

# Basics of Web Technology

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2ES109

# Practical-1

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- To study about Basics of Web Technology

# Basic of Web Technology

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- **Web technology** refers to the means by which **computers communicate** with each other using markup languages and multimedia packages.
- We need to know more about **fundamental things** related to the term Web Technology.

# Terminologies

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- The word **web** refers to the **World Wide Web**, more commonly known as WWW or Internet.
- **Web is a collection of different websites you can access through the Internet.**
- Technology**: data base, programming Language,protocols,web browser and web development fundamentals, internet.
- E.g If we open any web page in System ,what are technologies which are involved in this process.**

# Internet

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- The Internet (or internet) is the global **system of interconnected computer networks** that uses the **Internet protocol suite (TCP/IP)** to communicate between networks and devices.
- The **Internet** is an increasingly important part of everyday life for people.
- The Internet is a **global network** of billions of computers and other electronic devices.
- With the Internet, it's possible to access almost any information, communicate with anyone else in the world, and do much more.

# Internet

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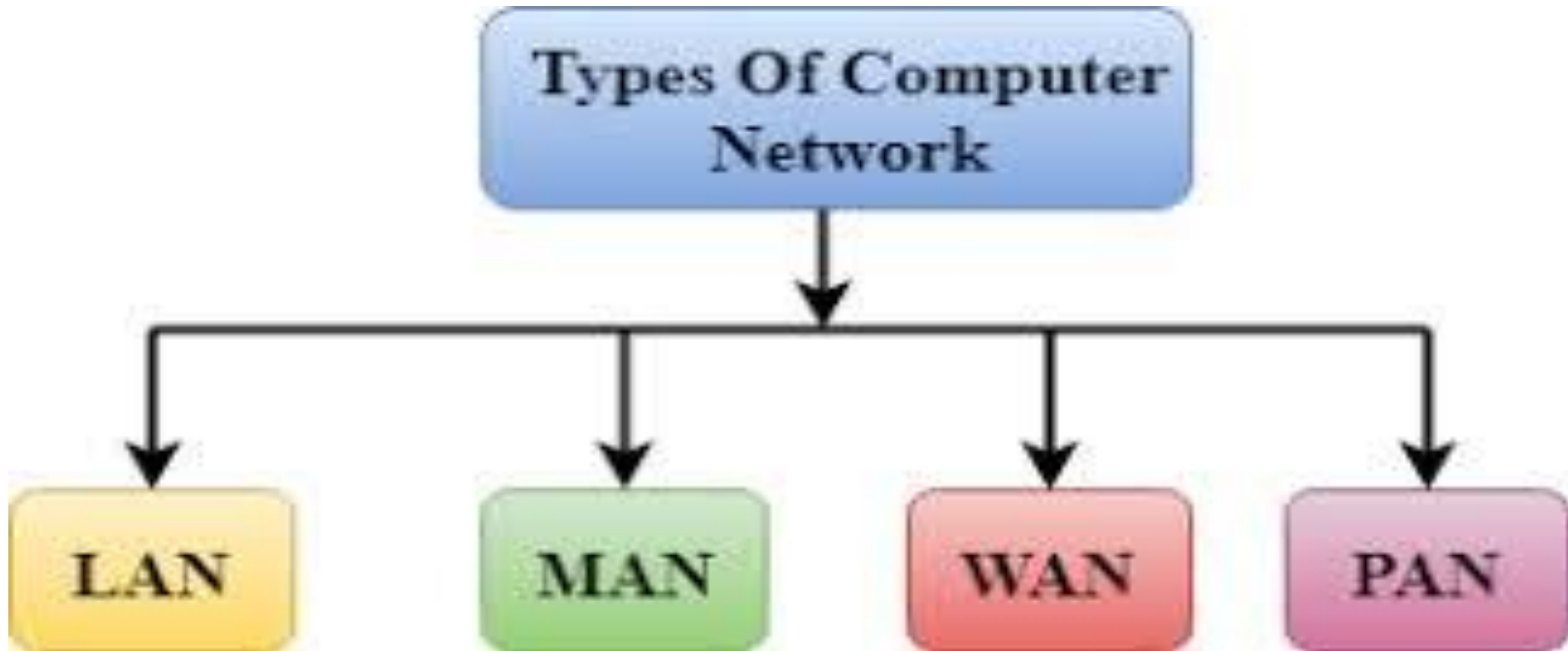
# Network

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- The **Network** is a collection of computer systems and devices that are **connected together**.
- Connection type: wired and Wireless
- It requires less number of hardware devices.

# Network Types

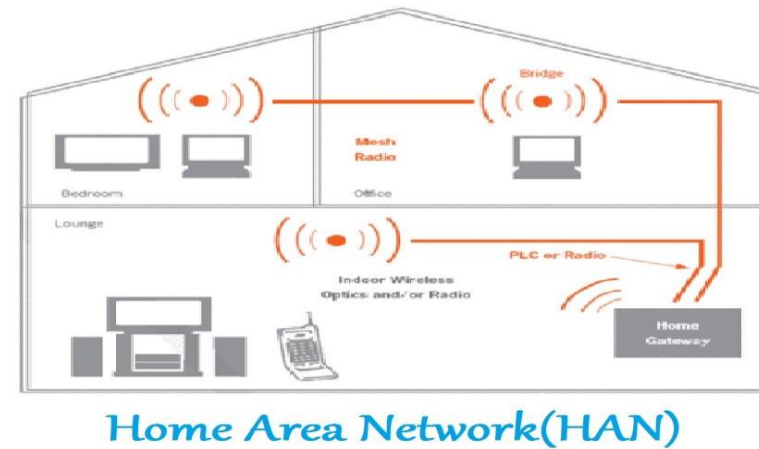
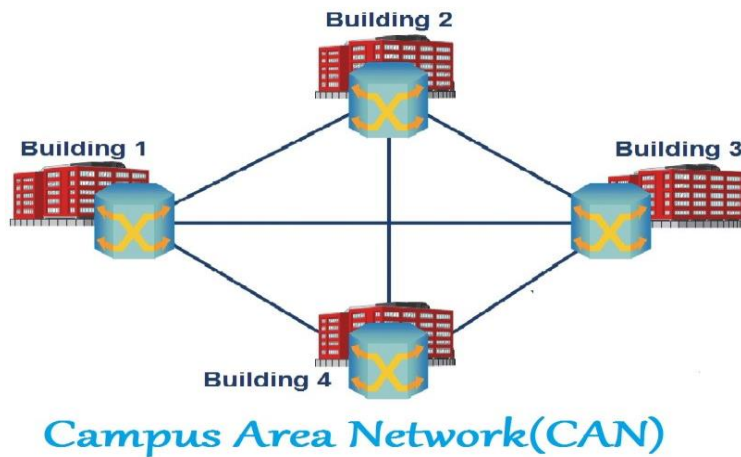
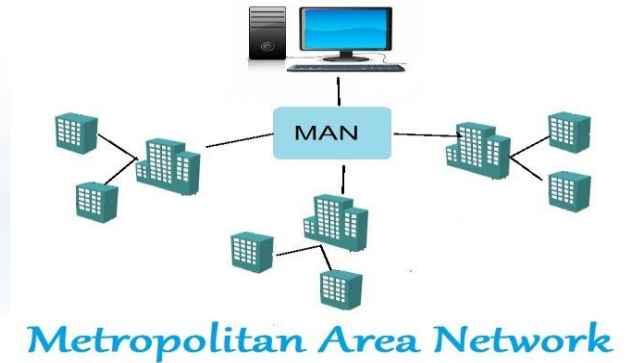
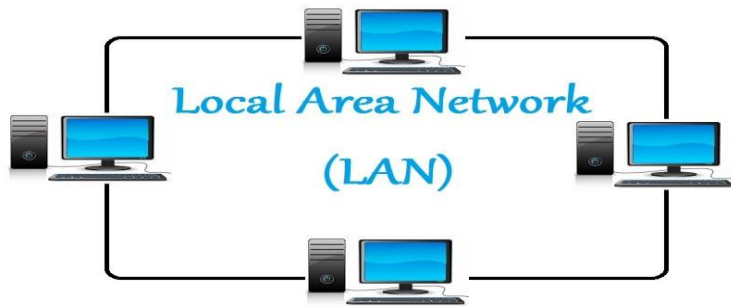
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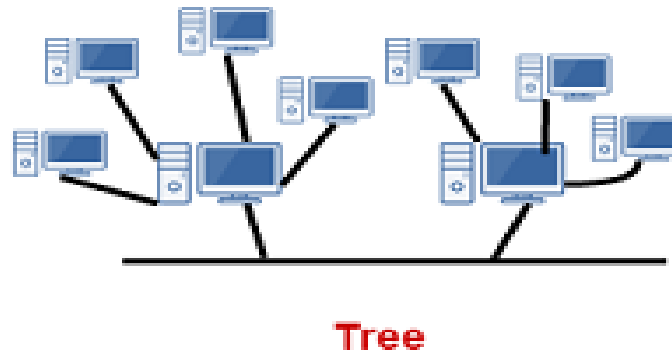
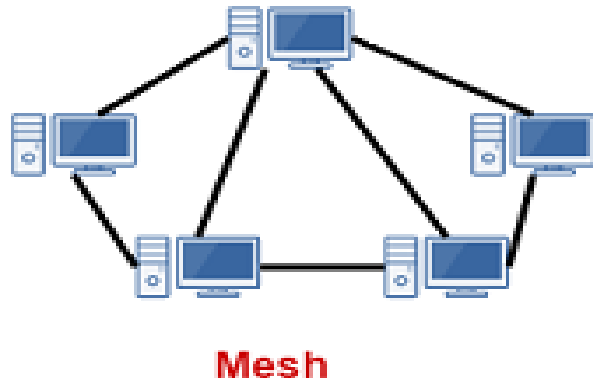
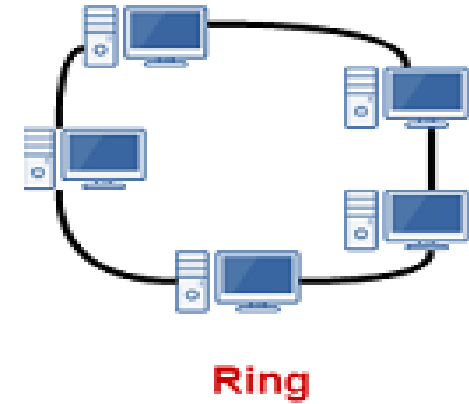
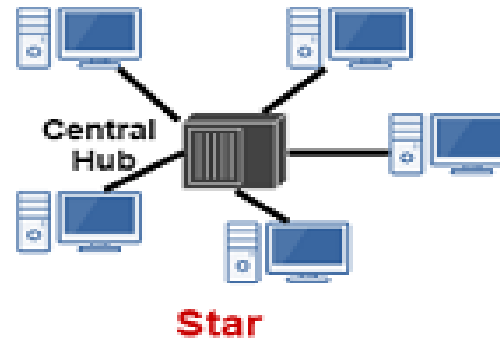
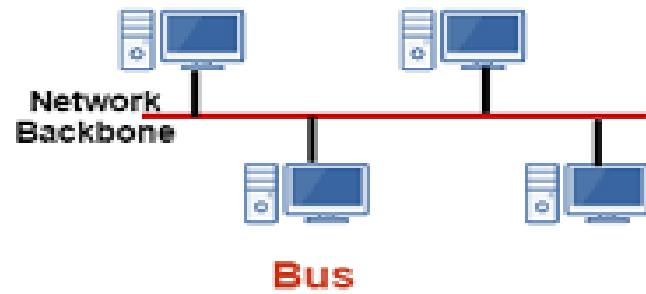
# Network Types

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# Network Topology

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# Browser

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Opera



Google Chrome



Safari



Mozilla Firefox

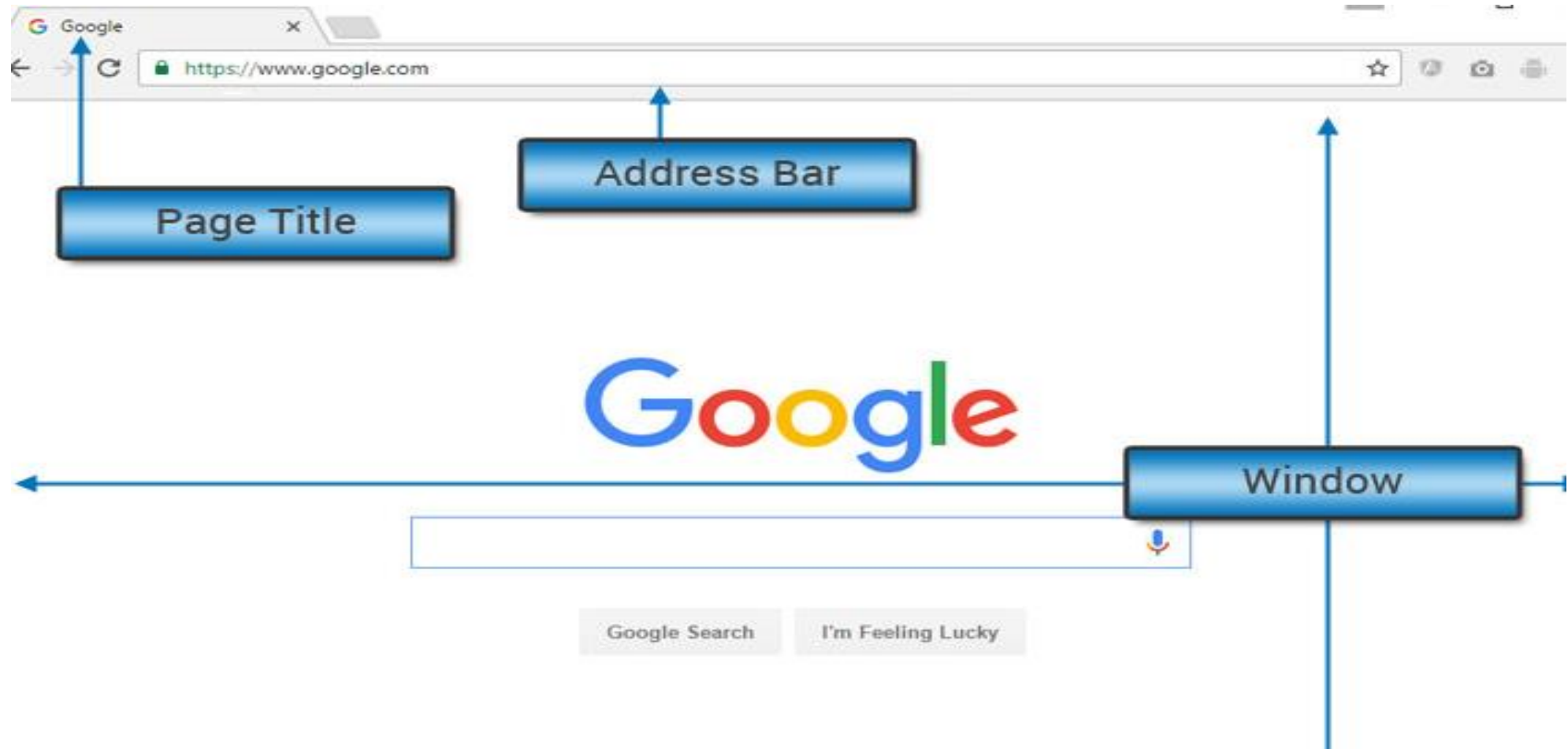


Internet Explorer



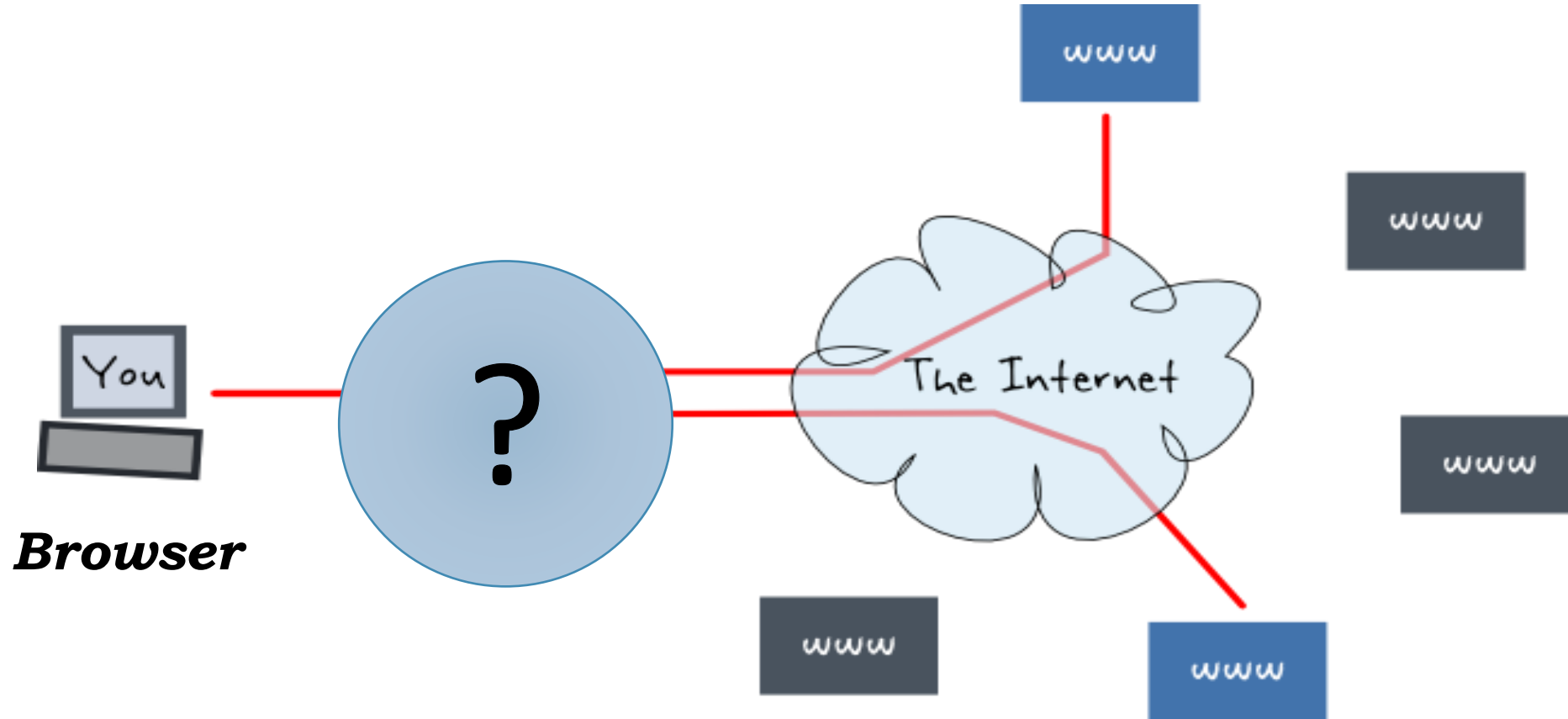
Microsoft Edge

# Browser



# Who will Provide Internet ?

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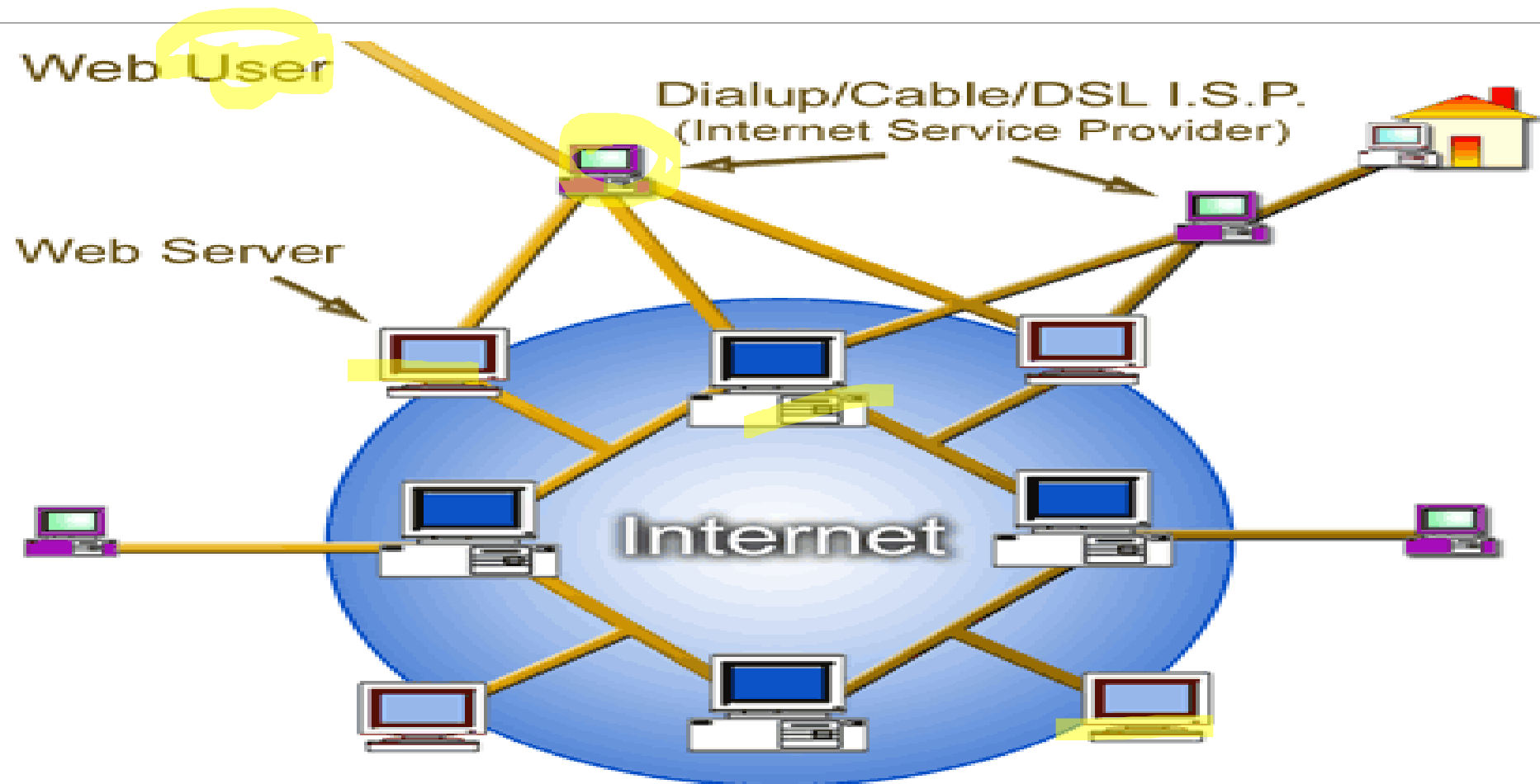


# ISP : Internet service provider

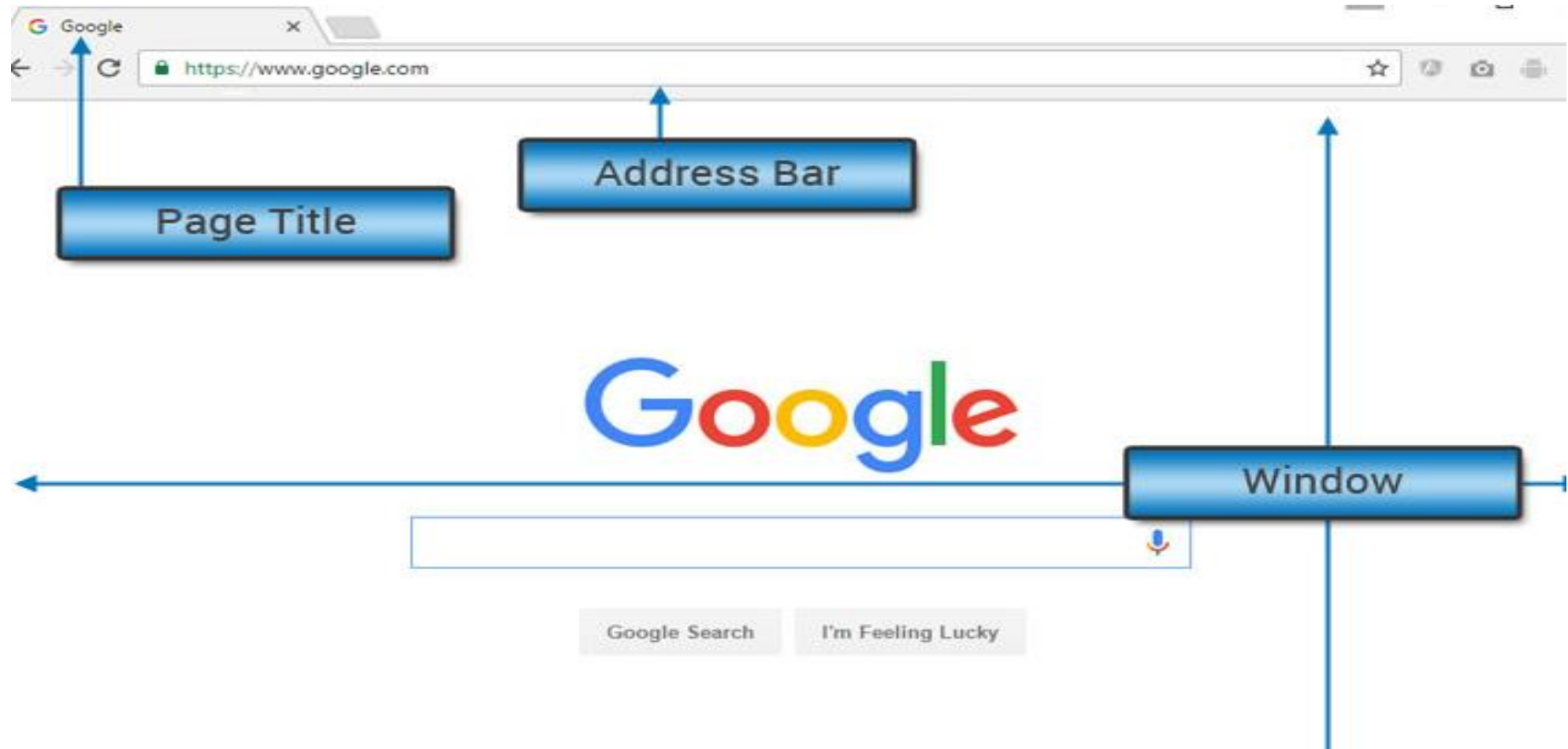
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# Network

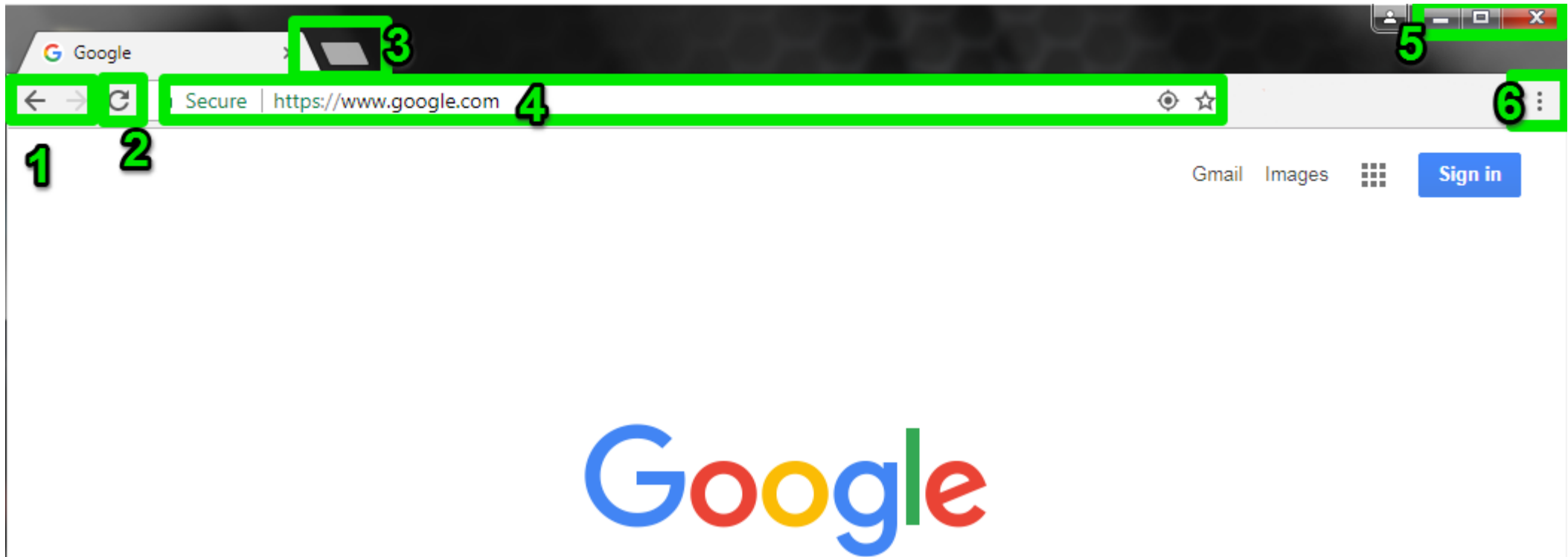


# Browser





# What we type in Address Bar/Location Bar ?



# Address Bar/Location Bar

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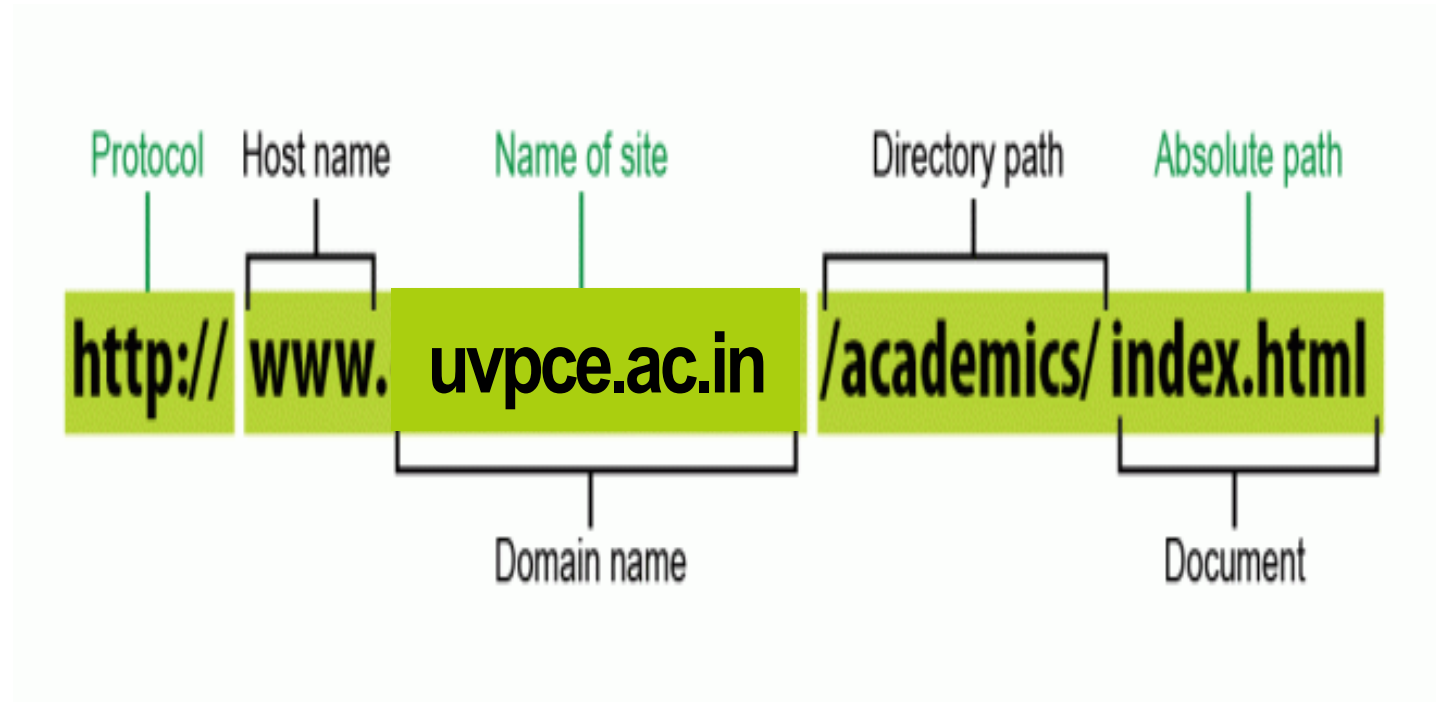
- Address bar is used to type a URL and display a Web page
- In a web browser, the address bar is a graphical control element that shows the current URL.



# URL : Uniform Resource Locator (URL)

## The Parts of a URL

1. Protocol
2. Name of Site
3. Absolute path to the document or resources



# HTTP : Hypertext Transfer Protocol (HTTP)

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- Used for transmitting hypermedia documents, such as HTML.
- It was designed for communication between web browsers and web servers, but it can also be used for other purposes.



# HTTP : Hypertext Transfer Protocol (HTTP)

## HTTP vs HTTPS



# WWW : World Wide Web

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- Also known as the Web, is an **information system** where documents and other web resources are identified by Uniform Resource Locators(URL)



# IP Address

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- Internet use standard protocol TCP/IP for transmission
- Every machine on a network has a unique identifier.
- An **IP address** (short for Internet Protocol **address**) is used to identify computers (location) on the Internet.
- Who provide name to IP ?
- DNS

# Name of site /Domain Name

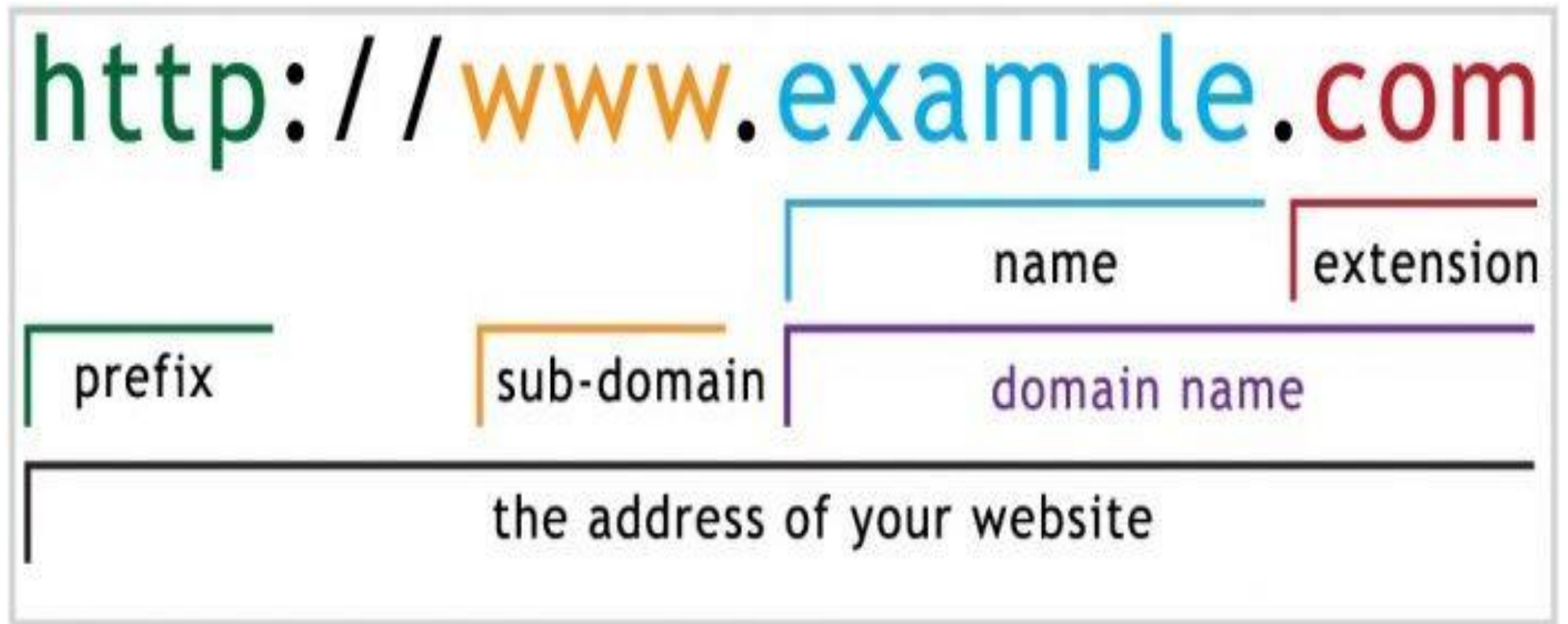
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- The **Domain Name System (DNS)** is the phonebook of the Internet.
- Humans access information online through **domain names**, like google.com or uvpce.ac.in.
- DNS** translates **domain names** to **IP addresses** so browsers can load Internet resources.



# Name of site /Website /Domain Name

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# Protocol

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- A network protocol is an established set of rules that determine how data is transmitted between different devices in the same network.
- Essentially, it allows connected devices to communicate with each other, regardless of any differences in their internal processes, structure or design.

# Website /Web page

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- A **website** is a collection of linked **web pages** (plus their associated resources) that share a unique domain name.
- A **web page** (or **webpage**) is a specific collection of information provided by a **website** and displayed to a user in a web browser.
- A **website** is made up of related text, images, and other resources.

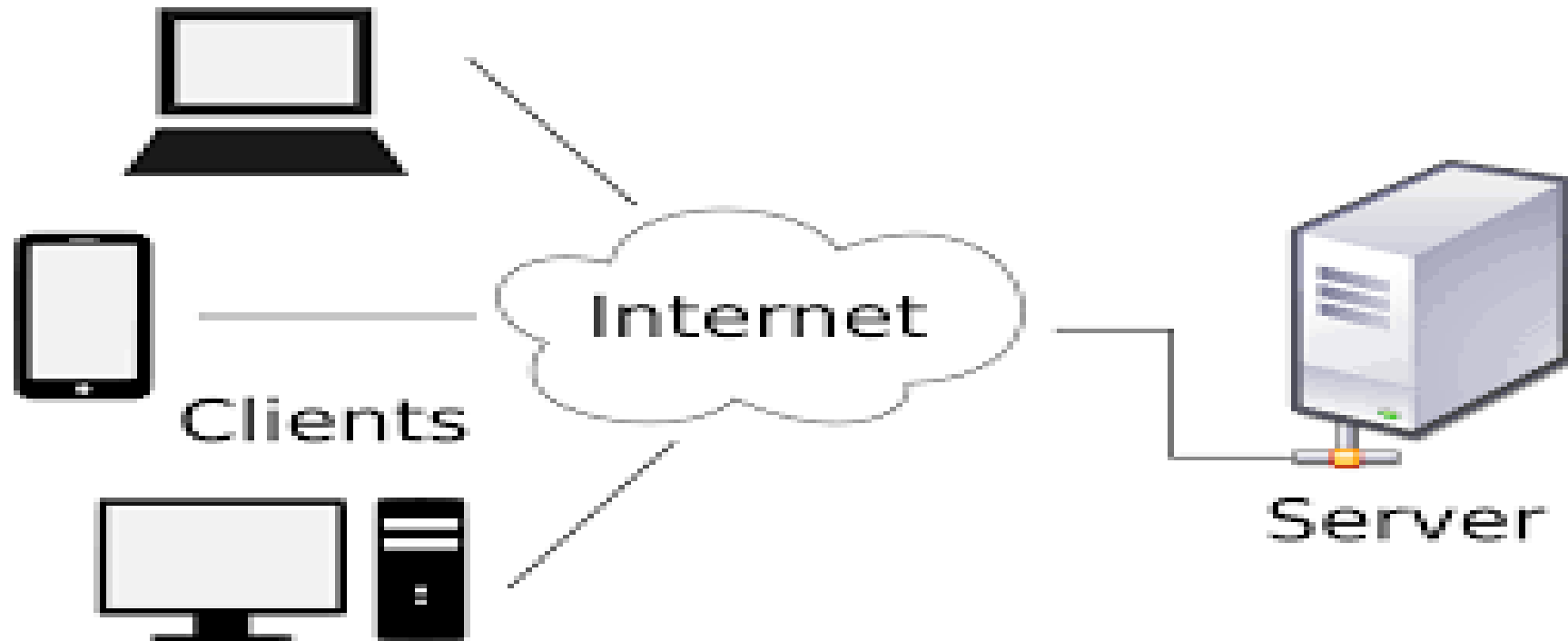
# Website /Web page

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- A **website** is a collection of linked **web pages** (plus their associated resources) that share a unique domain name.
- [www.Google.com](http://www.Google.com)
- <https://www.uvpce.ac.in/>
- A **web page** (or **webpage**) is a specific collection of information provided by a **website** and displayed to a user in a web browser.
- <https://www.uvpce.ac.in/content/about-college>
- <https://www.uvpce.ac.in/content/library>

# Client and Server

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# Client and Server

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- A **client** is a computer that connects to and uses the resources of a remote computer, or server.
- A **web server** is a computer that runs websites.
- The basic objective of the **web server** is to store, process and deliver **web** pages to the users.
- This intercommunication is done using Hypertext Transfer Protocol (**HTTP**).

# Bits and Byte

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- **Bit**

- a "bit" is atomic: the smallest unit of storage
- Everything in a computer is 0's and 1's.
- The **bit** stores just a 0 or 1: it's the smallest building block of storage

- **Byte**

- One byte = collection of 8 bits
- e.g. 0 1 0 1 1 0 1 0
- One byte can store one character

# Bits and Byte

Data Measurement	Size
Bit	Single Binary Digit (1 or 0)
1 Byte	8 bits
1 Kilobyte (KB)	1,024 Bytes
1 Megabyte (MB)	1,024 Kilobytes
1 Gigabyte (GB)	1,024 Megabytes
1 Terabyte (TB)	1,024 Gigabytes



# Analog and Digital

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- An analog signal is a continuous signal that represents physical measurements.
- It uses a continuous range of values that help you to represent information.
- Digital signals are time separated signals which are generated using digital modulation.
- Digital signal uses discrete 0 and 1 to represent information

# Analog and Digital

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Analog Signals	Digital Signals
Continuous signals	Discrete signals
Represented by sine waves	Represented by square waves
Human voice, natural sound, analog electronic devices are few examples	Computers, optical drives, and other electronic devices
Continuous range of values	Discontinuous values
Records sound waves as they are	Converts into a binary waveform.
Only be used in analog devices.	Suited for digital electronics like computers, mobiles and more.

# E-Mail

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- Email is a service which allows us to send the message in electronic mode over the internet.
- It offers an efficient, inexpensive and real time mean of distributing information among people.

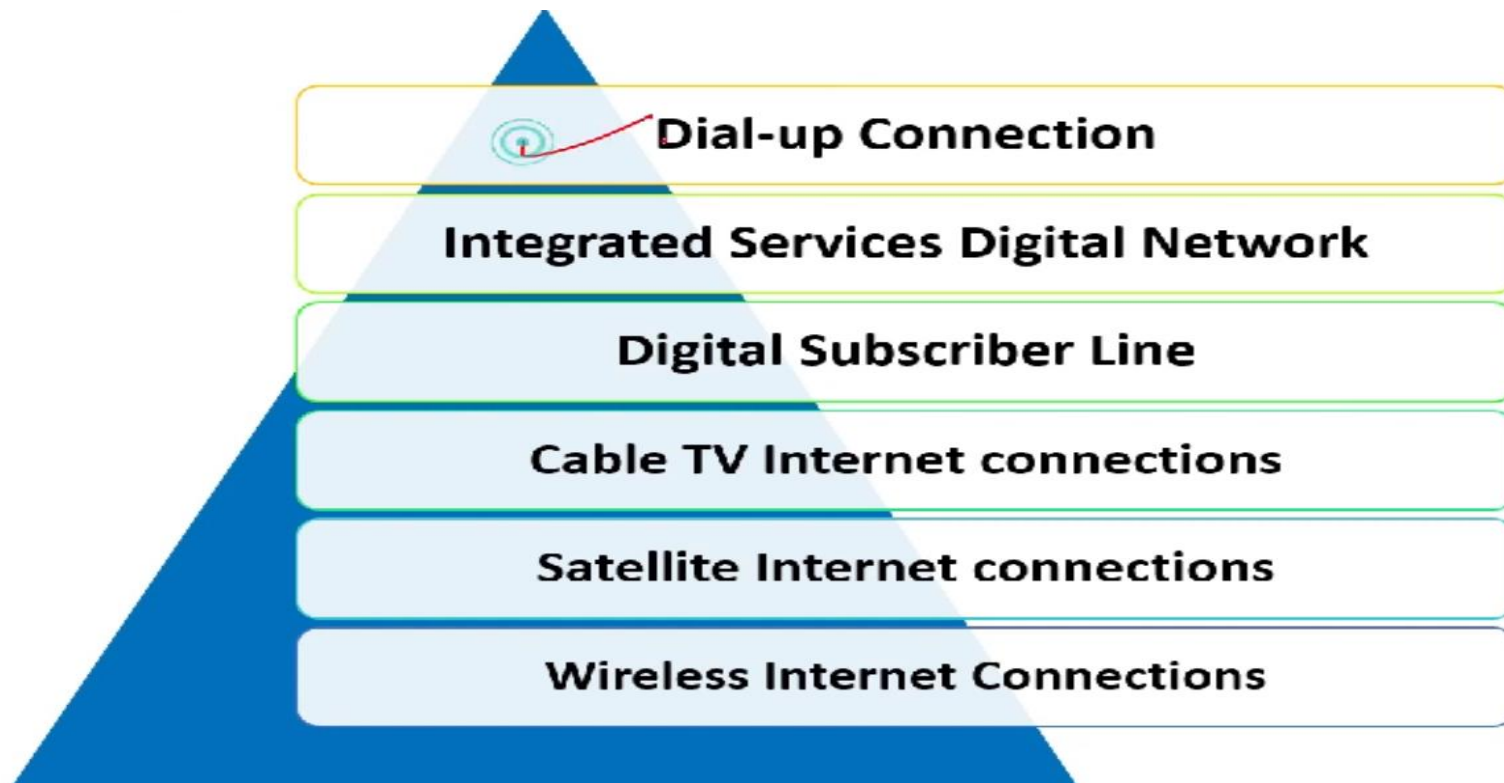
# Component: E-Mail

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- E-mail Header
- Greeting
- Text
- Signature

# Connection Types

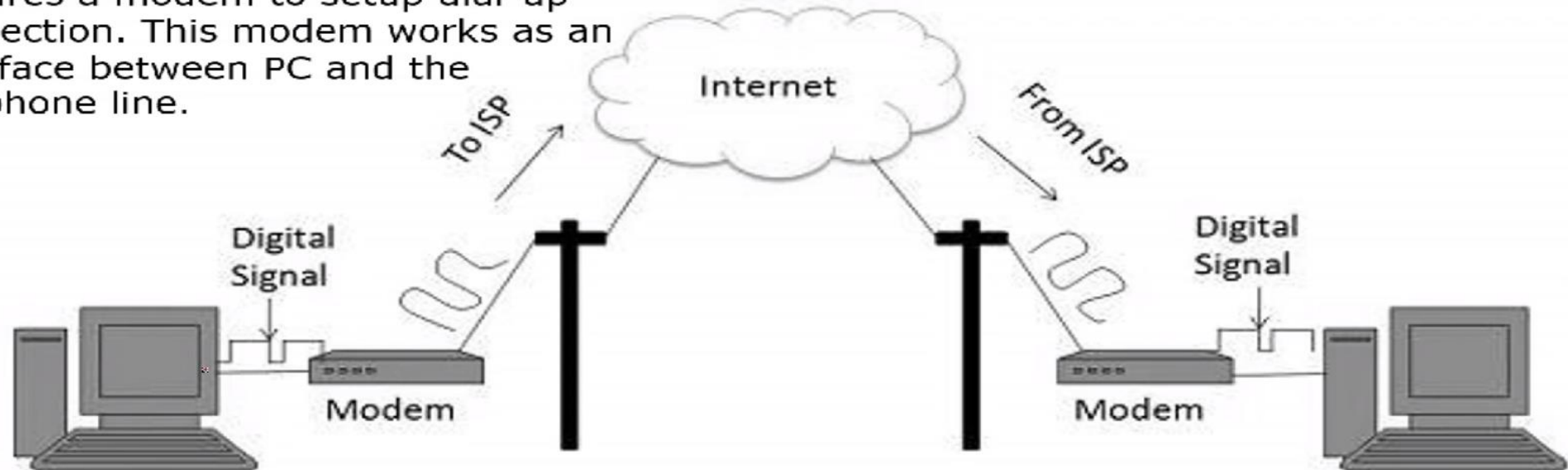
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# Dial-up Connection

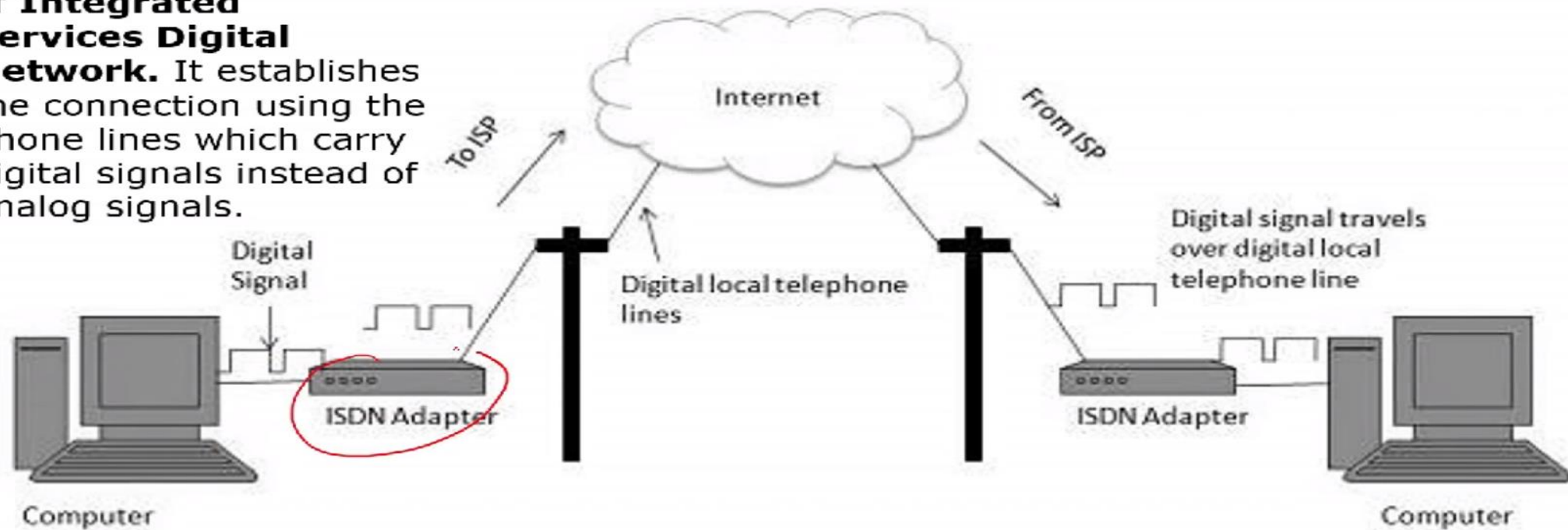
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**Dial-up** connection uses telephone line to connect PC to the internet. It requires a modem to setup dial-up connection. This modem works as an interface between PC and the telephone line.



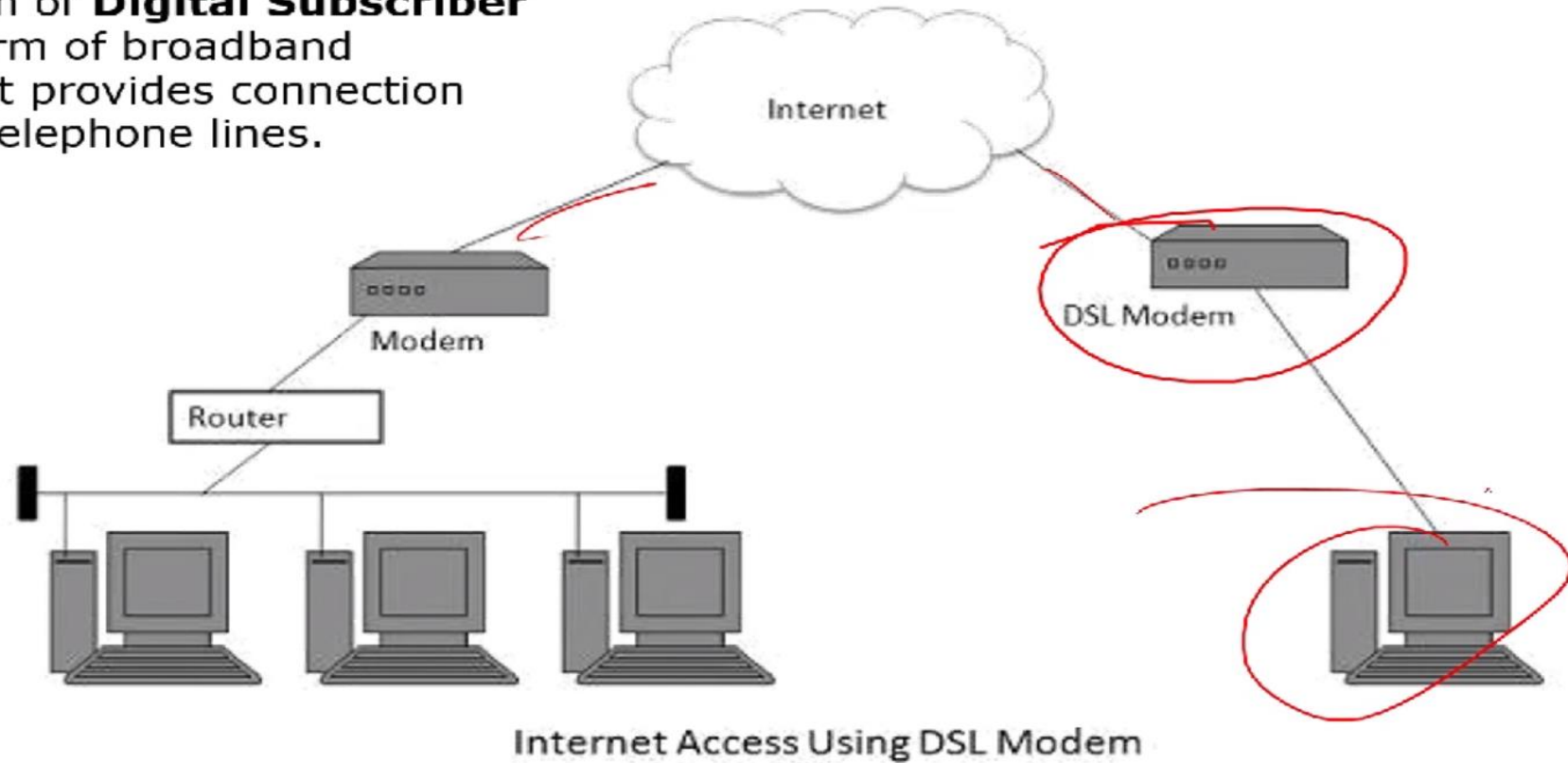
# ISDN

**ISDN** is acronym of **Integrated Services Digital Network**. It establishes the connection using the phone lines which carry digital signals instead of analog signals.



# DSL

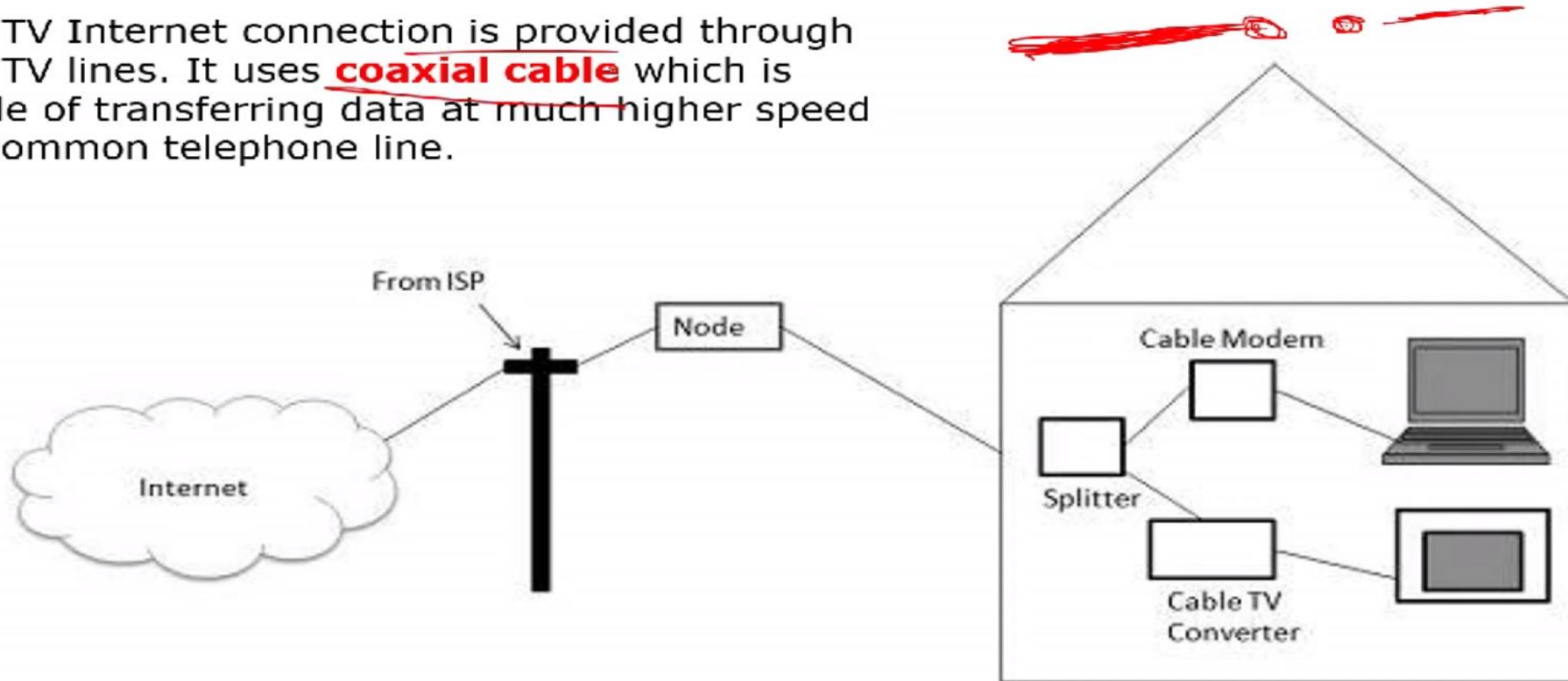
**DSL** is acronym of **Digital Subscriber Line**. It is a form of broadband connection as it provides connection over ordinary telephone lines.





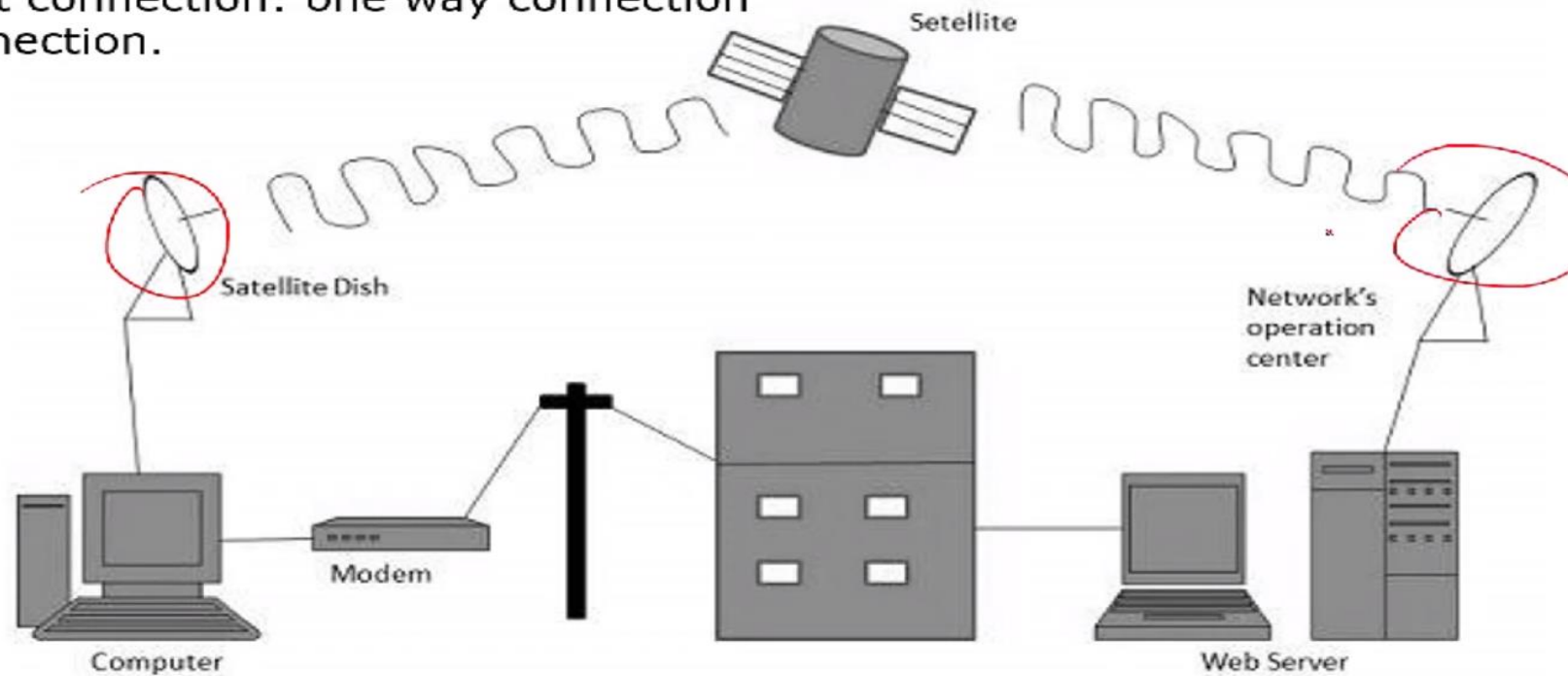
# Cable TV Internet Connection

Cable TV Internet connection is provided through Cable TV lines. It uses **coaxial cable** which is capable of transferring data at much higher speed than common telephone line.



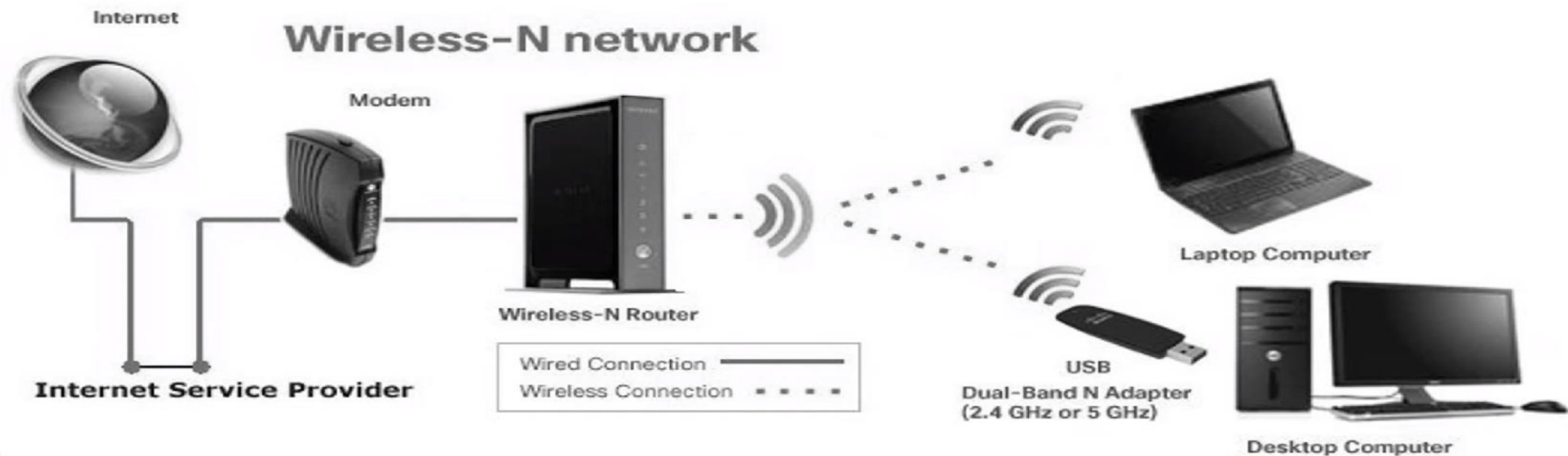
# Satellite Internet Connection

Satellite Internet connection offers **high speed connection** to the internet. There are two types of satellite internet connection: one way connection or two way connection.



# Wireless Internet Connection

Wireless Internet Connection makes use of radio frequency bands to connect to the internet and offers a very high speed. The wireless internet connection can be obtained by either WiFi or Bluetooth.



# Chat Services

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- Facebook
- WhatsApp
- Gmail
- Telegram
- Twitter