EE4717/IM4717 Web Application Design
Web Server Configuration

Lecturer :

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Background: The Internet and WWW

➢ Internet

– Interconnected network of computer networks.

– Network: two or more computers connected together for the purpose of communicating and sharing resources.

➢ WWW stands for World Wide Web

– A graphical user interface to information stored on some of the computers connected to the Internet.
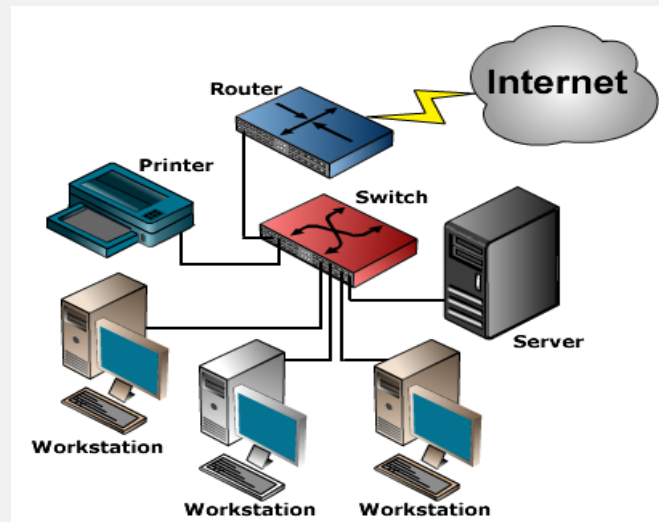
The Client/Server Model

- ➤ Client
  - – requests some type of service (such as a file or database access) from the server.

- ➤ Server
  - – fulfills the request and transmits the results to the client over a network.

- ➤ The Internet Client/Server Model
  - – Client: Web Browser
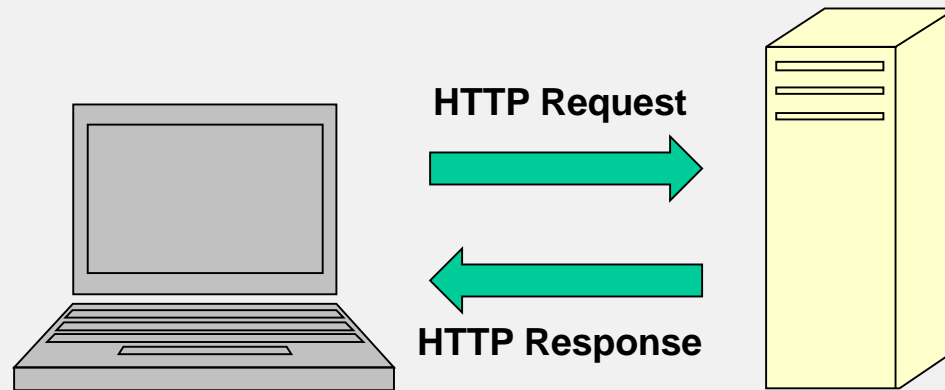 - – Server: Web Server

Internet Protocols

➢ There is no *single* protocol that makes the Internet and Web work. A number of protocols with specific functions are needed.

➢ Common Internet Protocols: TCP/IP

- Transmission Control Protocol (TCP)
- Internet Protocol (IP)

➢ Specialized Protocols:

- File Transfer: FTP, SFTP
- E-mail: SMTP, POP3, IMAP
- Websites: HTTP (Hypertext Transfer Protocol)

HTTP - Hypertext Transfer Protocol

> A set of rules for exchanging files such as text, graphic images, sound, video, and other multimedia files on the Web.

HTTP Request

HTTP Response

> Web browsers send HTTP requests for web pages and their associated files.

> Web servers send HTTP responses back to the web browsers.

IP Address

➢ Each device connected to the Internet has a unique numeric IP address.

   ✧ *Check the IP address assigned to your computer*

➢ An IP address may correspond to a domain name which locates an organization or other entity on the Internet.

➢ Try typing the following into your web browser:

    ◦   Browser: http://www.ntu.edu.sg

    ◦   IP Address: *155.69.7.173*

➢ Finding the IP address of web servers:

   ✧ For Windows: open the command prompt window (Try it!)

   ✧ For Mac : open the Terminal window (Try it!)

   ✧ Type in the window: ping <servername>.

     Example: ping www.ntu.edu.sg

     Note that you can see the IP address of the NTU webserver.

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URL - Uniform Resource Locator

➢ Represents the address of a resource on the Internet.
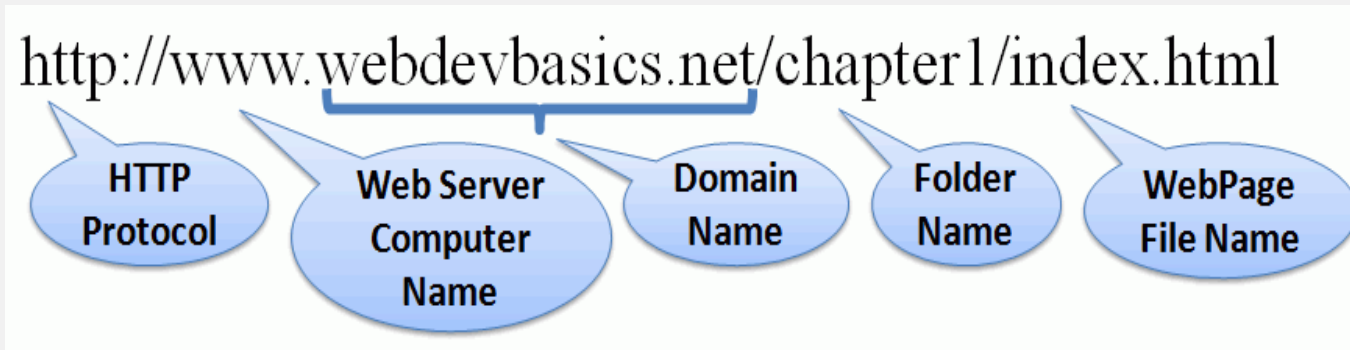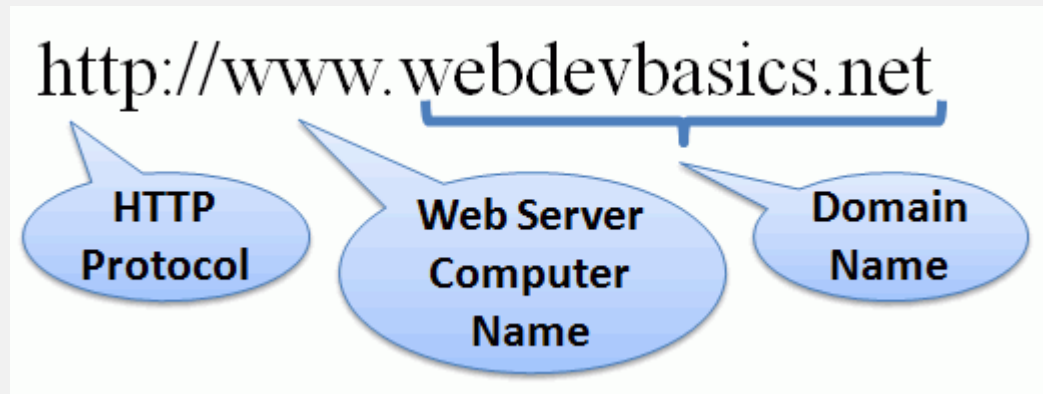
Setting up of Web Server for this course

➢ Every student is given a virtual machine. It runs in the VirtualBox.

➢ Steps to set up the virtual machine:

1. Install VirtualBox: The lab computer has already been installed with VirtualBox. To install VirtualBox on your own computer, please watch this video (this is not compulsory).

2. Import a pre-configured virtual machine: Watch this video.

3. Export your virtual machine: Watch this video.

4. Configure your web account: Watch this video.

   ➢ To access individual web folders: eg. Run -> \\192.168.56.2\f32ee

5. Trying out a few test pages: Watch this video.

➢ For students who wish to have the virtual machine running on their own computers. Please watch the following videos :

- Windows user: you have seen how this is done through the above steps.

- Mac user : Watch this video on YouTube. Then follow step 2.

- Linux user : Watch this video on YouTube. Then follow step 2.

- Note that you are still required to use the virtual machine on the lab computer for the purpose of progress assessment and project demo.