

Updated 04/11/2025

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## RxJS training

3 days (21 hours)

### Presentation

Our RxJS training course will enable you to design responsive, high-performance web applications, while mastering asynchronous data flows. RxJS is a powerful library in the JavaScript ecosystem designed to structure, transform and orchestrate events using Observables and declarative operators.

Our training program will teach you all the skills you need to design and implement reactive systems in your web applications. The creation and implementation of complex workflows will be covered during the course, enabling you practice in conditions close to real-life projects.

At the end of this course, you'll learn how to build a reactive architecture based event flows, capable of orchestrating multiple data sources.

As with all our training courses, this one will be presented with the latest version of [RxJS 7.8.2](#).

### Objectives

- Design and implement a reactive system based on asynchronous flows well-defined responsibilities
- Use RxJS to orchestrate complex workflows between different application modules
- Set up an event-driven architecture for agent communication
- Integrate external services (APIs, WebSockets, etc.) into a scalable, responsive application
- Build tools centralize status, interact with data sources and react to events in real time

### Target audience

- Front-end developers
- Full-stack developers
- Web project manager
- Web developers

## Target audience

- Knowledge of JavaScript
- HTML skills
- Web development experience

## Our RxJS training program

### Introduction to RxJS and Observables

- Introduction to reactive programming and data flows
- Key concepts :
  - Observable
  - Observe
  - Subscription
- Promise and Observable their differences
- Observable life cycle
- Create simple Observables with of, from, interval

### Basic operators

- Data transformation with map, filter, take
- Using the .pipe() command to chain operators
- Introduction to the subscribe() command
- End-of-flow management with complete

### User event management

- Creating streams from DOM events with fromEvent
- use of debounceTime, throttleTime
- Eliminating duplicates with distinctUntilChanged
- Construction of reactive interfaces
  - search field
  - buttons
  - scroll
- better performance with filtering and time delay

### Flattening operators

- Introduction to "nested" Observables
- mergeMap, switchMap, concatMap, exhaustMap
- API
  - Competitors
  - Successive
- Managing the cancellation of a call in progress

## Error and reliability management

- Capture and process errors with catchError
- Test failed calls with retry and retryWhen
- Automatic reporting or fallback in the event of failure
- resilience and flow stability
- Pointing between local and global error

## Reactive state storage and Subjects

- Subject, BehaviorSubject, ReplaySubject, AsyncSubject
- Create multi-subscriber feeds with a single transmission point
- Simulating a Redux reactive blind with RxJS
- Using Subjects to orchestrate complex interactions

## Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

## Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives with regard to the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

## Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

## Organization

The course alternates theoretical input from the trainer, supported by examples, brainstorming sessions and group work.

## Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

## Sanction

A certificate will be issued to each trainee who completes the course.