

Save your data

Introduction to IndexedDB

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Agenda

1. Why Indexed Database?
2. Structure
3. Transactions
4. Database creation
5. Basic IndexedDB pattern
6. There's (much) more

Why Indexed Database?

Answer 1

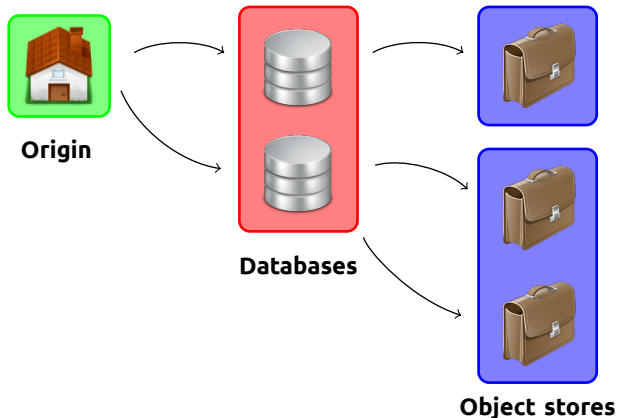
There are only Web Storage and Indexed Database (Web SQL is deprecated). In many cases Local Storage is too simple.

Answer 2

It is good for your programming skills to play with asynchronous API of Indexed Database.

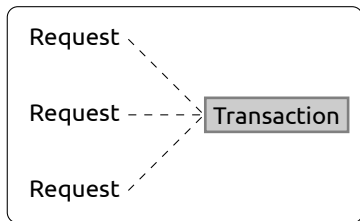
Structure

- ▶ IDB enables (more) advanced key-value data management,
- ▶ Many databases associated with one origin, many object stores associated with one database
- ▶ It's NoSQL: you must take care of mapping relations between data, there is no full text search...



Transactions

- ▶ Every request must be performed within a transaction
- ▶ Transaction scope determines the object stores with which transaction can interact
- ▶ There are three modes of transactions:
 - ▶ READ_ONLY
 - ▶ READ_WRITE
 - ▶ VERSION_CHANGE



Database creation

```
1  // Let's specify db version
2  var connectionReq = window.indexedDB.open('myDB', 3);
3
4  connectionReq.onsuccess = function(event) {};
5  connectionReq.onerror = function(event) {};
6
7  connectionReq.onupgradeneeded = function(event) {
8      var connection = event.target.result;
9      var storeNames = connection.objectStoreNames;
10
11     if (storeNames.contains('workers')) {
12         // Delete an object store
13         connection.deleteObjectStore('workers');
14     }
15
16     if (!storeNames.contains('employees')) {
17         // Create an object store
18         connection.createObjectStore('employees', { keyPath: 'email' });
19     }
20 };
```

Basic IndexedDB pattern

```
1  var connectionReq = window.indexedDB.open('myDB', 3);
2
3  connectionReq.onsuccess = function(event) {
4      var connection = event.target.result;
5      var transaction = connection.transaction('employees', IDBTransaction.
        READ_WRITE);
6      var employees = transaction.objectStore('employees');
7
8      var setReq = employees.set({
9          email: 'fragphace@gmail.com',
10         name: 'Paweł Maciejewski'
11     });
12
13     var getReq = employees.get('fragphace@gmail.com');
14
15     // ...
16 };
```

There's (much) more

- ▶ Cursors, bounds, indexes, cross-window events
- ▶ Not ready for production, new specification implemented only in Firefox 12
- ▶ Prefixes for `indexedDB`, `IDBTransaction` and others

Thank you!