

@alighouri

JSON

JAVASCRIPT



JS

JavaScript JSON

JSON stands for Javascript Object Notation. JSON is a **text-based** data format that is used to **store** and **transfer data**.

- JSON is a **lightweight** data interchange format
- JSON is language independent
- In **JSON**, the data are in **key/value** pairs separated by a comma , .

```
// JSON syntax
{
  "name": "Imtiyaz",
  "age": 21,
  "gender": "male",
}
```

JSON Data

JSON data is written as **name/value** pairs, just like **JavaScript object** properties.

The **key** and **values** are written in double quotes separated by a colon **:**.

```
// JSON data  
"name": "imtiyaz"
```

JSON Object

The **JSON object** is written inside curly **braces{ }**.

JSON objects can contain multiple **key/value** pairs.

```
// JSON object  
{ "name": "Imtiyaz", "age": 21 }
```

Accessing JSON Data

You can access JSON data using the dot notation.

You can also use square bracket syntax `[]` to access JSON data.

For example :

```
// JSON object
const data = {
  "name": "Imtiyaz",
  "age": 21,
  "hobby": {
    "reading" : true,
    "gaming" : false,
    "sport" : "cricket"
  },
  "class" : ["JavaScript", "HTML", "CSS"]
}

// accessing JSON object
console.log(data.name); // Imtiyaz
console.log(data["name"]); // Imtiyaz
console.log(data.hobby);
// { gaming: false, reading: true, sport: "cricket"}

console.log(data.hobby.sport); // cricket
console.log(data.class[1]); // HTML
```

JSON to Object

You can convert JSON data to a JavaScript object using the built-in `JSON.parse()` function. For example,

```
// json object
const jsonData = '{ "name": "Imtiyaz", "age": 21 }';

// converting to JavaScript object
const obj = JSON.parse(jsonData);

// accessing the data
console.log(obj.name); // Imtiyaz
```


Object to JSON

You can also convert **JavaScript objects** to **JSON** format using the **JavaScript built-in `JSON.stringify()`** function.

For example,

```
// JavaScript object
const jsonData = { "name": "Imtiyaz", "age": 21 };

// converting to JSON
const obj = JSON.stringify(jsonData);

// accessing the data
console.log(obj); // '{"name":"Imtiyaz","age":21}'
```

Object Vs JSON

JSON

The key in **key/value** pair should be in **double quotes**.

JSON **cannot contain functions**.

JSON can be **created and used by other programming languages**.

JavaScript Object

The key in **key/value** pair can be **without double quotes**.

JavaScript objects **can contain functions**.

JavaScript objects can only be **used in JavaScript**.

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