

## LAB 05

### EXERCISE

#### QUESTION 01

In caching, what is the difference between the age header and expires?

Cache-Control header turns on client-side caching and sets the max-age of a resource, the Expires header is used to specify a specific point in time the resource is no longer valid.

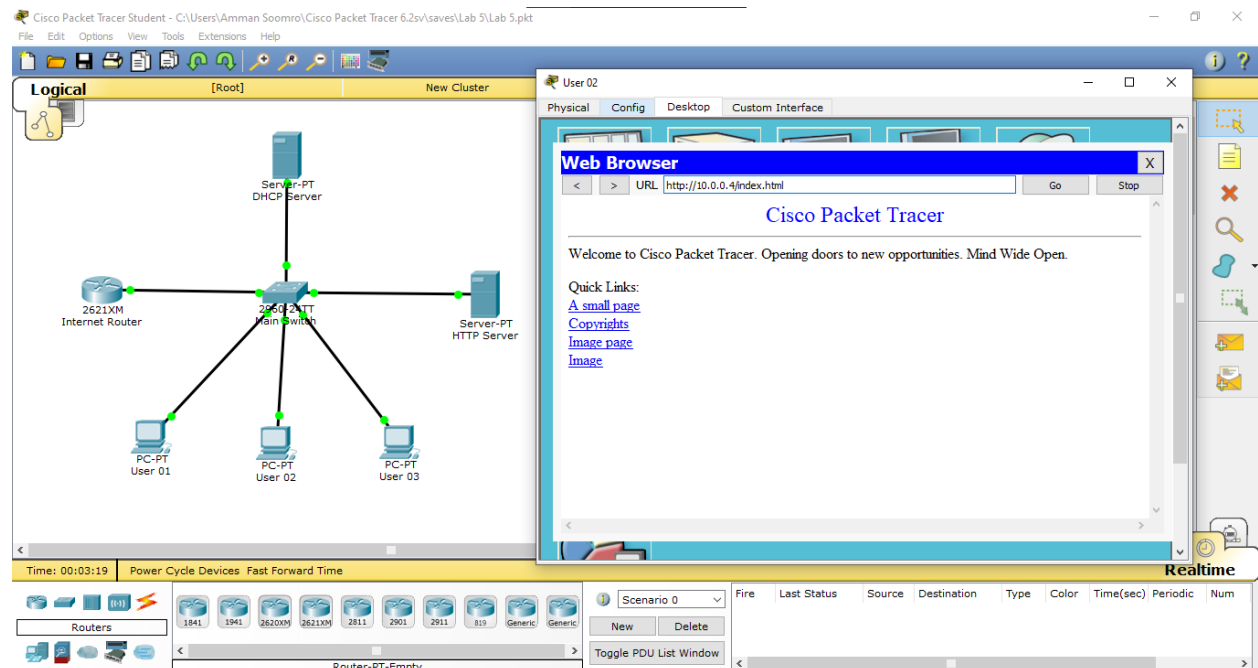
#### QUESTION 02

What are the four groupings of HTTP headers?

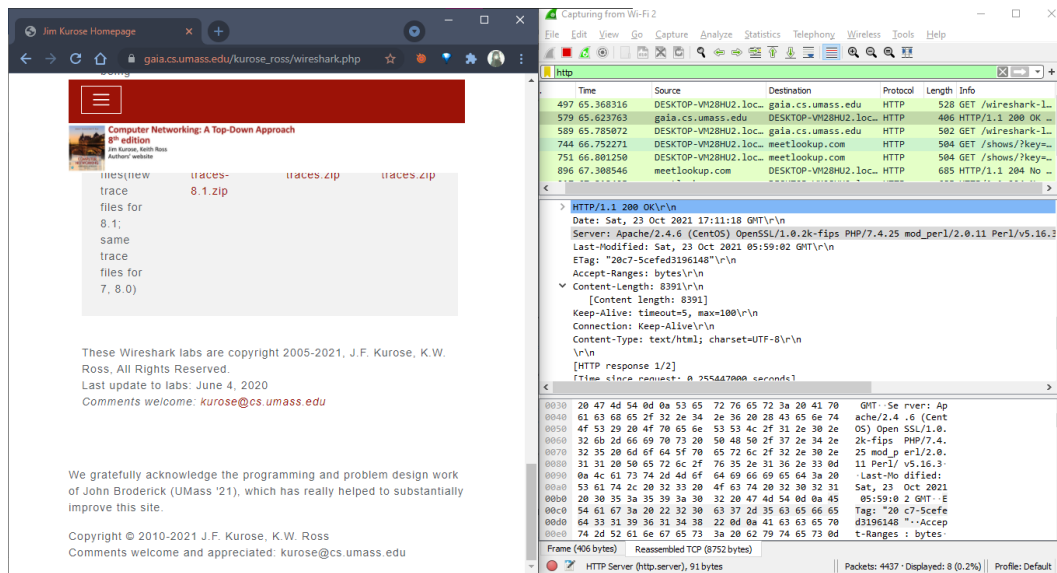
Four groupings of HTTP headers

1. General Header
2. Client-request Header
3. Server-response Header
4. Entity Header

#### QUESTION 03



## ACTIVITY 01



1. Is your browser running HTTP version 1.0 or 1.1? What version of HTTP is the server running?

Request Version: HTTP/1.1

2. What languages (if any) does your browser indicate that it can accept to the server?

Accept-Language: en-GB,en-PK;q=0.9,en-US;q=0.8,en;q=0.7

3. What is the IP address of your computer? Of the gaia.cs.umass.edu server?

Source Address: DESKTOP-VM28HU2.local (192.168.43.43)

Destination Address: 104.21.65.163 (104.21.65.163)

4. What is the status code returned from the server to your browser?

Status Code: 200

5. When was the HTML file that you are retrieving last modified at the server?

Last-Modified: Sat, 23 Oct 2021 05:59:02 GMT

6. How many bytes of content are being returned to your browser?

Content-Length: 8391  
[Content length: 8391]

7. By inspecting the raw data in the packet content window, do you see any headers within the data that are not displayed in the packet-listing window? If so, name one.

File Data

## ACTIVITY 02

The screenshot displays a web browser window on the left and a Wireshark network traffic capture on the right. The browser shows a message: "This page is password protected! If you're seeing this, you've downloaded the page correctly. Congratulations!". The Wireshark window shows a list of captured packets. The selected packet is an HTTP GET request from 192.168.43.43 to 192.168.43.43, which is responded to with a 200 OK status code. The packet details pane shows the Hypertext Transfer Protocol section with the following information:

```

Hypertext Transfer Protocol
  > HTTP/1.1 200 OK\r\n
    Date: Sat, 23 Oct 2021 17:21:35 GMT\r\n
    Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/7.4.25 mod_perl/2.0.11 Perl/v5.16.1
    Last-Modified: Sat, 23 Oct 2021 05:59:02 GMT\r\n
    ETag: "84-Scefed31a6702"\r\n
    Accept-Ranges: bytes\r\n
    Content-Length: 132\r\n
    [Content length: 132]
    Keep-Alive: timeout=5, max=100\r\n
    Connection: Keep-Alive\r\n
    Content-Type: text/html; charset=UTF-8\r\n
    \r\n
  
```

1. What is the server's response (status code and phrase) in response to the initial HTTP GET message from your browser?

```

  Hypertext Transfer Protocol
    HTTP/1.1 401 Unauthorized\r\n
      [Expert Info (Chat/Sequence): HTTP/1.1 401 Unauthorized\r\n]
      Response Version: HTTP/1.1
      Status Code: 401
      [Status Code Description: Unauthorized]
      Response Phrase: Unauthorized
  
```