



InterNet and World Wide Web

# The Internet and The Web

*The Internet* is a global network of networks while *the Web*, also referred formally as World Wide Web (www) is collection of information which is accessed via *the Internet*. Another way to look at this difference is; *the Internet* is infrastructure while *the Web* is service on top of that infrastructure.

# INTERNET VERSUS WORLD WIDE WEB

## INTERNET

A global system of interconnected computer networks that use the TCP/IP protocol to link devices worldwide

A massive interconnection of computer networks around the world

Uses Transmission Control Protocol/Internet Protocol (TCP/IP)

## WORLD WIDE WEB

Online content that is formatted in HTML and accessed via HTTP protocol

Service provided by the internet

Uses Hyper Text Transfer Protocol (HTTP)

# Servers and Clients

All of the machines on the Internet can be categorized as two types: **servers and clients**. Those machines that provide services (like Web servers or FTP servers) to other machines are **servers**. And the machines that are used to connect to those services are **clients**.

**Request–response**, or **request–reply**, is one of the basic methods computers use to communicate with each other, in which the client sends a request for some data and the server responds to the request. Usually, there is a series of such interchanges until the complete message is sent; browsing a [web page](#) is an example of request–response communication.

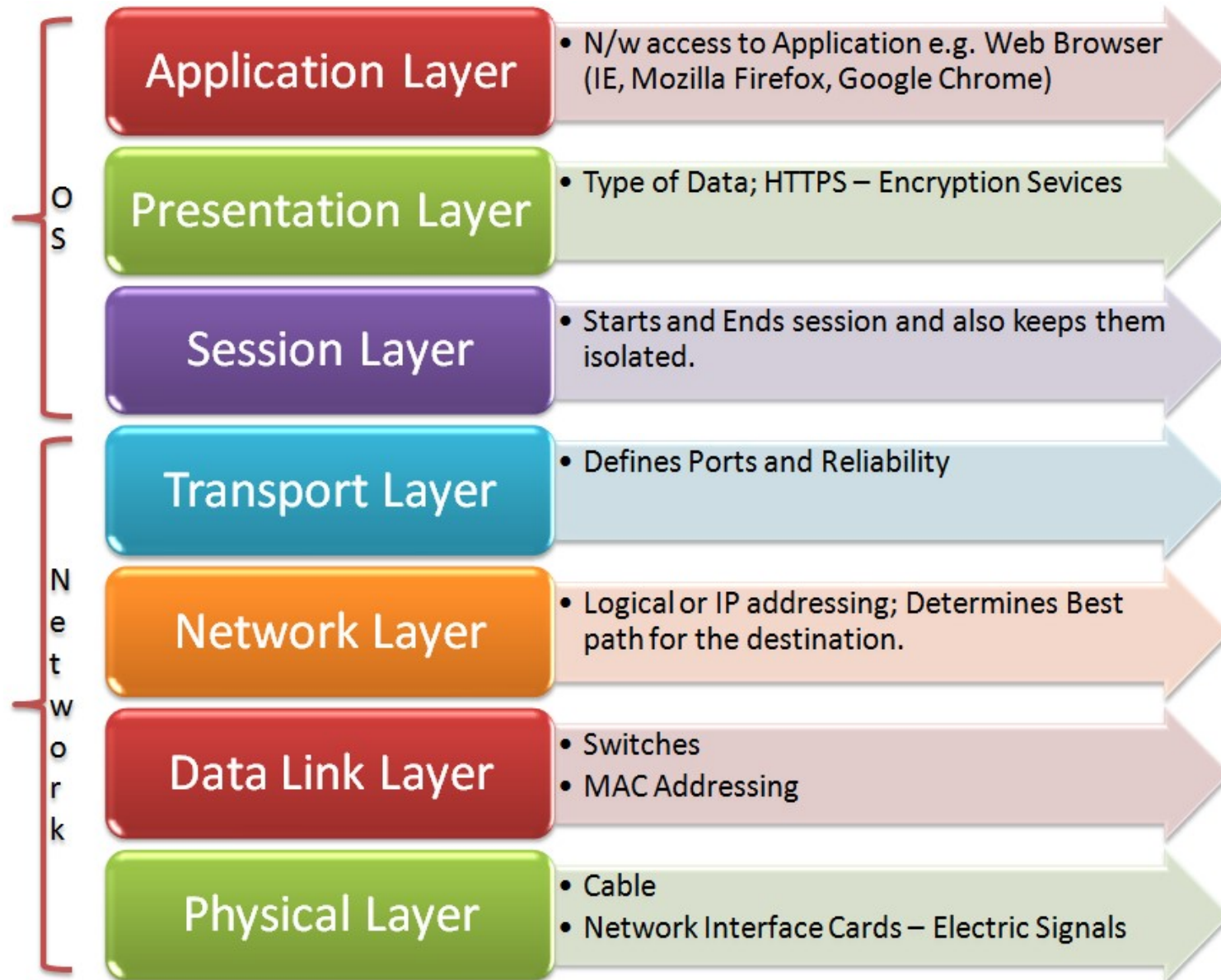
# Network Communication

Network communication, or *internetworking*, defines a set of protocols (that is, rules and standards) that allow application programs to talk with each other without regard to the hardware and operating systems where they are run.

Internetworking allows application programs to communicate independently of their physical network connections.

The internetworking technology called *TCP/IP* is named after its two main protocols: Transmission Control Protocol (TCP) and Internet Protocol (IP)

# OSI Model in Data Communication



# Communication Protocols

A communication protocol is a system of rules that allow two or more entities of a communications system to transmit information via any kind of variation of a physical quantity.



# Types of Protocol

1. Hypertext Transfer Protocol (HTTP): deals with HTML files on the internet.
2. Simple Mail Transfer Protocol (SMTP), is used for transferring e-mail between computers.
3. Post Office Protocol version 3 (PoP3) is the most common account type for personal e-mail. Messages are typically deleted from the server when you check your e-mail.
4. Internet Message Access Protocol (IMAP) is a protocol for e-mail retrieval and storage as an alternative to POP.
5. File Transfer Protocol (FTP), is used for showing files to be copied between devices.



# Types of Protocol

6. Transmission Control Protocol (TCP), ensures the delivery of information packets across networks.
7. Internet Protocol (IP), is responsible for logical addressing called "IP address" to route information between networks.
8. In computer networking, Point-to-Point Protocol (PPP) is a data link (layer 2) protocol used to establish a direct connection between two nodes.
9. The packets and device protocol(TPADP) makes sure that the other protocols have a back up route.

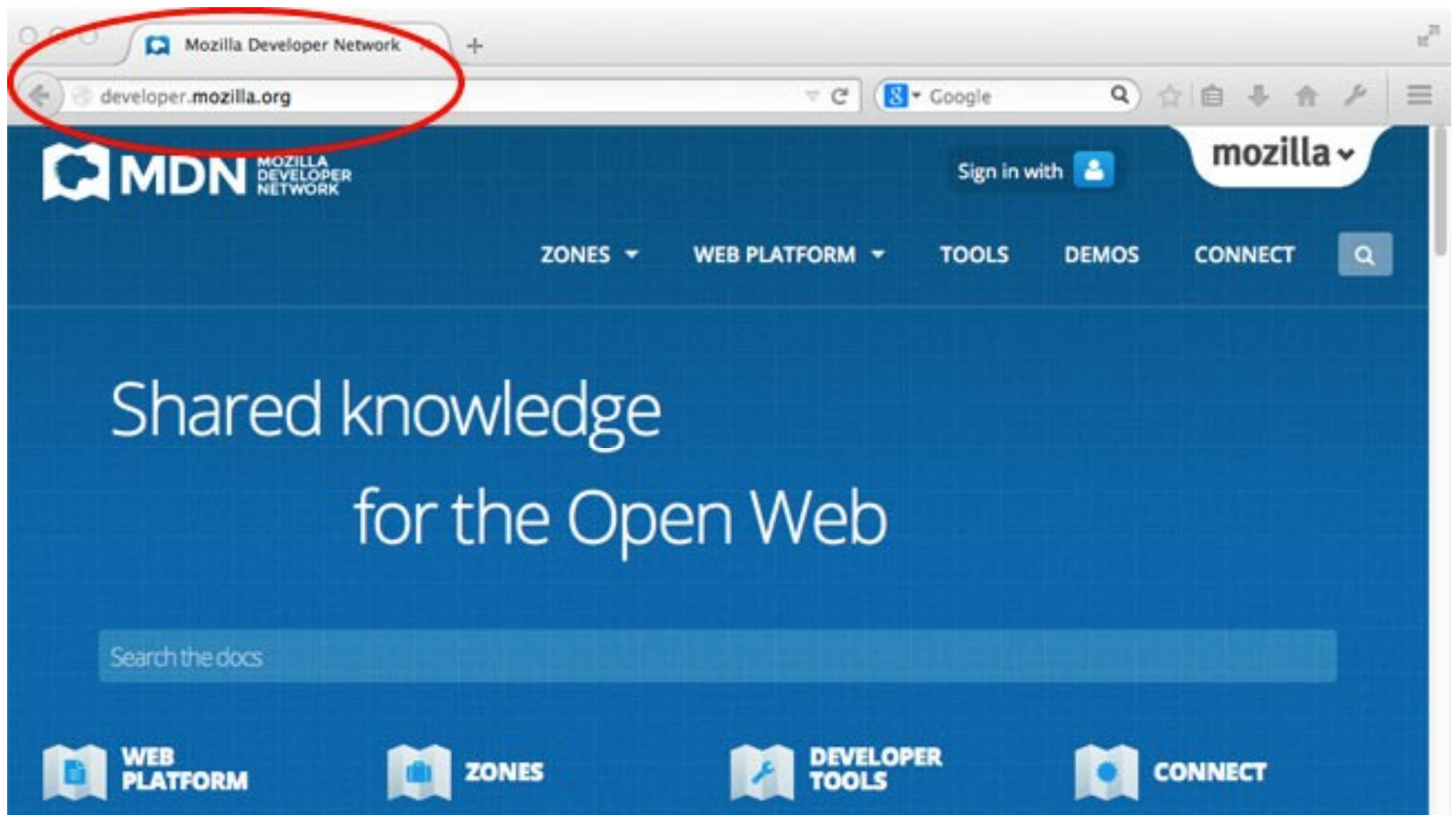
# THE TCP/IP PROTOCOL SUITE

OSI Layers	TCP/IP Layers	TCP/IP Protocols				
Application Layer	Application Layer	HTTP	FTP	Telnet	SMTP	DNS
Presentation Layer						
Session Layer						
Transport Layer	Transport Layer	TCP		UDP		
Network Layer	Network Layer	IP				
Data Link Layer	Network Interface Layer	Ethernet	Token Ring		Other Link-Layer Protocols	
Physical Layer						

# Website

A *website* is a collection of linked web pages (plus their associated resources) that share a unique domain name. Each web page of a given website provides explicit links—most of the time in the form of clickable portion of text—that allow the user to move from one page of the website to another.

To access a website, type its domain name in your browser address bar, and the browser will display the website's main web page, or *homepage* (casually referred as "the home").



# Web Server

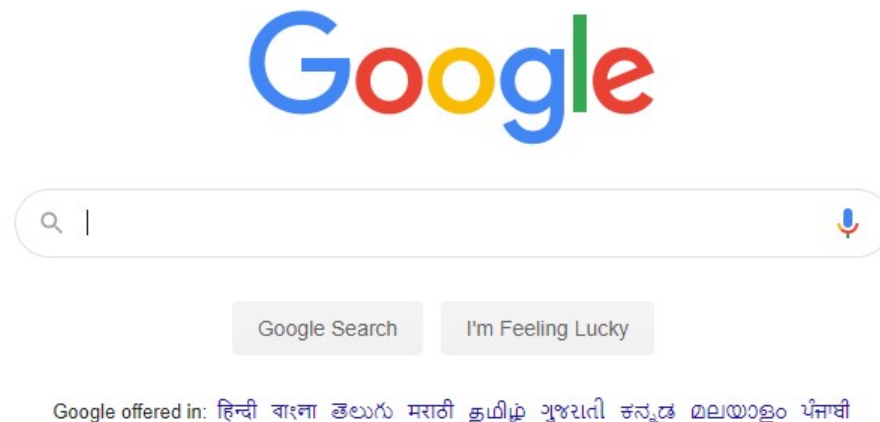
A *web server* is a computer hosting one or more *websites*.

"Hosting" means that all the *web pages* and their supporting files are available on that computer. The *web server* will send any *web page* from the *website* it is hosting to any user's browser, per user request.

# Search Engine

A search engine is a special kind of website that helps users find web pages from other websites.

Examples: Google, Bing, Yandex, DuckDuckGo, etc.



# Web Page

A web page is a simple document displayable by a browser. Such documents are written in the HTML language. A web page can embed a variety of different types of resources such as:

- ✓ **Style information** — controlling a page's look-and-feel
- ✓ **Scripts** — which add interactivity to the page
- ✓ **Media** — images, sounds, and videos.

All web pages available on the web are reachable through a unique address called the URL (Uniform Resource Locator). To access a page, just type its address in your browser address bar:

