Capgemini

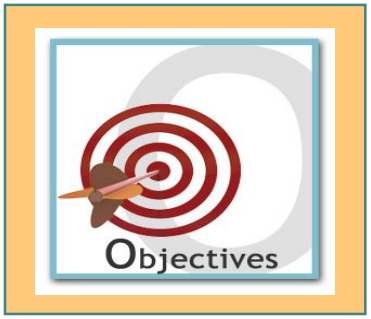
HTML5 & Its New Features

Lesson 5: HTML5 – Client Side Storage

Lesson Objectives

In this lesson you will learn about:

- Introduction to HTML5 Client-Side Storage
- Types of Client-Side Storage



HTML5 Client-Side Storage – An Overview

Most talked about features in HTML 5

Received a lot of criticism because of its lack of security, but it is nonetheless an interesting innovation

Divided into 3 methodologies

- Session Storage
- Local Storage
- Database Storage

HTML5 Client-Side Storage - Advantages

1. Reduce network traffic
2. Significantly speed up display times
3. Cache data from RPC calls
4. Load cached data on startup (faster startup)
5. Save temporary state
6. Restore state upon app reentry
7. Prevent work loss from network disconnects

Session Storage

- **Isn't much different from that what cookies offer, but has some additional benefits**
  - Session storage allows much more space, usually in megabytes
  - Depending on the browser implementation, the exact space can vary
  - Session data isn't sent automatically
  - Each tab/window maintains its own session information, as far as the site is concerned
- **Session Storage should be used to store short lived data related to a single browser window**
- **Data doesn't persist after the window is closed**
- **Methods for storing & retrieving data**
  - setItem(key,value): adds a key/value pair to the storage object
  - getItem(key): retrieves the value for a given key
  - clear(): removes all key/value pairs for the storage object
  - removeItem(key): removes a key/value pair from the storage object

Session Storage - Example

- **Example**

```
sessionStorage.setItem('username',‘shilpa');
```

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

Local Storage

- **The local Storage JavaScript object is functionally identical to the session Storage object**
- **Only differ in persistence and scope**
  - Persistence: localStorage is used for long-term storage
  - Scope: localStorage data is accessible across all browser windows while sessionStorage data is confined to the browser window that it was created in
- **Examples**

```
localStorage.setItem('username',‘Shilpa');
```

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

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

Database Storage

- **When dealing with a larger amount of content, it would be nice to be able to store it in a structured manner and be able to access it randomly**
- **With HTML 5, you get database storage, which allows you to save structured data in the client's machine using a real SQL database**
- **Limitations**
  - Safari is the only browser to have implemented this feature with SQLite Database
  - No specifications on available SQL commands
  - The SQLite database also lacks the Foreign Key Constraint

Database Storage

- **Current local database implementation is not quite fit for use, because of a few basic deficiencies such as**
  - Data is not encrypted
  - Accessible by anyone
  - There is no way to directly sync the local database with the one on the server
  - Limited memory space
- **Still, local database is going to be one of the key features in the future of browsers**

HTML5 Storage support for Session and Local storage	
Browser	Version
IE	8.0+
FIREFOX	3.5+
SAFARI	4.0+
CROME	4.0+
OPERA	10.5+
IPHONE	2.0+
ANDROID	2.0+

HTML5 Storage support for SQL DB	
Browser	Version
IE	
FIREFOX	
SAFARI	4.0+
CROME	4.0+
OPERA	10.5+
IPHONE	3.0+
ANDROID	2.0+

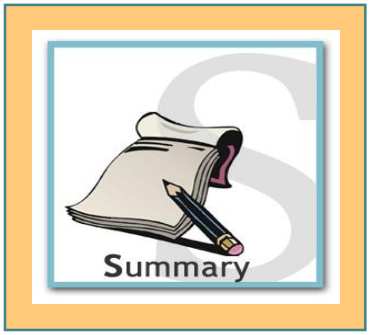
Demo

- Demonstration on HTML5 Client-Side Storage

Summary

In this module, you have learnt:

- The HTML5 (web) storage spec is a standardized way of providing larger amounts of client-side storage
- Without HTML5, client-side storage for web applications is limited to the tiny storage provided by cookies
- A web application can achieve better performance and provide a better user experience if it uses this local storage



Summary

In this module, you have learnt:

- HTML5 Client-Side storage is divided into three categories
- Session Storage - Its similar to cookies but varies in size, accessible only withing the window or a tab that created it
- Local Storage - It can store 5MB per app per browser & deleted by user or by the app
- Database Storage - It provides good performance generally, being an asynchronous API.
- How to implement Client Side Storage in HTML5