Assignment

Prerequisites:

Make sure you work with ubuntu or a virtual machine hosting ubuntu.

1. Install nodejs, npm, vuejs
2. Install intellij
3. Download the following python script called theHarvester: https://github.com/laramies/theHarvester

Summary:

In this assignment you will create a tools runner. A tool runner is a mechanism which handle tools (like NMAP) and run them according to time scheduling. A case of customer like “I want NMAP to scan a specific segment every Friday at 6:00 am oclock”.

The idea behind a tool runner is simple, however implementing it might be more difficult as the tools need to be integrated into the mechanism itself. This assignment will try to provide us a glimpse to the way you are thinking and how you solve issues which you haven’t seen before.

In this mission you can use every source of help. We suggest using all the available materials you can find within the internet. Using friends is permitted, however you might find it difficult to explain code which you didn’t write yourself or solutions which you don’t know exactly how they work.

This mission contains a backend and a frontend.

Always remember – Google is your best friend.

How to send the project:

1. Save the backend project in directory named ‘backend’
2. Save the frontend project in directory named ‘frontend’
3. Zip both directories to a zip file named ‘’firstname_lastname_ptbox” where firstname is your first name and the lastname is your last name (e.g. “Israel_Israeli_ptbox.zip”)
4. Upload the zip file to jumbomail and send it to office@ptbox.io
5. Once you received the mail of this assignment you have 96 hours (4 days) to send it back with the project and answers for the questions above - please send to office@ptbox.io
6. If you need more than 96 hours call Ofir: 054-5426282

Client Side: (Vue.js, html, css, javascript)

1. Create a clock! A round clock with 3 hands for hour, minute, second. The clock should show the real time with the hands pointing to the correct number/position. The clock should be updated every second which means we should see the hand of the seconds move every second and the minute moves every 60 seconds.
2. Add a text input element in which we can enter a specific time in the format of: hh:mm:ss. (the time you enter must be later then current time)
3. Add a button to submit the input.
4. Add a simple table with the following columns: “full name”, “role”, “workplace”
5. When the clock hits the time entered a post request will be sent to a kotlin server (created on the server side). When you get the response back add the data received to the table created above.

Illustration of the client side:

Save

Server Side: (Kotlin)

1. Create a simple http server.
2. Add a route called /execute serving get request.
3. Create a function called executeScript which will run a python script with parameter.
   The return result is the output of the script as text.
4. The signature of the function will be:
   fun executeScript (command:String) : String
5. Create a second function with the signature:
   fun convertResultsTextToJSON(raw_data: String): String

   This function takes the text from executeScript function and returns an object populated
   with data from the raw_data.

6. Finally send the result data back to the client.

The purpose of the server-side script is to extract only the list of linkedin users from the output of the python script. Extract only those entities to an object of your choice and return it to the client.

Questions:

1. Give a feedback for this assignment – did you find it beneficial? Did you like it? How would you improve it?
2. If you had more time, how would you improve your program?
3. What are the pros and cons of using kotlin in your opinion? Did you find good features?
4. Did using Vue.js helped you or would you prefer to use plain HTML/CSS/JS?
5. What do you think about the tool given? (the harvester)

Example of the output of the python script is on the next page

Example for a result to send to the client:

Result: List<User>= [

User(name=”Julie Shafiki”, role=”Chief Marketing Officer ”, workplace = “Kryon“)

User(name=” Ruvi Kitov”, role=” ”, workplace = “ “)

User(name=”Pat Walsh”, role=” ”, workplace = “ “)

]

The python (the harvester) script results may look like this:

```
**************************************************************************
*                                                                        *
* | |_| |__   ___ /\ /\__ _ _ ____   _____ ___| |_ ___ _ __ *
* | __| '_ \ / _ \  / //_/ / _` | '__\ \ / / _ \/ __| __/ _ \ '__| *
* | |_| | | |  __/ / __ / (_| | |   \ V / __/\__ \ || __/ |    *
*  \__|_| |_|\___| \/ /_/ \__,_|_|    \_/ \___||___/\__\___|_| *
*                                                                        *
* TheHarvester Ver. 3.0.0                                  *
* Coded by Christian Martorella                            *
* Edge-Security Research                                   *
**************************************************************************
found supported engines
[-] Starting harvesting process for domain: tufin.com
```

Full harvest on tufin.com

[-] Searching in Google..

Searching 0 results...

Searching 100 results...

[-] Searching in PGP Key server..

Searching PGP results...

[-] Searching in Netcraft server..

Searching Netcraft results..

[-] Searching in ThreatCrowd server..

Searching Threatcrowd results..

Searching Netcraft results..

[-] Searching in CRTSH server..

Searching CRT.sh results..

[-] Searching in Virustotal server..

Searching Virustotal results..

[-] Searching in Bing..

Searching 50 results...

Searching 100 results...

[-] Searching in Linkedin..

Searching 100 results..

Users from Linkedin:

Julie Shafiki - Chief Marketing Officer - Kryon

Ruvi Kitov

Pat Walsh

Reuven Harrison

Danni Bines

Jim DeHaven

Aleck B. Brailsford

Michael Furman

Glyn Bryson

Danniel Shalev - Networking DevOps Engineer - Kenshoo

Kate Shopper - Director of Demand Generation - Kryon

Katie Nye

Tony Inkster

Burak Hatip

Nicholas Alvaranga

Harvesting results

[+] Emails found:

No emails found

[+] Hosts found in search engines:

Total hosts: 42

[-] Resolving hostnames IPs...

.tufin.com:empty

admin.tufin.com:185.38.201.47

autodiscover.tufin.com:40.100.173.24

challenge.tufin.com:99.84.92.119

download.tufin.com:66.228.37.195

filer-us.tufin.com:66.219.129.38

filer.tufin.com:91.199.100.12

files.tufin.com:172.217.23.176

forum.tufin.com:66.219.129.37

ftp2.tufin.com:18.196.193.226

gitlab.tufin.com:empty

hercules.tufin.com:91.199.100.249

hercules2.tufin.com:91.199.100.249

lms.tufin.com:52.18.16.242

lyncdiscover.tufin.com:52.113.64.150

mail.tufin.com:91.199.100.14

portal.tufin.com:68.68.5.5

portal2.tufin.com:68.68.5.5

service.tufin.com:185.38.201.50

stage15.tufin.com:95.183.5.232

support.tufin.com:74.208.236.47

survey.tufin.com:72.47.249.101

transfer.tufin.com:18.196.193.226

tufinnovate.tufin.com:54.88.225.116

web.tufin.com:104.17.120.180

www.gitlab.tufin.com:empty

www.tufin.com:54.210.55.162

www.tufinnovate.tufin.com:54.210.49.244

www2.tufin.com:66.219.129.37