
Hands-on Project 1-4: IT and Networking Certifications (3 pts)

which certification does comptia recommend a candidate for the comptia network+ exam already have???

It is recommended for CompTIA Network+ candidates to have the following:

- CompTIA A+ certification or equivalent knowledge, though CompTIA A+ certification is not required.
- Have at least 9 to 12 months of work experience in IT networking.

how long does comptia recommend you work in networking before you take the comptia network+ exam???

For the certification of network+exam the organization recommends you to have min of nine month experience in that particular field so you can have good and sound knowledge of the things before you take the exam.ss

cisco offers a full range of certifications focused on all aspects of networkings how long does cisco recommend you work in networking before you take the ccna routing and switching exam for certification????

Cisco Certified Network Associate (CCNA) Routing and Switching is a certification program for passage level system designs that maximizes your interest in foundational networking information and increase the value of your manager's system. CCNA Routing and Switching is for Network Specialists, Network Administrators, and Network Support Engineers with 1-3 years of experience. The CCNA Routing and Switching validates the ability to install, design, operate, and investigate medium-size directed and exchanged systems.

How long does cisco recommends you to work in industry before you take the CCIE routing and switching exam?

There are no formal prerequisites for CCIE certification. Other professional certifications or training courses are not required. Instead, candidates must first pass a written qualification exam and then the corresponding hands-on lab exam. You are expected to have an in-depth understanding of the topics in the exam blueprints and strongly encouraged to have three to five years of job experience before attempting certification and for this certification on hand experience is better if a candidate doesn't have industry experience he can enroll himself.

What are eight MCSE Microsoft certifications?

1. **MCSE: Server infrastructure**
2. **MCSE: Desktop Infrastructure**
3. **MCSE: Private Cloud**
4. **MCSE: Enterprise Devices and Apps**
5. **MCSE: Data Platform**
6. **MCSE: Messaging**
7. **MCSE: Communication**

8. MCSE: Share Point

Search For an IT job in your geographical area and list down the following things

1. Which degrees are required or recommended??

Bachelor's Degree and/or applicable technical experience desired

2. Why type of skills are required or recommended or what certifications required???

Experience using helpdesk ticket tracking systems

Demonstrated experience with Windows operating systems (XP and Windows 7) and Office suite of products required (Office 2010)

Knowledge of Microsoft Active Directory and Exchange 2007/2010

Excellent understanding of Networking Technologies, TCP/IP, VPN, DNS, DHCP, FTP and SMTP

Familiarity with Mac desktop/phone/PDA/tablet technologies

Working knowledge of VoIP Telephony

Experience with support of local and networked printers

Experience with support of remote access/VPN technologies

Ability to configure and deploy hardware and software

Knowledge of Exchange 365 a plus

Excellent communication/customer service skills

Strong problem solving and decision making skills

Ability to multitask and meet time constraints

Reference: <https://careers-toryburch.icims.com/jobs/3733/help-desk-support-technician---it/job?mode=job&iis=Internet+%E2%80%93+Indeed.com&iisn=Indeed.com&mobile=false&width=1009&height=500&bga=true&needsRedirect=false&jan1offset=300&jun1offset=300>

Practice Solving Path MTU Black Hole Problems

In this project you determine the largest MTU that can be used to reach the course.com host from the lab computer without creating an MTU black hole.

in order to do this project first I open the command prompt and then enter the following command in order to run the project and to reach out the course.com site

keep increasing the packet size until the packet does not return. Do not allow the packet to be fragmented.

```
ping -l 1024 -f course.com
```

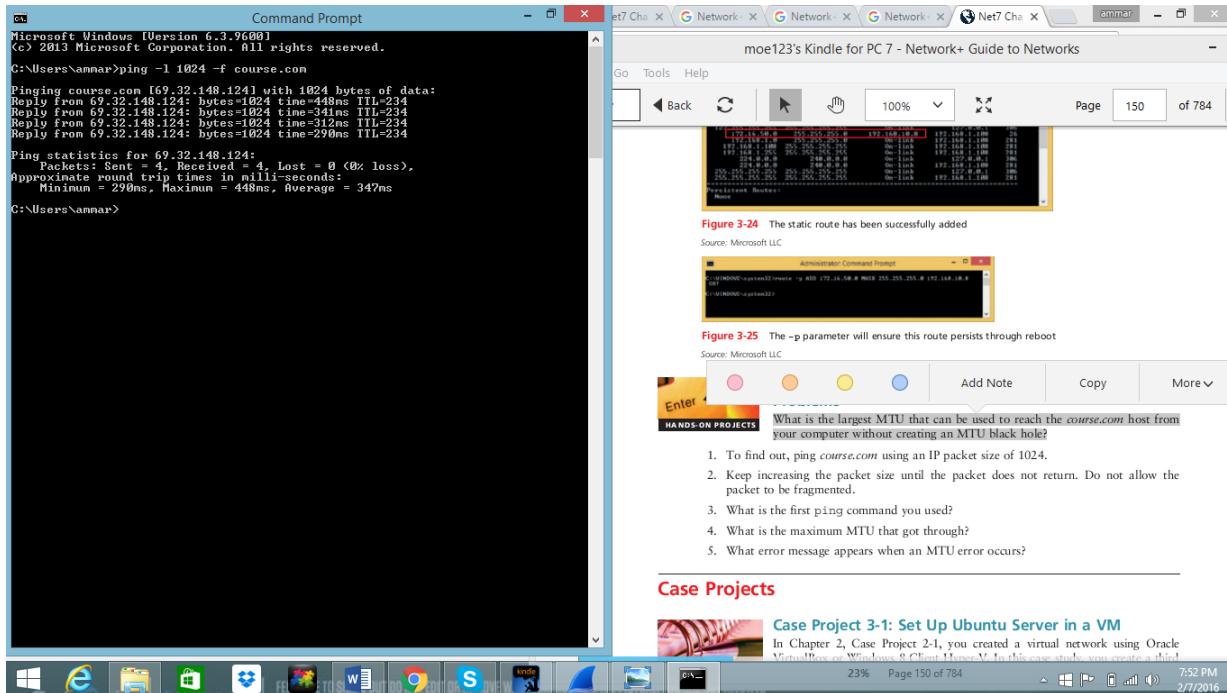


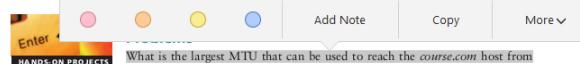
Figure 3-24 The static route has been successfully added

Source: Microsoft LLC



Figure 3-25 The -p parameter will ensure this route persists through reboot

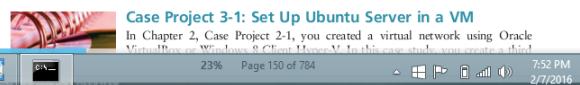
Source: Microsoft LLC



1. To find out, ping course.com using an IP packet size of 1024.

2. Keep increasing the packet size until the packet does not return. Do not allow the packet to be fragmented.
3. What is the first ping command you used?
4. What is the maximum MTU that got through?
5. What error message appears when an MTU error occurs?

Case Projects



2. keep increasing the packet size until the packet does not return. Do not allow the packet to be fragmented.

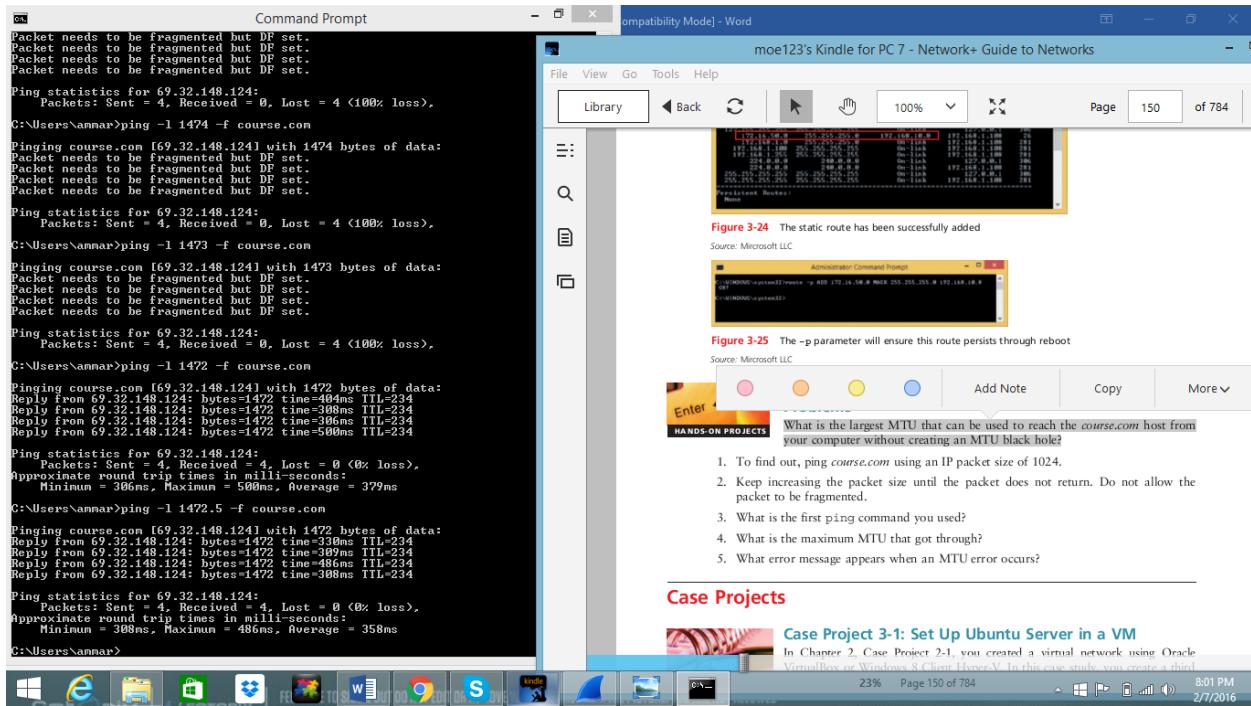


Figure 3-24 The static route has been successfully added

Source: Microsoft LLC



Figure 3-25 The -p parameter will ensure this route persists through reboot

Source: Microsoft LLC

What is the largest MTU that can be used to reach the *course.com* host from your computer without creating an MTU black hole?

1. To find out, ping *course.com* using an IP packet size of 1024.
2. Keep increasing the packet size until the packet does not return. Do not allow the packet to be fragmented.
3. What is the first ping command you used?
4. What is the maximum MTU that got through?
5. What error message appears when an MTU error occurs?

Case Projects

Case Project 3-1: Set Up Ubuntu Server in a VM
In Chapter 2, Case Project 2-1, you created a virtual network using Oracle VirtualBox or Windows 8 Client Hyper-V. In this case study, you create a third

23% Page 150 of 784 8:01 PM 2/7/2016

What is the first ping command you used?

```
ping -l 1024 -f course.com
```

the first ping command which was used was as above given.

What is the maximum MTU that can be go through???

The largest MTU that can be go through my system during practicing was 1473 packet maximum transfer after that error occur and packets start losing.

What error message appears when an MTU error occurs??

When packets size reaches it's maximum level of 1475 the error message as shown in the screen shot above was that

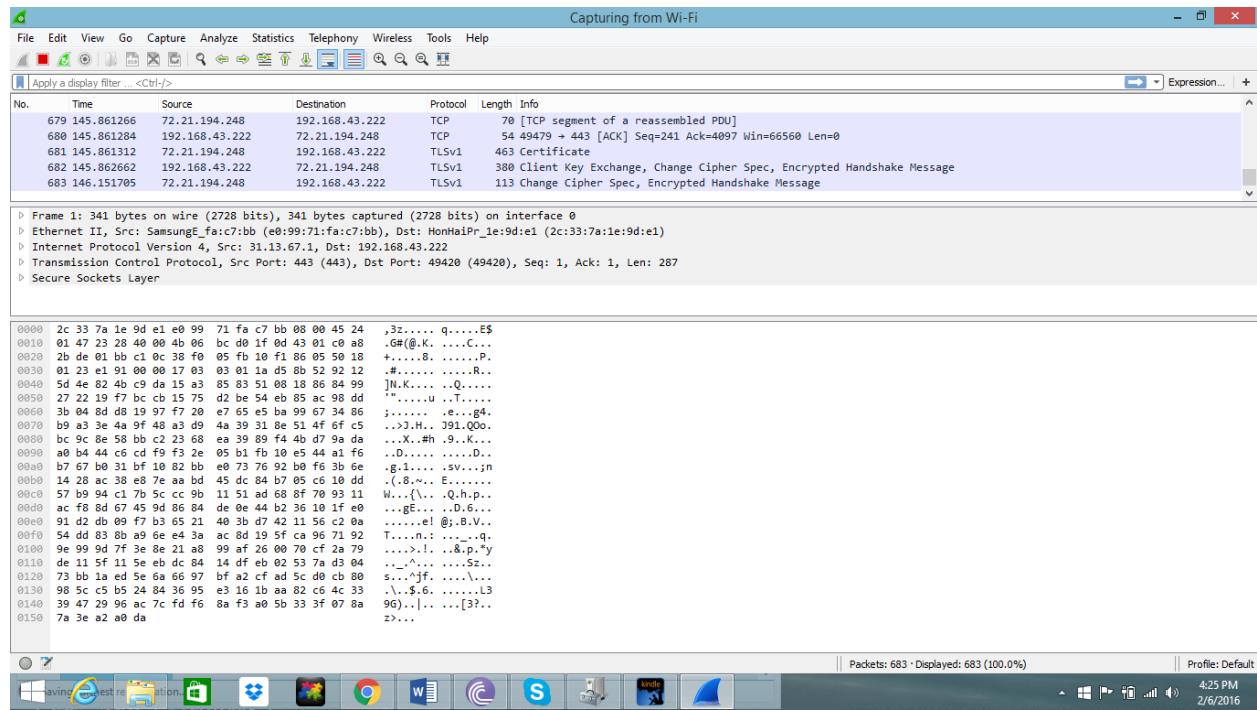
Packets needs to be fragmented but DF set

Install and use of wire shark

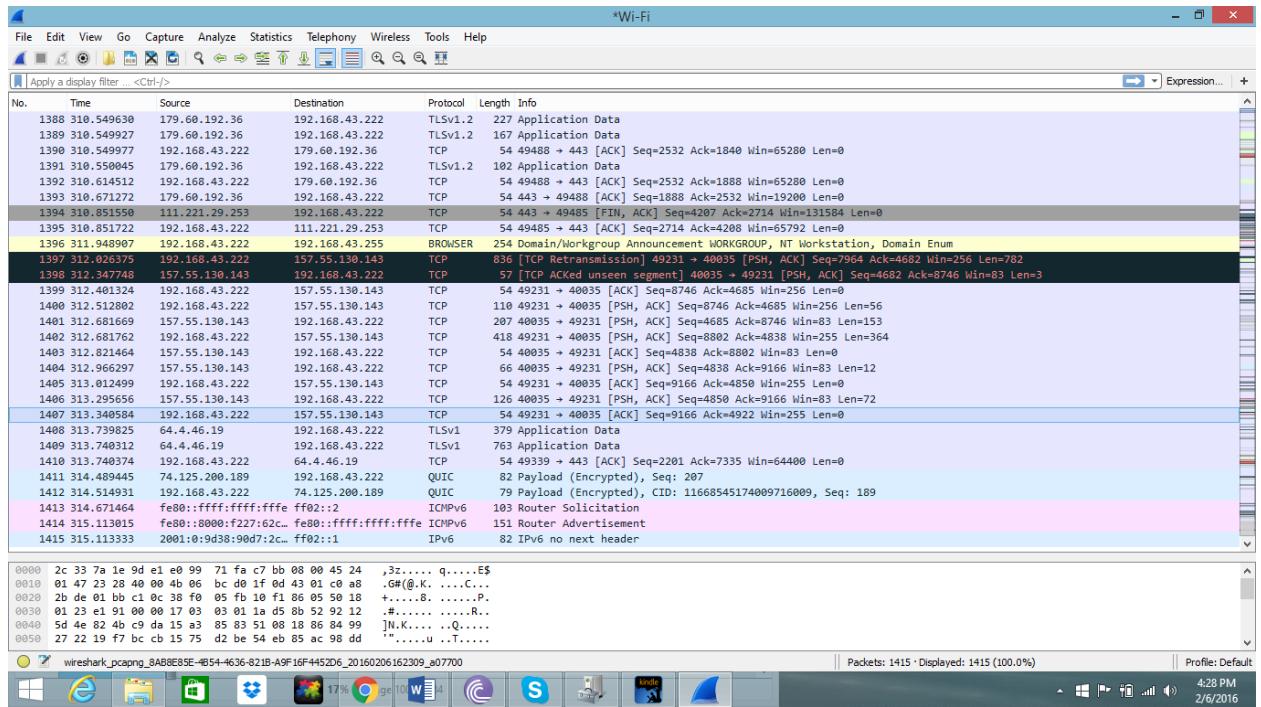
Hands-on Case Project 2-2: Install and Use Wireshark (3 pts)

1. After downloading the software and running installing the application .

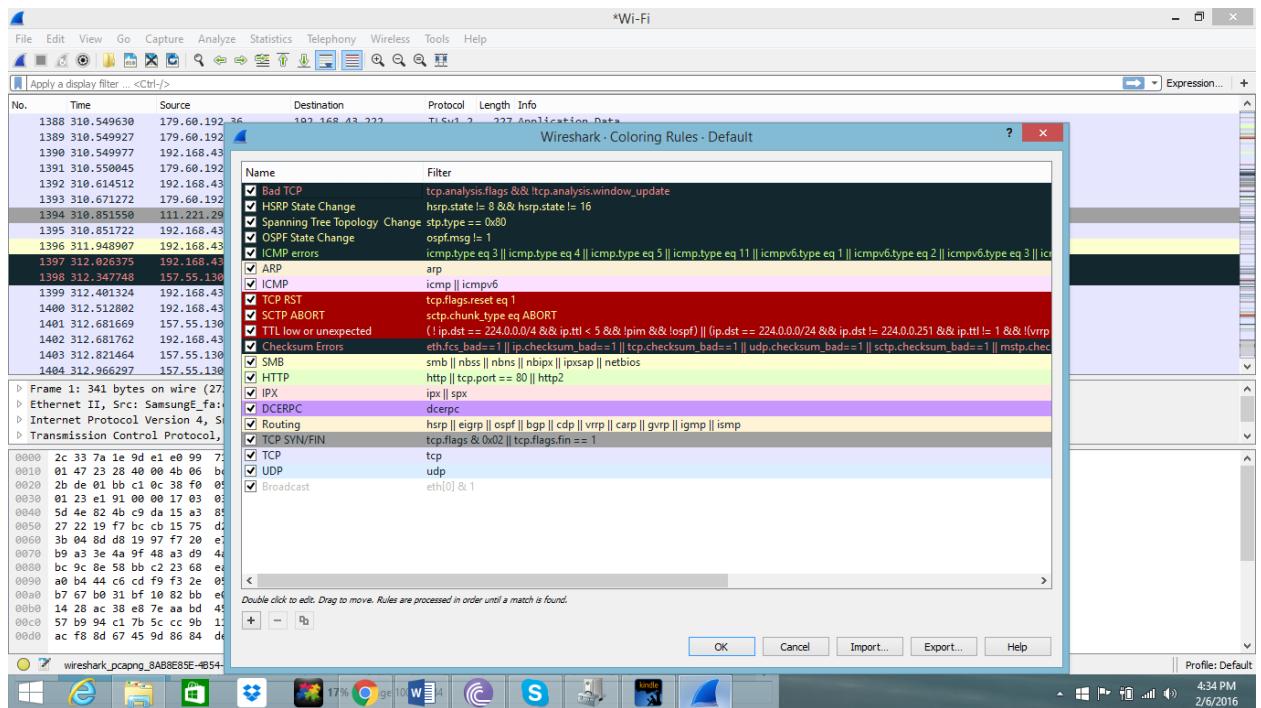
- 2.after following the instructions in step 2

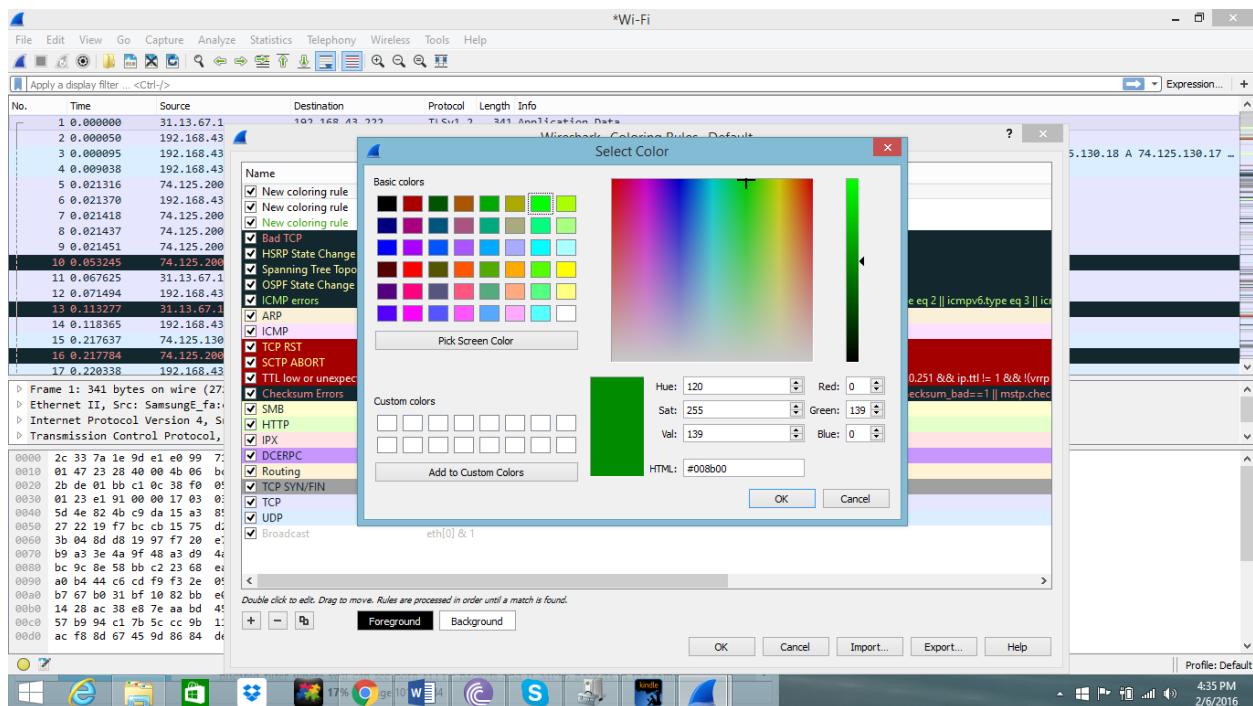


- 3.after adjusting the pane sizes by grabbing a border between them and dragging and running the software for the couple of minutes and stopping the software ribbon the following result came upon .

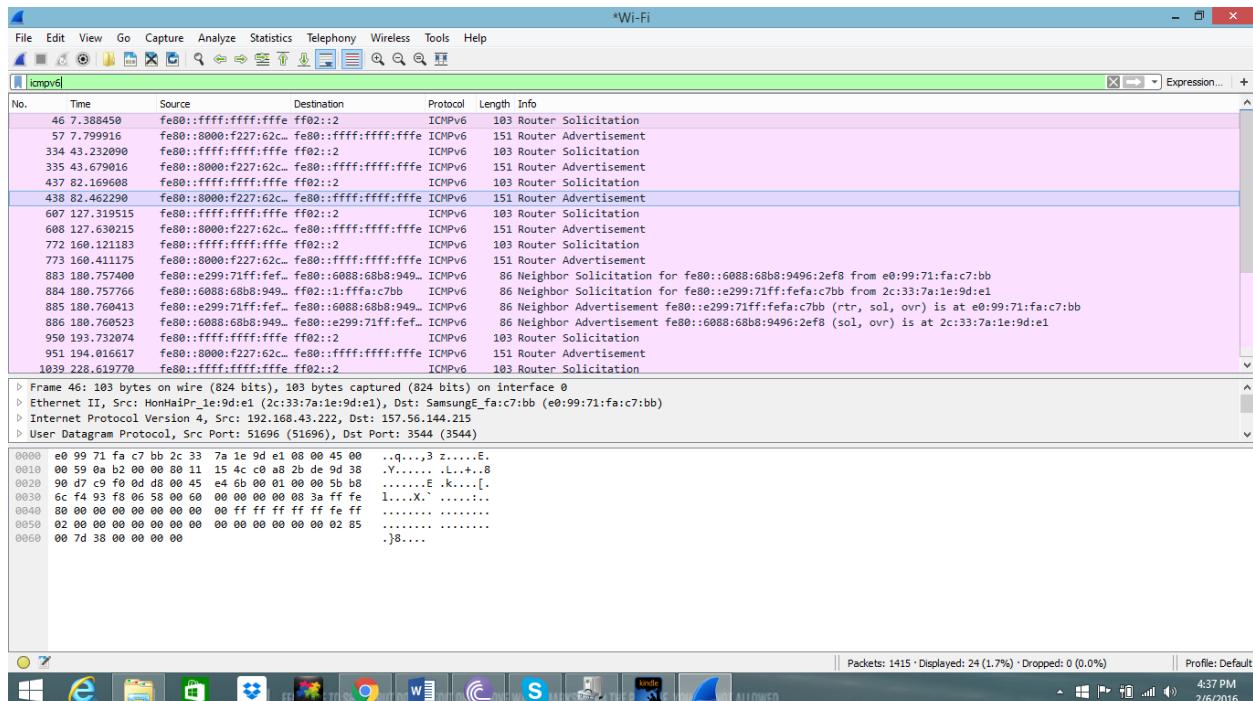


4. after editing the colouring rules and making the required changes

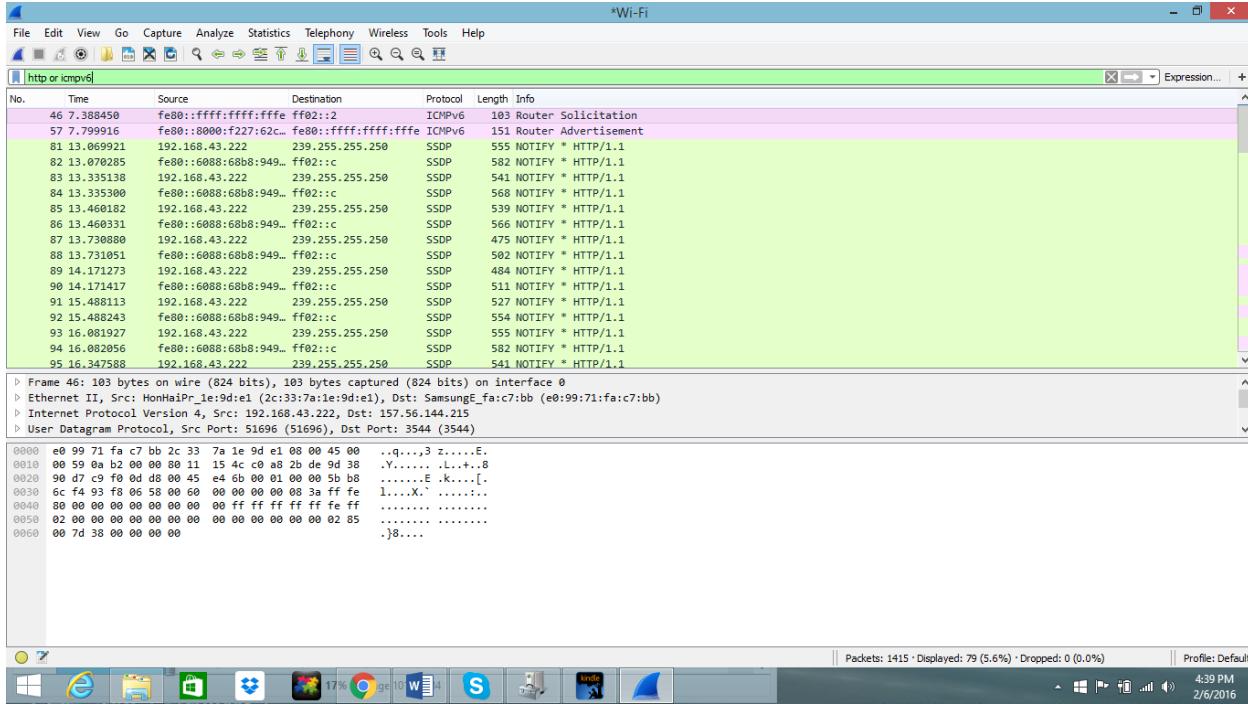




7. in order to filter the specific kind of packet as for example ICMPV6 packet after filtering the required packet the respective output is as follows

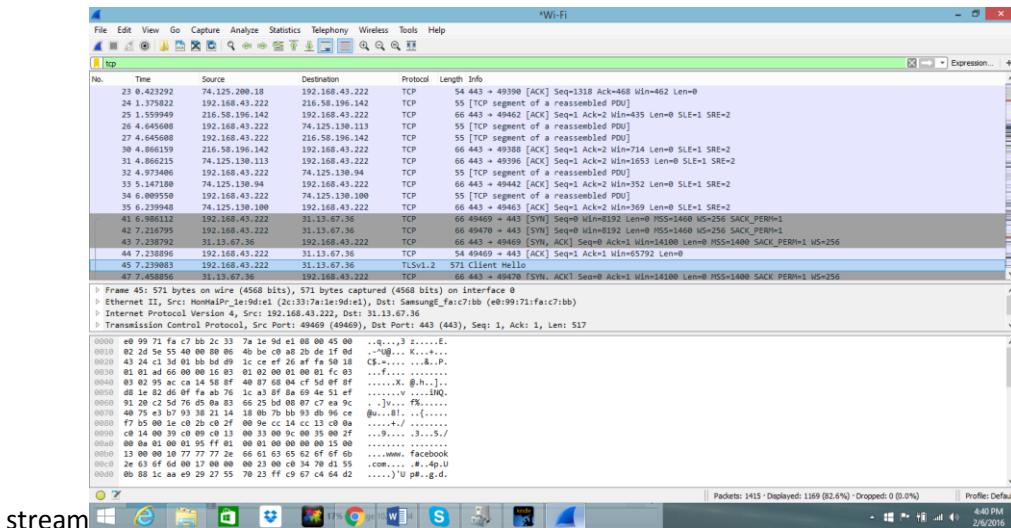


8.after doing the more search in the figure below you can see that the difference between the http and icmpv6 packets differentiated by the colours.

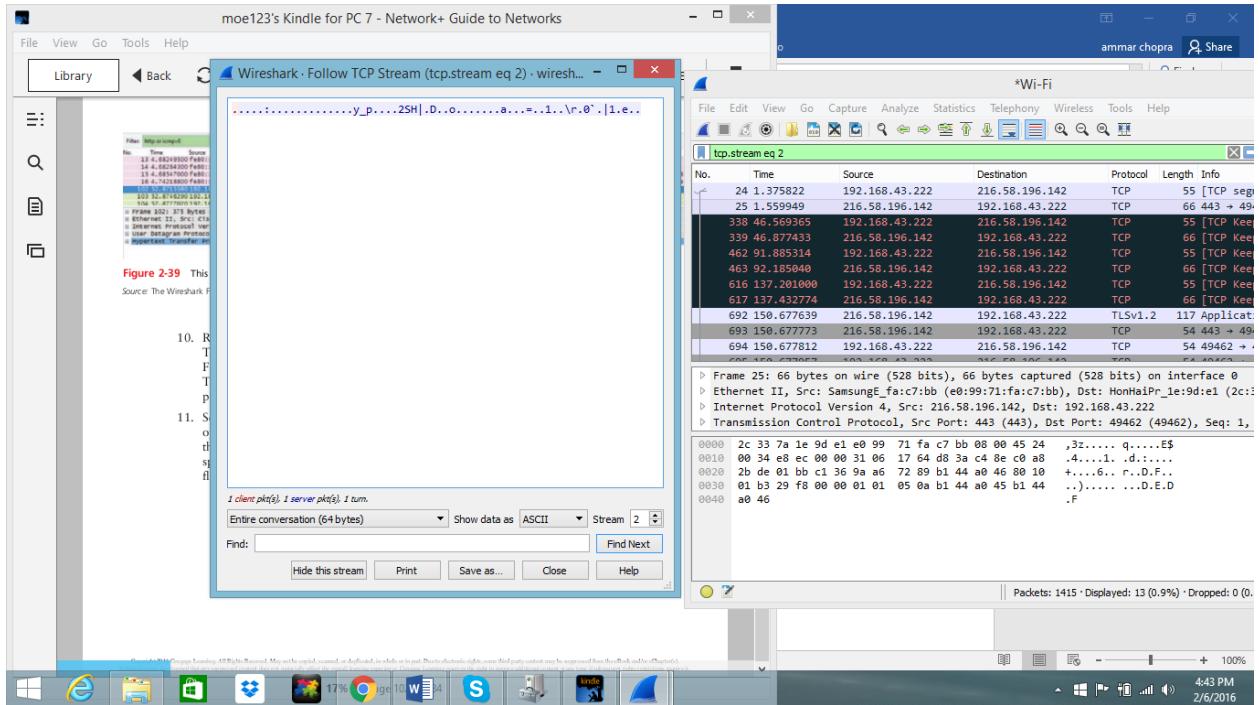


9. after analyzing the results from the filtering of the http and impv6 there are 2 sections for the impv6 as shown in the above figure.

10.now in order to find a tcp connection oriented protocol and after capturing and following the tcp

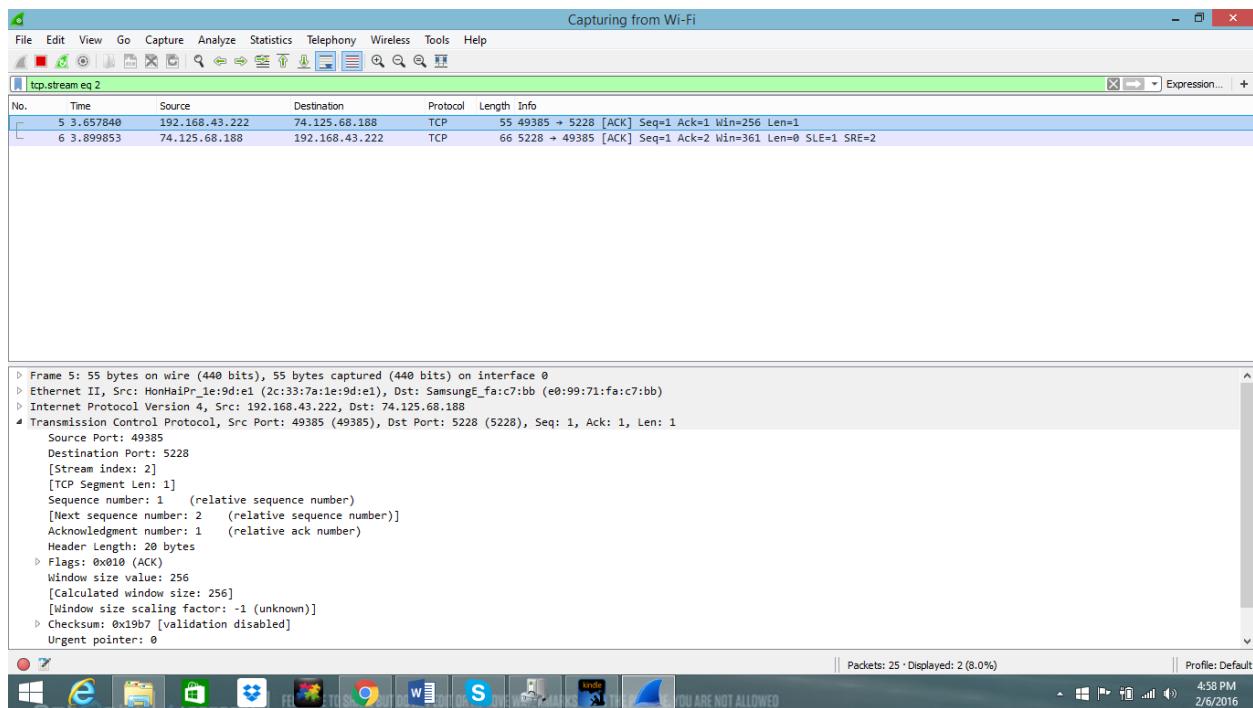


Now we have to find a tcp packet by following the instructions in the book .



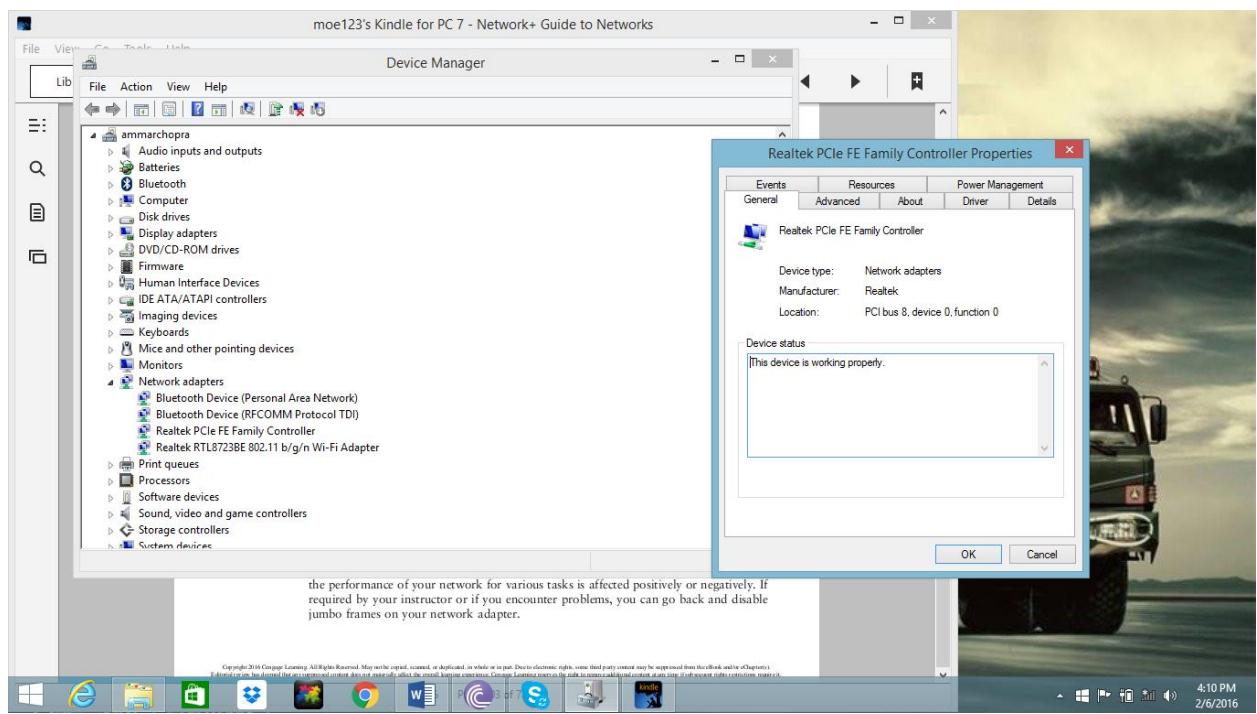
As you can see in the left window the tcp stream follow window shows that the wireshark software had found the tcp flow stream in order to check the flow of data the secure protocol.

11. after restarting the wireshark and capturing the new filters as per demanded of the book instructions and following them shown in the figure below

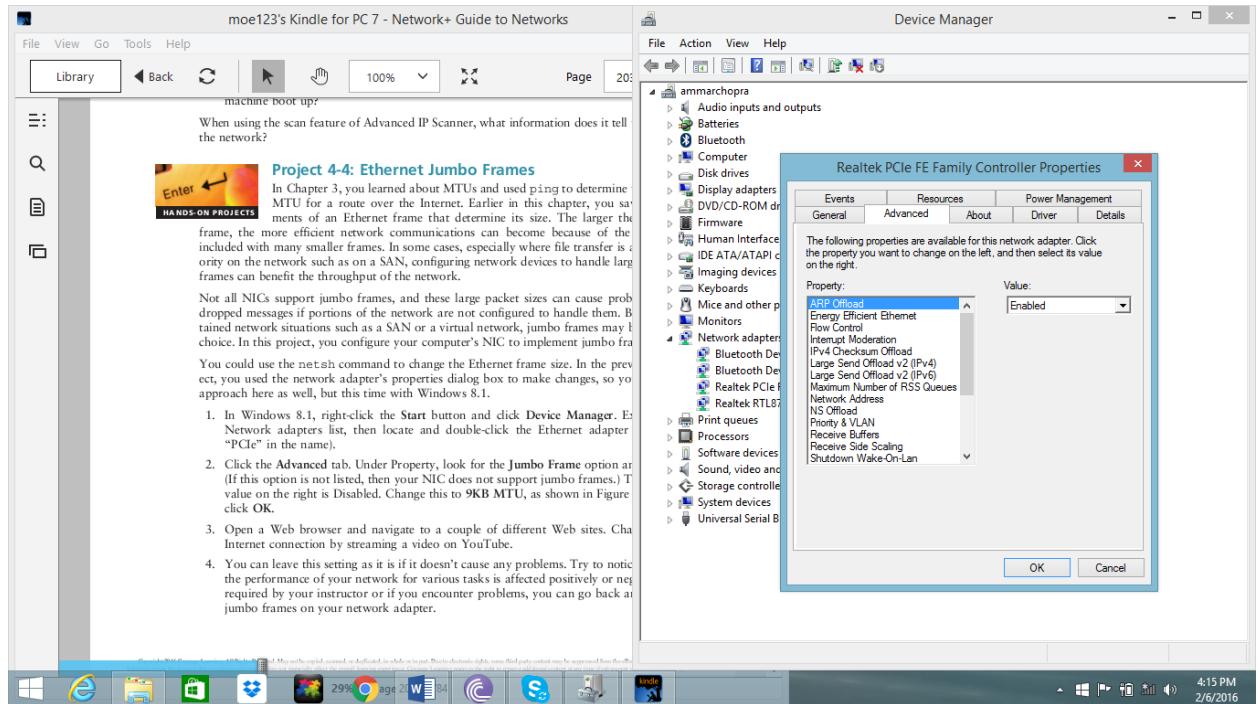


Ethernet Jumbo Frames

Hands-on Project 4-4: Ethernet Jumbo Frames (3pts)



1.



2. After installing the real tek family controller and doing the relevant changes as required per instructions and using the several sites and using the youtube as live stream the changes required were not affected upon the internet and everything was moving smooth and after reversing the setting the system worked fine
 3. As at the time of using and following the instructions of Ethernet jumbo frames I was using the wifi and hence the changes causes not so much affect on the system.