



# **King Abdulaziz University**

## **Faculty of Engineering**



### **EE463**

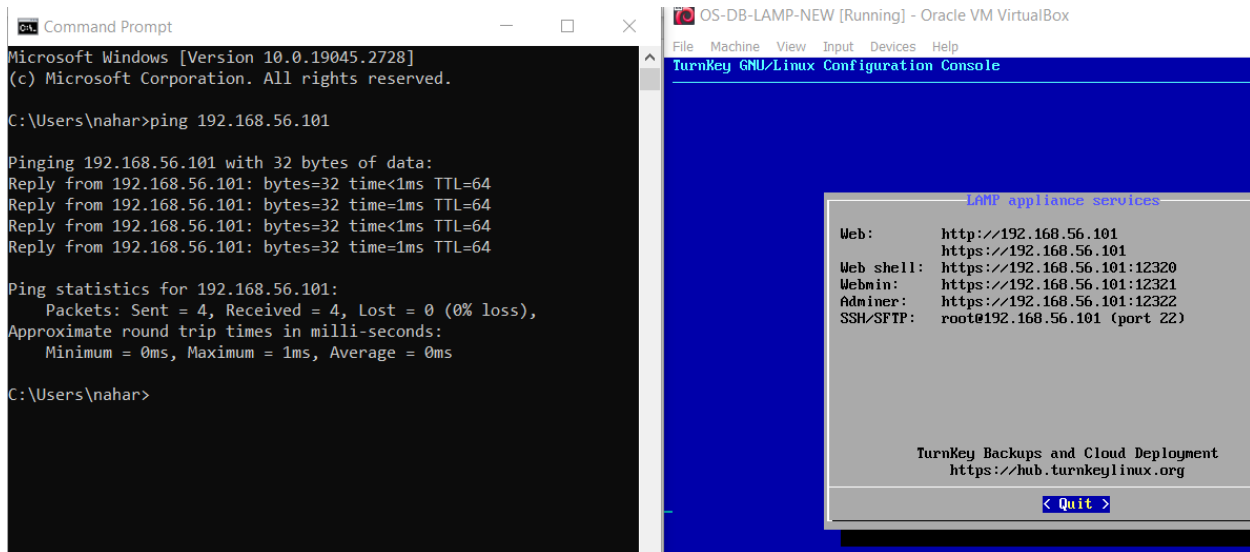
## **Operating Systems**

### **Semester 3 - 2023**

### **Lab #1**

| <b>Name</b>          | <b>ID</b> |
|----------------------|-----------|
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## Testing The Ping



The image shows two side-by-side windows. The left window is a Windows Command Prompt titled 'Command Prompt' with the following text:

```
Microsoft Windows [Version 10.0.19045.2728]
(c) Microsoft Corporation. All rights reserved.

C:\Users\nahar>ping 192.168.56.101

Pinging 192.168.56.101 with 32 bytes of data:
Reply from 192.168.56.101: bytes=32 time<1ms TTL=64
Reply from 192.168.56.101: bytes=32 time=1ms TTL=64
Reply from 192.168.56.101: bytes=32 time<1ms TTL=64
Reply from 192.168.56.101: bytes=32 time=1ms TTL=64

Ping statistics for 192.168.56.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

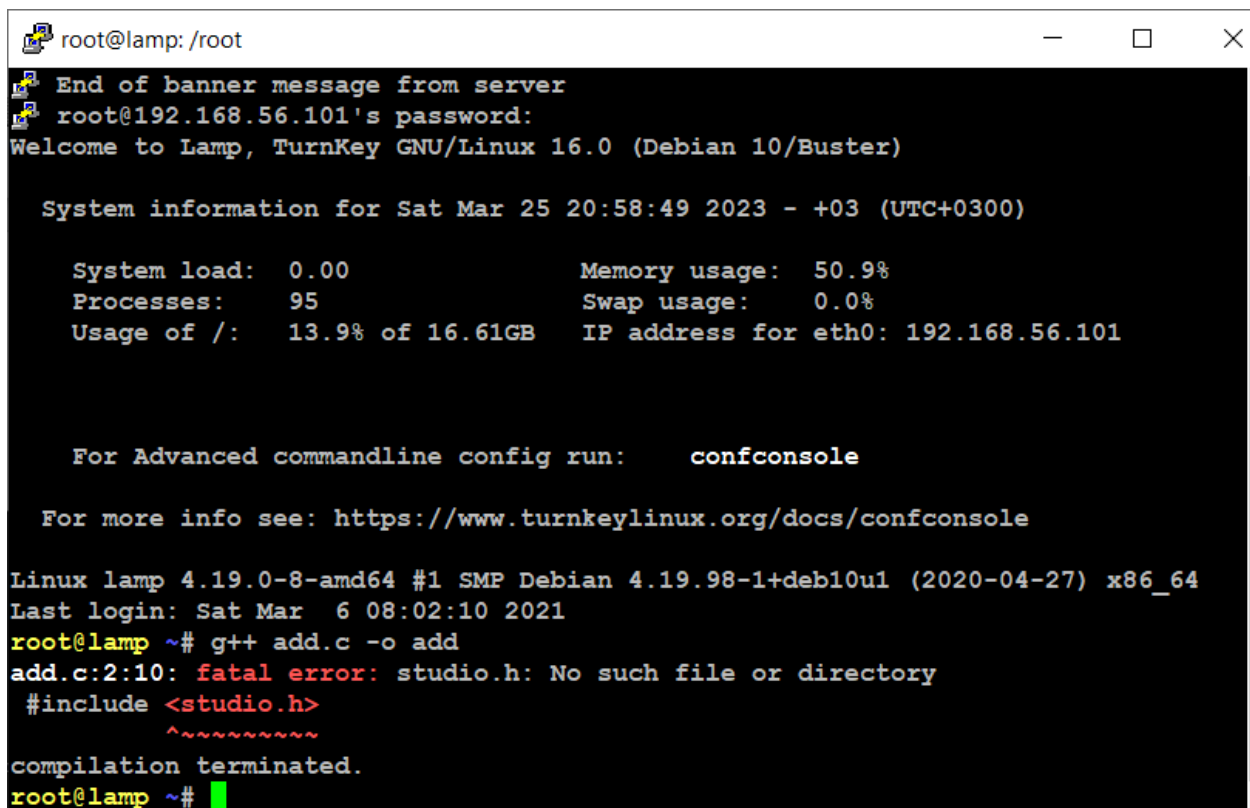
C:\Users\nahar>
```

The right window is a TurnKey Linux Configuration Console titled 'OS-DB-LAMP-NEW [Running] - Oracle VM VirtualBox'. It has a menu bar with 'File', 'Machine', 'View', 'Input', 'Devices', and 'Help'. The main content area is blue and contains a 'LAMP appliance services' box with the following text:

```
Web:      http://192.168.56.101
          https://192.168.56.101
Web shell: https://192.168.56.101:12320
Webmin:   https://192.168.56.101:12321
Adminer:  https://192.168.56.101:12322
SSH/SFTP: root@192.168.56.101 (port 22)
```

Below this box, it says 'TurnKey Backups and Cloud Deployment' with the URL 'https://hub.turnkeylinux.org' and a '< Quit >' button.

## Testing add.c code



The image shows a terminal window titled 'root@lamp: /root'. The output of the terminal is as follows:

```
root@lamp: /root
End of banner message from server
root@192.168.56.101's password:
Welcome to Lamp, TurnKey GNU/Linux 16.0 (Debian 10/Buster)

System information for Sat Mar 25 20:58:49 2023 - +03 (UTC+0300)

System load: 0.00      Memory usage: 50.9%
Processes:  95        Swap usage: 0.0%
Usage of /:  13.9% of 16.61GB  IP address for eth0: 192.168.56.101

For Advanced commandline config run:  confconsole

For more info see: https://www.turnkeylinux.org/docs/confconsole

Linux lamp 4.19.0-8-amd64 #1 SMP Debian 4.19.98-1+deb10u1 (2020-04-27) x86_64
Last login: Sat Mar  6 08:02:10 2021
root@lamp ~# g++ add.c -o add
add.c:2:10: fatal error: studio.h: No such file or directory
#include <studio.h>
         ^~~~~~
compilation terminated.
root@lamp ~#
```

## Editing add.c code

 root@lamp: /root

```
#include <stdlib.h>
#include <stdio.h>
void main(int argc, char *argv[]) {
int a,b,c;
a=atoi(argv[1]);
b=atoi(argv[2]);
printf("a,b = %d %d \n", argv[1], argv[2]);
c=a+b;
printf(" c = %d \n",c);
}
~
~
~
~
~
~
~
~
~
~
~
~
```

:wq

## Adding Two Numbers

 root@lamp: /root

```
System load: 0.00      Memory usage: 50.9%
Processes: 95         Swap usage: 0.0%
Usage of /: 13.9% of 16.61GB  IP address for eth0: 192.168.56.101
```

For Advanced commandline config run: **confconsole**

For more info see: <https://www.turnkeylinux.org/docs/confconsole>

```
Linux lamp 4.19.0-8-amd64 #1 SMP Debian 4.19.98-1+deb10u1 (2020-04-27) x86_64
```

```
Last login: Sat Mar  6 08:02:10 2021
```

```
root@lamp ~# g++ add.c -o add
```

```
add.c:2:10: fatal error: studio.h: No such file or directory
```

```
#include <studio.h>
```

~~~~~

```

compilation terminated.

```

```
root@lamp ~# vim add.c
```

```
root@lamp ~# gcc add.c -o add
```

```
root@lamp ~# ./add 1076 764
```

```
a,b = 951666753 951666758
```

$$C = 1840$$

```
root@lamp ~#
```

## Adding a new User

```
root@lamp ~# adduser nahar
Adding user `nahar' ...
Adding new group `nahar' (1000) ...
Adding new user `nahar' (1000) with group `nahar' ...
Creating home directory `/home/nahar' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for nahar
Enter the new value, or press ENTER for the default
  Full Name []: █
```

## Tutorial 1

```
nahar@lamp: /home/nahar
login as: nahar
nahar@192.168.56.101's password:
Welcome to Lamp, TurnKey GNU/Linux 16.0 (Debian 10/Buster)

System information for Sat Mar 25 23:04:47 2023 - +03 (UTC+0300)

System load:  0.04           Memory usage:  42.9%
Processes:    100           Swap usage:    0.0%
Usage of /:   13.9% of 16.61GB  IP address for eth0: 192.168.56.101

For Advanced commandline config run:   confconsole

For more info see: https://www.turnkeylinux.org/docs/confconsole

Linux lamp 4.19.0-8-amd64 #1 SMP Debian 4.19.98-1+deb10u1 (2020-04-27) x86_64
nahar@lamp ~$ ls
nahar@lamp ~$ ls
add.c
nahar@lamp ~$ ls -a
.  .bash_logout  .bashrc.d  .profile  .sdirs  add.c
.. .bashrc      .penv      .profile.d  .ssh
nahar@lamp ~$ mkdir unixstuff
nahar@lamp ~$ ls
add.c  unixstuff
nahar@lamp ~$ cd unixstuff
nahar@lamp ~/unixstuff$ mkdir backups
nahar@lamp ~/unixstuff$ ls
backups
nahar@lamp ~/unixstuff$ ls -a
.  ..  backups
nahar@lamp ~/unixstuff$ cd .
nahar@lamp ~/unixstuff$ cd ..
nahar@lamp ~$ cd
nahar@lamp ~$ pwd
/home/nahar
nahar@lamp ~$ ls unixstuff
backups
nahar@lamp ~$ ls backups
ls: cannot access 'backups': No such file or directory
nahar@lamp ~$ ls unixstuff/backups
nahar@lamp ~$ ls ~/unixstuff
backups
nahar@lamp ~$ ls ~
add.c  unixstuff
nahar@lamp ~$ ls ~/..
nahar
nahar@lamp ~$ █
```

## Tutorial 2

### Example 2.1

```
nahar@lamp ~/.../vol/examples$ mkdir tutorial
nahar@lamp ~/.../vol/examples$ cd tutorial
nahar@lamp ~/.../examples/tutorial$ touch science.txt
nahar@lamp ~/.../examples/tutorial$ cd
nahar@lamp ~$ cd unixstuff
nahar@lamp ~/unixstuff$ cp /home/nahar/unixstuff/vol/examples/tutorial/science.txt
cp: missing destination file operand after '/home/nahar/unixstuff/vol/examples/tutorial/science.txt'
Try 'cp --help' for more information.
nahar@lamp ~/unixstuff$ cp /home/nahar/unixstuff/vol/examples/tutorial/science.txt .
nahar@lamp ~/unixstuff$ ls
backups  science.txt  vol
nahar@lamp ~/unixstuff$
```

### Exercise 2A

```
nahar@lamp ~$ cd unixstuff
nahar@lamp ~/unixstuff$ touch science.bak
nahar@lamp ~/unixstuff$ ls
backups  science.bak  science.txt  vol
nahar@lamp ~/unixstuff$ cp /home/nahar/unixstuff/science.txt science.bak
nahar@lamp ~/unixstuff$
```

### Example 2.2

```
nahar@lamp ~/unixstuff$ touch science.bak
nahar@lamp ~/unixstuff$ mv science.bak backups/.
nahar@lamp ~/unixstuff$ ls backups
science.bak
```

### Exercise 2b

```
nahar@lamp ~/unixstuff$ mkdir tempstuff
nahar@lamp ~/unixstuff$ ls
backups  science.txt  tempstuff  vol
nahar@lamp ~/unixstuff$ rmdir tempstuff
ls
nahar@lamp ~/unixstuff$ ls
backups  science.txt  vol
nahar@lamp ~/unixstuff$
```