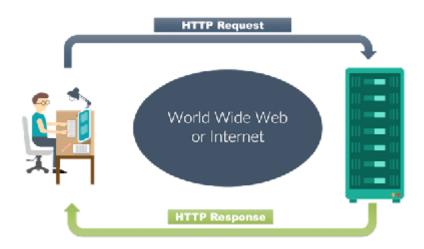# Additional Notes

What is an HTTP Protocol?

- The Hypertext Transfer Protocol (HTTP) establishes communication between client and server.
- Your server will receive requests from the client/browser that follow HTTP protocol and then respond with an HTTP response that all browsers can parse.

HTTP request

- HTTP requests are messages which are sent by the client or user to initiate an action on the server.
- The purpose of the request is to access a resource on the server.

HTTP response

- An HTTP response is made by a server to a client.
- The main purpose of the response is to provide the client with the resource it requested.
- It is also used to inform the client that the action requested has been carried out.
- It can also inform the client that an error has occurred in processing its request.

HTTP request methods

- HTTP request methods define how the data is sent. The data can be sent in different ways to the server.
- The most commonly used HTTP methods are GET, POST, PUT, PATCH and DELETE.

GET Method
- The Get method is generally used when you want to retrieve or get the information from the server. (In this case, we don't want the server to make some changes in the database).
- Get request is not secured because data is exposed in the URL bar.
- In the case of a Get request, only a limited amount of data can be sent because data is sent in the header.
- Get request is idempotent, which means the second request will be ignored until the response of the first request is delivered.
- Get requests can be cached.

POST Method
- The post method is generally used when you send the data to the server and want the server to either save it or create some data around it or update the existing entry.
- Post request is relatively more secure because data is not exposed in the URL bar compared to get request.
- In the case of Post request, a large amount of data can be sent because data is sent in the body.
- Post request is non-idempotent.
- Post requests are never cached.

PUT Method
- The Put method is used to modify resources where the client sends the data that updates the entire resources.
- PUT is similar to POST in that it can create resources, but it does so when there is a defined URL wherein PUT replaces the entire resource if it exists or creates new if it does not exist.

PATCH Method
- The PATCH method is used for a partial update which means fields that need to be updated by the client; only that field is updated without modifying the other field.

Delete Method
- The Delete method is used to delete a resource from the server.
- The DELETE method is idempotent, which means that sending the same HTTP DELETE request multiple times will have the same effect on the server and will not affect the state or cause additional side effects.