

INTRODUCTION TO NODEJS AND SERVER-SIDE CODING



Overview

2

- Introduction to NodeJS
 - ▣ Background on NodeJS
- Where do we run it?
- Server side coding
- What does the code look like?

Background

3

- **V8** is an open-source **JavaScript engine** developed by Google. It's written in C++ and is used by the Google Chrome Browser
- Short video on V8
 - <http://www.youtube.com/watch?v=hWhMKalEicY>
- **Node.js** (Node) runs on the V8 engine
 - ▣ It's not a programming language – it's a runtime environment
- Write it in JavaScript
 - ▣ Most web dev's are used to writing in JavaScript
- Good News - It's just more JavaScript!

Background cont.

4

- It was created by **Ryan Dahl**.
 - ▣ Presented at JSConf 2009 – standing ovation
- You have downloaded it already!
- It is **Open Source**. It runs on both Linux, Mac and Windows operating systems.

Node.js® is an open-source, cross-platform JavaScript runtime environment.

Download for Windows (x64)

16.18.0 LTS

Recommended For Most Users

18.11.0 Current

Latest Features

[Other Downloads](#) | [Changelog](#) | [API Docs](#) [Other Downloads](#) | [Changelog](#) | [API Docs](#)

For information about supported releases, see the [release schedule](#).

Introduction

5

- In simple terms Node.js is '**server-side JavaScript**'
- In not-so-simple words, Node.js is a high **performance network applications** application, well optimised for high concurrent environments
- In 'Node.js', '.js' doesn't mean that it's solely written in JavaScript. It is 40% JS and 60% C++.
- You can write modules for node in C++

Where do we run it?

6

- ❑ `<script></script>`
 - ❑ It's not for the browser



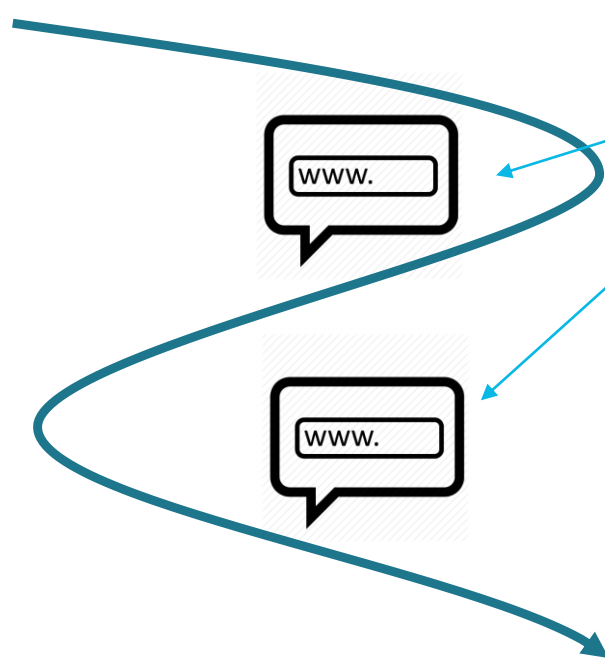
- ❑ Doesn't run on the user's laptop/phone or desktop computer!
- ❑ Where does it run?
 - ❑ On the server!

What's the server?

7



Bounces through the internet



Request messages from the client

Firebase



Don't we already have this?

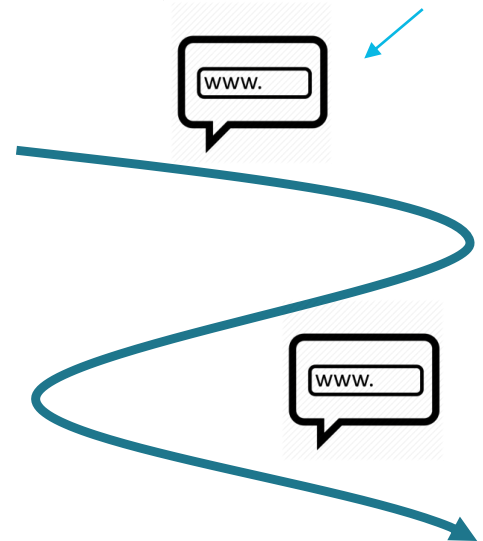
8

- Yes but at the minute all Firebase is doing is returning our static HTML pages
 - ▣ Our current HTML, CSS, and JavaScript is static, once we deploy it, it doesn't change
- Things we can't do right now
 - ▣ Save some user data to a database?
 - ▣ Register a user and store their username and password
 - ▣ Check if a user is logged in and if so allow them access to a restricted section of the site

Server side coding

9

- In order to add the type of functionality listed on the previous slide we need to write “server side code”
 - ▣ Sometimes called backend code or a business logic layer
- It’s just code that runs when the server receives a request from a client



What does the code look like?

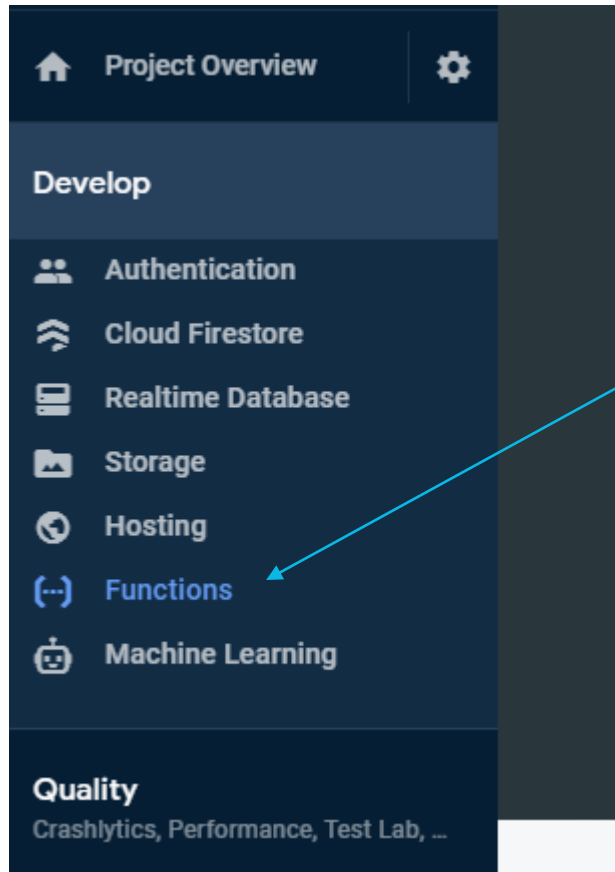
10

```
app.js
1  var msg = 'Hello World';
2  console.
3
```

- assert (method) Console.assert(test?: boolean, message?: string, ..
- clear
- count
- debug
- dir
- dirxml
- error
- group
- groupCollapsed
- groupEnd
- info
- log

Where does it run on Firebase

11



Summary

12

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