



Lab 3

CS 5-1 - BSCS – Operating System Lab

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Task 1

A screenshot of a Kali Linux desktop environment with a blue keyboard background. A terminal window titled "kali@kali: ~" is open, displaying the following text:

```
kali@10.0.2.15's password:
Linux kali 6.12.25-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.12.25-1kali1 (2025-04-30) x86_64

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

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Tue Sep 9 11:12:21 2025 from 10.0.2.15
kali@kali:~$ ssh kali@127.0.0.2 "date"
kali@127.0.0.2's password:
Tue Sep 9 11:13:38 AM EDT 2025

kali@kali:~$ ssh kali@127.0.0.2 "uptime"
kali@127.0.0.2's password:
11:13:51 up 3:03, 4 users, load average: 0.98, 0.57, 0.42

kali@kali:~$ scp file.txt kali@10.0.2.15:/home/kali/
file.txt 100% 0 0.0KB/s 00:00

kali@kali:~$
```

Task 2

```

kali@kali: ~
└─$ ssh-keygen
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/kali/.ssh/id_ed25519):
Enter passphrase for "/home/kali/.ssh/id_ed25519" (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/kali/.ssh/id_ed25519
Your public key has been saved in /home/kali/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:rPyzTXt0j3VFmI9Fu92ytXosYKq5Mx+aPFAKpHwvCok kali@kali
The key's randomart image is:
+--[ED25519 256]--+
|
| .
|+
|
| o.o
|+
|
| o .S
|+
| , .o. .o +o
|E + .o 0=o.o +..
|
| ...+0++ ..=+
|
| ..00=.00.+
|+-----[SHA256]-----+

kali@kali:~$ ssh-copy-id kali@10.0.2.15
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/kali/.ssh/id_ed25519.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
kali@10.0.2.15's password:

Number of key(s) added: 1

```

Task 3

The image shows a Kali Linux desktop environment. The background is a blue-themed wallpaper featuring a close-up of computer keyboard keys. In the foreground, a terminal window titled "kali@kali ~" is open. The terminal displays the following text:

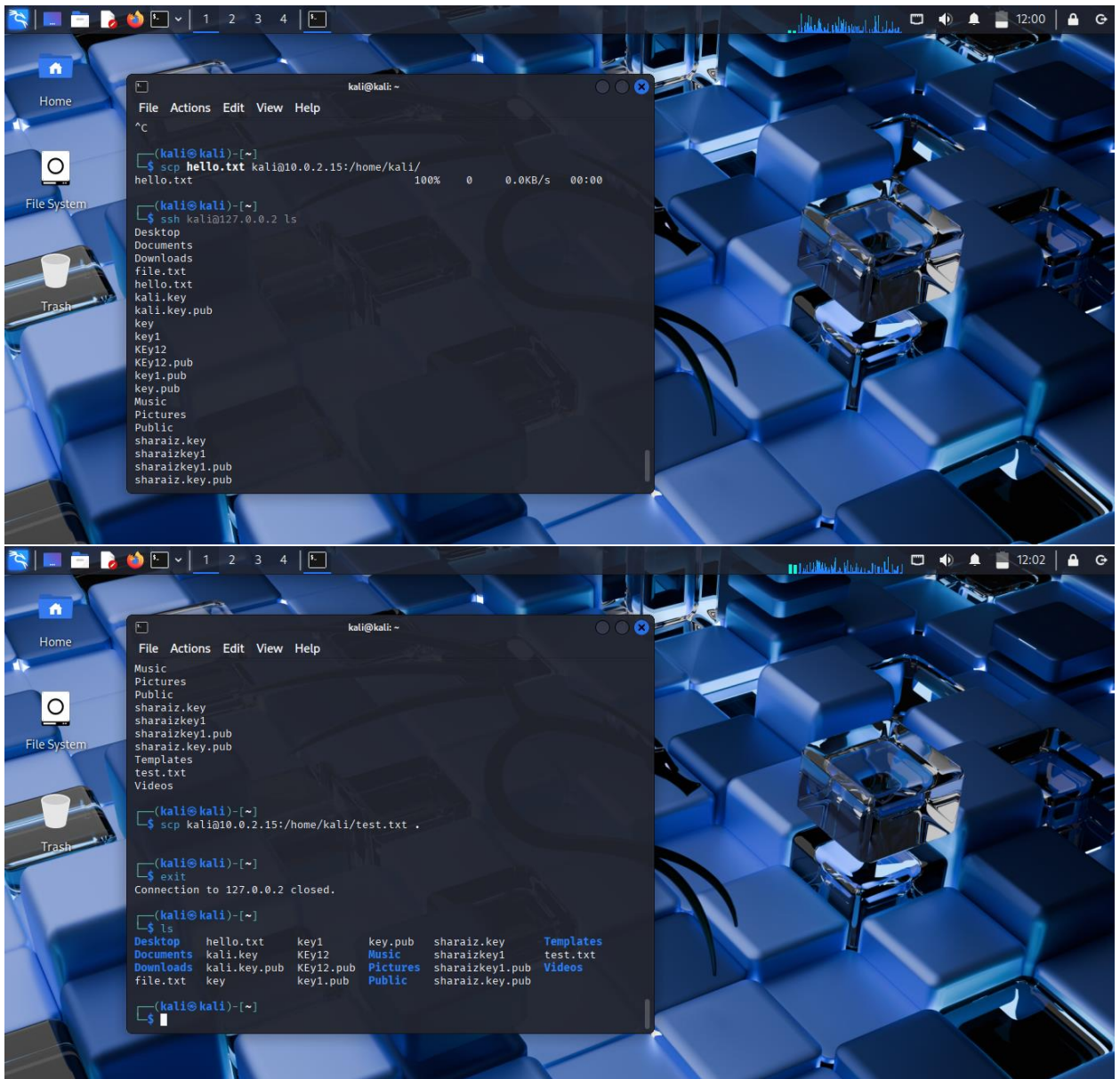
Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.
Last login: Tue Sep 9 11:12:48 2025 from 10.0.2.15
kali@kali:~
\$ ssh -L 8080:localhost:80 kali@10.0.2.15
Linux kali 6.12.25-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.12.25-1kali1 (2025-04-)

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Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.
Last login: Tue Sep 9 11:40:11 2025 from 10.0.2.15
kali@kali:~
\$ channel 3: open failed: connect failed: Connection refused
channel 3: open failed: connect failed: Connection refused
channel 3: open failed: connect failed: Connection refused
channel 3: open failed: connect failed: Connection refused
channel 3: open failed: connect failed: Connection refused
channel 3: open failed: connect failed: Connection refused
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channel 3: open failed: connect failed: Connection refused
channel 3: open failed: connect failed: Connection refused
channel 3: open failed: connect failed: Connection refused

The desktop includes several icons on the left side: Home, File System, and Trash. The top panel shows various system status icons, including network, volume, and battery, along with the date and time (11:44).

Task 4

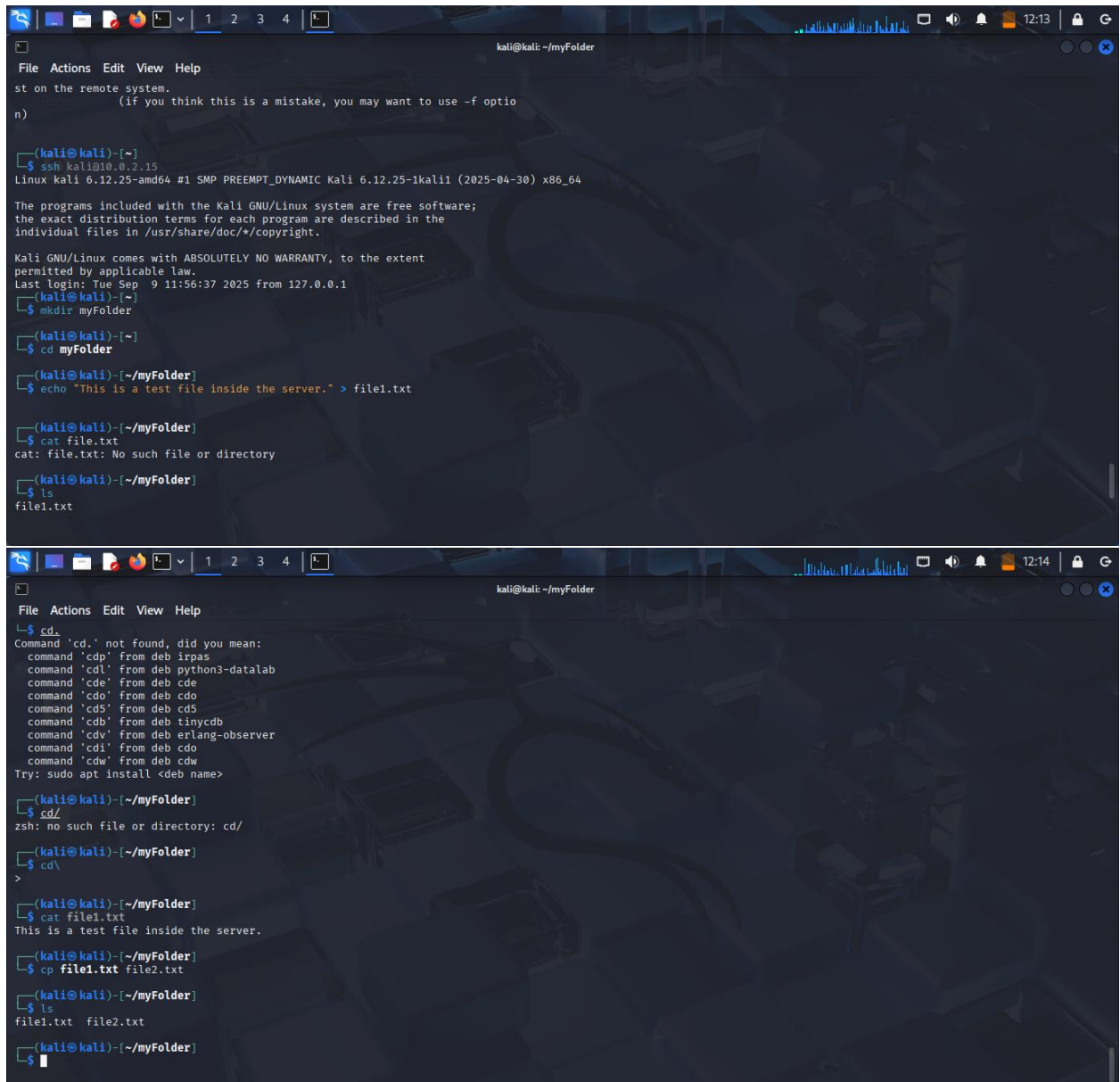


Task 5

```
kali@kali: ~  
$ ssh-keygen  
Generating public/private ed25519 key pair.  
Enter file in which to save the key (/home/kali/.ssh/id_ed25519): sharaiz  
Enter passphrase for "sharaiz" (empty for no passphrase):  
Enter same passphrase again:  
Your identification has been saved in sharaiz  
Your public key has been saved in sharaiz.pub  
The key fingerprint is:  
SHA256:7G4ObgQePG4CvdKQExsl1fHmcuZDQJH+JYYRwLBxIbk kali@kali  
The key's randomart image is:  
+--[ED25519 256]--+  
| =**+=  
| +*..+.  
|.B o.o.  
|E . B+o.  
| = +.*=oS  
|. + +*o.  
|. O .+. .  
| ..+.  
| ..oo  
+--[SHA256]--+  
  
kali@kali:~  
$ ssh-copy-id kali@10.0.2.15  
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/kali/.ss  
h/id_ed25519.pub"  
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to fil  
ter out any that are already installed  
  
/usr/bin/ssh-copy-id: WARNING: All keys were skipped because they already exi  
st on the remote system.  
n) (if you think this is a mistake, you may want to use -f optio
```

```
kali@kali: ~  
$ ssh-copy-id kali@10.0.2.15  
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/kali/.ss  
h/id_ed25519.pub"  
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to fil  
ter out any that are already installed  
  
/usr/bin/ssh-copy-id: WARNING: All keys were skipped because they already exi  
st on the remote system.  
n) (if you think this is a mistake, you may want to use -f optio  
  
kali@kali:~  
$ ssh kali@10.0.2.15  
Linux kali 6.12.25-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.12.25-1kali1 (2025-04-30) x86_64  
  
The programs included with the Kali GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
Last login: Tue Sep 9 11:56:37 2025 from 127.0.0.1  
kali@kali:~  
$
```

Task 6



```
kali@kali: ~/myFolder
File Actions Edit View Help
st on the remote system.
(if you think this is a mistake, you may want to use -f option)

(kali@kali)-[~]
$ ssh kali@10.0.2.15
Linux kali 6.12.25-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.12.25-1kali1 (2025-04-30) x86_64

The programs included with the Kali GNU/Linux system are free software;
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Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Tue Sep 9 11:56:37 2025 from 127.0.0.1
(kali@kali)-[~]
$ mkdir myFolder

(kali@kali)-[~]
$ cd myFolder

(kali@kali)-[~/myFolder]
$ echo "This is a test file inside the server." > file1.txt

(kali@kali)-[~/myFolder]
$ cat file.txt
cat: file.txt: No such file or directory

(kali@kali)-[~/myFolder]
$ ls
file1.txt

(kali@kali)-[~/myFolder]
$ cd.
Command 'cd.' not found, did you mean:
command 'cdp' from deb irpas
command 'cdl' from deb python3-datalab
command 'cde' from deb cde
command 'cdo' from deb cdo
command 'cd5' from deb cd5
command 'cdb' from deb tinycdb
command 'cdv' from deb erlang-observer
command 'cdi' from deb cdo
command 'cdw' from deb cdw
Try: sudo apt install <deb name>

(kali@kali)-[~/myFolder]
$ cd/
zsh: no such file or directory: cd/

(kali@kali)-[~/myFolder]
$ cd\
>

(kali@kali)-[~/myFolder]
$ cat file1.txt
This is a test file inside the server.

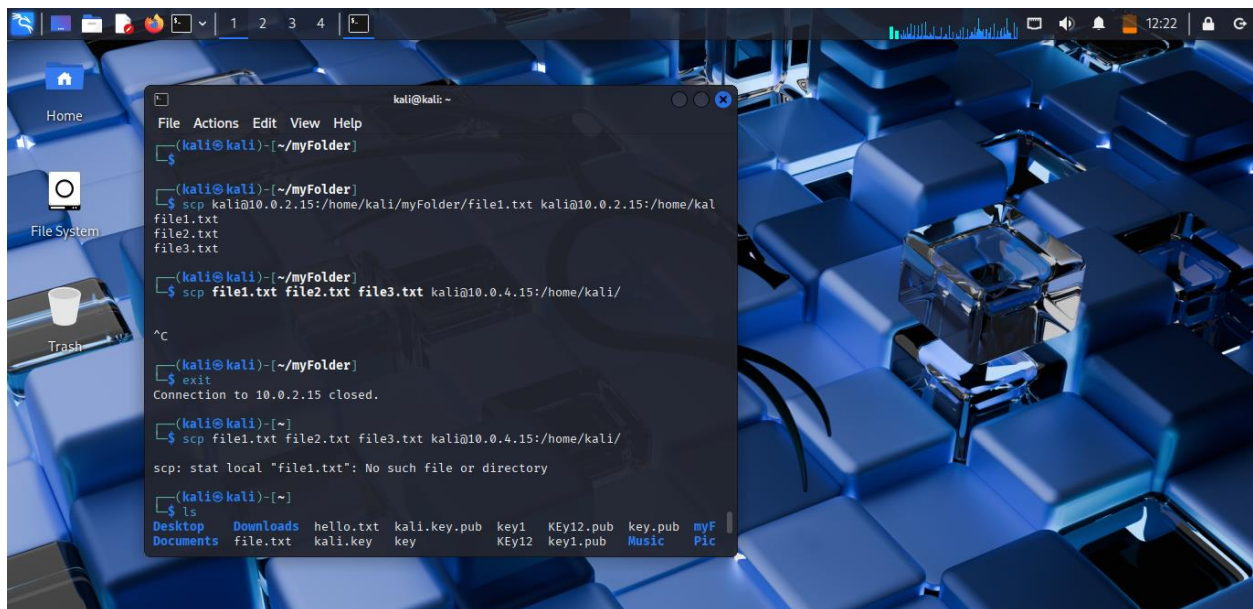
(kali@kali)-[~/myFolder]
$ cp file1.txt file2.txt

(kali@kali)-[~/myFolder]
$ ls
file1.txt file2.txt

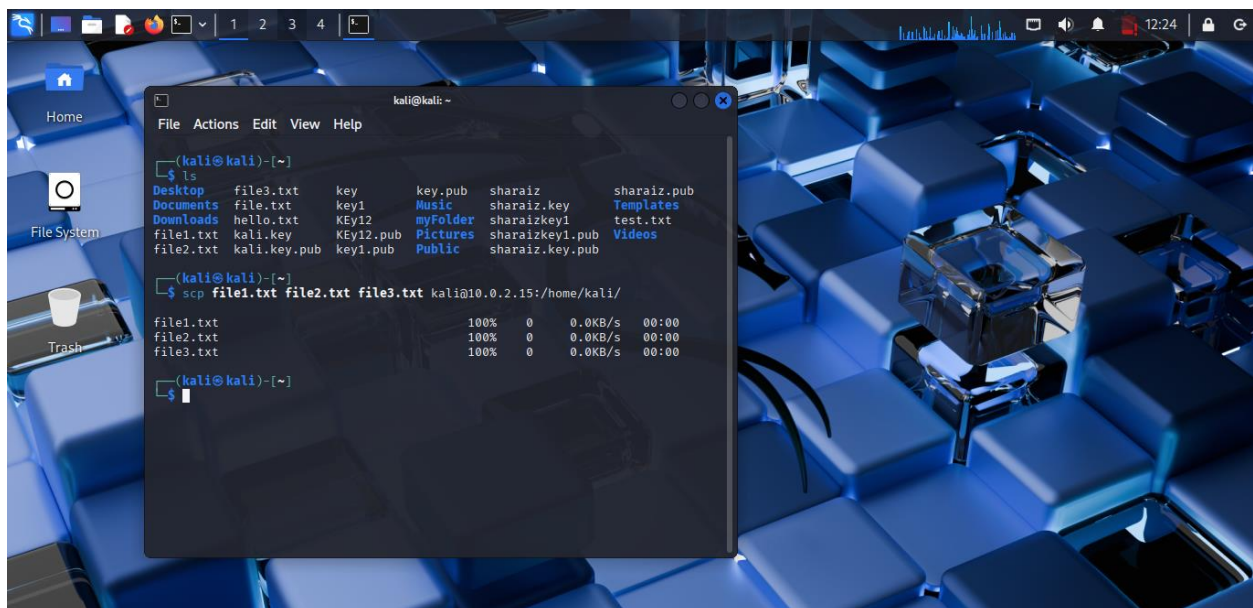
(kali@kali)-[~/myFolder]
$
```

Task 7

scp kali@10.0.2.15:/home/kali/myFolder/file1.txt kali@10.0.2.15:/home/kali/myFolder/file2.txt
[kali@10.0.2.15:/home/kali/myFolder/file3.txt](#)



scp file1.txt file2.txt file3.txt kali@10.0.2.15:/home/kali/



Task 8

- ❖ Generate an SSH key pair on your local machine
- ❖ Copy the public key to the server
- ❖ Test passwordless login
- ❖ Run multiple remote commands in one SSH call
 - ssh kali@10.0.2.15 "whoami; hostname; uptime"

