

Unit 6.1 Highlights

(Source: W3Schools)

JSON - JavaScript Object Notation; Format for storing and transporting data, often used when data is sent from a server to a web page. JSON is written as name/value pairs, just like JavaScript object properties. However, JSON names require double quotes. JavaScript names do not.

JSON.parse() - JavaScript built-in function to convert the string into a JavaScript object

Ex 1.

```
var villains = {
  "list": [
    {"name": "Magneto"},
    {"name": "Juggernaut"},
    {"name": "Cobra Commander"},
    {"name": "Starscream"},
    {"name": "Soundwave"},
    {"name": "ED209"}
  ]
}
var obj = JSON.parse(villains);
console.log(obj.list[5].name) //results in ED209
```

JSON.stringify() - JavaScript built-in function to convert JavaScript objects into a string

Ex 2.

```
var moreVillains = {
  "list": [
    {"name": "gas prices"},
    {"name": "pot holes"},
    {"name": "people who don't change their fantasy team rosters"},
    {"name": "sunny days"},
    {"name": "carbohydrates"},
    {"name": "people who like banana flavored candy"}
  ]
}

var villainString = JSON.stringify(moreVillains);
console.log(villainString);
//{"list":[{"name":"gas prices"}, {"name":"pot holes"}, {"name":"people who don't change their fantasy team rosters"}, {"name":"sunny days"}, {"name":"carbohydrates"}, {"name":"tailgaters"}]}
```

AJAX - Asynchronous JavaScript and XML; Transport mechanism for data between two or more machines.

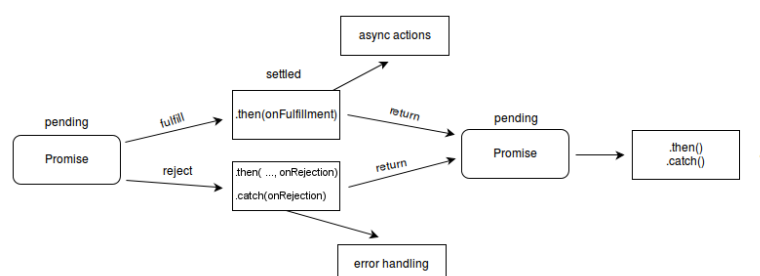
Advantages include...

- Update a web page without reloading the page
- Request data from a server - after the page has loaded
- Receive data from a server - after the page has loaded
- Send data to a server - in the background

\$.ajax() - jQuery method used to make AJAX calls

Promise - JavaScript object which represents the eventual completion (or failure) of an asynchronous operation, and its resulting value.

(Source: MDN Web Docs, Promise)



Ex 3.

```
//jQuery invocation of an AJAX call
$.ajax({
  method: "an HTTP method goes here", //GET, POST, PUT, DELETE, etc.
  url: "an accessible URL goes here", //http://lefttwix.gov/api?name=GeorgePBurdell
  data: {} //used to send complex data i.e. {"productName": "Item1"}
}).then(function(response){ //$.then() runs when a promise has been fulfilled/rejected
  console.log("YAY! Something happened!!");
});
```

Parts of a URL (Source: MDN Web Docs, What is a URL)

<http://www.example.com:80/path/to/myfile.html?key1=value1&key2=value2#SomewhereInTheDocument>

http - Name of the protocol the browser must use. A protocol is a set method for exchanging or transferring data around a computer network.

Domain name - indicates which Web server is being requested. Alternatively, it is possible to directly use an IP address

Port - Indicates the technical "gate" used to access the resources on the web server.

Path to file - Path to the resource on the Web server

Parameters - Extra parameters provided to the Web server

Anchor - Reference to another part of the resource itself (bookmark)



API - Application Programming Interfaces; Provide a way for creating user code that utilizes other pre-built code to do various tasks. It can be used to quickly retrieve data from another person's database, to utilize someone else's more complex functionality (like maps), or to control other hardware and software.