

## Exercise 2 Setting up Version Control Management with GitHub And Deployment to the Cloud with Heroku SDM 409232 2015

Doing Exercise 2 assumes that Exercise 1 has been completed, and checked (e.g. the *rottenpotatoes* rails app can now be launched in the browser at “*localhost:3000*” after running *rails server*).

We will be using several cloud-based services as tools to support our software development practice and we will setup two of them in this Exercise 2:

- (1) GitHub to manage versions of files associated with this project as well as share files between team members. You will be guided how to setup a repository in GitHub for the rottenpotatoes software project code.
- (2) Heroku, a Platform as a Service (PaaS) that provides a mechanism to deploy your application as a Software as a Service (SaaS) over the internet.

Cloud-based services commonly use *ssh* for secure remote access to between your client computer and the service’s host servers. The *ssh* shell uses public/private key pairs (using the OpenSSL library) to securely transmit information to and from the remote services. You will be guided how to setup such a pair of keys and let the service provider know your public key.

***To perform all the following tasks, you need to be in your app root folder***

### GITHUB set-up

#### **1. If you already have a GITHUB account skip this step**

Create an account on GITHUB

Go to Github.com

Enter the details on the homepage

Follow the instructions on validating your account

#### **2. Upgrade GIT**

Upgrade the GIT version by typing the following command:

***sudo apt-get install git***

### 3. Enter login information for git

Enter credentials to configure git by using following commands

```
git config --global user.name your_github_username  
git config --global user.email your_github_email
```

To check if you credentials have been entered correctly

```
git config --list
```

### 4. Create keygen publication location

To create a keygen location path use the following commands

```
ssh-keygen -t rsa -b 4096 -C your_github_email  
press enter to keep default location  
enter a phrase
```

### 5. Run ssh agent

To start up the SSH agent use the following command

```
ssh-agent -s
```

### 6. Generate a SSH Key

To generate a SSH key use the following command

```
cat ~/.ssh/id_rsa.pub
```

This will generate a string of characters that you will need to copy

### 7. Copy Key to GITHUB

Copy the key from the output of the command

```
saasbook@saasbook ..... "your_github_email"
```

Login into your GITHUB Account



Click on

Click on settings

Settings

Sign out

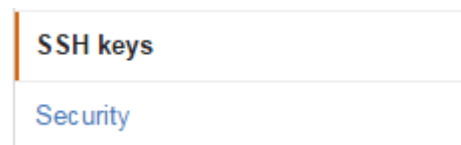
Under personal settings menu click SSH Keys

Click on **add SSH Key**

Give it a title such as: **"saasbook"**

Paste copied key into the box below title

Click add key to submit the new key.



## 8. Initialise Local Repository

You will need to add files to your local repository before you can push to your remote repository.

To initialise local Git Repository

***git init***

This will initialise a local repository in your root folder and place you in the master branch

To add all files and any new files to the repository

***git add -A***

## 9. Create a repository and upload to GitHub

To create a repository

Click on



Click new repository

Give the repository a name

Create repository

## 10. Follow the instructions

After creating the repository follow the instructions on the webpage on adding files to github

## Some Helpful commands

Command	Purpose
git status	Checks for any new changes and staging made on the branch files
git commit -m "a message"	Commits files to branch and to remote repository
git branch	Show the branches in your repository and the one you currently working on
git checkout -b branch_name	creates a new branch and switches you to the new branch

## Try Out

This takes you through a tutorial on how to use github on the command line

<https://try.github.io>

## Heroku Setup

### 1. Create a Heroku account

You will need to create a Heroku account to publish your app

Go to [heroku.com](https://heroku.com)

Click on sign up and enter the required information

Follow any instructions required to validate your account

### 2. Go back to terminal and update Heroku

Update Heroku by typing in the following command

***sudo apt-get install heroku-toolbelt***

### 3. Login into Heroku

Login into Heroku through terminal

***heroku login***

### 4. Add Keys to Heroku

Add a SSH key to Heroku

***heroku keys:add***

### 5. Add an app name to Heroku

The name needs to be unique, the name will be used as the link for your app, use your login id as the app name

To create the app name

***heroku create login\_id***

A message should display showing your app link. This will now be visible if you choose to login to your Heroku account

### 6. Upload app to Heroku

To upload your app to Heroku

***git push heroku master***

This will now upload your app to Heroku. If you go to your link after the upload is completed, Heroku will throw an error stating

***“we’re sorry, but something went wrong”***

To fix this issue go back to the terminal

***heroku run rake db:migrate***

### 7. View Heroku App

You should now be able to view your app at

***login\_id.herokuapp.com***