**PSG COLLEGE OF TECHNOLOGY, COIMBATORE - 641004**

**Department of Applied Mathematics and Computational Sciences**

**MSc Software Systems - Semester 4 - Lab Exercise**

**Wireshark – Lab 2**

**19PW15**

Question 1]

Aim of this exercise is to familiarize with the concept of client-server protocols and the role of IP address and Port numbers in the communication. Also the student must realize the possible transport layer protocols that are involved in the communication.

Capture Wireshark logs of the following sessions:

* HTTP session
* FTP session
* DNS session
* Ssh session

Answer the following:

* With your machine as source, fill in the following table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Application Layer Protocol** | **Src IP** | **Src Port** | **Destination IP** | **Destination Port** | **Transport Protocol (UDP/TCP)** |
| **FTP** | 192.168.42.144 | 62990 | 54.243.216.217 | 21 | TCP |
| **HTTP** | 192.168.42.144 | 63040 | 8.36.80.241 | 80 | TCP |
| **DNS** | 2606:4700:4700:111 | 53 | 2401:4900:49c5:98de:9903:f1fa:620a:3b78 | 52136 | UDP |
| **SSH** | 192.168.42.144 | 63088 | 54.243.216.217 | 22 | TCP |

* What are the basic functions of FTP, HTTP, DNS, SSH protocols.

FTP :

•to download, upload and transfer files from one location to another on the internet

•enables computers on the internet to transfer files back and forth

•encourages indirect use of remote computers

•It is mainly used for transferring the web page files from their creator to computer that acts as a server for other computers on the internet

HTTP:

•protocol designed to transfer information between computers over WWW

•allows the fetching of resources

•it is a client-server protocol

•it is stateless

•its platform independent, which allows straight cross platform porting

DNS:

•helps Internet users and network devices discover websites using human- readable hostnames

•translate domain names into IP Addresses which computers can understand

•provides a list of mail servers which accept Emails for each domain name

SSH:

•providing secure access for users and automated processes

•interactive and automated file transfers

•issuing remote commands

•managing network infrastructure and other mission-critical system components

* What difference do you notice between FTP and SSH

The main differences between FTP and SSH are :

* FTP is a file transfer protocol
* SSH is a network protocol.
* FTP is inherently insecure
* SSH is inherently secure
* Ftp only allows the control of files
* SSH allows a wide variety of applications