Question:

分析系统日志：interview_data_set.gz

分析系统日志得到关键信息，用 Json 的格式 POST 上传至服务器 (https://foo.com/bar)，key 的名称在括号里

设备名称: (deviceName)

错误的进程号码: (processId)

进程/服务名称: (processName)

错误的原因（描述）(description)

发生的时间（小时级），例如 0100-0200，0300-0400, (timeWindow)

在小时级别内发生的次数 (numberOfOccurrence)

分别使用

Bash 或其他脚本语言，假设在 Mac 环境下，进行操作

Powershell，假设在 windows 环境下，进行操作

Answer:

1. ***Analysis:*** System log file is given, have to extract the required parameters and post it to web.
2. ***Method:***
   A. Extracting the data:
      a. Getting *deviceName* from the log file
      b. Getting *processID* from the log file
      c. Getting *processName* from the log file
      d. Getting *description* from the log file
      e. Getting hour from the log file and converting into hourly time format in *timeWindow*
   B. From the above data achieving *numberofOccurance* parameter
   C. Posting the json file to web
3. ***Code***
   A. Getting the five parameters (*deviceName, processID, processName, description, timeWindow*), and adding *numberofOccurance* parameter in *$logFile*

```
$logFile= Get-Content .\interview_data_set   |  Select -Property
@{name='deviceName';expression={$_.split(" ")[3]}},
```

```
    @{name='processID';expression={$_.split(" ")[5].split("[ ")[1].split("]")[0]}},
    @{name='processName';expression={$_.split(" ")[5].trim("(").split("[")[0]}},
    @{name='description';expression={$_.split(")")[1].trim(": ")}},
    @{name='timeWindow';expression={switch(Get-Date -Format "HH" $_.Substring(7,5))
{ "00" {"00-01";break} "01" {"01-02";break} "02" {"02-03";break} "03" {"03-04";break} "04"
{"04-05";break} "05" {"05-06";break} "06" {"06-07";break} "07" {"07-08";break} "08" {"08-
09";break} "09" {"09-10";break} "10" {"10-11";break} "11" {"11-12";break} "12" {"12-
13";break} "13" {"13-14";break} "14" {"14-15";break} "15" {"15-16";break} "16" {"16-
17";break} "17" {"17-18";break} "18" {"18-19";break} "19" {"19-20";break} "20" {"20-
21";break} "21" {"21-22";break} "22" {"22-23";break} "23" {"23-00";break} default {"If
System log is correct, will not reach here!"; break} }}},
    @{name='numberOfOccurence';expression={"1".toInteger}}
```

B. Setting *numberofOccurance* 1 for all logs initially

```
foreach ($item in $logfile) { $item.numberOfOccurence++}
```

C. Updating number of occurrence. (if processID and timeWindow both matches; if found the same then increase the occurrence of earlier and make the present occurrence 0)

```
for ($outer=0; $outer -lt $logFile.Length; $outer++)
{ for ($inner= 0; $inner -lt $outer+1; $inner++)
    { if (!$logFile[$outer].processID) {break;}
      elseif (  ($logFile[$outer].timeWindow -eq $logFile[$inner].timeWindow) -AND
($logFile[$outer].processID -eq $logFile[$inner].processID) )
            {$logFile[$inner].numberOfOccurence++; $logFile[$outer].numberOfOccurence-
-; break}
      } }
```

D. Getting required data in JSON format (ignoring repeated data) to be posted on web.

```
$body = $logFile | Where-Object numberOfOccurance -gt 0 | ConvertTo-json
```

E. Posting on web

```
iwr https://foo.com/bar  -Method 'POST'  -ContentType 'application/json; charset=utf-8'  -
Body $body
```

4. *Conclusion:*

There may be many ideas to do this issue, and many optimized ways to do as well. However, this is what came first in my mind. The above solution is used in PowerShell. If the same thing is required to do on iOS, it can be done as well. But for that, I have to wait to get my XiaoMi Laptop (install MacOS on it, will get on 2nd December) to test the code.

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