

# DOM in JavaScript II: Advanced Techniques

Course code: JS\_DOM2

Only the javascript APIs built into modern browsers are what turn a web page into a full-fledged web application, whether it's graphics, interactivity, data handling, or reading inputs from the real world. The possibilities are limited only by security and privacy or hardware performance.

Affiliate	Duration	Course price	ITB
Praha	3	23 100 Kč	30
Brno	3	23 100 Kč	30
Bratislava	3	990 €	30

The prices are without VAT.

## Course terms

Date	Duration	Course price	Type	Course language	Location
16.06.2025	3	23 100 Kč	Online	CZ/SK	Gopas Praha Online
16.06.2025	3	990 €	Online	CZ/SK	Gopas Bratislava Online

The prices are without VAT.

## What we will teach you

- Working with files accessed by the user
- Storing data in the browser
- Improved form validation in HTML5
- Webcam and microphone input
- Javascript and CSS animations
- Work with graphics (canvas, video)
- Browser history handling for SPA
- Working with data from other domains (CORS)
- Running more complex calculations in separate threads (Worker)
- Service worker (resource caching, offline applications)
- Fetch API basics (modern successor of AJAX)
- Uploading files to the server
- Response to page scrolling, lazy-loading

## Required entry skills

- Knowledge of JavaScript at the JS\_PROG2 course level and DOM at the JS\_DOM1 course level.

## Course outline

Working with files accessed by the user

- `<input type="file">`, native drag&drop in HTML5
- `FileList`, `File`, `FileReader` and URL API
- Image preview before uploading
- `FormData` API (send data to server)

Session History Management ("History API")

- how to maintain user experience when changing page content
- Back button treatment in AJAX applications
- `history.pushState`, `history.replaceState`
- `popstate` event on window object

### GOPAS Praha

Kodaňská 1441/46  
101 00 Praha 10  
Tel.: +420 234 064 900-3  
[info@gopas.cz](mailto:info@gopas.cz)

### GOPAS Brno

Nové sady 996/25  
602 00 Brno  
Tel.: +420 542 422 111  
[info@gopas.cz](mailto:info@gopas.cz)

### GOPAS Bratislava

Dr. Vladimíra Clementisa 10  
Bratislava, 821 02  
Tel.: +421 248 282 701-2  
[info@gopas.sk](mailto:info@gopas.sk)



Copyright © 2020 GOPAS, a.s.,  
All rights reserved

# DOM in JavaScript II: Advanced Techniques

## Storing data in the browser

- treatment of page refresh button (F5)
- WebStorage (localStorage)
- IndexedDB

## Working with animations

- API for working with CSS3 animations
- requestAnimationFrame

## Working with graphics

- <canvas> in 2d context - programmable image

## Loading input from webcam and microphone

- getUserMedia and downstream APIs

## Improved form validation in HTML5

- new form element types and attributes
- Constraint and Validation API

## Working with data from other domains (CORS)

- Cross-Origin Resource Sharing
- use for AJAX, canvas and external files

## Fetch API basics (modern successor to AJAX)

## JavaScript in separate threads (Worker)

## Service worker (resource caching, offline applications)

## Reacting to page scrolling, lazy-loading

- InterSection Observer

### GOPAS Praha

Kodaňská 1441/46  
101 00 Praha 10  
Tel.: +420 234 064 900-3  
[info@gopas.cz](mailto:info@gopas.cz)

### GOPAS Brno

Nové sady 996/25  
602 00 Brno  
Tel.: +420 542 422 111  
[info@gopas.cz](mailto:info@gopas.cz)

### GOPAS Bratislava

Dr. Vladimíra Clementisa 10  
Bratislava, 821 02  
Tel.: +421 248 282 701-2  
[info@gopas.sk](mailto:info@gopas.sk)



Copyright © 2020 GOPAS, a.s.,  
All rights reserved