EXPERIMENT-1

Objective: Introduction and installation of cisco packet tracer and wireshark

Resources Regruired: PC/Laptop , cisco packet tracer setup, wireshark software

Theory:

Packet Tracer is a protocol simulator developed by Dennis Frezzo and his team at Cisco Systems. Packet Tracer (PT) is a powerful and dynamic tool that displays the various protocols used in networking, in either Real Time or Simulation mode. This includes layer 2 protocols such as Ethernet and PPP, layer 3 protocols such as IP, ICMP, and ARP, and layer 4 protocols such as TCP and UDP. Routing protocols can also be traced.

Cisco Packet Tracer is Cisco's simulation software. It can be used to create complicated network typologies, as well as to test and simulate abstract networking concepts. It acts as a playground for you to explore networking and the experience is very close to what you see in computer networks. Packet Tracer allows users to drag and drop routers, switches, and other network devices to create simulated network topologies.

Key Features:

❖ Unlimited devices
❖ E-learning
❖ Customize single/multi user activities
❖ Interactive Environment
❖ Visualizing Networks
❖ Real-time mode and Simulation mode
❖ Self-paced
❖ Supports majority of networking protocols
❖ International language support
❖ Cross platform compatibility

Wireshark is a network protocol analyzer, or an application that captures packets from a network connection, such as from your computer to your home office or the internet. Packet is the name given to a discrete unit of data in a typical Ethernet network. Wireshark does three things:

1.Packet Capture: Wireshark listens to a network connection in real time and then grabs entire streams of traffic – quite possibly tens of thousands of packets at a time.

2.Filtering: Wireshark is capable of slicing and dicing all of this random live data using filters. By

applying a filter, you can obtain just the information you need to see. **3.Visualization:** Wireshark, like any good packet sniffer, allows you to dive right into the very middle of a network packet. It also allows you to visualize entire conversations and network streams.
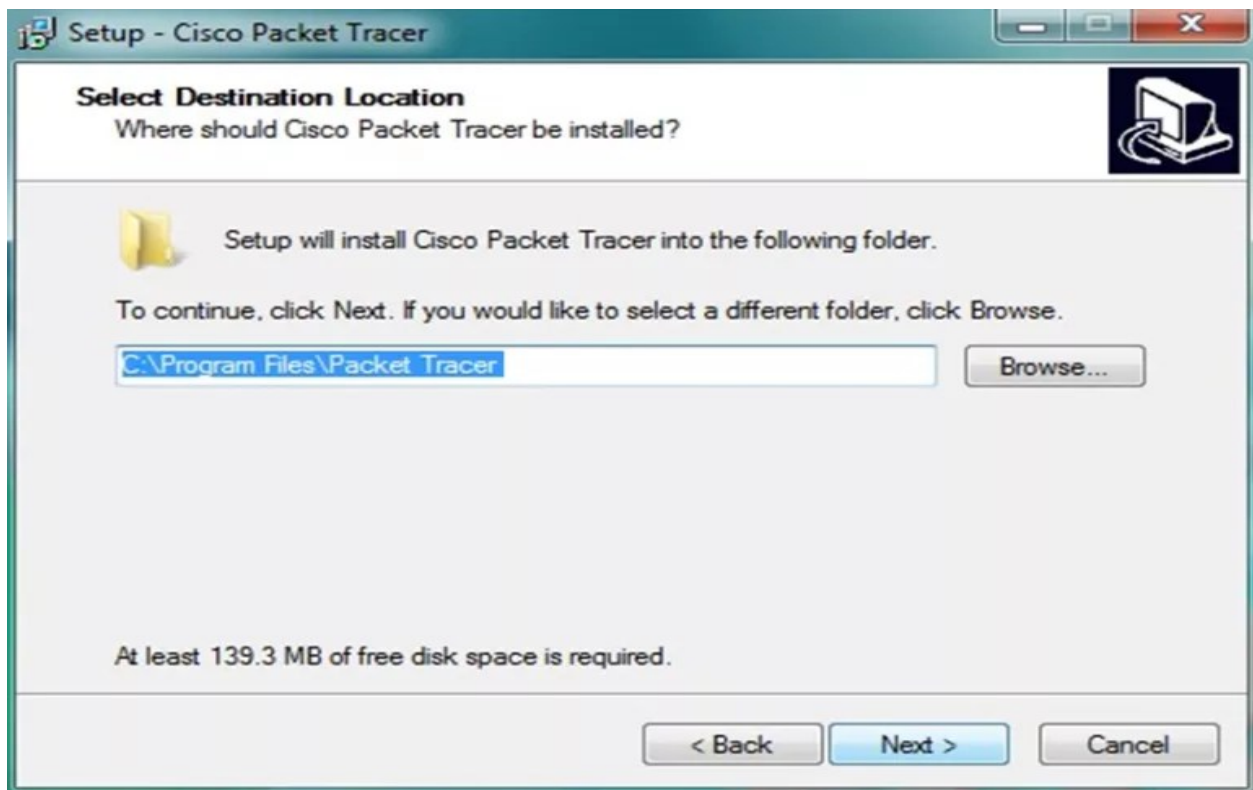
Procedure:-

STEP 1 –

After **Cisco Packet Tracer download**, click on the downloaded exe file. Once below Window will appear, click the "Next" option
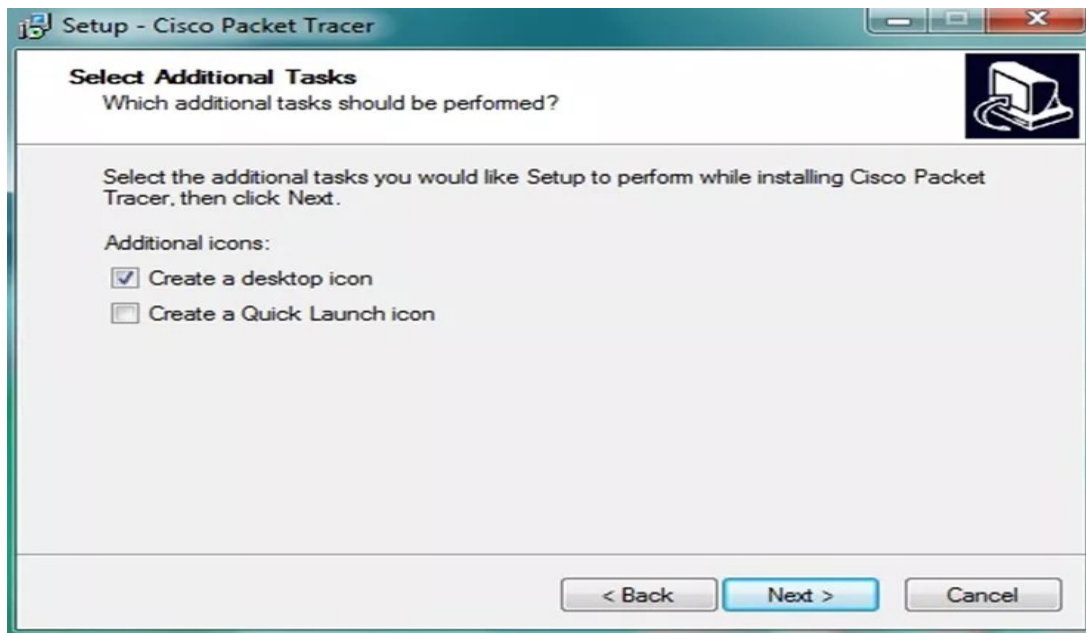
STEP 2 –

On the next screen, select "I accept the agreement" and click on "Next".

STEP 3-Setup will show the folder in which the program's shortcuts will be created. If you want to change the folder, you can change it. Click on "Next".
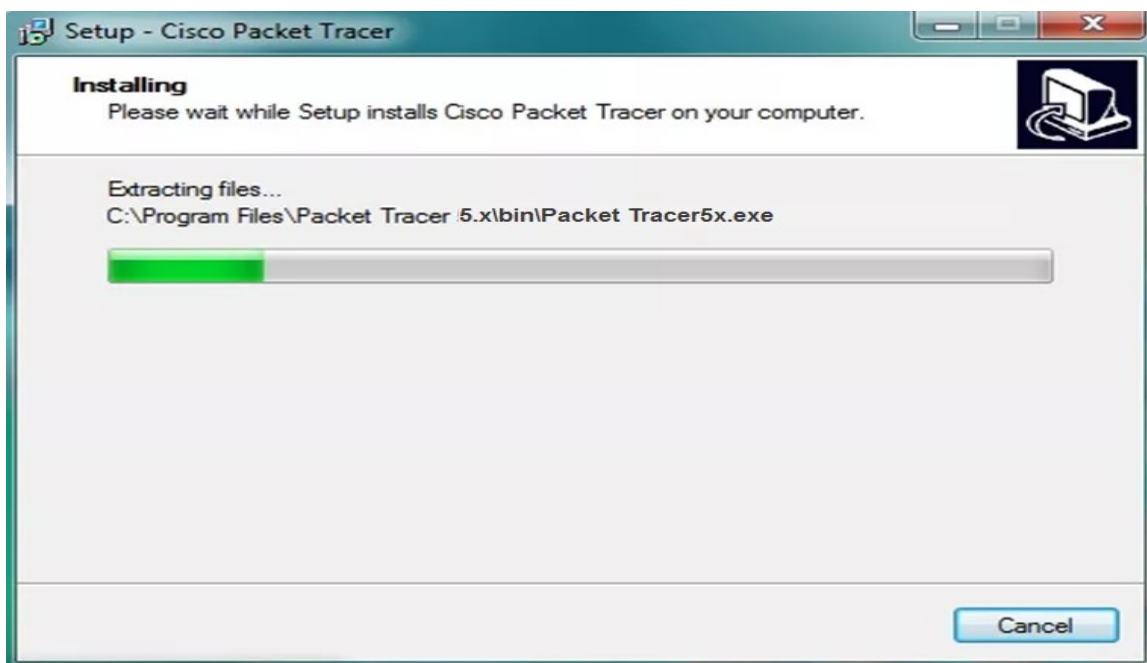

STEP 4- Then the program will ask whether to create a Desktop icon and create a Quick Launch icon. Make your choice and click on "Next".

STEP 5-The summary of the settings we selected is displayed. Click on *"Install"*.

**STEP 6-**The cisco packet tracer installation starts as shown below.

STEP 7-

Cisco packet tracer Installation gets completed and the below screen is shown. Click on "Finish".Click "OK" on next popup asking you to close or restart your computer.

STEP 8- Packet Tracer is installed and ready to be used.

STEPS FOR DOWNLOADING WIRESHARK SOFTWARE:

Step 1: visit the official Wireshark website in any web browser
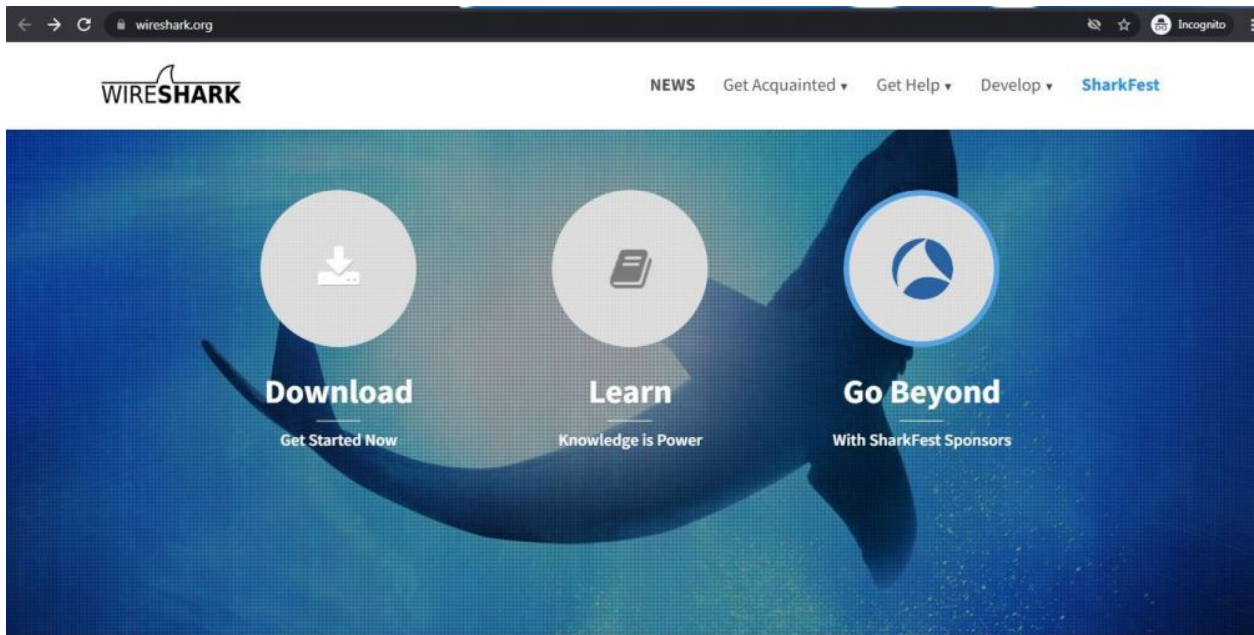
Step 2: Click on download, a new webpage will open with different installers of wireshark.

Step 3: Downloading of the executable file will start shortly. It is a small 73.69 Mb file that will take some time

**Step 4**: Now check for the executable file in downloads in your system and run it.

Step 5: It will prompt confirmation to make changes to your system. Clicl on yes.

Step 6: Setup screen will appear, click on Next.

Step 7: the next screen will be of License Agreement, click on Noted.

Step 8: This is for choosing components, all components are already marked so don't change anything just click on the Next button.
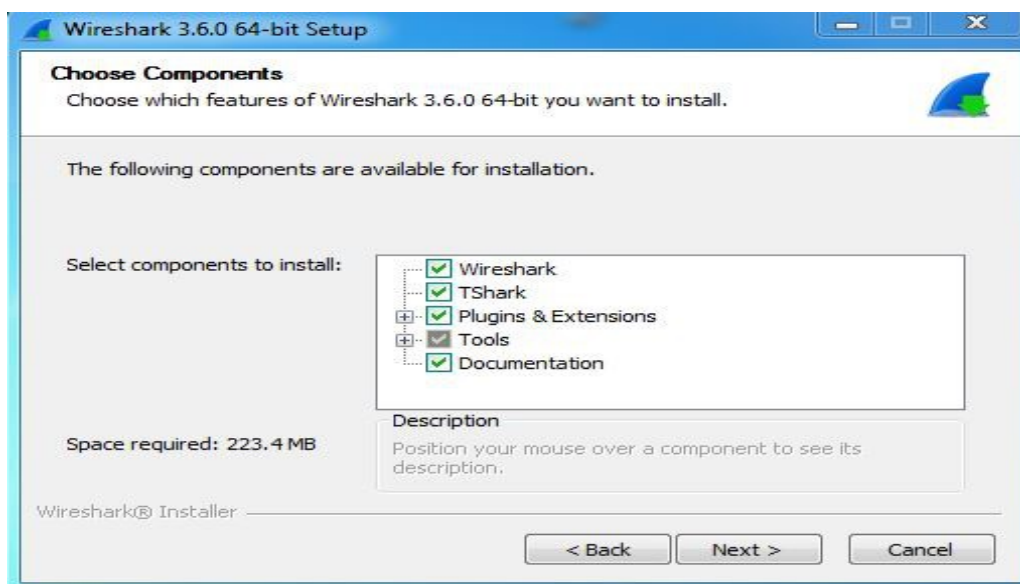
Step 9: This screen is of choosing shortcuts like start menu or desktop icon along with file extensions which can be intercepted by wireshark, tick all boxes and click on Next button.

Step 10:The next screen will be of installing location so choose the drive which will have sufficient memory space for installation. It needed only a memory space of 223.4 MB.

Step 11: Next screen has an option to install Npcap which is used with Wireshark to capture packets *pcap*means packet capture so the install option is already checked don't change anything and click the next button.

Step 12: Next screen is about USB network capturing so it is one's choice to use it or not, click on Install.

Step 13: After this installation process will start.

Step 14: This installation will prompt for Npcap installation as already checked so the license agreement of Npcap will appear to click on the *I Agree* button.
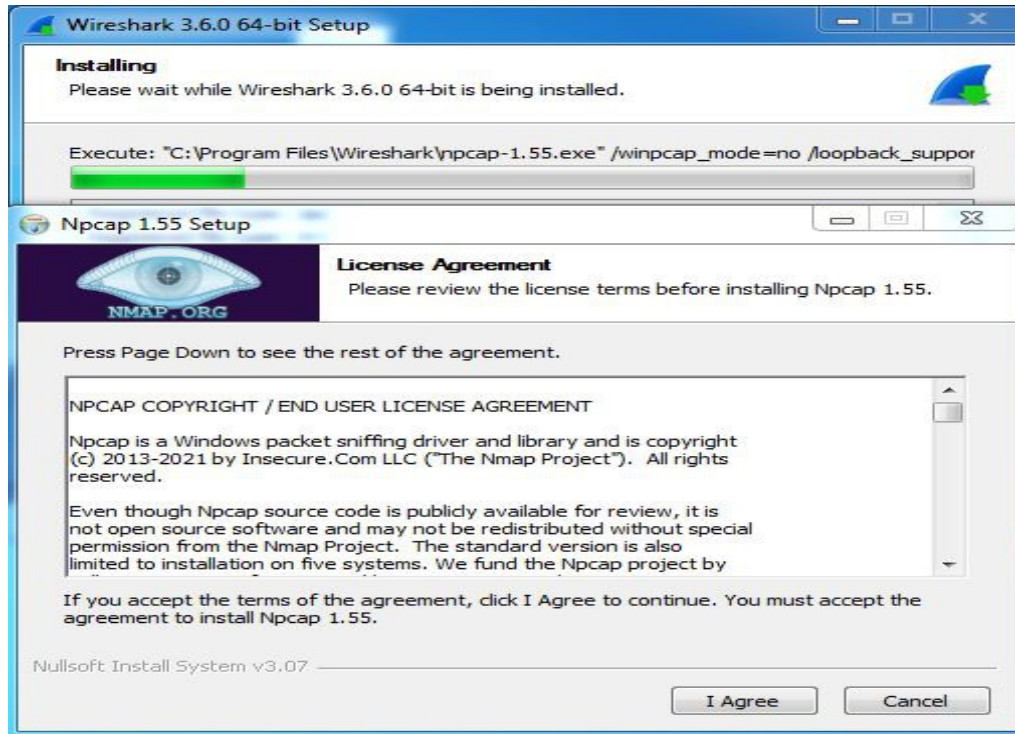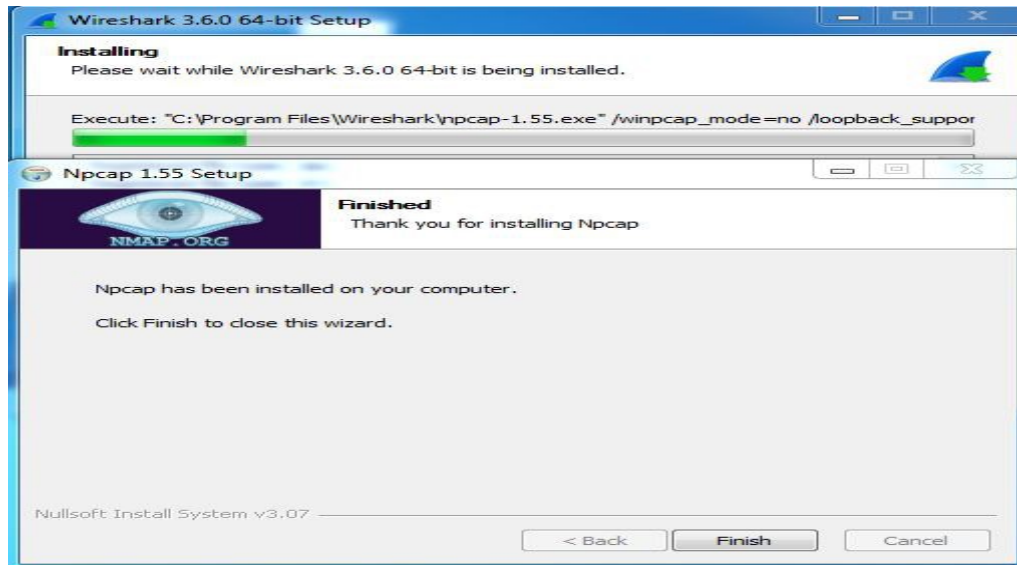

Step 15: Next screen is about different installing options of *npcap*, don't do anything click on Install.
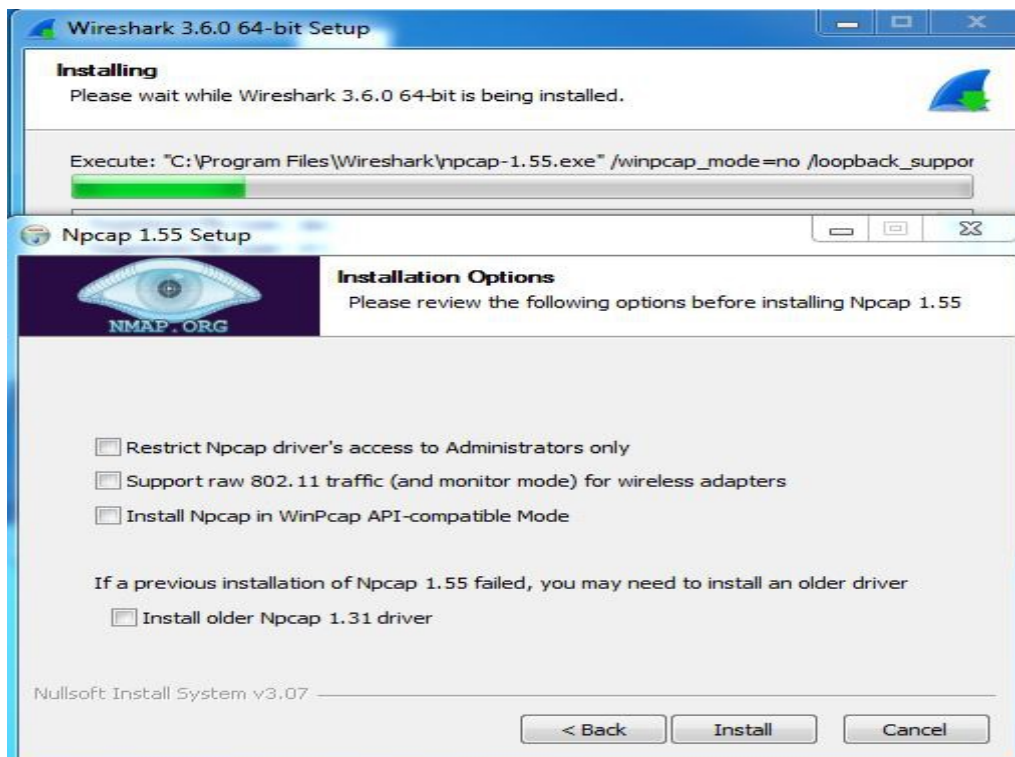
Step 16: After this installation process will start which will take only a minute.
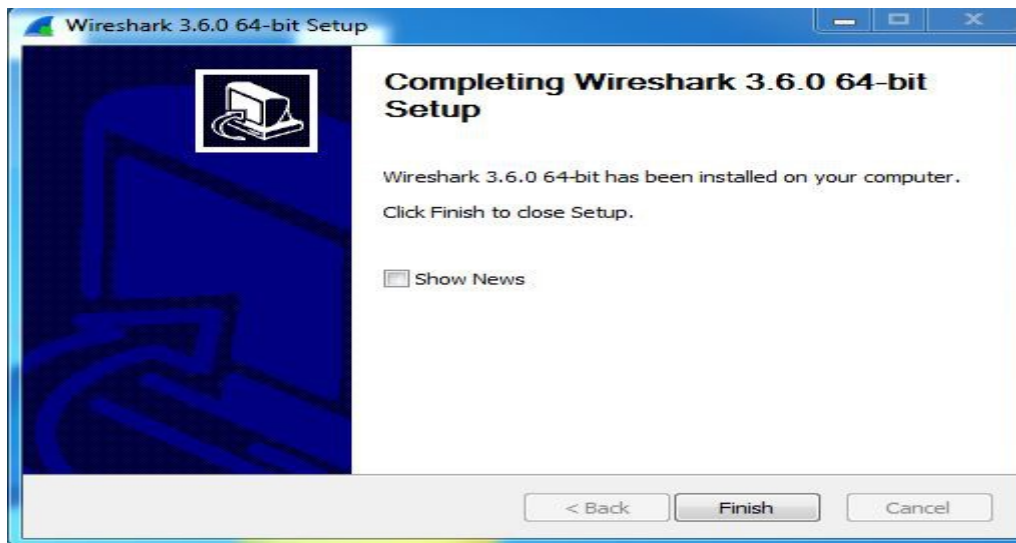
Step 17: After this installation process will complete click on the Next button.

Step 18: Click on Finish after the installation process is complete.

Step 19: After this installation process of Wireshark will complete click on the Next button.

Step 20: Click on Finish after the installation process of Wireshark is complete

Conclusion:

We have learnt installation of cisco packet tracer and wire shark.