

## Exam 2 Review

### Chapter 6. JavaScript: Client-Side Scripting, pp. 230-282

- **Intro to JavaScript and Client-Side Scripting**
  - JavaScript
  - JavaScript vs. Java applets vs. Browser plug-in vs VBScript
  - ECMAScript standard
- **HTTP request vs. AJAX (Asynchronous JavaScript and XML) asynchronous data requests**
- **JavaScript and XML HttpRequest Object**
- **JavaScript Design Principles:**
  - **Software Layers:**
    - Presentation layer
    - Business logic layer
    - Data layer
  - **JavaScript Software Layers**
    - Presentation Layer (HTML, CSS)
    - Validation Layer (JavaScript)
    - Asynchronous Layer (JavaScript)
    - Framework (JavaScript, jQuery, etc)
- **Users without JavaScript**
  - Web crawler
  - Browser plug-in
  - Text-based client
  - Visually disabled client
- **<NoScript> tag**
- **Where Does JavaScript Go?**
  - Inline JavaScript, Examples
  - Embedded JavaScript, Examples
  - External JavaScript, Examples
  - Advanced Inclusion of JavaScript
- **JavaScript Language Syntax**
  - Variables
    - Dynamically typed
  - Keywords
  - Operators
    - Assignment
    - Conditional
    - Logical
    - Loops
  - Functions
  - Arrays
  - JavaScript Objects
    - Properties, Methods, Constructors: new
    - JavaScript Objects
      - Array object

- Date object
  - Math object
  - String object
  - Window object
  - document (DOM - Document Object Model) object
  - Element Node object
- JavaScript Events
  - Events and Event Types
    - Mouse Events
    - Keyboard Events
    - Form Events
    - Frame Events
  - Event Listeners Event Handlers
  - Event objects
- Forms
  - Validating Forms: Empty Field Validation, Number Validation

## **Chapter 8. Web Server and Application Servers**

- Types of Servers
- Enterprise Data Integration
- Enterprise Application Integration
- CGI
- HTTP RFC
- Apache Web Server Configuration
  - Client and Server Error Codes
- PHP Date() function reset

## **Chapter 7. Web Media**

### **7.5 Audio and Video**

- Video container formats (file formats)
- Audio format and Support

## **Chapter 8. Intro to Server-Side Development with PHP**

- Intro to Server-Side Development
- Server-Side Script Resources
  - Data storage
  - DBMS (database management system)
  - Web service
- Comparison Server-Side Technologies
  - ASP
  - ASP.NET
  - JSP
  - Node.js
  - Perl
  - PHP

- Python
  - Ruby on Rails
- **A Web Server's Responsibility**
  - Apache and Linux:
    - Daemon, Process
    - Apache Module, Handlers
  - Apache and PHP
    - PHP as an Apache module or as a CGI library
    - mod\_php5 module – SAPI (Server Application Programming Interface)
    - Apache running modes
      - Multi-process (preforked)
      - Mult-thread (worker)
  - Windows/IIS
  - PHP Internals
    - PHP core
    - Extension layers
    - Zend Engine (VM)
- **Installing Apache, PHP, and MySQL for Local Development**
  - http.conf
  - localhost == 127.0.0.1
- **Quick Tour of PHP**
  - PHP tags
  - PHP comments
  - Variables, Data types, and Constants
  - Writing to Output
    - echo()
    - printf()
  - Program Control
    - if ... else
    - switch ... case
    - while and do ... while
    - for
  - Include Files
    - Server-side include (SSI)
    - Include
    - Include\_once
- **Functions**
  - Function Syntax
  - Calling a Function
  - Parameters: default values, by reference
  - Variable scopes: function scope, global scope, super global

## Chapter 9. PHP Arrays and Superglobals

- Arrays
- Introduction

- Data structure: vector, hash table, dictionary, list collections
  - Arrays: keys and values
- Defining and Accessing Arrays
- Multidimensional Arrays
- Iterating through and Array
- Adding and Deleting Elements
- Array Sorting
- More Array Operations
- Superglobal Arrays
  - \$GLOBALS
  - \$\_COOKIE
  - \$\_ENV
  - \$\_FILES
  - \$\_GET
  - \$\_POST
  - \$\_REQUEST
  - \$\_SESSION
  - \$\_SERVER
- Accessing Form array data
- Using Query Strings in Hyperlinks
- Sanitizing Query Strings
- \$\_SERVER array
  - Server Information Keys
  - Request Header Information keys
- \$\_File array
  - HTML Required for File Uploads
  - Handling the File Upload in PHP
  - Checking for Errors
  - File Size Restrictions
  - Limiting the Type of File Upload
  - Moving the File
- Reading/Writing Files
  - Stream Access
  - In-Memory File Access

## Chapter 10. PHP Classes and Objects

- Object-Oriented Overview
- Terminology
  - Classes and Objects
  - Properties (data members), Methods (behavior functions)
  - Instances
- The UML (Unified Modeling Language)
- Difference between Server and Desktop Objects
  - PHP objects, memory storage for running, Life time
- Classes and Objects in PHP

- **Defining Classes**
  - **Keywords**
  - **Visibility/Accessibility:** public, private, protected
- **Instantiating Objects**
- **Properties**
- **Methods**
- **Constructors**
- **Static Members**
- **Class Constants**