PSG COLLEGE OF TECHNOLOGY, COIMBATORE - 641004

Department of Applied Mathematics and Computational Sciences

MSc Software Systems - Semester 4 - Lab Exercise

Wireshark – Lab 2

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:

1. HTTP session
2. FTP session
3. DNS session
4. Ssh session

Answer the following:

1. 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** | 192.168.1.33 | 52366 | 54.243.216.217 | 21 | TCP |
| **HTTP** | 192.168.1.33 | 52316 | 85.128.243.91 | 80 | TCP |
| **DNS** | 192.168.1.33 | 56625 | 218.248.112.65 | 53 | UDP |
| **SSH** | 192.168.1.33 | 52242 | 54.243.216.217 | 22 | TCP |

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

FTP: It provides sharing of files. It transfers the data more reliably and efficiently. It is used to encourage the use of remote computers

HTTP: It is used to connect to web servers on the internet or local network. The primary function is to establish a connection with the server and send HTML pages back to the user’s browser. Also used to download files from the server

DNS: It is used to translate domain names into IP addresses. It also provides a list of mail servers which accept emails for each domain name

SSH: It is used to secure remote login from one computer to another. It provides several alternatives for strong authentication, and it protects the communications security and integrity with strong encryption. It is also an alternative for non-protected login protocols and insecure file transfer methods

1. What difference do you notice between FTP and SSH

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