



Javascript



Javascript is a scripting language that was used primarily on the client-side web browsers.

Node JS is an addition to javascript, which is a javascript runtime environment that can handle server-side scripting too.



LET'S TRY EXPLORE THE WORLD OF JAVASCRIPT



You may wish to explore on your own: V8 engine





First js engine ?

SpiderMonkey - Developed by Brendan Eich at Netscape Communications





SNP



We'll be exploring javascript from the Client-side perspective here on this workshop, as the workshop is based on the Vanilla javascript

Vanilla Javascript - It's a term that refers to the javascript without the involvement / use of any other library or framework.



Environment setup

Finally, we're at the stage of setting up the environment so that we can use javascript on our own system.

Tools that are used throughout this training are:

1. VS code as a code editor
2. Google Chrome as a web browser

That's it for now, at least 😊



Did you remember when we were kids, we used to learn simply by agreement on the basis of things the way it is present, like when learning A, B, C, D, we didn't even ask the question how those things existed or why are we learning, we just started it and based on that learning, we're now able to recognize the English alphabets, isn't that somewhat familiar kind of situation with most of us?

Digging into the browser console

We'll be exploring console on the web browser today and get some exposure with it.

```
console.log()
```

```
console.clear()
```

Hungry for more ?

```
console.error()
```

```
console.warn()
```

```
console.dir()
```

Variables

A Variable is simply a name given to the memory location to store data.

Note: a variable is an entity that can change but at a time, it can hold only one value.

```
var fullName = 'firstname lastname';
```

```
var isNewToJavascript = true;
```

```
var favoriteNumber = 1;
```

```
var htmlElementReference = null;
```

```
var userDetails;
```

Constant

Constant is like a variable whose value cannot be changed.

```
const SUPPORTED_DEVICE = 'android';  
const PERMANENT_ADDRESS = 'Temple St.';
```





Data types in javascript

● Primitives

- number
- BigInt
- symbol
- string
- boolean
- undefined
- null

● Objects



Operators in javascript

We'll be exploring operators in javascript

Assignment operators

Logical operators

Comparison operators

Arithmetic operators

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Conditionals in javascript

we'll be learning conditionals in javascript using if statement and get familiar with it

A thing to keep note is that: if block runs when the condition is true (IMP. true is a boolean value)



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Switch case

We'll explore the switch case now and gain some practical understanding of it, and see where we can use it.



Loops in javascript

We'll gain some ideas related to loop, and see different types of loops in javascript: for, while, do...while loops



Functions in javascript

we'll look at the function which is used to group code together.

we'll look at the function that returns a value.

we'll look at the function by passing an argument through parameters.

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Immediately Invoked Function Expression (IIFE)

A function that is created on the fly, and gets run/executed at the same time.



Anonymous function

A function that has no name is termed an anonymous function



References (is that something linked with Object ?)

Objects can be referenced by a variable and any changes that we make with the help of the reference variable also get reflected on the object that we made changes to.



Difference between function statement and function expressions.

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Object-oriented Programming using Javascript

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Object

In javascript, object is represented syntactically using something like { key : value } format.

In fact, an Object is a grouped form of key/value pair, and can also contain methods (functions) where value can be of any data type, and value is associated with the key, and key can be used to access the value, in general.



Constructor function

It is a function like any other function, but it's termed as a constructor because intentionally we use this function to create an object/instance.

Note: It's a convention to write the first letter of the function name in uppercase while creating function constructors.



DOM (Document Object Model)

It's an Object model for the HTML elements.

It's actually a standard for manipulating HTML document.

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Testing some of the cool stuffs using DOM

- document.title
- document.charset
- document.URL



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