CACS 201: Computer Fundamentals and Applications

PREPARED BY KRISHNA PD. ACHARYA
ASST. PROFESSOR

(MECHI MULTIPLE CAMPUS)

Internet and www **6 Hrs**

- Introduction of internet and its application.
- Connecting to the internet
- Client/Server technology and internet as client/server technology
- E-mail, video conferencing
- Internet service provider(ISP)
- Domain Name Server
- Internet address
- Internet protocols(IP,TCP,HTTP,HTTPS,FTP,SMTP,POP,TELNET,GOPHER,WAIS)
- introduction to internet, intranet vs extranet
- Advantages and Disadvantages of intranet

Internet and www

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- www and its evaluation
- Architecture of web
- Uniform resource locator(URL)
- Search Engine
- Web server
  - Apache
  - MS-IIS
- Proxy server
- Browser
  - Internet explore
  - Mozilla Firefox
  - Netscape Navigator
  - Chrome
  - Opera

Internet and www **6 Hrs.**

- The Internet or net is a worldwide collection of networks that links millions of businesses, government agencies, educational institutions, and individuals.
- The Internet is a widely used research tool, providing society with access to global information and instant communications.
- The Internet consists of many local, regional, national, and international networks.
- Both public and private organizations own networks on the Internet.
- These networks, along with telephone companies, cable and satellite companies, and the government, all contribute toward the internal structure of the Internet.
- The Internet has its roots in a networking project started by an agency of the U.S. Department of Defense.
- The Internet originated as ARPANET in September 1969 and had two main goals:
  - Allow scientists at different physical locations to share information and work together
  - Function even if part of the network were disabled or destroyed by a disaster.
- The original ARPANET consisted of four main computers, one each located at the University of California at Los Angeles, the University of California at Santa Barbara, the Stanford Research Institute, and the University of Utah.

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Connecting to the Internet

- Many home and small business users connect to the Internet via high-speed broadband Internet service.
- With broadband Internet service, your computer or mobile device usually is connected to the Internet the entire time it is powered on.
- Examples of broadband Internet service include the following:
  - **Cable Internet service** provides high-speed Internet access through the cable television network via a cable modem.
  - **DSL** (digital subscriber line) provides high-speed Internet connections using regular telephone lines.
  - **Fiber to the Premises** (FTTP) uses fiber-optic cable to provide high-speed Internet access to home and business users.
  - **Fixed wireless** provides high-speed Internet connections using a dish-shaped antenna on your house or business to communicate with a tower location via radio signals.
  - A **Wi-Fi** (wireless fidelity) network uses radio signals to provide high-speed Internet connections to wireless computers and devices.

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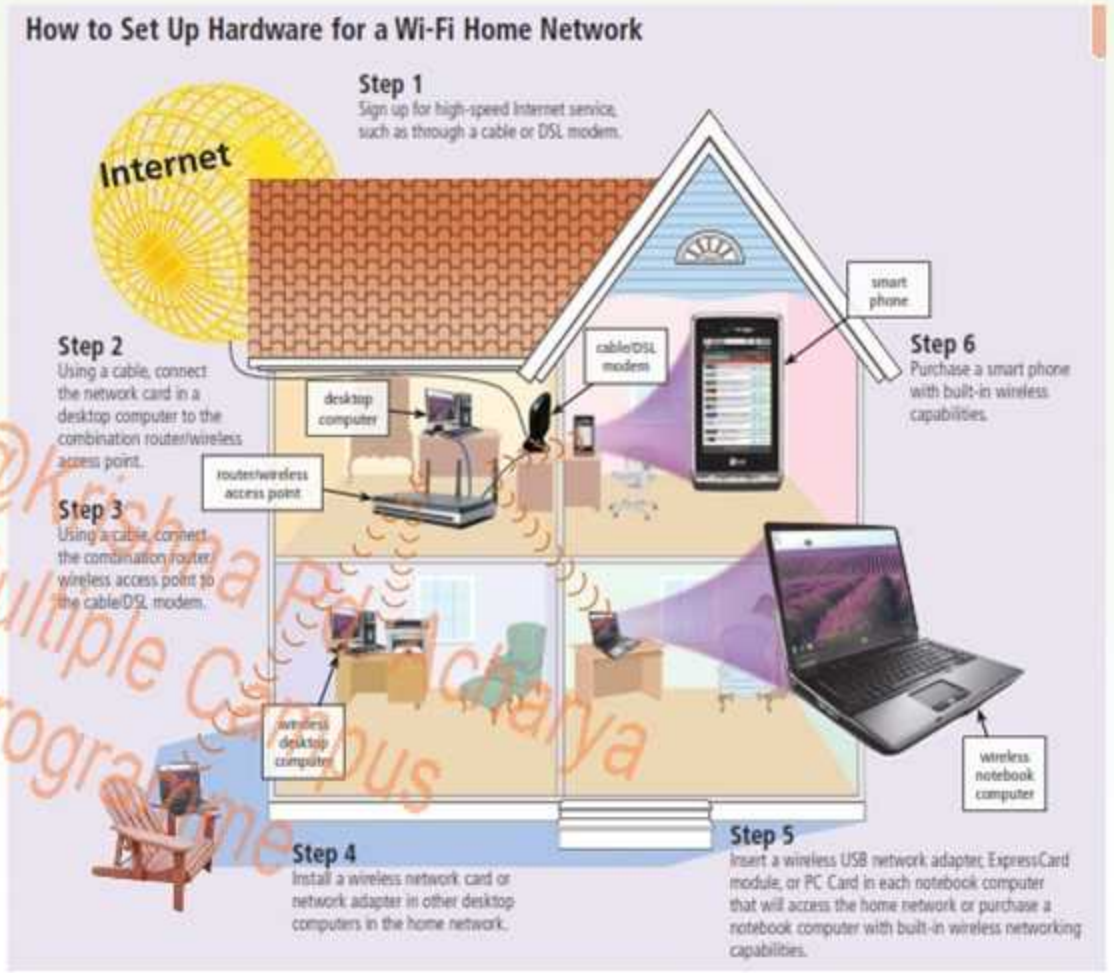
Connecting to the Internet

- A **Wi-Fi** (wireless fidelity) network uses radio signals to provide high-speed Internet connections to wireless computers and devices.
- A **cellular radio network** offers high-speed Internet connections to devices with built-in compatible technology or computers with wireless modems.
- **Satellite Internet service** provides high-speed Internet connections via satellite to a satellite dish that communicates with a satellite modem.



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Services provided by internet:

- The **Web** is only one of the many services on the Internet. The Web and other Internet services have changed the way we communicate.
- **E-mail** is the transmission of messages and files via a computer network. An e-mail program allows you to create, send, receive, forward, store, print, and delete e-mail messages
- **Instant messaging** (IM) is a real-time Internet communications service.
- A **chat** is a real-time typed conversation that takes place on a computer. A **chat room** is a location on an Internet server that permits users to chat with each other.
- **VoIP** (Voice over IP) enables users to speak to other users over the Internet. also called Internet telephony.
- **FTP** (File Transfer Protocol) is permits file uploading and downloading
- A **group** is an online area in which users have written discussions about a particular subject
- **A message board** is a Web-based type of discussion group.
- ***Netiquette*** is the code of acceptable Internet behavior like ☺ ☹

Internet and www

Video Conferencing:

- A video conference is a meeting between two or more geographically separated people who use a network or the Interne to transmit audio and video data.
- To participate in a video conference using a computer, you need video conferencing software or use a video conferencing Web application, along with a microphone, speakers, and a video camera attached to or built into a computer.
- As you speak members of the meeting hear your voice on their speakers. Any image in front of the video camera, such as a person's face, appears in a window on each participant's screen.
- As the costs of video conferencing hardware and software decrease increasingly more business meetings, corporate training, and educational classes will be conducted as video conferences.

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Client/Server Technology/Architecture

- Client-server architecture is a network architecture in which each computer on the network is either a client or a server.
- Servers are powerful computers, dedicated to managing disk drives (file servers), printers (print servers), or network traffic (network servers).
- Clients are PCs on which users run applications. Clients rely on servers for resources, such as files, devices, and even processing power.
- Client task is to request to server to get the resources.
- Server task is to verify and provide the services based on request places by the client.

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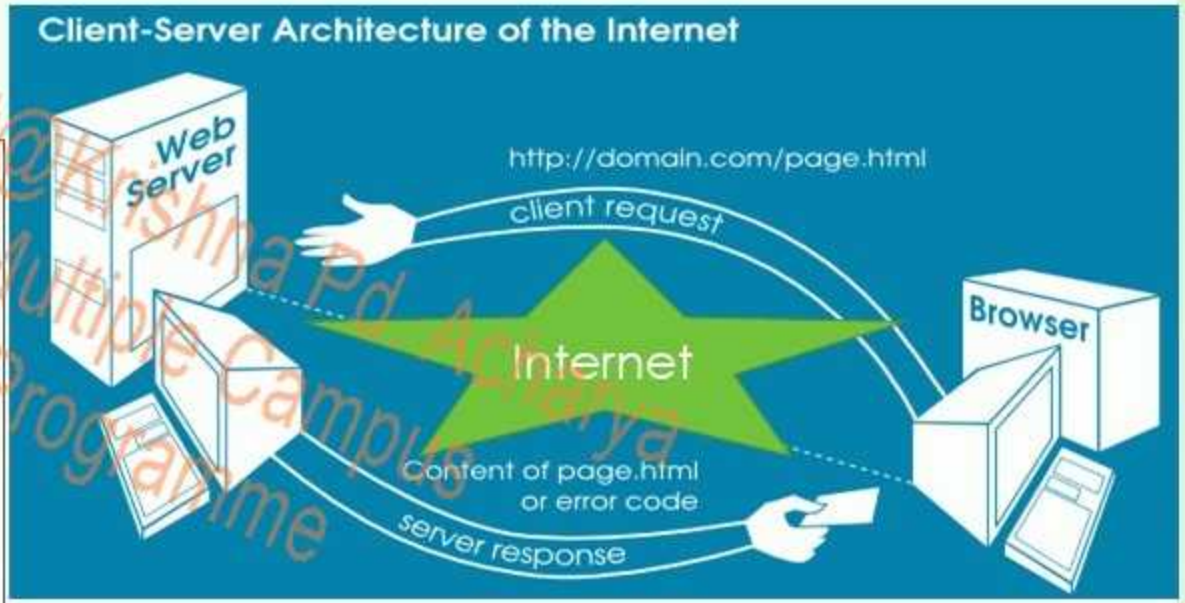
Client/Server Technology as internet

- A web server is specialized software that responds to client (I.e. web browser) requests Every web site requires a web server to process client requests and 'serve up' the pages Web servers used to service Internet, intranets and extranets.

An **ISP** (**Internet service provider**) is a regional or national access provider. A regional ISP usually provides Internet access to a specific geographic area. A national ISP is a business that provides Internet access in cities and towns nationwide. National ISPs usually offer more services and have a larger technical support staff than regional ISPs.



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Internet Addresses(IP Address):

- An IP address, short for Internet Protocol address, is a number that uniquely identifies each computer or device connected to the Internet.
- The IP address usually consists of four groups of numbers, each separated by a period.
- In general, the first portion of each IP address identifies the network and the last portion identifies the specific computer.
- IP address: 72.14.207.99

Generic TLD	Intended Purpose
aero	Aviation community members
biz	Businesses of all sizes
cat	Catalan cultural community
com	Commercial organizations, businesses, and companies
coop	Business cooperatives such as credit unions and rural electric co-ops
edu	Educational institutions
gov	Government agencies
info	Business organizations or individuals providing general information
jobs	Employment or human resource businesses

Generic TLD	Intended Purpose
mil	Military organizations
mobi	Delivery and management of mobile Internet services
museum	Accredited museums
name	Individuals or families
net	Network providers or commercial companies
org	Nonprofit organizations
pro	Certified professionals such as doctors, lawyers, and accountants
tel	Internet communications
travel	Travel industry

Domain Name Server(DNS)

- These all-numeric IP addresses are difficult to remember and use.
- Thus, the Internet supports the use of a text name that represents one or more IP addresses.
- A domain name is the text version of an IP address.
- The domain name system (DNS) is the way that internet domain names are located and translated into internet protocol (IP) addresses.
- DNS maintain a directory of domain names and translate them to Internet Protocol (IP) addresses and vice versa.

IP address ⟶ 72.14.207.99

Domain name ⟶ www.google.com

top-level domain

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Internet, intranet and extranet

- The internet is a global network of interconnected networks to exchange information.
- It is a "network of networks" that includes millions of private and public, academic, business, and government networks (local or Global).
- It is linked by copper wires, wireless connections, and other technologies.

Some Advantage of internet

- Download/upload programs and files
- E-Mail
- Voice and Video Conferencing
- E-business
- File Sharing
- Web browsing
- Search the web addresses for access through search engine
- Chatting
- Entertainment

Disadvantage

- **Theft** of personal information such as name, address, credit card number etc.
- **Virus threats** nothing but a program which disrupts the normal functioning of your system.
- **Spamming** refers to receiving unwanted e-mails in bulk, which provide no purpose and needlessly obstruct the entire system.
- **Pornography** This is perhaps the biggest threat related to children's healthy mental life. A very serious issue concerning the Internet.
- Depression, loneliness, and social isolation.
- Bullying, trolls, stalkers, and crime

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Intranet

- An intranet is a private enterprise network that uses internet and web technologies for information gathering and distribution within an organization.
- Accessed only by authorized persons, especially members or employees of the organization.

Advantage:

- **better internal communications** - corporate information can be stored centrally and accessed at any time
- **sharing of resources and best practice** - a virtual community can be created to facilitate information sharing and collaborative working
- **improved customer service** - better access to accurate and consistent information by your staff leads to enhanced levels of customer service
- **reduction in paperwork** - forms can be accessed and completed on the desktop, and then forwarded as appropriate for approval, without ever having to be printed out, and with the benefit of an audit trail

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Advantages:

- Business efficiency can be improved by using intranet for:
  - **publishing** - delivering information and business news as directories and web documents
  - **document management** - viewing, printing and working collaboratively on office documents such as spreadsheets
  - **training** - accessing and delivering various types of e-learning to the user's desktop
  - **workflow** - automating a range of administrative processes
  - **front-end to corporate systems** - providing a common interface to corporate databases and business information systems
  - **email** - integrating intranet content with email services so that information can be distributed effectively

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Application:

- Sharing of company policies/rules & regulations
- Access employee database
- Distribution of circulars/Office Orders
- Access product & customer data
- Sharing of information of common interest
- Launching of personal/departmental home pages
- Submission of reports
- Corporate telephone directories

Disadvantage:

- Management problem
- A company may not have person to update their Intranet on a routine basis.
- Fear of sharing information and the loss of control
- Limited bandwidth for the business
- Security problem
- Unauthorized access
- Abuse of access
- Denial of service
- Productivity problem
- Information overload lowers productivity
- True purpose of the Intranet is unknown to many employees/departments
- Hidden or unknown complexity and costs

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Extranet

- Extranet is an Intranet for outside authorized users using same internet technology.
- Inter-organizational information system.
- enable outsiders to work together with company's employees.
  - open to selected suppliers, customers & other business partners
- An extranet is extending an intranet to selected entities external to an organization.
- Example: Dealers/distributors have access to product files such as :-
  - product specification,
  - pictures,
  - images, etc.

  to answer the queries of the customer.

Extranet Advantage

- Improved quality.
- lower travel costs.
- lower administrative & other overhead costs.
- reduction in paperwork.
- delivery of accurate information on time.
- improved customer service.
- better communication.
- overall improvement in business effectiveness.

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Extranet Application

- Online ordering

ex. News and content

- Marketing and product information

ex. Legacy database access

- Inventory management

ex. ERP; supply chain management.

- Collaborative research and development
- Training, policy and standards
- E-mail and chat

ex. Bulletin boards and groups

- Billing and account history

ex. On-line financial transactions

Disadvantages:

- The suppliers & customer who don't have technical knowledge feel problem.
- Faceless contact.
- Information can be misused by other competitors.
- Fraud may be possible.
- Technical Employees are required.

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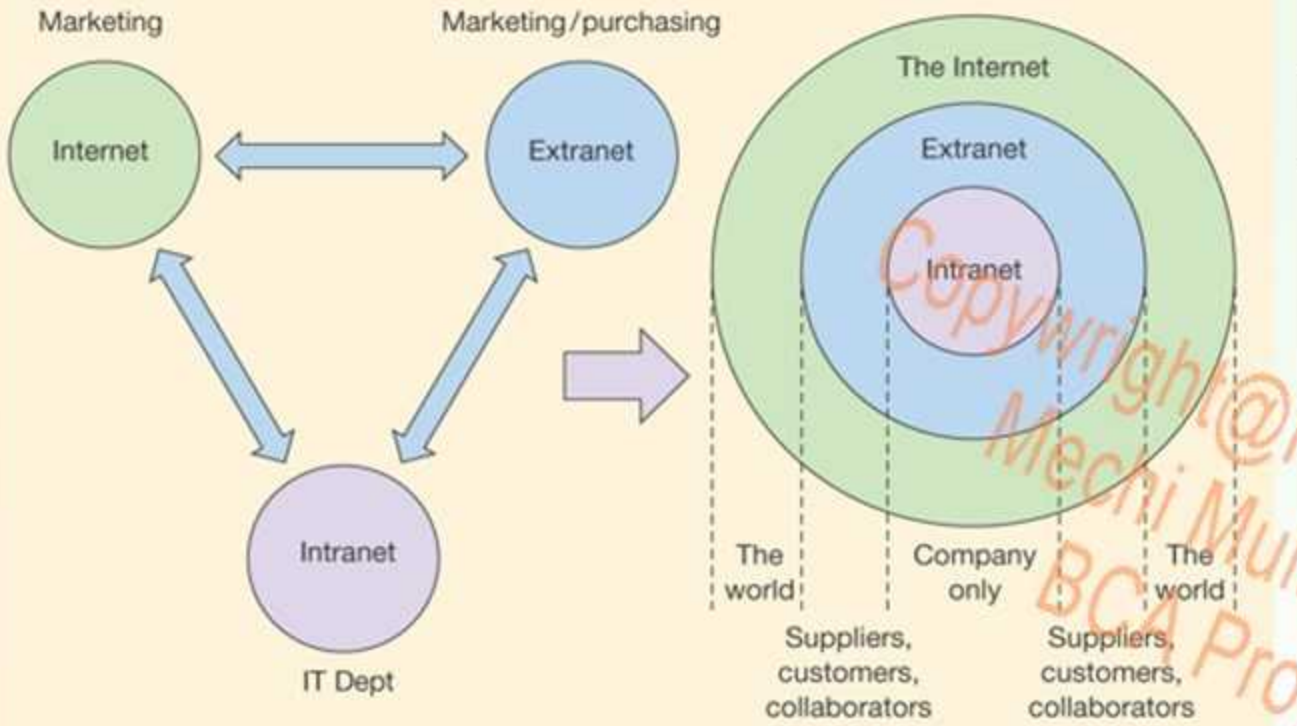

	Internet	Intranet	Extranet
Access	public	private	semi-private
Users	everyone	members of a specific company	group of closely related firms
Information	fragmented	proprietary	Shared in closely trusted held circles

Internet and www

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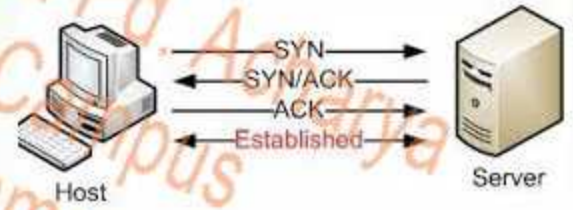
Network Protocols

Transmission Control Protocol (TCP)

- TCP is a connection oriented protocol and offers end-to-end packet delivery.
- TCP is called a connection oriented, reliable transport protocol. It creates a virtual connection between two TCPs to send data
- It retransmits the bytes not acknowledged with in specified time period.
- It is a process to process protocol. It uses port numbers. In addition, TCP uses flow and error control mechanism at the transport level.
- When a process at site "A " wants to send and receive data from another process at site "B", the following thing occurs:
  - 1. The two TCPs establish a connection between them.
  - 2. Data are exchanged in both direction.
  - 3. The connection is terminated.



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Network Protocols

Internet Protocol(IP)

- The Internet Protocol(IP) is the host to host network layer protocol for the internet.
- IP is an unreliable and connectionless datagram protocol – a best delivery service.
- IP does its best to deliver a packet to its destination, but with no guarantees.
- If reliability is important, IP must be paired with a reliable protocol such as TCP(at transport layer).
- Every device on the Internet is assigned an IP address for identification and location definition.
- At present almost all the devices connected with Internet use IPv4. But many of them support both IPv4 and IPv6.

Hypertext Transfer Protocol(HTTP)

- HTTP is the foundation of data communication for the World Wide web.
- HTTP is a request response protocol between server and client to transfer data
- It is application layered protocol for transferring various form of data between server and client like plaintext, hypertext, image, audio, video.

Characteristics

- Request-response mechanism

Transaction is initiated by a client sending a request to server and server Serve generates a response.

- Resource Identification

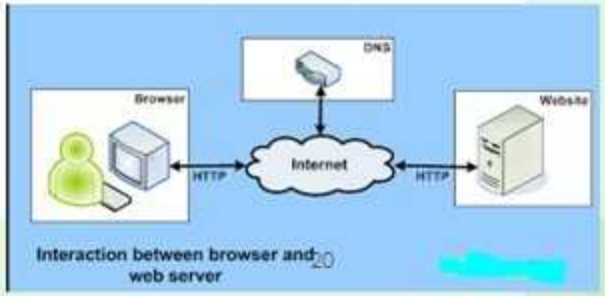
Each HTTP request includes a URI (Uniform Resource Identifier)

- Statelessness

The server does not maintain any information about the transaction

- Meta data support

Metadata about information can be exchanged in the messages



Interaction between browser and web server

Internet and www

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Email Protocol

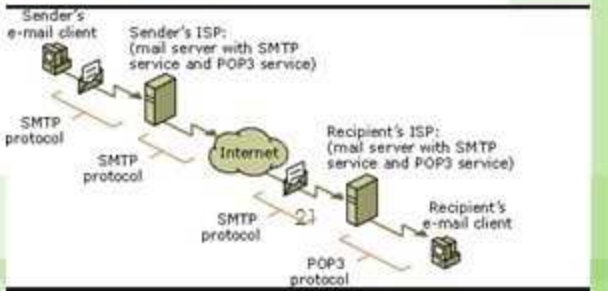
- **SMTP** (Simple Mail Transfer Protocol) is a TCP/IP protocol used in sending and receiving e-mail. It used port no 25.
- Since it is limited in its ability to queue messages at the receiving end, it is usually used with one of two other protocols, POP3 or IMAP.
- These allows the user save messages in a server mailbox and download them periodically from the server.
- In other words, users typically use a program that uses SMTP for sending e-mail and either POP3 or IMAP for receiving e-mail.

POP

- The Post Office Protocol is a communications method for receiving incoming mail which we download from a remote mail server and read on our home computer. A POP server is where we download your mail from.
- POP3 normally uses port 110.

IMAP

- IMAP stands for Internet Message Access Protocol
- IMAP allows the client program to manipulate the e-mail message on the server without downloading them on the local computer.
- The e-mail is hold and maintained by the remote server.
- It enables us to take any action such as downloading, delete the mail without reading the mail.
- It enables us to create, manipulate and delete remote message folders called mail boxes.
- IMAP enables the users to search the e-mails.
- It allows concurrent access to multiple mailboxes on multiple mail servers.



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POP VS IMAG

S.N.	POP	IMAP
1	Generally used to support single client.	Designed to handle multiple clients.
2	Messages are accessed offline.	Messages are accessed online although it also supports offline mode.
3	POP does not allow search facility.	It offers ability to search emails.
4	Only one mailbox can be created on the server.	Multiple mailboxes can be created on the server.
5	Not suitable for accessing non-mail data.	Suitable for accessing non-mail data i.e. attachment.
6	It requires minimum use of server resources.	Clients are totally dependent on server.
7	Mails once downloaded cannot be accessed from some other location.	Allows mails to be accessed from multiple locations.
8	The e-mails are not downloaded automatically.	Users can view the headings and sender of e-mails and then decide to download.
9	POP requires less internet usage time.	IMAP requires more internet usage time.

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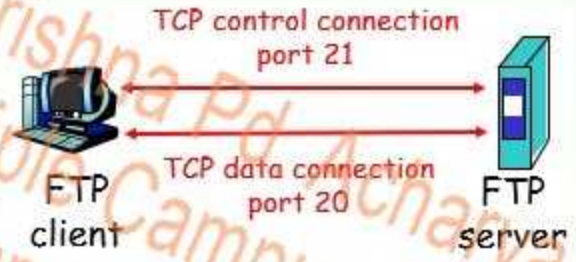
Network Protocols

- Network protocol is a set of rules that governs the communication between computers in a networks.
- The computer network consists of many different protocols for helping it carrying data and packet

FTP

- File Transfer Protocol (FTP) is a standard Internet protocol for transmitting files between computers on the Internet over TCP/IP connections.
- FTP is a client-server protocol that relies on two communications channels between client and server.
- Clients initiate conversations with servers by requesting to download a file. Using FTP, a client can upload, download, delete, rename, move and copy files on a server.



Internet and www

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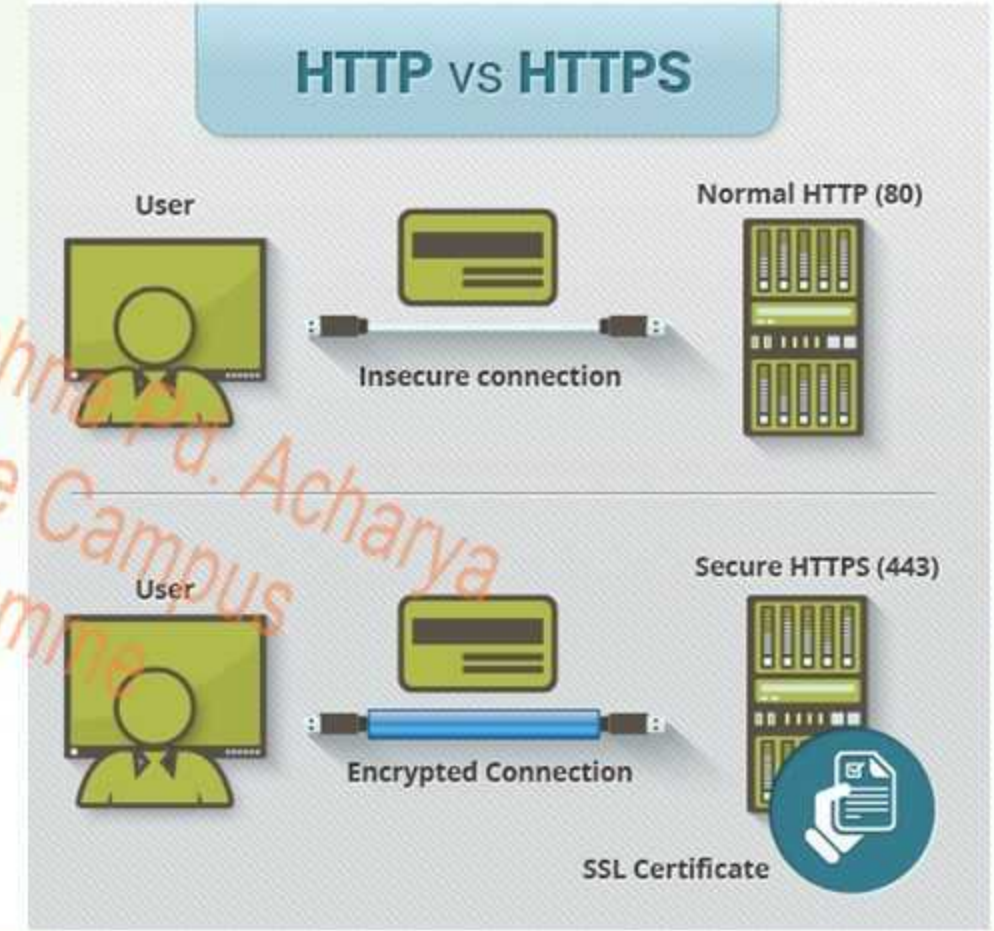
Network Protocols

- Hyper Text Transfer Protocol Secure (HTTPS) is the secure version of HTTP.
- The protocol over which data is sent between your browser and the website that you are connected to.
- The 'S' at the end of HTTPS stands for 'Secure'. It means all communications between your browser and the website are encrypted.
- HTTPS is often used to protect highly confidential online transactions like online banking and online shopping order forms.
- Web browsers such as Internet Explorer, Firefox and Chrome also display a padlock icon in the address bar to visually indicate that a HTTPS connection is in effect.



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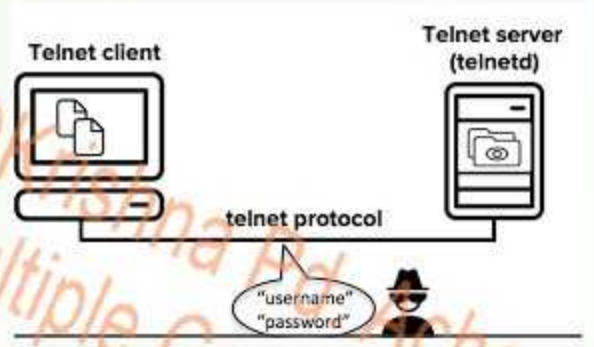
Telnet Protocols

- A network protocol that allows a user on one computer to log into another computer that is part of the same network.
- Allows you to log on remotely as regular user with access to all data and programs that may be installed on that computer.
- Telnet client sends request to Telnet server (remote host)
- Server replies
- User name and password
- If accepted, Telnet client establishes connection to host, thus making your computer a virtual terminal.
- **Gopher** is an application-layer protocol that provides the ability to extract and view Web documents stored on remote Web servers.
- It requires that files be stored in a menu-style hierarchy on a Gopher server that is accessible through a Gopher-enabled client browser and/or directly.
- It initially supported only text-based file/document access but later came to support some image formats such as GIF and JPEG.



Internet and www

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- **WAIS** (Wide Area Information Servers)
- WAIS is an Internet search tool that has the capability of searching many databases at one time.
- The databases to be searched can be determined by the user. When WAIS completes a search, it is actually searching an index of the database.
- A WAIS database index is created by a person. WAIS retrieves all items from the chosen databases that contain nay of the words in the search phrase, provided that the words in the search phrase appear in the indexes of the selected databases.
- A relevancy ranking is assigned to each retrieved item to help the user determine which items may be most useful.
- WAIS can be accessed via Telnet, Gopher or a WAIS client program, and increasingly WAIS indexed databases are accessible through the World Wide Web

Internet and www

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www

- WWW stands for World Wide Web.
- **Internet** and **Web** is not the same thing: Web uses internet to pass over the information.
- The World Wide Web (www) is a huge collection of documents called web pages written in HTML (Hyper Text Mark-up Language).
- These pages are linked to each other by hyperlink. When a hyperlink takes you to a picture or video , it is known as hypermedia .
- The World Wide Web is a way of exchanging information between computers on the Internet, tying them together into a vast collection of interactive multimedia resources.
- The World Wide Web was conceived in 1990 at CERN Switzerland , at the European Laboratory for Particles Physics by a young scientist **Tim Berners Lee** .
- The World Wide Web is now managed by a committee which is known as the World Wide Web Consortium (W3C)

Brief Evolution:

- In 1989, Tim Berners Lee invented the www.
- In 1990, First web Server was developed(NeXT Computer)
- The first web browser, WorldWideWeb, was developed in 1990 by Tim Berners-Lee.
- In 1993, www was announced as free and open to all.
- The first company to adopt a marketing strategy to utilize the internet was Apple in 1987.
- In 1989, web 1.0 began to develop.
- In 1993, First public Web browser Mosaic was the web browser credited with popularizing the World.
- In 1994 To regulate the Web, Sir Tim Berners-Lee founded the World Wide Web Consortium. **W3C** gives technical support and guidelines that aims to maximize consensus about the web content and to ensure high standards.
- Same year, yahoo, amazon launch their corporate web sites.

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Brief Evolution:

- Netscape release Netscape, once leading browser, was founded in 1995 and opera and internet explore release in same year.
- In 1996, Google came to be Google, the most popular search engine in the West.
- Web 2.0 started developing, The web started to evolve from a broadcasting platform to an interactive media through use of blogs, applications and social media channels. 1999.
  - Web 1.0 is used to develop static site where as web 2.0 is used to develop dynamic site.
- Baidu was launched Baidu, the most popular search engine in Asia, was founded on 18th of January 2000 by Robin Li.
- Web was on mobile… Ericsson R380 was a GSM (Global System for Mobile) in 2000.
- Wikipedia was launched One of the first websites that allowed people to have a more interactive relationship with the Web in 2001
- Myspace was launched One of the first social media platforms in the year of 2003.
- Safari was launched Safari, Apple's browser, was Launched in 2003 by Steve Jobs.
- WordPress was founded One of the first and most important CMS (content management systems) based on PHP and MySQL was founded in 2003.
- Firefox was released Firefox, one of the most popular browsers today, was launched in 2004.
- Facebook was founded Mark Zuckerberg with his college roommates and fellow students Eduardo Saverin, Andrew McCollum, Dustin Moskovitz and Chris Hughes 2004.
- YouTube was founded The service was created by three former PayPal employees in February 2005 and has been owned by Google since late 2006.
- Twitter was founded Twitter is an online social networking service that enables users to send and read short 140-character messages called "tweets" in 2006.

Internet and www

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Brief Evolution:

- iPhone began to change the web once again and everything began to shift towards catering to the mobile user in 2007.
- Web pages were published The Web reached 1 trillion public pages 2008
- In 2010 Responsive Design was born, created by Ethan Marcotte to adapt a site's layout to a device's display.
- The Web compared to other media. This is how other media reached 50 million users compared to the Web(Radio took 38 years , Television took 13 years , Web took 4 years, Facebook took just 10 months 2013)
- Search engine market share increased radically in the year 2014.

1990-2000 2000-2010 2010-2020

Different between WEB 3.0 with WEB 2.0 and WEB 1.0

WEB 1.0	WEB 2.0	WEB 3.0
The web	The social web	The semantic web
Read only web	Read and write web	Read, write and execute web
Information sharing	Interaction	Immersion
Connect information	Connect people	Connect knowledge
All about static content, one way publishing (one way communication)	More about two way communication through social networking, blogging, tagging and wikis.	Curiously undefined.
Example : Personal web sites	Example : Blogs, Facebook	Example : Semantic blog (semiblog, haystack)

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Web Architecture:

Web architecture is the planning and design of the technical, functional and visual components of a web before it is designed, developed and deployed.

How does date flow in web architecture:

1.Client Request for web page from webserver.

2. Web server check the client credential and query to database server and retrieve it.

3.Web server Send required information to client with appropriate format.

- Presentation Logic: User Interface, displaying data to the user, accepting input from the user.
- Business Logic: Data validation, ensuring the data is correct before being added into database.
- Data Access Logic: Database: Repository of information which provide necessary information to the web server.

fig. web Architecture

Internet and www

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Web Server:

- It a specialized computer inside a network which sends out web content (pages, etc.) when a request is made by a web browser client.
- A website itself is hosted on the web server.
- a computer responsible for serving web pages, mostly HTML documents, via the HTTP protocol to clients, mostly web browsers.
- It handles permissions, execute programs, keep track of directories and files and communicate with client computers.
- A number of server-side technologies can be used to increase the power of the server like CGI scripts, SSL etc.
- It provide service on intranet, extranet and internet.

Types of web Server

1. Apache Server

- Apache is the most widely used web server software.
- Developed and maintained by Apache Software Foundation, Apache is an open source software available for free.
- It runs on 67% of all webservers in the world.
- It is fast, reliable, and secure. It can be highly customized to meet the needs of many different environments by using extensions and modules.
- Most WordPress, Joomla hosting providers use Apache as their web server software.

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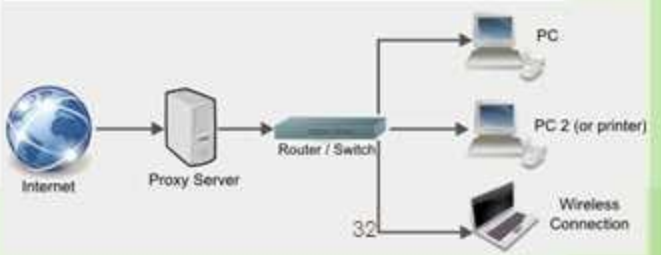
Web Server:

2. IIS web Server.

- Stands for "Internet Information Services".
- IIS is a web server software package designed for Windows Server.
- It is used for hosting websites and other content on the Web.
- it provides a visual means of creating, configuring, and publishing sites on the web.
- IIS can serve both standard HTML webpages and dynamic webpages, such as ASP.NET applications.
- WinCache Extension enables PHP scripts to run faster by caching PHP processes.
- it also requires a commercial license and the pricing increases depending on the number of users.

Proxy Server.

- A proxy server is a computer that acts as an intermediary between the user's computer and the Internet.
- It allows client computers to make indirect network connections to other network services.
- Client computers connect to the proxy server, requesting some resources like web pages, games, videos, mp3, e-books, any other resources which are available from various servers over Internet.



Internet and www

6 Hrs.

Proxy Server

- As soon as getting such request, the proxy server will seek for the resources from the cache in its local hard disk.
- If the resources have been cached before, the proxy server will return them to the client computers.
- If not cached, it will connect to the relevant servers and request the resources on behalf of the client computers.
- Then it 'caches' resources from the remote servers, and returns subsequent requests for the same content directly

Benefit of Proxy Server

- To hide the IP address of the client.
- To speed up Internet surfing.
- To block undesired sites other access policy.
- To bypass security restrictions and filters.
- To scan outbound content, e.g., for data leak protection.
- To circumvent regional restrictions.

Web Browser

- A web browser is a software application for retrieving, presenting and traversing information.
- Browsers translate web pages and websites delivered using Hypertext Transfer Protocol (HTTP) into human readable content.
- They also have the ability to display other protocols and prefixes, such as secure HTTP (HTTPS), File Transfer Protocol (FTP), email handling (mailto:), and files (file:).
- In addition, most browsers also support external plug-insrequired to display active content, such as in-page video, audio and Flash content. resources on the World Wide Web.
- An information resource is identified by a Uniform Resource Identifier (URI) and may be a web page, image, video, or other piece of content Hyperlinks present in resources enable users to easily navigate their browsers to related resources.

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Release of Web Browser:

- WorldWideWeb, February 25, 1990.
- Mosaic, April 22, 1993.
- Netscape Navigator and Netscape Communicator, October 13, 1994.
- Internet Explorer, August 16, 1995.
- Opera, 1996, see History of the Opera web browser.
- Mozilla Navigator, June 5, 2002.
- Safari, January 7, 2003.
- Mozilla Firefox, November 9, 2004.
- Apple Safari, 2007
- Google Chrome 2008

URL

- URL stands for *Uniform Resource Locator* which refers to web address and other resource on the Internet.

Assignment

- Define Client/Server Technology.
- Explain internet as a Client/Server Technology.
- Define Email and explain its types.
- Demonstrate Video-Conferencing.
- Define ISP and list its roles.
- Define DNS and Explain its importance.
- Define internet address. Explain physical and Logical address with example.
- Define the IP, TCP, HTTP, FTP, SMTP, POP, Telnet, Gopher, and WAIS protocols.
- Differentiate between intranet, extranet and internet with their advantages and disadvantages.
- Explain the www and its evolution.
- Sketch the architecture of web.
- Define the URL with its components.
- Define browser. Make the decision to select appropriate browser.
- List the features of different web browsers.
- Define the web server. List the features of Apache and IIS.
- Define Proxy Server with its advantages.
- Explain HTTP and FTP protocols in detail.

CACS 201: Computer Fundamentals and Applications

PREPARED BY KRISHNA PD. ACHARYA
ASST. PROFESSOR

(MECHI MULTIPLE CAMPUS)