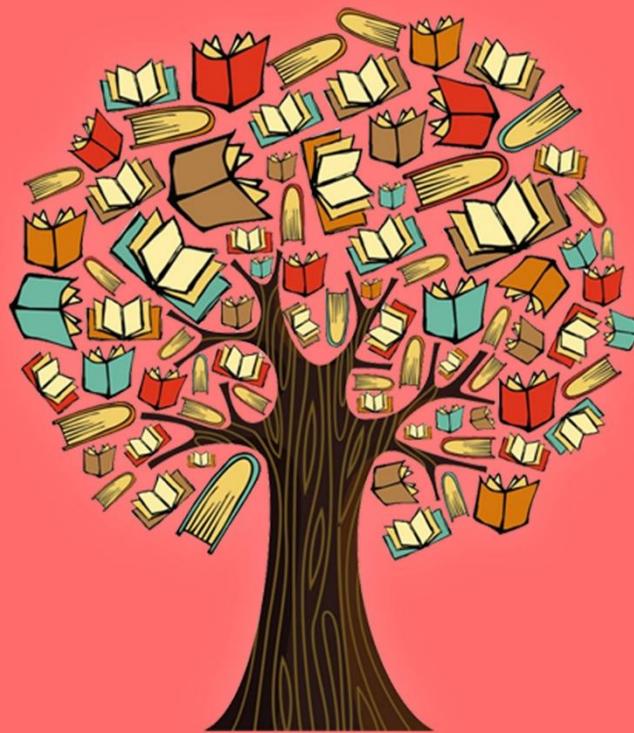




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Introduction To JSON



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LEARN WITH INTRODUCTION TO JSON

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A Quick Introduction to JSON

This article will give you an introduction to JSON. JSON has become the standardized format for data when building HTML5 applications, it is like a simpler, and smaller, version of XML. A JSON packet is like a JavaScript object and as an experienced developer, JSON should be easy for you to understand.

A JSON Object with Simple Values

A JSON object consists of a bunch of name value pairs. This is a simple JSON packet:

```
{
  "stringProperty": "value1",
  "numberProperty": 1
}
```

The curly brackets, '{' and '}' distinguish the start and end of an object. Properties inside the object consist of the property name, followed by a colon, ending with the value. Property names are enclosed in double quotes. Properties are put into a comma-separated list.

This JSON object is a single object, which contains two properties: **stringProperty** and **numberProperty**. The value of **stringProperty** is the string 'value1'. The string value is enclosed in double quotes. The value of **numberProperty** is a number which is not enclosed in quotes. This should parallel your experience in other languages, where string literals need to be in quotes, but numerical literals do not.

Nested Objects

A JSON packet can also support nested objects. This means that the value of a property is an object. Here is a sample:

```
{
  "stringProperty": "value1",
  "numberProperty": 1,
  "objectProperty": {
    "embeddedStringProperty": "embeddedValue",
    "embeddedNumberProperty": 2
  }
}
```

This new JSON packet expands on the previous one, just adding a new property, **objectProperty**. The value of **objectProperty** is an embedded object with two properties of its own. In essence, the object contains another object.

The embedded object has an identical syntax to the main object. Curly brackets, '{' and '}' distinguish the start and end of an object. Following that is a comma separated list of the embedded object's properties. Other objects can be nested for as many layers down as you need.

JSON Arrays

JSON also support arrays. Here is a packet that includes an array of numbers:

```
[10,9,8,7,6,5,4,3,2,1]
```

Arrays are defined with square brackets instead of curly brackets that represent objects. Here is an array of Strings:

```
["ten","nine","eight","seven","six","five","four","three","two","one"]
```

Values in arrays do not have a name, they only have a location index. The location index is determined by the location of the item in the array, not by a specific name like an object property.

Arrays do not have to contain simple values, they can also include objects:

```
[
  {
    "stringProperty": "value1",
    "numberProperty": 1,
  },
  {
    "stringProperty": "value2",
    "numberProperty": 3,
  }
]
```

This array contains two separate objects, each with an identical structure. This approach is common when building applications. Each array item contains an object with a **stringProperty** and **numberProperty**.

Putting it All Together

Arrays, Objects, and simple values can be used together to create complex data structures:

```
[
  {
    "stringProperty": "value1",
    "numberProperty": 1,
    "objectProperty": {
      "embeddedStringProperty": "embeddedValue",
      "embeddedNumberProperty": 2
    },
    "arrayProperty": [1,2,3,4,5,6,7,8,9,10]
  },
  {
    "stringProperty": "value2",
    "numberProperty": 3,
    "objectProperty": {
      "embeddedStringProperty": "embeddedValue2",
      "embeddedNumberProperty": 4
    }
  }
]
```

```
    },  
    "arrayProperty": [10, 9, 8, 7, 6, 5, 4, 3, 2, 1]  
  }  
]
```

The elements of the array are objects. Each object contains a **stringProperty**, **numberProperty**, **objectProperty**, and **arrayProperty**. This sample includes an array, with each element of an object. Each object contains two simple properties and two complex properties.

This is the first time we used a nested array, but the definition of the array is identical to a non-nested array.

Final Thoughts

JSON has become the de facto standard for passing data between a server and an HTML 5 application. JSON packets offer a smaller packet size than you'll get with alternatives such as XML. It is now natively supported by most programming languages and is great, extensible way to share your data.

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