

Course : PyScript , web development with Python in the browser

Modernize your web applications with PyScript, Pyodide and WebAssembly.

Practical course - 2d - 14h00 - Ref. PYF

Price : 1500 CHF E.T.

NEW

PyScript makes it possible to run Python directly in the browser, thanks to Pyodide and WebAssembly (WASM). This innovative approach makes Python libraries (NumPy, Pandas, Matplotlib, Plotly) serverless. The course teaches how to create an interactive Single Page Application, modernize business uses and deploy a data-driven dashboard online.

Teaching objectives

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

- ✓ Master the PyScript ecosystem and its architecture (Pyodide, WASM, sandbox)
- ✓ Develop an interactive Python/HTML/JavaScript client-side application
- ✓ Use data science libraries (NumPy, Pandas) and interactive visualization libraries (Matplotlib, Plotly)
- ✓ Create an interactive, business-oriented dashboard that can be easily maintained and upgraded
- ✓ Deploy a serverless project (GitHub Pages, static hosting) at minimal operating cost

Intended audience

Developers, data scientists and analysts, IT teams...

Prerequisites

Basic knowledge of Python, HTML/CSS and JavaScript.

PARTICIPANTS

Developers, data scientists and analysts, IT teams...

PREREQUISITES

Basic knowledge of Python, HTML/CSS and JavaScript.

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.

Practical details

Hands-on work

Suite of practical exercises for the incremental development of a true enterprise application integration solution.

Teaching methods

Theoretical presentations accompanied by examples of implementation, then use of the knowledge acquired to carry out a specific project.

Course schedule

1 Set-up and first scripts

- PyScript/Pyodide/WASM architecture overview.
- Integrating PyScript into an HTML page.
- Use of <py-script>, <py-repl>, <py-env> tags.
- Client-side Python dependency management.
- Serverless execution for reduced infrastructure costs.

Hands-on work

Create the basis for the fil rouge project - an HTML page integrating Python with PyScript.

2 DOM manipulation and user interaction

- DOM control with PyScript.
- User event management (clicks, forms, inputs).
- Communication between Python and JavaScript (bidirectional interoperability).
- Styling with CSS and compatibility with front-end frameworks (React, Vue, Angular).
- Use a REST API to load live data.

Hands-on work

Extend the fil rouge project with a form and dynamic DOM/Python interactions.

3 Python libraries and interactive visualization

- Import and use NumPy and Pandas in the browser.
- Interactive graph generation with Matplotlib and Plotly.
- Creation of a data-driven mini-dashboard.
- Optimized loading of WebAssembly dependencies.
- Structuring Python code in a maintainable PyScript SPA.

Hands-on work

Add interactive data visualization (graph updated according to user input) to the fil rouge project.

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.

4 Advanced integration and deployment

- Advanced communication between Python and JavaScript (functions, JSON).
- UI enhancement with CSS and lightweight frameworks.
- Organization and maintainability of a professional PyScript project.
- Serverless deployment on GitHub Pages or static server.
- Best practices to guarantee performance, accessibility and safety.

Hands-on work

Finalize and deploy the complete interactive mini-dashboard in serverless mode.

Dates and locations

REMOTE CLASS

2026 : 16 July, 31 Aug., 7 Dec.