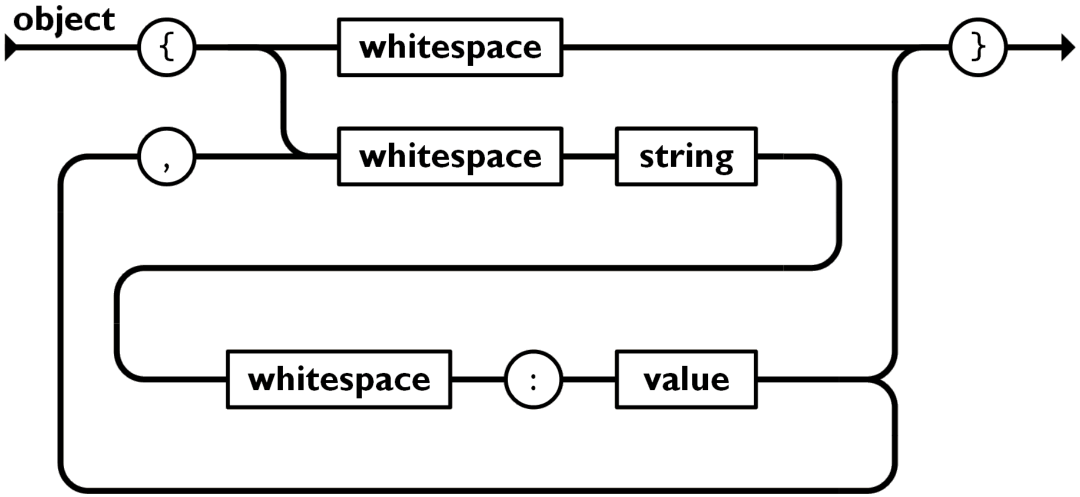
UNIVERSITÀ DI PARMA

JSON



Tecnologie Internet

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Introduction

JSON: **J**ava**S**cript **O**bject **N**otation.
JSON is a syntax for storing and exchanging data.
JSON is a lightweight, easier-to-use alternative to XML.

```
{"employees":[
    {"firstName":"John", "lastName":"Doe"},
    {"firstName":"Anna", "lastName":"Smith"},
    {"firstName":"Peter", "lastName":"Jones"}
]}
```

```
<employees>
    <employee>
        <firstName>John</firstName> <lastName>Doe</lastName>
    </employee>
    <employee>
        <firstName>Anna</firstName> <lastName>Smith</lastName>
    </employee>
    <employee>
        <firstName>Peter</firstName> <lastName>Jones</lastName>
    </employee>
</employees>
```

Introduction

The JSON format is syntactically identical to the code for creating JavaScript objects.

```
<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>
```

Because of this similarity, instead of using a parser (like XML does), a JavaScript program can use standard JavaScript functions to convert JSON data into native JavaScript objects.

Introduction

Much Like XML Because

- Both JSON and XML is "self describing" (human readable)
- Both JSON and XML is hierarchichal (values within values)
- Both JSON and XML can be parsed and used by lots of programming languages
- Both JSON and XML can be fetched with an XMLHttpRequest

Much Unlike XML Because

- JSON doesn't use end tag
- JSON is shorter
- JSON is quicker to read and write
- JSON can use arrays

Syntax

JSON syntax is derived from JavaScript object notation syntax:

- Data is in name/value pairs
- Data is separated by commas
- Curly braces hold objects
- Square brackets hold arrays

A name/value pair consists of a field name (in double quotes), followed by a colon, followed by a value:

```
"firstName":"John"
```

A JSON value can be:

- a number (integer or floating point)
- a string (in double quotes)
- a Boolean (true or false)
- an array (in square brackets)
- an object (in curly braces)
- null

Syntax

JSON objects are written inside curly braces.
JSON objects can contain multiple name/values pairs:

```
{"firstName":"John", "lastName":"Doe"}
```

JSON arrays are written inside square brackets.
A JSON array can contain multiple objects:

```
"employees":[
    {"firstName":"John", "lastName":"Doe"},
    {"firstName":"Anna", "lastName":"Smith"},
    {"firstName":"Peter","lastName":"Jones"}
]
```

References

http://www.json.org