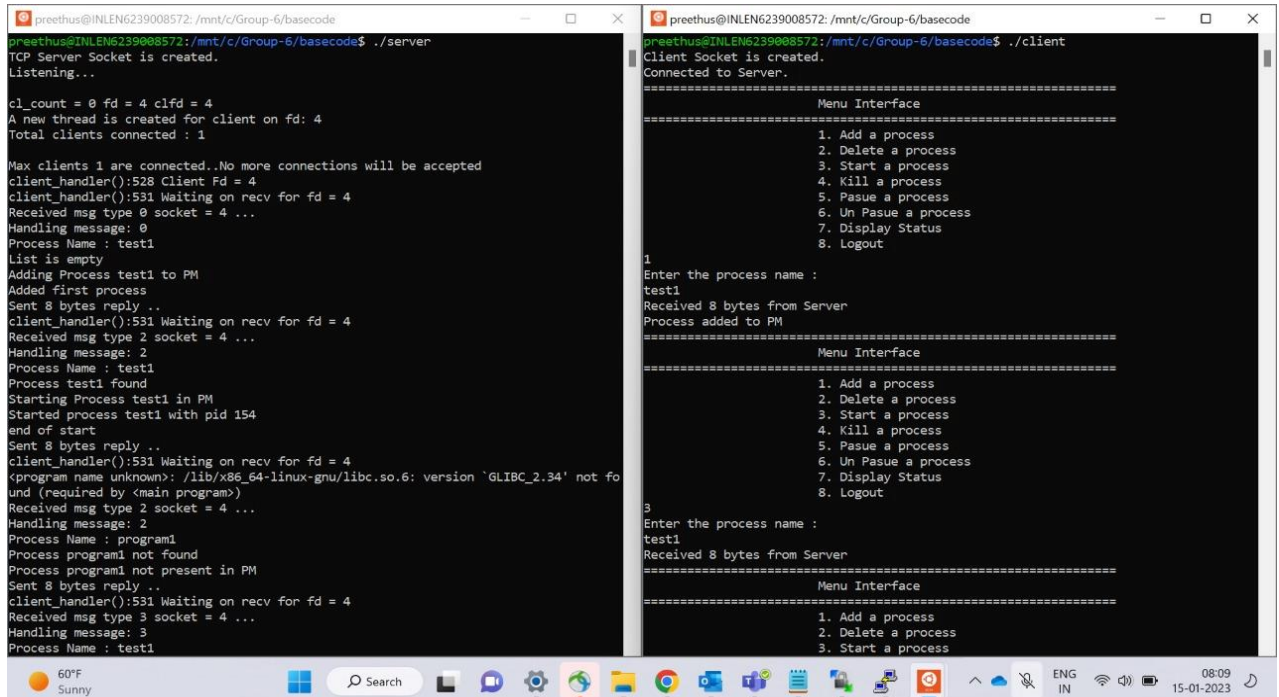


UT IT REPORT

Add process: The user enters the process name to be added and the process will be added to the list successfully.



The image shows two terminal windows side-by-side. The left window is the server terminal, and the right window is the client terminal. Both are running on a Windows 10 desktop environment.

Server Terminal:

```
preethus@INLEN6239008572:/mnt/c/Group-6/basecode$ ./server
TCP Server Socket is created.
Listening...

cl_count = 0 fd = 4 clfd = 4
A new thread is created for client on fd: 4
Total clients connected : 1

Max clients 1 are connected..No more connections will be accepted
client_handler():528 Client Fd = 4
client_handler():531 Waiting on rcv for fd = 4
Received msg type 0 socket = 4 ...
Handling message: 0
Process Name : test1
List is empty
Adding Process test1 to PM
Added first process
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 2 socket = 4 ...
Handling message: 2
Process Name : test1
Process test1 found
Starting Process test1 in PM
Started process test1 with pid 154
end of start
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
<program name unknown>: /lib/x86_64-linux-gnu/libc.so.6: version 'GLIBC_2.34' not found (required by <main program>)
Received msg type 2 socket = 4 ...
Handling message: 2
Process Name : program1
Process program1 not found
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 3 socket = 4 ...
Handling message: 3
Process Name : test1
```

Client Terminal:

```
preethus@INLEN6239008572:/mnt/c/Group-6/basecode$ ./client
Client Socket is created.
Connected to Server.

=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout

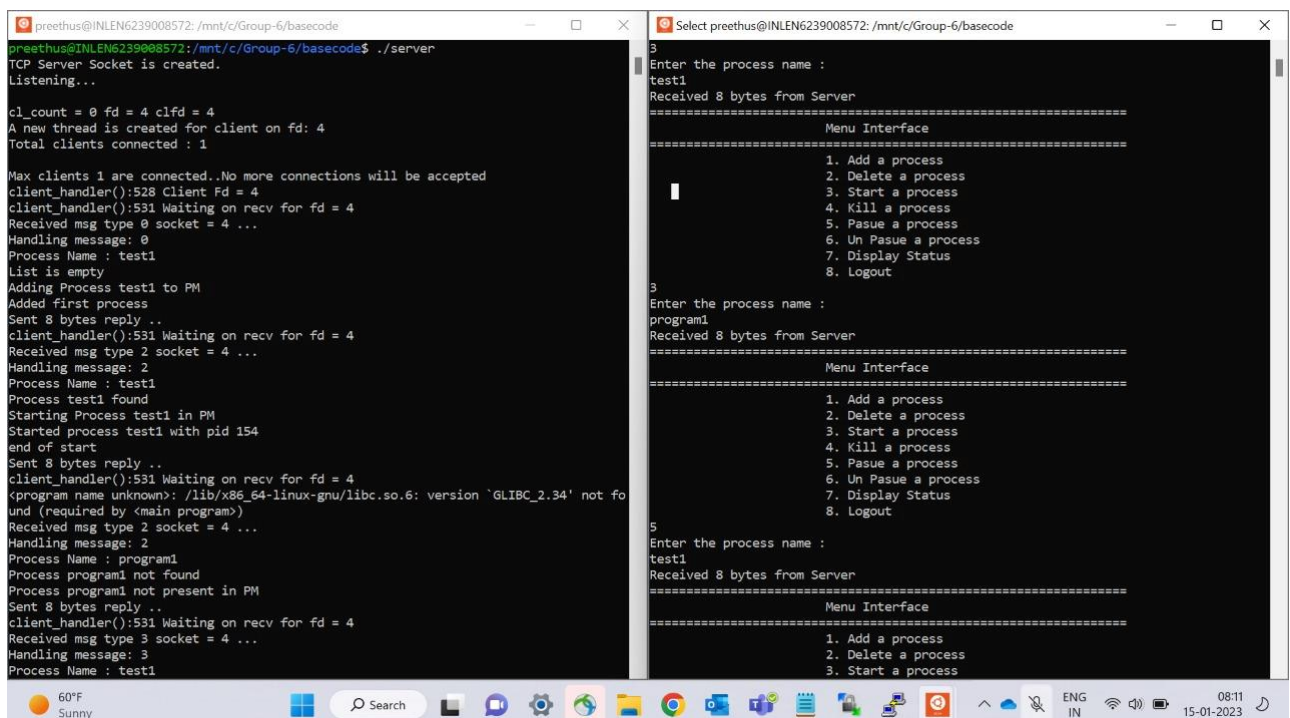
1
Enter the process name :
test1
Received 8 bytes from Server
Process added to PM

=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout

3
Enter the process name :
test1
Received 8 bytes from Server

=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
```

Start process: The user enters the process name to start and the process will start, if program name is not found in the list it will display program not found.



The image shows two terminal windows side-by-side. The left window is the server terminal, and the right window is the client terminal. Both are running on a Windows 10 desktop environment.

Server Terminal:

```
preethus@INLEN6239008572:/mnt/c/Group-6/basecode$ ./server
TCP Server Socket is created.
Listening...

cl_count = 0 fd = 4 clfd = 4
A new thread is created for client on fd: 4
Total clients connected : 1

Max clients 1 are connected..No more connections will be accepted
client_handler():528 Client Fd = 4
client_handler():531 Waiting on rcv for fd = 4
Received msg type 0 socket = 4 ...
Handling message: 0
Process Name : test1
List is empty
Adding Process test1 to PM
Added first process
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 2 socket = 4 ...
Handling message: 2
Process Name : test1
Process test1 found
Starting Process test1 in PM
Started process test1 with pid 154
end of start
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
<program name unknown>: /lib/x86_64-linux-gnu/libc.so.6: version 'GLIBC_2.34' not found (required by <main program>)
Received msg type 2 socket = 4 ...
Handling message: 2
Process Name : program1
Process program1 not found
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 3 socket = 4 ...
Handling message: 3
Process Name : test1
```

Client Terminal:

```
Select preethus@INLEN6239008572:/mnt/c/Group-6/basecode
3
Enter the process name :
test1
Received 8 bytes from Server

=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout

3
Enter the process name :
program1
Received 8 bytes from Server

=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout

5
Enter the process name :
test1
Received 8 bytes from Server

=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
```

Un pause process: The user enters the process name to un pause and the process will un pause, if program name is not found in the list it will display program not found.

```

preethus@INLEN6239008572: /mnt/c/Group-6/basecode
Process Name : test1
Process test1 found
Pausing Process test1 in PM
Pausing process test1 with pid 154
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 3 socket = 4 ...
Handling message: 3
Process Name : program1
Process program1 not found
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 4 socket = 4 ...
Handling message: 4
Process Name : test1
Process test1 found
Un pausing Process test1 in PM
Un Pausing process test1 with pid 154
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 4 socket = 4 ...
Handling message: 4
Process Name : program1
Process program1 not found
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 5 socket = 4 ...
Handling message: 5
Process Name : test1
Process test1 found
Killing Process test1 in PM
Killing process test1 with pid 154
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 5 socket = 4 ...
Handling message: 5
Process Name : program1
Process program1 not found

Select preethus@INLEN6239008572: /mnt/c/Group-6/basecode
6
Enter the process name :
test1
Received 8 bytes from Server
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout
6
Enter the process name :
program1
Received 8 bytes from Server
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout
4
Enter the process name :
test1
Received 8 bytes from Server
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process

```

Pause process: The user enters the process name to pause and the process will pause, if program name is not found in the list it will display program not found.

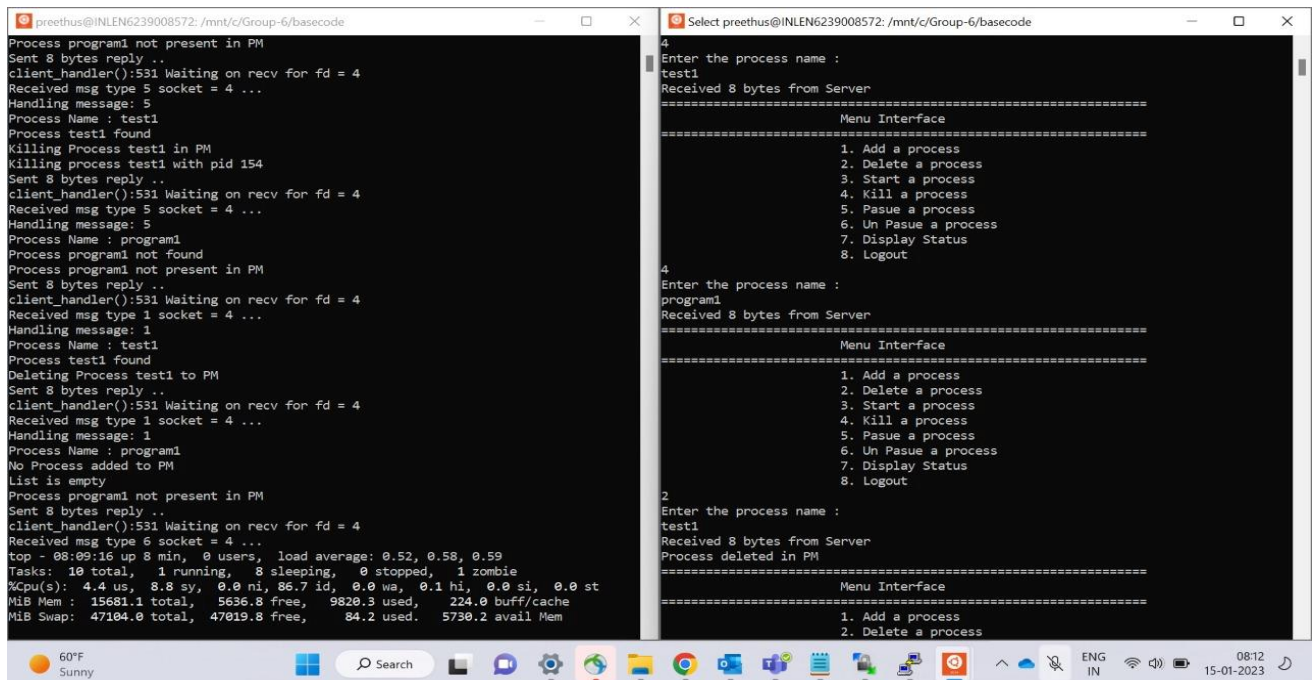
```

preethus@INLEN6239008572: /mnt/c/Group-6/basecode
Process Name : test1
Process test1 found
Pausing Process test1 in PM
Pausing process test1 with pid 154
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 3 socket = 4 ...
Handling message: 3
Process Name : program1
Process program1 not found
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 4 socket = 4 ...
Handling message: 4
Process Name : test1
Process test1 found
Un pausing Process test1 in PM
Un Pausing process test1 with pid 154
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 4 socket = 4 ...
Handling message: 4
Process Name : program1
Process program1 not found
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 5 socket = 4 ...
Handling message: 5
Process Name : test1
Process test1 found
Killing Process test1 in PM
Killing process test1 with pid 154
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 5 socket = 4 ...
Handling message: 5
Process Name : program1
Process program1 not found

Select preethus@INLEN6239008572: /mnt/c/Group-6/basecode
5
Enter the process name :
test1
Received 8 bytes from Server
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout
5
Enter the process name :
program1
Received 8 bytes from Server
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout
6
Enter the process name :
test1
Received 8 bytes from Server
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process

```

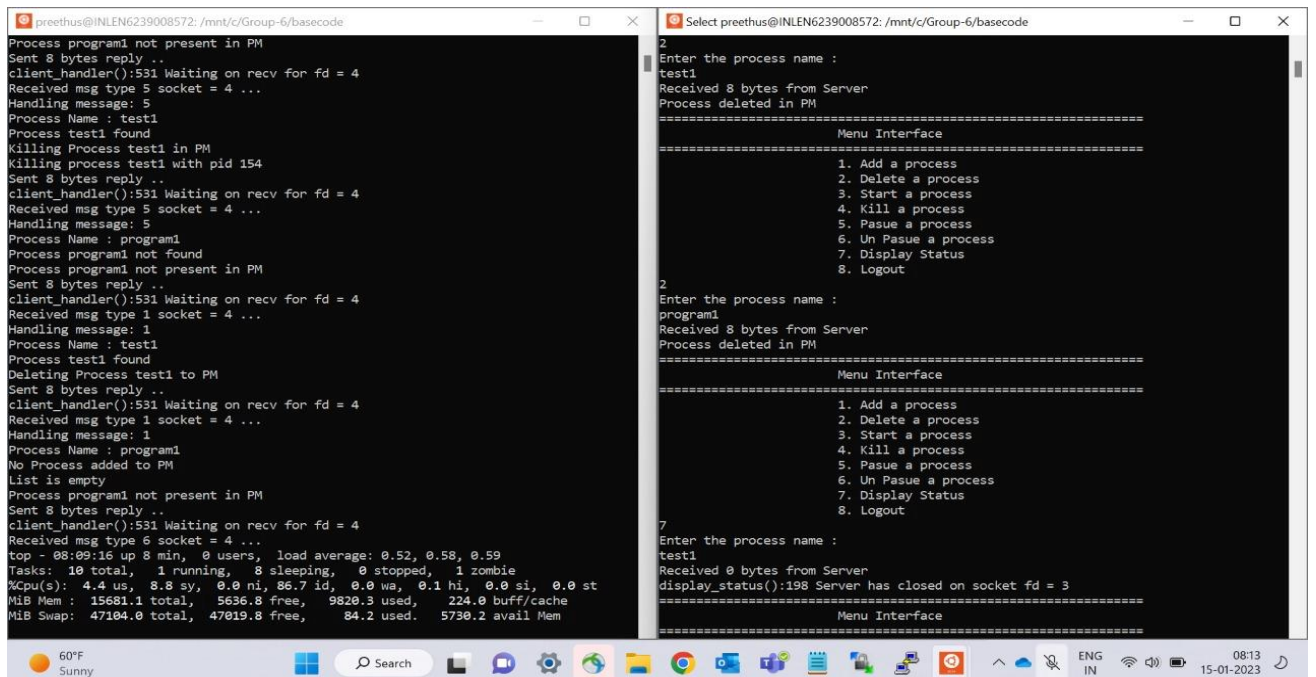
kill process: The user enters the process name to kill and the process will be killed, if program name is not found in the list it will display program not found.



```
preethus@INLEN6239008572: /mnt/c/Group-6/basecode
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 5 socket = 4 ...
Handling message: 5
Process Name : test1
Process test1 found
Killing Process test1 in PM
Killing process test1 with pid 154
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 5 socket = 4 ...
Handling message: 5
Process Name : program1
Process program1 not found
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 1 socket = 4 ...
Handling message: 1
Process Name : test1
Process test1 found
Deleting Process test1 to PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 1 socket = 4 ...
Handling message: 1
Process Name : program1
No Process added to PM
List is empty
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 6 socket = 4 ...
top - 08:09:16 up 8 min, 0 users, load average: 0.52, 0.58, 0.59
Tasks: 10 total, 1 running, 8 sleeping, 0 stopped, 1 zombie
%Cpu(s): 4.4 us, 8.8 sy, 0.0 ni, 86.7 id, 0.0 wa, 0.1 hi, 0.0 si, 0.0 st
MiB Mem : 15681.1 total, 5636.8 free, 9820.3 used, 224.0 buff/cache
MiB Swap : 47104.0 total, 47019.8 free, 84.2 used, 5730.2 avail Mem

Select preethus@INLEN6239008572: /mnt/c/Group-6/basecode
4
Enter the process name :
test1
Received 8 bytes from Server
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout
4
Enter the process name :
program1
Received 8 bytes from Server
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout
2
Enter the process name :
test1
Received 8 bytes from Server
Process deleted in PM
=====
Menu Interface
=====
1. Add a process
2. Delete a process
```

Delete process: The user enters the process name to delete, and the process will be deleted, if program name is not found in the list it will display program not found.



```
preethus@INLEN6239008572: /mnt/c/Group-6/basecode
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 5 socket = 4 ...
Handling message: 5
Process Name : test1
Process test1 found
Killing Process test1 in PM
Killing process test1 with pid 154
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 5 socket = 4 ...
Handling message: 5
Process Name : program1
Process program1 not found
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 1 socket = 4 ...
Handling message: 1
Process Name : test1
Process test1 found
Deleting Process test1 to PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 1 socket = 4 ...
Handling message: 1
Process Name : program1
No Process added to PM
List is empty
Process program1 not present in PM
Sent 8 bytes reply ..
client_handler():531 Waiting on rcv for fd = 4
Received msg type 6 socket = 4 ...
top - 08:09:16 up 8 min, 0 users, load average: 0.52, 0.58, 0.59
Tasks: 10 total, 1 running, 8 sleeping, 0 stopped, 1 zombie
%Cpu(s): 4.4 us, 8.8 sy, 0.0 ni, 86.7 id, 0.0 wa, 0.1 hi, 0.0 si, 0.0 st
MiB Mem : 15681.1 total, 5636.8 free, 9820.3 used, 224.0 buff/cache
MiB Swap : 47104.0 total, 47019.8 free, 84.2 used, 5730.2 avail Mem

Select preethus@INLEN6239008572: /mnt/c/Group-6/basecode
2
Enter the process name :
test1
Received 8 bytes from Server
Process deleted in PM
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout
2
Enter the process name :
program1
Received 8 bytes from Server
Process deleted in PM
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout
7
Enter the process name :
test1
Received 0 bytes from Server
display_status():198 Server has closed on socket fd = 3
=====
Menu Interface
=====
```


Display status: The user enters the process name to display statistical information, and the information will be displayed, if program name is not found in the list it will display program not found.

The image shows two terminal windows side-by-side. The left window displays the output of the 'top' command, showing system statistics and a list of running processes. The right window shows a menu-driven interface for process management, including options to add, delete, start, kill, pause, and display status of processes.

Left Terminal Window Output:

```
Sent 8 bytes reply ..
client_handler():531 Waiting on recv for fd = 4
Received msg type 6 socket = 4 ...
top - 08:09:16 up 8 min, 0 users, load average: 0.52, 0.58, 0.59
Tasks: 10 total, 1 running, 8 sleeping, 0 stopped, 1 zombie
%Cpu(s): 4.4 us, 8.8 sy, 0.0 ni, 86.7 id, 0.0 wa, 0.1 hi, 0.0 si, 0.0 st
MiB Mem : 15681.1 total, 5636.8 free, 9820.3 used, 224.0 buff/cache
MiB Swap: 47104.0 total, 47019.8 free, 84.2 used, 5730.2 avail Mem
```

PID	USER	PR	NI	VRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1	root	20	0	9788	524	480	S	0.0	0.0	0:00.21	init
7	root	20	0	9796	296	248	S	0.0	0.0	0:00.01	init
8	preethus	20	0	18216	3672	3556	S	0.0	0.0	0:00.23	bash
32	root	20	0	9796	296	248	S	0.0	0.0	0:00.01	init
33	preethus	20	0	18216	3676	3564	S	0.0	0.0	0:00.24	bash
151	preethus	20	0	84424	784	728	S	0.0	0.0	0:00.01	server
152	preethus	20	0	10540	648	520	S	0.0	0.0	0:00.00	client
154	preethus	20	0	0	0	0	Z	0.0	0.0	0:00.01	test1
155	preethus	20	0	10656	680	648	S	0.0	0.0	0:00.01	sh
156	preethus	20	0	18924	2160	1516	R	0.0	0.0	0:00.01	top

Right Terminal Window Output:

```
Select preethus@INLEN6239008572: /mnt/c/Group-6/basecode
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout
2
Enter the process name :
program1
Received 8 bytes from Server
Process deleted in PM
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout
7
Enter the process name :
test1
Received 0 bytes from Server
display_status():198 Server has closed on socket fd = 3
=====
Menu Interface
=====
1. Add a process
2. Delete a process
3. Start a process
4. Kill a process
5. Pasue a process
6. Un Pasue a process
7. Display Status
8. Logout
8
preethus@INLEN6239008572: /mnt/c/Group-6/basecode$
```