**HTTP is based on Client / Server Model. Communicating VIA [Request and Responses].**

**What is HTTP/1.1?**

* The first usable version of HTTP was created in 1997.
* first version of HTTP was called HTTP/1.1. This version is still in use on the web.
* HTTP/1.1 loads resources one after the other, so if one resource cannot be loaded, it blocks all the other resources behind it.
* HTTP/1. x, which uses text formats.

**What is HTTP/2?**

* In 2015, a new version of HTTP called HTTP/2 was created.
* HTTP/2 solves several problems that the creators of HTTP/1.1 did not anticipate. In particular, HTTP/2 is much faster and more efficient than HTTP/1.1.
* One of the ways in which HTTP/2 is faster is in how it prioritizes content during the loading process.
* HTTP/2 is able to use a single TCP connection to send multiple streams of data at once so that no one resource blocks any other resource.
* HTTP/2 is a binary protocol that uses a binary format for data transmission

**Objects and its internal representation in Javascript**

“A JavaScript object is a collection of named values having state and behavior (properties and method)”.

## **1)Objects:**

Objects are variables too. But objects can contain many values.

**SYNTAX:**

var <object-name> = {key1: value1, key2: value2,... keyN: valueN};

## **2)Object Properties**

The named values, in JavaScript objects, are called **properties**.

Properties can usually be changed, added, and deleted, but some are read only.

var car = {

Make: “Mercedes”,

Model: “C-Class”,

Color: “White”,

Fuel: Diesel,

Weight: “850kg”,

Mileage: “8Kmpl”,

Rating: 4.5

};

**The syntax for adding a property**

ObjectName.ObjectProperty = propertyValue;

Car.Rating = 4.5

**syntax for deleting a property**

delete ObjectName.ObjectProperty;

**delete car.weight;**

**syntax to access a property**

objectName.property        // Car.Make

objectName["property”]    // Car["Make"]

objectName[expression]   // x = "Make"; Car[x]

**3)Object Methods**

Const var car = {

Make: “Mercedes”,

Model: “C-Class”,

Color: “White”,

Fuel: Diesel,

Cardetail: function(){

return this.Make + “ “+this.Color;

}

};

Car.Cardetail;

**IP address**

An Internet Protocol (IP) address is a unique numerical identifier for every device or network that connects to the internet. Typically assigned by an internet service provider (ISP), an IP address is an online device address used for communicating across the internet.

**What is Port in Computer/Computer Port?**

A computer port or a communication port is a connection point used as an interface between the computer & the peripherals like keyboard, mouse, printer, display unit, monitor, flash drive and speaker. The computer port transmits the data from any peripheral to the computer. In general, the communication ports are available in two types and the classification of this can be done based on the protocol used & type for communication like Serial Ports as well as Parallel Ports.

## **HTTP Methods**

* **GET**
* **POST**
* **PUT**
* **HEAD**
* **DELETE**
* **PATCH**
* **OPTIONS**
* **CONNECT**
* **TRACE**

The two most common HTTP methods are: GET and POST.

## **The GET Method**

GET is used to request data from a specified resource.

## **The POST Method**

POST is used to send data to a server to create/update a resource.

## **The DELETE Method**

The DELETE method deletes the specified resource.

# **What is MAC Address?**

* MAC address is the physical address, which uniquely identifies each device on a given network. To make communication between two networked devices, we need two addresses: **IP address and MAC address.** It is assigned to the NIC (Network Interface card) of each device that can be connected to the internet.
* It stands for **Media Access Control**, and also known as **Physical address, hardware address, or BIA (Burned In Address).**
* It is globally unique; it means two devices cannot have the same MAC address. It is represented in a hexadecimal format on each device, such as **00:0a:95:9d:67:16.**
* It is 12-digit, and 48 bits long, out of which the first 24 bits are used for ***OUI***(Organization Unique Identifier), and 24 bits are for NIC/vendor-specific.
* It works on the data link layer of the OSI model.
* It is provided by the device's vendor at the time of manufacturing and embedded in its NIC, which is ideally cannot be changed.
* The **ARP protocol** is used to associate a logical address with a physical or MAC address.