

# Course : PWA, developing Progressive Web Apps

**the best of mobile in your Web applications**

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

***Price : 2150 CHF E.T.***

The notion of PWA consists in implementing new Web standards to bring to Web sites and applications capabilities hitherto reserved for mobile applications (local installation, offline operation, push notifications...). This training course will provide you with the keys to implementing PWA.

## Teaching objectives

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

- ✓ Understand the state of the art of Progressive Web Apps
- ✓ Learn about the different strategies for implementing Progressive Web Apps
- ✓ Identify the components and tools required for or facilitating the implementation of Progressive Web Apps
- ✓ Apply Progressive Web Apps design techniques

## Intended audience

Anyone involved in the realization of a Web project: project managers, architects, developers.

## Prerequisites

Good knowledge of HTML, CSS and JavaScript front-end integration.

## Practical details

### Hands-on work

Website design with progressive PWA enrichment.

## Course schedule

### PARTICIPANTS

Anyone involved in the realization of a Web project: project managers, architects, developers.

### PREREQUISITES

Good knowledge of HTML, CSS and JavaScript front-end integration.

### 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 Introduction

- A look back at the history of mobility.
- The impact of mobility on the Web.
- Comparing the strengths and weaknesses of native and Web-based mobile applications.

## 2 Basic PWA components

- A proxy in the browser with Service Workers.
- HTTPS security.
- Browser support?
- The "Progressive" dimension in PWAs.

## 3 The Service Worker in detail

- Review of basic principles and APIs: ES6, promises, Fetch...
- Service Worker life cycle.
- Installation: download, scope of action.
- The update.
- Triggering, events supported.

### Hands-on work

Creating and installing a Service Worker.

## 4 Tools for implementation

- Libraries, components and frameworks: Workbox, frameworks integrating basic Service Workers.
- Development and debugging: browser tools, Lighthouse.

### Hands-on work

Handling browser tools, Lighthouse.

## 5 API Cache: network and offline fault tolerance

- Basic operations on the Cache API from a Service Worker.
- What content can be cached?
- Cached content lifecycle management.
- Other storage options: no localStorage support, but IndexedDB.
- High-speed SPA with Application Shell architecture.
- Access the cache from a page.

### Hands-on work

Cache on static resources, on pages.

## 6 Installing the application on the device

- The Web App Manifest.
- The Web App Install Banner.
- Behavior of mobile and desktop browsers.

### Hands-on work

Focus on Manifest.

## 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.

## 7 Notifications and push data

- Notifications API.
- Integration with native OS notifications.
- User authorization management.
- Push data from the server using the Push API.
- Background update with Background Sync API.

### Hands-on work

Set up a notification.

## 8 Other new Web capabilities to take you further

- Simplified payment with the Payment Request API.
- QR code reading with getUserMedia/Stream and Shape Detection APIs.
- Virtual reality and augmented reality.

### Hands-on work

Read a QR code.

## Dates and locations

### REMOTE CLASS

2026 : 4 Mar., 24 June, 9 Sep.