



Web Technologies

ICT1153

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1. Introduction to World Wide Web

Objectives



- After successfully completing this lecture, students should be able to,
- Describe the concept of World Wide Web.
 - Identify the basics of web.





World Wide Web (WWW)

- 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.
- Sir Tim Berners-Lee invented the World Wide Web in 1989.
- The web pages are stored in web servers and connected to local computers through the internet.
- It allows computer users to execute web-based applications and to locate and view multimedia-based documents on almost any subject over the Internet.



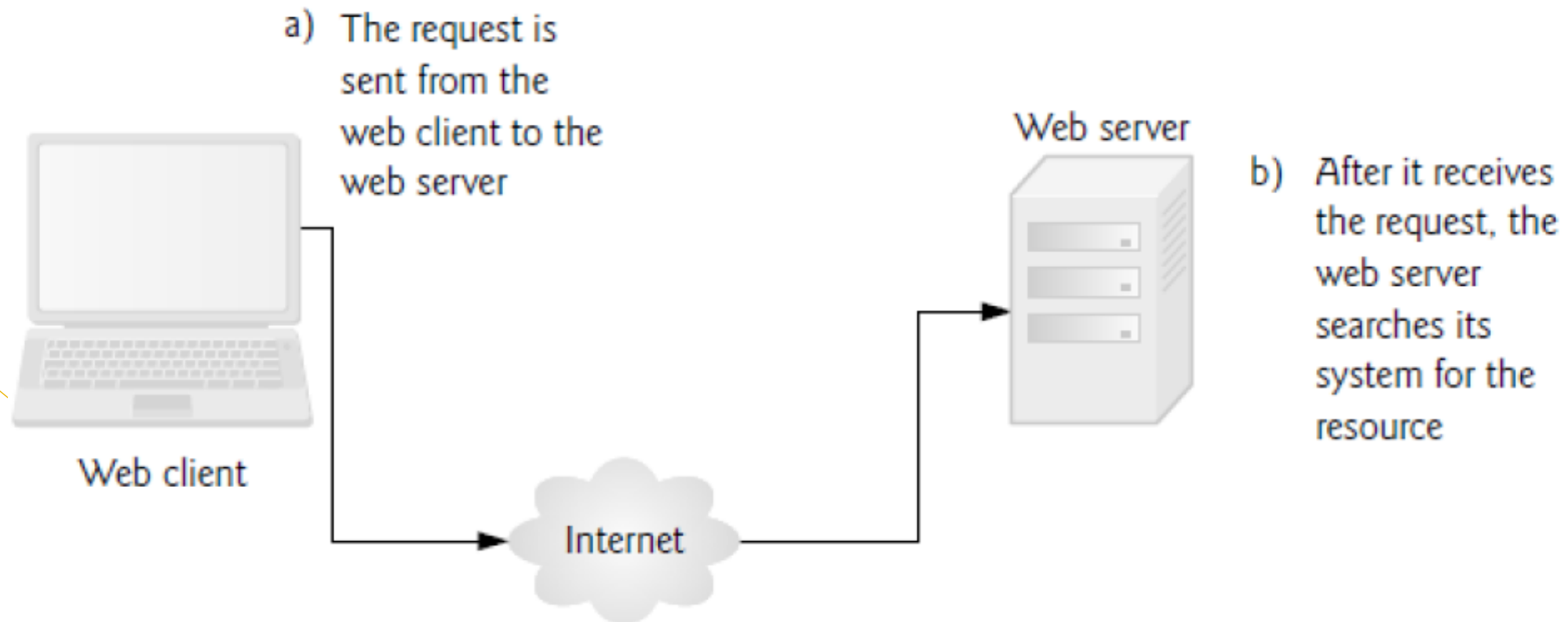


World Wide Web (WWW)

- WWW is an open source information space where documents and other web resources are identified by URLs.
- Information in web are interlinked by hypertext links, and can be accessed via the Internet.
- WWW uses the client/server approach.
- The servers, which are on the web, are called web servers and clients are called web client.
- Three fundamental technologies of todays web,
 - HTML
 - HTTP
 - URL



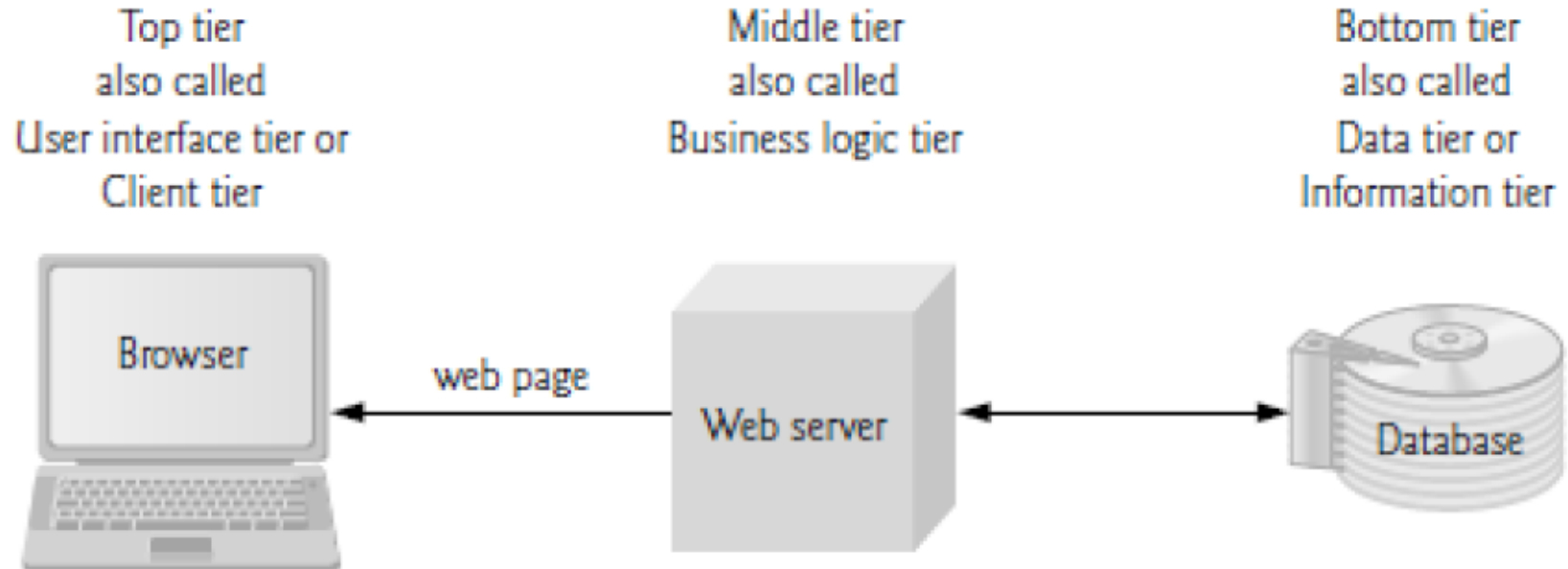
Client Server Architecture





Multi Tier Architecture

- Web-based applications are often **multitier applications** that divide functionality into separate **tiers**.
- Although tiers can be located on the same computer, the tiers of web-based applications often reside on separate computers.
- The most common form is the **3-tier** architecture.



Parts of the URL



<http://www.deitel.com/books/downloads.html>

- **http://** -Indicates that the Hyper Text Transfer Protocol (HTTP) should be used to obtain the resource.
- **www.deitel.com**-Server's fully qualified **hostname**.
- The name of the web-server computer on which the resource resides.
- **www**-This site is on the World Wide Web.
- **com**-This is a common extension for commercial sites.

Parts of the URL



<http://www.deitel.com/books/downloads.html>

- The hostname **www.deitel.com** can be translated into an **IP address**.
- An Internet **Domain Name Server** maintains a database of hostnames and their corresponding IP addresses and performs the translations automatically.
- **/books/downloads.html** -Specifies the resource's location (/books) and name (downloads.html) on the web server.

HTTP



- Hypertext Transfer Protocol.
- A communications protocol which is used to send information over the web.
- Used by the World Wide Web.
- It defines
 - How messages are formatted and transmitted, and
 - What actions web servers and browsers should take in response to various commands.

HTTPS



- Hypertext Transfer Protocol Secure.
- URLs of websites that handle private information, such as credit card numbers.
- It means all communications between your browser and the website are encrypted.
- Standard for transferring encrypted data on the web
- Often begin with https://





Domain Name System

- The Domain Name System(DNS) is a hierarchical distributed naming system for computers, services, or any resource connected to the Internet or a private network.
- Converts human readable domain names into machine readable IP addresses.
- Domain name : `www.ruh.ac.lk`
- IPv4 address : `192.248.48.3`

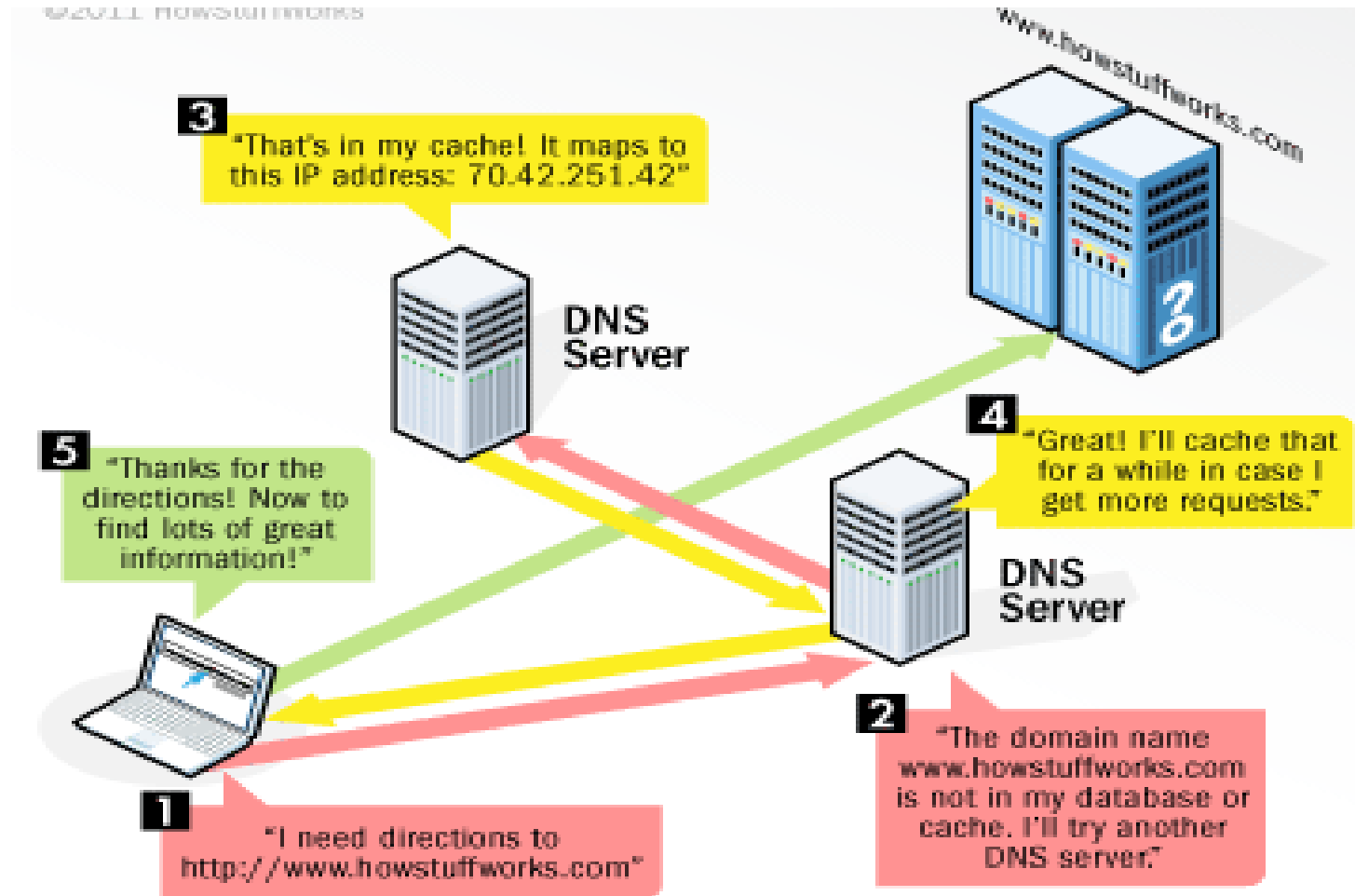


Domain Name System

- The DNS is a distributed database which keeps track of computer's names and their corresponding IP addresses on the Internet.
- The DNS database resides on a hierarchy of special database servers.
- Used to map names to IP addresses and vice versa.
- Maintain central lists of domain name/IP addresses and map the domain names in your Internet requests to other servers on the Internet until the specified web site is found.



Domain Name System





Top Level Domains

- Last part of the domain name is called Top-level domain
- Most general part of the domain

Top-Level Domain	Organization Type
com	Originally for commercial organizations, but now used by individuals, government agencies, and nonprofits as well
net	Internet service providers and other network-related companies
org	Non-commercial (often non-profit) organizations
gov	Government agencies
edu	Educational domains



Domain Names for Countries

Country Domain	Country
lk	Sri Lanka
au	Australia
jp	Japan



Questions ???





Thank You.