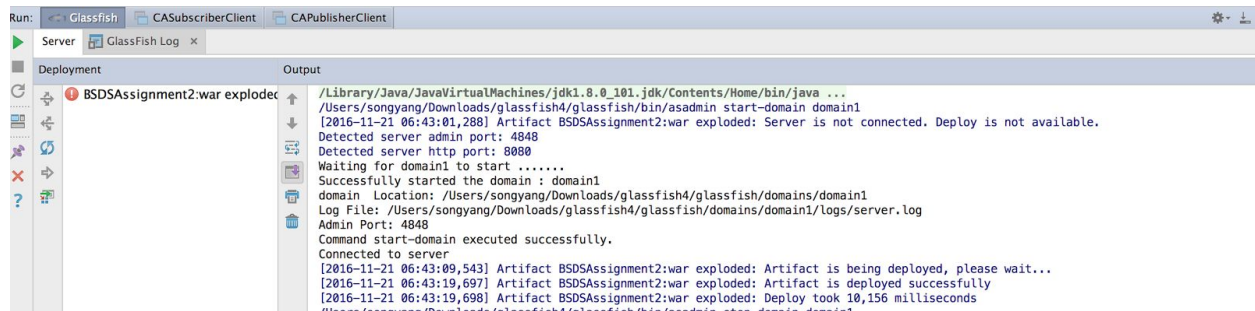


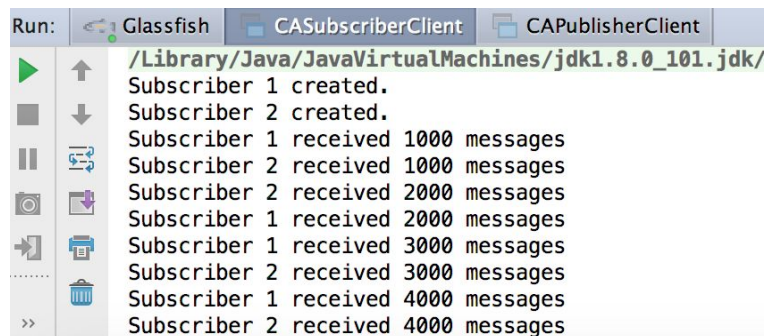
Step1: Basic Functional Correctness

First, start the glassfish server and deploy the web application. The output is:

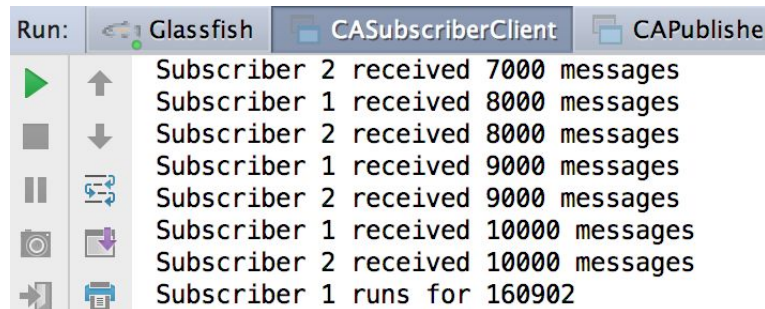


```
Run: Glassfish CASubscriberClient CAPublisherClient
Server GlassFish Log x
Deployment Output
BSDSAAssignment2.war exploded
/Library/Java/JavaVirtualMachines/jdk1.8.0_101.jdk/Contents/Home/bin/java ...
/Users/songyang/Downloads/glassfish4/glassfish/bin/asadmin start-domain domain1
[2016-11-21 06:43:01,288] Artifact BSDSAAssignment2:war exploded: Server is not connected. Deploy is not available.
Detected server admin port: 4848
Detected server http port: 8080
Waiting for domain1 to start .....
Successfully started the domain : domain1
domain Location: /Users/songyang/Downloads/glassfish4/glassfish/domains/domain1
Log File: /Users/songyang/Downloads/glassfish4/glassfish/domains/domain1/logs/server.log
Admin Port: 4848
Command start-domain executed successfully.
Connected to server
[2016-11-21 06:43:09,543] Artifact BSDSAAssignment2:war exploded: Artifact is being deployed, please wait...
[2016-11-21 06:43:19,697] Artifact BSDSAAssignment2:war exploded: Artifact is deployed successfully
[2016-11-21 06:43:19,698] Artifact BSDSAAssignment2:war exploded: Deploy took 10,156 milliseconds
```

Then run two subscriber client threads. One subscriber subscribes to Topic1 and the other subscribes to Topic2. Below is the output (including running time) after the two subscriber received all the messages. The one who received 10000 messages ran for about 16 seconds, the other with 20000 messages ran for 21 seconds.



```
Run: Glassfish CASubscriberClient CAPublisherClient
/Library/Java/JavaVirtualMachines/jdk1.8.0_101.jdk/
Subscriber 1 created.
Subscriber 2 created.
Subscriber 1 received 1000 messages
Subscriber 2 received 1000 messages
Subscriber 2 received 2000 messages
Subscriber 1 received 2000 messages
Subscriber 1 received 3000 messages
Subscriber 2 received 3000 messages
Subscriber 1 received 4000 messages
Subscriber 2 received 4000 messages
```



```
Run: Glassfish CASubscriberClient CAPublisherClient
Subscriber 2 received 7000 messages
Subscriber 1 received 8000 messages
Subscriber 2 received 8000 messages
Subscriber 1 received 9000 messages
Subscriber 2 received 9000 messages
Subscriber 1 received 10000 messages
Subscriber 2 received 10000 messages
Subscriber 1 runs for 160902
```

```
Run: Glassfish CASubscriberClient CAPublisherClient
Subscriber 1 runs for 186360
Subscriber 2 received 15000 messages
Subscriber 2 received 16000 messages
Subscriber 2 received 17000 messages
Subscriber 2 received 18000 messages
Subscriber 2 received 19000 messages
Subscriber 1 runs for 211969
Subscriber 2 received 20000 messages
Subscriber 2 runs for 215099
Subscriber 2 runs for 215306
Subscriber 2 runs for 215717
```

Finally start 3 publisher client threads. Two published to Topic1 and the other published to Topic2, each published 10000 messages. The running time for all 3 publisher threads is about 16 seconds (which is approximately the same as the running time of subscriber 1).

```
Run: Glassfish CASubscriberClient CAPublisherClient
/Library/Java/JavaVirtualMachines/jdk1.8.0_101.jdk/
Publisher 1 created.
Publisher 2 created.
Publisher 3 created.
Publisher Thread 11 runs for 160021
Publisher Thread 10 runs for 160400
Publisher Thread 12 runs for 160719
Process finished with exit code 0
```