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# Configuring JMS with Java Config for sending & receiving messages

Posted on [October 19, 2015](#) by [Arulkumaran Kumaraswamipillai](#)



**Step 1:** The bare-bone Spring Java configuration

```

1 //.....
2 @Configuration
3 @ComponentScan("com.myapp")
4 public class MOMConfig
5 {
6     //.....
7 }

```

**Step 2:** How to connect? Configuring the "ConnectionFactory".

```

1 //.....

```

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```

2 @Configuration
3 @ComponentScan("com.myapp")
4 public class MOMConfig
5 {
6
7     @Autowired
8     private Environment environment;
9
10    @Bean
11    public ConnectionFactory connectionFactory()
12    {
13        MQTopicConnectionFactory cf = new MQTopic
14
15        cf.setTransportType(environment.getProper
16        cf.setHostName(environment.getRequiredPro
17        cf.setChannel(environment.getRequiredProp
18        cf.setPort(environment.getRequiredPropert
19        cf.setQueueManager(environment.getRequire
20        cf.setClientID(environment.getProperty("e
21
22        return cf;
23    }
24 }

```

**Step 3: What destination to use?** Configure the destination. E.g. Topic

```

1 //.....
2 @Configuration
3 @ComponentScan("com.myapp")
4 public class MOMConfig
5 {
6
7     //.....
8
9     @Bean
10    public Destination destination() throws JMSEx
11    {
12        MQTopic topic = new MQTopic();
13        topic.setBaseTopicName(environment.getPro
14        topic.setPersistence(environment.getPrope
15        return topic;
16    }
17 }

```

**Step 4:** The JMsTemplate that uses both the “ConnectionFactory” and the “Destination” to send and receive messages.

```

1 //.....
2 @Configuration
3 @ComponentScan("com.myapp")
4 public class MOMConfig
5 {
6
7     //.....
8     @Bean
9     public JmsTemplate jmsTemplate() throws JMSE

```

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```

9      JmsTemplate jmsTemplate = new JmsTemplat
10
11      jmsTemplate.setSessionTransacted(false);
12      jmsTemplate.setReceiveTimeout(5000);
13      jmsTemplate.setDefaultDestination(destin
14      return jmsTemplate;
15  }
16 }

```

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So far it is enough to send JMS messages. Next step is to configure the message listener.

**Step 5: How to configure the message listener container ?** The listener is bound to the container. The “onMessage()” method gets invoked on the listener.

```

1  //.....
2  @Configuration
3  @ComponentScan("com.myapp")
4  public class MOMConfig
5  {
6      @Autowired
7      MyAppMessageListener myAppMessageListener
8
9      //.....
10     @Bean
11     public DefaultMessageListenerContainer defau
12     {
13         DefaultMessageListenerContainer containe
14
15         container.setSubscriptionDurable(true);
16         container.setDurableSubscriptionName("ev
17
18         // Single thread mode
19         container.setConcurrentConsumers(1);
20         container.setMaxConcurrentConsumers(1);
21
22         container.setConnectionFactory(connectio
23         container.setDestination(destination());
24
25         container.setSessionAcknowledgeMode(Sess
26         container.setSessionTransacted(true);
27
28         // message listener
29         container.setMessageListener(myAppMessag
30         return container;
31     }
32 }

```

The “MyAppMessageListener” looks like











```

1  //....
2  @Component
3  public class MyAppMessageListener implements Mes
4  {
5      @Override

```

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```

6     public void onMessage(Message message)
7     {
8         LOG.info("Message received.....")
9     }
10 }

```

and can be used in the integration unit test as

```

1  @RunWith(SpringJUnit4ClassRunner.class)
2  @SpringApplicationConfiguration(classes = { MOMC
3  public class MyAppListenerIntegrationTest {
4
5      @Autowired
6      DefaultMessageListenerContainer defaultMessageListenerContainer;
7
8      @Ignore
9      public void receiveMessage() throws InterruptedException {
10         defaultMessageListenerContainer.initialize();
11         defaultMessageListenerContainer.start();
12         TimeUnit.SECONDS.sleep(30);
13         defaultMessageListenerContainer.stop();
14     }
15 }

```

**Step 6:** Testing the message sending logic. The unit test class looks something like

```

1  //.....
2  @RunWith(SpringJUnit4ClassRunner.class)
3  @SpringApplicationConfiguration(classes = { MOMC
4  public class MyAppSenderIntegrationTest {
5
6      @Autowired
7      private JmsTemplate jmsSenderTemplate;
8
9      @Test
10     public void postMessage() {
11         try {
12             String message = "My Dummy message";
13             MessageCreator wrapMessage = wrapMessage(message);
14             LOG.info("Sending message=" + wrapMessage.getMessage());
15             jmsSenderTemplate.send(wrapMessage);
16         } catch (Exception e) {
17             LOG.error("Error: " + e);
18         }
19     }
20
21     private MessageCreator wrapMessage(final String message) {
22         return new MessageCreator() {
23             @Override
24             public Message createMessage(Session session) throws JMSException {
25                 ObjectMessage om = session.createObjectMessage(message);
26                 return om;
27             }
28         };
29     }
30 }

```

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