



# JSON Syntax

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The JSON syntax is a subset of the JavaScript syntax.

## JSON Syntax Rules

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

## JSON Data - A Name and a Value

JSON data is written as name/value pairs (aka key/value pairs).

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

### Example

```
"name": "John"
```

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JSON names require double quotes.

## JSON - Evaluates to JavaScript Objects

The JSON format is almost identical to JavaScript objects.

In JSON, *keys* must be strings, written with double quotes:

### JSON

```
{"name": "John"}
```

In JavaScript, keys can be strings, numbers, or identifier names:

### JavaScript

```
{name: "John"}
```

## JSON Values

In **JSON**, *values* must be one of the following data types:

- a string
- a number
- an object
- an array
- a boolean

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In **JavaScript** values can be all of the above, plus any other valid JavaScript expression, including:

- a function
- a date
- undefined

In JSON, *string values* must be written with double quotes:

## JSON

```
{"name": "John"}
```

In JavaScript, you can write string values with double *or* single quotes:

## JavaScript

```
{name: 'John'}
```

# JavaScript Objects

Because JSON syntax is derived from JavaScript object notation, very little extra software is needed to work with JSON within JavaScript.

With JavaScript you can create an object and assign data to it, like this:

## Example

```
person = {name: "John", age: 31, city: "New York"};
```

You can access a JavaScript object like this:

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```
// returns John  
person.name;
```

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It can also be accessed like this:

## Example

```
// returns John  
person["name"];
```

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Data can be modified like this:

## Example

```
person.name = "Gilbert";
```

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It can also be modified like this:

## Example

```
person["name"] = "Gilbert";
```

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You will learn how to convert JavaScript objects into JSON later in this tutorial.

## JavaScript Arrays as JSON

The same way JavaScript objects can be written as JSON, JavaScript arrays can also be written as JSON.

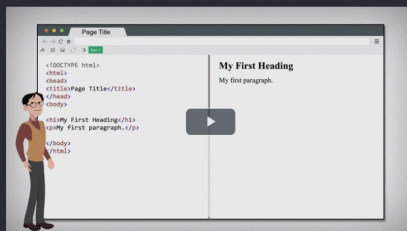
You will learn more about objects and arrays later in this tutorial.

## JSON Files

- The file type for JSON files is ".json"
- The MIME type for JSON text is "application/json"

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