SunBeam - DITISS-0323-Hackathon

Note: Two tasks are mentioned. Read both tasks. You need to choose one
of the tasks and complete it according to the given requirements.

❖ Task 1

Write a program in any language with the following features:
1) The program has two components.
   a) Server - Which is responsible for the licensing.
   b) Client - Where the actual program will be running.
Note: The communication between Server and client should be encrypted.
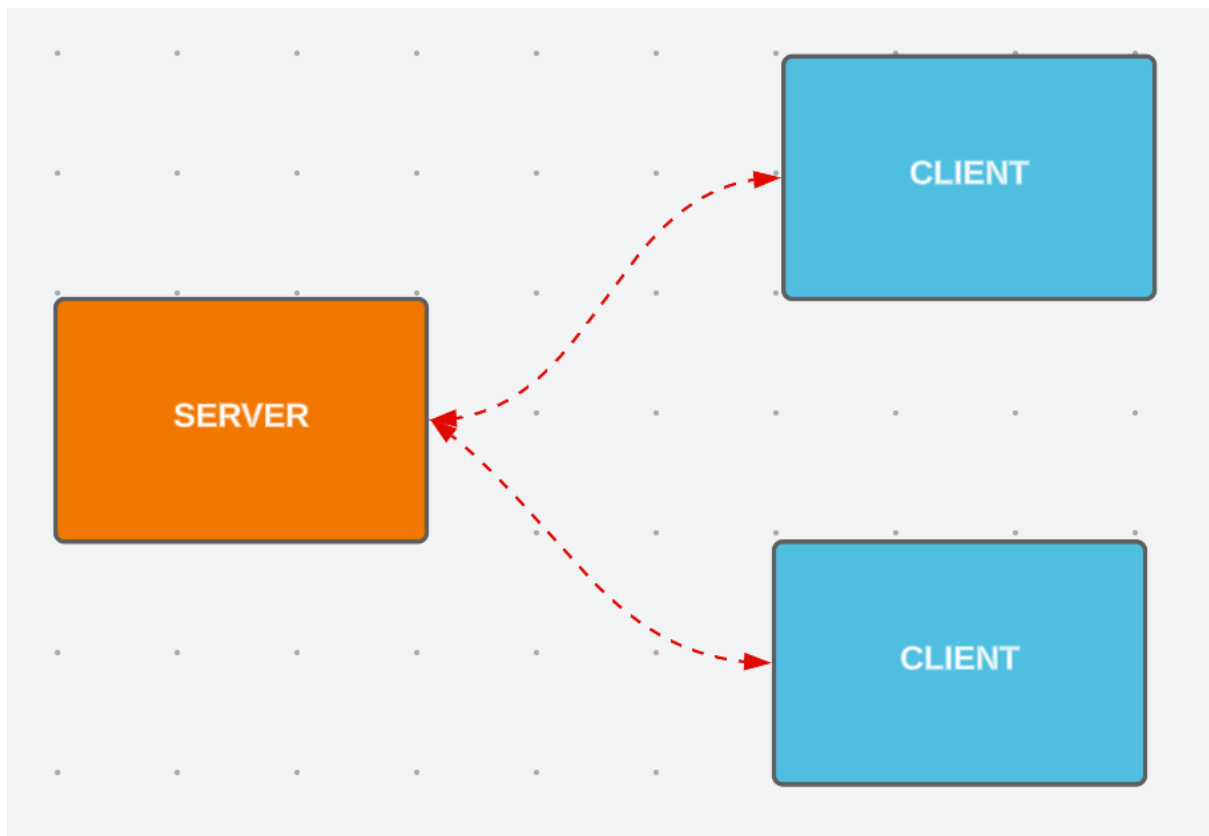
Part 1 - Licensing

2) The Server Acts as the Licensing Server.
3) The License key is generated on the server.
4) The License Validity can be any one of the following:
   a) 1 Day
   b) 1 Week
   c) 1 Month
   d) 1 Year
5) The Server should store the license details in a database
6) First time when the client is run, the license should be used to activate the program

7) The client should run only if the license is active.
8) The Server administrator should have the feature / ability to revoke the client license.
9) More than one machine should not use the same license.
10) The license check should be done every time when the application is started.

Part 2 – Application Feature

Implement the following features from the following:

Feature 1 – Find Duplicate files

1) When this feature is invoked, the program should take a directory as input and find all duplicate files inside that location.
2) If a directory location is not provided, the current users home directory is used as the default location.
3) The program should identify the correct file / mime type even if the file extension is renamed.
   a) Example: Print the file type next to the file path when listing duplicate files:

/home/shuhari/myfiles/one.pdf	image/png
/home/shuhari/myfiles/two.pdf	image/png

4) The list of duplicate files should be added to a database on the local machine.
5) If the user deletes the duplicate files and re-run the application, the database should be updated accordingly.

Assumption: The end user will not change / edit the source code.

❖ Task 2

1) Configure Nagios with nginx (instead of Apache)
2) The web interface should be running on HTTPS instead of HTTP
3) Self-signed certificates should not be used to configure HTTPS.
4) Use full PKI setup (Root CA, SubCA) for issuing the certificate to the server.
5) The Nagios web interface should be accessible using https://nagios.ditiss.local
6) Install and Setup a local mail server on the same machine or a different machine.
7) Configure nagios to send out emails to a particular email ID (in the local domain) when there is a state change in host or service.

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** PROBLEM Host Alert: 1407_mywin2 is DOWN **

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nagios@ditiss.shuharilabs.com <nagios@ditiss.shuharilabs.com>   Mon, Aug 31, 2020 at 9:14 PM
To: manu.zacharia101@gmail.com

***** Nagios *****

Notification Type: PROBLEM
Host: 1407_mywin2\State: DOWN
Address: 192.168.126.145
Info: CRITICAL - Host Unreachable (192.168.126.145)

Data/Time: Mon Aug 31 21:14:12 IST 2020