

Coding test

There are 2 parts to this coding test - server side and client side.

- Your implementation should be in python.
- Rename your scripts like "script_name.py.txt" – otherwise, the attachment will be filtered out by our email system.
- Provide instructions on how to set up the server side code.
- Provide client script usage.
- Provide example of responses and outputs for both server and client.
- You can use any package or module or framework in the python standard library and from PyPI.
- List the requirements (python version, requirements.txt, OS, etc).
- It is expected that your code utilizes best practices.

Server side

Develop an HTTP REST API to accept a log file name, and return details about the log in JSON.

You will be provided with a zip file with some log files. The server side process will have read access to the log files and the logs directory.

```
$ ll logs/*
-rwx----- 1 foobar blah 17K Apr  5 16:43 logs/log_sample_1.log
-rwx----- 1 foobar blah 17K Apr  5 16:43 logs/log_sample_2.log
-rwx----- 1 foobar blah 17K Apr  5 16:43 logs/log_sample_3.log
```

The JSON response should provide the following information:

Key	Value
log_file_name	Name of the log file which was passed in.
error_count	<p>These lines are identified by "-E-" string between timestamp and the message.</p> <pre>\$ grep -- '-E' logs/log_sample_2.log 02/14/2014 06:10:57:849752 -E- query returned 02/14/2014 06:10:57:852230 -E- SQL (44b09c0) = EXECUTE getPrcPars_sp getUsrStat_sp,1,0 02/14/2014 06:10:57:859286 -E- procedure returned 02/14/2014 06:10:57:864223 -E- procedure returned [...]</pre>
time_zone	<p>Time zone is set only once in a session.</p> <p>Note that all logs start with EST, but after the timezone is set the timestamps will be in the new time zone.</p> <p>You need to only consider the following 3 timezones - EST5EDT (US/Eastern), Singapore (+13 hours from EST) and GB (+5 hours from EST).</p> <pre>\$ grep -A1 'Setting Timezone to' logs/log_sample_3.log</pre>

	02/14/2014 08:00:05:948372 -I- Setting Timezone to GB 02/14/2014 13:00:05:972900 -I- flex checkout FOOBAR_SERVER 1.000 1 license
start_time_est	The timestamp in EST from the first line of the log. The log always starts with EST.
end_time_est	The timestamp in EST from the last line of the log. You may need to convert to EST, as the log timestamps will be set to the new time zone after " Setting Timezone to " line.
session_length	end_time_est – start_time_est List in hours, with one decimal place
user_name	The user name is available on the line with "cpt_server started with", as highlighted yellow below: \$ grep 'cpt_server started with' log_sample_2.log 02/14/2014 06:10:57:774914 -I- cpt_server started with command line "/apps/FOOBAR/version/prod/bin/cpt_server epword johnsmith /apps/FOOBAR/users/ johnsmith /its/johnsmith_140214_061056_c4737a97169ed 25.pw activator ...
client_version	On the same line as the username. Ref example response below.
portfolios_loaded	Identified by the line with "Gathering Portfolio View". The portfolio name is within <>. \$ grep 'Gathering Portfolio View' log_sample_3.log 02/14/2014 13:00:22:642706 -I- Gathering Portfolio View <PRC_DOWNLOAD_PROD_LOCAL> 02/14/2014 13:00:22:642706 -I- Gathering Portfolio View <PRC_DOWNLOAD,123>

The expected JSON response for each request as follows:

HTTP Request	HTTP Response (JSON)
<a href="http://<url>/log/log_sample_1.log">http://<url>/log/log_sample_1.log	{ "log_file_name": "log_sample_1.log", "error_count": 8, "time_zone": "Singapore", "start_time_est": "02/13/2014 22:39:51:463914", "end_time_est": "02/14/2014 23:14:23:324287", "session_length": 11.6, "user_name": "janedoe", "client_version": "cmllib/7.1.3.33.ft.rh6.lnx", "portfolios_loaded": ["~PM_TEST", "PM_TESTXYZ"] }
<a href="http://<url>/log/log_sample_2.log">http://<url>/log/log_sample_2.log	{ "log_file_name": "log_sample_2.log", "error_count": 13,

	<pre>"time_zone": "EST5EDT", "start_time_est": "02/14/2014 06:10:57:774621", "end_time_est": "02/14/2014 20:55:35:389088", "session_length": 14.7, "user_name": "johnsmith", "client_version": "cmlib/7.1.4.53.rh6.m64.lnx" }</pre>
<a href="http://<url>/log/log_sample_3.log">http://<url>/log/log_sample_3.log	<pre>{ "log_file_name": "log_sample_3.log", "error_count": 5, "time_zone": "GB", "start_time_est": "02/14/2014 08:00:05:716805", "end_time_est": "02/15/2014 00:10:06:958053", "session_length": 11.2, "user_name": "process124", "client_version": "cmlib/7.1.2.19.ft.m64.lnx", "portfolios_loaded": ["PRC_DOWNLOAD_PROD_LOCAL", "PRC_DOWNLOAD,123"] }</pre>

Bonus

For bonus points, return an HTTP 404 error with an appropriate message if a non-existent log file name is passed in the request.

Client Side

Write a client side script to consume the HTTP API that you developed above.

1. As input, it will accept a list of log file names.
Use either command line options or csv/yaml file to pass the list of log file names.
2. Call the API to retrieve the details of each log file
3. Parse the JSON response, and print out a csv with the headers as shown. Separate portfolios_loaded by a pipe "|", if there are multiple.

Expected output, if the input list includes log_sample_1.log & log_sample_2.log:

```
log_file_name,error_count,time_zone,start_time_est,end_time_est,session_length,user_name,client_v
ersion,portfolios_loaded
log_sample_1.log,8,Singapore,02/13/2014 22:39:51:463914,02/14/2014
23:14:23:324287,11.6,janedoe,cmlib/7.1.3.33.ft.rh6.lnx,"~PM_TEST|PM_TESTXYZ"
log_sample_2.log,13,EST5EDT,02/14/2014 06:10:57:774621,02/14/2014
20:55:35:389088,14.7,johnsmith,cmlib/7.1.4.53.rh6.m64.lnx,""
```