



ERASMUS+

Enriching lives, opening minds

JSON



ИНСТИТУТ
БИЗНЕСА
БГУ

01) <http://asp.net.by/JSON/01.htm> **JSON**.parse(minskJSON);

```
<p id="demo"></p>
```

```
<script>
```

```
var minskJSON = '{"name":"Ira", "age":21, "city":"Minsk"}';
```

```
var myObj = JSON.parse(minskJSON);
```

```
document.getElementById("demo").innerHTML=
```

```
"<b>" + myObj.name +
```

```
"</b> from <b>" +
```

```
myObj.city + "</b>";
```

```
</script>
```

02) **localStorage.setItem()** **getItem()**

<script>

var myObj, minskJSON, text, obj;

// Storing data:

```
function jSave()
{ alert("Save");
myObj = { name: "Ira", age: 21, city: "Minsk" };
minskJSON = JSON.stringify(myObj);
localStorage.setItem("testJSON", minskJSON);
}
```

// Retrieving data:

```
function jRetrieve()
{
text = localStorage.getItem("testJSON");
obj = JSON.parse(text);
document.getElementById("demo").innerHTML =
"<b>" + myObj.name +
"</b> from <b>" +
myObj.city + "</b>";
}
```

```
</script>
```

```
<body>
```

```
<p id="demo"></p>
```

```
<button onClick="jSave()">Save</button>
```

```
<button onClick="jRetrieve()">Retrive</button>
```

```
</body>
```

JSON.parse() – pack in JSON

```
{ "name": "Bill" } JSON
```

```
{ name: "Bill" } JavaScript Object
```

[3\) http://asp.net.by/JSON/03.htm](http://asp.net.by/JSON/03.htm)

JavaScript object

```
myObj = { name: "Ira", age: 21, city: "London" };
```

```
x = myObj.name;
```

[4\) http://asp.net.by/JSON/04.htm](http://asp.net.by/JSON/04.htm)

```
myObj = { name: "Ira", age: 21, city: "London" };
```

```
x = myObj["name"];
```

JavaScript object	
<pre>{"managers":[{ "firstName":"Bill", "lastName":"Gates" }, { "firstName":"Mike", "lastName":"Dell" }, { "firstName":"Elon", "lastName":"Musk" }]}</pre>	

XML Example

< managers >

<manager>

<firstName>Bill</firstName>

<lastName>Gates</lastName>

</manager>

<manager>

<firstName>Mike</firstName>

<lastName>Dell</lastName>

</manager>

<manager>

<firstName>Elon</firstName>

<lastName>Musk</lastName>

</manager>

</managers>

XML harder to parse than JSON.

JSON parses into a ready-to-use object JavaScript.

JSON string: "firstName":"Elon"

JSON number: "netwoth":22

JSON object:

```
{  
  "manager":{ "firstName":"Elon", "lastName":"Musk" }  
}
```

JSON boolean: “sex”:true

JSON array

{

"managers":["Gates", "Dell", "Musk"]

}

var obj =

JSON.Parse('{ "firstName":"Elon", "lastName":"Musk" }');

[5\) http://asp.net.by/JSON/05.htm](http://asp.net.by/JSON/05.htm)

```
var txt = '{ "firstName":"Elon", "lastName":"Musk" }';
```

```
var obj = JSON.parse(txt);
```

```
document.getElementById("demo").innerHTML=  
obj.firstName
```

```
+ " "
```

```
+ obj.lastName;
```

[6\) http://asp.net.by/JSON/06.htm](http://asp.net.by/JSON/06.htm)

```
<body>
```

```
<p id="demo"></p>
```

```
<script>//XMLHttpRequest object requests data from the server.
```

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

```
xmlhttp.onreadystatechange = function() {
```

```
    if (this.readyState == 4 && this.status == 200) {
```

```
        var myObj = JSON.parse(this.responseText);
```

```
        document.getElementById("demo").innerHTML =
```

```
            myObj.firstName;
```

```
}
```

```
};
```

```
// http://asp.net.by/JSON/ElonMusk.txt
```

```
xmlhttp.open("GET", "ElonMusk.txt", true);
```

```
xmlhttp.send();
```

```
</script>
```

```
<p>Поглядите на
```

```
<a href="http://asp.net.by/JSON/ElonMusk.txt"
```

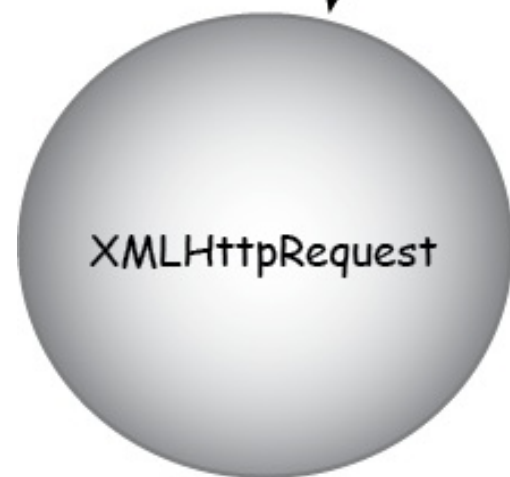
```
target="_blank">ElonMusk.txt</a></p>
```

```
</body>
```



(1) `var request = new XMLHttpRequest();`

First you create a new **XMLHttpRequest** object.



onreadystatechange
readyState
status
statusText
open()
send()

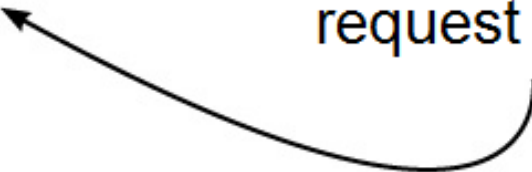
This object will have the following methods and properties

```
(2) request.open("GET", "ElonMusk.txt");  
    request.open("GET", "http://asp.net.by/JSON/ElonMusk.txt");
```



onreadystatechange
readyState
status
statusText
open()
send()

Next, you can use the
open() method of the
XMLHttpRequest object to
indicate what type of
request you want to make



(3) `request.onreadystatechange = function() { ... };`



`onreadystatechange = function() { ... };`
`readyState`
`status`
`statusText`
`open()`
`send()`

Next we set the property
`onreadystatechange`
to call the callback function

(4) `request.send();`



`onreadystatechange = function() { ... };`
`readyState`
`status`
`statusText`
`open()`
`send()`

We call the **`send()`** function
to make a request

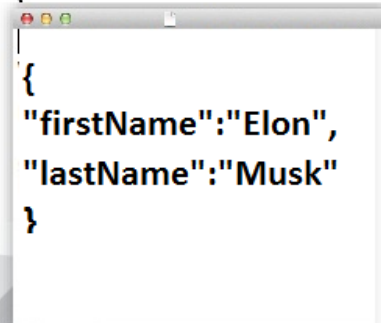
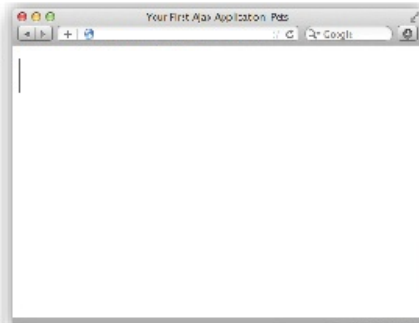


```
onreadystatechange = function() { ... };  
readyState = DONE  
status = 200  
statusText = "OK"  
open()  
send()  
responseText = { ... }
```

The response value from the server is assigned to the **responseText** property of the **XMLHttpRequest** object

The server responds - I did everything OK - this is my answer

```
readyState = DONE  
status = 200  
statusText = "OK"
```



7) <http://asp.net.by/JSON/07.htm>

Working with Arrays

```
var myArr = JSON.parse(this.responseText);  
document.getElementById("demo").innerHTML = myArr[2];
```

```
["Gates", "Dell", "Musk"]
```

[8\) http://asp.net.by/JSON/08.htm](http://asp.net.by/JSON/08.htm)

9) <http://asp.net.by/JSON/09.htm>

```
obj.birth = new Date(obj.birth);
```

```
var text = '  
{  
  "name": "Elon Musk",  
  "birth": "1971-06-28",  
  "city": "Pretoria, South Africa"  
}  
';
```

```
var obj = JSON.parse(text);
```

```
//obj.birth = new Date(obj.birth);  
document.getElementById("demo").innerHTML =  
    obj.name + ", " + obj.birth;  
</script>
```

Functions are not in JSON.

If you need to enable a function, you need to format it as a string:

[10\) http://asp.net.by/JSON/10.htm](http://asp.net.by/JSON/10.htm)

```
<html>
```

```
<body>
```

```
<p id="demo"></p>
```

```
<script>
```

```
var text = '{"name":"Elon Musk", "age":"function() {return 48;}",  
"city":"Pretoria, South Africa"}';
```

```
var obj = JSON.parse(text);
```

```
obj.age = eval("(" + obj.age + ")");
```

```
document.getElementById("demo").innerHTML = obj.name + "  
" + obj.age();
```

```
</script>
```

</body>

</html>

				
Yes	8.0	3.5	4.0	10.0

JSON.stringify() - converts object to a JavaScript string.

[11\) http://asp.net.by/JSON/11.htm](http://asp.net.by/JSON/11.htm)

```
<body>
```

```
<p id="demo"></p>
```

```
<script>
```

```
var obj = { name: "Elon", age: 48 };
```

```
var myJSON = JSON.stringify(obj); // {"name":"Elon","age":48}
```

```
document.getElementById("demo").innerHTML = myJSON;
```

```
</script>
```

```
</body>
```

[12\) http://asp.net.by/JSON/12.htm](http://asp.net.by/JSON/12.htm)

<body>

<p id="demo"></p>

<script>

var arr = ["John", "Peter", "Sally", "Jane"];

var myJSON = JSON.stringify(arr); //["John","Peter","Sally","Jane"]

document.getElementById("demo").innerHTML = myJSON;

</script>

</body>

[13\) http://asp.net.by/JSON/13.htm](http://asp.net.by/JSON/13.htm)

```
<p id="demo"></p>
```

```
<script>
```

```
var obj = { name: "Elon Musk", now: new Date()};
```

```
var mJSON = JSON.stringify(obj);
```

```
document.getElementById("demo").innerHTML = mJSON;
```

```
</script>
```

```
{"name":"Elon Musk","now":"2019-09-25T19:03:20.270Z"}
```

[14\) http://asp.net.by/JSON/14.htm](http://asp.net.by/JSON/14.htm)

```
<p id="demo"></p>
```

```
<script>
```

```
var myObj, x;
```

```
myObj = {"name":"Elon Musk", "age":48, "Networth":22};
```

```
x = myObj["name"] + " " + myObj["Networth"];
```

```
// x = myObj.name + " " + myObj.Networth;
```

```
document.getElementById("demo").innerHTML = x;
```

```
</script>
```

[15\) http://asp.net.by/JSON/15.htm](http://asp.net.by/JSON/15.htm)

<code>x+ "
";</code>	<code>myObj[x]+ "
";</code>
name	Elon Musk
age	48
Networth	22

```
var myObj, x;
```

```
myObj = {"name":"Elon Musk", "age":48, "Networth":22};
```

```
for (x in myObj) {
```

```
    document.getElementById("demo").innerHTML += x+ "<br>";
```

```
}
```

[16\) http://asp.net.by/JSON/16.htm](http://asp.net.by/JSON/16.htm)

<script>

```
var myObj = {  
  "name": "Elon Musk",  
  "age": 48,  
  "Occupation": {  
    "pos1": "Entrepreneur",  
    "pos2": "Investor",  
    "pos3": "Engineer"  
  }  
}
```

```
}
```

```
document.getElementById("demo").innerHTML +=  
    myObj.Occupation.pos3 + "<br>";
```

//or:

```
document.getElementById("demo").innerHTML +=  
    myObj.Occupation["pos3"];
```

```
</script>
```

[17\) http://asp.net.by/JSON/17.htm](http://asp.net.by/JSON/17.htm)

```
myObj.Occupation.pos2 = "Inventor"; - change value
```

18) <http://asp.net.by/JSON/18.htm> deletion

delete myObj.Occupation.pos3

19) <http://asp.net.by/JSON/19.htm>

<p id="demo"></p>

```
<script>
```

```
var myObj, x;
```

```
myObj = {
```

```
  "name": "Elon Musk",
```

```
"age":48,  
"Occupation":[ "Entrepreneur", "Investor", "Engineer" ]  
};  
x = myObj.Occupation[0];  
document.getElementById("demo").innerHTML = x;  
</script>
```