## Contents

## JSON:

- JSON stands for **J**ava**S**cript **O**bject **N**otation
- JSON is a lightweight data-interchange format
- JSON is plain text written in JavaScript object notation
- JSON is used to send data between computers
- JSON is language independent *

### Why Use JSON?

The JSON format is syntactically similar to the code for creating JavaScript objects. Because of this, a JavaScript program can easily convert JSON data into JavaScript objects.

Since the format is text only, JSON data can easily be sent between computers, and used by any programming language.

JavaScript has a built in function for converting JSON strings into JavaScript objects:

```
JSON.parse()
```

JavaScript also has a built in function for converting an object into a JSON string:

```
JSON.stringify()
```

You can receive pure text from a server and use it as a JavaScript object.

You can send a JavaScript object to a server in pure text format.

You can work with data as JavaScript objects, with no complicated parsing and translations.

### Storing Data

When storing data, the data has to be a certain format, and regardless of where you choose to store it, text is always one of the legal formats.

JSON makes it possible to store JavaScript objects as text.

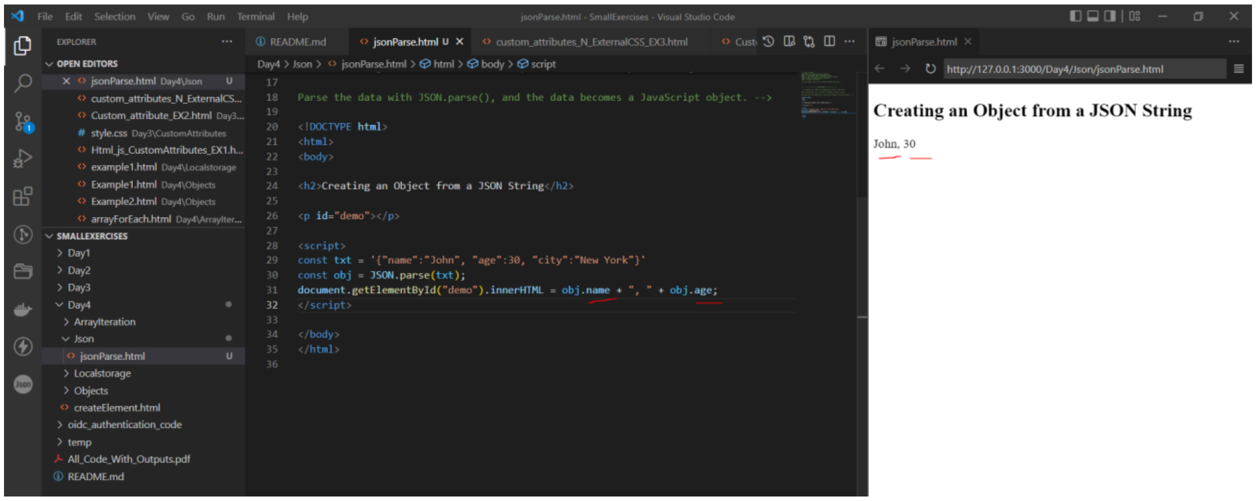
## JSON PARSE:

A common use of JSON is to exchange data to/from a web server.

When receiving data from a web server, the data is always a string.

Parse the data with `JSON.parse()`, and the data becomes a JavaScript object.

### Example1:

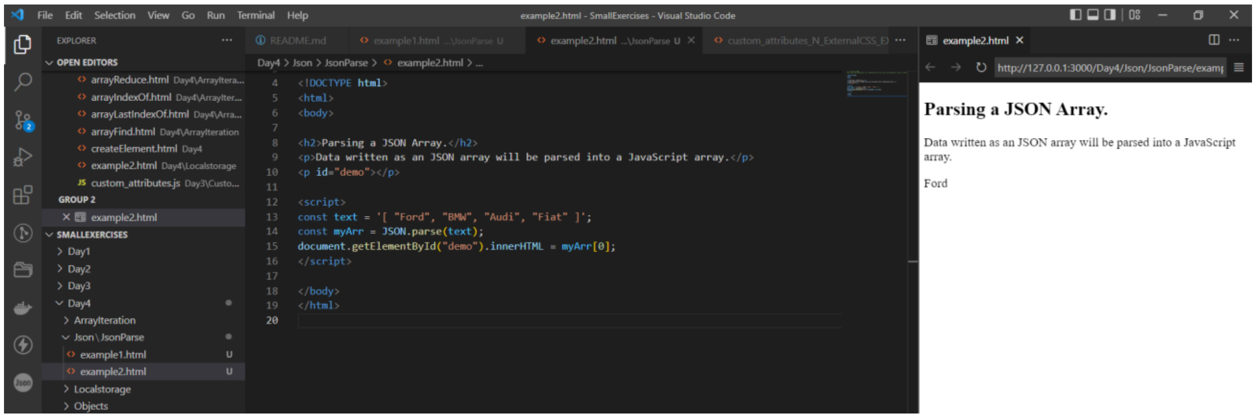


```
Parse the data with JSON.parse(), and the data becomes a JavaScript object. -->

<!DOCTYPE html>
<html>
<body>

<h2>Creating an Object from a JSON String</h2>

<p id="demo"></p>

<script>
const txt = '{"name":"John", "age":30, "city":"New York"}'
const obj = JSON.parse(txt);
document.getElementById("demo").innerHTML = obj.name + ", " + obj.age;
</script>

</body>
</html>
```

```
Creating an Object from a JSON String

John, 30
```

### Example2:

Json Array:

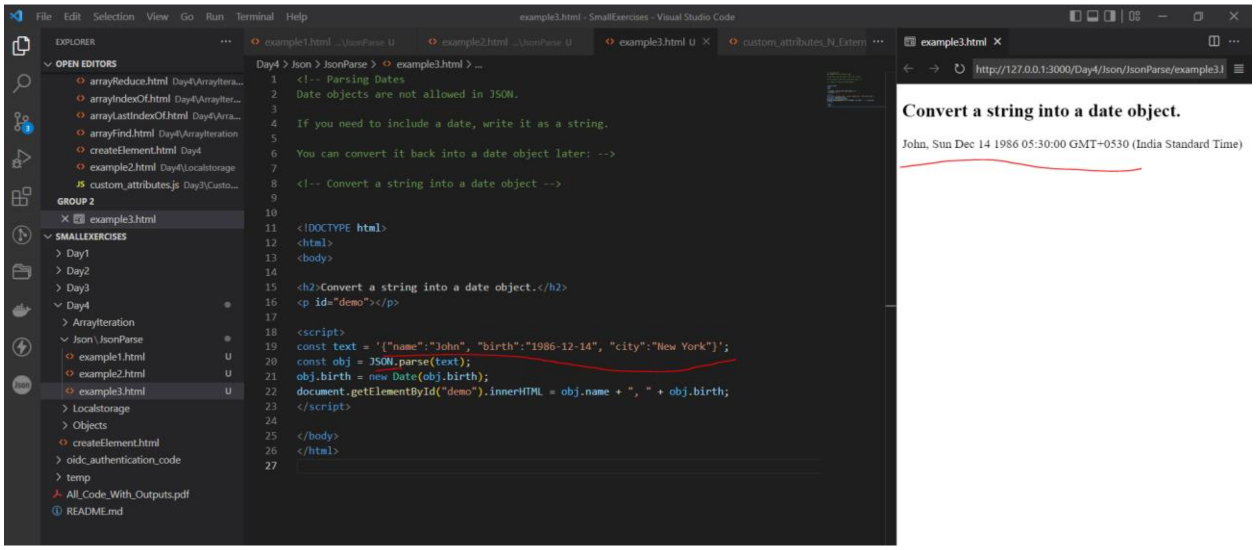


```
<!DOCTYPE html>
<html>
<body>

<h2>Parsing a JSON Array.</h2>
<p>Data written as an JSON array will be parsed into a JavaScript array.</p>
<p id="demo"></p>

<script>
const text = '[ "Ford", "BMW", "Audi", "Fiat" ]';
const myArr = JSON.parse(text);
document.getElementById("demo").innerHTML = myArr[0];
</script>

</body>
</html>
```

```
Parsing a JSON Array.

Data written as an JSON array will be parsed into a JavaScript array.

Ford
```

### Example3:

**Parsing Dates:**



```html
<!-- Parsing Dates
Date objects are not allowed in JSON.

If you need to include a date, write it as a string.

You can convert it back into a date object later: -->

<!-- Convert a string into a date object -->


<!DOCTYPE html>
<html>
<body>

<h2>Convert a string into a date object.</h2>
<p id="demo"></p>

<script>
const text = '{"name":"John", "birth":"1986-12-14", "city":"New York"}';
const obj = JSON.parse(text);
obj.birth = new Date(obj.birth);
document.getElementById("demo").innerHTML = obj.name + ", " + obj.birth;
</script>

</body>
</html>
```

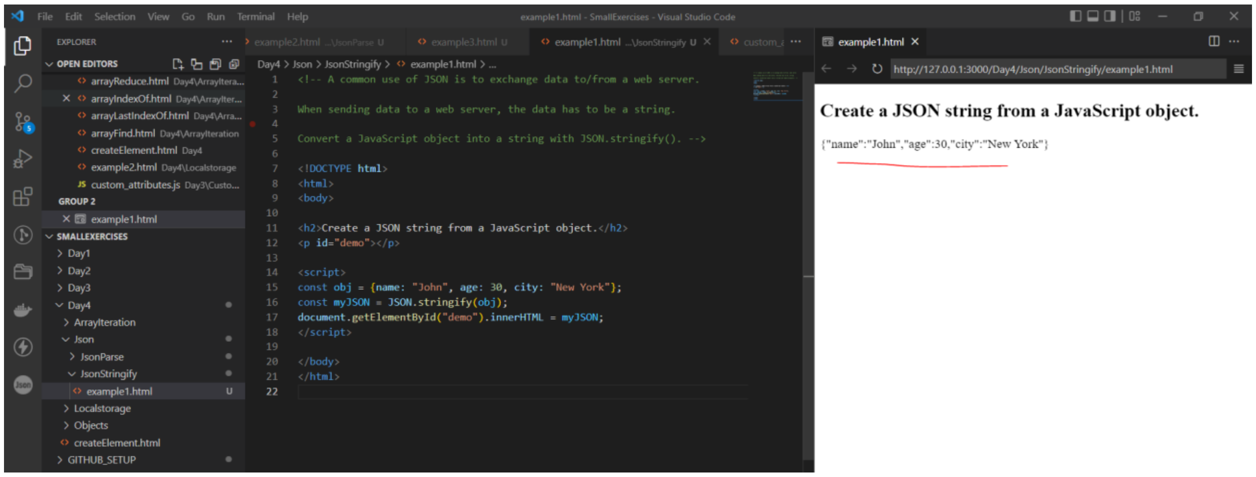
**Convert a string into a date object.**

```
John, Sun Dec 14 1986 05:30:00 GMT+0530 (India Standard Time)
```

## JSON Stringify:

### Stringify object:

### Example-1:



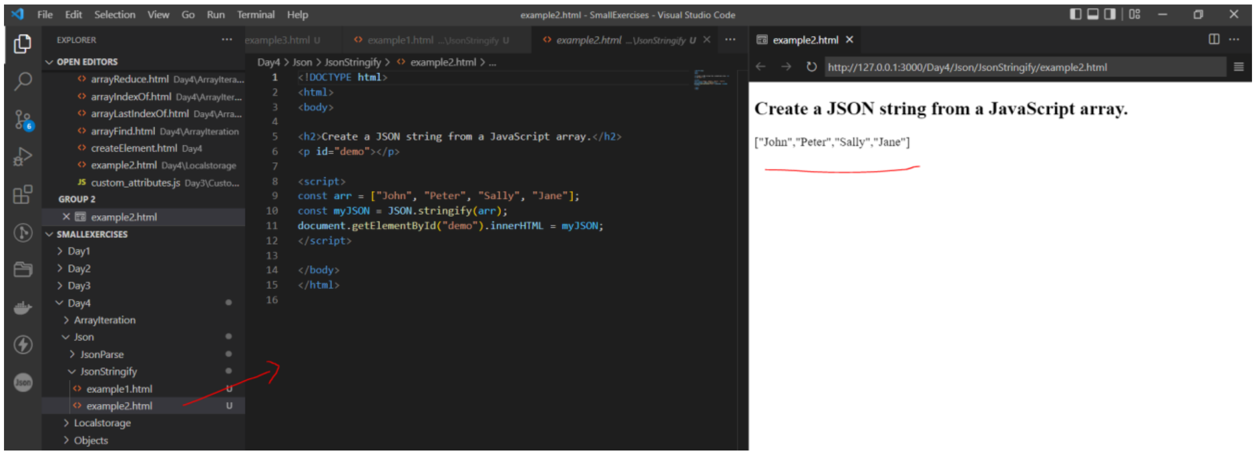
```html
<!-- A common use of JSON is to exchange data to/from a web server.

When sending data to a web server, the data has to be a string.

Convert a JavaScript object into a string with JSON.stringify(). -->

<!DOCTYPE html>
<html>
<body>

<h2>Create a JSON string from a JavaScript object.</h2>
<p id="demo"></p>

<script>
const obj = {name: "John", age: 30, city: "New York"};
const myJSON = JSON.stringify(obj);
document.getElementById("demo").innerHTML = myJSON;
</script>

</body>
</html>
```

**Create a JSON string from a JavaScript object.**

```
{"name":"John","age":30,"city":"New York"}
```

## Stringify Array:

## Example-2:



```html
<!DOCTYPE html>
<html>
<body>

<h2>Create a JSON string from a JavaScript array.</h2>
<p id="demo"></p>

<script>
const arr = ["John", "Peter", "Sally", "Jane"];
const myJSON = JSON.stringify(arr);
document.getElementById("demo").innerHTML = myJSON;
</script>

</body>
</html>
```

**Create a JSON string from a JavaScript array.**

```
["John","Peter","Sally","Jane"]
```