

# Trusteer Student DevOPS Position Assignment

## Python

### Question 1

Write a python script that will do the following:

1. Read **config.json** file located in: */data/python/config.json*
2. make a GET request to the URL under 'url' key and add the first 15 characters to a key name 'content' in the json file.

Example:

config.json before code run:

```
{"url": "https://www.google.com"}
```

config.json after code run:

```
{"url": "https://www.google.com", "content": "<first15>"}
```

Where <first15> should be the first 15 characters from the response.

### Question 2

Write a python script that will do the following (Tip – try using regular expression to solve this):

1. Read a log file located in */tmp/mylogfile.log*
2. Go over each line in the log (example for a single line below) and filter according to the following:
  - a. If the remote address is in the range 192.168.1.0 – 192.168.10.254 and the HTTP status is 200, print the following information: Time of the request, the URL and the user-agent that was used
  - b. If the request time is higher than 1 second and the request type is POST, print the following information: remote address, URL and request length
  - c. If the date of the request is 2020-07-01 and the time of the request is between 18:00-19:00, print the following information: request time, request length and remote address

**Note:** we didn't specify the format of the output, try to think what the most informative format will be 😊

Example for a line in the log file:

```
2020-07-20T04:16:20+00:00 {{ remote_addr: 192.168.1.100 }} {{ request: GET /app/myurl HTTP/1.1 }} {{ status: 200 }} {{ body_bytes_sent: 100 }} {{ http_user_agent: ELB-HealthChecker/2.0 }} {{ http_accept: */* }} {{ request_time: 0.3 }} {{ request_length: 145 }}
```

## Bash

### Question 1

Write a bash script that will do the following:

1. List all .log files under a path that will be given as parameter to the job and write them to a temp file
2. Go over each log file listed in the temp file from #1 and search how many lines contain the word ERROR and print them to the screen

For example:

I will run the script the following way:

```
./q1.sh /var/log/my_application
```

The output will be:

```
/var/log/my_application/out.log - 0
```

```
/var/log/my_application/error.log - 5
```

## System Architecture

In order to prepare to the frontal technical interview, learn about AWS load balancers – ALB/NLB and a bit about the differences between them.

(Also, if you're unfamiliar – it might be a good idea to read a little about TCP and HTTP protocols. Just the basics, nothing too deep 😊)