

App Requirements

Introduction

Build a sample Ruby on Rails (RoR v5.0.0 stable) application utilizing the following components:

- 1) Devise
- 2) Pundit
- 3) FactoryGirl
- 4) Capybara
- 5) RSpec

The application is meant to be a quick start for a simple system using MySQL.

Use Devise for the Authentication

Use Pundit for the authorization

Use FactoryGirl to create objects

Use basic unit testing with RSpec and Capybara

General notes

All tables use a Synthetic Key for the Primary Key. You may also know this as a Surrogate Key or an Artificial Key. It should be an auto-numbered not-null integer.

Where a field is indicated as a **string** below, I would ideally like varchar(255).

Please adjust fields as required to fit Devise/Pundit requirements

Tables

- 1) Companies
 - a. id **int PK**
 - b. name **string**
 - c. country_id **int**
 - d. state_id **int**
 - e. city_id **int**
 - f. postcode **string**
 - g. start_date **datetime**
 - h. active **bit**
- 2) Users
 - a. id **int PK**
 - b. email **string**
 - c. first_name **string**
 - d. last_name **string**
 - e. company_id **int**

- f. role_id **int**
- g. start_date **datetime**
- h. end_date **datetime**
- i. monthly_charge **decimal**
- j. notes blob <- Note: used to store RTF
- k. image_id **int**
- l. active **bit**
- m. **+Additional Pundit/Devise fields as required**

Rules:

start_date <= end_date

dates must have calendar icon option

monthly_charge is an positive amount with two decimal places

notes is entered via a rich text box and should include the ability to upload/insert an image, bold, italicize and underline text, etc. Stored in table.

active is a boolean style checkbox

3) User_Roles

- a. id **int PK**
- b. role_name **string**

Rules:

admin – can do anything for any company for any user

manager – can do anything for any user but only for their company

user – can do anything with their account but only for their company

4) User_Regions

- a. id **int PK**
- b. user_id **int**
- c. region_id **int**

5) Regions

- a. id **int PK**
- b. region_name **string**

6) Country

- a. id **int PK**
- b. country_name **string**

7) State

- a. id **int PK**
- b. state_name **string**

8) City

- a. id **int PK**
- b. city_name **string**

9) Images

- a. id **int PK**
- b. user_id **int**
- c. real_name **string**
- d. image_name **string**

Note: image_name = real_name + generated-guid

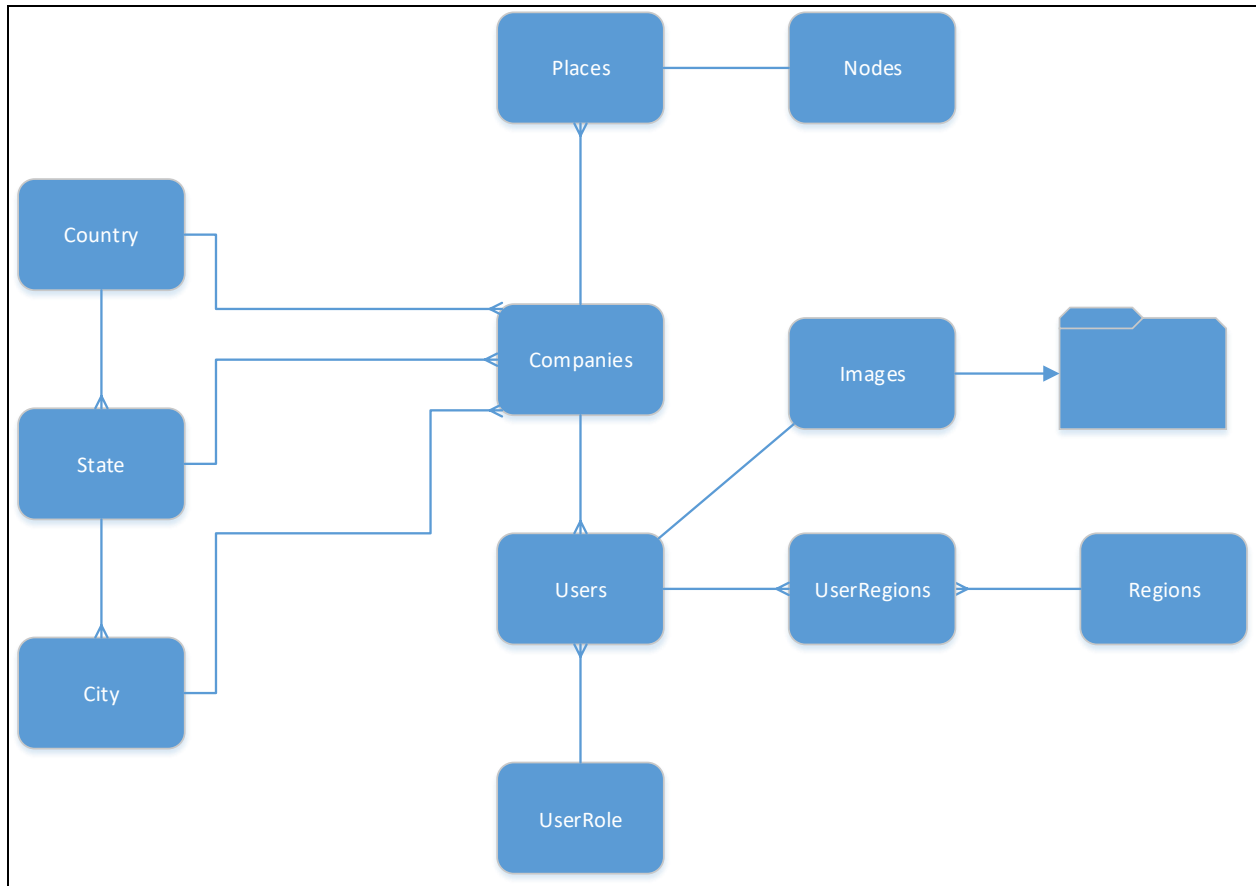
When an image is uploaded, the original image name is stored in the table along with the user id who uploaded it. The image is saved into a folder renamed to image name + a generated GUID.jpg (or whatever type is set)

10) Places

- a. id **int PK**
- b. place_name **string**
- c. company_id **int**

11) Nodes

- a. id **int PK**
- b. node_name **string**
- c. place_id **int**



All tables must include a paginated List form with links to CRUD forms

On company add/edit, selecting country will fill states associated with country.

Selecting state will fill cities associated with select state

Assigning Regions to a User

Because Users and Regions is a Many-to-Many relationship, a form must be built to allow Users to be associated with Many Regions

Mockup of Adding Place/Node

Add Place

Place Name

Node Name

Company

ABC

Cancel

Save

Mockup of Adding a Company

Add Company

Company

Country

Canada

State

British Columbia

City

Victoria

Postcode

Start Date

/ /

☐ Active

Cancel

Save

Mockup of Adding a User

Add User


First Name Last Name Email

Company Monthly





































Role

Start Date End Date

☐ Active

Image 

Notes

B **I** **U** **S** style                                    

Mockup of assigning Regions to Users:

The mockup is titled "User to Region" in a grey header bar. Below the header, there is a "User" label followed by a dropdown menu containing the text "Fred Bloggs". Below this, there are two columns of region lists. The left column is titled "Unselected Regions" and contains a list box with the items "North", "East", and "West". The right column is titled "Selected Regions" and contains a list box with the item "South". Between these two list boxes are two buttons: "Add" with a right-pointing arrow and "Remove" with a left-pointing arrow. At the bottom right of the interface are two buttons: "Cancel" and "Save".

Special Note:

Places and Nodes have a 1-to-1 relationship

One single list can be built, and one set of crud forms to update and delete both tables at the same time.

Users cannot bypass security through the address line

Cascade logic

- Country
 - State
 - City

Test Data

Countries / States / Cities

- 1) Canada
 - a. British Columbia
 - i. Vancouver
 - b. Alberta
 - i. Edmonton
 - ii. Calgary
- 2) USA
 - a. California
 - i. Los Angeles
 - ii. Santa Barbara
 - b. New York
 - i. New York
 - ii. Albany

User Data

Role: Admin

Company: 1

admin@abc.com

1234567

Role: Manager

Company: 2

manager@def.com

1234567

Role: User

Company: 2

user@def.com

1234567

Role: Manager

Company: 3

manager@ghi.com

1234567

Role: User

Company: 3

user@ghi.com

1234567

List of forms

Name	Type
Companies	List (with CRUD Links)
	Create
	Read
	Update
Users	List (with CRUD Links)
	Create
	Read
	Update
UserRoles	List (with CRUD Links)
	Create
	Read
	Update
Regions	List (with CRUD Links)
	Create
	Read
	Update
Country	List (with CRUD Links)
	Create
	Read
	Update
State	List (with CRUD Links)
	Create
	Update
	Delete
City	List (with CRUD Links)
	Create
	Read
	Update
Places/Nodes	List (with CRUD Links)
	Create
	Read
	Update
UserRegions	Link Form