Assignment

Application Protocols

Application protocols can be broadly divided into several categories. One category includes protocols, such as HTTP, that are explicitly used by users. The other category includes protocols, such as DNS, which help and support protocols used by users. For example as a user, you might use HTTP to surf the net, or you might use FTP to transfer files, or you might use SMTP to send email. In a similar way, you might also use SSL to do online banking or shopping. In this assignment, you will learn about common application protocols including HTTP, IMAP, SMTP, SSL, and VOIP.

In this assignment, you will view several online video tutorials. Note that in his tutorials, Professor Messer uses the four level TCP/IP model rather than the seven level ISO/OSI model. As a professional, you will need to be comfortable using either the four level TCP/IP Model or the seven level ISO/OSI model.

Instructions
For this Assignment, you will view one of Professor Messer's online Application Protocol Tutorials. After viewing this tutorial, please answer the following questions. Note that while you are viewing the group of tutorials, it would also be beneficial to make an "Applications Protocol" vocabulary list.

You can find the online Application Protocol at:
http://www.professormesser.com/n10-005/application-protocols/

Application Protocol Questions
1. How does the Application level of the TCP/IP model map to the ISO/OSI model?

2. The primary difference between FTP and TFTP is user authentication. What is meant by the term "user authentication?"

3. Which protocol is used most often for sending mail between mail servers?

4. Which mail protocol would you use for receiving mail?

5. If you are using a conventional browser to surf the Internet, what protocol(s) are you most likely using?

6. If you are buying a product on Amazon or checking your bank balance online, what protocol should you be using?

7. Who created SSL?

8. What is TLS? Who created it?

9. Name common Voice over IP (VoIP) protocols.

10. Which protocol actually sends your voice across the network?

Assignment

Domain Name System

The Domain Name System (DNS) is a hierarchical distributed naming system that translates domain names to numerical IP addresses. An essential component of the Internet, DNS provides a worldwide distributed keyword based redirection service.

The DNS protocol is a detailed specification of the data structures and data communication exchanges used in DNS as part of the Internet Protocol Suite. DNS has a client server model where clients use UDP for queries and DNS servers use TCP for zone transfers.

Instructions
For this assignment, watch the following video tutorials and answer the following questions.

Introduction to DNS
http://www.elithecomputerguy.com/2013/03/13/introduction-to-dns-domain-name-services/

An Overview of DNS
http://www.professormesser.com/n10-005/overview-of-dns/

DNS Records
http://www.professormesser.com/n10-005/dns-records/

DNS Protocol Questions
1.   What is the difference between a routable and a non-routable protocol?

2.   To connect separate routable networks, what hardware device would be appropriate?

3.   In TCP/IP, what physical device is called the default gateway?

4.   What is DNS?

5.   Briefly describe the DNS query/response process.

6.   What is DHCP (Dynamic Host Configuration Protocol)?

7.   Briefly describe the DHCP process.

Deliverables
When you have completed your work, post it to your online portfolio.