

Course : Node.js, server-side JavaScript programming

Practical course - 4d - 28h00 - Ref. NJS

Price : 2580 CHF E.T.



4,4 / 5

BEST

You will learn to develop server applications with Node.js. You'll implement the concepts of event-driven and asynchronous programming, modularity and routing (Express). You'll also use Node.js APIs and ensure the persistence of your data in a NoSQL database (MongoDB).



Teaching objectives

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

- ✓ Installing and configuring a Node.js server
- ✓ Apply the concepts of event-driven and asynchronous programming
- ✓ Developing a web application with the Express Framework
- ✓ Handling the Node.js API
- ✓ Managing persistence in a NoSQL database with an ODM

Intended audience

Developers, technical architects and Web project managers.

Prerequisites

Good knowledge of JavaScript. A first approach to a JavaScript framework (client-side) would be a plus.

Practical details

Case study

Construction of a SPA (Single Page Application) application, covering asynchronous programming, injection,...

Course schedule

PARTICIPANTS

Developers, technical architects and Web project managers.

PREREQUISITES

Good knowledge of JavaScript. A first approach to a JavaScript framework (client-side) would be a plus.

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 Server-side JavaScript

- Genesis of server-side JavaScript and Node.js.
- The Google V8 engine used on the server side.
- Why use event-driven programming?
- JavaScript reminders: callbacks, closures, scope, apply, bind, call.
- Introduction to ECMAScript 6.

2 First steps in Node.js

- Installing the Node.js server.
- The NPM extension manager.
- Node.js' modular approach
- A Web server in a few lines.
- Using Node.js in REPL.

Hands-on work

Using the NPM utility. Develop a first application.

3 Node.js fundamentals

- What's the point of asynchronous development?
- Event-driven management: reacting rather than waiting.
- Main API modules: console, util, file, events & timer...
- HTTP request/response management. HTTPS.
- Creation of child processes, https, TCP and UDP sockets...

Hands-on work

Read a file, read an online resource, create a child process with IPC communication.

4 Route management

- URL parsing (parameters, query...).
- Process a request in asynchronous mode.
- Set up a route manager.

Hands-on work

Setting up a route manager.

5 Framework Web Express

- The fundamental concepts of Express.
- Building an application skeleton.
- Express and application configuration.
- Rendering views with EJS.
- Management of forms and file uploads.
- URL routing by Express.
- Setting up a REST API.

Hands-on work

Implementation of a complete REST API.

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 Data persistence

- Introduction to a NoSQL database: MongoDB.
- CRUD (Create, Read, Update, Delete) implementation.
- Using an ODM: Mongoose.

Hands-on work

ODM-based persistence management with template creation.

7 Testing a Node.js application

- First steps with Mocha.
- Assertions and synchronous and asynchronous testing.
- Different test methods (inclusive, exclusive...).

Hands-on work

Testing an application with Mocha.

8 Advanced concepts

- Best practices in Node.js development.
- The async library: making asynchronous sequential.
- Clustering with Node.js. Backward compatibility, transpilers...

Dates and locations

REMOTE CLASS

2026 : 26 May, 28 July, 29 Sep., 17 Nov.