# Hornetq User Manual:

# Performance Benchmarking Suite

# Contents

# User Manual for Hornetq MBSuite

## Important –

1 Hornetq is broker based product, so before running any tests assure 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 assure 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 subscriber-config.properties file and give the following values
    a. shutdownDelay=30
    b. maxSubscriber=1
    c. dumpDetails=false
    d. maxTopics=1
    e. iteration=1
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

## 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. 100 500 8100 hornetq hornetqtest WL1**

    where WL1 – token name by which the test data will be stored in the database
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
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 assure 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 subscriber-config.properties file and give the following values
    a. shutdownDelay=30
    b. maxSubscriber=1
    c. dumpDetails=false
    d. maxTopics =1
    e. iteration=1
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

## 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 sh 1 2 20 hornetq hornetqtest WL4**

    Where WL4 – token name by which the test data will be stored in the database
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
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 assure 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 subscriber-config.properties file and give the following values
    a. shutdownDelay=30
    b. maxSubscriber=1
    c. dumpDetails=false
    d. maxTopics=1
    e. iteration=1
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

## 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 sh 1 2 20 hornetq hornetqtest WL4.1**

    Where WL4.1 – token name by which the test data will be stored in the database
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
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 assure 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 subscriber-config.properties file and give the following values
    a. shutdownDelay=30
    b. maxSubscriber=1
    c. dumpDetails=false
    d. maxTopics=1
    e. iteration=1
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

## 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
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
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 assure 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 subscriber-config.properties file and give the following values
    a. shutdownDelay=30
    b. maxSubscriber=1
    c. dumpDetails=false
    d. maxTopics=1
    e. iteration=1
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

## 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-pub.sh 1 5 51 sh 50 50 400 hornetq hornetqtest WL8**

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

For e.g

```
<attribute>
     <key>producer-rate</key>
     <value>1000</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
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

# 6 Work Load Model : WL8.1

## 6.1 Running the Broker-Statistics

1. Before running this model assure 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 subscriber-config.properties file and give the following values
    a. shutdownDelay=30
    b. maxSubscriber=1
    c. dumpDetails=false
    d. maxTopics=1
    e. iteration=1
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

## 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-pub.sh 1 5 51 sh 50 50 400 hornetq hornetqtest WL8.1**

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

For e.g

```
<attribute>
     <key>producer-rate</key>
     <value>1000</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
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

# 7 Latency test : latency as a varying message size

## 7.1 Running the Broker-Statistics

1. Before running this model assure 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 subscriber-config.properties file and give the following values
    a. shutdownDelay=30
    b. maxSubscriber=1
    **c. dumpDetails=true**
    d. maxTopics=1
    e. iteration=1
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

## 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
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 assure 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 subscriber-config.properties file and give the following values
    a. shutdownDelay=30
    b. maxSubscriber=1
    **c. dumpDetails=true**
    d. maxTopics=1
    e. iteration=1
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

## 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
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

**NOTE:**

1. By default the broker has minimum heap size of 8 GB & maximum heap size of 22 GB.
2. By default all the scripts have a minimum heap size of 4 GB & maximum heap size of 12 GB allocated to Java. In case if you want additional heap space, increase this value to a higher value in the script and rerun the test.

   For e.g. java -d64 –Xms4096M –Xmx12288M