CS 317: Web Engineering

University of Balochistan

Handout 8: Lab 08 Instructions

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Computer Science and IT

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Working with git, github, heroku

In this tutorial we will learn about the version control uploading rails project to the web.

Git

Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency. Lets create a sample railsapp and add to the git.

Installing Git

Install git in your operating systems, if it is not installed already

```
$ sudo apt-get update
$ sudo apt-get install git-core
```

Configuring git

First create an account on **github** with username and email address. We'll be using Git for our version control system so we're going to set it up to match our Github account. If you don't already have a Github account, make sure to register. It will come in handy for the future.

Replace my name and email address in the following steps with the ones you used for your Github account.

```
$ git config --global user.name "YOUR NAME"
$ git config --global user.email "YOUR@EMAIL.com"
$ ssh-keygen -t rsa -C "YOUR@EMAIL.com"
```

The next step is to take the newly generated **SSH key** and add it to your Github account. You want to copy and paste the output of the following command and paste it here.
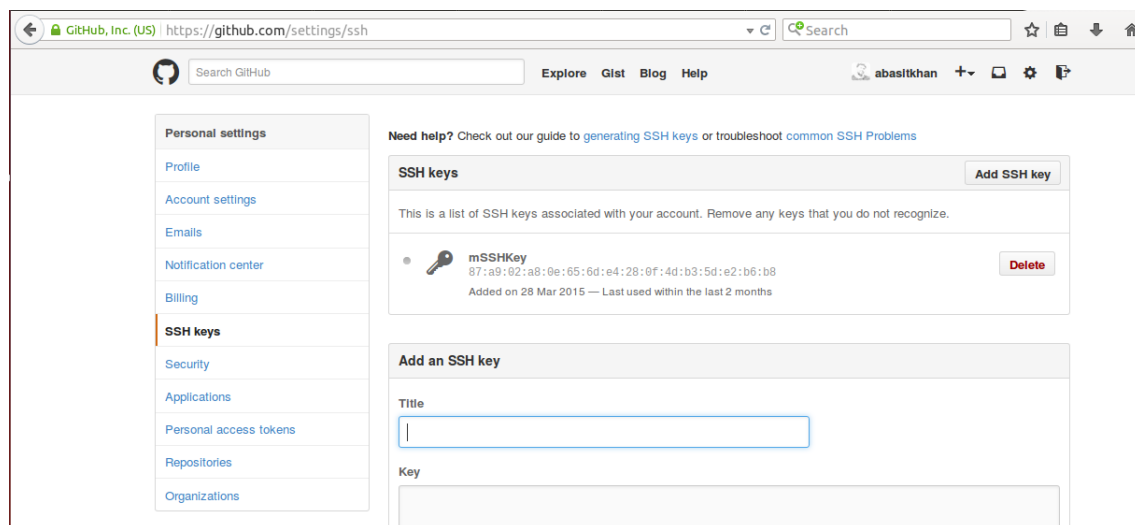
```
$ cat ~/.ssh/id_rsa.pub
```


Figure 1: A GitHub page to paste the generated SSH (secure shell) key.

Once you've done this, you can check and see if it worked:

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```
$ ssh -T git@github.com
```

You will get a message like this

```
Hi excid3! You've successfully authenticated, but GitHub does not provide shell access.
```

Rails project

Now we have setup the git and github. Lets create a project and add it to git and github.

```
$ cd railsApp
$ rails new test_app -d postgresql
$ cd test_app
```

Adding rails project to git

Lets first initialize the git repository in your project

```
$ git init
```

Lets add all the files and changes so far

```
$ git add .
```

Commit the changes files to the server

```
$ git commit -m 'initial commit'
```

Uploading rails project to GitHub

Now the git is ready we can easily upload to github. First create project repository on the github.
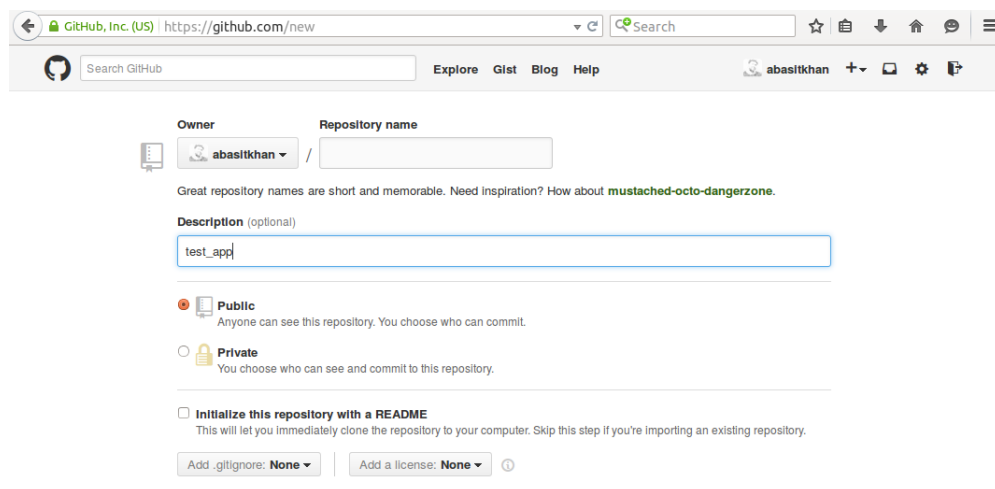

Figure 2: A repository creation on GitHub.

After creating repository type the following command.

```
$ git remote add origin https://github.com/username/yourrepository.git
$ git push -u origin master
```

Adding and uploading rails project to heroku

This section will describe how to upload your new or existing project to the heroku website. Before this your project your project must be on git. Remember for herku your project does not need to on github. First create an account in heroku page. Lets add a welcome page to our project and then upload to the heroku.

```
$ rails g controller welcome
```

Lets add a view page

```
<h2> Hello world! </h2>
<p>
  The time now <%= Time.now %>
</p>
```

Define the root **routes.rb** file

```
root 'welcome#index'
```

Test the pages in the browser

Heroku gems

Gems are plugins/tools written in ruby programming language to support rails application to rapidly develop the rails applications. Rails is also a ruby gem.

Open your project gem file and add the following line in the end of Gemfile to install the heroku gem.

```
gem 'rails_12factor', group: :production
```

Save the file and run

```
$ bundle install
```

Specify ruby version

You need to specify which ruby version you are using, so the version is enabled over for you on heroku. Add the following in Gemfile.

```
ruby "2.2.1"
```

Deploying application on rails

As I already mentioned in Git section to create a heroku account. If you have not created, create one now. Secondly, remember, that your application must on git. If not run the following to add your application to git. You can skip the following lines if this the current project you are uploading or apply if this existing project and not added to git. I assume you are on your inside your rails project.

```
$ git init
$ git add .
$ git commit -m "init"
$ git status
```

Before using heroku commands on the terminal you need to install *heroku toolbel* in ubuntu. Type the command to install the toolbelt.

```
$ wget -O- https://toolbelt.heroku.com/install-ubuntu.sh | sh
```

Now ubuntu recognize the heroku commands. Later, you need to create the rails app on Heroku.

```
$ heroku login
$ heroku create
```

you can verify that the remote was added to your project by running

```
$ git config --list | grep heroku
```

Deploy your code

```
$ git push heroku master
```

Migrate your database

To migrate the database from your local development server to the heroku production server.

```
$ heroku run rake db:migrate
```

Visit your application

Lets confirm we have one dyno running the web process, type.

```
$ heroku ps:scale web=1
$ heroku ps
```

Now we can visit our app on the browser.

```
$ heroku open
```