2.3 Task 3: Deploying Certificate in an HTTPS Web Server

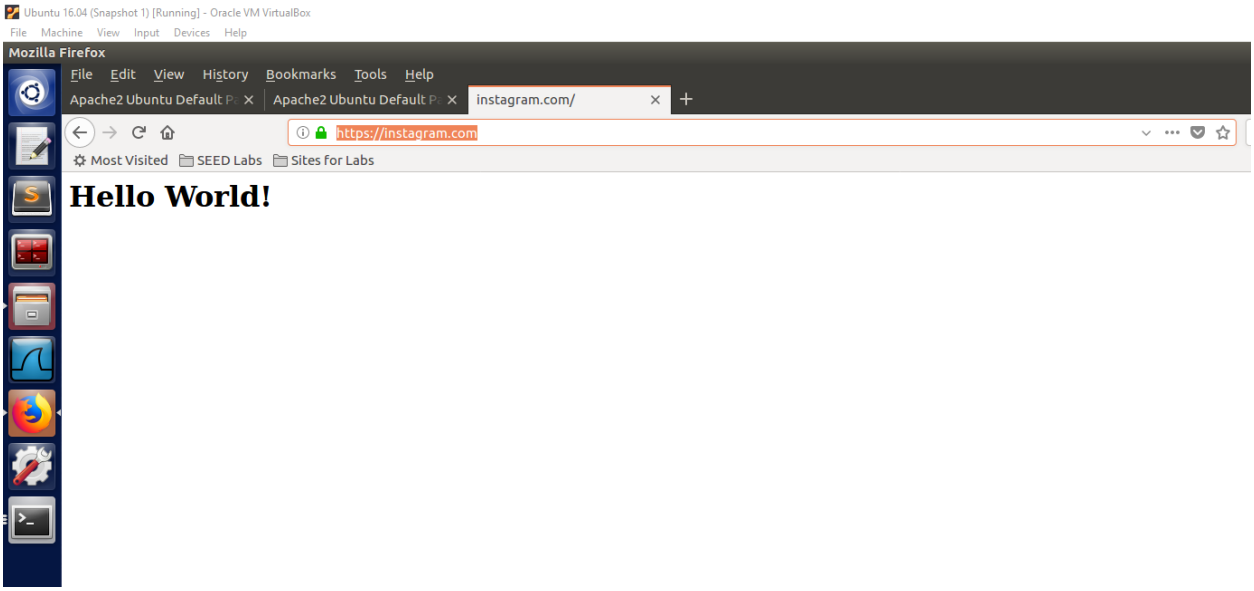
1. Modify a single byte of server.pem, and restart the server, and reload the URL. What do you observe? Make sure you restore the original server.pem afterward. Note: the server may not be able to restart if certain places of server.pem is corrupted; in that case, choose another place to modify.

After modifying the 'ST' variable under Issuer, and reloading the page, the page is still valid and displays the same thing as before when server.pem was not modified

2. Since SEEDPKILab2020.com points to the localhost, if we use https://localhost:4433 instead, we will be connecting to the same web server. Please do so, describe and explain your observations.

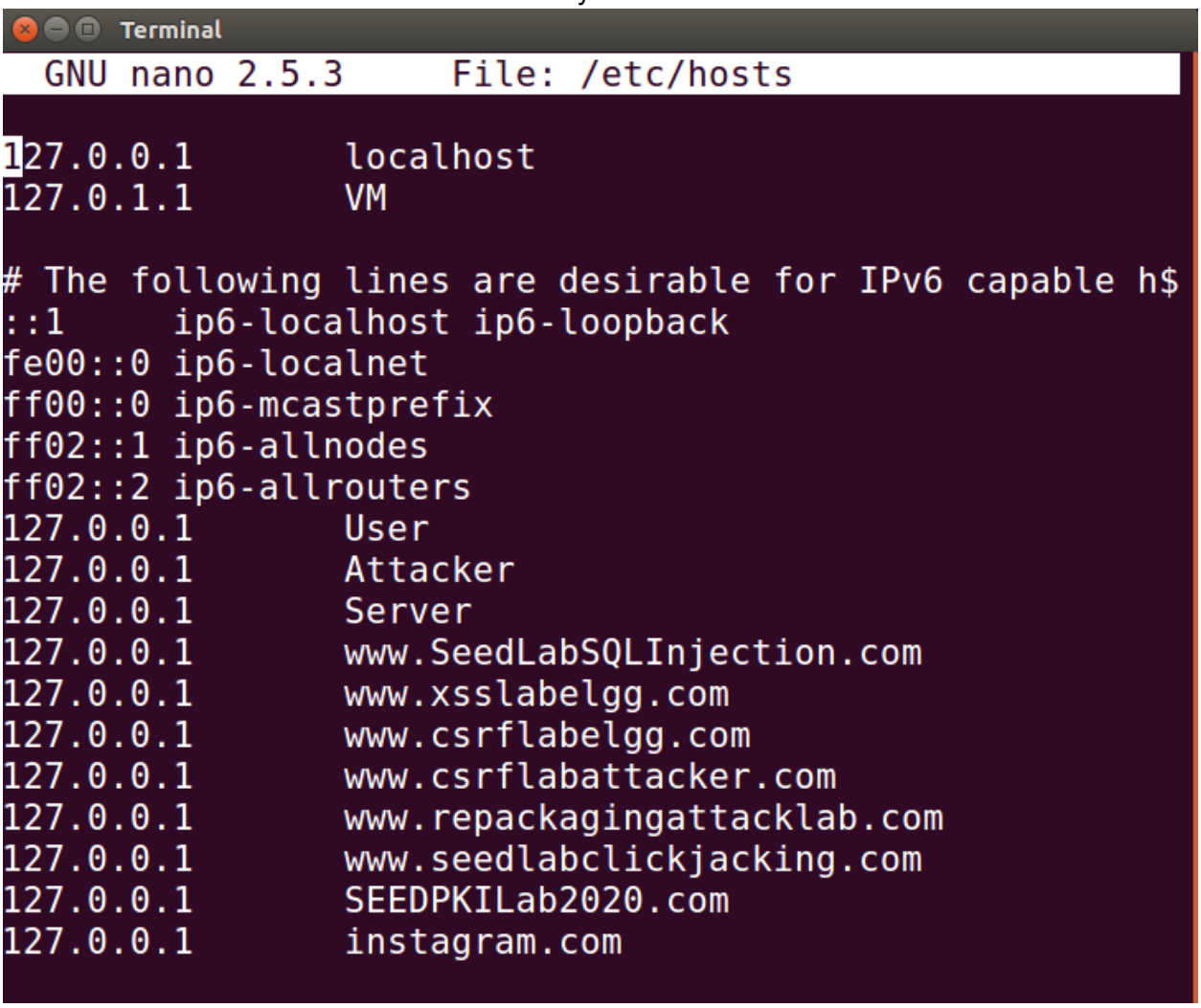
We will not connect to the same website, the certification only has knowledge of domain name and the ip it is associated with in the cert file. So it will throw the error page showing that it is unable to connect

Part 3 Submission screenshots and comments



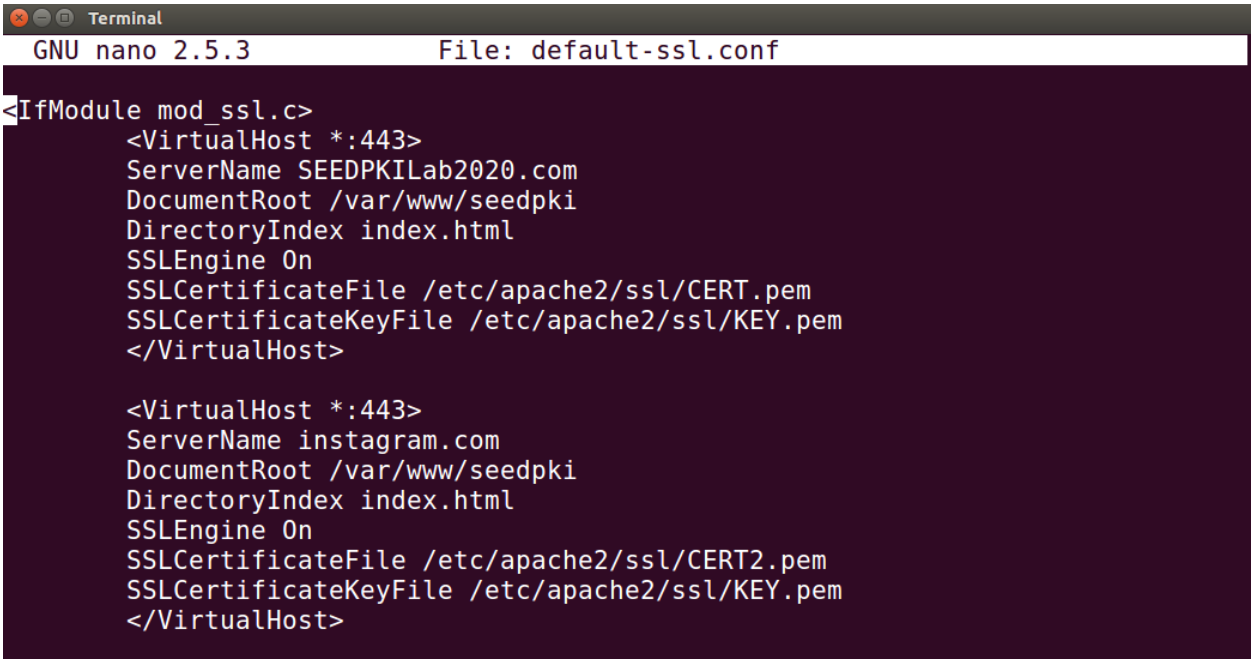
Here we have the website https://instagram.com compromised displaying my own html file.

Under the command **sudo nano /etc/hosts** my file looks like



Here we modified the victims hosts file to mimic an attack on their DNS

While using the command **sudo nano default-ssl.conf** under my directory **/etc/apache2/sites-available** our file looks like



Here we created a new VirtualHost with our apache server for a fake instagram.com to land on our server.

We achieved this with the following commands:
openssl req -new -key server.key -out instagram.csr -config openssl.cnf
openssl ca -in instagram.csr -out instagra.crt -cert ca.crt -keyfile ca.key -config openssl.cnf
cp server.key instagram.pem
cat instagram.crt >> instagram.pem
cp instagram.crt CERT2.pem
Sudo mv "/home/seed/proj2/CERT.pm" "/etc/apache2/ssl"
sudo service apache2 restart (to end off and launch the attack)