Module : Javascript programming

In this training, you will learn to program in JavaScript and create interactivity on a web page: syntax, functions, events, handling the DOM, forms, AJAX calls. This training is the entry point to client side programming.

Prerequisites : HTML5 language, algorithms concepts.

OUTLINE

Javascript - introduction, tools, code

Client-server architecture
JS: origin, usage, DHTML
Structure of a script
Tools: IDE, Emmet, etc.
Lab: object and event oriented language
Lab: Javascript console
Lab: Debugging

Master Javascript syntax

Constants and variables
Lab: data types and typeof
Lab: Create arrays
Dialogs : alert, prompt, confirm
Operators in Javascript
if and switch structures
while and do..while loops
for, for..in and for..of loops

Ways to take this course: Online Instructor Led
Online self-paced
Video On Demand

Video conference tool : ZOOM

Duration : 21 H (3 days)

How to create functions

Defining a function
Use a function
Some predefined functions
The scope of variables
Parameter passing
Return multiple values
Functions are typed
ES6 Functions

OOP, JS Events and Exceptions

Classes, Objects and OOP
Attributes and Methods
Overview of manipulated objects
String, Date, Number, Math classes
Array, RegExp classes
Create your own objects
Constructor and prototype
Add attributes and methods
Encapsulation, inheritance
Events, bubbling, examples
The event handler
Javascript pseudo-protocol
addEventListener, onEvent
Using anonymous functions
DOMLoadedContent or onload
Exception handling

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OUTLINE

DOM: selection, modify tree

Select elements using DOM 0
The HTMLElement
class Lab: use getElementById
Using getElementByTagName
Using getElementByName
Using getElementClassName
TP: HTMLElement properties
The querySelector API
Using querySelector()
Using querySelectorAll()
Discover the Node interface
Node: nodes, types, methods
Lab: using the Node interface

How to process forms

HTML5 forms
form, forms[ ], elements[ ] objects
Input area, textarea, password
Radio buttons. Checkboxes
The drop-down menus. Drop-down lists
Date and time fields
Fields: color, range, datalist
Field Validation
Buttons: button, submit
Retrieve entries and data
Submit a form

Browser Objects

Browser Object Model (BOM)
The browser and the document
The screen and window objects
Create pop-ups
Location and history objects
Image object and its properties
Lab: using the Image object
Managing time: timer, delay
Lab: using timer and delay

Master Ajax calls

JSON notation
What is AJAX?
XMLHttpRequest object
XHR2 methods and attributes
Lab: Ajax GET requests
TP: Ajax POST requests
Most common events
Using FormData in a form
Uploading a file via Ajax
Lab: CRUD on a MySQL database
Ajax cross domain (CORS)