Difference between HTTP/1.1 and HTTP/2

**KEY FEATURES**

**HTTP/1.1**: It supports connection reuse i.e. for every TCP connection there could be multiple requests and responses, and pipelining where the client can request several resources from the server at once. However, pipelining was hard to implement due to issues such as head-of-line blocking and was not a feasible solution.

**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.

**STATUS CODE**

**HTTP/1.1**: Introduces a warning header field to carry additional information about the status of a message. Can define 24 status codes, error reporting is quicker and more efficient.

**HTTP/2**: Underlying semantics of HTTP such as headers, status codes remains the same.

**AUTHENTICATION MECHANISM**

**HTTP/1.1:** It is relatively secure since it uses digest authentication, NTLM authentication.

**HTTP/2:** 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.

**CACHING**

**HTTP/1.1:** Expands on the caching support by using additional headers like cache-control, conditional headers like If-Match and by using entity tags.

**HTTP/2:**  does not change much in terms of caching. With the server push feature if the client finds the resources are already present in the cache, it can cancel the pushed stream.

**PROTOCOL TYPE**

**HTTP/1.1:** Text based protocol that is in the readable form.

**HTTP/2:** It is a binary protocol (HTTP requests are sent in the form of 0s and 1s). Needs to be converted back from binary in order to read it.