



## Ruby Programming

**Duration: 3 Days**    **Course Code: RUBYP**    **Delivery Method: Company Event**

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### Overview:

Ruby is a high level Interpreted, Object Oriented, rapid development language deployed in many scenarios in the modern world. This Ruby Programming course is designed to give delegates the knowledge to develop and maintain Ruby applications. Exercises and examples are used throughout the course to give practical hands-on experience with the techniques covered.

### Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

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### Target Audience:

Developers who are required to write, maintain and test Ruby applications. This is an ideal course for anyone who wants to be able to make sense of code, if not actually to produce it.

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### Objectives:

- This course aims to provide the delegate with the knowledge to be able to produce simple, object oriented Ruby applications that exploit all core elements of the language to solve business problems.
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### Prerequisites:

Delegates attending this course should be able to define general programming concepts including compilation and execution, variables, arrays, sequence, selection and iteration, navigate the filesystem (on the command line ideally), edit and save text files and browse the web. This knowledge can be obtained by attendance on the pre-requisite Introduction to Programming course.

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### Follow-on-Courses:

- Ruby on Rails (RUBYR)
  - Apache Web Server (APH)
  - Introduction to MySQL (MYSI)
  - Python Programming 1 (PYP1)
  - Perl Programming (PERL)
  - PHP Programming (PHP)
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## Content:

### Ruby Programming Training Course Course Contents - DAY 1

#### Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

#### Session 1: INTRODUCTION TO RUBY

- What is Ruby
- What is it used for
- Installing Ruby?
- Ruby Basics - objects,regular expressions,arrays,hashes,Object Orientation

#### Session 2: RUBY LANGUAGE ELEMENTS

- Variables and constants
- Operators
- Assignments
- Integer,float and string formats
- Single and double quotes
- Here documents
- Labs

#### Session 3: CONTROL STRUCTURES

- Blocks and if statement
- Boolean and range operators
- Conditionals - if,unless,case
- Loops - while,for in,until
- break,next,retry and redo
- Labs

#### Session 4: CLASSES AND OBJECTS

- Objects,classes and methods
- Constructors and attributes
- Instance and class variables
- Local and global variables
- Class and object methods
- Including external files - load and require
- Labs Course Contents - DAY 2

#### Session 5: INPUT AND OUTPUT IN RUBY

- Opening and closing files
- Reading from and writing to files
- Labs

#### Session 6: ARRAYS AND HASHES IN RUBY

- Arrays and hashes
- Building an array
- The %w shortcut
- Nesting arrays
- Hash keys
- Iterators
- Labs

#### Session 7: OBJECT ORIENTATION

- Inheritance
- Base classes and subclasses
- What's inherited
- Overriding
- Abstract classes
- Polymorphism
- Multiple Inheritances
- Class structure
- Visibility
- Labs

#### Session 8: CLASSES AND OBJECT SCOPING

- Public,private and protected visibility
- Singletons and defs
- Inheritance mixins
- Destructors and garbage collection
- Namespaces and modules
- Hooks
- Freezing objects
- Labs Course Contents - DAY 3

#### Session 9: OBJECT ORIENTATION TECHNIQUES

- Clusters of classes
- Programming and method standards
- Formal Methods
- Unified Modelling Language (UML)
- Views

#### Session 10: STRINGS AND REGULAR EXPRESSIONS

- Meta Characters
- Anchors,literals,character groups and counts
- Matching in Ruby
- Modifiers i,o,x and m
- Pattern matching variables
- Labs

#### Session 11: SPECIAL VARIABLES AND PSEUDO-VARIABLES

- ARGV and 60
- Special variables
- Environment variables
- Pseudo-variables
- Reserved words in Ruby
- Labs

#### Session 12: EXCEPTIONS

- begin and end
- Raise and rescue
- Throw and catch
- labs

## Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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