

Advanced Perl Programming

Course Summary

Description

This course teaches students many advanced features of Perl using a single progressive project as the focus.

Topics

- Using Shortcuts
- Data wrangling
- Reference refresher
- The Perl Library
- Creating Modules
- Object-oriented Modules
- Exceptions
- Database Access
- Graphics Programming w/ Tk
- Network Programming
- CGI Programming

Audience

This course is designed for application developers, DBAs, advanced users, system administrators and Web site administrators, as well as others who want to automate or simplify common tasks.

Prerequisites

Students should have user-level knowledge of an operating system such as UNIX. Students should have a solid grasp of basic Perl programming. Of course, a good prerequisite is our Programming Perl class.

Duration

Three – five days

Advanced Perl Programming Course Outline

- I. Using Shortcuts**
 - A. The ubiquitous \$_
 - B. How to use <>
 - C. Pattern matching in brief
 - D. File tests on _
 - E. Command-line shortcuts
- II. Data wrangling**
 - A. Reading text files
 - B. Creative use of <> and \$/
 - C. Matching and substituting
 - D. RE review
 - E. Using backreferences
 - F. Parsing lines
 - G. Using here documents and __END__
 - H. Converting data with pack/unpack
- III. Reference refresher**
 - A. Creating references
 - B. Anonymous arrays and hashes
 - C. Dereferencing
 - D. References and subroutines
 - E. References and arrays
 - F. Complex data structures
- IV. The Perl Library**
 - A. A quick tour
 - B. Use vs. require
 - C. Library files
 - D. Perl modules
 - E. Bundled libraries and modules
 - F. Case study: Using Getopt::Long
- V. Creating Modules**
 - A. Review of subroutines
 - B. Understanding my () and local ()
 - C. Packages and the symbol table
 - D. Mechanics of module creation
 - E. Exporting subroutines and data
 - F. Using BEGIN and END
 - G. Good module design
- VI. Object-oriented Modules**
 - A. What's OOP and why?
 - B. Perl's approach to OOP
 - C. Indirect subroutine call syntax
 - D. OOP Terminology and Perl
 - E. Understanding bless
 - F. Constructors
 - G. Data structures
 - H. Object methods
 - I. Using objects
- VII. Exceptions**
 - A. Simple exception handling
 - B. About eval
 - C. Run-time eval
 - D. Compile-time eval
 - E. Raising error messages
- VIII. Database Access**
 - A. Understanding the DBI
 - B. Connecting to a database
 - C. Executing queries and fetching results
 - D. Obtaining metadata
 - E. Advanced DBI issues
- IX. Graphics Programming w/ Tk**
 - A. Tk overview
 - B. Widget tour
 - C. Geometry management
 - D. Understanding callbacks
 - E. Binding keystrokes to subroutines
- X. Network Programming**
 - A. About clients and servers
 - B. Ports and IP addresses
 - C. The IO::Socket module
 - D. A simple client
 - E. Accessing standard services
 - F. A simple server
 - G. Serializing data structures with freeze/thaw
- XI. CGI Programming**
 - A. Using CGI.pm
 - B. Calling CGI Scripts
 - C. Reading CGI Data
 - D. Understanding HTTP
 - E. Generating HTML
 - F. HTML from Templates