



# AJAX

- Asynchronous Javascript and XML
- Client side programming
- AIM : Allow dynamic change of a web page
- No need to reload a new page
  - ex. google search window suggestion
- Standard solution:
  - **Fill in a form**
  - **Submit to the server**
  - **Get a complete new page**

# AJAX solution

- Special class XMLHttpRequest (MZ, IE>7)

```
var ajax=new XMLHttpRequest();
```

- Properties/methods of the object
  - 1) Create/open a request : open
  - 2) Send the request with data: send
  - 3) Where is the result : responseText
  - 4) What to do :.onreadystatechange
  - 5) When : JavaScript events... as usual
    - A lot of other options

# The server date example

- Open request

```
ajax.open("GET", "dateServer.php", true);
```

- Send request to server(no data to be sent)

```
ajax.send();
```

- Where is the result (when it arrives)

```
ajax.responseText
```

- What to do when the answer arrives

```
ajax.onreadystatechange = function()  
{..}
```

- When : onkeyup

# The script now...

```
<script ....>
function myAjaxFunction() //
{
var ajax;
ajax=new XMLHttpRequest();
ajax.onreadystatechange = function(){
if(ajax.readyState == 4){
    document.myForm.time.value = ajax.responseText;
}
}
ajax.open("GET","dateServer.php",true);
ajax.send();
}
</script>
```

# Compatibility;-)

- Not total so ... to be checked...
- Checking script :

```
function CreateXmlHttpRequest()//we test if AJAX supported
                                //and we create an object
{if (window.XMLHttpRequest)
    {// code for IE7+, Firefox, Chrome, Opera, Safari
    return new XMLHttpRequest();
    }
if (window.ActiveXObject)
    {// code for IE6, IE5
    return new ActiveXObject("Microsoft.XMLHTTP");
    }
return null;
}
```

# HTML/PHP code now

```
<form name="myForm">
Name: <input type="text" name="username"
onkeyup="ajaxFunction();" />
Time: <input type="text" name="time" />
<input type="reset">
</form>
<div id="place"></div>
#####PHP CODE FOR dateServer.php####
<?php
echo date("H:m:s");
?>
```

# More details...

- `open(a, b, c)`
  - **a: method GET or POST or HEAD**
  - **b: URL server**
  - **c: true/false: asynchronous or synchronous**
- `send(a)` a could be null
- `responseText`: **text format**
- `responseXML`: **XML format**
- `onreadystatechange`: **fonction/action to run**
- `readyState`: **0,1,2,3,4 (4=complete)**



# More

- **Method GET versus POST**
  - **POST:** data within HTTP request body
  - **GET:** “member.php?name=gilles&pass=t123
- **Issue : an AJAX link is not a URL**
  - back/forward buttons do not work anymore
  - The old doc does not have a url really
  - No bookmarking (or specific JS script)

- **Redirection with JavaScript:**

```
document.location.href="http://www.google.com"
```





# More

- **Method GET versus POST**
  - **POST:** data within HTTP request body
  - **GET:** “member.php?name=gilles&pass=t123
- **Issue : an AJAX link is not a URL**
  - back/forward buttons do not work anymore
  - The old doc does not have a url really
  - No bookmarking (or specific JS script)
- **Redirection with JavaScript:**  
`document.location.href="http://www.google.com"`

# AJAX template for web site

Index.php

```
<?php
    include('header.txt')
    include('menu.txt')
?>
<div id='content'></div>
<?php
include('footer.txt') ;
?>
```

#####

Menu.txt (is a list of href)

```
<a href="#"
onclick="showContent('about') ">aboutus</a>
```

# AJAX showcontent

```
function showContent(content) {  
    ...XMLHttpRequest...etc...  
    var url="./html/"+content+".html";  
    ajax.onreadystatechange=displayOnly;  
    ajax.open("GET",url,true);  
    ajax.send(); }  
  
function displayOnly()  
{  
    if (ajax.readyState==4)  
    {  
        document.getElementById("content").innerHTML=  
        ajax.responseText;  
    }  
}
```

# Asynchronous upload

AS USUAL BUT NO SUBMIT BUTTON

```
<form id="myform">  
<strong>Please choose a PDF file</strong>  
<input name="uploadedfile" type="file"  
value="choose">  
<input type="button" value="Go..."  
onclick="ajaxUpload()">  
</form>
```

- Call to upload.php via ajaxUpload
- No need for encoding type info

# ajaxUpload

Create AJAX object as usual...

```
var fd = new
FormData(document.getElementById('myform')) ;
ajax.onreadystatechange = function() {
    if(ajax.readyState == 4) {

document.getElementById('answerArea').innerHTML=
ajax.responseText;
    }
    } ; //end of the function to be
executed
ajax.open("POST", "../upload.php", true) ;
ajax.send(fd) ;
```

**NOTE :** any URL is accepted (<http://www....>)



# Conclusion

- **Fantastic tool**
- **Just a beginning**
- **Pb: compatibility.. as usual;-)**
- **This is the future of web programming**
  - **Google,**
  - **Facebook**
  - **Secondlife**
  - **etc...**