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ATIVIDADE 2 – UNIDADE 2

Parte 1. O Básico do GET HTTP e Interação de Resposta

Não foi possível rodar a captura do Wireshark com o link da UMass, e fiz 2 procedimentos:

- Análise dos pacotes de http-ethereal-trace-1
 - Passo-a-passo:
 - Baixar a pasta wireshark-traces.zip
 - Abrir http-ethereal-trace-1 no Wireshark
 - Analisar capturas
- Captura de pacotes do web server em Python feito na Atividade 1 (resultados demonstrados na seção extra)
 - Passo-a-passo:
 - Rodar o servidor
 - Abrir o Wireshark
 - Adicionar ‘http’ como filtro e aplicar
 - Selecionar a interface “Adapter for loopback traffic capture” e iniciar a captura
 - Abrir no navegador o link de teste do servidor (<http://localhost:8000/index.html>)
 - Analisar capturas

Perguntas – Parte 1

- a. O seu navegador está rodando a versão 1.0 ou 1.1 do HTTP? Que versão do HTTP está sendo rodada no servidor?

Tanto o navegador quanto o servidor estão rodando o HTTP 1.1

b. Que linguagem (se tiver) o seu navegador indica que ele pode aceitar do servidor?

Accept-language: en-us, en;q=0.50

c. Qual é o endereço IP do seu computador? E do servidor gaia.cs.umass.edu?

Computador: 192.168.1.102

Servidor: 128.119.245.12

d. Qual é o código de estado retornado pelo servidor para o seu navegador?

Resposta do GET 1: HTTP/1.1 200 OK

Resposta do GET 2: HTTP/1.1 404 Not Found

e. Quando foi a última alteração feita no arquivo HTML?

(GET 1)

Last-Modified: Tue, 23 Sep 2003 05:29:00 GMT

f. Quantos bytes de conteúdo são retornados para o seu navegador?

Resposta do GET 1: 73 bytes

Resposta do GET 2: 1071 bytes

Telas – Parte 1

Imagen 1:

No.	Time	Source	Destination	Protocol	Length	Info
10	4.694850	192.168.1.102	128.119.245.12	HTTP	555	GET /ethereal-labs/lab2-1.html HTTP/1.1
12	4.718993	128.119.245.12	192.168.1.102	HTTP	439	HTTP/1.1 200 OK (text/html)
13	4.724332	192.168.1.102	128.119.245.12	HTTP	541	GET /favicon.ico HTTP/1.1
14	4.750366	128.119.245.12	192.168.1.102	HTTP	1395	HTTP/1.1 404 Not Found (text/html)

Imagen 2: Dados da resposta do GET 1

No.	Time	Source	Destination	Protocol	Length	Info
10	4.694850	192.168.1.102	128.119.245.12	HTTP	555	GET /ethereal-labs/lab2-1.html HTTP/1.1
12	4.718993	128.119.245.12	192.168.1.102	HTTP	439	HTTP/1.1 200 OK (text/html)
13	4.724332	192.168.1.102	128.119.245.12	HTTP	541	GET /favicon.ico HTTP/1.1
14	4.750366	128.119.245.12	192.168.1.102	HTTP	1395	HTTP/1.1 404 Not Found (text/html)

Imagen 3: Dados da resposta do GET 2

No.	Time	Source	Destination	Protocol	Length	Info
10	4.694850	192.168.1.102	128.119.245.12	HTTP	555	GET /ethereal-labs/lab2-1.html HTTP/1.1
12	4.718993	128.119.245.12	192.168.1.102	HTTP	439	HTTP/1.1 200 OK (text/html)
13	4.724332	192.168.1.102	128.119.245.12	HTTP	541	GET /favicon.ico HTTP/1.1
14	4.750366	128.119.245.12	192.168.1.102	HTTP	1395	HTTP/1.1 404 Not Found (text/html)

Imagen 4: Dados da requisição 1

The screenshot shows a Wireshark capture of an HTTP session. The top pane lists several network packets, with the 13th packet highlighted in yellow. The bottom pane provides a detailed view of the selected packet, which is a GET request for the file /favicon.ico from the host 192.168.1.102 to the destination 128.119.245.12. The packet details include fields such as No., Time, Source, Destination, Protocol, Length Info, and a hex dump of the packet bytes.

Imagen 5: Dados da requisição 2

The screenshot shows a Wireshark capture of an HTTP session. The top pane lists several network packets, with the 13th packet highlighted in yellow. The bottom pane provides a detailed view of the selected packet, which is a GET request for the file /favicon.ico from the host 192.168.1.102 to the destination 128.119.245.12. The packet details include fields such as No., Time, Source, Destination, Protocol, Length Info, and a hex dump of the packet bytes.

Parte 2. GET HTTP CONDITIONAL e Interação de Resposta

Perguntas – Parte 2

- g. Inspecione o conteúdo da primeira requisição GET do HTTP de seu navegador para o servidor. Você viu uma linha com “IF-MODIFIED-SINCE” no GET do HTTP?

Não, primeira requisição GET não tem If-Modified-Since.

h. Inspecione o conteúdo da resposta do servidor. O servidor retornou o conteúdo do arquivo explicitamente? Como isso se observou?

Sim, 10 linhas de HTML.

```
▼ Line-based text data: text/html (10 lines)
  \n
  <html>\n
  \n
  Congratulations again! Now you've downloaded the file lab2-2.html. <br>\n
  This file's last modification date will not change. <p>\n
  Thus if you download this multiple times on your browser, a complete copy <br>\n
  will only be sent once by the server due to the inclusion of the IN-MODIFIED-SINCE<br>\n
  field in your browser's HTTP GET request to the server.\n
  \n
  </html>\n
```

i. Agora investigue o conteúdo da segunda requisição GET do HTTP de seu navegador para o servidor. Você viu uma linha com “IF-MODIFIED-SINCE” no GET do HTTP? Se sim, que informação segue o cabeçalho “IF-MODIFIED-SINCE:”?

Sim, segunda requisição GET tem If-Modified-Since; valor segue o Last-Modified da primeira resposta.

If-Modified-Since: Tue, 23 Sep 2003 05:35:00 GMT

j. Qual é o código de estado do HTTP e a frase retornada do servidor em resposta ao segundo GET do HTTP? O servidor explicitamente retornou o conteúdo do arquivo? Explique

HTTP/1.1 304 Not Modified

Não, ele não retornou, por que o arquivo não foi alterado, então tudo atualizado já estava na cache do navegador.

Telas – Parte 2

Imagen 1: Tela do Wireshark ao abrir o “http-ethereal-trace-2”

The screenshot shows the Wireshark interface with the following details:

- Title Bar:** http-etherreal-trace-2
- Menu Bar:** File, Edit, View, Go, Capture, Analyze, Statistics, Telephony, Wireless, Tools, Help
- Toolbar:** Includes icons for file operations (New, Open, Save, Import, Export), search, and zoom.
- Session List:** Shows an active session named "http".
- Table:** Displays network traffic in a tabular format with columns: No., Time, Source, Destination, Protocol, Length, and Info. The data is as follows:

No.	Time	Source	Destination	Protocol	Length	Info
8	2.331268	192.168.1.102	128.119.245.12	HTTP	555	GET /etherreal-labs/lab2-2.html HTTP/1.1
10	2.357902	128.119.245.12	192.168.1.102	HTTP	739	HTTP/1.1 200 OK (text/html)
14	5.517930	192.168.1.102	128.119.245.12	HTTP	668	GET /etherreal-labs/lab2-2.html HTTP/1.1
15	5.540216	128.119.245.12	192.168.1.102	HTTP	243	HTTP/1.1 304 Not Modified

Imagen 2: Requisição 1

```
http
No. Time Source Destination Protocol Length Info
+ 8 2.331268 192.168.1.102 128.119.245.12 HTTP 555 GET /etherreal-labs/lab2-2.html HTTP/1.1
+ 10 2.359709 128.119.245.12 192.168.1.102 HTTP 739 HTTP/1.1 200 OK (text/html)
+ 14 5.517390 192.168.1.102 128.119.245.12 HTTP 668 GET /etherreal-labs/lab2-2.html HTTP/1.1
+ 15 5.540216 128.119.245.12 192.168.1.102 HTTP 243 HTTP/1.1 304 Not Modified

<!-- Frame 8: Packet, 555 bytes on wire (4440 bits), 555 bytes captured -->
Frame 8: Packet, 555 bytes on wire (4440 bits), 555 bytes captured (68.166625 ms) on interface eth0
Ethernet II, Src: Dell_A4:F6:36 (00:08:74:4F:6E:36), Dst: L1 (00:0c:00:00:00:01)
Internet Protocol Version 4, Src: 192.168.1.102, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 80, Dst Port: 80
HTTP/1.1
GET /etherreal-labs/lab2-2.html HTTP/1.1\r\n
Request Method: GET
Request URI: /etherreal-labs/lab2-2.html
Request Version: HTTP/1.1
Host: galax.cs.umass.edu\r\n
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:1.8.1.1) Gecko/20070101 Firefox/2.0\r\n
Accept: text/xml,application/xml,application/xhtml+xml,text/html;q=0.9,*/*;q=0.8\r\n
Accept-Language: en-us,en;q=0.50\r\n
Accept-Encoding: gzip, deflate, compress;q=0.9;q=0.8\r\n
Accept-Charset: ISO-8859-1,utf-8;q=0.66,*;q=0.56\r\n
Keep-Alive: 300\r\n
Connection: keep-alive\r\n
[Response in frame: 10]
[Full request URI: http://galax.cs.umass.edu/etherreal-labs/]`
```

Imagen 3: Resposta 1

Imagen 4: Requisição 2

No.	Time	Source	Destination	Protocol	Length Info
8	2.331268	192.168.1.102	128.119.245.12	HTTP	555 GET /ethereal-labs/lab2-2.html HTTP/1.1
10	2.357902	128.119.245.12	192.168.1.102	HTTP	739 HTTP/1.1 200 OK (text/html)
14	5.517390	192.168.1.102	128.119.245.12	HTTP	668 GET /ethereal-labs/lab2-2.html HTTP/1.1
15	5.540216	128.119.245.12	192.168.1.102	HTTP	243 HTTP/1.1 304 Not Modified
Frame 14: Packet, 668 bytes on wire (5344 bits), 668 bytes captured on wire (5344 bits) on interface Dell_4f:36:23 (00:08:74:4f:36:23), Dst: Linn (00:0c:02:61:40:00) [ether]					
Ethernet II, Src: Dell_4f:36:23 (00:08:74:4f:36:23), Dst: Linn (00:0c:02:61:40:00) [ether]					
Internet Protocol Version 4, Src: 192.168.1.102, Dst: 128.119.245.12 [ethertype IPv4]					
Transmission Control Protocol, Src Port: 4247, Dst Port: 80, Seq: 1, Ack: 1, Len: 668 [tcp http]					
Hypertext Transfer Protocol					
GET /ethereal-labs/lab2-2.html HTTP/1.1\r\n					
Request Method: GET					
Request URI: /ethereal-labs/lab2-2.html					
Request Version: HTTP/1.1					
Host: gaia.cs.umass.edu\r\n					
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:1.8.1.1) Gecko/20070105 Firefox/1.8.1.1\r\n					
Accept: text/xml,application/xml,application/xhtml+xml,text/html;q=0.9,*/*;q=0.8\r\n					
Accept-Language: en-us,en;q=0.50\r\n					
Accept-Encoding: gzip, deflate, compress;q=0.9\r\n					
Accept-Charset: ISO-8859-1, utf-8;q=0.66, *;q=0.66\r\n					
Keep-Alive: 300\r\n					
Connection: Keep-Alive\r\n					
If-Modified-Since: Tue, 23 Sep 2003 05:35:00 GMT\r\n					
If-None-Match: "1bfef-173-8f4ae900"\r\n					
Cache-Control: max-age=0\r\n					
\r\n					
[Response in frame: 15]					
[Full request URI: http://gaia.cs.umass.edu/ethereal-labs/lab2-2.html]					
\r\n					
0x00 64 6f 77 73 20 4e 54 20 35 2a 31 3b 20 65 6e 2d down					
0x00 55 53 3b 20 72 76 3a 31 2a 30 2e 32 29 20 47 65 US;					
0x00 63 6b 6f 2f 32 30 30 32 31 31 32 30 20 4e 65 74 cko,					
0x00 73 63 61 79 65 2f 37 2e 3a 31 0d 0a 41 63 63 65 sccp					
0x00 70 74 3a 20 74 65 78 74 2f 78 6d 6c 2c 61 70 70 pt:					
0x00 6c 69 63 61 74 69 6f 6e 2f 78 6d 6c 2c 61 70 78 lici					
0x00 6c 69 63 61 74 69 6f 6e 2f 78 6d 6c 2b 78 lici					
0x00 6d 6c 2c 74 65 78 74 2f 6d 74 6d 6c 3b 71 3d 30 ml,i					
0x00 2e 39 2c 74 65 78 74 2f 7d 6c 61 69 6e 3b 71 3d 9,1					
0x00 55 53 3b 20 72 76 3a 31 2a 30 2e 32 29 20 47 65 US;					
0x00 30 2e 38 2c 76 69 64 65 6f 2f 78 2d 6d 66 67 2c 0,8					
0x00 69 6d 61 67 65 2f 70 6e 67 2c 69 6d 61 67 65 2f imaq					
0x00 6a 70 65 67 2c 69 6d 61 67 65 2f 67 69 66 36 71 jpeg					
0x00 3d 30 2e 32 2c 74 65 78 74 2f 63 73 73 2c 2a 2f =0,7					
0x00 2a 3b 71 3d 30 2e 31 0d 0a 41 63 63 65 70 74 2d *:q					
0x00 4c 61 6e 67 75 61 67 65 3a 20 65 6e 2d 75 73 2c Lang					
0x00 20 65 6e 3b 71 3d 30 2e 35 30 0d 0a 41 63 63 65 en					

Imagen 5: Resposta 2

No.	Time	Source	Destination	Protocol	Length Info
8	2.331268	192.168.1.102	128.119.245.12	HTTP	555 GET /ethereal-labs/lab2-2.html HTTP/1.1
10	2.357902	128.119.245.12	192.168.1.102	HTTP	739 HTTP/1.1 200 OK (text/html)
14	5.517390	192.168.1.102	128.119.245.12	HTTP	668 GET /ethereal-labs/lab2-2.html HTTP/1.1
15	5.540216	128.119.245.12	192.168.1.102	HTTP	243 HTTP/1.1 304 Not Modified
Frame 15: Packet, 243 bytes on wire (1944 bits), 243 bytes captured on wire (1944 bits) on interface Linksysgroup_da:af:73 (00:06:25:da:af:73), Dst: Linn (00:0c:02:61:40:00) [ether]					
Ethernet II, Src: Linksysgroup_da:af:73 (00:06:25:da:af:73), Dst: Linn (00:0c:02:61:40:00) [ether]					
Internet Protocol Version 4, Src: 192.168.1.102, Dst: 128.119.245.12 [ethertype IPv4]					
Transmission Control Protocol, Src Port: 80, Dst Port: 4247, Seq: 1, Ack: 1, Len: 243 [tcp http]					
Hypertext Transfer Protocol					
GET / HTTP/1.1\r\n					
Request Method: GET					
Request URI: /					
Request Version: HTTP/1.1					
Host: gaia.cs.umass.edu\r\n					
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:1.8.1.1) Gecko/20070105 Firefox/1.8.1.1\r\n					
Accept: text/xml,application/xml,application/xhtml+xml;text/html;q=0.9,*/*;q=0.8\r\n					
Accept-Language: en-us,en;q=0.50\r\n					
Accept-Encoding: gzip, deflate, compress;q=0.9\r\n					
Accept-Charset: ISO-8859-1, utf-8;q=0.66, *;q=0.66\r\n					
Keep-Alive: 300\r\n					
Connection: Keep-Alive\r\n					
If-Modified-Since: Tue, 23 Sep 2003 05:35:53 GMT\r\n					
If-None-Match: "1bfef-173-8f4ae900"\r\n					
Cache-Control: max-age=0\r\n					
\r\n					
0x00 00 08 74 4f 36 23 00 06 25 da f7 73 00 45 00 +06					
0x00 00 45 dc 88 40 00 37 06 2c f8 80 77 f5 0c c0 a8 ,@					
0x00 01 66 00 59 10 97 81 6a b5 2c fa 88 85 8c 50 18 f P					
0x00 01 f7 2e 89 37 00 48 54 54 50 2f 31 2e 31 20 33 7					
0x00 01 30 3d 28 4c 67 74 28 44 67 64 69 66 69 65 64 0d 04 Not					
0x00 01 0a 44 61 74 65 3a 20 54 75 65 2c 20 32 33 20 53 -Date					
0x00 01 65 70 20 32 30 30 33 20 30 35 31 35 33 20 53 ep 20K					
0x00 01 20 47 4d 54 0d 0a 53 65 72 76 65 72 38 20 50 70 GHT					
0x00 01 61 63 68 65 2f 52 2e 50 2e 50 29 28 52 65 64 aache/					
0x00 01 66 65 63 74 69 6f 6e 3a 20 46 65 65 70 2d 41 6c nectio					
0x00 01 69 76 65 0d 0a 46 65 65 70 2d 41 6c 69 76 65 3a live-+					
0x00 01 20 74 69 65 65 6f 75 74 3d 31 30 2c 28 6d 61 78 timed					
0x00 01 3d 39 39 0d 0a 45 64 61 67 3a 20 22 31 62 66 65 =99-1					
0x00 01 66 2d 31 37 33 2d 38 66 34 61 65 39 30 20 22 0d f-173					
0x00 01 0a 0d 0a ...					
0x00 01 Request in frame: 14					
0x00 01 [Time since request: 22.826000 milliseconds]					
0x00 01 [Request URI: /ethereal-labs/lab2-2.html]					
0x00 01 [Full request URI: http://gaia.cs.umass.edu/ethereal-labs/lab2-2.html]					
0x00 01 ...					

No.	Time	Source	Destination	Protocol	Length Info
1250	12.641511	127.0.0.1	127.0.0.1	HTTP	867 GET /index.html HTTP/1.1
1254	12.643509	127.0.0.1	127.0.0.1	HTTP	44 HTTP/1.1 200 OK
1309	13.134216	127.0.0.1	127.0.0.1	HTTP	793 GET /favicon.ico HTTP/1.1
1320	13.142966	127.0.0.1	127.0.0.1	HTTP	793 GET /favicon.ico HTTP/1.1

Extra: Resultados rodando o web server Python feito na parte anterior da atividade