

JavaScript

Session 3

Agenda

- JSON
- APIs
 - Promises
 - AJAX
 - Fetch



JSON

- stands for JavaScript Object Notation
- is a text format for storing and transporting data
- is "self-describing" and easy to understand

Since the format is text only, JSON data can easily be sent between computers, and used by any programming language.

- converting JSON strings into JavaScript objects:

```
JSON.parse()
```

- converting an object into a JSON string:

```
JSON.stringify()
```



JSON Syntax Rules

- Data is in name/value pairs → **name : value**
- Data is separated by commas → **name1 : value1 , name2 : value2**
- Curly braces hold objects → **{name1 : value1 , name2 : value2}**
- Square brackets hold arrays

```
[  
    {name1 : value1 , name2 : value2}  
    {name1 : value1 , name2 : value2}  
]
```



JSON Data Types

- a string
- a number
- an object (JSON object)
- an array
- a boolean
- null

JSON values cannot be:

- a function
- a date
- undefined



JSON.parse()

We can parse lists → example 2

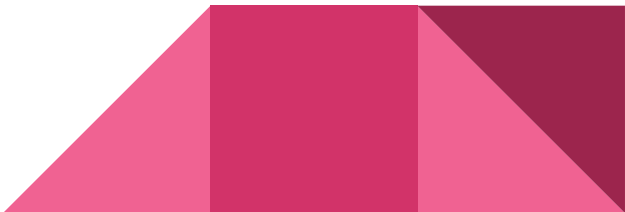
We can parse objects → example 3

- Specific way to parse date and functions

JSON.stringify()

Is very simple:

```
JSON.stringify(obj) ;
```



Storing Data

We stringify objects first and then save it in the local storage (like a database)

If we want to use it again, get it from the local storage and parse it then use it.

Example 4



API

- stands for "Application Programming Interface."
- responsible for sending request and receiving the response.
- Many of the APIs are asynchronous, returning a Promise.



Promises

- The Promise object represents the eventual completion (or failure) of an asynchronous operation and its resulting value.
- A Promise is in one of these states:
 - pending: initial state, neither fulfilled nor rejected.
 - fulfilled: meaning that the operation was completed successfully.
 - rejected: meaning that the operation failed.



Syntax

```
new Promise(function(resolve, reject){  
  if ()  
    resolve('success')  
  else reject('fail')  
})
```

Example 1





Thank You