

Taller de Patrones de Arquitectura-ESB

Instalando Apache Servicemix.

```
PS C:\Users\2131608\Downloads\apache-servicemix-7.0.1> .\bin\servicemix
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=256M; support was removed in 8.0
Please wait while Apache ServiceMix is starting...
100% [=====]

Karaf started in 0s. Bundle stats: 9 active, 9 total

ServiceMix

Apache ServiceMix (7.0.1)

Hit '<tab>' for a list of available commands
and '[cmd] --help' for help on a specific command.
Hit '<ctrl-d>' or 'system:shutdown' to shutdown ServiceMix.

karaf@root>
```

Camel Example:

En la carpeta deploy de Apache Service Mix copiamos el siguiente archivo xml. Este va a enviar los archivos que se peguen en la carpeta camel/input a la carpeta camel/output.


```
<?xml version="1.0" encoding="UTF-8"?>
<blueprint
  xmlns="http://www.osgi.org/xmlns/blueprint/v1.0.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="
    http://www.osgi.org/xmlns/blueprint/v1.0.0
    http://www.osgi.org/xmlns/blueprint/v1.0.0/blueprint.xsd">
  <camelContext xmlns="http://camel.apache.org/schema/blueprint">
    <route>
      <from uri="file:camel/input"/>
      <log message="Moving ${file:name} to the output directory"/>
      <to uri="file:camel/output"/>
    </route>
  </camelContext>
</blueprint>
```

Para probar lo que hicimos copiamos y pegamos el archivo hola.txt a camel/input. Después de hacerlo vemos cómo el archivo pegado en camel/input se copia automáticamente a camel/output.

mis PC > Downloads > apache-servicemix-7.0.1 > camel > input > .camel

Name	Date modified	Type	Size
hola.txt	11/8/2019 11:26 AM	Text Document	0 KB

is PC > Downloads > apache-servicemix-7.0.1 > camel > output

Name	Date modified	Type	Size
 hola.txt	11/8/2019 11:27 AM	Text Document	0 KB

Vemos el log en Apache ServiceMix con log:display

```
2019-11-08 11:23:15,740 INFO mix-7.0.1/deploy BlueprintCamelContext 43 - org.apache.camel.core - 2.16.5 Total 1 routes, of which 1 is started.
2019-11-08 11:23:15,740 INFO mix-7.0.1/deploy BlueprintCamelContext 43 - org.apache.camel.core - 2.16.5 Apache Camel 2.16.5 (CamelContext: camel-4)
started in 0.032 seconds
2019-11-08 11:24:15,818 INFO 1e://camel input route3 43 - org.apache.camel.core - 2.16.5 Moving hola.txt.txt to the output directory
2019-11-08 11:27:02,611 INFO 1e://camel input route3 43 - org.apache.camel.core - 2.16.5 Moving hola.txt.txt to the output directory
karaf@root>
```

ActiveMQ

Apache ActiveMQ es un bróker de mensajería de código abierto, éste nos va a permitir enviar archivos y recibirlos, pero los almacena en una cola llamada events, luego el que recibe el mensaje los pasa de la cola events a la cola output.

Enviando el mensaje.


```
route.xml x activemqsender.xml x activemqreceiver.xml x
1 <?xml version="1.0" encoding="UTF-8"?>
2 <blueprint
3   xmlns="http://www.osgi.org/xmlns/blueprint/v1.0.0"
4   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
5   xsi:schemaLocation="
6     http://www.osgi.org/xmlns/blueprint/v1.0.0
7     http://www.osgi.org/xmlns/blueprint/v1.0.0/blueprint.xsd">
8
9   <camelContext xmlns="http://camel.apache.org/schema/blueprint">
10     <route>
11       <from uri="file:activemq/input"/>
12       <to uri="file:activemq/output"/>
13
14       <setBody>
15         <simple>
16           FileMovedEvent(file: ${file:name}, timestamp: ${date:now:hh:MM:ss.SSS})
17         </simple>
18       </setBody>
19       <to uri="activemq://events" />
20     </route>
21   </camelContext>
22 </blueprint>
```

Recibiendo el mensaje.


```
<?xml version="1.0" encoding="UTF-8"?>
<blueprint
  xmlns="http://www.osgi.org/xmlns/blueprint/v1.0.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="
    http://www.osgi.org/xmlns/blueprint/v1.0.0
    http://www.osgi.org/xmlns/blueprint/v1.0.0/blueprint.xsd">
  <camelContext xmlns="http://camel.apache.org/schema/blueprint">
    <route>
      <from uri="activemq://events"/>
      <to uri="activemq://output"/>
    </route>
  </camelContext>
</blueprint>
```

Comprobamos una vez más que se pasen los archivos.

his PC > Downloads > apache-servicemix-7.0.1 > activemq > input > .camel

Name	Date modified	Type	Size
 hola.txt	11/8/2019 11:26 AM	Text Document	0 KB

his PC > Downloads > apache-servicemix-7.0.1 > activemq > output

Name	Date modified	Type	Size
 hola.txt	11/8/2019 11:47 AM	Text Document	0 KB

Después, corremos el cliente java que envía los mensajes.

Se puede ver que ya el cliente está enviando los mensajes.

```
2019-11-08 11:55:01,092 | INFO | mix-7.0.1/deploy | BlueprintCamelContext | 43 - org.apache.camel.camel-core - 2.16.5 | Apache Camel 2.16.5 (CamelContext: camel-9) is starting
2019-11-08 11:55:01,092 | INFO | mix-7.0.1/deploy | ManagedManagementStrategy | 43 - org.apache.camel.camel-core - 2.16.5 | JMX is enabled
2019-11-08 11:55:01,092 | INFO | mix-7.0.1/deploy | DefaultRuntimeEndpointRegistry | 43 - org.apache.camel.camel-core - 2.16.5 | Runtime endpoint registry is in extended mode gathering usage statistics of all incoming and outgoing endpoints (cache limit: 1000)
2019-11-08 11:55:01,092 | INFO | mix-7.0.1/deploy | ActiveMQComponentResolver | 132 - org.apache.servicemix.activemq.camel - 7.0.1 | Creating an instance of the ActiveMQComponent (activemq:)
2019-11-08 11:55:01,108 | INFO | mix-7.0.1/deploy | BlueprintCamelContext | 43 - org.apache.camel.camel-core - 2.16.5 | AllowUseOriginalMessage is enabled. If access to the original message is not needed, then its recommended to turn this option off as it may improve performance.
2019-11-08 11:55:01,108 | INFO | mix-7.0.1/deploy | BlueprintCamelContext | 43 - org.apache.camel.camel-core - 2.16.5 | StreamCaching is not in use. If using streams then its recommended to enable stream caching. See more details at http://camel.apache.org/stream-caching.html
2019-11-08 11:55:01,123 | INFO | mix-7.0.1/deploy | BlueprintCamelContext | 43 - org.apache.camel.camel-core - 2.16.5 | Route: route8 started and consuming from: Endpoint[activemq://events]
2019-11-08 11:55:01,123 | INFO | mix-7.0.1/deploy | BlueprintCamelContext | 43 - org.apache.camel.camel-core - 2.16.5 | Total 1 routes, of which 1 is started.
2019-11-08 11:55:01,123 | INFO | mix-7.0.1/deploy | BlueprintCamelContext | 43 - org.apache.camel.camel-core - 2.16.5 | Apache Camel 2.16.5 (CamelContext: camel-9) started in 0.031 seconds
2019-11-08 11:55:01,139 | INFO | mix-7.0.1/deploy | fileinstall | 4 - org.apache.felix.fileinstall - 3.5.8 | Started bundle: blueprint:file:/C:/Users/2131608/Downloads/apache-servicemix-7.0.1/deploy/activemqreceiver.xml
2019-11-08 11:55:01,139 | INFO | Consumer[events] | events | 43 - org.apache.camel.camel-core - 2.16.5 | Exchange [ExchangePattern: InOnly, BodyType: String, Body: FileMovedEvent(file: hola.txt.txt, timestamp: 11:11:14.110)]
2019-11-08 11:56:56,560 | INFO | Consumer[events] | events | 43 - org.apache.camel.camel-core - 2.16.5 | Exchange [ExchangePattern: InOnly, BodyType: String, Body: FileMovedEvent(file: hola.txt.txt, timestamp: 11:11:56.544)]
karaf@root>
```

Luego de correr el cliente java que envía los mensajes y el consumidor que los recibe, podemos ver que el mensaje fué enviado y recibido exitosamente.

```
cd C:\Users\2131608\Documents\patronArqESB; "JAVA_HOME=C:\\Program Files\\Java\\jdk1.8.0_101" java -jar activemqreceiver.xml
Running NetBeans Compile On Save execution. Phase execution is skipped and output <
Scanning for projects...

-----
[ ] Building patronArqESB 1.0-SNAPSHOT
-----
[ ] --- exec-maven-plugin:1.2.1:exec (default-cli) @ patronArqESB ---
SLF4J: Failed to load class "org.slf4j.impl.StaticLoggerBinder".
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further details.
Sent message: 1354011814 : main
Received: Hello world! From: main : 1740189450
-----
BUILD SUCCESS
-----
Total time: 1.390s
Finished at: Fri Nov 08 12:30:53 COT 2019
Final Memory: 8M/245M
```

Luego, desplegamos las carpetas que hicimos en una máquina virtual linux en AWS, y corremos Apache ServiceMix.


```

public class HelloWorldConsumer implements Runnable, ExceptionListener {

    public void run() {
        try {

            // Create a ConnectionFactory
            ActiveMQConnectionFactory connectionFactory = new
                ActiveMQConnectionFactory("tcp://18.234.241.250:61616?jms.useAsyncSend=true");

            // Create a Connection
            Connection connection = connectionFactory.createConnection("smx", "smx");
            connection.start();

            connection.setExceptionListener(this);

            // Create a Session
            Session session = connection.createSession(false, Session.AUTO_ACKNOWLEDGE);

            // Create the destination (Topic or Queue)
            Destination destination = session.createQueue("output");

```

Vemos que el mensaje fué enviado y recibido exitosamente.

```

-----
Building patronArqESB 1.0-SNAPSHOT
-----

```

```

--- exec-maven-plugin:1.2.1:exec (default-cli) @ patronArqESB ---
SLF4J: Failed to load class "org.slf4j.impl.StaticLoggerBinder".
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further details.
Sent message: 846238611 : main
Received: Hello world! From: main : 1740189450

```

```

-----
BUILD SUCCESS
-----

```

```

Total time: 2.555s
Finished at: Fri Nov 08 13:14:22 COT 2019
Final Memory: 8M/245M
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```

Diagrama de arquitectura

