

PRG600 : Perl Programming

Code :

PRG600

Duration :

3 days

Category :

Scripting

Audience :

System administrators, Web masters and developers who want to learn to program in Perl or who want to understand Perl code.

Prerequisites :

Knowledge and experience with programming is not strictly required to participate in this course but is beneficial to a proper understanding.

Realization :

The theory is treated on the basis of presentation slides and is interspersed with exercises. Illustrative demo programs further clarify the concepts covered. The course contents covers the topics of the CIW Perl exam (1D0-437). The course material is in English.



Perl Programming



Contents :

In this course the principles of the Perl programming language are discussed. After an introduction on the characteristics of Perl, Perl modules and the typical usages of Perl, it is shown how a typical Perl script is executed. Subsequently, attention is paid to the syntax and use of scalar types, variables, operators and control structures. The use of Perl data structures like arrays, lists and hashes is also discussed. Part of the course is also the interaction between scripts and input and output devices such as keyboard and console and also attention is paid to the dealing with files and directories. In this respect the diamond and chomp operator are discussed. Using subroutines in Perl is part of the subject matter as well. On the basis of a number of structured exercises, participants learn how regular expressions in Perl can be used to validate data and to search for specific string patterns. Finally, an introduction to object oriented programming in Perl is given and it is discussed how additional Perl modules can be installed and used. Several Perl modules can be used as examples such as modules for Graphical User Interfaces or database access. Interspersed in other subjects the debugging of Perl scripts with the Perl debugger is also treated.

Module 1 : Perl Introduction

- What is Perl?
- Perl Characteristics
- Hello World in Perl
- Typical Perl Script
- strict Pragma
- Perl Modules
- Installation
- Perl IDE's
- Interactive Perl
- Resources for Perl
- Usages of Perl
- Perl Script reading Input
- Perl CGI Script

Module 2 : Scalar Types and Variables

- Variables
- Scalar Variables
- Numbers and Numeric Operators
- Strings and String Literals
- Double Quoted String Escapes
- String Operators
- String Number Conversions
- Scalar Variable Interpolation
- Reading from STDIN
- Operator Precedence
- Operator Associativity
- Comparison Operators
- if and while control structures
- Boolean Values
- chomp Operator
- undef Value and defined Function
- Special Scalar Variables
- References and dereferencing

Module 3 : Control Flow

- Control Flow
- Conditional Statements
- if elsif and else
- unless and unless else
- Logical AND and OR
- Conditional Expression Operator
- given when
- Loop Statements
- while and do..while
- until and do..until
- for and foreach
- Jump Statements
- next and last
- redo
- goto

Module 4 : Lists and Arrays

- What are Arrays and Lists?
- Arrays
- Accessing Array Elements
- Array Operations
- Special Array Indices
- List Literals
- qw Shortcut
- List Assignment
- pop, push, shift and unshift
- sort and reverse
- Interpolating Arrays into Strings
- foreach Control Structure
- Default Variable \$_
- Scalar and List Context
- in List Context
- Multidimensional Arrays

Module 5 : Subroutines

- Subroutines
- Defining a Subroutine
- Invoking a Subroutine
- Return Values
- Arguments
- Private Variables
- my Variables
- Variable-Length Parameter Lists
- return Operator
- Non Scalar Return Values
- State Variables
- More on Parameter Passing
- Another Subroutine Example

Module 6 : Input and Output

- Reading from STDIN
- Input from Diamond Operator
- Invocation Arguments
- Standard Output
- Formatted Output
- Arrays and printf
- File Handles
- Opening a File Handle
- Errors
- Reading from a File
- Changing Default File Handle
- Output with say
- Reading Whole File
- File Tests Operators
- Manipulate Files/Directories
- Listing Directories
- Executing External Programs

Module 7 : Hashes

- What is a Hash?
- Benefits of Hashes
- Hash Element Access
- Hash as a Whole
- Hash Assignment
- More Hash Syntax
- Hash Element Interpolation
- Hash Functions
- More Hash Functions
- The %ENV Hash
- Counting with Hash
- Merging Hashes

Module 8 : Regular Expressions

- What are Regular Expressions?
- Simple Patterns
- Meta Characters
- Regular Expression Operators
- Quantifiers
- Character Classes
- Regular Expression Delimiters
- Subgrouping
- Backreferences
- Regular Expression Modifiers
- split and join
- Problems with Captures
- Named Captures
- Named Backreferences
- Automatic Match Variables
- Substitutions with s///
- Binding Operator

Module 9 : Perl Modules

- What are Perl Modules?
- Packages
- my versus our Variables
- Module Naming
- Module Namespace
- Creating Modules
- Using Modules
- Modules in Subdirectories
- Accessing Module Variables
- Exporting from Modules
- Importing Modules
- Explicit Imports
- Module Skeletons
- Module Documentation
- Recommended CPAN Modules

Module 10 : Object Orientation

Object Oriented Programming
Object Oriented Programming in Perl
Classes and Objects
Example Class and Objects
Class Constructor
Properties or Fields
Methods and Accessors
Using Objects
Inheritance
Inheritance with @ISA Array
Overridden Methods