

Full Stack Development

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what are we building today?

The evolution of the web

- Started growing in 1980s
- JavaScript was born in 1995
- Ecma Script was standardised in 1996
- Latest version: ES6 2015

What is JavaScript

- Also known as ECMA Script
- Began as a scripting language
- Is Just In Time Compiled
- Single threaded

The basics

Variables

```
const <var_name> = <value>  
let <var_name> = <value>
```

~~Variables~~

```
var <var_name> = <value>
```

Comments

```
// single line comment  
/* multiline comment */
```


Functions

```
function <function_name> ([<argument_list>...]) {  
    // function body  
}
```

Functions

```
const <function_name> = ([<argument_list>...]) => {  
  // function body  
}
```

Data structures

```
let array = ['Item1', 2, "item 3"]  
let object = { key1 : "value1", "key2": value2 }
```

Breaking it down

1. setup
2. File uploading
3. Database Integration
4. polishing

Setup

install node for your pc from nodejs.org

What is node?

- It is a JavaScript Runtime
- uses V8 engine under the hood
- provides package manager called NPM

Setup

install VS Code for your pc from code.visualstudio.com

open up vs code and follow along

File Structure

```
> node_modules
> public
  - index.html
> src
  - index.js
package.json
package-lock.json
```

File uploading

```
npm install multer
```

Database integration

```
npm install sqlite3
```

What is sqlite3?

It is a simple implementation of an SQL database
perfect for small projects

What are the available functions?

- `run : db.run('SQL Query')`
- `get : db.get('SQL Query', (err, row) => callback_function)`

Polishing

HTML, CSS and more

What is HTML?

- Hyper Text Markup Language
- case insensitive
- Used to create the structure of the webpage
- an HTML document is created using tags
- every tag has the structure of `<element></element>`
or `<element/>`

Popular tags

- `<div>` : `<div class="my-class" > content </div>`
- `<html>` : `<HTML> html tags </HTML>`
- `<head>` : `<head> header content </head>`
- `<style>` : `<style> CSS styles </style>`
- `<input>` : `<input type="text" name="my-input" />`
- `` : ``
- `<a>` : ` link text `

What is CSS?

- Cascading Style Sheet
- Used to enhance the appearance of a webpage

Selectors

- . : .class-name
- # : #id-name

Example

```
.class-name{  
    background: blue;  
    color: white;  
    display: block;  
}
```

```
#id-name{  
    position: relative;  
    top: -5px;  
    z-index: 10;  
}
```

Thanks for listening

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