Why Node.js?

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$ whoami

remoteinterview.io

Technical Co-founder

Candidate Summary

Disable Candidate Access

Task 1 | Task 2 | Task 3 | +

Replace the string
"The quick brown fox jumps over the lazy dog"
with the string
"The1 quick2 brown3 fox4 jumps5 over6 the7 lazy8 dog9"

```javascript
1  var str = "The quick brown fox jumps over the lazy dog";
2  var splits = str.split(" ");
3
4  var output = "";
5
6  for (var i in splits)
7    output += splits[i] + (~~(i)+1) + " ";
8  print(output);
```

Video | End Call | Audio

JavaScript ▼ | Run | 🔍 | 🔍 | ⤢

👎 2 | 👍 4

The1 quick2 brown3 fox4 jumps5 over6 the7 lazy8 dog9

George | Panel

Friday, 5:05 pm - 14th March 2014

Great work!

Me:
Moving on to next task.

George Marshall:
Will the input be trimmed?

Me:
Yes :)

George is typing...

Type Your Message Here...

JavaScript

JavaScript

★ Designed to add interactivity to HTML pages.

★ Designed for non-programmers.

★ Most popular scripting language on the internet.

★ Works in all major browsers.

Early 2000s

★ AJAX

★ Single-page apps

★ JS Widgets

MOAR JAVASCRIPT!

Client-side

JavaScript
HTML
CSS

Server-side

PHP
ASP
Python
+
SQL?
...

Server.php

```php
<?php
/**
 *
 * Handles authentication, registering, resetting passwords, forgot password,
 * and other user handling.
 *
 */

// Redirect to https login if forced to use SSL
if ( force_ssl_admin() && ! is_ssl() ) {
    if ( 0 === strpos($_SERVER['REQUEST_URI'], 'http') ) {
        wp_redirect( set_url_scheme( $_SERVER['REQUEST_URI'], 'https' ) );
        exit();
    } else {
        wp_redirect( 'https://' . $_SERVER['HTTP_HOST'] . $_SERVER['REQUEST_URI'
        exit();
    }
}

/**
 * Output the login page header.
 *
 * @param string    $title    Optional. WordPress login Page title to display in
 *                            Default 'Log In'.
 * @param string    $message  Optional. Message to display in header. Default emp
 * @param WP_Error $wp_error Optional. The error to pass. Default empty.
 */
function login_header( $title = 'Log In', $message = '', $wp_error = '' ) {
    global $error, $interim_login, $action;

    // Don't index any of these forms
    add_action( 'login_head', 'wp_no_robots' );

    if ( wp_is_mobile() )
        add_action( 'login_head', 'wp_login_viewport_meta' );

    if ( empty($wp_error) )
        $wp_error = new WP_Error();

    // Shake it!
```

Client.js

```javascript
/**
 * Functions file
 *
 * Contains handlers for navigation, accessibility, header sizing
 * footer widgets and Featured Content slider
 *
 */
( function( $ ) {
    var body     = $( 'body' ),
        _window = $( window ),
        nav, button, menu;

    nav = $( '#primary-navigation' );
    button = nav.find( '.menu-toggle' );
    menu = nav.find( '.nav-menu' );

    // Enable menu toggle for small screens.
    ( function() {
        if ( ! nav.length || ! button.length ) {
            return;
        }

        // Hide button if menu is missing or empty.
        if ( ! menu.length || ! menu.children().length ) {
            button.hide();
            return;
        }

        button.on( 'click.twentyfourteen', function() {
            nav.toggleClass( 'toggled-on' );
            if ( nav.hasClass( 'toggled-on' ) ) {
                $( this ).attr( 'aria-expanded', 'true' );
                menu.attr( 'aria-expanded', 'true' );
            } else {
                $( this ).attr( 'aria-expanded', 'false' );
                menu.attr( 'aria-expanded', 'false' );
            }
        } );
    } )();

    /*
```

JSON: PHP + MySQL

Client: JSON

```
1▾ var formData = {
2       'name' : "Jon"
3       'email': "iknownothing@got.com"
4  };
```

PHP: php_array

```
1▾ if (empty($_POST['name']))
2▾     $errors['name'] = 'Name is required.';
3
4▾ if (empty($_POST['email']))
5▾     $errors['email'] = 'Email is required.';
6  |
```

DB: SQL Query

```
1  INSERT INTO USERS (ID,NAME,EMAIL)
2  VALUES (1, 'Jon', "iknownothing@got.com");
```

Too Much Work!

Enter Node.js

★ Shared Code (modules / classes / functions)

★ Less Context Switching Cost

★ It's Fast!

★ JSON!!!

```
1 ▾ class Person(){
2 ▾     constructor(firstName, lastName){
3           this.firstName = firstName;
4           this.lastName = lastName;
5       }
6
7 ▾     fullName(){
8           return this.firstName + " " + this.lastName;
9       }
10  }
```

JSON: Before JavaScript (PHP)

Client: **JSON**

```javascript
var formData = {
    'name' : "Jon"
    'email': "iknownothing@got.com"
};
```

PHP: **php_array**

```php
if (empty($_POST['name']))
    $errors['name'] = 'Name is required.';

if (empty($_POST['email']))
    $errors['email'] = 'Email is required.';

```

DB: **SQL Query**

```sql
INSERT INTO USERS (ID,NAME,EMAIL)
VALUES (1, 'Jon', "iknownothing@got.com");
```

JSON: After JavaScript

Client: **JSON**

```
1▾ var formData = {
2       'name' : "Jon"
3       'email': "iknownothing@got.com"
4  };|
```

Node.js: **JSON**

```
1▾ var formData = {
2       'name' : "Jon"
3       'email': "iknownothing@got.com"
4  };|
```

MongoDB: **JSON**

```
1▾ var formData = {
2       'name' : "Jon"
3       'email': "iknownothing@got.com"
4  };|
```

Package Manager

★   Install anything using one command.

★   Thousands of Packages.

★   Huge community!
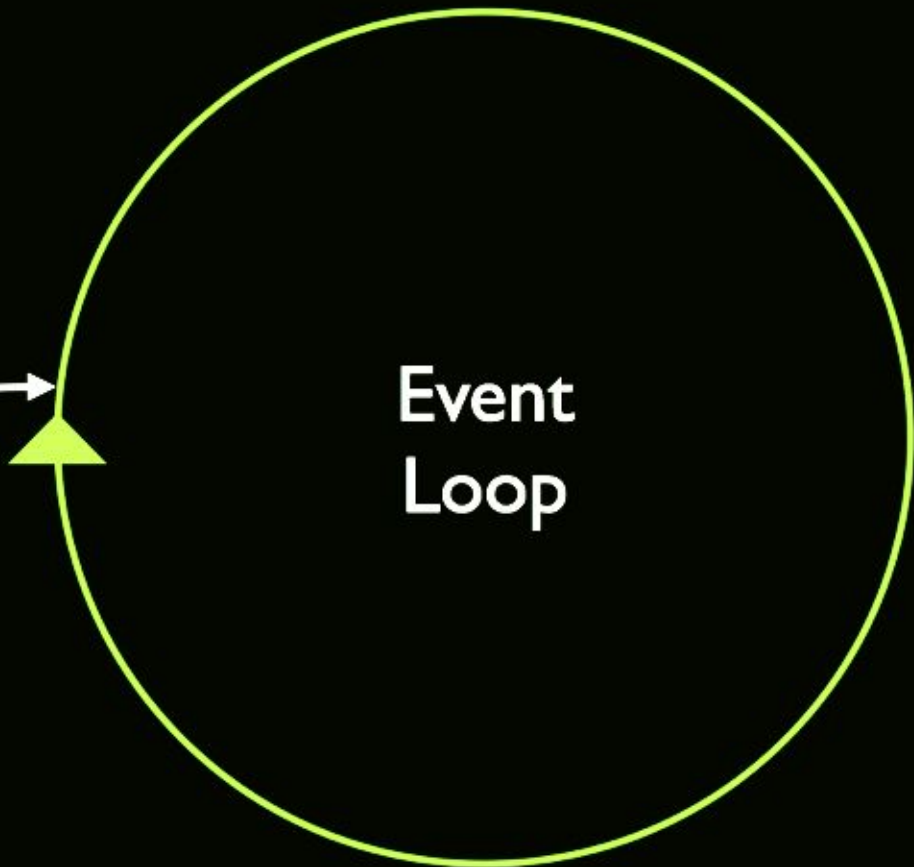
30-50%

Time saved when using Full-stack JavaScript

How it works?

★   Uses an event-driven, non-blocking I/O model.

★   All requests handled by the Main Single Thread.

★   Asynchronous I/O operations.

★   Each request handled sequentially.

Hello World in PHP

```php
<?php
    echo 'Hello World!';
?>
```

Hello World in Node.js

```
1  var http = require('http');
2 ▾ http.createServer(function (req, res) {
3
4 ▾     res.writeHead(200, {'Content-Type': 'text/plain'});
5         res.end('Hello World!');
6
7  }).listen(3000, '127.0.0.1');
```

```
~$ node app.js ▮
```

Conclusion

★ Shared Code (modules / classes / functions)

★ Less Context Switching Cost

★ It's Fast!

★ JSON!!!

That's it!

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