

# JSON - Introduction

JSON: **J**ava**S**cript **O**bject **N**otation.

JSON is a syntax for storing and exchanging data.

JSON is text, written with JavaScript object notation.

## Exchanging Data

When exchanging data between a browser and a server, the data can only be text.

JSON is text, and we can convert any JavaScript object into JSON, and send JSON to the server.

We can also convert any JSON received from the server into JavaScript objects.

This way we can work with the data as JavaScript objects, with no complicated parsing and translations.

## Why use JSON?

Since the JSON format is text only, it can easily be sent to and from a server, and used as a data format by any programming language.

JavaScript has a built in function to convert a string, written in JSON format, into native JavaScript objects:

`JSON.parse()`

So, if you receive data from a server, in JSON format, you can use it like any other JavaScript object.

# Sending Data

If you have data stored in a JavaScript object, you can convert the object into JSON, and send it to a server:

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

<h2>Convert a JavaScript object into a JSON string, and send it to the server.
</h2>

<script>
var myObj = { name: "John", age: 31, city: "New York" };
var myJSON = JSON.stringify(myObj);
window.location = "demo_json.php?x=" + myJSON;
</script>

</body>
</html>
```

Output:

demo\_json.php:

John from New York is 31

# Receiving Data

If you receive data in JSON format, you can convert it into a JavaScript object:

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

<h2>Convert a string written in JSON format, into a JavaScript object.</h2>

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

<script>
var myJSON = '{"name":"John", "age":31, "city":"New York"}';
var myObj = JSON.parse(myJSON);
document.getElementById("demo").innerHTML = myObj.name;
</script>

</body>
</html>
```

Output:

John

# Storing Data

When storing data, the data has to be a certain format, and regardless of where you choose to store it, *text* is always one of the legal formats.

JSON makes it possible to store JavaScript objects as text.

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

<h2>Store and retrieve data from local storage.</h2>

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

<script>
var myObj, myJSON, text, obj;

// Storing data:
myObj = { name: "John", age: 31, city: "New York" };
myJSON = JSON.stringify(myObj);
localStorage.setItem("testJSON", myJSON);

// Retrieving data:
text = localStorage.getItem("testJSON");
obj = JSON.parse(text);
document.getElementById("demo").innerHTML = obj.name;
</script>

</body>
</html>
```

Output:

John