

WebSphere Lab Jam

Business Process Management

IBM Business Process Manager

Lab Exercises



Catalog Number

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Lab 1 Building a business process in Process Designer

This lab will introduce you to the IBM Process Designer. You will create a simple process flow for creating and fulfilling an order. You will leverage the Process Center to run the process at various points during the lab.

The first experience with any activity in the lab will be completely documented with screen shots. If the same type activity is repeated, subsequent steps will contain less detail. If you get stuck, either refer back to the early example, or ask for help. The IBMers in the room are here to help; do not hesitate to ask!

1.1 Start Up

In this section, you will start the IBM Process Designer.

1.1.1 Start the Process Designer

1. If the Process Designer is not running, double-click on the **IBM Process Designer** icon on the desktop. It might take a couple of minutes for the login window to appear:



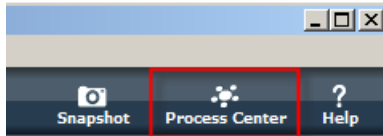
2. Enter **tw_admin** as the user name and as the password, then click **Login**:

A screenshot of the IBM Process Designer 7.5 login window. The window has a blue and white background with the IBM logo in the top right corner. The title bar reads "IBM Process Designer 7.5". Below the title bar, there are two input fields: "User Name" with the text "tw_admin" and "Password" with a masked password of seven dots. At the bottom, there are two buttons: "Login" and "Cancel". The "Login" button is highlighted with a red rectangular box.

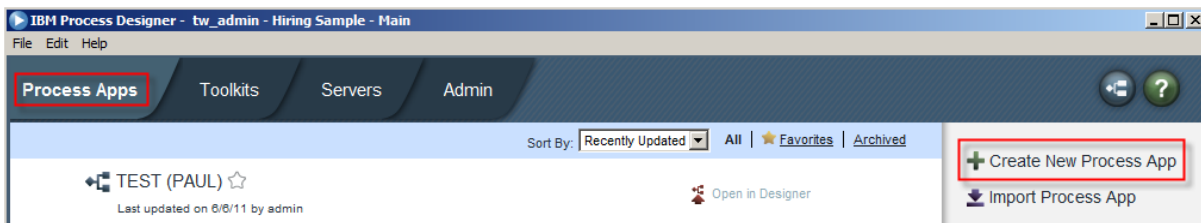
1.2 Create the Process

1.2.1 Create a New Process Application

- __1. If you are not on the **Process Application** screen, click on the **Process Center** icon in the upper right-hand corner of the window.



- __2. Click on the **Process Apps** tab in the upper left-hand corner of the window, and then click on **Create a New Process App**.



- __3. In the **Create New Process App** window, enter the following information:

Process App Name:	Order Fulfillment BFS
Acronym:	OFBFS
Description:	Order fulfillment build from scratch lab

and then click **Create**.



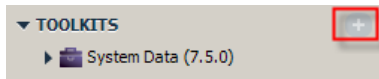
- __4. The new process application has been created. Click on **Open in Designer**.



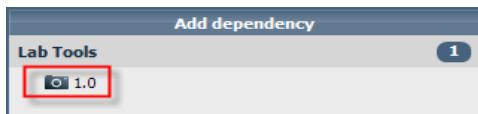
1.2.2 Add the Toolkit

Before you begin defining your process, it will be necessary to include a dependency on a toolkit. A toolkit is a collection of components that can be shared by multiple process applications. A toolkit can include any component that can be defined in a process application. In this scenario, you have been given a toolkit that contains the data type definitions for the lab.

- ___1. Click on the plus **sign (+)** next to the **TOOLKITS** heading on the left-hand side of the window. (Note: The plus sign will appear as the mouse pointer enters the pane with the TOOLKIT list.)



- ___2. In the Add dependencies window, click on **Lab Tools, 1.0**.



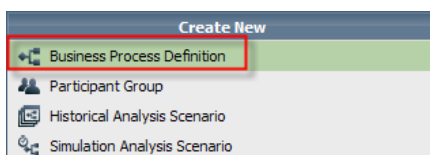
1.2.3 Define the Process Flow

The process flows are defined in a Business Process Diagram (BPD). The first step is to create a new BPD.

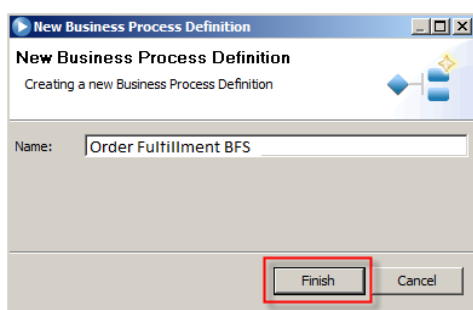
- ___1. Click on the **plus sign (+)** next to the **Processes** heading on the left-hand side of the window. (Note: The plus sign will appear as the mouse pointer enters the pane.)



- ___2. In the Create New window, click on **Business Process Definition**.

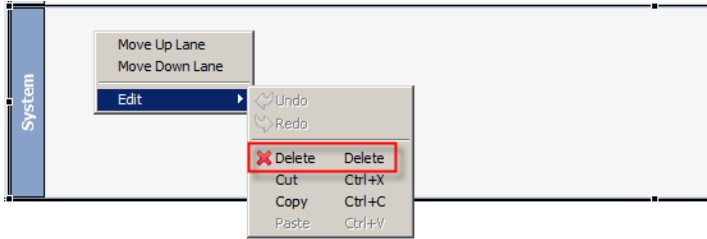


- ___3. Name the BPD **Order Fulfillment BFS** and click **Finish**.



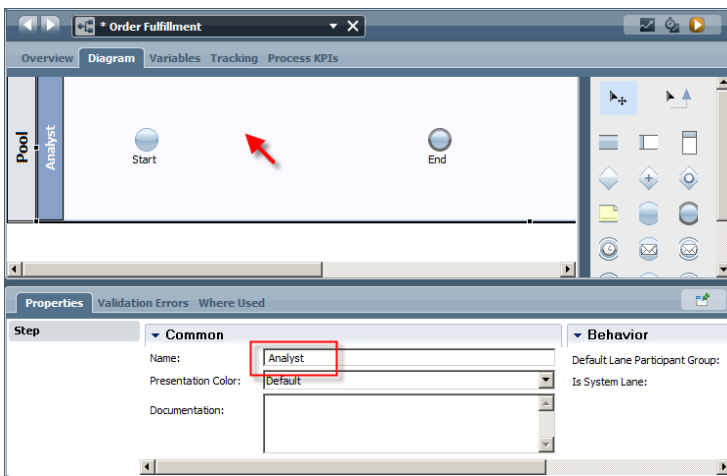
You are presented with a blank process with a Start and End event, and the default lanes (Participant and System). In this example you will not need a system lane as all of the activities are human-based activities. You will need two lanes—Analyst and Vendor.

- __4. Right-click on the **System** lane, and select **Edit→Delete**.

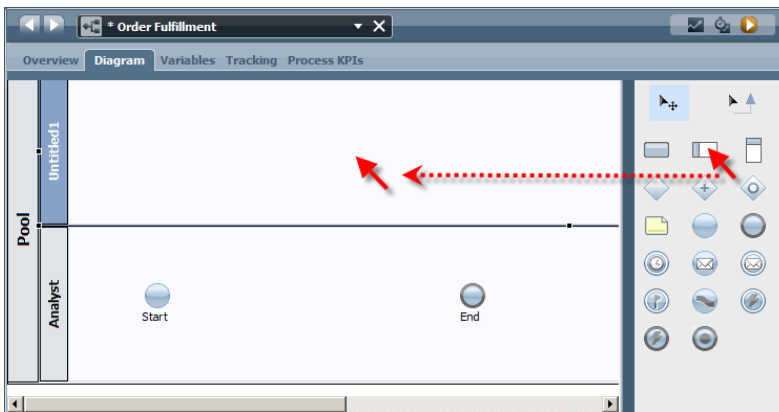



On the confirmation prompt, click **Yes**.

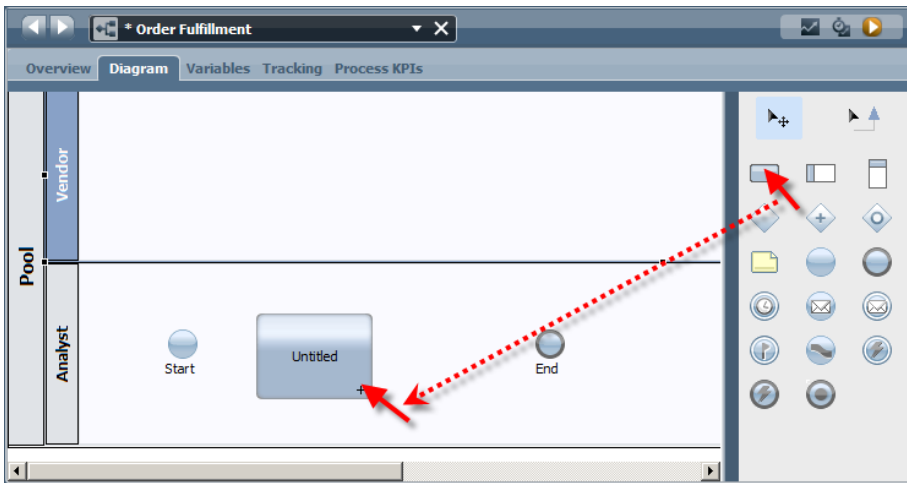
- __5. Click in the **Participant** lane (in the open space, not on the **Start** or **End** event.)
- __6. In the **Properties** pane at the bottom of the screen, change the name of the lane to **Analyst**.



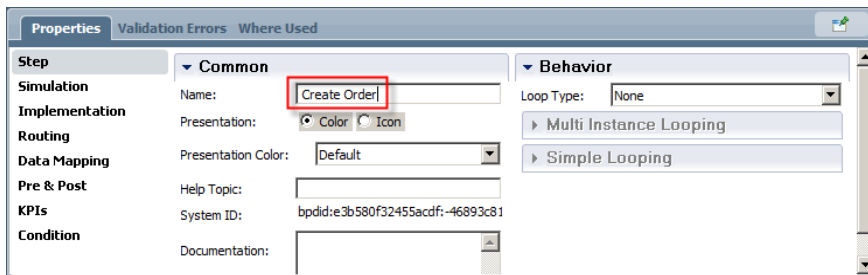
- __7. Drag a lane (□) from the palette and drop it on the diagram.



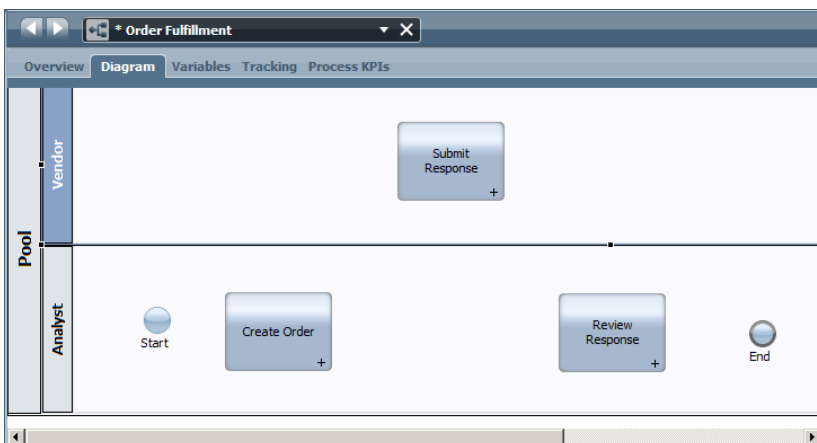
- __8. Change the name of the lane to **Vendor**.
- __9. Drag an activity () from the palette and drop it in the **Analyst** lane.



- __10. In the **Properties** pane, change the name of the activity to **Create Order**.



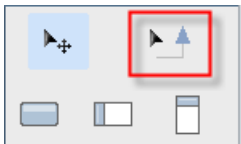
- __11. Drag and drop activity in the **Vendor** lane. Rename it to **Submit Response**.
- __12. Drag and drop an activity in the **Analyst** lane. Rename it to **Review Response**.
- When you are finished, your diagram should look similar to the following picture:



- __13. Click on the **Save** icon () on the top of the screen or press **Ctrl-S** to save your work.

The final step in creating our process is to connect all of the events and activities.

__14. Click on the **Sequence Flow** icon in the palette.



When you use the **sequence flow** tool to connect the objects, you are presented with anchor points on the objects represented as blue dots when you hover over the objects. You can start and finish your connections using any one of the dots. To connect two objects, click on the desired anchor point of the source object, and then click on the anchor point of the target object.

__15. Connect the **Start** event to the **Create Order** activity.

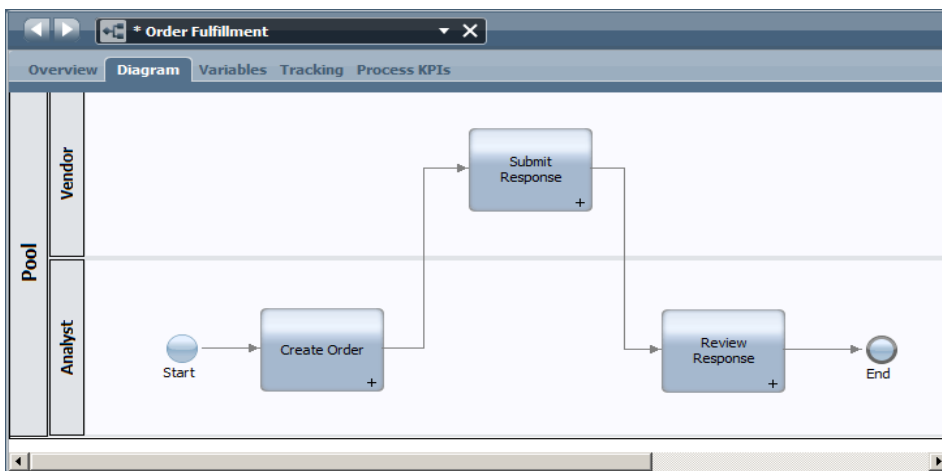


__16. Connect the **Create Order** activity to the **Submit Response** activity.

__17. Connect the **Submit Response** activity to the **Review Response** activity.

__18. Connect the **Review Response** activity to the **End** event.

When you are finished, your diagram should look similar to the following picture:

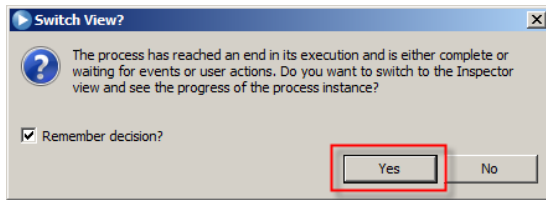


__19. **Save** your work.

1.2.4 Playback the Process

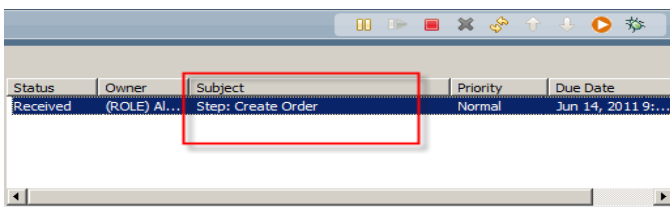
Even at this early stage it is possible to run the process. Even though none of the user interfaces have been defined, the system has default user interfaces that can be used to test the flow of the process.

- __1. Click on the **Run** (▶) button in the top right-hand corner of the screen.
- __2. At the **Switch View** prompt, click the **Remember decision?** checkbox, and then click the **Yes** button.

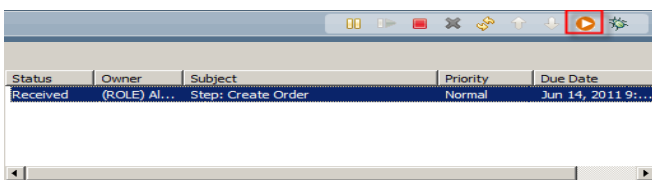


You are now in the Process Inspector. Here you are able to step through the process, activity by activity to ensure that the process is working as expected. The diagram in the bottom left pane shows the process diagram with a red token indicating which activity will be executed next. In the top right pane you select and run the activities.

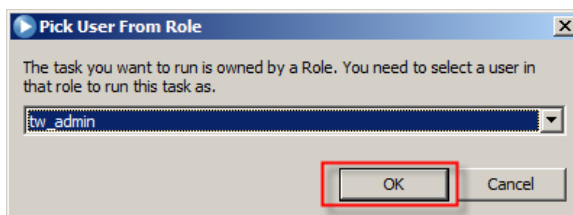
- __3. Select the **Create Order** step in the top right pane.



- __4. Click on the **Run** button above the activity to run the selected task. (Not the Run Process button above the process diagram.)

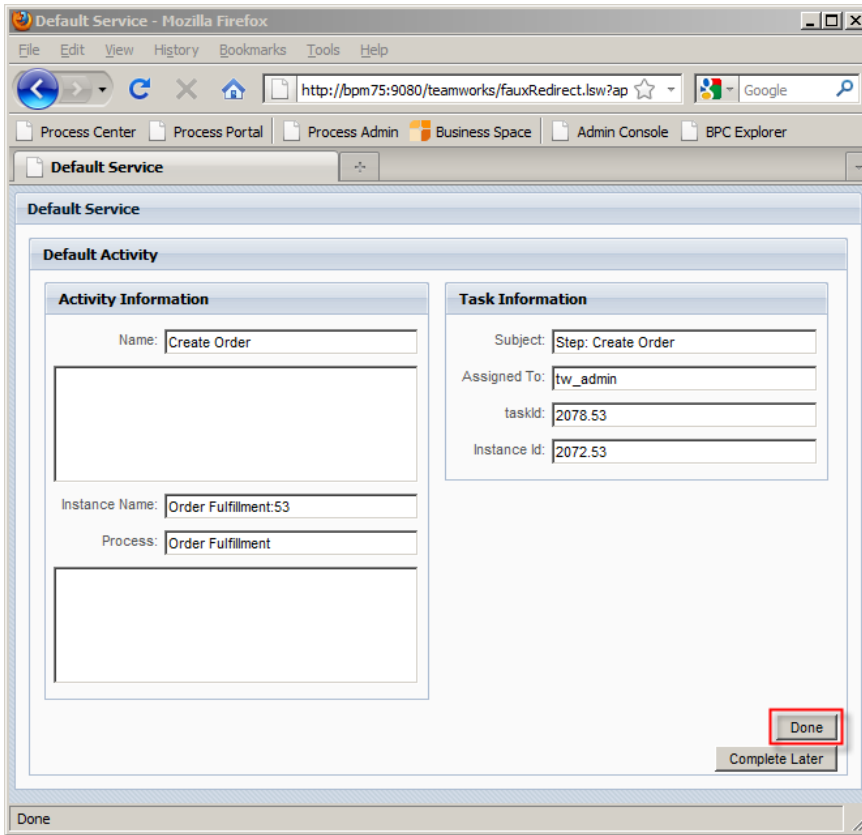


- __5. At the Pick User from Role prompt, select **tw_admin** and click **OK**.

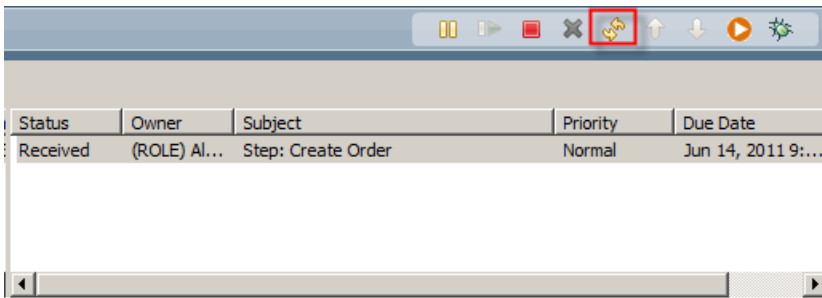


A Web browser window is displayed showing the default user interface.

__6. Click on the **Done** button. You will see the message. **The service has finished.**



__7. In the Process Inspector, click on the **Refresh** (🔄) button.



The step list is updated to show the **Create Order** activity is complete (closed), and the **Submit Response** activity ready to be executed.

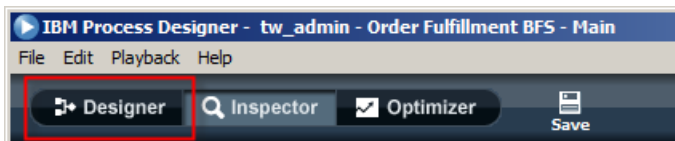
__8. Run the **Submit Response** activity.

- __a. Select the step.
- __b. Click the **Run** button.
- __c. Run as **tw_admin**.

- __d. Click the **Done** button.
 - __e. Close the browser window.
 - __f. Refresh the list.
- __9. Repeat the steps for the **Review Response** activity.

You have successfully completed one pass through the process.

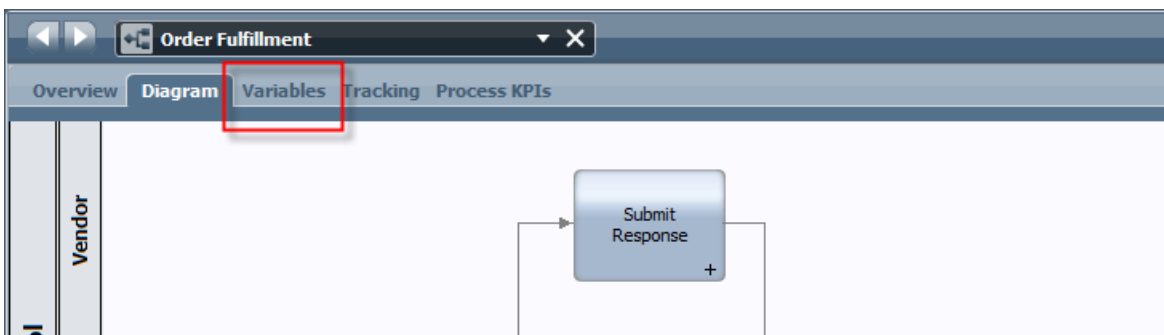
- __10. Click on the **Designer** tab to switch back to the Process Designer.



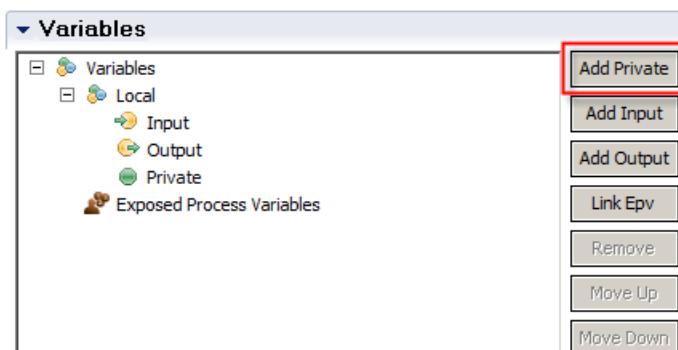
1.2.5 Define the Process Variable

Your process will need some place to save the order information from activity to activity. A process variable will be used to store this information. You will use the data type from the **Lab Tools** toolkit to define your **order** variable.

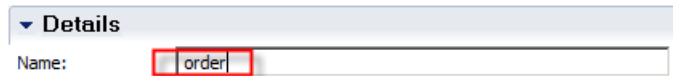
- __1. Click on the **Variables** tab at the top of the screen.



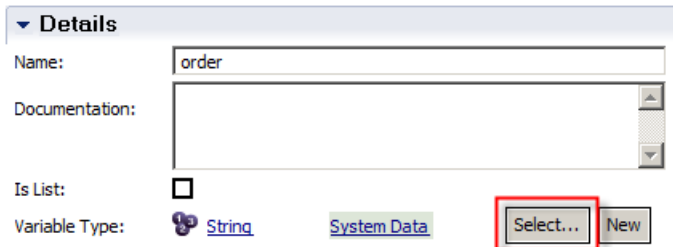
- __2. Click on the **Add Private** button.



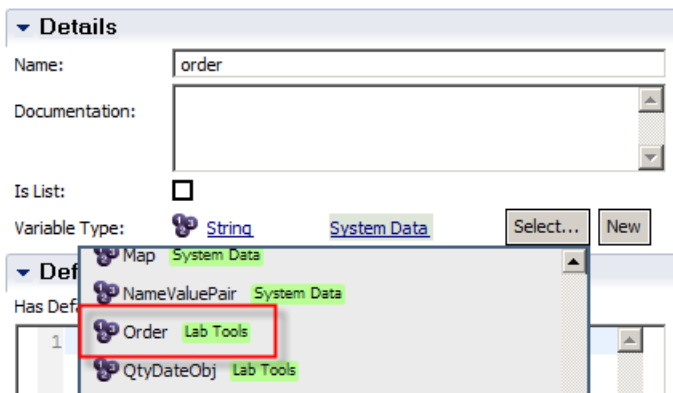
__3. In the **Details** area, name the **variable order**.



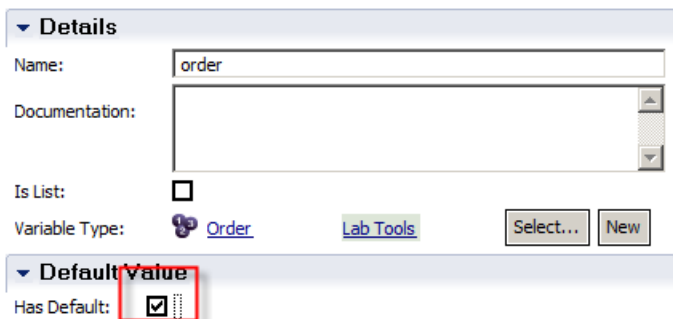
__4. Click on the **Select** button.



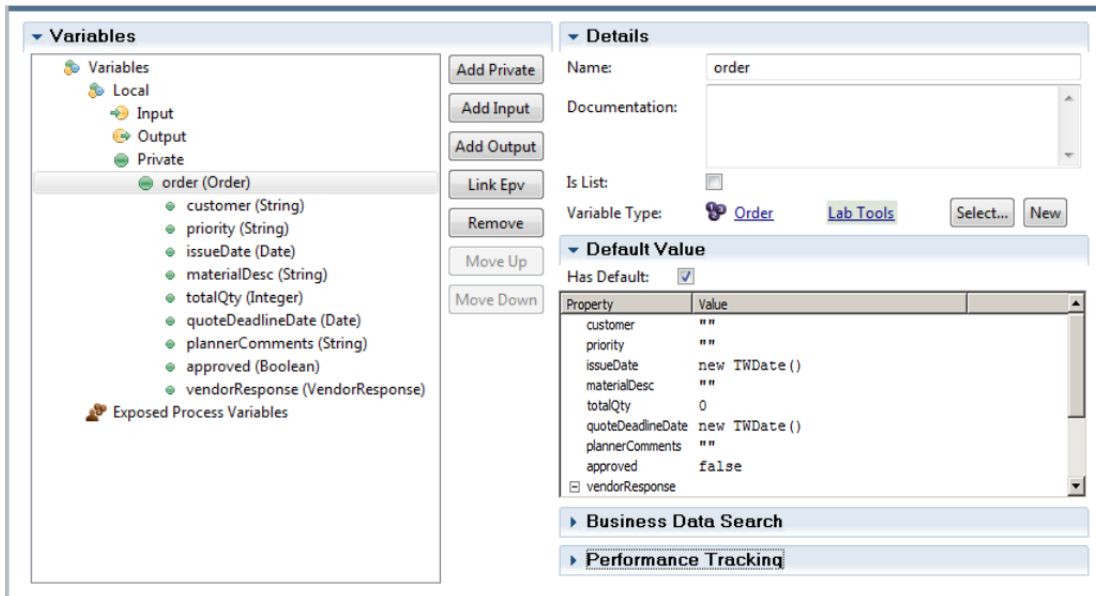
__5. Click on the **Order** type.



__6. Click the **Has Default** checkbox.



__7. The Variables screen should look similar to the following screenshot

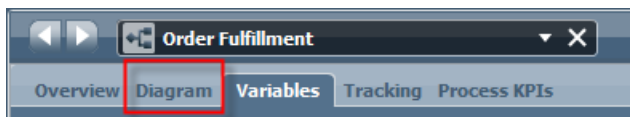


__8. Save your work.

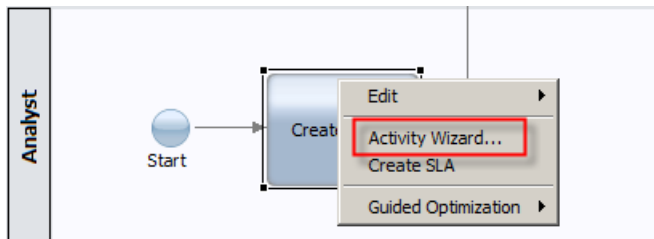
1.2.6 Create the Default User Interfaces

With the diagram and the variables defined, you are ready to create the user interfaces. In this lab you will use the **Activity Wizard** to create the base screens which you can then customize.

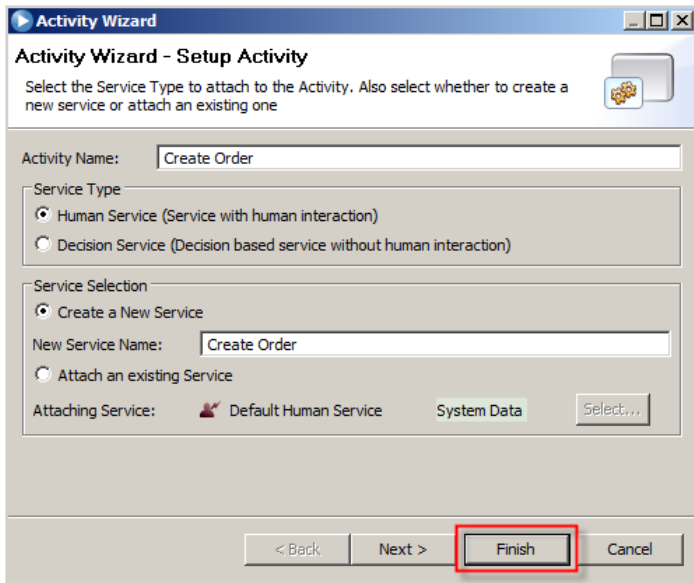
__1. Click on the **Diagram** tab.



__2. Right-click on the **Create Order** activity, and select **Activity Wizard**.



- ___3. In the Activity Wizard, accept all of the defaults, and click **Finish**.

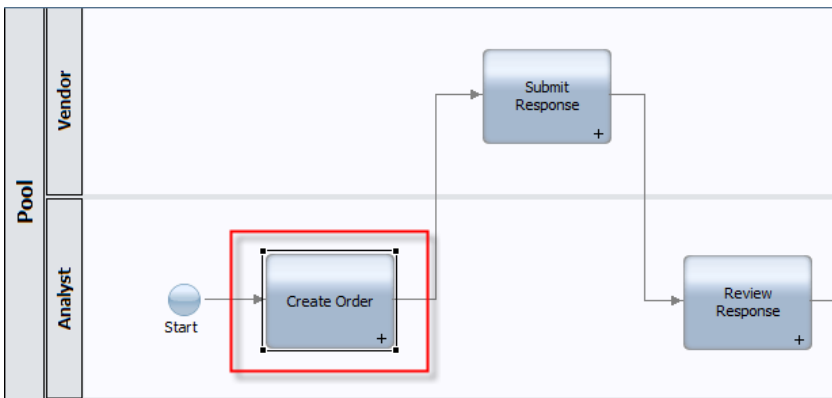


- ___4. Repeat the steps to use the Activity Wizard to create the user interface for the **Submit Response** activity.
- ___5. Repeat the steps to use the Activity Wizard to create the user interface for the **Review Response** activity.
- ___6. **Save** your work.

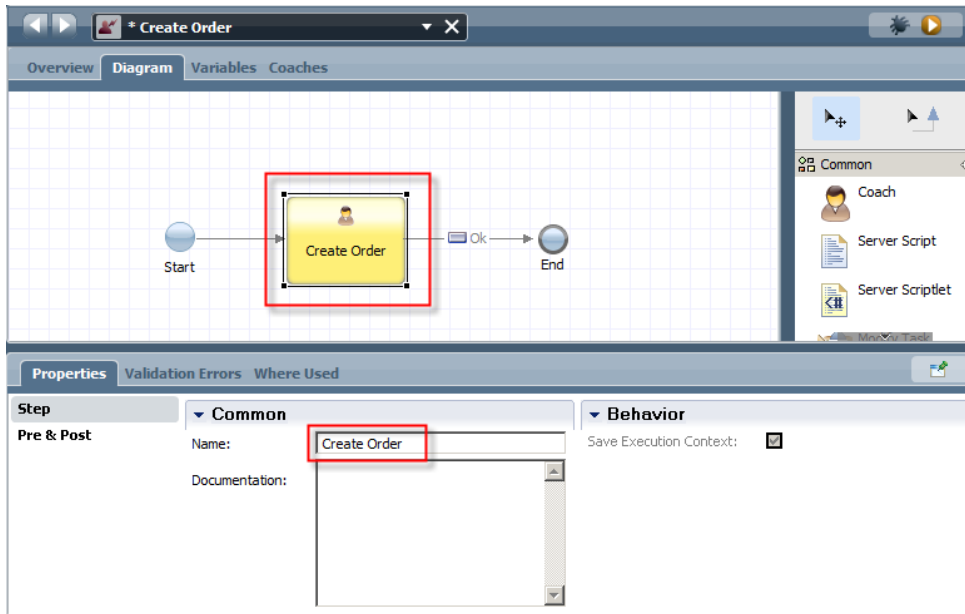
1.2.7 Update the Create Order User Interface

The Activity Wizard created a user interface with a single user interface screen, or “coach.” Your next task is to modify the UI screen.

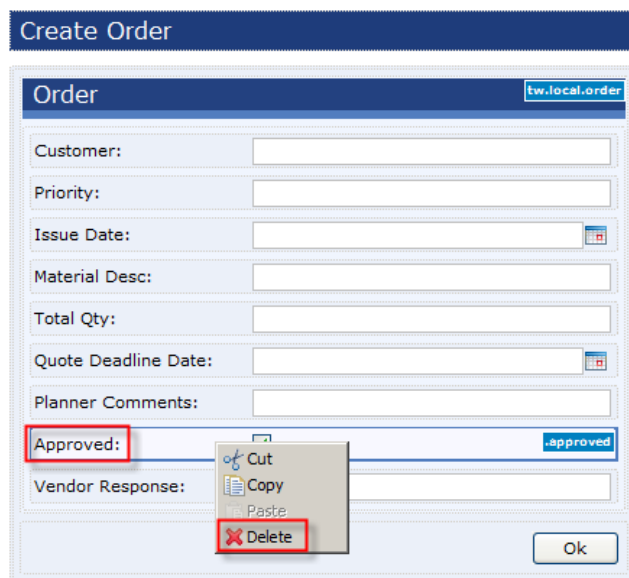
- ___1. In the Process Diagram, double-click on the **Create Order** activity to open the user interface.



- __2. Click on the **Coach** object, and in the Properties pane, change the name of the coach to **Create Order**.



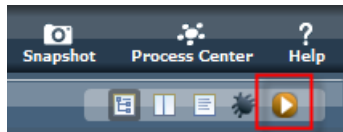
- __3. Modify the coach.
- __a. Double-click on the **Create Order** coach to open the Coach Editor.
You don't need the **Approved** and the **Vendor Response** fields.
 - __b. Right-click on the **Approved** field and select **Delete**.



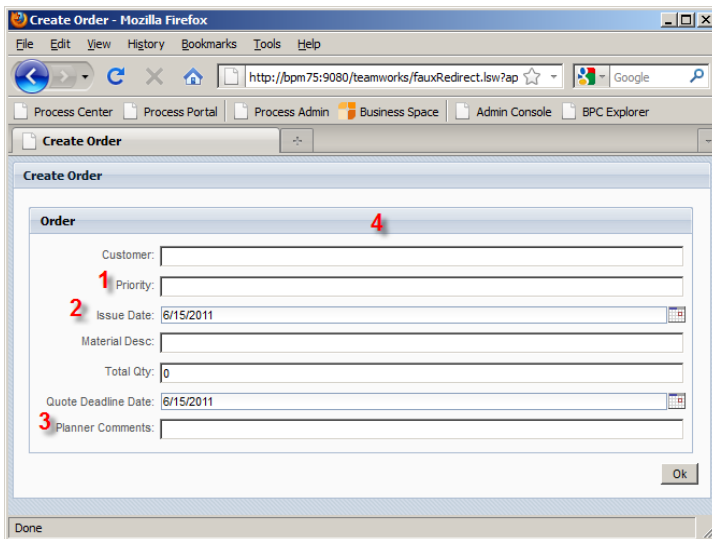
- __c. Repeat for the **Vendor Response** field.

The user interface can be run at any time. Running the user interface runs the entire user interface flow. Since there is only one coach in the current user interface, only the one screen will be displayed.

- __d. Save your work.
- __e. Click on the **Run** button in top right corner.

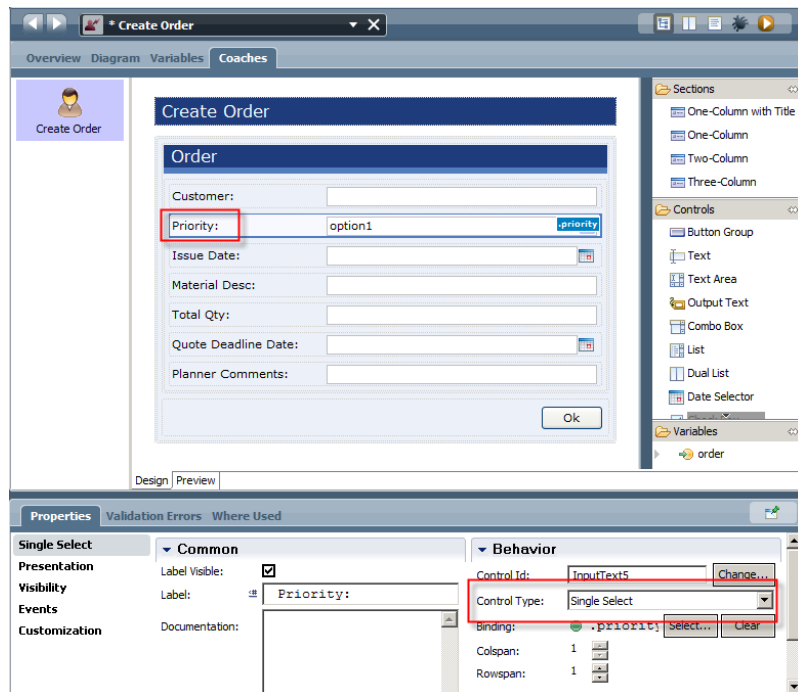


The screen is displayed. The screen is acceptable but there are a few changes to make. First, the users would prefer the **Priority** field be a drop-down list. Second, the **Issue Date** is system generated and should not be changed. Third, the user would like the **Planner Comments** field to have multiple lines. Finally, you think the screen would look a little nicer if there were two columns for the fields.

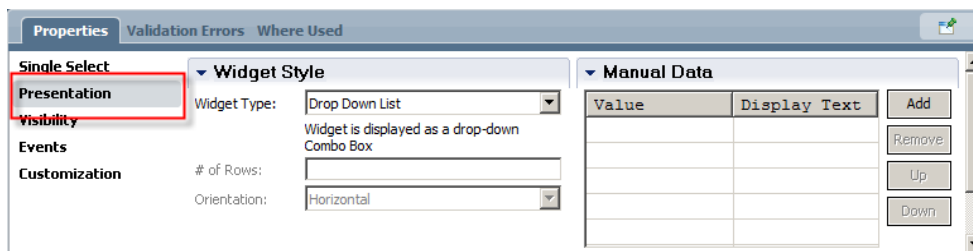


- __f. Click **OK** and close the browser window.
- __4. Change the **Priority** field to a drop-down list.
 - __a. Click on the **Priority** field.

__b. In the Properties pane, change the **Control Type** to **Single Select**



__c. In the Properties pane, click on the **Presentation** tab.

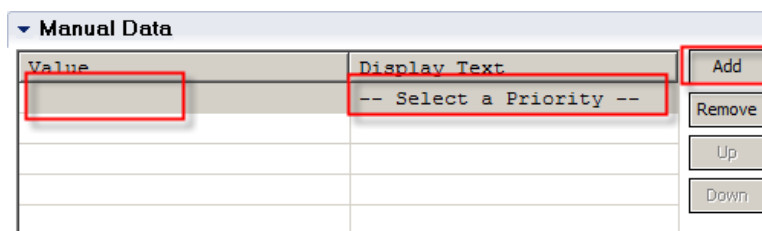


The next step is to define the options in the drop-down list. This list could be populated from a variable or from a database. In this lab, you define the options directly in the control.

__d. In the Manual Data area, click the **Add** button.

__e. In the **Value** field, clear the contents.

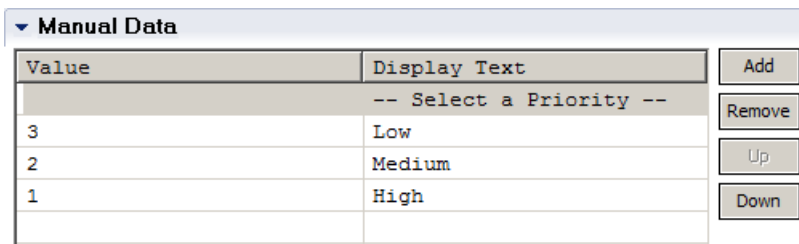
__f. In the **Display Text** field, enter **-- Select a Priority --**



__g. Repeat the steps to create the following entries:

Value	Display Text
3	Low
2	Medium
1	High

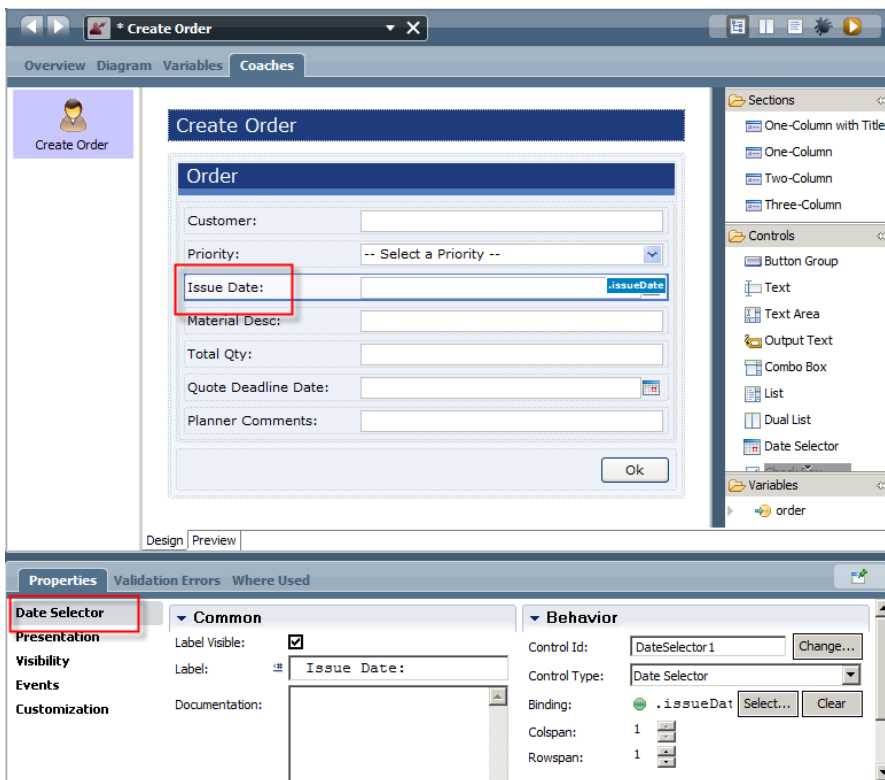
When you are finished, your screen should look like the following picture:



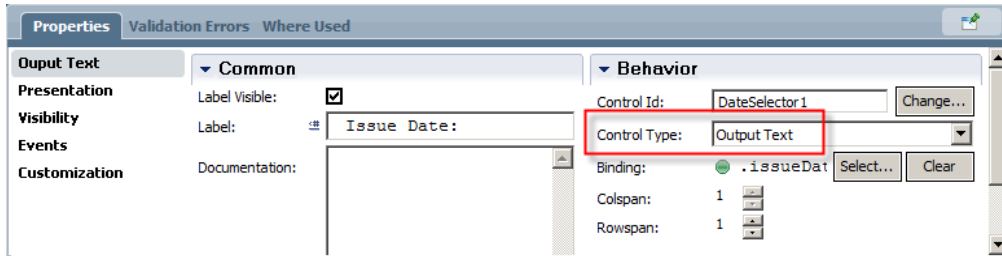
__5. Change the **Issue Date** field to output text.

__a. Click on the **Issue Date** field.

__b. In the Properties pane, click on the **Date Selector** tab.



__c. Change the **Control Type** to **Output Text**.

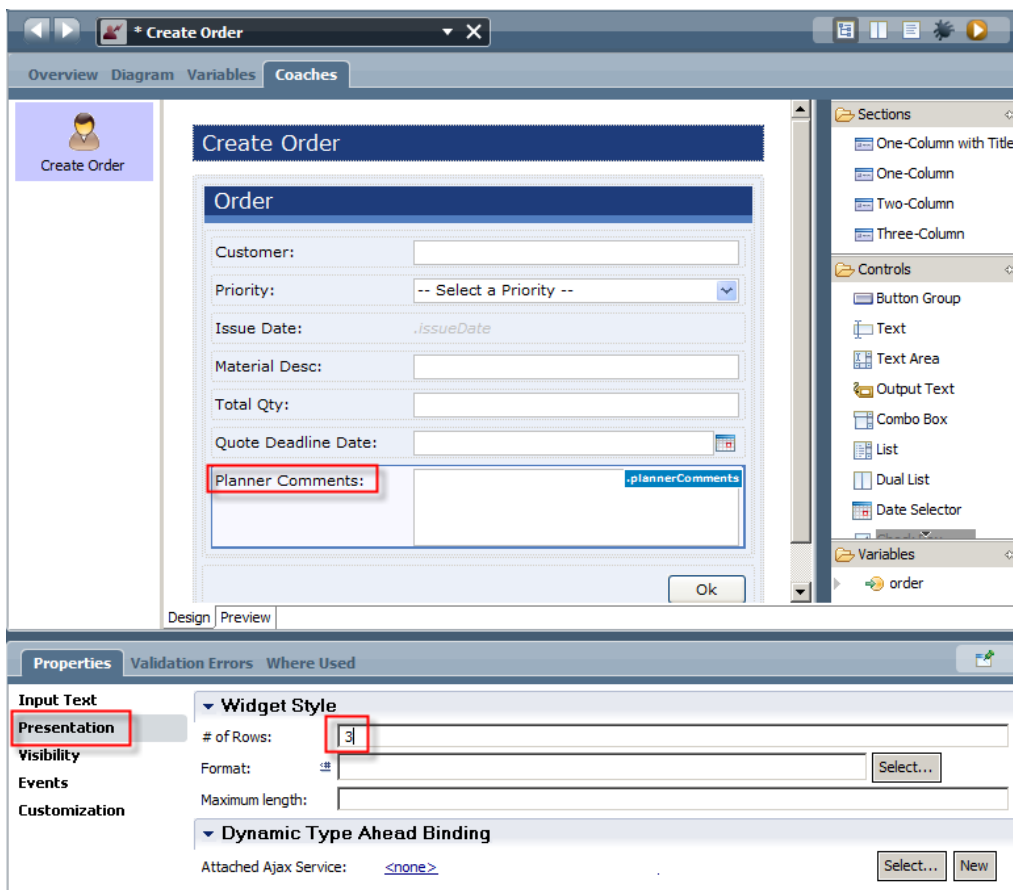


__6. Increase the number of lines in the **Planner Comments** field to 3.

__a. Click on the **Planner Comments** field.

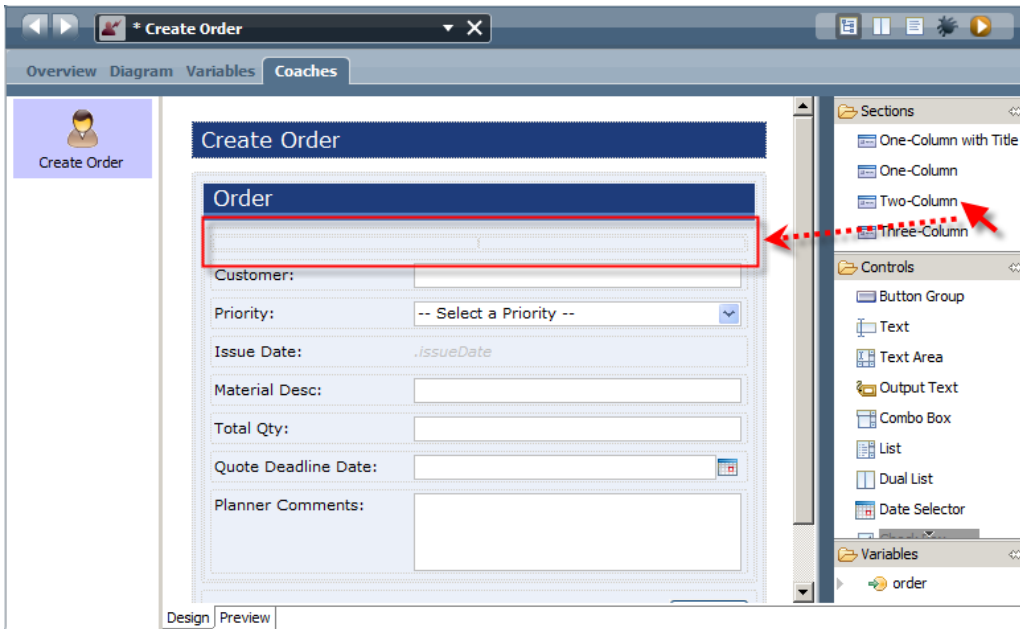
__b. In the Properties pane, click on the **Presentation** tab.

__c. Change the **# of Rows** to **3**.



__7. Place the upper fields into two columns.

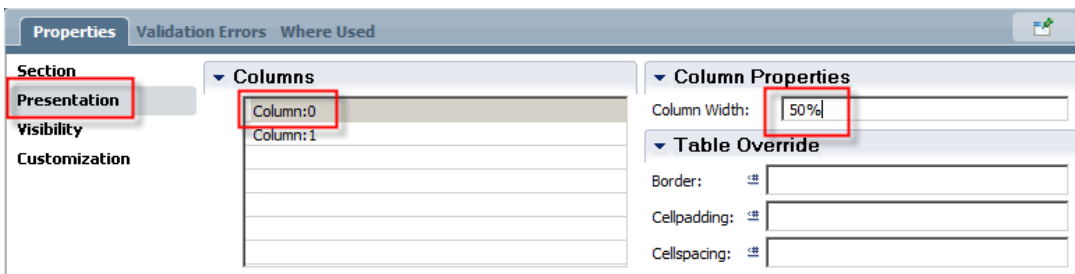
__a. Drag and drop a **Two-Column** control from the palette to the top of the **Order** section.



__b. In the Properties pane, click on the **Presentation** tab.

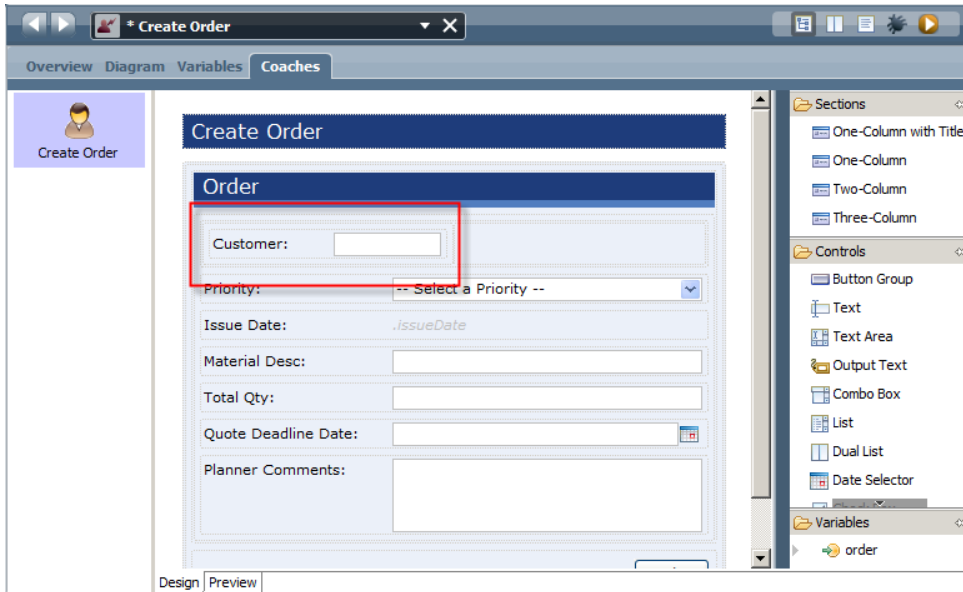
__c. Click on **Column:0**.

__d. Set the **Column Width** to **50%**.

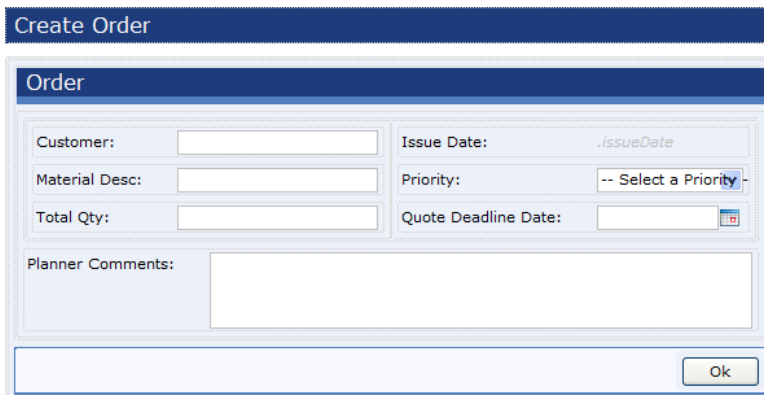


__e. Repeats the steps for **Column:1**.

- __f. Drag and drop the **Customer** field into the left column.



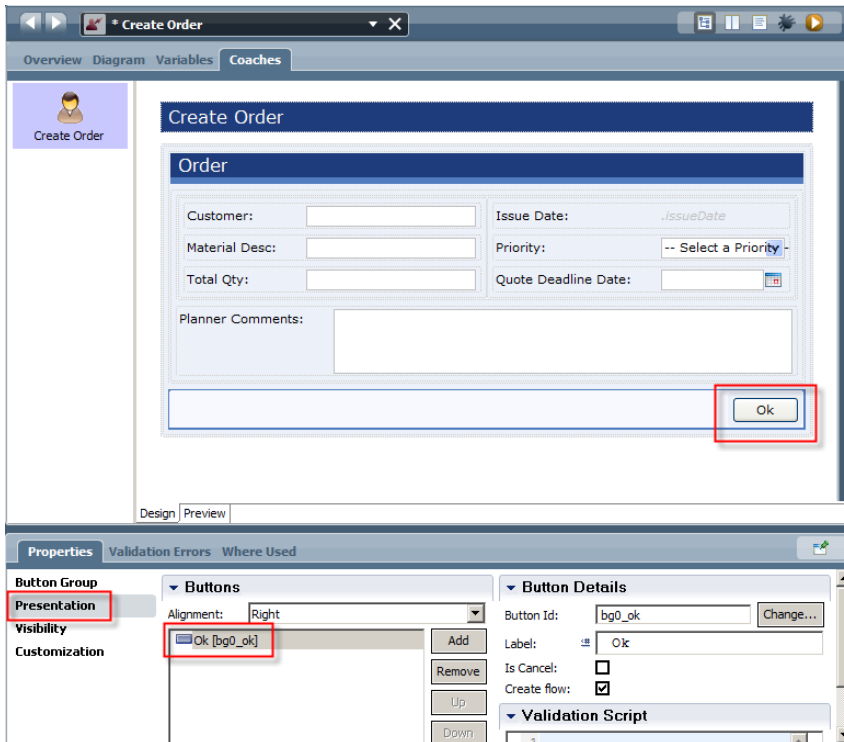
- __g. Drag and drop the remaining fields (except for the **Planners Comments**) into the columns. Get your screen to look similar to the following picture:



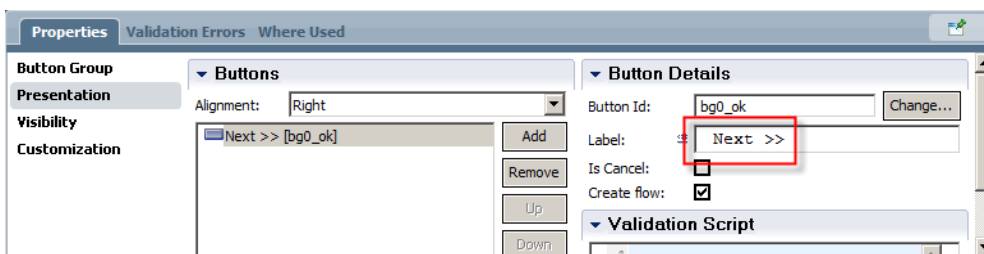
- __8. **Save** your work.
- __9. Click the **Run** button to test your changes. Close the browser window when you are finished.

You have completed the update to the **Create Order** coach. There is an additional user requirement. Before the order is submitted for response, the system needs to show a review screen, giving the user the ability to go back and modify the order.

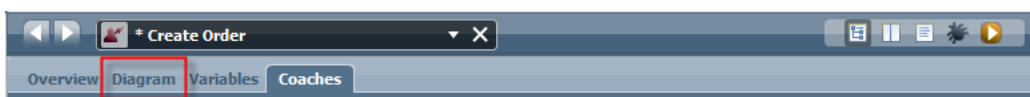
- __10. Change the **Create Order** coach's button to display **Next >>** instead of **OK**.
 - __a. Click on the **OK** button.
 - __b. In the Properties pane, click on the **Presentation** tab.
 - __c. In the **Buttons** area, click on the **Ok [bg0_ok]** button.



- __d. Change the **Label** to **Next >>**. (Note: There is a space between **Next** and **>>**)



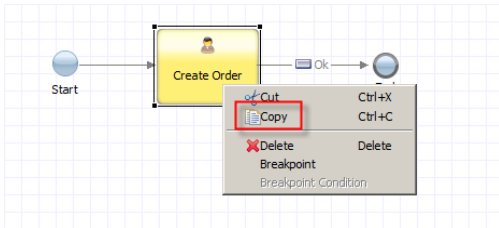
- __11. Click on the **Diagram** tab at the top of the screen.



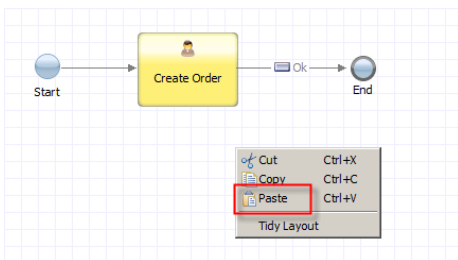
Since the Review Screen is basically a read-only version of the Create Order Coach, you will copy the create coach and modify it for the review coach.

- __12. Create a copy of the **Create Order** coach.

- __a. Right-click on the **Create Order** coach, and select **Copy**.



- __b. Click on the open diagram area, and then right-click, and select **Paste**.



- __c. In the Properties pane, change the name of the Coach to **Review Order**.

- __13. Modify the **Review Order** coach.

- __a. Double-click on the **Review Order** coach.

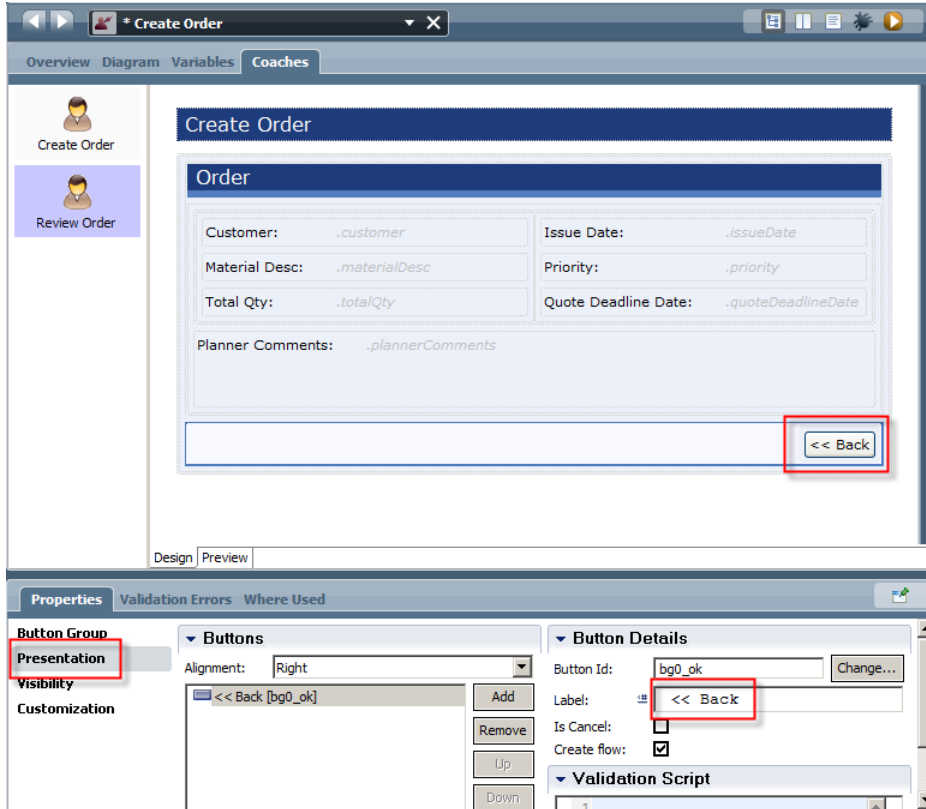
- __b. Click on the **Customer** field.

- __c. In the Properties pane, change the **Control Type** to **Output Text**.

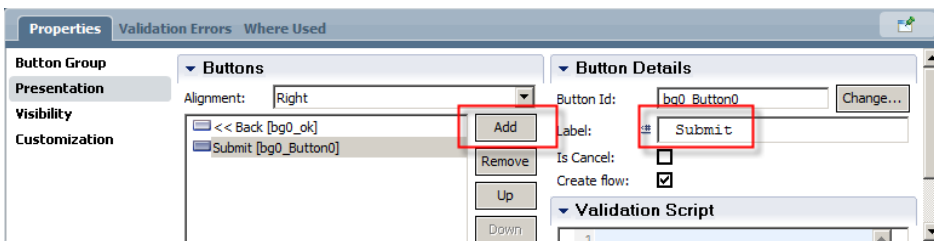
The screenshot shows the IBM Software interface with the 'Create Order' coach selected. The 'Review Order' coach is also visible in the left sidebar. The 'Customer' field in the 'Order' form is highlighted in red. The Properties pane at the bottom shows the 'Control Type' set to 'Output Text'.

- __d. Repeat for all of the remaining fields.

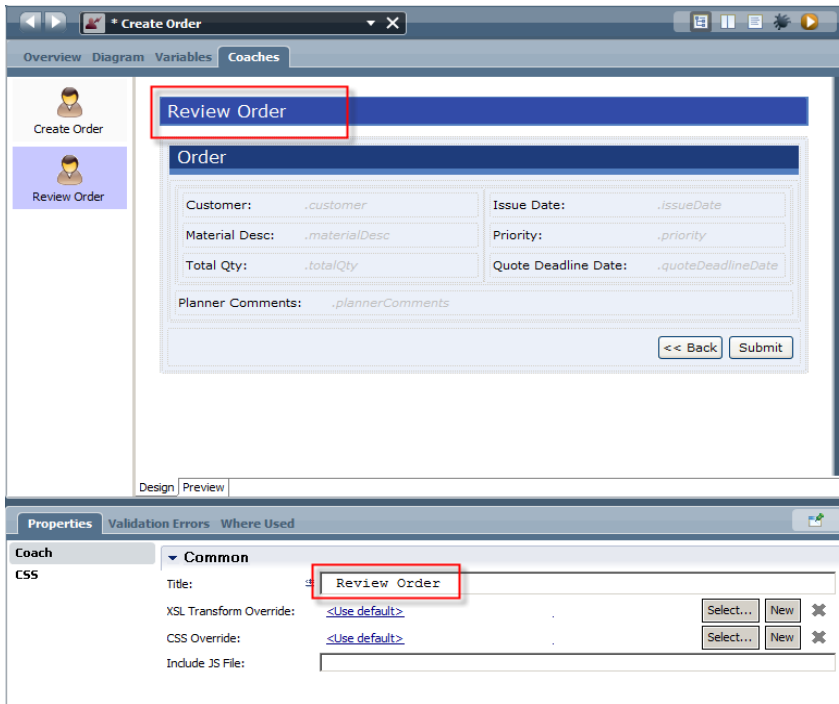
- __e. Click on the **Next >>** button.
- __f. In the Properties pane, click on the **Presentation** tab.
- __g. Change the **Label** of the **Next >>** button to **<< Back**. (Remember the space.)



- __h. In the **Buttons** area, click the **Add** button and change the new button's label to **Submit**.



- __i. Click on the **Create Order** title bar at the top of the Coach.
- __j. Change the title to **Review Order**.



- __k. **Save** your work.

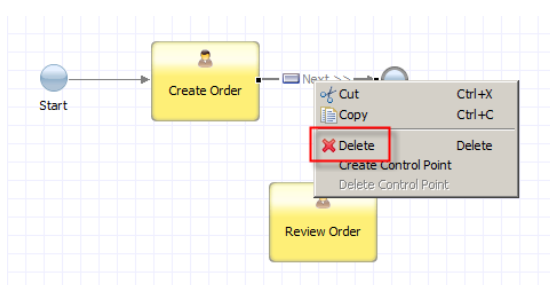
If you were to press the **Run** button, you would not see your new review Coach. Why? The new Coach has not been added to the user interface flow.

- __14. Add the **Review Order** coach to the user interface flow.

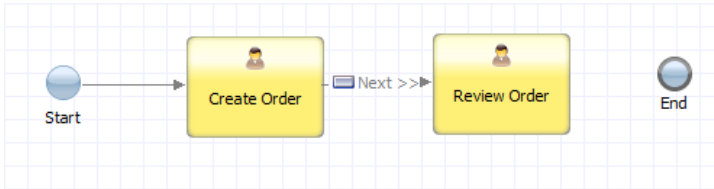
- __a. Click on the **Diagram** tab.



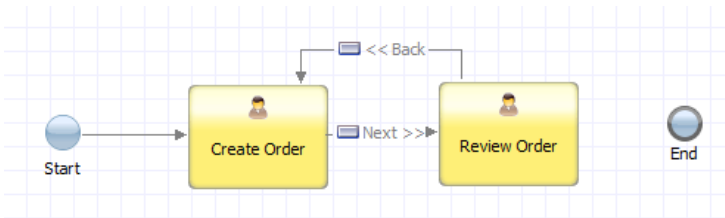
- __b. Right click on the **Next >>** connection line, and select **Delete**.



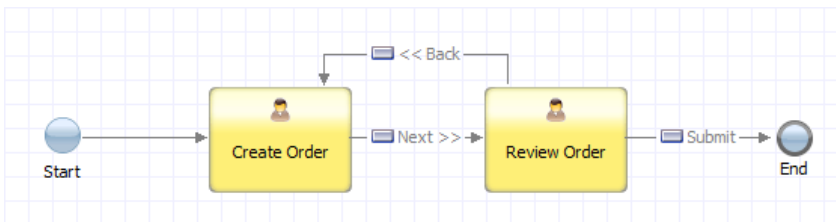
- __c. Use the **Sequence Flow** tool to connect the **Create Order** coach to the **Review Order** coach. (You may need to move the **End** event to make room for the **Review Order** coach.)



- __d. Connect the **Review Order** coach back to the **Create Order** coach.



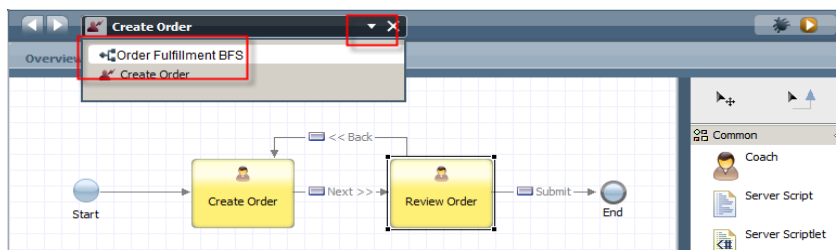
- __e. Finally, connect the **Review Order** coach to the **End** event.



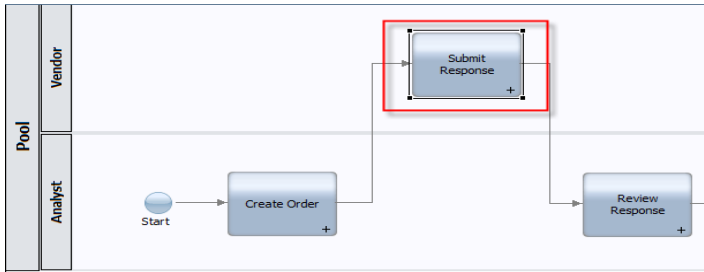
- __15. Test the final product.
 - __a. **Save** your work.
 - __b. Click the **Run** button. Close the browser window when you are finished.

1.2.8 Update the Submit Response User Interface

- __1. Switch back to the Business Process Diagram.
 - __a. Click on the down arrow next to **Create Order** at the top of the screen.
 - __b. Select **Order Fulfillment BFS**.



__2. Double-click on the **Submit Response** activity.

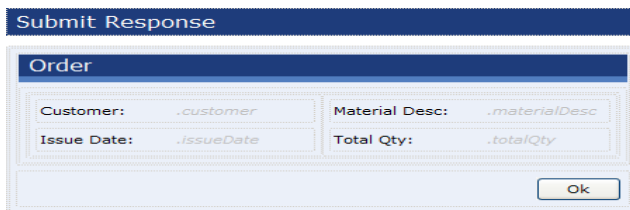


__3. Change the name of the Coach to **Submit Response**. (Properties pane)

__4. Double-click on the **Submit Response** coach.

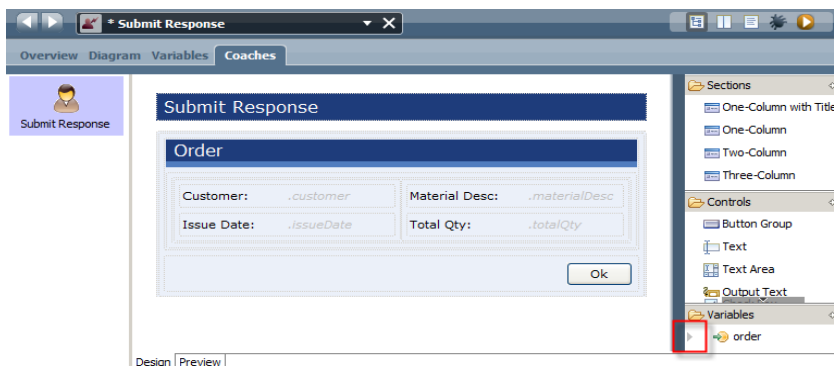
__5. Modify the **Order** section.

- __a. Delete the **Priority, Quote Deadline, Planner Comments, Approved, and Vendor Response** fields.
- __b. Change the remaining fields to **Output Text**. (Properties pane)
- __c. Add a **Two-Column** control to the top of the section.
- __d. Set the column widths to **50%**. (Properties pane, Presentation tab)
- __e. Drag and drop the fields into the columns. When you are finished, your coach should look similar to the following picture:

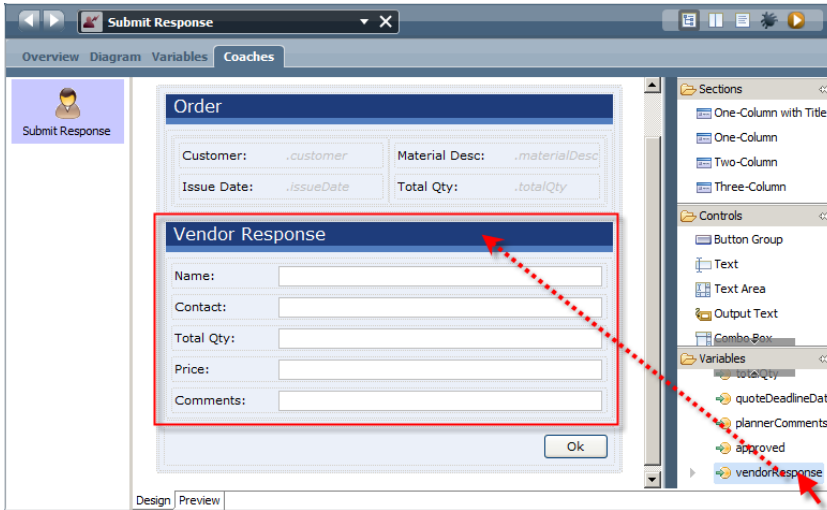


__6. Add the **Vendor Response** section.

- __a. Expand the **order** variable in **Variables** folder in the palette by clicking on the triangle next to the **order** variable.

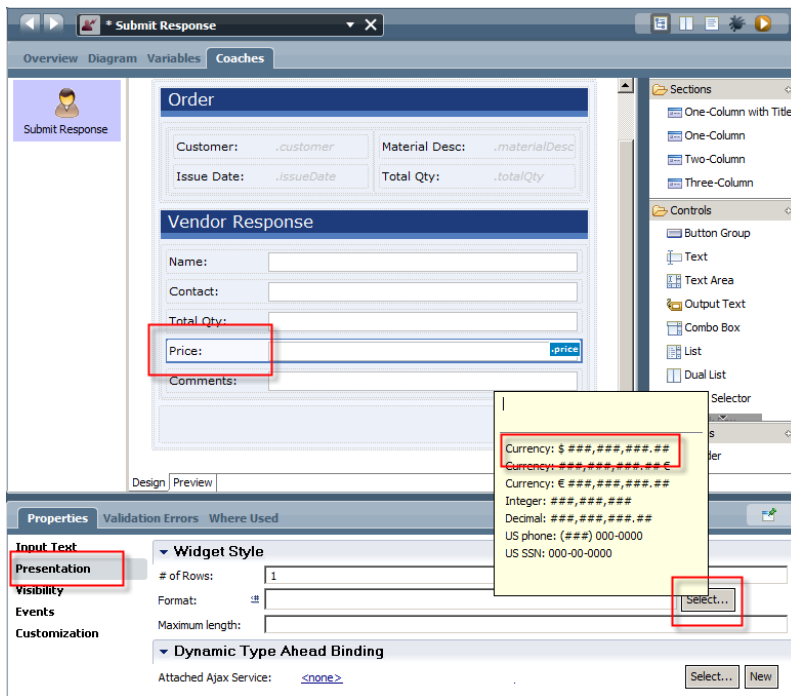


- __b. Scroll down to the **vendorResponse** variable and drag and drop the variable between the **Order** section and the **Ok** button group.

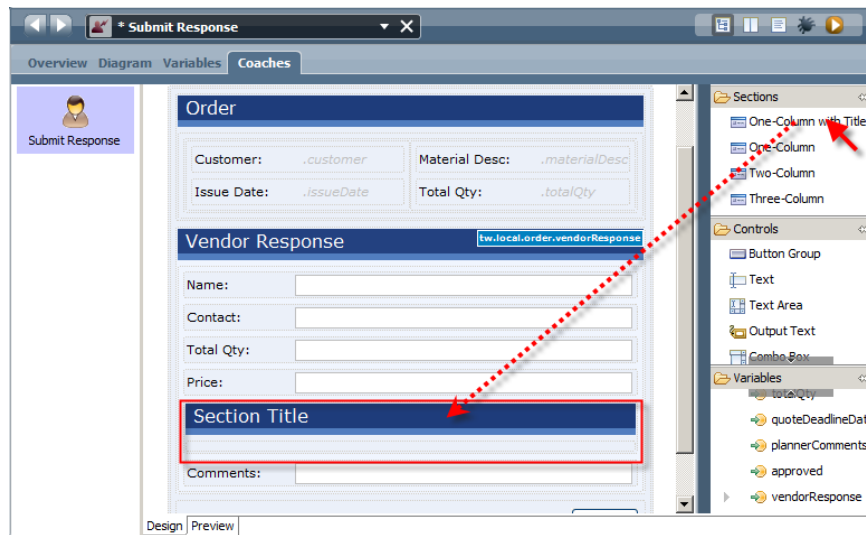


Notice that this action created a section for the variables content, as well as creating entry fields for all of the first-level attributes.

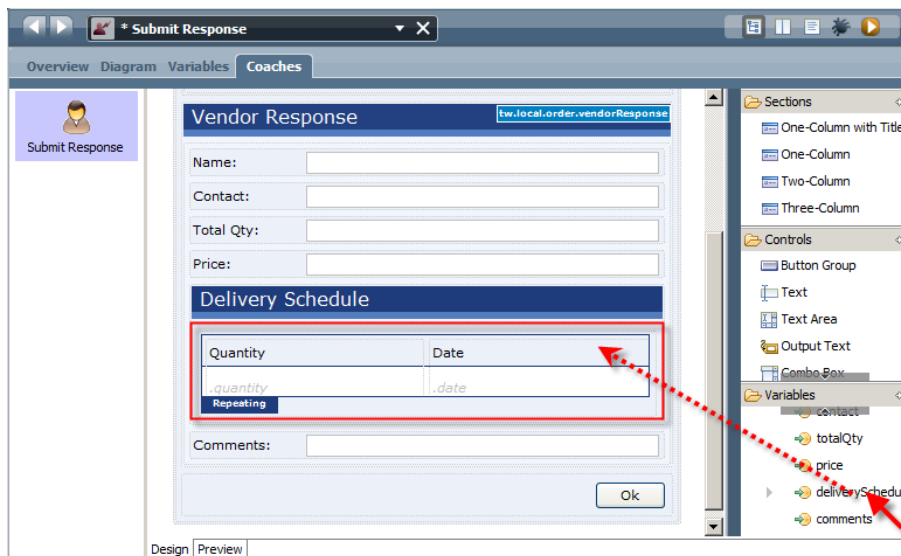
- __c. Format the **Price** field to display the value as currency.
 - __i. Select the **Price** field.
 - __ii. In the Properties pane, click on the **Presentation** tab.
 - __iii. Click on the **Select** button, and select **Currency: \$###,###,###.##**.



- ___d. Drag and drop a **One-Column with Title** control and drop it between the **Price** field and the **Comments** field.



- ___e. Change the **Title** of the new section to **Delivery Schedule**. (Properties pane, Section tab)
- ___f. Expand the **vendorResponse** variable in **Variables** folder in the palette by clicking on the triangle next to the **vendorResponse** variable.
- ___g. Scroll down to the **deliverySchedule** variable and drag and drop the variable into the **Deleivery Schedule** section.



You now have the basic information on the Coach. It is time for a playback.

- ___h. **Save** your work.

- __i. Click the **Run** button.

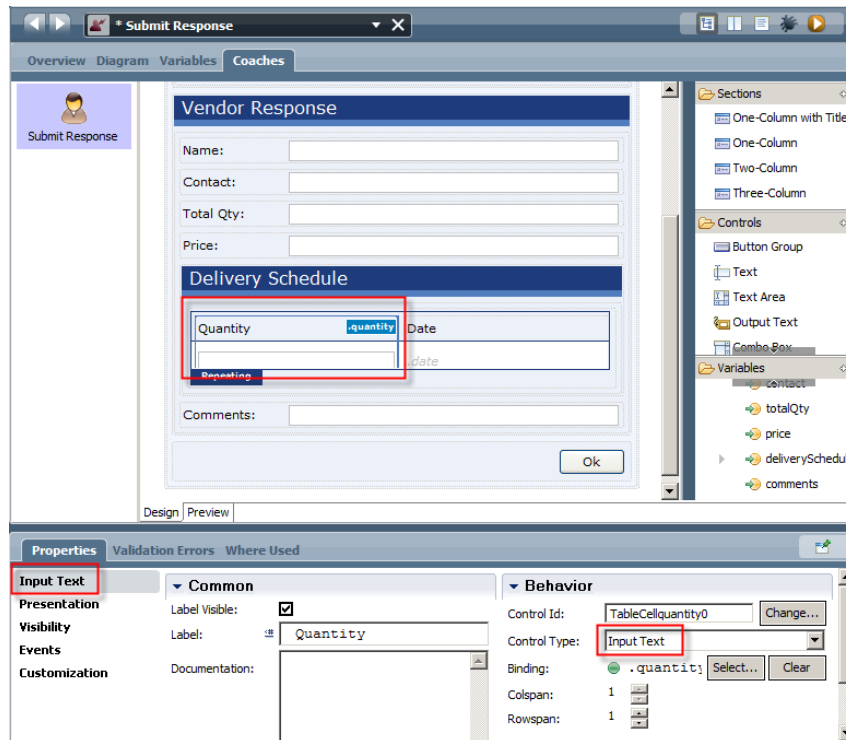
The default table properties for the delivery schedule are not quite what you need. The fields need to be input fields, there is no need for the radio button, and you need to be able to add and delete rows.

- __j. Click the **Ok** button and close the browser window.
- __k. Click on the **Quantity** column.
- __l. In the Properties pane, change the **Control Type** to **Input Text**.

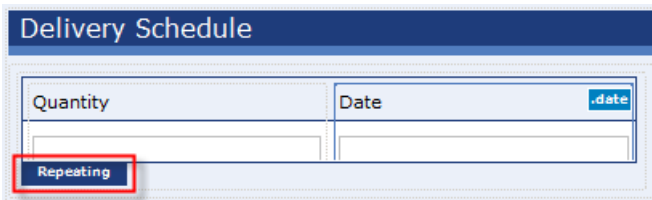


Important!

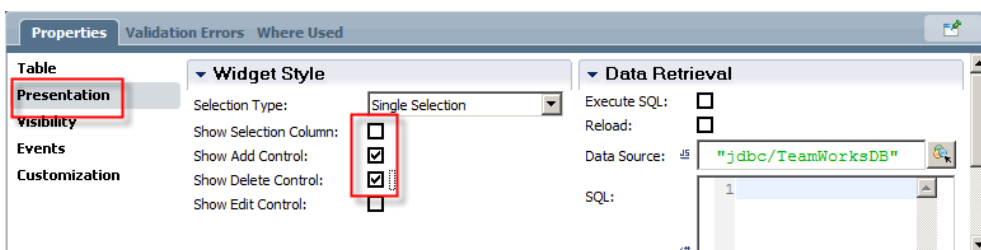
Do not press the “I” key on the keyboard to jump to the **Input Text** entry in the **Control Type** drop-down list. The first “I” in the list is **Image**, which will be selected. Since as image is not bound to a variable, you will lose the connection between the **Quantity** field and the **quantity** variable.



- __m. Change the **Control Type** for the **Date** column to **Date Selector**.
- __n. Select the table by clicking on the **Repeating** tag on the bottom of the table.



- __o. In the Properties pane, click on the **Presentation** tab.
- __p. Make the following changes:
 - __i. Uncheck **Show Selection Column**.
 - __ii. Check **Show Add Control**.
 - __iii. Check **Show Delete Control**.



__q. **Optional:**

__i. Use a two-column control to group the top four fields in the **Vendor Response** section.

__ii. Increase the number of rows for the **Comments** field to **3**.

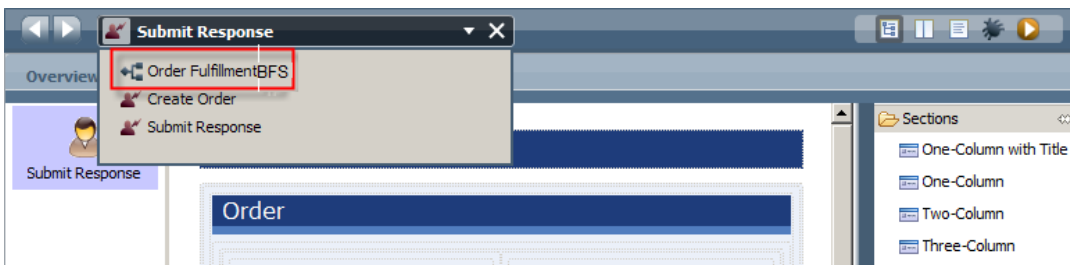
__r. **Save** your work.

1.2.9 Update the Review Response User Interface

__1. Switch back to the Business Process Diagram.

__a. Click on the down arrow next to **Create Order** at the top of the screen.

__b. Select **Order Fulfillment BFS**.

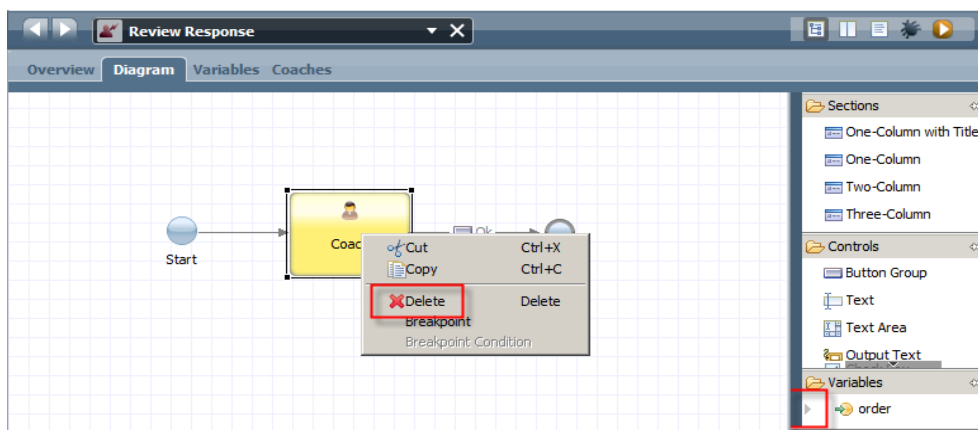


__2. Double-click on the **Review Response** activity.

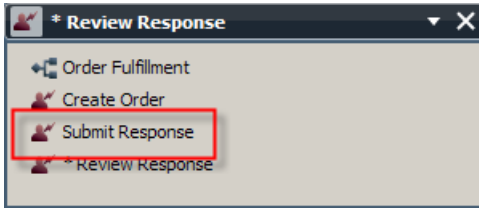
Since the Coach for the **Review Response** activity is very similar to the Coach that was created for the **Submit Response** activity, you will use a copy of the **Submit Response** coach as the starting point.

__3. Replicate the **Submit Response** coach.

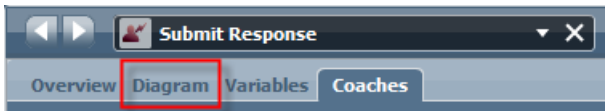
__a. Right-click on the **Coach** in the Review Response Diagram and select **Delete**.



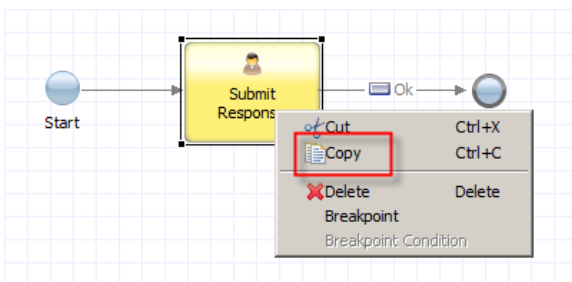
- __b. Use the drop-down list at the top of the screen to switch to the **Submit Response** user interface.



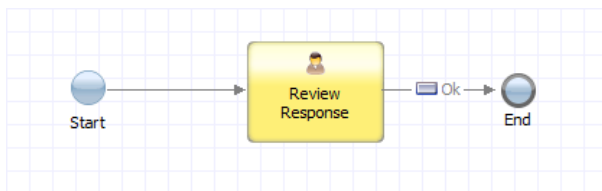
- __c. If you are not viewing the coach flow, click on the **Diagram** tab.



- __d. Right-click on the **Submit Response** Coach and select **Copy**.

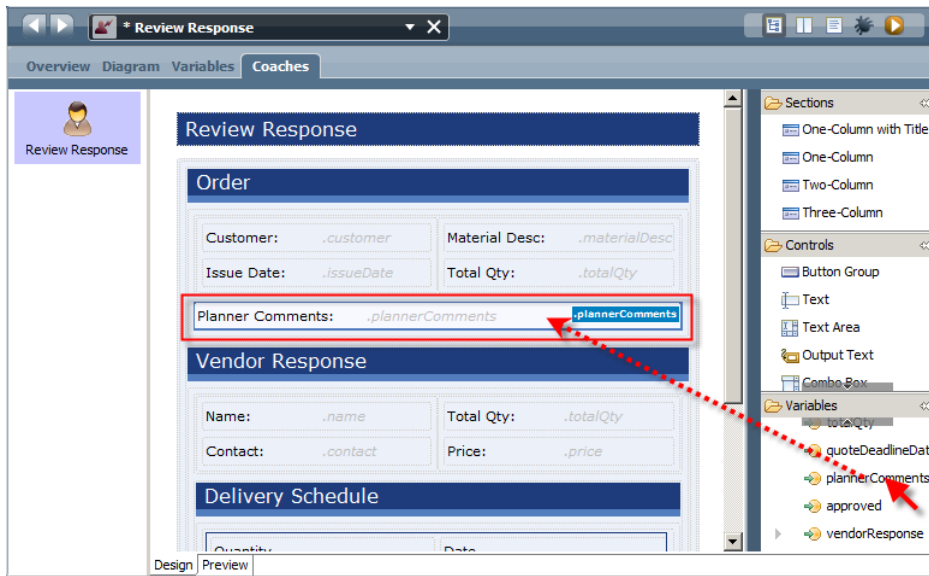


- __e. Use the drop-down list at the top of the screen to switch to the **Review Response** user interface.
- __f. Right-click between the **Start** and **End** events and select **Paste**.
- __g. Change the name of the coach to **Review Response**.
- __h. Use the **Sequence Flow** tool to connect the **Review Response** activity to the **Start** and **End** events. When you are finished, your screen should look similar to the following picture:

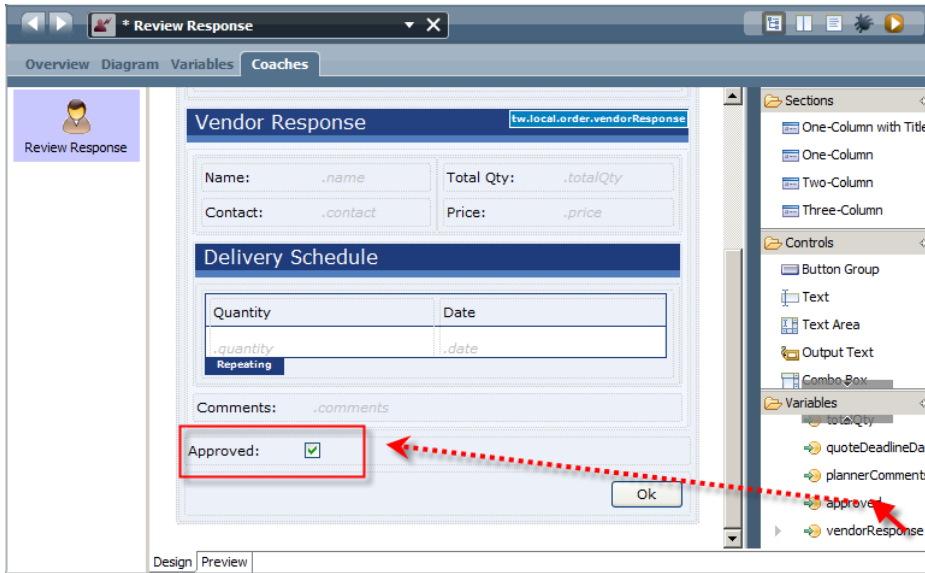


- __4. Modify the **Review Response** coach.
- __a. Double-click on the **Review Response** Coach.
- __b. Select the **Submit Response** title bar at the top of the coach and change the **Title** to **Review Response**.

- __c. Change all fields to **Output Text**. (Don't forget the fields in the table.)
- __d. Remove the **Add** and **Delete** controls from the table.
 - __i. Select the table. (Use the **Repeating** tag.)
 - __ii. Uncheck **Show Add Control** and **Show Delete Control**. (Properties pane, Presentation tab)
- __e. Add the **Planner Comments** to the coach.
 - __i. Expand the **order** variable.
 - __ii. Scroll down to the **plannerComments** variable.
 - __iii. Drag and drop the **plannerComments** variable to the bottom of the **Order** section. (Below the two-column area.)
 - __iv. Change the **Planner Comments** to **Output Text**.



- __f. Drag and drop the **approved** variable immediately above the **Ok** button.

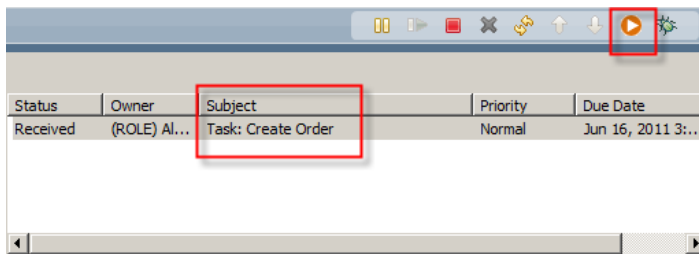


- __g. **Save** your work.
- __h. **Optional:** Playback your changes.

1.2.10 Playback the Process

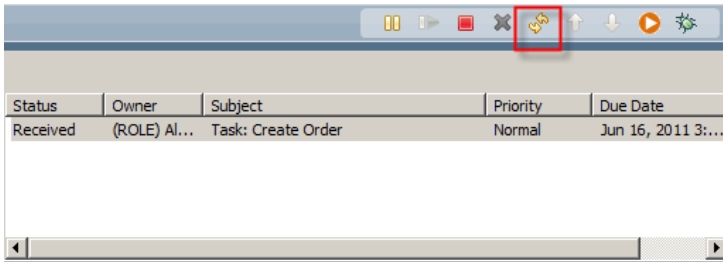
The process is now complete. The next step is to run or playback the complete process.

- __1. Use the drop-down list at the top of the screen to switch to the **Order Fulfillment BFS** business process definition.
- __2. Click the **Run** button.
- __3. In the Inspector view, select the **Create Order** task (top right pane), and click the **Run** button (above the selected task).



- __4. Run the activity as **tw_admin**.
- __5. Enter some test data into the screen and click the **Next >>** button.
- __6. Review the data, click **Submit**, and close the browser window.

__7. In the Process Inspector, click the **Refresh** button.



__8. Select and run the **Submit Response** task as **tw_admin**.

__9. Refresh the Process Inspector.

__10. Select and run the **Review Response** task as **tw_admin**.

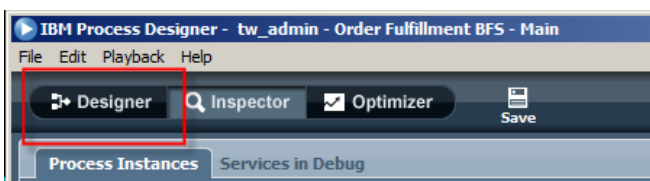
__11. Review the information, check the approved box, click **Ok**, and close the browser window.

__12. Refresh the Process Inspector. There should not be any running process instances or tasks.

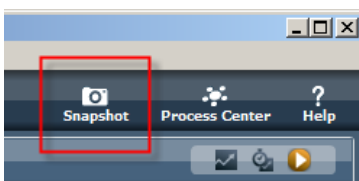
1.2.11 Create a Snapshot

The Process Center of the Business Process Manager provides the capability to take a snapshot of the current process application. A snapshot allows you to go back and see a previous version of the process application. Additionally, snapshots are used to deploy or install versions of the process application into other environments, such as QA or Production.

__1. Click on the **Designer** button in the top left corner to return to the Process Designer.

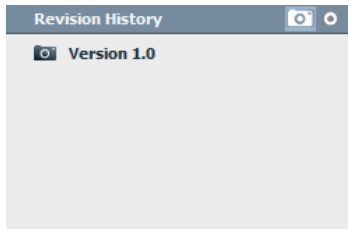


__2. Click on the **Snapshot** icon in the top right corner of the screen.



__3. Name your snapshot **Version 1.0** and click **OK**.

Notice that the new snapshot is displayed in the **Revision History**, located in the bottom left pane.



1.3 Modify the Process

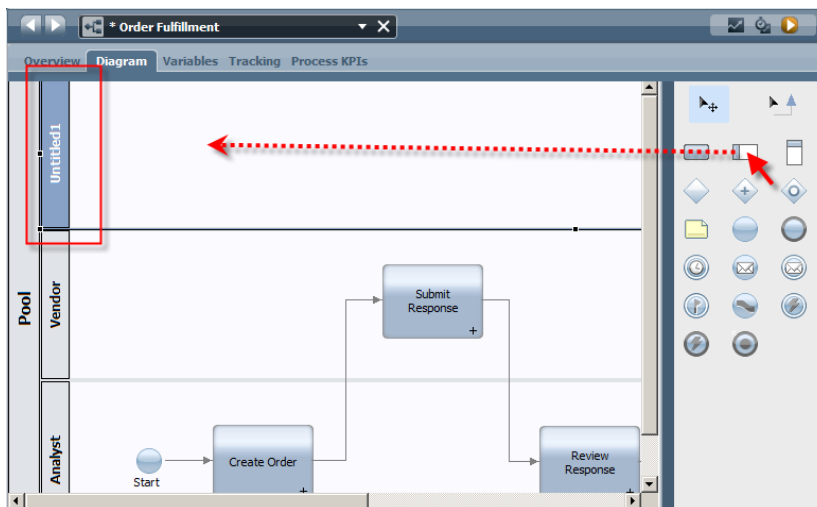
As is always the case, shortly after you deploy your process, a new requirement comes in. In this case, you are asked to route all high priority order to a manager for approval.

1.3.1 Add Manager Lane and Activity

__1. If you are not already in the **Order Fulfillment BFS** business process designer, go there.

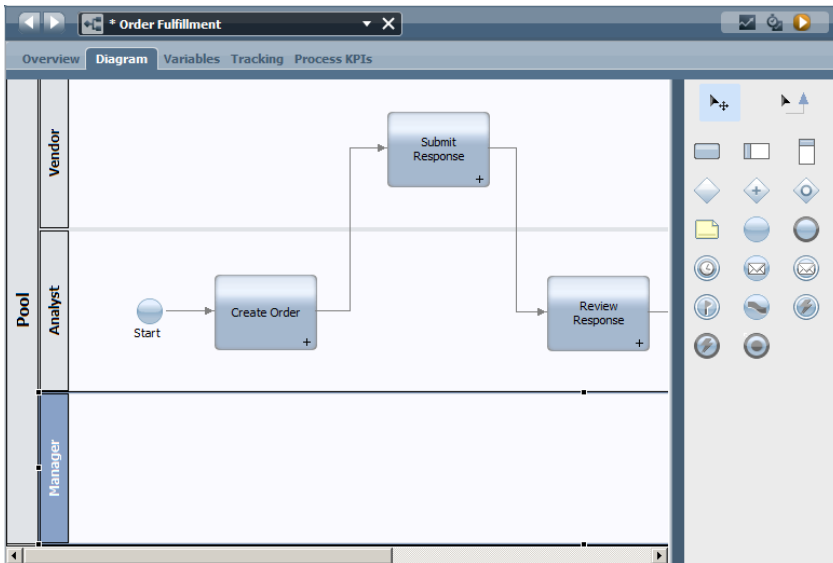
__2. Add the **Manager** Lane to the diagram.

__a. Drag and drop a new lane onto the diagram.

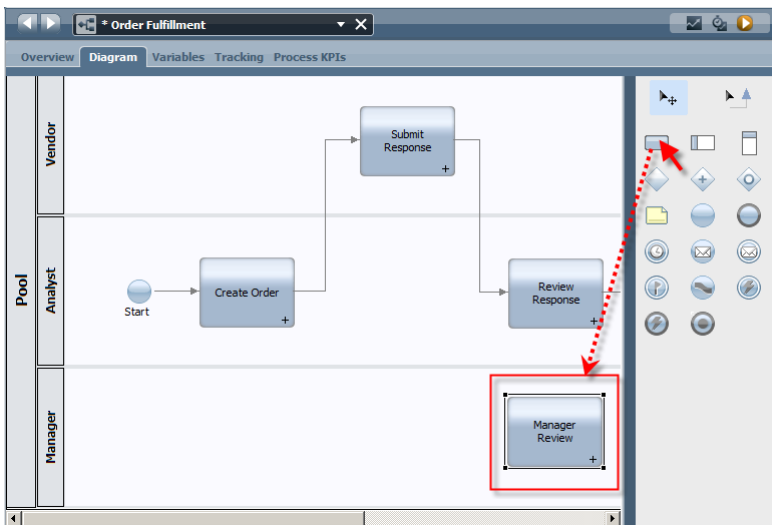


__b. Change the **Name** of the lane to **Manager**.

- c. Highlight the **Manager** lane and drag it to the bottom of the diagram. Your diagram should now look similar to the following picture:



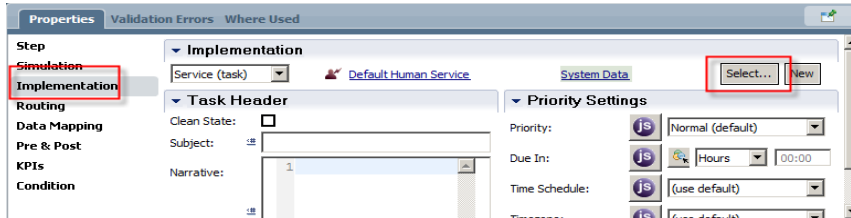
- 3. Add the **Manager Review** activity to the process diagram.
 - a. Drag and drop an activity in the **Manager** lane, below the **Review Response** activity.
 - b. Change the **Name** of the activity to **Manager Review**.



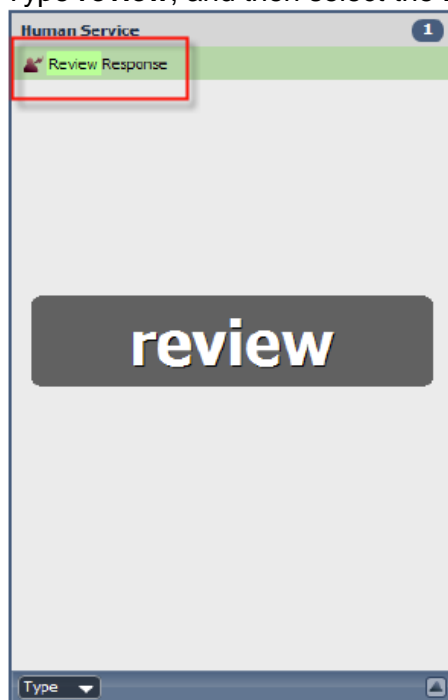
For the **Manager Review** activity, you will reuse the existing **Review Response** user interface.


___c. In the Properties pane, click on the **Implementation** tab.

___d. In the **Implementation** section, click on the **Select...** button.

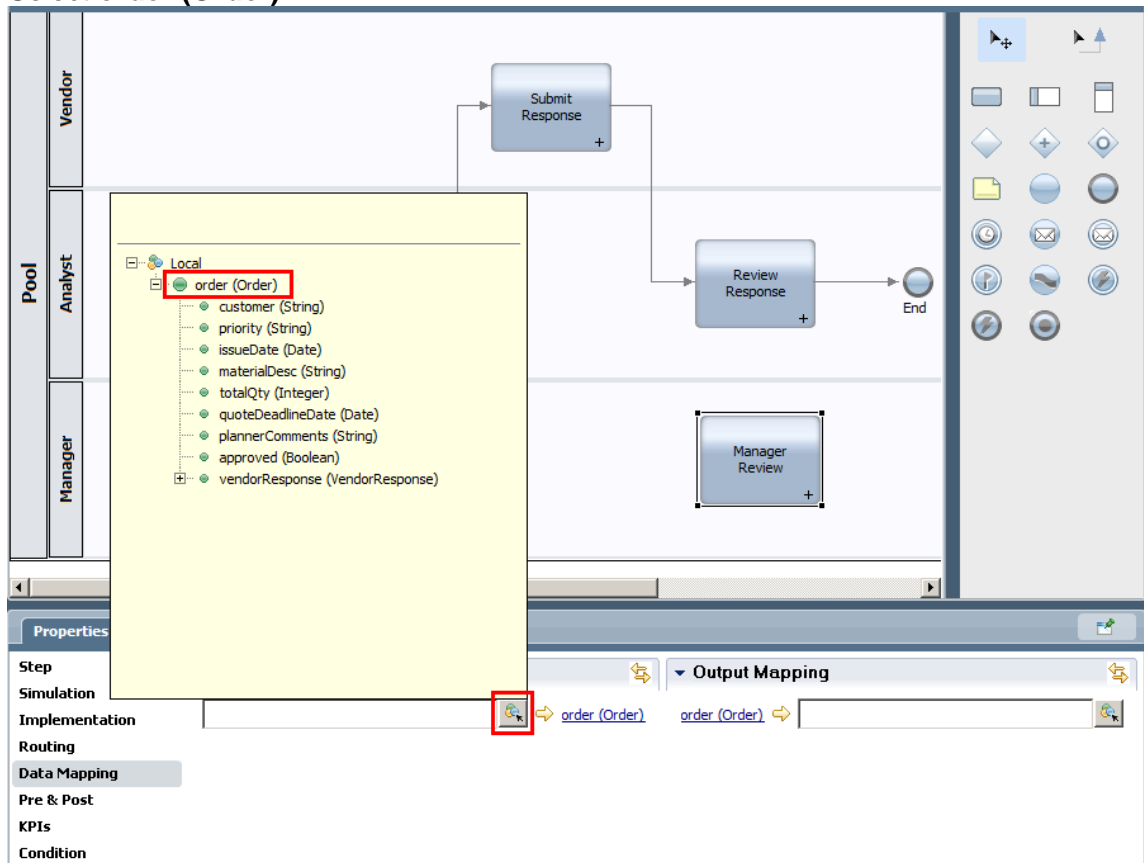


___e. Type **review**, and then select the **Review Response** user interface.

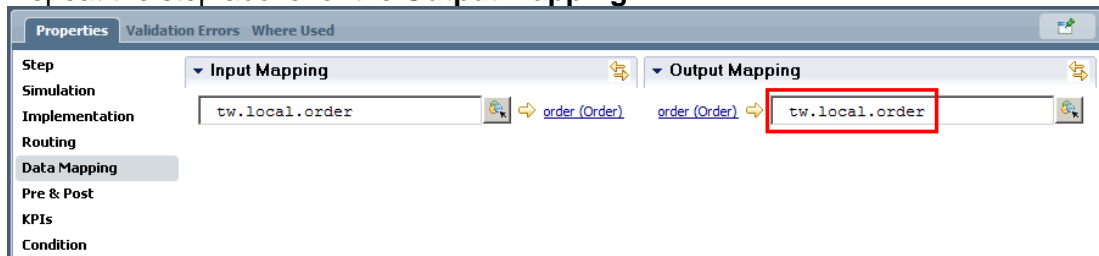


___f. In the **Data Mapping** section, click on the object selection icon () under **Input Mapping**.

__g. Select **order (Order)**.



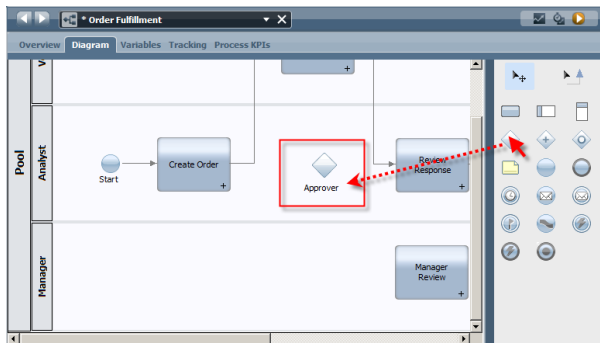
__h. Repeat the step above for the **Output Mapping**.



1.3.2 Add A Decision

__1. Drag and drop a **Decision Gateway** to the left of the **Review Response** activity.

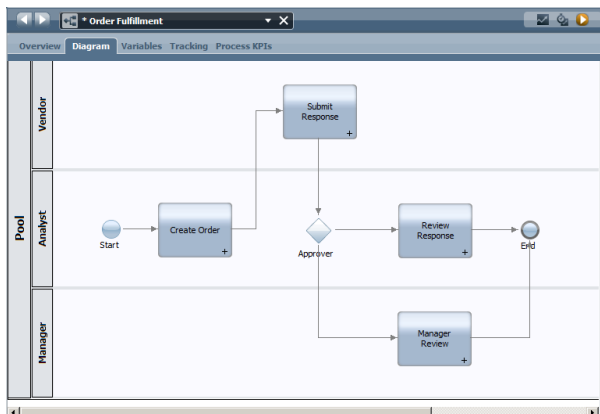
__2. Change the **Name** of the decision to **Approver**.



__3. Wire in the decision.

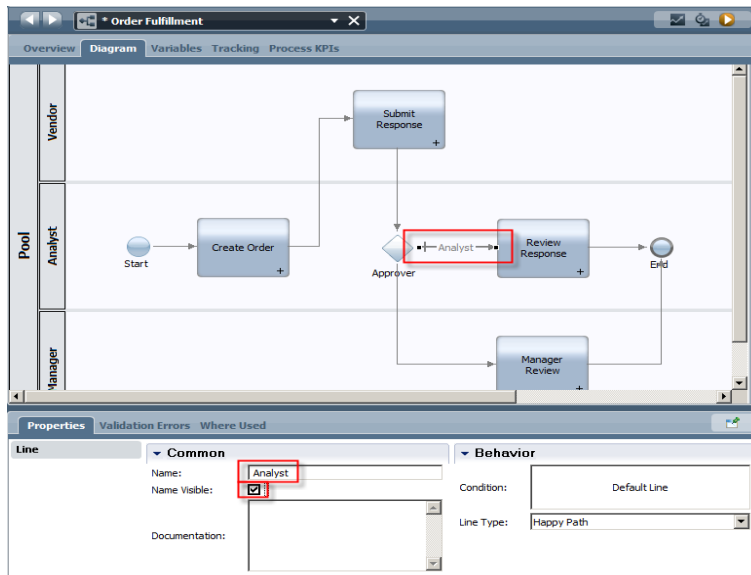
- __a. Delete the connection from the **Submit Response** activity to the **Review Response** activity.
- __b. Using the **Sequence Flow** tool, connect the **Submit Response** activity to the **Approver** decision.
- __c. Connect the **Approver** decision to the **Review Response** activity.
- __d. Connect the **Approver** decision to the **Manager Review** activity.
- __e. Connect the **Manager Review** activity to the **End** event.

Your diagram should look similar to the following picture:



- __f. Add a label to the **Approver** connections.
 - __i. Select the connection from the **Approver** decision to the **Review Response** activity.
 - __ii. In the Properties pane, change the **Name** of the line to **Analyst**.

__iii. Check the **Name Visible** box.

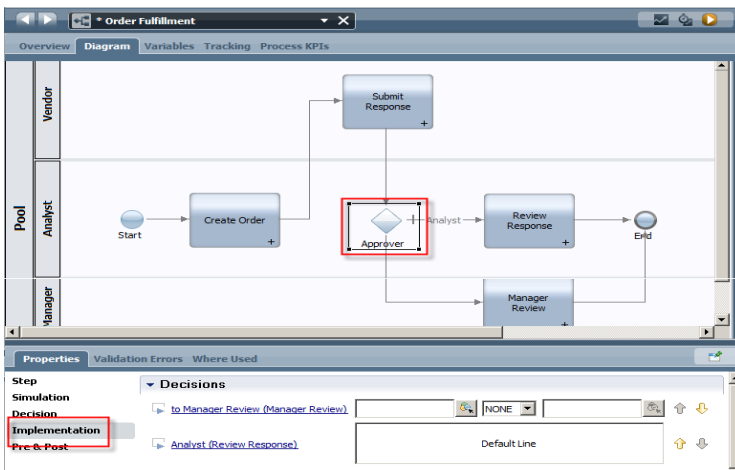


__iv. Optional: Repeat the steps for the connection from the **Approver** decision to the **Manager Review** activity, naming the line **Manager**.

__4. Add the logic to the **Approver** decision.

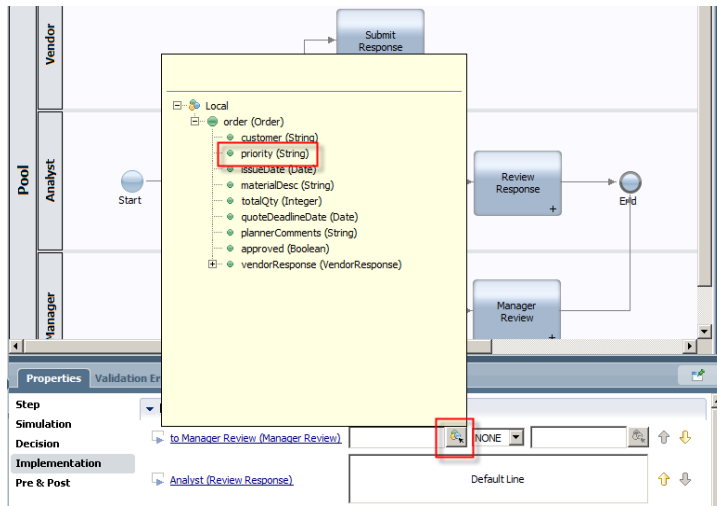
__a. Select the **Approver** decision.

__b. In the Properties pane, click on the **Implementation** tab.

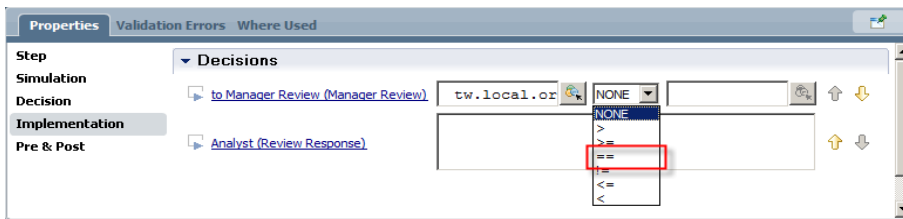


__c. In the field to the right of **to Manager Review (Manager Review)**, click the object selection icon ().

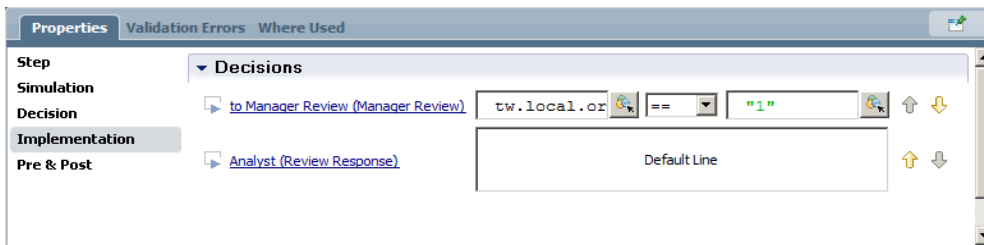
__d. Select **priority (String)**.



__e. In the operator drop-down list, select **==**.



__f. In the last field, type **"1"**. (Including the quotation marks).



__5. **Save** your work.

You have completed the modifications to the process. It is now ready to be tested.

1.3.3 Playback the Process

Use the Process Inspector to test the process. If you need a refresher on using the Process Inspector to test the process, refer back to Section 1.2.10. When you test the process, make sure to set one of the order's priority to **High** to make sure the decision is working properly. To run new instances of the process in the Process Inspector, click on the **Run** button above the process diagram.

1.3.4 Create a Snapshot

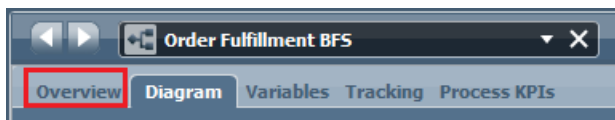
- __1. Click on the **Designer** button in the top left corner to return to the Process Designer.
- __2. Click on the **Snapshot** icon.
- __3. Name the snapshot **Version 1.1**.

1.4 Run the Process in the Process Portal

So far, all of the instances have been run within the Process Inspector of the IBM Process Designer. In the next section, you will be running the process in the Process Portal, one of the user interface options that ships with the IBM Business Process Manager.

1.4.1 Update the Process Properties

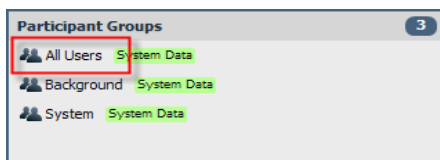
- __1. In the Process Designer, click on the **Overview** tab.



- __2. In the **Exposing** section, click on the **Select** button next to **Expose to start**.

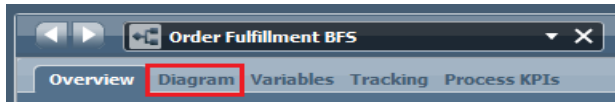


- __3. Select **All Users**.

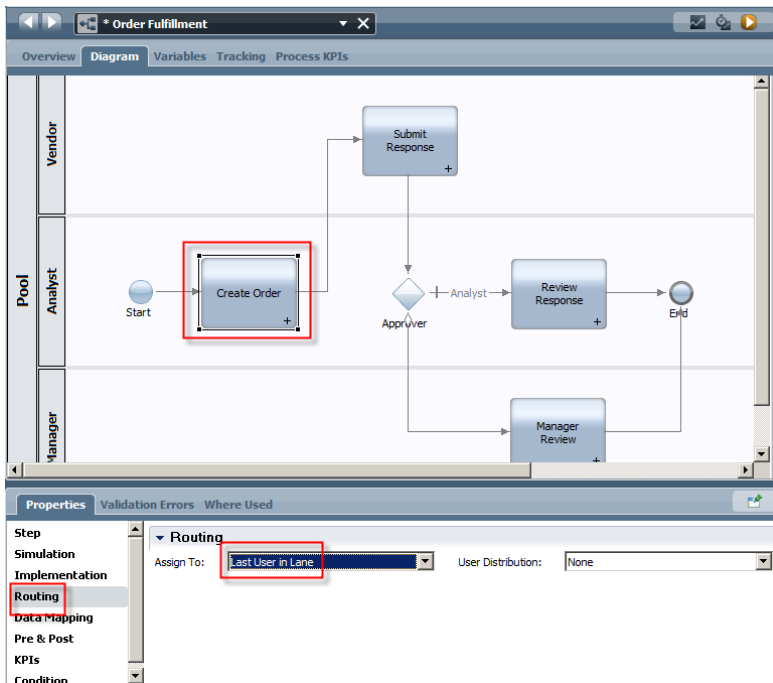


This specifies that all users will have the ability to start a new instance of the **Order Fulfillment BFS** process.

- __4. Switch back to the diagram.



- __5. Click on the **Create Order** activity, and click on the **Routing** tab in the Properties pane.
 __6. In the **Assign To** drop-down list, select **Last User in Lane**.



This will cause the first activity to be launched as soon as the user creates a new instance of the **Order Fulfillment BFS** process.

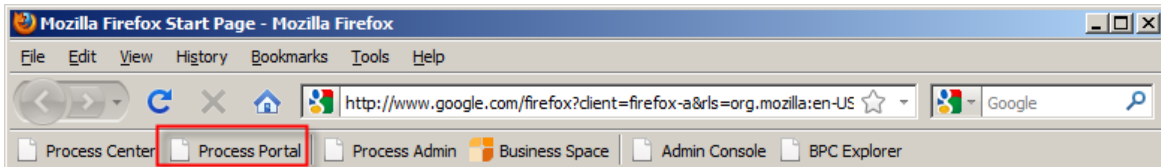
- __7. **Save** your changes.

1.4.2 Run the Process in the Process Portal

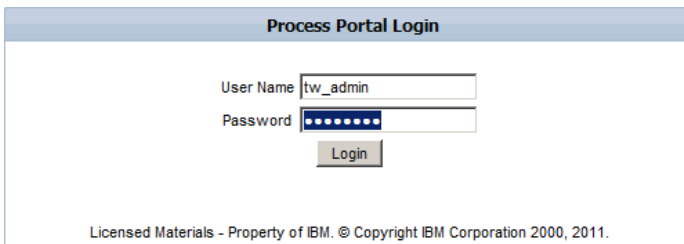
- __1. Launch the Firefox Web browser, using the icon on the bottom of screen.



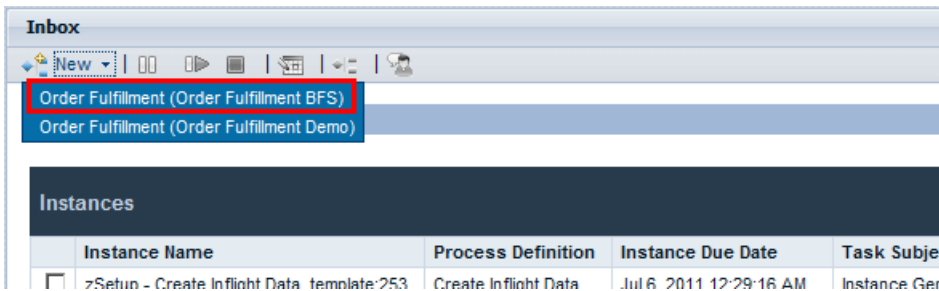
__2. Click on **Process Portal** in the Firefox toolbar.



__3. Login using **tw_admin** as the **User Name** and **Password**.



__4. In the Inbox, click on the **New** drop-down list and select **Order Fulfillment (Order Fulfillment BFS)**.

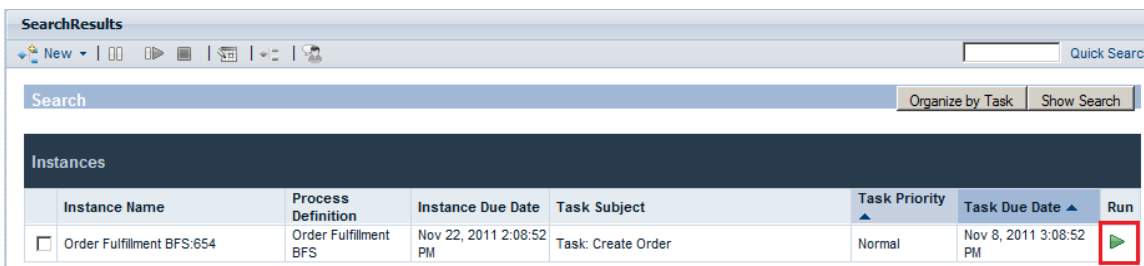


__5. Complete the **Create** Order activity.

__6. Refresh the browser window by clicking on the refresh icon (🔄) or by pressing F5.

The next activity in the process is displayed in the Inbox, but it may not be listed on the first page. To view it, click in the **Task Due Date** header to re-sort so that the latest date is at the top of the list, or navigate to the last page of the inbox.

__7. Click on the **Run** button next to the **Submit** Response activity to claim and run the activity. When prompted, click **OK**.



__8. Complete the **Submit Response** activity.

- __9. Refresh the browser.
- __10. Claim and complete **Review Response** activity.
- __11. Refresh the browser.

You have successfully completed running the **Order Fulfillment BFS** process in the Process Portal.

1.5 Summary

In this lab you created a complete, albeit simple, order fulfillment process from scratch. The process included all of the user interfaces, or Coaches, necessary to complete the process. Using IBM BPM's shared model, you were able to quickly change and test all of the individual components, as well as run the entire process from start to finish.

Lab 2 Process Portal Lab

You will explore some of the features of the IBM BPM Process Portal, an easy-to-use end user interface for BPM.

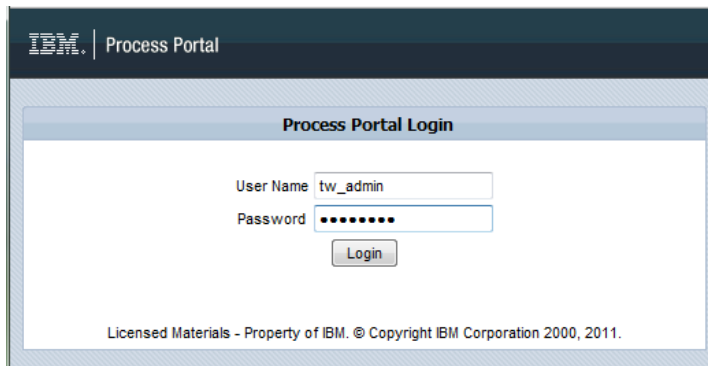
2.1 Bring up the Process Portal

In this section, you will explore the IBM BPM Process Portal functionality, My Tasks, which is available to all users of a process application. We will use a pre-built process, Order Fulfillment, which has some historical data.

You will log in to the Process Portal, explore some of its features, view process context of an instance, create a new process instance, view the history of your work, work with help requests that other process participants made to you, and see any process alerts.

2.1.1 Login to the Process Portal

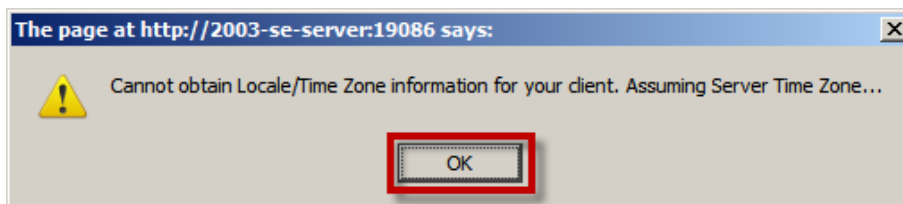
- __1. In the Firefox web browser, click on **Process Portal** in the toolbar.
- __2. Log in using the User Name **tw_admin** and Password **tw_admin**, then click **Login**



Alternatively, you could have opened your browser and pointed to the appropriate URL, such as: `http://[host_name]:[port]/portal`

The default port is 9080.

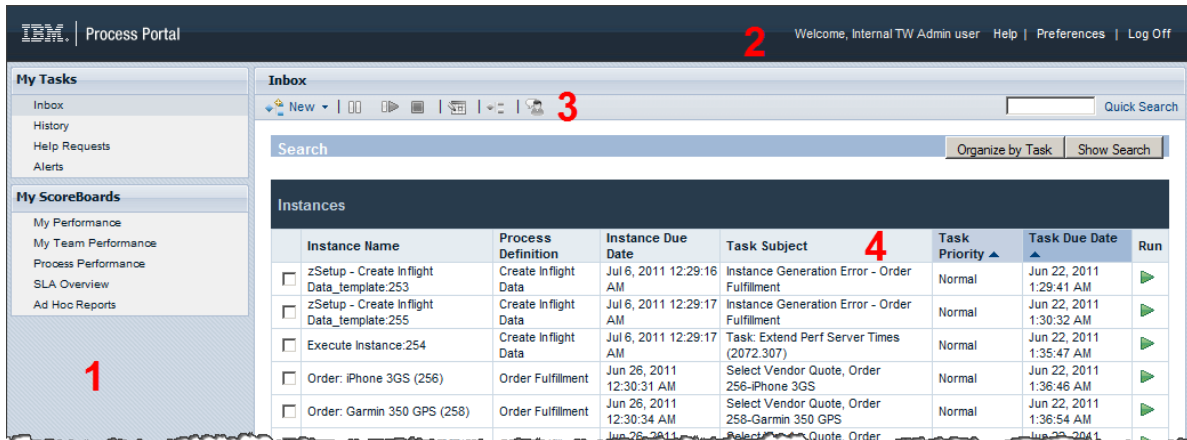
If you are using a VMWare you may notice this time zone message. Just click **OK** and continue with the lab.



2.2 Explore the Process Portal

2.2.1 Explore the IBM BPM Process Portal


___1. Explore features available in the Process Portal:

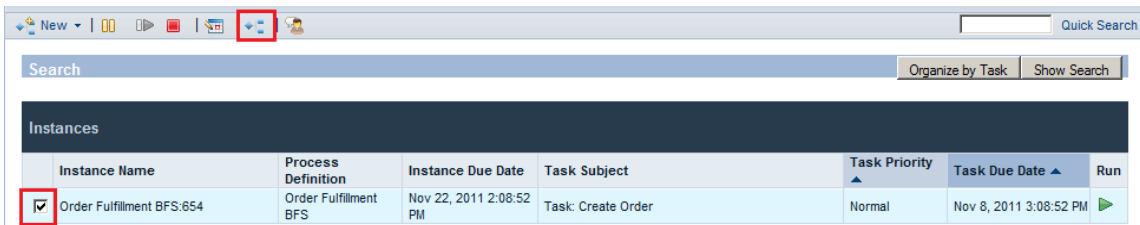



Section	Description
1	<p>You can use the links in the navigation bar to navigate to activities within My Tasks, My Scoreboards, and My Projects.</p> <ul style="list-style-type: none"> • My Tasks - Receive and complete tasks that are assigned to you, view task execution history, requests for help from other process participants, and process-related alerts. • My ScoreBoards - Monitor individual and process performance, view custom reports, and create ad hoc reports. The team performance and some of these reports are only available to managers. • My Projects - Access custom Process Portal pages that may be defined for a process application. In this example, none are defined.
2	<p>This area displays the name of the current Process Portal user. Click Preferences to specify your email and language settings. Click Help to open the online user assistance for IBM BPM Process Portal.</p>
3	<p>Use the toolbar icons to manage process instances and tasks. For example, you can start, suspend, resume, or terminate currently active process instances, assign tasks to users or groups, change the due date of a process instance or a task, and search for process instances and tasks.</p>
4	<p>This is the main area that displays the items you are currently working with. For example, the preceding image shows the first page of tasks in the current user's Inbox. The tasks are displayed according to the process instance that generated each task. You can click an Instance Name or Task Subject to see more detailed information about each task. In this area, you can also view and sort search results, view reports and scoreboards, and edit preferences.</p>

2.2.2 View process context of an instance

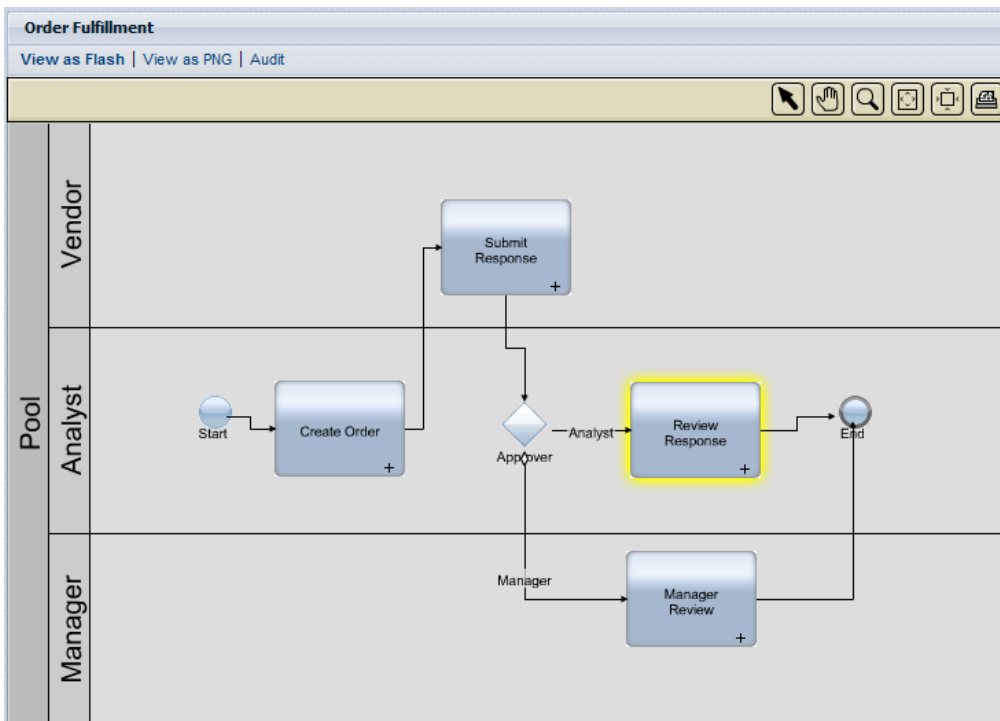
__1. The following steps show you how to see a graphic view of an in-flight process. This is called the **process context**.

__a. Select an instance by checking the box next to **Instance Name**, then click the **process diagram** (). **Please note:** Do not select any instance whose Process Definition (shown in the column to the right of Instance Name) is "Create Inflight Data".

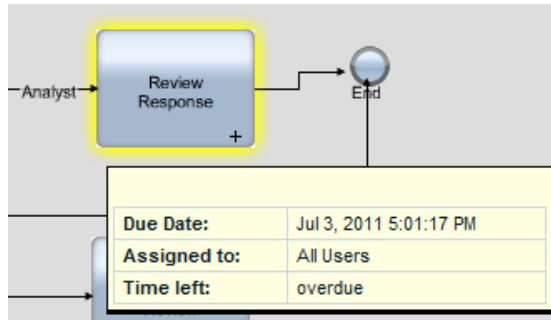


Instance Name	Process Definition	Instance Due Date	Task Subject	Task Priority	Task Due Date	Run
<input checked="" type="checkbox"/> Order Fulfillment BFS:654	Order Fulfillment BFS	Nov 22, 2011 2:08:52 PM	Task: Create Order	Normal	Nov 8, 2011 3:08:52 PM	

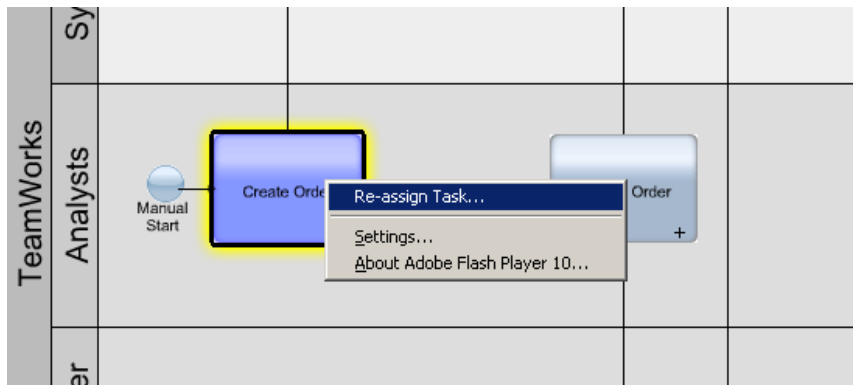
The process diagram will open and if it is an active instance, the current step of the process will be highlighted in a yellow halo. This diagram is not just a static picture, you can also do some work on the current activity such as Re-assigning a task to another user or group, or seeing the Due date of the task, who is it assigned to, and the time left to complete the task.



- __b. View the due date of the task, who the task is assigned to, and the time left to complete the task by clicking on the highlighted task (or hovering over it). In a few seconds the details will appear.




- __c. Try re-assigning a task to another user or group by **right-clicking** the task, then select **Re-assign Task...**



Re-assigning Task from process diagram

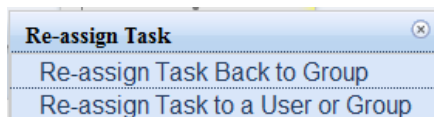
Depending upon the process that you view, you may see varying results.



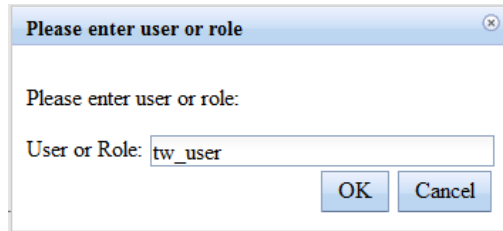
If the original task was open to All Users, re-assigning to a particular user or role will not be very evident.

If the original task was assigned to a particular group and the person that you re-assigned the task to was not a member of that group, the process may be set up to disallow this re-assignment.

- __i. Select **Re-assign Task to a User or Group**



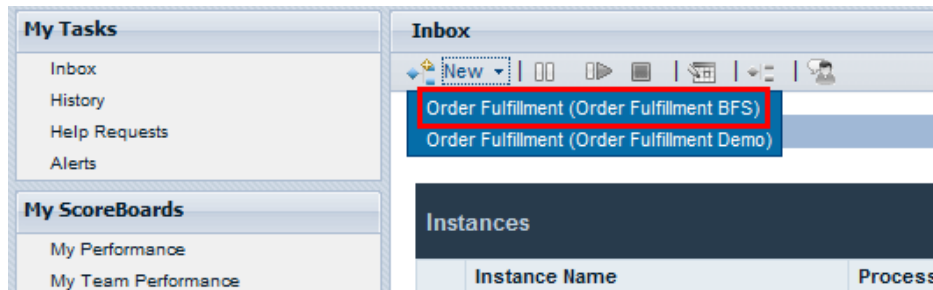
- __ii. At the prompt, enter another user or role name. We entered **tw_user**. Then click **Submit**.



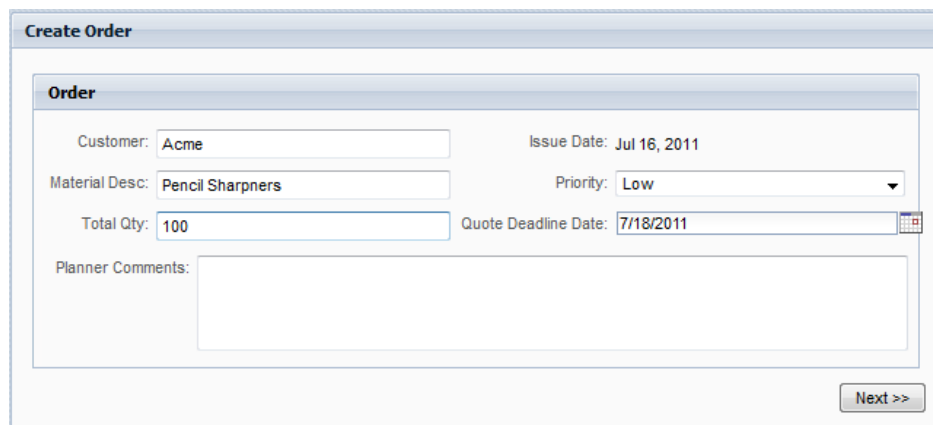
- __iii. Close the process diagram browser pop-up window.

2.2.3 Create a new process instance

- __1. Create a new process instance. For this example, members of the Analysts team can create new process instances in the Order Fulfillment process application. Who can start a process is defined in each BPD.
 - __a. In the Inbox, click **New** and a list of processes this user can start will show up. Select **Order Fulfillment (Order Fulfillment BFS)**.



- __b. The Coach (user interface) for the first activity will appear and in a wizard-like fashion you will be guided through the steps of creating a process instance. You should be familiar with this one, because you just built it!
- __c. In the Create Order screen, enter the values in the fields, then click **Next >>**



- __d. Review the order details and click **Submit**. Note, if you wanted to change anything you could click the << **Back** button.

Review Order

Order

Customer: Acme	Issue Date: Jul 16, 2011
Material Desc: Pencil Sharpners	Priority: 3
Total Qty: 100	Quote Deadline Date: Jul 18, 2011
Planner Comments:	

<< Back Submit

2.2.4 History of your work

__1. A history of work you have completed is available from the Process Portal under History.

__a. Under **My Tasks**, click **History** and you will see a list of tasks you have completed sorted by earliest Task Due Date.

My Tasks

- Inbox
- History**
- Help Requests
- Alerts

My ScoreBoards

- My Performance
- My Team Performance
- Process Performance
- SLA Overview
- Ad Hoc Reports

SearchResults

Search

Organize by Task Show Search

Instances							
	Instance Name	Process Definition	Instance Status	Task Subject	Task Priority	Task Due Date	Run
<input type="checkbox"/>	Car Insurance Approval:486	Auto Insurance Application	Active	Step: Check Eligibility	Normal	Sep 22, 2011 10:23:39 AM	
<input type="checkbox"/>	Car Insurance Approval:488	Auto Insurance Application	Active	Step: Check Eligibility	Normal	Sep 22, 2011 10:23:41 AM	
<input type="checkbox"/>	Car Insurance Approval:481	Auto Insurance Application	Active	Step: Check Eligibility	Normal	Sep 22, 2011 10:23:42 AM	
<input type="checkbox"/>	Car Insurance Approval:490	Auto Insurance Application	Active	Step: Check Eligibility	Normal	Sep 22, 2011 10:23:43 AM	
<input type="checkbox"/>	Car Insurance Approval:489	Auto Insurance Application	Active	Step: Check Eligibility	Normal	Sep 22, 2011 10:23:53 AM	
<input type="checkbox"/>	Execute Instance:455	Create Inflight Data	Active	Task: Extend Perf Server Times (2072.488)	Normal	Sep 22, 2011 10:24:59 AM	
<input type="checkbox"/>	Car Insurance Approval:491	Auto Insurance Application	Completed	Step: Check Eligibility	Normal	Sep 22, 2011 10:30:45 AM	
<input type="checkbox"/>	Order Fulfillment BFS:653	Order Fulfillment BFS	Active	Task: Create Order	Normal	Nov 8, 2011 3:05:24 PM	
<input type="checkbox"/>	Order Fulfillment BFS:654	Order Fulfillment BFS	Active	Task: Create Order	Normal	Nov 8, 2011 3:08:52 PM	

__b. To see the task you completed, re-sort the list to make the task with the latest due date show up first by clicking (▲) under **Task Due Date**. The Order Fulfillment instance you just created should now show up as the first task. You could select it and view the process state or click on its Instance Name and see more details about the task.

SearchResults

Search

Organize by Task Show Search

Instances							
	Instance Name	Process Definition	Instance Status	Task Subject	Task Priority	Task Due Date	Run
<input type="checkbox"/>	Order Fulfillment:556	Order Fulfillment	Active	Task: Create Order	Normal	Jan 23, 2012 12:32:35 PM	
<input type="checkbox"/>	Order Fulfillment:507	Order Fulfillment	Completed	Task: Review Response	Normal	Jan 20, 2012 6:51:07 PM	
<input type="checkbox"/>	Order Fulfillment:506	Order Fulfillment	Completed	Step: Manager Review	Normal	Jan 20, 2012 6:28:46 PM	
<input type="checkbox"/>	Order Fulfillment:505	Order Fulfillment	Completed	Step: Manager Review	Normal	Jan 20, 2012 6:06:01 PM	
<input type="checkbox"/>	Order Fulfillment:504	Order Fulfillment	Completed	Task: Review Response	Normal	Jan 20, 2012 4:32:54 PM	
<input type="checkbox"/>	Order Fulfillment:503	Order Fulfillment	Completed	Step: Review Response	Normal	Jan 20, 2012 3:45:37 PM	
<input type="checkbox"/>	Car Insurance Approval:489	Auto Insurance Application	Active	Step: Check Eligibility	Normal	Sep 22, 2011 10:34:28 AM	
<input type="checkbox"/>	Car Insurance Approval:481	Auto Insurance Application	Active	Step: Check Eligibility	Normal	Sep 22, 2011 10:34:20 AM	
<input type="checkbox"/>	Car Insurance Approval:490	Auto Insurance Application	Active	Step: Check Eligibility	Normal	Sep 22, 2011 10:34:19 AM	
<input type="checkbox"/>	Car Insurance Approval:488	Auto Insurance Application	Active	Step: Check Eligibility	Normal	Sep 22, 2011 10:23:41 AM	

__c. **Log Off** from the IBM BPM Process Portal.

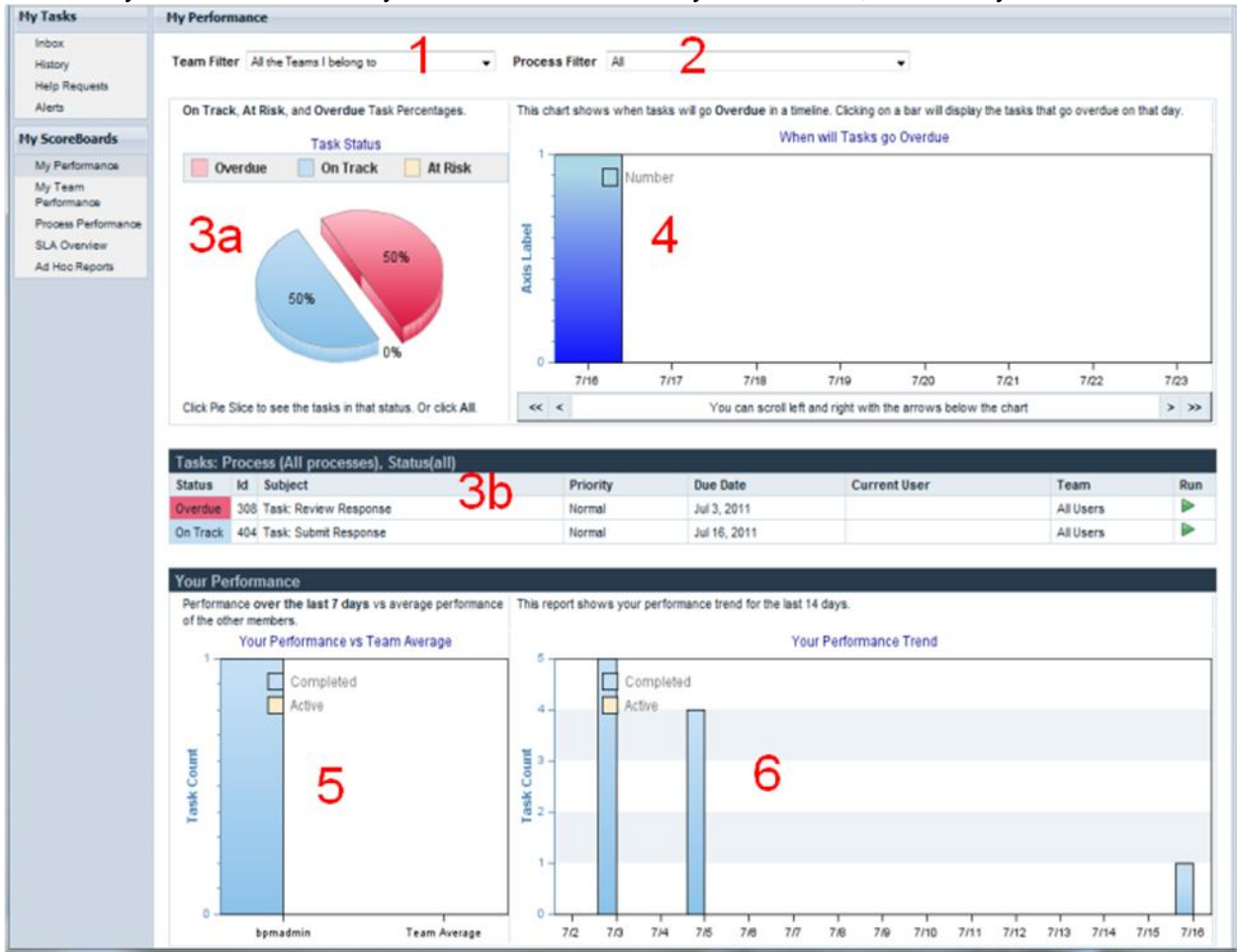
2.3 My Scoreboards for non-managers

In this section, you will use out-of-the-box scoreboards available to all users: **My Performance**, **My Team Performance**, and **Process Performance**. These scoreboards and performance metrics are captured in the performance data warehouse.

2.3.1 My Performance

1. Explore **My Performance**, which is an out-of-the-box scoreboard available to all users. This scoreboard has metrics about your performance.

2. Click **My Performance**, which is under **My Scoreboards**. This shows a list of all your tasks, due dates, your performance versus your team average, and your performance trend. The data shown in your scoreboard may be different than what you see here, but the layout is the same.

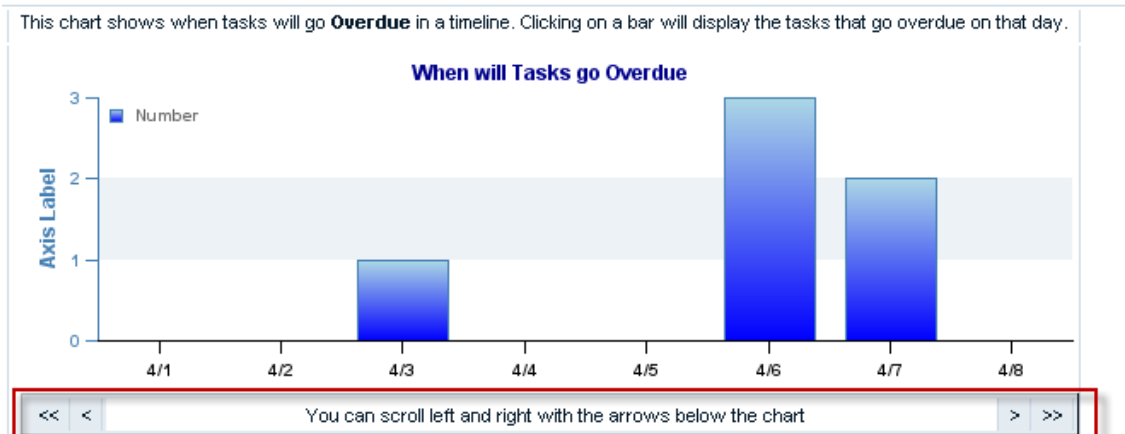


Section	Description
1	You can filter your tasks by teams you belong to using this drop-down.
2	You can filter your tasks by process using this drop-down. For example, a call center representative might have several processes to work on.
3a, 3b	By default all tasks in 3a are categorized into: on track, at risk, and overdue. If you click on one of the categories, for example, overdue, then 3b will refresh and only show overdue task. This shows that these are dynamic scoreboards getting their data from the performance data warehouse.
4	Use the scroll left and right arrows to see when tasks will go overdue.
5	This shows your performance versus your team average over the last seven days.
6	This shows your performance trend for Completed and Active tasks.

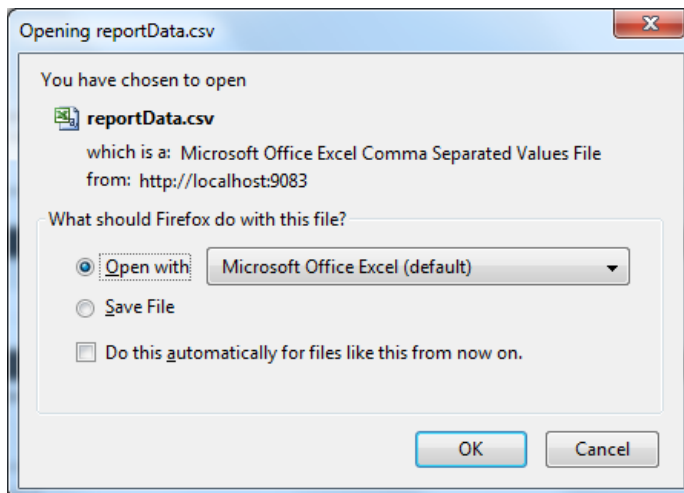
- ___1. Filter the task list to only show overdue tasks by clicking on the pie slice for overdue. Note that the task list gets refreshed and only shows overdue tasks.

Status	Id	Subject	Priority	Due Date	Current User	Team	Run
Overdue	308	Task: Review Response	Normal	Jul 3, 2011		All Users	

- ___a. Use the scroll left and right arrows to see when tasks will go overdue.



- ___b. Export the task list by clicking on the **Export** button in the tool bar at the top of the page.
- ___i. Follow the prompt to open the .csv file with an application (for example, Lotus Symphony). Alternatively, you could have selected to save the *reportData.csv* file to your file system.



- ___c. Examine the data in the .csv file. It has four data sets for the four graphs you get out-of-the-box. Note that if you opened this file up in Microsoft Excel, the same charts from the Process Portal would be created for you. Unfortunately, your lab environments do not have Excel installed.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1																
2																
3		Overdue	On Track	At Risk												
4	values	1	1	0												
5																
6																
7		16-Jul	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	22-Jul	23-Jul							
8	Number	1	0	0	0	0	0	0	0							
9																
10																
11		bpmadmin Team Average														
12	Completed	1	0.00E+00													
13	Active	0	0.00E+00													
14																
15																
16		2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul
17	Completed	0	5	0	4	0	0	0	0	0	0	0	0	0	0	1
18	Active	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19																

2.4 My Scoreboards for managers

In this section, you will use additional scoreboards geared towards managers of a process: **My Team Performance** and **Process Performance**. You will also see how you can perform manager tasks such as **reassigning a task** to another user or group and creating **Ad Hoc reports** using process data stored in the Performance Data Warehouse.

2.4.1 My Team Performance

- ___1. Explore **My Team Performance**, which is a scoreboard available to users that have been defined as managers with a team reporting to them. These scoreboards and performance metrics are captured in the performance data warehouse:
 - ___a. Log into the Process Portal as a different user – **ofManager1**. Password is **password**.

- __b. Click on **My Team Performance**, which is under **My Scoreboards**. The upper half with the filters and task lists is very similar to My Performance Scoreboard. New areas are areas **1** and **2**, which respectively represent the Task List for all and All processes and Team Performance. In area **1**, you have some manager capabilities such as ability to reassign tasks or change tasks' priority. The data shown in your scoreboard may be different than what you see here, but the layout is the same.

Task Status

- 57.14% onTrack
- 14.29% atRisk
- 28.57% overdue

When will Tasks go Overdue

Date	Number
4/1	1
4/2	2
4/3	1
4/4	0
4/5	0
4/6	12
4/7	4
4/8	0

Task List for all and All processes

Status	Id	Subject	Due Date	Priority	Current User	Team
Overdue	194	Response Required, Order 126-Phillips DVD 45R	03/28/2010	Normal	ofVendor4	
Overdue	204	Response Required, Order 141-Blackberry 99R	03/30/2010	Normal	ofVendor1	
Overdue	207	Response Required, Order 141-Blackberry 99R	03/29/2010	Normal	ofVendor4	
Overdue	212	Response Required, Order 150-Blackberry 99R	03/29/2010	Normal	ofVendor3	
Overdue	230	Response Required, Order 149-Garmon 350 GPS	03/28/2010	Normal	ofVendor1	
Overdue	231	Response Required, Order 149-Garmon 350 GPS	03/28/2010	Normal	ofVendor2	
Overdue	233	Response Required, Order 149-Garmon 350 GPS	03/28/2010	Normal	ofVendor4	
Overdue	390	Select Vendor Quote, Order 139-Blackberry 99R	03/28/2010	Normal		of Analysts
At Risk	210	Response Required, Order 150-Blackberry 99R	04/02/2010	Normal	ofVendor1	
At Risk	213	Response Required, Order 150-Blackberry 99R	04/02/2010	Normal	ofVendor4	
At Risk	237	Response Required, Order 156-Blackberry 99R	04/01/2010	Normal	ofVendor4	
At Risk	361	Select Vendor Quote, Order 138-Garmon 350 GPS	04/03/2010	Normal		of Analysts
On Track	111	Order Review Needed: Piston Cover	04/06/2010	Normal	ofAnalyst1	
On Track	142	Order Review Needed: Piston Cover	04/07/2010	Normal	ofAnalyst1	
On Track	191	Response Required, Order 126-Phillips DVD 45R	04/06/2010	Normal	ofVendor1	
On Track	192	Response Required, Order 126-Phillips DVD 45R	04/06/2010	Normal	ofVendor2	
On Track	193	Response Required, Order 126-Phillips DVD 45R	04/06/2010	Normal	ofVendor3	
On Track	205	Response Required, Order 141-Blackberry 99R	04/07/2010	Normal	ofVendor2	
On Track	206	Response Required, Order 141-Blackberry 99R	04/07/2010	Normal	ofVendor3	
On Track	211	Response Required, Order 150-Blackberry 99R	04/06/2010	Normal	ofVendor2	
On Track	232	Response Required, Order 149-Garmon 350 GPS	04/06/2010	Normal	ofVendor3	
On Track	234	Response Required, Order 156-Blackberry 99R	04/06/2010	Normal	ofVendor1	
On Track	235	Response Required, Order 156-Blackberry 99R	04/06/2010	Normal	ofVendor2	
On Track	236	Response Required, Order 156-Blackberry 99R	04/06/2010	Normal	ofVendor3	
On Track	374	Select Vendor Quote, Order 148-Kindle XL 5	04/07/2010	Normal		of Analysts
On Track	386	Select Vendor Quote, Order 140-iPhone 3GS	04/06/2010	Normal		of Analysts
On Track	395	Select Vendor Quote, Order 160-Blackberry 99R	04/06/2010	Normal		of Analysts
On Track	554	Response Required, Order 162-Piston Cover	04/06/2010	Normal	ofVendor2	

Team Performance

User	Task Count
ofVendor4	5
ofVendor3	5
ofVendor2	15
ofVendor1	55
ofAnalyst1	135

2.4.2 Re-assign a task

- __1. Reassign a task to another user:

- __a. Change the Process Filter so that only Order Fulfillment BFS process instances show up:

- __i. Use the Process Filter drop-down to select **Order Fulfillment (Order Fulfillment BFS)**.
- __ii. The scoreboards should refresh to only show Order Fulfillment BFS process instances.
- __b. Reassign a task using these steps:
 - __i. **Select** the first task, note the Id (for example, **286**) and the current user that it is assigned to (for example, it is assigned to no one, while the Team is assigned to is **ofAnalysts**)
 - __ii. Click the **Reassign** button at the bottom of the list of tasks.
- __c. Reassign the task to another user by entering the User Name **ofAnalyst1**, then clicking **Ok**.

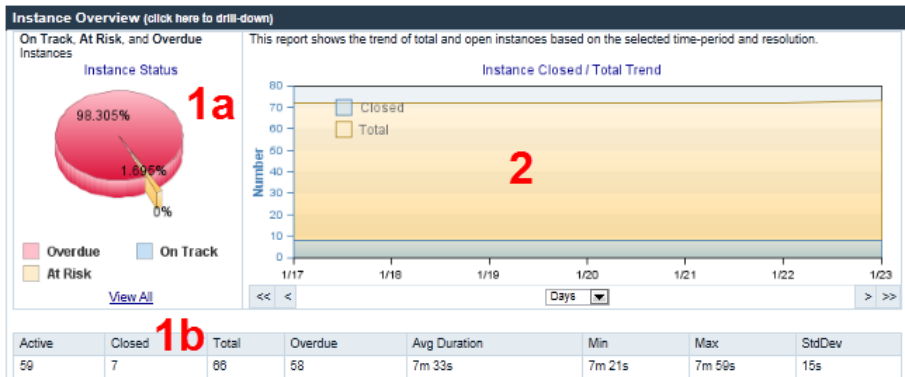
Back in your task list, find the task and you should see it assigned to **ofAnalyst1**.

2.4.3 Process Performance

- __1. As a manager of Order Fulfillment BFS, you now have the rights to view Process Performance for the entire process, not just you and your team members, when you click on Process Performance you would see tasks for the entire process.

- a. Once you are in **Process Performance**, you can drill into a process application by clicking the process application name, in this case **Order Fulfillment (Order Fulfillment Demo)**.

This view gives a process overview of the Order Fulfillment BFS process application. Some of the areas are static; such as 5 and 6 but 1-4 are all dynamic and give you drill-down capability or different views.



SLA Overview (click here to drill-down)

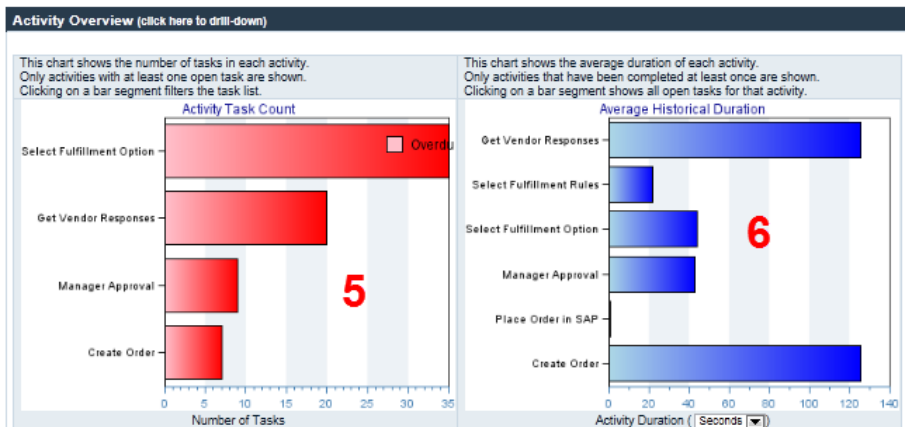
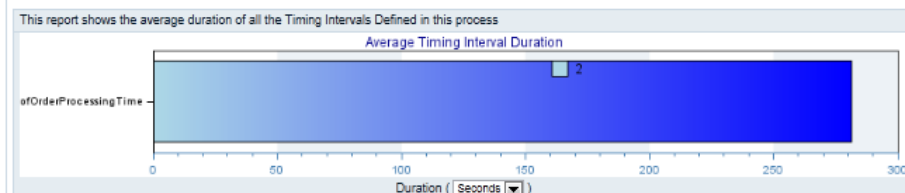
This table provides an overview of all the SLAs affected by instances of Order Fulfillment. Drill-down on an SLA name to get a trend report of its violation levels over time.

SLA Name	SLA Description	Current Status
All SLAs		

Timing Interval Overview (click here to drill-down)

This table provides an overview of all the Timing Intervals defined in the process. Selecting a specific Timing Interval will display a duration trend for that Timing Interval.

Name	Description	Min	Max	Avg	StdDev
ofOrderProcessingTime	This is the total time it takes to process an RFQ.	4m 18s	5m 35s	4m 41s	32s
All Timing Intervals					



Section	Description
---------	-------------

Section	Description
1a, 1b	1a gives a summary of the instance status as a pie chart, with the summary data represented in 1b as a table that has such data as number of active, closed, total instances, etc. If in 1a, you clicked on View All, areas 3-6 would be replaced with an Instance List for this process.
2	This is a graph on the Instance Closed / Total Trend in Days, which is the default time-period. You can change the time-period from Days, to Weeks, or to Months. Use the scroll left and scroll-right to view different time periods.
3	If any SLAs were defined for a process application, you would see them here.
4	If any Timing Intervals were defined for a process application, you would see them here.
5	This is an Activity Task Count that shows for each process activity, the number of tasks that are Overdue, at Risk, and on Track.
6	This graph shows the Average Historical Duration for each process activity.

__b. Under the Instance Status pie-chart, click on **View All** and the Instance List will appear.

2.4.4 Custom Reports

__1. If a process application had any custom reports and scoreboards, these could be exposed in the Process Portal. Let's take a look at what a custom report might look like for Order Fulfillment BFS.

__a. Under **My Scoreboards**, click on **Vendor Quote Performance**.

__b. View the various charts, which allow business leaders to view information that may be important to them, and may even help them decide on actions that need to be taken. Note that you can hover over the charts to view the data in more detail.

2.5 My Projects

In this section, you will work with specific projects that have been exposed to you as a user or group of users. These are custom projects and are not out-of-the-box offerings in the IBM BPM Process Portal. Specifically you will see how you can manage **Exposed Process Values** (EPVs) and perform custom searches. EPVs allow you to add dynamicity of values without redeploying a process. As an example of a custom search, you will work with a search specific to Order Fulfillment BFS: Order Search.

2.5.1 Manage EPVs

Exposed Process Values (EPVs) are a special type of variable that you can create to enable end users to set or alter values while an instance of a process is running. By creating EPVs, you can provide process flexibility. The use of EPVs allows end users to adjust specific variable values as constants, thereby affecting the flow of all running process instances, task assignments, and so on. You can also designate which end users can set or alter EPVs in the Process Admin Console.

This section will show you how you can manage EPVs from the IBM BPM Process Portal.

- __1. In this case, we will work with the EPVs of the Order Fulfillment process. One of the EPVs of Order Fulfillment is `autoApprovalThreshold`, which can now be used to auto-approve an order if the amount is less than a threshold. Different approvers or managers could be given access to the Process Portal to change this value if needed, without redeploying the entire process application.
 - __a. Under **My Projects**, click **Manage EPV**. A list of EPVs will be displayed. Click **Edit** for **autoApprovalThreshold**.
 - __b. A screen that enables you to set a new value for the given EPV and when this value will be effective will appear. We aren't going to change the value at this time, so just click **<< Back**.

You can create an EPV and show how these can be used in a BPD to control process flow. For example, the `autoApprovalThreshold` EPV you just looked at could be used in a decision gateway to determine which branch is followed. Orders below the `autoApprovalThreshold` EPV would be automatically approved, while the ones over and above the threshold would be sent to manager approval. This EPV can be changed in the Process Portal; therefore you can change the value without redeploying the process.

2.5.2 Predefined searches

Predefined searches for a process application can be exposed in the IBM BPM Process Portal. These predefined searches could be custom built using standard Coaches and integration services, and then exposed to the Process Portal.

- __1. We will work with **Order Search**, which is a predefined (custom) search for Order Fulfillment BFS.
 - __a. Under **My Projects**, click **Order Search**. A Search Filter section allows you to use different filters (search criteria) to find specific instances meeting the selected criteria.

- __b. Set the Vendor to **Acme** and select the **East** Sales Division, then click **Search**.
- __c. In the updated Search Results, note the Sales Division is East and the Vendor is Acme. Other capabilities that you might expect are also available: Optionally, you could export the search results, see the Instance Details, or view an instance's process diagram.
- __d. **Log Off** the Process Portal and close your web browser.

2.6 Summary

In this lab, you were exposed to some of the capabilities available within the IBM BPM Process Portal.

Lab 3 Simulation and Optimization of a BPD in Process Designer

This lab will introduce you to the simulation and optimization functions in Process Designer (PD). You will see how simulation values are set within PD, run a simulation, and see a heat map of the process. We will use a different, more detailed version of the Order Fulfillment process, one for which we have plenty of process data in your lab environment.

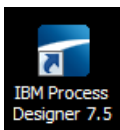
The first experience with any activity in the lab will be completely documented with screen shots. If the same type of activity is repeated, subsequent steps will contain less detail. If you get stuck, either refer back to the early example, or ask for help. The IBMers in the room are here to help – don't hesitate to ask!

3.1 Setup

In this section, you will start the IBM Process Designer.

3.1.1 Start the Process Designer

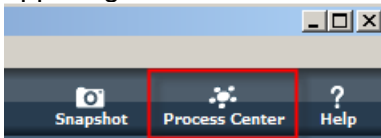
1. If the Process Designer is not running, double-click on **the IBM Process Designer** icon on the desktop. It might take a couple of minutes for the login window to appear:



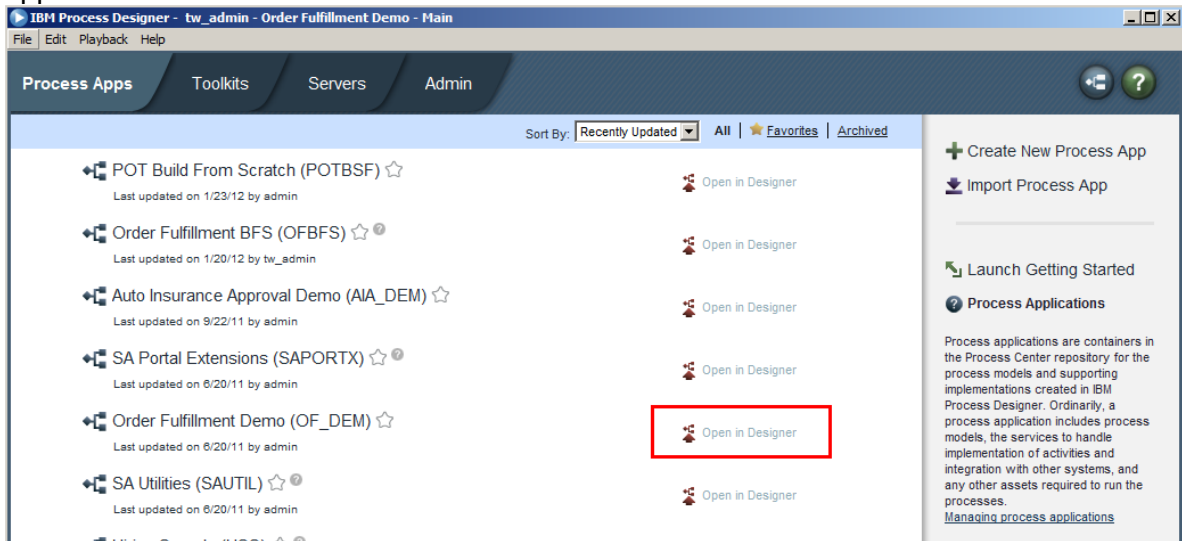
__2. Enter **tw_admin** as the user name and as the password, then click **Login**:



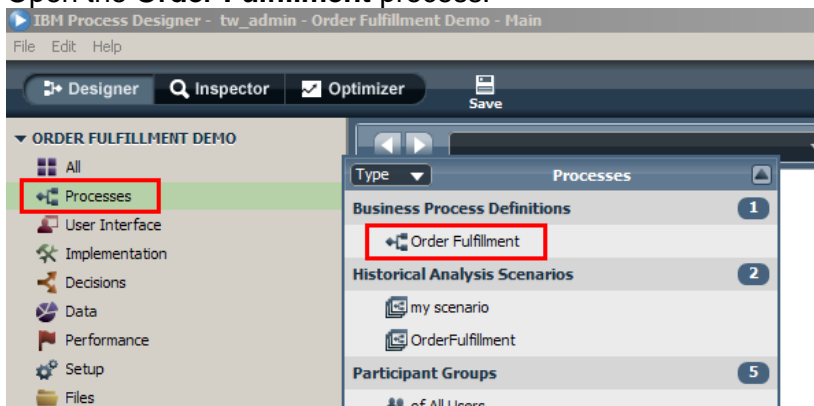
__3. If you are not on the **Process Application** screen, click on the **Process Center** icon in the upper right-hand corner of the window.



__4. Click the **Open in Designer** link for the **Order Fulfillment Demo (OF_DEM)** process application.



5. Open the **Order Fulfillment** process.



3.2 Simulation


In this section, you will see how values for simulation are set within Process Designer, run a simulation, and see a heat map of the process that is based on that simulation. Simulation is the first level of analysis for any new process. It allows the user to enter information about the expected behavior of each instance of a business process, and see the impact as instances of the process accumulate over time. This can provide an initial indicator as to whether the process as designed will meet the business needs.

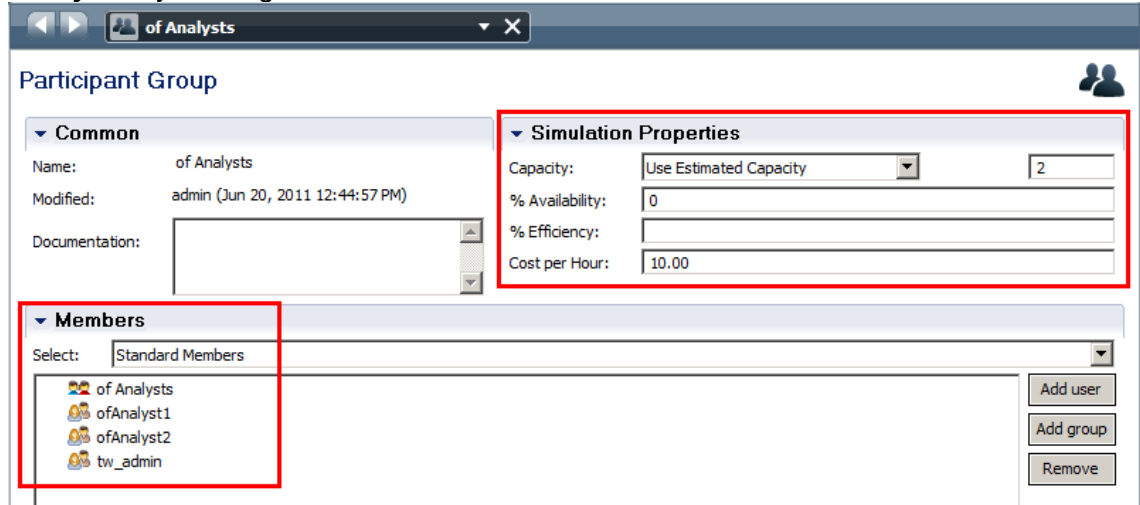
3.2.1 Simulation values for activities and swim lanes

- __1. Take a look at how simulation values are set within PD.
 - __a. Examine the Simulation properties for the **Analysts** participant group:
 - __i. Click on open space within the **Analyst** swim lane.
 - __ii. Go to **Properties** and click on **of Analysts**. This will open the Participant Group associated with the Analysts lane.

The screenshot displays the IBM Process Designer interface for an 'Order Fulfillment' process. The main diagram shows a swim lane structure with three lanes: 'Vendor', 'System', and 'Analysts'. The 'Analysts' lane is highlighted with a red box and contains a 'Manual Start' event, a 'Create Order' activity, and a 'Review Order' activity. The 'System' lane contains a 'Get Vendor Responses' activity, and the 'Vendor' lane contains a 'Select Fulfillment Rules' activity. The process flow starts with 'Manual Start' leading to 'Create Order', then 'Review Order', then 'Get Vendor Responses', and finally 'Select Fulfillment Rules'. A 'Messed SLA' event is also shown between 'Get Vendor Responses' and 'Select Fulfillment Rules'. The 'Properties' pane at the bottom is open, showing the 'Common' tab with the 'Name' field set to 'Analysts'. The 'Behavior' tab is also visible, showing the 'Default Lane Participant Group' set to 'of Analysts'.

- __b. You can see the **Simulation Properties** that have been set for this group and the **Members** of the group. The Simulation Properties allow you to set Capacity, Availability, Efficiency, and Cost per Hour. You can also define what existing users or groups are members of the participant group. The Simulation Properties for the Order Fulfillment process application were already defined. When you are done, go ahead and close of

Analysts by clicking .



Participant Group

of Analysts

Common

Name: of Analysts

Modified: admin (Jun 20, 2011 12:44:57 PM)

Documentation:

Simulation Properties

Capacity: Use Estimated Capacity 2

% Availability: 0

% Efficiency:

Cost per Hour: 10.00

Members

Select: Standard Members

- of Analysts
- ofAnalyst1
- ofAnalyst2
- tw_admin

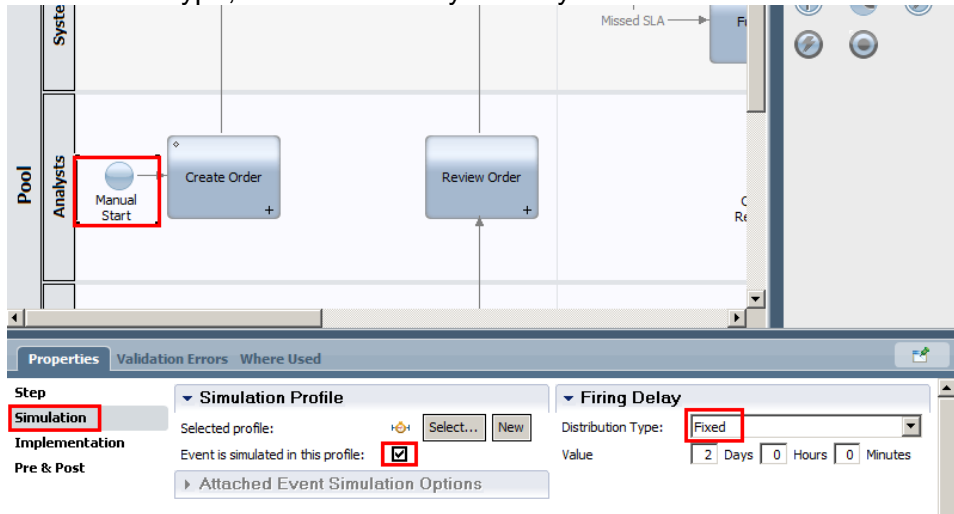
Add user

Add group

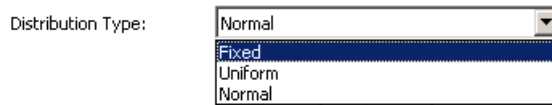
Remove

- __c. Similar to Participant Group simulation properties, you can set simulation properties for items in a Business Process Definition (BPD). A BPD is a reusable model of a process that defines what is common to all run-time instances of this process model. For example, the Start and End Events, estimates for task durations, and probabilities for gateways. These values could be saved to a Simulation profile that you could reuse in your environment.

- __d. Look at the simulation properties of a Start Event, Manual Start:
 - __i. Select **Manual Start**.
 - __ii. Go to the Properties tab and click on **Simulation**.
 - __iii. Note the Selected profile is **June**, which is a custom simulation profile, created for the Order Fulfillment process application. The **Event is simulated in this profile** is selected, and the Firing Delay of this start event used a **Fixed** Distribution Type, which fires every two days.



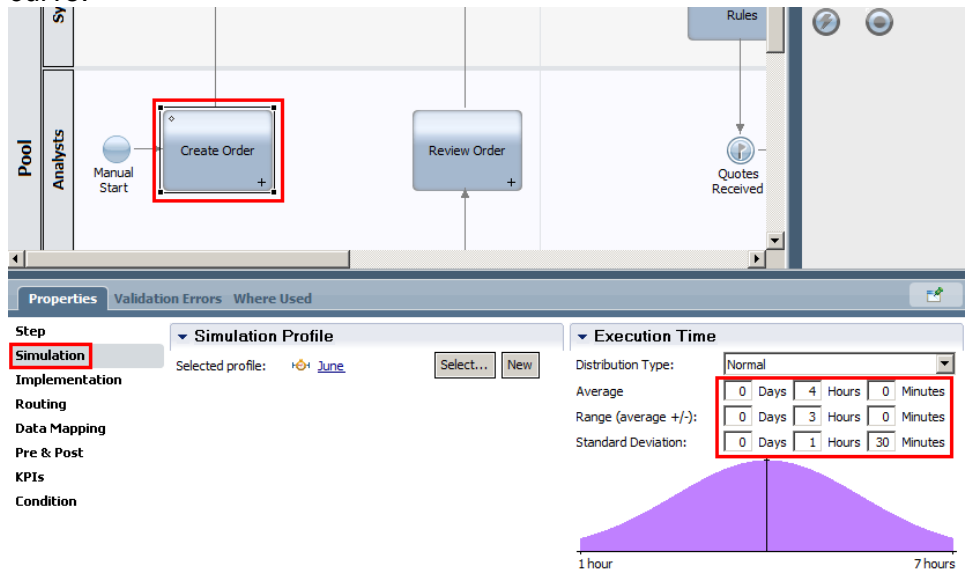
- __iv. The Distribution Type can be set to Fixed, Uniform, or Normal by using the dropdown.



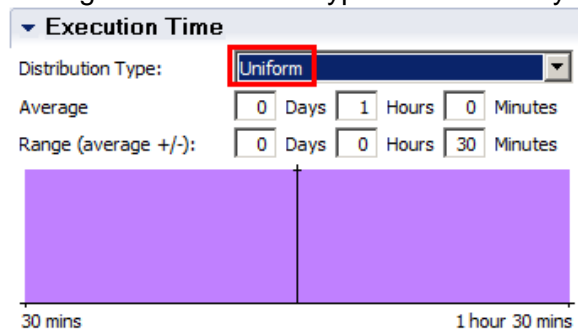
- __v. The following table defines the different Distribution Types.

Distribution Type	Values	IBM BPM Optimizer...
Fixed	The execution time in days, hours, and minutes.	Uses the same specified value each time.
Uniform	The average execution time and the range (average plus or minus the values that you specify) in days, hours, and minutes.	Is equally likely to use each value in the specified range.
Normal	The average execution time, the range (average plus or minus the values that you specify), and the standard deviation in days, hours, and minutes.	Is more likely to use values within the specified range that are closer to the specified average instead of values that are more or less than the average.

- __e. Select the **Create Order** activity to view its simulation properties. Note that it uses a Normal Distribution. You can change the values and note the changes in the Normal curve.

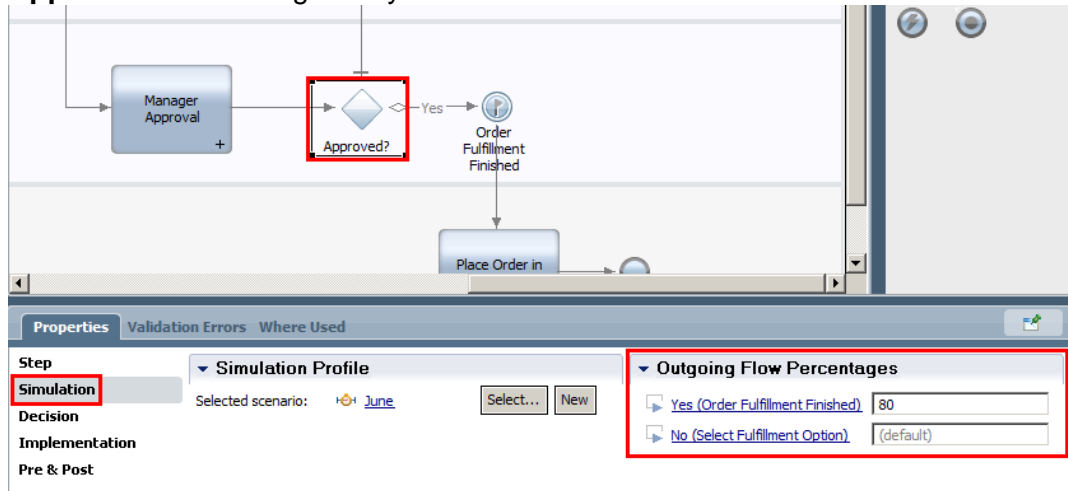


- __f. Change the distribution type to **Uniform** by using the drop-down. Note the change.

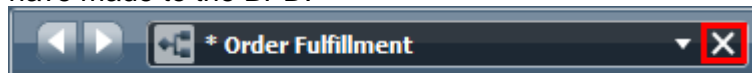


- __g. Change the distribution type back to **Normal**.

- __h. A Decision Gateway's simulation properties are about outgoing flow percentages (what percent of the time each flow will be followed). Look at the simulation profile for the **Approved?** Decision gateway. The **Yes** flow will be followed 80% of the time.

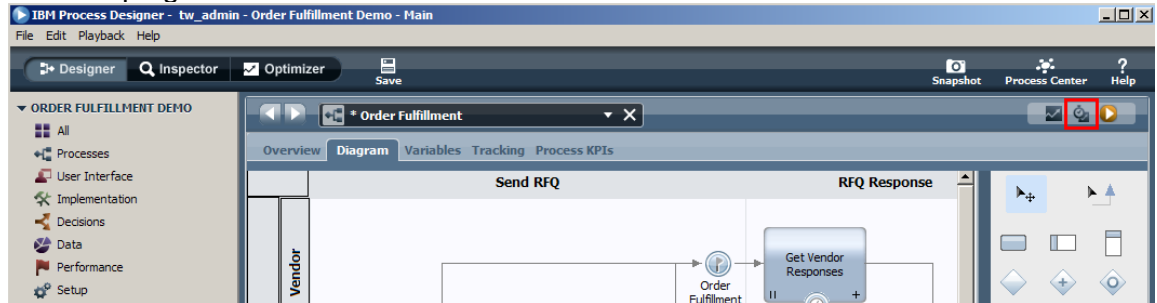


- __i. **Close** the Order Fulfillment BPD by clicking close. Do **NOT** save any changes you may have made to the BPD.

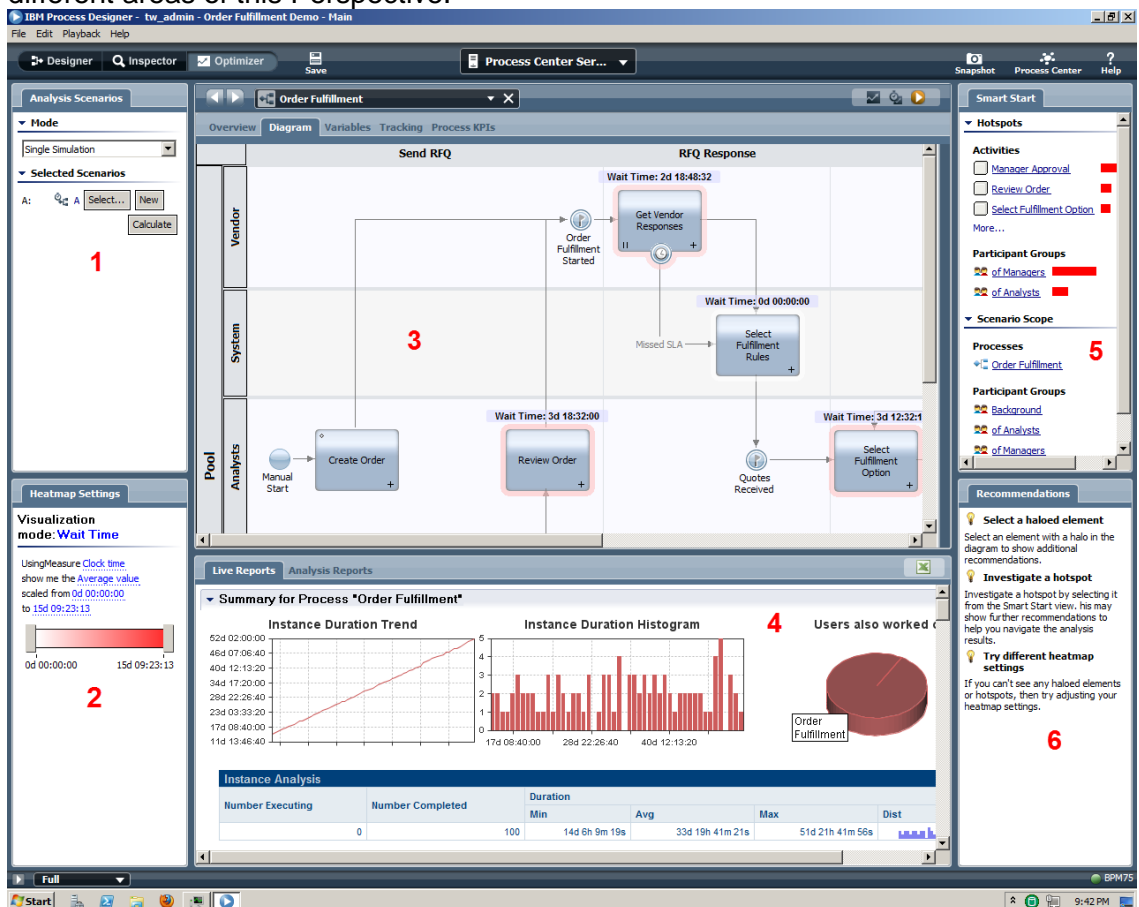


3.2.2 Run a simulation

1. Follow these steps to run a simulation of the Order Fulfillment process.
 - a. Open the **Order Fulfillment** process again, and then click the **Start Simulation** icon on the top right.



- b. Process Designer will switch to the Optimizer perspective. The table below describes the different areas of this Perspective.

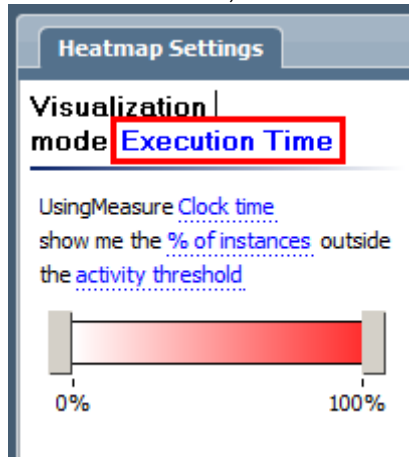


Section	Description
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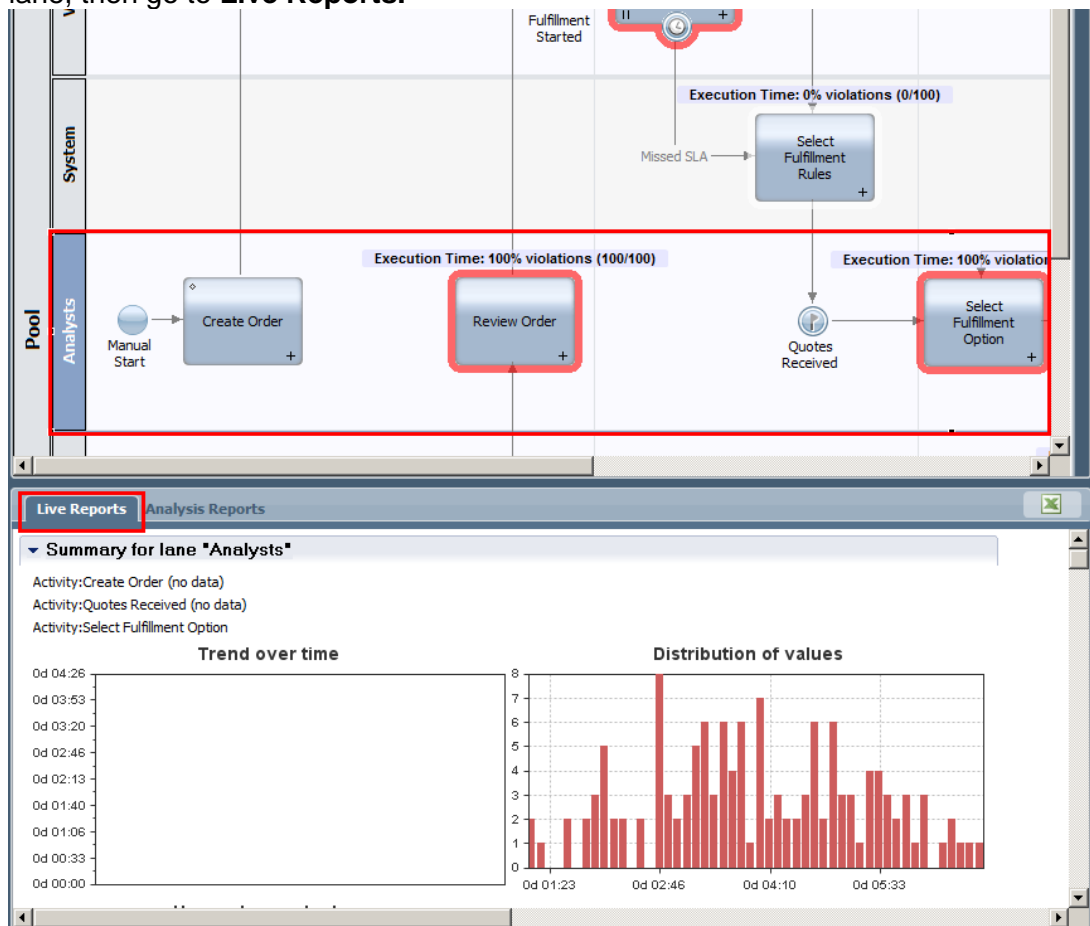
Section	Description
1	<p>In the Analysis Scenarios, you can select the Mode, which can be:</p> <ul style="list-style-type: none"> • Historical vs. Historical, • Historical vs. Simulation (How did I do), • Simulation vs. Historical (What if), • Simulation vs. Simulation, • Single Historical, and • Single Simulation. <p>These different scenarios can be saved after you execute one of them.</p> <p>Simulation is used before you put the process in production, while historical is used once you have the process in production and you want to go down a process improvement path. In addition, you can compare Historical versus Historical (for example, June results versus December). Likewise, you could compare how you did versus how you thought you would do (Historical versus Simulation), you could do some what if analyses (Simulation versus Historical), and compare simulations (Simulation versus Simulation.)</p>
2	<p>In the Heatmap Settings, you can select the Visualization Mode for the heat map diagram. The visualization modes can be:</p> <ul style="list-style-type: none"> • Time based: <ul style="list-style-type: none"> ○ Wait Time (elapsed time from when Process Designer generates a task and when user starts working on it; claims it) ○ Execution Time (elapsed time from when user starts working on a task and when user finishes working on it) ○ Total Time = Wait Time + Execution Time ○ Efficiency (compares expected KPI vs. actual execution time) • Count based: <ul style="list-style-type: none"> ○ Waiting Activities (Count of tasks waiting to be worked on) ○ Executing Activities (Count of tasks in process; users have started working on them but have not completed them) ○ Completed Activities (Count of completed tasks) • Path based: <ul style="list-style-type: none"> ○ Happy Path (How often best case is taken through a process) ○ Exception Path (How often exception path is taken through a process) ○ Path (results for all paths (Happy and Exception paths)) • Metrics: <ul style="list-style-type: none"> ○ SLA (SLA violations per activity where they have been defined) ○ Rework (If an activity is executed more than once in a process instance)

Section	Description
3	<p>The Optimizer displays a color-coded heat map to visually illustrate where bottlenecks and other problems exist in the processes included in your scenario, and how severe those issues are. The darker the halo around an activity, the closer it is to the high end of the scale or range that you specified in the Heatmap Settings view.</p>
4	<p>The data displayed in the Live Reports view depends upon the current editor and selection. For example, if you are examining a heat-mapped process diagram and you have selected an activity in that diagram (e.g. Manager Approval); the Live Reports view shows data specific to that activity. If you had selected the Process Designer process pool, it would show data of the entire process.</p> <p>Live Reports include charts for Instance Duration Trend, Instance Duration Histogram, and Users also worked on. Below these charts are section for Instance Analysis, KPI Analysis, and Activity Analysis.</p>
5	<p>The Smart Start view directs you to the activities and processes that deserve a closer look based on the most recently executed analysis scenario and the current visualization mode. The Smart Start view enables you to directly access:</p> <ul style="list-style-type: none"> • Hotspots identified by the Optimizer when you run an analysis scenario • Processes and participant groups included in the most recently executed analysis scenario
6	<p>The Recommendations view makes practical recommendations for addressing issues that are identified in your processes, and suggestions for how to optimize your process models. The recommendations may encourage you to examine other visualization modes to gain a better understanding of a particular pattern or behavior in your processes.</p> <p>Resolving identified issues can involve questions such as:</p> <ul style="list-style-type: none"> • Would different resource allocations resolve my current bottlenecks? (Time and resource consumption) • Are my processes taking the paths that I expect them to? What changes will ensure that they do? (Path optimization) <ul style="list-style-type: none"> ○ How are my largest loans going through the process? How does that compare to my smaller loans? Why are very large loans always late? (Segment optimization) <p>To get recommendations for a problematic Activity or other element in a process, click an element with a halo around it in the heat map.</p>

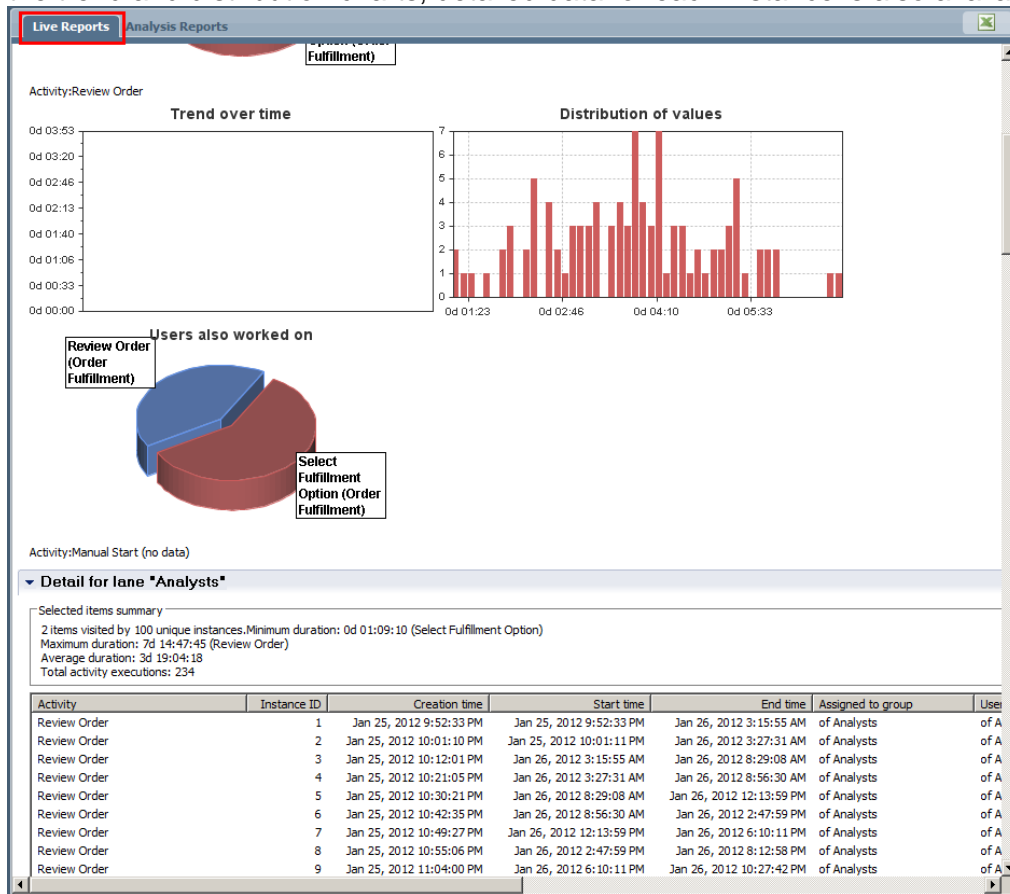
__c. In the bottom left, switch the Visualization Mode to **Execution Time**.



__d. To get more details about the Analysts participant group, click on the **Analysts** swim lane, then go to **Live Reports**.



- __e. **Double-click** on the **Live Reports** tab and you can see the detailed report. In addition to the trend and distribution charts, detailed data for each instance is also available.



- __f. **Double-click** on the **Live Reports** tab again to minimize it.

3.2.3 Show different heat maps

- __1. Follow these steps to see different heat maps

- __a. In the **Heatmap Settings**, change the **Visualization Mode** to **Path**

Time based

- Wait Time
- Execution Time
- Total Time
- Efficiency

Count based

- Waiting Activities
- Executing Activities
- Completed Activities

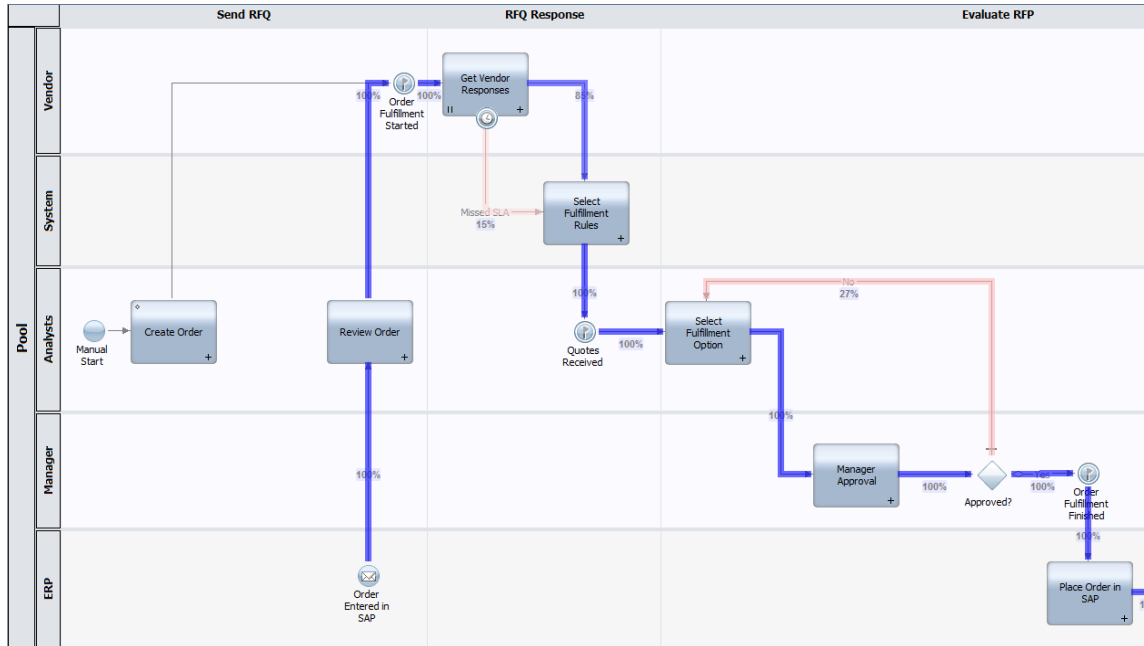
Path based

- Happy Path
- Exception Path
- Path

Metrics

- SLA
- Rework

- __b. The heat map will show the Path diagram, which shows both the Happy Path and the Exception Path, which vary in color. The Happy Paths are blue, and the Exception Paths are red.



How are Happy Path and Exception Path defined in the process?

For each flow out of a decision gateway, you can click on each flow and set the **Line Type** to be of either **Happy Path** or **Exception Path**. In this case, the flow going into **Manager Review** was set as the **Happy Path**, while the flow going from the decision gateway to **Review Response** was set as the **Exception Path**.

Simulation lets you consider possible problem areas before you put a process into production.

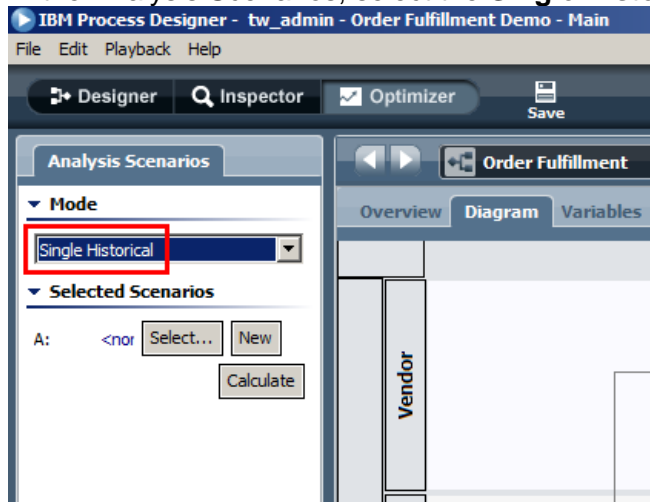
3.3 Optimization

Simulation applies pre-defined data that approximates the real life conditions of a business process. But what about analyzing the behavior of a process using the actual, recorded performance of that process to provide a more detailed view of the process? This is the concept of Optimization, which allows for continuous improvement of the business process.

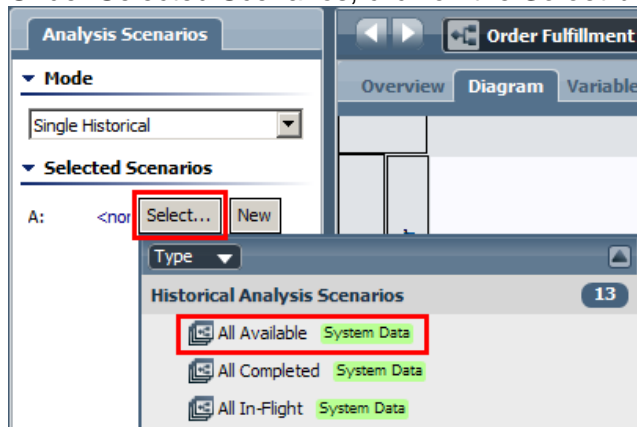
3.3.1 Analyze Historical Process Performance

- __1. Configure and run the Historical analysis.

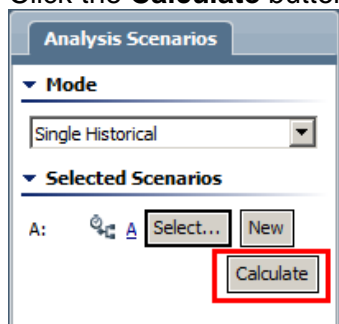
- __a. In the Analysis Scenarios, select the **Single Historical** mode.



- __b. Under Selected Scenarios, click on the **Select** button and select **All Available** data.

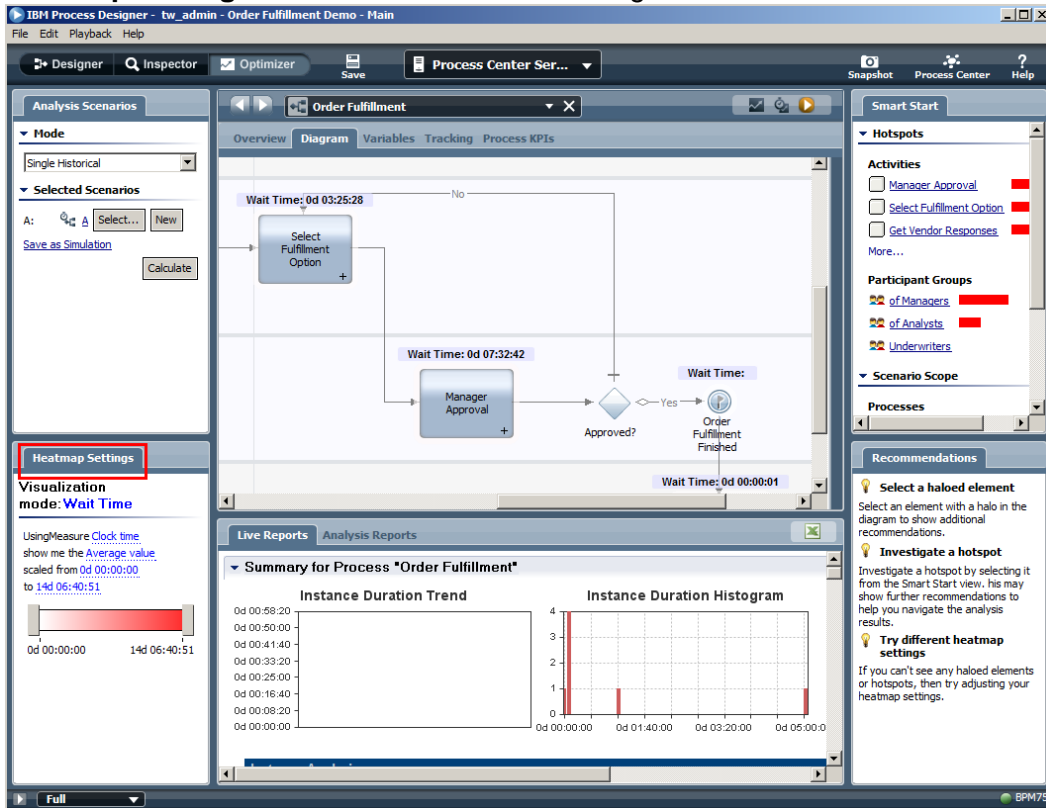


- __c. Click the **Calculate** button. The analysis may take a minute or two to run.

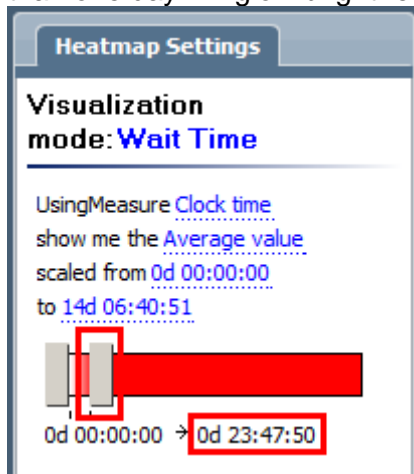


- __2. Review for Wait Time bottlenecks

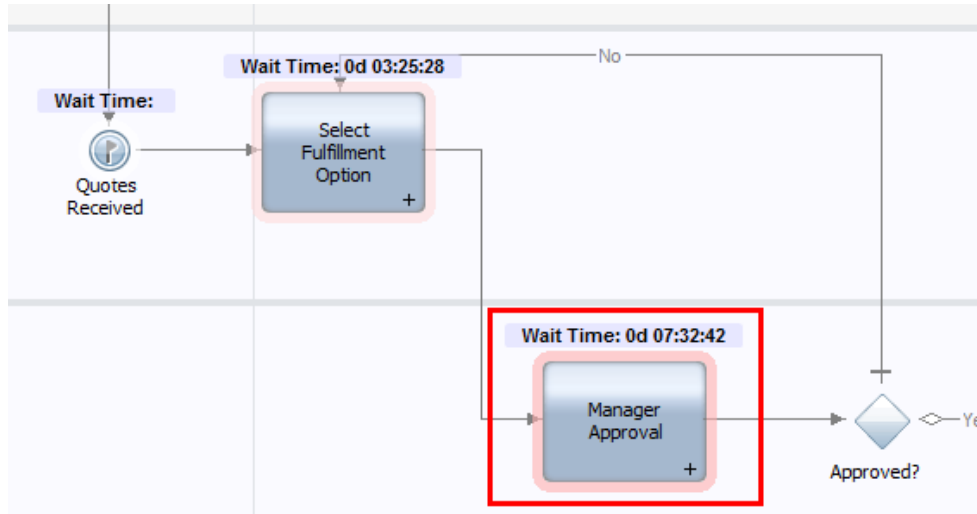
- a. You can review the results of this analysis the same way that you reviewed the simulation results. The heat map defaults to showing Wait Time within the process. Finding steps with excessive wait time is a good way to indentify bottlenecks. Look in the **Heatmap Settings** and review the current settings.



- b. Select the rightmost slider and move it to the left, until the value something close to 1 day. This changes the scaling of the heatmap, so that every task with wait time of longer than one day will glow bright red. The coloring around other tasks will intensify as well.



- c. The heatmap now helps to illustrate that any wait time of longer than a day is unacceptable, and helps to highlight the most significant problem areas. Scroll around the process and note that the Manager Approval task has the most significant amount of wait time.

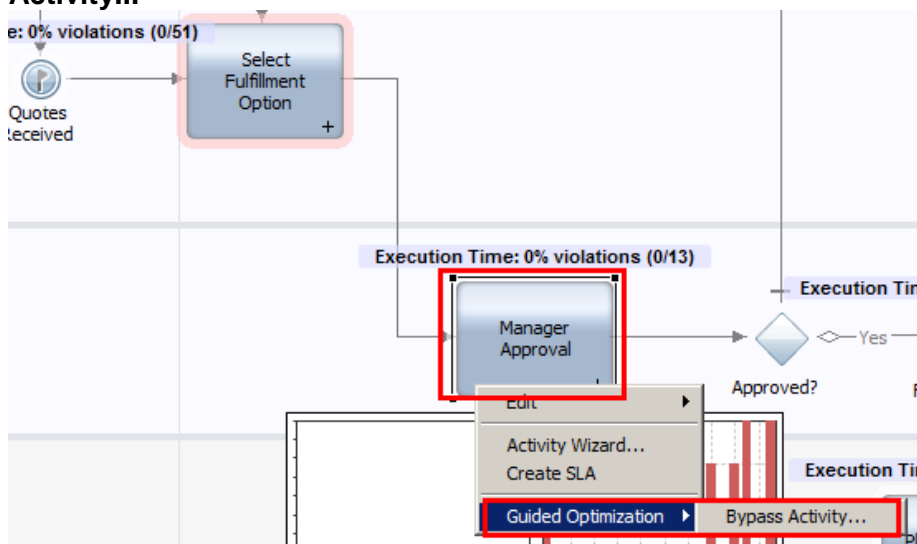


- 3. Switch the Visualization Mode to **Execution Time**, and note that the Get Vendor Response task appears to take the longest to complete.

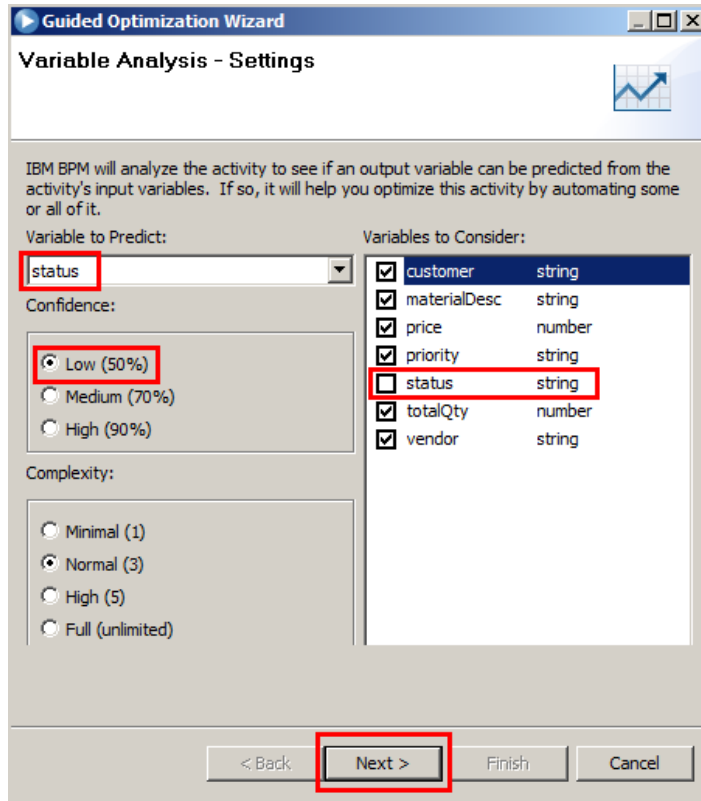
3.3.2 Optimize Process

- 1. With the information you have gathered about the process performance, there are a few options that you could consider taking. The first issue identified was the excessive wait time for Manager Approval. Process Designer can analyze the performance data and identify situations where the Manager almost always makes the same decision, and bypass the approval task in those situations. This would improve the overall cycle time of the process, and reduce the workload on the Managers.

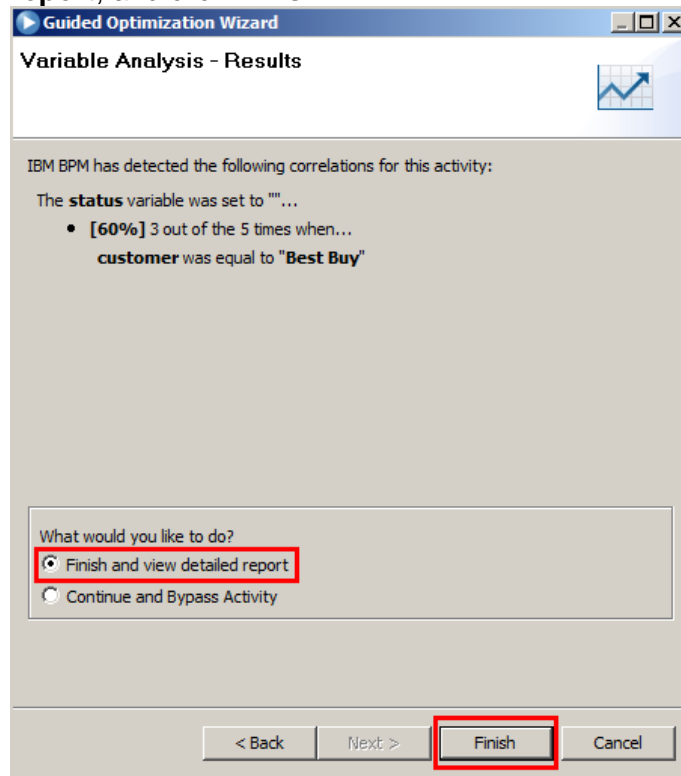
- a. Right-click the **Manager Approval** task and select **Guided Optimization -> Bypass Activity...**



- __b. For the Variable to Predict, select **status**. This is the variable that indicates whether the manager has approved or not. Select a Confidence of **Low (50%)**. Under Variable to Consider, de-select **status**. This will look for any situation in which one or more of the selected variables predicts the value of the "status" variable at least 50% of the time. Click **Next >**.



- ___c. Only one pattern was found, and the prediction was only correct 60% of the time. We could have Process Designer automatically create a rule to bypass Manager Approval when this condition occurs, but 60% correct predictability doesn't seem significant enough to automatically bypass the manager. Thus, select **Finish and view detailed report**, and click **Finish**.



- ___d. Review the Analysis Report. Each identified pattern is expressed as an if-then rule, with an explanation. The first pattern is the one that you saw in the Guided Optimization Wizard. Notice that it is the only one that is marked as Included. This is because it is the only pattern that was correctly predicted at least 50% of the time and was deemed to have statistically sufficient enough data to support the prediction.
- ___e. Through further analysis of the process over time, you could see if this prediction becomes more reliable. If so, it may be appropriate to always reject when the customer is Best Buy rather than require a manual approval by the Manager.

- ___2. Another improvement option would be to work with the vendors to understand how they provide responses and try to reduce the execution time of the Get Vendor Response task. Imagine that this requires some changes to the user interface (coaches). You could apply some changes and perform a playback with the vendors to confirm the success of those changes. Subsequently, you could run a new simulation, using the shortened duration for Get Vendor Response, and calculate the improvement before deploying. We will not do that in this lab.

3.4 Summary

This concludes the Simulation lab which leverages the Optimizer Tool designed to help you understand and refine process models. The exercises should have helped you see how the Optimizer gives you visibility and insight into your business processes via simulation before you put your processes into production

Appendix A. Trademarks and copyrights

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System z	Tivoli	WebSphere	Workplace	System p	

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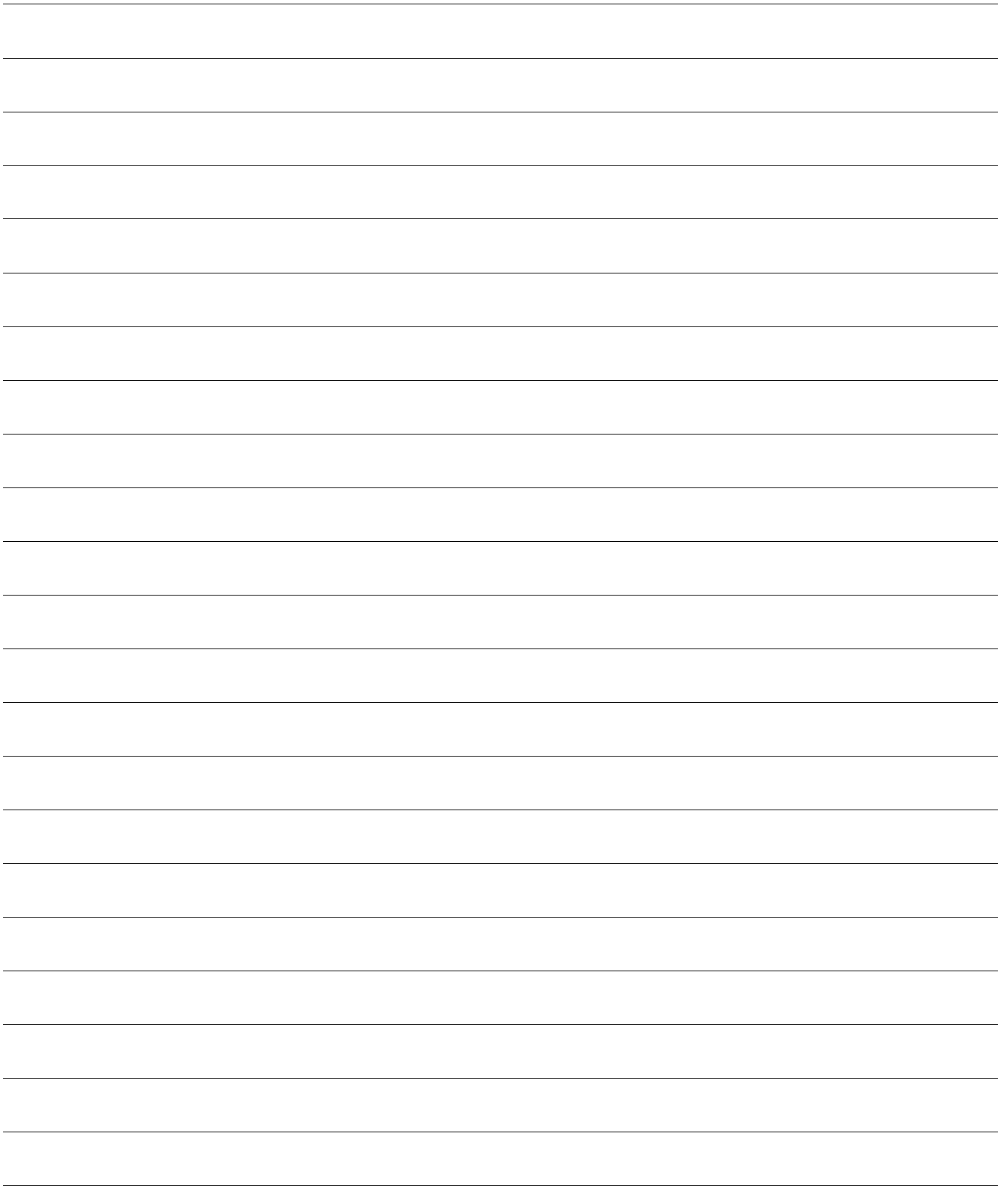
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