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# 1. Bootup of a peer

NIKATARI-M-X1R5:Prog3 nikatari$ ./peer 1

\*\*\* A simple DHT for you \*\*\*

\*\*\* Select one operation \*\*\*

\*\*\* Enter 1 for inserting an entry \*\*\*

\*\*\* Enter 2 for searching peers \*\*\*

\*\*\* Enter 3 for obtaining an entry \*\*\*

\*\*\* Enter 4 to exit \*\*\*

Binding at ip 127.0.0.1 port 1232

Listening

Accepting connection

# 2. Register

NIKATARI-M-X1R5:peer4 nikatari$ ./peer 2

\*\*\* A simple DHT for you \*\*\*

\*\*\* Select one operation \*\*\*

\*\*\* Enter 1 for inserting an entry \*\*\*

\*\*\* Enter 2 for searching peers \*\*\*

\*\*\* Enter 3 for obtaining an entry \*\*\*

\*\*\* Enter 4 to exit \*\*\*

Binding at ip 127.0.0.1 port 1233

Listening

1

Enter the file name

server.txt

Enter your index [1-8]

2

Enter the file directory

/Users/nikatari/Prog3

Looking up Socket info for Server 1

Sending put request to 127.0.0.1:1232

sending request register,server.txt:2 to 3Sending put request to replica server 127.0.0.1:1234

peer\_utils.c 606 Replication result Done

# 3. Search

\*\*\* Select one operation \*\*\*

\*\*\* Enter 1 for inserting an entry \*\*\*

\*\*\* Enter 2 for searching peers \*\*\*

\*\*\* Enter 3 for obtaining an entry \*\*\*

\*\*\* Enter 4 to exit \*\*\*

2

Enter the file name

server.txt

Enter your index [1-8]

2

Looking up Socket info for Server 1

Sending lookup request to 127.0.0.1:1232

sending request lookup,server.txt to 3Extracted value 2,3

# 4. Obtain

\*\*\* A simple DHT for you \*\*\*

\*\*\* Select one operation \*\*\*

\*\*\* Enter 1 for inserting an entry \*\*\*

\*\*\* Enter 2 for searching peers \*\*\*

\*\*\* Enter 3 for obtaining an entry \*\*\*

\*\*\* Enter 4 to exit \*\*\*

3

Enter the peer ID

3

Enter the file name

server.txt

Obtaining file server.txt from 3Sending obtain request to 127.0.0.1:1234

Sending request obtain:server.txt to 1234

peer\_utils.c 453 Bytes received Done 4

# 5. Failure Cases

## 5.1 Register to a primary server which is down

NIKATARI-M-X1R5:peer4 nikatari$ ./peer 2

\*\*\* A simple DHT for you \*\*\*

\*\*\* Select one operation \*\*\*

\*\*\* Enter 1 for inserting an entry \*\*\*

\*\*\* Enter 2 for searching peers \*\*\*

\*\*\* Enter 3 for obtaining an entry \*\*\*

\*\*\* Enter 4 to exit \*\*\*

Binding at ip 127.0.0.1 port 1233

peer\_utils.c 700 Listening

1

Enter the file name

server.txt

Enter your index [1-8]

2

Enter the file directory

/Users/nikatari/Prog3

Looking up Socket info for Server 1

Sending put request to 127.0.0.1:1232

**peer\_utils.c 639 Couldnt bind to the socket**

**peer\_utils.c 561 Primary is down.. Contacting SecondarySending put request to replica server 127.0.0.1:1234**

peer\_utils.c 602 Replication result Done

**LOGS ON REPLICA:**

NIKATARI-M-X1R5:peer3 nikatari$ ./peer 3

\*\*\* A simple DHT for you \*\*\*

\*\*\* Select one operation \*\*\*

\*\*\* Enter 1 for inserting an entry \*\*\*

\*\*\* Enter 2 for searching peers \*\*\*

\*\*\* Enter 3 for obtaining an entry \*\*\*

\*\*\* Enter 4 to exit \*\*\*

Binding at ip 127.0.0.1 port 1234

peer\_utils.c 700 Listening

Accepting connection

Setting client\_fd 4Received message new from client replicate:server.txt,2,/Users/nikatari/Prog3 1024

Thread done.. join

Successfully inserted key server.txt value 2

Executing command cp /Users/nikatari/Prog3/server.txt .

## 5.2 Search from a primary server which is down

\*\*\* A simple DHT for you \*\*\*

\*\*\* Select one operation \*\*\*

\*\*\* Enter 1 for inserting an entry \*\*\*

\*\*\* Enter 2 for searching peers \*\*\*

\*\*\* Enter 3 for obtaining an entry \*\*\*

\*\*\* Enter 4 to exit \*\*\*

2

Enter the file name

server.txt

Enter your index [1-8]

2

**Looking up information from secondary server**

**Sending lookup request to 127.0.0.1:1234**

Sending lookup request lookup,server.txt to replica

Extracted value 2,3

**LOGS ON REPLICA:**

NIKATARI-M-X1R5:peer3 nikatari$ ./peer 3

\*\*\* A simple DHT for you \*\*\*

\*\*\* Select one operation \*\*\*

\*\*\* Enter 1 for inserting an entry \*\*\*

\*\*\* Enter 2 for searching peers \*\*\*

\*\*\* Enter 3 for obtaining an entry \*\*\*

\*\*\* Enter 4 to exit \*\*\*

Binding at ip 127.0.0.1 port 1234

peer\_utils.c 700 Listening

Accepting connection

Setting client\_fd 4

Received message new from client lookup,server.txt 1024

Thread done.. join

Searching key server.txt

Received message new from client obtain:server.txt 17

Thread done.. join

Transferring file server.txt

Sending bytes 4

End of file

4

\*\*\* Exiting \*\*\*

## 5.3 Obtain from a server which is down

\*\*\* A simple DHT for you \*\*\*

\*\*\* Select one operation \*\*\*

\*\*\* Enter 1 for inserting an entry \*\*\*

\*\*\* Enter 2 for searching peers \*\*\*

\*\*\* Enter 3 for obtaining an entry \*\*\*

\*\*\* Enter 4 to exit \*\*\*

3

Enter the peer ID

3

Enter the file name

server.txt

**Obtaining file server.txt from 3**

**Sending obtain request to 127.0.0.1:1234**

**LOGS ON REPLICA:**

Sending request obtain:server.txt to 1234

peer\_utils.c 448 Bytes received Done 4

NIKATARI-M-X1R5:peer3 nikatari$ ./peer 3

\*\*\* A simple DHT for you \*\*\*

\*\*\* Select one operation \*\*\*

\*\*\* Enter 1 for inserting an entry \*\*\*

\*\*\* Enter 2 for searching peers \*\*\*

\*\*\* Enter 3 for obtaining an entry \*\*\*

\*\*\* Enter 4 to exit \*\*\*

Binding at ip 127.0.0.1 port 1234

peer\_utils.c 700 Listening

Accepting connection

Setting client\_fd 4

Received message new from client obtain:server.txt 17

Thread done.. join

Transferring file server.txt

Sending bytes 4

End of file

4

\*\*\* Exiting \*\*\*