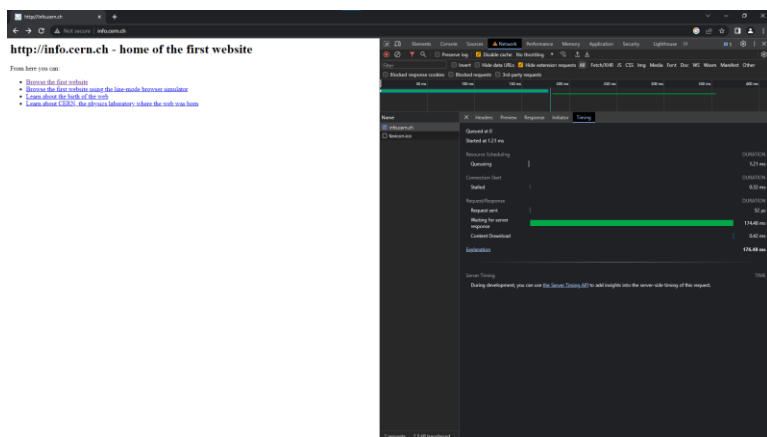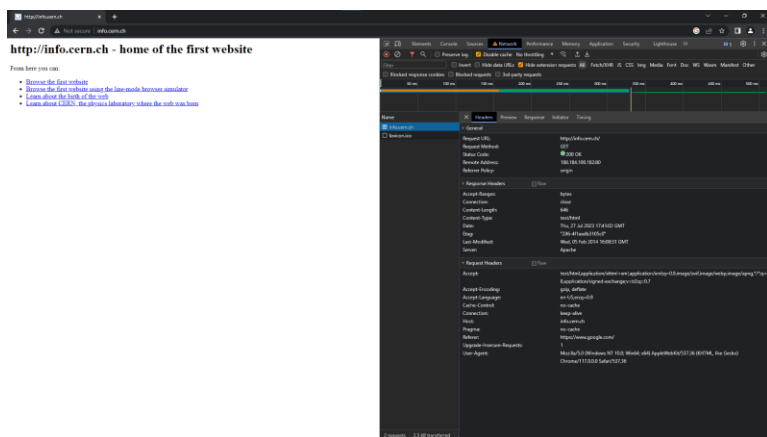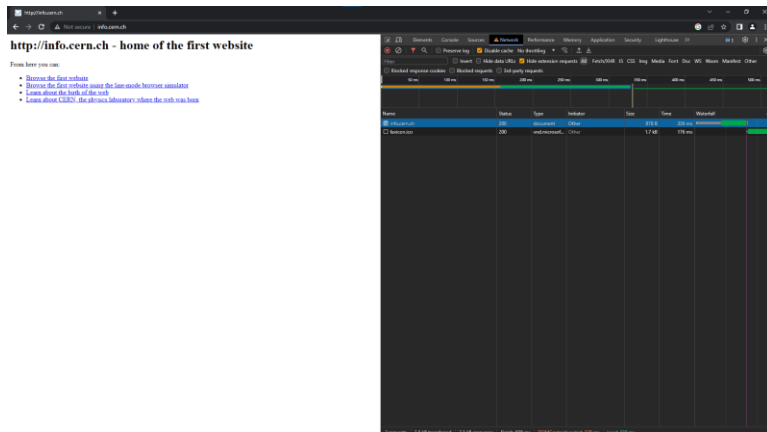# Activity 2 Notes

Analyzing what happens behind the scenes when accessing the http://info.cern.ch/ homepage:

1. User Types the URL: When a user enters "info.cern.ch" in their web browser's address bar and hits Enter, the browser initiates the process of accessing the webpage.

2. DNS Resolution: The browser checks its local cache to find the IP address associated with the domain " info.cern.ch" If it's not in the cache, the browser sends a DNS (Domain Name System) request to the configured DNS server to resolve the domain name to its IP address.

3. TCP Connection Establishment: Once the IP address is obtained (188.184.100.182), the browser establishes a TCP (Transmission Control Protocol) connection with the web server (located at that IP address) on port 80, which is the default port for HTTP.

4. HTTP Request: The browser sends an HTTP GET request to the web server, asking for the homepage (GET).

Attributes of the HTTP Request:

- Method: GET (to retrieve a resource)

- Protocol: HTTP

- Scheme: HTTP

- Domain: info.cern.ch

5. Server Processes the Request: The Wikipedia web server receives the HTTP request and processes it. It fetches the requested homepage file and prepares the HTTP response.

6. HTTP Response: The Wikipedia web server sends back an HTTP response containing the requested homepage file and additional information.

Attributes of the HTTP Response:

- Status: 200 OK (indicating a successful request)

- Protocol: HTTP

- Connection Id (TCP): A unique identifier for the established TCP connection

- Type: text/html

- Size: The size of the homepage HTML file in bytes

- Time: The timestamp of when the response was sent

- Total Response Time: The time taken to process the request and generate the response

- Byte Transferred: The total number of bytes transferred in the response

- Number of Requests: The total number of requests made during the process

7. Browser Renders the Page: The browser receives the HTML content in the HTTP response and begins rendering the homepage on the user's device.

8. Page Load Completion: Once all the required resources are fetched and the page finishes rendering, the webpage is fully loaded and ready for the user to interact with.