**JavaScript Checklist (4 Days)**

**Introduction Video:** <https://www.youtube.com/watch?v=W6NZfCO5SIk>

**An introduction**

* An Introduction to JavaScript
* Code editors
* Developer console

**JavaScript Fundamentals**

* The modern mode, "use strict"
* Variables
* Data types
* Interaction: alert, prompt, confirm
* Type Conversions
* Basic operators, maths
* Comparisons
* Conditional branching: if, '?'
* Logical operators
* Nullish coalescing operator '??'
* Loops: while and for
* The "switch" statement
* Functions
* Function expressions
* Arrow functions, the basics

**Code quality**

* Debugging in the browser
* Coding Style
* Comments
* Polyfills and transpilers

**Objects: the basics**

* Objects
* Object references and copying
* Garbage collection
* Object methods, "this"
* Constructor, operator "new"
* Optional chaining '?.'
* Object to primitive conversion

**Data types**

* Methods of primitives
* Numbers
* Strings
* Arrays
* Array methods
* Iterables
* Map and Set
* WeakMap and WeakSet
* Object.keys, values, entries
* Destructuring assignment
* Date and time
* JSON methods, toJSON

**Advanced working with functions**

* Recursion and stack
* Rest parameters and spread syntax
* Variable scope, closure
* The old "var"
* Global object
* Function object, NFE
* The "new Function" syntax
* Scheduling: setTimeout and setInterval
* Decorators and forwarding, bind/call/apply

**Object properties configuration**

* Property getters and setters

**Prototypes, inheritance**

* Prototypal inheritance
* F.prototype

**Classes**

* Class basic syntax
* Class inheritance
* Static properties and methods
* Private and protected properties and methods
* Extending built-in classes
* Class checking: "instanceof"

**Error handling**

* Error handling, "try...catch"
* Custom errors, extending Error

**Promises, async/await**

* Introduction: callbacks
* Promise
* Promises chaining
* Error handling with promises
* Promise API
* Microtasks
* Async/await

**Modules**

* Modules, introduction
* Export and Import
* Dynamic imports

**DOM and Event Handling**

* DOM tree
* Window sizes and scrolling
* Introduction to browser events
* Event delegation
* Event Bubbling and Capturing
* Mouse events
* Keyboard events
* Scrolling events

Once you’re done with this checklist, we highly recommend you do these exercises: <https://www.w3schools.com/js/exercise_js.asp?filename=exercise_js_variables1>

If you can, also have a look at the following article: <http://javascriptissexy.com/16-javascript-concepts-you-must-know-well/>

If you love to learn by watching video tutorials, you can follow this:

LinkedIn courses:

<https://www.linkedin.com/learning/javascript-essential-training/javascript-the-soil-from-which-the-modern-web-grows?autoplay=true&u=81641906>

**Promises / Asyns await Exercises:**

* Write a function that takes three numbers as arguments and returns their sum after 2 second using a callback function.
* Write another function that does the same using Promises.
* Write another function that does the same using async await.
* Write a function that do these operations synchronously after 1 second each using callback:

- getUser() -> fetches a user like {id: 1, name: 'John Doe'}

- getOrders() -> fetches list of orders done by user fetched above [{orderId: 1, userId: <userId>}]

- getOrderDetails() -> using orderId, fetch order details as {orderId: <orderId>, description: 'Demo product details'}

- renderOrderDetails() -> prints fetched orders on console.

* Now identify the loopholes of this approach and try to address them using Promises.
* Now try to do above problem again using async/await.