Data types, syntax and example[[edit](https://en.wikipedia.org/w/index.php?title=JSON&action=edit&section=2" \o "Edit section: Data types, syntax and example)]

JSON's basic data types are:

* Number: a signed decimal number that may contain a fractional part and may use exponential [E notation](https://en.wikipedia.org/wiki/E_notation), but cannot include non-numbers such as [NaN](https://en.wikipedia.org/wiki/NaN" \o "NaN). The format makes no distinction between integer and floating-point. JavaScript uses a [double-precision floating-point format](https://en.wikipedia.org/wiki/Double-precision_floating-point_format) for all its numeric values, but other languages implementing JSON may encode numbers differently.
* [String](https://en.wikipedia.org/wiki/String_(computer_science)): a sequence of zero or more [Unicode](https://en.wikipedia.org/wiki/Unicode) characters. Strings are delimited with double-quotation marks and support a backslash [escaping](https://en.wikipedia.org/wiki/Escape_character) syntax.
* [Boolean](https://en.wikipedia.org/wiki/Boolean_datatype): either of the values true or false
* [Array](https://en.wikipedia.org/wiki/Array_data_structure): an [ordered list](https://en.wikipedia.org/wiki/List_(abstract_data_type)) of zero or more values, each of which may be of any type. Arrays use [square bracket](https://en.wikipedia.org/wiki/Square_bracket) notation and elements are comma-separated.
* Object: an unordered collection of [name–value pairs](https://en.wikipedia.org/wiki/Attribute%E2%80%93value_pair) where the names (also called keys) are strings. Since objects are intended to represent [associative arrays](https://en.wikipedia.org/wiki/Associative_array),[[14]](https://en.wikipedia.org/wiki/JSON" \l "cite_note-ecma2013-14) it is recommended, though not required,[[15]](https://en.wikipedia.org/wiki/JSON#cite_note-rfc7519-15) that each key is unique within an object. Objects are delimited with [curly brackets](https://en.wikipedia.org/wiki/Braces_(punctuation)#Braces) and use commas to separate each pair, while within each pair the colon ':' character separates the key or name from its value.
* [null](https://en.wikipedia.org/wiki/Nullable_type): An empty value, using the word null

Limited [whitespace](https://en.wikipedia.org/wiki/Whitespace_character) is allowed and ignored around or between syntactic elements (values and punctuation, but not within a string value). Only four specific characters are considered whitespace for this purpose: [space](https://en.wikipedia.org/wiki/Space_(punctuation)), [horizontal tab](https://en.wikipedia.org/wiki/Horizontal_tab), [line feed](https://en.wikipedia.org/wiki/Line_feed), and [carriage return](https://en.wikipedia.org/wiki/Carriage_return). In particular, the [byte order mark](https://en.wikipedia.org/wiki/Byte_order_mark) must not be generated by a conforming implementation (though it may be accepted when parsing JSON). JSON does not provide syntax for comments.

Early versions of JSON (such as specified by [RFC](https://en.wikipedia.org/wiki/Request_for_Comments_(identifier)) [4627](https://tools.ietf.org/html/rfc4627)) required that a valid JSON "document" must consist of only an object or an array type, which could contain other types within them.

**Example**

The following example shows a possible JSON representation describing a person.

{

**"firstName"**: "John",

**"lastName"**: "Smith",

**"isAlive"**: **true**,

**"age"**: 27,

**"address"**: {

**"streetAddress"**: "21 2nd Street",

**"city"**: "New York",

**"state"**: "NY",

**"postalCode"**: "10021-3100"

},

**"phoneNumbers"**: [

{

**"type"**: "home",

**"number"**: "212 555-1234"

},

{

**"type"**: "office",

**"number"**: "646 555-4567"

},

{

**"type"**: "mobile",

**"number"**: "123 456-7890"

}

],

**"children"**: [],

**"spouse"**: **null**

}

Phone numbers use array, an ordered list [ {item1}, {item2}, {item3} ] and “,” separates objects in list.