

# JavaScript – Advanced

## Description

The Advanced JavaScript training is designed for developers who want to strengthen their skills and write modern, robust, and efficient code. Tailored for those already familiar with the basics, it provides an in-depth understanding of the language's internal mechanisms and the best practices used by experts. The goal is clear: to equip you with the knowledge to create reliable JavaScript libraries and applications that work seamlessly across browsers.

## Expertise aligned with modern development

This JavaScript training goes beyond the technical aspects of the language. It also emphasizes modern coding strategies such as the DRY approach, the use of JSON, and best practices to avoid global variables. You will learn how to structure your applications effectively and sustainably, while improving their performance and readability. By the end of this course, you will have all the tools to tackle complex projects, collaborate efficiently within a team, and produce long-lasting code that meets professional development standards.

## Course Content

### Module 1: Advanced concepts for objects and functions

- Functions are objects
- First-class functions
- Invoking functions
- Creating JavaScript objects
- Understanding this
- Examining this with normal function invocation
- Normal function invocation using strict mode
- Examining this with method invocation
- Understanding prototypes
- Understanding function prototypes
- Using call and apply on functions
- Using the bind method
- Invoking functions as constructors: the magic of new
- Constructor invocation and the value of this
- Higher-order functions, callbacks, and the problem with this
- Arrow functions

### Module 2: Think like a programmer: DRY coding

- Abstraction and DRY coding

### Module 3: Working with objects

- Detecting properties on objects
- Modifying property attributes
- Making objects immutable
- ES6 object features

#### **Module 4: The power of functions**

- Immediately Invoked Function Expressions (IIFE)
- Understanding closures
- Avoiding global variables
- Using the namespace pattern

#### **Module 5: Think like a programmer: the module pattern**

- The module pattern Part 1
- The module pattern Part 2
- The module pattern Part 3
- The module pattern Part 4

#### **Module 6: Working with data: JavaScript objects and JSON**

- JSON basics
- Creating a JSON file
- Loading a JSON file using XMLHttpRequest
- Testing on a server

#### **Lab / Exercises**

- During the course participants are encouraged to actively participate in the learning experience by running example files during lectures and performing coding challenges during labs
- Each lab session allows you to compare your solution to the instructor's

#### **Documentation**

- Digital courseware included

#### **Participant profiles**

- Experienced front-end developers
- Full-stack developers using JavaScript daily
- Software engineers specialized in web applications

#### **Prerequisites**

- Participants should have followed or have knowledge covered by: JavaScript - Fundamentals

#### **Objectives**

- Master advanced management of functions and objects
- Apply DRY principles to optimize code
- Leverage advanced object properties and features
- Implement the module pattern to structure code
- Manipulate and exchange data with JSON

#### **Description**

JavaScript Training - Advanced

**Niveau**

Avancé

**Classroom Registration Price (CHF)**

1600

**Virtual Classroom Registration Price (CHF)**

1500

**Duration (in Days)**

2

**Reference**

JAS-02