

JAVASCRIPT

BEFORE WE GET STARTED

**MAKE SURE YOU READ THROUGH THE GREETING,
ENVIROMENT, HTML SECTION AND CSS SECTION**

WHAT IS JAVASCRIPT ?

- **JavaScript** is a **scripting language** that enables you to **create dynamically to updating** content, control multimedia, animate images, ... in Web pages. **JavaScript** is the **programming language**, interpreted by the browser.
- **JavaScript** is used in **desktop, server and database either**.
- **JavaScript** is **not Java**.
- JavaScript was invented by Brendan Eich in 1995, and became an ECMA standard in 1997.

HOW TO USE AND SYNTAX

- **JavaScript** can be used in HTML by **using script element** or **external** file like CSS with **.js** file's extension.
- The **<script> </script>** tag can be used in **<head> or <body>** section of HTML page, **or both of them.**
- In external file Javascript, no need to declare script tag, have to declare script link to file.

```
<!DOCTYPE html>
<html>

<head>
<script>
function myFunction() {
    document.getElementById("demo").innerHTML = "Paragraph
changed.";
}
</script>
</head>

<body>

<h1>A Web Page</h1>
<p id="demo">A Paragraph</p>
<button type="button" onclick="myFunction()">Try it</button>

</body>
</html>
```

JAVASCRIPT OUTPUT

- First, **JavaScript** can be used **by the element**, **id** or **class** of HTML to **manipulate** the **content of web pages**.
- Using **document.getElementById('id-name')** to get the “point” on HTML DOM by ID.
- Writing into an HTML element, using **innerHTML** to defines the HTML content.
- Writing into the HTML output, using **document.write()** to rewrite into DOM.
- Writing into an alert box, using **window.alert()** to call a modal display data.
- Writing into the browser console, using **console.log()** to display data in console tab of Dev Tools.

EXERCISE 1

1. Using inner HTML to change content of h1 element below to “Hello Aptech PHP”:

```
<h1 id="js-h1">Hello World</h1>

<script>
  document.getElementById('js-h1').innerHTML = 'Hello Aptech PHP';
</script>
```

2. Using window.alert and console.log to display your name :

```
<script>
  window.alert('Nam NH');
  console.log('Nam NH');
</script>
```

JAVASCRIPT VARIABLES & OPERATORS

- **Variables** are **containers** for **storing data** values.
- Using **var** keyword to declare variables, then **assign** value to that variable or just declare it with none value.
- **JavaScript** Arithmetic Operators are used to perform arithmetic on **numbers**, using : addition (+), subtraction (-), multiplication (*), division (/), ...
- **JavaScript** String Operators **use + operator** to add (**concatenate**) strings.

```
<script>
  var number = 10;
  var sentence = "Hello World";
</script>
```

```
<script>
  var first = 'hello';
  var second = 'world';
  var greeting = first + ' ' + second;
  // Result of greeting is : Hello World
</script>
```

JAVASCRIPT FUNCTIONS

- A **JavaScript function** is a block of code designed to perform a particular task.
- A JavaScript function is executed when “something” invokes it (calls it).

```
<p id="js-paragraph">Hello World</p>

<button onclick="changeParagraphContent()">Change Content</button>

<script>
  function changeParagraphContent() {
    var target = document.getElementById('js-paragraph');
    return target.innerHTML = "Do It !";
  }
</script>
```

- Function will execute when an event occurs (user clicks a button), invoked (call) from JavaScript code or automatically.

JAVASCRIPT EVENTS

- **HTML events** are “**things**” that **happen** to HTML elements.
- When JavaScript is used in HTML pages, **JavaScript** can “**react**” on these events.
- There are some HTML events : **onchange, onclick, onmouseover, onmouseout, onkeydown, onload**.
- Event handlers can be used to **handle**, and verify, user input, user actions and browser actions.
- Many different methods can be used to let JavaScript with events.

TIME TO PRACTICE