.com>. Other results include links to Stack Overflow, YouTube, and various news articles.



YouTube search results for "Learn to code". The search bar shows "Learn to code". The results include:

- Python for beginners - NO ADS** (4:26:52)
- JavaScript in 3 hours - NO ADS** (3:26:43)
- 1st line to Google Engineer in 6 months** (19:55)
- Java Tutorial for Beginners [2019]** (2:30:48)

# Development - What's Changed and Changing

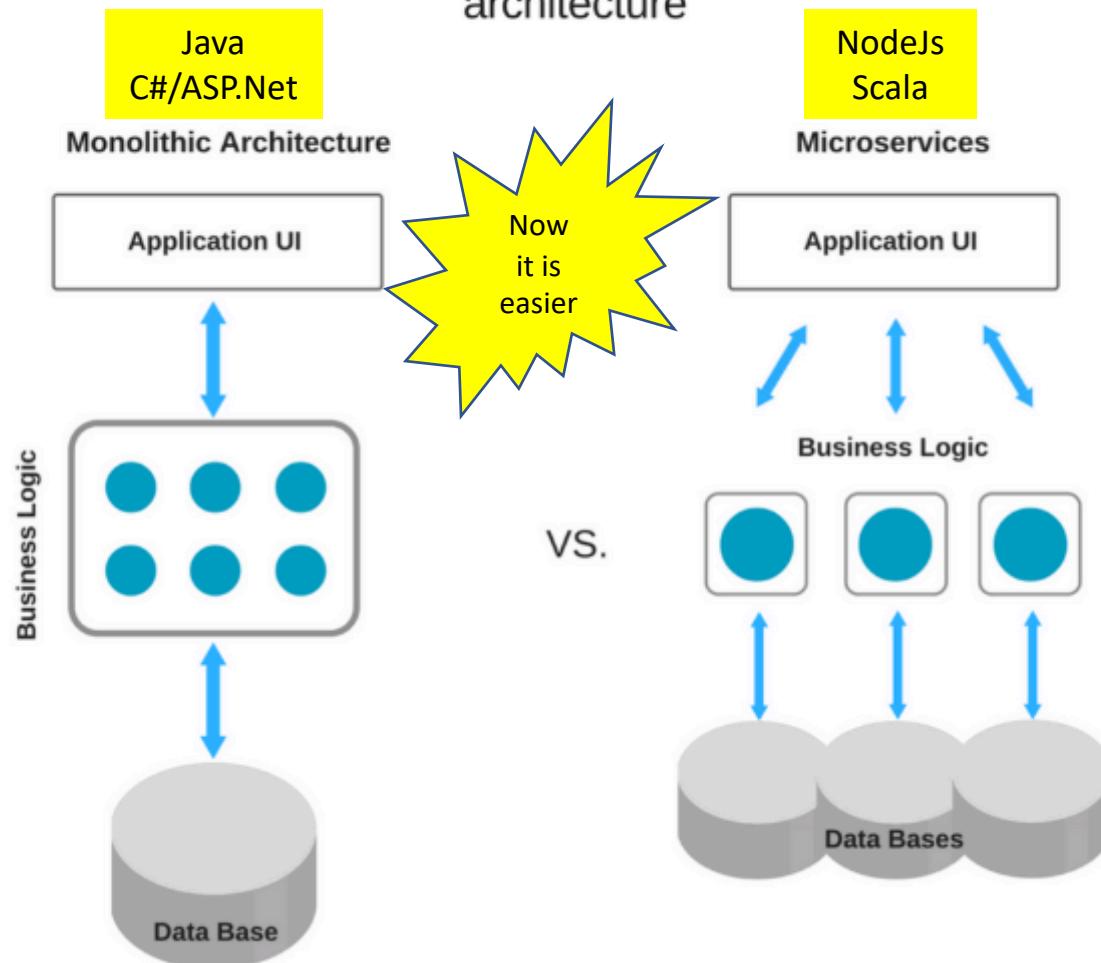
- 1. Now anyone who has basic computer skills and the internet can learn how to build complex apps for FREE. Yes FREE**
2. Complexity of development is reduced by prebuilt frameworks
3. Development Tools free. VS Code, Node, Atom, CodeSandbox and ...
4. Development Cloud Servers available for free. Heroku, Zeit,, Etc ...
5. Programming App Containers, NodeJs and JavaScript Cloud Platforms. From standard Programming Languages to Javascript and Derivatives like Blockchain's Solidity

# Hiring What's Changed and Changing

1. Does the person have people/teamwork skills ?
2. Can the person handle rapid change ?
3. Can the person learn fast ?
4. Does the person understand key concepts ?
5. Does the person have experience with Open Source tools ? Github, NodeJs, Python, Docker, Kubernetes, Linux, etc...
6. Do they want to work for us and have a passion for our mission ?

NOTE: Memorizing things that you can find on google in one minute is NOT as important.

## The difference between the monolithic and microservices architecture



# Skills you Still Need

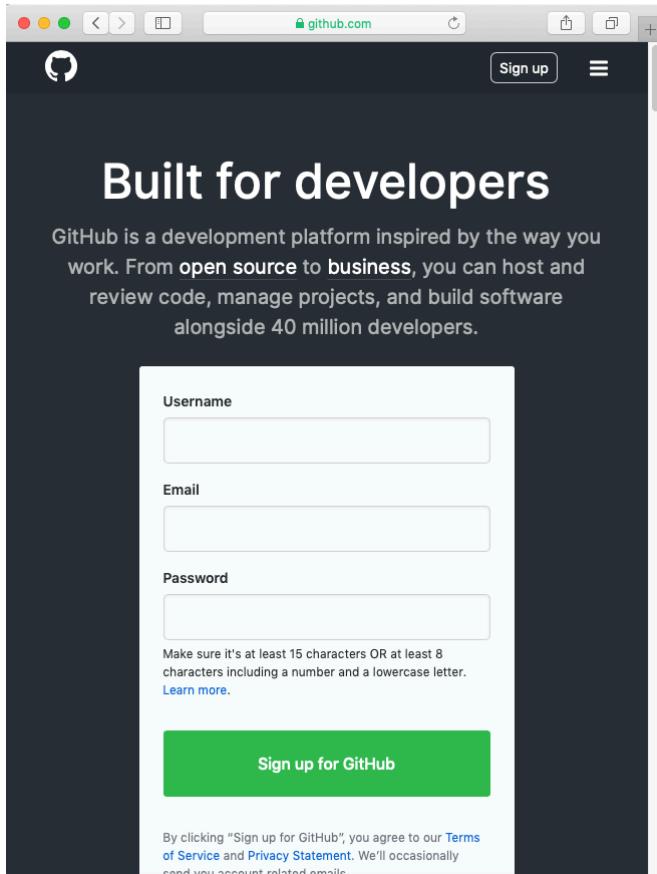
The following are still the basic skills needed for web development.

1. HTML – Browser Language
2. CSS – Style Sheets
3. JSON/XML Format
4. Javascript - Programming

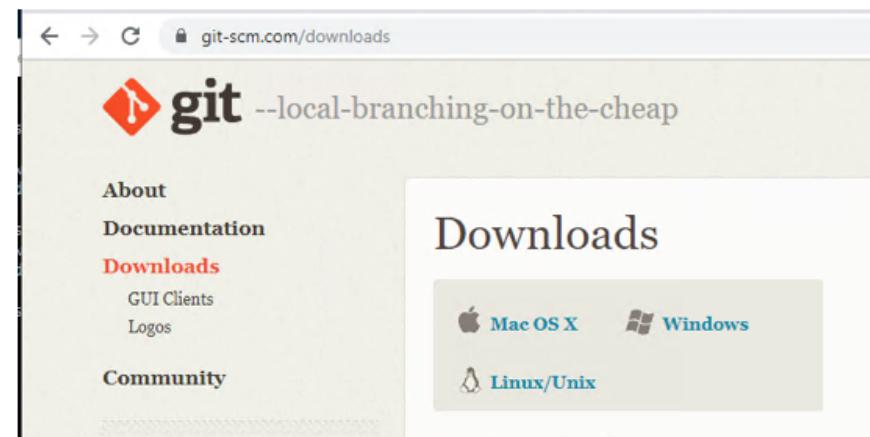
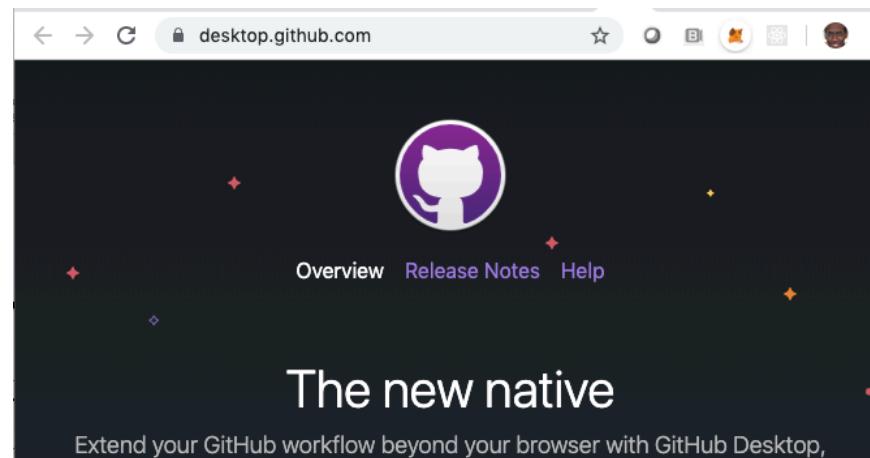
# First Things First: --- GitHub.com

NOTE: GitHub provides an account for single sign-on to other service and as a source code repository.

Create a Github Account at  
<https://github.com>

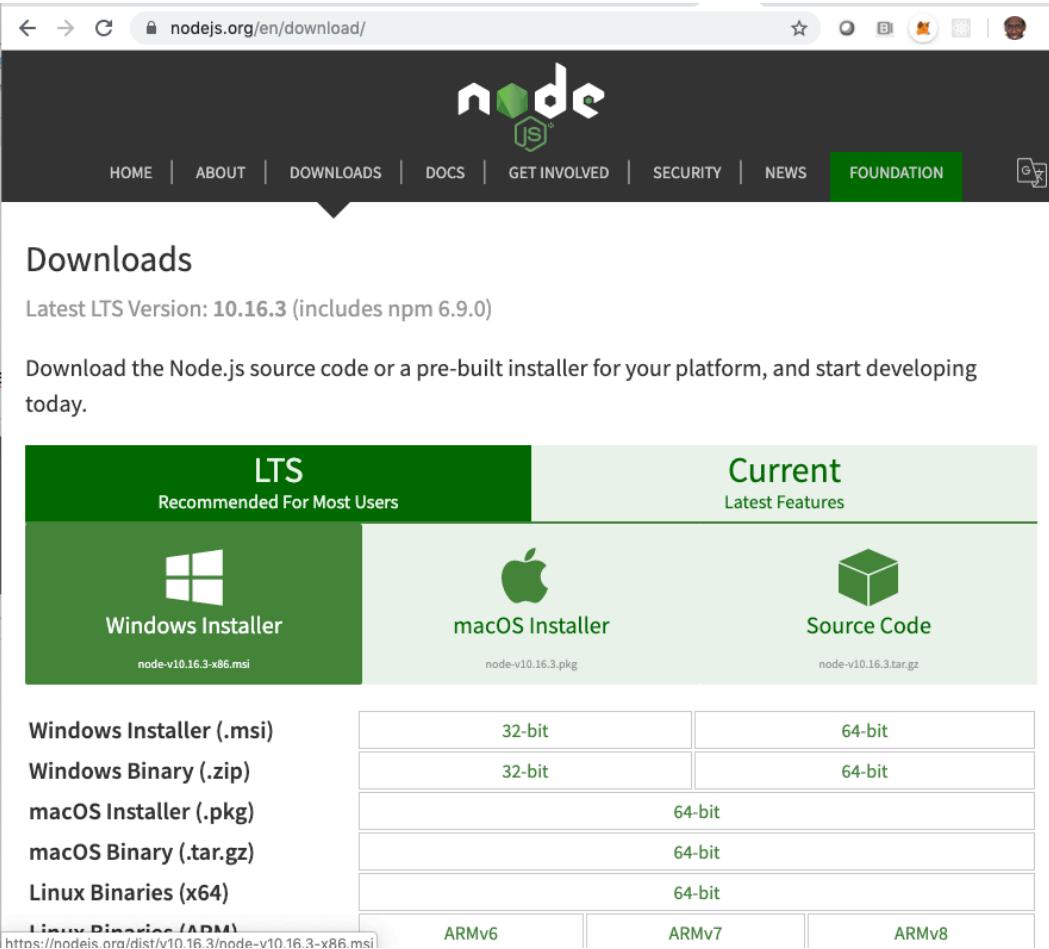


Download Github client or GUI Desktop Tool at:  
<https://desktop.github.com> Or <https://git-scm.com/downloads>



# NodeJs

NODEJs is the foundation for Javascript based application development.  
<https://nodejs.org/en/download>

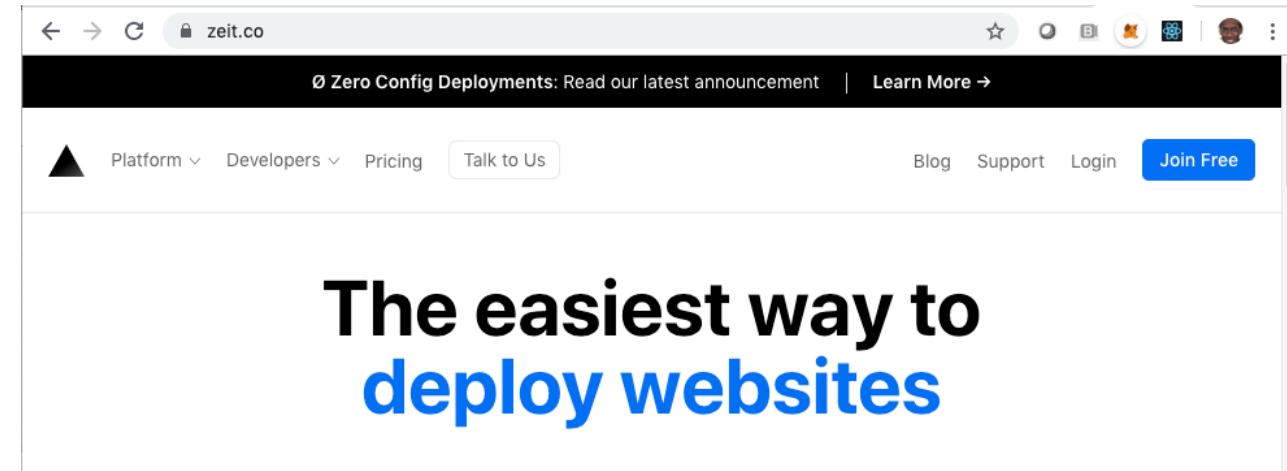
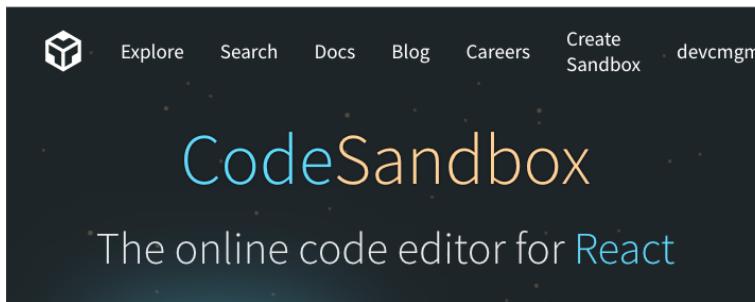
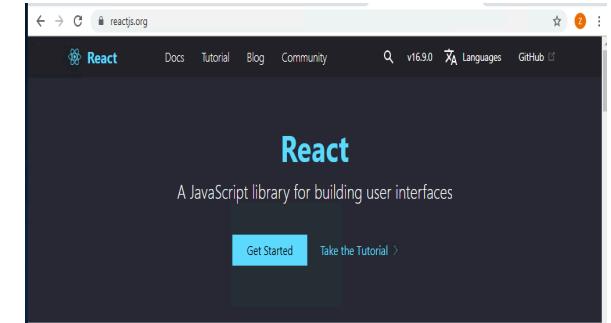
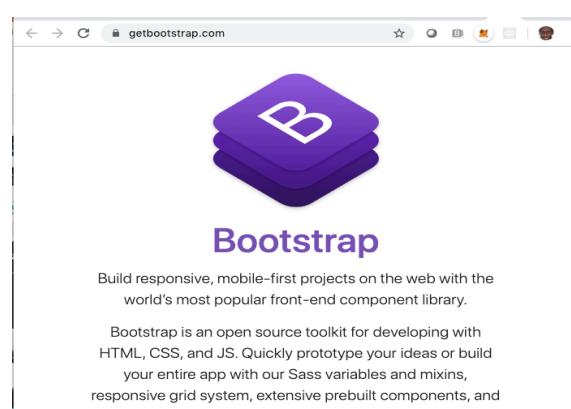
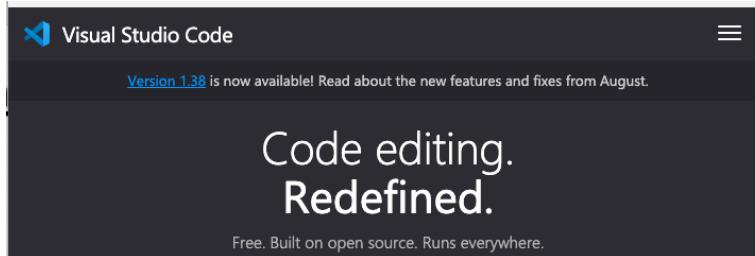


The screenshot shows the Node.js download page. At the top, there's a navigation bar with links for HOME, ABOUT, DOWNLOADS, DOCS, GET INVOLVED, SECURITY, NEWS, FOUNDATION, and a search icon. The FOUNDATION link is highlighted with a green background. Below the navigation bar, the word "Downloads" is centered. A sub-header below it says "Latest LTS Version: 10.16.3 (includes npm 6.9.0)". A message encourages users to "Download the Node.js source code or a pre-built installer for your platform, and start developing today." Two main sections are displayed: "LTS Recommended For Most Users" and "Current Latest Features". Under the LTS section, there's a "Windows Installer" button with the file name "node-v10.16.3-x86.msi". Under the Current section, there's a "macOS Installer" button with the file name "node-v10.16.3.pkg" and a "Source Code" button with the file name "node-v10.16.3.tar.gz". Below these sections, there are tables for Windows and macOS binary distributions. The Windows table has two rows: one for 32-bit and one for 64-bit. The macOS table also has two rows: one for 32-bit and one for 64-bit. At the bottom, there are sections for "Linux Binaries (x64)" and "Linux Binaries (ARM)". The ARM section includes links for ARMv6, ARMv7, and ARMv8. The footer contains the URL "https://nodejs.org/dist/v10.16.3/node-v10.16.3-x86.msi".

# Key Tools used in Development.

## Development Tools

- <https://code.visualstudio.com>
- <https://codesandbox.io>



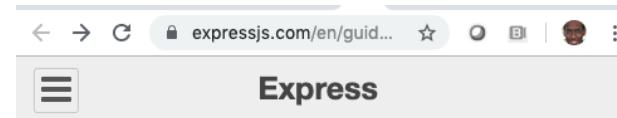
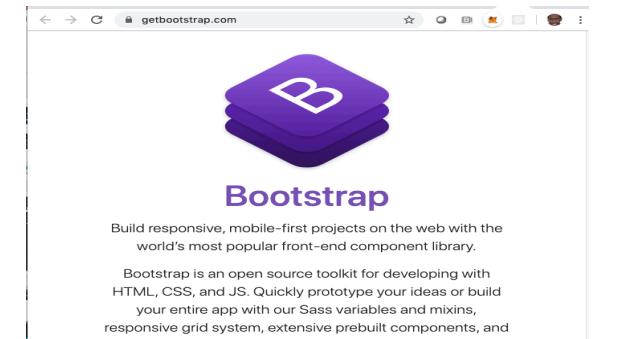
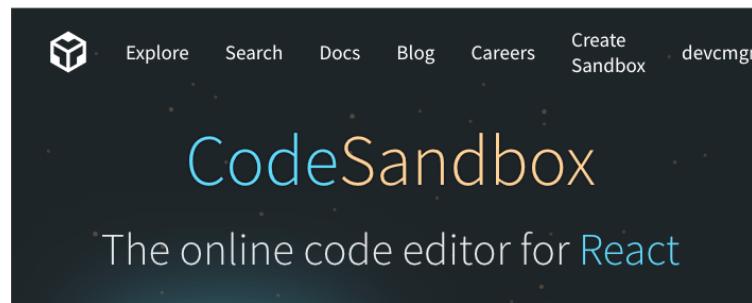
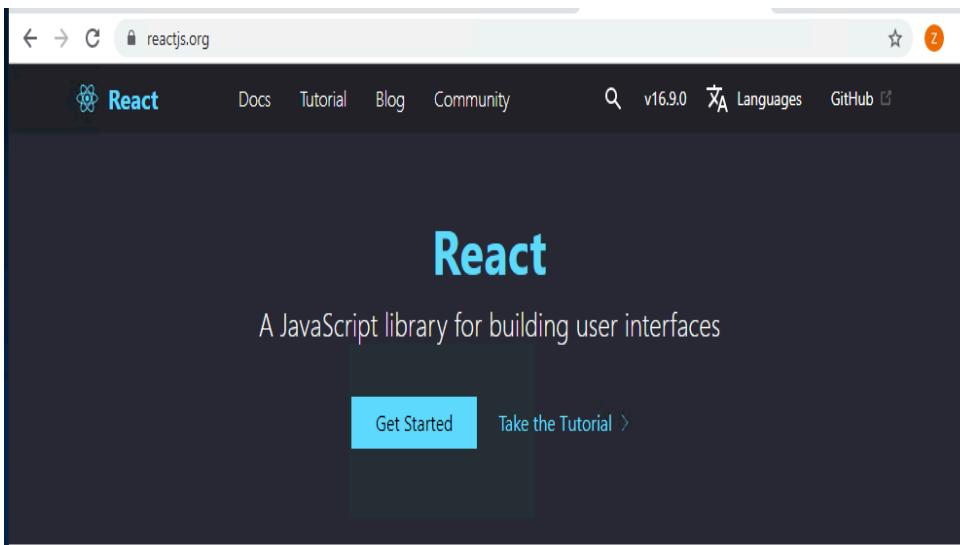
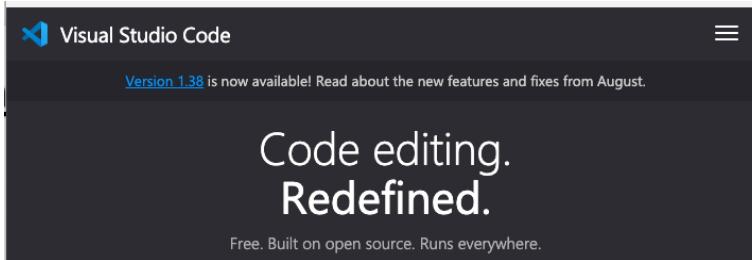
# Key Tools used in Development.

## Development Tools

- <https://code.visualstudio.com>
- <https://codesandbox.io>

## JavaScript Libraries:

- <https://reactjs.org>
- <https://getbootstrap.com/>
- <https://expressjs.com>



### Database integration

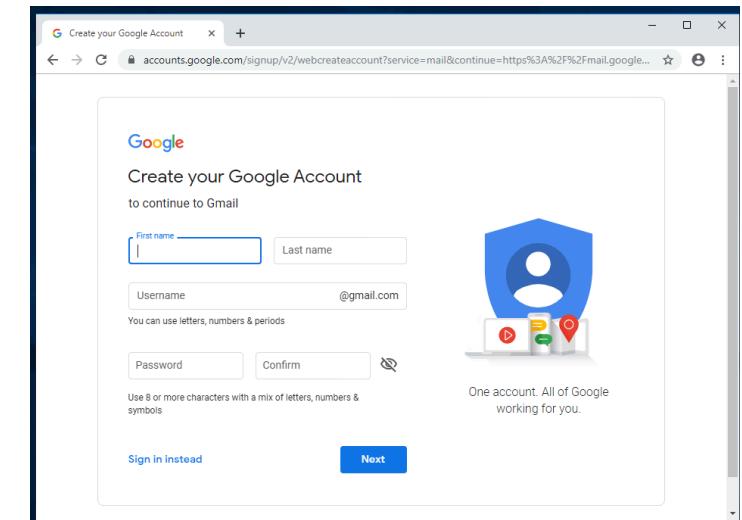
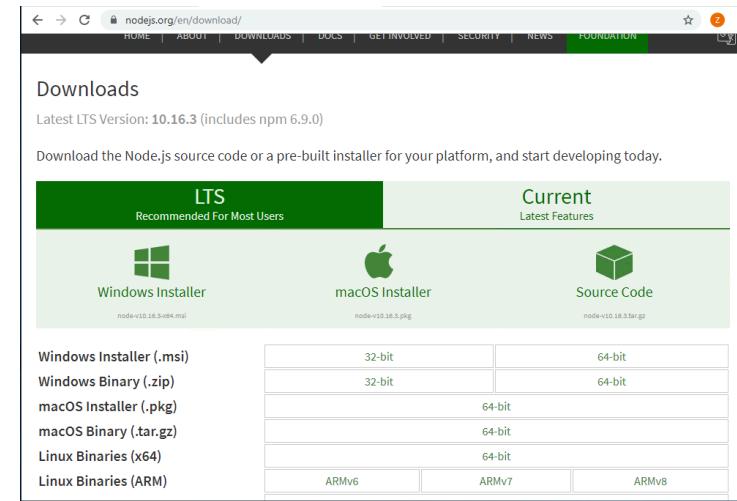
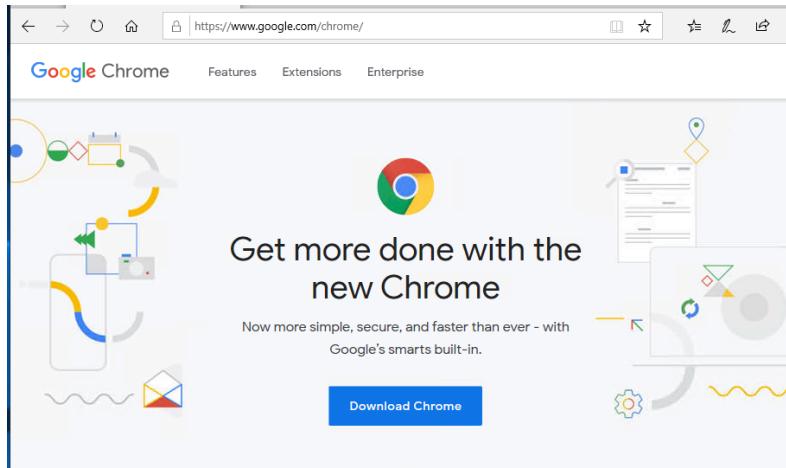
Adding the capability to connect databases to Express apps is just a matter of loading an appropriate Node.js driver for the database in your app. This document briefly explains how to add and use some of the most popular Node.js modules for database systems in your Express app:

- [Cassandra](#)
- [Couchbase](#)
- [CouchDB](#)
- [LevelDB](#)
- [MySQL](#)
- [MongoDB](#)
- [Neo4j](#)
- [Oracle](#)
- [PostgreSQL](#)
- [Redis](#)
- [SQL Server](#)
- [SQLite](#)
- [ElasticSearch](#)

# Local Development Tools Basics

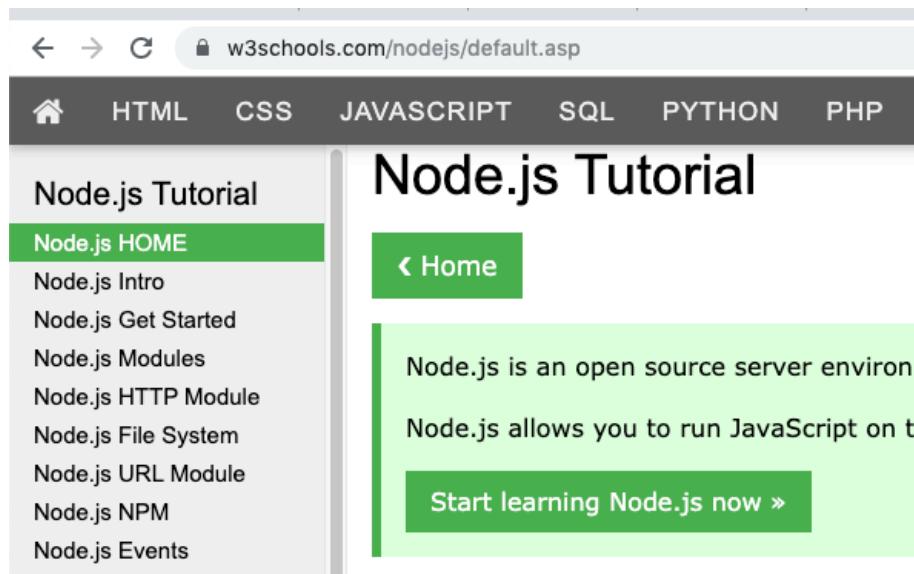
## Download Chrome, NodeJs, Get Chrome Email

recommended base tools for local development



# W3Schools is a great place to learn.

- Bootstrap -- <https://www.w3schools.com/bootstrap>
- React -- <https://www.w3schools.com/react>
- NodeJS -- <https://www.w3schools.com/nodejs>



The screenshot shows the Node.js Tutorial page on w3schools.com. The top navigation bar includes links for HTML, CSS, JAVASCRIPT, SQL, PYTHON, and PHP. The main content area features a large title "Node.js Tutorial" and a "B4" button. Below the button, there's a green box containing text about Node.js being an open-source server environment and allowing JavaScript execution. A green "Start learning Node.js now »" button is at the bottom of this box. The left sidebar lists various Node.js modules and events.

w3schools.com/nodejs/default.asp

HTML CSS JAVASCRIPT SQL PYTHON PHP

Node.js Tutorial

Node.js HOME

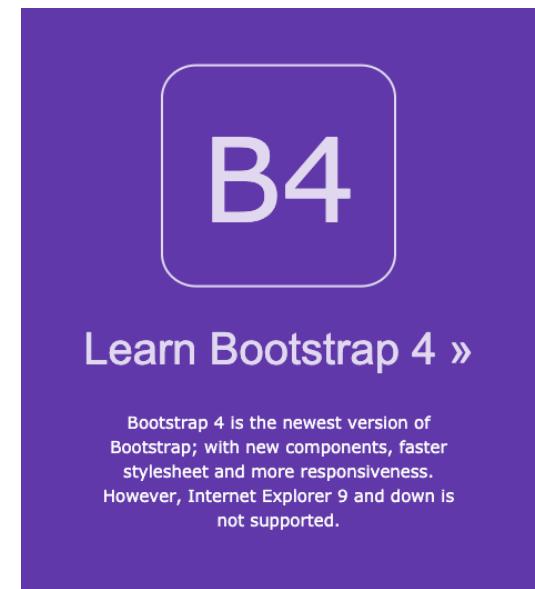
Node.js Intro  
Node.js Get Started  
Node.js Modules  
Node.js HTTP Module  
Node.js File System  
Node.js URL Module  
Node.js NPM  
Node.js Events

B4

Learn Bootstrap 4 »

Node.js is an open source server environment. Node.js allows you to run JavaScript on the server side.

Start learning Node.js now »

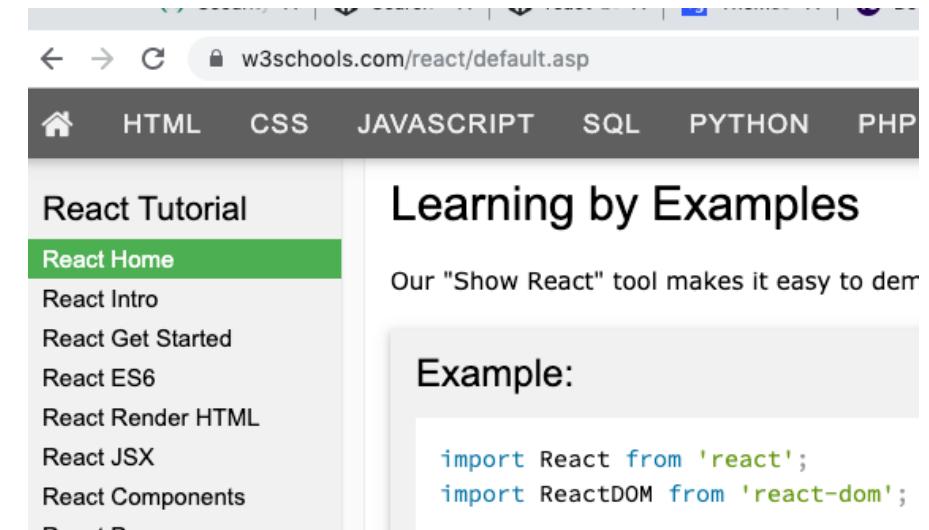


The screenshot shows the Bootstrap 4 tutorial page. The main title is "B4" with a subtitle "Learn Bootstrap 4 ». Below this, a paragraph explains that Bootstrap 4 is the newest version, featuring new components, a faster stylesheet, and improved responsiveness, though Internet Explorer 9 and below are not supported.

B4

Learn Bootstrap 4 »

Bootstrap 4 is the newest version of Bootstrap; with new components, faster stylesheet and more responsiveness. However, Internet Explorer 9 and down is not supported.



The screenshot shows the React tutorial page. The top navigation bar includes links for HTML, CSS, JAVASCRIPT, SQL, PYTHON, and PHP. The main content area features a large title "React Tutorial" and a "React Home" button. To the right, a section titled "Learning by Examples" shows code snippets for React, including imports for React and ReactDOM.

w3schools.com/react/default.asp

HTML CSS JAVASCRIPT SQL PYTHON PHP

React Tutorial

React Home

React Intro  
React Get Started  
React ES6  
React Render HTML  
React JSX  
React Components  
React Props

Learning by Examples

Our "Show React" tool makes it easy to dem

Example:

```
import React from 'react';
import ReactDOM from 'react-dom';
```



Build and Deploy  
Web App  
In. 15 Minutes  
Live Demo

# Demo Building Apps – zeit.co

- Introduction
- Git Integration
- Build Step
- Custom Domains
- › Serverless Functions
- › Network
- › Advanced

Now Platform Version

2.0 (Latest)

## Introduction to ZEIT Now

ZEIT Now is a cloud platform for **static sites** and **serverless functions**. It enables developers to host websites and web services that **deploy instantly**, **scale automatically**, and requires **no supervision**, all with **no configuration**.

Getting started with Now takes just a few steps and lets you get up and running with your new project in less than a minute.

## Install Now CLI

To deploy with ZEIT Now, you will need to install [Now CLI](#), a frequently updated, and [open-source](#), command-line interface.

You can get Now CLI from either npm or Yarn. Using npm, run the following command from your terminal:

```
$ npm i -g now
```



# Demo Building Apps – ZEIT.co

```
demoziet: npm i -g now

> now@16.2.0 preinstall /usr/local/lib/node_modules/now
> node ./scripts/preinstall.js

/usr/local/bin/now -> /usr/local/lib/node_modules/now/dist/index.js
+ now@16.2.0
updated 1 package in 1.193s
```

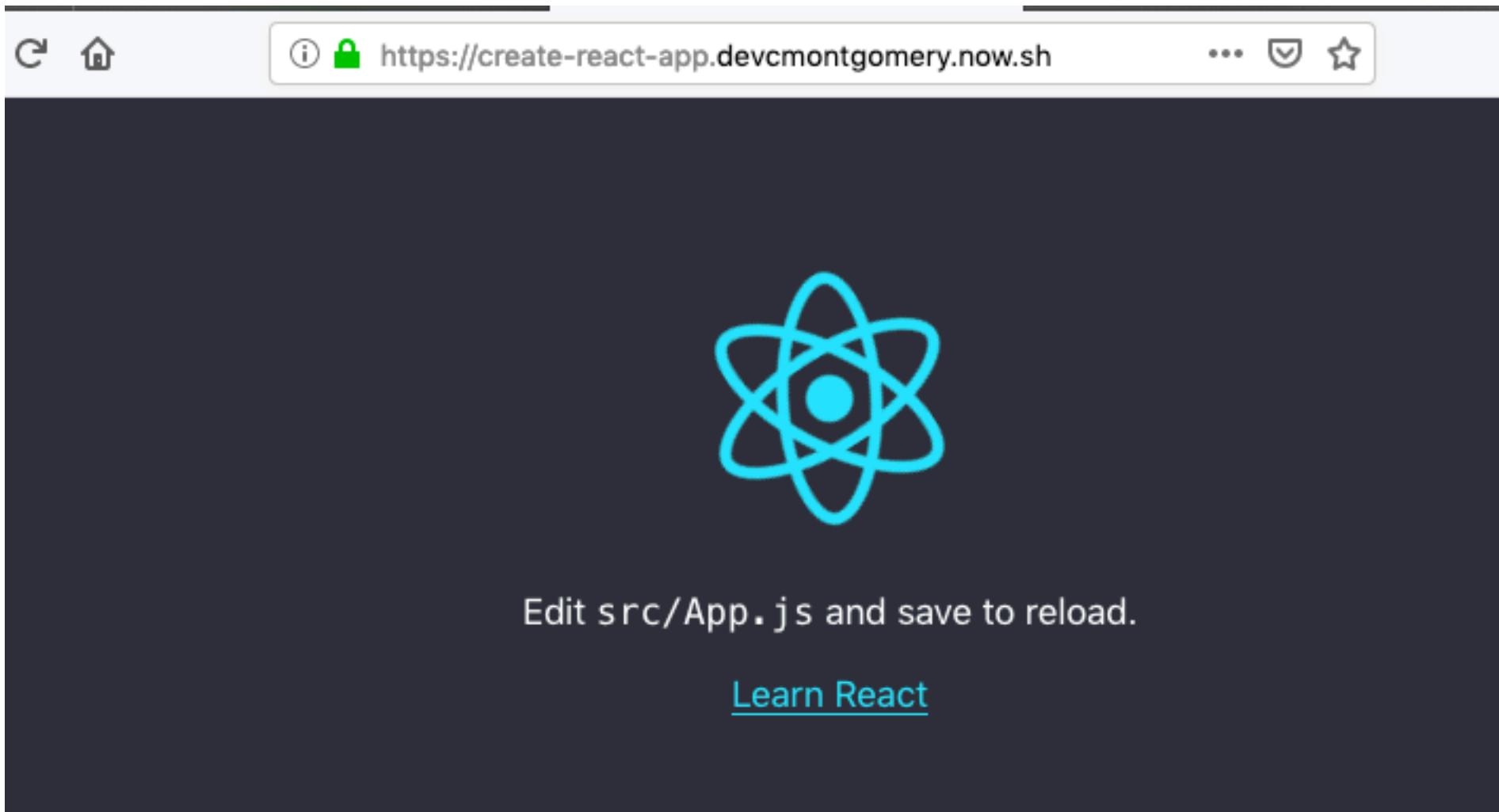
New minor version of npm available! 6.10.1 → 6.11.3  
Changelog: <https://github.com/npm/cli/releases/tag/v6.11.3>  
Run `npm install -g npm` to update!

```
demoziet:now init create-react-app
> Success! Initialized "create-react-app" example in ~/create-react-app.
- To deploy, `cd create-react-app` and run `now`.
```

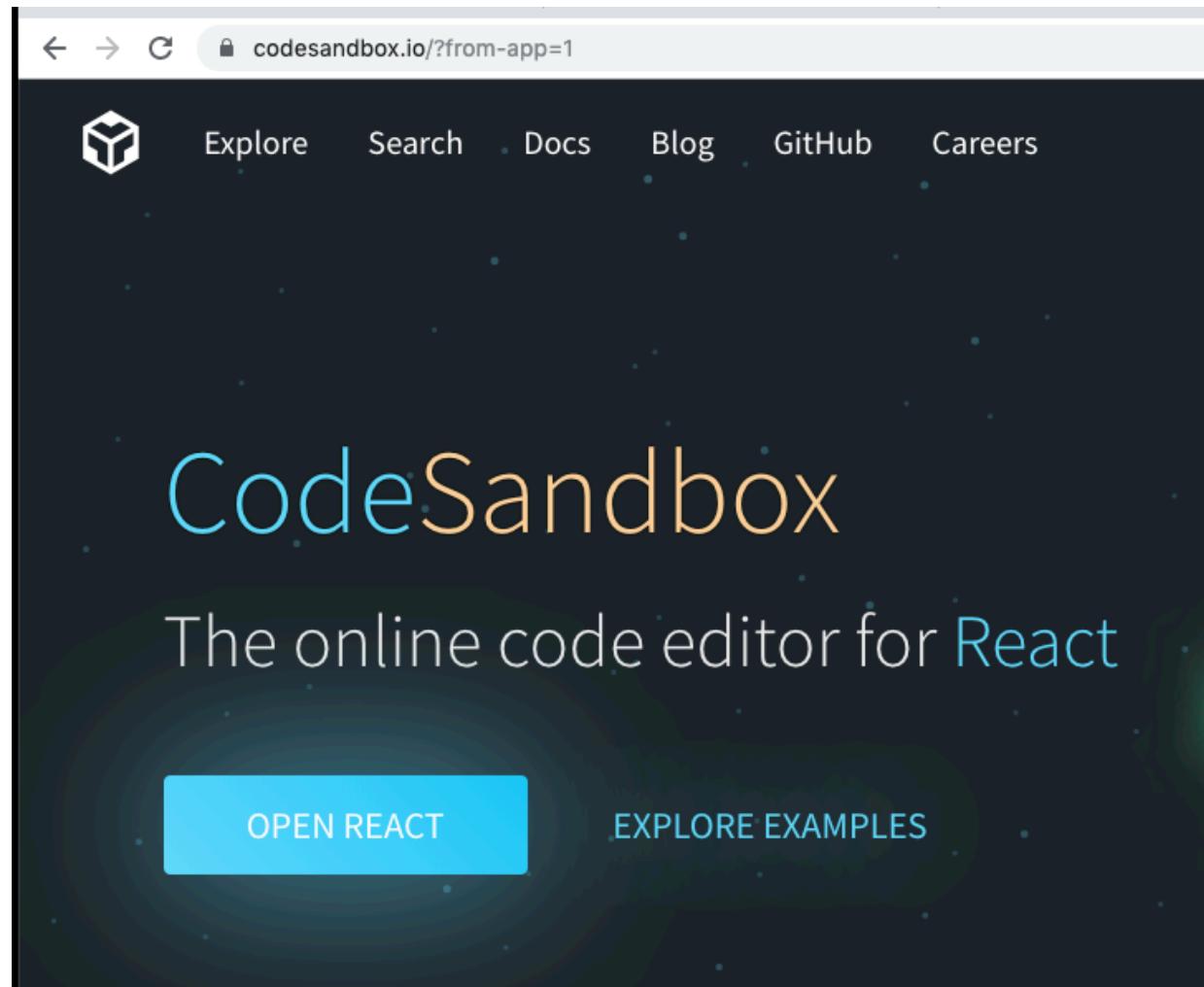
# Demo Building Apps – ZEIT.co

```
- To deploy, cd create-react-app and run now .
demoziet:cd create-react-app
demoziet:now
> Deploying ~/create-react-app under devcmontgomery
> Using project create-react-app
> WARN! This is the first deployment in the create-react-app project. It w
  promoted to production.
> https://create-react-app-8yclnzfwm.now.sh [v2] [2s]
> Ready! Deployed to https://create-react-app.devcmontgomery.now.sh [in cl
d1 [56s]
```

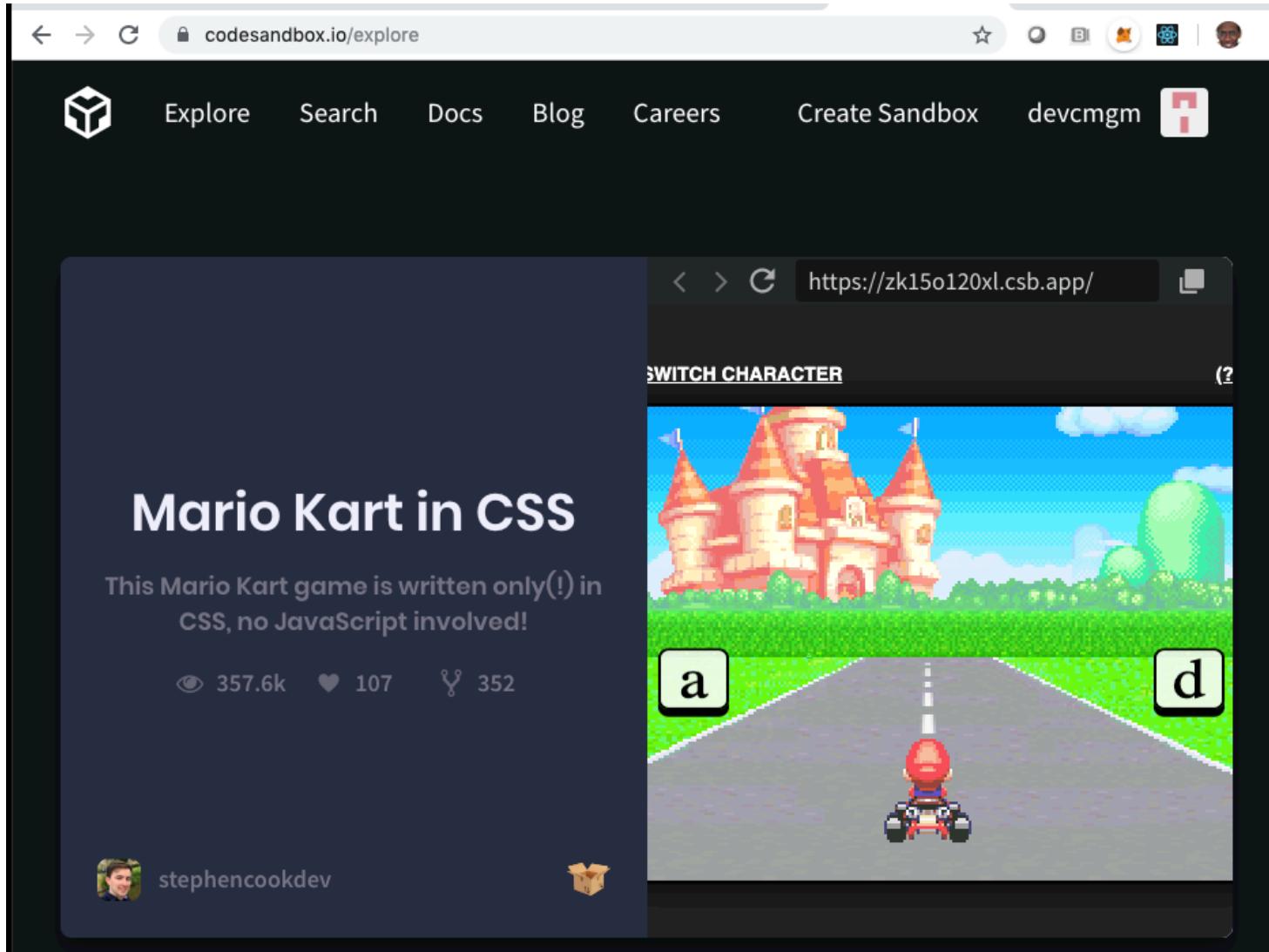
# Demo Building Apps – ZEIT.co



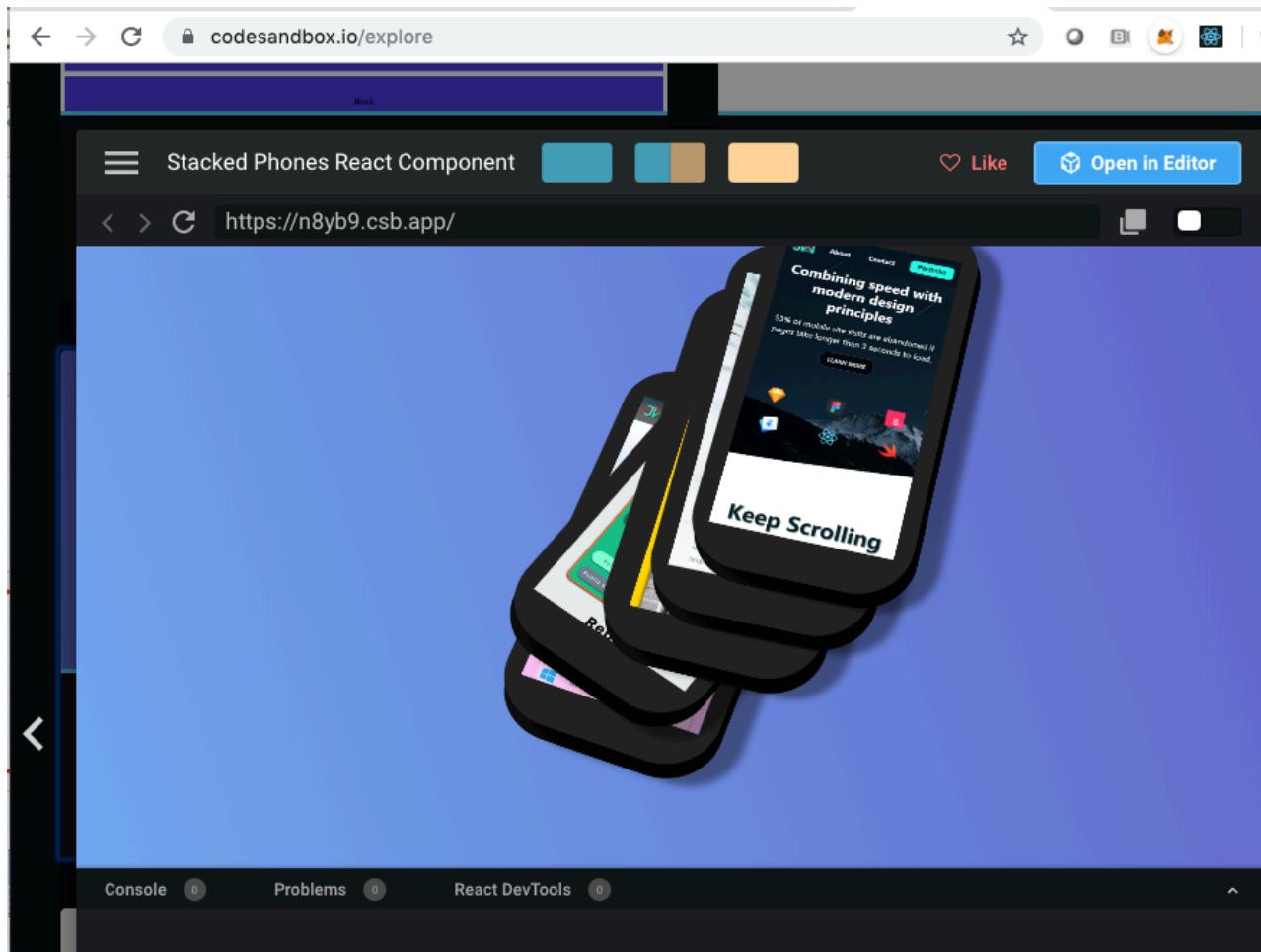
# Demo Building Apps – CodeSandBox.io



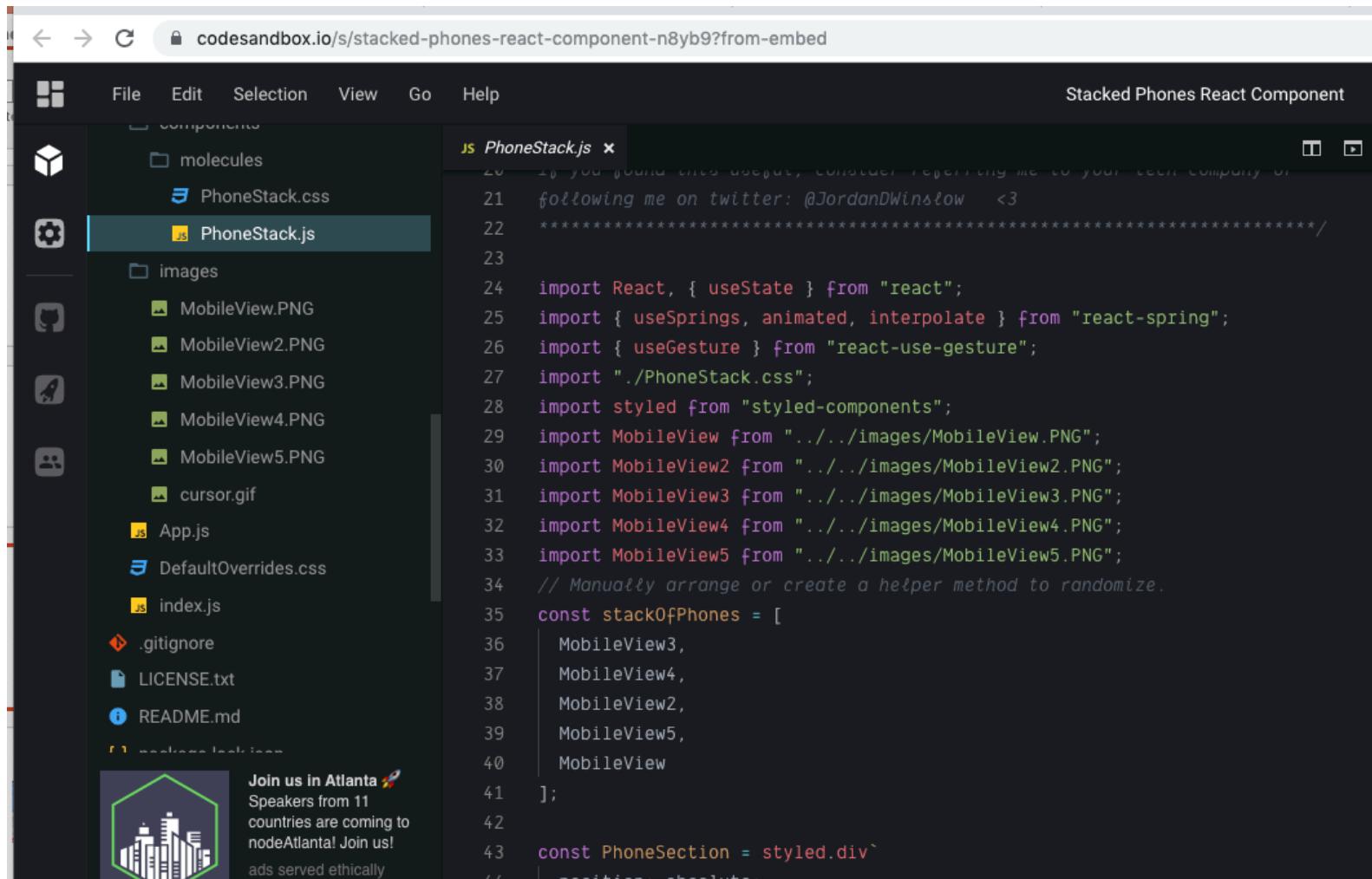
# Demo Building Apps – CodeSandBox.io



# Demo Building Apps – CodeSandBox.io



# Demo Building Apps – CodeSandBox.io



The screenshot shows the CodeSandbox web interface. The left sidebar displays a file tree with components, molecules, images, and other files like App.js and DefaultOverrides.css. The main editor window shows the content of PhoneStack.js. The code imports React, useState, useSprings, animated, interpolate, useGesture, styled-components, and several MobileView components from images. It defines a stack of phones using MobileView3, MobileView4, MobileView2, MobileView5, and MobileView. A banner at the bottom left promotes nodeAtlanta.

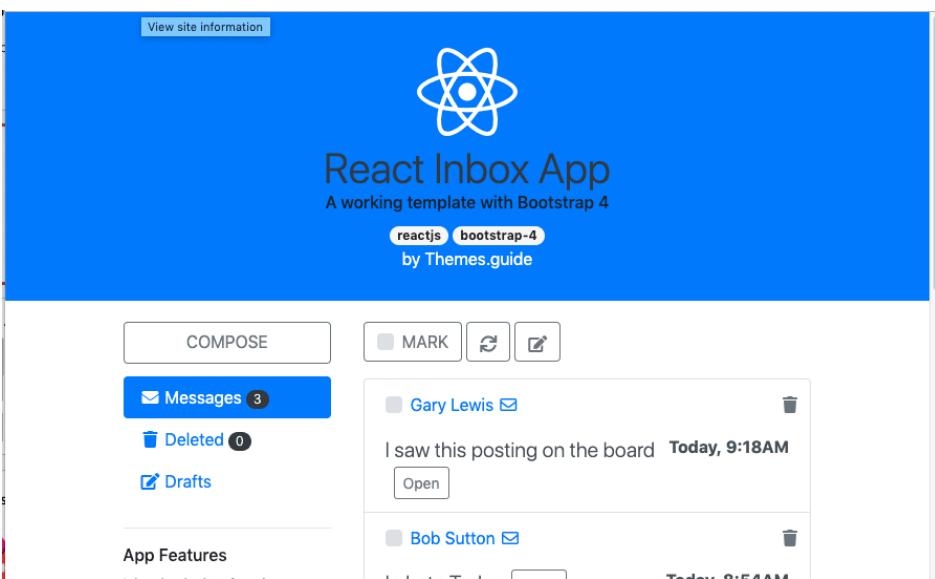
```
20 // If you found this useful, consider referring me to your next company or
21 following me on twitter: @JordanDWinslow <3
22 ****
23
24 import React, { useState } from "react";
25 import { useSprings, animated, interpolate } from "react-spring";
26 import { useGesture } from "react-use-gesture";
27 import "./PhoneStack.css";
28 import styled from "styled-components";
29 import MobileView from "../../images/MobileView.PNG";
30 import MobileView2 from "../../images/MobileView2.PNG";
31 import MobileView3 from "../../images/MobileView3.PNG";
32 import MobileView4 from "../../images/MobileView4.PNG";
33 import MobileView5 from "../../images/MobileView5.PNG";
34 // Manually arrange or create a helper method to randomize.
35 const stackOfPhones = [
36   MobileView3,
37   MobileView4,
38   MobileView2,
39   MobileView5,
40   MobileView
41 ];
42
43 const PhoneSection = styled.div`
```

# Demo Building Apps Custom Email

NOTE: Suppose you want to create your own messaging app?

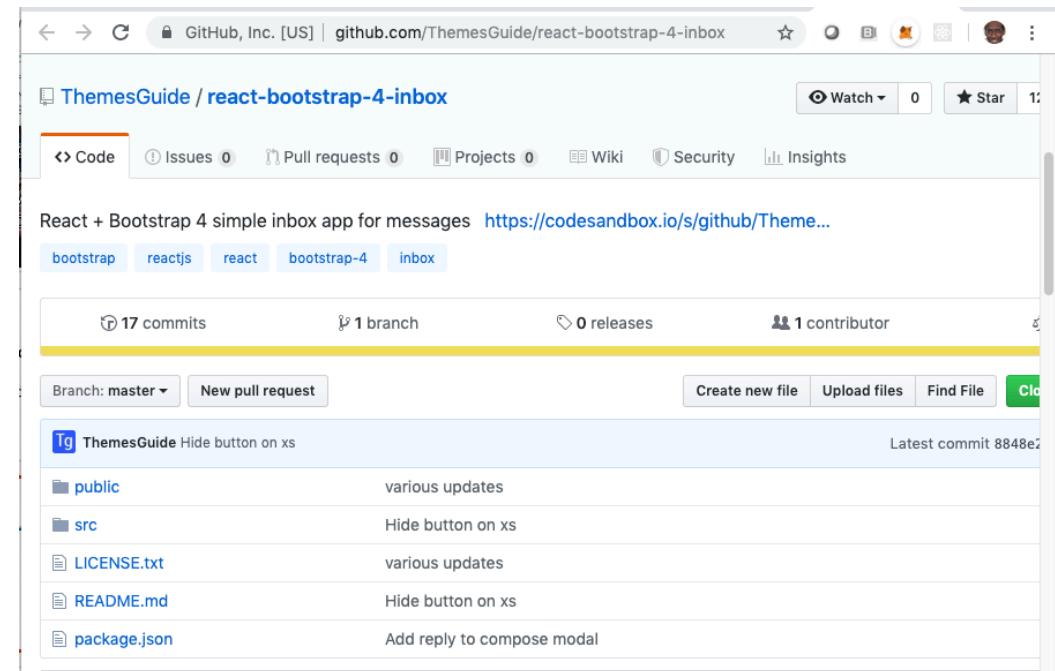
## Demo Custom Messaging App

<https://llzykynvnq.codesandbox.io/>



## Source Code for Demo Custom Messaging App

<https://github.com/ThemesGuide/react-bootstrap-4-inbox>





Cool Web Tools  
Simple Web  
Utilities

# Convert my JSON Messages to SQL or CSV

<https://sqlify.io/>

Example  
Data  
Transformation

**SQLIFY**

BLOG

CONVERT

PRICING

SIGN IN

**Convert and transform any data  
into queryable data**

Upload CSV and JSON. Use our website,  
or automate the process through our API

Convert a file now

# Convert my JSON Messages to SQL

<https://sqlify.io/>

The screenshot shows the SQLIFY website's user interface for converting JSON messages to SQL. At the top, there is a purple navigation bar with the SQLIFY logo, BLOG, CONVERT, PRICING, and SIGN IN links. Below the navigation bar, the main content area has a heading "1. Add the CSV or JSON data that you want to convert". It features three input options: "Upload a file" (selected), "Input a URL", and "Paste raw data". A dashed box placeholder contains the text "messages.json". Below this, a note says "We will automatically detect the format of your file". The next section, "2. Select the result format", includes three buttons: "SQL" (selected), "JSON", and "CSV". At the bottom, a large green button labeled "Convert to SQL" is visible.

# Convert my JSON Messages to SQL

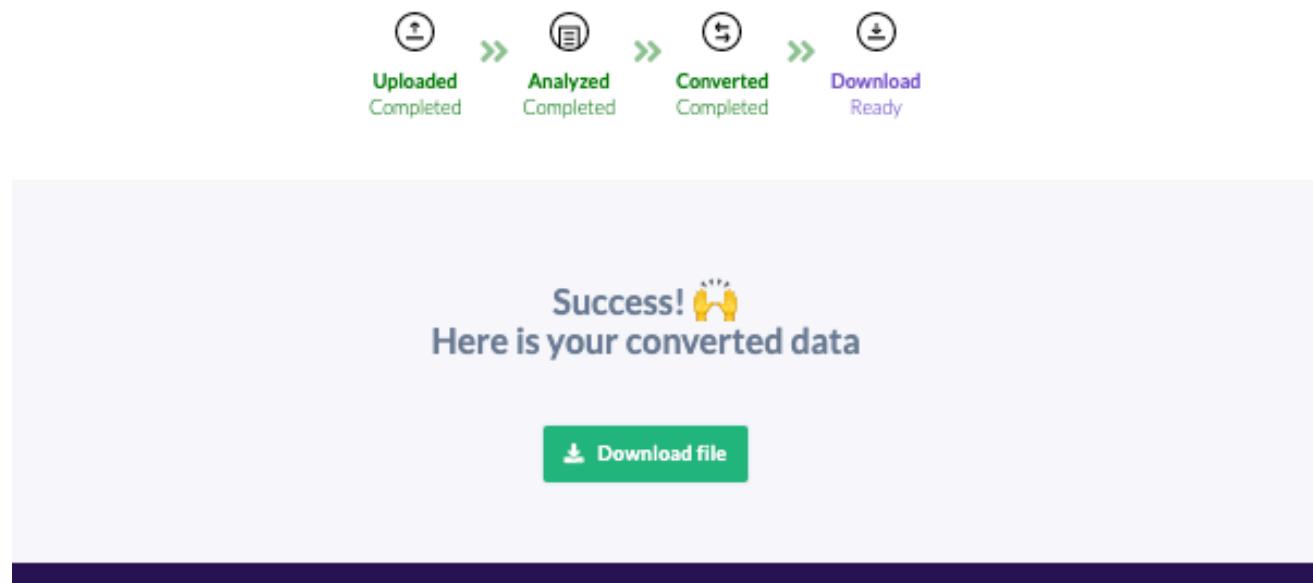
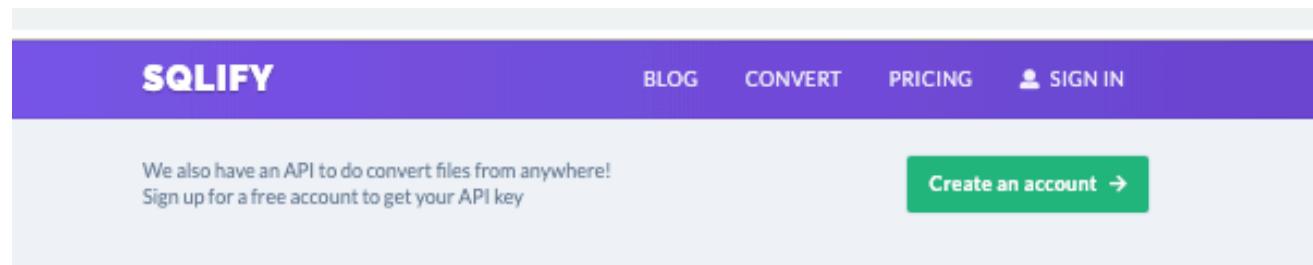
<https://sqlify.io/>

The screenshot shows the SQLIFY web application interface. At the top, there is a purple header bar with the SQLIFY logo on the left and navigation links for BLOG, CONVERT, PRICING, and SIGN IN on the right. Below the header, a progress bar indicates the status of the conversion process: "Uploaded" (Completed), followed by "Schema" (in progress), "Convert" (in progress), and "Download" (not yet started). The main workspace below the progress bar contains three buttons: "+ Add new field", "Autodetect fields", and a large green "Save schema and continue" button. A message box states: "How do you want to map your data? The autodetected schema is good enough for most use cases." Below this, a table lists the mapping for five fields:

Source field	Result field name	Type	Length
\$[*].id	id	Integer	
\$[*].from	from	String	15
\$[*].fromAddress	from_address	String	19
\$[*].subject	subject	String	31
\$[*].dtSent	dt_sent	String	17

# Convert my JSON Messages to SQL

<https://sqlify.io/>



# Convert my JSON Messages to SQL

<https://sqlify.io/>  
Example Data Output

```
CREATE TABLE IF NOT EXISTS data (
    id INT NULL,
    from VARCHAR(15) NULL,
    from_address VARCHAR(19) NULL,
    subject VARCHAR(31) NULL,
    dt_sent VARCHAR(17) NULL,
    body VARCHAR(180) NULL,
    priority INT NULL
);
```

```
INSERT INTO data VALUES
(1,"Gary Lewis","test@foofoo.com","I saw this posting on the board","Today\\, 9:18AM","Hey Mark\\,<br><br>I
saw your post on the message board and I was wondering if you still had that item available. Can you call me if
you still do?<br><br>Thanks\\,<br><b>Gary Lewis</b>",NULL),
```

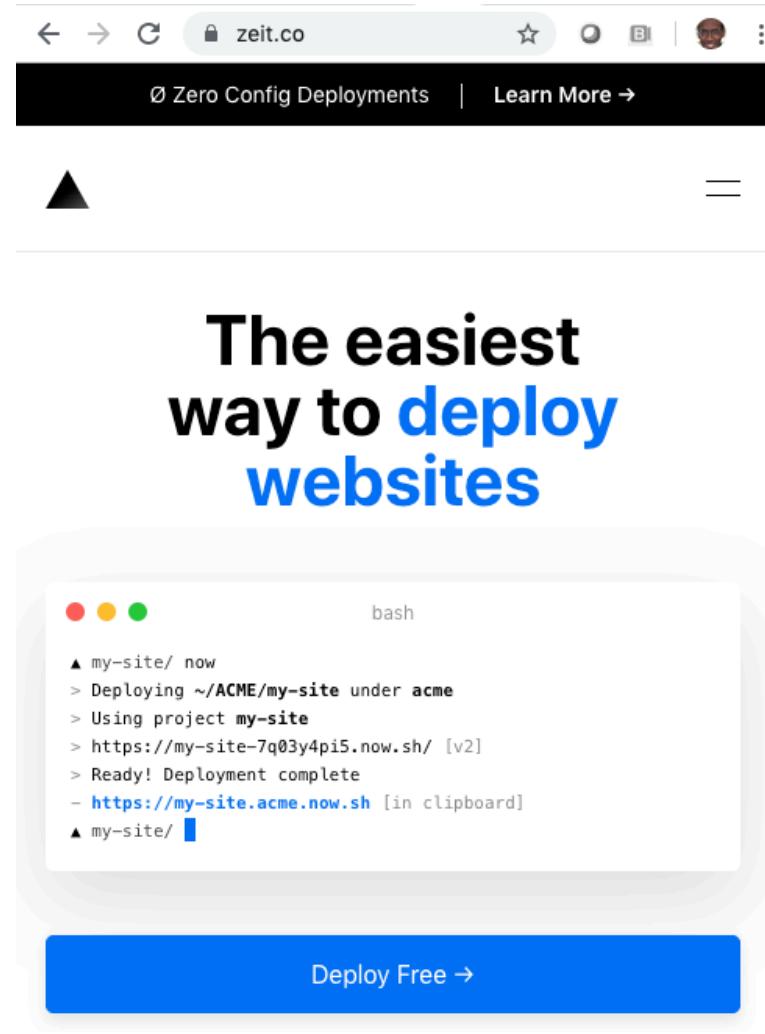
...

```
CREATE TABLE IF NOT EXISTS data (
    id INT NULL,
    from VARCHAR(15) NULL,
    from_address VARCHAR(19) NULL,
    subject VARCHAR(31) NULL,
    dt_sent VARCHAR(17) NULL,
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    priority INT NULL
);
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saw your post on the message board and I was wondering if you still had that item available. Can you call me if
you still do?<br><br>Thanks\\,<br><b>Gary Lewis</b>",NULL),
(2,"Bob Sutton","test@testdomain.com","In Late Today","Today\\, 8:54AM","Mark\\,<br>I will be in late today due
to an appt.<br>v/r Bob",NULL),
(3,"Will Adivo","test@testbar.com","New developer","Yesterday\\, 4:48PM","Here is the last resume for the
developer position we posted on SO. Please review and let me know your thoughts!",NULL),
(4,"Al Kowalski","test@domain.com","R
```

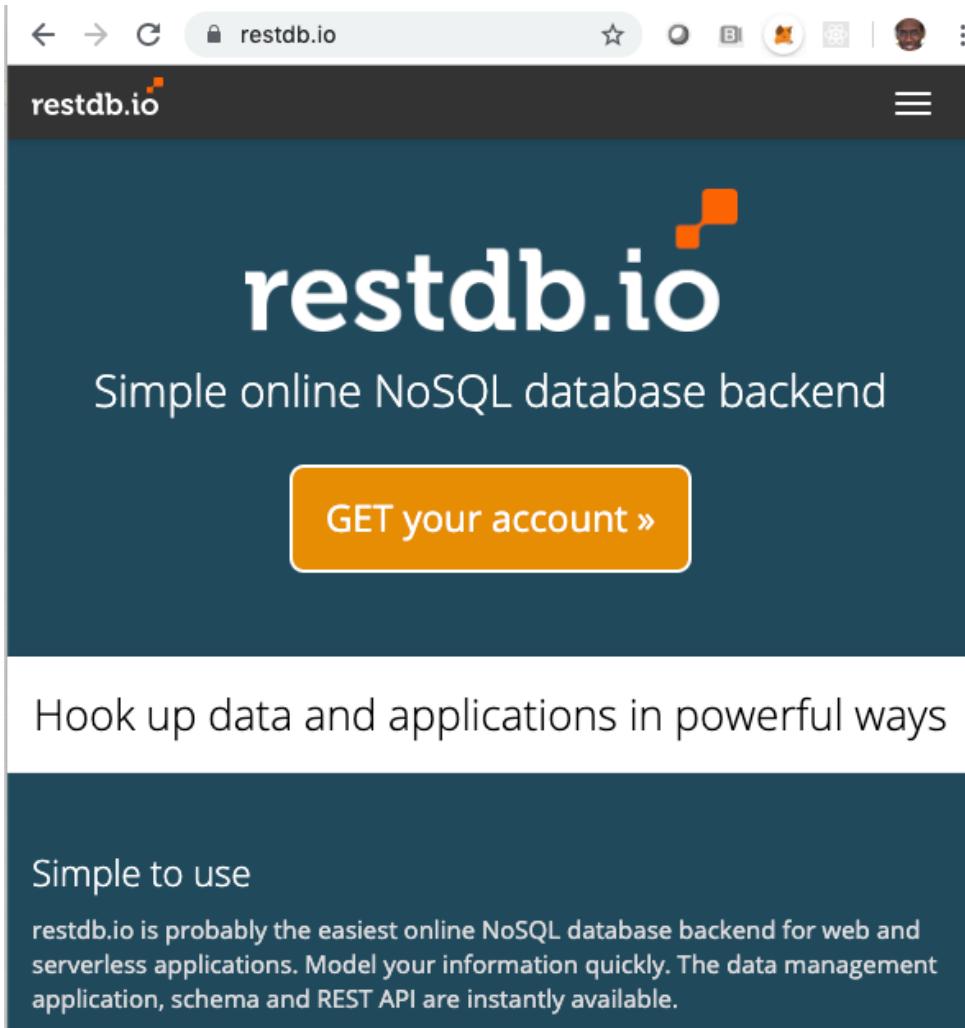
# Key Tools used in Deployment.

<https://zeit.co>



# One more thing

## Restdb.io is a simple place to test Rest API Code.



# Questions and Answers

