Note: Certificate Signing Request will not be process after Sunday, March 7, 2021 by 10AM (PST)

Part 1-1

1. **Please, explain what does “Listen 80” means?** 
   1. **It means that it’s listening for traffic that is trying to talk to port 80.**

Part 1-17

1. **Why are you getting the above error? Please explain**
   1. **The Apache monitor is not on. And because we changed the localhost files to live in the apache bin, we must allow the Apache server to run before we can access the localhost files**

Part 1-23

1. **Why is this working now? Please explain.**
   1. **the Apache server is now booted and allowing access to localhost files**

Part 1-25

1. Why is it that typing 127.0.0.1 results on the same response? Please explain.
   1. typing this IP address is the same as typing localhost because this IP is automatically assigned as the localhost IP address of your computer

Part 2-11

1. What function/role is the Windows host file playing here? Explain.
   1. 2-11: It is playing the DNS of the guest VM as it is mapping virtual hosts that we created to IP addresses that we can use late

Part 2-12

1. Notice the crossed-out lock on the address bar? What does it mean? Explain.
   1. crossed out lock means that the connection is not secure/not encrypted

Part 3A-3

1. How many bit(s) is the private key generated for server.key?
   1. 2048

Part 4-4

1. Is this a SHA1 or SHA2 certificate? Explain your reasoning, either way.
   1. Depending on the bit size of the thumbprint, you can tell whether it is SHA1 or SHA2, where it is either 160 bit or 256 bit, respectively

Part 5A-2

1. Are the hashes the same?
   1. They are the same

Part 5A-3

1. Take a screenshot of your hashes include it here.
   1. Sorry 😭

Part 5A-28

1. Why are you getting this error, “Error code: SEC\_ERROR\_UNKNOWN\_ISSUER”?
   1. You receive the error because the server does not recognize the certificate issuer
2. Click on “Accept the Risk and Continue”
3. Notice that if you click on the lock it says “Connection not secure”

Part 5A-31

1. Why is the connection not secure? You already installed the certs, didn’t you? Take a screenshot
   1. The root certificate has not been installed yet

Part 5B-6

* 1. What type of Signature Algorithm is the Root Certificate?
     1. SHA2

Part 5B-11

* 1. What happened? How come you don’t get the error you previously did?
     1. The root certificate has now been installed on the certificates database of the apache server

Part 5B-17

* 1. What does the line Verified by: CN=DARKSEASROOT-CA means? Explain
     1. The DARKSEASROOT-CA is that certificate issuer that issued the certificate that allows for a secure connection to the webpage

Part 5B-18

* 1. What does the line Expires on: Saturday, February 28, 2026? (yours may have a different date), If so please
     1. It ensures that the SSL connection to the server is regulated and secure and allows the server to authenticate its validity to the webpage

Part 5B-19

* 1. explain why your date is different than mine.
     1. They were issued at different times

Part 5B-20

* 1. Why do you get the following error? Explain
     1. Because the port is different, we installed the server on port 80, not 443

Part 5B-21

* 1. How is this error different from the one in Part V (A) - Step 30?
     1. Step 30 of part 5 was accessing the webpage directly which maps to the localhost hostname, this step is a different IP: 127.0.0.2 which are not the same

Part 5B-22

* 1. How would you fix this issue? Explain your process.
     1. Changing the port to 443 and redoing the whole process.