Full-stack (Web) Developer

@ITKMITL

by Saksit Sawang | Aug 2020

Speaker

Saksit Sawang

- IT8 @ ITKMITL
- Co-Founder @ Native Source Solution
- Dev Lead @ Zimpligital

- E-mail: saksit@nativesrc.com
- Twitter: @iinitz
- Github: /iinitz

Course Outline

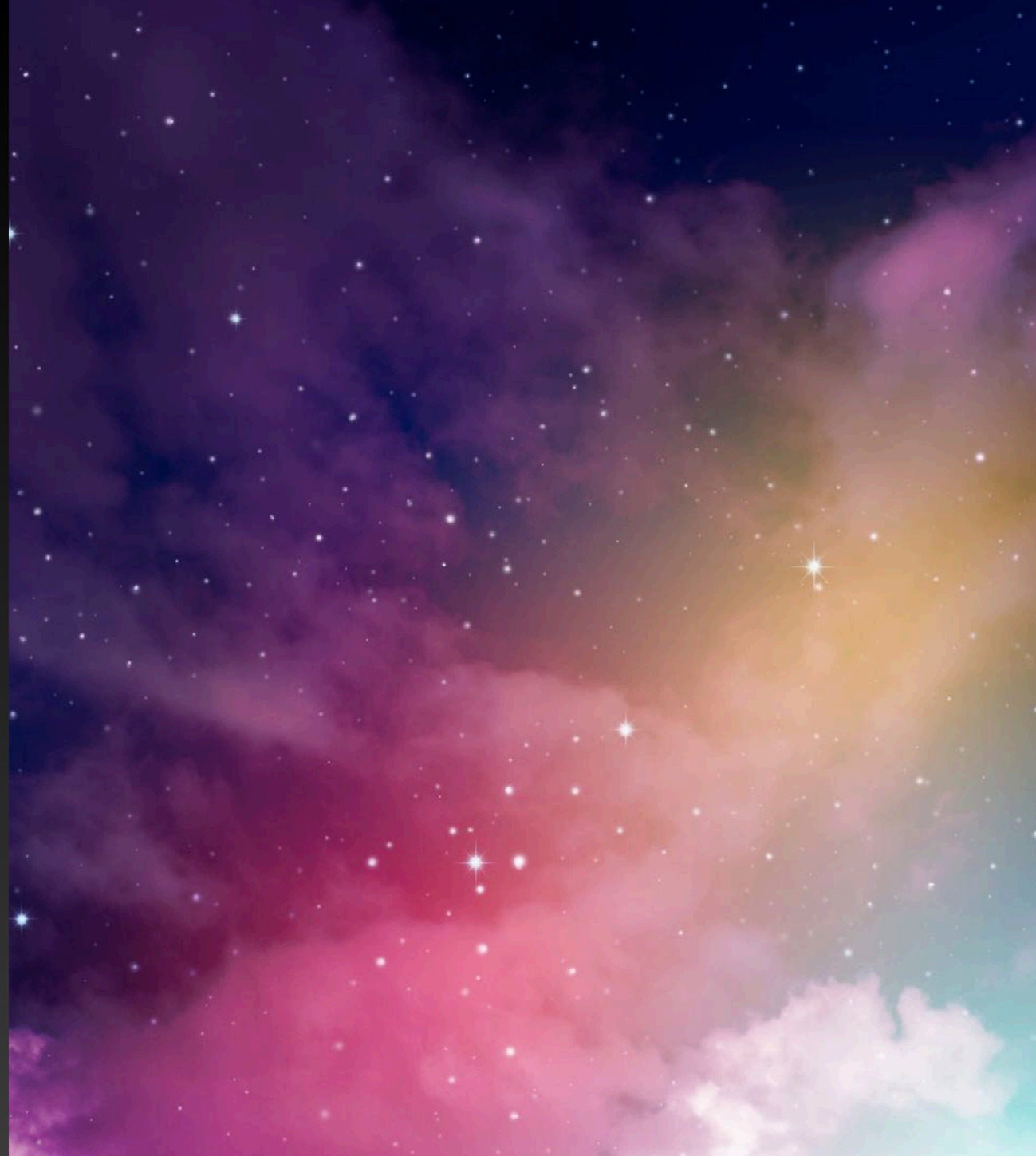
- Web Architecture
- Why JavaScript ?
- Create website using React (Next.js)
- Easy mode API using GraphQL and MongoDB
- Deploy web app to Docker
- Automate testing guide
- Cross platform APP with Expo (React-native)

Web Architecture

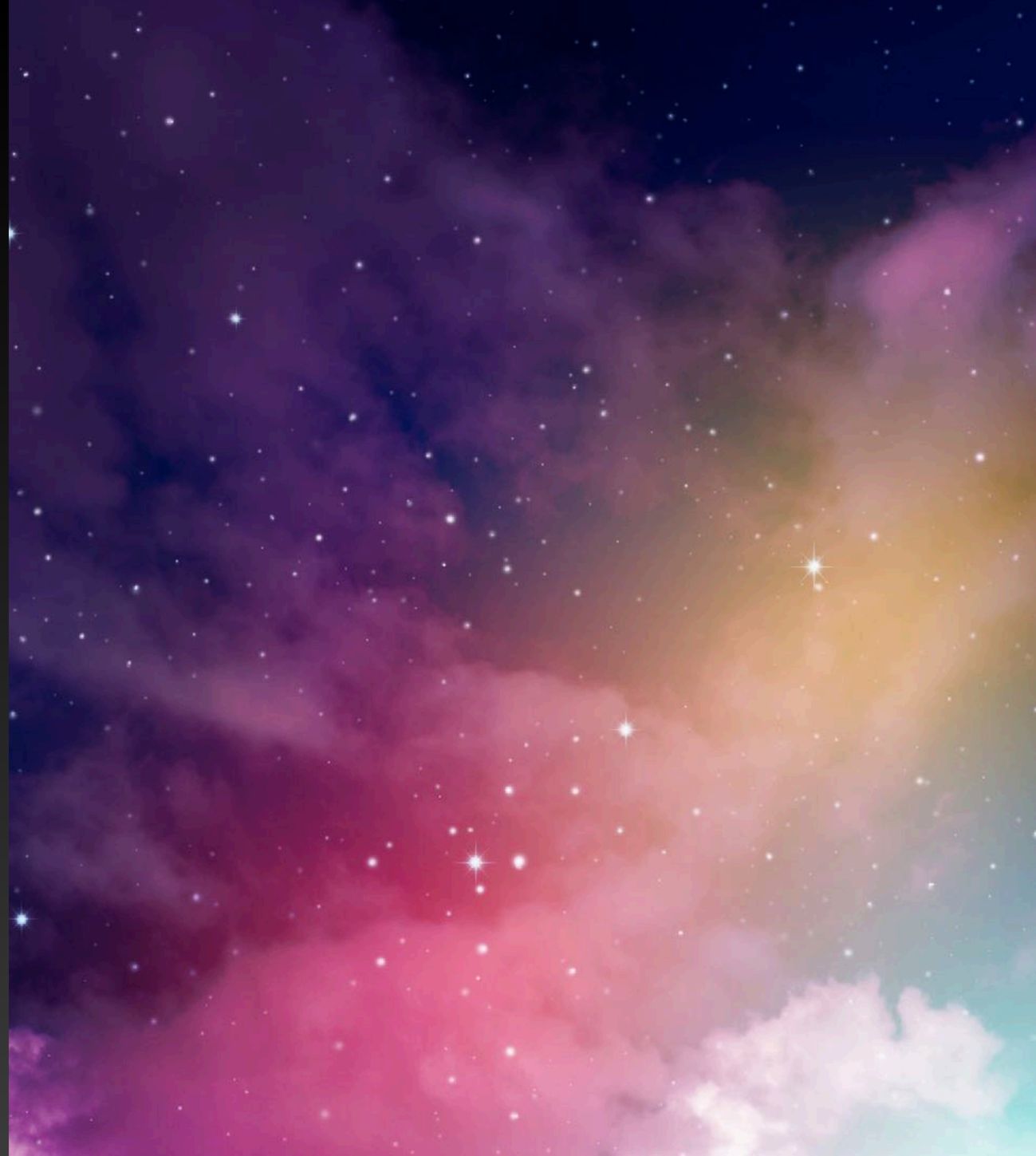
Frontend

What the user sees & interacts with (HTML, CSS, JavaScript)

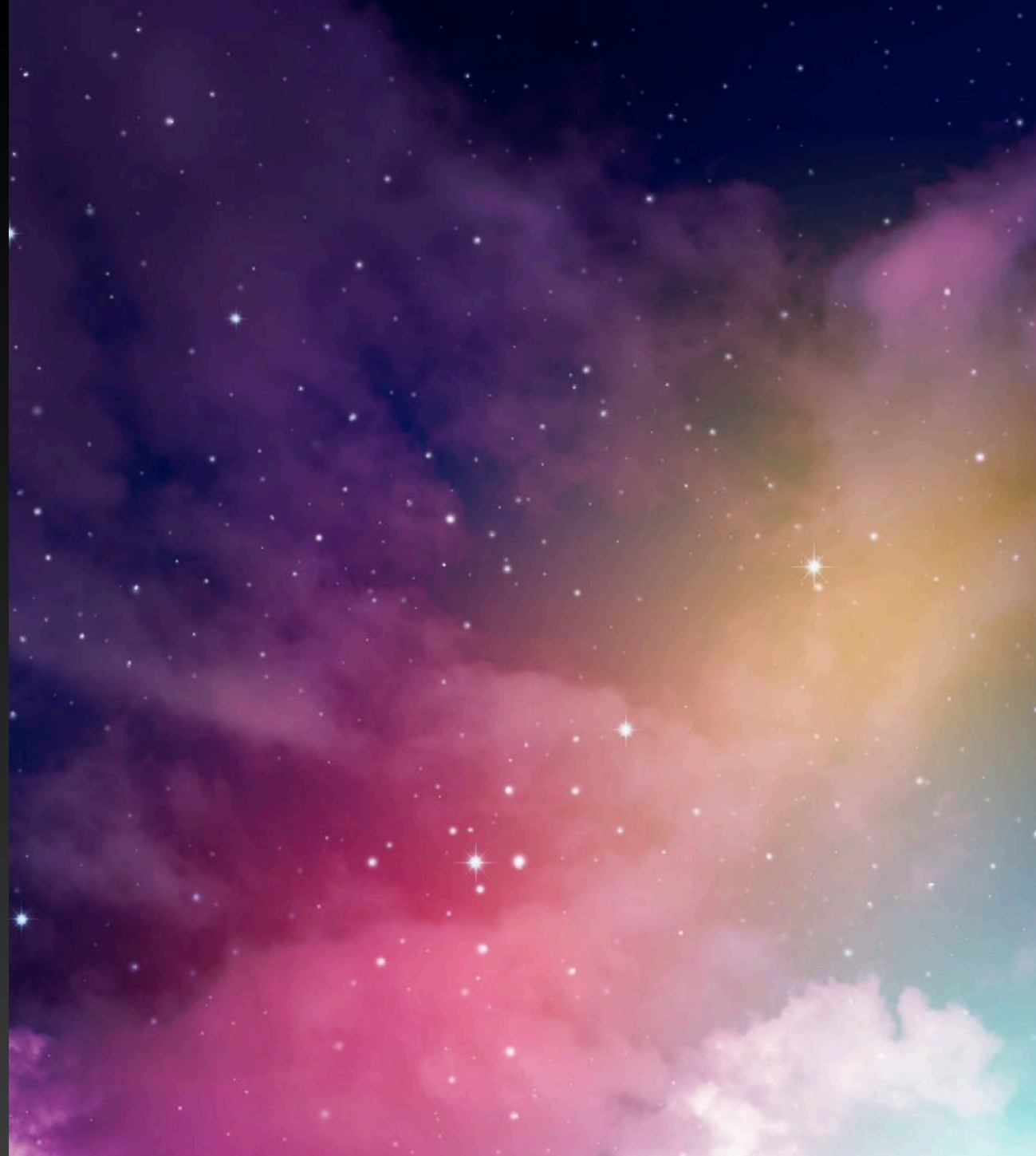
Angular



React



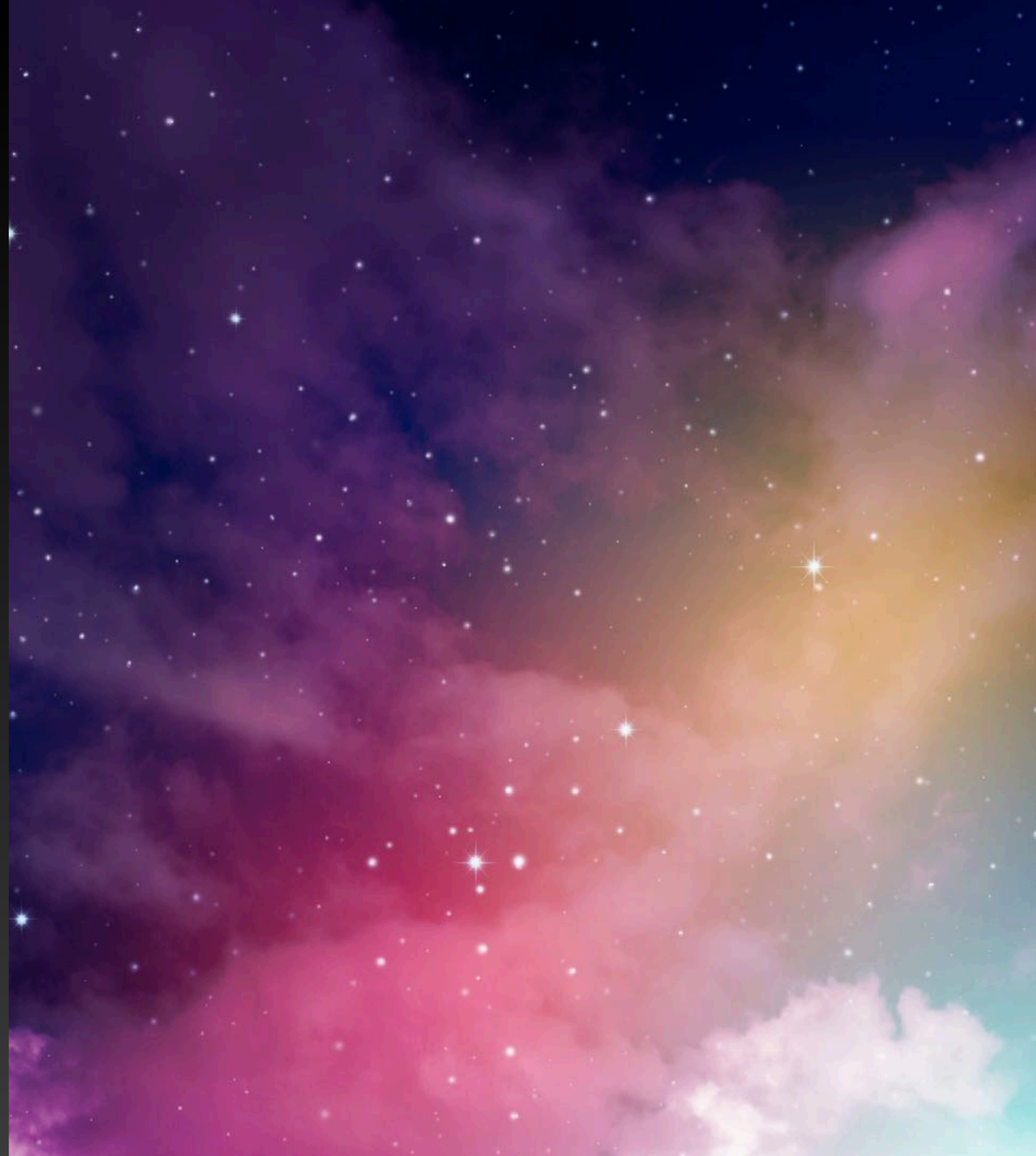
Vue.js



Backend

App logic/API (PHP, JavaScript, Java) and Database (MySQL, MongoDB)

GraphQL




JAVASCRIPT
LIGHTYEAR
JAVASCRIPT EVERYWHERE
imgflip.com

Why JavaScript ?

Browser Support

All popular modern Web browsers support Javascript with built-in interpreters

Server Side Scripting

Node.js is an JavaScript run-time environment that executes JavaScript code outside of a browser

Imperative and Structured

Supports much of the structured programming syntax from C

Automatic semicolon insertion

Dynamic Typing

Dynamically typed like most other scripting languages

First-class Functions

Passing functions as arguments, returning as the values, and assigning to variables or storing in data structures

Non Blocking I/O (Asynchronous)

Event loop (http://latentflip.com/loupe)

Object-Oriented Programming

Prototype-based object-oriented, Class syntax

Setup tools

NVM

https://github.com/coreybutler/nvm-windows/releases

Yarn

https://yarnpkg.com/en/docs/install

Node.js

nvm install 14

VS Code

https://code.visualstudio.com/download

VS Code Extension

ESLint

Setup project

Initial project

yarn init

Project structure

Create src folder and create file src/app.js

Say "Hello World!"

```
console.log('Hello World!')
```

Start script

Add "start": "node src/app.js" under "scripts" in package.json

Run

yarn start

Code standard

with ESLint

Install eslint config

yarn add --dev eslint-config-nss

Setup ESLint rules

Create .eslintrc and add { "extends": "nss/node" }

Setup ESLint extension

"editor.codeActionsOnSave": { "source.fixAll.eslint": true }

JavaScript syntax

ES6

Variables defined

const behave
like let variables, except they
cannot be reassigned

```
let name = 'Alice'
name = 'Bob' // name is 'Bob'

const PI = 3.14159
PI = 3.14 // error
```

String

String template

```
const name = 'Alice'
console.log(`Hello ${name}!`)
```

Function

Arrow function

```
const sum = (a, b) => {
   return a + b
}
sum(1, 2)

const pow = (a, b) => a ** b
pow(2, 3)

const isOdd = n => n % 2 === 1
isOdd(5)
```

Impure function VS Pure function

Object

```
const user = {
    name: 'Alice',
    age: 20,
}
console.log(user.name)
console.log(user.age)
```

Array

```
const names = ['Alice', 'Bob']
console.log(names[0])
console.log(names[1])
```

async/await

```
const func = async () => {
   const res = await fetch(...)
   console.log(res)
}
```

HOF

Higher-Order Function

```
const greaterThan = (min) => {
   return score => score > min
}

const greaterThan80 =
greaterThan(80)
const greaterThan70 =
greaterThan(70)

console.log(greaterThan80(85))
```

Let's coding

https://github.com/iinitz/full-stack-course

Create website using React (Next.js)

JSX

```
const element = <h1>Hello, world!</h1>
```

React 101

Easy mode API using GraphQL and MongoDB

Deploy web app to Docker

Automate testing guide

Cross platform APP with Expo (React-native)