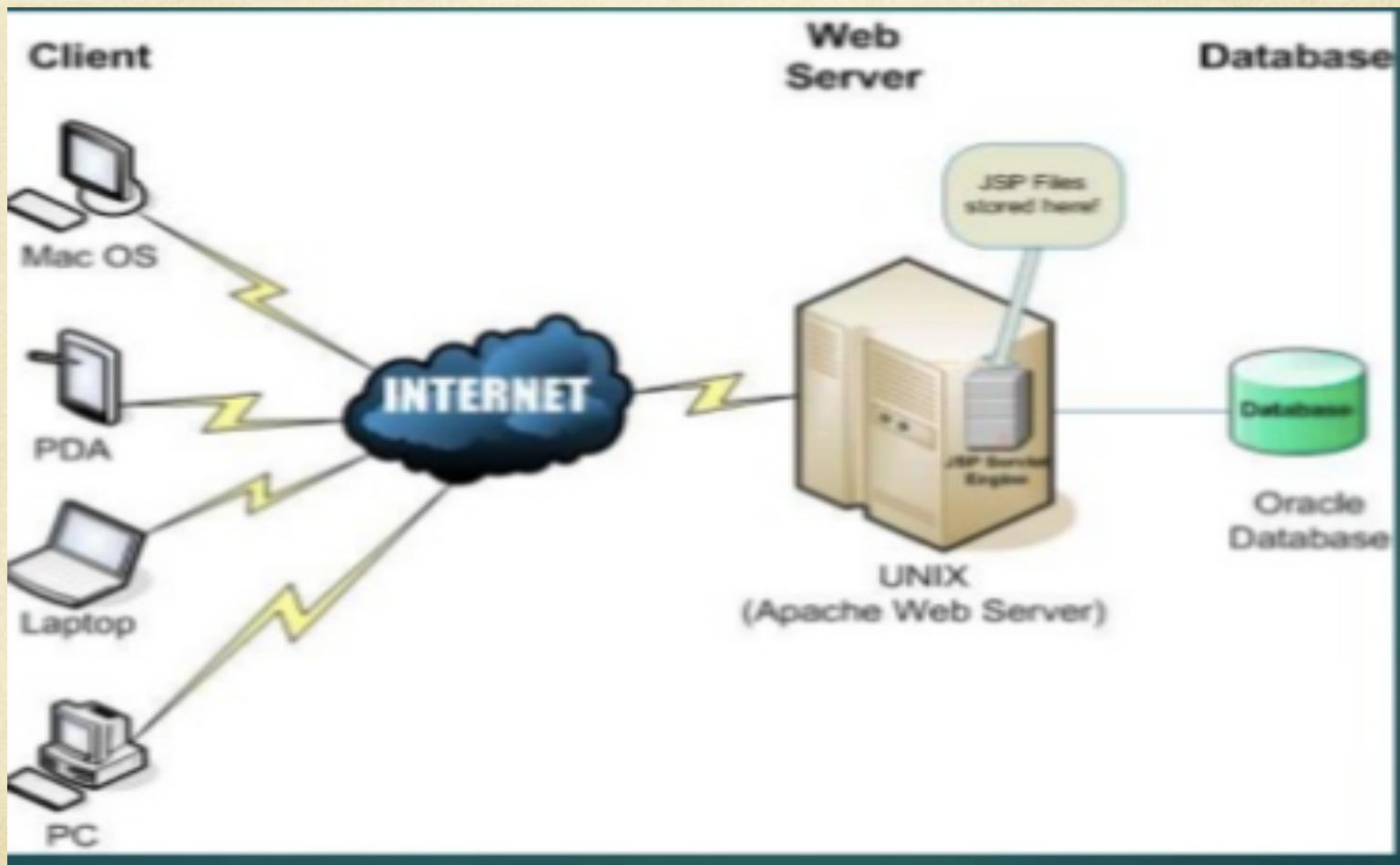




# Web Development Fundamentals

Marie Brennan  
Client-Server Technology

# Web Server



# Components

- ▶ There are mainly three components.
  1. The Client
  2. The Server
  3. The Network

# The Client

- ▶ Client is the desktop machine
- ▶ Micro or Workstation computer
- ▶ Network s/w sends the request to the server
- ▶ Accepts result from Server and passes result back to Client
- ▶ Client may perform some application logics

# The Server

- ▶ Server machine is designed for server functionality
- ▶ Comparison to desktop machine
- ▶ Increased Memory capabilities
- ▶ Increased Storage capabilities

# The Server

- ▶ Increased processing power [ through multi processor technology].
- ▶ Improved Reliability with built in reliability features such as:
  - Uninterruptible Power Supply
  - Fault Tolerance
  - Disk Mirroring

# The Server

- ▶ Evaluating server h/w:-
  1. Reliability
  2. Availability
  3. Flexibility

# The Server

- ▶ Server Machine is considered as brain networking
- ▶ Directly or Indirectly controls whole network
- ▶ Responsible for speed and performance network

# CST Application

# CST Application

- ▶ Applications that run on a network, technically different from application running on a local machine.
- ▶ Applications which are specially designed to run on network are known as 'Distributed applications'.
- ▶ The technology of creating and running an application in parts is also called 'application partitioning'.

# CST Application

- ▶ A distributed application consists of a server portion where most of the processing and storage is performed.
- ▶ This server portion is always executed and stored on the server
- ▶ This is also known as the 'Back-End'.

# CST Application

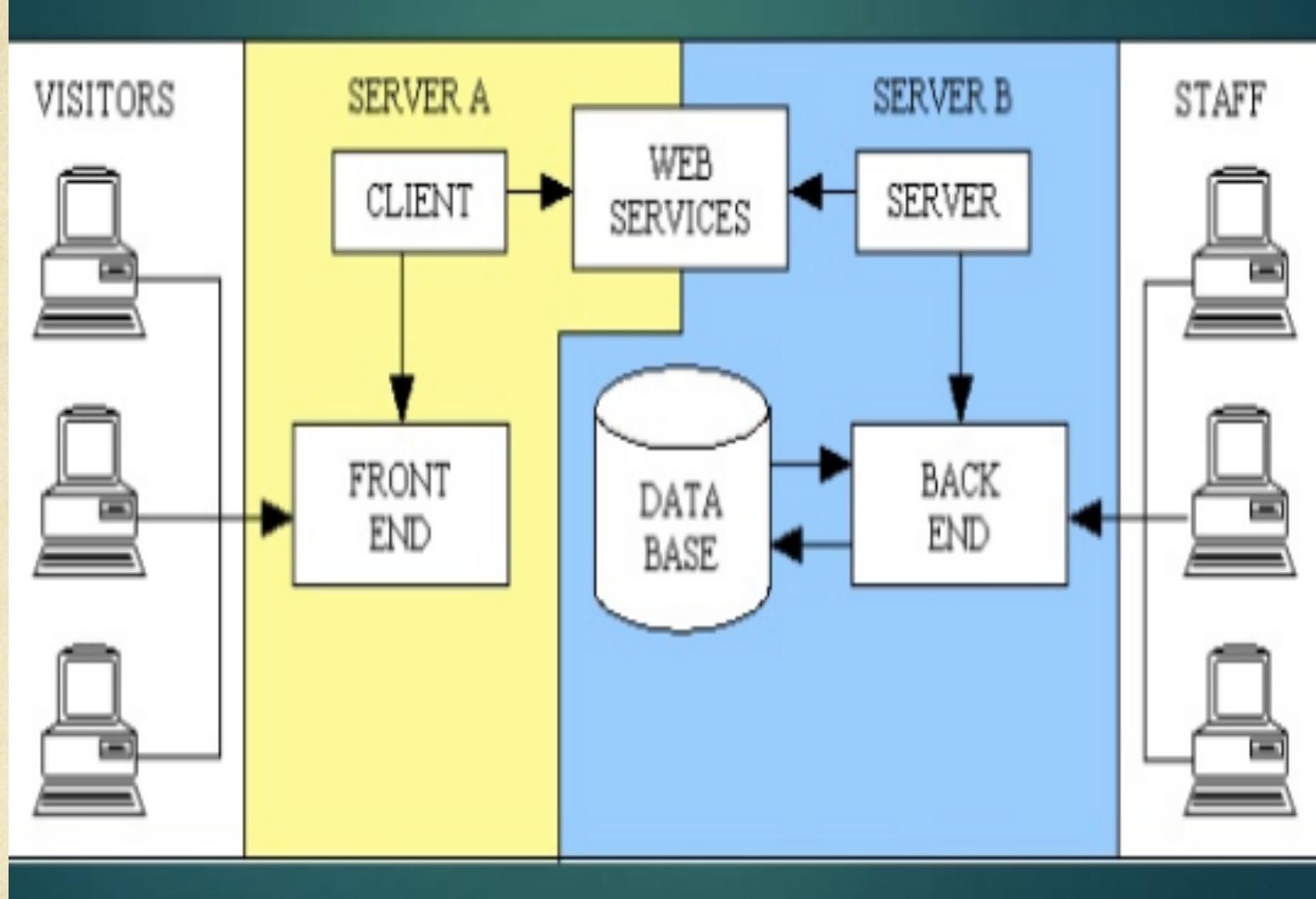
- ▶ The part of the application that runs on the client and which provides the interface to the client is known as the 'front-end'
- ▶ The front-end through its interface provides many functionalities to the client.
- ▶ The client can performs many important tasks using this interface.

# CST Application

- ▶ This processed information is then sent to the server.
- ▶ The data is sent to the server in form of some request.
- ▶ The back-end server component receives the client's request and processes it and returns information to the client.
- ▶ The client receives the information and presents it to the user

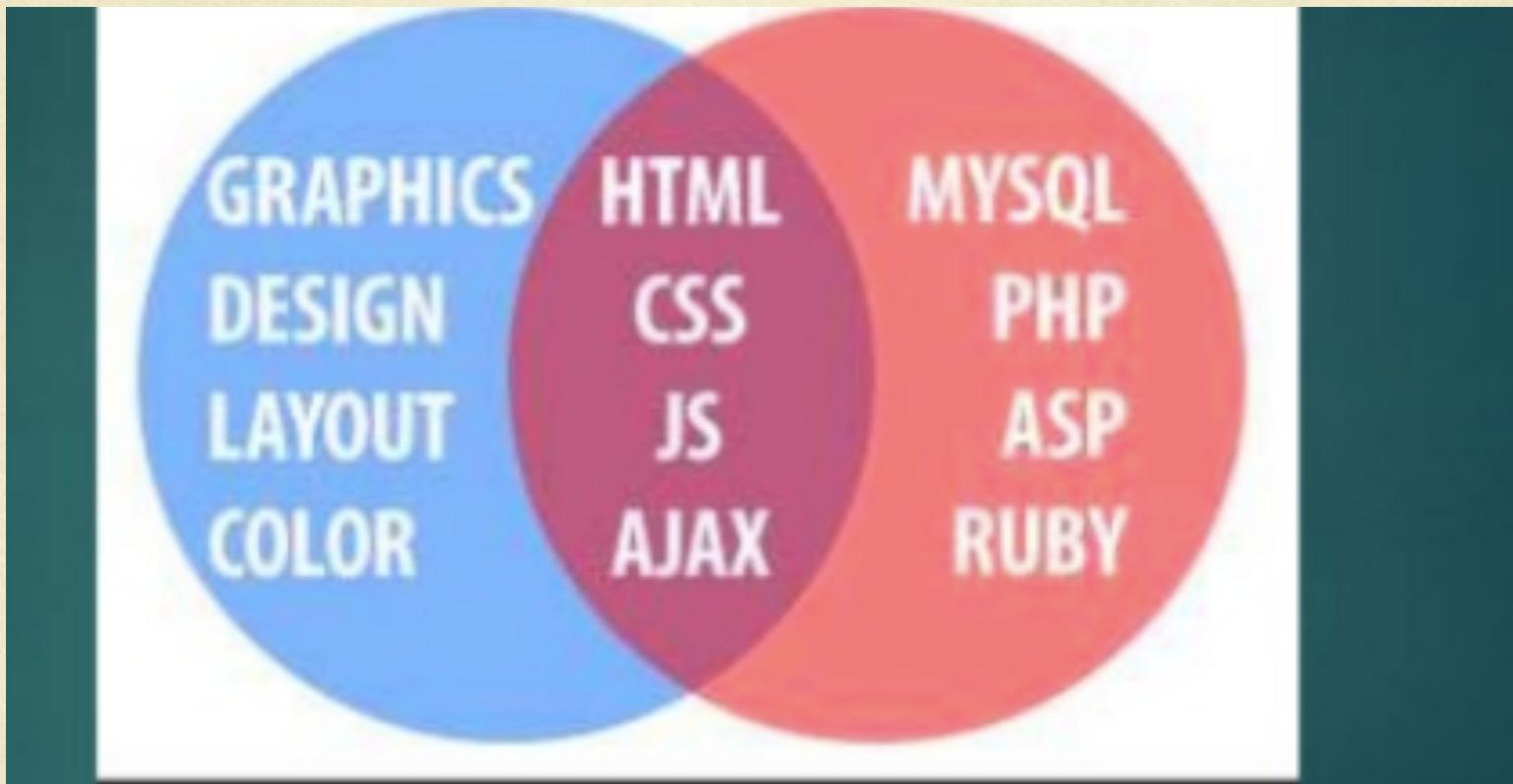
# CST Applications

- ▶ Basically a CST application has three main components:
  - ▶ The front-end application
  - ▶ The back-end application
  - ▶ Network operating system



Front-End

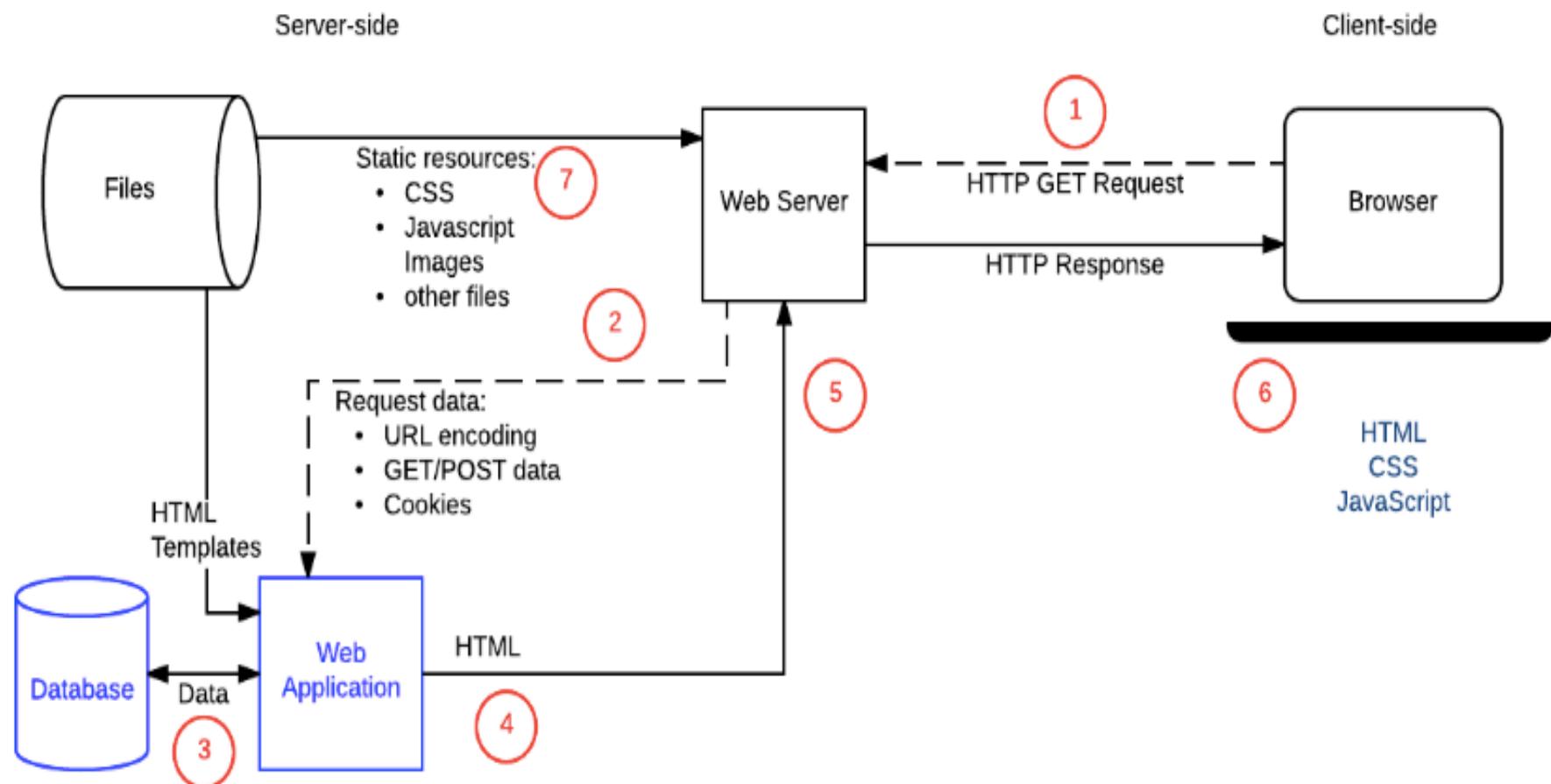
Back-End

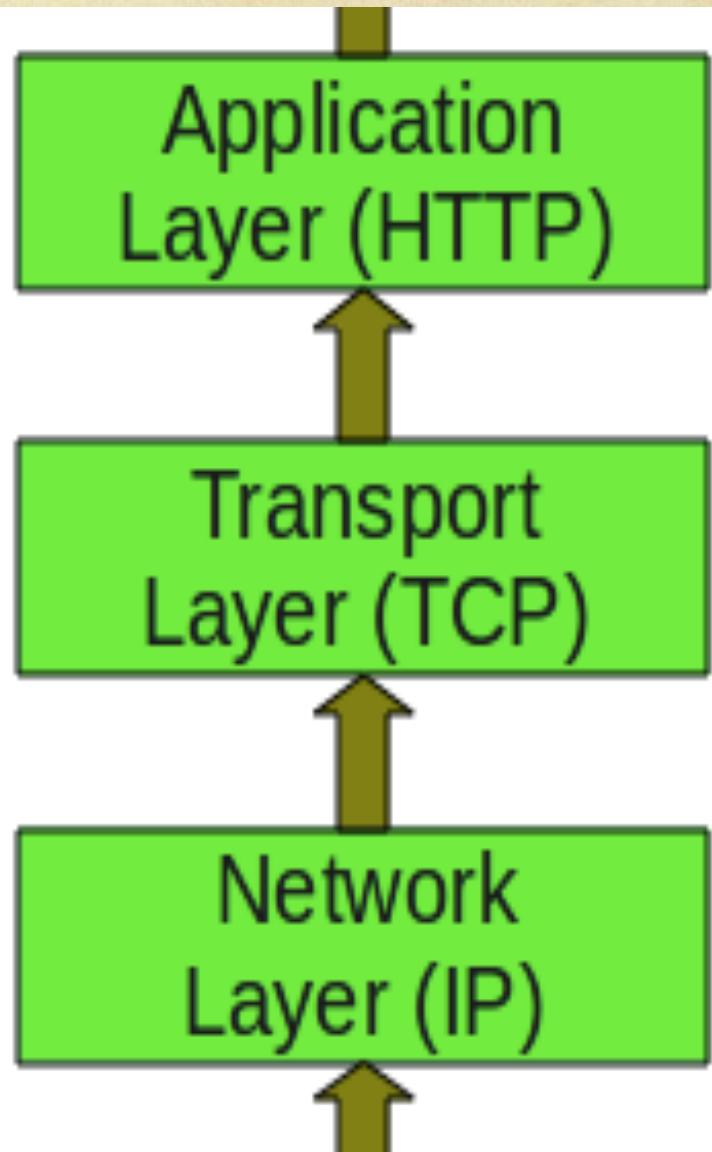
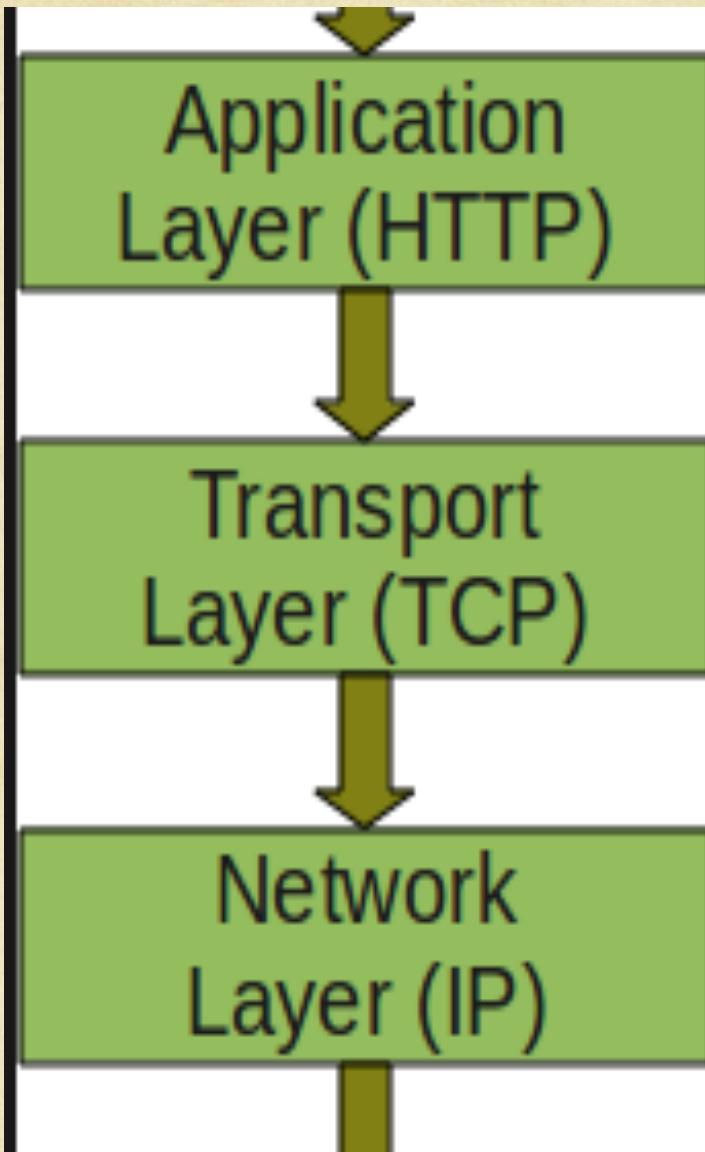


# Front-end

- ▶ Front-end is the part or the interface that helps a user to interact with the machine.
- ▶ For example:- Windows explorer can be defined as the front-end to the computer file system.
- ▶ Similarly the GUI interface on the machines can be defined as the front-end of the machine.
- ▶ Most of the s/w packages have a front-end with which user interacts and operates the s/w.

# Http protocol



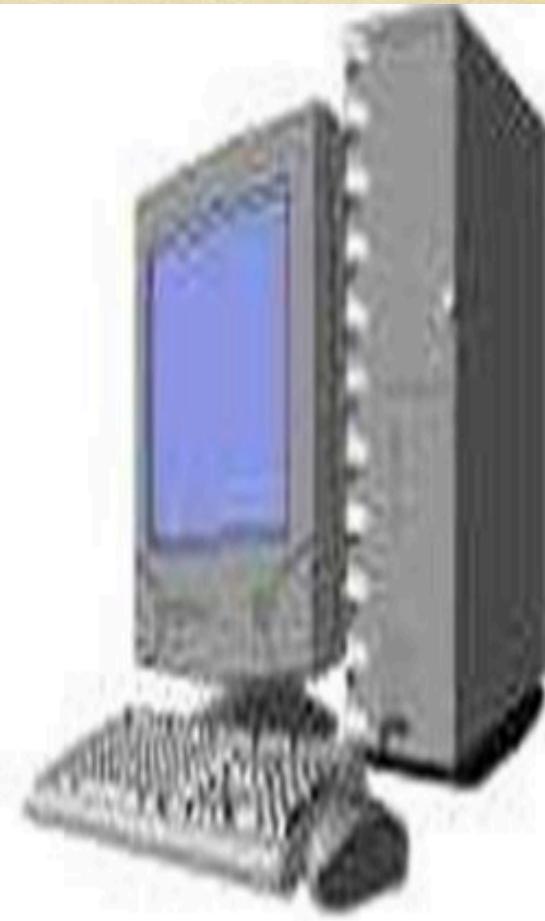




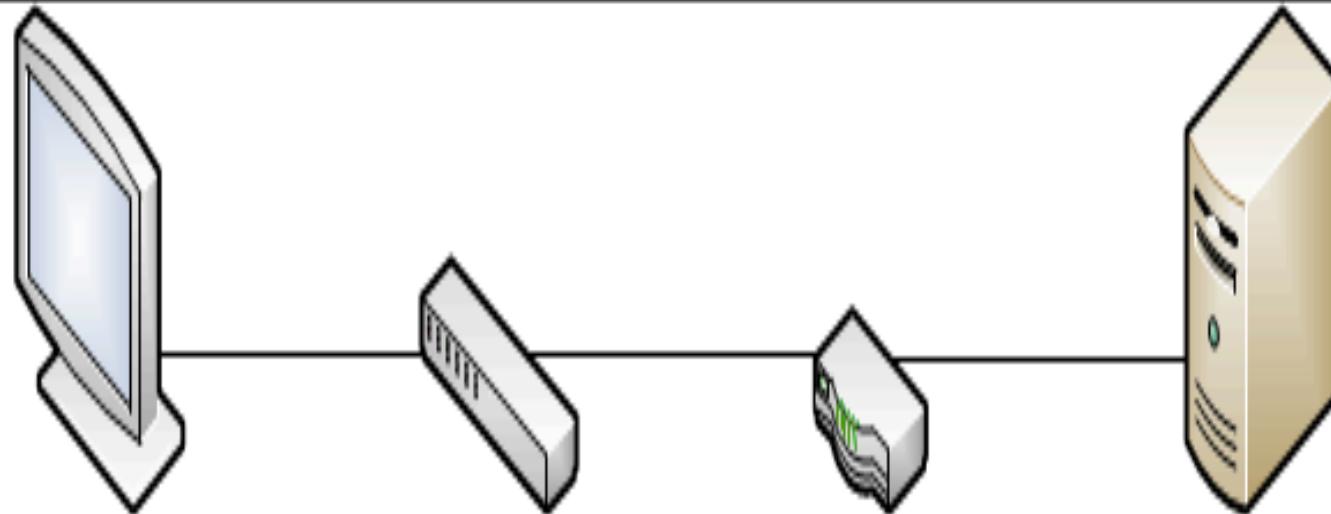
**HTTP Client (Browser)**



**HTTP Reply containing web page contents**



**HTTP Server**



Client

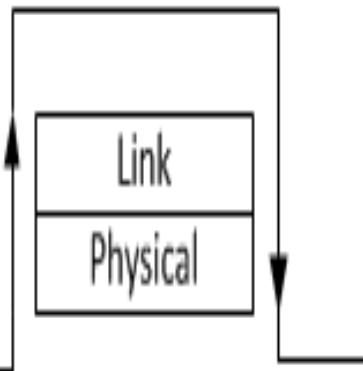
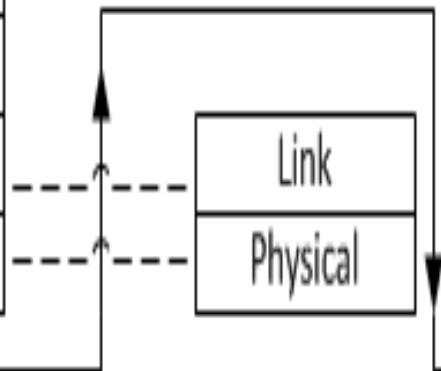
Switch

Router

Server

HTTP, Telnet
TCP, UCP
IP
Ethernet, PPP
Drivers, cards

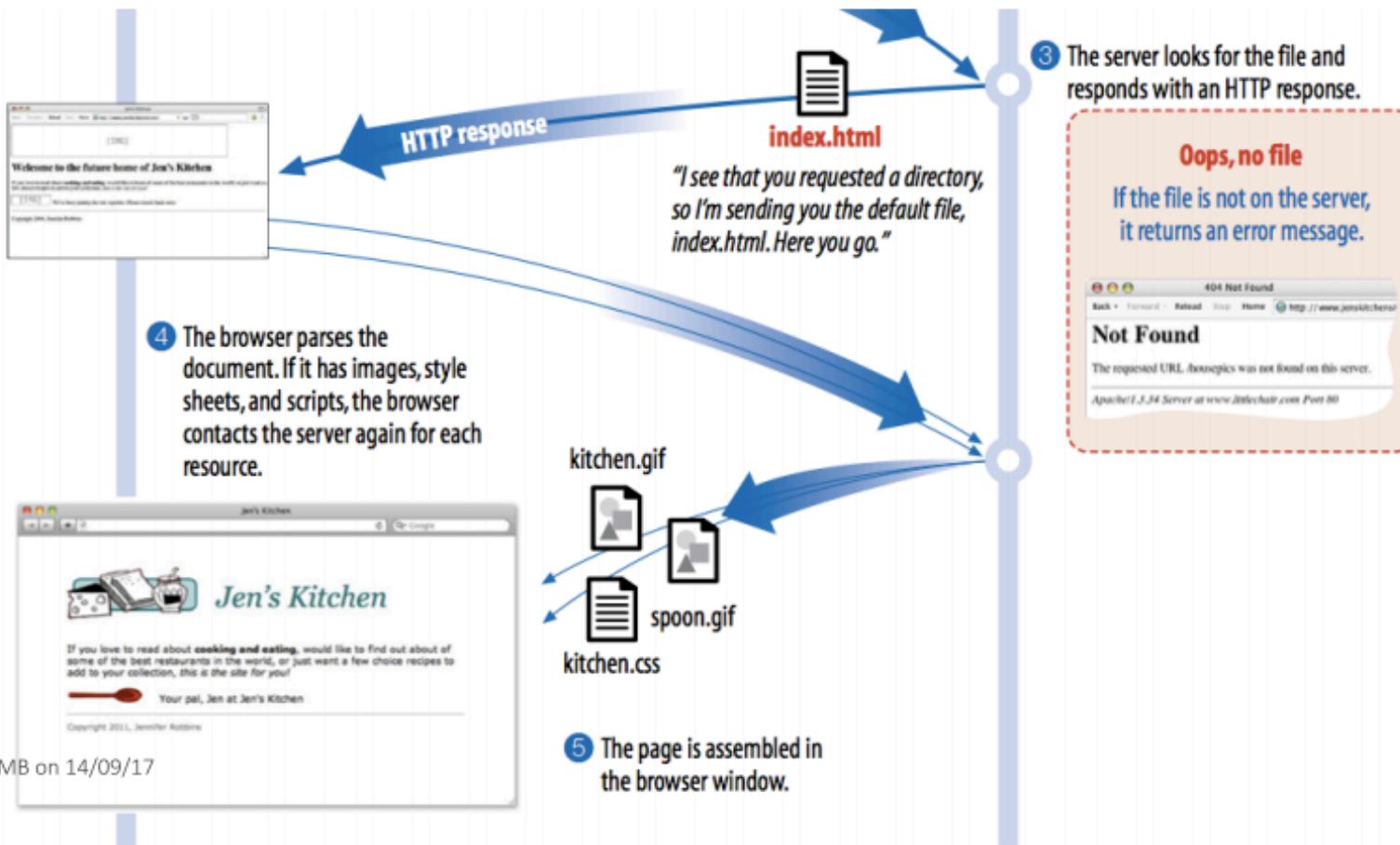
Application
Transport
Network
Link
Physical



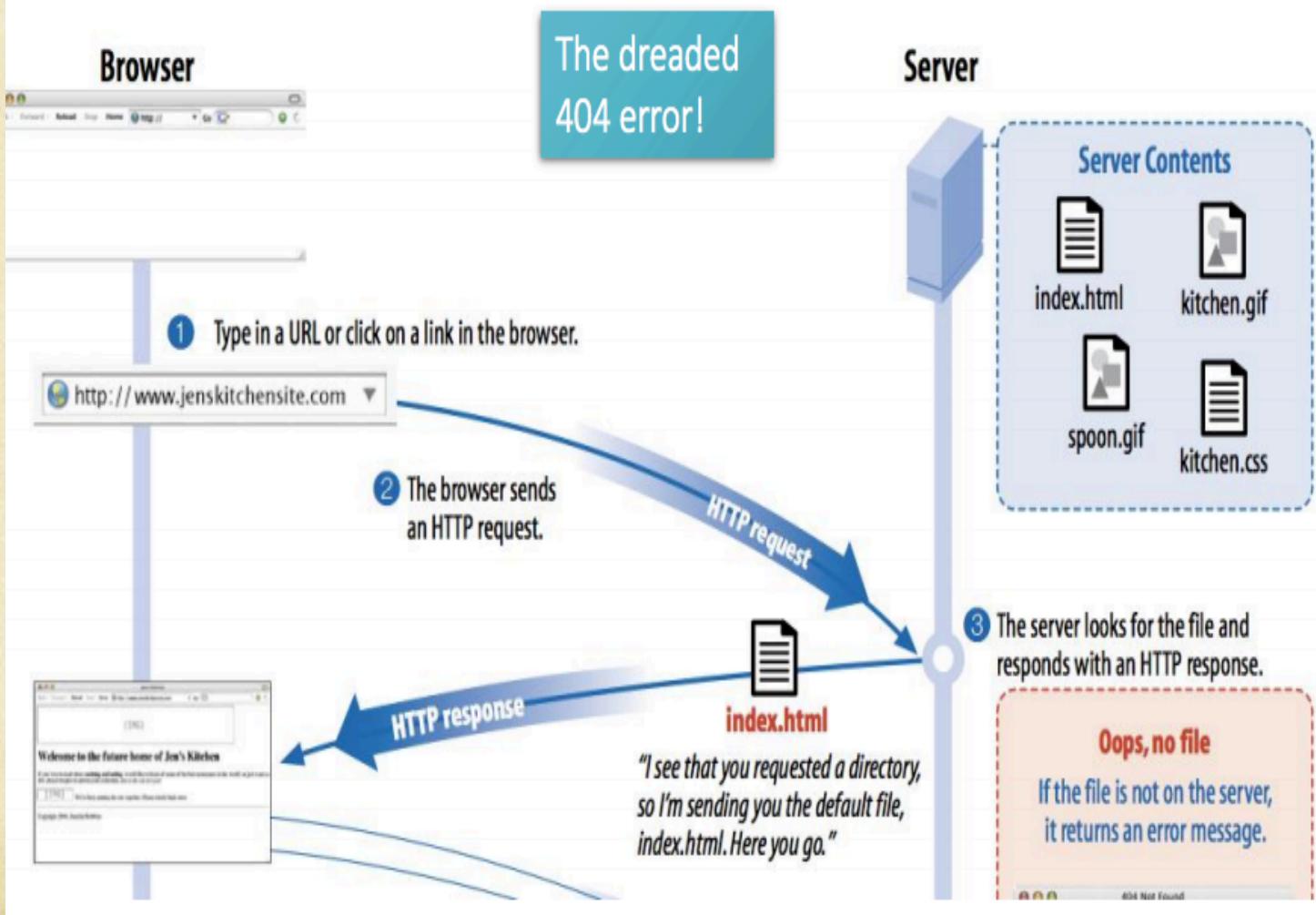
Application
Transport
Network
Link
Physical

Message
Segments
Packets
Frames

# Browser parse HTML, make more REQUESTs to Server – to receive CSS, images, JS, etc.



# receive HTML



Site Is Powered By



# 404: Page Not Found

This page does not exist



## End of Lecture