CPSC 476 Graduate Programming Project
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Introduction:

Shared Event Calendar is an Jruby on rails web application where an user can view all the events listed on the public home page. A logged in user can create or like the events according to the user's interest. And also, an user can view all his/her events liked and created in a separate page.

Software Details and Versions:

Jruby version 1.7.16
Rails version 4.2.6
OS: Ubuntu 14
Java: Java 1.8
Tomcat: 8.0.33
Version Control: Git

Challenges:

Creating an application was one of the biggest challenge for me. Initially my working environment was Windows and I got tons of problems installing jruby on rails on windows machine. Later I moved to Ubuntu for the development of the project. But even after moving on linux, there were again some of the problems I ran into using the latest jruby versions. After inspecting the code, I realize that latest version had some problems so I downgraded the version from 1.7.22 to 1.7.16.

Later I followed digitalocean article and was able to create a simple jruby on rails application. Later when I tried to deploy the application on jetty and tomcat, then again I ran into syntax error. After inspecting all the code inside war file and making changes I ran into several other problems. Later I realize the main cause of the problem was mime-types version 3 which rails automatically takes when we create application. Then I downgraded the mime-types version, ran bundle install and then packaged the code into war file and deployed it to tomcat. Finally, it ran successfully.

Later, I deployed the war file in windows tomcat and I found an anomaly in tomcat 8 version in windows. When I run localhost:8080/eventcalendar application, it was not appending slash to the URL but in linux tomcat, it was automatically appending slash. I even followed this article but then again I was getting different issues. So this is the only limitation, it does not adds trailing slash on windows tomcat.

Why Jruby on Rails?

I should rather say why not jruby on rails. The reason I selected jruby on rails as my graduate project was to see the power of the combination of JAVA and Ruby. Rails follows the same MVC pattern like Spring in JAVA. But creating a small scale application like this, I believe it is better to use Rails because of its very easy configuration settings and it yields the development very fast. With the scaffold feature and the built in gems I was able to create the application in few hours. The same project requires lot of coding in spring which increases the development time and as per my knowledge there are lot of configuration a developer had to do in order to run the application using Spring MVC.

Using simply ruby on rails, we can build the application faster but then suppose we need to deploy that application in 1000 machines it would be difficult and not easy and scalable. That is where JAVA comes into picture. The JAVA ECOSYSTEM is so good that it packages an application into a Web Archive file with which we can deploy the rails application to those 1000 machines in web container.

Moreover, we do not need to teach rails technology to deployment team who are well versed in java, we just need to give them WAR file and our work will be done. So, by merging Ruby and Java we can be more productive.

Build Instructions:

For the application to run on a machine, it should have jruby, java, rvm and rails installed. The following instructions applies for Ubuntu. Version for jruby should be 1.7.16 for this assignment.

Database Instructions:

The database used is hsqldb for this assignment. The process is similar like we did in java project.

1. Make sure that Ant is installed
2. Download build.xml and place it in a new, empty directory
3. ant clean
4. ant init
5. Ant manage

Following is setup instructions for

1. Open terminal and go to project directory.

2. rvm use jruby-1.7.16
3. export JRUBY_OPTS=--2.0 #for setting jruby to use ruby 2.0, if required
4. bundle install
5. rake db:migrate
6. gem install warbler #to install warbler for packaging the code
7. warble war
8. Copy the war file in apache tomcat webapps directory
9. Start tomcat
10. Open browser and run http://localhost:8080/eventcalendar/

    or

    xdg-open http://localhost:8080/eventcalendar/ #from command line.

Note: You might need to update java policy in order to run jruby on your machine

Project Description:

This application uses a Standard Rails MVC Framework using Jruby. I am having three tables likes, users and events.

Following are the important gems used in the project:

1. activerecord-jdbchsqldb-adapter #for hsql
2. devise   #for authentication
3. Mime-types lower version to support jruby
4. Warbler #to create war file

Following are the files I have created in order to create the application

Model:

1. Like: This model is created to store like in likes table. It has two main attributes event_id and user_id. This model is mapped to likes table using ActiveRecord ORM
2. Event: This model is created to store events. The main attributes are name of event, location of event, creator of event and datetime of event. This imodel is mapped with events table
3. User: This is basically used for authentication process.

The actual schema you can find below.

Controller:

1. Home: This is responsible to display public events on homepage.
2. Events: This contains all the crud operations code.

Views:

The following views are responsible to display data on browser.

1. Devise
2. Events
3. Home

Database Schema:

Following is the database schema:

```
create_table "events", force: :cascade do |t|
        t.string   "event_name",        limit: 255
        t.string   "event_location", limit: 255
        t.datetime "event_date",        limit: 26
        t.integer  "user_id",    limit: 32
        t.datetime "created_at",        limit: 26,  null: false
        t.datetime "updated_at",        limit: 26,  null: false
 end

 create_table "likes", force: :cascade do |t|
        t.integer  "event_id",   limit: 32
        t.integer  "user_id",    limit: 32
        t.datetime "created_at", limit: 26, null: false
        t.datetime "updated_at", limit: 26, null: false
 end

 create_table "users", force: :cascade do |t|
        t.string   "email",                 limit: 255, default: "", null: false
        t.string   "encrypted_password",        limit: 255, default: "", null: false
        t.string   "reset_password_token",   limit: 255
        t.datetime "reset_password_sent_at", limit: 26
        t.datetime "remember_created_at",    limit: 26
        t.integer  "sign_in_count",             limit: 32,  default: 0,  null: false
        t.datetime "current_sign_in_at",        limit: 26
        t.datetime "last_sign_in_at",           limit: 26
        t.string   "current_sign_in_ip",         limit: 255
```

```
          t.string   "last_sign_in_ip",     limit: 255
          t.datetime "created_at",          limit: 26,                  null: false
          t.datetime "updated_at",          limit: 26,                  null: false
          t.string   "name",                limit: 255
  end

  add_index "users", ["email"], name: "index_users_on_email", unique: true
  add_index "users", ["reset_password_token"], name: "index_users_on_reset_password_token",
unique: true
```

Associations:

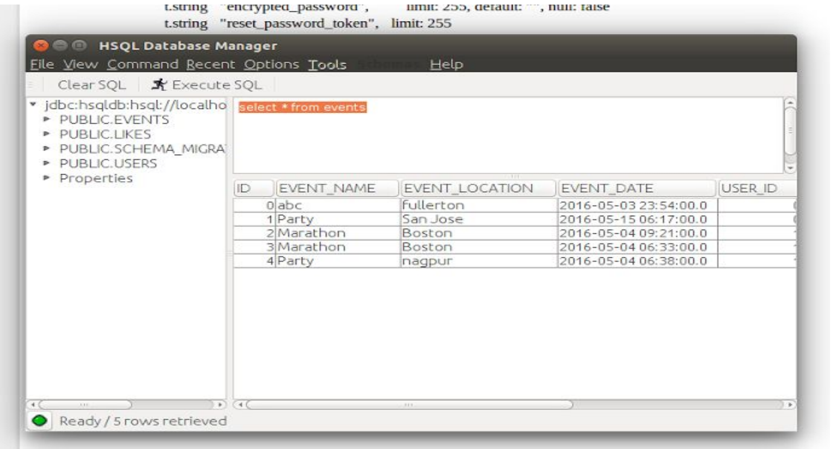
Following associations I have created:

```
class Event < ActiveRecord::Base
   belongs_to :user
   has_many :likes
  #………..other code
end

class Like < ActiveRecord::Base
    belongs_to :user
    belongs_to :event
  #…..other code
end

class User < ActiveRecord::Base
  has_many :events
  has_many :likes
  has_many :liked_events, :through => :likes, :source => :event
  #....other code
end
```

Screenshots:

Database Screenshots:

1. Events



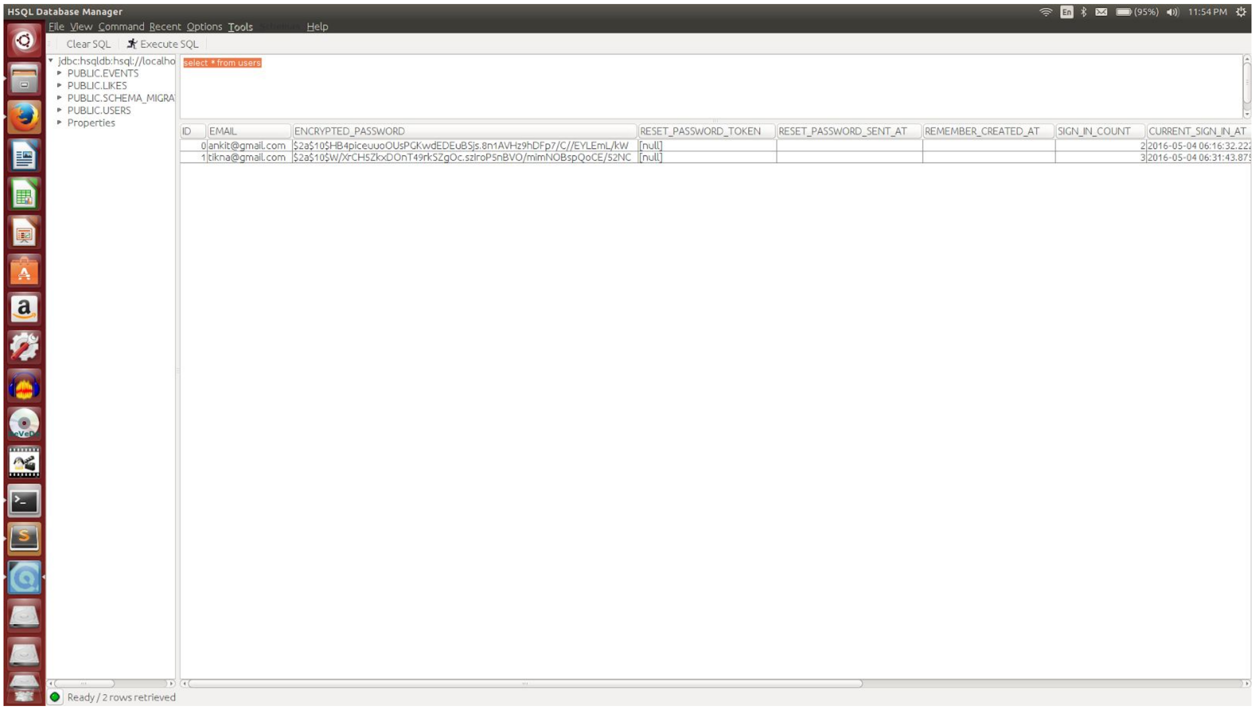
```
t.string   "encrypted_password",        limit: 255, default: "", null: false
t.string   "reset_password_token",   limit: 255
```

```
select * from events
```

ID	EVENT_NAME	EVENT_LOCATION	EVENT_DATE	USER_ID
0	abc	fullerton	2016-05-03 23:54:00.0	
1	Party	San Jose	2016-05-15 06:17:00.0	
2	Marathon	Boston	2016-05-04 09:21:00.0	
3	Marathon	Boston	2016-05-04 06:33:00.0	
4	Party	nagpur	2016-05-04 06:38:00.0	

Ready / 5 rows retrieved

2. Users

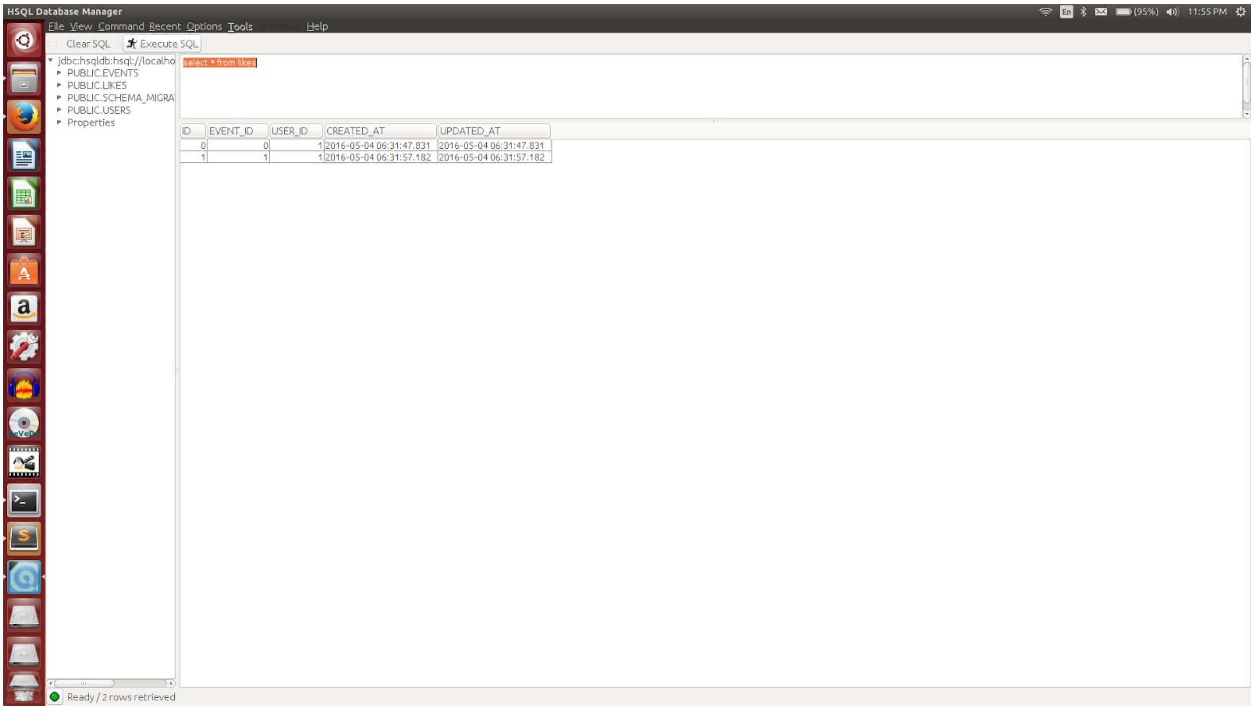


```
select * from users
```

ID	EMAIL	ENCRYPTED_PASSWORD	RESET_PASSWORD_TOKEN	RESET_PASSWORD_SENT_AT	REMEMBER_CREATED_AT	SIGN_IN_COUNT	CURRENT_SIGN_IN_AT
0	ankit@gmail.com	$2a$10$HB4piceuuoOUsPGKwdEDEuBSjs.8n1AVHz9hDFp7/C//EYLEmL/kW	[null]			2	2016-05-04 06:16:32.22
1	tikna@gmail.com	$2a$10$W/XrCH5ZkxDOnT49rkSZgOc.szlroP5nBVO/mimNOBspQoCE/52NC	[null]			3	2016-05-04 06:31:43.87

Ready / 2 rows retrieved

3. Likes



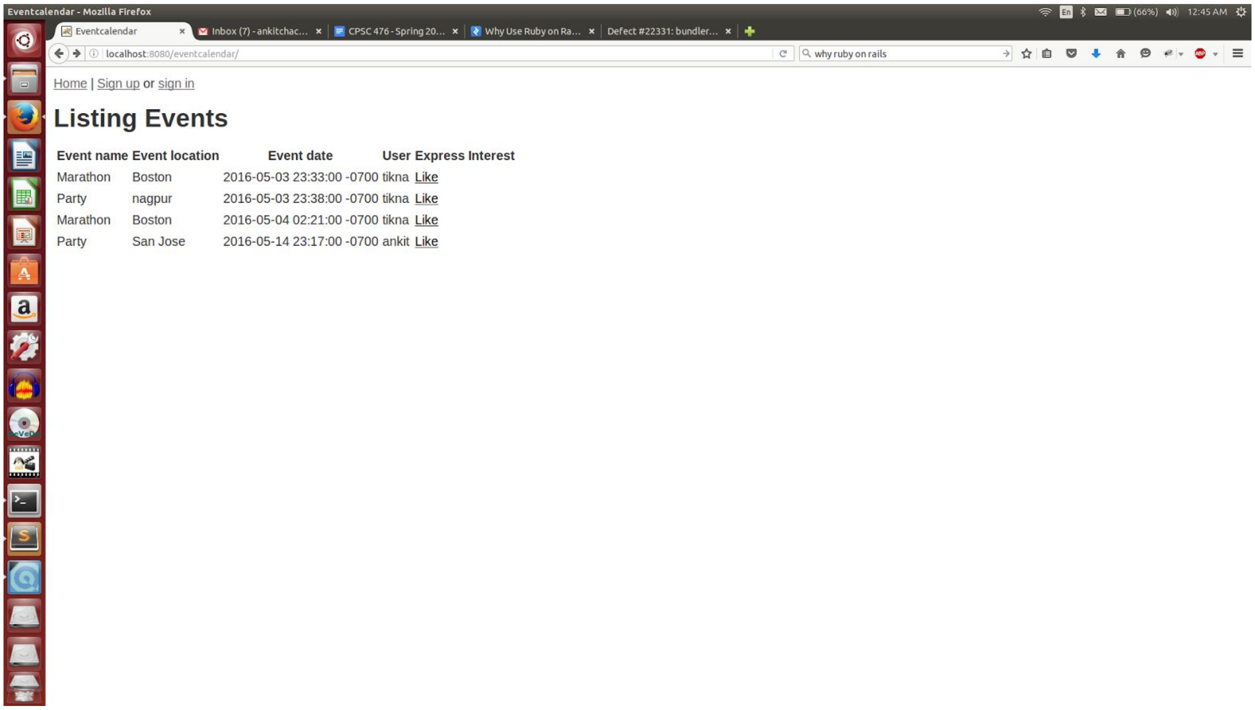
```
select * from likes
```

ID	EVENT_ID	USER_ID	CREATED_AT	UPDATED_AT
0	0	1	2016-05-04 06:31:47.831	2016-05-04 06:31:47.831
1	1	1	2016-05-04 06:31:57.182	2016-05-04 06:31:57.182

Ready / 2 rows retrieved

Home Page:

1. When user is not signed in.

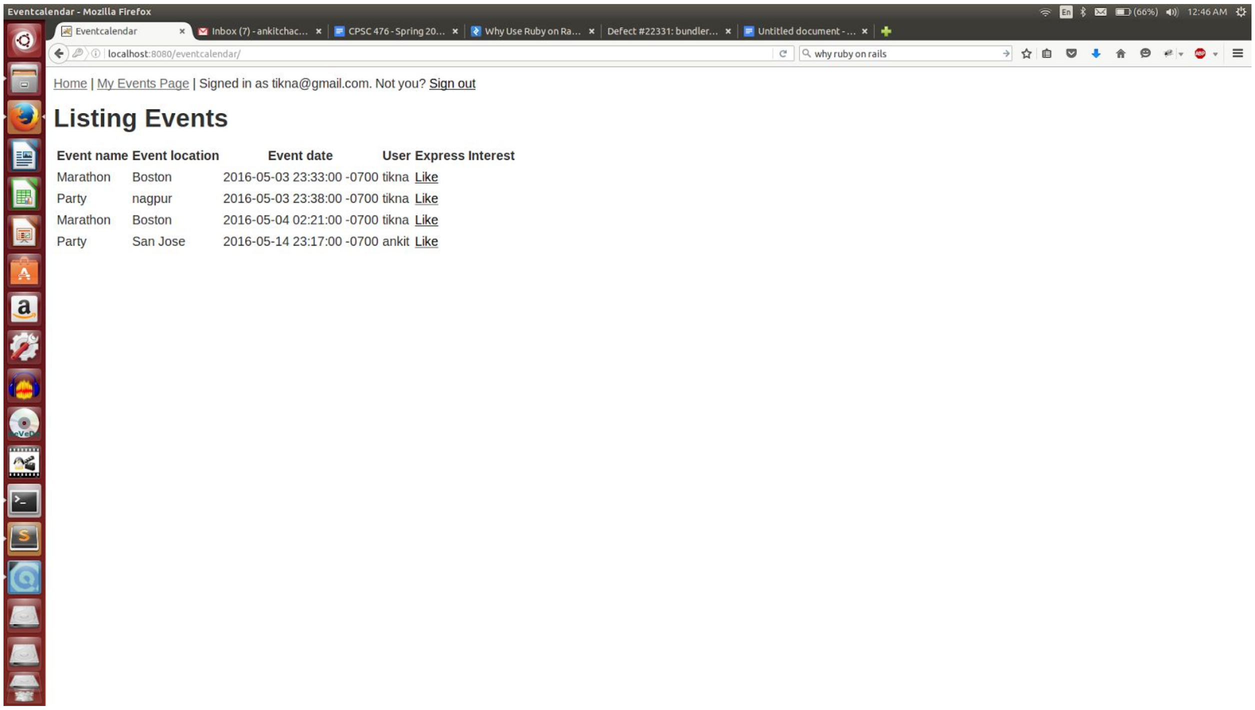


Home | Sign up or sign in

Listing Events

Event name	Event location	Event date	User	Express Interest
Marathon	Boston	2016-05-03 23:33:00 -0700	tikna	Like
Party	nagpur	2016-05-03 23:38:00 -0700	tikna	Like
Marathon	Boston	2016-05-04 02:21:00 -0700	tikna	Like
Party	San Jose	2016-05-14 23:17:00 -0700	ankit	Like

2. When user is signed in

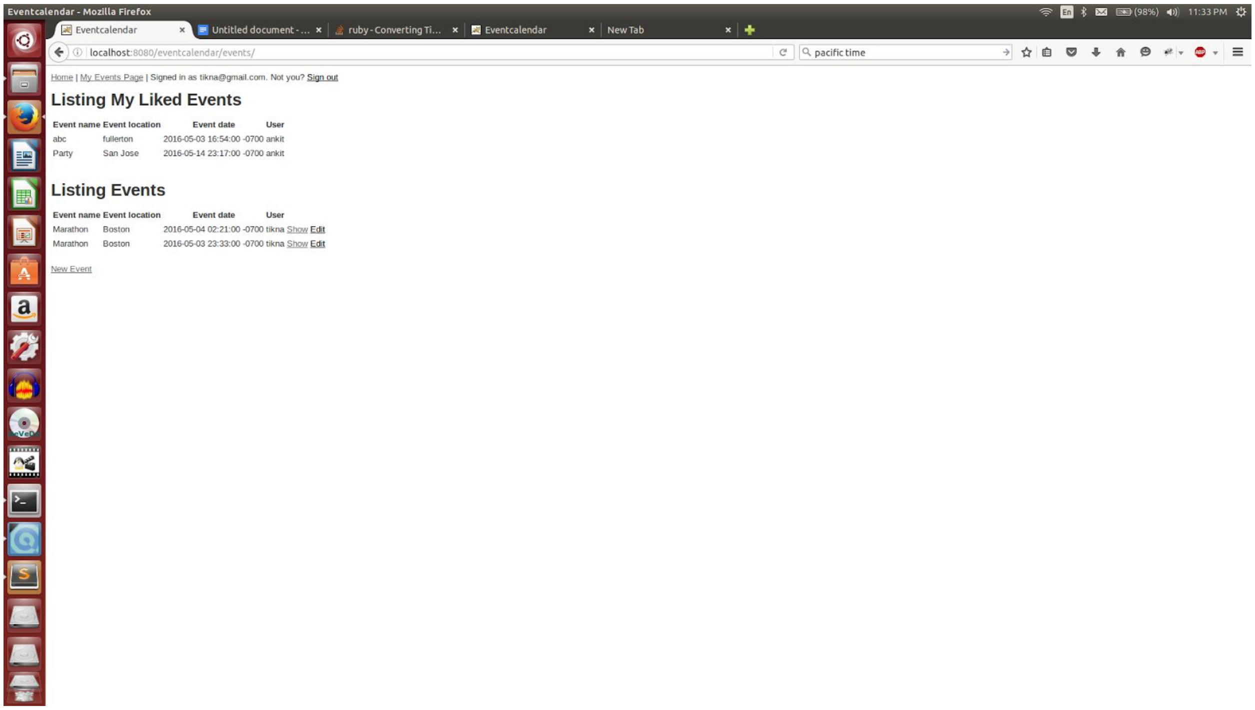


Home | My Events Page | Signed in as tikna@gmail.com. Not you? Sign out

Listing Events

Event name	Event location	Event date	User	Express Interest
Marathon	Boston	2016-05-03 23:33:00 -0700	tikna	Like
Party	nagpur	2016-05-03 23:38:00 -0700	tikna	Like
Marathon	Boston	2016-05-04 02:21:00 -0700	tikna	Like
Party	San Jose	2016-05-14 23:17:00 -0700	ankit	Like

3. To create new event, click on My Events page, it will diplay liked events and created events with a link “New Event”



Home | My Events Page | Signed in as tikna@gmail.com. Not you? Sign out

Listing My Liked Events

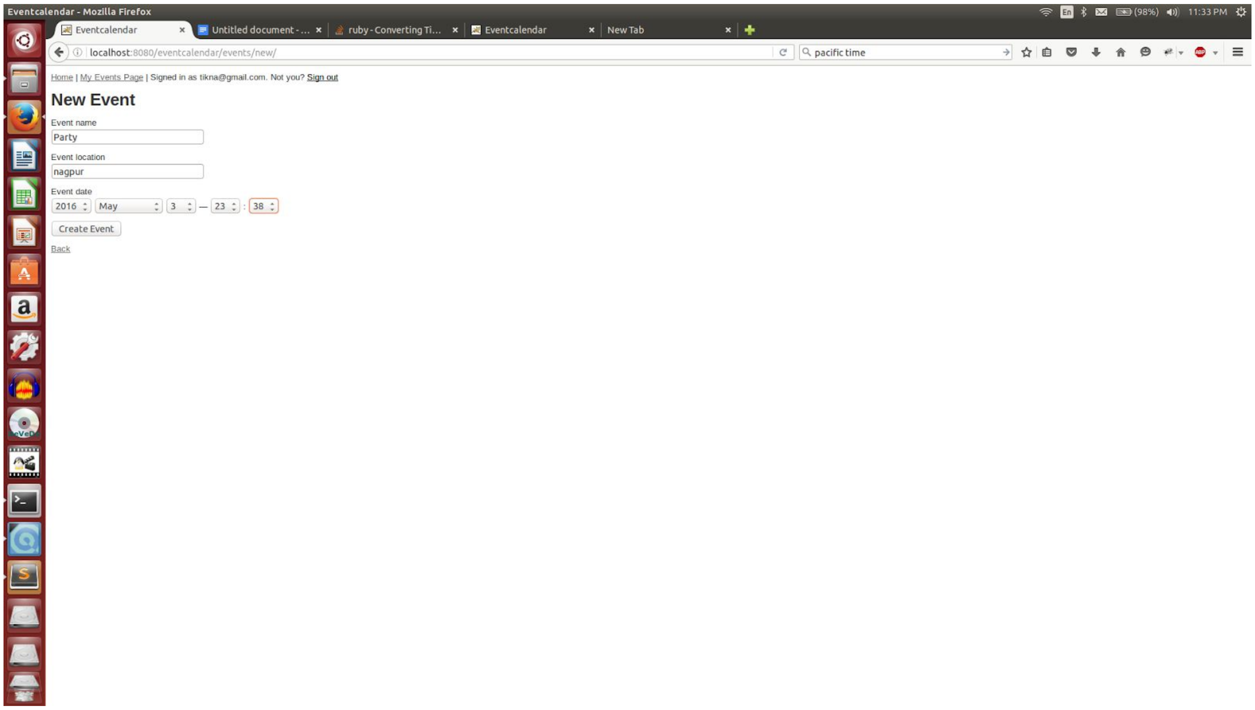
Event name	Event location	Event date	User
abc	fullerton	2016-05-03 16:54:00 -0700	ankit
Party	San Jose	2016-05-14 23:17:00 -0700	ankit

Listing Events

Event name	Event location	Event date	User		
Marathon	Boston	2016-05-04 02:21:00 -0700	tikna	Show	Edit
Marathon	Boston	2016-05-03 23:33:00 -0700	tikna	Show	Edit

New Event

4. New Event Page:



Home | My Events Page | Signed in as tikna@gmail.com. Not you? Sign out

New Event

Event name
Party

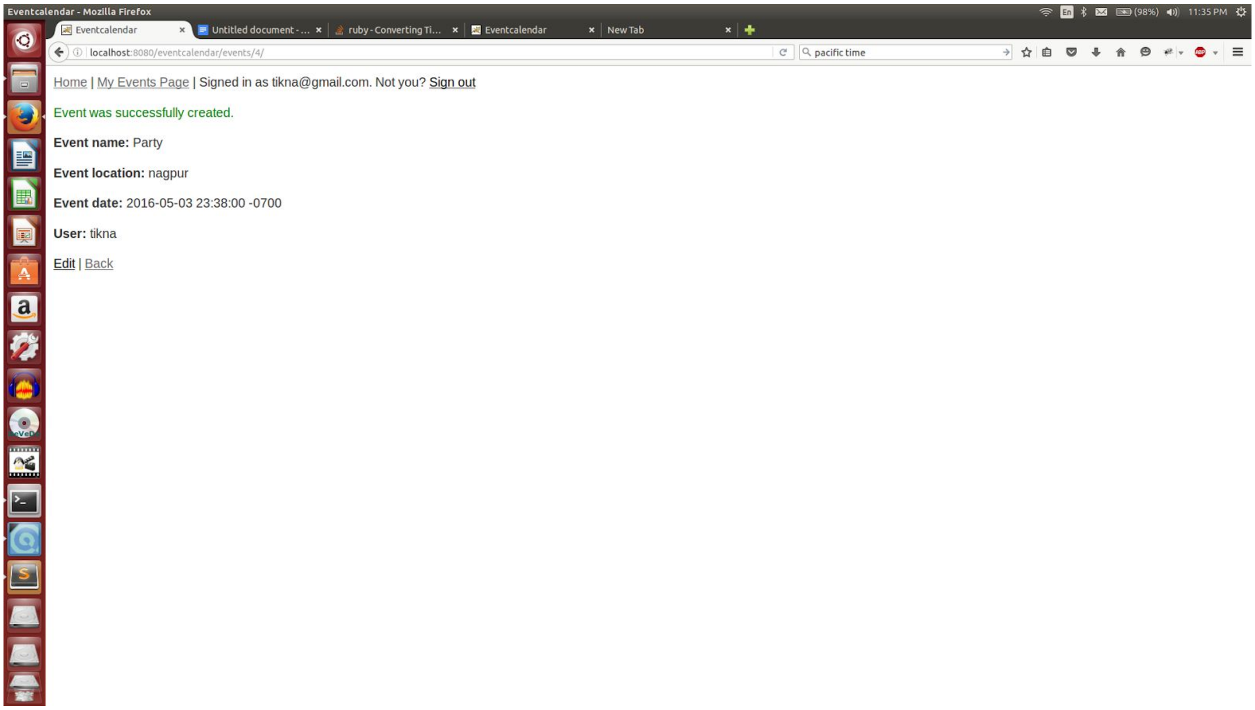
Event location
nagpur

Event date
2016 May 3 — 23 : 38

Create Event

Back

5. Show Event Page, which displays event information



Home | My Events Page | Signed in as tikna@gmail.com. Not you? Sign out

Event was successfully created.

Event name: Party

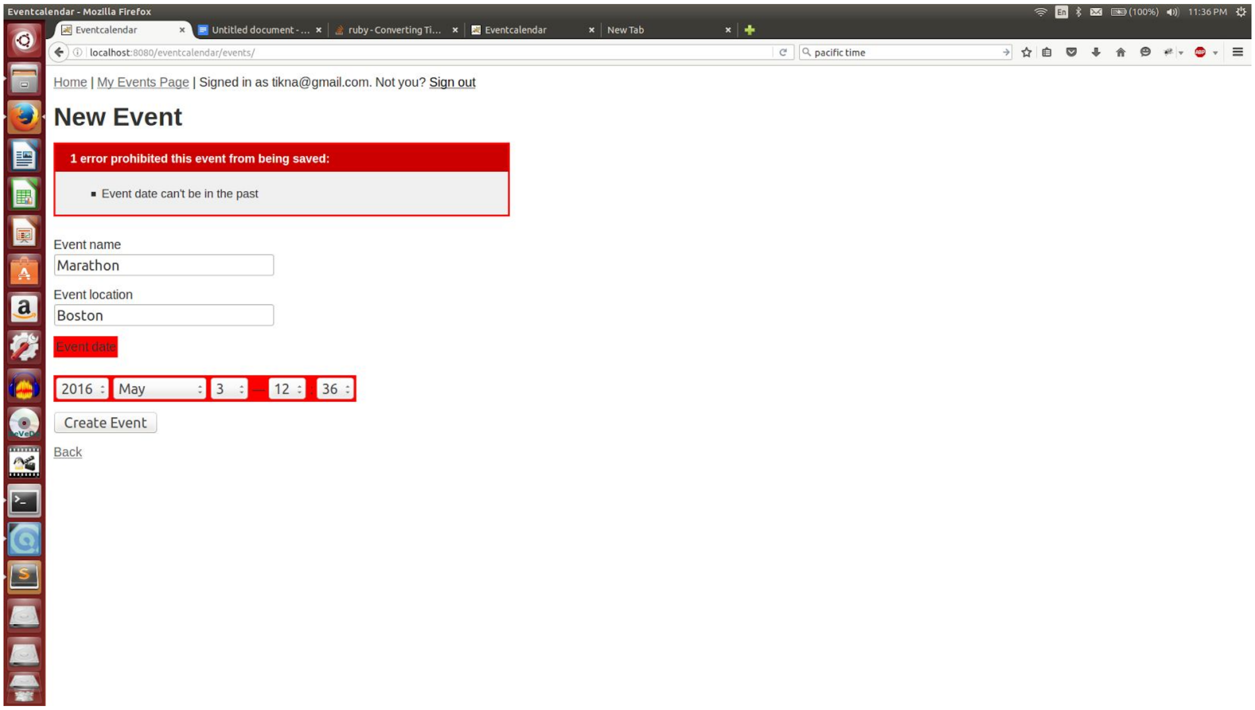
Event location: nagpur

Event date: 2016-05-03 23:38:00 -0700

User: tikna

Edit | Back

6. I display error if past time entered:



localhost:8080/eventcalendar/events/

Home | My Events Page | Signed in as tikna@gmail.com. Not you? Sign out

New Event

1 error prohibited this event from being saved:

- Event date can't be in the past

Event name

Marathon

Event location

Boston

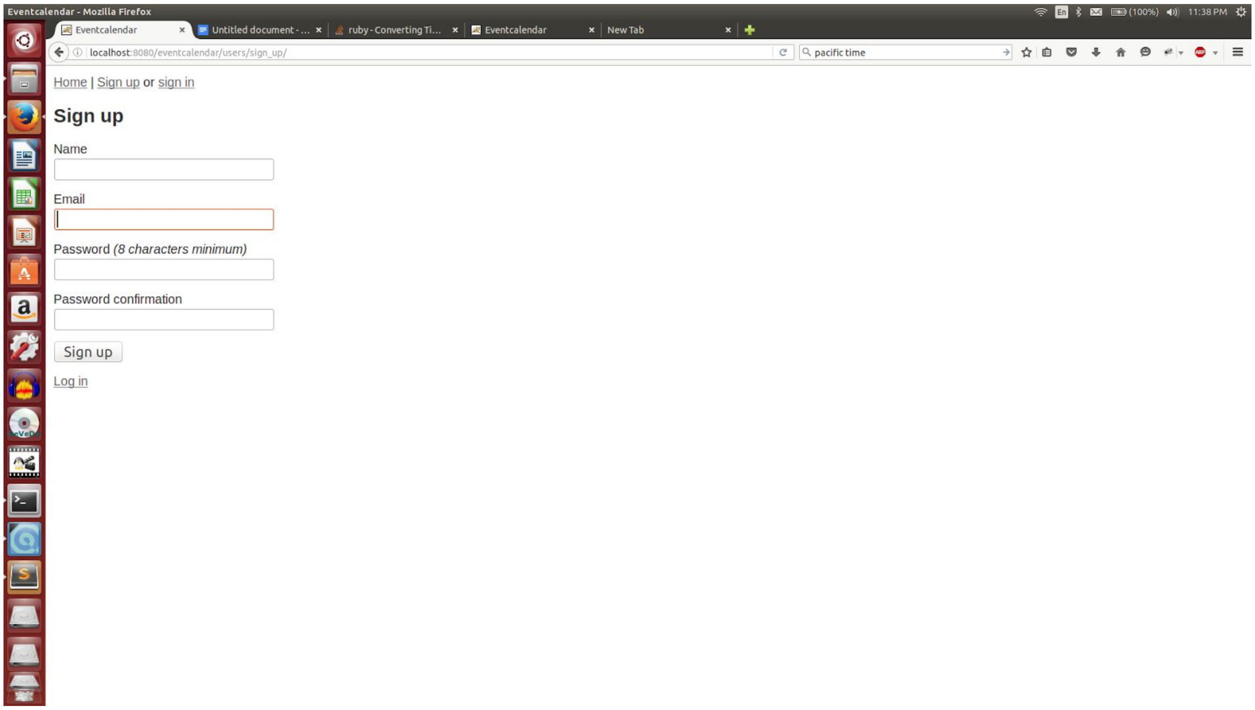
Event date

2016 May 3 — 12 : 36

Create Event

Back

7. Sign Up Page



localhost:8080/eventcalendar/users/sign_up/

Home | Sign up or sign in

Sign up

Name

Email

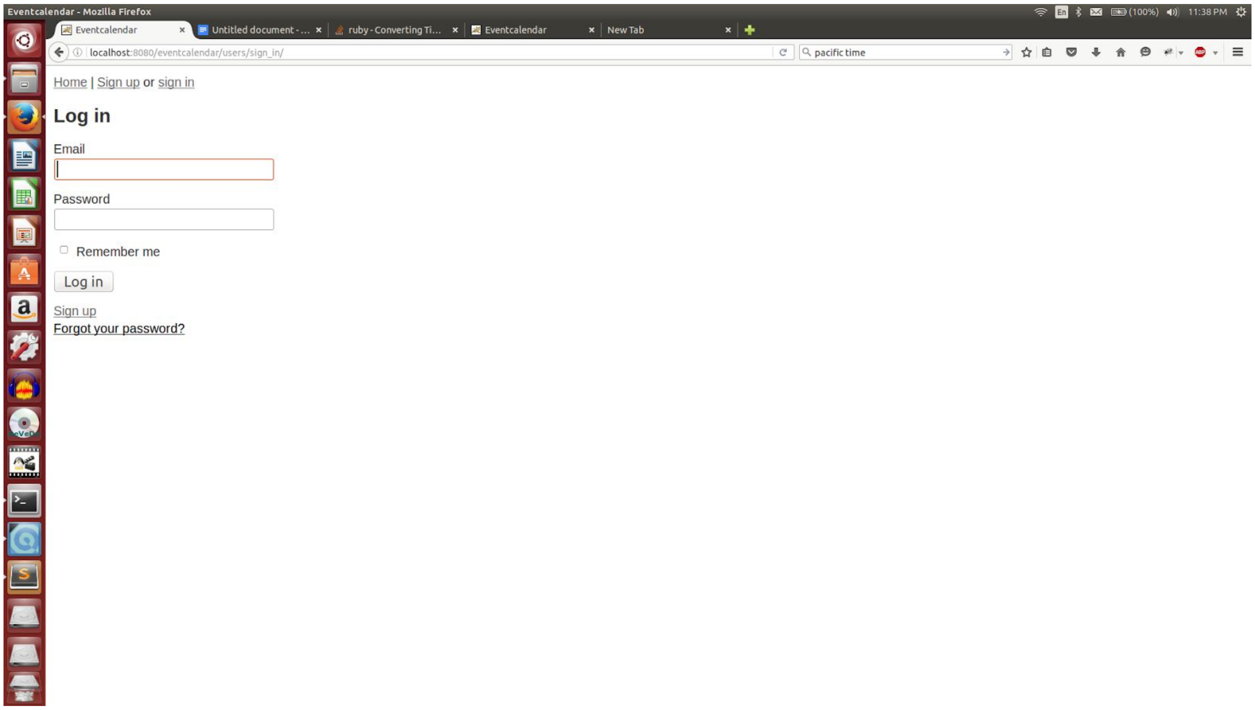
Password *(8 characters minimum)*

Password confirmation

Sign up

Log in

8. Sign In Page



Home | Sign up or sign in

Log in

Email

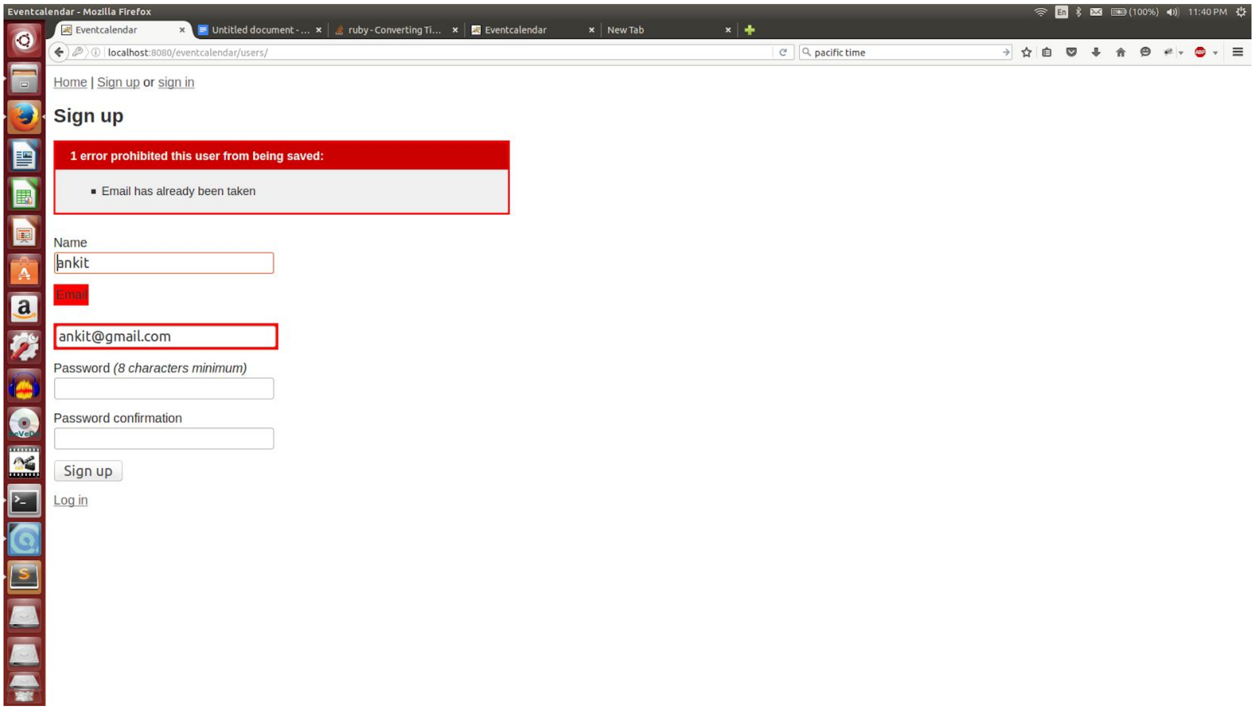
Password

□ Remember me

Log in

Sign up
Forgot your password?

9. If user already present in database, I prevent it to be created



Home | Sign up or sign in

Sign up

1 error prohibited this user from being saved:

- Email has already been taken

Name
ankit

Email
ankit@gmail.com

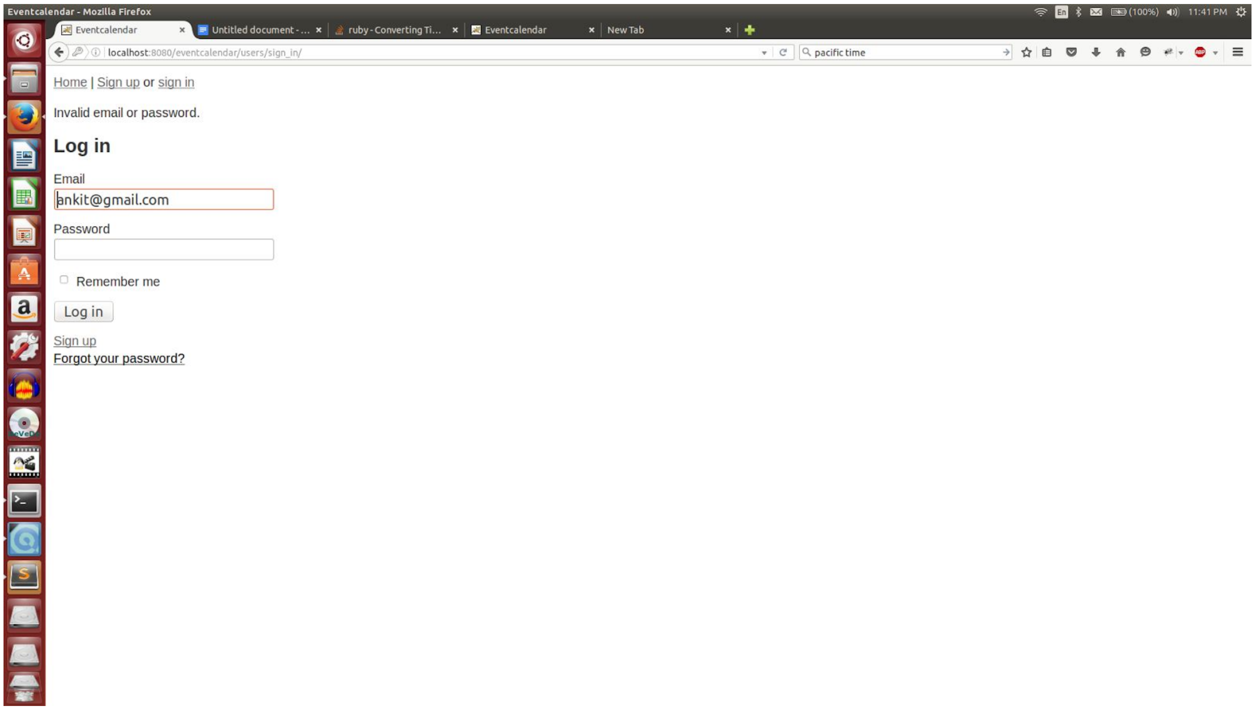
Password *(8 characters minimum)*

Password confirmation

Sign up

Log in

10. If user enters invalid information then, I display invalid username/password



Home | Sign up or sign in

Invalid email or password.

Log in

Email

ankit@gmail.com

Password

□ Remember me

References

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5. http://stackoverflow.com/questions/36237375/error-mime-types-data-requires-ruby-version-2-0