

# JSON

## Based on the W3 Schools JSON Tutorial

[http://www.w3schools.com/json/json\\_intro.asp](http://www.w3schools.com/json/json_intro.asp)

### Synopsis

JSON = “JavaScript Object Notation”

- Syntax for data storage and exchange, can be thought of as a data structure
- Common use: read data from one or more web servers for display on a web page
- Syntactically identical to JavaScript objects, but is static text, no functions
- Is simpler replacement for XML (no DTD, rules)
- Created for JavaScript, but now supported by many other languages

### Simplified JSON Usage Example

In this basic example, JSON formatted data is defined, parsed and used inside the script element in the body of an HTML document.

```
<!DOCTYPE html>
<html>
<body>

<h2>JSON Object Creation in JavaScript</h2>

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

<script>
var text = '{"name":"John Johnson","street":"Oslo West 16","phone":"555
1234567"}';

var obj = JSON.parse(text);

document.getElementById("demo").innerHTML =
obj.name + "<br>" +
obj.street + "<br>" +
obj.phone;
</script>

</body>
</html>
```

The variable `text` is declared and set equal to an array in JSON syntax — a set of `name:value` pairs enclosed in curly braces — indicating that this is a JSON object.

The second variable, `obj` is declared and calls the parser function `JSON.parse` to convert the JSON `text` object into a JavaScript object.

This script calls the `innerHTML` property of the document object, selects the paragraph with the ID of `demo`, and references the values stored in the JavaScript object `obj` by name, setting the paragraph content equal to the `name`, `street` and `phone` values, separated by line breaks, `<br>`.

Output displayed in a web browser looks like this:

```
John Johnson
Oslo West 16
555 1234567
```

## JSON “name”:“value” pair syntax

- Double quotes are required for JSON
- JSON objects are written inside curly braces
- JSON arrays are enclosed within square brackets
- A JSON array can contain multiple objects

The format is a string:

```
var text = '{ "employees" : [' +
  '{ "firstName":"John" , "lastName":"Doe" },' +
  '{ "firstName":"Anna" , "lastName":"Smith" },' +
  '{ "firstName":"Peter" , "lastName":"Jones" } ]}';
```

## Security

The secure `JSON.parse` function is preferred over the JavaScript `eval()` function, as the latter is vulnerable to code injection attacks. However, the `eval()` function is supported by older browsers that do not have the `JSON.parse` function.

## MIME type

The official MIME type for JSON text is `application/json`. However, the unofficial MIME types `text/json` and `text/javascript` are still expected for many of the most important use cases including Google Search API, Yahoo!, Flickr, Facebook API, Lift framework, and Dojo Toolkit 0.4, according to Wikipedia (<https://en.wikipedia.org/wiki/JSON>).