

readme.md for @push.rocks/webstore

A high-performance, isomorphic key-value storage solution powered by IndexedDB — works seamlessly in the browser and Node.js with zero config.

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Install

Install via npm:

```
npm install @push.rocks/webstore
```

Or with pnpm:

```
pnpm add @push.rocks/webstore
```

Usage

`@push.rocks/webstore` provides a clean, Promise-based API over IndexedDB. It auto-detects the runtime environment — in the browser it uses native IndexedDB, on Node.js it transparently loads `fake-indexeddb` for testing and server-side use.



All methods are fully typed via TypeScript generics. ESM-only (`"type": "module"`).

□□ Creating a Store

Create a `WebStore` instance by specifying a database name and an object store name:

```
import { WebStore } from '@push.rocks/webstore';

const store = new WebStore<{ name: string; age: number }>({
  dbName: 'myAppDatabase',
  storeName: 'users',
});
```

The generic type parameter `<T>` defines the shape of values stored — giving you full type safety on `get` and `set` operations.

□□ Storing Data

```
await store.set('user:1', { name: 'Alice', age: 30 });
await store.set('user:2', { name: 'Bob', age: 25 });
```

Initialization is automatic — the first call to any data method triggers `init()` behind the scenes, so you don't need to call it manually.

□□ Retrieving Data

```
const user = await store.get('user:1');
console.log(user); // { name: 'Alice', age: 30 }
```

Returns `undefined` if the key doesn't exist.

□ Checking Key Existence

```
const exists = await store.check('user:1');
console.log(exists); // true
```

```
const missing = await store.check('user:999');
console.log(missing); // false
```

☐☐ Deleting Data

Remove a single entry:

```
await store.delete('user:1');
```

Or clear the entire store:

```
await store.clear();
```

☐☐ Listing All Keys

```
const allKeys = await store.keys();
console.log(allKeys); // ['user:1', 'user:2']
```

☐☐ Isomorphic by Design

`WebStore` automatically detects the runtime:

- **Browser** → uses the native `IndexedDB` API directly
- **Node.js** → auto-loads `fake-indexeddb` to provide an in-memory IndexedDB implementation

This means the exact same code works in both environments — perfect for universal/isomorphic apps, SSR frameworks, and testing.

```
// Works identically in Node.js and the browser
const store = new WebStore<string>({
  dbName: 'config',
  storeName: 'settings',
});

await store.set('theme', 'dark');
const theme = await store.get('theme'); // 'dark'
```

⚡ Typed Request Caching

For API-heavy applications, `TypedrequestCache` provides a specialized cache layer for typed requests (compatible with `@api.global/typedrequest-interfaces`). It serializes request method + payload as the cache key and stores the full response.

```
import { TypedrequestCache } from '@push.rocks/webstore';

const cache = new TypedrequestCache('api.example.com');

// Cache a request/response pair
await cache.setByRequest({
  method: 'getUserProfile',
  request: { userId: '123' },
  response: { name: 'Alice', role: 'admin' },
});

// Retrieve cached response by matching method + request
const cached = await cache.getByRequest({
  method: 'getUserProfile',
  request: { userId: '123' },
});

console.log(cached.response); // { name: 'Alice', role: 'admin' }
```

“ **Note:** `setByRequest` will throw if the typed request has no `response` field — you can only cache completed request/response pairs.

☐☐ Lazy Initialization & Deduplication

`WebStore` handles initialization lazily and safely:

- The first data operation automatically triggers `init()`
- Concurrent calls during init are safely queued via a deferred promise
- Calling `init()` explicitly multiple times is safe — subsequent calls are no-ops

```

const store = new WebStore({ dbName: 'mydb', storeName: 'data' });

// Both of these trigger init, but it only runs once
const [a, b] = await Promise.all([
  store.get('key1'),
  store.get('key2'),
]);

```

API Reference

WebStore<T>

Method	Signature	Description
<code>init()</code>	<code>() => Promise<void></code>	Explicitly initialize the database (called automatically)
<code>get()</code>	<code>(key: string) => Promise<T></code>	Retrieve a value by key
<code>set()</code>	<code>(key: string, val: T) => Promise<IDBValidKey></code>	Store a value under a key
<code>check()</code>	<code>(key: string) => Promise<boolean></code>	Check if a key exists
<code>delete()</code>	<code>(key: string) => Promise<void></code>	Delete a single entry
<code>clear()</code>	<code>() => Promise<void></code>	Remove all entries from the store
<code>keys()</code>	<code>() => Promise<IDBValidKey[]></code>	Get all keys in the store

TypedrequestCache

Method	Signature	Description
<code>setByRequest()</code>	<code>(req: ITypedRequest) => Promise<void></code>	Cache a completed typed request
<code>getByRequest()</code>	<code>(req: ITypedRequest) => Promise<ITypedRequest></code>	Retrieve a cached response by request

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