

Introduction to Ruby on Rails

Course Summary

Description

Learn foundational Ruby and the theory and practice of Rails in this hands-on, expert-led course. Students will be taught Ruby language constructs and the entire Rails development stack: domain modeling with ActiveRecord, controller and view implementation, testing, database migrations, data validation techniques, AJAX fundamentals, and more.

Topics

- Rails Fundamentals
- Basic Ruby Skills and Tools
- Database Creation and Configuration
- Working with ActiveRecord
- ActionView Essentials
- Using ActionController
- Working with Forms in Rails
- Session management and security
- Testing in Ruby and Rails
- Ajax, JavaScript, and RJS

Audience

This course is designed for Web developers beginning Rails developers who want to learn it right. Students who currently uses Java, .Net, or other frameworks that are looking for a more agile way to get things done.

Prerequisites

There are no prerequisites required for this course.

Duration

Four days

Introduction to Ruby on Rails

Course Outline

I. Rails Fundamentals

- A. Rails overview and walkthrough
- B. The Model-View-Controller framework architecture
- C. Creating a new Rails application
- D. Rails request-handling and URL parsing
- E. Development-mode deployment
- F. Generating models and controllers

II. Basic Ruby Skills and Tools

- A. Objects and methods
- B. Scalars: strings, numbers, dates and times
- C. Collections: arrays, hashes
- D. Classes and modules
- E. Control flow and conditionals
- F. Interactive Ruby (IRB)
- G. Attributes
- H. Iterators
- I. Exception and error-handling

III. Database Creation and Configuration

- A. Basic MySQL creation commands
- B. Configuring database.yml
- C. Automatically-generated migrations
- D. Custom migrations

IV. Working with ActiveRecord

- A. Modeling a domain
- B. ActiveRecord models and Ruby classes
- C. ActiveRecord associations
- D. Writing Rails-friendly SQL
- E. Data validation techniques

V. ActionView Essentials

- A. RHTML templates
- B. Embedded Ruby (ERb)
- C. Partial templates
- D. Built-in and custom helper methods
- E. Layouts

VI. Using ActionController

- A. The session and flash facilities
- B. Planning and writing actions
- C. Controller/view communication via instance variables
- D. The special params hash
- E. Filter methods for specific actions
- F. Redirecting actions
- G. Explicit rendering commands

VII. Working with Forms in Rails

- A. ActionPack form helper methods
- B. "Magic" form-field population
- C. Processing forms
- D. Hash-based batch processing of CGI data

VIII. Session management and security

- A. The session hash
- B. Password deployment and encryption
- C. Avoiding SQL injection

IX. Testing in Ruby and Rails

- A. Ruby's Test/Unit framework
- B. Writing fixtures
- C. Unit tests
- D. Functional tests
- E. Integration tests

X. Ajax, JavaScript, and RJS

- A. JavaScript facilities and support in Rails
- B. Basic DOM updating with Ajax calls
- C. RJS templates
- D. Graceful degradation of Ajax