Announcements

- https://fivejs.codeschool.com/

Controling Access to Directory

- We can use .htaccess to control access to a directory
- .htaccess contents:

  AuthUserFile
  /xampp/htdocs/ClassExamples/Lect10Examples/DirectoryAccess/.htpasswd

  AuthGroupFile /dev/null

  AuthName "Name"

  AuthType basic

  <Limit GET POST>

  require user cmsc398n

  </Limit>

- Remember to update AuthUserFile with appropriate path
- You need to create a .htpasswd file in the same folder .htaccess resides. To create this file execute htpasswd as follows:

  \xampp\apache\bin\htpasswd -c
  \xampp\htdocs\Lectures389p\MySQLMiscCode\.htpasswd cmsc398p

ICANN/whois servers

- https://www.icann.org/
  - Global, non-profit, private-section coordinating body
  - Coordinates internet's naming system
- ICANN WHOIS
  - http://whois.icann.org/
- Directory Whois servers
  - http://www.math.utah.edu/whois.html
- http://www.internic.net/
- http://whois.educause.net

Digital Certificates (Certificates)

- **Digital Certificates** → electronic documents that contain information about a public key and the owner (name, address, etc.)
- Employed to verify a public key corresponds to a particular organization
- Certificates must be issue by a trusted third party known as certificate authority (CA) which guarantees the information is correct
- Certificate authorities
  - http://www.symantec.com/
  - http://www.thawte.com/
  - https://www.globalsign.com

Digital Certificates (Certificates)

- **A certificate contains**
  - Subject's public key
  - Validity period
  - Subject's identifier information (e.g., name and e-mail address)
  - Issuer's identifier information
- **About certificates**
  - Have a validity period and can expire
  - They can be revoke
  - Browsers have a collection of root certificates
  - Main standard X.509
- Certificates info in Chrome

  Settings→Show advanced settings…→HTTPS/SSL→Manage certificates…

Need for Security (SSL)

- Regular traffic in the Internet is unencrypted (snooping possible)
  - Something we do not want when interacting with a bank
- **SSL (Secure Sockets Layer)**
  - Protocol that enable us to satisfy the need for security in client-web server transactions
  - Encrypts data stream between client and server
  - Makes use of asymmetric cryptography
  - Relies on digital certificates to validate (authenticate) the server
  - Provides support for confidentiality, integrity and authentication

Need for Security (SSL)

- **https**
  - https encrypts and decrypts page requests/page information between the browser and the server using a Secure Socket Layer (SSL)
  - It is not a separate protocol but a combination of HTTP over encrypted SSL or TLS transport mechanism
  - Uses a different default port number (443)
  - A padlock icon is displayed to represent a secure connection
- **SSL connection is established as follows**:
  - User connects to web server through the browser
  - Browser and server exchange public keys and certificate information
  - Browser checks server certificate validity (certificate not expired, issued by CA, etc.)
  - Optional: server can request a valid certificate from the client
  - Using public keys server and client determine a symmetric key to use
  - Communication from this point on is through symmetric cryptography

Apache Support for SSL

- To configure Apache to support SSL
  - SSL Support is provided by the apache module mod_ssl
  - mod_ssl relies on OpenSSL library (open-source implementation of SSL/TLS)
  - OpenSSL → http://www.openssl.org
- To enable a Web server to accept HTTPS connections
  - A digital certificate must be created
  - The certificate must be signed by a certificate authority
- Self-signed SSL Certificate
  - Help us test a system
  - For internal usage
  - Some references
    - http://robsnotebook.com/xampp-ssl-encrypt-passwords
    - https://wiki.bitnami.com/Components/Apache#How_to_create_a_SSL_certificate.3f
- Try accessing https://localhost
  - Notice the s
  - The first time you open https://localhost it will warn you about the certificate
  - Compare https://localhost with http://localhost

jQuery

- JavaScript Framework
- Simplifies use of JavaScript
- Provides
  - HTML/DOM Manipulation
  - Animations and effects
  - AJAX support
  - CSS Manipulation
  - Extensibility through plug-ins
- Fast, and small
- API that works across browsers
  - Handles cross-browser issues
- Main site
  - http://jquery.com/

jQuery

- Two approaches to access Jquery
  - Download the library from JQuery.com
    - http://jquery.com/download/
  - Include the library from a CDN (Content Delivery Network)
    - Provide performance benefits (e.g., JQuery could already be cached)
  - There is a jQuery Migrate plugin that simplifies transition from older versions of Jquery. It restores deprecated features
- Compressed and uncompressed copies of jQuery are available
  - Uncompressed → for development and debugging
  - Compressed → for performance
- JQuery's CDN
  - <script src="//code.jquery.com/jquery-1.11.3.min.js"></script>
- Google's CDN
  - https://developers.google.com/speed/libraries/#jquery
- **Example:** jQueryTemplate.html

jQuery Model

- JQuery model
  - Select elements and apply some operation over that set of elements
- Syntax
  - $(selector).operation()
    - $ → accessing jQuery
    - Selector → what to find/query
    - Operation to perform on the set found
- Example:
  - $("p").hide() → hide paragraphs

jQuery Document Ready Event

- We need to wait until the document has finished loading before running jQuery code
- If you don't wait operations like hiding an element that has not been created yet can fail
- To wait for the document to load use the document ready event

```
$(document).ready(function() {
    /* Your jQuery code here */
} );
```

or the shortcut

```
$(function() {
   /* Your jQuery code here */
} );
```

- To wait for the document to load use the document ready event
- **Example:** jQueryTemplate*.html

jQuery Selectors

- Selectors → Defined by using $()
- Selectors → Used to select elements based on different criteria (e.g., classes, id, attributes, etc.)
- **Types**
  - ***Element selector*** → Finds elements based on element name
    - Example: $("table") → select all tables
  - **Id selector** → Finds element with specified id tag
    - Example: $("#logo") → HTML element with id = logo
  - **Class selector** → Finds elements with specified class
    - Example: $(“.myStyle") → class = myStyle
  - **Current element selector**
    - Example: $(this) → selects current HTML element

jQuery Event Methods

- Most DOM events (e.g., click, dbclick, mouseenter, mouseleave, focus, change, blur, keypress, keydown, keyup, submit) has a corresponding jQuery method
- For example, keypress() takes a function as parameter that will be executed when the user clicks on the selected element
  - $("body").keypress(function() { alert("Key pressed"); });
- Frequently used jQuery Event Methods
  - $(document).ready()
  - click()
  - dbclick()
  - hover()
- **Example:** EventMethods.html
- List of event methods
  - http://api.jquery.com/category/events/

jQuery Effects

- JQuery provides effects you can associated with events
- hide() → hides element
  - Example: $("p").hide() → hides all paragraphs
- show() → displays element
- toggle() → toggle between hide() and show()
- **Example:** Effects.html
- You can control the speed and what could take place after the hide/show effect by providing two parameters:
  - $(selector).hide(speed, callback_function)
    - speed → “slow“, “fast” or time in milliseconds (1000)
    - callback_function → called after effects takes place
- **Example:** EffectsSpeed.html
- Effect methods fadeIn, fadeout, fadeToggle, slideDown, slideUp, slideToggle also rely on a speed and callback function parameter

CSS Methods

- css → This method allow us to set or retrieve properties of elements
- addClass → add a class
- removeClass
- toggleClass
- **Example:** cssMethod.html
- **Example:** jQueryMisc.html

jQuery Chaining

- Allows you to run commands one after another on the same element

("#p1").css("color", "blue").slideDown(2000);

References

- http://www.w3schools.com/jquery
- http://jquery.com/

Resources

- Free e-book
  - http://www.syncfusion.com/resources/techportal/ebooks/jquery?utm_medium=BizDev-jQuery.org0513