

Soft-Train



*At Soft-Train
Technology Works*

CGI Scripting (3 Days) ST80006

COURSE GOAL: The student will have a better understanding of CGI Scripting.

PREREQUISITES: Working knowledge of Scripting and Java Scripting

LEARNING OBJECTIVES:

Upon completion of this course the student will be able to:

- Understand and Utilize Perl Programming Techniques
- Understand and Utilize CGI Programming Techniques
- Process Forms and Utilize Perl Control Structures
- Read and Write Data Fields
- Utilize Search and Sort Functions
- Manipulate Perl Modules
- Manipulate Date and Time Functions
- Understand Database Programming
- Understand and Manipulate Internet Cookies
- Understand Security Issues
- Utilize Password Protection Features

KEY TOPICS:

I. Getting Started

- a. History
- b. Introduction to CGI
- c. Alternative Technologies
- d. Web Server Configuration

II. The Hypertext Transport Protocol

- a. URLs
- b. HTTP
- c. Browser Requests
- d. Server Responses
- e. Proxies
- f. Content Negotiation
- g. Summary

III. The Common Gateway Interface

- a. The CGI Environment
- b. Environment Variables
- c. CGI Output
- d. Examples

IV. Forms and CGI

- a. Sending Data to the Server
- b. Form Tags
- c. Decoding Form Input

V. CGI.pm

- a. Overview
- b. Handling Input with CGI.pm
- c. Generating Output with CGI.pm
- d. Alternatives for Generating Output
- e. Handling Errors

- VI. HTML Templates**
 - a. Reasons for Using Templates
 - b. Server Side Includes
 - c. HTML::Template
 - d. Embperl
 - e. Mason
- VII. JavaScript**
 - a. Background
 - b. Forms
 - c. Data Exchange
 - d. Bookmarklets
- VIII. Security**
 - a. The Importance of Web Security
 - b. Handling User Input
 - c. Encryption
 - d. Perl's Taint Mode
 - e. Data Storage
 - f. Summary
- IX. Sending Email**
 - a. Security
 - b. Email Addresses
 - c. Structure of Internet Email
 - d. sendmail
 - e. mailx and mail
 - f. Perl Mailers
 - g. Procmail
- X. Data Persistence**
 - a. Text Files
 - b. DBM Files
 - c. Introduction to SQL
 - d. DBI
- XI. Maintaining State**
 - a. Query Strings and Extra Path Information
 - b. Hidden Fields
 - c. Client-Side Cookies
- XII. Searching the Web Server**
 - a. Searching One by One
 - b. Searching One by One, Take Two
 - c. Inverted Index Search
- XIII. Creating Graphics on the Fly**
 - a. File Formats
 - b. Outputting Image Data
 - c. Generating PNGs with GD
 - d. Additional GD Modules
 - e. PerlMagick
- XIV. Middleware and XML**
 - a. Communicating with Other Servers
 - b. An Introduction to XML
 - c. Document Type Definition
 - d. Writing an XML Parser
 - e. CGI Gateway to XML Middleware
- XV. Debugging CGI Applications**
 - a. Common Errors
 - b. Perl Coding Techniques
 - c. Debugging Tools
 - d. Architectural Guidelines
 - e. Coding Guidelines
- XVI. Efficiency and Optimization**
 - a. Basic Perl Tips
 - b. Top Ten
 - c. FastCGI
 - d. mod_perl