Grading Guidelines:

A right answer will get full credit when:

1. It is right (worth 25%)
2. It is right **AND** neatly presented making it easy and pleasant to read. (worth an **extra** 15%)
3. There is an **obvious and clear link** between 1) the information provided in the exercise and in class and 2) the final answer. A clear link is built by properly writing, justifying, and documenting an answer (worth an **extra** 60%).
4. Calculation mistakes will be minimally penalized (2 to 5% of full credit) while errors on units will be more heavily penalized.

Late Submission : as specified in the syllabus. Days counting starts one minute after the deadline.
Check Your Submission: after submitting, download your submission to check whether it is the right version and it is complete.

You are welcome/encouraged to discuss exercises with other students or the instructor. But, ultimately, **personal** writing is expected.

- USE THIS FILE AS THE STARTING DOCUMENT YOU WILL TURN IN. **KEEP IN THE QUESTIONS** AND INSERT YOUR ANSWERS.
- IF USING HAND WRITING (STRONGLY DISCOURAGED), REWRITE THE QUESTIONS.
- FAILING TO FOLLOW TURN IN DIRECTIONS /GUIDELINES WILL COST A 30% PENALTY.

Objectives of this assignment:

- to learn independently about an important topic
- to answer questions about the independently studied topic
- to empower you: you can learn any networking topic on your own
- to learn independently new concepts

What you need to do:

Answer the questions and/or solve the exercises described below.

KEEP THE GRADING GUIDELINES ABOVE TO REMEMBER THE DIRECTIONS AND HOW THE HOMEWORK IS GRADED.

Objective: The objective is to learn **independently** about *monitoring traffic* on your machine. I invite you to download, install, and use ***Wireshark***. Wireshark is a popular sniffing tool that will allow you to monitor the traffic on any interface of your machine. After you figure out the **basic** functions of Wireshark, you will have to find out what a "secret agent" running on your machine sends out.

Resources:chegg

1. Internet.
2. Wikipedia, Youtube (for short getting started tutorials on Wireshark)
3. Your TA and instructor

Problem

A program ***secretClient*** (executable only) is provided with this assignment on Canvas. We know that this program ***secretClient***, if executed, sends a secret message to some node with IP address IP_x on Port P_x. The objective is to find out

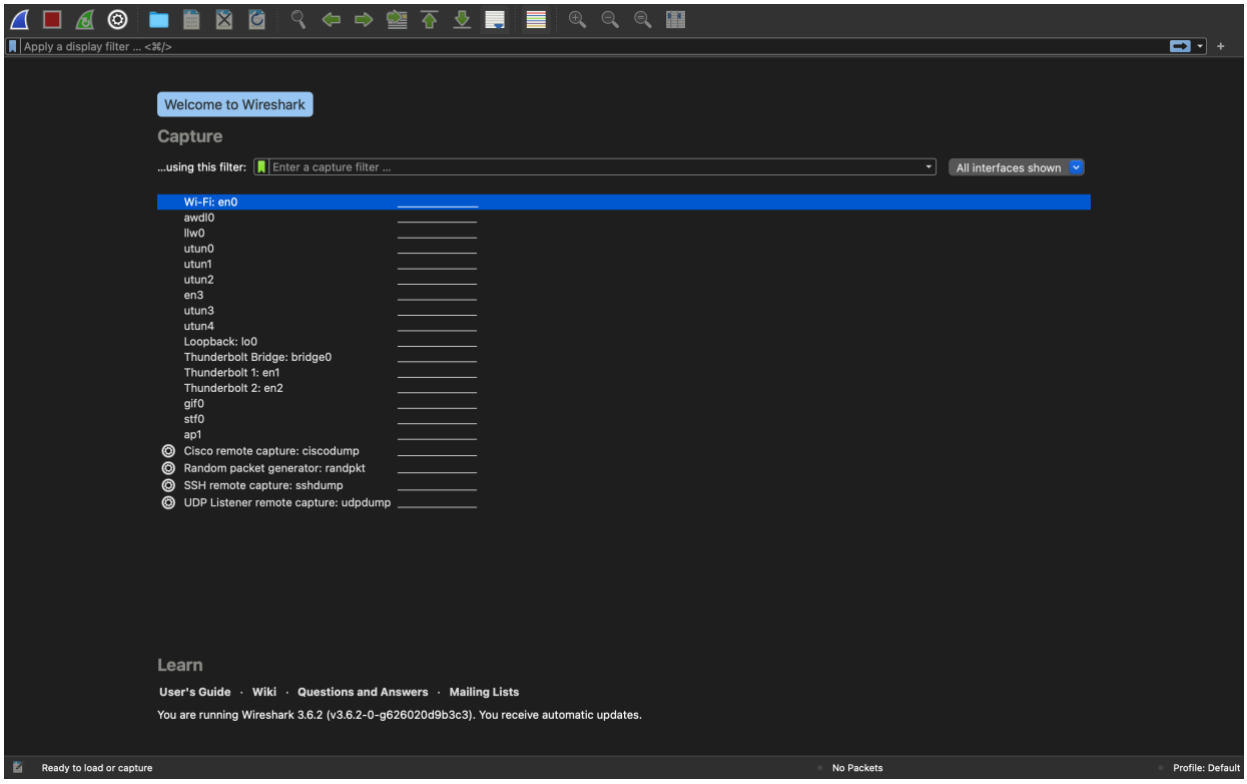
1) the message M_s sent,
2) the transport protocol used,
3) the IP address IP_x of the destination host targeted by *secretClient.*

We know that *secretClient* sends **either** a datagram **or** a segment to Port number = ~~10257~~ = **10117** and 2) the IP address of the destination host.

You are required to perform the following tasks:

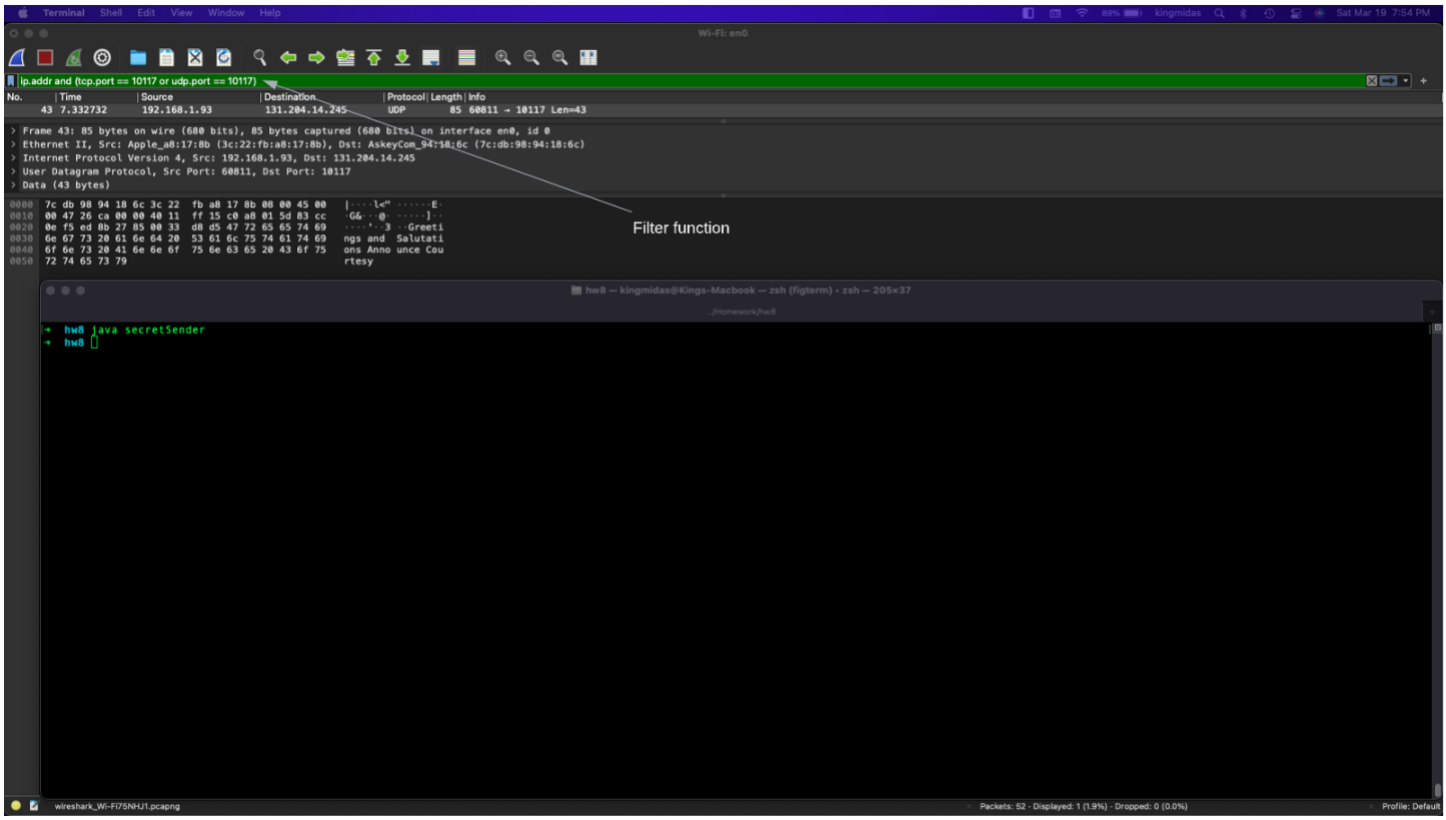
1) Download, install, and execute *Wireshark*.
2) Use any *Wireshark* tutorial for beginners. You will find some tutorials on *Youtube*. Try to learn only basic functions such that you know how to set a simple filter and display/examine a captured packet.

3) (25 points) Take a snapshot showing that you ran *Wireshark* on your machine.



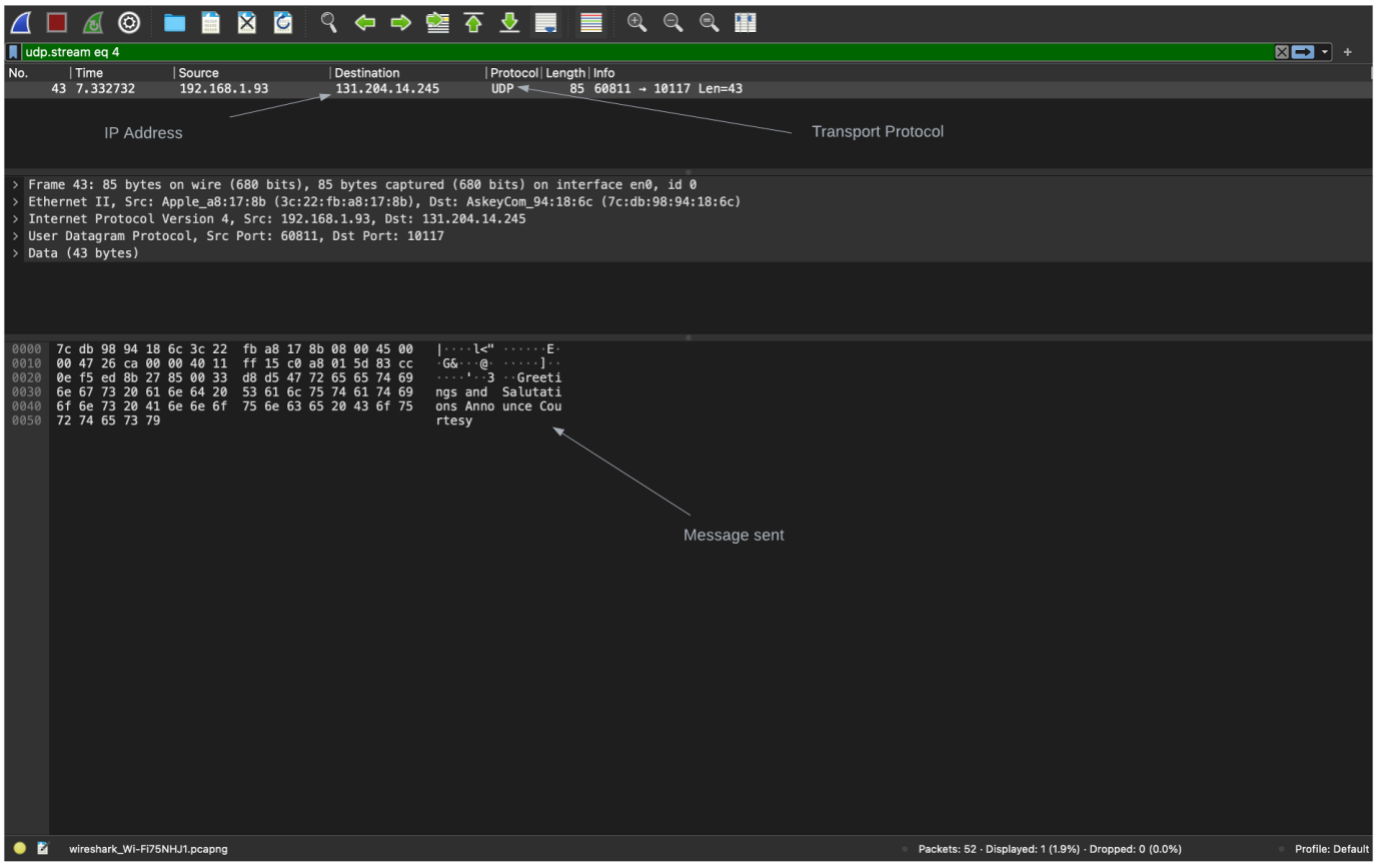
4) Prepare *Wireshark* with the right filter to capture the secret message sent by *secretClient*.
5) Execute *secretClient* by typing "java secretClient" on your command prompt.

6) (35 points) Take a snapshot that clearly shows the filter expression you used and the packet that contains the secret message M_s. Highlight on the snapshot the filter function.

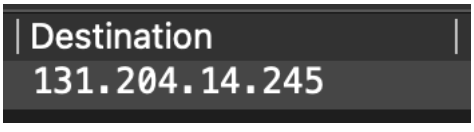


Greetings and Salutations Announce Courtesy

7) (20 points) Highlight on the snapshot the information we required you to provide, i.e, the message M_s sent, the transport protocol used, and the IP address IP_x.



8) (20 points) Provide the message M_s sent, the transport protocol used, the IP address IP_x, and the IP address of the machine on which *secretClient* was executed.



What you need to turn in:

- Electronic copy of this file (including your answers) (standalone). Submit the file as a Microsoft Word or PDF file.

- Recall that answers must be well written, documented, justified, and presented to get full credit.

- How this assignment will be graded:
- A right answer will get full credit when:
- It is right (worth 25%)
- It is right AND neatly presented making it easy and pleasant to read. (worth 15%)
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