JSON

* Java Script Object Notation
* Designed for data Inter change
* Human Redable Data Exchage
* Extended from JavaScript
* The File Extension should be “.json”

This is primarily used to transmit data between server and web application.

**Characteristics of JSON**

* Easy to read and write JSON.
* Lightweight text based interchange format
* Language independent.

**Syntax**

* Data is represented in name/value pairs
* Curly braces hold objects and each name is followed by ':'( colon), the name/value pairs are separated by, (comma).

Ex: var obj = {name: 'Amit', marks: 97, distinction: true}

* Square brackets hold arrays and values are separated by, (comma).

**Array**

* It is an ordered collection of values.
* These are enclosed square brackets which means that array begins with .[. and ends with .]..
* The values are separated by ,(comma).
* Array indexing can be started at 0 or 1.
* Arrays should be used when the key names are sequential integers.

### EXAMPLE:

Example showing array containing multiple objects:

{

"books": [

{ "language":"Java" , "edition":"second" },

{ "language":"C++" , "lastName":"fifth" },

{ "language":"C" , "lastName":"third" }

]

}

**Object**

* It is an unordered set of name/value pairs.
* Object are enclosed in curly braces that is it starts with '{' and ends with '}'.
* Each name is followed by ':'(colon) and the name/value pairs are separated by , (comma).
* The keys must be strings and should be different from each other.
* Objects should be used when the key names are arbitrary strings

Example showing Object:

{

"id": "011A",

"language": "JAVA",

"price": 500,

}

**JSON Value**

It includes:

number (integer or floating point)

string

boolean

array

object

null

**SYNTAX:**

String | Number | Object | Array | TRUE | FALSE | NULL

Creating Simple Objects

JSON objects can be created with Javascript. Let us see various ways of creating JSON objects using Javascript:

* Creation of an empty Object:

var JSONObj = {};

* Creation of new Object:

var JSONObj = new Object();

* Creation of an object with attribute **bookname** with value in string, attribute **price** with numeric value. Attributes is accessed by using '.' Operator:

var JSONObj = { "bookname ":"VB BLACK BOOK", "price":500 };

This is an example which shows creation of an object in javascript using JSON, save the below code as**json\_object.htm**:

<html>

<head>

<title>Creating Object JSON with JavaScript</title>

<script language="javascript" >

var JSONObj = { "name" : "tutorialspoint.com", "year" : 2005 };

document.write("<h1>JSON with JavaScript example</h1>");

document.write("<br>");

document.write("<h3>Website Name="+JSONObj.name+"</h3>");

document.write("<h3>Year="+JSONObj.year+"</h3>");

</script>

</head>

<body>

</body>

</html>

Now let's try to open [json\_object.htm](http://www.tutorialspoint.com/json/json_object.htm) using IE or any other javascript enabled browser, this produces the following result:



Creating Array Objects

Below example shows creation of an array object in javascript using JSON, save the below code as**json\_array\_object.htm**:

<html>

<head>

<title>Creation of array object in javascript using JSON</title>

<script language="javascript" >

document.writeln("<h2>JSON array object</h2>");

var books = { "Pascal" : [

{ "Name" : "Pascal Made Simple", "price" : 700 },

{ "Name" : "Guide to Pascal", "price" : 400 }

],

"Scala" : [

{ "Name" : "Scala for the Impatient", "price" : 1000 },

{ "Name" : "Scala in Depth", "price" : 1300 }

]

}

var i = 0

document.writeln("<table border='2'><tr>");

for(i=0;i<books.Pascal.length;i++)

{

document.writeln("<td>");

document.writeln("<table border='1' width=100 >");

document.writeln("<tr><td><b>Name</b></td><td width=50>"

+ books.Pascal[i].Name+"</td></tr>");

document.writeln("<tr><td><b>Price</b></td><td width=50>"

+ books.Pascal[i].price +"</td></tr>");

document.writeln("</table>");

document.writeln("</td>");

}

for(i=0;i<books.Scala.length;i++)

{

document.writeln("<td>");

document.writeln("<table border='1' width=100 >");

document.writeln("<tr><td><b>Name</b></td><td width=50>"

+ books.Scala[i].Name+"</td></tr>");

document.writeln("<tr><td><b>Price</b></td><td width=50>"

+ books.Scala[i].price+"</td></tr>");

document.writeln("</table>");

document.writeln("</td>");

}

document.writeln("</tr></table>");

</script>

</head>

<body>

</body>

</html>

Now let's try to open [json\_array\_object.htm](http://www.tutorialspoint.com/json/json_array_object.htm) using IE or any other javascript enabled browser, this produces the following result:

