

Lab 8.1: Introduction to MongoDB

IN705 Databases Three

Introduction

In the last lab we installed and tried out MongoDB, a *document database*. In this lab we will convert our Rails application to use MongoDB rather than a relational database as it does now. The remarkable thing is how little we actually have to do.

1 Create a new Git branch

We want to work on our new version of splatter without interfering with development of our original relational database version. We will create a *branch* in our Git repository to support this.

Make a new working directory your home directory on your EC2 server. Inside that directory, execute the following

```
git clone git@github.com:<your username>/db3.git
git checkout -b mongo
```

Inside your `splatter` directory, edit your `Gemfile`, adding the following lines:

```
gem 'mongoid', github: 'mongoid/mongoid'
gem 'bson_ext'
```

Then, commit your changes on the new branch.

```
git add .
git commit -m "added deps for mongo to Gemfile"
git push origin mongo
```

Check the Github web site to verify that your new branch is present.

2 Reconfigure your Rails application

We need to make some configuration changes to our Rails application. Carry out the following tasks in your `splatter` directory.

First, update your Ruby gems by running `bundle update`.

Next, generate your MongoDB configuration file with the command `rails g mongoid:config`. This will write the file `config/mongoid.yml`. It's not necessary to make any changes right now, but you should take a minute to look at this file.

Edit the file `config/application.rb`. Comment out the line that says `require 'rails/all'` and add the following lines:

```
require "action_controller/railtie"
require "action_mailer/railtie"
require "sprockets/railtie"
```

Edit the file `config/environments/development.rb`, commenting out the line

```
config.active_record.migration_error = :page_load
```

3 Modify the models

Since the model classes are the part of our code that interacts with the database, we need to change those classes.

First, remove the original `user.rb` file and replace it with a new one:

```
rm app/models/user.rb
rails g model user name:string email:string password:string blurb:string
```

Take a look at the new model and note the differences. Since a MongoDB database is schemaless, we have to specify our data fields in the model.

We don't need the `splatt` model file for now, so remove it from the your repository with the command

```
git rm app/model/splatt.rb
```

Now try running you server with the command `rails server`.

4 Test your application

You can use `curl` to test your user CRUD functions:

```
curl -H "Content-type: application/json" -X POST http://localhost:3000/users \
  -d '{"name": "Mongo User", "email": "a@b.c", "password": "foo", "blurb": "bar"}'
```

```
curl -H "Content-type: application/json" -X GET http://localhost:3000/users
```

Note the id of your new user and substitute it in the requests below..

```
curl -H "Content-type: application/json" -X GET http://localhost:3000/users/540f3f736269623441000000
```

```
curl -H "Content-type: application/json" -X PUT http://localhost:3000/users/540f3f736269623441000000 \
  -d '{"name": "Bob"}'
```

Once you have tested your application, commit and push your changes.