



Standard **Standard** Ecma-XXX

1<sup>st</sup> Edition / 19 June 2025

## **Minimum Common Web Platform API**

# Standard

Ecma International  
Rue du Rhone 114 CH-1204 Geneva  
Tel: +41 22 849 6000  
Fax: +41 22 849 6001  
Web: <https://www.ecma-international.org>

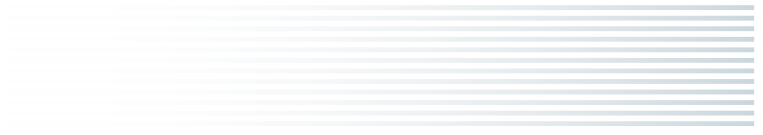


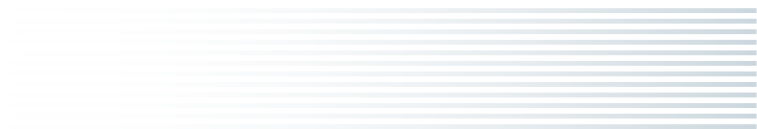
is the registered trademark of Ecma International



**COPYRIGHT PROTECTED DOCUMENT**

Table of Contents	page
1 Terminology . . . . .	4
2 Common API Index . . . . .	4
3 The Global Scope . . . . .	6
4 Requirements for navigator.userAgent . . . . .	6
5 Extensions . . . . .	7
References . . . . .	7
Normative References . . . . .	7
Index . . . . .	8
Terms defined by this specification . . . . .	8
Terms defined by reference . . . . .	8
Copyright & Software License . . . . .	9
Copyright Notice . . . . .	10
Software License . . . . .	10





## Introduction

The Minimum Common Web Platform API is a curated subset of standardized Web Platform APIs intended to define a minimum set of capabilities common to Browser and Non-Browser JavaScript-based runtime environments.

# Contributing to this Specification

This version:

<https://min-common-api.proposal.wintercg.org/>

Issue Tracking:

[GitHub](#)

Editor:

[James M Snell](#) (Cloudflare)

## 1. Terminology

The Web Platform is the combination of technology standards defined by organizations such as the W3C, the WHATWG, and others as implemented by Web Browsers.

A *Web-interoperable Runtime* is any ECMAScript-based application runtime environment that implements the subset of Web Platform APIs outlined in this specification. While this term is intentionally broad to also encompass Web Browsers, the primary focus here is on outlining expectations for non-browser runtimes.

## 2. Common API Index

All [Web-interoperable Runtimes](#) conforming to this specification SHALL implement each of the following Web Platform APIs in accordance with their normative requirements except where modified here. Where any conforming runtime environment chooses (either by necessity or otherwise) to diverge from a normative requirement of the specification, clear explanations of such divergence MUST be made clearly and readily available in the documentation.

Interfaces:

- [AbortController](#)
- [AbortSignal](#)
- [Blob](#)
- [ByteLengthQueuingStrategy](#)
- [CompressionStream](#)
- [CountQueuingStrategy](#)
- [Crypto](#)
- [CryptoKey](#)
- [DecompressionStream](#)
- [DOMException](#)
- [Event](#)
- [EventTarget](#)
- [File](#)

- `FormData`

The `FormData` constructor optionally takes `HTMLFormElement` and `HTMLElement` as parameters. TODO: Figure out what implementations without DOM support should do here. Node.js and Deno throw if the first parameter is not `undefined` but ignore the second parameter. Cloudflare Workers ignores all parameters.

- `Headers`

- `ReadableByteStreamController`

- `ReadableStream`

- `ReadableStreamBYOBReader`

- `ReadableStreamBYOBRequest`

- `ReadableStreamDefaultController`

- `ReadableStreamDefaultReader`

- `Request`

- `Response`

- `SubtleCrypto`

- `TextDecoder`

- `TextDecoderStream`

- `TextEncoder`

- `TextEncoderStream`

- `TransformStream`

- `TransformStreamDefaultController`

- `URL`

- `URLPattern`

- `URLSearchParams`

- `WebAssembly.Global`

- `WebAssembly.Instance`

- `WebAssembly.Memory`

- `WebAssembly.Module`

- `WebAssembly.Table`

- `WritableStream`

- `WritableStreamDefaultController`

Global methods / properties:

- `globalThis`
- `globalThis.atob()`
- `globalThis.btoa()`
- `globalThis.console`
- `globalThis.crypto`
- `globalThis.fetch()`
- `globalThis.navigator.userAgent`
- `globalThis.performance.now()`
- `globalThis.performance.timeOrigin`
- `globalThis.queueMicrotask()`
- `globalThis.setTimeout()` / `globalThis.clearTimeout()`
- `globalThis.setInterval()` / `globalThis.clearInterval()`
- `globalThis.structuredClone()`
- `globalThis.WebAssembly.compile()`
- `globalThis.WebAssembly.compileStreaming()`
- `globalThis.WebAssembly.instantiate()`
- `globalThis.WebAssembly.instantiateStreaming()`
- `globalThis.WebAssembly.validate()`

### 3. The Global Scope

The exact type of the global scope (`globalThis`) can vary across runtimes. Most Web Platform APIs are defined in terms that assume Web Browser environments that specifically expose types like `Window`, `Worker`, `WorkerGlobalScope`, and so forth. To simplify conformance, all Interfaces, methods, and properties defined by this specification MUST be exposed on the runtime's relevant global scope (e.g., `globalThis.crypto`, `globalThis.ReadableStream`, etc).

With many runtimes, adding a new global-scoped property can introduce breaking changes when the new global conflicts with existing application code. Many Web Platform APIs define global properties using the `readonly` attribute. To avoid introducing breaking changes, runtimes conforming to this specification MAY choose to ignore the `readonly` attribute for properties being added to the global scope.

### 4. Requirements for `navigator.userAgent`

The `globalThis.navigator.userAgent` property is provided such that application code can reliably identify the runtime within which it is running. The value of the property is a string conforming to the `User-Agent` construction in RFC 7231:



```
User-Agent      = product *( RWS ( product / comment ) )  
product        = token [ "/" product-version ]  
product-version = token
```

While runtimes that implement `globalThis.navigator.userAgent` MUST provide a value that is conformant with the structure defined by RFC 7231, the value SHOULD be treated as a single, complete, opaque, unstructured value. It is RECOMMENDED that the value be limited to a single `product` token excluding the optional `product-version`. For instance, `navigator.userAgent = 'MyRuntime'`. The value SHOULD NOT include any `comment` components.

## 5. Extensions

Runtime-specific extensions to any Web Platform API MAY be implemented by conforming runtimes. Such extensions MUST be defined so that their use neither contradicts nor causes the non-conformance of normative functionality of any Web Platform API.

Application use of such extensions must be carefully considered, as doing so reduces interoperability and portability of code across runtimes.

## References

### Normative References

#### [CONSOLE]

Dominic Farolino; Robert Kowalski; Terin Stock. *Console Standard*. Living Standard. URL: <https://console.spec.whatwg.org/>

#### [DOM]

Anne van Kesteren. *DOM Standard*. Living Standard. URL: <https://dom.spec.whatwg.org/>

#### [ENCODING]

Anne van Kesteren. *Encoding Standard*. Living Standard. URL: <https://encoding.spec.whatwg.org/>

#### [FETCH]

Anne van Kesteren. *Fetch Standard*. Living Standard. URL: <https://fetch.spec.whatwg.org/>

#### [FileAPI]

Marijn Kruisselbrink. *File API*. URL: <https://w3c.github.io/FileAPI/>

#### [HR-TIME-3]

Yoav Weiss. *High Resolution Time*. URL: <https://w3c.github.io/hr-time/>

#### [HTML]

Anne van Kesteren; et al. *HTML Standard*. Living Standard. URL: <https://html.spec.whatwg.org/multipage/>

#### [STREAMS]

Adam Rice; et al. *Streams Standard*. Living Standard. URL: <https://streams.spec.whatwg.org/>

#### [URL]

Anne van Kesteren. *URL Standard*. Living Standard. URL: <https://url.spec.whatwg.org/>

#### [URLPATTERN]

Ben Kelly; Jeremy Roman; 宍戸俊哉 (Shunya Shishido). *URL Pattern Standard*. Living Standard. URL: <https://urlpattern.spec.whatwg.org/>

#### [WASM-JS-API-2]

. Ms2ger. *WebAssembly JavaScript Interface*. URL: <https://webassembly.github.io/spec/js-api/>

**[WASM-WEB-API-2]**

. Ms2ger. *WebAssembly Web API*. URL: <https://webassembly.github.io/spec/web-api/>

**[WEBCRYPTO-2]**

Daniel Huigens. *Web Cryptography Level 2*. URL: <https://w3c.github.io/webcrypto/>

**[WEBIDL]**

Edgar Chen; Timothy Gu. *Web IDL Standard*. Living Standard. URL: <https://webidl.spec.whatwg.org/>

**[XHR]**

Anne van Kesteren. *XMLHttpRequest Standard*. Living Standard. URL: <https://xhr.spec.whatwg.org/>

# Index

## Terms defined by this specification

- [Web-interoperable Runtime](#), in § 1

## Terms defined by reference

- [\[CONSOLE\]](#) defines the following terms:
  - console
- [\[DOM\]](#) defines the following terms:
  - AbortController
  - AbortSignal
  - Event
  - EventTarget
- [\[ENCODING\]](#) defines the following terms:
  - TextDecoder
  - TextDecoderStream
  - TextEncoder
  - TextEncoderStream
- [\[FETCH\]](#) defines the following terms:
  - Headers
  - Request
  - Response
  - fetch(input)
- [\[FileAPI\]](#) defines the following terms:
  - Blob
  - File
- [\[HR-TIME-3\]](#) defines the following terms:
  - now()
  - performance
  - timeOrigin
- [\[HTML\]](#) defines the following terms:
  - HTMLElement
  - HTMLFormElement
  - Window
  - Worker
  - WorkerGlobalScope
  - atob(data)
  - btoa(data)
  - clearInterval(id)
  - clearTimeout(id)
  - navigator
  - queueMicrotask(callback)
  - setInterval(handler, timeout, ...arguments)
  - setTimeout(handler, timeout, ...arguments)

- structuredClone(value, options)
  - userAgent
- [STREAMS] defines the following terms:
  - ByteLengthQueuingStrategy
  - CountQueuingStrategy
  - ReadableByteStreamController
  - ReadableStream
  - ReadableStreamBYOBReader
  - ReadableStreamBYOBRequest
  - ReadableStreamDefaultController
  - ReadableStreamDefaultReader
  - TransformStream
  - TransformStreamDefaultController
  - WritableStream
  - WritableStreamDefaultController
- [URL] defines the following terms:
  - URL
  - URLSearchParams
- [URLPATTERN] defines the following terms:
  - URLPattern
- [WASM-JS-API-2] defines the following terms:
  - Global
  - Instance
  - Memory
  - Module
  - Table
  - WebAssembly
  - compile(bytes)
  - instantiate(bytes)
  - validate(bytes)
- [WASM-WEB-API-2] defines the following terms:
  - compileStreaming(source)
  - instantiateStreaming(source)
- [WEBCRYPTO-2] defines the following terms:
  - Crypto
  - CryptoKey
  - SubtleCrypto
  - crypto
- [WEBIDL] defines the following terms:
  - DOMException
- [XHR] defines the following terms:
  - FormData

## Copyright & Software License

Ecma International

Rue du Rhone 114

CH-1204 Geneva

Tel: +41 22 849 6000

Fax: +41 22 849 6001

Web: <https://ecma-international.org/>

## Copyright Notice

© 2025 Ecma International

This draft document may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published, and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this section are included on all such copies and derivative works. However, this document itself may not be modified in any way, including by removing the copyright notice or references to Ecma International, except as needed for the purpose of developing any document or deliverable produced by Ecma International.

This disclaimer is valid only prior to final version of this document. After approval all rights on the standard are reserved by Ecma International.

The limited permissions are granted through the standardization phase and will not be revoked by Ecma International or its successors or assigns during this time.

This document and the information contained herein is provided on an "AS IS" basis and ECMA INTERNATIONAL DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY OWNERSHIP RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

## Software License

All Software contained in this document ("Software") is protected by copyright and is being made available under the "BSD License", included below. This Software may be subject to third party rights (rights from parties other than Ecma International), including patent rights, and no licenses under such third party rights are granted under this license even if the third party concerned is a member of Ecma International. SEE THE ECMA CODE OF CONDUCT IN PATENT MATTERS AVAILABLE AT <https://ecma-international.org/memento/codeofconduct.htm> FOR INFORMATION REGARDING THE LICENSING OF PATENT CLAIMS THAT ARE REQUIRED TO IMPLEMENT ECMA INTERNATIONAL STANDARDS.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the authors nor Ecma International may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE ECMA INTERNATIONAL "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL ECMA INTERNATIONAL BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.