Output File

1. Start Server0 from Server0 directory.

```
mandar@mandar-VirtualBox: ~/PA2/Server0          En  ⬛ �))  10:19 PM ⚙

mandar@mandar-VirtualBox:~$ cd PA2
mandar@mandar-VirtualBox:~/PA2$ cd Server0
mandar@mandar-VirtualBox:~/PA2/Server0$ javac Server0.java
mandar@mandar-VirtualBox:~/PA2/Server0$ java Server0
Currently running servers

ServerName          ServerHostName          PortNumber
Server0             mandar-virtualbox       5050
Server1             mandar-virtualbox       5051
Server2             mandar-virtualbox       5052
Server3             mandar-virtualbox       5053
Server4             mandar-virtualbox       5054
Server5             mandar-virtualbox       5055
Server6             mandar-virtualbox       5056
Server7             mandar-virtualbox       5057
Connection Socket Created : Port number 5050: Server0
Waiting for Connection on port 5050
```

2. Server1 started

```
mandar@mandar-VirtualBox:~$ cd PA2
mandar@mandar-VirtualBox:~/PA2$ cd Server1
mandar@mandar-VirtualBox:~/PA2/Server1$ javac Server1.java
mandar@mandar-VirtualBox:~/PA2/Server1$ java Server1
Currently running servers

ServerName          ServerHostName              PortNumber
Server0             mandar-virtualbox           5050
Server1             mandar-virtualbox           5051
Server2             mandar-virtualbox           5052
Server3             mandar-virtualbox           5053
Server4             mandar-virtualbox           5054
Server5             mandar-virtualbox           5055
Server6             mandar-virtualbox           5056
Server7             mandar-virtualbox           5057
Connection Socket Created : Port number 5051: Server1
Waiting for Connection on port 5051
```
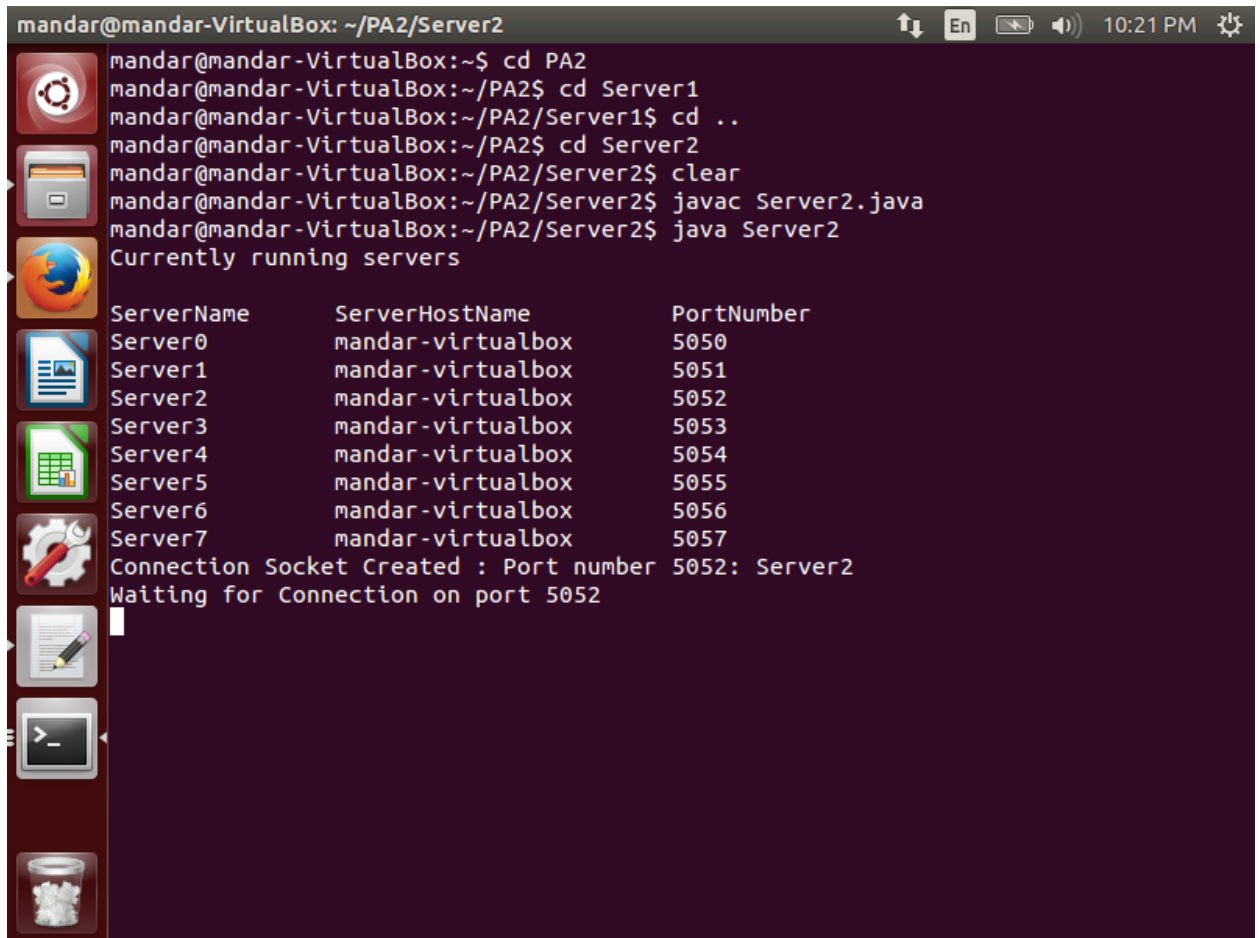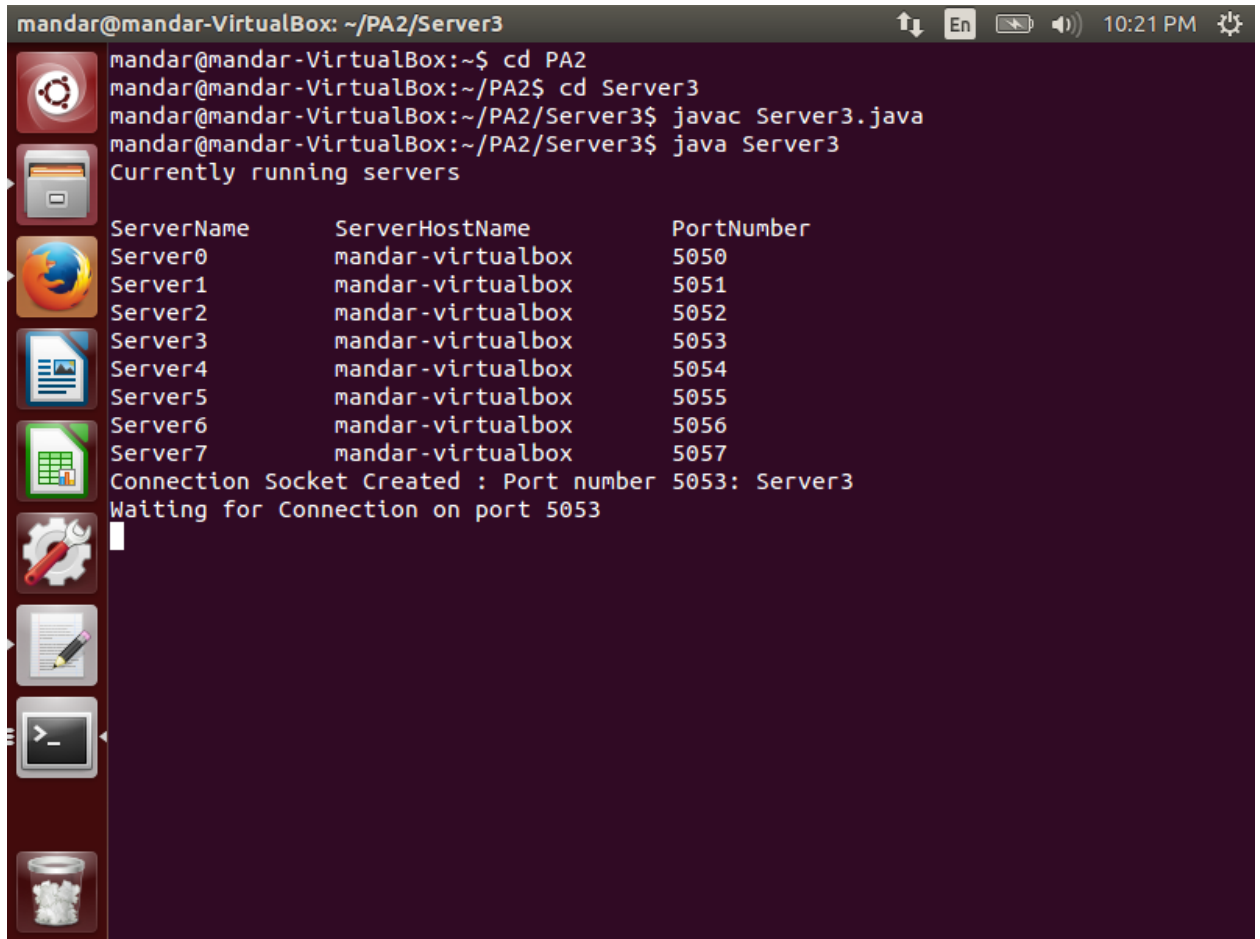
3. Server2 started


```
mandar@mandar-VirtualBox: ~/PA2/Server2                    ↑↓  En  ▇ ◀))  10:21 PM  ⛭

mandar@mandar-VirtualBox:~$ cd PA2
mandar@mandar-VirtualBox:~/PA2$ cd Server1
mandar@mandar-VirtualBox:~/PA2/Server1$ cd ..
mandar@mandar-VirtualBox:~/PA2$ cd Server2
mandar@mandar-VirtualBox:~/PA2/Server2$ clear
mandar@mandar-VirtualBox:~/PA2/Server2$ javac Server2.java
mandar@mandar-VirtualBox:~/PA2/Server2$ java Server2
Currently running servers

ServerName        ServerHostName           PortNumber
Server0           mandar-virtualbox        5050
Server1           mandar-virtualbox        5051
Server2           mandar-virtualbox        5052
Server3           mandar-virtualbox        5053
Server4           mandar-virtualbox        5054
Server5           mandar-virtualbox        5055
Server6           mandar-virtualbox        5056
Server7           mandar-virtualbox        5057
Connection Socket Created : Port number 5052: Server2
Waiting for Connection on port 5052
```
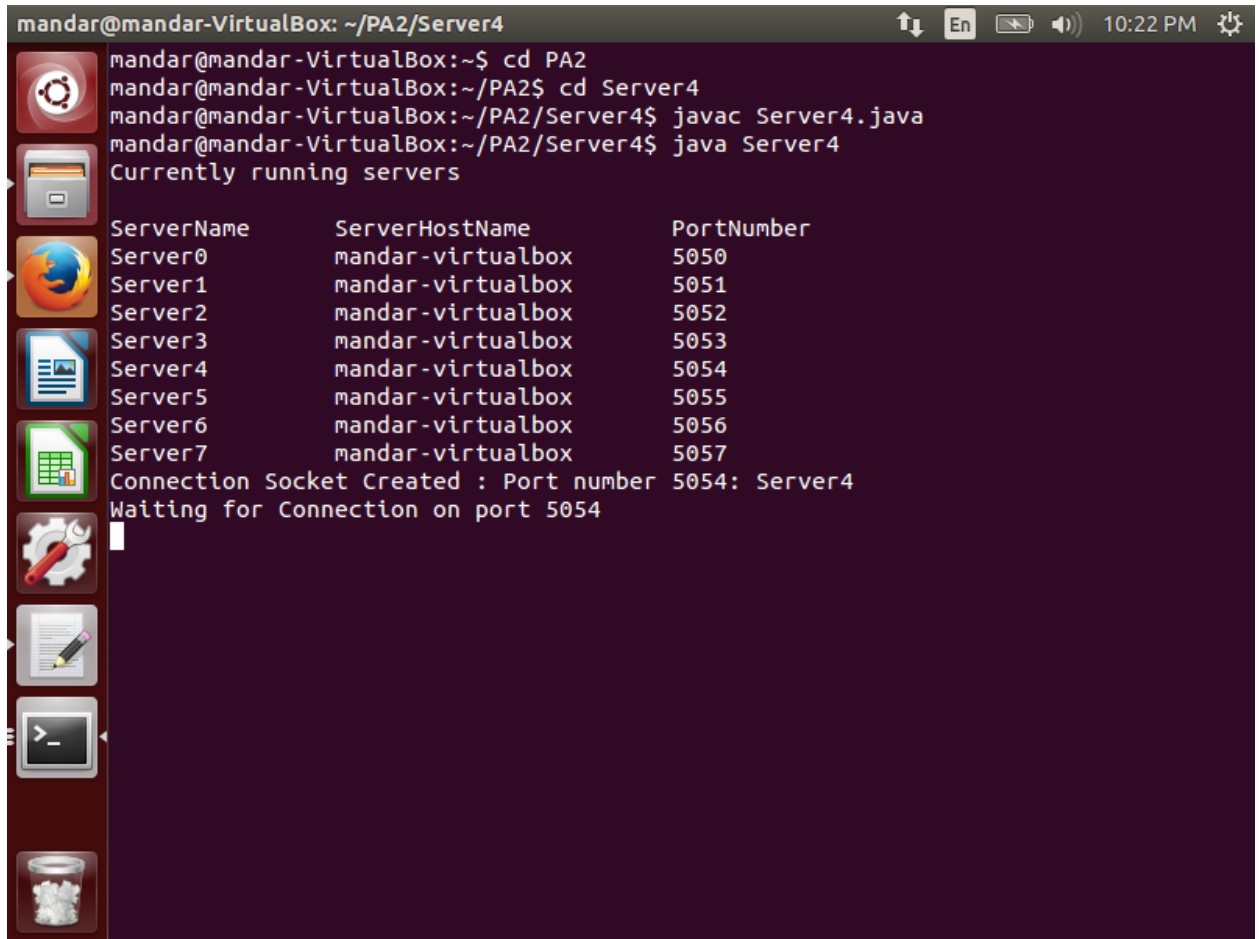
4. Server3 Started:


```
mandar@mandar-VirtualBox: ~/PA2/Server3                En  ▣ ◄)) 10:21 PM ⚙

mandar@mandar-VirtualBox:~$ cd PA2
mandar@mandar-VirtualBox:~/PA2$ cd Server3
mandar@mandar-VirtualBox:~/PA2/Server3$ javac Server3.java
mandar@mandar-VirtualBox:~/PA2/Server3$ java Server3
Currently running servers

ServerName          ServerHostName          PortNumber
Server0             mandar-virtualbox          5050
Server1             mandar-virtualbox          5051
Server2             mandar-virtualbox          5052
Server3             mandar-virtualbox          5053
Server4             mandar-virtualbox          5054
Server5             mandar-virtualbox          5055
Server6             mandar-virtualbox          5056
Server7             mandar-virtualbox          5057
Connection Socket Created : Port number 5053: Server3
Waiting for Connection on port 5053
```
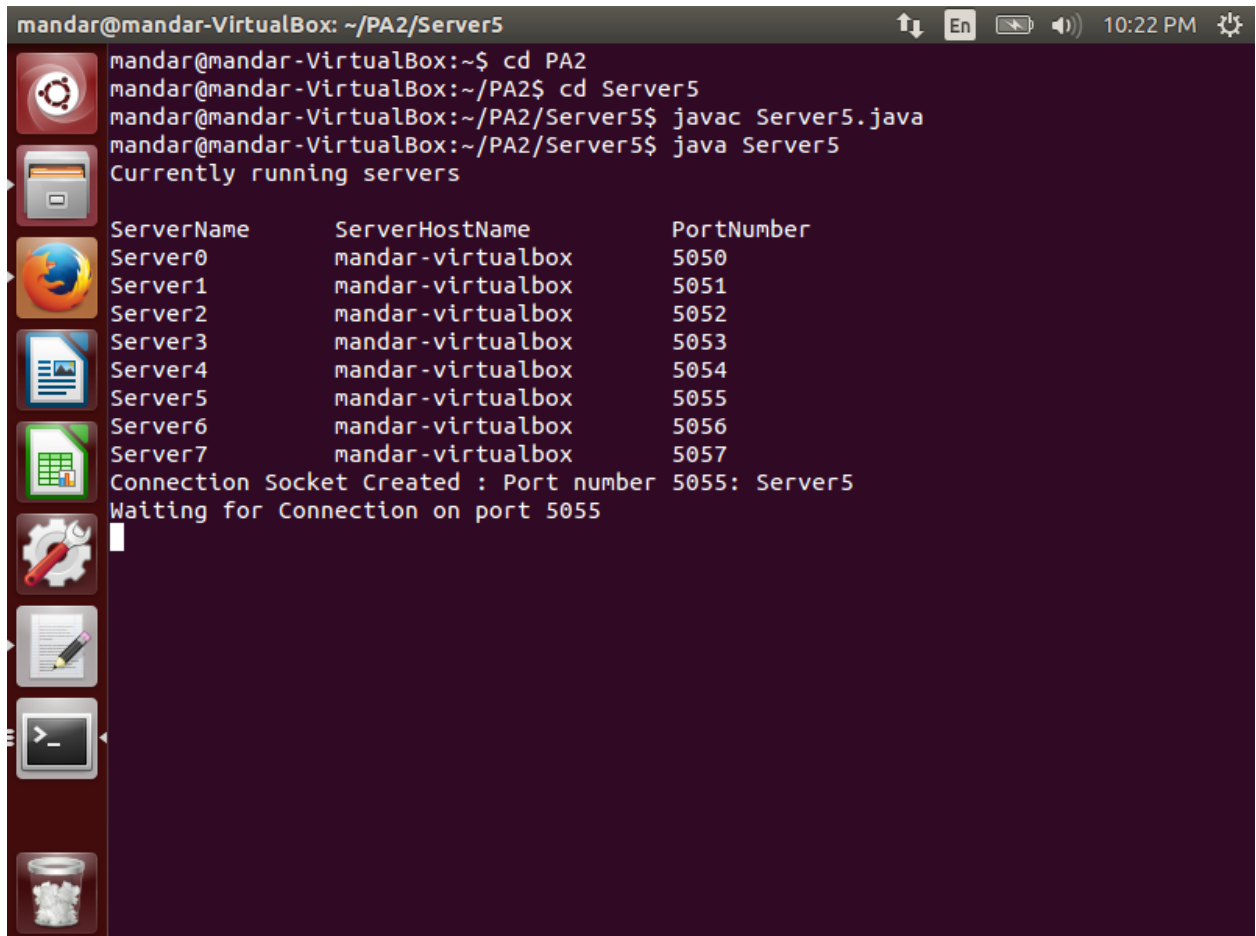
5. Server4 Started


```
mandar@mandar-VirtualBox: ~/PA2/Server4

mandar@mandar-VirtualBox:~$ cd PA2
mandar@mandar-VirtualBox:~/PA2$ cd Server4
mandar@mandar-VirtualBox:~/PA2/Server4$ javac Server4.java
mandar@mandar-VirtualBox:~/PA2/Server4$ java Server4
Currently running servers

ServerName          ServerHostName            PortNumber
Server0             mandar-virtualbox         5050
Server1             mandar-virtualbox         5051
Server2             mandar-virtualbox         5052
Server3             mandar-virtualbox         5053
Server4             mandar-virtualbox         5054
Server5             mandar-virtualbox         5055
Server6             mandar-virtualbox         5056
Server7             mandar-virtualbox         5057
Connection Socket Created : Port number 5054: Server4
Waiting for Connection on port 5054
```
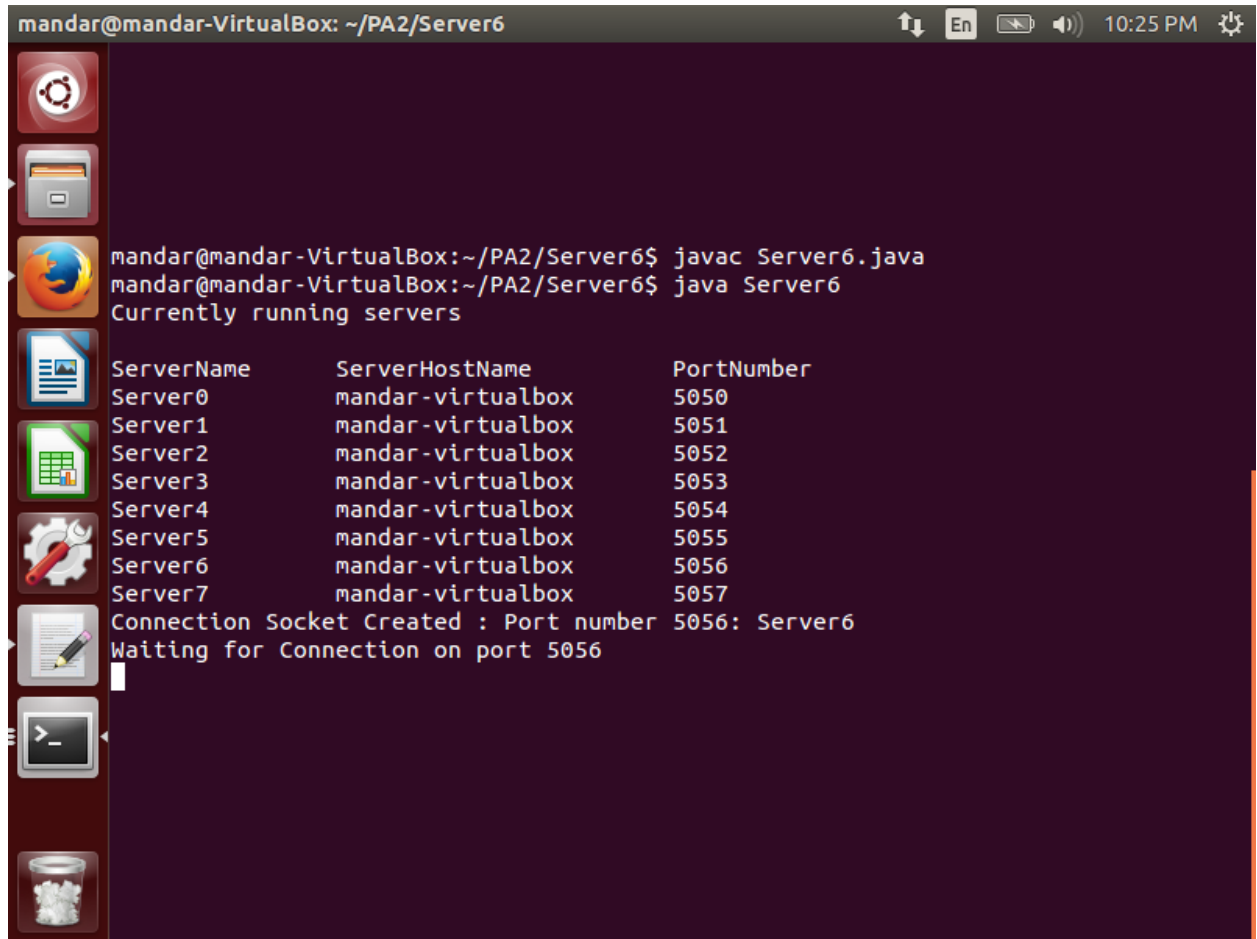
6. Server5 Started:

```
mandar@mandar-VirtualBox:~$ cd PA2
mandar@mandar-VirtualBox:~/PA2$ cd Server5
mandar@mandar-VirtualBox:~/PA2/Server5$ javac Server5.java
mandar@mandar-VirtualBox:~/PA2/Server5$ java Server5
Currently running servers

ServerName          ServerHostName            PortNumber
Server0             mandar-virtualbox         5050
Server1             mandar-virtualbox         5051
Server2             mandar-virtualbox         5052
Server3             mandar-virtualbox         5053
Server4             mandar-virtualbox         5054
Server5             mandar-virtualbox         5055
Server6             mandar-virtualbox         5056
Server7             mandar-virtualbox         5057
Connection Socket Created : Port number 5055: Server5
Waiting for Connection on port 5055
```

7. Server6 Started:
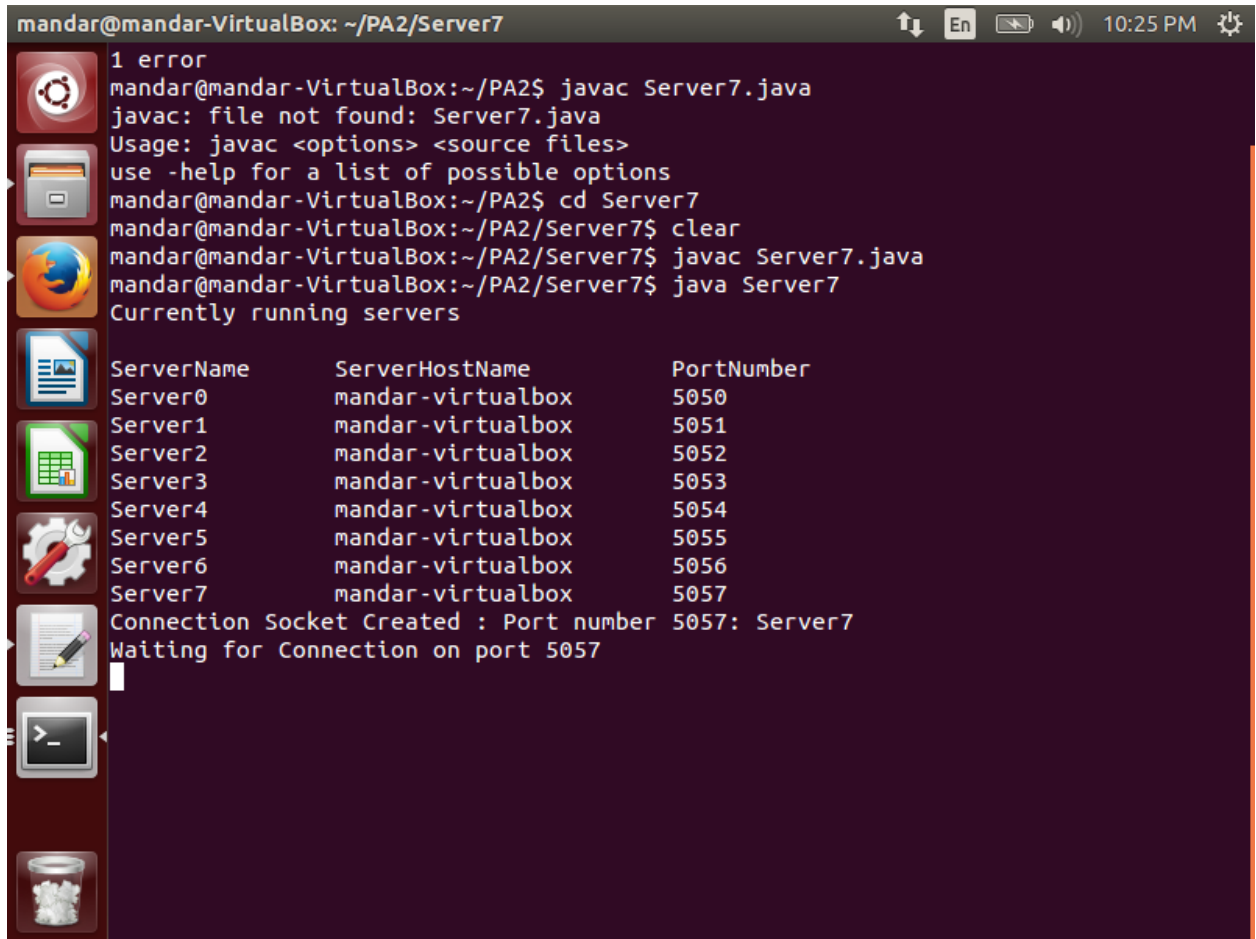
```
mandar@mandar-VirtualBox:~/PA2/Server6$ javac Server6.java
mandar@mandar-VirtualBox:~/PA2/Server6$ java Server6
Currently running servers

ServerName          ServerHostName          PortNumber
Server0             mandar-virtualbox       5050
Server1             mandar-virtualbox       5051
Server2             mandar-virtualbox       5052
Server3             mandar-virtualbox       5053
Server4             mandar-virtualbox       5054
Server5             mandar-virtualbox       5055
Server6             mandar-virtualbox       5056
Server7             mandar-virtualbox       5057
Connection Socket Created : Port number 5056: Server6
Waiting for Connection on port 5056
```

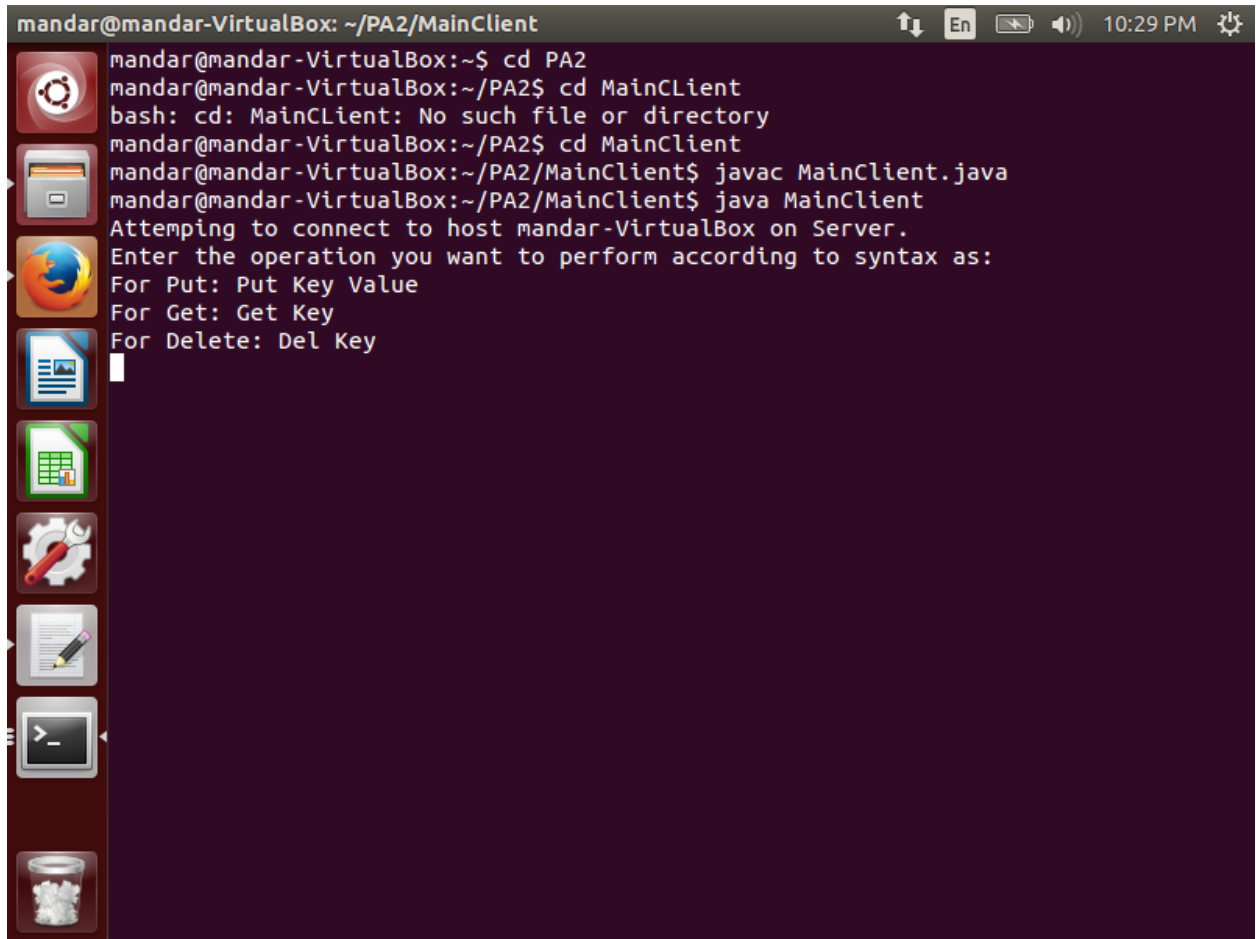8. Server7 Started:

```
1 error
mandar@mandar-VirtualBox:~/PA2$ javac Server7.java
javac: file not found: Server7.java
Usage: javac <options> <source files>
use -help for a list of possible options
mandar@mandar-VirtualBox:~/PA2$ cd Server7
mandar@mandar-VirtualBox:~/PA2/Server7$ clear
mandar@mandar-VirtualBox:~/PA2/Server7$ javac Server7.java
mandar@mandar-VirtualBox:~/PA2/Server7$ java Server7
Currently running servers

ServerName         ServerHostName            PortNumber
Server0            mandar-virtualbox         5050
Server1            mandar-virtualbox         5051
Server2            mandar-virtualbox         5052
Server3            mandar-virtualbox         5053
Server4            mandar-virtualbox         5054
Server5            mandar-virtualbox         5055
Server6            mandar-virtualbox         5056
Server7            mandar-virtualbox         5057
Connection Socket Created : Port number 5057: Server7
Waiting for Connection on port 5057
```
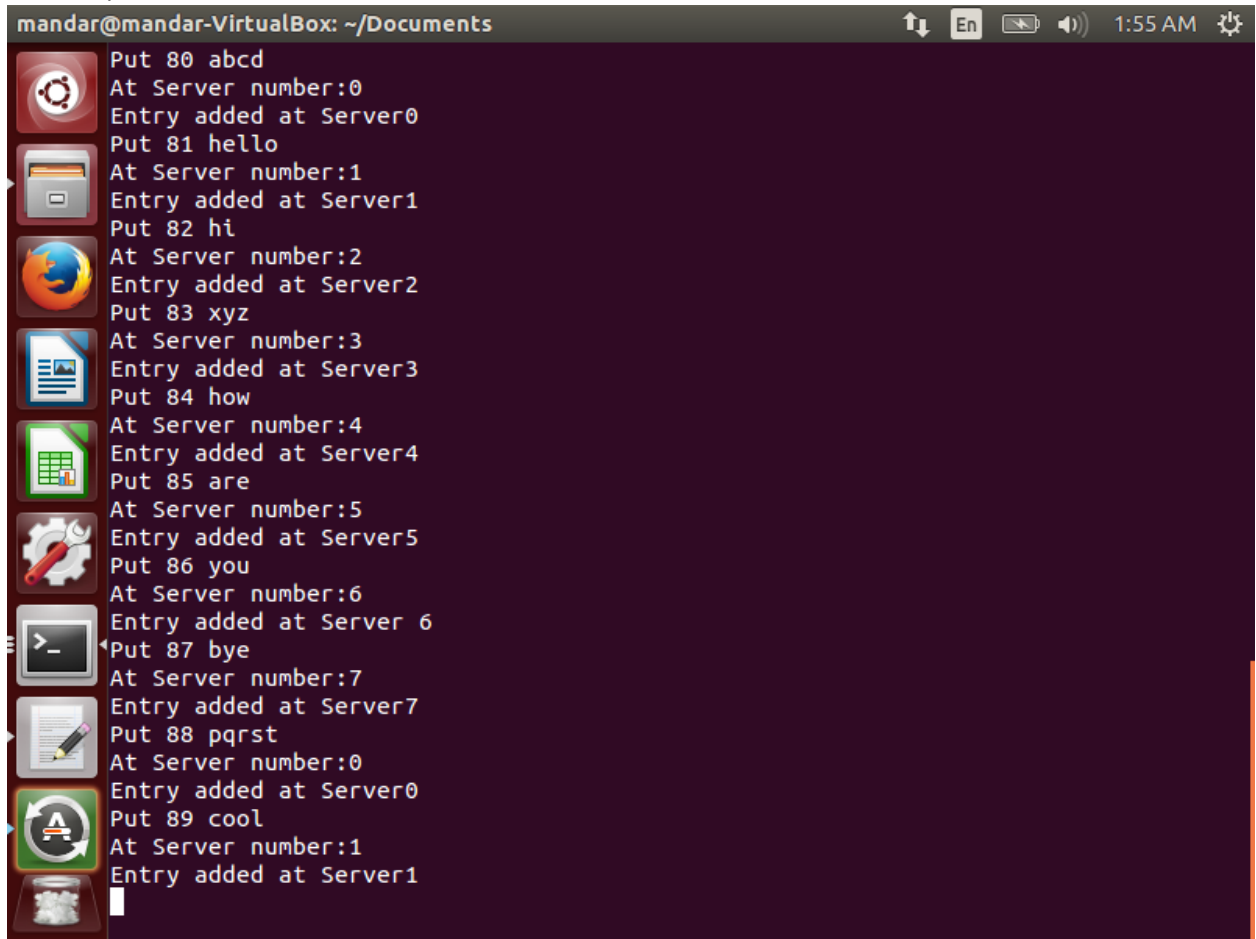
9. MainClient Started:

```
mandar@mandar-VirtualBox:~$ cd PA2
mandar@mandar-VirtualBox:~/PA2$ cd MainCLient
bash: cd: MainCLient: No such file or directory
mandar@mandar-VirtualBox:~/PA2$ cd MainClient
mandar@mandar-VirtualBox:~/PA2/MainClient$ javac MainClient.java
mandar@mandar-VirtualBox:~/PA2/MainClient$ java MainClient
Attemping to connect to host mandar-VirtualBox on Server.
Enter the operation you want to perform according to syntax as:
For Put: Put Key Value
For Get: Get Key
For Delete: Del Key
```

10. 10 Put operations:

```
Put 80 abcd
At Server number:0
Entry added at Server0
Put 81 hello
At Server number:1
Entry added at Server1
Put 82 hi
At Server number:2
Entry added at Server2
Put 83 xyz
At Server number:3
Entry added at Server3
Put 84 how
At Server number:4
Entry added at Server4
Put 85 are
At Server number:5
Entry added at Server5
Put 86 you
At Server number:6
Entry added at Server 6
Put 87 bye
At Server number:7
Entry added at Server7
Put 88 pqrst
At Server number:0
Entry added at Server0
Put 89 cool
At Server number:1
Entry added at Server1
```
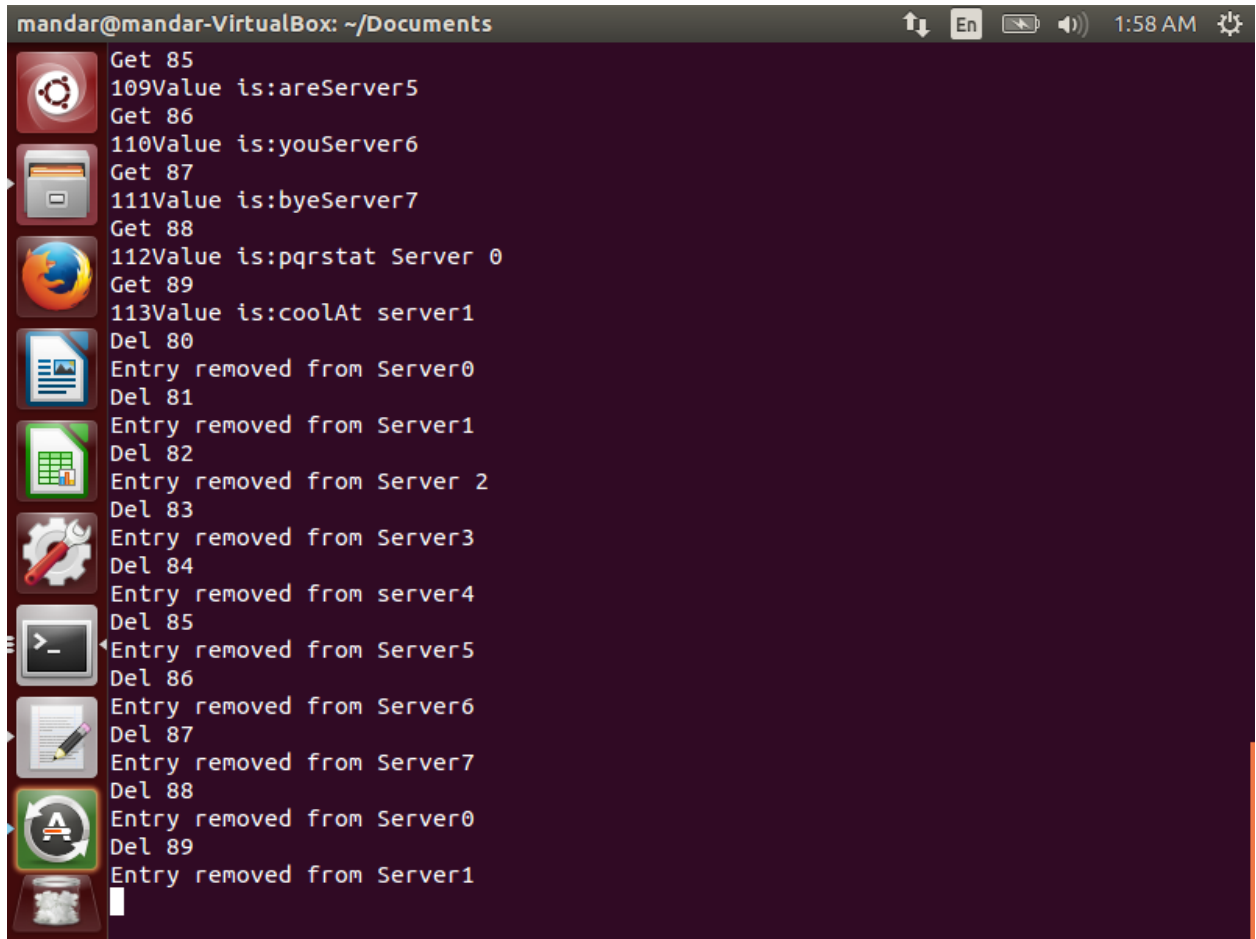
11. 10 Get commands:

```
Entry added at Server 6
Put 87 bye
At Server number:7
Entry added at Server7
Put 88 pqrst
At Server number:0
Entry added at Server0
Put 89 cool
At Server number:1
Entry added at Server1
Get 80
104Value is:abcdat Server 0
Get 81
105Value is:helloAt server1
Get 82
106Value is:hiat Server2
Get 83
107Value is:xyzat Server3
Get 84
108Value is:howat Server4
Get 85
109Value is:areServer5
Get 86
110Value is:youServer6
Get 87
111Value is:byeServer7
Get 88
112Value is:pqrstat Server 0
Get 89
113Value is:coolAt server1
```
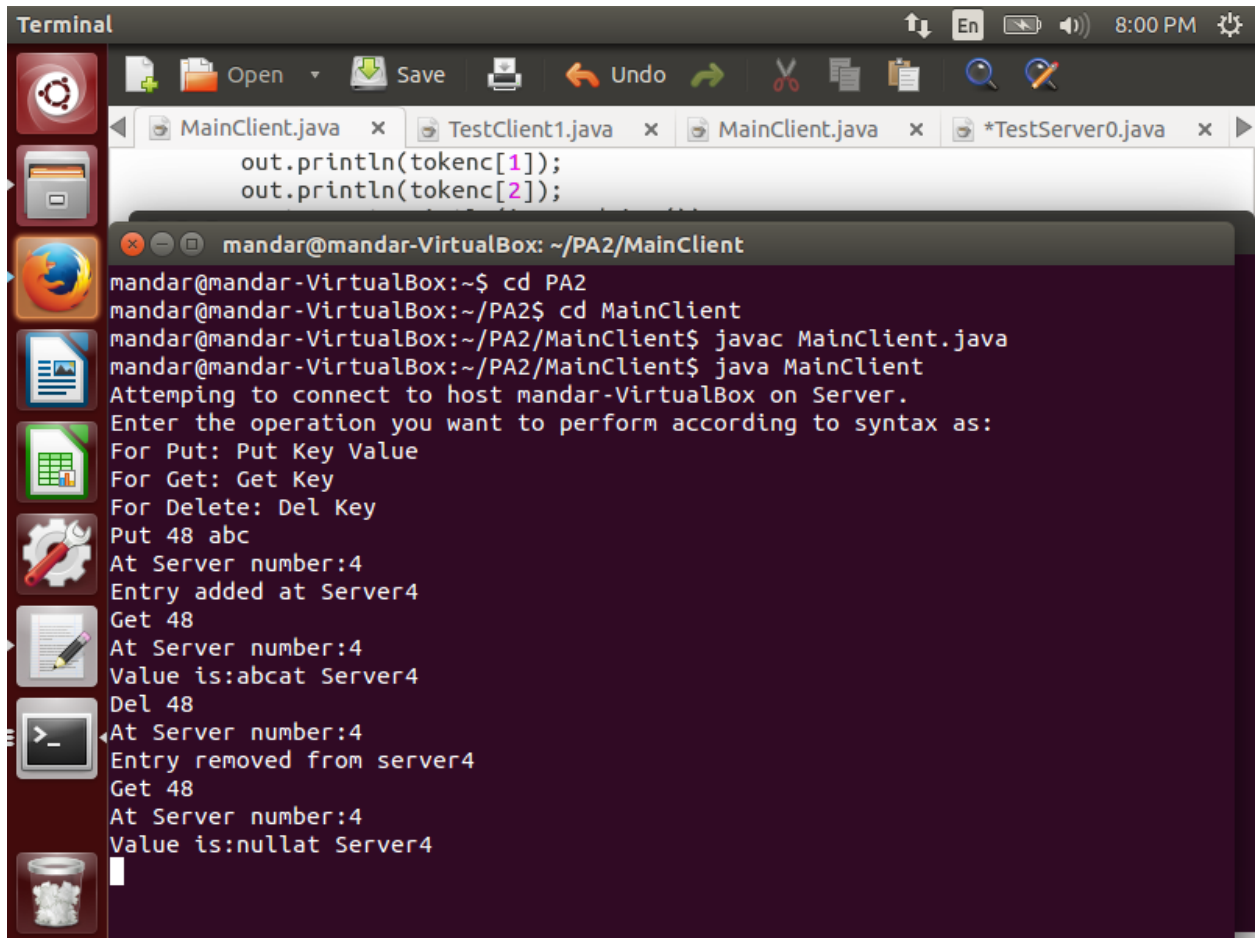
12. 10 Del commands:

```
Get 85
109Value is:areServer5
Get 86
110Value is:youServer6
Get 87
111Value is:byeServer7
Get 88
112Value is:pqrstat Server 0
Get 89
113Value is:coolAt server1
Del 80
Entry removed from Server0
Del 81
Entry removed from Server1
Del 82
Entry removed from Server 2
Del 83
Entry removed from Server3
Del 84
Entry removed from server4
Del 85
Entry removed from Server5
Del 86
Entry removed from Server6
Del 87
Entry removed from Server7
Del 88
Entry removed from Server0
Del 89
Entry removed from Server1
```
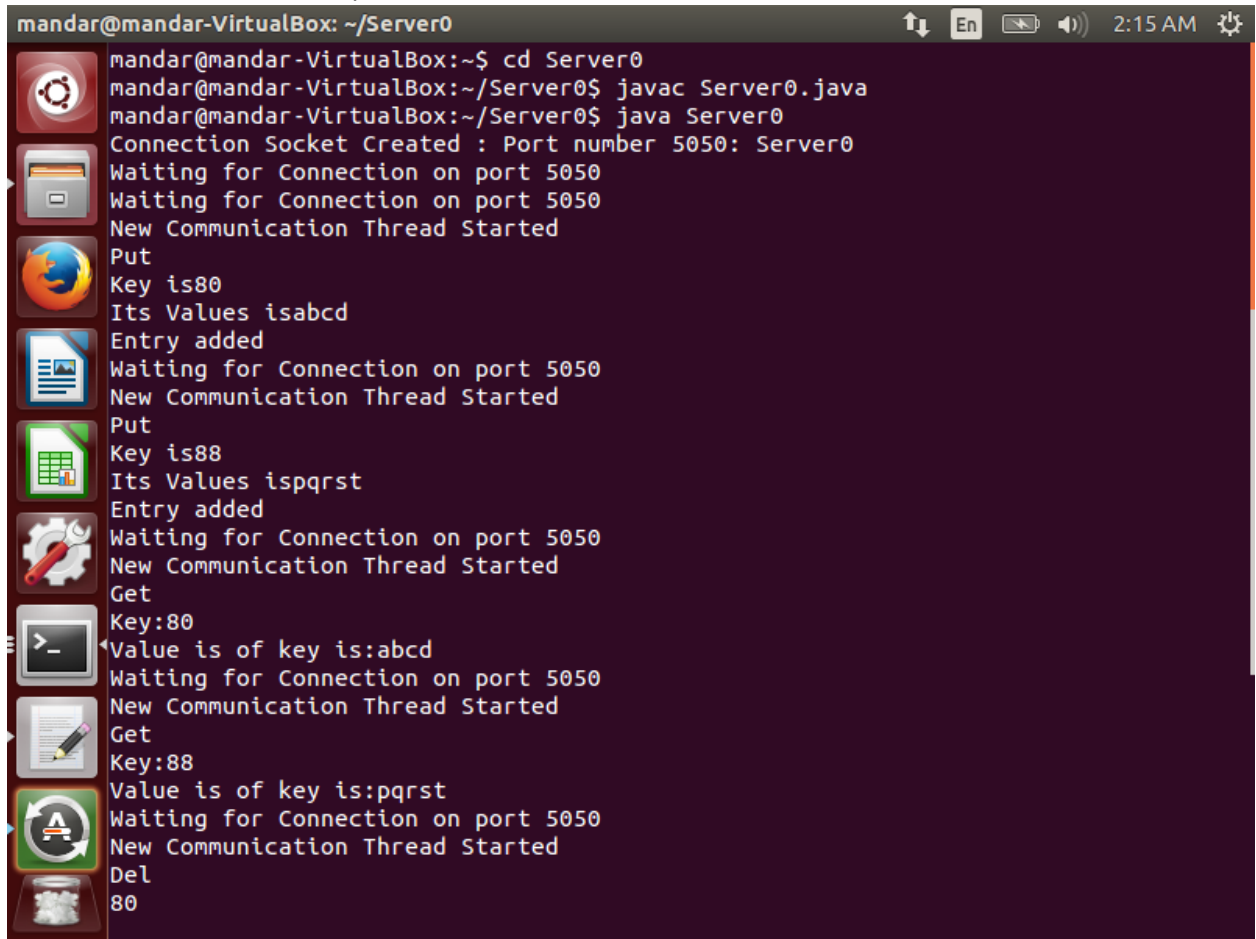
13. If value not present, get returns null.

14. One of the Server Screen output:

```
mandar@mandar-VirtualBox:~$ cd Server0
mandar@mandar-VirtualBox:~/Server0$ javac Server0.java
mandar@mandar-VirtualBox:~/Server0$ java Server0
Connection Socket Created : Port number 5050: Server0
Waiting for Connection on port 5050
Waiting for Connection on port 5050
New Communication Thread Started
Put
Key is80
Its Values isabcd
Entry added
Waiting for Connection on port 5050
New Communication Thread Started
Put
Key is88
Its Values ispqrst
Entry added
Waiting for Connection on port 5050
New Communication Thread Started
Get
Key:80
Value is of key is:abcd
Waiting for Connection on port 5050
New Communication Thread Started
Get
Key:88
Value is of key is:pqrst
Waiting for Connection on port 5050
New Communication Thread Started
Del
80
```