

# Intro to Ruby Course

---

Exercises and examples for training in Ruby, taught by Builder Code Works



## Course Contents

---

1. Ruby Language
  - i. A Brief History of the Ruby Language
  - ii. Installing Ruby
  - iii. How to Execute Ruby Code
  - iv. How to Continue After this Course
2. Object-Oriented Programming Refresher
  - i. Important Vocabulary
  - ii. Classes, Objects, & Inheritance
3. Ruby Basics
  - i. Objects
  - ii. Typing
  - iii. Dynamic Classes
  - iv. Core Classes
  - v. Duck-Typing
  - vi. Data Structure Classes
    - a. NilObject
    - b. TrueObject & FalseObject
    - c. String

- d. Integer & Float
- e. Array
- f. Hash
- g. Symbol
- vii. Variables
- viii. Ruby Keywords

#### 4. Logic

- i. Looping
  - a. While
  - b. Until
- ii. Branching
  - a. If/Else/Unless
  - b. Case Statements
  - c. Logical Operators
- iii. Collections
  - a. Iterating with `each`
  - b. Moving Inside Collections with `skip` , `next` , `retry` & `break`
  - c. Accessing & Modifying Arrays
  - d. Accessing & Modifying Hashes

#### 5. Organizing Code

- i. Encapsulation
  - a. Methods
  - b. Modules
  - c. Classes

#### 6. Object-Oriented Ruby

- i. Defining Classes
- ii. Initializing Classes
- iii. Class Methods
- iv. Instance Methods
- v. Private Methods
- vi. Inheritance
- vii. Overriding Methods

- viii. Monkey Patching

- ix. Refinements

## 7. Best Practices

- i. Modular Ruby

- ii. Variable Scope

- iii. Project Structure

- iv. Ruby Version Managers

- v. Using Rake

- vi. Bundler for Project Dependencies

- vii. Gemfile Setup

## 8. Ruby Gems

- i. How Gems are Installed

- ii. How to Keep Gems Organized

- iii. Where to Find Gems

- iv. Using Bundler

## 9. Special Purpose Tools

- i. Regular Expressions

- ii. Dates & Times

- iii. Reading & Writing Files

- iv. System Input & Output

## 10. Error Handling

- i. Built In Exceptions

- ii. Rescuing Exceptions

- iii. Writing Custom Exceptions

## 11. Testing

- i. Libraries

- ii. Writing Tests with RSpec

- iii. Cucumber

- iv. Equality of Objects

## 12. Metaprogramming

- i. Uses for Metaprogramming
- ii. Metaprogramming techniques
- iii. Passing Closures
- iv. Procs & Lambdas

## 13. Popular Tools

- i. Frameworks for the Web
- ii. Ops Tools
- iii. Mobile Applications