Publication date : 04/12/2024

Course : JavaScript, mastering object-oriented programming

Practical course - 3d - 21h00 - Ref. JAO
Price : 2150 CHF E.T.

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You will master the mechanisms of Object programming in JavaScript. You'll study its Object model in detail, implementing in particular the concept of classes and inheritance. You'll also discover the advanced mechanisms of JavaScript and the benefits of integrating it with TypeScript.

Teaching objectives

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

- Understanding the particularities of object-oriented programming with JavaScript
- Create classes with constructors and properties
- Implementing the inheritance principle
- Linking TypeScript with JavaScript syntax

Intended audience

Web developers and project managers.

Prerequisites

Programmers with basic JavaScript knowledge.

Course schedule

1 Class overview

- A reminder of OOP.
- The class mechanism.
- Definition of public and private properties and methods.
- Template class creation.
- Understand the prototype mechanism, __proto__.
- Object and typing of TypeOf, instanceOf objects.

PARTICIPANTS

Web developers and project managers.

PREREQUISITES

Programmers with basic JavaScript knowledge.

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.

2 Constructor and properties

- Understand builder mechanisms.
- Constructor based on Object.create.
- Literal builder.
- Scope safe principle.
- Creation by singleton, pattern.
- Property creation methods, property scope (private, public, static).
- Scope of methods, polymorphism mechanisms.
- Preserve and manage Context this.

Hands-on work

Implement the different methods of class creation.

3 Inheritance concepts

- Understand inheritance mechanisms in JavaScript.
- Single, multiple inheritance.
- Inheritance by prototype.

Hands-on work

Creating a simple inherited class with and without prototypes.

4 Understanding the Object type

- Object literal creation, with a constructor.
- Create properties and methods.
- Object duplication by value, reference.
- Managing the this context with Object.apply and Object.call.
- Demystify Object properties.
- Modules: Object, AMD.

Hands-on work

Object-based class and factory construction.

5 Advanced JavaSript mechanisms

- Variable declaration, typing, nomenclature, DOM access.
- Understanding the Hoisting mechanism.
- Promises and Asynchronous Programming.
- Ajax exchange of structured objects and serialization of multiple formats (text, image, JSON).
- Static namespace creation, object namespace, module pattern, proxy namespace.
- Anonymous functions, closures.
- Understand callback principles.

Hands-on work

Management of local storage solutions to store images, objects, etc.

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 to review your request and its feasibility.

6 Why use TypeScript?

- Data typing.
- Constructors, instances (method and property), interfaces.
- Class and object creation (private, public, static...).
- Getters, Setters.
- Inheritance, overload.
- Context management.
- Polymorphism.

Hands-on work
Creation of an object programming project in Typescript, using Node.js solutions.

Dates and locations

REMOTE CLASS
2026 : 18 May, 16 Sep.