

Local Storage and Session Storage

- ❑ Both localStorage and sessionStorage are part of the Web Storage API used to store key-value pairs in the browser.
- ❑ Store Data in the Browser (No Server Needed)
- ❑ Improve User Experience (keep user settings and user specific data)
- ❑ Fast & Easy Access
- ❑ Easy to Use API
- ❑ Foundation for Advanced Topics (indexedDB, Cookies, PWA)

Setting data

```
localStorage.setItem('username', 'manas');  
sessionStorage.setItem('sessionId', 'manas123');
```

Getting data

```
localStorage.getItem('username');  
sessionStorage.getItem('sessionId');
```

Note2:

- ❑ We can also get and set item using **dot notation** similar to objects.

Removing data

```
localStorage.removeItem('username');  
sessionStorage.removeItem('sessionId');
```

Clearing all data

```
localStorage.clear();  
sessionStorage.clear();
```

Storing objects (important!)

```
const user = {  
  name: "manas",  
  partner: 'muskan',  
};  
  
localStorage.setItem("userData", JSON.stringify(user));  
  
JSON.parse(localStorage.getItem("userData"));
```

Getting key

Get the key name at given index.

```
localStorage.key(1)  
// get the name of key at 1st index
```

Getting length

Getting the length of localStorage using “length” property

```
localStorage.length
```

Feature	localStorage	sessionStorage
Scope	Shared across tabs and windows	Unique per tab/window
Lifetime	Persists even after browser close	Cleared when tab/window is closed
Storage Limit	~5–10 MB (per origin)	~5–10 MB (per origin)
Access	Same-origin only (not cross-site)	Same-origin only

Factors that Affect Storage:

1. Origin-based Storage
2. Browser Limitations
3. Data Type Limitation
4. Security

Origin-Based Storage

- ❑ You cannot access localStorage or sessionStorage data across origins.

Data stored on <https://siteA.com> is not accessible on <https://siteB.com>.

- ❑ The data is only available to:

- That specific domain
- On that browser
- On that device
- In that user profile (Chrome profiles are separate)

- ❑ Even if you open “example.com” in Incognito Mode, its localStorage will be separate from the normal browser window.

Browser Limitations

- ❑ Most modern browsers allow around 5 to 10 MB per origin.
- ❑ Trying to exceed it throws a `QuotaExceededError`.

Data Type Limitation

- ❑ Only strings can be stored.
- ❑ You must `JSON.stringify()` complex data types (arrays, objects).

Security

- ❑ Not secure for sensitive data (passwords, tokens) — accessible via JavaScript.
- ❑ Vulnerable to Cross-Site Scripting (XSS) if not properly sanitized.