

**Santiago Canyon College**  
**CIS-132: Introduction to JavaScript**

# **Lesson 1**

# **Introduction to web development**

**(Chapter 1 in Murach's JavaScript & DOM Scripting textbook)**

CIS-132:Introduction to JavaScript. Ron Kessler, Santiago Canyon College  
Adapted from Mike Murach & Associates © 2009

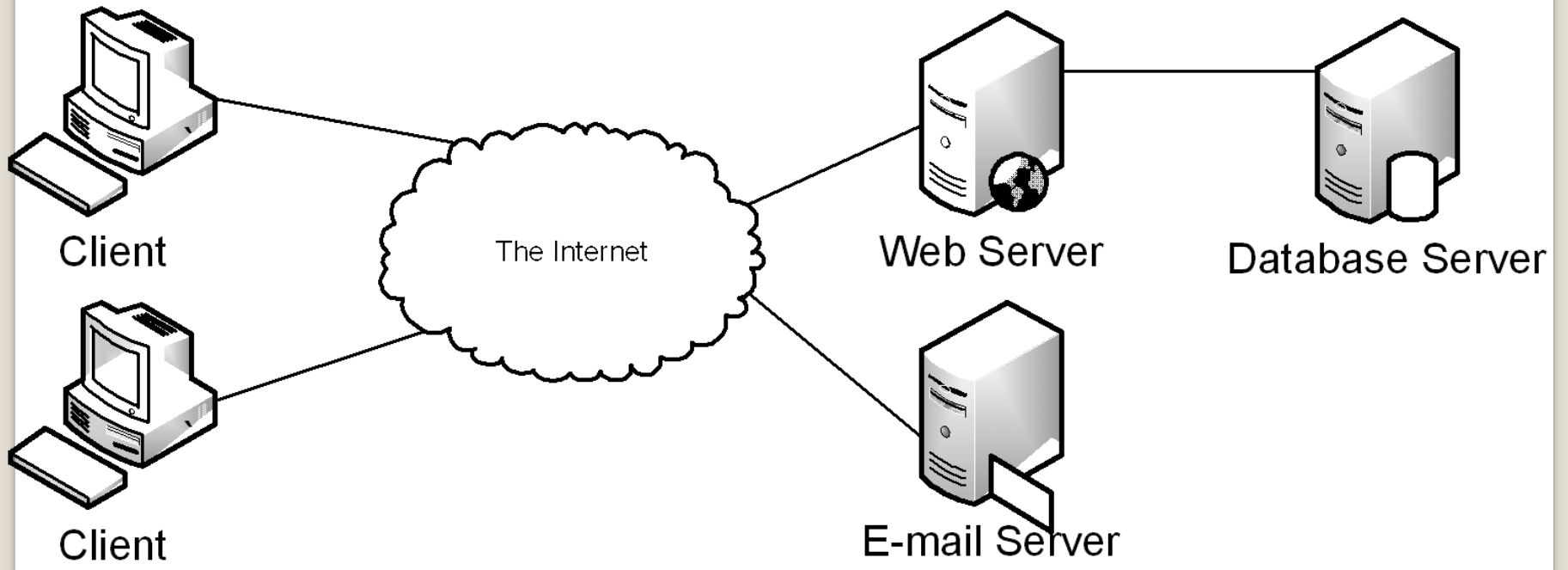
# Objectives

## Applied

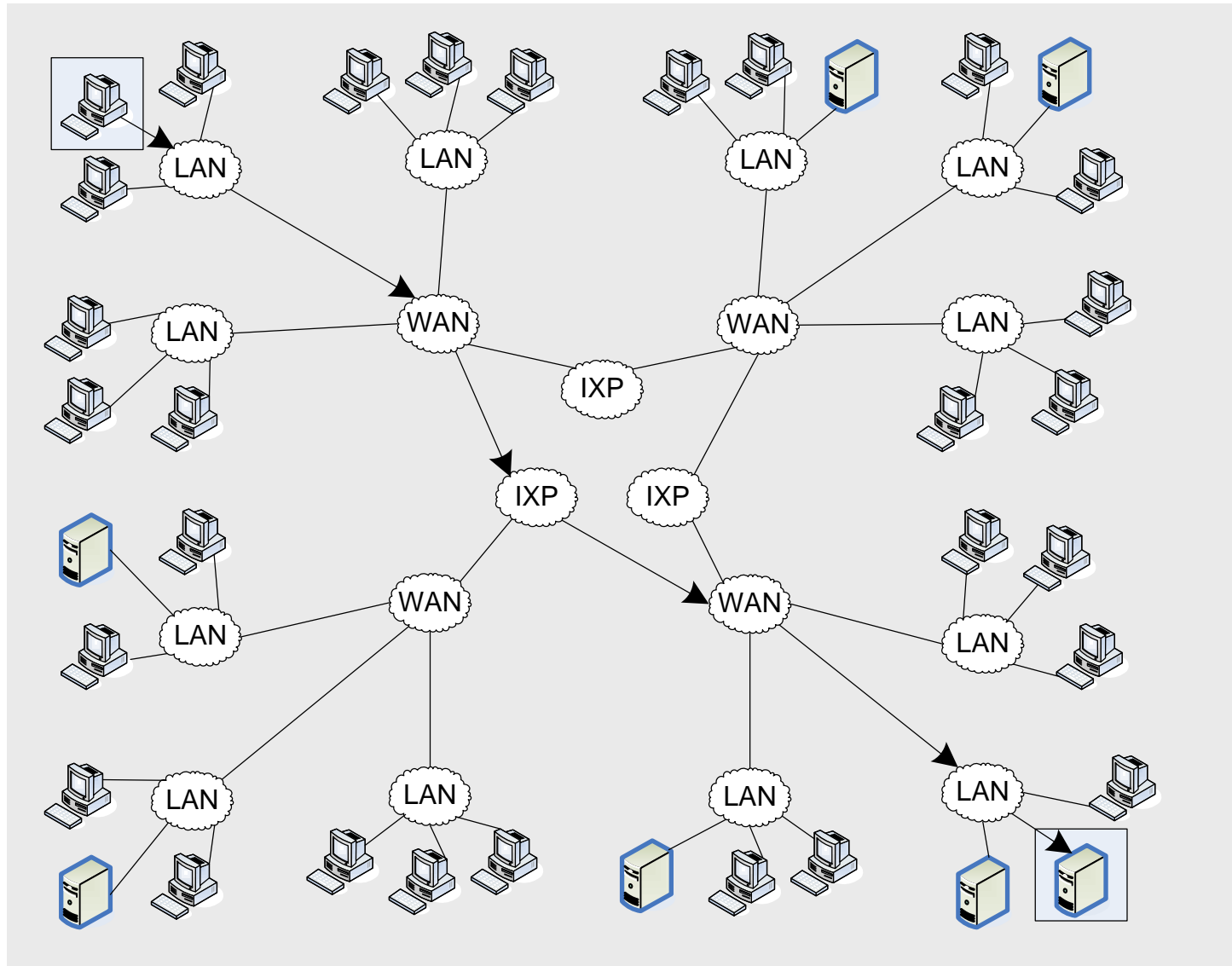
- Load a web page from the Internet or an intranet into a web browser.
- View the source code for a web page in a web browser.

## Knowledge

- Describe the components of a client-server architecture.
- Describe HTTP requests and responses.
- Distinguish between the way a web server processes static web pages and dynamic web pages.
- Name the common web browsers, web servers, and server-side scripting languages.



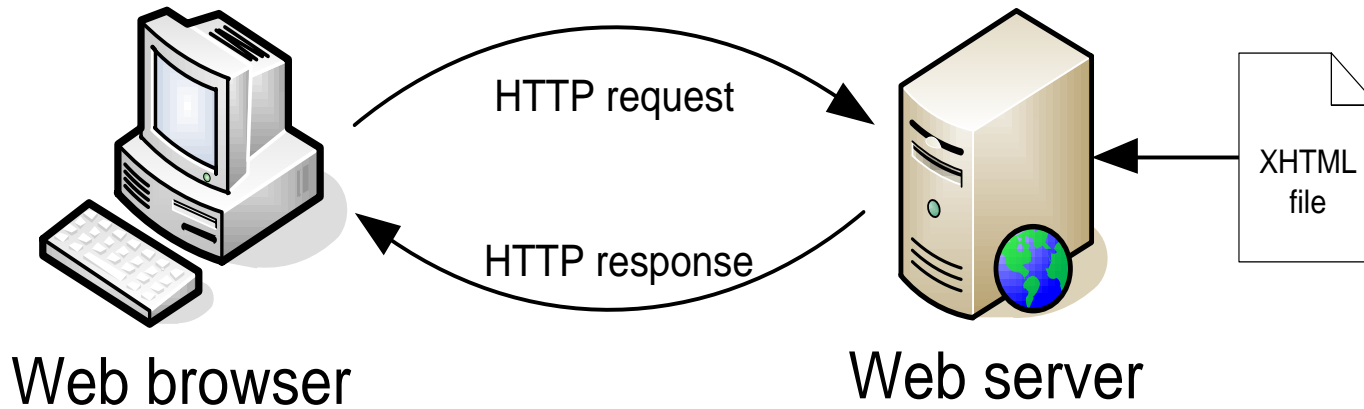
# The architecture of the Internet



## Terms

- server
- network
- local area network (LAN)
- wide area network (WAN)
- Internet
- Internet exchange points (IXP)
- Internet service provider (ISP)

# How a web server processes a static web page



## A simple HTTP request

```
GET / HTTP/1.1  
Host: www.rpkessler.com
```

## A simple HTTP response

```
<html>  
<head>  
  <title>Welcome to CIS-132</title>  
</head>  
<body>  
  <p>This is our home page</p>  
</body>  
</html>
```

## **Two protocols that web applications depend upon**

- Hypertext Transfer Protocol (HTTP)
- Transmission Control Protocol/Internet Protocol (TCP/IP).

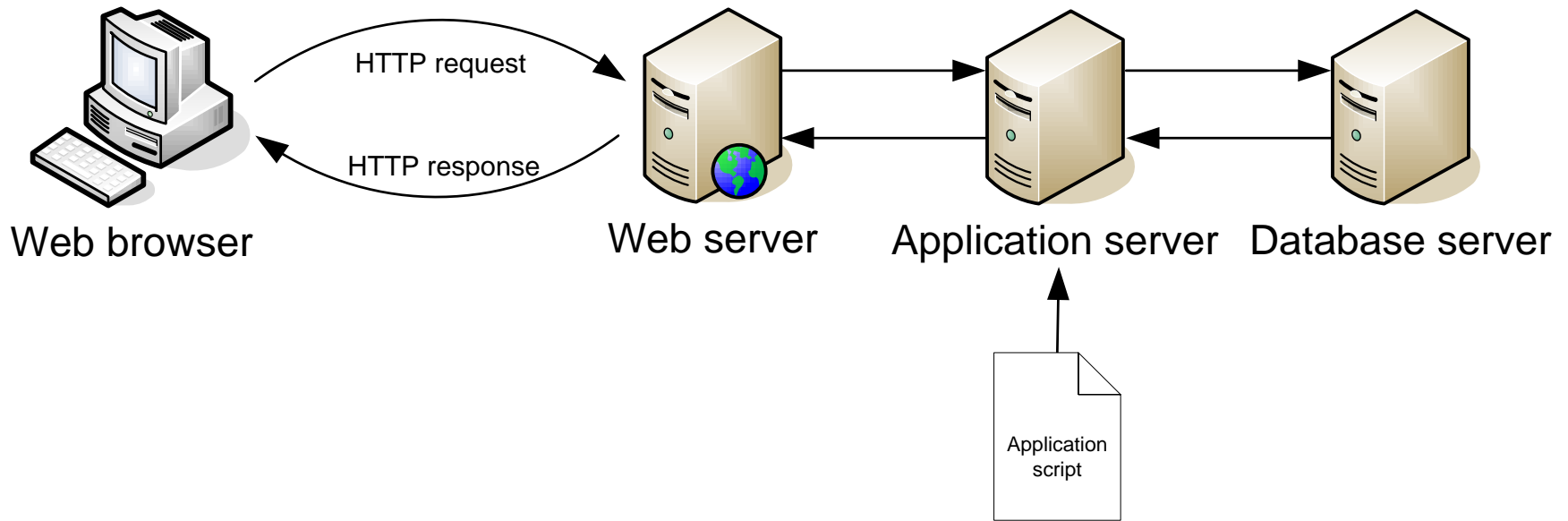
## **Network components that web applications depend upon:**

- IP addressing
- DHCP
- DNS
- Switches, routers, microwave, fiber optics, telephone lines, cellular technology

## Terms you should know

- Hypertext Markup Language (HTML)
- static web page
- HTTP request
- HTTP response
- TCP/IP
- HTTPS
- FTP
- DNS
- DHCP
- IP addressing/subnet mask/gateway

# How a web server processes a dynamic web page



## Terms

- dynamic web page
- application server
- database server
- round trip

## **Web browsers**

- Internet Explorer
- Firefox
- Safari
- Opera
- Chrome

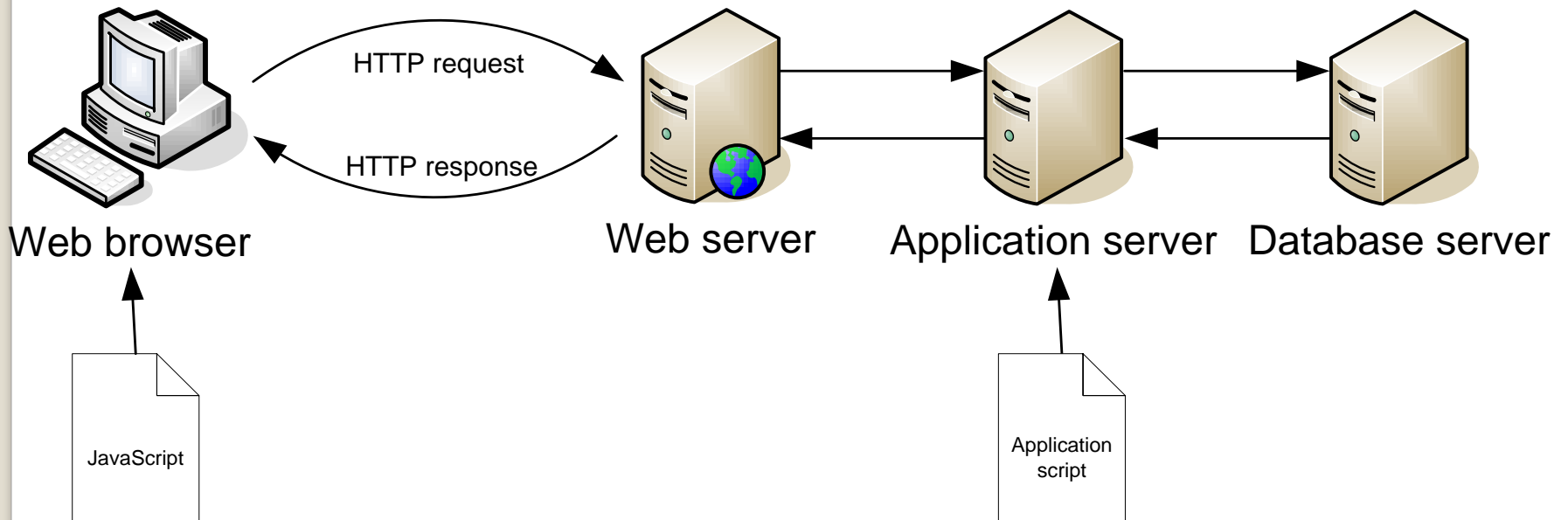
## **Web servers**

- Apache
- IIS

## Server-side scripting languages

- ASP.NET
- JSP
- PHP
- ColdFusion
- Ruby
- Perl
- Python

# How JavaScript fits into this architecture



# Common uses of JavaScript

- Validate form data before it is sent to the server for processing.
- Respond to user actions such as mouse clicks and key presses.
- Create dynamic menus.
- Create slide shows.
- Animate elements in a web page.
- Create timers, clocks, and calendars.
- Change the style sheet that a web page uses.
- Sort the data that's in a table.
- Control the web browser window.
- Detect web browser plug-ins.
- Open new web browser windows.

# The code for a web page

```
<html >
<head>
<title>Mike's Bait and Tackle Shop</title>
</head>
<body>
  <h1>Mike's Bait and Tackle Shop</h1>
  <p>Welcome to Mike's Bait and Tackle Shop.
    We have all the gear you'll need
    to make your next fishing trip a great success!</p>
  <h2>New Products</h2>
  <ul>
    <li>Ultima 3000 Two-handed fly rod</li>
    <li>Phil's Faux Shrimp Fly - Size 6</li>
    <li>Titanium Open Back Fly Reel - Black</li>
  </ul>
  <p>Contact us by phone at 559-555-6624 to place
    your order today.</p>
</body>
</html>
```

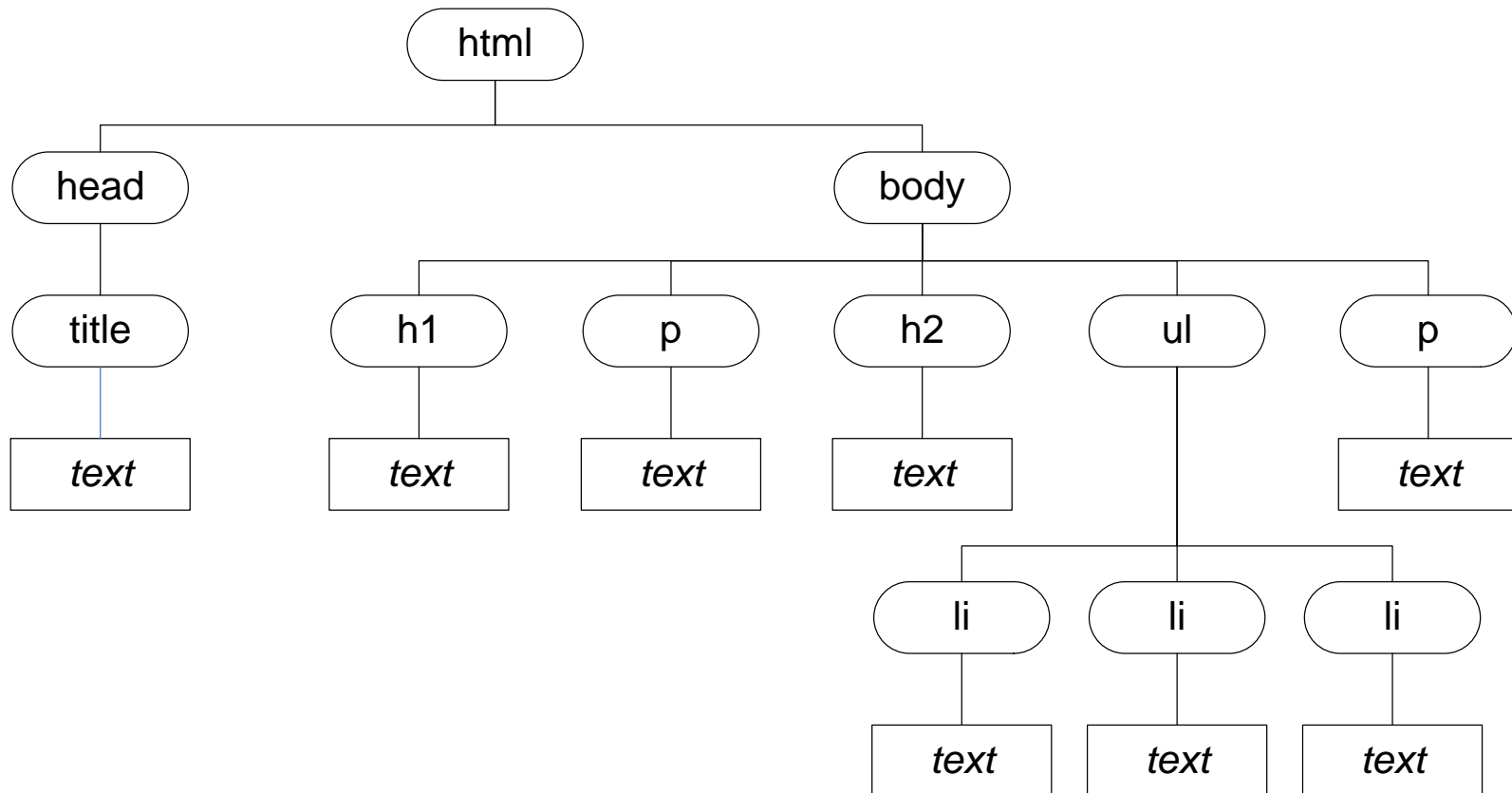
## The web page in a web browser



## Terms

- Extensible hypertext markup language (XHTML)
- XHTML elements
- opening tag
- closing tag
- attribute

# The DOM for the web page



# The components of an HTTP URL

`http://www.murach.com/books/index.htm`

The diagram illustrates the components of the URL `http://www.murach.com/books/index.htm`. A horizontal line with four vertical tick marks at the end of each segment is positioned below the URL. Below each tick mark is a label: 'protocol' under 'http:', 'domain name' under 'www.murach.com', 'path' under '/books/', and 'filename' under 'index.htm'.

protocol                      domain name                      path                      filename