

cloudlab.us/status.php?uid=5abd80a6-a300-11ed-...

Client Area - Bise... Paraphrasing Tool... My Home | Codec... PDF EDIT Blackbox

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▼ Your experiment is ready (startup services are still running)

Name: hw1-Ridha
State: ready
Profile: csc468ridha
RefSpec: refs/heads/main (77bb0f1d)
Creator: ra902808
Project: cloud-edu
Created: Feb 2, 2023 8:49 AM
Started: Feb 2, 2023 8:49 AM
Expires: Feb 3, 2023 12:49 AM (in 16 hours)

Logs Portal Log

Create Disk Image Extend Terminate

Topology View List View Manifest Graphs

ID	Node	Type	Cluster	Status	Startup	Image	SSH command (if you provided your own key)
node	pvcn605-3	pvcn	Emulab	ready	Finished	emulab-ops/UBUNTU18-64-STD	ssh -p 22 ra902808@pvcn605-3.cloudlab.net

Not sure how to proceed or have further questions? Join the [users group](#) and ask a question. Be sure to include any error messages in your question and the [URL of your experiment status page](#).

Powered by **emulab** Question or comment? Join the Help Forum

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<https://www.digitalocean.com/community/tutorials/how-to-create-a-self-signed-ssl-certificate-for-apache-in-ubuntu-20-04> to completely secure the Apache web server using a self-signed certificate.

- Visit [https://<YOUR CLOUDLAB EXPERIMENTAL URL>](#) to demonstrate your success

Submission requirements:

You are to submit a **PDF document** containing the following screenshots:

- A CloudLab experiment page showing your experiment in ready Status and all Startup are Finished (similar to the last screenshot of the Introduction to CloudLab lecture)
- A screenshot of the terminal showing the contents of your `/etc/apache2/sites-available/your_domain_or_ip.conf` file as per the instruction in the DigitalOcean link above.
- A screenshot of the final browser showing the default Apache webpage. Indicator of a successful setup would be a lock icon in the URL bar.

Due on Feb 12, 2023 11:59 PM

Available until Feb 12, 2023 11:59 PM. Access restricted after availability ends.

Submit Assignment

Files to submit *

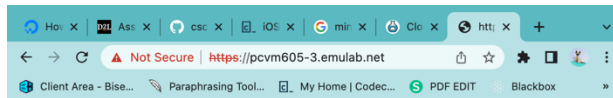
0/1 files to submit

Submit Cancel

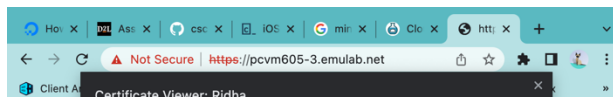
After uploading, you must click Submit to complete the submission.

```
Hit:4 http://security.ubuntu.com/ubuntu bionic-security InRelease
Reading package lists... Done
Building dependency tree
Reading state information... Done
302 packages can be upgraded. Run 'apt list --upgradable' to see them.
ra902808@node:~$ sudo apt install apache2
Reading package lists... Done
Building dependency tree
Reading state information... Done
apache2 is already the newest version (2.4.29-1ubuntu4.26).
0 upgraded, 0 newly installed, 0 to remove and 302 not upgraded.
ra902808@node:~$ sudo ufw allow "Apache Full"
Skipping adding existing rule
Skipping adding existing rule (v6)
ra902808@node:~$ sudo a2enmod ssl
Considering dependency setenvif for ssl:
Module setenvif already enabled
Considering dependency mime for ssl:
Module mime already enabled
Considering dependency socache_shmcb for ssl:
Enabling module socache_shmcb.
Enabling module ssl.
See /usr/share/doc/apache2/README.Debian.gz on how to configure SSL and create self-signed certificates.
To activate the new configuration, you need to run:
systemctl restart apache2
ra902808@node:~$ sudo systemctl restart apache2
ra902808@node:~$ sudo openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout /etc/ssl/private/apache-selfsigned.key -out /etc/ssl/certs/apache-selfsigned.crt
Can't load /users/ra902808/.rnd into RNG
1401807340f5328:error:2406f079:random number generator:RAND_load_file:Cannot open file:../crypto/rand/randfile.c:88:Filename=/users/ra902808/.rnd
Generating a RSA private key
.....
writing new private key to '/etc/ssl/private/apache-selfsigned.key'
-----
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.

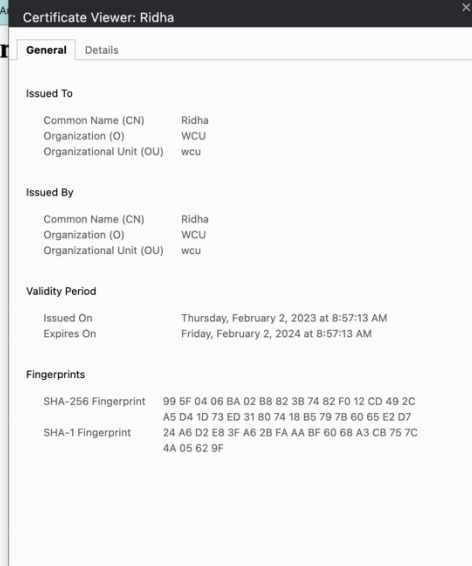
(Country Name (2 letter code) [AU]:US
(State or Province Name (full name) [Some-State]:Pennsylvania
(Locality Name (eg, city) []:Downtown
(Organization Name (eg, company) [Internet Widgits Pty Ltd]:WCU
(Organizational Unit Name (eg, section) []:wcu
(Common Name (e.g. server FQDN or YOUR name) []:Ridha
(Email Address []:RA902808@wcupa.edu
ra902808@node:~$ sudo nano /etc/apache2/sites-available/your_domain_or_ip.conf
ra902808@node:~$ sudo nano /etc/apache2/sites-available/Ridha.conf
ra902808@node:~$ sudo mkdir /var/www/Ridha
ra902808@node:~$ sudo nano /var/www/Ridha/index.html
ra902808@node:~$ sudo a2ensite Ridha.conf
Enabling site Ridha.
To activate the new configuration, you need to run:
systemctl reload apache2
ra902808@node:~$ sudo apache2ctl configtest
Syntax OK
ra902808@node:~$ sudo systemctl reload apache2
ra902808@node:~$
```



it worked!



it wor



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ra902808@node:~$
```



```
GNU nano 2.9.3 /etc/apache2/sites-available/Ridha.conf

VirtualHost *:443>
  ServerName Ridha
  DocumentRoot /var/www/Ridha

  SSLEngine on
  SSLCertificateFile /etc/ssl/certs/apache-selfsigned.crt
  SSLCertificateKeyFile /etc/ssl/private/apache-selfsigned.key
</VirtualHost>

^G Get Help      ^O Write Out    ^W Where Is     ^R Read 8 lines
^X Exit          ^R Read File    ^N Replace      ^K Cut Text     ^J Justify
^_              ^U Uncut Text   ^T To Spell     ^C Cur Pos      ^L Go To Line
^M              ^O Undo         ^O Redo
```