

## Fundamentals of Ruby

**Level:** beginner

**Length:** 35 – 40 hours

**Course Objective:** solid introduction to Ruby programming language, learn and exercise its basic elements

### What You Will Learn

- How the code is organized, software development cycle
- Language elements: data structures, control structures, basic types
- Ruby's support for object oriented programming (OOP)
- Exercise OOP with Ruby
- Exercise the soft skills of communication, team work, presentation of ideas and solutions

**Who can participate:** anybody who wants to learn Ruby

### Prerequisites

- Basic notions of programming
- Comfortable with using the host operating system
- The knowledge of another programming language, for example C, Perl, C++, Java, Python, etc.) would be helpful to learn easier Ruby

**Required infrastructure:** VGA projector, whiteboard, workstation

**Related Courses:** Advanced Ruby Topics

### Description

The course is addressed to programmers who want a quick and solid introduction to Ruby. The focus is the language, its constructive elements – data structures, control structures, how the programs are organized, particularities of using it in procedural programming, object oriented programming and even functional programming.

Ruby is exercised by examples and practical assignments, it is shown how the problems are approached and solved, particularities and stereotypes of using this language.



## Contents

1. Introduction. The place of Ruby among object oriented programming languages
2. Resources, installation
3. Language basic elements
4. Control structures
5. Strings and ranges
6. Module Math
7. Arrays and hashes
8. Cycles, iterators and blocks
9. Methods
10. Exception handling
11. Symbols
12. Modules
13. Working with the file system
14. Regular expressions
15. Dynamic programming
16. Programming with threads