SFEIR Institute │ JSFOND

JavaScript Fundamentals

2jours / 14h

Target audience

Developers, integrators, software architects, technical project managers

Course Outline

1 Introduction to JavaScript

- History of web technologies
- JavaScript vs ECMAScript
- Case studies: front end, back end, full-stack, embedded,...
- Modern JavaScript development environment
- JavaScript runtime environments, memory management, event loops

Workshops:

- Installation of a modern development environment
- Quick wins: a first JavaScript program

2 Fundamentals of JavaScript

- Source code and usual conventions
- Language types: Undefined, Null, Boolean, String, Symbol, Number, and Object
- Grammar, expressions, identifiers, operators
- Declaration of variables
- Literal values
- Basic instructions: conditional statements, iterations, stop, continue

Workshops:

- Writing simple JavaScript programs in frontend or backend environments

3 Functions
Definition of functions
Function expressions, immediately invoked, internal, closures
The keyword 'this'
Arrow Functions
Functional programming
Workshops:
Creation and implementation of functions, procedural and functional approaches

4 Objects and classes

- Object-oriented approach in JavaScript and prototypes
- Cross properties of objects
- Property attributes and descriptors
- Constructor functions
- Class definitions

Workshops:

- Implementation of different methods of defining and creating objects

5 Standard built-in objects

- The Global object
- Numbers
- Dates
- Text management
- Tables and indexed collections
- Other collections: Map and Set
- Other fundamental objects: Object, Function, Boolean, Symbol, Error

Workshops:

- Use of standard built-in objects

6 Error handling

- Console object
- Error object and throw, try/catch instructions

- Debug your JavaScript code

Workshops:

- Error handling within a JavaScript application
- Implementation of a debugger in front and back environment

7. Special features of JavaScript
    - Scopes
    - Hoisting
    - Strict mode
    - Other notable features

Workshops:

- Anticipating the peculiarities of JavaScript