**Muhammad Abdullah**

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Web Engineering Course

Assignment 4: Task 2

**Different Versions of HTTP**

|  |  |  |
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| HTTP/1.0 | HTTP/1.1 | HTTP/2 |
| Formed in 1991 | Formed in 1997 | Formed in 2015 |
| Only one request and response for every TCP request. | It supports the connection to be reused. It works on the principle of pipes. For every request, pipes are available for multiple responses. | Uses multiplexing, where over a single TCP connection resource to be delivered are interleaved and arrive at the client almost at the same time |
| It can define 16 status codes. | It can define 24 status codes. | It also defines 24 status codes. |
| Error prompt is not specific enough. | Error reporting is efficient and quicker. | Underlying semantics of HTTP such as headers |
| Use a basic authentication procedure by which all credentials remain in textual form. | It is relatively secure since it uses digest authentication. | It is better equipped to deal with security concerns due to new TLS features like connection error of type Inadequate Security. |
| Provides support for caching via the If-Modified-Since header. | Expands on the caching support by using additional headers like cache-control, conditional headers. | With the server push feature, if the client finds the resources are already present in the cache, it can cancel the pushed stream. |
| It provides normal timed delivery of web pages and web traffic. | It provides faster delivery of web pages and reduces web traffic. | It utilizes multiplexing and server push to effectively reduce the page load time by a greater margin. |
| It has a normal risk of network congestion. | It has an increased risk of network congestion. | It brings less sensitivity to network delays. |

**Different Versions of Request Method**

1. **HTTP Get Request:**

We use GET to read or retrieve a resource. A successful GET returns a response containing the information you requested.

1. **HTTP Post Request:**

We use POST to create a new resource. A POST request requires a body in which you define the data of the entity to be created.

1. **HTTP Put Request:**

We use PUT to modify a resource. PUT updates the entire resource with data that is passed in the body payload. If no resource matches the request, it will create a new resource.

1. **HTTP Patch Request:**

We use PATCH to modify a part of a resource. With PATCH, you only need to pass in the data that you want to update.

1. **HTTP Delete Request:**

We use DELETE to delete a resource.

**Different Versions of Response Status**

HTTP response status codes indicate whether a specific [HTTP](https://developer.mozilla.org/en-US/docs/Web/HTTP) request has been completed. Responses are grouped into five classes:

1. [Informational responses](https://developer.mozilla.org/en-US/docs/Web/HTTP/Status#information_responses) (100–199)
2. [Successful responses](https://developer.mozilla.org/en-US/docs/Web/HTTP/Status#successful_responses) (200–299)
3. [Redirection messages](https://developer.mozilla.org/en-US/docs/Web/HTTP/Status#redirection_messages) (300–399)
4. [Client error responses](https://developer.mozilla.org/en-US/docs/Web/HTTP/Status#client_error_responses) (400–499)
5. [Server error responses](https://developer.mozilla.org/en-US/docs/Web/HTTP/Status#server_error_responses) (500–599)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 100-199 | 200-299 | 300-399 | 400-499 | 500-599 |
| 100: Continue | 200: OK | 300: Multiple Choice | 400: Bad Request | 500: Internal Server Error |
| 101: Switching protocols. | 201: Created | 301: Moved Permanently | 401: Unauthorized | 501: Not Implemented |
| 102: Processing | 202: Accepted | 302: Found | 402: Payment Required | 502: Bad Gateway |
| 103: Early Hints | 203: Non-Authoritative Information | 303: See Other | 403: Forbidden | 503: Service Unavailable |
|  | 204: No Content | 304: Not Modified | 404: Not Found | 504: Gateway Timeout |
|  | 205: Reset Content | 305: Used Proxy | 405: Method not Found | 505: HTTP version not supported. |
|  | 206: Partial Content | 306: Unused | 406: Not Acceptable | 506: Variant Negotiates |

There are more response statuses for the 200, 300, 400, and 500 series but these are the most popular ones. All of the responses rely on what type of request method is received by them.

200 series go up to 226 responses.

300 series go up to 308 responses.

400 series go up to 451 responses.

500 series go up to 511 responses.