SETC Training Corporate Logo

# JavaScript Training: Mastering Objects and Advanced Techniques (JSADVAN, 5 jours)

## Description

The course Advanced Concepts (JavaScript Training) covers object-oriented programming with JavaScript and explores advanced techniques such as asynchronous calls, promises, workers and more. The training starts with advanced JavaScript concepts such as classes, inheritance, and polymorphism. You are taught about dynamic HTML using JavaScript and the DOM and the of JSON and Ajax for partial data loading. The course continues with a detailed discussion on the consumption of micro-services using asynchronous calls. The discussion starts with a look at the anatomy of asynchronous calls including events and event handlers. The use of callbacks for failure and success handling is explored in detail including the use of the XMLHttpRequest object and the use of promises. We also explore JavaScript workers while we delve into the proper implementation of all of these concepts using JavaScript objects and enterprise data patterns. This course teaches you to do just about anything you want with JavaScript

## Tarifs

- Tarification: $3,350/person
- Rabais de 10% lorsque vous inscrivez 3 personnes.

## Plan de cours

JavaScript Fundamentals Review

- About JavaScript Inclusion in an HTML Page
- About Scope and JavaScript
- Creating JavaScript Functions
- Declaring JavaScript Variables: var versus let
- The Power of the Function Pointer
- Manipulating HTML with JavaScript

Creating Classes with JavaScript

- Exploring the Many Forms of Functions
- About the Relationship between Objects and Classes
- About Prototypes and JavaScript Objects
- Creating Classes with JavaScript
- How to Declare Private Member Variables and Functions
- implementing Object Properties
- Understanding the Meaning of this and self
- Writing a Constructor
- Calling an Object from HTML

Creating Subclasses with JavaScript

- Exploring Generalizations and Inheritance
- The Magical Polymorphism
- The Meaning of this and self In A Subclass
- Creating Subclasses and Calling Constructors
- Calling Subclass Methods and Properties
- How Everything Inherits from Object
- Putting It All Together

Managing Errors and Using Common JavaScript Objects

- The Difference between Arrays and Dictionaries
- Understanding Collection Classes: Arrays and Maps
- Extending JavaScript Objects: Array and Map

The Magic of Iterable: Looping through a Collection
Adding and Removing Collection Items
Creating Custom Exception Objects
Creating A Custom Error Manager
Using Inheritance and Polymorphism to Generalize Error Collection
Organizing Code with Modules
The Need for Code Packages in JavaScript
Creating A Module in Vanilla JavaScript
The Many Forms of Export
The Many Forms of Import
About Modules and Scope
Exporting Functionality to HTML
Application Architecture and Invoking Remote Assets
The Anatomy of a JavaScript Web Call
What are Micro-Services and Why Are They Important?
Exploring JSON and the XMLHttpRequest Object
About Serializing Objects to JSON
Calling Web Assets Synchronously
Interacting with HTML
Making Asynchronous Calls
Understanding Events and Event Handlers
The Anatomy of an Asynchronous Call: Calls and Callbacks
Calling micro-services using XmlHttpRequest
Implementing Callback Functions for Success and Failure
Creating the Object Library to Store Results
Generating Dynamic HTML Content
Exploring Load Logic
Putting It All Together in the HTML
Using Promises
About Asynchronous Calls and the Promise Pattern
Creating a Promise with Success and Failure Callbacks
About Promise Chaining
About Promise Error Handling
Using Promises to Make Everything Asynchronous
Integrating Call Semantics through Objects
Using Workers
The Need for Worker Threads in JavaScript
Understanding the Architecture of Worker Communications
About postMessage and onMessage
Implementing the Worker: onMessage and postMessage
Implementing the Client: onMessage and postMessage
Starting the Worker, Getting Updates and Getting a Result
Handling Worker Errors
Making Asynchronous Calls with Workers
Making Authentication Calls and Cleaning up
Re-Factoring Duplicated Code
Cleaning up the HTML
Passing JSON Data to Micro-Services through Serialization
About Data Visibility in JSON Serialization
Exploring Interactions with Differing Platforms

Wrapping Things up!