

BSDS Assignment 3 Test Report

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We have run multiple load tests against our web services, here are the test results with running different amount of publishers and subscribers: (all the screenshots are also available in the repo)

1. 10 subscribers, 20 publishers with 100 messages each

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----- Review -----|
Publishers and Subscribers took: 37.783s
AKA: 0.0 min 38 s
BUILD SUCCESSFUL (total time: 41 seconds)
```

2. 10 subscribers, 20 publishers with 2000 messages each

```
Subscriber for network retrieved: 1996 messages and had 2500 misses
Subscriber for moon retrieved: 1986 messages and had 2500 misses
Subscriber for hammer retrieved: 1990 messages and had 2500 misses
Subscriber for sausage retrieved: 1988 messages and had 2500 misses
Subscriber for pencil retrieved: 1997 messages and had 2500 misses
Subscriber for blubber retrieved: 1994 messages and had 2500 misses
Subscriber for computer retrieved: 1996 messages and had 2500 misses
Subscriber for cloud retrieved: 1990 messages and had 2500 misses
Subscriber for water retrieved: 1988 messages and had 2500 misses
Subscriber for school retrieved: 1998 messages and had 2500 misses
----- Review -----
Publishers and Subscribers took: 665.521s
AKA: 11.0 min 6 s
BUILD SUCCESSFUL (total time: 11 minutes 6 seconds)
```

3. 10 subscribers, 20 publishers with 10000 messages each

```
ENDCOUNT for blubber: 300 COUNT for blubber: 19998
ENDCOUNT for school: 300 COUNT for school: 19998
ENDCOUNT for network: 300 COUNT for network: 19997
ENDCOUNT for moon: 300 COUNT for moon: 19998
ENDCOUNT for sausage: 300 COUNT for sausage: 19998
ENDCOUNT for pencil: 300 COUNT for pencil: 19998
ENDCOUNT for computer: 300 COUNT for computer: 19995
ENDCOUNT for hammer: 300 COUNT for hammer: 19996
ENDCOUNT for water: 300 COUNT for water: 19997
ENDCOUNT for cloud: 300 COUNT for cloud: 19997
ENDCOUNT for school: 600 COUNT for school: 19998
ENDCOUNT for blubber: 600 COUNT for blubber: 19998
ENDCOUNT for network: 600 COUNT for network: 19997
ENDCOUNT for moon: 600 COUNT for moon: 19998
ENDCOUNT for sausage: 600 COUNT for sausage: 19998
ENDCOUNT for computer: 600 COUNT for computer: 19995
ENDCOUNT for hammer: 600 COUNT for hammer: 19996
ENDCOUNT for pencil: 600 COUNT for pencil: 19998
ENDCOUNT for water: 600 COUNT for water: 19997
ENDCOUNT for cloud: 600 COUNT for cloud: 19997
ENDCOUNT for blubber: 900 COUNT for blubber: 19998
ENDCOUNT for school: 900 COUNT for school: 19998
ENDCOUNT for network: 900 COUNT for network: 19997
ENDCOUNT for moon: 900 COUNT for moon: 19998
ENDCOUNT for sausage: 900 COUNT for sausage: 19998
ENDCOUNT for computer: 900 COUNT for computer: 19995
ENDCOUNT for hammer: 900 COUNT for hammer: 19996
ENDCOUNT for water: 900 COUNT for water: 19997
ENDCOUNT for pencil: 900 COUNT for pencil: 19998
BUILD STOPPED (total time: 46 minutes 20 seconds)
```

4. 50 subscribers, 50 publishers with 100 messages each

----- Review -----

Publishers and Subscribers took: 93.75s

AKA: 1.0 min 34 s

BUILD SUCCESSFUL (total time: 1 minute 35 seconds)

5. 50 subscribers, 50 publishers with 1000 messages each

----- Review -----

Publishers and Subscribers took: 488.162s

AKA: 8.0 min 8 s

BUILD SUCCESSFUL (total time: 8 minutes 9 seconds)

6. 10 subscribers, 100 publishers with 100 messages each

Subscriber for network retrieved: 988 messages and had 1000 misses
Subscriber for water retrieved: 1000 messages and had 0 misses
Subscriber for blubber retrieved: 1000 messages and had 0 misses
Subscriber for pencil retrieved: 979 messages and had 1000 misses
Subscriber for computer retrieved: 981 messages and had 1000 misses
Subscriber for cloud retrieved: 987 messages and had 1000 misses
Subscriber for school retrieved: 982 messages and had 1000 misses
Subscriber for moon retrieved: 995 messages and had 1000 misses
Subscriber for sausage retrieved: 991 messages and had 1000 misses
Subscriber for hammer retrieved: 986 messages and had 1000 misses

----- Review -----

Publishers and Subscribers took: 336.196s

AKA: 5.0 min 36 s

BUILD SUCCESSFUL (total time: 5 minutes 37 seconds)

7. 10 subscribers, 100 publishers with 1000 messages each

Subscriber for network retrieved: 9985 messages and had 10000 misses
Subscriber for sausage retrieved: 10000 messages and had 0 misses
Subscriber for hammer retrieved: 9989 messages and had 10000 misses
Subscriber for pencil retrieved: 10000 messages and had 0 misses
Subscriber for computer retrieved: 9996 messages and had 10000 misses
Subscriber for cloud retrieved: 10000 messages and had 0 misses
Subscriber for moon retrieved: 9997 messages and had 10000 misses
Subscriber for blubber retrieved: 10000 messages and had 0 misses
Subscriber for water retrieved: 9999 messages and had 10000 misses
Subscriber for school retrieved: 9993 messages and had 10000 misses

----- Review -----

Publishers and Subscribers took: 3450.749s

AKA: 57.0 min 31 s

BUILD SUCCESSFUL (total time: 57 minutes 31 seconds)

Brief Analysis

We're running all the clients on one laptop. We observed a much higher latency as compared to our expectation. For example a test of 100 publishers to 10 subscribers with 1000 messages resulted in a runtime of ~ 1 hr. We believe that with a better client / better internet connection we will be able to see better performance. Another possible cause for this might be the configuration of our Lambda functions, since we're still using relatively small CPU and memory for each function. In general, we believe our design logic could scale well, and should be able to have good performance under large requests.