HyperText Transfer Protocol

Introduction:

Hypertext Transfer Protocol (HTTP) is an application protocol used for distributed, collaborative, hypermedia information systems. It is the foundation of data communication for the World Wide Web, enabling the exchange of text, images, videos, and other multimedia content between web servers and clients.

Aim of HTTP:

The primary aim of HTTP is to facilitate the retrieval and display of resources on the World Wide Web. It defines how messages are formatted and transmitted, allowing web browsers to communicate with web servers and retrieve web pages and other content.

Objectives of HTTP:

- Interoperability: HTTP aims to ensure interoperability between different systems and platforms, allowing clients and servers developed by different vendors to communicate effectively.

- Efficiency: HTTP strives to optimize the transfer of data over the network by minimizing latency and maximizing throughput, thus improving the user experience during web browsing.

- Flexibility: HTTP provides a flexible framework for the exchange of various types of data, including text, images, videos, and structured documents, enabling the development of diverse web applications.

- Security: While not originally designed with security in mind, modern versions of HTTP (such as HTTPS) incorporate encryption and authentication mechanisms to enhance the security of data transmission over the web.

Steps in HTTP Communication:

- Client Request: A client (typically a web browser) sends an HTTP request to a server to retrieve a specific resource (e.g., a web page) identified by a Uniform Resource Identifier (URI).

- Server Processing: The server receives the HTTP request and processes it, determining the appropriate response based on the requested resource and any additional parameters provided in the request.

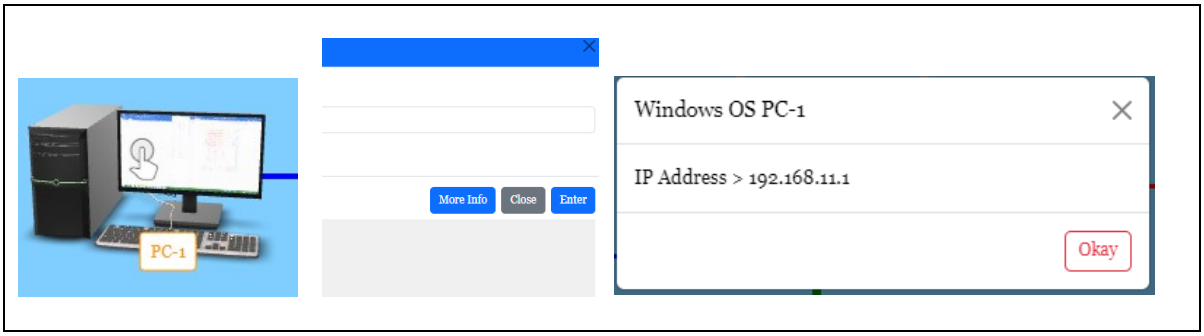
- Resource Retrieval: If the requested resource is available and accessible, the server retrieves it and prepares an HTTP response containing the requested resource along with relevant metadata (e.g., HTTP headers).

- Response Transmission: The server sends the HTTP response back to the client, which then processes the response and renders the retrieved resource (e.g., displays a web page in the browser).

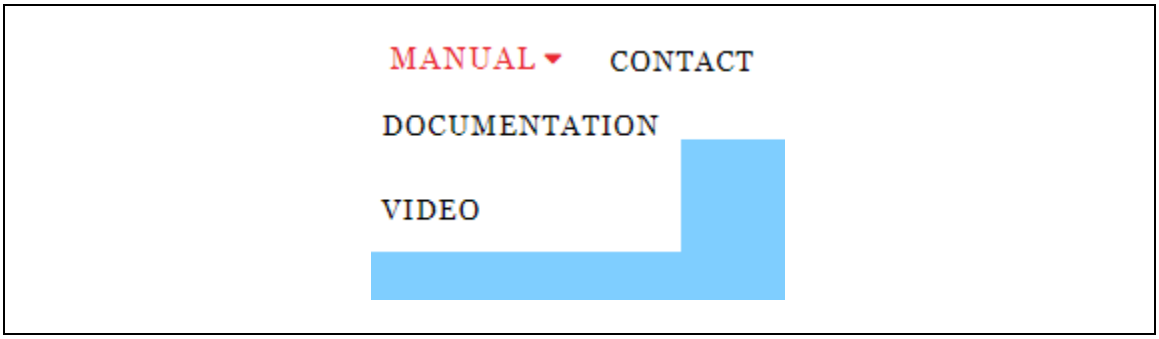
Conclusion

In conclusion, HTTP is a foundational protocol for communication on the World Wide Web, enabling the exchange of hypermedia content between clients and servers. By adhering to its principles of interoperability, efficiency, flexibility, and security, HTTP facilitates seamless and secure data transmission over the internet, powering the modern web browsing experience.

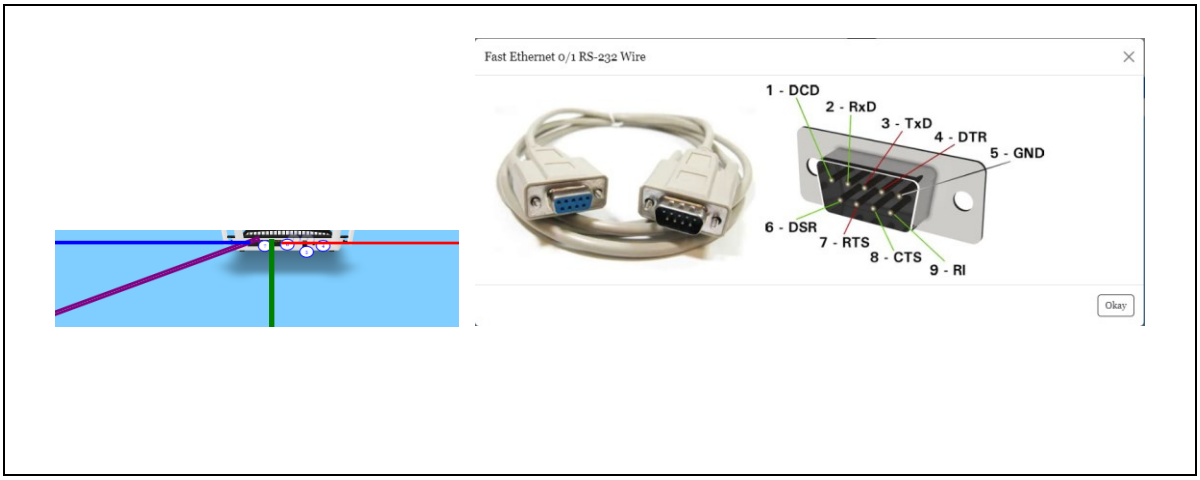
1. If you want know IP Address of any PC's "more info" you can click on blue square as shown below:



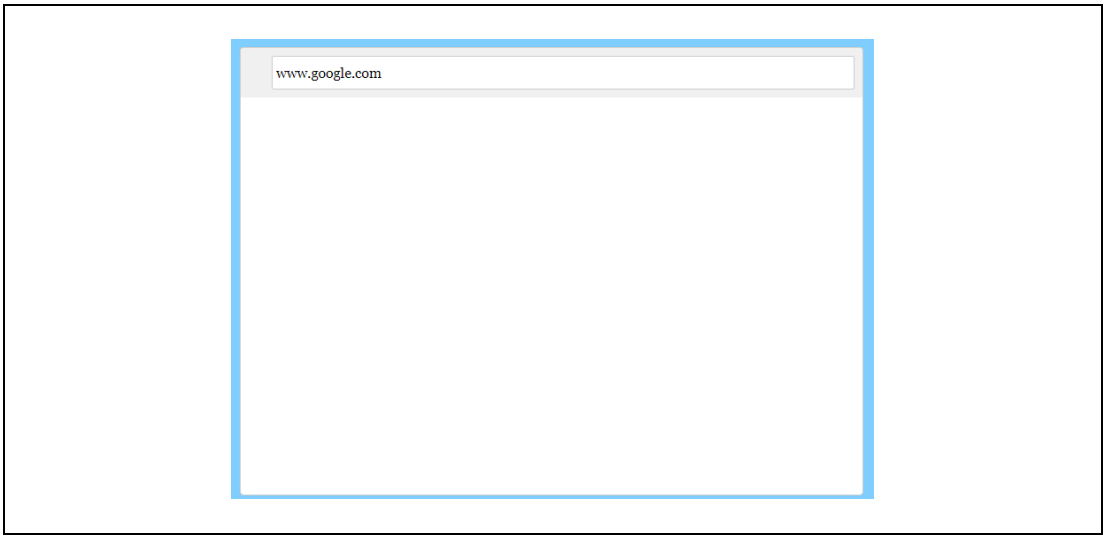
2. Click on "Manual" to view Presentation on HTTP topic:



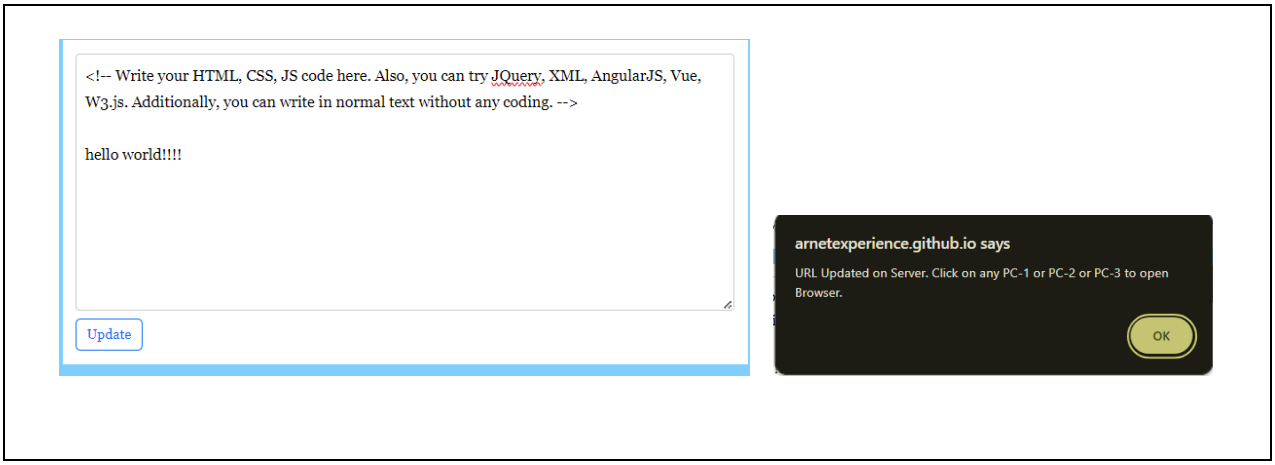
3. Click on wire colors "Red"/" Blue"/" Green" to view wire details:



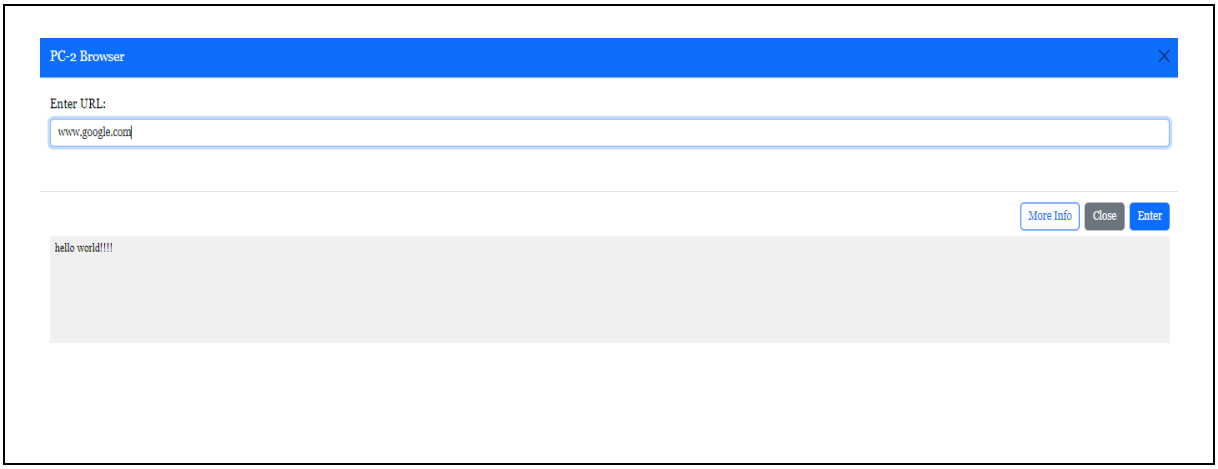
4. Go to the command prompt and set the URL to update on the server for example “www.google.com”



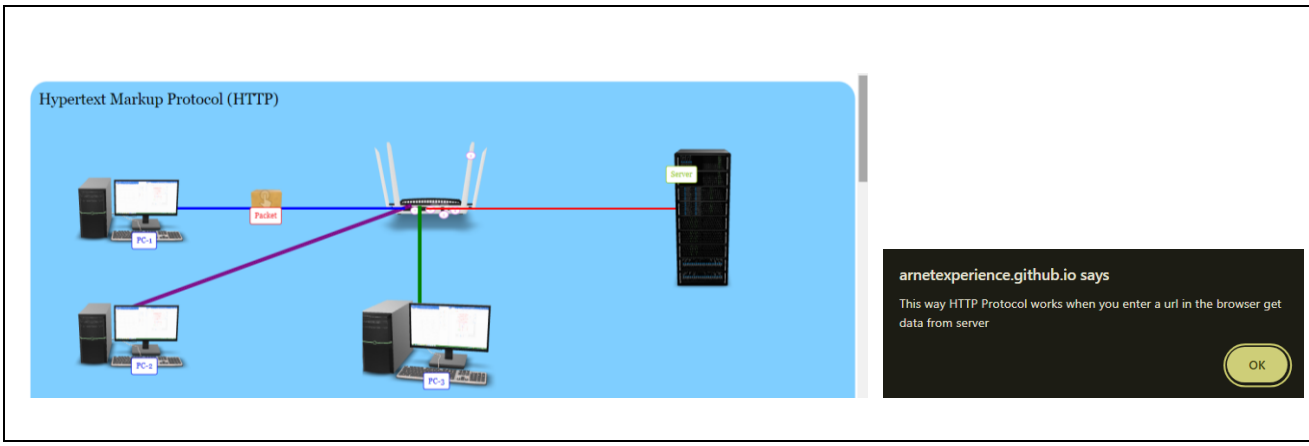
5. Write your HTML, CSS, JS code here in the given below and click on update



6. Click on the PC and enter the set URL to see the message



7. Now you will see that packet are moving



Bonus!!! You can also zoom in network devices with mouse to look around to take a look