Asynchronous JavaScript & XML (AJAX)

Technique for accessing web servers from a web page.

Modifies only a portion of the displayed page without the need to reload the whole document file

Enables more interactivity not possible in the traditional web applications using synchronous request and response model

Partial Page Update

A mark up file (.cshtml) that renders HTML output wihtin another markup file's rendered output

In controller: return(PartialView ("_viewPage", model());

In .cshtml: <partial name = "_viewPage" model = ("codes in here")

Web API

REST APIs

- Stands for **RE**presentational **S**tate **T**ranswer
- Operats on HTTP request/Response Protocol

HTTP Status Code

- Sucessful Responses: 200, 201
- Redirection Response: 301
- Client Error: 400, 401, 403, 404
- Server Error: 500

API returning object with HTTP Status

- IActionResult return type like Web App controller
- Able to be return with HTTP response status:

Ok(200)
NotFound(404
BadRequest(400)
UnAuthorized(401)

Media Format Support in WEB API

- XML (eXtensible Markup Language)
- JSON(JavaScript Object Notation)
- BSON(Binary JSON)

Web API Routing

- Routing maps incoming requests to specific controller and action

Example:

In ApiController: `[Route ("api/(name of contro lle r)")]`

In Browser: http://localhost/api/controller

jQuery

jQuery (cont)

getJSON() - method used to get JSON data using a AJAX HTTP GET request

Syntax:

$(selector).getJSON(url,data,success(data,status,xhr))

Example:

```
$.getJ SON ("bo ok.j son, function (result){$(" #aa a").h tm l(r esu lt.t itle);
```

append() - method to insert specified content at the end of the selected elements. Use **prepend()** to insert content at the beginning.

Syntax:

$(selector).append(content)

each() - method to iterate over DOM elements, arrays and objects.

Syntax

$(selector).each(function(index, value))

$.each(collection, function(index, value))

serailize() - method to create a URL encoded text string by serializing form values.

Syntax

$(selector).seralize()

ajax() - method which provides core functionality of AJAX

Syntax:

$.ajax(url)

$.ajax(url, [options])

Promises in JavaScript

Represents the eventual completion of an asynchronous operation and its resulting value

Examples of 3 methods for handling promises:

-done()

-fail()

-always()

JSON

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load() - method is used to load data from a server and puts the returned data into the selected element.
Syntax:
$(selector).load(URL)
$(selector).load(URL, data, callback)

Data Types
- Number
- String
- Boolean
- Object
- Array
- null

Objects
- JSON objects are dictionaries.
- Enclosed with curly brackets { }
- Keys and Values can be any data type

Arrays
- Arrays are Lists
- Enclosed with square brackets { }
- In between, a list of values separated by commas.
- Each of which ma be of any type.

Nesting
- Nesting Involves putting arrays and objects inside each other
- Arrays can be put inside objects, objects inside arrays, and so on.
- A JSON file can be one BIG object with lots of objects and arrays inside

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