

Chapter 3: Questions/ Answers

1. What is Internet? What are the three basic building blocks of the Internet?

Internet: A means of connecting a computer to any other computer anywhere in the world via dedicated routers and servers. When two computers are connected, they can send and receive all kinds of information such as text, graphics, voice, video, and computer programs.

The basic building blocks of the internet are

1. Packet-switching.
2. A communications protocol called TCP/IP.
3. Client/server computing.

2. What is latency?

Latency is delays in messages caused by the uneven flow of information packets through the network.

<https://www.youtube.com/watch?v=Nma5OfNRExE>

3. Explain how packet switching works.

Packet Switching:

A **method** of slicing digital messages into data packets, sending the packets along different communication paths and then reassembling the packets once they arrive at their destination.

<https://www.youtube.com/watch?v=vSlcoQowe9I>

4. How does TCP/IP transfer information on the Internet?

TCP/IP (Transmission Control Protocol/Internet Protocol) is the core communications protocol for information transfer on the Internet.

TCP

Protocols that controls the transmission of data packets between the sending and receiving computers, handles the assembly of packets at the point of transmission and their reassembly at the receiving end.

IP

Protocols that provide the addressing scheme between two computers for data transfers. TCP controls the transmission by making sure the data is departing and arriving at the correct address. Each computer has an IP address. There are billions of ip addresses.

<https://www.youtube.com/watch?v=b58Kjd8Rpo>

5. What is Client/server computing?

Client Server Computing: For the data to travel there must be request for data transfer. The client (a personal computer/you) makes the request, such as typing a particular web address on a web application (Chrome/Mozilla/IE). The request is routed by the modem/router via the ISP network the computer is connected with. The request arrives at the server situated at ISP office. This server is another powerful computer with computer programs which verifies if the request is valid and then sends a response back to the client among the same communication path with the help of TCP/IP.

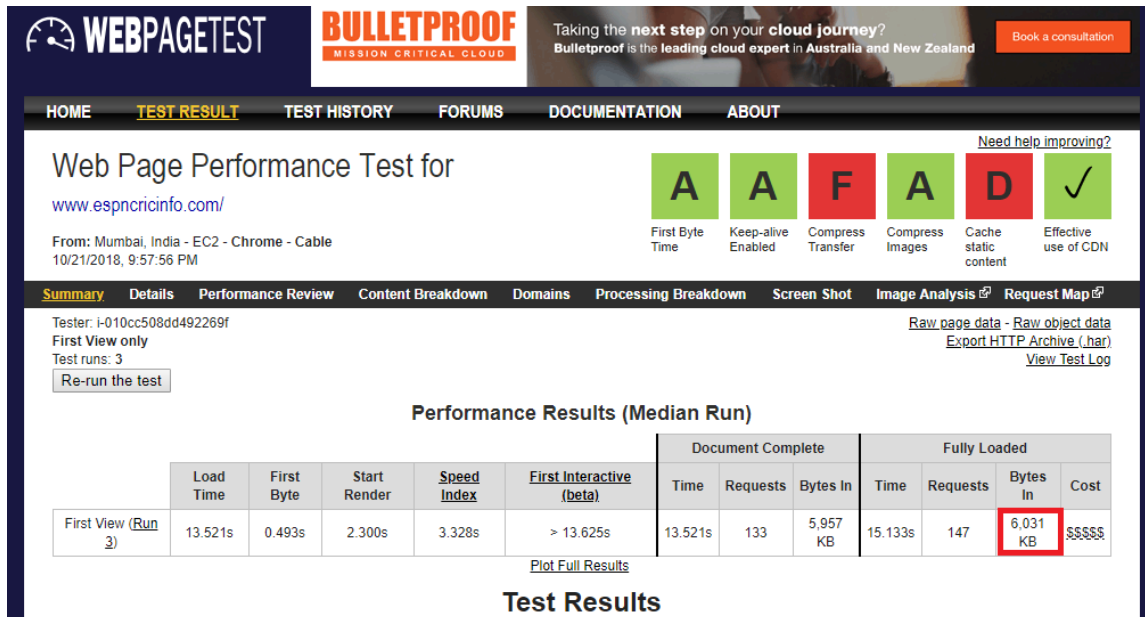
<https://www.youtube.com/watch?v=SwLdKeC8scE>

6. What is bandwidth?

- Bandwidth: **Bandwidth** is the capacity of transmitting the maximum amount of data through a wired or wireless network communications path from one point to another over a computer network, in a fixed amount of time usually seconds. In other words, how much data packets can be transmitted per second.
- <http://www.speedtest.net/>
- If you have a 15MB Internet connection it means your internet connection has the bandwidth of handling 15Mbps = 15 million bits per second. A typical website like cricinfo.com uses around 5000 to 6000 KB per second to load.
- 1MB = 1000 KB. So, 6000 KB used 6 MB. You having a 15 MB speed at home means you have the bandwidth with capacity of opening almost 3 Cricinfo website per second.
- <https://www.webpagetest.org/>

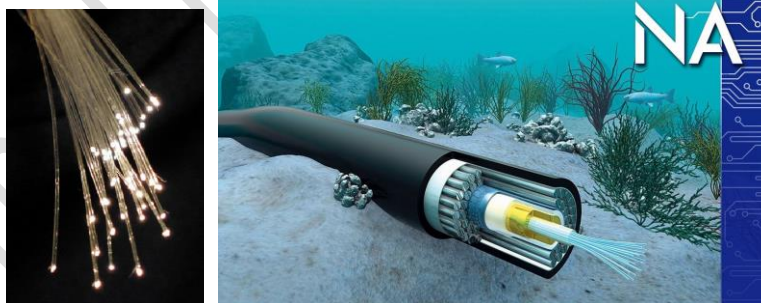


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7. What is Optical Fiber Cable?

Fiber-optic cable consists of up to hundreds of strands of glass that use light to transmit data. Optical fiber is transparent, light, thin and made by plastic of drawing glass (silica). It transmits data at faster speed over longer distances than electrical cables. Most of the planet is now connected via fiber optic cables to take advantage of internet bandwidth unthinkable just even a decade ago.



<https://www.youtube.com/watch?v=9rlUPWpLWOW>

8. Why was the development of the browser so significant for the growth of the Web?

Web browser created the possibility of universal computing, the sharing of files, information, graphics, sound, video, and other objects across all computer platforms in the world. Web browsers displays exactly or nearly the same content of a web pages regardless of the

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operating system such as Windows, Macintosh or Unix operating systems and the types of computer.

9. What is Cloud Computing? Some Facts on Cloud Computing.

- ❖ **Cloud computing** refers to a model of computing in which firms and individuals obtain computing power and software applications over the Internet, rather than purchasing the hardware and software and installing it on their own computers.
- ❖ Cloud computing is the fastest growing form of computing.
- ❖ Instead of software as a product, in the cloud computing model, software is a service provided over the Internet (referred to as SaaS—software as a service). For example, more than 100,000 firms and organizations use Salesforce.com’s customer relationship management software.
- ❖ For e-commerce, firms, cloud computing radically reduces the cost of building and operating Web sites because the necessary hardware infrastructure and software can be licensed as a service from Internet providers at a fraction of the cost of purchasing these services as products.
- ❖ For corporations, cloud computing means that a significant part of hardware and software costs (infrastructure costs) can be reduced because firms can obtain these services online for a fraction of the cost of owning, and they do not have to hire an IT staff to support the infrastructure.
- ❖ It’s a infinite virtual storage solution
- ❖ Immediately accessible from all kinds of computers and any location.

10. What is HTML? What advances and features does HTML5 offer?

HTML: GML (Generalized Markup Language) that is relatively easy to use in Web page design. HTML provides Web page designers with a fixed set of markup “tags” that are used to format a Web page

Try:

www.w3schools.com

or

https://www.youtube.com/watch?v=-USAeFpVf_A

HTML5: A major version of markup language for structuring World Wide Web.

Advance and features of HTML 5:

- HTML5 's video element replaces plug-ins such as Flash, Quicktime and real player.
- Compatible with CSS3 (Cascading style sheet), Javascripts and HTML5 Canvas
- HTML5 can access built in functionality of mobile devices such as GPS & swiping
- A single HTML5 app requires far less effort to build that multiple native apps for the IOS, Andriod, Windows phone and other platforms.
- HTML5 apps can be easily linked to and shared on social networks, encouraging viral distribution
- HTML5 apps can be designed to run on mobile devices when they are offline
- Usablenet.com released HTML5 mobile platform called mobile 2.0 system. This system enables touch based browser, swiping photo galleries, double tapping zoom, scrolling, expanding and collapsing menus, reaching nearby stores based on current whereabouts.

<https://www.youtube.com/watch?v=IsXEVQRaTX8>

11. What is a Cookie?

A **cookie** is a tool used by a Web site to store information about a user. When a visitor enters a Web site, the site sends a small text file (the cookie) to the user's computer so that information from the site can be loaded more quickly on future visits.

<https://www.youtube.com/watch?v=YbNYLtLjYV0>