

# Intermediate Perl Course

**Course Duration: 24 Hours**

**Course code: INC**

## 1. Course Overview

The Intermediate Perl course is designed for learners who already understand the basics of Perl and want to strengthen their skills by exploring more powerful language features and practical programming techniques. This course bridges the gap between basic scripting and advanced Perl development, focusing on writing efficient, readable, and maintainable Perl code used in real-world applications such as automation, data processing, and backend scripting.

## 2. What you'll learn?

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

- Use advanced control structures and program flow
- Work with arrays, hashes, and complex data structures effectively
- Understand and apply Perl references
- Write and reuse code using subroutines and modules
- Perform robust file handling and text processing
- Apply regular expressions for data validation and parsing
- Debug scripts and handle runtime issues
- Follow Perl best practices and coding standards

## 3. Target Audience

This course is ideal for:

- Learners who have completed Introduction to Perl Programming
- Junior Perl developers seeking to improve coding proficiency
- System administrators using Perl for scripting tasks
- Automation engineers and support professionals
- Students and fresh graduates preparing for scripting roles

## 4. Pre-Requisites

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

- Basic knowledge of Perl syntax and scripting
- Understanding of variables, loops, and conditionals
- Familiarity with command-line environments
- Basic awareness of files and directories

## 5. Course content

Module 1: Review of Core Perl Concepts

- Perl program structure recap
- Scalars, arrays, and hashes revision
- Context in Perl (scalar vs list)

Module 2: Advanced Control Structures

- Nested loops and conditional logic
- Loop control statements (next, last, redo)
- Using given-when (switch-style logic)

Module 3: Subroutines and Code Reusability

- Creating and invoking subroutines
- Passing arguments to subroutines
- Return values and scope
- Best practices for reusable code

Module 4: Working with References

- Introduction to references
- Array and hash references
- Dereferencing techniques
- Complex and nested data structures

## Module 5: File Handling and Directory Operations

- Reading and writing files
- File test operators
- Handling directories
- Error handling in file operations

## Module 6: Regular Expressions

- Review of basic regex concepts
- Pattern matching and substitutions
- Modifiers and character classes
- Practical regex use cases

## Module 7: Modules and Packages

- Introduction to Perl modules
- Using built-in and CPAN modules
- Creating simple custom modules
- Understanding namespaces

## Module 8: Debugging and Error Handling

- Common Perl errors and warnings
- Using strict and warnings
- Debugging techniques
- Logging and troubleshooting

## Module 9: Data Processing Techniques

- Processing structured and unstructured data
- Working with CSV and text files
- Parsing log files
- Data transformation techniques

## Module 10: Practical Scripting Use Cases

- Automation scripts
- System maintenance tasks
- Real-world intermediate-level Perl projects
- Best practices and optimization tips

