Internet and Web Browsers

LEC 4

First-year students

Computer Science

MSc. Zaid Sami

zaid.sami2020@gmail.com

1 Basic Computer Networks

➢ Definition:

A computer network is a collection of interconnected devices that communicate with each other.

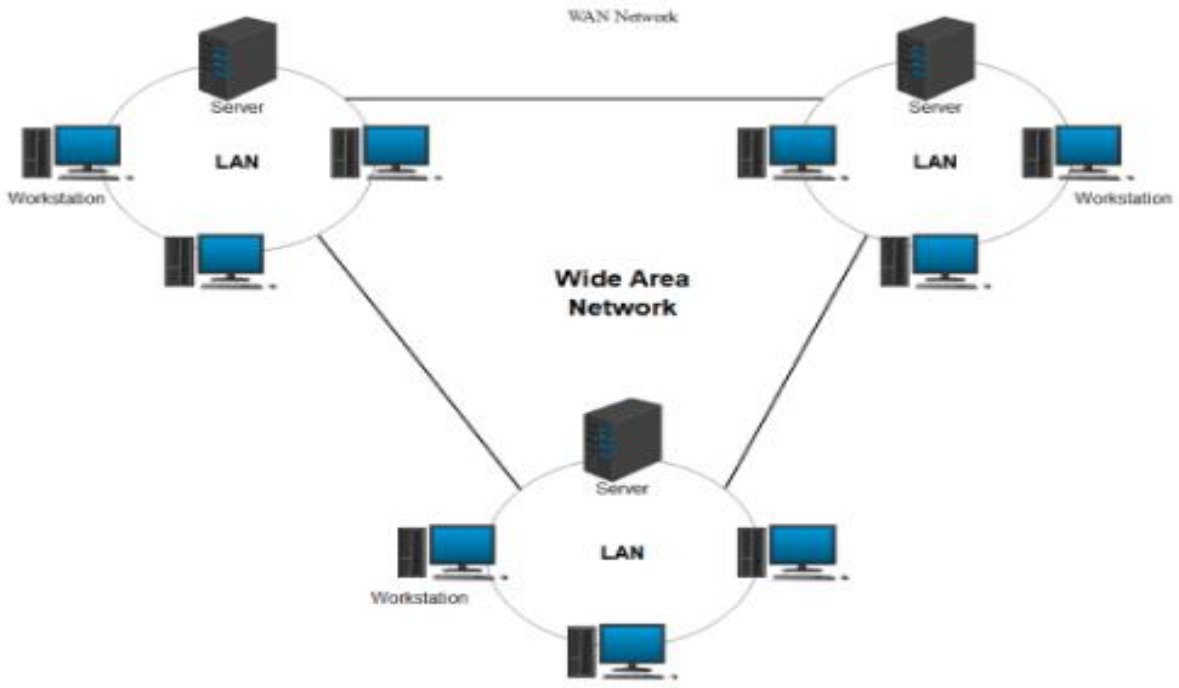
➢ Types of Networks:

1. LAN (Local Area Network):

- Covers a small geographical area (e.g., home, office).
- High data transfer rates.
- Example: Ethernet networks.

2. WAN (Wide Area Network):

- Covers a large geographical area (e.g., cities, countries).
- Lower data transfer rates compared to LAN.
- Example: The Internet.

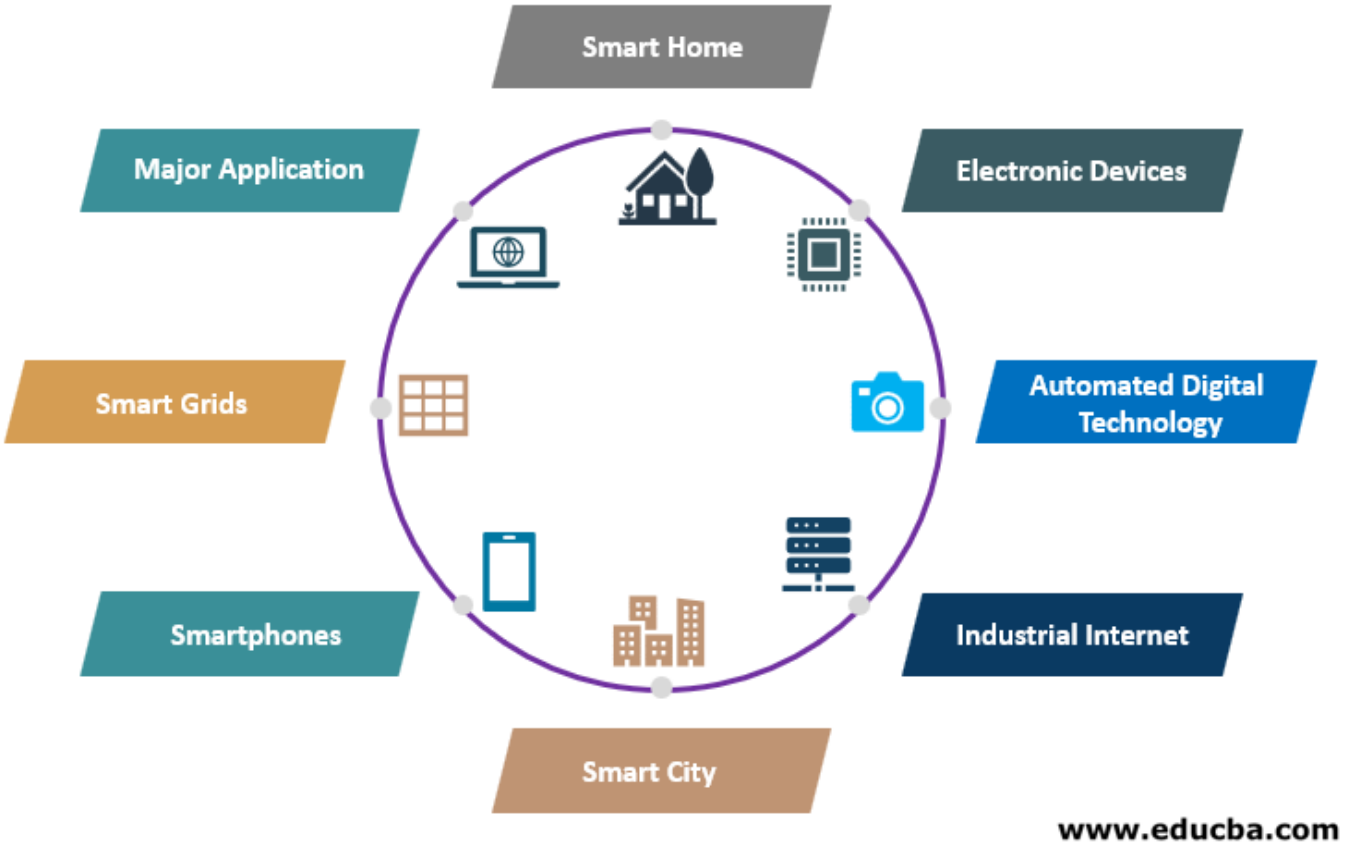


2 Concept of the Internet and Its Applications

➢ Definition: The Internet is a global network of interconnected computers that communicate using standardized protocols.

➢ Applications:

- Communication (Email, Instant Messaging)
- Information Retrieval (Web Browsing, Online Databases)
- E-commerce (Online Shopping)
- Social Networking (Facebook, Twitter)



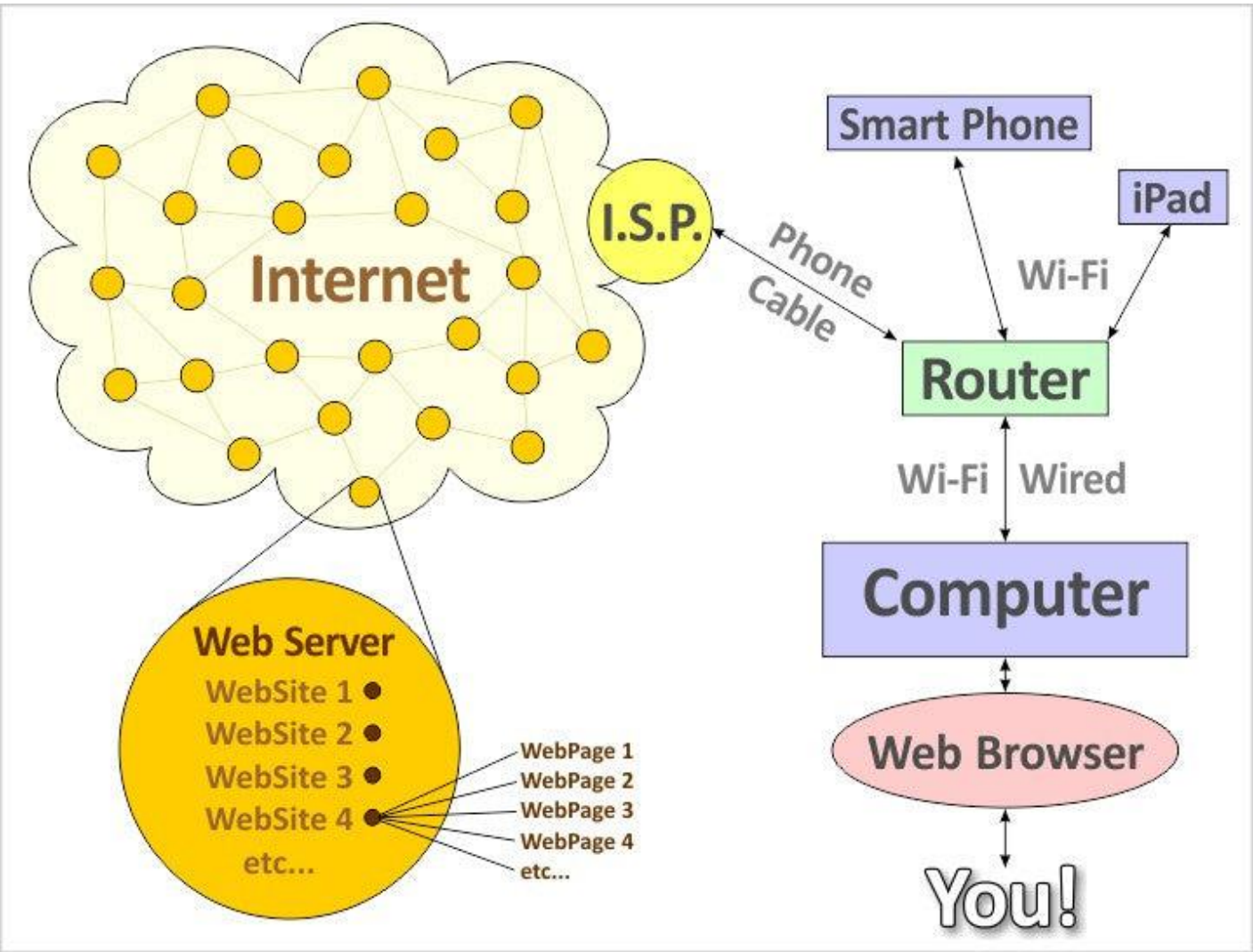
3 Connecting to the Internet

➢ Methods of Connection:

- Dial-up: Uses telephone lines; slower speeds.
- Broadband: High-speed internet access (DSL, Cable).
- Wireless: Wi-Fi connections, mobile data networks.

➢ Steps to Connect:

1. Choose an Internet Service Provider (ISP).
2. Set up the modem/router.
3. Connect devices via Ethernet or Wi-Fi.



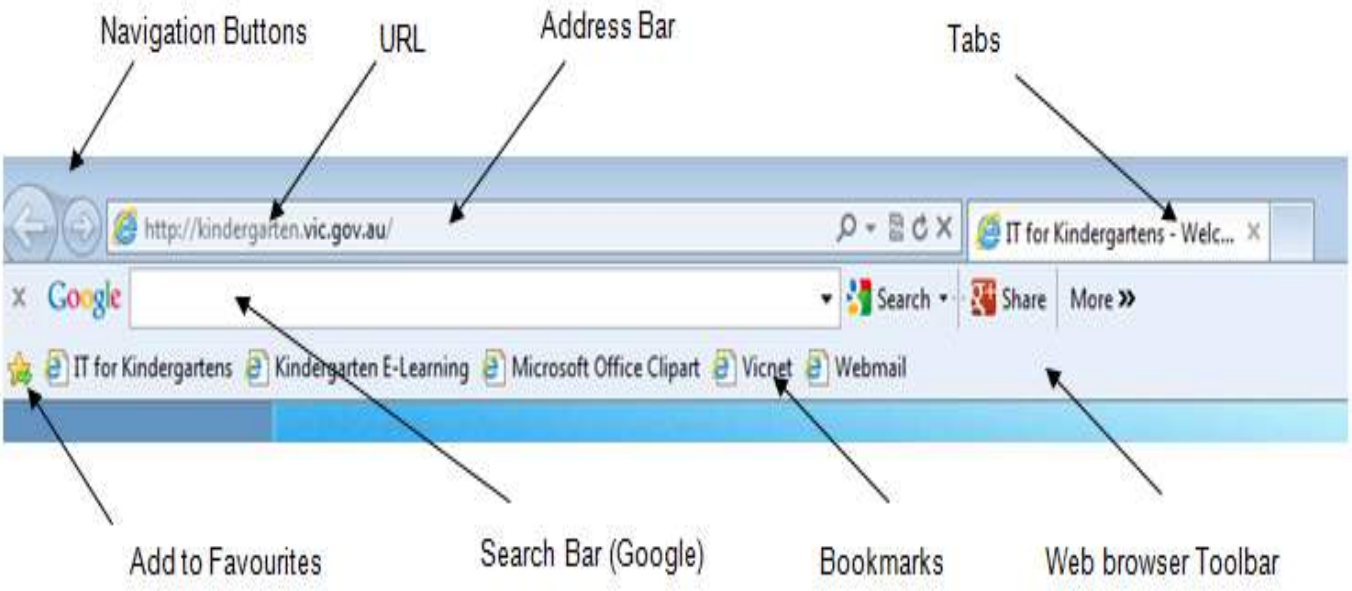
4 World Wide Web and Web Browsing Software

➢ World Wide Web (WWW):

1. A system of interlinked hypertext documents accessed via the Internet.
2. Uses HTTP/HTTPS protocols.

➢ Web Browsers:

1. Software applications for accessing the web (e.g., Chrome, Firefox, Safari).
2. Features include bookmarks, tabs, and extensions.



4 Understanding URL, Domain Names, and IP Addresses

- URL (Uniform Resource Locator):

The address used to access resources on the web (e.g., https://www.example.com).

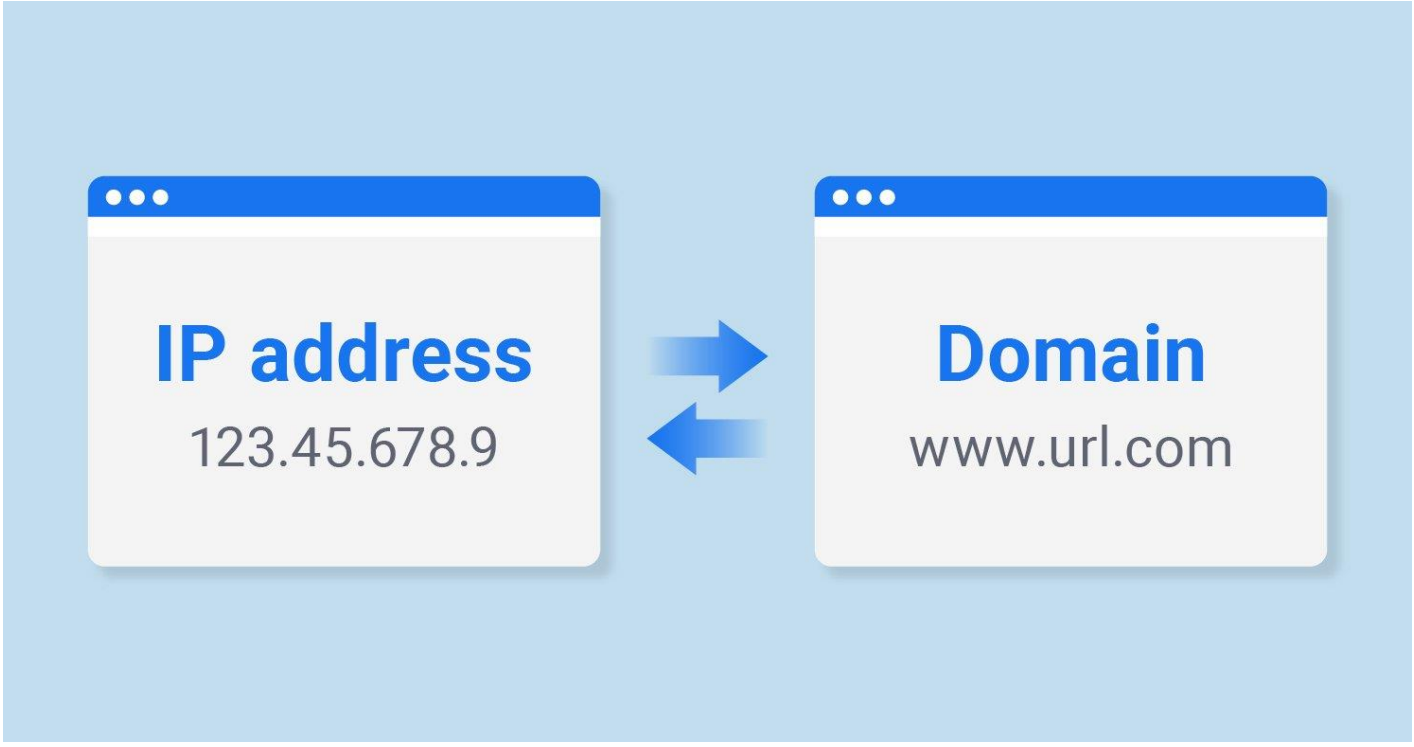
- Domain Name:

The human-readable address associated with an IP address (e.g., example.com).

- IP Address:

A unique identifier for a device on a network

(e.g., IPv4: 192.168.0.1, IPv6: 2001:0db8:85a3:0000:0000:8a2e:0370:7334).



.

Multiple Choice Questions (MCQs)

1. What does LAN stand for?

A) Local Area Network

B) Large Area Network

C) Long Area Network

Answer: A

2. Which protocol is primarily used for web browsing?

A) FTP

B) HTTP

C) SMTP

Answer: B

3. An IP address is used to:

A) Identify a device on the Internet

B) Connect to Wi-Fi

C) Access email

Answer: A

4.The World Wide Web is:

A) A collection of web pages

B) A type of internet connection

C) A network of LANs

Answer: A

5.Which of the following is a web browser?

A) Microsoft Word

B) Google Chrome

C) Adobe Photoshop

Answer: B

.

6.What does URL stand for?

A) Universal Resource Locator

B) Uniform Resource Locator

C) Unique Resource Locator

Answer: B

7. Which is NOT a method of connecting to the Internet?

A) Dial-up

B) Broadband

C) Direct Connect

Answer: C

8. A domain name is:

A) A computer's physical address

B) A human-readable address on the Internet

C) The same as an IP address

Answer: B

9.WAN stands for:

A) Wide Area Network

B) Wireless Area Network

C) World Area Network

Answer: A

10.Which of the following is a function of a web browser?

A) Sending emails

B) Searching the web

C) Creating documents

Answer: B

.

True/False Questions

1. LANs are generally faster than WANs.

Answer: True

2. HTTP stands for Hyper Text Transfer Protocol.

Answer: True

3. An IP address can change every time a device connects to the Internet.

Answer: True

4. The World Wide Web and the Internet are the same thing.

Answer: False

5. A modem connects your home network to the Internet.

Answer: True

6. URLs and IP addresses are the same.

Answer: False

7. You cannot access the Internet without an ISP.

Answer: True

8. Web browsers can only open HTML files stored on your computer.

Answer: False

9. IPv4 addresses are longer than IPv6 addresses.

Answer: False

10. Search engines are a type of web browser.

Answer: False

.

Fill in the Blanks

1. The abbreviation for Local Area Network is _____.

Answer: LAN

2. A unique identifier for a device on a network is called an _____.

Answer: IP Address

3. The software used to access the World Wide Web is called a _____.

Answer: Web Browser

4. The address used to access web resources is known as a _____.

Answer: URL

5. The protocol used for sending emails is _____.

Answer: SMTP

Short Answer Questions

1. What is the primary function of the Internet?

Answer: To facilitate communication and information sharing between devices.

2. Describe the difference between a LAN and a WAN.

Answer: LAN covers a small area like a home, while WAN covers large distances, connecting multiple LANs.

3. What is a domain name?

Answer: A human-readable address that corresponds to an IP address on the Internet.

4. How does a web browser work?

Answer: It retrieves web pages from the Internet using URLs and displays them to the user.

5. Why is an ISP necessary for Internet access?

Answer: An ISP provides the infrastructure and services needed to connect a user to the Internet.