

Simple Messaging Toolkit

Setup Instructions

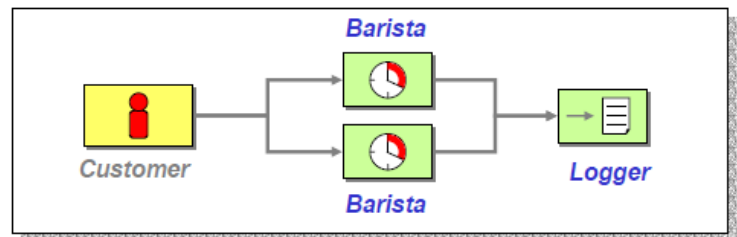
1. Copy the ZIP file MsgKit.zip to a folder of your choice.
2. Extract the ZIP file (make sure to preserve the path name and files)
3. You need the Message Queuing component of the Windows operating system. This component is part of the operating system, but is not installed by default. To install this component select Add or Remove Programs from the Control Panel (dk: Programmer og funktioner i Windows 7). On the icon bar on the left select Add/Remove Windows Components (dk: Slå Windows-funktioner til eller fra i Windows 7). Select the checkbox next to Message Queuing. Since this toolkit uses only local queues, you do not have to install the Active Directory Integration subcomponent.
4. Check Control Panel → Administration → Services (dk:Tjenester) to see whether MSMQ is started.
5. You can start the Message Queuing service from command prompt like like:
 - a. Open a command prompt
 - b. Type `net start "MSMQ"`
 - c. You should see "The Message Queuing service was started successfully." (or a message indicating that the service was already running).
6. Your working folder will be the folder "Exercises" that was created inside your folder.

Exercise 1a

Connect a Customer, a Barista, and a Logger.
Order one drink and track the completion time.
Place 10 orders and track the time again.

Exercise 1b

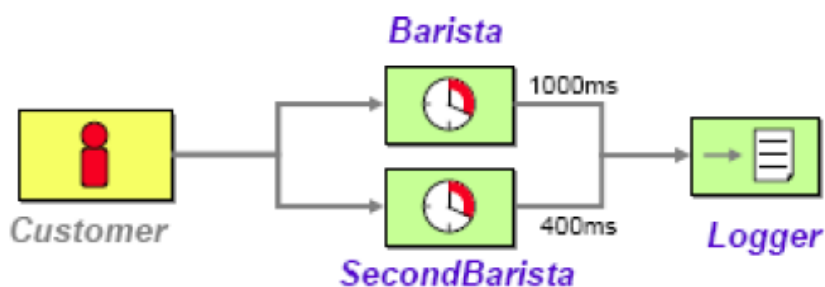
Add a second Baristas in parallel.
Order one drink and track the completion time.
Place 10 orders and track the time again.
Feel free to start more Baristas if time permits.

**Observations?**

| # Baristas | 1 Order [secs] | 10 Orders[secs] |
|------------|----------------|-----------------|
| | | |
| | | |

Exercise 2

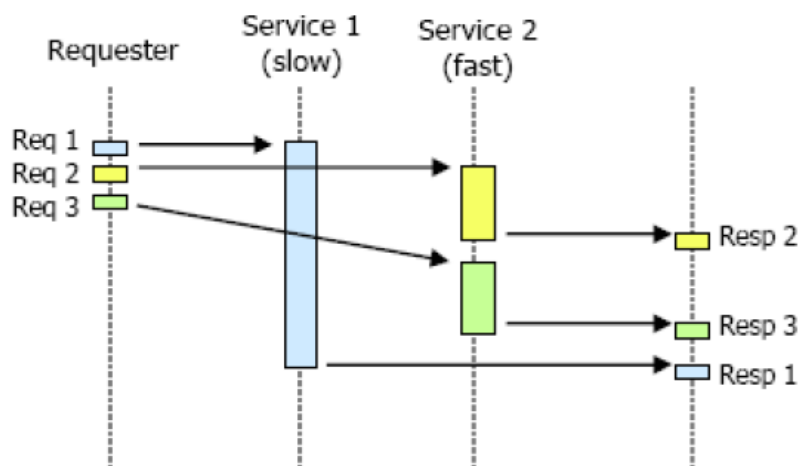
Let's assume we can tune the second Barista for higher throughput. Simulate that by using SecondBarista command (400 ms).



Send a rapid series of orders through the Baristas and observe the sequence of messages.
How can you tell the proper sequence?

- You can start some components later than the others
- You can use a manual step ("Complete All" preserves order)
- You can use two customers

Observations



Parallel processing causes messages to get out of order. Correct the problem (using available patterns) so orders arrive at final logger in order. Verify correct behavior by inserting a manual step to reshuffle the orders.

Exercise 3

Processing a whole order at one time limits our scaling options.

Creating a specialized Barista each for iced beverages and for hot beverages allows us to fine-tune baristas.

Create a new solution using the following commands:

- HotBevBarista (400 ms)
- ColdBevBarista (800 ms)

These Baristas can only process a single <item>, not a complete <order>. Still deliver complete orders in one piece to the customer.