

# JAVASCRIPT

## WEB API'S



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JAVASCRIPT

# Web Speech API

```
const textToSpeak = "Hello There";  
const utterance =  
    new SpeechSynthesisUtterance(textToSpeak);  
window.speechSynthesis.speak(utterance);
```



“Hello There” Spoken out

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# Web Storage API

( localStorage )

```
// Store data
localStorage.setItem('key', 'value');
// Retrieve data
const storedValue = localStorage.getItem('key');
// Remove data
localStorage.removeItem('key');
```



Persistent storage in browser memory

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# Web Storage API

( sessionStorage )

```
● ● ●  
// Store data  
sessionStorage.setItem('key', 'value');  
// Retrieve data  
const storedValue = sessionStorage.getItem('key');  
// Remove data  
sessionStorage.removeItem('key');
```



Session-specific storage

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# Web Fetch API



```
fetch('http://example.com/movies.json')  
  .then(response => response.json())  
  .then(data => console.log(data))  
  .catch(error => console.error('error:', error));
```



Fetch API to make a GET call

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# Web Geolocation API

```
navigator.geolocation.getCurrentPosition(  
  position => {  
    console.log(`Latitude: ${position.coords.latitude},  
               Longitude: ${position.coords.longitude}`  
    );  
  },  
  error => {  
    console.error("Error getting location:", error.message);  
  }  
);
```



Get user's location.

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# Web Canvas API

```
const canvas = document.createElement('canvas');  
canvas.width = 200;  
canvas.height = 100;  
document.body.appendChild(canvas);  
const ctx = canvas.getContext('2d');  
ctx.fillStyle = 'blue';  
ctx.fillRect(10, 10, 180, 80);
```



To draw a filled rectangle in blue

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# Web Audio API



```
const audioContext = new (window.AudioContext ||  
                           window.webkitAudioContext)();  
const oscillator = audioContext.createOscillator();  
oscillator.frequency.setValueAtTime(440, audioContext.currentTime);  
oscillator.connect(audioContext.destination);  
oscillator.start();  
oscillator.stop(audioContext.currentTime + 1);
```



An oscillator and play a tone



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# Web Sockets API



```
const socket = new WebSocket('wss://example.com/socket');
socket.addEventListener('open',
    () => socket.send('Hello, server!'));
socket.addEventListener('message',
    event => console.log('Received:', event.data));
socket.addEventListener('close',
    () => console.log('Connection closed.'));
```



Real-time, bidirectional communication protocol.

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# web IndexedDB API



```
// Open (or create) the database
const dbName = "InstagramPostsDB";
const dbVersion = 1;

const request = indexedDB.open(dbName, dbVersion);
//handles errors that may occur during the database opening process.
request.onerror(() => {});
//specifies the actions to be taken when the database structure is being upgraded.
request.onupgradeneeded(() => {});
//defines the actions to be taken upon successful opening of the database.
request.onsuccess(() => {});
```



Structured client-side data storage.

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# web File API



```
<input type="file" id="imageInput" accept="image/*">
<button onclick="uploadPost()">Upload Post</button>
<script>
  function uploadPost() {
    const file = document.getElementById('imageInput').files[0];
    console.log('Selected file:', file);
  }
</script>
```



Manipulate files, access metadata.

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# web Notification API

```
Notification.requestPermission()  
  .then( permission => {  
    new Notification('Hello, World!');  
  });
```



Display system notifications.

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# web Workers API



```
const worker = new Worker('worker.js');  
worker.postMessage('Hello from main script!');
```



Execute background scripts.

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# web Intersection Observer API

```
const observer = new IntersectionObserver(entries =>
  entries.forEach(
    entry => entry.isIntersecting &&
    console.log('Element is in the viewport!')
  )
);
observer.observe(document.getElementById('yourElementId'));
```



Efficiently observes element visibility changes.

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# web Mutation Observer API



```
const observer = new MutationObserver(mutations =>
  mutations.forEach(mutation =>
    console.log('DOM change detected:', mutation)
  )
);
const targetNode = document.getElementById('yourElementId');
const config = { attributes: true, childList: true, subtree: true };
observer.observe(targetNode, config); // Start observing DOM changes.
```



Observes DOM changes  
asynchronously.

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# web Pointer Lock API



```
const element = document.getElementById('yourElementId');  
element.requestPointerLock();
```



Captures mouse movements precisely  
in-browser.



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# web Battery Status API



```
navigator.getBattery().then(battery => {  
  console.log('Battery Level:', battery.level * 100 + '%');  
  console.log('Charging:', battery.charging ? 'Yes' : 'No');  
});
```



Monitors device battery information  
asynchronously.

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# web Gamepad API



```
window.addEventListener("gamepadconnected", (event) =>
  console.log("Gamepad connected:", event.gamepad.id)
);
window.addEventListener("gamepaddisconnected", (event) =>
  console.log("Gamepad disconnected:", event.gamepad.id)
);
```



Interacts with game controller devices.

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# web DeviceOrientation and Motion API

```

● ● ●
window.addEventListener("deviceorientation", (event) => {
  console.log("Device Orientation:", event.alpha,
    event.beta, event.gamma);
});

window.addEventListener("devicemotion", (event) => {
  console.log("Device Motion:", event.acceleration.x,
    event.acceleration.y, event.acceleration.z);
});

```



Tracks device orientation and motion data.

## JAVASCRIPT

# web Push API

```
● ● ●  
  
// Check for Push API support  
if ('PushManager' in window) {  
  // Request notification permission  
  Notification.requestPermission().then(permission => {  
    if (permission === 'granted') {  
      // Subscription logic goes here  
    }  
  });  
}
```



Enables push notifications in browsers.

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# web Payment Request API

```
const supportedInstruments = [{ supportedMethods: 'basic-card' }];  
const paymentDetails = { total:  
  { label: 'Total', amount: { currency: 'USD', value: '10.00' } } };  
const paymentPromise = new PaymentRequest(supportedInstruments, paymentDetails);  
paymentPromise.show().then(paymentResponse =>  
  paymentResponse.complete('success')  
);
```



Facilitates streamlined online payment processing in browsers.

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