

JSON

Syed Gillani

Laboratoire Hubert Curien St-Etienne, France

[What is JSON]

- A lightweight text based data-interchange format
 - Completely language independent
 - Based on a subset of the JavaScript Programming Language
 - Easy to understand, manipulate and generate
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- **It is NOT:**
 - ✓ Overly Complex
 - ✓ A “document” format
 - ✓ A markup language
 - ✓ A programming language

[Why JSON]

- Straightforward syntax
- Easy to create and manipulate
- Can be natively parsed in JavaScript using **eval()**
- Supported by all major JavaScript frameworks
- Supported by most backend technologies

Contains only two main types of elements:

- ✓ Objects (key->value)
- ✓ Arrays of ordered objects

[JSON Object Syntax]

- Unordered sets of name/value pairs
- Begins with { (left brace)
- Ends with } (right brace)
- Each name is followed by : (colon)
- Name/value pairs are separated by , (comma)

e.g. {"employee_id": 1234567}

[JSON Example]

employee_id	name	hire_date	location	consultant
..
...
..
..

```
var employeeData = {  
  "employee_id": 1234567,  
  "name": "Jeff Fox",  
  "hire_date": "1/1/2013",  
  "location": "Norwalk, CT",  
  "consultant": false  
};
```

[Array in JSON]

- An ordered collection of values
- Begins with **[** (left bracket)
- Ends with **]** (right bracket)
- Name/value pairs are separated by **,** (comma)

```
"random_nums": [ 24, 65, 12, 94 ]
```

[Array in JSON]

```
var employeeData = {  
  "employee_id": 1236937,  
  "name": "Jeff Fox",  
  "hire_date": "1/1/2013",  
  "location": "Norwalk, CT",  
  "consultant": false,  
  "random_nums": [ 24, 65, 12, 94 ]  
};
```

[Data Types]

- ▶ **General:**

- ✓ Sequence of one or more Unicode characters
- ✓ Wrapped in “double quotes”
- ✓ Backslash escapement

- ▶ **Numbers:**

- ✓ Integer
- ✓ Real
- ✓ Scientific
- ✓ No octal or hex
- ✓ No NaN or Infinity – Use **null** instead.

- ▶ **Boolean:**

- ✓ True and False
- ✓ Null: representing nothing or a value as nothing

[Therefore JSON is]

- ▶ Lacks namespaces (as utilised in XML and RDF)
- ▶ No inherent validation (XML has DTD and XSD..)
- ▶ This Makes it:
 - ✓ Lighter and faster than XML/RDF
 - ✓ Less syntax and no semantics
 - ✓ Can easily be parsed in an object-oriented language (e.g. Java, Javascript)

It is extensibly used in Today's Web

[Fin]

★Acknowledgments: *The Web*