Handling JSON Data

This lesson teaches the use of JSON data in JavaScript through a series of interactive examples.

Let's advance to a more interesting and realistic scenario. Very often, data available on web servers are published under the JSON format.

JSON and JavaScript

The JavaScript language offers native support for the JSON format:

- The `JSON.parse()` method transforms a JSON string into a JavaScript object.
- On the contrary, the `JSON.stringify()` method transforms a JavaScript object into a JSON string.

```
// Define a JavaScript object
const plane = {
  manufacturer: "Airbus",
  model: "A320"
};
console.log(plane); // Display the object

const planeText = JSON.stringify(plane);
console.log(planeText); // Display the object as a JSON string

console.log(JSON.parse(planeText)); // Display the object
```

These methods can also handle JSON arrays

These methods can also handle JSON arrays.

```javascript
// Define an array containing two objects
const planes = [
  {
    manufacturer: "Airbus",
    model: "A320"
  },
  {
    manufacturer: "Boeing",
    model: "737"
  }
];
console.log(planes); // Display the array of objects

const planesText = JSON.stringify(planes);
console.log(planesText); // Display the array as a JSON string

console.log(JSON.parse(planesText)); // Display the array of objects
```

Example: Retrieving JSON Content

For example, the following JSON file `movies.json` contains information about some movies. This file defines an array containing three objects.

```json
[
  {
    "title": "The Wolf of Wall Street",
    "year": "2013",
    "author": "Martin Scorsese"
  },
  {
    "title": "Inside Out",
    "year": "2015",
    "author": "Pete Docter"
  },
  {
    "title": "Babysitting",
    "year": "2013",
    "author": "Philippe Lacheau and Nicolas Benamou"
  }
]
```

Here's how to retrieve this file from its URL and display each movie title in the console.

```javascript
fetch(
  "https://raw.githubusercontent.com/bpesquet/thejsway/master/resources/movies.json"
)
```

```
  .then(response => response.json()) // Access and return response's JSON content
  .then(movies => {
    // Iterate on the movie array

    movies.forEach(movie => {
      // Display title of each movie
      console.log(movie.title);
    });
  })
  .catch(err => {
    console.error(err.message);
  });
```

The `json()` method of the HTTP `Response` object returns a promise that resolves with the result of parsing the response text as JSON. As such, the `movies` parameter of the second `then()` is a plain JavaScript array that can be iterated upon.