HTTP

SBNA-Internship

# Problem:

What is HTTP? || What is HTTP return type? || What is HTTP method?

# Sources:

* www.ntu.edu.sg
* developer.mozilla.org
* en.wikipedia.org

# Objectives:

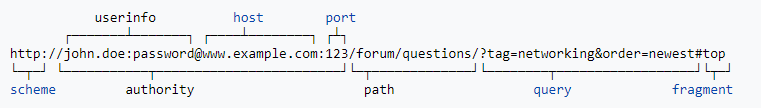
* To understand the concepts of Web protocol HTTP
* To gain knowledge about different methods of HTTP requests
* To grasp about the different types of HTTP return types

# Requirements/Task(s):

Basic knowledge of web

Basics of REST API

# Record your notes/research here:

* The Hypertext Transfer Protocol (HTTP) is an application protocol for distributed, collaborative, hypermedia information systems. HTTP is the foundation of data communication for the World Wide Web, where hypertext documents include hyperlinks to other resources that the user can easily access, for example by a mouse click or by tapping the screen in a web browser.
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* The term hypertext was coined by Ted Nelson in 1965 in the Xanadu Project, which was in turn inspired by Vannevar Bush's 1930s vision of the microfilm-based information retrieval and management "memex" system described in his 1945 essay "As We May Think". Tim Berners-Lee and his team at CERN are credited with inventing the original HTTP, along with HTML and the associated technology for a web server and a text-based web browser. Berners-Lee first proposed the "WorldWideWeb" project in 1989—now known as the World Wide Web. The first version of the protocol had only one method, namely GET, which would request a page from a server. The response from the server was always an HTML page.
* An HTTP session is a sequence of network request-response transactions. An HTTP client initiates a request by establishing a Transmission Control Protocol (TCP) connection to a particular port on a server (typically port 80, occasionally port 8080; see List of TCP and UDP port numbers). An HTTP server listening on that port waits for a client's request message. Upon receiving the request, the server sends back a status line, such as "HTTP/1.1 200 OK", and a message of its own. The body of this message is typically the requested resource, although an error message or other information may also be returned.

# HTTP Request methods:

* The GET method requests a representation of the specified resource. Requests using GET should only retrieve data.
* The HEAD method asks for a response identical to that of a GET request, but without the response body
* The POST method is used to submit an entity to the specified resource, often causing a change in state or side effects on the server.
* The PUT method replaces all current representations of the target resource with the request payload.
* The DELETE method deletes the specified resource.
* The CONNECT method establishes a tunnel to the server identified by the target resource.
* The OPTIONS method is used to describe the communication options for the target resource.
* The TRACE method performs a message loop-back test along the path to the target resource.
* The PATCH method is used to apply partial modifications to a resource.

# HTTP Return methods:

## 1xx Informational

* 100 Continue
* 101 Switching Protocols
* 102 Processing (WebDAV)

## 2xx Success

* 200 OK
* 201 Created
* 202 Accepted
* 203 Non-Authoritative Information
* 204 No Content
* 205 Reset Content
* 206 Partial Content
* 207 Multi-Status (WebDAV)
* 208 Already Reported (WebDAV)
* 226 IM Used

## 3xx Redirection

* 300 Multiple Choices
* 301 Moved Permanently
* 302 Found
* 303 See Other
* 304 Not Modified
* 305 Use Proxy
* 306 (Unused)
* 307 Temporary Redirect
* 308 Permanent Redirect (experimental)

## 4xx Client Error

* 400 Bad Request
* 401 Unauthorized
* 402 Payment Required
* 403 Forbidden
* 404 Not Found
* 405 Method Not Allowed
* And more …

## 5xx Server Error

* 500 Internal Server Error
* 501 Not Implemented
* 502 Bad Gateway
* 503 Service Unavailable
* And more ….

# Summarize what you learned:

HTTP is very functional protocol for the web. The protocol has many meaning full return types which makes the integration of backend logic seamless