

HTTP/1.1 vs HTTP/2: What's the Difference?

HTTP/1.1

Developed by Timothy Berners-Lee in 1989 as a communication standard for the World Wide Web, HTTP is a top-level application protocol that exchanges information between a client computer and a local or remote web server. HTTP is a network delay sensitive protocol in the sense that if there is less network delay, then the page loads faster. In this process, a client sends a text-based request to a server by calling a *method* like `GET` or `POST`. In response, the server sends a resource like an HTML page back to the client.

HTTP/2:

Uses multiplexing, where over a single TCP connection resources to be delivered are interleaved and arrive at the client almost at the same time. It is done using streams which can be prioritized, can have dependencies and individual flow control. It also provides a feature called server push that allows the server to send data that the client will need but has not yet requested.

Underlying semantics of HTTP such as headers, status codes remains the same. Security concerns from previous versions will continue to be seen in HTTP/2. However, it is better equipped to deal with them due to new TLS features like connection error of type `Inadequate_Security`. HTTP/2 utilizes multiplexing and server push to effectively reduce the page load time by a greater margin along with being less sensitive to network delays.

Objects And Its Internal Representation In JavaScript

Objects, in JavaScript, is it's most important data-type and forms the building blocks for modern JavaScript. These objects are quite different from JavaScript's primitive data-types(Number, String, Boolean, null, undefined and symbol) in the sense that while these primitive data-types all store a single value each (depending on their types).

Objects are more complex and each object may contain any combination of these primitive data-types as well as reference data-types. An object, is a reference data type. Variables that are assigned a reference value are given a reference or a pointer to that value. That reference or pointer points to the location in memory where the object is stored. The variables don't actually store the value.

Loosely speaking, objects in JavaScript may be defined as an unordered collection of related data, of primitive or reference types, in the form of "key: value" pairs. These keys can be variables or functions and are called properties and methods, respectively, in the context of an object.