01. JSON Introduction.

JSON: JavaScript Object Notation.

- JSON is a syntax for storing and exchanging data.
- JSON is text, written with JavaScript object notation.

1.1. Exchanging Data

- When exchanging data between a browser and a server, the data can only be text.
- JSON is text, and we can convert any JavaScript object into JSON, and send JSON to the server.
- We can also convert any JSON received from the server into JavaScript objects.
- This way we can work with the data as JavaScript objects, with no complicated parsing and translations.

1.2. Sending Data

If you have data stored in a JavaScript object, you can convert the object into JSON, and send it to a server:

Example:

```
var myObj = { "name":"John", "age":31, "city":"New York" };
var myJSON = JSON.stringify(myObj);
window.location = "demo_json.php?x=" + myJSON;
```

You will learn more about the JSON.stringify() function later in this tutorial.

1.3. 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.

Example: Storing data in local storage.

```
//Storing data:
myObj = { "name":"John", "age":31, "city":"New York" };
myJSON = JSON.stringify(myObj);
localStorage.setItem("testJSON", myJSON);

//Retrieving data:
text = localStorage.getItem("testJSON");
obj = JSON.parse(text);
document.getElementById("demo").innerHTML = obj.name;
```

1.4. What is JSON?

- JSON stands for JavaScript Object Notation
- JSON is a lightweight data-interchange format
- JSON is "self-describing" and easy to understand
- JSON is language independent*

* JSON uses JavaScript syntax, but the JSON format is text only. Text can be read and used as a data format by any programming language.

The JSON format was originally specified by **Douglas Crockford (**http://www.crockford.com/ **)**.

1.5. Why use JSON?

Since the JSON format is text only, it can easily be sent to and from a server, and used as a data format by any programming language.

JavaScript has a built in function to convert a string, written in JSON format, into native JavaScript objects: *JSON.parse()*

So, if you receive data from a server, in JSON format, you can use it like any other JavaScript object.