

Question 3:

Connect to the virtual machine using a python script using the ssh port via modifying a previous script from the 'Networking Labs'. Establish that the connection was successful.

1. Connection to SSH

```
luca — l00170171@l00170171-virtual-machine: ~ — ssh l00170171@192.1...
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.178.122' (ED25519) to the list of known host
s.
[l00170171@192.168.178.122's password:
Welcome to Ubuntu 21.04 (GNU/Linux 5.11.0-40-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

12 updates can be applied immediately.
5 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

l00170171@l00170171-virtual-machine:~$
```

2. Python code:

```
q_3.py
12
13 import paramiko
14 import sys
15
16 results = []
17
18 def ssh_conn():
19     ip = '192.168.178.122'
20     username = 'l00170171'
21     password = 'lukasz123'
22
23     client = paramiko.SSHClient()
24     client.load_system_host_keys()
25     client.connect(ip, username=username, password=password)
26
27     ssh_stdin, ssh_stdout, ssh_stderr = client.exec_command('systemctl status ssh')
28
29     for line in ssh_stdout:
30         results.append(line.strip('\n'))
31
32     print("connected to: ", ip)
33
34
35 ssh_conn()
36
37 for i in results:
38     print(i.strip())
39
40
41 sys.exit()
42
```

3. Terminal verification for SSH status

```
"/Users/luca/Library/Mobile Documents/com-apple-CloudDocs/LYIT - School/Assignments/bin/python" /Users/luca/PycharmProjects/Assignment/Question_3/q_3.py
connected to: 192.168.178.122
● ssh.service - OpenBSD Secure Shell server
Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)
Active: active (running) since Sun 2021-11-14 08:16:52 GMT; 59min ago
Docs: man:sshd(8)
      man:sshd_config(5)
Process: 4772 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
Main PID: 4773 (sshd)
Tasks: 1 (limit: 4592)
Memory: 4.5M
CGroup: /system.slice/ssh.service
└─4773 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

Nov 14 09:13:25 l00170171-virtual-machine sshd[7125]: pam_unix(sshd:session): session opened for user l00170171 by (uid=0)
Nov 14 09:13:25 l00170171-virtual-machine sshd[7125]: pam_unix(sshd:session): session closed for user l00170171
Nov 14 09:13:40 l00170171-virtual-machine sshd[7181]: Accepted password for l00170171 from 192.168.178.36 port 51587 ssh2
Nov 14 09:13:40 l00170171-virtual-machine sshd[7181]: pam_unix(sshd:session): session opened for user l00170171 by (uid=0)
Nov 14 09:13:40 l00170171-virtual-machine sshd[7181]: pam_unix(sshd:session): session closed for user l00170171
Nov 14 09:14:29 l00170171-virtual-machine sshd[7237]: Accepted password for l00170171 from 192.168.178.36 port 51616 ssh2
Nov 14 09:14:29 l00170171-virtual-machine sshd[7237]: pam_unix(sshd:session): session opened for user l00170171 by (uid=0)
Nov 14 09:14:29 l00170171-virtual-machine sshd[7237]: pam_unix(sshd:session): session closed for user l00170171
Nov 14 09:16:35 l00170171-virtual-machine sshd[7379]: Accepted password for l00170171 from 192.168.178.36 port 51677 ssh2
Nov 14 09:16:35 l00170171-virtual-machine sshd[7379]: pam_unix(sshd:session): session opened for user l00170171 by (uid=0)

Process finished with exit code 0
```