# **Difference Between HTTP1.1 AND HTTP2**

* **Resource Optimization:**
* **HTTP/1.1:** Requires techniques like domain sharding and inlining to optimize resource loading.
* **HTTP/2:** Mitigates the need for domain sharding and inlining by allowing more efficient simultaneous loading of resources through multiplexing.
* **Header Duplication:**
* **HTTP/1.1:** Headers are often duplicated in each request, leading to increased overhead.
* **HTTP/2:** Headers are compressed and use a header table, reducing duplication and saving bandwidth.
* **Flow Control:**
* **HTTP/1.1:** Lacks a standardized flow control mechanism.
* **HTTP/2:** Implements flow control, enabling better management of data transmission between the client and server.
* **Round-Trip Reduction:**
* **HTTP/1.1:** Multiple round-trips are often necessary to fulfill a single request.
* **HTTP/2:** Aims to minimize round-trips through features like multiplexing, header compression, and server push, improving overall performance.
* **Dependency Handling:**
* **HTTP/1.1:** Limited in handling dependencies between resources.
* **HTTP/2:** Allows for more efficient dependency handling, ensuring that resources are loaded in the correct order to optimize page rendering.
* **Cache Efficiency:**
* **HTTP/1.1:** Caching strategies may be less effective due to the lack of granularity in specifying which parts of a resource have changed.
* **HTTP/2:** Provides more granular control over caching by allowing servers to push only the parts of a resource that have changed.
* **Header Size Limits:**
* **HTTP/1.1:** Headers are often large, especially when dealing with cookies and other metadata.
* **HTTP/2:** Implements mechanisms to reduce header sizes, optimizing data transfer and improving performance.
* **Connection Warm-up:**
* **HTTP/1.1:** Establishing new connections can incur latency.
* **HTTP/2:** Supports connection reuse, reducing the need to repeatedly establish new connections and lowering latency.
* **Browser Compatibility:**
* **HTTP/1.1:** Widely supported by all browsers.
* **HTTP/2:** Becoming increasingly supported by major browsers, but may have varied support for some features.
* **Protocol Negotiation:**
* **HTTP/1.1:** The protocol negotiation is not explicitly specified.
* **HTTP/2:** Includes a mechanism for the client and server to negotiate the use of HTTP/2 during the initial connection, enhancing compatibility and performance.