

1. Integration Testing

Test 1

full():

Correct Input

```
(kali㉿kali)-[~/RBU]
└─$ ./client -ff House/tcp nile1.txt nile2.txt nile3.txt
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

nile1.txt
../House/tcp/nile1.txt
nile2.txt
../House/tcp/nile2.txt
nile3.txt
../House/tcp/nile3.txt
[+]Closing the connection.
```

Incorrect Input

```
└─$ ./client -ff House/tcp nile1.txt nile2.txt nile4.txt
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

nile1.txt
../House/tcp/nile1.txt
nile2.txt
../House/tcp/nile2.txt
nile4.txt
../House/tcp/nile4.txt
[-]Error in reading file.: No such file or directory
```

Test 2

full_dir():

Incorrect input

```
└─$ ./client -fd /home/kali/temp0 /home/kali/temp4
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

.. //home/kali/temp0
/home/kali/temp0
/home/kali/temp4
/home/kali/temp0/temp01.txt
/home/kali/temp0/temp02.txt
/home/kali/temp0/temp03.txt
```

Correct Input

```
└─$ ./client -fd /home/kali/temp0 /home/kali/temp1 /home/kali/temp2
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

.. //home/kali/temp0
/home/kali/temp0
/home/kali/temp1
/home/kali/temp2
/home/kali/temp0/temp01.txt
/home/kali/temp0/temp02.txt
/home/kali/temp0/temp03.txt
/home/kali/temp1/temp01.txt
/home/kali/temp1/temp02.txt
/home/kali/temp1/temp03.txt
/home/kali/temp2/temp01.txt
/home/kali/temp2/temp02.txt
/home/kali/temp2/temp03.txt
[+]Closing the connection.
```

Test 3

incremental():

Incorrect Input

```
└─$ ./client -if House/tcp nile1.txt nile2.txt nile10.txt
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

../House/tcp/nile1.txt
last_backup : Oct 19
File changed at : Oct 19
Backup Needed
10 50

../House/tcp/nile2.txt
last_backup : Oct 19
File changed at : Oct 14
```

```
./server
Oct_19_14:10
[+]Server socket created successfully.
[+]Binding successfull.
[+]Listening....
go
../backup/backup_of_nile1.txt
stopped
```

Correct input

```

└─$ ./client -if House/tcp nile1.txt nile2.txt nile3.txt
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

../House/tcp/nile1.txt
last_backup : Oct 19
File changed at : Oct 19
Backup Needed
10 50

../House/tcp/nile2.txt
last_backup : Oct 19
File changed at : Oct 14

../House/tcp/nile3.txt
last_backup : Oct 19
File changed at : Oct 14

[+]Closing the connection.

```

Test 4

incremental_dir():

Correct Input

```

└─$ ./client -id /home/kali/temp0 /home/kali/temp1
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

/home/kali/temp0
/home/kali/temp1

/home/kali/temp0
last backup : Oct 19
Directory changed : Oct 19
backup needed
/home/kali/temp0/temp01.txt
/home/kali/temp0/temp02.txt
/home/kali/temp0/temp03.txt

/home/kali/temp1
last backup : Oct 19
Directory changed : Oct 16
[+]Closing the connection.

```

Incorrect input

```
└─$ ./client -id /home/kali/temp0 /home/kali/temp10
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

/home/kali/temp0
/home/kali/temp10

/home/kali/temp0
last backup : Oct 19
Directory changed : Oct 19
backup needed
/home/kali/temp0/temp01.txt
/home/kali/temp0/temp02.txt
/home/kali/temp0/temp03.txt
```

Test 5

versioned():

Incorrect input

```
└─$ ./client -vf home/kali/House/tcp nile1.txt nile2.txt nile3.txt
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

nile1.txt
../home/kali/House/tcp/nile1.txt
[-]Error in reading file.: No such file or directory
```

Correct Input

```
└─$ ./client -vf /House/tcp nile1.txt nile2.txt nile3.txt
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

nile1.txt
.. //House/tcp/nile1.txt
nile2.txt
.. //House/tcp/nile2.txt
nile3.txt
.. //House/tcp/nile3.txt
[+]Closing the connection.
```

```
./server
Oct_19_14:17
[+]Server socket created successfully.
[+]Binding successfull.
[+]Listening....
nile1.txt
.. /backup/backup_at_Oct_19_14:17_of_nile1.txt
nile2.txt
.. /backup/backup_at_Oct_19_14:17_of_nile2.txt
nile3.txt
.. /backup/backup_at_Oct_19_14:17_of_nile3.txt
```

Test 6

versioned_dir():

Incorrect input

```
└─$ ./client -vd /home/kali/temp0 /home/kali/test1
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

.. //home/kali/temp0
/home/kali/temp0
/home/kali/test1
/home/kali/temp0/temp01.txt
/home/kali/temp0/temp02.txt
/home/kali/temp0/temp03.txt
```

```
Couldnt not make file
make: *** [Makefile:10: run] Error 1
```

Correct Input

```
└─$ ./client -vd /home/kali/temp0 /home/kali/test
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

.. //home/kali/temp0
/home/kali/temp0
/home/kali/test
/home/kali/temp0/temp01.txt
/home/kali/temp0/temp02.txt
/home/kali/temp0/temp03.txt
/home/kali/test/cron_bkp
/home/kali/test/test.txt
/home/kali/test/test1
/home/kali/test/test
/home/kali/test/test1.c
/home/kali/test/test.c
[+]Closing the connection.
```

```

./server
Oct_19_14:19
[+]Server socket created successfully.
[+]Binding successfull.
[+]Listening...
../backup
/home/kali/backup/home/kali/temp0
/home/kali/backup/home/kali/test
../backup/home/kali/temp0/temp01.txt
../backup/home/kali/temp0/temp01_Oct_19_14:19.txt
../backup/home/kali/temp0/temp02.txt
../backup/home/kali/temp0/temp02_Oct_19_14:19.txt
../backup/home/kali/temp0/temp03.txt
../backup/home/kali/temp0/temp03_Oct_19_14:19.txt
../backup/home/kali/test/cron_bkp
../backup/home/kali/test/cron_bkp_Oct_19_14:19
../backup/home/kali/test/test.txt
../backup/home/kali/test/test_Oct_19_14:19.txt
../backup/home/kali/test/test1
../backup/home/kali/test/test1_Oct_19_14:19
../backup/home/kali/test/test
../backup/home/kali/test/test_Oct_19_14:19
../backup/home/kali/test/test1.c
../backup/home/kali/test/test1_Oct_19_14:19.c
../backup/home/kali/test/test.c
../backup/home/kali/test/test_Oct_19_14:19.c
stopped

```

Test 7

scheduled():

Incorrect Input

```

└─$ ./client -sf "1 * * * *" nile1.txt nile2.txt nile3.txt
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

nile1.txt cd /home/kali/RBU && ./client -ff 1 * * * * nile2.txt nile3.txt

[+]Closing the connection.

```


Correct Input

```
└─$ ./client -sf House/tcp "1 * * * *" nile1.txt nile2.txt nile3.txt
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

1 * * * * cd /home/kali/RBU && ./client -ff House/tcp nile1.txt nile2.txt nile3.txt
```

Test 8

Scheduled_dir():

Correct Input

```
└─$ ./client -sd "30 * * * *" /home/kali/temp0 /home/kali/temp1 /home/kali/Desktop
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

30 * * * * cd /home/kali/RBU && ./client -fd /home/kali/temp0 /home/kali/temp1 /home/kali/Desktop
[+]Closing the connection.
```

Incorrect Input

```
└─$ ./client -sd "30 * * * *"
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

Invalid Usage : No folder name entered!!!
Usage: ./client -sd 'mm hh dom mon dow' dir1 dir2 dir3 .....
```

```
(kali@kali)-[~/RBU]
└─$ ./client -kk home/temp0
Last backup at : Oct 19
[+]Server socket created successfully.
[+]Connected to Server.

Invalid Option please choose from any of the options mentioned below
-ff for full backup for files
-fd for full backup for Directories
-if for incremental backup for files
-id for incremental backup for Directories
-vf for Versioned backup for files
-vd for Versioned backup for Directories
-sf for Scheduled backup for files
-sd for Scheduled backup for Directories
[+]Closing the connection.
```