**Department of Electronics & Communication Engineering**Computer Communication Networks Laboratory

Worksheet -3

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| --- | --- | --- | --- |
| **Name:** | | | |
| **Semester:** 5 | **Section:** | **SRN:** | **Date:** |

**Lab 3: Analyse the downloading of embedded objects in a webpage using Wireshark**  
1. Draw the HTTP request message format. List any 3 of the header fields present in the request message along with their respective functions.

2. Draw the HTTP response message format. List any 3 of the header fields present in the response message along with their respective functions.

3. Is the webpage and all its associated images fetched at the same time? Why or why not?

4. Since the first GET request contains the URL of only the webpage, where are the URLs of the embedded objects obtained from?   
5. Fill in the following table by observing the respective HTTP GET requests (ignoring the request for favicon.ico):

|  |  |  |  |
| --- | --- | --- | --- |
| **Object Name** | **Destination IP Address** | **Hostname** | **Corresponding Response Status Code and Phrase** |
| Webpage |  |  |  |
| Image 1 |  |  |  |
| Image 2 |  |  |  |

6. The third HTTP response indicates that the object has been moved permanently. Which field of this response indicates the new location of the object? Mention the field name and its corresponding value.

7. Why do we not observe a HTTP GET request sent to the new location of the object in the packet listing window? (Hint: Observe the URL of the new location of the object)  
  
8. What is the frame number of the GET request sent to the object’s new location?   
(Procedure:   
Note down the frame number of the 301 response. Remove the http filter and scroll down until you find the first entry with i) The Info field containing the value ‘Application Data’   
ii) The source and destination IP address matching your computer’s IP address and the IP address of the server that sent you the 301 response respectively.)

9. Mention whether the contents of the above GET request can be seen. Why is it so? What is the transport layer protocol being used here?  
  
  
  
  
  
10. What is the frame number of the first HTTP response segment for this object?  
(Procedure:   
Scroll down from the GET request observed earlier and find the first packet with   
i) The Info field containing the value ‘Application Data’   
ii) The source and destination IP address matching the IP address of the server that sent you the 301 response and your computer’s IP address respectively.)

11. How many TCP segments were required to send the webpage and the first object (i.e. PNG image) respectively?  
  
12. Study the HTTP response of the first embedded object (i.e. PNG image) and mention the dimensions of the image.