Lab D - Exercise 1: Setup Dynamic Destinations

Overview

In this exercise you will develop a publisher to publish a message on a dynamic topic, with a name determined at run time. You will also develop a subscriber to listen on two dynamic wildcard topics: dest.* and dest.>. Subscriber will filter messages based on selector appPrice. The dynamic topic is created dynamically when you execute a subscriber or a publisher.

Steps

1. Add a new JMS Application Properties resource.

- In Project Explorer, navigate to *EMS206Project* > *Resources* > ***EMS206project***
  - Right-click **EMS206project**
  - Choose *New* > *Other* > *TIBCO Resource* > ***JMSApplicationProperties***
    - File name: **`AppProperties.xsd`**
    - Click **Finish**
  - Double-click **AppProperties.xsd**
  - Under **Elements** section, right-click and choose *Add Element*
    - Configure the element in *Properties* view
      - Name: **`AppProp`**
      - Type: **Browse** (select from dropdown) and then select **JmsAppPropType**
      - Click **OK**
  - Under **Types** Section, double-click **jmsAppPropType**
    - Notice you are in the *Inline schema* view
  - Right-click **jmsAppPropType** and chose *Add Element*
    - Configure the element in *Properties* view
      - Name: **`AppPrice`**
      - Type: **int** (select from dropdown)

  - **Save** the changes

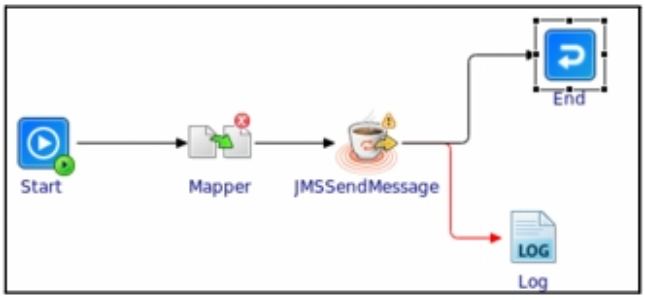
2. Create a subprocess to publish messages.

- In the *EMS206project/**Processes*** create folder **`LabD`**
- Create a new subprocess
  - Right-click *EMS206Project/Processes/**LabD***
    - Select *New* > ***BusinessWorks Sub* Process**
      - Process Name: **`DynPublishSubProcess`**
  - Observe that the subprocess diagram opens with **Start** and **End** activities

- Add the following activities to the process:
  - **Log** (from *General Activities*)
  - **Mapper** (from *General Activities*)
  - **JMS Send Message (**from *JMS)*

3. Configure transitions between activities.

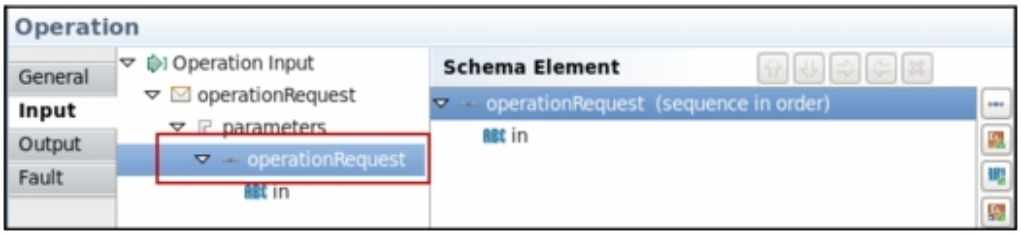
- Create the following transitions as shown below



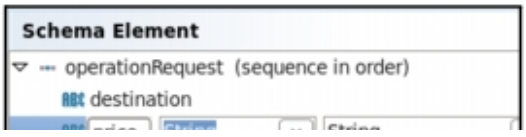
- Select the transition from **SendJMSMessage** to **Log**
  - Change condition type to **Error** (select from dropbox)
  - **Save**

4. Configure the input schema for the operation of the subprocess DynPublishSubProcess.

- In the subprocess diagram, click **operation**
  - In *Properties* view, *Input* tab:
    - Select *OperationInput* > *parameters* > ***operationRequest***
      - Notice that this opens Schema Element editor on the right

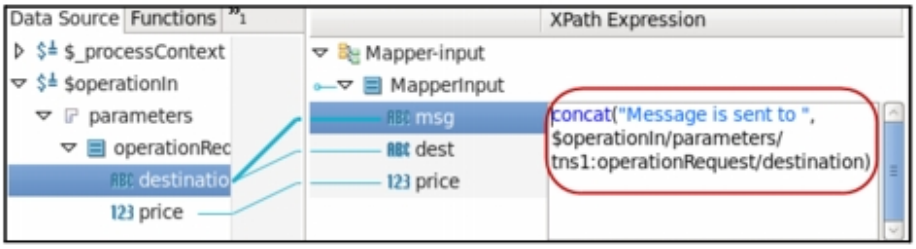


  - Click "Add Primitive Element"
    - Double click primitive element and configure it:
      - Name: **`price`**, type: **Integer**, subtype:**Int**
      - Click icon "Accept Changes"
    - Double-click the element **in** and rename: **`destination`**



5. Configure the Mapper activity to define a data structure as input to JMS Send Message.

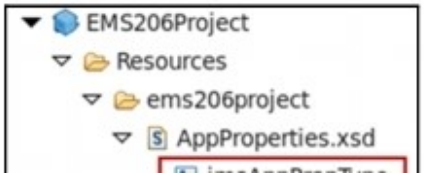
- Select **Mapper** and create new schema
  - In the *Properties* > ***Input Editor*** tab
    - Select **Input** and click "Select Input Element" icon in the right corner
    - Click the **Create New Schem**a button
    - Click **OK**
  - Configure the schema
    - Select **MapperInputType**
    - Use "Add Primitive Element" icon to add three "primitive elements"
    - Configure the elements as follows:
      - Name: **`msg`**, type: **String**, subtype: **String**
      - Name: **`dest`**, type: **String**, subtype: **String**
      - Name: **`price`**, type: **Integer**, subtype:**Int**
  - **Save**
- Configure mapping from the subprocess operation schema to **Mapper**
  - Select *Properties* > ***Input*** tab
  - From *Data Source* on the left, map:
    - **`$operationIn/parameters/tns1:operationRequest/destination`** to **`MapperInput/dest`**
    - **`$operationIn/parameters/tns1:operationRequest/price`** to **`MapperInput/price`**
    - Create XPath Expression for **`MapperInput/msg`** as shown below



  - **Save**

6. Configure JMSSendMessage activity.

- Select the **JMSSendMessage** activity
  - In the *Properties* > ***General*** tab, configure:
    - Messaging style: **Topic** (from dropbox)
    - JMS Connection: Browse for **EMS206project.JmsConn** resource
    - **Do not** enter any value for Destination
  - In *Properties* > ***Advanced*** tab
    - Application Properties Type: Browse for **EMS206project.AppProperties.jmsAppPropType**



  - **Save**
- Configure input mapping for this activity:
  - Select *Properties* > ***Input*** tab
  - From *Data Source* on the left, map:
    - **`$Mapper/msg`** to **`ActivityInput/Body`**
    - **`$Mapper/dest`** to **`ActivityInput/destination`**
    - **`$Mapper/price`** to **`ActivityInput/OtherProperties/AppPrice`**
  - **Save**

7. Configure the Log and End activities.

- Map the data *Input* for **Log** activity
  - From *Data Source* on the left map
    - **`$_error/Msg`** to **`ActivityInput/message`**

- Map the data *Input* for **End** activity
  - From *Data Source* on the left map
    - **`$JMSSendMessage/ns:MessageID`** to **`operationResponse/out`**
  - **Save** the project

8. Create a process to invoke Dynamic Publisher jobs.

- Create a new process in LabD
  - Process Name: **`InvokePublisher`**
- Add a single **Timer** activity to the process diagram

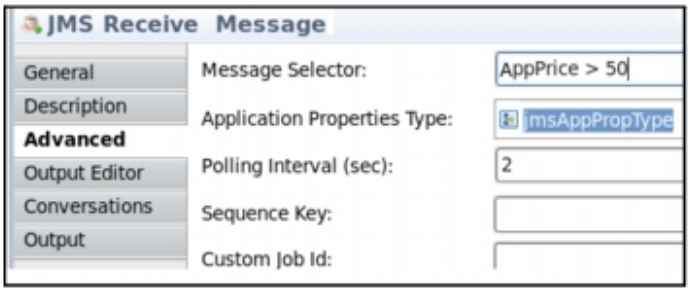
9. Create and configure subscriber process definition.

- Add a process definition to **LabD** folder
  - Name: **`DynSubscriber`**
- Add the following resources to the process:
  - **JMSReceiveMessage**
  - **Log**
- Create the transition from **JMSReceiveMessage** to **Log**
- **Save** the project

10. Configure JMSReceiveMessage to use message selector.

- Select *Properties* > ***General***
  - Messaging Style: **Topic**
  - JMS Connection: Browse for **EMS206project.JMSConn**
  - Destination: **`dest.*`**

- Select *Properties* > ***Advanced***
  - Message Selector: **`AppPrice > 50`**
  - JMS Application Properties: Browse for **EMS206project.AppProperties.jmsAppPropType**



- **Save**

11. Configure the Log activity.

- Select *Properties* > ***Input***
  - From the available *Process Data*, select **`$DynamicSub/Body`**
  - Drag to the **message**
- **Save**