

Course Outline



Tel: +44 (0) 118 979 4000 Fax: +44 (0) 118 979 4000

Email: training@ptr.co.uk Web: www.ptr.co.uk

Perl Applications

Course Description:

Perl is a mature, extremely flexible, general-purpose programming language, which is especially well-suited to textual manipulation. Such Perl capabilities have been applied by a wide range of professionals in both systems support and programming fields for various applications. These include: manipulating text and data, database access, CGI programming, HTML generation, and parsing and generating XML files. Extensions to Perl provide GUI facilities and connections to a large variety of proprietary DBMSs; the course examines the GUI Perl/Tk package and illustrates the use of a variety of DBMSs and pseudo-DBMSs.

This nominally 2-day course provides a comprehensive examination of some of the applications for which Perl is commonly employed. In many cases these applications are combined (eg database access via CGI and DBI) and the practical sessions emphasise this.

The course also optionally provides a brief overview of other selected applications. Optionally additional sessions can be scheduled to provide the essential skills in non-Perl techniques that these applications may require, such as HTML and SQL coding.

Pre-requisites:

Experienced developers who have a firm foundation in the Perl language and need to apply their skills to the development of particular applications; systems analysts and designers targeting applications to be delivered via Perl.

For one organisation carefully-selected topics from Perl Introduction/Intermediate and Perl Advanced can be combined with appropriate application topics to provide a course to support the skillsets required for particular projects. Also for one organisation, for those without prior knowledge of the non-Perl techniques, relevant primer sessions can be included.

Students should have a solid understanding of basic and intermediate Perl concepts and constructs, including handling arrays and hashes, reading and writing line-orientated text files, and simple regular expressions.

Course Content:

- **OO programming survival guide**
- Perl object orientation high level overview
- bless function

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- **Database processing**
 - RDBMS connectivity from Perl
 - 'Standard' DBI/DBD approach
 - Other possibilities
- **ODBC**
 - ODBC 2
 - ODBC data sources
 - Non-RDBMS data sources
 - Database access via DBD::ODBC
 - Database access via Win32::ODBC
- **Database interaction via DBI module**
 - Database modules: DBI and DBD::...
 - Installing DBD modules
 - Connecting to databases via DBI/DBD
 - Simulating RDBMSs via DBI
 - DBI->connect method; connection descriptors
 - prepare and execute
 - Fetching and retrieving data...fetchrow_array
 - Standard error handling
- **Further DBI module features**
 - DBI metadata
 - Other fetch... methods
 - select... methods
 - DBI with CGI
 - Updating data
 - INSERT, UPDATE, DELETE
 - Transactions
 - Customised error handling

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- **Introducing XML with Perl**
 - XML parsing
 - Standard and CPAN modules
 - XML::Simple
 - Token parsers, eg XML::TokeParser
 - SAX processing
 - Tree building, eg XML::TreeBuilder
 - The LibXML, LibXSLT and related modules
- **Perl & CGI programming**
 - The CGI specification
 - Using Perl with a web server program
 - Preparing a Perl program for web server use
 - CGI.pm, related and alternative modules
 - Unbundling data from the client
 - Sending dynamic HTML documents
- **The CGI.pm module**
 - Function-oriented and object-oriented approaches
 - The param function
 - The header and start_html functions
 - HTML output functions
 - Handling forms
 - Handling tables
 - CGI with DBI (or Win32::ODBC)
- **CGI security and other issues**
 - General and specific security issues
 - Security problem avoidance
 - Denial of service attacks
 - Redirection
 - Serving exception and alternative output
 - Maintaining state

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- **Perl/Tk introduction**
 - Visual Perl and Perl/Tk
 - Perl/Tk capabilities and basics
 - Defining and displaying widgets
 - Labels and text entry fields
 - Buttons and images
- **Perl/Tk intermediate**
 - Windows and frames
 - Grid and other layouts
 - Menus and fonts
 - Checkbuttons and radiobuttons
 - Listboxes
 - The Text (text area) widget
 - Scrollbars
 - Canvases
- **Optional Perl topics: On request, brief self-study material on selected topics can be included, covered in detail as time allows.**
- **Perl/Tk advanced**
 - Event bindings
 - Event propagation
 - Tk::Fileevent and Tk::Error
 - The Tlist widget
 - The Hlist widget
 - The Tree and DirTree widgetsThe Hlist widget
 - The Tree and DirTree widgets

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- **HTML parsing**
 - HTML files
 - Regular expressions and issues for parsing
 - Parsers and the HTML::Parser module
 - The HTML::PullParser module
 - The HTML::Tokenizer module
 - Tree builders
 - HTML::TreeBuilder and HTML::Element
 - The HTML::LinkExtor module
 - CPAN module HTML::TableContentParser
- **Brief review of other applications**
 - Bioperl
 - Perl and Rational Clearcase(TM)
 - Perl for web applications
 - Perl for Ajax
 - Perl for web services and WSDL
- **Facilitating Windows applications**
- **Windows OLE automation**
- **Optional non-Perl primers**
- **On request, self-study material on selected topics can be included, covered in detail as time allows.**

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- **(X)HTML primer**
 - HTML page structure
 - Entities, tags and attributes
 - Block elements
 - Physical and logical elements
 - Character entities
 - Ordered and unordered lists
 - Tables
 - Forms
 - Simple CSS
 - Very simple scripting
- **SQL primer**
 - SQL capability and language elements
 - Data manipulation language
 - SELECT statements
 - WHERE clause
 - String literals
 - ORDER BY clause
- **XML primer**
 - XML principles
 - W3C XML Recommendations
 - XML document structure
 - Parsers and validity
 - DTDs and XML Schemas
 - Rendering XML - CSS and XSL(T)
- **Applications of XML, eg XHTML**

Course Duration:

2 Days

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