Advanced Programming in Perl Technologies (4 Day)

COURSE DESCRIPTION

This course teaches advanced concepts and capabilities that can be used to write procedures in Perl (V5), especially the new interfaces that use object-oriented features.

COURSE PREREQUISITES

Completion of the Programming in Perl Technologies course is assumed, or a knowledge of the Perl programming language.

COURSE OBJECTIVES

Each student will be able to use Perl techniques and commands to write scripts to perform various user and administrative tasks, implementing advanced features of the language.

COURSE TOPICS

Using Perl References
    Purpose of references
    Querying a reference
    Symbolic references
    References to functions
        named functions
        anonymous functions
        callbacks
    Multi-dimensional arrays
    Complex data structures

Using Perl Typeglobs
    Perl variables, symbol tables, and scope
    Typeglobs compared with references

Perl Modules and Packages
    Basic packages
    Packages and component files
    Initialization and destruction
    Accessing the symbol table
    Preparing a package for distribution with h2xs

COURSE TOPICS

Object Oriented Perl Programming
Objects in Perl
Inheritance
Argument passing mechanisms
Methods of Data Persistance
    FreezeThaw.pm
    Storable.pm
    MLDBM.pm

Perl Scripts for Networking with Sockets
Server-side functions and setup
Client-side functions and setup

Miscellaneous Topics
Installing Perl modules from the CPAN
Adding documentation to a module/program

Launching Tk Applications
Building the Tk extensions within Perl
Writing and executing Tk-Perl scripts

Interfacing Tk Applications with Perl
Tk-extension widget templates
Using Tk-extension widgets within Perl
    Buttons - push,radio,check,menu
Dialogs - dialogbox,text,message
Scrolls - scrollbar,listbox,file browser
Help - balloon and status messages
Undocumented and composite widgets

Overview of Data and Databases
Usage on various types of systems
Historical interfaces
Role of Perl in data acquisition and access

Relational Databases
Methodology
Quick overview of SQL (statements)
Datatypes
Querying data
Creating and destroying tables
Modifying data in tables

COURSE TOPICS

The Perl Database Interface Extensions
Obtaining necessary files
Extending Perl with DBI
DBI architecture (within Perl)

Programming the Perl DBI
Handles
Data Source Identifiers
Database connection / disconnection
Error handling
Miscellaneous utility methods
Simple queries
Non-SELECT statements
The do( ) and prepare( ) methods
Attributes and metadata
Transaction locking

CGI Capabilities in Perl Scripts
Interactions between a WebServer and Perl scripts
Variables
user-defined
Perl built-ins
defined by the Web server
Pre-built Perl library parsing functions
Using CGI.pm