



# Computer Science S-75

## Building Dynamic Websites

Harvard Summer School  
<https://www.cs75.net/>

### Lecture 7: Ajax

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# DOM

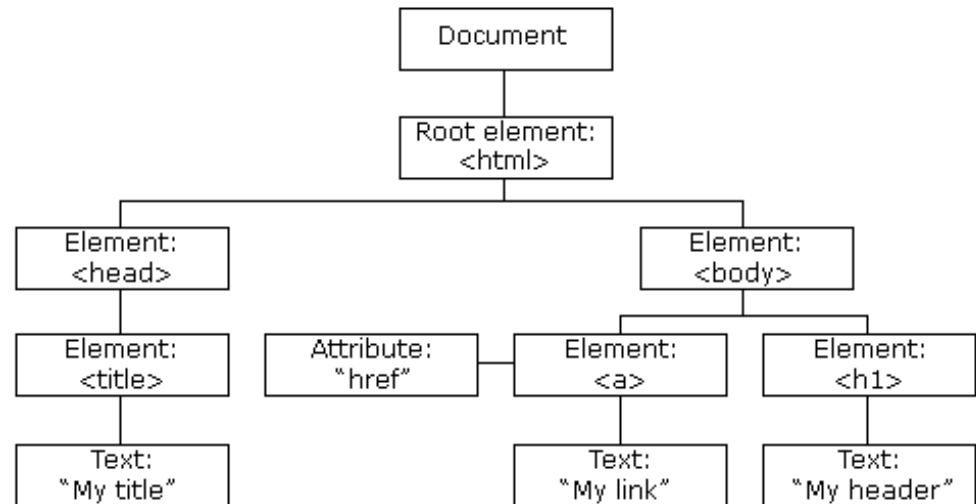
```
<!DOCTYPE html>

<html>
  <head>
    <title>My title</title>
  </head>
  <body>
    <a href="">My link</a>
    <h1>My header</h1>
  </body>
</html>
```

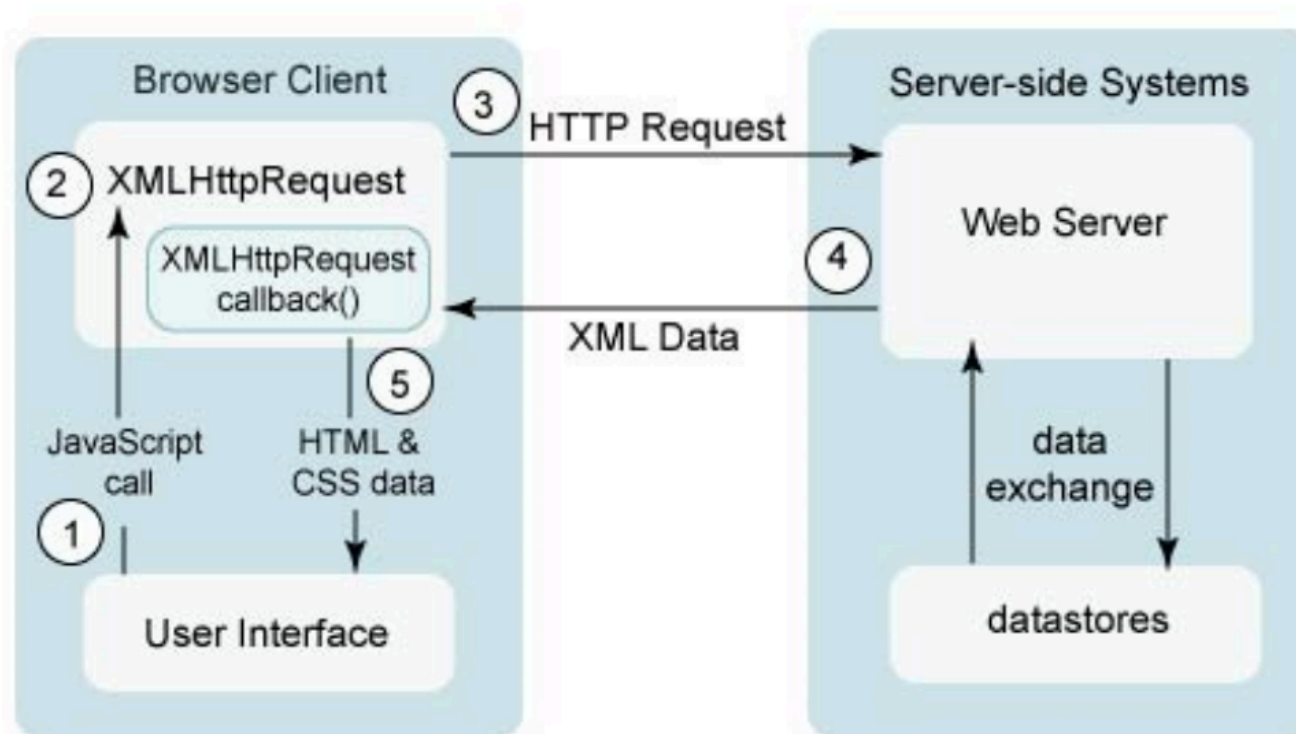
# DOM

```
<!DOCTYPE html>

<html>
  <head>
    <title>My title</title>
  </head>
  <body>
    <a href="">My link</a>
    <h1>My header</h1>
  </body>
</html>
```



# Ajax



# XMLHttpRequest

- abort()
- getAllResponseHeaders()
- getResponseHeader(header)
- open(method, url)
- open(method, url, async)
- open(method, url, async, user)
- open(method, url, async, user, password)
- send()
- send(data)
- setRequestHeader(header, value)

# XMLHttpRequest

- onreadystatechange
- readyState
  - 0 (uninitialized)
  - 1 (open)
  - 2 (sent)
  - 3 (receiving)
  - 4 (loaded)
- responseBody
- responseText
- responseXML
- status
  - 200 (OK)
  - 404 (Not Found)
  - 500 (Internal Server Error)
  - ...
- statusText

# Content Types

- HTML (text/html)
- XML (text/xml)
- JSON (application/json)

# JSON

- ASP:
  - JSON for ASP.
  - JSON ASP utility class.
- ActionScript:
  - ActionScript3.
  - JSONConnector.
- Ada:
  - GNATCOLLJSON.
- Bash:
  - Jshon.
  - JSON.sh.
- BlitzMax:
  - bmx-rjson.
- C:
  - JSON\_checker.
  - YAJL.
  - js0n.
  - LibU.
  - json-c.
  - json-parser.
  - jsonsl.
  - M's JSON parser.
  - cJSON.
  - Jansson.
  - jsmn.
  - cson.
- C++:
  - JSONKit.
  - jsonme--.
  - ThorsSerializer.
  - JsonBox.
  - jsoncpp.
  - zoolib.
  - JOST.
  - CAJUN.
  - libjson.
  - nosjob.
  - rapidjson.
- C#:
  - fastJSON.
  - JSON\_checker.
  - Jayrock.
  - Json.NET - LINQ to JSON.
  - LitJSON.
  - JSON for .NET.
  - JsonFx.
  - JSON@CodeTitans
  - How do I write my own parser?
  - JSONSharp.
  - JsonExSerializer.
  - fluent-json
  - Manatee Json
- Clojure:
  - clojure-json.
  - API for json.
- Cobol:
  - XML Thunder.
- ColdFusion:
  - ColdFusion 8.
  - toJSON.
- D:
  - Cashew.
  - Libdjson.
- Delphi:
  - Delphi Web Utils.
  - JSON Delphi Library.
  - JSON Toolkit.
  - tiny-json.
- E:
  - JSON in TermL.
- Erlang:
  - ejson.
  - mochijson2.
- Fantom:
  - Json.
- Go:
  - package json.
- Haskell:
  - RJson package.
  - json package.
- haXe:
  - hxJSON.
- Java:
  - org.json.
  - org.json.me.
  - Jackson JSON Processor.
  - Json-lib.
  - JSON Tools.
  - Stringtree.
  - SOJO.
  - Jettison.
  - json-taglib.
  - XStream.
  - Flexjson.
  - JON tools.
  - Argo.
  - jsonij.
  - fastjson.
  - mjson.
  - jjson.
  - json-simple.
  - json-io.
  - JsonMarshaller.
  - google-gson.
  - Jjson-smart.
- JavaScript:
  - JSON.
  - json2.js.
  - json\_sans\_eval.
  - clarinet.
- Lisp:
  - Common Lisp JSON.
  - Yason.
  - Emacs Lisp.
- LotusScript:
  - JSON LS.
- Lua:
  - Json4Lua.
  - LuaJSON.
  - LuaJSON C Library.
  - Fleece.
  - Lua CJSON.
  - dkjson.
- Matlab:
  - JSONlab.
  - JSON Parser.
  - (another) JSON Parser.
- Objective C:
  - json-framework.
  - MTJSON.
  - JSONKit.
  - yajl-objc.
  - TouchJSON.
- OCaml:
  - Yojson.
  - jsonm.
- OpenLaszlo:
  - JSON.
- Perl:
  - CPAN.
  - perl-JSON-SL.
- PHP:
  - PHP 5.2.
  - json.
  - Services\_JSON.
  - Zend\_JSON.
  - Solar\_json.
  - Comparison of php json libraries.
- Pike:
  - Public.Parser.JSON.
  - Public.Parser.JSON2.
- PL/SQL:
  - pljson:
  - Librairie-JSON.
- PowerShell:
  - PowerShell.
- Prolog:
  - SWI-Prolog HTTP support
- Puredata:
  - PuRestJson
- Python:
  - The Python Standard Library.
  - simplejson.
  - pyson.
  - Yajl-Py.
  - ultrajson.
- Qt:
  - QJson.
- R:
  - rjson.
- Racket:
  - json-parsing.
- Rebol:
  - json.r.
- RPG:
  - JSON Utilities.
- Ruby:
  - json.
  - yajl-ruby.
  - json-stream.
- Scala:
  - package json.
- Scheme:
  - MZScheme.
  - PLT Scheme.
- Squeak:
  - Squeak.
- Symbian:
  - s60-json-library.
- Tel:
  - JSON.
- Visual Basic:
  - VB-JSON.
  - PWJSON.
- Visual FoxPro:
  - fwJSON.
  - JSON.



# PHP + JSON

- `json_encode($value)`  
<http://us3.php.net/manual/en/function.json-encode.php>
- `eval(string)`  
<http://www.json.org/js.html>

# Progress...

- Ajax loading gif generator  
<http://www.ajaxload.info/>
- AJAX Activity indicators  
<http://mentalized.net/activity-indicators/>
- . . .



# jQuery.ajax()

<http://api.jquery.com/jQuery.ajax/>



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