

Output after running multiple Clients.

➤ Building Project using ant.

Execute command / DistributedHashTable \$ ant

```
aditya@ubuntu: ~/workspace/AOS/DistributedHashTable
aditya@ubuntu:~/workspace/AOS/DistributedHashTable$ ant
Buildfile: /home/aditya/workspace/AOS/DistributedHashTable/build.xml

clean:
    [delete] Deleting directory /home/aditya/workspace/AOS/DistributedHashTable/bin
    [delete] Deleting directory /home/aditya/workspace/AOS/DistributedHashTable/dist

init:
    [mkdir] Created dir: /home/aditya/workspace/AOS/DistributedHashTable/bin

compile:
    [javac] Compiling 4 source files to /home/aditya/workspace/AOS/DistributedHashTable/bin

dist:
    [mkdir] Created dir: /home/aditya/workspace/AOS/DistributedHashTable/dist
    [jar] Building jar: /home/aditya/workspace/AOS/DistributedHashTable/dist/DistributedHashTable.jar

main:

BUILD SUCCESSFUL
Total time: 3 seconds
aditya@ubuntu:~/workspace/AOS/DistributedHashTable$
```

➤ Running a Client

- Execute command / DistributedHashTable \$./runClient.sh

- Clients gets Start and ready to accept request from another clients.

<pre>aditya@ubuntu:~/workspace/AOS/DistributedHashTable\$./runClient.sh Client 9991 is ready to put elements in DHT. Waiting... ***** Enter Your Choice : 1.Put Element In DHT. 2.Get Element From DHT. 3.Delete Element From DHT. 4.Exit 1 Enter Key to PUT element in DHT abc Enter Value xyz putting key-value pair on server : 1 Put Successful. ***** Enter Your Choice : 1.Put Element In DHT. 2.Get Element From DHT. 3.Delete Element From DHT. 4.Exit </pre>	<pre>aditya@ubuntu:~/workspace/AOS/DistributedHashTable\$./runClient.sh Client 9992 is ready to put elements in DHT. Waiting... ***** Enter Your Choice : 1.Put Element In DHT. 2.Get Element From DHT. 3.Delete Element From DHT. 4.Exit 1 Enter Key to PUT element in DHT xyz Enter Value abc putting key-value pair on server : 2 Put Successful. ***** Enter Your Choice : 1.Put Element In DHT. 2.Get Element From DHT. 3.Delete Element From DHT. 4.Exit </pre>
--	--

- Now you can give input from client.

1. **Put Element in DHT** → It will accept key and value from user and put it in a hashtable of some machine
2. **Get Element from DHT** → It will accept a key from user and returns its corresponding value to a user from the hashtable where it was stored while putting.
3. **Delete Element from DHT** → It will delete that key from the hashtable where it was stored while putting.
4. **Stop Client** → Will terminate the program.
5. Also can Use **ctrl + C** to terminate the program..

- Below screenshot shows the output after all the options are selected.

PUT

```

aditya@ubuntu: ~/workspace/AOS/DistributedHashTable
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
1
Enter Key to PUT element in DHT
abc
Enter Value
xyz
putting key-value pair on server : 1
Put Successful.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
1
Enter Key to PUT element in DHT
John
Enter Value
Mark
putting key-value pair on server : 2
Put Successful.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
1
Enter Key to PUT element in DHT
Sabya
Enter Value
Sachi
putting key-value pair on server : 1
Put Successful.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
1
Enter Key to PUT element in DHT
Nikhil
Enter Value
Kharade
putting key-value pair on server : 2
Put Successful.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
1

aditya@ubuntu: ~/workspace/AOS/DistributedHashTable
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
1
Enter Key to PUT element in DHT
xyz
Enter Value
abc
putting key-value pair on server : 2
Put Successful.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
1
Enter Key to PUT element in DHT
Jerry
Enter Value
Oyadomari
putting key-value pair on server : 1
Put Successful.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
1
Enter Key to PUT element in DHT
Rohit
Enter Value
Jadhav
putting key-value pair on server : 1
Put Successful.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
1
Enter Key to PUT element in DHT
Onkar
Enter Value
Khadke
putting key-value pair on server : 2
Put Successful.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
1

```

GET

```

aditya@ubuntu: ~/workspace/AOS/DistributedHashTable
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
2
Enter Key to GET element from DHT
Sabya
value for key "Sabya" is : Sachl
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
2
Enter Key to GET element from DHT
Onkar
value for key "Onkar" is : Khadke
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
2
Enter Key to GET element from DHT
John
value for key "John" is : Mark
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
2
Enter Key to GET element from DHT
abc
value for key "abc" is : xyz
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
2
Enter Key to GET element from DHT
efgh
No such element Found.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit

```

```

aditya@ubuntu: ~/workspace/AOS/DistributedHashTable
2
putting key-value pair on server : 2
Put Successful.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
2
Enter Key to GET element from DHT
xyz
value for key "xyz" is : abc
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
2
Enter Key to GET element from DHT
Rohit
value for key "Rohit" is : Jadhav
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
2
Enter Key to GET element from DHT
Nikhil
value for key "Nikhil" is : Kharade
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
Divya
Please Enter Correct Option.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
2
Enter Key to GET element from DHT
Divya
No such element Found.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit

```

DELETE

```

aditya@ubuntu: ~/workspace/AOS/DistributedHashTable
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
3
Enter Key to DELETE element from DHT
abc
Element Deleted Successfully
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
3
Enter Key to DELETE element from DHT
Nikhil
Element Deleted Successfully
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
3
Enter Key to DELETE element from DHT
sabya
There is no such element in DHT.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
3
Enter Key to DELETE element from DHT
Sabya
Element Deleted Successfully
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
3
Enter Key to DELETE element from DHT
sdgerg
There is no such element in DHT.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
3

aditya@ubuntu: ~/workspace/AOS/DistributedHashTable
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
2
Enter Key to GET element from DHT
sabya
No such element Found.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
3
Enter Key to DELETE element from DHT
xyz
Element Deleted Successfully
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
3
Enter Key to DELETE element from DHT
Rohit
Element Deleted Successfully
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
3
Enter Key to DELETE element from DHT
Jerry
Element Deleted Successfully
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
3
Enter Key to DELETE element from DHT
sdfgsdgs
There is no such element in DHT.
*****
Enter Your Choice :
1.Put Element In DHT.
2.Get Element From DHT.
3.Delete Element From DHT.
4.Exit
3

```

Cases where this program will not work:

1. If all serverIp is not configure properly in config.properties. Client will not start.
2. If the port is not available, or already in use by some other applications. Then you need to change the port number.
3. Before starting all the Clients if user tries to do any operation this program will break. As system won't be able to create all sockets and initialize streams.