

Build as a Maven JEE project. Tomcat is used as server support. SQLite was chosen as database, because it's compatibility with IntelliJ.

CAserver is created each time we start the server.

CAPubClient is created each time a new publisher register with server.

CASubClient is created each time a new publisher register with server.

Resource:

- registerPublisherResource/: a String parameter will be passed into registerPublish and a topic string will be returned.
- publishContentResource/: message(combined) will be stored in a form an pass to publishContent. For each message published, countWordUpdate will be called which used to update database with how many time an exact word has occurred and a total number of message that contained this word. If everything went well, 200 HTTP status code will be returned.
- registersubscriberResource/: a String topic is passed into registerSubscriber and a topic string will be returned as confirmation of success.
- getlatestcontentResource/: an integer generated as hashCode of topic will be passed into getLatestContent and a string of topic will be returned as success.
- count/: an integer n will be passed into topN to returned corresponding result from database.

Additional method:

countWordUpdate: after each message is done processing. Read each string token and compare to the existing ignoreset (pre defined), and if it's not a word should be ignored, update with database.

topN: Select all entries from database, order by descending and limits the highest N result return back to user.

Wall time for step 1 is much lower than step 2 because no need to access database.

Additionally, because only SQLite was used can not compare the wall time to other database.

But when compare with other classmate, I find sqlite is fairly slower than PostSql.

Wall time:(both for step 2)

Publisher Client Starter	Publisher Client Starter
Connected to registry	Connected to registry
Stub initialized	Stub initialized
Publisher Client Starter	Publisher Client Starter
Connected to registry	Connected to registry
Stub initialized	Stub initialized
Publisher Client Starter	Publisher Client Starter
Connected to registry	Connected to registry
Stub initialized	Stub initialized
Totally sent messages for 10000: 10000	Totally sent messages for 10000: 10000
Totally sent messages for 10000: 10000	Totally sent messages for 10000: 10000
Totally sent messages for 10000: 10000	Totally sent messages for 10000: 10000
Totally cost 156739 ms	Totally cost 138269 ms
1 Publish Client(s) have done their work	1 Publish Client(s) have done their work
Process finished with exit code 0	Process finished with exit code 0

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/Library/Java/JavaVirtualMachines/jdk1.7.0_80.jdk/Con
Subscriber Client Starter
Connected to registry
Stub initialized
Sub id = 109651828
Message return #:20000
Receiving message on topic : sport
Total message received for this topic: 20000
... Looks like Subscribe Client is working too
Sub id = 108966
Failed to request all content, part of missing
Message return #:10000
Receiving message on topic : new
Total message received for this topic: 10000
... Looks like Subscribe Client is working too
Total wall time to receive all message 174303ms.

Process finished with exit code 0

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TopN:

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Message: 30000Message0: 3Message1: 3Message2: 3Message3: 3Message4: 3Message5: 3Message6: 3Message7: 3Message8: 3Message9: 3Message10: 3Message11: 3Message12:
3Message13: 3Message14: 3Message15: 3Message16: 3Message17: 3Message18: 3Message19: 3Message20: 3Message21: 3Message22: 3Message23: 3Message24: 3Message25:
3Message26: 3Message27: 3Message28: 3Message29: 3Message30: 3Message31: 3Message32: 3Message33: 3Message34: 3Message35: 3Message36: 3Message37: 3Message38:
3Message39: 3Message40: 3Message41: 3Message42: 3Message43: 3Message44: 3Message45: 3Message46: 3Message47: 3Message48: 3

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Message: 60000Message0: 6Message1: 6Message2: 6Message3: 6Message4: 6Message5: 6Message6: 6Message7: 6Message8: 6Message9: 6Message10: 6Message11: 6Message12:
6Message13: 6Message14: 6Message15: 6Message16: 6Message17: 6Message18: 6Message19: 6Message20: 6Message21: 6Message22: 6Message23: 6Message24: 6Message25:
6Message26: 6Message27: 6Message28: 6Message29: 6Message30: 6Message31: 6Message32: 6Message33: 6Message34: 6Message35: 6Message36: 6Message37: 6Message38:
6Message39: 6Message40: 6Message41: 6Message42: 6Message43: 6Message44: 6Message45: 6Message46: 6Message47: 6Message48: 6

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