**MANUAL API TESTING**

An API is a set of programming code that enables data transmission between one software product and another.

A web service is a software system that supports machine-to-machine interaction over a network.

REST (RESTful API) – Representational State Transfer.

**GET:** Used for retrieving data from the source.

**POST:** Used for creating data in the source.

**PUT:** Used for updating the contents of a source entirely.

**PATCH:** Used for updating the contents of a source partially.

**DELETE:** Used for deleting the data from the source.

**Endpoint:** Endpoint is a web address (URL) at which customers of a specific service can gain access to it. By referencing that URL, customers can get to operations provided by that service.

The endpoint is a connection point where HTML files or active server pages are exposed.

**Payload:** The payload of an API is the data you are interested in transporting to the server when you make an API request.

Simply put, it is the body of your HTTP request and response message.

**Header**: API headers are like an extra source of information for each API call you make.

**PATH & QUERY PARAMETERS:**

**https://reqres.in/api/users?name="morpheus"&job="zion resident"**

**Path parameter – users**

**Query parameters- name & job.**

**STATUS CODES:**

1. **Informational responses (100–199)**
2. **Successful responses (200–299)**
3. **Redirection messages (300–399)**
4. **Client error responses (400–499)**
5. **Server error responses (500–599)**

**200 OK:**

The request succeeded. The result meaning of "success" depends on the HTTP method:

* **GET:** The resource has been fetched and transmitted in the message body.
* **PUT or POST:** The resource describing the result of the action is transmitted in the message body.

**201 Created:**

The request succeeded, and a new resource was created as a result. This is typically the response sent after POST requests, or some PUT requests.

**202 Accepted:**

The request has been received but not yet acted upon.

**204 No Content:**

There is no content to send for this request, but the headers may be useful.

**400 Bad Request:**

The server cannot or will not process the request due to something that is perceived to be a client error.

**401 Unauthorized:**

The client must authenticate itself to get the requested response.

**403 Forbidden:**

The client does not have access rights to the content; that is, it is unauthorized, so the server is refusing to give the requested resource. Unlike 401 Unauthorized, the client's identity is known to the server.

**404 Not Found:**

The server cannot find the requested resource. In the browser, this means the URL is not recognized. In an API, this can also mean that the endpoint is valid but the resource itself does not exist.

**500 Internal Server Error:**

The server has encountered a situation it does not know how to handle.

**502 Bad Gateway:**

This error response means that the server, while working as a gateway to get a response needed to handle the request, got an invalid response.

**504 Gateway Timeout:**

This error response is given when the server is acting as a gateway and cannot get a response in time.