10/7/21, 1:57 AM Untitled3

Author: Brijesh Yadav

Gmail: bkumaryadav096@gmail.com

Date: 6 Oct 2021

!/usr/bin/env python

```
import os
import subprocess
import re
import shutil
```

Physical and Logical CPU, Memory (RAM) & Network

```
In [2]:
         def get_statistics():
             statistics = {}
             matcher = re.compile('\d+')
             # CPU Usages
             top_command = subprocess.run(['top', '-l 1', '-n 0'], stdout=subprocess.PIPE).st
             physical_and_logical_cpu_count = os.cpu_count()
             statistics['physical and logical cpu count'] = physical and logical cpu count
             cpu_load = [x / os.cpu_count() * 100 for x in os.getloadavg()][-1]
             statistics['cpu_load'] = round(cpu_load)
             #Memory usages
             # Used memory = wired_memory + inactive + active
             total_ram = subprocess.run(['sysctl', 'hw.memsize'], stdout=subprocess.PIPE).std
             vm = subprocess.Popen(['vm stat'], stdout=subprocess.PIPE).communicate()[0].deco
             vmLines = vm.split('\n')
             wired memory = (int(matcher.search(vmLines[6]).group()) * 4096) / 1024 ** 3
             free memory = (int(matcher.search(vmLines[1]).group()) * 4096) / 1024 ** 3
             active_memory = (int(matcher.search(vmLines[2]).group()) * 4096) / 1024 ** 3
             inactive_memory = (int(matcher.search(vmLines[3]).group()) * 4096) / 1024 ** 3
             statistics['ram'] = dict({
                     'total_ram': int(matcher.search(total_ram).group()) / 1024 ** 3,
                     'used_ram': round(wired_memory + active_memory + inactive_memory, 2),
             })
             ## Disk usage - total disk size, used disk space, and free disk
             total, used, free = shutil.disk_usage("/")
             read_written = top_command[9].split(':')[1].split(',')
             read = read_written[0].split(' ')[1]
             written = read written[1].split(' ')[1]
```

10/7/21, 1:57 AM Untitled3

```
statistics['disk'] = dict(
        {
            'total_disk_space': round(total / 1024 ** 3, 1),
            'used_disk_space': round(used / 1024 ** 3, 1),
            'free_disk_space': round(free / 1024 ** 3, 1),
            'read_write': {
                'read': read,
                'written': written
            }
        }
    )
   # Network Latency
ping_result = subprocess.run(['ping', '-i 5', '-c 5', 'google.com'], stdout=subp
    'utf-8').split('\n')
min, avg, max = ping_result[-2].split('=')[-1].split('/')[:3]
statistics['network_latency'] = dict(
            'min': min.strip(),
            'avg': avg.strip(),
            'max': max.strip(),
        }
return statistics
statistics = get_statistics()
```

Thank You