Basics of Wireshark

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Intro

This tutorial will give a basic idea on WireShark. It will introduce how to setup filters and how to capture unencrypted traffic and why is it way better to use encrypted websites.

Learning objectives

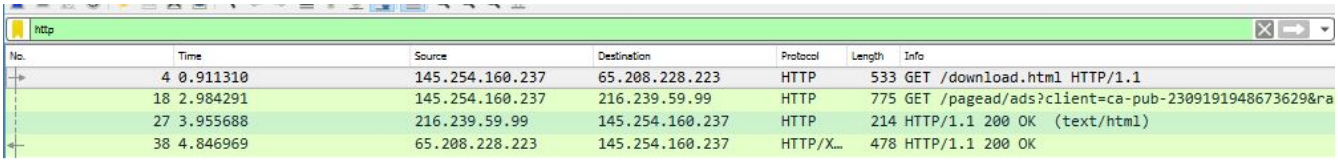
- Capture network traffic in our machine
- Analyze the most common used unsecured traffic
- Setting up some basic filters on Wireshark

Prerequisites

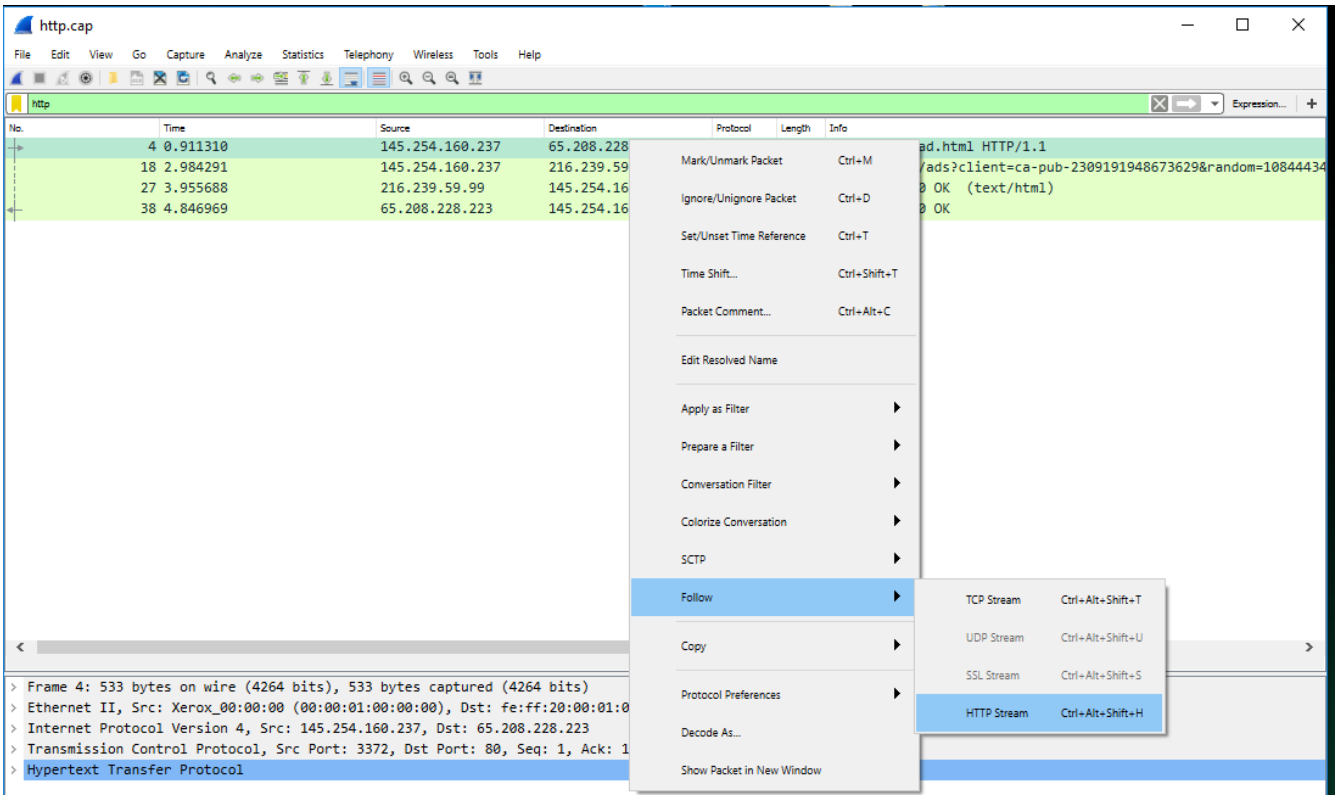
- Windows computer
- Internet connection
- Wireshark
- Connections to nmu network via wifi or lte (for lesson 3)
- Download these files:
  1. https://wiki.wireshark.org/SampleCaptures?action=AttachFile&do=get&target=http.cap
  2. https://wiki.wireshark.org/SampleCaptures?action=AttachFile&do=get&target=http_with_jpegs.cap.gz

Instructions

1. Lesson one. Lets visit a website where we can reconstruct the website by following the tcp/http stream.
   - Open the http.cap file
   - Set up the filter to only show http traffic (this is optional, it just help us to learn the filter)

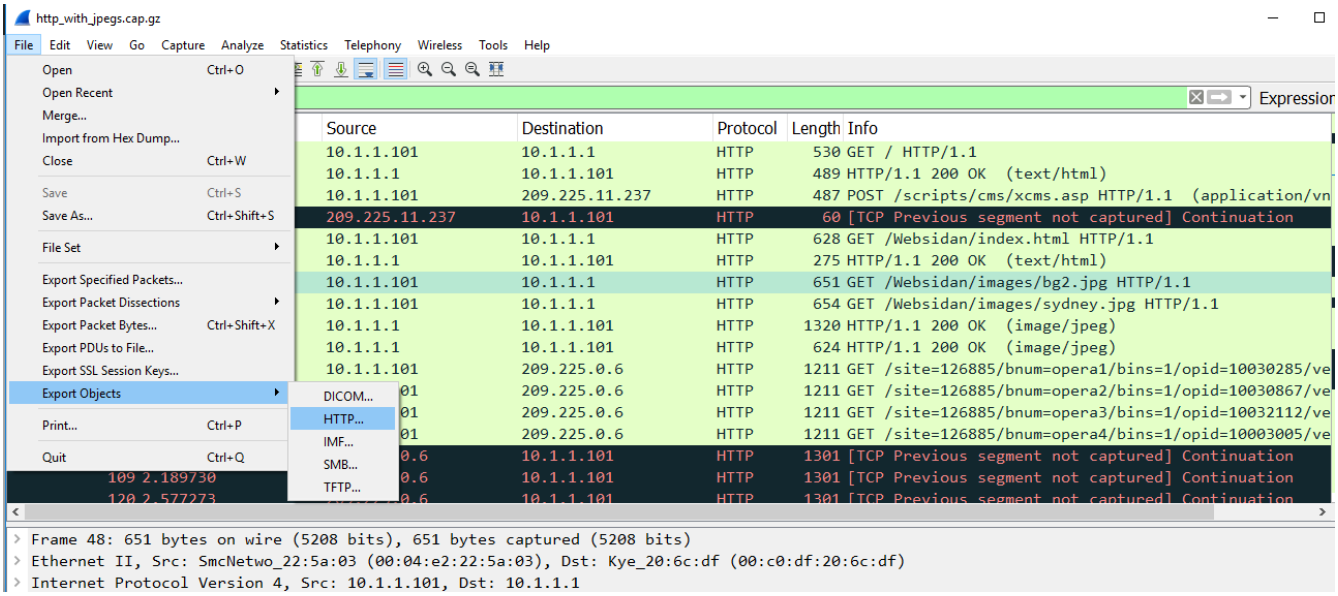


- Now clik on the followings

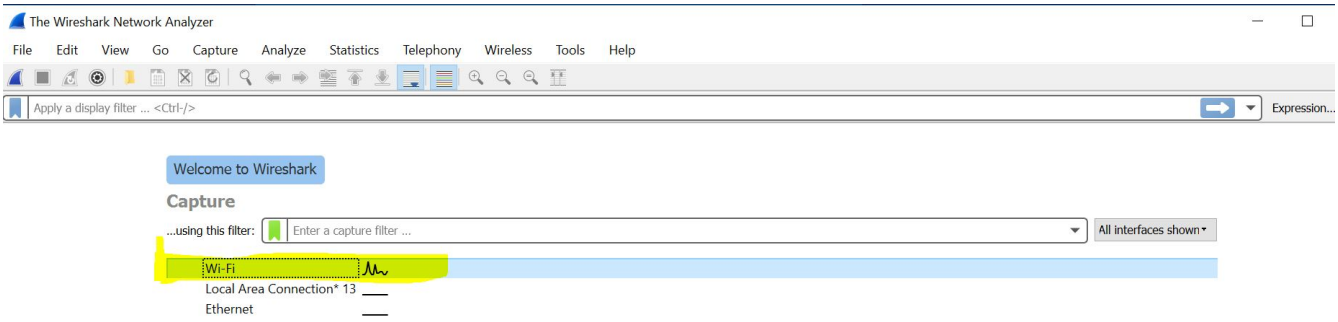


Now we can see the whole html code, with this information we can reconstruct the whole website.

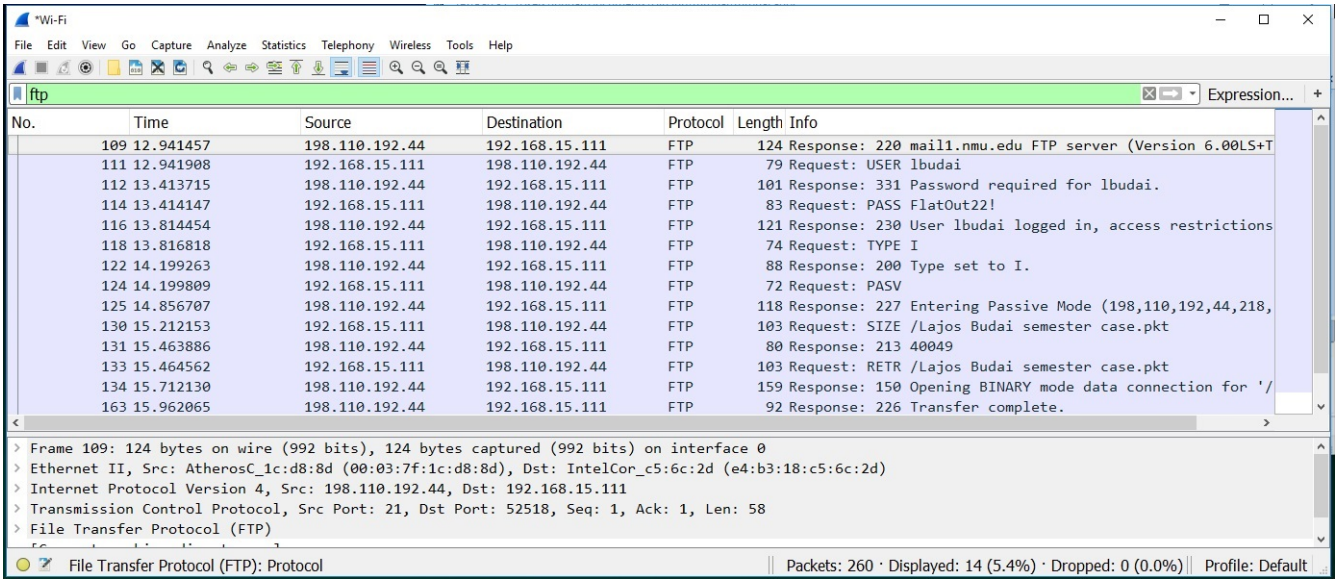
1. Lesson two. It is very simple to save pictures from an unencrypted website as well.
    - Let sopen the http_with_jpegs.cap.gz file
    - Open Export Objects, HTTP



- Find an image file and simply save it.
    1. Lesson three. Now let's connect to the NMU FTP server
- Go to File Explorer and find [lbudai] on myweb.nmu.edu [this should be your nmuid]
- If it asks your username and password you are all set and you can skip the next bulletpoint
- Create a random txt file, and upload it in here. Now delete the file from your computer, and try to open the file from your nmu server.
- Start capturing the traffic on the interface where we see traffic.



- Now we will have way more traffic, so lets make sure to type ftp to the filter bar.
- The following packets should be in front of us.



Now behind the white-black rectangle my password for nmu is hiding. Anyone who could capture this data, can see my very sensitive password. Using FTP without encryption is a bad practice.

Challenge

- Lets capture some real traffic. Go and visit some comonly used websites. Can you find any useful information?
- Try to find a website with unencrypted traffic, and try to figure out the context by using wireshark, and try to save down some images.

Reflection

- What do you think about unencrypted wireless traffic? Can someone capture these kind of traffics from the "air"?

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