Installing CloudEther on Ubuntu 14.04

Prerequisites:

1. Ubuntu 14.04 server with:
   1. Sudo/Root access
   2. SoftEther controller or stand-alone server installed

Installing Apache, MySQL, and PHP:

1. Update Ubuntu with the following commands:  
   **sudo apt-get update  
   sudo apt-get dist-upgrade**
2. Install the Apache2 webserver with the following command:  
   **sudo apt-get install apache2**
3. Install MySQL with the following command:  
   **sudo apt-get install mysql-server php5-mysql**
4. When prompted, enter a strong root password for MySQL.
5. Initialize and secure MySQL with the following commands:  
   **sudo mysql\_install\_db  
   sudo mysql\_secure\_installation**
6. After running the “mysql\_secure\_installation” command, enter “Y” for:
   1. Remove anonymous users
   2. Disallow root login remotely
   3. Remove test database and access to it
   4. Reload privilege tables now
7. Install PHP and the appropriate modules:  
   **sudo apt-get install php5 libapache2-mod-php5 php5-mcrypt**
8. Enable PHP mcrypt with the following command (may not be necessary):  
   **sudo php5enmod mcrypt**
9. Tell Apache to prefer index.php over index.html by editing dir.conf with the following command:  
   **sudo nano /etc/apache2/mods-enabled/dir.conf**
10. In dir.conf, change the following:  
    **DirectoryIndex index.html index.cgi index.pl index.php index.xhtml index.htm**To: **DirectoryIndex index.php index.html index.cgi index.pl index.xhtml index.htm**
11. Close and save dir.conf
12. Restart Apache with the following command:  
    **sudo service apache2 restart**

Installing CloudEther on Apache:

1. CloudEther requires a database and a user, to do this, start by connecting MySQL with the following command:  
   **mysql -u root -p**
2. Once you enter your root password, type the following command (replace password with a strong password):

**# Create database;**

**CREATE DATABASE IF NOT EXISTS softethermanager;**

**# Create a MySQL user to have full permission on the database**

**# Change password to something more secure**

**CREATE USER 'seuser'@'127.0.0.1' IDENTIFIED BY 'password';**

**GRANT ALL PRIVILEGES ON softethermanager.\* TO 'seuser'@'127.0.0.1';**

**FLUSH PRIVILEGES;**

**USE softethermanager;**

**#Create admin table**

**DROP TABLE IF EXISTS `admin`;**

**CREATE TABLE IF NOT EXISTS `admin`(**

**id BIGINT UNSIGNED NOT NULL AUTO\_INCREMENT PRIMARY KEY,**

**username VARCHAR(64) NOT NULL,**

**email VARCHAR(64) NULL,**

**password VARCHAR(128) NOT NULL,**

**name VARCHAR(64) NOT NULL,**

**created DATETIME NOT NULL);**

**#Create admin account as administrator/administrator**

**INSERT INTO admin (username, email, password, name, created) VALUES('administrator', 'admin@cloudether.com', '$2y$10$nPEyGZNIG/vDixwW8My3aeRDEdj7BSIrcAOxkZxy4JlTm0xsWi/lG', 'Administrator', '2015-04-08 19:24:41');**

**#Create clients table**

**DROP TABLE IF EXISTS `clients`;**

**CREATE TABLE IF NOT EXISTS `clients`(**

**id BIGINT UNSIGNED NOT NULL AUTO\_INCREMENT PRIMARY KEY,**

**username VARCHAR(64) NOT NULL,**

**email VARCHAR(64) NULL,**

**password VARCHAR(128) NOT NULL,**

**name VARCHAR(64) NOT NULL,**

**created DATETIME NOT NULL);**

**#Create hubs table**

**DROP TABLE IF EXISTS `hubs`;**

**CREATE TABLE IF NOT EXISTS `hubs`(**

**id BIGINT UNSIGNED NOT NULL AUTO\_INCREMENT PRIMARY KEY,**

**name VARCHAR(256) NOT NULL,**

**password VARCHAR(256) NOT NULL,**

**client\_id\_fk BIGINT UNSIGNED NOT NULL,**

**created DATETIME NOT NULL,**

**FOREIGN KEY (client\_id\_fk ) REFERENCES clients(id));**

1. Install git with the following command:  
   **sudo apt-get install git**
2. Make a directory for CloudEther with the following command:

**sudo mkdir /var/www/cloudether && sudo cd /var/www/cloudether**

1. Download CloudEther with the following command:  
   **sudo git clone https://github.com/ParahlM93/ClouldEther.git /var/www/CloudEther**
2. Set the appropriate permissions for Apache with the following commands:  
   **sudo chown -R www-data:www-data /var/www/CloudEther  
   sudo find /var/www/CloudEther/ -type d -exec chmod 550 {} \;  
   sudo find /var/www/CloudEther/ -type f -exec chmod 440 {} \;  
   sudo chmod -R 550 /var/www/CloudEther/resources/scripts**
3. **Optional But Recommended – Setting up SSL (HTTPS):**
   1. Create the directory to hold the certificates with the following command :  
      **sudo mkdir /etc/apache2/certificates**
   2. Then move the signed certificate and the private key to the folder just created with the following commands (generating these is not covered in this tutorial):  
      **sudo mv /path/to/cert/certname.pem /etc/apache2/certificates/cert.pem  
      sudo mv /path/to/key/keyname.pem /etc/apache2/certificates/key.pem**
   3. Provide proper permissions to the certificate and private key with the following commands:  
      **sudo chown -R root:root /etc/apache2/certificates  
      sudo chmod 440 /etc/apache2/certificates/\***
   4. Enable the SSL module for Apache with the following command:  
      **sudo a2enmod ssl**
   5. Enable the Rewrite module for Apache with the following command:  
      **sudo a2enmod rewrite**
   6. Enable the Headers module for Apache with the following command:  
      **sudo a2enmod headers**
4. Disable the default site for Apache:  
   **sudo a2dissite 000-default.conf**
5. Create an Apache configuration file for CloudEther with the following command:  
   **sudo nano /etc/apache2/sites-available/cloudether.conf**
   1. For just HTTP (no SSL):

**<VirtualHost \*:80>**

**ServerAdmin webmaster@localhost**

**DocumentRoot /var/www/CloudEther/public**

**ErrorLog ${APACHE\_LOG\_DIR}/error.log**

**CustomLog ${APACHE\_LOG\_DIR}/access.log combined**

**</VirtualHost>**

* 1. For SSL (HTTPS):

**<VirtualHost \*:80>**

**ServerAdmin webmaster@localhost**

**DocumentRoot /var/www/CloudEther/public**

**ErrorLog ${APACHE\_LOG\_DIR}/error.log**

**CustomLog ${APACHE\_LOG\_DIR}/access.log combined**

**RewriteEngine On**

**RewriteCond %{HTTPS} off**

**RewriteRule (.\*) https://%{HTTP\_HOST}%{REQUEST\_URI}**

**</VirtualHost>**

**<IfModule mod\_ssl.c>**

**<VirtualHost \*:443>**

**ServerAdmin webmaster@localhost**

**DocumentRoot /var/www/CloudEther/public**

**ErrorLog ${APACHE\_LOG\_DIR}/error.log**

**CustomLog ${APACHE\_LOG\_DIR}/access.log combined**

**SSLEngine on**

**#Prevents SSL Strip**

**Header set Strict-Transport-Security "max-age=16070400; includeSubDomains"**

**SSLCertificateFile /etc/apache2/certificates/cert.pem**

**SSLCertificateKeyFile /etc/apache2/certificates/key.pem**

**<FilesMatch "\.(cgi|shtml|phtml|php)$">**

**SSLOptions +StdEnvVars**

**</FilesMatch>**

**<Directory /usr/lib/cgi-bin>**

**SSLOptions +StdEnvVars**

**</Directory>**

**BrowserMatch "MSIE [2-6]" \**

**nokeepalive ssl-unclean-shutdown \**

**downgrade-1.0 force-response-1.0**

**# MSIE 7 and newer should be able to use keepalive**

**BrowserMatch "MSIE [17-9]" ssl-unclean-shutdown**

**</VirtualHost>**

**</IfModule>**

1. Enable the new site with the following command:  
   **sudo a2ensite cloudether.conf**
2. Restart Apache with the following command:  
   **sudo service apache2 restart**
3. Now copy the sample init.php file into production with the following command:  
   **sudo cp -pi /var/www/ClouldEther/resources/core/init.php.sample /var/www/ClouldEther/resources/core/init.php**
4. Then edit the database and email settings in init.php to match your environment with the following command:  
   **sudo nano /var/www/ClouldEther/resources/core/init.php**
5. For the www-data user (the user that runs Apache) to be able to create SoftEther hubs, www-data must have read, write, and execute permissions to /usr/local/vpnserver. The recommended solution is to create a softether linux group with www-data as a member. Then recursively assign read, write, and execute permissions to that group on /usr/local/vpnserver.
6. From any computer, navigate to CloudEther’s admin panel (replacing ip.add.re.ss with your web server’s IP address):  
   **http://ip.add.re.ss/admin.php**
7. On this page, you may now login with the following credentials:  
   username: **administrator**  
   password: **administrator**
8. Then navigate to the ‘Change Password’ page and set a more secure password.
9. Now you may create clients, which should be able to create SoftEther hubs on the fly.