

# CONCISE RAILS 6

**Build powerful and modern web  
applications with Ruby on Rails**

BLESSED SIBANDA

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Build powerful and modern web applications with Ruby on Rails

Blessed Sibanda

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# 1 Introduction

Welcome to Concise Rails 6, a fast paced and enhanced tutorial designed to teach the core concepts of Rails in a very practical way.

## 1.1 What is Ruby on Rails

Ruby on Rails is a popular web framework that is written in the Ruby programming language that allows developers to quickly build powerful and robust web applications. It's commonly referred to as Rails and often abbreviated as RoR.

Everything in Rails is designed to make developers' lives easier by making assumptions about what they need to get started when they create a new web application. It allows developers to write less code while at the same time accomplish more.

Ruby on Rails (RoR) was created in 2003 by David Heinemeier Hansson (aka DHH) when he was working on a project management tool (now known as Basecamp). However, it wasn't until 2004 that he extracted the source and released it as an open-source project.

In 2005, version 1 of Ruby on Rails was officially released. Fast forward about 16 years, Rails is now on version 6.1 (at the time of this writing) and has been tested and proven by huge names such as Hulu, Zendesk, Soundcloud, Shopify, Groupon, Airbnb and Github - just to name a few.

## 1.2 Assumptions

Before reading this book, I assume that the reader has the following:

- Basic understanding of HTML, CSS and JavaScript
- Basic understanding of Rails (i.e you have done the [Rails Guides Getting Started Tutorial](https://guides.rubyonrails.org/getting_started.html)<sup>1</sup>)
- A computer with at least 2GB of RAM and access to internet connection

## 1.3 Conventions

The following conventions will be used in this book

- A \$ sign at the beginning of a line represents a command that needs to be entered or run on the terminal

**Example**

---

<sup>1</sup>[https://guides.rubyonrails.org/getting\\_started.html](https://guides.rubyonrails.org/getting_started.html)

```
$ mkdir my-application
```

In the above example, the command `mkdir my-application` should be entered on the command-line terminal

- Three dots (...) in a code sample mean that the block/snippet of code at that point hasn't changed from the previous version.

### Example

```
1  def my_method(a, b)
2    do_first_thing
3    ...
4    ...
5    do_last_thing
6  end
```

The three dot lines in the above example signify that the code between `do_first_thing` and `do_last_thing` did not change, so it was omitted so as to display only the parts of the code that changed and hence save space.

## 2 Setup

Before we begin developing our Rails application, the following softwares need to be installed:

- **Node.js**

Rails uses a JavaScript package called webpack via the `webpacker` gem to manage and compile the frontend assets of our application. This requires a JavaScript runtime, and Node.js is that runtime.

- **Yarn**

This is a package manager for Node that we will use to install our JavaScript dependencies. Rails uses yarn by default to install the dependencies for webpacker.

- **PostgreSQL**

Rails comes with the `sqlite` database by default, but we will not be using it, since it is not suitable for production. It is recommended to develop with the same database that you will use in production.

In this book, we will be using PostgreSQL as our database because it is a very powerful open-source database management system with lots of advanced features.

- **VSCode (optional but recommended)**

This is an open-source, lightweight and fast code editor with support for various languages and frameworks through its numerous extensions.

### 2.1 Setting Up Linux Ubuntu

I will be using the Linux Ubuntu operating system in this book, therefore most of the installation instructions presented here are for Ubuntu. However, I have also provided some helpful links for setup instructions for windows 10 and macOS operating systems.

We are going to install ruby and node.js using the [asdf](https://asdf-vm.com/)<sup>2</sup> version manager. asdf is an extendable version manager with support for Ruby, Node.js, Elixir, Erlang & more. It manages multiple language runtime versions on a per-project basis.

#### Installing Git

Update package repositories

---

<sup>2</sup><https://asdf-vm.com/>

```
1 $ sudo apt-get update
```

Install dev dependencies

```
1 $ sudo apt install make libssl-dev libghc-zlib-dev libcurl4-gnutls-dev \  
2     libexpat1-dev gettext unzip
```

Install git

```
1 $ sudo apt install git
```

## Installing asdf

Clone asdf

```
1 $ git clone https://github.com/asdf-vm/asdf.git ~/.asdf --branch v0.8.1
```

Update bashrc

```
1 $ echo -e '\n. $HOME/.asdf/asdf.sh' >> .bashrc
```

```
1 $ echo -e '\n. $HOME/.asdf/completions/asdf.bash' >> ~/.bashrc
```

Restart your terminal and check if asdf installed correctly

```
1 $ asdf --version
```

The output should be v0.8.1

## Installing Node.js

Add the Node.js plugin

```
1 $ asdf plugin-add nodejs
```

Verify the Node installation files

```
1 $ bash ~/.asdf/plugins/nodejs/bin/import-release-team-keyring
```

Install Node version 14

```
1 $ asdf install nodejs 14.11.0
```

Configure asdf to use this version

```
1 $ asdf global nodejs 14.11.0
```

Verify that Node was installed successfully

```
1 $ node -v
```

You should see v14.11.0 as the output

## Installing yarn

```
1 $ npm install --global yarn
```

Check yarn version

```
1 $ yarn --version
```

You should see 1.22.10 or similar as the output

## Installing Ruby

Install ruby using asdf

Add the Ruby plugin to asdf

```
1 $ asdf plugin-add ruby
```

Install version 3 of Ruby

```
1 $ asdf install ruby 3.0.1
```

Make version 3 the current ruby version

```
1 $ asdf global ruby 3.0.1
```

Check that ruby was installed correctly



```
1 $ ruby -v
```

Version '3.0.1' should be output

## Installing Rails

First let's install Bundler. A dependency management tool for Ruby.

```
1 $ gem install bundler
```

Now install rails

```
1 $ gem install rails -v 6.1.4
```

Restart the terminal and double-check that rails has been installed

```
1 $ rails -v
```

Output

```
1 Rails 6.1.4.1
```

## Installing PostgreSQL

We will install PostgreSQL using the apt repository.

First lets create the file repository configuration

```
1 $ sudo sh -c 'echo \  
2 "deb http://apt.postgresql.org/pub/repos/apt $(lsb_release -cs)-pgdg main" > \  
3 /etc/apt/sources.list.d/pgdg.list'
```

Import the repository signing key

```
1 $ wget --quiet -O - https://www.postgresql.org/media/keys/ACCC4CF8.asc | sudo apt-ke\  
2 y add -
```

Update the package lists

```
1 $ sudo apt-get update
```

Install PostgreSQL version 12

```
1 $ sudo apt-get -y install postgresql-12 libpq-dev
```

Enter password when prompted

```
[sudo] password for username: [password]
```

Start the postgresql server

```
1 $ sudo service postgresql start
```

For more info on installing PostgreSQL on linux visit this [link](#)<sup>3</sup>

Create a PostgreSQL account where the account's username is equal to the system's username. This will enable us to create Rails databases with just one commands (`rails db:create`).

```
1 $ sudo su - postgres -c "createuser `whoami` --superuser"
```

## Install VSCode

```
1 $ sudo snap install code --classic
```

Install the solargraph gem for Ruby language server

```
1 $ gem install solargraph
```

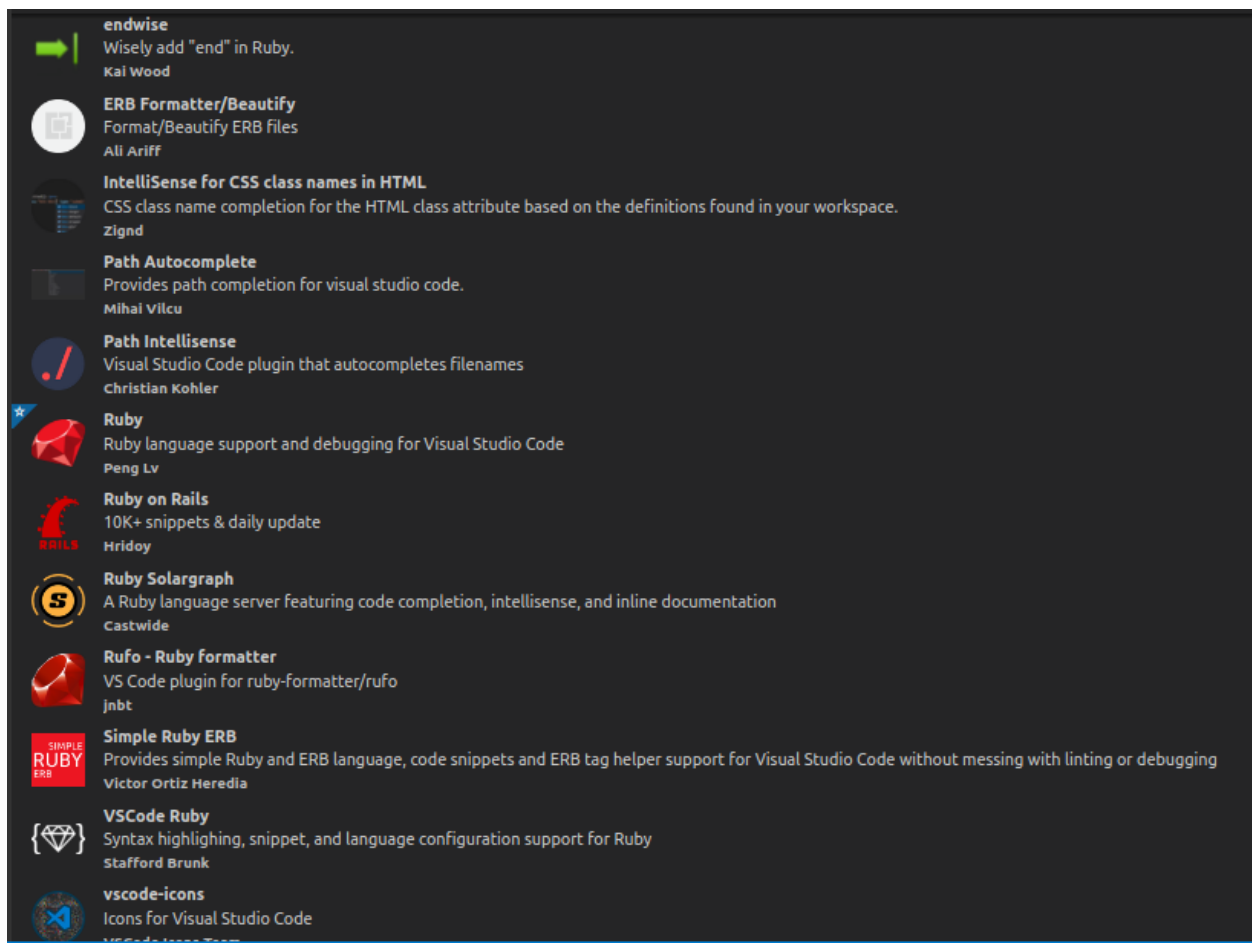
Install the rufo gem for Ruby formatting

```
1 $ gem install rufo
```

Install the following extensions for VSCode

---

<sup>3</sup><https://www.postgresql.org/download/linux/ubuntu/>



VSCode Extensions

## 2.2 For MacOS and Windows 10

**Note:** The previous setup instructions apply for ubuntu 18.04 (or later). For macOS and Windows, use the following links.

For windows [use this link](#)<sup>4</sup>

For macOS [use this link](#)<sup>5</sup>

---

<sup>4</sup><https://gorails.com/setup/windows/10>

<sup>5</sup><https://gorails.com/setup/osx/11.0-big-sur>

## 3 Ansaz

In this chapter, we will begin building the application that we will be working on throughout this book. The application we are going to build is called Ansaz.

**Ansaz** is a web application that allow users to ask questions and get answers from other users. It has the following features:

- Users can ask questions and get answers from other users
- Users can search for questions
- Users can filter questions based on tag names
- Users can comment on the answers and on other comments
- Users can star questions and the answers they think are most helpful.
- Answers to questions are ranked according to their number of stars.
- Users can create private groups where they can ask questions on a specific subject or topic.

### 3.1 Creating Ansaz

In the terminal, create a new rails application with postgresql as the database.

```
1 $ rails new ansaz -d postgresql
```

cd into ansaz

```
1 $ cd ansaz
```

Create the database

```
1 $ rails db:create
```

Open the project in VSCode (or any editor of your choosing)

```
1 $ code .
```

Run the development server

```
1 $ rails s
```

## 3.2 Install Dependencies

Before moving forward, lets install the [factory\\_bot\\_rails](https://github.com/thoughtbot/factory_bot_rails)<sup>6</sup> gem to create data factories for our models. `factory_bot` is a fixtures replacement with a straightforward definition syntax, support for multiple build strategies, and support for multiple factories for the same class.

```
1 $ bundle add factory_bot_rails --group "development, test"
```

Install [annotate](https://github.com/ctran/annotate_models)<sup>7</sup> gem to write the schema description of our models.

```
1 $ bundle add annotate --group development
2 $ rails g annotate:install
```

---

<sup>6</sup>[https://github.com/thoughtbot/factory\\_bot\\_rails](https://github.com/thoughtbot/factory_bot_rails)

<sup>7</sup>[https://github.com/ctran/annotate\\_models](https://github.com/ctran/annotate_models)

# 4 User Authentication

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## 4.1 Setup Devise

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## 4.2 Add styling

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## 4.3 Using partials

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## 4.4 User Profiles

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# 5 Questions

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## 5.1 Implement Questions

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## 5.2 Add Rich Text to Questions

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### Paginating Questions

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## 5.3 User Authorization

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## 5.4 Tagging Questions

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## 5.5 Searching for Questions

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# 6 Answers

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## 6.1 Implement Answers

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## 6.2 Update User Profile Page

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## 6.3 Commenting on Answers

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## 6.4 Implement Answer Acceptances

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## 6.5 Notify Users When Their Questions Are Answered

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# 7 Stars

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## 7.1 Implement Stars

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## 7.2 Rank Answers

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# 8 Groups

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## 8.1 Implement Goups

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## 8.2 Display Popular Groups

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## 8.3 Link Users To Groups

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/concise-rails6>.

## 8.4 Approving Group Join Requests

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/concise-rails6>.

## 8.5 Asking in Groups

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## 8.6 Style Group List Page

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## 8.7 Popular and Recommended Questions

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# 9 Testing

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## 9.1 Testing Models

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## 9.2 Testing Policies

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## 9.3 Testing Mailers

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## 9.4 Testing Services

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## 9.5 Testing Controllers

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## 9.6 Testing JavaScript

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