

Rails Training

2018

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Roadmap

We will divide our training process in three steps

Step 1

Learn Ruby On Rails - Discussions - Practical Implementation - 3 weeks

Step 2

Demo Project - Commit Reviews - Final Review & Evaluation - 3 weeks

Step 3

Pair programming with a senior developer on a live project - Navigation & Driving - 1 week

Orientation Day

1. System Setup + Ruby and Rails Installation with RVM + Git Setup
 - a. RVM + Ruby(Install Ruby with RVM) +Rails
 - i. <http://wiki.square63.com/Setup/Rvm>
 - ii. <http://blog.sudobits.com/2012/05/02/how-to-install-ruby-on-rails-in-ubuntu-12-04-lts/>
 - iii. <http://rvm.io/rvm/install>
2. Git Installation
 - a. <http://wiki.square63.com/Setup/Git>
 - b. <http://git-scm.com/book/en/v2/Getting-Started-Installing-Git>
3. Install Mysql
 - a. <https://gorails.com/setup/ubuntu/14.10#mysql>

Learn Ruby On Rails

We'll have **daily discussions** & we'll assume that you will be learning the concepts by **practical implementation** yourselves.

Rule of thumb: Consider Google your the best friend.

Note: We will use Rails 4 for our training process.

Week 1 - Day 1

1. Learn Ruby on Rails framework – go through the page
 - a. http://guides.rubyonrails.org/v4.2/getting_started.html
 - b. <https://www.youtube.com/watch?v=2gUbteh54RM&list=PL23ZvcdS3XPKnwg3IMv-JGNCn08kB0wsA>
2. Don't try to remember everything just go along. By the end you will create your first ROR application.
3. Go through the new created project directory and feel how ROR works.
4. What are Gems? Explore Gemfile and Gemfile.lock files in project
 - a. <http://railscasts.com/episodes/201-bundler-revised>

Week 1 - Day 2

1. Learn About MVC – How ROR implements MVC?
<https://www.youtube.com/watch?v=zppMfm4fuxM&list=PL23ZvcdS3XPKnwg3IMv-JGNCn08kB0wsA&index=2>
2. Learn about general Rails naming conventions (controller names, Model names, variable names).
 - a. <https://rubymonk.com/learning/books/1-ruby-primer/>
 - b. <http://www.tutorialspoint.com/ruby/>
 - c. http://www.compileonline.com/execute_ruby_online.php
 - d. <https://www.ruby-lang.org/en/documentation/quickstart/>
 - e. <https://www.youtube.com/watch?v=sAi1r8tzzS4&list=PL23ZvcdS3XPKnwg3IMv-JGNCn08kB0wsA&index=3>
3. Learn about the Directory Structure for Rails
<https://www.youtube.com/watch?v=fP64Wvz13AM&list=PL23ZvcdS3XPKnwg3IMv-JGNCn08kB0wsA&index=4>
4. Explore controllers (Action definition)

- a. http://guides.rubyonrails.org/v4.2/action_controller_overview.html

Week 1 - Day 3

1. Explore basic routes - Routes mapping to controller actions
 - a. <https://www.youtube.com/watch?v=pfBxS-AgyQY&list=PL23ZvcdS3XPKnwg3IMv-JGNCn08kB0wsA&index=6>
 - b. <https://www.youtube.com/watch?v=-GQmC-8k09c>
 - c. <http://railscasts.com/episodes/224-controllers-in-rails-3?view=asciicast>
 - d. <http://railscasts.com/episodes/203-routing-in-rails-3>
2. More Help
 - a. <https://www.youtube.com/watch?v=IYaYxxBTbDg>
 - b. <https://www.youtube.com/watch?v=zUeHUoc3jfg>
 - c. <https://www.youtube.com/watch?v=unq1yubL6lQ>
 - d. <https://www.youtube.com/watch?v=iH3TMiRi7as>
 - e. <https://www.youtube.com/watch?v=wdXgDwk6UO8>

Week 1 - Day 4

1. Restful rails routes
 - a. <http://guides.rubyonrails.org/routing.html>
2. Explore views
3. Learn about partials
4. Use of helpers in views
5. See Rails 4 docs for help

Week 1 - Day 5

1. Models
2. Model callbacks
3. ActiveRecord Validations
 - a. http://guides.rubyonrails.org/v4.2/active_record_validations.html
 - b. <http://railscasts.com/episodes/219-active-model>
 - c. <http://railscasts.com/episodes/211-validations-in-rails-3>
 - d. <http://api.rubyonrails.org/classes/ActiveRecord/Callbacks.html>
 - e. <https://www.youtube.com/watch?v=azH9IFUvjb0>

Week 2 - Day 1

1. ActiveRecord Associations
2. ActiveRecord Associations (Advanced)
 - a. http://guides.rubyonrails.org/association_basics.html
 - b. <http://railscasts.com/episodes/154-polymorphic-association>
3. More Help
 - a. <http://api.rubyonrails.org/classes/ActiveRecord/Associations/ClassMethods.html>
 - b. <http://railscasts.com/episodes/47-two-many-to-many>
 - c. <http://railscasts.com/episodes/3-find-through-association>
 - d. <http://railscasts.com/episodes/163-self-referential-association>

Week 2 - Day 2

1. ActiveRecord Queries
2. Query conditions
3. Find by SQL, Joins, Groups, Order
 - a. http://guides.rubyonrails.org/v4.2/active_record_querying.htmlMore help
 - b. <http://railscasts.com/episodes/202-active-record-queries-in-rails-3>
 - c. <http://asciicasts.com/episodes/215-advanced-queries-in-rails-3>

Week 2 - Day 3

1. Advance routes Nested routes
 - a. <http://guides.rubyonrails.org/routing.html#nested-resources>
2. Migrations
 - a. <http://api.rubyonrails.org/classes/ActiveRecord/Migration.html>
3. Asset Pipeline
 - a. <http://railscasts.com/episodes/279-understanding-the-asset-pipeline>
 - b. http://guides.rubyonrails.org/asset_pipeline.html

Week 2 - Day 4

1. Scaffolding
2. Configurations
3. Directory Structure

Week 2 - Day 5

1. Learn about usage of Git.
2. Explore different Git commands and their usage.
3. Practice Git and previous learned concepts about ROR

Week 3 - Day 1

1. Practice following tasks
 - a. Generating Models
 - b. Generating Controllers
 - c. Generating Migrations
 - d. Rails Scaffolding
 - e. Data Seeding
 - f. Rake Tasks (e.g rake db:create, rake db:migrate, rake db:seed)
 - g. Gems (Add sign up and sign in feature)

Week 3 - Day 2

1. Implement Bootstrap and Javascript/Coffeescript
 - a. <http://getbootstrap.com/>
 - b. <http://www.w3schools.com/bootstrap/>
 - c. <https://learn.jquery.com/>
 - d. <http://railscasts.com/episodes/390-turbolinks>

Week 3 - Day 3 to Day 5

1. Go through some important concepts & Rails 5 as under also revise your concepts.
2. HR Activity

Some Important Concepts:

1 - Models

- Active Record Basics
http://guides.rubyonrails.org/active_record_basics.html
- Rails Database Migrations
<http://api.rubyonrails.org/classes/ActiveRecord/Migration.html>

<http://guides.rubyonrails.org/migrations.html>

- Active Record Validations
http://guides.rubyonrails.org/v4.2/active_record_validations.html
<http://railscasts.com/episodes/211-validations-in-rails-3>
- Active Record Callbacks
http://guides.rubyonrails.org/v4.2/active_record_callbacks.html
<http://api.rubyonrails.org/classes/ActiveRecord/Callbacks.html>
- Active Record Associations
<http://railscasts.com/episodes/154-polymorphic-association-revised> (Paid)
<http://railscasts.com/episodes/394-sti-and-polymorphic-associations> (Paid)
<http://railscasts.com/episodes/163-self-referential-association>
<http://railscasts.com/episodes/47-two-many-to-many>
<http://railscasts.com/episodes/3-find-through-association>
<http://api.rubyonrails.org/classes/ActiveRecord/Associations/ClassMethods.html>
- Active Record Query Interface
<http://railscasts.com/episodes/202-active-record-queries-in-rails-3>
<http://railscasts.com/episodes/215-advanced-queries-in-rails-3>
http://guides.rubyonrails.org/active_record_querying.html

2 - Controllers

<http://railscasts.com/episodes/224-controllers-in-rails-3>

<http://railscasts.com/episodes/395-action-controller-walkthrough> (Paid)

- Rails Routing
<http://railscasts.com/episodes/203-routing-in-rails-3>

3 - Views

- Layouts and Rendering in Rails
http://guides.rubyonrails.org/layouts_and_rendering.html
- Action View Form Helpers
http://guides.rubyonrails.org/form_helpers.html

4 - The Asset Pipeline

- http://guides.rubyonrails.org/v4.1/asset_pipeline.html

- <http://railscasts.com/episodes/279-understanding-the-asset-pipeline>

5 - Action Mailer

- <http://railscasts.com/episodes/206-action-mailer-in-rails-3>
- http://guides.rubyonrails.org/action_mailer_basics.html

6 - Devise

- <http://railscasts.com/episodes/209-introducing-devise>
- <http://railscasts.com/episodes/210-customizing-devise>

7 - Pagination with Kaminari

- <http://railscasts.com/episodes/254-pagination-with-kaminari>

8 - Rails Bundler

- <http://railscasts.com/episodes/201-bundler>

9 - Sass Basics

- <http://railscasts.com/episodes/268-sass-basics>

10 - CoffeeScript Basics

- <http://railscasts.com/episodes/267-coffeescript-basics>

RAILS 5

What's new in Rails 5

- <https://www.sitepoint.com/whats-new-rails-5/>
- <https://careerfoundry.com/en/blog/web-development/ruby-on-rails-5-its-here-find-out-whats-new-and-how-to-upgrade/>

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Introduction to Ruby on Rails 4

1. Rails 4 basic features
2. Benefits of Rails
3. Rails 4 and Rails 3 comparison based of provided features
4. Rails 4 and Rails 5 comparison based of provided features

Installing Rails and Setting up your Development Environment

1. System Setup for Ubuntu (install essential libraries e.g curl, rmagick etc)
2. Ruby and Rails Installation with RVM (Start with Rails 3 installation for practice)
3. Git Setup on your machine
4. Mysql installation

Help (Following are the help links for above operations):

<http://wiki.square63.com/Setup>

<http://wiki.square63.com/Setup/Rvm>

<http://rvm.io/rvm/install>

<http://blog.sudobits.com/2012/05/02/how-to-install-ruby-on-rails-in-ubuntu-12-04-lts/>

Rails Architecture

1. MVC Model View Controller (Explain each one in detail and explore all features for each one)
2. ORM (object relational mapping)
3. ERB (Embedded Ruby)
4. Application Walk Through (Explore files in rails 4 project directory and purpose)
5. Explore Gemfile and Gemfile.lock and its purpose
6. Routes (Explore routes.rb file and grasp all related concepts e.g nested routes, Restful rails, Route types, namespaces)
7. Restful Rails
8. Assets precompile (Explore purpose of this feature and benefits)
9. Naming Conventions (controller, model and views names)
10. Rails 4 configuration for different environments

11. Database and Migrations (Explore how to create database and tables in rails 4 project)
12. Activerecord associations

Help

1. <http://adrianmejia.com/blog/2011/08/11/ruby-on-rails-architectural-design/>
2. <http://api.rubyonrails.org/classes/ActiveRecord/Migration.html>
3. <http://railscasts.com/episodes/279-understanding-the-asset-pipeline>
4. http://guides.rubyonrails.org/action_controller_overview.html

Or you can find any other suitable link on google. Please update this document as well so that others can also benefit from this.

Rails Tools

1. Rails Generators
2. Generating Models
3. Generating Controllers
4. Generating Migrations
5. Rails Scaffolding
6. Data Seeding
7. Rake Tasks (e.g rake db:create, rake db:migrate, rake db:seed)
8. Rails Bundler
9. Libraries
10. Gems

Help

1. <http://railscasts.com/episodes/216-generators-in-rails-3?view=asciicast>
2. <http://railscasts.com/episodes/201-bundler>
3. <http://railscasts.com/episodes/384-exploring-rubygems>
4. <http://railscasts.com/episodes/66-custom-rake-tasks>

Rails Controllers and Views

1. Controller Filters
2. Views
3. partials
4. Controller request handling concept
5. Routes mapping to controller actions
6. Nested Routes
7. Use of helpers in views
8. Layouts and Rendering in Rails

Help

1. <https://www.youtube.com/watch?v=pfBxS-AgyQY&list=PL23ZvcdS3XPKnwg3IMv-JGNCn08kB0wsA&index=6>
2. <http://railscasts.com/episodes/231-routing-walkthrough?view=asciicast>
3. <http://railscasts.com/episodes/139-nested-resources>

Rails Models and ActiveRecord

1. Model callbacks
2. ActiveRecord Basics
3. ActiveRecord Validations
4. ActiveRecord Associations
5. ActiveRecord Query
6. Retrieving Data
7. Query conditions
8. Find by SQL, Joins, Groups, Order

Help

1. <http://railscasts.com/episodes/219-active-model>
2. <http://railscasts.com/episodes/211-validations-in-rails-3>
3. <http://api.rubyonrails.org/classes/ActiveRecord/Callbacks.html>
4. <http://railscasts.com/episodes/202-active-record-queries-in-rails-3>
5. <http://asciicasts.com/episodes/215-advanced-queries-in-rails-3>
6. http://guides.rubyonrails.org/association_basics.html
7. <http://railscasts.com/episodes/154-polymorphic-association>

Code Management

1. Version Control
2. Git and Rails
3. Feature of Git
4. Usage of git in practice project
5. Discussion of Git with Rails team @ Square63

Help

1. <http://railscasts.com/episodes/96-git-on-rails>
2. <https://confluence.atlassian.com/display/STASH/Basic+Git+commands>

The Ruby Programming Language

1. Ruby Background
2. Classes and Inheritance
3. Objects and Variables
4. Strings, Regular Expressions and Symbols
5. Expressions and Control Structures
6. Collections and Blocks

Help

1. <http://railscasts.com/episodes/230-inherited-resources>
2. <http://railscasts.com/episodes/394-sti-and-polymorphic-associations?view=comments>
3. http://phrogz.net/programmingruby/tut_classes.html
4. <http://ruby-doc.org/core-2.1.1/Regexp.html>

Presentation/User Interface

1. HTML – Basic Syntax
2. HTML – Document Structure
3. HTML – Forms
4. Dynamic Content
5. Cascading Style Sheets (CSS)
6. JavaScript and jQuery
7. Ajax

First Evaluation

Your first evaluation will be conducted on your progress during initial 3 weeks of training and you will receive feedback from your mentors based upon following criteria;

Evaluation Criteria

Productivity

- Given tasks completed by accepting challenges
- Code quality improvement (lower factor in this phase of training)

Responsibility

- Taking ownership of the work
- Reliability & dependability under pressure

Time management

- Whether given tasks are divided into their ideal time span

Innovation

- New ideas

- Creative approach towards a problem

Learning

- Learning new things everyday
- Sharing your knowledge with others

Work Ethics

- Proper office discipline is observed while working under workload

Upcoming Goal - Creating Your First Rails Application

1. A demo application will be assigned to you from Rails Team @ Square63
2. Requirements will be provided by Rails Team
3. Rails Team will act as client for you.
4. You have to clarify all the requirements by asking question to Rails Team @Square63
5. You have to follow the deadline for giving requirements.
6. You are supposed to implement all concepts in this application according to best of you knowledge
7. Your code will be reviewed frequently by Rails Team
8. When you are done with this demo application then you will have a discussion with Rails Team about this application.

After this you will be ready for your next assignment.

Best of Luck!