JavaScript
Beginner's Course
Part 4

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Agenda

1. Functions as Arguments & Callbacks
2. Object Iterator
3. JSON
4. Session Storage
5. Local Storage
6. AJAX

1. Functions as Arguments

```
function whichOne(f) {
   f();
}


function a() { console.log('i am a'); }
function b() { console.log('i am b'); }
function c() { console.log('i am c'); }

whichOne(b);
```

1. Callbacks

```
function waitForSomething(callback) {
    ... // important calculations here ...
    callback();
}


waitForSomething( function() {
    alert('Hallo World');
});
```

2. Object Iterator

- Object iteration:

```
for(key in Obj) {
    ...
}
```

1. JSON

- JSON = JavaScript Object Notation
- Data format for interchanging objects accross multiple system

```
person = {
  'firstname': 'Jan',
  'age': 31 }
}
```

or

```
[ 1, 3, 4, 9, 10 ]
```

1. JSON

- JSON = JavaScript Object Notation
- Data format for interchanging objects accross multiple system

```
person = {
  "firstname" : "Jan",
  "age" : 31 }
}

  or

[ 1, 3, 4, 9, 10 ]
```

- **JSON keys are always strings!**

1. JSON

- Convert JavaScript Object to JSON String

  var x = JSON.stringify(OBJ);

- Parse JSON String to JavaScript Object

  var y = JSON.parse(str);

1. JSON

- Great tool to view JSON Data:

  http://jsonviewer.stack.hu

2. Session Storage

window.sessionStorage
  - An object which has key value relationships
    - **string only**, no objects
  - Until the browser is closed, data can be
    saved in the sessionStorage object
  - Client-side storage, 5m size
- Methods:
    .setItem(key, value)
    .getItem(key)
    .removeItem(key)
    .clear( )

3. Local Storage

window.localStorage

= Same as sessionStorage

EXCEPT: Data is saved until user explicitly removes it,no pre-defined expiration date and 10m size

4. AJAX

- Asynchronouse JavaScript XML Requests
  - HTTP-Requests **that not**
    - Include Source Files like CSS, JS etc.
    - Include Initial page load like Hitting F5 + Reloading the page
  - Do not block other JavaScript code

4. AJAX

- Asynchronouse JavaScript XML Requests
  - HTTP-Requests **that not**
    - Include Source Files like CSS, JS etc.
    - Initially load the page like Hitting F5 + Reloading the page
  - In total, 17 types of HTTP-Requests
    - GET – read a resource
    - POST – create a new resource
    - PUT – change an existing resource
    - DELETE – delete an existing resource
    - …

4. AJAX

- window.XMLHTTPRequest
- Methods:
  - open(): defines the HTTP method and URL
  - onload(): defines an event that handles the response data
  - send(): actually sends the request to the server