

# Course : Modern JavaScript (ES6 to ES2025)

## anticipate application migration

**Practical course - 3d - 21h00 - Ref. SPT**

**Price : 1760 € E.T.**

JavaScript has become an essential language in web and mobile development, both client-side and server-side, with Node.js in particular. This training course will enable you to start using the new features of the latest EcmaScript versions (2015, 2016, 2017) in production today.

## Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Discover new JavaScript syntax
- ✓ Mastering new APIs
- ✓ Using ES6 in production
- ✓ Anticipating the evolution of Front-End frameworks
- ✓ Preparing for new JavaScript development methods

## Intended audience

Experienced JavaScript developers, architects and project managers.

## Prerequisites

Good knowledge of JavaScript (ES5) is required. Basic knowledge of Web components.

## Practical details

### Hands-on work

Application development and porting to ES6 modules.

### Teaching methods

Development. Migration of existing applications. 50% theory illustrated by 50% practice.

## Course schedule

### PARTICIPANTS

Experienced JavaScript developers, architects and project managers.

### PREREQUISITES

Good knowledge of JavaScript (ES5) is required. Basic knowledge of Web components.

### TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

### ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.

Participants also complete a placement test before and after the course to measure the skills they've developed.

## 1 From JavaScript ES5 to ES2017

- EcmaScript: evolution and "roadmap".
- ES5, a reminder of best practices. Establish programming rules.
- ES5 "use strict" and lesser-known methods.
- APIs from the JavaScript community.
- Current support for ES6: compilers, polyfills, server browsers.
- Environment and tools for developers.

### Hands-on work

Vous programerez, à partir d'exemples fournis, un micro framework applicatif JavaScript.

## 2 Fundamental syntactic changes

- Constants and block variables. Unstructured assignment.
- Character strings: multiline, template, formatting.
- Function, default parameters, operators "rest/spread".
- Arrow Function": lexical scope. Uses.
- Generator function : "yield" and "generator object".
- Iterator function : "iterator".
- Literal object: evolution.

### Hands-on work

Code migration to ES6.

## 3 OOP, new features for object-oriented design

- Class models and inheritance. Static methods.
- Creation of "proxy". Design pattern.
- New types: Set, Weakset, Map, Weakmap.
- Native inheritable objects.

### Hands-on work

Code organization and structuring for a class-based Object approach. Review of "Design Pattern".

## 4 New JavaScript APIs with ES6

- Promise, async/await: asynchronous processing management.
- Object API: revisiting methods.

### Hands-on work

Development of an Ajax data service using the Promise API.

## 5 JavaScript modules

- Asynchronous Module Definition or CommonJS.
- Native module management system.
- Dependency management and resolution.
- Dynamic loading.

### Hands-on work

Structure your development by modules.

## TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

## TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

## ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at [psh-accueil@orsys.fr](mailto:psh-accueil@orsys.fr) to review your request and its feasibility.

## 6 Production start-up

- Strategy: "transpiler", "package manager" and module system.
- Choice of "transpiler": presentation of solutions (Tracer, Babel).
- Typing: implementation of TypeScript, Flow.
- Why "package" your code? Advantages and solutions.
- Package creation with npm, bower and jspm.
- Choose between RequireJS, Browserify, WebPack and SystemJS.
- Interaction with other tools (linting, testing, etc.).

### Hands-on work

Package creation and integration in development.