Advanced Perl Programming

Batky-Howell's Advanced Perl Programming course offers many benefits for organizations that do a significant amount of Perl programming. Several chapters teach advanced productivity features of the Perl language itself, including debugging techniques, sophisticated list usage, code references, tied variables, and effective package use. The course puts programmers on very solid ground for doing object-oriented programming in Perl, going into many details beyond our introductory course.

Programmer productivity increases tremendously by reusing modules written by others, so our course teaches how to find, install, and use libraries of routines from the thousands of freely available Perl modules on the Web. We teach how to use SQL to access relational databases (such as Oracle) with the DBI/DBD Perl modules - most production Perl programs need to do this, especially web-based back-end server programs. We show how to build graphical interfaces in Perl using the Perl/Tk module. The course teaches several other productivity features as well, including extending Perl with C/C++, embedding the Perl interpreter in another language, documentation with POD directives, module development and distribution, and advanced Perl design and implementation considerations.

Course Objectives:

- Expertly manipulate lists, arrays, and hashes.
- Exploit code references and closures.
- Use eval to run dynamically generated Perl code, and to trap exceptions.
- Create and use object-oriented Perl modules.
- Tie Perl variables to subroutines to customize access and assignment.
- Access UNIX DBM files efficiently from Perl.
- Find and effectively use freely available Perl modules.
- Access database management systems from Perl programs using DBI.
- Write GUI application components quickly using Perl/Tk.
- Extend Perl with modules that load C/C++ object code.
- Interface Perl with, and embed Perl in, C/C++ applications.
- Describe the internal representation of Perl's various datatypes and data structures.
- Write reusable Perl modules.
- Avoid coding practices that hurt performance and maintenance.

Audience: Application programmers, system administrators, web-site authors, webmasters, and UNIX/Linux power users.

Prerequisites: *Perl Programming for UNIX* and Perl application development experience. Full comprehension of the extending and embedding material will require some C or C++ programming experience.

Number of Days: 4 days

1. Course Introduction
- Course Objectives
- Overview
- Suggested References

2. Debugging
- Warnings
- Diagnostic Messages