| AWARE DASHBOARD SETUP INSTRUCTIONS ON AWS |
| --- |
| Version 1.1 |
|  |

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**Revision History**

| Date | Version | Description | Author |
| --- | --- | --- | --- |
| 9/10/2018 | 1.0 | Initial Version of the Document | Abhijit |
| 4/21/2021 | 1.1 | Updates for Ubuntu 18 | D. Bellew |

# **INTRODUCTION**

The purpose of this document is to outline the install steps followed to setup the aware dashboard so that UPenn can test out the aware framework. Due to network Issues faced in trying to setup this install in-house, a decision was taken to try and install the dashboard on AWS. The online guide located at http://www.awareframework.com/hosting-your-own-aware-dashboard/ was used as a basis for the install and this document

## REFERENCES

The following resources were leveraged to complete the install steps and test out the deployment

* Sharath Chandra Guntuku
* Salvatore Giorgi
* http://www.awareframework.com/hosting-your-own-aware-dashboard/

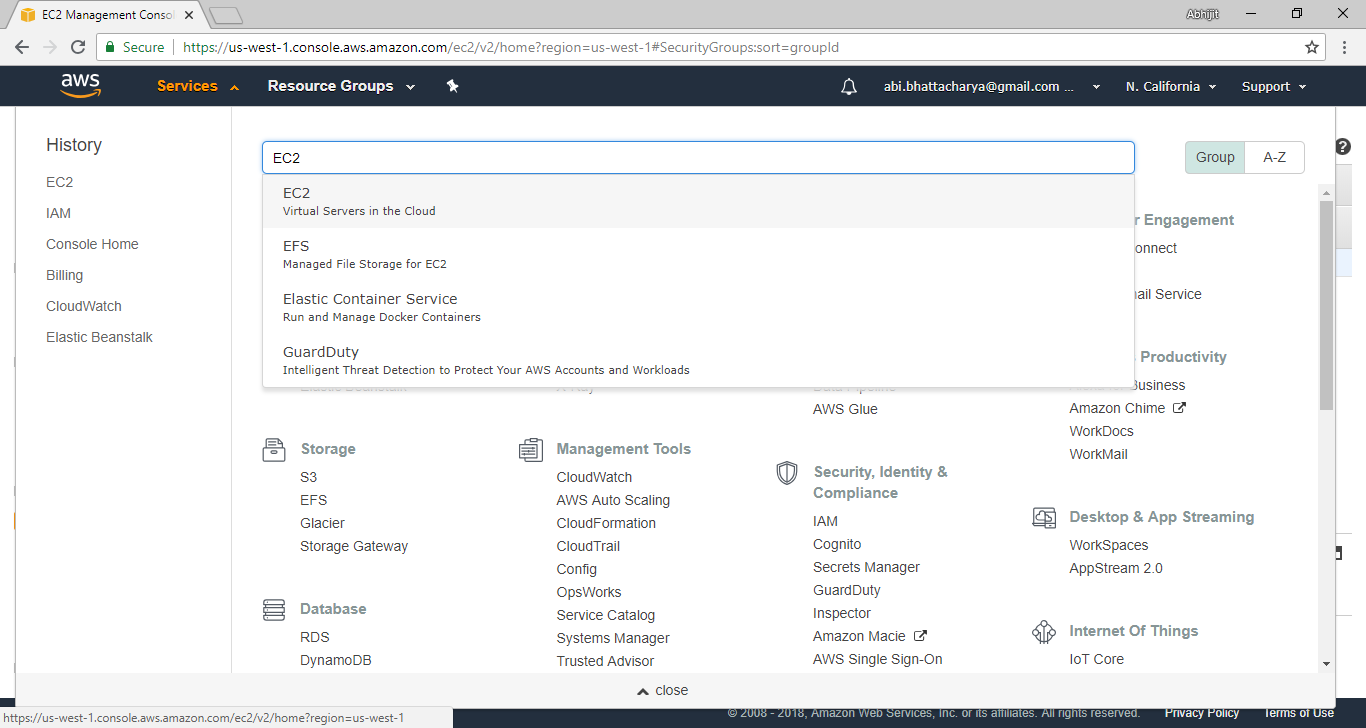
# **SETTING UP THE SERVER ON AWS**

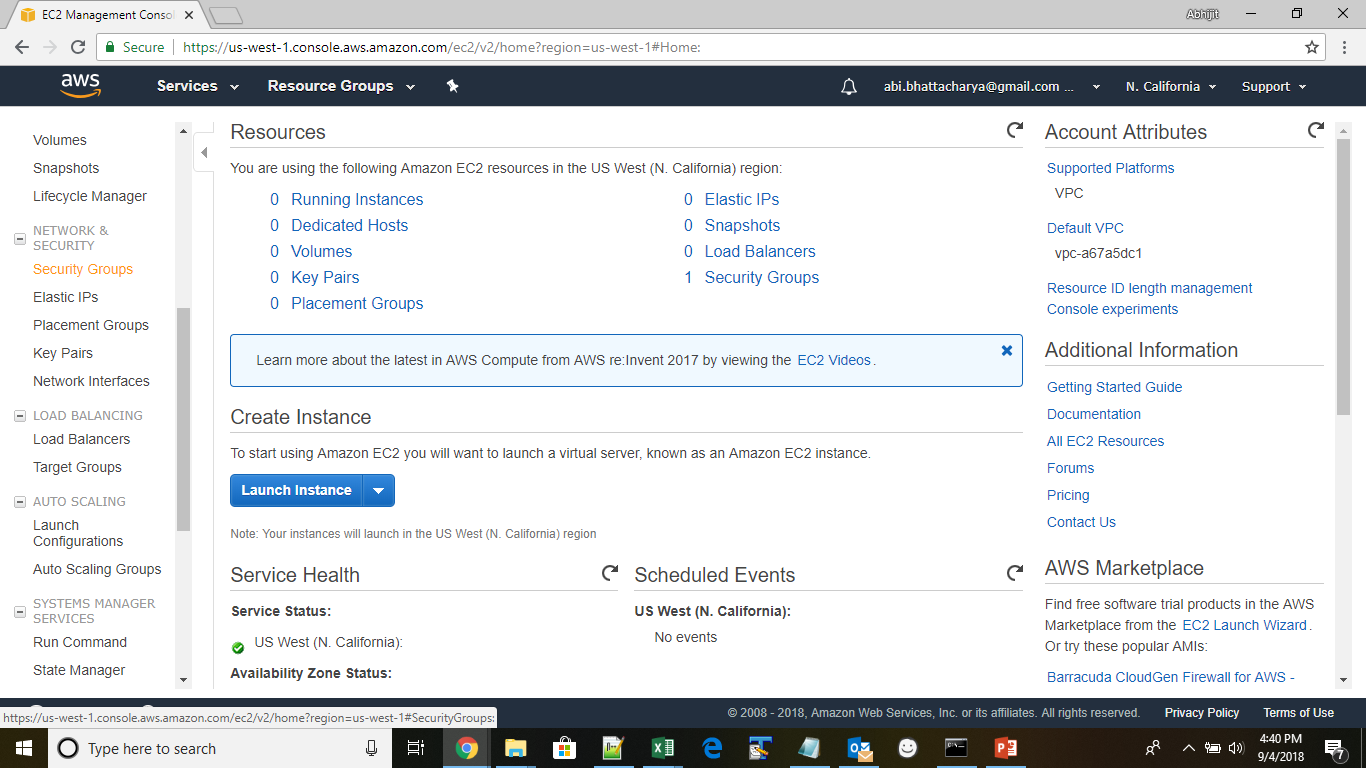
An Ubuntu 14.04 server was setup on AWS using the steps below.

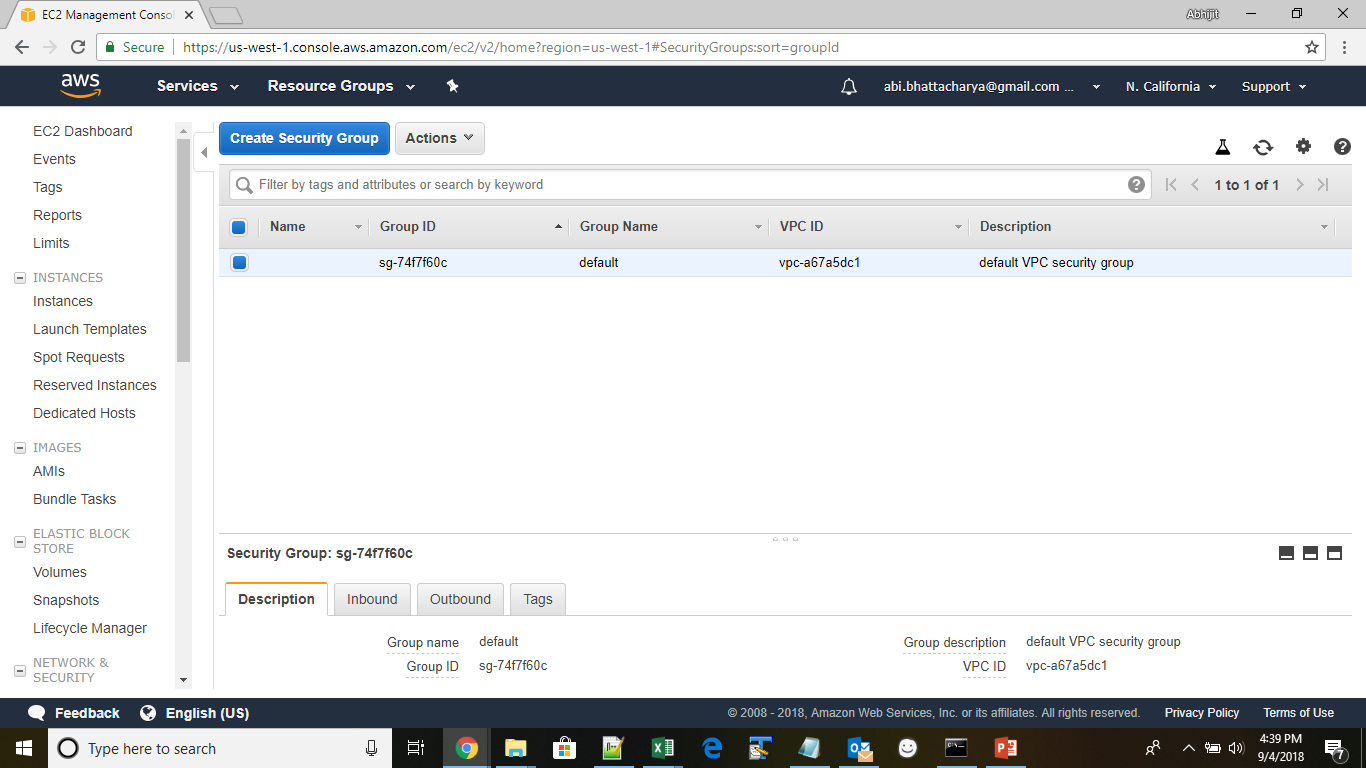
* DB: Notes - Changes for this document are for updates fo Ubuntu 18.4
* (“lsb\_release -a” to show Ubuntu version)

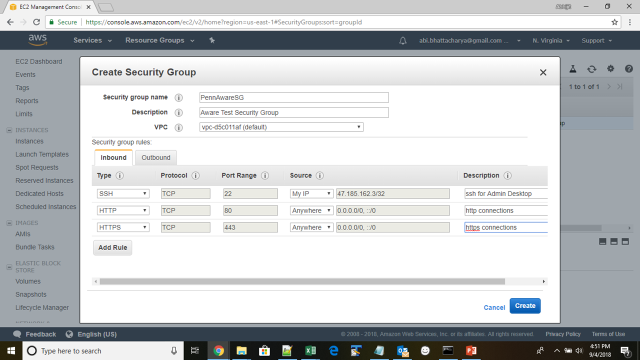
## CREATE SECURITY GROUP

A security group was created by going to the EC2 dashboard in the N. Virginia Region of AWS





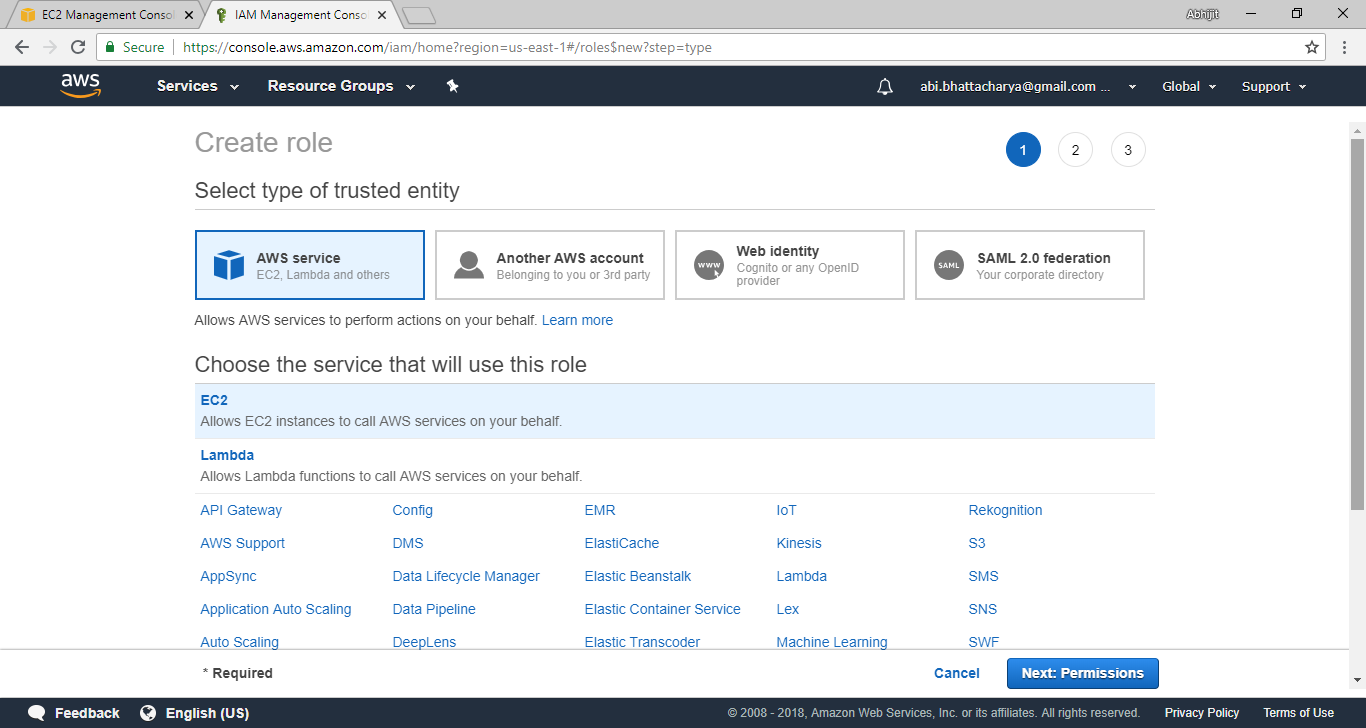


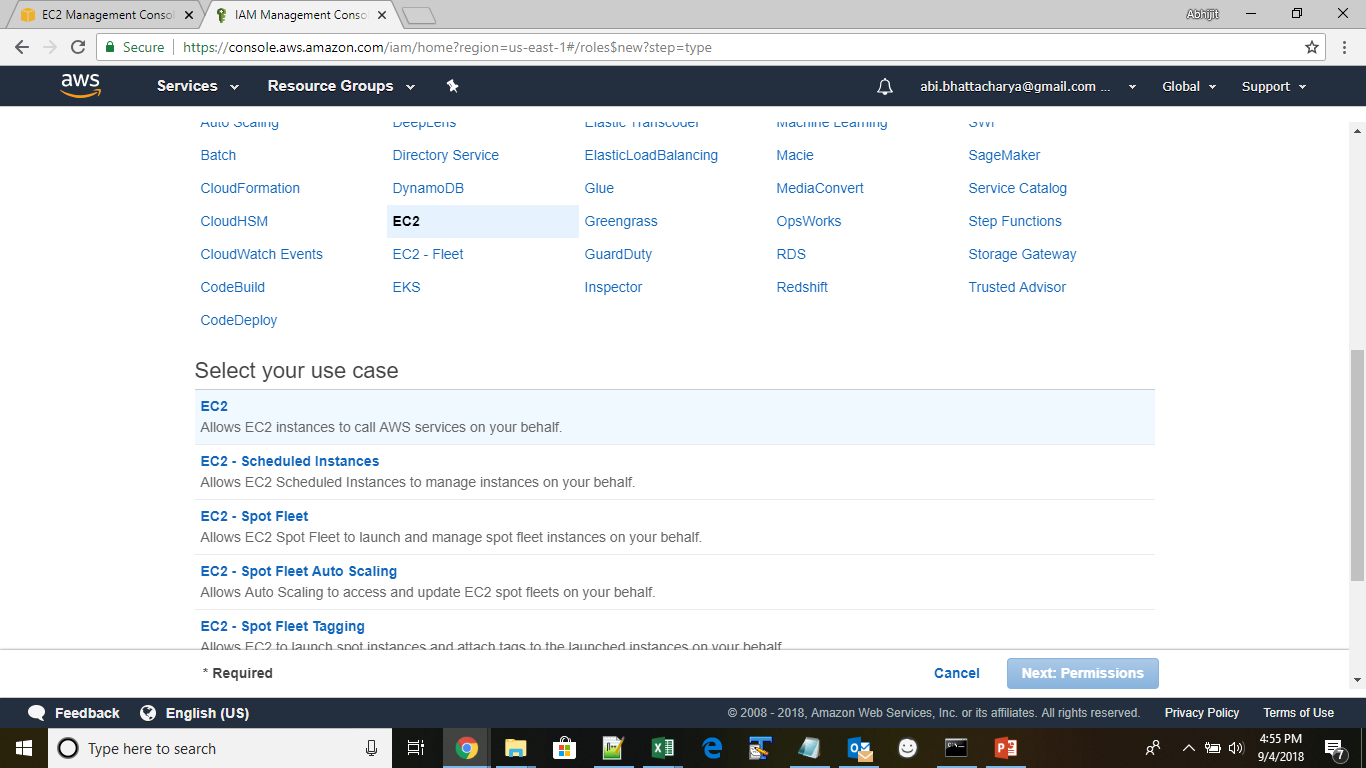


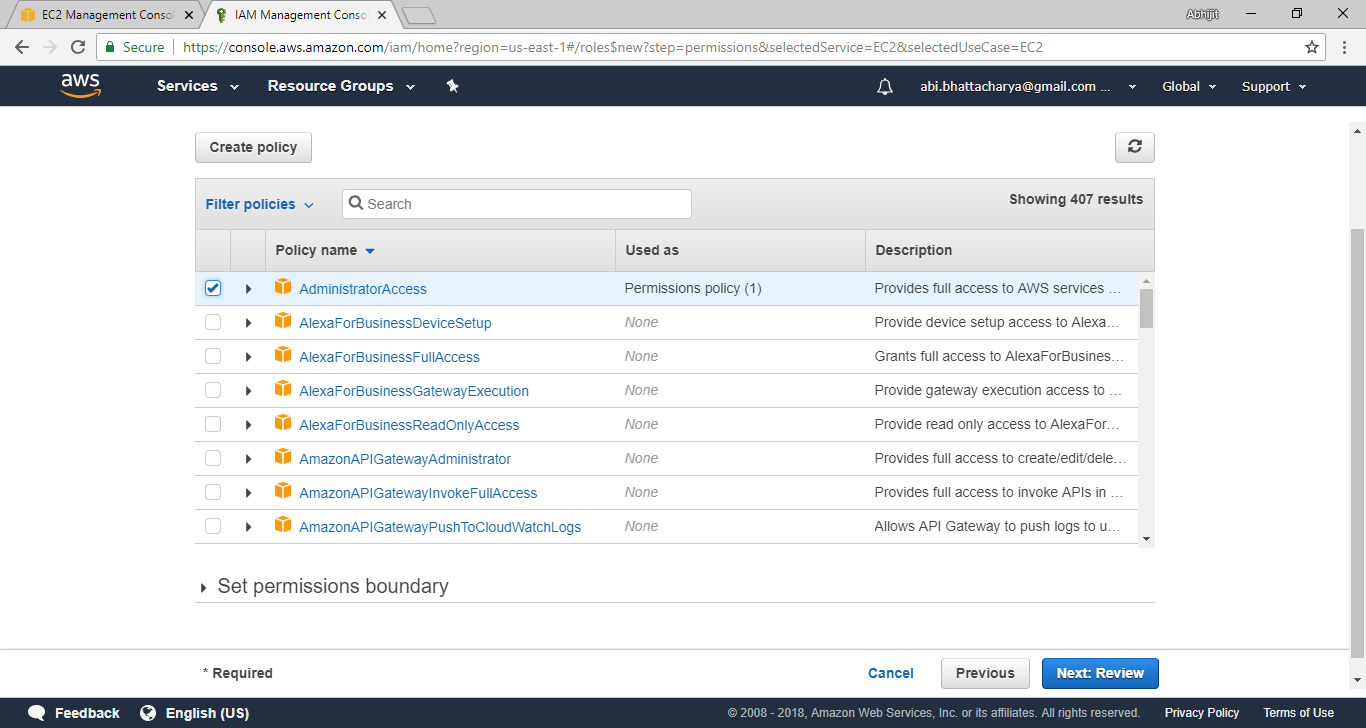
Select “Anywhere” in the source for SSH to allow anyone to SSH into the server and hit create to create the security group.

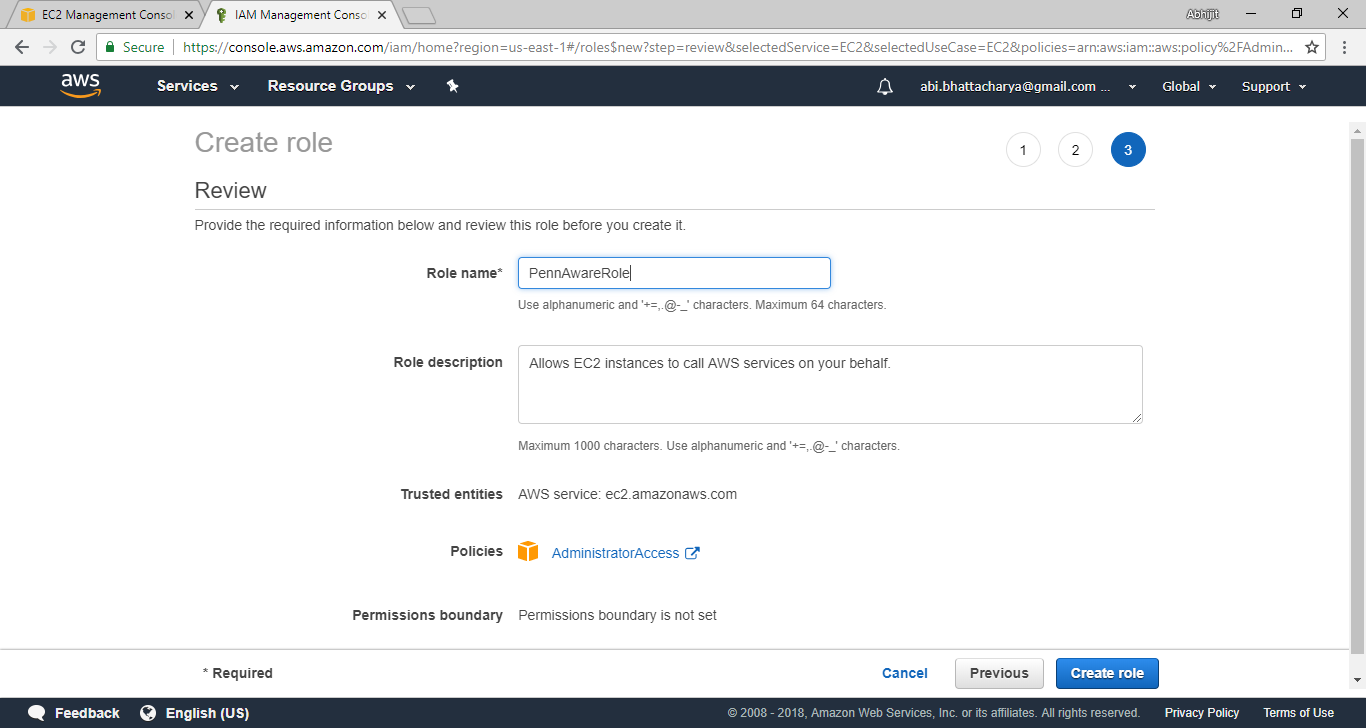
## CREATE AN AWS ROLE

Create a new role with admin access policy to be able to launch a new instance. Roles can be created under IAM service in AWS



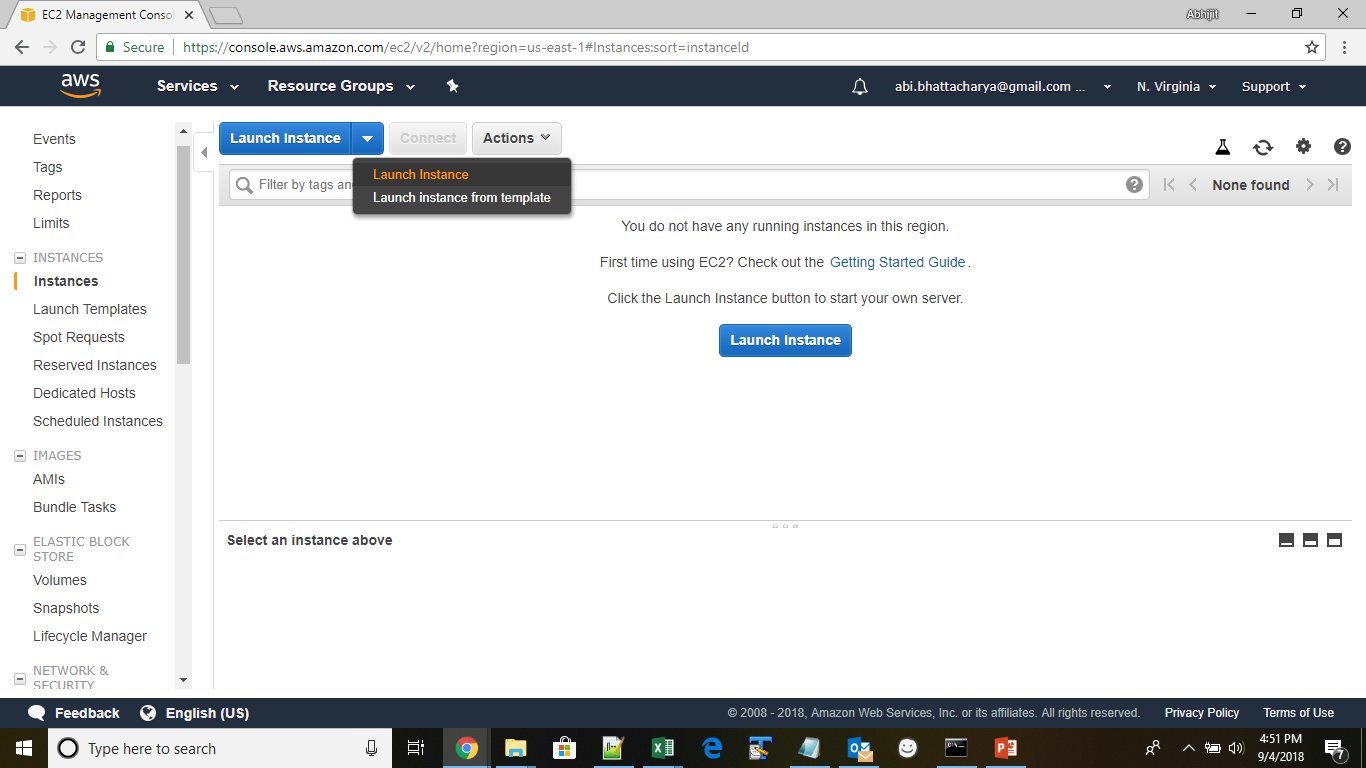


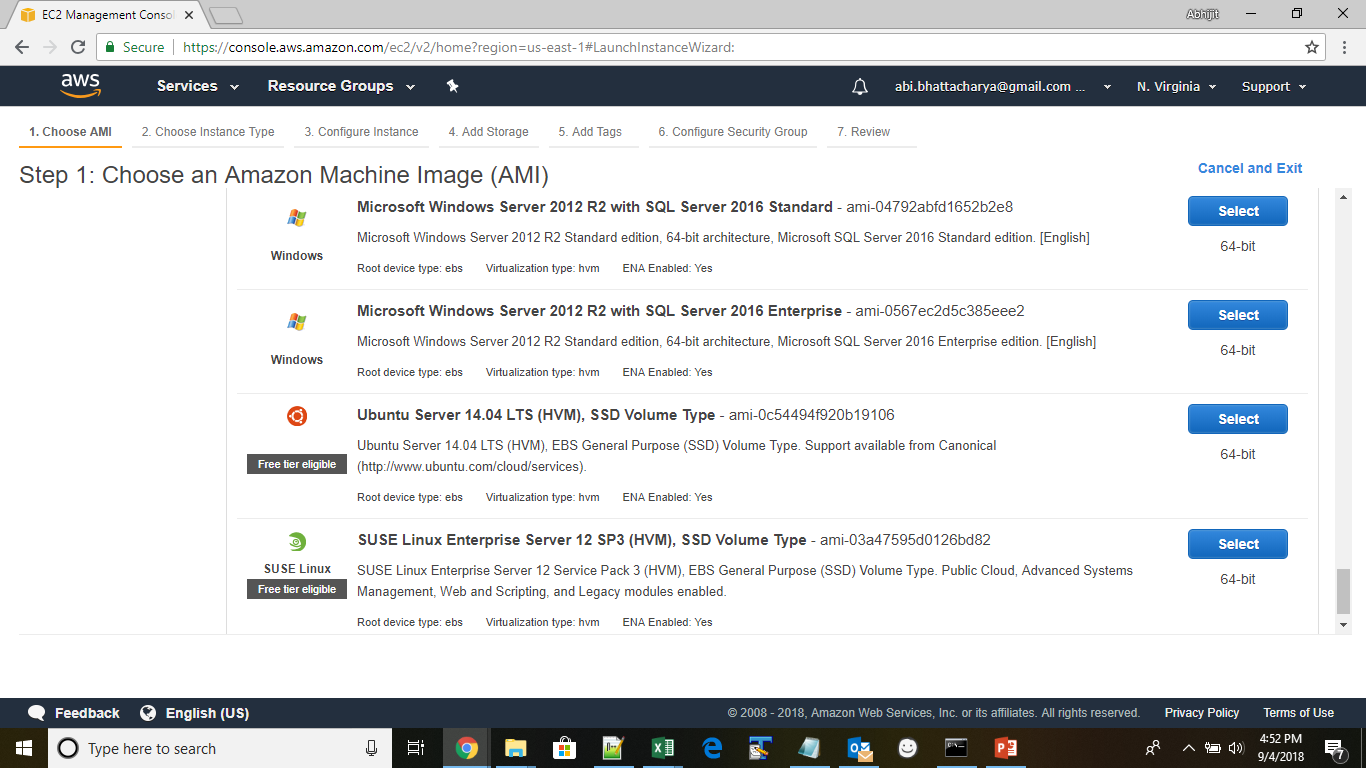




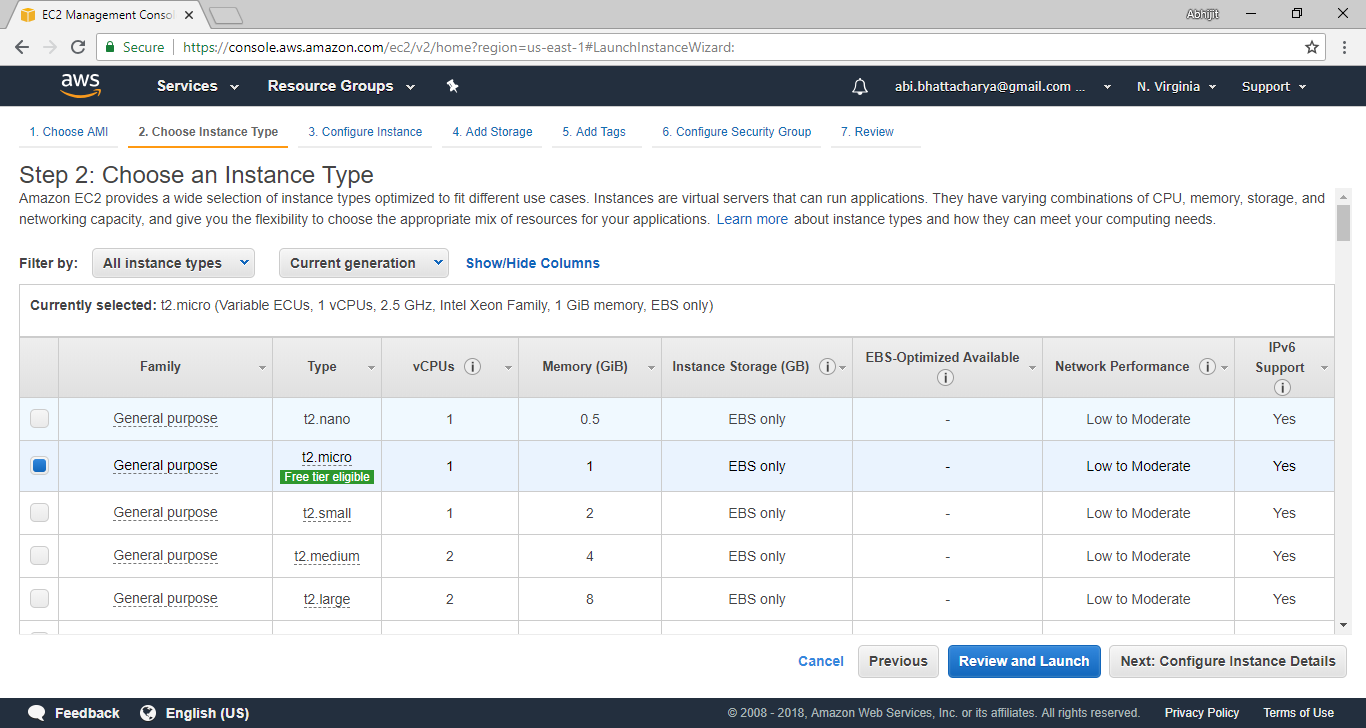
## LAUNCH INSTANCE

Launch a new Ubuntu 14.04 instance using the role and security group created

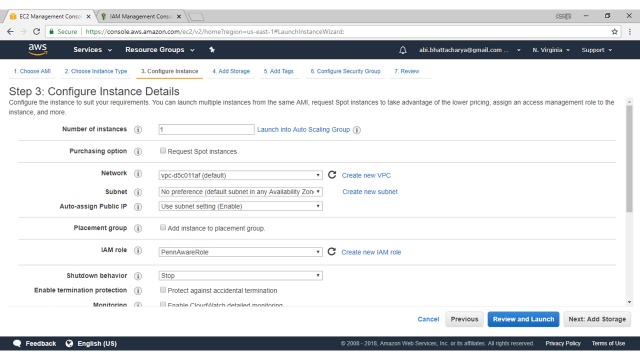




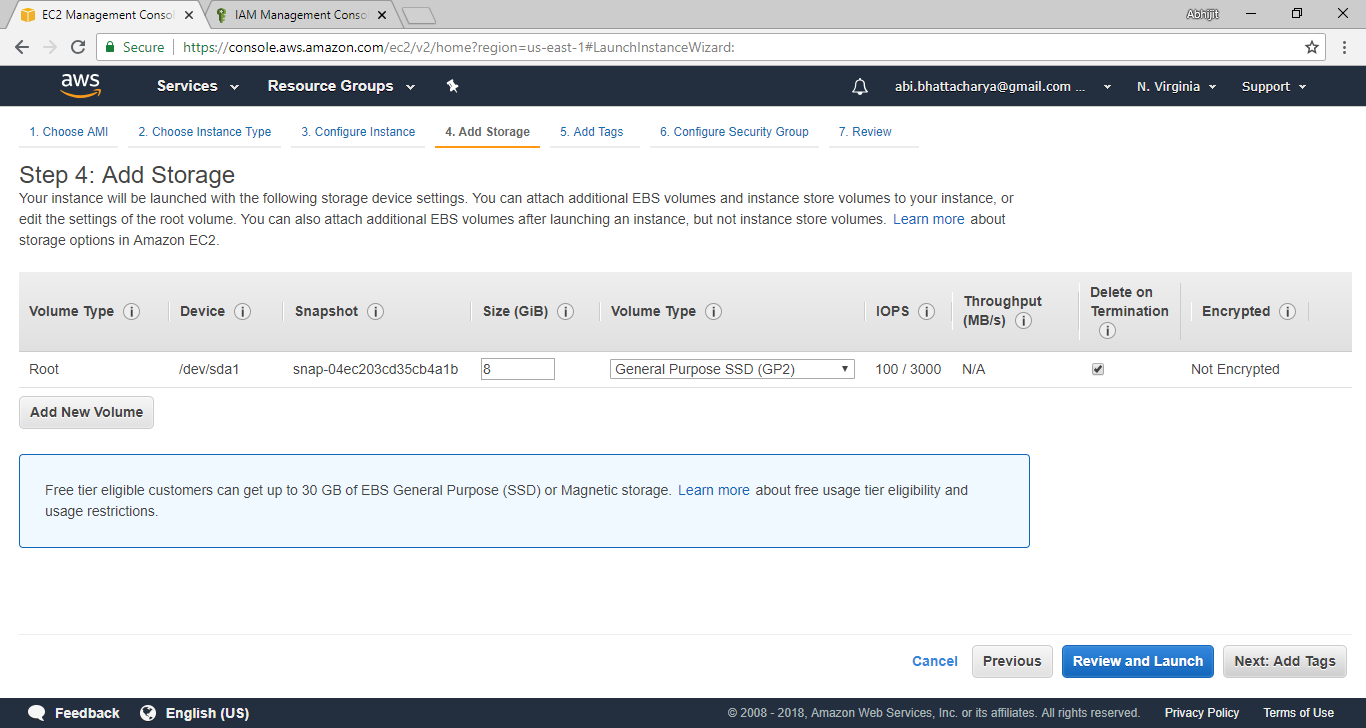
Choose a t2 micro instance



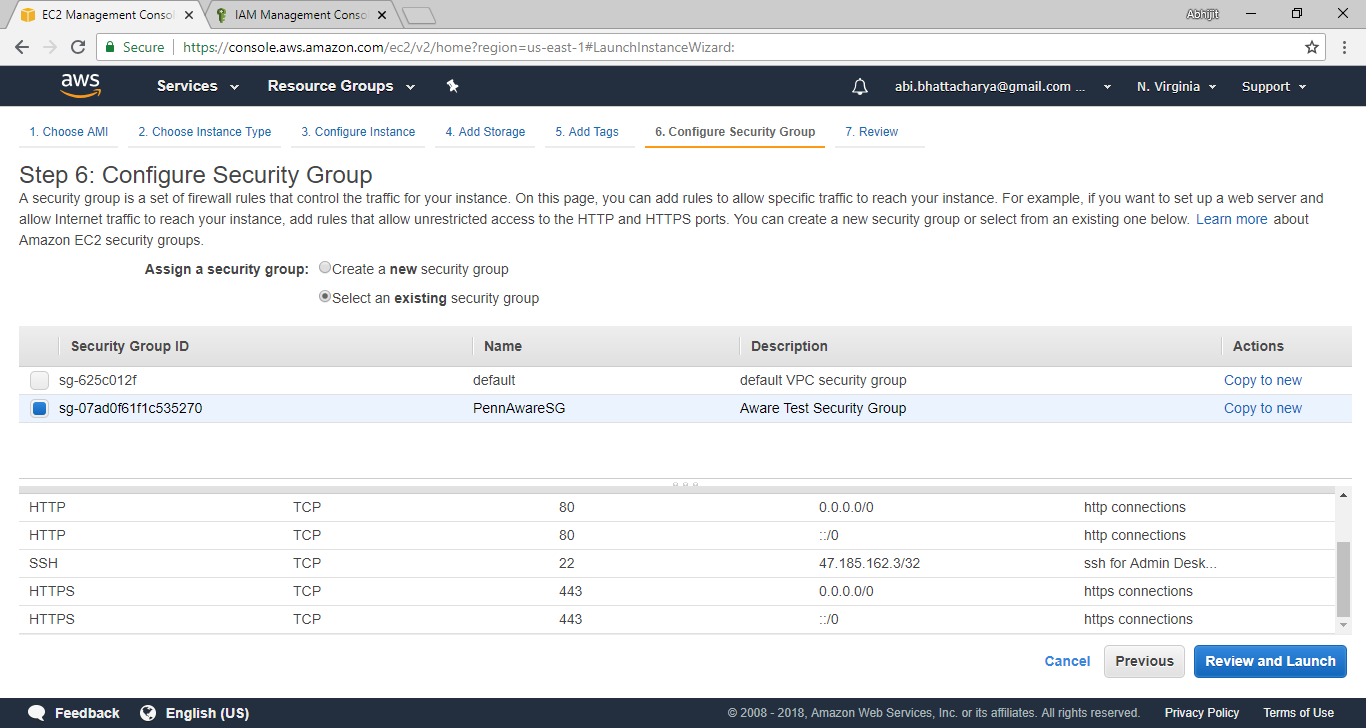
Use role created in instance details



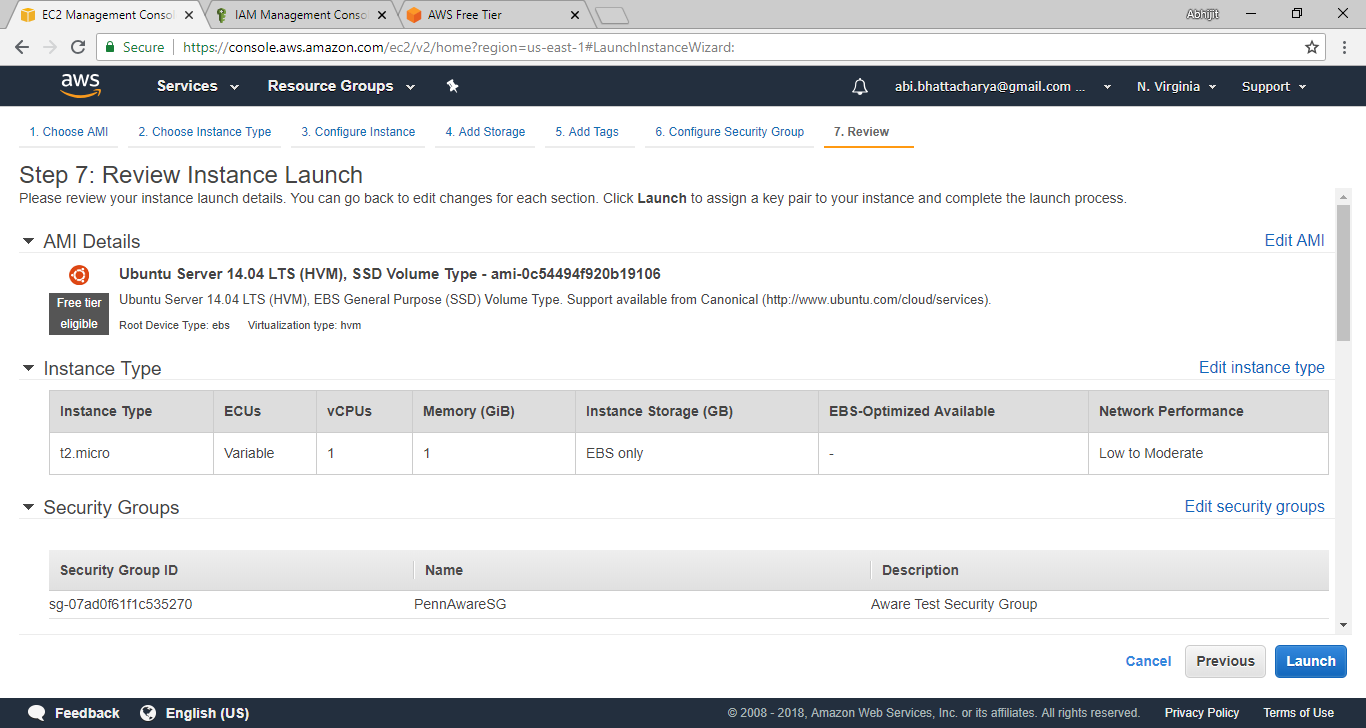
Change disk size to 16 GB

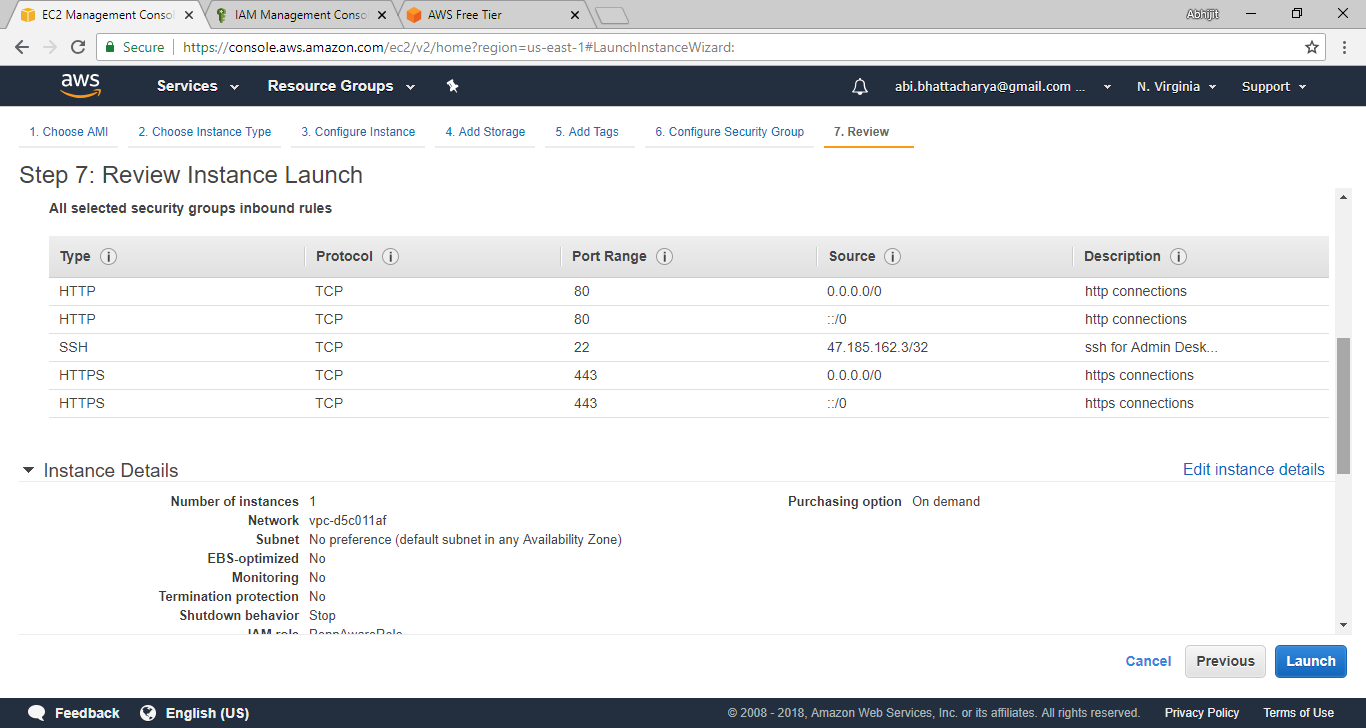


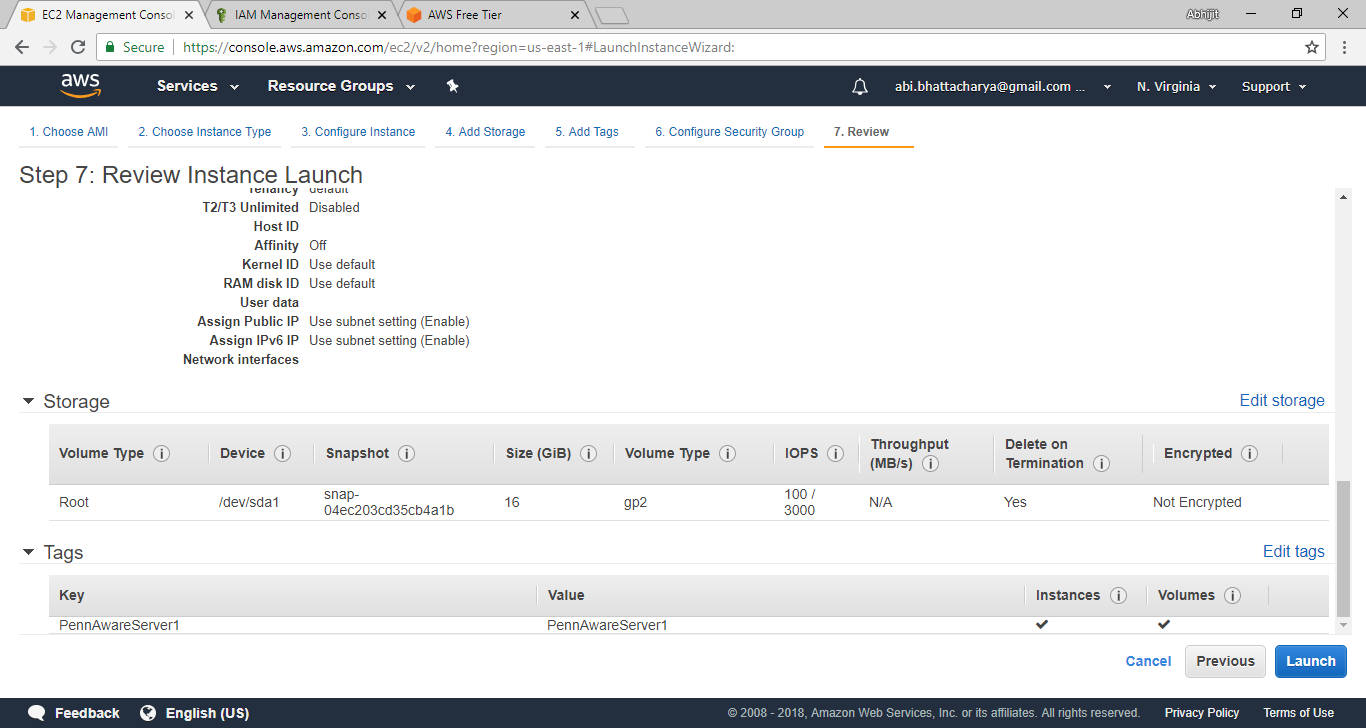
Pick the security group created previously



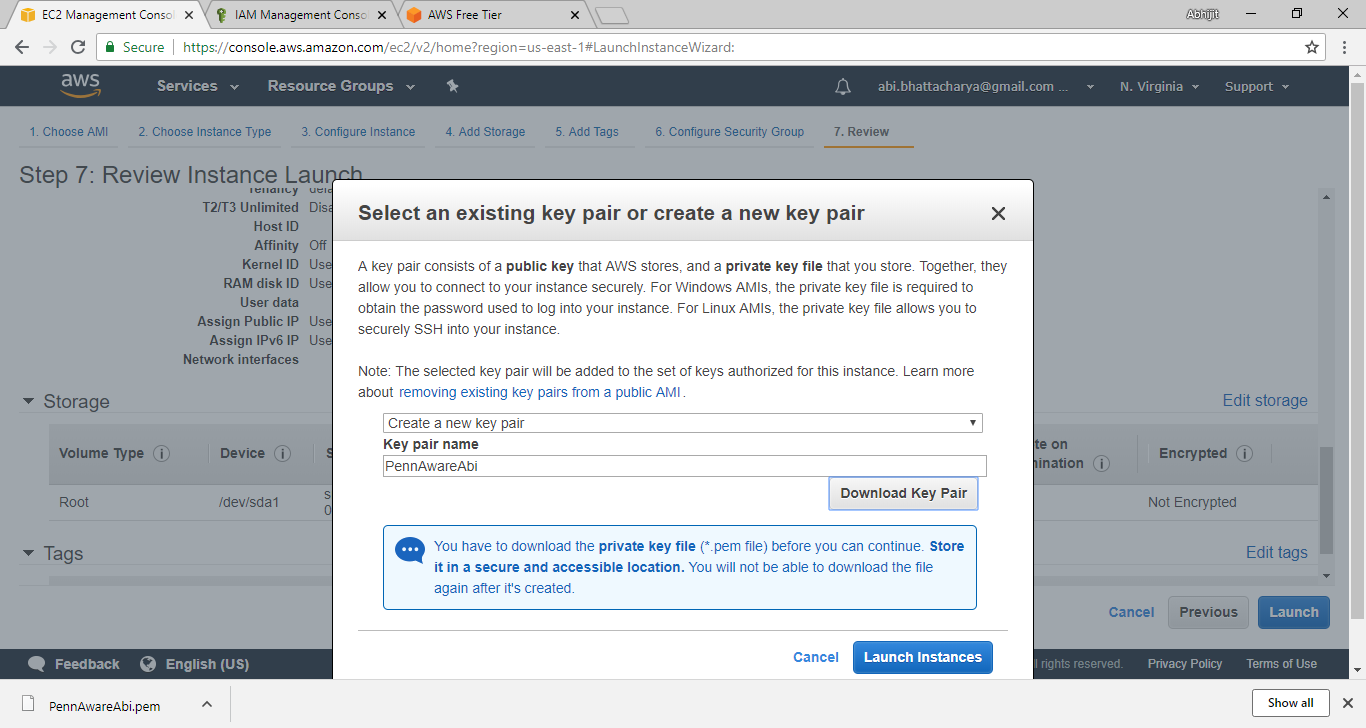
Launch the instance after review of settings

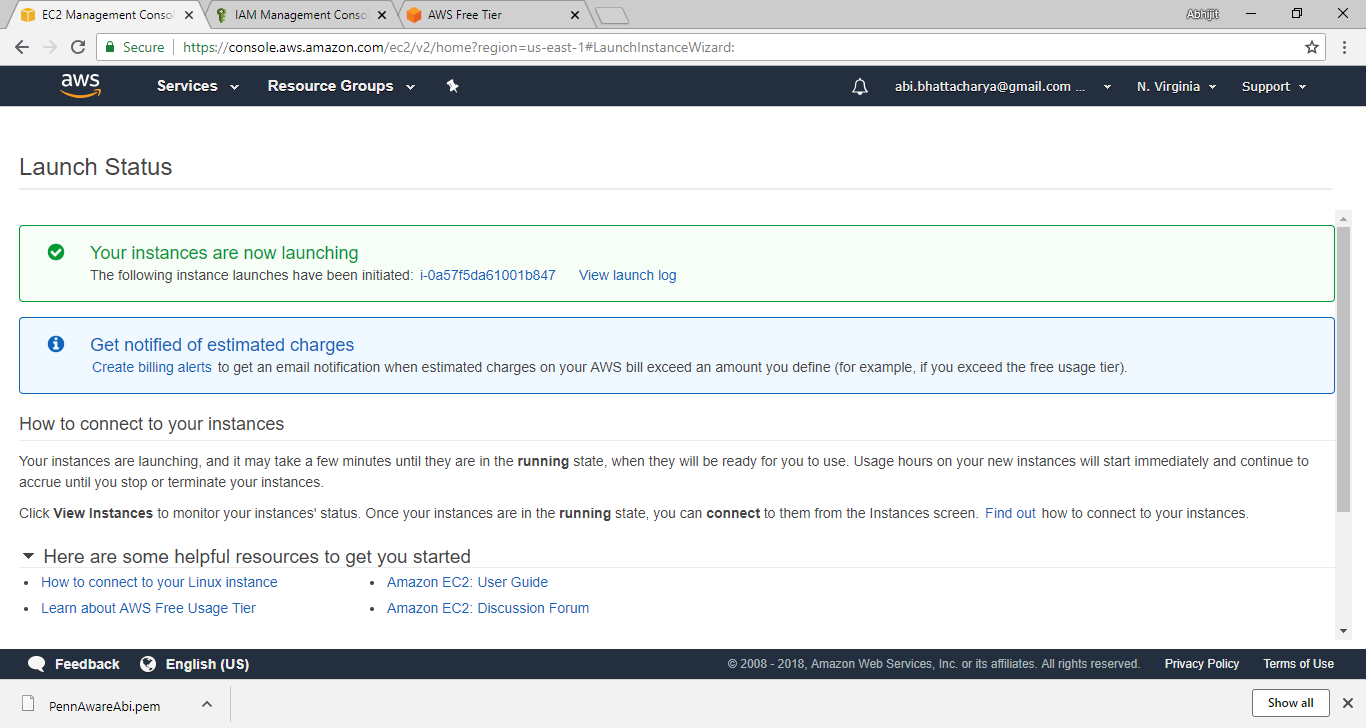






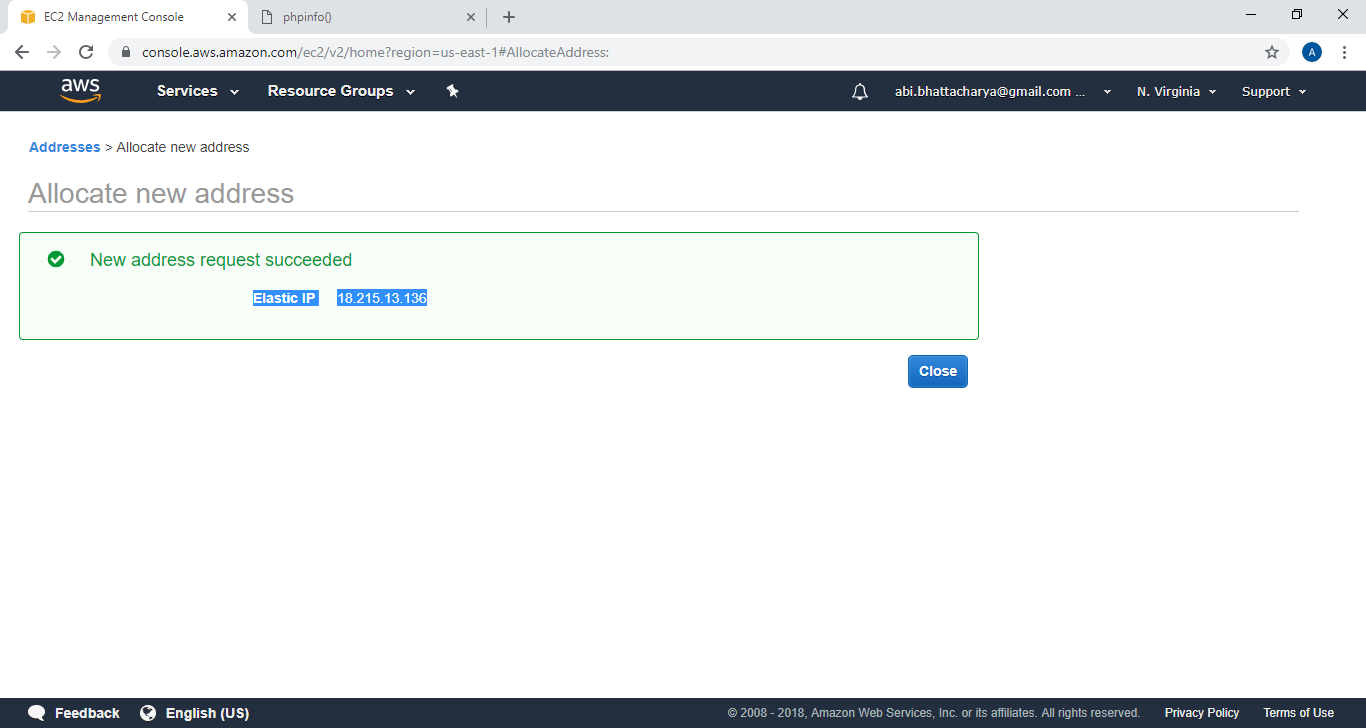
Name and download the key-pair



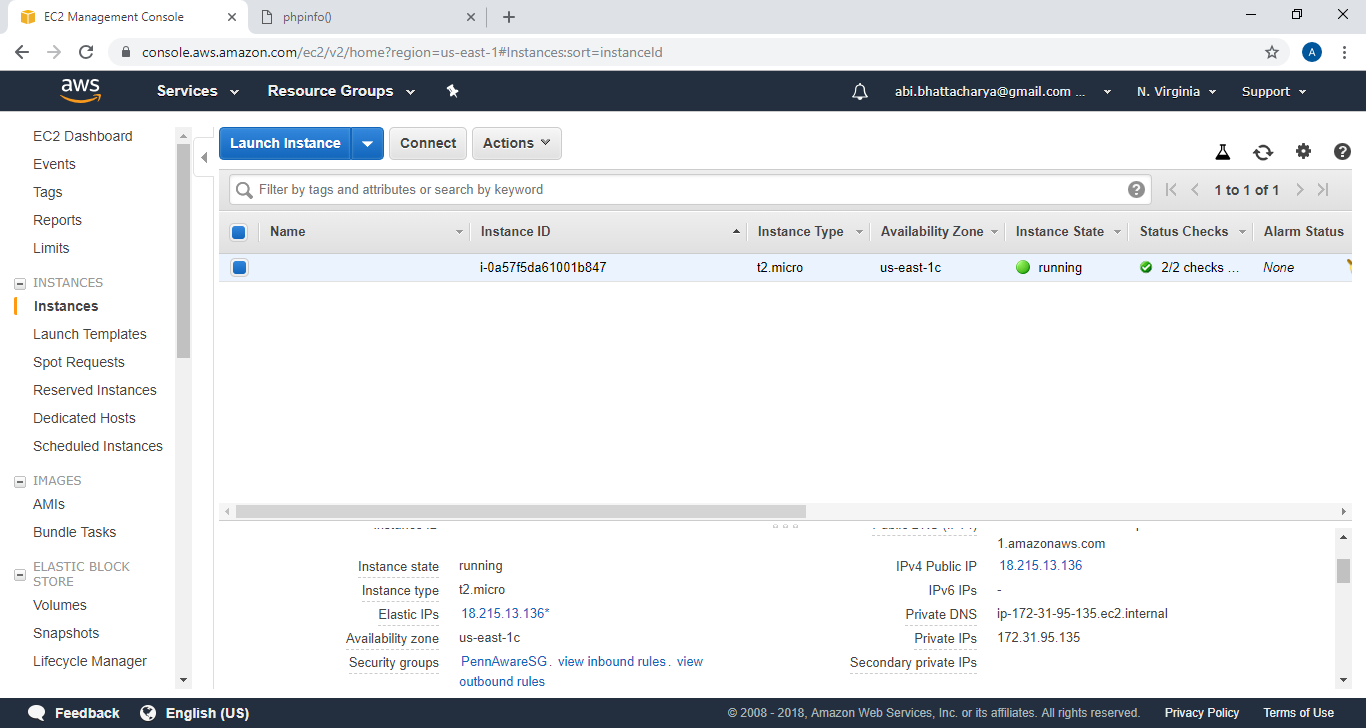


## CREATE AND ASSIGN AN ELASTIC IP ADDRESS

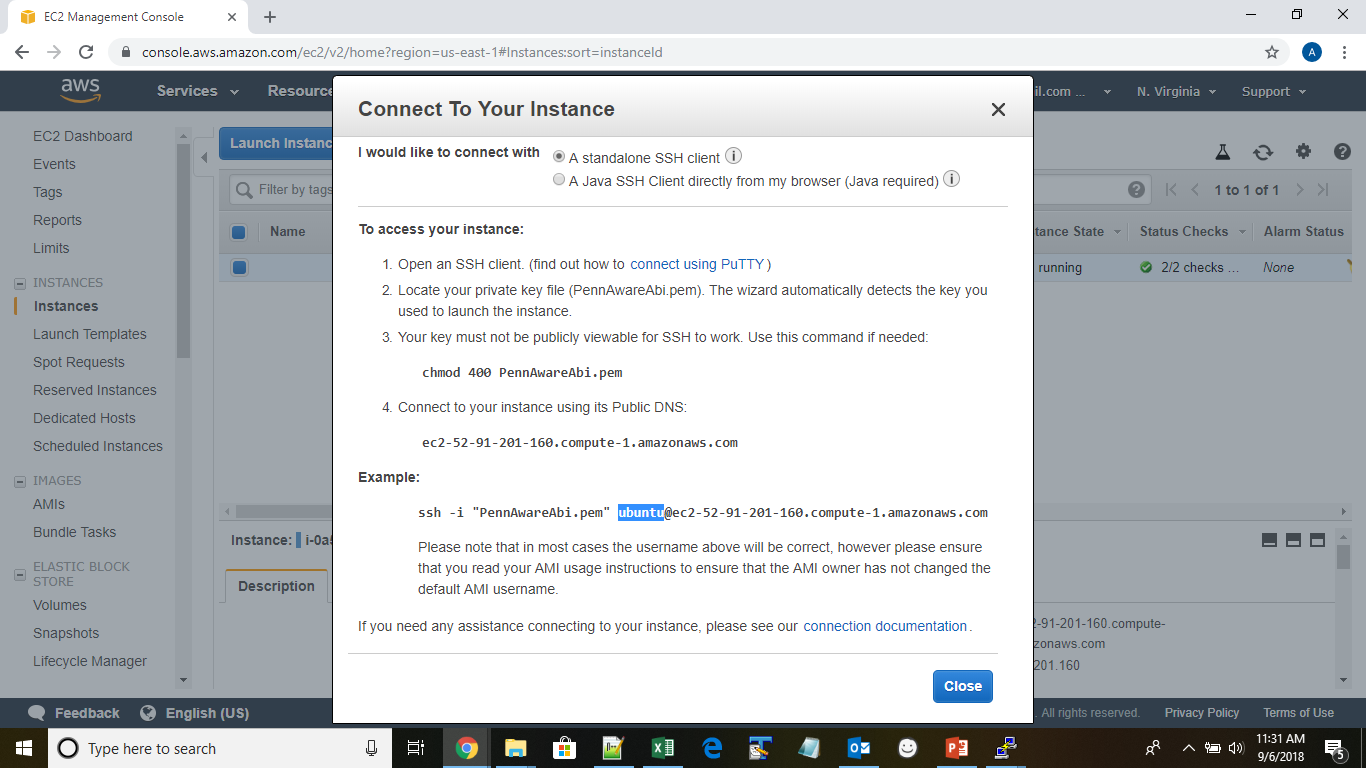
Create elastic IP address from the EC2 console and assign the IP address to the running instance

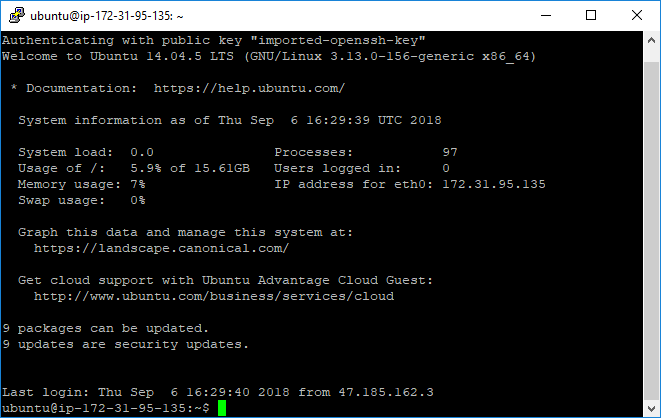


After assigning the IP address, get the public IP address from the instance details in the EC2 dashboard



Putty/connect via SSH to the server at the public IP address using the key pair to access the server via ssh. Hit the connect button next to the launch instance button to get the connection details to the instance.





The public IP address set up in this case was 18.215.13.136.

## GET A NAME ASSIGNED TO THE IP ON THE DNS SERVER

An A name of aware-cloud was added to the wwbp.org domain and was pointed to the static elastic IP address of the server - 18.215.13.136

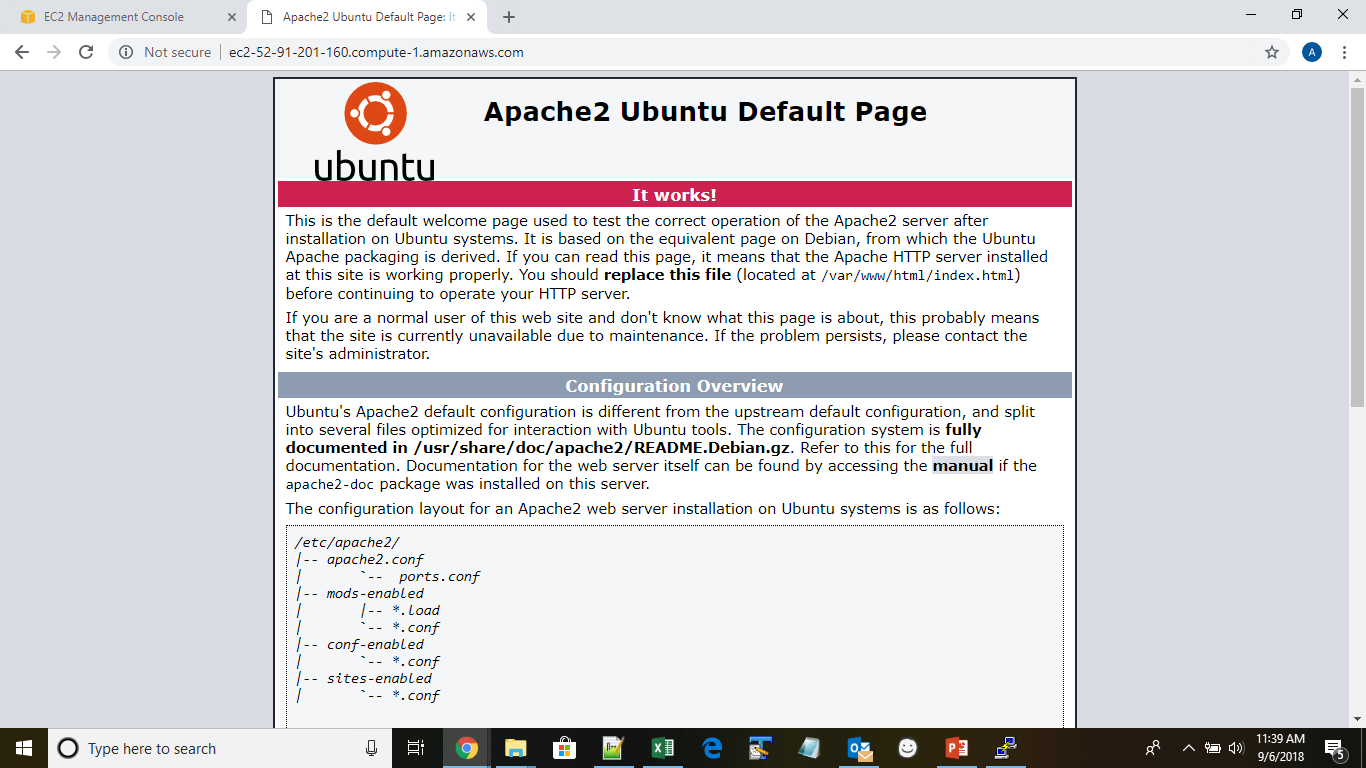
# **INSTALL REMAINING ELEMENT OF THE LAMP STACK**

In addition to the Linux server, MySQL, apache and PHP modules were also installed to prepare for the aware dashboard server install. The following site was referenced for this section: <https://www.digitalocean.com/community/tutorials/how-to-install-linux-apache-mysql-php-lamp-stack-on-ubuntu-14-04>

## INSTALL APACHE

Once, connected to the server via ssh, execute the following commands on the shell prompt to install apache:

* sudo apt-get update
* sudo apt-get install apache2
* Check for proper local installation by:
  + “curl <http://localhost>” (you should get back html text)
* If you don’t know the external DNS ip (from connect screen of the EC2 dashboard), you can use:
  + “curl ipecho.net/plain ; echo”
* Check external access from a different machine browser and use
  + “http://<external DNS ip address>” (you should get back the below screen)



## INSTALL MYSQL AND SETUP THE DATABASE

Run the following commands on the ssh terminal to install MySQL.

* “sudo apt-get update”
* “sudo apt-get dist-upgrade”
* “sudo add-apt-repository ppa:ondrej/php”
* “sudo apt-get update”
* “sudo apt-get install mysql-server php5.6-mysql”
* “sudo mysql\_secure\_installation -u root”

The following answers were given to questions on the secure Installation script:

Validate Password Plugin? N

New password: <enter new Password>

Remove anonymous users? [Y/n] Y

Disallow root login remotely? [Y/n] Y

Remove test database and access to it? [Y/n] Y

Reload privilege tables now? [Y/n] Y

All done!

* For some reason the above “New Password” doesn’t work, so we need to change the root password for real:
  + “sudo service mysql stop”
  + “sudo mkdir /var/run/mysqld”
  + “sudo chown mysql:mysql /var/run/mysqld”
  + “sudo mysqld\_safe --skip-grant-tables --skip-networking &”
    - Output should be something similar to:
      * mysqld\_safe Logging to syslog.
      * mysqld\_safe Logging to '/var/log/mysql/error.log'.
      * mysqld\_safe Starting mysqld daemon with databases from /var/lib/mysql
    - (hit return to get a fresh command line)
  + “mysql -u root mysql”
    - mysql> UPDATE mysql.user SET authentication\_string=CONCAT('\*', UPPER(SHA1(UNHEX(SHA1('<put password here>'))))), plugin='mysql\_native\_password' WHERE User='root' AND Host='localhost';
    - mysql> \q;
  + “sudo mysqladmin -S /var/run/mysqld/mysqld.sock shutdown”
  + “sudo service mysql start”

After installation test the installation using the following command at the ssh terminal

* “mysql -u root -p”

Enter Password: <root password from above>

* mysql> exit

You can check the status of MySQL using the command

* “sudo service mysql status”

You can stop the service using

* “sudo service mysql stop”

You can start the service using

* “sudo service mysql start”

## INSTALL PHP

Install PHP by running the following commands at the ssh terminal

* “sudo apt-get install php5.6 libapache2-mod-php5.6 php5.6-mcrypt”

## CREATE APACHE MOD LINKS

The default apache mod list fails to include some of the links we need for https to work

* “cd /etc/apache2/mods-enabled”
* “sudo ln -s ../mods-available/proxy.conf proxy.conf”
* “sudo ln -s ../mods-available/proxy.load proxy.load”
* “sudo ln -s ../mods-available/proxy\_http.load proxy\_http.load”
* “sudo ln -s ../mods-available/proxy\_msrpc.load proxy\_msrpc.load”
* “sudo ln -s ../mods-available/socache\_shmcb.load socache\_shmcb.load”
* “sudo ln -s ../mods-available/ssl.conf ssl.conf”
* “sudo ln -s ../mods-available/ssl.load ssl.load”

# **SETTING UP THE AWARE DASHBOARD**

## PULLING DOWN THE LATEST VERSION OF THE AWARE SERVER

The following commands were executed at the ssh terminal to pull down the latest code of the aware server

* cd /var/www/html
* sudo git clone https://github.com/denzilferreira/aware-server.git
* cd /var/www/html/aware-server
* sudo git pull
* Apply bugfixes to the server files by overlaying the files in the directory:
  + [douglasvbellew@aware-dev.wwbp.org](mailto:douglasvbellew@aware-dev.wwbp.org):/home/douglasvbellew/aware-server  
    Onto the /var/www/html/aware-server directory

## CERTBOT AND SSL CERT INSTALL

The following commands were run at the ssh terminal:

* sudo apt-get update
* sudo apt-get install software-properties-common
* sudo add-apt-repository ppa:certbot/certbot
  + The PPA had been DEPRECIATED.
  + Press [ENTER] to continue [...] <ENTER>
* sudo apt-get update
* sudo apt-get install python-certbot-apache
* sudo certbot --apache

The last command automatically configures Apache and assigns the certificates to your host. When executed, the script asks a few questions. These were answered as indicated below:

* Enter email address (used for urgent renewal and security notices) (Enter 'c' to cancel): sal.giorgi@gmail.com
* Please read the Terms of Service at https://letsencrypt.org/documents/LE-SA-v1.2-November-15-2017.pdf. You must agree in order to register with the ACME server at https://acme-v02.api.letsencrypt.org/directory

(A)gree/(C)ancel: A

* Would you be willing to share your email address with the Electronic Frontier Foundation, a founding partner of the Let's Encrypt project and the non-profit organization that develops Certbot? We'd like to send you email about our work encrypting the web, EFF news, campaigns, and ways to support digital freedom.

(Y)es/(N)o: N

* No names were found in your configuration files. Please enter in your domain name(s) (comma and/or space separated) (Enter 'c' to cancel): aware.wwbp.org

The script says that it did the following:

Created an SSL vhost at /etc/apache2/sites-available/000-default-le-ssl.conf

Enabled Apache socache\_shmcb module

Enabled Apache ssl module

Deploying Certificate to VirtualHost /etc/apache2/sites-available/000-default-le-ssl.conf

Enabling available site: /etc/apache2/sites-available/000-default-le-ssl.conf

* Please choose whether or not to redirect HTTP traffic to HTTPS, removing HTTP ac cess.

1: No redirect - Make no further changes to the webserver configuration.

2: Redirect - Make all requests redirect to secure HTTPS access. Choose this for new sites, or if you're confident your site works on HTTPS. You can undo this change by editing your web server's configuration.

Select the appropriate number [1-2] then [enter] (press 'c' to cancel): 1

Summary result of running the script:

IMPORTANT NOTES:

- Congratulations! Your certificate and chain have been saved at:

/etc/letsencrypt/live/aware-cloud.wwbp.org/fullchain.pem

Your key file has been saved at:

/etc/letsencrypt/live/aware-cloud.wwbp.org/privkey.pem

Your cert will expire on 2018-12-05. To obtain a new or tweaked

version of this certificate in the future, simply run certbot again

with the "certonly" option. To non-interactively renew \*all\* of

your certificates, run "certbot renew"

- Your account credentials have been saved in your Certbot

configuration directory at /etc/letsencrypt. You should make a

secure backup of this folder now. This configuration directory will

also contain certificates and private keys obtained by Certbot so

making regular backups of this folder is ideal.

- If you like Certbot, please consider supporting our work by:

Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate

Donating to EFF: https://eff.org/donate-le

Alternate way of creating SSL certificates for local testing:

Taken from:

https://deliciousbrains.com/ssl-certificate-authority-for-local-https-development/

Step 1: Become a Tiny CA (So you can create signed websites)

* “cd ~/certs”
* “openssl genrsa -des3 -out myCA.key 2048”

Enter pass phrase for myCA.key: <ENTER PASSWORD FOR CERT SERVER>

Verifying - Enter pass phrase for myCA.key: <RE-ENTER PASSWORD>

* “openssl req -x509 -new -nodes -key myCA.key -sha256 -days 1825 -out myCA.pem”

You are about to be asked to enter information that will be incorporated

into your certificate request.

What you are about to enter is what is called a Distinguished Name or a DN.

There are quite a few fields but you can leave some blank

For some fields there will be a default value,

If you enter '.', the field will be left blank.

-----

Country Name (2 letter code) [AU]:US

State or Province Name (full name) [Some-State]:PA

Locality Name (eg, city) []:Phila

Organization Name (eg, company) [Internet Widgits Pty Ltd]:NIH

Organizational Unit Name (eg, section) []:TAMB

Common Name (e.g. server FQDN or YOUR name) []:AWARE\_CLONE\_SSL\_CA\_CREDENTIALS

Email Address []:[sal.giorgi@gmail.com](mailto:sal.giorgi@gmail.com)

* “ls”

myCA.key myCA.pem

* “sudo cp myCA.pem /usr/local/share/ca-certificates/myCA.crt”
* “sudo update-ca-certificate”
* “awk -v cmd='openssl x509 -noout -subject' '/BEGIN/{close(cmd)};{print | cmd}' < /etc/ssl/certs/ca-certificates.crt | grep TAMB”

subject=C = US, ST = PA, L = Phila, O = NIH, OU = TAMB, CN = AWARE\_CLONE\_SSL\_CA\_CREDENTIALS, emailAddress = sal.giorgi@gmail.com

Step 2: Create keys for your dev sites

For <dev-site> you \_must\_ use the name of the site, not the IP address:

ex : “ec2-52-23-196-5.compute-1.amazonaws.com”

* “openssl genrsa -out <dev-site>.key 2048”
* “openssl req -new -key <dev-site>.key -out <dev-site>.csr”

You are about to be asked to enter information that will be incorporated

into your certificate request.

What you are about to enter is what is called a Distinguished Name or a DN.

There are quite a few fields but you can leave some blank

For some fields there will be a default value,

If you enter '.', the field will be left blank.

-----

Country Name (2 letter code) [AU]:US

State or Province Name (full name) [Some-State]:PA

Locality Name (eg, city) []:Phila

Organization Name (eg, company) [Internet Widgits Pty Ltd]:NIH

Organizational Unit Name (eg, section) []:TAMB

Common Name (e.g. server FQDN or YOUR name) []:AWARE\_CLONE\_DEV\_MACHINE

Email Address []:sal.giorgi@gmail.com

Please enter the following 'extra' attributes

to be sent with your certificate request

A challenge password []:

An optional company name []:

* “sudo nano <dev-site>.ext”

Insert the following text:

authorityKeyIdentifier=keyid,issuer

basicConstraints=CA:FALSE

keyUsage = digitalSignature, nonRepudiation, keyEncipherment, dataEncipherment

subjectAltName = @alt\_names

[alt\_names]

DNS.1 = <dev-site>

* “openssl x509 -req -in <dev-site>.csr -CA myCA.pem -CAkey myCA.key -CAcreateserial -out <devsite>.crt -days 825 -sha256 -extfile <dev-site>.ext”

Enter pass phrase for myCA.key: <CA PASSWORD>

* “sudo cp <dev-site>\*.crt /etc/apache2/sslkey”
* “sudo cp <dev-site>\*.key /etc/apache2/sslkey”

Below, when you need to input values for:

SSLCertificateFile /etc/apache2/sslkey/<dev-site>.crt

SSLCertificateKeyFile /etc/apache2/sslkey/<dev-site>.key

If you’re using this, you’ll need to add the myCA.pem to whatever browser you want to use in the trusted certification authority sections.

For Windows Chrome:

Settings -> Security and Privacy -> Security -> Manage Certificates

Trusted Root Certification Authorities

Import

(Next)

Browse to your myCA.pem file

(Next)

.

<Error about unknown signing authority… hit okay>

.

(Finish)

## SECURING THE AWARE DASHBOARD

The apache configuration file for the dashboard virtual host must be edited to enable the aware dashboard. Per the lets encrypt setup the conf file updated for ssl is /etc/apache2/sites-available/000-default-le-ssl.conf

Edit that file and make the following changes:

* Change the document root from

DocumentRoot /var/www/html

To

DocumentRoot /var/www/html/aware-server

* Change log files from

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

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

To

ErrorLog /var/log/apache2/aware\_error.log

CustomLog /var/log/apache2/aware\_access.log combined

* locate the line

ServerName aware-cloud.wwbp.org

And add the following below it:

<Directory "/var/www/html/aware-server">

Allow from all

Options +Indexes

</Directory>

* Locate the line

SSLCertificateChainFile /etc/letsencrypt/live/aware-cloud.wwbp.org/chain.pem

And add the following below it

ErrorLog /var/log/apache2/ssl\_error\_log

LogLevel debug

TransferLog /var/log/apache2/ssl\_access\_log

Please note that these instructions deviate from the aware server install instructions. The cypher suite provided in the aware server instructions is significantly shorter than the one included by Letsencrypt in its include file that actually has a lot of the settings

NOTE: These instructions are in case you are creating a new set of .pem files. If you are being given a set of ssl key files, replace the following lines:

SSLCertificateFile /etc/letsencrypt/live/aware.wwbp.org/fullchain.pem

SSLCertificateKeyFile /etc/letsencrypt/live/aware.wwbp.org/privkey.pem

SSLCertificateChainFile /etc/letsencrypt/live/aware.wwbp.org/chain.pem

With whatever 3 files you have been given. (ex.)

SSLCertificateFile /etc/apache2/sslkey/wwbp\_org\_cert\_2020.cer

SSLCertificateKeyFile /etc/apache2/sslkey/wwbp\_org\_cert\_2020.key

SSLCACertificateFile /etc/apache2/sslkey/\_.wwbp.org\_ca.crt

Please also note that these changes are done for the \*:443 virtual host (https)

Edit file /etc/apache2/sites-available/000-default.conf and make the following changes for the \*:80 virtual host that hosts the http server needed to lookup public certs

* Change the document root from

DocumentRoot /var/www/html

To

DocumentRoot /var/www/html/public

* Add the following lines before </VirtualHost> tag

ServerPath "/public/"

ServerName aware-cloud.wwbp.org

## SET UP PUBLIC CERTIFICATES IN THE PUBLIC FOLDER FOR THE HTTP VIRTUAL HOST

* “sudo mkdir /var/www/html/public”
* “sudo chmod 777 /var/www/html/public”
* openssl x509 -outform der -in /etc/letsencrypt/live/aware-cloud.wwbp.org/cert.pem -out /var/www/html/public/server.crt
* cp /var/www/html/public/server.crt /var/www/html/public/ca.crt
* chmod -R 777 /var/www/html/public

## MAKE ADJUSTMENTS TO PHP.INI

In the ssh terminal run the following commands:

* “sudo nano /etc/php/5.6/apache2/php.ini”

Make the following changes

* Find the line

upload\_max\_filesize = 2M

and replace it with

upload\_max\_filesize = 200M

* look for the word extension and in the sections where extensions are described add the following

extension=mcrypt.so

# **MYSQL CONFIGURATION**

This section works very similar to the documentation provided by aware.

## COPY LETSENCRYPT CERTIFICATES AND ALLOW ACCESS TO THEM BY MYSQL

Run the following commands on the ssh terminal:

* “cd /etc/mysql”

If you haven’t been given ssl files to use:

* “sudo cp /etc/letsencrypt/live/aware.wwbp.org/cert1.pem /etc/mysql”
* “sudo cp /etc/letsencrypt/live/aware.wwbp.org/chain1.pem /etc/mysql”
* “sudo cp /etc/letsencrypt/live/aware.wwbp.org/fullchaincert1.pem /etc/mysql”
* “sudo cp /etc/letsencrypt/live/aware.wwbp.org/privkey1.pem /etc/mysql”
* sudo chown mysql:mysql /etc/mysql/\*.pem

If you have been given files to use: (modfiy for your file locations:

* “sudo cp /etc/apache/sslkey/\_.wwbp.org\_ca.crt /etc/mysql”
* “sudo cp /etc/apache/sslkey/wwbp\_org\_cert\_2020.cer /etc/mysql”
* “sudo cp /etc/apache/sslkey/wwpb\_org\_cert\_2020.key /etc/mysql”

Add the following lines at the end of the [mysqld] section (probably end of file):

* “sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf”

ssl-ca=/etc/mysql/chain1.pem (or whatever your ca file is)

ssl-cert=/etc/mysql/cert1.pem (or whatever your chain file is)

ssl-key=/etc/mysql/privkey1.pem (or whatever your key file is)

We need to update some of the config files for utf8mb4 character sets. (Can get files from [douglasvbellew@aware-dev.wwbp.org](mailto:douglasvbellew@aware-dev.wwbp.org):/home/douglasvbellew/mysql)

* Update the following files in /etc/mysql:
  + Startup.sql

SET GLOBAL block\_encryption\_mode = 'aes-256-cbc';

SET GLOBAL character\_set\_client = utf8mb4;

SET GLOBAL character\_set\_connection = utf8mb4;

SET GLOBAL character\_set\_database = utf8mb4;

SET GLOBAL character\_set\_results = utf8mb4;

SET GLOBAL character\_set\_server = utf8mb4;

SET GLOBAL character\_set\_system = utf8mb4;

SET GLOBAL collation\_connection = utf8mb4\_unicode\_ci;

SET GLOBAL collation\_database = utf8mb4\_unicode\_ci;

SET GLOBAL collation\_server = utf8mb4\_unicode\_ci;

* + conf.d/mysql.cnf

[client]

default-character-set = utf8mb4

[mysql]

default-character-set = utf8mb4

[mysqld]

character-set-client-handshake = FALSE

character-set-server = utf8mb4

collation-server = utf8mb4\_unicode\_ci

* + mysql.conf.d/mysqld\_enc.cnf

# Set Encryption Variables

[mysqld]

# This variable sets a sql file to run on database startup

init\_file = '/etc/mysql/startup.sql'

* + mysql.conf.d/mysqld\_safe\_syslog.cnf

[mysqld\_safe]

syslog

Restart the MySQL server by running:

* sudo service mysql restart

Check the status by running

* sudo service mysql status

## CREATE A MYSQL DATABASE AND DB USER FOR THE AWARE DASHBOARD

Connect to the database as root and create the database by running the following commands at the ssh terminal:

* mysql -u root -p

Enter password: <root password>

At the sql prompt that comes up execute the following commands

* CREATE DATABASE aware\_dashboard;
* CREATE USER 'dbuser'@'localhost' IDENTIFIED BY 'dbuser';
* GRANT ALL PRIVILEGES ON \*.\* TO 'dbuser'@'localhost' WITH GRANT OPTION;
* FLUSH PRIVILEGES;
* exit;

## LOAD AWARE DASHBOARD CORE DATABASE

Connect to the database as the new "dbuser" and load the core database by running the following commands at the ssh terminal:

* mysql -u dbuser --password=dbuser aware\_dashboard < /var/www/html/aware-server/aware\_dashboard.sql

## LOAD AWARE DASHBOARD FIXES AND PLUGIN DATA

We want to add additional content above the default aware\_dashboard (so that we can access plugins, etc. Also, we want to change the database so that our tables are utf8mb4 so that we can collect emojis and such things. (Location and availability of files may differ) Note: If the below files don’t exist, you can get them from:

douglasvbellew@aware-dev.wwbp.org;/home/douglasvbellew/SQL

* “mysql -u dbuser -p”

Enter password: <input dbuser password>

* “use aware\_dashboard;”
* “source /home/ubuntu/SQL/set\_global\_character\_sets.sql;”
* “source /home/ubuntu/SQL/sensor\_plugin\_data\_table\_inserts.sql;”
* “source /home/ubuntu/SQL/SMS\_Plugin\_Setup\_Inserts.sql;”

## SET MYSQL CONFIGURATION ON YOUR AWARE DASHBOARD

Edit the database.php file in /var/www/html/aware-server/application/config/database.php ensure the values of the variables shown below are set as they are below:

$db['aware\_dashboard']['hostname'] = 'localhost';

$db['aware\_dashboard']['port'] = '3306';

$db['aware\_dashboard']['username'] = 'dbuser';

$db['aware\_dashboard']['password'] = 'dbuser';

$db['aware\_dashboard']['database'] = 'aware\_dashboard';

We also need to make a change to this file to allow for utf characters above 1 byte (for emojis and such)

$db['aware\_dashboard']['char\_set'] = 'utf8mb4';

$db['aware\_dashboard']['dbcollat'] = 'utf8mb4\_unicode\_ci';

# **SET UP MOSQUITTO MQTT SERVER**

This section removed as unneeded.

# **INSTALL THE ANDROID SDK**

Install the android command line tools to parse uploaded plugin information by running the following in the ssh terminal:

* “cd /usr/local/src”
* “sudo wget http://dl.google.com/android/android-sdk\_r24.4.1-linux.tgz”
* “sudo tar -zxvf android-sdk\_r24.4.1-linux.tgz”
* “sudo apt-get install openjdk-8-jdk openjdk-11-jdk”

Add Android SDK to your user's bash profile by running the following:

* “sudo nano ~/.bashrc”

Add the following content to .bashrc

export ANDROID\_HOME = ~/android-sdk-linux

export PATH=$PATH:$ANDROID\_HOME/tools:$ANDROID\_HOME/platform-tools

Save the file and run the following to complete install:

* “source ./bashrc”
* “cd android-sdk-linux/tools”
* “sudo ./android update sdk --no-ui -t platform-tools”
  + Do you accept the license ‘android-sdk-license-##########’ [y/n]: y

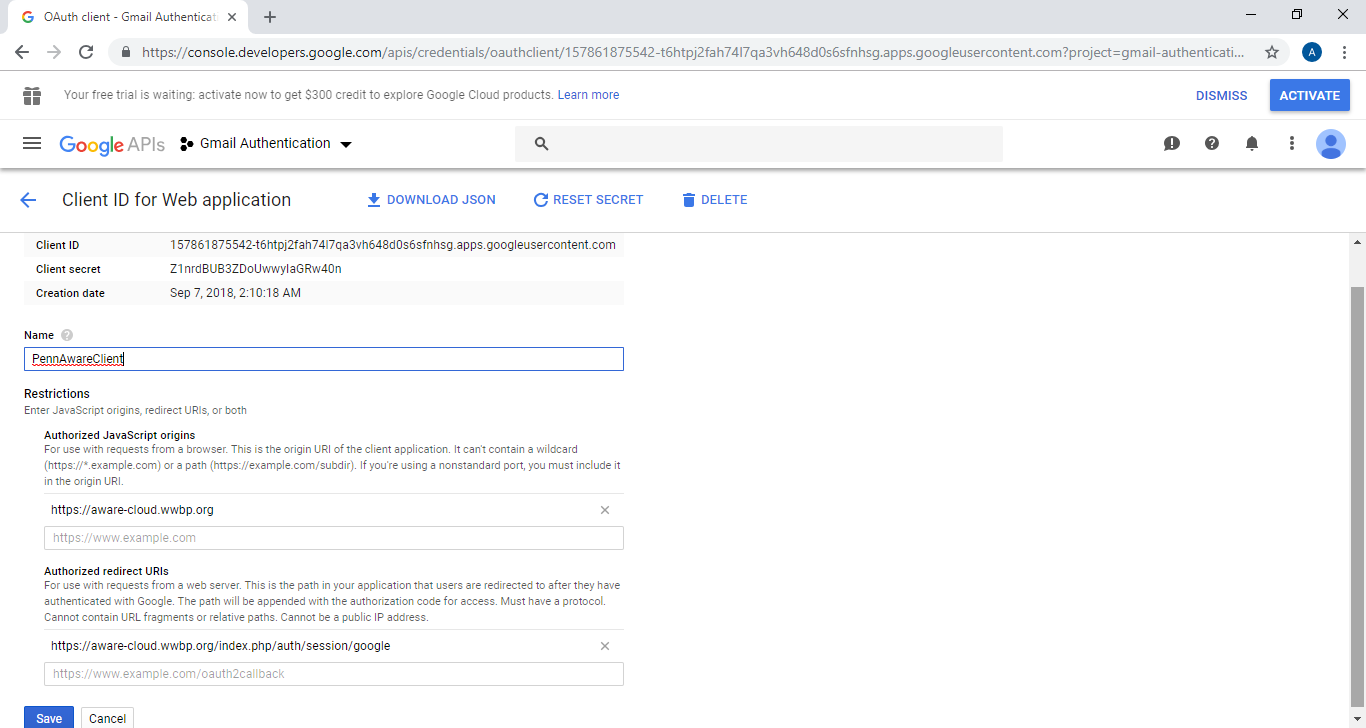
# **CONFIGURING AWARE DASHBOARD**

This section follows instructions laid out in the aware dashboard setup guide.

## ADD YOUR SERVER TO GOOGLE OAUTH CREDENTIALS

Go to the Google’s Developer Console, at https://console.developers.google.com. Create a new project and then create a new Google OAUTH credentials client with settings shown below.

-DB Notes: Sal Created the keys due to needing to know about privacy policies and other information. He associated the project with the address: [sal.giorgi@gmail.com](mailto:sal.giorgi@gmail.com)



The Client ID (e.g., 157861875542-t6htpj2fah74l7qa3vh648d0s6sfnhsg.apps.googleusercontent.com) and Client secret (e.g., Z1nrdBUB3ZDoUwwyIaGRw40n) for the final step

## FINAL AWARE DASHBOARD CONFIGURATION

Edit /var/www/html/aware-server/application/config/config.php (sudo vi or nano) and make sure the file has the following settings set (note that for a different environment some of these settings may need to change e.g. each machine must have unique domain name)

$config['encryption\_key'] = 'GX$#th@)?FGHty';

$config['cookie\_secure'] = TRUE;

$config['android\_sdk'] = '/home/ubuntu/android-sdk-linux/';

$config['public\_keys'] = '/var/www/html/public/';

$config['mqtt\_hostname'] = 'aware.wwbp.org';

$config['mqtt\_port'] = '8883';

$config['oauth\_id'] = '157861875542-t6htpj2fah74l7qa3vh648d0s6sfnhsg.apps.googleusercontent.com';

$config['oauth\_secret'] = 'Z1nrdBUB3ZDoUwwyIaGRw40n';

Save the file and restart apache by running

* sudo service apache2 restart