# Maintenance Manual

*Family Interaction Map*

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# 1. GENERAL OVERVIEW

This is the official maintenance document for the Family Interaction Map. The Environment section contains all pertinent information about the current running versions of all technologies used along with the application. The Setup instructions section will indicate how to reproduce the setup that is currently being used. This includes instructions on installing Ruby on Rails, Phusion Passenger and MySQL. The Deployment section details dumping and reloading the current databases as well as obtaining the application from GitHub. Future recommendations are then provided for future developers and future versions.

# 2. ENVIRONMENT

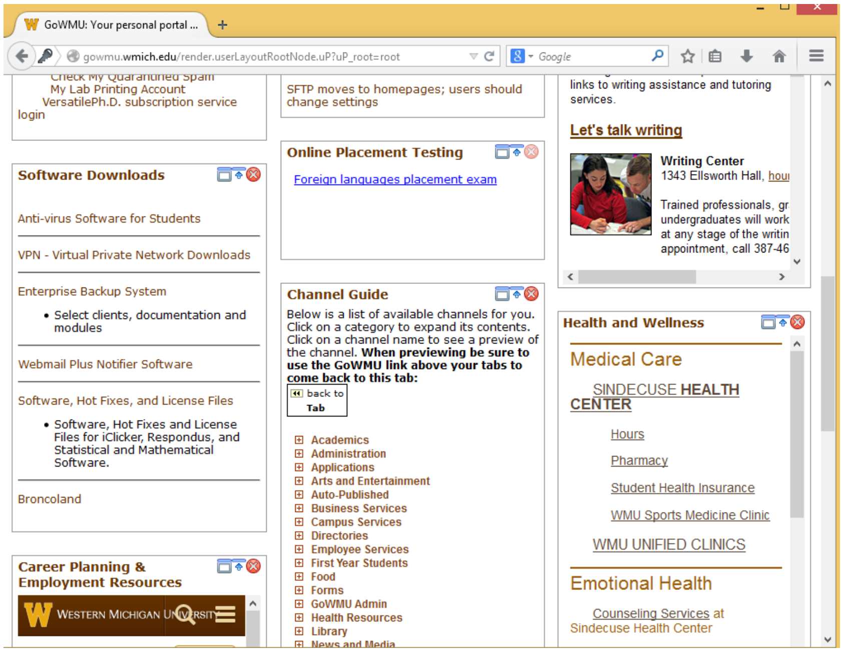
## 2.1. Login Information

**On WMU campus:**

Skip to ‘**Logging in with PuTTY**’.

**Off WMU campus**:

For accessing WMU services from outside of the campus networks, a Virtual Private Network (VPN) is a necessity. The VPN client provided by the university must be used for this purpose. This post will show how to download and run the VPN software. The client is available for download on the GoWMU homepage, under the “Software Downloads” panel. The image below shows what that panel will likely look like.


GoWMU: Your personal portal ...
gowmu.wmich.edu/render.userLayoutRootNode.uP?uP_root=root
Google
WESTERN MICHIGAN UNIVERSITY

My Lab Printing Account
VersatilePh.D. subscription service
login

**Software Downloads**

- Anti-virus Software for Students
- VPN - Virtual Private Network Downloads
- Enterprise Backup System
  - Select clients, documentation and modules
- Webmail Plus Notifier Software
- Software, Hot Fixes, and License Files
  - Software, Hot Fixes and License Files for iClicker, Respondus, and Statistical and Mathematical Software.
- Broncoland

**Career Planning & Employment Resources**

SFTP moves to homepages; users should change settings

**Online Placement Testing**

Foreign languages placement exam

**Channel Guide**

Below is a list of available channels for you. Click on a category to expand its contents. Click on a channel name to see a preview of the channel. **When previewing be sure to use the GoWMU link above your tabs to come back to this tab:**

back to Tab

- ⊞ Academics
- ⊞ Administration
- ⊞ Applications
- ⊞ Arts and Entertainment
- ⊞ Auto-Published
- ⊞ Business Services
- ⊞ Campus Services
- ⊞ Directories
- ⊞ Employee Services
- ⊞ First Year Students
- ⊞ Food
- ⊞ Forms
- ⊞ GoWMU Admin
- ⊞ Health Resources
- ⊞ Library
- ⊞ News and Media

links to writing assistance and tutoring services.

**Let's talk writing**

**Writing Center**
1343 Ellsworth Hall, hour

Trained professionals, gr
undergraduates will work
at any stage of the writin
appointment, call 387-46

**Health and Wellness**

Medical Care

SINDECUSE **HEALTH CENTER**

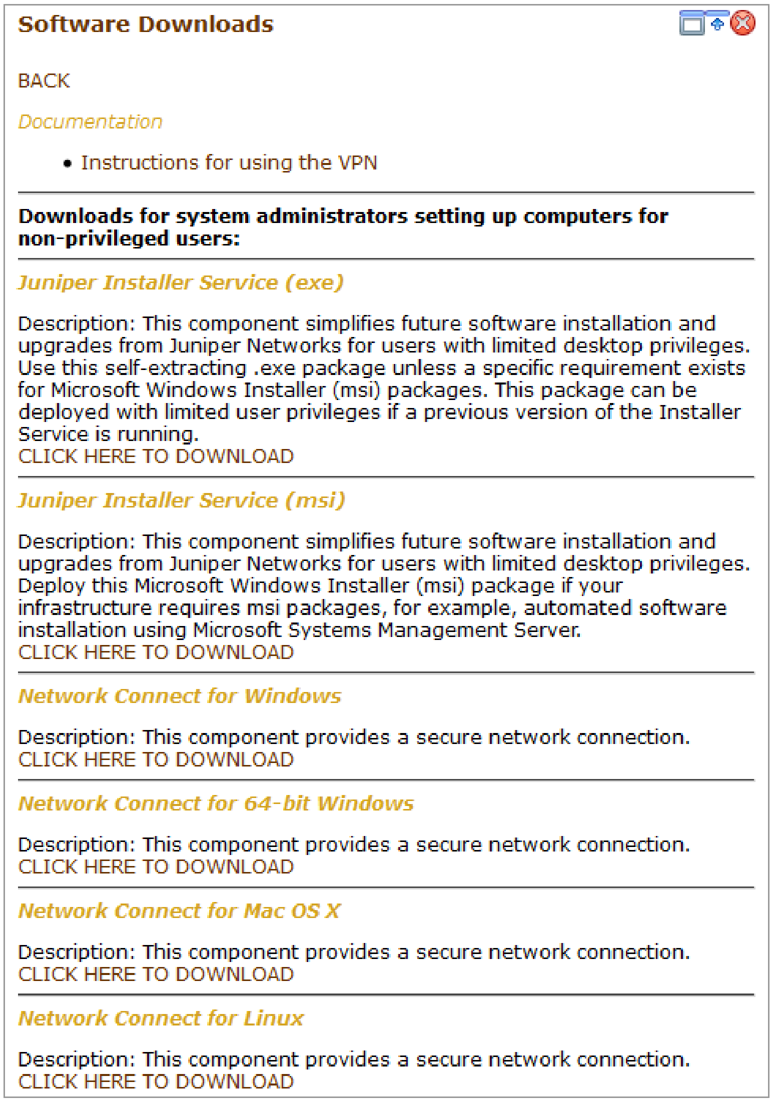
- Hours
- Pharmacy
- Student Health Insurance
- WMU Sports Medicine Clinic

WMU UNIFIED CLINICS

Emotional Health

Counseling Services at Sindecuse Health Center

When you click the link for the VPN downloads, the page will reload, and you will have to scroll back down to the “Software Downloads” tab, which will have been expanded, and should appear as it does below.



**Software Downloads**

BACK

*Documentation*

- Instructions for using the VPN

**Downloads for system administrators setting up computers for non-privileged users:**

***Juniper Installer Service (exe)***

Description: This component simplifies future software installation and upgrades from Juniper Networks for users with limited desktop privileges. Use this self-extracting .exe package unless a specific requirement exists for Microsoft Windows Installer (msi) packages. This package can be deployed with limited user privileges if a previous version of the Installer Service is running.
CLICK HERE TO DOWNLOAD

***Juniper Installer Service (msi)***

Description: This component simplifies future software installation and upgrades from Juniper Networks for users with limited desktop privileges. Deploy this Microsoft Windows Installer (msi) package if your infrastructure requires msi packages, for example, automated software installation using Microsoft Systems Management Server.
CLICK HERE TO DOWNLOAD

***Network Connect for Windows***

Description: This component provides a secure network connection.
CLICK HERE TO DOWNLOAD

***Network Connect for 64-bit Windows***

Description: This component provides a secure network connection.
CLICK HERE TO DOWNLOAD

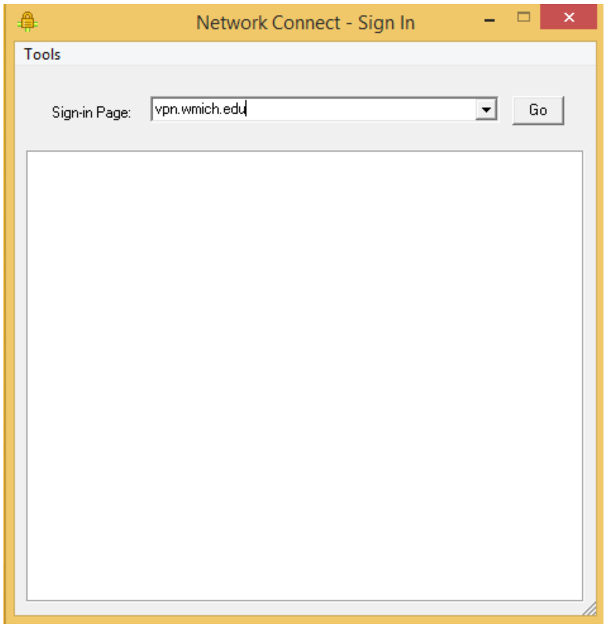
***Network Connect for Mac OS X***

Description: This component provides a secure network connection.
CLICK HERE TO DOWNLOAD

***Network Connect for Linux***

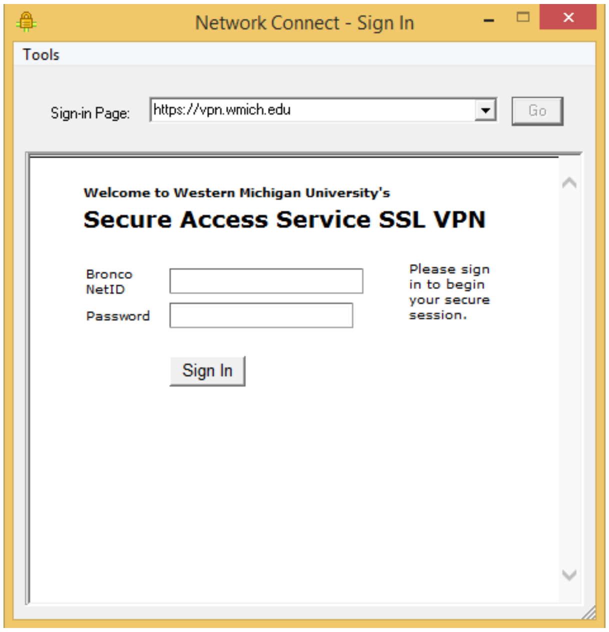
Description: This component provides a secure network connection.
CLICK HERE TO DOWNLOAD

Download and install the client appropriate to your machine’s operating system and hardware platform. Once you have completed that, launch Network Connect. You will be greeted by a blank page. That is to be expected. In the form field labelled “Sign-In Page,” fill in “vpn.wmich.edu,” as is shown in the image below.



Sign-in Page: vpn.wmich.edu

This will bring you to a sign-in page, shown below.



Sign-in Page: https://vpn.wmich.edu

Welcome to Western Michigan University's

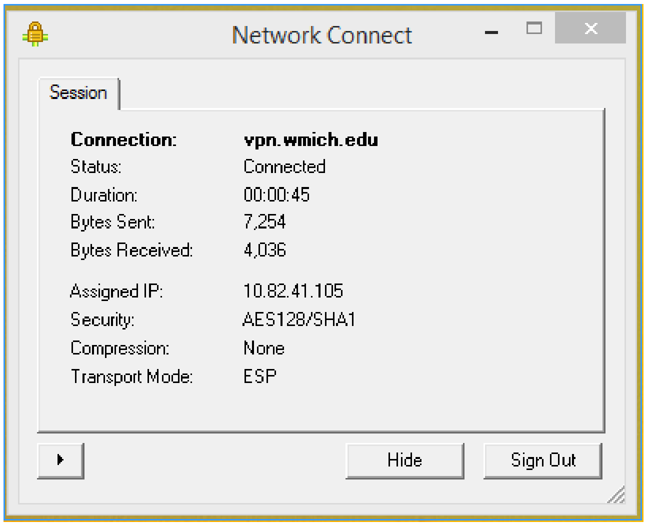
**Secure Access Service SSL VPN**

Bronco NetID

Password

Please sign in to begin your secure session.

Sign into this page using your BroncoNet ID and password. You may be prompted to approve a Juniper Networks program making changes to your system. Allow it to do what it wants. Finally, when you are connected, you will see a window that displays connection information. It should look something like the image below.



**Connection:** **vpn.wmich.edu**
Status: Connected
Duration: 00:00:45
Bytes Sent: 7,254
Bytes Received: 4,036

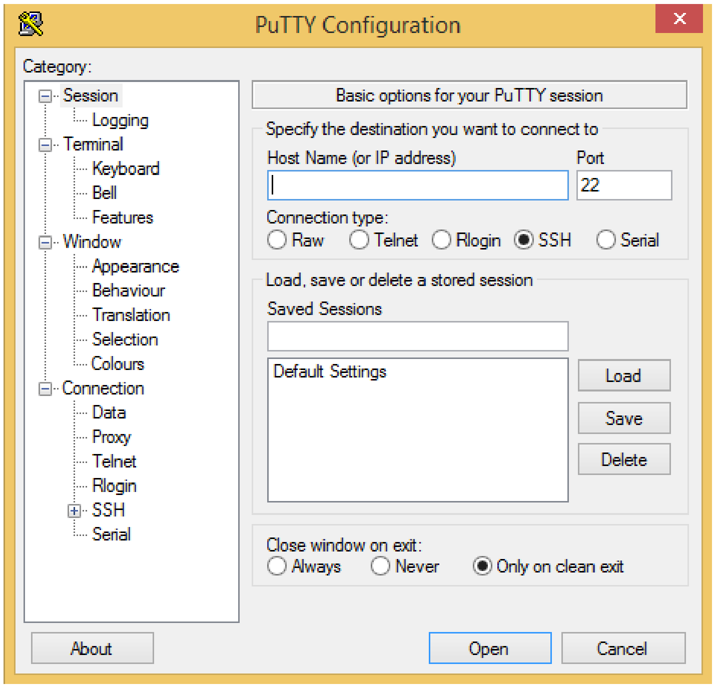
Assigned IP: 10.82.41.105
Security: AES128/SHA1
Compression: None
Transport Mode: ESP

At this point, you are successfully connected to WMU's Virtual Private Network, and can access network services that are not open to the world.

### Logging in with PuTTY

While Windows does not have built in SSH functionality, there is a piece of software we recommend that brings SSH to Windows. PuTTY (available at http://www.chiark.greenend.org.uk/~sgtatham/putty/) is simple to use, and allows you to use your computer science account from your Windows computer when on a campus network or connected to the VPN.

When you start it, PuTTY will look like the following image.


PuTTY Configuration

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address):

Port: 22

Connection type: ○ Raw ○ Telnet ○ Rlogin ● SSH ○ Serial

Load, save or delete a stored session

Saved Sessions: Default Settings

Close window on exit: ○ Always ○ Never ● Only on clean exit

To connect to the our server, fill out the “Host Name” box with ‘sysadmin@vps.cs.wmich.edu’

Ensure that the port is set to ‘61522’, and that the connection type is set to ‘SSH’

Once all this information is entered, click on “Open” to start a session. You will be prompted for the password ‘Changem3’

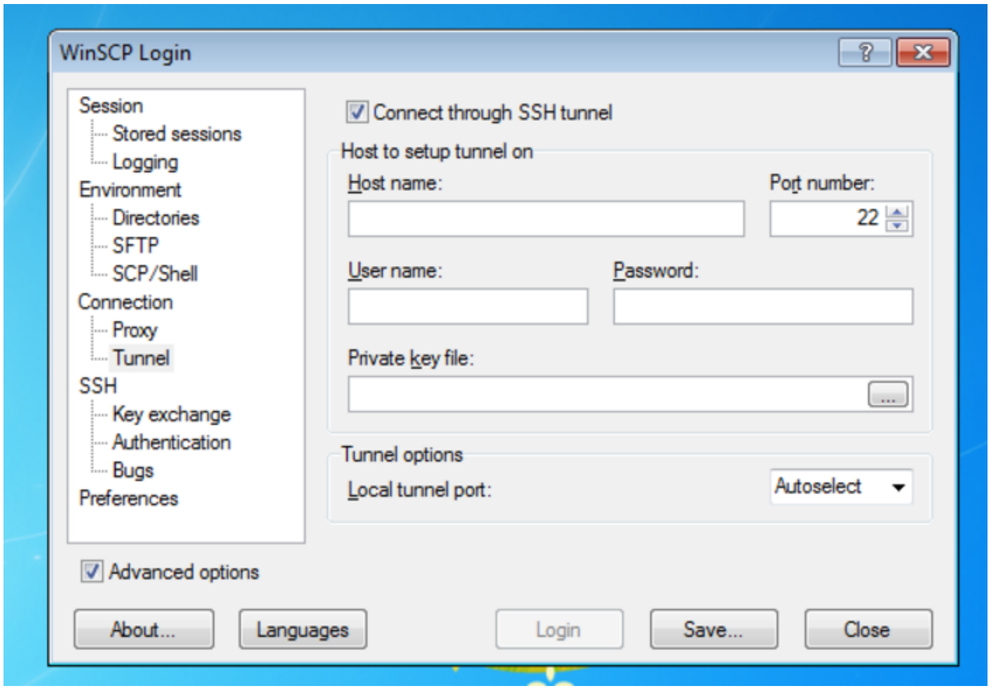
Once you have finished typing your password, hit the Return key, and if everything went well, you will be logged into a shell as your user.

## Logging in with WinSCP

WinSCP provides a file explorer interface for easy file transfer between your local machine and the server.

First, download WinSCP installation package from: http://winscp.net/eng/download.php

Follow installation instructions and open WinSCP.



WinSCP Login

☑ Connect through SSH tunnel

Host to setup tunnel on

Host name:

Port number: 22

User name:

Password:

Private key file:

Tunnel options

Local tunnel port: Autoselect

☑ Advanced options

Fill out the following fields:

Host name: 'vps.cs.wmich.edu'

Port number: '61522'

Username: 'sysadmin'

Password: 'Changeme3'

Click the login button.

## 2.2 Current Installed Versions

| | |
|---|---|
| Apache: | 2.2.22 |
| Ruby: | 2.0.0 |
| Rails: | 4.1.7 |
| Phusion Passenger: | 4.0.53 |
| MySQL: | 5.5.40 |

Below is our Gemfile showing all current Gems.

```
# Bundle edge Rails instead: gem 'rails', github: 'rails/rails'
gem 'rails', '4.1.7'
# Use mysql as the database for Active Record
gem 'mysql2'
# Use SCSS for stylesheets
gem 'sass-rails', '~> 4.0.3'
# Use Uglifier as compressor for JavaScript assets
gem 'uglifier', '>= 1.3.0'
# Use CoffeeScript for .js.coffee assets and views
gem 'coffee-rails', '~> 4.0.0'
# See https://github.com/sstephenson/execjs#readme for more supported
runtimes
# gem 'therubyracer',  platforms: :ruby

# Use jquery as the JavaScript library
gem 'jquery-rails'
# Turbolinks makes following links in your web application faster.
Read more: https://github.com/rails/turbolinks
gem 'turbolinks'
# Build JSON APIs with ease. Read more:
https://github.com/rails/jbuilder
gem 'jbuilder', '~> 2.0'
# bundle exec rake doc:rails generates the API under doc/api.
gem 'sdoc', '~> 0.4.0',          group: :doc

# Spring speeds up development by keeping your application running in
the background. Read more: https://github.com/rails/spring
gem 'spring',        group: :development

# Use ActiveModel has_secure_password
# gem 'bcrypt', '~> 3.1.7'
gem 'bcrypt', '~> 3.1.5', require: "bcrypt"
# Use unicorn as the app server
# gem 'unicorn'

gem 'simple_form'

gem 'gon'

# Use Capistrano for deployment
# gem 'capistrano-rails', group: :development

# Use debugger
# gem 'debugger', group: [:development, :test]
```

# 3. SETUP INSTRUCTIONS

## 3.1 Pre-Configuration

These setup instructions assume you are starting with a blank virtual server running an Apache version 2+.

## 3.2 Ruby on Rails Setup

Configuring the Ruby on Rails environment

If applicable, ssh into your server where you will be hosting files.

**Install Basic Tools**

```
sudo apt-get update
sudo apt-get install -y build-essential zlib1g-dev libyaml-dev
libssl-dev libgdbm-dev libreadline-dev libncurses5-dev
libffi-dev curl
git-core openssh-server redis-server checkinstall libxml2-dev
libxslt-dev libcurl4-openssl-dev libicu-dev apache2
apache2-threaded-dev libapr1-dev libaprutil1-dev nodejs
mysql-client
libmysqlclient-dev libsqlite3-dev sqlite3 libtool bison
```

### Install Ruby

```
mkdir /tmp/ruby && cd /tmp/ruby
wget http://ftp.ruby-lang.org/pub/ruby/2.2/ruby-2.2.0.tar.gz
tar -xzvf ruby-2.2.0.tar.gz
cd ruby-2.2.0
./configure
sudo make
sudo make install
```

### Install Bundler & Rmate

```
sudo gem install bundler
sudo gem install rmate
```

### Installing Rails on the Virtual Machine

```
sudo gem install rails
sudo gem install mysql2
cd #{directory intended for rails app}
sudo rails new blog -d mysql
```

## 3.3 Database Setup

In the directory "config" in your rails directory, there is a file "database.yml." After you create a database using our normal procedures, edit that file so that it points at the correct database and host using the correct user. This site has a good example for that: http://www.tutorialspoint.com/ruby-on-rails/rails-database-setup.htm

The content of the site has been copied below for convenience.

Before starting with this chapter, make sure your database server is setup and running. Ruby on Rails recommends to create three databases: A database for each development, testing and production environment. According to convention their names should be:

- library_development
- library_production
- library_test

You should initialize all three of them and create a user and password for them with full read and write privileges. I am using **root** user ID for my application. In MySQL, a console session in which you do this looks something like this:

```
mysql> create database library_development;
Query OK, 1 row affected (0.01 sec)

mysql> grant all privileges on library_development.*
to 'root'@'localhost' identified by 'password';
Query OK, 0 rows affected (0.00 sec)

mysql> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.00 sec)
```

You can do same thing for two more databases **library_production** and **library_test**.

## Configuring database.yml:

At this point, you need to let Rails know about the username and password for the databases. You do this in the file **database.yml**, available in the **C:\ruby\library\config** subdirectory of Rails Application you created. This file has live configuration sections for MySQL databases. In each of the sections you use, you need to change the username and password lines to reflect the permissions on the databases you've created.

When you finish, it should look something like:

```
development:
  adapter: mysql
  database: library_development
  username: root
  password: [password]
  host: localhost
test:
  adapter: mysql
  database: library_test
  username: root
  password: [password]
  host: localhost
production:
  adapter: mysql
  database: library_production
  username: root
  password: [password]
  host: localhost
```

**NOTE:** You can use similar setting for other databases if you are using any other database except MySQL.

### Final version of our database.yml

```
development:
     adapter: mysql2
     database: library_development
     username: sysadmin
     password: Changem3
     host: localhost
test:
     adapter: mysql2
     database: library_test
     username: sysadmin
     password: Changem3
     host: localhost
production:
     adapter: mysql2
     database: library_production
     username: sysadmin
     password: Changem3
     host: localhost
```

If you decide to use MySql as your database (as we did) you will need to install mysql-server `sudo apt-get install -y mysql-server`

## 3.4 Phusion Passenger Setup

### Configuring Apache Using Phusion Passenger

```
sudo gem install passenger
```

### Using Phusion Passenger

Passenger will bring up a curses interface when you invoke "`passenger-install-apache2-module`" We are interested in only Ruby as a language (for now). Select that using the spacebar, and unselect the others.

```
sudo passenger-install-apache2-module
```

The installation process will pause with a snippet for your apache configuration file. You should copy that snippet, as you will use it later. This should look something like:

File to modify: /etc/apache2/apache2.conf

```
LoadModule passenger_module
/usr/local/lib/ruby/gems/2.2.0/gems/passenger-4.0.58/buildout/ap
ache2/mod_passenger.so
   <IfModule mod_passenger.c>
     PassengerRoot
/usr/local/lib/ruby/gems/2.2.0/gems/passenger-4.0.58
     PassengerDefaultRuby /usr/local/bin/ruby
   </IfModule>
```

File to modify: /etc/apache2/sites-available/default

```
<VirtualHost *:80>
   ServerName www.yourhost.com
   # !!! Be sure to point DocumentRoot to 'public'!
   DocumentRoot /path/to/rails/project/public
   <Directory /path/to/rails/project/public>
      # This relaxes Apache security settings.
      AllowOverride all
      # MultiViews must be turned off.
      Options -MultiViews
      # Uncomment this if you're on Apache >= 2.4:
      Require all granted
   </Directory>
</VirtualHost>
```

Our final default file looked as follows:

```
 <VirtualHost *:80>
      ServerName http://vps.cs.wmich.edu:61522/
      # !!! Be sure to point DocumentRoot to 'public'!
      DocumentRoot /var/www/RailsBlog/blog/public
       RailsEnv development
      <Directory /var/www/RailsBlog/blog/public>
         # This relaxes Apache security settings.
         AllowOverride all
         # MultiViews must be turned off.
         Options -MultiViews
         # Uncomment this if you're on Apache >= 2.4:
         #Require all granted
      </Directory>
   </VirtualHost>
```

Once the virtual host file has been completed, you must enable the virtual host site. To do that, you run:

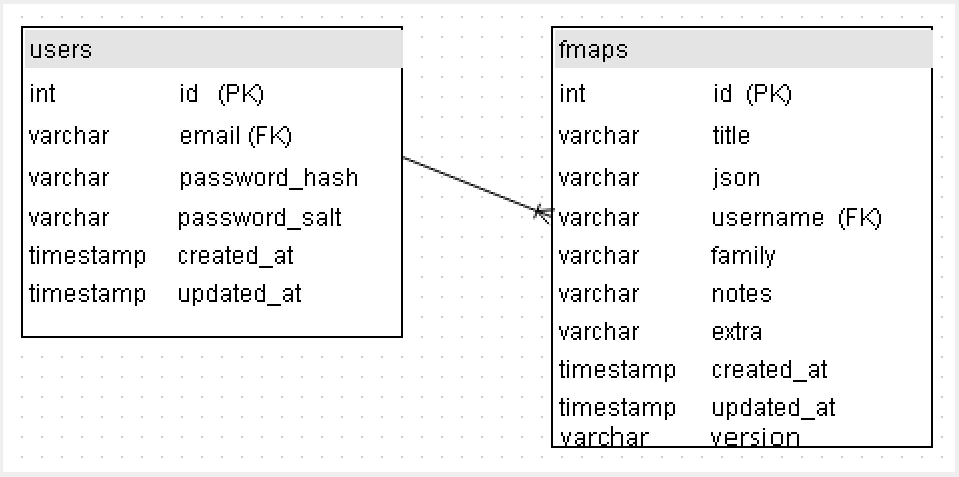
```
sudo a2ensite default
```

```
sudo service apache2 restart
```

# 4. Deployment Instructions

## 4.1 MySQL Dump and Reload

To dump our current database, SSH into our server and run the following commands.



| users | |
|---|---|
| int | id (PK) |
| varchar | email (FK) |
| varchar | password_hash |
| varchar | password_salt |
| timestamp | created_at |
| timestamp | updated_at |

| fmaps | |
|---|---|
| int | id (PK) |
| varchar | title |
| varchar | json |
| varchar | username (FK) |
| varchar | family |
| varchar | notes |
| varchar | extra |
| timestamp | created_at |
| timestamp | updated_at |
| varchar | version |

### Dumping the Database

```
mysqldump -u root -p --all-databases > dump.sql
```

It will then prompt you for a password. Enter ‘asjaji4900’

Then transport dump.sql to new server for importing.

### Importing the Database

```
source < dump.sql
```

### 4.2 GitHub Clone

Make sure you navigate to the directory of your choice.

Then run the following command:

```
git clone “https://github.com/jinn35/RailsBlog.git”
```

# 5. FUTURE RECOMMENDATIONS

**Administration Interface**

Adding an interface for an administrator to manage user accounts is highly recommended. This feature would be very helpful for account management issues such as forgotten passwords or fraudulent sign in attempts. This would increase security and overall performance of the application.

**Email Password Reset**

This feature is nearly implemented and is waiting to be finished as soon as the application is moved to a new server. The form itself is already created and the link it produces is successful. Due to WMU's firewall, the email portion required configuration that would have had to be changed when it is moved to a new server.

**Open to print in landscape**

For printing a map, setting the default layout to landscape would be a useful feature. Not having to manually select landscape would increase operation efficiency and reduce possible waste.