# Lab 4 Answer Sheet

(Submit only the answer sheet; do not submit the whole lab document)

# Name *(Please use your registered name)*:

This is an individual exercise.

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| Lau Guo Xi |

Part 4.1: Request-Reply

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| **Question 4.1.a** | What output do you observe in the 1st TIBCO Command prompt? (You may cut and paste the output) |
| Answer: |  |

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| **Question 4.1.b** | What output do you observe in the 2nd TIBCO Command prompt? (You may cut and paste the output) |
| Answer: |  |

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| **Question 4.1.c** | From the output you observed in 1st and 2nd TIBCO command prompt, what can you say about the Message ID and Correlation (Correl. ID) ID of the reply message? |
| Answer: | The Message ID of the received request becomes the Correlation ID of the reply for the consumer side. |

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| **Question 4.1.d** | From the output you observed in 1st and 2nd TIBCO command prompt, what is the name of reply queue used? |
| Answer: | reply.queue |

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| **Question 4.1.e** | How many queues are used effectively to support request-reply in this example that you have just observed? |
| Answer: | 1 |

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| **Question 4.1.f** | What happen to the message producer when it sends a message to a subscriber that is not online? |
| Answer: | The sending stops at sent request. |

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| **Question 4.1.g** | From your observations above, is this request-reply synchronous or asynchronous? Give a brief explanation of your choice. |
| Answer: | This request-reply is synchronous as it sends to the Consumer even when he is offline. |

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| **Question 4.1.h** | Suppose now there is another customer with number 990055 wants to sell 2000 shares of IBM at 82.88, what would have been the JMS message? Modify the JMS message and send the message from the producer to consumer. Show screen shot(s) of what you have done. |
| Answer: |  |

## Part 4.2: Comparisons and Conclusions

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| **Question 4.2.a** | From what you have done in lab exercise 3, what are the differences between JMS Queue and Topic? Fill in the table below. |
| Answer: | |  |  |  | | --- | --- | --- | |  | Queue | Topic | | How does it handle when there is more than 1 subscriber? | Only 1 will get message | Multiple will get message | | What can you comment about the reliability of delivery? | Does not have to be online to get messages. | Consumer has to be online to receive messages. | | Give an example (any example) of how Queues and Topics can be applied to an air-ticket-booking application. | Used for submitting purchase order for seats as order piority is important. | News updates to customers | |

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| **Question 4.2.b** | Read this article  <http://docs.oracle.com/javaee/1.3/jms/tutorial/1_3_1-fcs/doc/advanced.html#1024717> |
| Question 4.2.b.i | 1. Explain briefly in your own words, what is a topic with durable subscription? |
| Answer to 4.2.b.i | Even when subscriber is not online, he will be able to know what is going on when he goes online. |
| Question 4.2.b.ii | 1. From your experience in part 3.3.2 steps 9 – 17 of lab 3, write down an advantage and a disadvantage for a topic with durable subscription. |
| Answer to 4.2.b.ii | Messages are not lost. Higher overhead costs as memory space is required to hold messages that are not sent. |

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| **Question 4.2.c** | From your experience in this lab exercise (lab 4), how is this request-reply different from those queues and topics done in lab 3? Explain briefly. |
| Answer: | Request-reply is sync and message producer will wait for acknowledgement whereas for queues and topics, host will just push messages out. |