

# Ruby on Rails Summer Bootcamp

Ruby on Rails allows you to quickly build dynamic web applications. It has been the go-to framework for startups like Twitter, GitHub, and Shopify. Mastering Ruby on Rails has two parts: the Ruby Programming language and the Rails framework.

Group classes in NYC and onsite training is available for this course. For more information, email [hello@nextgenbootcamp.com](mailto:hello@nextgenbootcamp.com) or visit: <https://www.nextgenbootcamp.com/classes/ruby-summer-camp-nyc>



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## Course Outline

### Introduction to Ruby on Rails

#### Scaffolding

- The Scaffold command
- Overview of Models, Views, and Controllers (MVC)

#### Adjusting the Templates Created by Scaffolding

- Formatting in Rails
- Working with Dynamic web pages
- Editing the text in the tab
- Redirecting the homepage URL
- Editing the CSS

#### Version Control with Git

- Initializing a repository
- Committing and Pushing changes
- Creating, switching, and deleting branches
- Merging branches

## Ruby Fundamentals

#### Ruby Data Types & Variables

- String, Integer, Float, Boolean and Nil values
- Properties of Ruby data types
- Instance variables & Local variables
- Global variables

#### Functions & Control Flow

- Built-in functions
- Creating your own functions
- Passing arguments and returning values
- If/Else and Unless Statements
- While/Until Loops

## **Ruby Data Structures**

- Arrays: The Simplest Collections
- Hashes
- Enumerators
- Common Iterators

## **Classes**

- Creating classes
- Inheritance
- Class Methods
- Overriding Methods

## **Controllers and Views**

### **Generating a Controller**

- Creating a New Rails Site for Flix
- How Controller methods relate to views
- Private methods
- The params hash

### **Views**

- Generating and creating Views
- When you don't need a View
- Mapping Views to controller actions and routes
- Dynamic Views
- The rails routes command

## **Models & Forms**

### **Models**

- Generating a Model
- How Migration Files work
- Migrating the Database
- Rolling back a migration

### **Rails Forms**

- Rails forms vs HTML forms
- HTTP Overview
- Rails Form Helpers
- Rails forms: form\_for, form\_tag, and form\_with
- Connecting a form to a Model

## Uploading Files

- Installing ActiveStorage
- Allowing users to upload images

## Views

- Creating a View
- Adding Dynamic Data
- Rendering a Partial
- Optional Bonus: Rendering a View

## Advanced Models

### Model Validations

- The purpose of validations
- Adding basic validations
- Preventing submission of empty forms
- Customizing validations
- Adding Error Messages

### Model Methods

- Built-in Model methods
- Adding methods to models

### Model Relationships

- has\_one and belongs\_to relationships
- has\_and\_belongs\_to\_many: Simple Many-to-Many Relationships
- has\_many, through: Advanced Many-to-Many Relationships with Additional Metadata
- Polymorphic Relationships

### Other Important Relationships in Rails

- Delegates: Sharing Methods Between Related Objects
- Self-Joins: Relationships Between Instances of the Same Model

## ActiveRecord Associations

### Model Relationships

- Has\_one and belongs\_to relationships
- Has\_many relationships
- Joining models together via the controller
- Writing Simple Tests Using Fixtures
- Optional Bonus: Writing Tests Using Embedded Ruby Code
- Additional Bonus: Helpers

## Integrating Front-end Code

### Rails Asset Pipeline

- What the Asset Pipeline does

- Adding CSS
- Adding JavaScript
- Conditional CSS and JavaScript files

## Launching an Application

### Preparation

- Managing Ruby environments
- Locking Gem versions
- Environment variables

### Amazon Web Services

- Setting up an AWS account
- Where to store credentials
- Remote Asset Storage with Amazon S3

### Heroku

- Heroku Account Setup
- Installing Heroku Toolbelt
- How Heroku works
- Types of Dynos
- Deploying your application