Manual

The program (Java file) which has to be run for evaluation is same for all systems – MongoDB, Cassandra, Redis, Riak and MyDHT, but each requires different parameters. Kindly follow the instructions mentioned below for each system. Also, all the external libraries (JAR files) needed to run the project are included in the lib folder.

MongoDB

1. Go to project root (Assignment 4) using Terminal.
2. You can type **"ls"** command to list the Java files and also a "lib" folder which contains all the JAR files.
3. Type **"javac -classpath "lib/*:libs/*:" *.java"** to compile all project files.
4. Type **"java -classpath "lib/*:libs/*:" Evaluation 172.31.9.204 27020 mongodb 100000"** to run the evaluation program and evaluate MongoDB.
5. Notice the parameters mentioned in the above command. Parameters are specified after the word "Evaluation". You need to change some parameters as mentioned below-
   a. "172.31.9.204" specifies the IP address of the query router in the MongoDB cluster. You need to change this to the IP address of your query router used in running MongoDB cluster.
   b. "27020" refers to the port number on which MonogDB is running on the query router node. You need to change this to the port number you are using to run the query router.
   c. "mongodb" specifies that you want to evaluate MongoDB system. Keep this for evaluating MongoDB.
   d. "100000" refers to the number of requests you want to initiate. You can change this to any integer value greater than 0.

Cassandra

1. Go to project root (Assignment 4) using Terminal.
2. You can type **"ls"** command to list the Java files and also a "lib" folder which contains all the JAR files.
3. Type **"javac -classpath "lib/*:libs/*:" *.java"** to compile all project files.
4. Type **"java -classpath "lib/*:libs/*:" Evaluation none 000 cassandra 100000"** to run the evaluation program and evaluate MongoDB.
5. Notice the parameters mentioned in the above command. Parameters are specified after the word "Evaluation". You need to change some parameters as mentioned below-
   a. "none" specifies that connect to the local instance of Cassandra running on the machine on which this evaluation program is running. Don't change this.
   b. "000" specifies that connect to the local instance of Cassandra running on the machine on which this evaluation program is running. Don't change this.
   c. "cassandra" specifies that you want to evaluate Cassandra system. Keep this for evaluating Cassandra.
   d. "100000" refers to the number of requests you want to initiate. You can change this to any integer value greater than 0.

Riak

1. Go to project root (Assignment 4) using Terminal.
2. You can type **"ls"** command to list the Java files and also a "lib" folder which contains all the JAR files.
3. Type **"javac -classpath "lib/*:libs/*:" *.java"** to compile all project files.
4. Type **"java -classpath "lib/*:libs/*:" Evaluation cluster.txt 8087 riak 100000"** to run the evaluation program and evaluate MongoDB.
5. Notice the parameters mentioned in the above command. Parameters are specified after the word "Evaluation". You need to change some parameters as mentioned below-
   a. "cluster.txt" file specifies the filename along with path which contains a list of IP address of all the nodes in the Riak cluster. Here, I have only specified the file name considering that the file is in the same folder in which the code is. Change this parameter to the filename with path which contains the IP address of the nodes in the Riak cluster.

      Example of file content:

      ```
      52.24.21.237
      52.34.166.17
      52.26.92.214
      52.34.162.14
      52.34.129.129
      52.33.107.134
      ```

   b. "8087" specifies the port number on which Riak is running in the Riak cluster. Note that Riak should run on the same port on all the nodes in the cluster. Change this to the port number on which Riak is running.
   c. "riak" specifies that you want to evaluate Riak system. Keep this for evaluating Riak.
   d. "100000" refers to the number of requests you want to initiate. You can change this to any integer value greater than 0.

Redis

1. Go to project root (Assignment 4) using Terminal.
2. You can type **"ls"** command to list the Java files and also a "lib" folder which contains all the JAR files.
3. Type **"javac -classpath "lib/*:libs/*:" *.java"** to compile all project files.
4. Type **"java -classpath "lib/*:libs/*:" Evaluation redis_cluster.txt 000 redis 100000"** to run the evaluation program and evaluate MongoDB.
5. Notice the parameters mentioned in the above command. Parameters are specified after the word "Evaluation". You need to change some parameters as mentioned below-
   a. "redis_cluster.txt" file specifies the filename along with path which contains a list of IP address and Port numbers of all the nodes in the Redis cluster. Here, I have only specified the file name considering that the file is in the same folder in which the code is. Change this parameter to the filename with path which contains the IP address and port numbers of the nodes in the Redis cluster.

      Example of file content:

```
52.33.48.58 7015
52.34.193.185 7017
52.34.99.59 7019
52.34.193.255 7021
52.34.194.6 7023
52.34.193.165 7025
52.34.193.253 7027
52.26.40.157 7029
52.34.193.237 7031
```

b. "000" specifies that do not consider port number since we have already specified the port numbers in the cluster info file. Don't change this.

c. "redis" specifies that you want to evaluate Redis system. Keep this for evaluating Redis.

d. "100000" refers to the number of requests you want to initiate. You can change this to any integer value greater than 0.

MyDHT

1. Go to project root (Assignment 4) using Terminal.
2. You can type **"ls"** command to list the Java files and also a "lib" folder which contains all the JAR files.
3. Type **"javac -classpath "lib/*:libs/*:" *.java"** to compile all project files.
4. Type **"java -classpath "lib/*:libs/*:" Evaluation network.config 000 mydht 10000"** to run the evaluation program and evaluate MongoDB.
5. Notice the parameters mentioned in the above command. Parameters are specified after the word "Evaluation". You need to change some parameters as mentioned below-

   a. "network.config" file specifies the filename along with path of the configuration file required for running MyDHT. The configuration file contains list of IP address of all the nodes in the cluster separated by comma. See example given below. Here, I have only specified the file name considering that the file is in the same folder in which the code is. Change this parameter to the filename with path of your configuration file.

   Example of file content:

   ```
   NODES = 172.31.9.77, 172.31.3.200, 172.31.9.52, 172.31.7.206, 172.31.5.223,
   172.31.14.108, 172.31.14.12
   ```

   b. "000" specifies that do not consider port number since we run MyDHT on port 20000 only and this already hard coded in the evaluation program. Don't change this.

   c. "mydht" specifies that you want to evaluate MyDHT system. Keep this for evaluating MyDHT.

   d. "100000" refers to the number of requests you want to initiate. You can change this to any integer value greater than 0.