

Hornetq User Manual: **Performance Benchmarking Suite**

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User Manual for Hornetq MBSuite

Important –

- 1 Hornetq is broker based product, so before running any tests ensure that hornetq is installed in your machine.
- 2 Download the hornetq from " <http://downloads.jboss.org/hornetq/hornetq-2.3.0.Final-bin.tar.gz> "
- 3 To install hornetq extract the file [hornetq-2.3.0.Final-bin.tar.gz](#) go to terminal and run command
`tar -zxvf hornetq-2.3.0.Final-bin.tar.gz`
- 4 It then creates [hornetq-2.3.0.Final](#) directory under the path that you specified.
- 5 We provide you a configuration file called as [hornetq-configuration.xml](#) which is available in [es-perftest/setup-info/](#) copy this file into your hornetq Installation directory.
e.g (If you installed hornet in [/root/hornet-setup/](#) then copy the [hornet-configuration.xml](#) which we gave You into [/root/hornet-setup/hornetq-2.3.0.Final/config/stand-alone/ non-clustered /](#)) which overrides The original file which is already present.
- 6 Edit the [hornetq-configuration.xml](#) from above path and change the host parameter value that is Ip-address to your broker machine Ip-address in connector & acceptors, in our [hornetq-configuration.xml](#) We provide 100 ports ranging from `netty-1` to `netty-101` so you need to give same ip address to all acceptors.
e.g (`<param key="host" value="your-broker-ip"/>`)
- 7 To run the broker go to hornetq installation directory (if hornetq installed in [/root/hornetq-setup/](#) then go to [/root/hornetq-setup/bin/](#) and type `./run.sh` to start broker and `./stop.sh` to stop broker)
- 8 Run the broker in separate terminal and check if broker is successfully started & alive.
- 9 Please note, whenever running the tests, ensure that the broker-statistics is started first then subscriber and then the publisher.
- 10 When running multiple iterations of a test, please press enter at the end of each run on the broker-statistics Publisher and subscriber console to start the next iteration.
- 11 For corresponding subscriber and publisher runs, please give the same tokens for correlating the results.
- 12 For detailed description of each workload model, please refer the document
Performance Benchmarking Plan.pdf
- 13 The database and all the allied tables have to be created manually before running the Publishers/Subscribers This is a one-time activity.

Pre-requisites for each Work Load Model

1. Broker , Publisher and Subscriber installed on three different machines
2. Open a terminal and navigate to the [mbsuite/config](#) folder of the broker-statistics
3. Open the [common-settings.properties](#) and set the values for the following –
`db-url=jdbc:mysql://<host-name/IP address>/<database-name>?user=<database username>&password=<database password>`
For e.g.
`db-url=jdbc:mysql://10.88.203.39/hornetq-mbsuite?user=root&password=root123`
4. Repeat steps 2 and 3 for subscriber & publisher

1 Work Load Model: WL1

1.1 Running the Broker-Statistics

1. Before running this model ensure that broker is running in another separate terminal
2. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the broker
3. Open the `broker-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. `broker=HornetQBootstrapServer`
4. Navigate to `mbsuite/bin/ext` folder
5. Run the following command for starting the broker statistics

`./run-broker-statistics.sh 100 500 8100 hornetq hornetqtest WL1`

Where WL1 – token name by which the test data will be stored in the database

100 - Min message size in bytes

500 - Increment in bytes

8100- Max message size in bytes

hornet-is the task

hornetqtest-is the group-name

1.2 Running the Subscriber

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the subscriber
2. Open the `subscriber-config.properties` file and give the following values
 - a. `shutdownDelay =30`
 - b. `maxSubscriber =1`
 - c. `dumpDetails =false`
 - d. `maxTopics =1`
 - e. `iteration=1`
3. Navigate to `mbsuite/bin/ext` folder
4. Run the following command for starting the subscriber

`./run-subscriber-vary-size.sh 100 500 8100 hornetq hornetqtest WL1`

where WL1 – token name by which the test data will be stored in the database

100 - Min message size in bytes

500 - Increment in bytes

8100- Max message size in bytes

hornet-is the task in `mbsuite/config/subscriber-config.tmpl` file

hornetqtest-is the group-name in `mbsuite/config/subscriber-config.tmpl` file

5. To check if the subscriber is running properly and receiving messages, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
`tail -f run-subscriber-vary-size.log`

1.3 Running the Publisher

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the publisher
2. Open the `publisher-config.properties` file and give the following values
 - a. `runSec=20`
 - b. `maxPublisher=1`
 - c. **`msgSize=100`** (or may be blank because this is varying message-size test)
 - d. `dumpDetails=false`
 - e. `maxTopics=1`
 - f. `iteration=1`
3. Navigate to `mbsuite/bin/ext` folder
4. Run the following command for starting the publisher

`./run-publisher-vary-size.sh 100 500 8100 hornetq hornetqtest WL1`

Where WL1 – token name by which the test data will be stored in the database

100 - Min message size in bytes

500 - Increment in bytes

8100- Max message size in bytes

hornet-is the task in `mbsuite/config/publisher-config.tmpl` file

hornetqtest-is the group-name in `mbsuite/config/publisher -config.tmpl` file

5. To check if the publisher is running properly, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
`tail -f run-publisher-vary-size.log`

2 Work Load Model: WL4

2.1 Running the Broker-Statistics

1. Before running this model ensure that broker is running in another separate terminal
2. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the broker
3. Open the `broker-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. `broker=HornetQBootstrapServer`
4. Navigate to `mbsuite/bin/ext` folder
5. Run the following command for starting the broker statistics

`./run-broker-statistics.sh 1 2 20 hornetq hornetqtest WL4`

Where WL4 – token name by which the test data will be stored in the database

1 - Min subscribers

2 - Increment

20- Max subscribers

hornet-is the task

hornetqtest-is the group-name

2.2 Running the Subscriber

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the subscriber
2. Open the `subscriber-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. **`maxSubscriber=1`**(or may be blank because this is varying subscriber test)
 - c. `dumpDetails=false`
 - d. `maxTopics=1`
 - e. `iteration=1`
3. Navigate to `mbsuite/bin/ext` folder
4. Run the following command for starting the subscriber

`./run-subscriber-vary-sub.sh 1 2 20 hornetq hornetqtest WL4`

Where WL4 – token name by which the test data will be stored in the database

1 - Min subscribers

2 - Increment

20- Max subscribers

hornet-is the task in `mbsuite/config/subscriber-config.tmpl` file

hornetqtest-is the group-name in `mbsuite/config/subscriber-config.tmpl` file

5. To check if the subscriber is running properly and receiving messages, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
`tail -f run-subscriber-vary-sub.log`

2.3 Running the Publisher

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the publisher
2. Open the `publisher-config.properties` file and give the following values
 - a. `runSec=20`
 - b. `maxPublisher=1`
 - c. `msgSize=60`
 - d. `dumpDetails=false`
 - e. `maxTopics=1`
 - f. `iteration=1`
3. Navigate to `mbsuite/bin/ext` folder
4. Run the following command for starting the publisher

`./run-publisher-vary-sub.sh 1 2 20 hornetq hornetqtest WL4`

Where WL4 – token name by which the test data will be stored in the database

1 - Min subscribers

2 - Increment

20- Max subscribers

hornet-is the task in `mbsuite/config/publisher-config.tmpl` file

hornetqtest-is the group-name in `mbsuite/config/publisher-config.tmpl` file

5. To check if the publisher is running properly, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
`tail -f run-publisher-vary-sub.log`

3 Work Load Model: WL4.1

3.1 Running the Broker-Statistics

1. Before running this model ensure that broker is running in another separate terminal
2. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the broker
3. Open the `broker-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. `broker=HornetQBootstrapServer`
4. Navigate to `mbsuite/bin/ext` folder
5. Run the following command for starting the broker statistics

`./run-broker-statistics.sh 1 2 20 hornetq hornetqtest WL4.1`

Where WL4.1 – token name by which the test data will be stored in the database

- 1 - Min subscribers
- 2 - Increment
- 20- Max subscribers
- hornet-is the task
- hornetqtest-is the group-name

3.2 Running the Subscriber

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the subscriber
2. Open the `subscriber-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. **`maxSubscriber=1`**(or may be blank because this is varying subscriber test)
 - c. `dumpDetails=false`
 - d. `maxTopics=1`
 - e. `iteration=1`
3. Navigate to `mbsuite/bin/ext` folder
4. Run the following command for starting the subscriber

`./run-subscriber-vary-sub.sh 1 2 20 hornetq hornetqtest WL4.1`

Where WL4.1 – token name by which the test data will be stored in the database

- 1 - Min subscribers
- 2 - Increment
- 20- Max subscribers
- hornet-is the task in `mbsuite/config/subscriber-config.tmpl` file
- hornetqtest-is the group-name in `mbsuite/config/subscriber-config.tmpl` file

5. To check if the subscriber is running properly and receiving messages, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
`tail -f run-subscriber-vary-sub.log`

3.3 Running the Publisher

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the publisher
2. Open the `publisher-config.properties` file and give the following values
 - a. `runSec=20`
 - b. `maxPublisher=1`
 - c. `msgSize=1024`
 - d. `dumpDetails=false`
 - e. `maxTopics=1`
 - f. `iteration=1`

3. Navigate to `mbsuite/bin/ext` folder

4. Run the following command for starting the publisher

`./run-publisher-vary-sub.sh 1 2 20 hornetq hornetqtest WL4.1`

Where WL4.1 – token name by which the test data will be stored in the database

1 - Min subscribers

2 - Increment

20- Max subscribers

hornet-is the task in `mbsuite/config/publisher-config.tmpl` file

hornetqtest-is the group-name in `mbsuite/config/publisher-config.tmpl` file

5. To check if the publisher is running properly, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
- `tail -f run-publisher-vary-sub.log`

4 Work Load Model : WL7

4.1 Running the Broker-Statistics

1. Before running this model ensure that broker is running in another separate terminal
2. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the broker
3. Open the `broker-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. `broker=HornetQBootstrapServer`
4. Navigate to `mbsuite/bin/ext` folder
5. Run the following command for starting the broker statistics

`./run-broker-statistics.sh 1 5 101 hornetq hornetqtest WL7`

Where WL7 – token name by which the test data will be stored in the database

1 - Min subscribers,publishers,topics

5 - Increment

101- Max subscribers,publishers,topics

hornet-is the task

hornetqtest-is the group-name

4.2 Running the Subscriber

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the Subscriber
2. Open the `subscriber-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. `maxSubscriber=1`
 - c. `dumpDetails=false`
 - d. **`maxTopics=1`**(or may be blank because this is varying topics test)
 - e. `iteration=1`

3. Navigate to `mbsuite/bin/ext` folder

4. Run the following command for starting the subscriber

`./run-subscriber-vary-topics.sh 1 5 101 hornetq hornetqtest WL7`

where WL7 – token name by which the test data will be stored in the database

1 - Min subscribers,publishers,topics

5 - Increment

101- Max subscribers,publishers,topics

hornet-is the task in `mbsuite/config/subscriber-config.tmpl` file

hornetqtest-is the group-name in `mbsuite/config/subscriber-config.tmpl` file

5. To check if the subscriber is running properly and receiving messages, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
`tail -f run-subscriber-vary-topics.log`

4.3 Running the Publisher

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the publisher
2. Open the `publisher-config.properties` file and give the following values
 - a. `runSec=20`
 - b. `maxPublisher=1`
 - c. **msgSize=100** (This message should vary from 100 to 8100 in increment of 500)
 - d. `dumpDetails=false`
 - e. **maxTopics=1** (or may be blank because this is varying topics test)

3. Navigate to `mbsuite/bin/ext` folder
4. Run the following command for starting the publisher

`./run-publisher-vary-topics.sh 1 5 101 hornetq hornetqtest WL7`

Where WL7 – token name by which the test data will be stored in the database

1 - Min subscribers,publishers,topics

5 - Increment

101- Max subscribers,publishers,topics

hornet-is the task in `mbsuite/config/publisher-config.tmpl` file

hornetqtest-is the group-name in `mbsuite/config/publisher-config.tmpl` file

5. To check if the publisher is running properly, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
`tail -f run-publisher-vary-topics.log`

NOTE: After completion of 1 iteration go to `mbsuite/bin/ext/config` and change the message

size in `publisher-config.properties` to 600 (for next run it will be increment of 500 i.e 1100 and continue up to 8100 increment of 500)

5 Work Load Model : WL8

5.1 Running the Broker-Statistics

1. Before running this model ensure that broker is running in another separate terminal
2. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the broker
3. Open the `broker-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. `broker=HornetQBootstrapServer`
4. Navigate to `mbsuite/bin/ext` folder
5. Run the following command for starting the broker statistics

`./run-broker-statistics.sh 50 50 400 hornetq hornetqtest WL8`

Where WL8 – token name by which the test data will be stored in the database

50 - Min subscribers,publishers,topics

50 - Increment

400- Max subscribers,publishers,topics

hornet-is the task

hornetqtest-is the group-name

5.2 Running the Subscriber

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the subscriber
2. Open the `subscriber-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. `maxSubscriber=1`
 - c. `dumpDetails=false`
 - d. **`maxTopics=1`**(or may be blank because this is varying topics test)
 - e. `iteration=1`
3. Navigate to `mbsuite/bin/ext` folder
4. Run the following command for starting the subscriber

`./run-subscriber-vary-topics.sh 50 50 400 hornetq hornetqtest WL8`

Where WL8 – token name by which the test data will be stored in the database

50 - Min subscribers,publishers,topics

50 - Increment

400- Max subscribers,publishers,topics

hornet-is the task in `mbsuite/config/subscriber-config.tmpl` file

hornetqtest-is the group-name in `mbsuite/config/subscriber-config.tmpl` file

5. To check if the subscriber is running properly and receiving messages, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
`tail -f run-subscriber-vary-topics.log`

5.3 Running the Publisher

Note: For this test go to mbsuite/config open publisher-config.tmpl and set value of producer rate to 1000 and set use-port=false

For e.g

```
<attribute>
  <key>producer-rate</key>
  <value>1000</value>
</attribute>
<attribute>
  <key>use-port</key>
  <value>false</value>
</attribute>
```

1. Open a terminal and navigate to the mbsuite/bin/ext/config folder of the publisher
2. Open the publisher-config.properties file and give the following values
 - a. runSec=20
 - b. maxPublisher=1
 - c. msgSize=256
 - d. dumpDetails=false
 - e. **maxTopics=1** (or may be blank because this is varying topics test)
 - f. iteration=1
3. Navigate to mbsuite/bin/ext folder
4. Run the following command for starting the publisher

./run-publisher-vary-topics.sh 50 50 400 hornetq hornetqtest WL8

Where WL8 – token name by which the test data will be stored in the database

50 - Min subscribers,publishers,topics

50 - Increment

400- Max subscribers,publishers,topics

hornet-is the task in mbsuite/config/publisher-config.tmpl file

hornetqtest-is the group-name in mbsuite/config/publisher-config.tmpl file

5. To check if the publisher is running properly, in another terminal, navigate to the mbsuite/bin/ext/logs folder and give the following command
tail -f run-publisher-vary-topics.log

Note: After the test finish go to mbsuite/config open publisher-config.tmpl and reset value of Producer-rate to -1 & reset value of use-port to “true”

6 Work Load Model : WL8.1

6.1 Running the Broker-Statistics

1. Before running this model ensure that broker is running in another separate terminal
2. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the broker
3. Open the `broker-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. `broker=HornetQBootstrapServer`
4. Navigate to `mbsuite/bin/ext` folder
5. Run the following command for starting the broker statistics

`./run-broker-statistics.sh 50 50 400 hornetq hornetqtest WL8.1`

Where WL8.1 – token name by which the test data will be stored in the database

50 - Min subscribers,publishers,topics

50 - Increment

400- Max subscribers,publishers,topics

hornet-is the task

hornetqtest-is the group-name

6.2 Running the Subscriber

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the subscriber
2. Open the `subscriber-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. `maxSubscriber=1`
 - c. `dumpDetails=false`
 - d. **`maxTopics=1`**(or may be blank because this is varying topics test)
 - e. `iteration=1`
3. Navigate to `mbsuite/bin/ext` folder
4. Run the following command for starting the subscriber

`./run-subscriber-vary-topics.sh 50 50 400 hornetq hornetqtest WL8.1`

Where WL8.1 – token name by which the test data will be stored in the database

50 - Min subscribers,publishers,topics

50 - Increment

400- Max subscribers,publishers,topics

hornet-is the task in `mbsuite/config/subscriber-config.tmpl` file

hornetqtest-is the group-name in `mbsuite/config/subscriber-config.tmpl` file

5. To check if the subscriber is running properly and receiving messages, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
`tail -f run-subscriber-vary-topics.log`

6.3 Running the Publisher

Note: For this test go to mbsuite/config open publisher-config.tmpl and set value of producer rate to 1000 and set use-port=false

For e.g

```
<attribute>
  <key>producer-rate</key>
  <value>1000</value>
</attribute>
<attribute>
  <key>use-port</key>
  <value>false</value>
</attribute>
```

1. Open a terminal and navigate to the mbsuite/bin/ext/config folder of the publisher
2. Open the publisher-config.properties file and give the following values
 - a. runSec=20
 - b. maxPublisher=1
 - c. msgSize=1024
 - d. dumpDetails=false
 - e. **maxTopics=1** (or may be blank because this is varying topics test)
 - f. iteration=1
3. Navigate to mbsuite/bin/ext folder
4. Run the following command for starting the publisher

./run-publisher-vary-topics.sh 50 50 400 hornetq hornetqtest WL8.1

Where WL8.1 – token name by which the test data will be stored in the database

50 - Min subscribers,publishers,topics

50 - Increment

400- Max subscribers,publishers,topics

hornet-is the task in mbsuite/config/publisher-config.tmpl file

hornetqtest-is the group-name in mbsuite/config/ publisher -config.tmpl file

5. To check if the publisher is running properly, in another terminal, navigate to the mbsuite/bin/ext/logs folder and give the following command
tail -f run-publisher-vary-topics.log

Note: After the test finish go to mbsuite/config open publisher-config.tmpl and reset value of Producer-rate to -1 & reset value of use-port to “true”

7 Latency test : latency as a varying message size

7.1 Running the Broker-Statistics

1. Before running this model ensure that broker is running in another separate terminal
2. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the broker
3. Open the `broker-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. `broker=HornetQBootstrapServer`
4. Navigate to `mbsuite/bin/ext` folder
5. Run the following command for starting the broker statistics

`./run-broker-statistics.sh 100 500 3100 hornetq-latency hornetqtest LAT-VARY-SIZE`

Where LAT-VARY-SIZE – token name by which the test data will be stored in the database

100 - Min message size bytes

500 - Increment in bytes

3100- Max message size in bytes

hornet-latency-is the task

hornetqtest-is the group-name

7.2 Running the Publisher

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the publisher
2. Open the `publisher-config.properties` file and give the following values
 - a. `runSec=20`
 - b. `maxPublisher=1`
 - c. `msgSize=100`(or may be blank because this is varying message size test)
 - d. `dumpDetails=true`**
 - e. `maxTopics=1`
 - f. `iteration=1`

3. Navigate to `mbsuite/bin/ext` folder

4. Run the following command for starting the publisher

`./run-publisher-vary-size.sh 100 500 3100 hornetq-latency hornetqtest LAT-VARY-SIZE`

Where LAT-VARY-SIZE – token name by which the test data will be stored in the database

100 - Min message size bytes

500 - Increment in bytes

3100- Max message size in bytes

hornet-latency -is the task in `mbsuite/config/publisher-config.tmpl` file

hornetqtest-is the group-name in `mbsuite/config/publisher-config.tmpl` file

5. To check if the publisher is running properly, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
`tail -f run-publisher-vary-size.log`

NOTE: There is no need of subscriber for latency test only broker-statistics & publishers are sufficient

8 Latency test : latency as a varying throughput

8.1 Running the Broker-Statistics

1. Before running this model ensure that broker is running in another separate terminal
2. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the broker
3. Open the `broker-config.properties` file and give the following values
 - a. `shutdownDelay=30`
 - b. `broker=HornetQBootstrapServer`
4. Navigate to `mbsuite/bin/ext` folder
5. Run the following command for starting the broker statistics

`./run-broker-statistics.sh 2 2 20 hornetq-latency hornetqtest LAT-VARY-THPUT`

Where LAT-VARY-THPUT – token name by which the test data will be stored in the database

2 - Min subscribers,publishers,topics

2 - Increment

20- Max subscribers,publishers,topics

hornet-latency -is the task

hornetqtest-is the group-name

8.2 Running the Publisher

1. Open a terminal and navigate to the `mbsuite/bin/ext/config` folder of the publisher
2. Open the `publisher-config.properties` file and give the following values
 - a. `runSec=20`
 - b. `maxPublisher=1`
 - c. `msgSize=100`
 - d. **`dumpDetails=true`**
 - e. **`maxTopics=1`** (or may be blank because this is varying topics test)
 - f. `iteration=1`

3. Navigate to `mbsuite/bin/ext` folder

4. Run the following command for starting the publisher

`./run-publisher-vary-topics.sh 2 2 20 hornetq-latency hornetqtest LAT-VARY-THPUT`

Where LAT-VARY-THPUT – token name by which the test data will be stored in the database

2 - Min subscribers,publishers,topics

2 - Increment

20- Max subscribers,publishers,topics

hornet-latency -is the task in `mbsuite/config/publisher-config.tmpl` file

hornetqtest-is the group-name in `mbsuite/config/publisher-config.tmpl` file

5. To check if the publisher is running properly, in another terminal, navigate to the `mbsuite/bin/ext/logs` folder and give the following command
`tail -f run-publisher-vary-topics.log`

NOTE: There is no need of subscriber for latency test only broker-statistics & publishers are sufficient

