

# Perl Programming on UNIX

**Course Duration: 40 Hours**

**Course code: PP-UNIX**

## 1. Course Overview

The Perl Programming on UNIX course is designed to help learners use Perl effectively in a UNIX/Linux environment for scripting, automation, system administration, and text processing. This course focuses on the practical integration of Perl with UNIX commands, files, processes, and system utilities, enabling learners to develop powerful scripts for real-world operational tasks.

## 2. What you'll learn?

By the end of this course, learners will be able to:

- Understand the role of Perl in UNIX/Linux environments
- Write Perl scripts optimized for UNIX systems
- Integrate Perl with UNIX commands and shell utilities
- Automate system administration and operational tasks
- Perform text processing, log analysis, and file management
- Manage processes, signals, and permissions
- Work with environment variables and system calls
- Debug and optimize Perl scripts on UNIX platforms

## 3. Target Audience

This course is ideal for:

- UNIX/Linux system administrators
- DevOps and automation engineers
- Perl developers working on UNIX platforms
- IT operations and support professionals
- Developers handling log processing and system scripts
- Students and professionals entering system programming roles

## 4. Pre-Requisites

To get the most out of this course, learners should have:

- Basic knowledge of Perl programming fundamentals
- Familiarity with UNIX/Linux command-line operations
- Understanding of files, directories, and permissions
- Logical approach to scripting and automation

## 5. Course content

Module 1: Introduction to Perl on UNIX

- Role of Perl in UNIX environments
- Installing and configuring Perl on UNIX/Linux
- Running Perl scripts from the shell
- Shebang (!) and execution permissions

Module 2: UNIX Basics for Perl Programmers

- UNIX file system structure
- Standard input, output, and error streams
- Pipes, redirection, and filters
- Environment variables

Module 3: Perl and UNIX Command Integration

- Executing UNIX commands from Perl
- Using system, backticks, and exec
- Capturing command output
- Error handling for system calls

Module 4: File and Directory Management

- Reading and writing UNIX files
- File test operators
- Directory traversal and manipulation

- Handling file permissions and ownership

#### Module 5: Text Processing and Log Analysis

- Processing text files using Perl
- Regular expressions in UNIX workflows
- Parsing and analyzing log files
- Report generation

#### Module 6: Process and Signal Handling

- Process management concepts
- Forking processes using Perl
- Handling signals
- Process monitoring and control

#### Module 7: Automation and Scheduling

- Writing automation scripts
- Integrating Perl with cron jobs
- Task scheduling and monitoring
- Error reporting and notifications

#### Module 8: Networking and System Utilities

- Basic networking concepts in UNIX
- Working with sockets (introductory level)
- Using Perl for system diagnostics
- Monitoring system resources

#### Module 9: Security and Best Practices

- Writing secure Perl scripts on UNIX
- Handling user inputs safely
- Managing permissions and access control

- Script optimization and performance tuning

## Module 10: Real-World Use Cases

- System administration automation
- Backup and maintenance scripts
- Log monitoring solutions
- Enterprise UNIX scripting scenarios