Building your own Faucet

Before we start, in case you are not a programmer or know nothing about coding don't be afraid. Just follow the instructions and copy and paste the commands where you are told to do so. If you know something it will be a bit easier. This guide is meant to be used with Amazon AWS servers, but the faucet works in any other server as long as it has PHP and MySQL running. With no further delay, let's get started!

Creating the instance

To build your own Faucet you first need a server. We recommend you to set up an Amazon one. If you don't have one you can create one following these instructions:

http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-launch-instance_linux.html

Installing the LAMP services

Once you have created the instance and your are sure it works properly you need to set up your web server. To do so you will need the LAMP package (Linux, Apache, MySQL and PHP). follow these instructions to configure yours:
http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/install-LAMP.html

You will then need to install the mcrypt library. Use the following commands to do so:

sudo yum install php-mcrypt

sudo service httpd restart

Setting up the FTP Server

Now you need to set the FTP so you can transfer the files.

Step #1: Install vsftpd

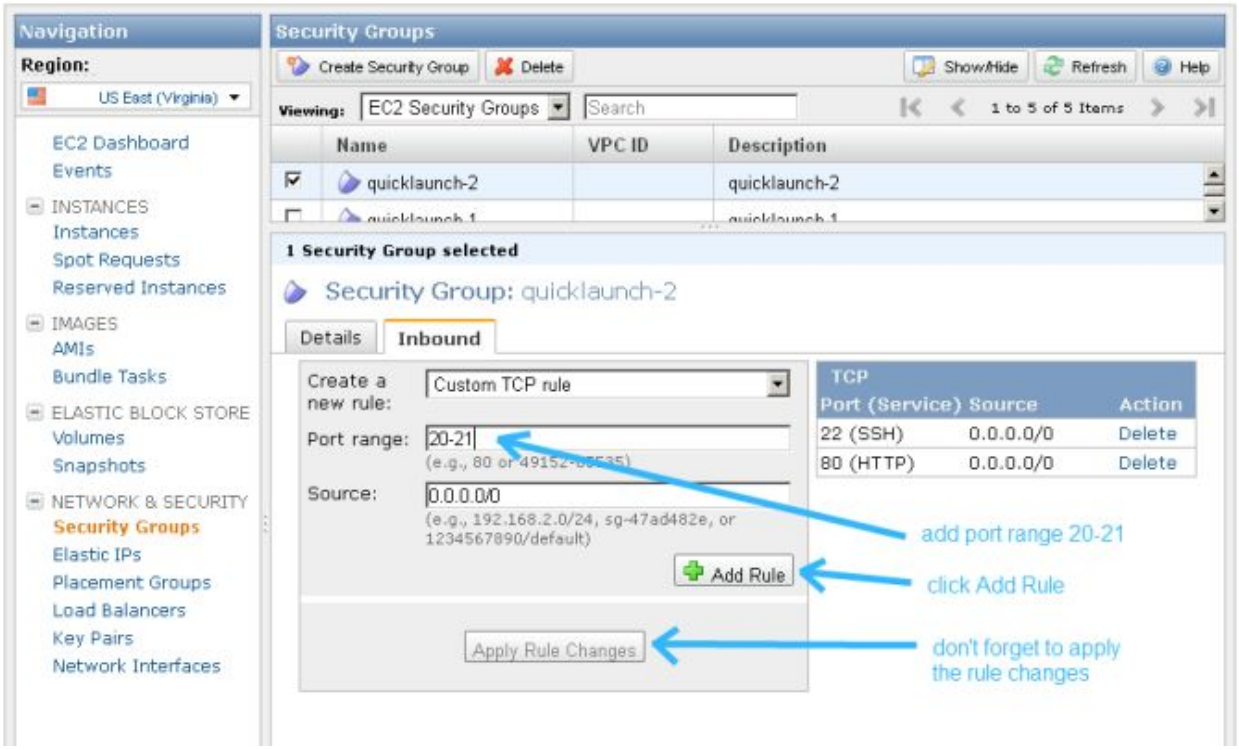
SSH to your EC2 server. Type:

sudo yum install vsftpd

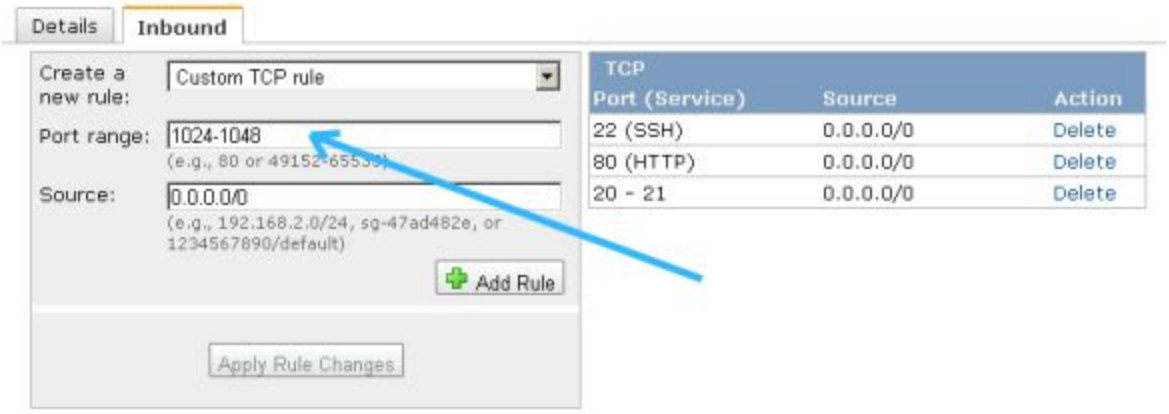
This should install vsftpd.

Step #2: Open up the FTP ports on your EC2 instance

Next, you'll need to open up the FTP ports on your EC2 server. Log in to the AWS EC2 Management Console and select Security Groups from the navigation tree on the left. Select the security group assigned to your EC2 instance. Select the Inbound tab and add port range 20-21:



Also add port range 1024-1048:



Step #3: Make updates to the vsftpd.conf file

Edit your vsftpd conf file by typing:

sudo vi /etc/vsftpd/vsftpd.conf
Disable anonymous FTP by changing this line:

anonymous_enable=YES
to

anonymous_enable=NO
Then add the following lines to the bottom of the vsftpd.conf file:

pasv_enable=YES pasv_min_port=1024 pasv_max_port=1048 pasv_address=<Public IP of your instance>
Your vsftpd.conf file should look something like the following - except make sure to replace the pasv_address with your public facing IP address:

```
listen=YES
#
# This directive enables listening on IPv6 sockets. To listen on IPv4 and IPv6
# sockets, you must run two copies of vsftpd with two configuration files.
# Make sure, that one of the listen options is commented !!
#listen_ipv6=YES

pam_service_name=vsftpd
userlist_enable=YES
tcp_wrappers=YES

pasv_enable=YES
pasv_min_port=1024
pasv_max_port=1048
pasv_address=107.22.223.98
```

To save changes, press escape, then type :wq, then hit enter.

Step #4: Restart vsftpd

Restart vsftpd by typing:

sudo /etc/init.d/vsftpd restart

You should see a message that looks like:

```
[ec2-user@ip-10-243-73-113 ~]$ sudo /etc/init.d/vsftpd restart
Shutting down vsftpd:                                      [FAILED]
Starting vsftpd for vsftpd:                                [  OK  ]
[ec2-user@ip-10-243-73-113 ~]$
```

Step #5: Create an FTP user

If you take a peek at /etc/vsftpd/user_list, you'll see the following:

vsftpd userlist
If userlist_deny=NO, only allow users in this file
If userlist_deny=YES (default), never allow users in this file, and
do not even prompt for a password.
Note that the default vsftpd pam config also checks /etc/vsftpd/ftpusers
for users that are denied. root bin daemon adm lp sync shutdown halt mail news uucp operator games nobody
This is basically saying, "Don't allow these users FTP access." vsftpd will allow FTP access to any user not on this list.

So, in order to create a new FTP account, you may need to create a new user on your server. (Or, if you already have a user account that's not listed in /etc/vsftpd/user_list, you can skip to the next step.)

Creating a new user on an EC2 instance is pretty simple. For example, to create the user 'bret', type:

sudo adduser bret > sudo passwd bret
Here's what it will look like:

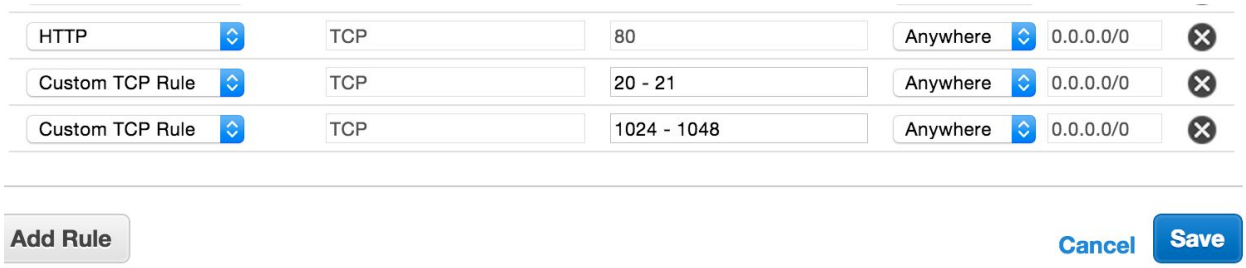
```
[ec2-user@ip-10-243-73-113 ~]$ sudo adduser bret
[ec2-user@ip-10-243-73-113 ~]$ sudo passwd bret
Changing password for user bret.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[ec2-user@ip-10-243-73-113 ~]$
```

Restart the vsftpd server again like so:

sudo /etc/init.d/vsftpd restart

Add the HTTP rule

You now need to open the http port as you have done with other ports in step 2 of the FTP configuration. Go to the security rules the same way you did before and allow the http port (80) to be accessible from anywhere.



Creating the database

Access your server and create a database. To do so enter the following commands:

mysql -u root -p

your_password_defined_previously_for_root

create database <database_name>

exit

Transferring the files

Using your favourite FTP client (for example FileZilla) transfer all the files to the folder called var/www/html.

Modifying the config.php file

Once you have all the files transferred modify the config.php file. You will need to insert the information of the database you created in the previous step and a hashing key which will be explained in this section.

```php
<?php

$mysqlHost     = 'localhost';
$mysqlUsername = '';
$mysqlPassword = '';
$mysqlDatabase = '';

$dbdsn = "mysql:host=$mysqlHost;dbname=$mysqlDatabase";

$myHashKey = "";

?>
```

Insert the information you have created in the previous step. Probably you will be using a local database so just leave "**localhost**" in the mysqlHost variable.

Do not modify the variable named **$dbdsn**.

You will now need to modify the Hash Key variable. This hash key is part of a security procedure to encrypt all your sensitive information. This is a security measure to help protect yourself against attacks.

The Hash key has to be a 32 character text made by letters and words (no spaces or special characters). We recommend you use a random text generator to get the hash key, for example http://textmechanic.com/Random-String-Generator.html .

Fill the Hash key and save the file. Your file should look similar to this:

```php
<?php

$mysqlHost     = 'localhost';
$mysqlUsername = 'database_username';
$mysqlPassword = 'database_password';
$mysqlDatabase = 'database_name';

$dbdsn = "mysql:host=$mysqlHost;dbname=$mysqlDatabase";

$myHashKey = "uWpB8ZKaaAHK2WW2u4EmRBW2cSOpcxLF";

?>
```

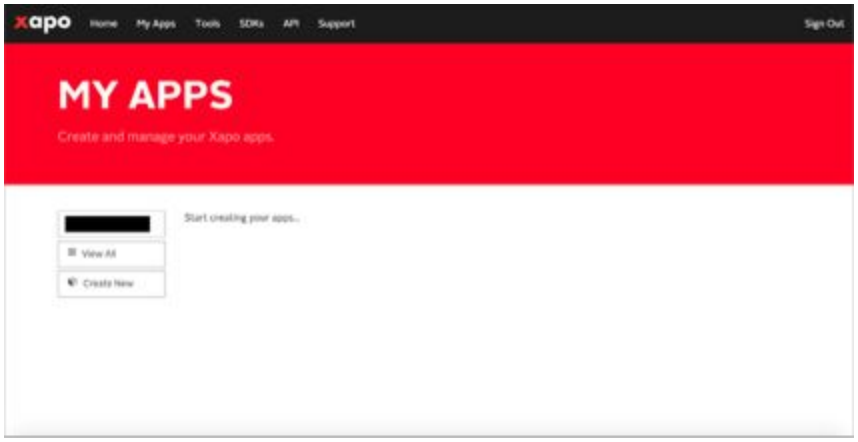
Now access your ip address from a web browser. This should create the whole database schema and some basic information for the settings table.

How do I get my XAPO keys?

To get your XAPO app Id and app Secret you need to create a XAPO app.

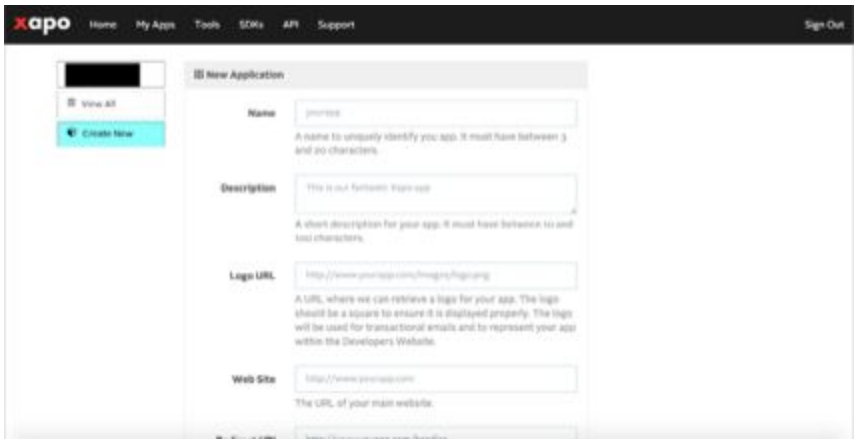
First go to https://developers.xapo.com/ and Sign to your account.

After you sign in you should see a screen like this:



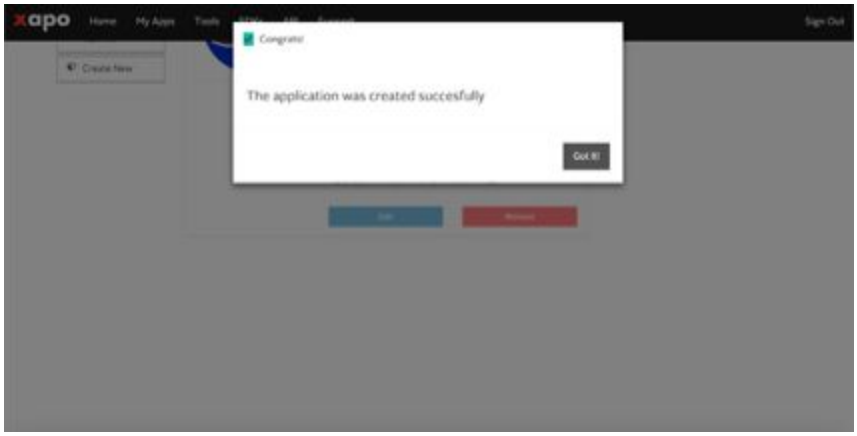
Then you will have to click in the option Create New on the left side of the screen.

After clicking, you should see this screen:



You will then have to fill all the data in order to create your new app.
As an example we will create MyFirstXAPOApp.

When you finish filling the data just click the create button at the bottom of the screen.



After clicking in the button Got it! You should now see you First XAPO app created.

For security reasons the app id and secret are hidden in the picture, but you should now copy those two values and insert them into your database.

After finishing all these steps, your faucet is prepared to pay!

Important Notice: Remember that for start making transactions with XAPO, you need to first verify your cellphone number once. So make sure you have done this to be able to use the XAPO app you have just created !!

Now the best part, start customizing your faucet !!

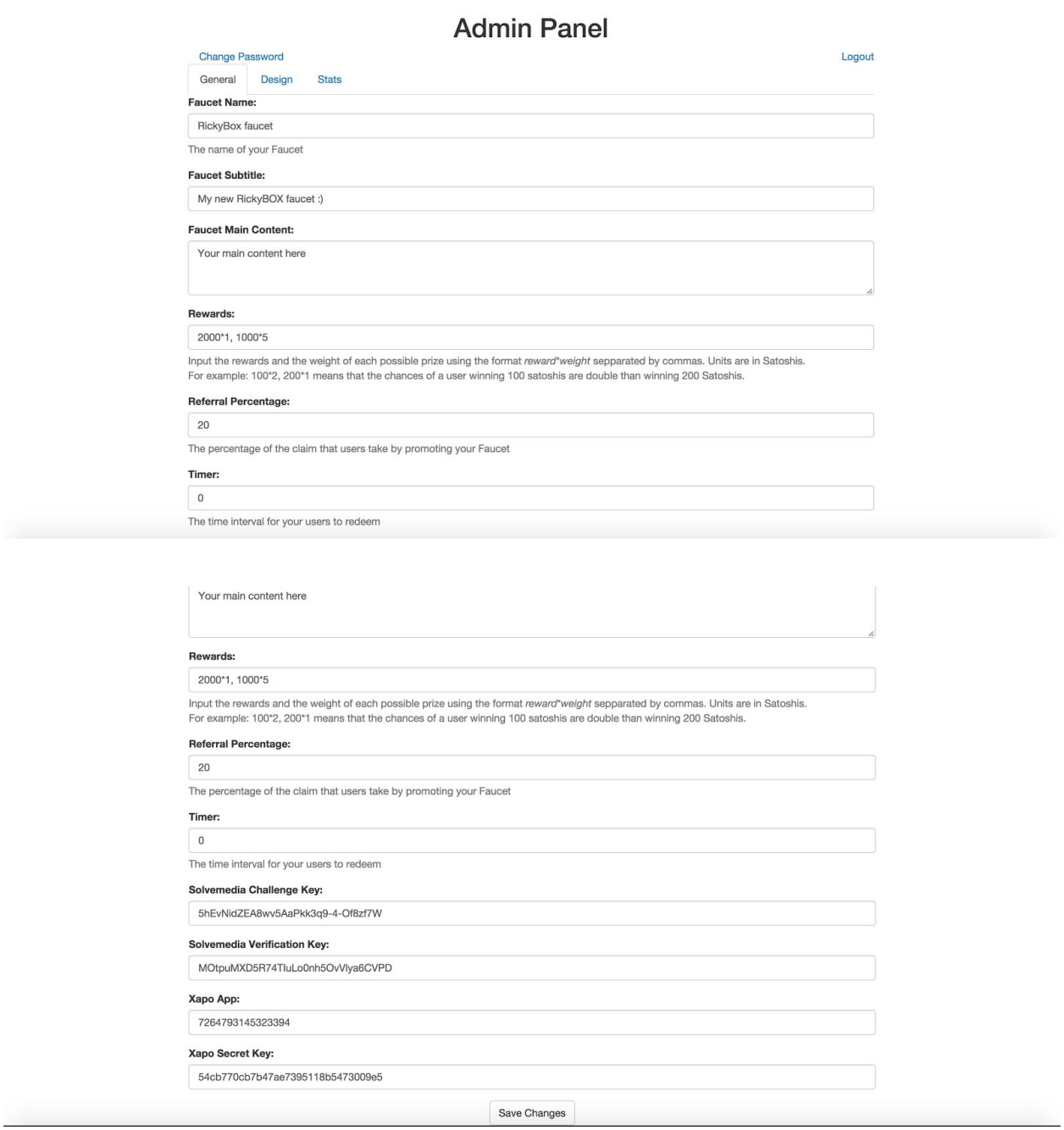
In the rickybox faucet you can customize almost everything, in order to achieve the faucet you want to have. This includes: title, subtitle, main content, ads, background color and more. You will easily learn how to do it now.

Configuring your Faucet

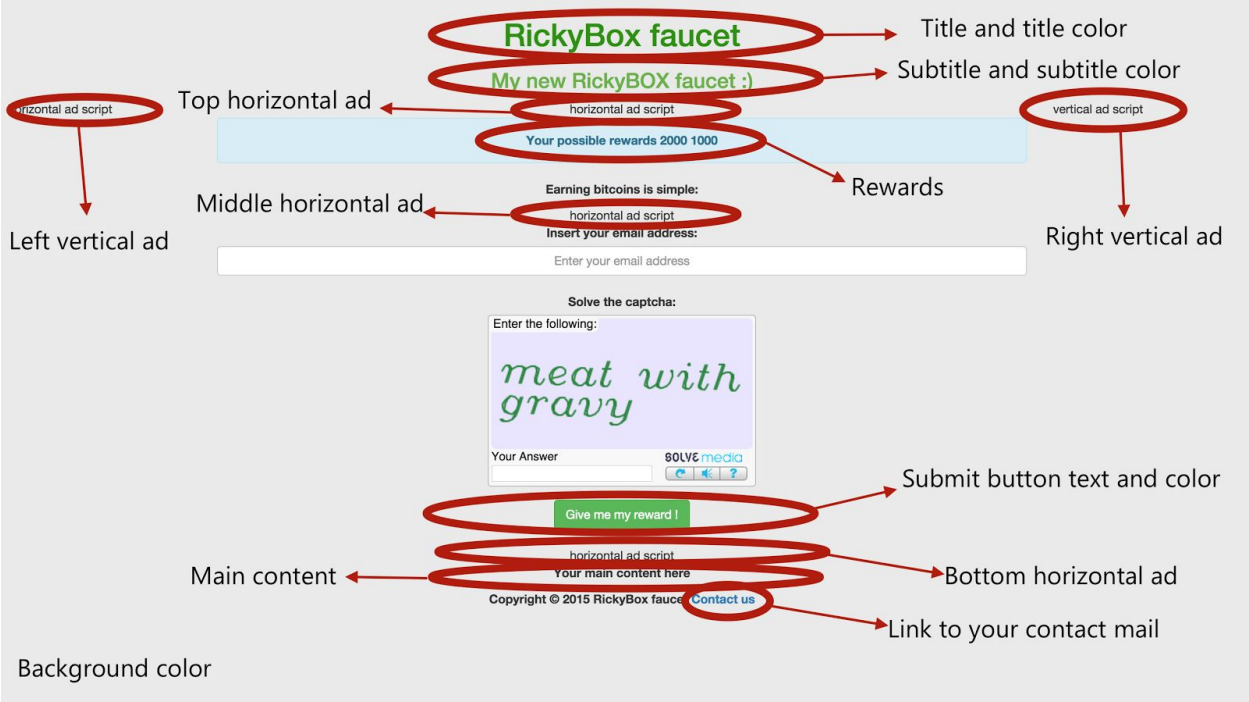
Now insert your domain name or ip address in your browser. The first time you do so you should see a page where you can enter the password for the admin site. Remember this password.

Now you can access the administrator site so you can manage the settings from here.
Access **<your_domain_name_or_ip>/admin**. Enter your password. You will now see the form where you can edit your settings.
This screen will show you 3 different categories. General, Design and Stats.

General



All this configuration is represented in your faucet like this:



After configuring your settings access your faucet again. You should be able to use it properly now.

Some security tips

When dealing with bitcoins you always need to think about security. There are many bad people out there who will try to make some damage to you. To help a bit your security measure follow this simple tips.

- Never use the root user from the Database. Instead create a new user and assign it to the faucet. To do so read this link which may be helpful: https://dev.mysql.com/doc/refman/5.1/en/create-user.html
- Never, by any means, share your Xapo keys with anyone. Keys allow anyone to transfer money. If they fall in the wrong hands you may suffer some serious damage.
- Choose safe passwords. Use a password generator if possible. Having access to your admin site gives total control over your money. Be cautious. Change them periodically if possible.

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