IBM Case Manager: Business Rules Integration Labs

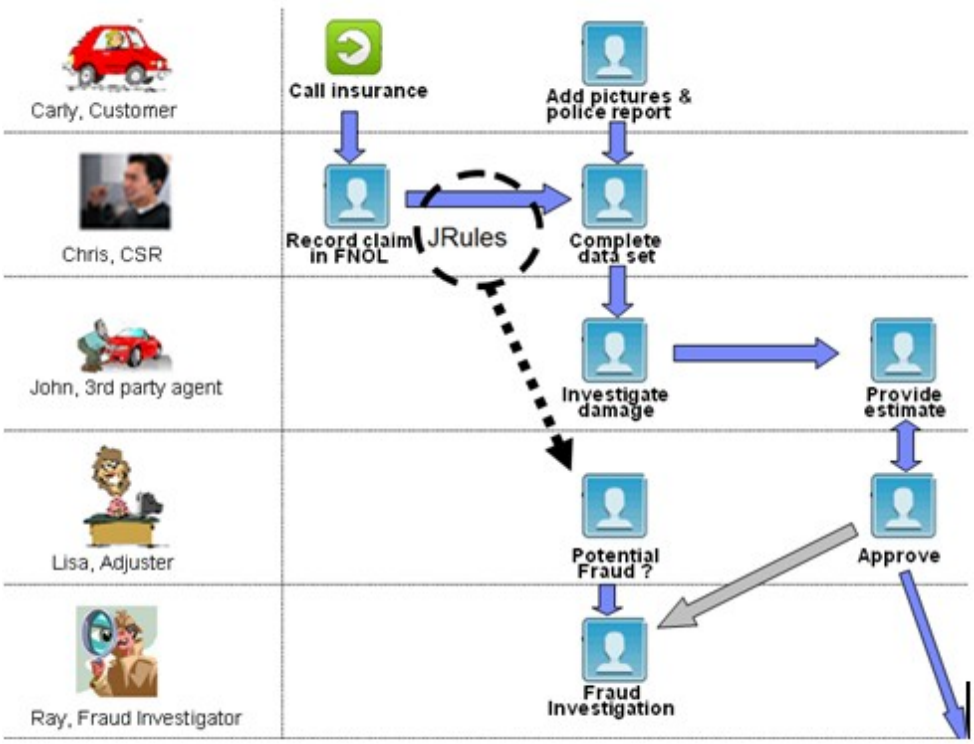
1.0 Integrate Rules in your solution

For this exercise you will look at a sample solution: Auto Claims Management.

1.1 Overview of the Auto Claims Management Solution

Efficiently managing the process around managing client auto claims is critical to the success of automobile insurance companies. Some claims are simple in nature and can be processed quickly, perhaps even in an automated fashion. But there are a number of situations within the claim process that can generate exceptions that require human processing, including the generation of an estimate, determination of liability, and medical reviews.

Typically, the process is initiated when the Customer Service Rep (CSR) receives a call from a customer who is involved in an accident. He fills out a form to record the “First Notice Of Loss”, then waits for the customer to provide the police report and pictures of the scene of the accident. Eventually a third-party agent will estimate the damage and a claim adjuster will review and approve the estimate:



In this scenario we will let Rules determine whether the claim should be subject to a fraud check.

Scenario:
The insurance company wants to perform a fraud check on claims filed by persons younger than 22 years for certain new types of vehicles.

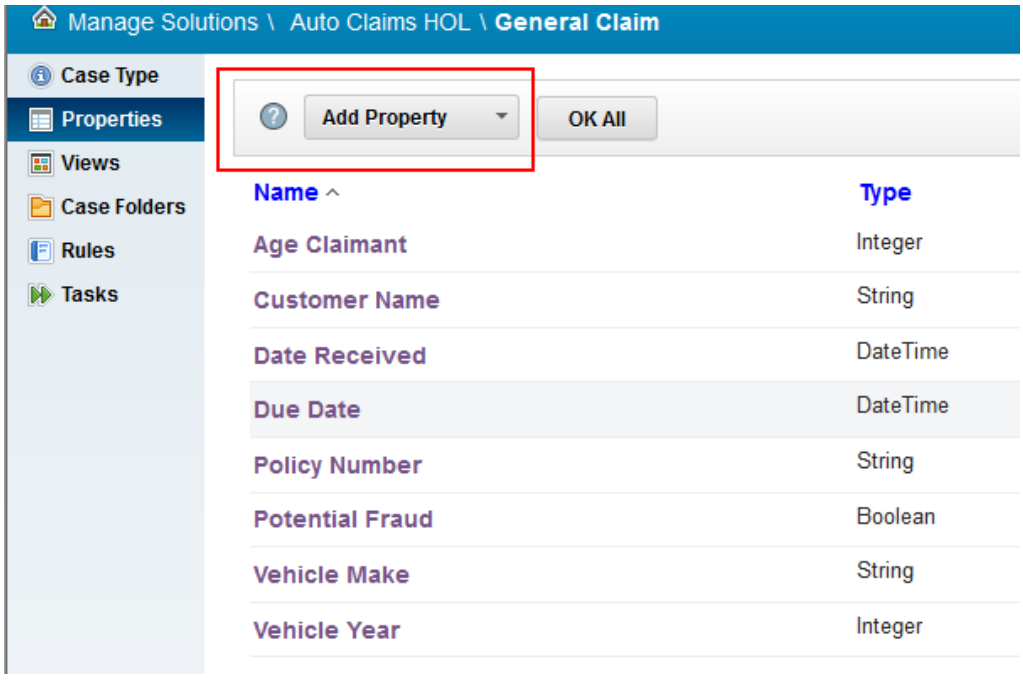
Add Case Properties

- Open Case Builder and log on using P8Admin/filenet and Edit the Auto Claims HOL Solution
- Click on Properties, then Add Property, and New

Create the following case properties in the solution as New (not Reused). Click OK after adding each one.

Vehicle Year -- Integer
Vehicle Make – String
Potential Fraud – Boolean
Age Claimant – Integer

Add these new properties to the case type 'General Claim':
Select Case Type "General Claim"
Select "Properties" on the left
Expand Add Property, then expand Existing and click "Select All" and OK



Click "OK All"

- Also add these properties to the 'Record FNOL' step in the 'Record Claim' task. Click on 'Tasks', then open the step editor for 'Record Claim', and click on 'Record FNOL'. Under Step Properties on the

left, click on the “...” link beside the Case Properties field, choose Select Property, then Select All, click OK, click OK again, click the Save button in the upper right corner.

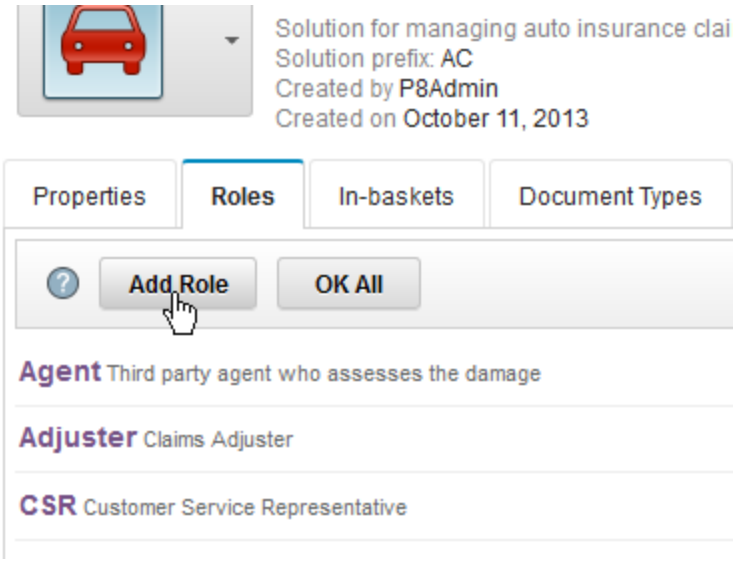
Repeat the previous step to add the properties to the 'Complete Data Set' step.

Click the Validate button on the tool bar to ensure there are no errors, then Save, then Close, then Back to exit the Tasks view.

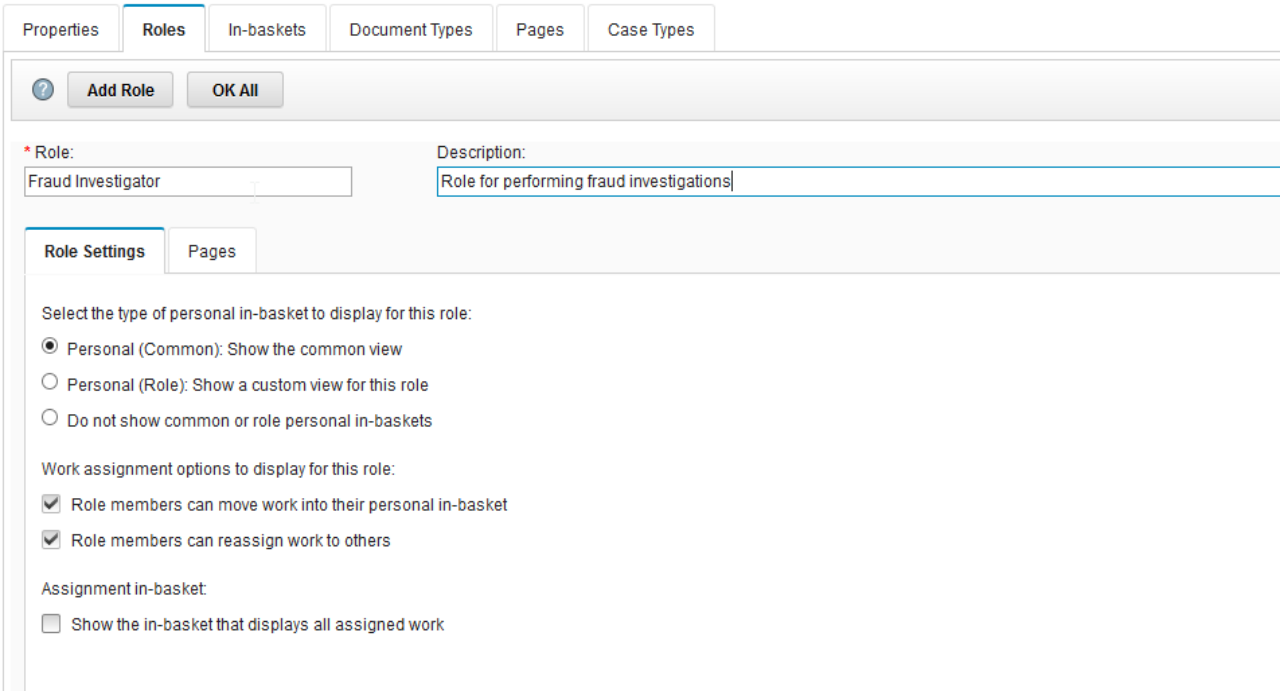
Create Fraud Investigator Role

We now create a new role and in-basket for the fraud investigator.

On the main page for Auto Claims HOL, click on Roles, then Add Role



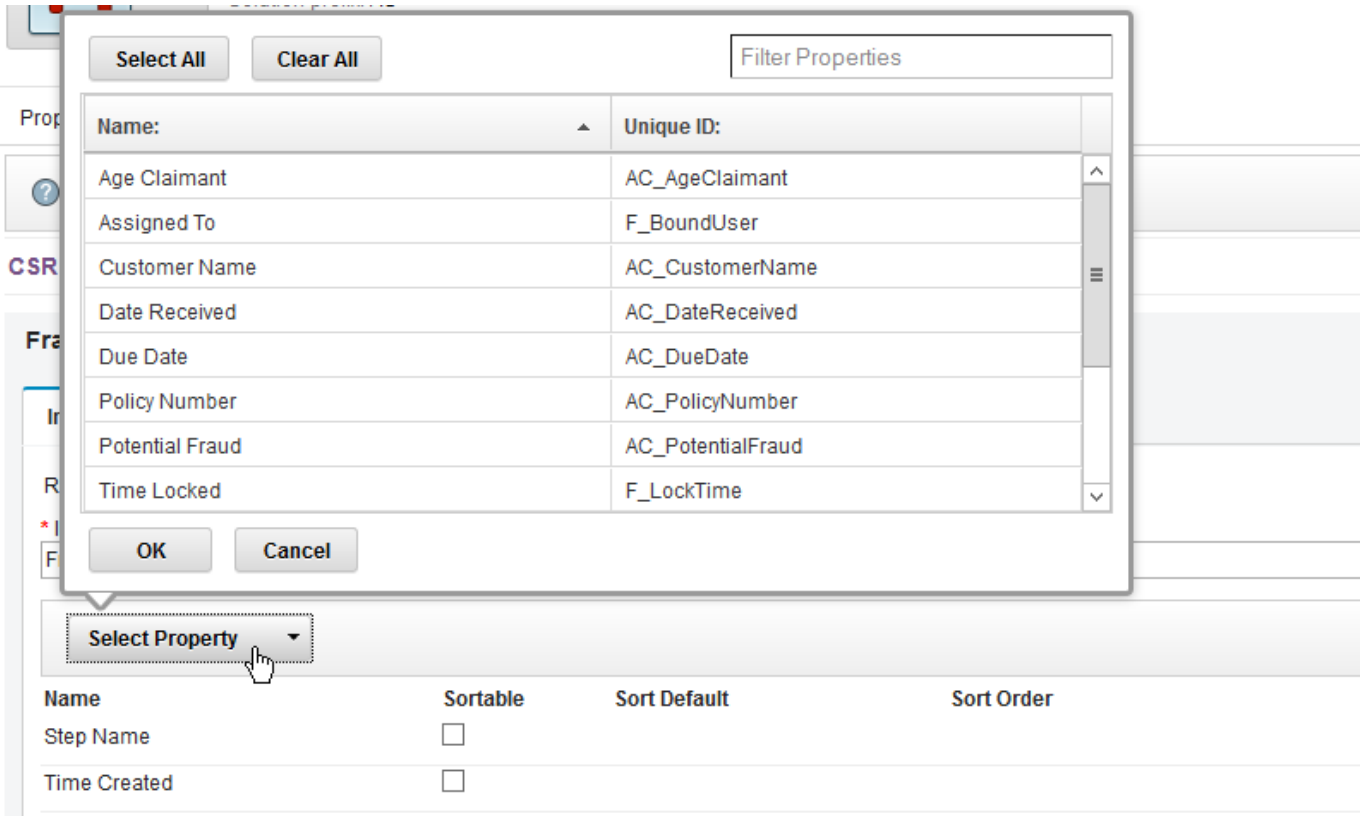
For the Role name and In-basket name, use 'Fraud Investigator' and click OK

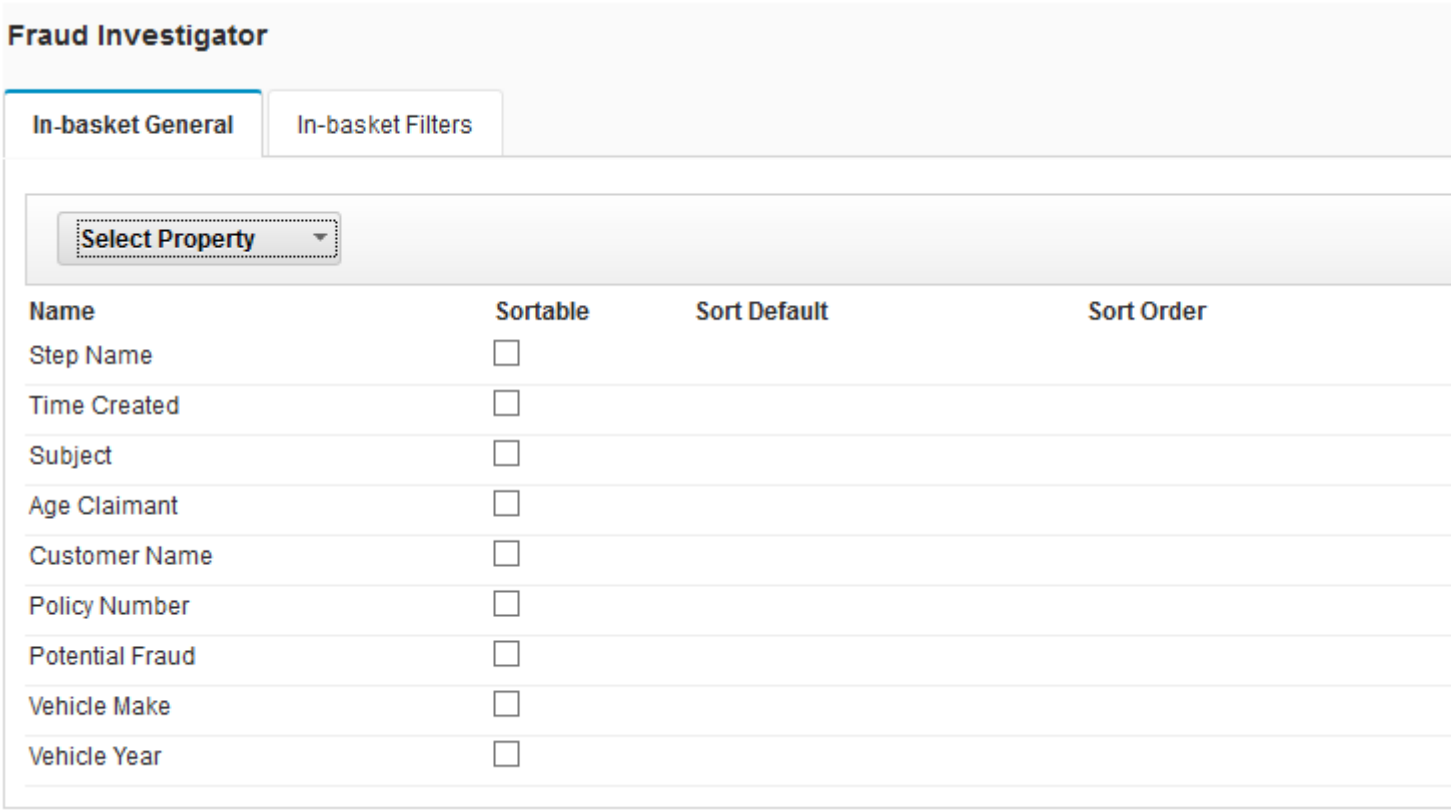


Click on the Inbaskets tab and Select Fraud Investigator

Click on 'Select Property'. From the resulting list, select at least the following (hold down the Ctrl key to select multiple properties at once):

Age Claimant, Customer Name, Policy Number, Potential Fraud, Vehicle Make, Vehicle Year


Select All
Clear All
Filter Properties
Name:
Unique ID:
Age Claimant
AC_AgeClaimant
Assigned To
F_BoundUser
Customer Name
AC_CustomerName
Date Received
AC_DateReceived
Due Date
AC_DueDate
Policy Number
AC_PolicyNumber
Potential Fraud
AC_PotentialFraud
Time Locked
F_LockTime
OK
Cancel
Select Property
Name
Sortable
Sort Default
Sort Order
Step Name
Time Created


Fraud Investigator
In-basket General
In-basket Filters
Select Property
Name
Sortable
Sort Default
Sort Order
Step Name
Time Created
Subject
Age Claimant
Customer Name
Policy Number
Potential Fraud
Vehicle Make
Vehicle Year

Click OK and Save to save the changes to the solution.

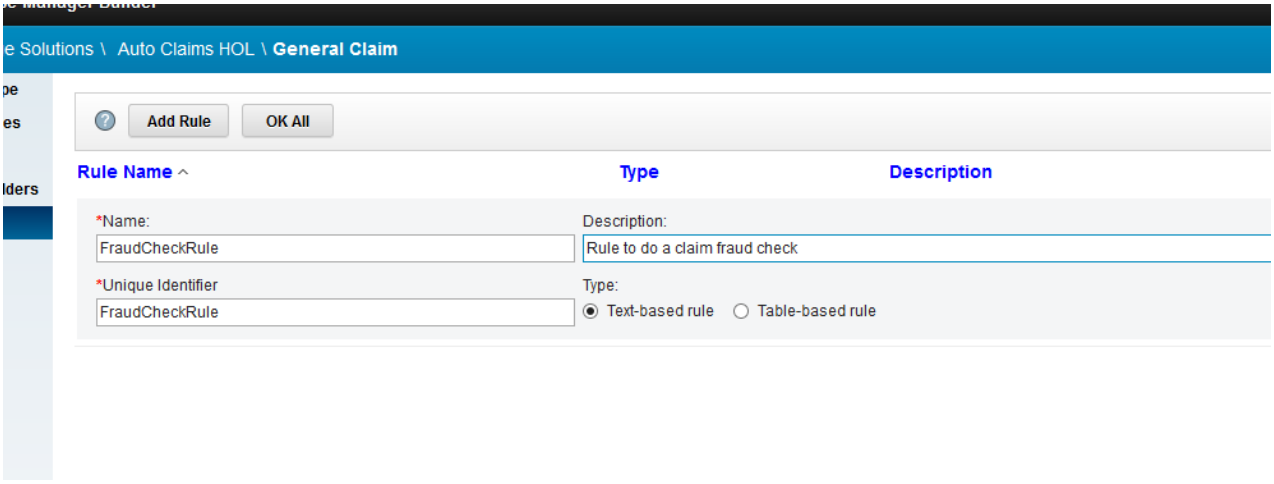
Design Business Rule

- We will define this rule in the integrated Rules Designer in Case Builder. Open the Auto Claims HOL solution and under the Case Types → General Claim → Rules. Click the Add Rules button. Fill the values as shown below:

  Name: FraudCheckRule

  Description: Rule to do a claim fraud check

  Type: Text-based rule



- Click OK to save it and then open the Rules Designer by clicking on FraudCheckRule.

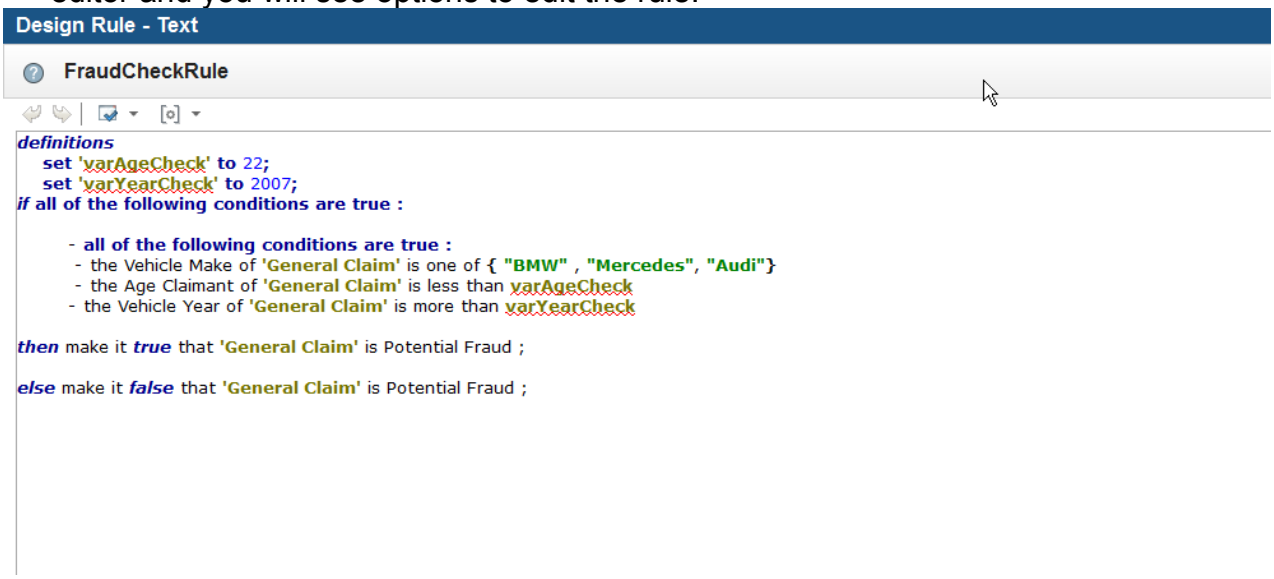
  Copy the following rule in the editor:

```
definitions
set 'varAgeCheck' to 22;
set 'varYearCheck' to 2007;
if all of the following conditions are true :

- all of the following conditions are true :
- the Vehicle Make of 'General Claim' is one of { "BMW" , "Mercedes", "Audi"}
- the Age Claimant of 'General Claim' is less than varAgeCheck
- the Vehicle Year of 'General Claim' is more than varYearCheck

then make it true that 'General Claim' is Potential Fraud ;
```

else make it false that 'General Claim' is Potential Fraud ;

- Using Intellisense Editor to type the Rule

  You can also type in the rule by using the intellisense editor. Hit the space bar in the editor and you will see options to edit the rule.

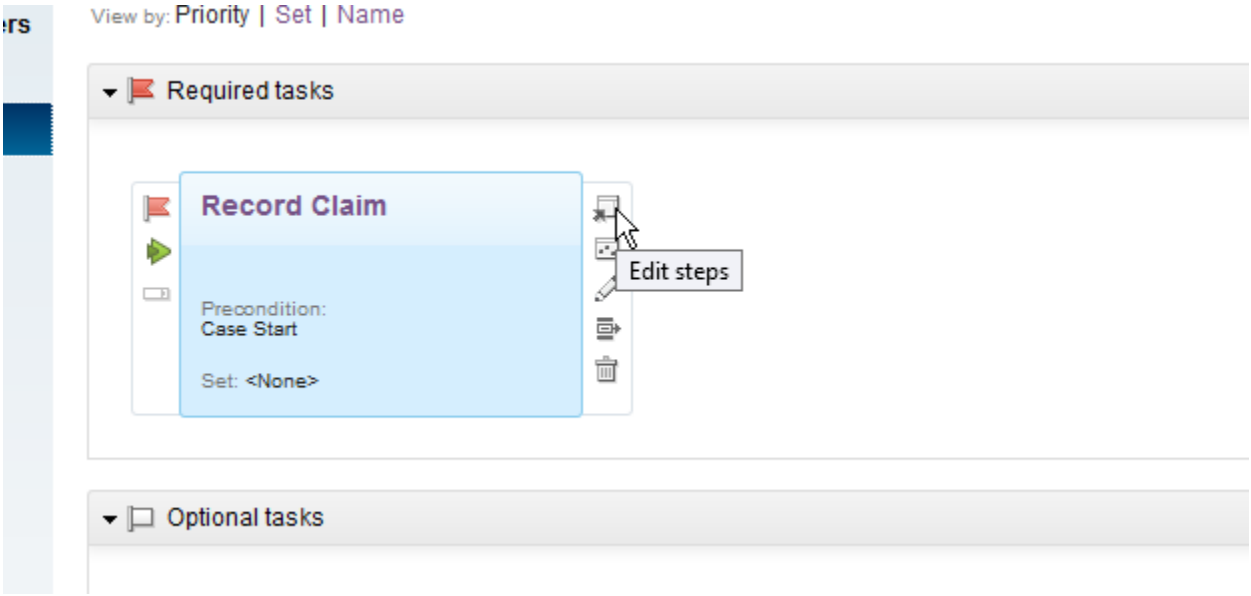


  Click Save to save and close the Rules Designer.

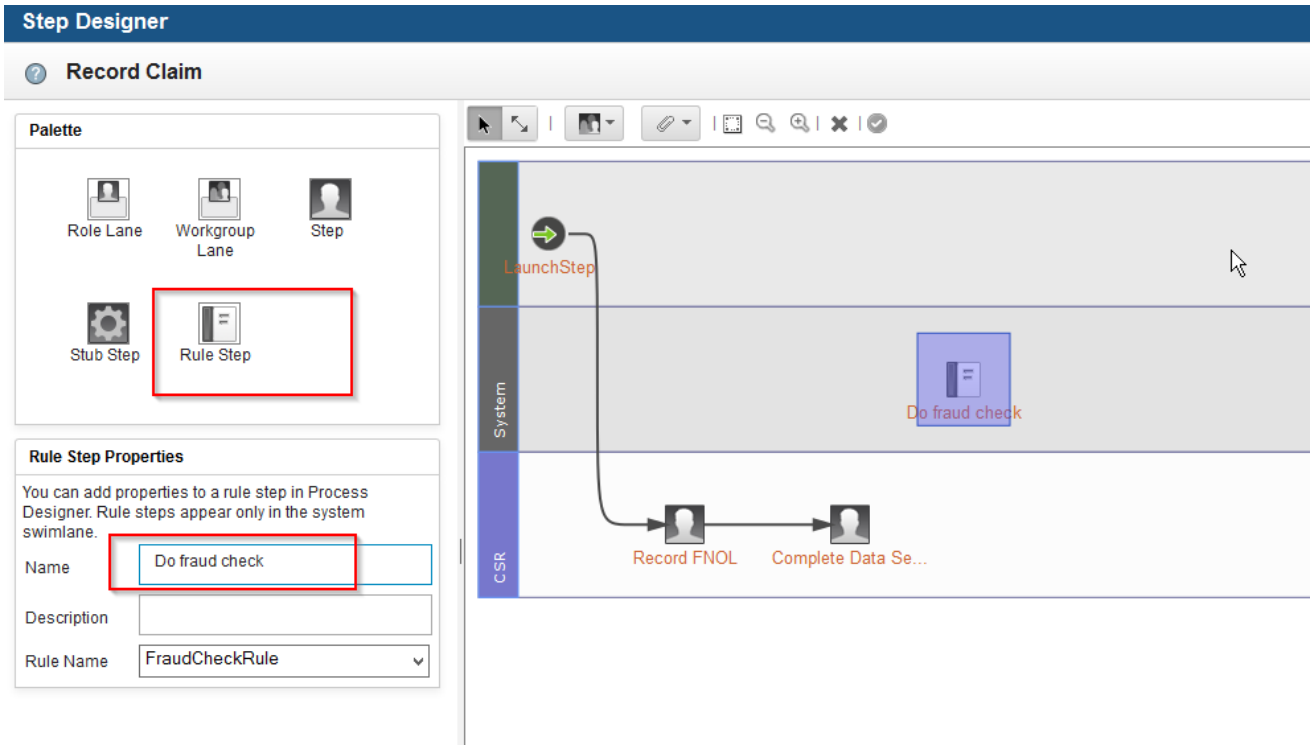
  In the Case Type, click on Validate to validate the rule.

Integration Business Rule

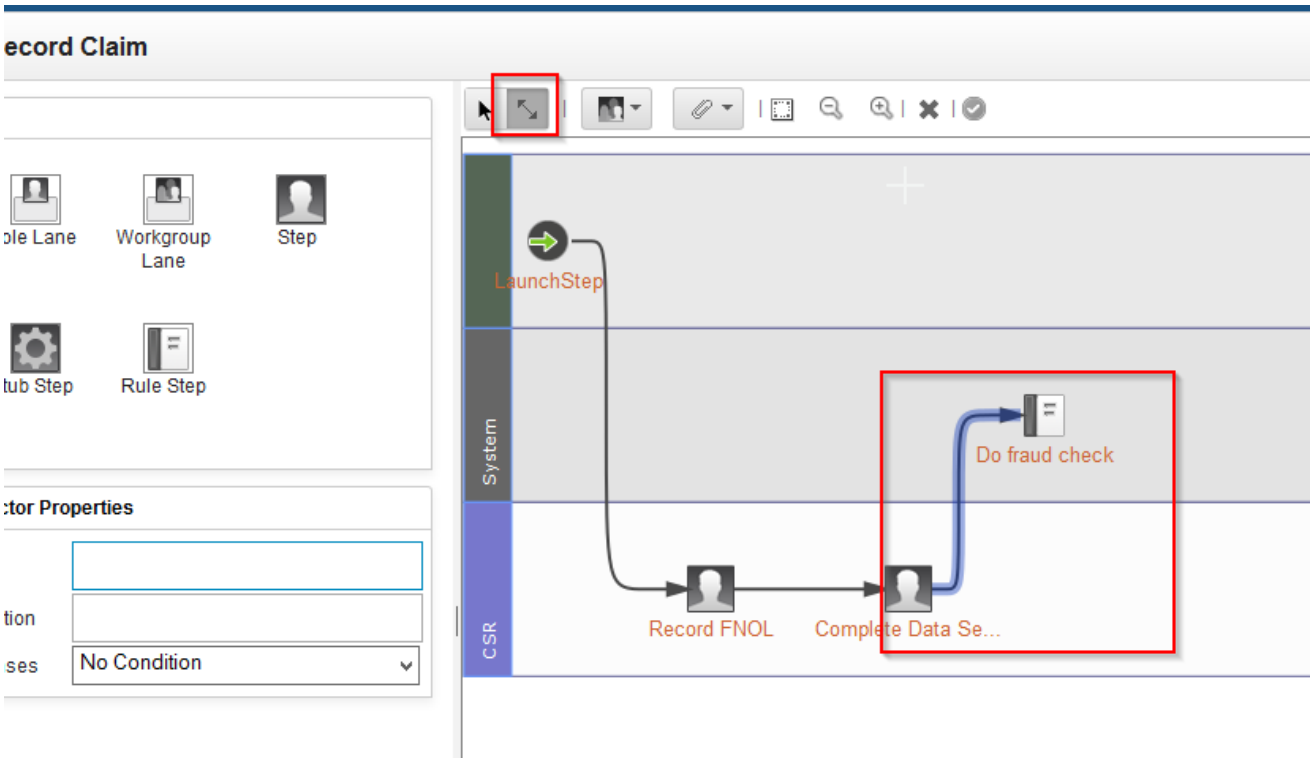
- Now, that we have defined the rule, we will incorporate the rule in the process. In the Case Type → Tasks → Record Claim task, open the Step Editor to edit the workflow:



Drag the Rule step from the palette and drop it on the System swimlane of workflow as shown below:

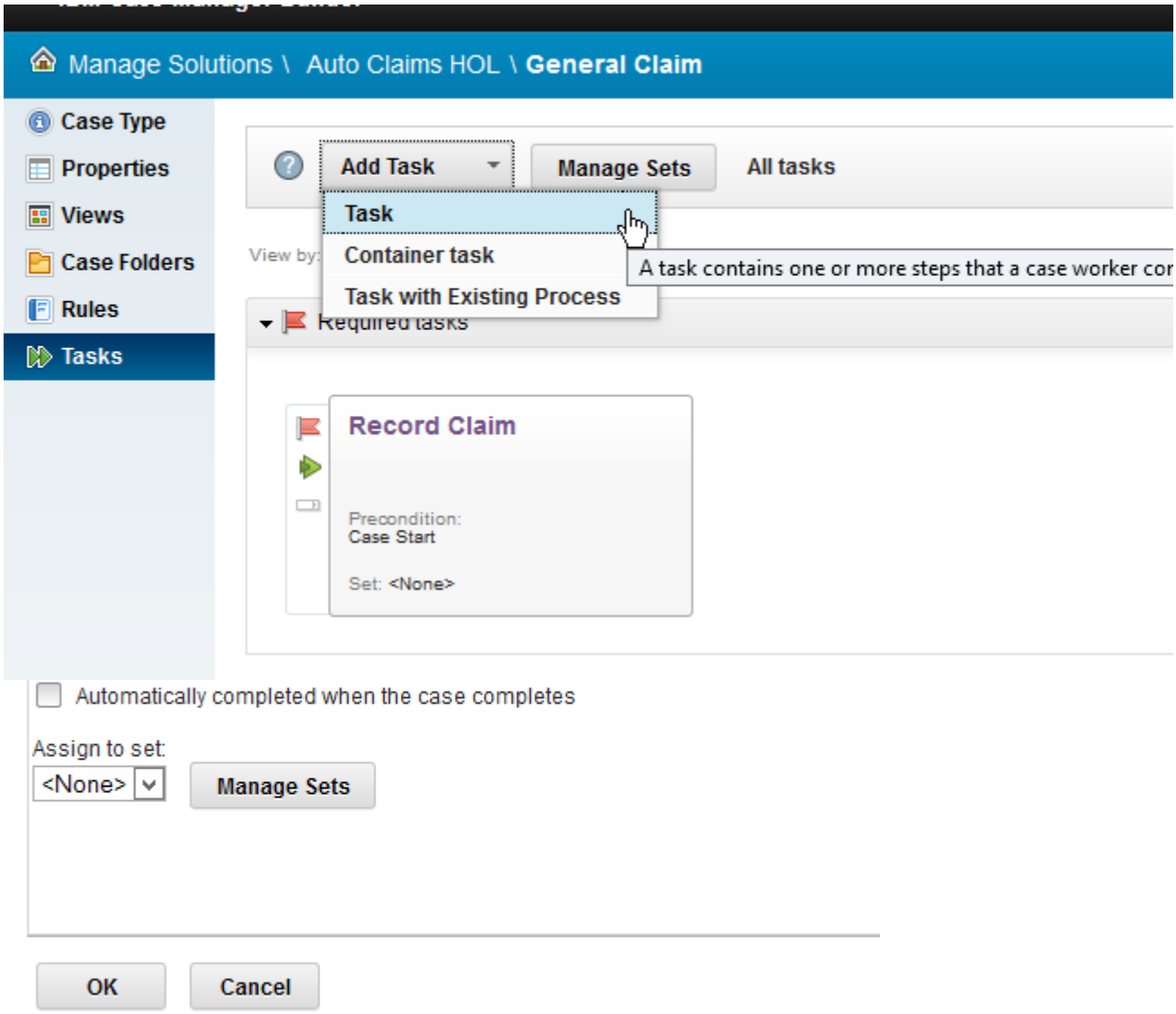


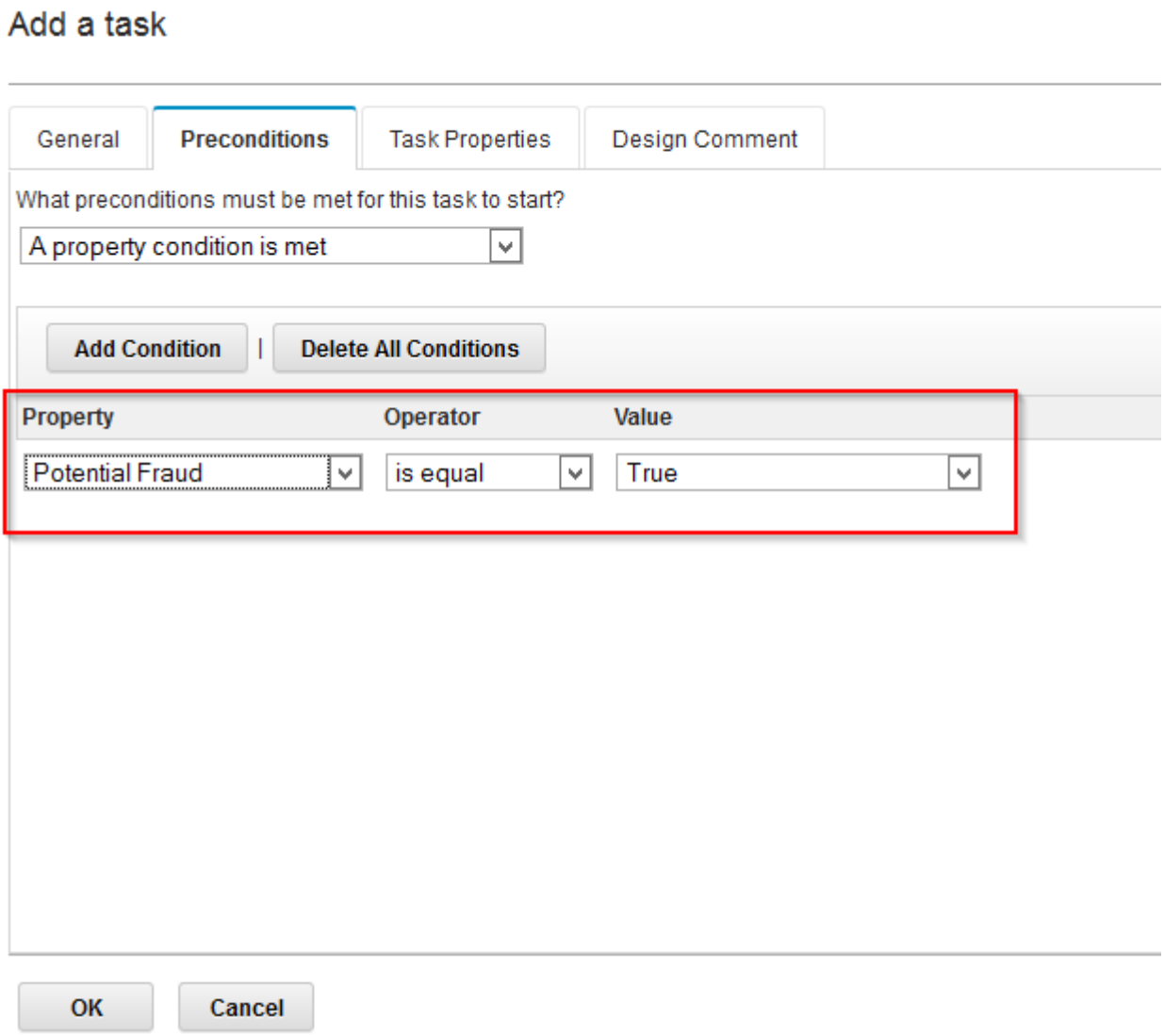
In the Rule Step Properties enter the Name – Do fraud check (make sure you have selected the Rule step in the System swimlane). Select the Rule Name as FraudCheckRule. This is the rule you designed in the previous step. Join the Complete Data set to the Do fraud check step using the Connector as shown below. Click on the Save button, then the Close button.



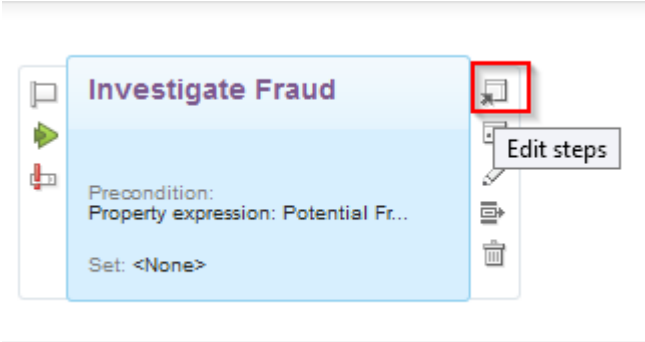
The FraudCheckRule will set the PotentialFraud case property to true or false based on the values passed to the Rules Engine. We will create an optional task named “Investigate Fraud” and set the pre-condition to be the PotentialFraud check to true. In the task, we will assign a work item to the Fraud Investigator to perform the fraud analysis of the claim.

Go to the Tasks and Add a task as shown below:

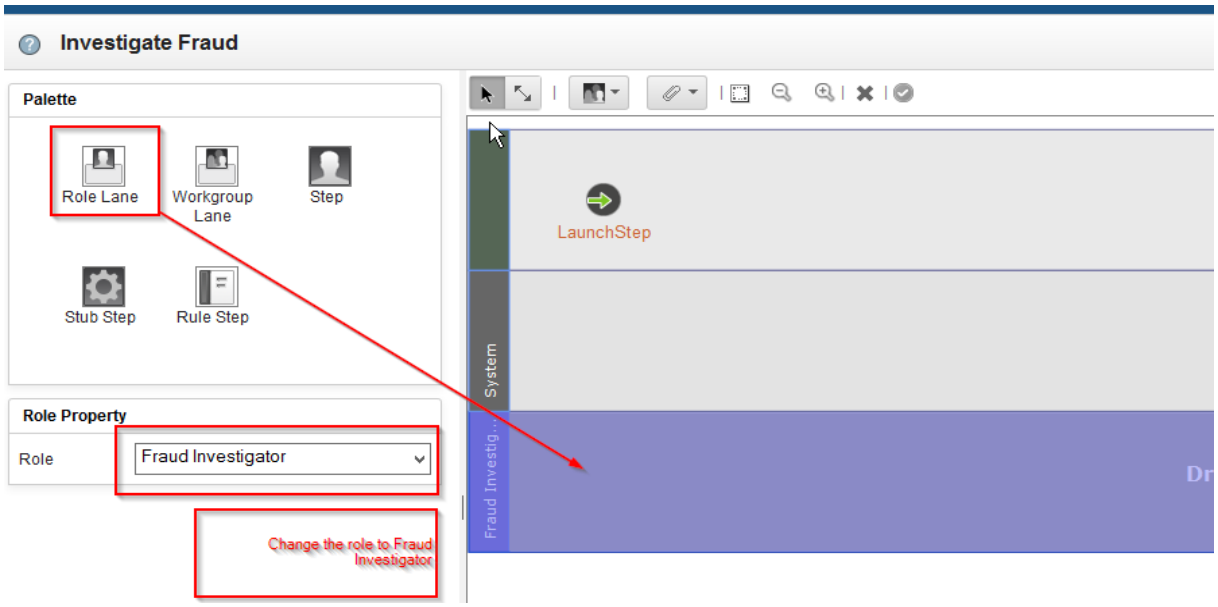

Manage Solutions \ Auto Claims HOL \ General Claim
Case Type
Properties
Views
Case Folders
Rules
Tasks
Add Task
Manage Sets
All tasks
Task
Container task
Task with Existing Process
A task contains one or more steps that a case worker cor
View by:
Record Claim
Precondition:
Case Start
Set: <None>
Automatically completed when the case completes
Assign to set:
<None>
Manage Sets
OK
Cancel



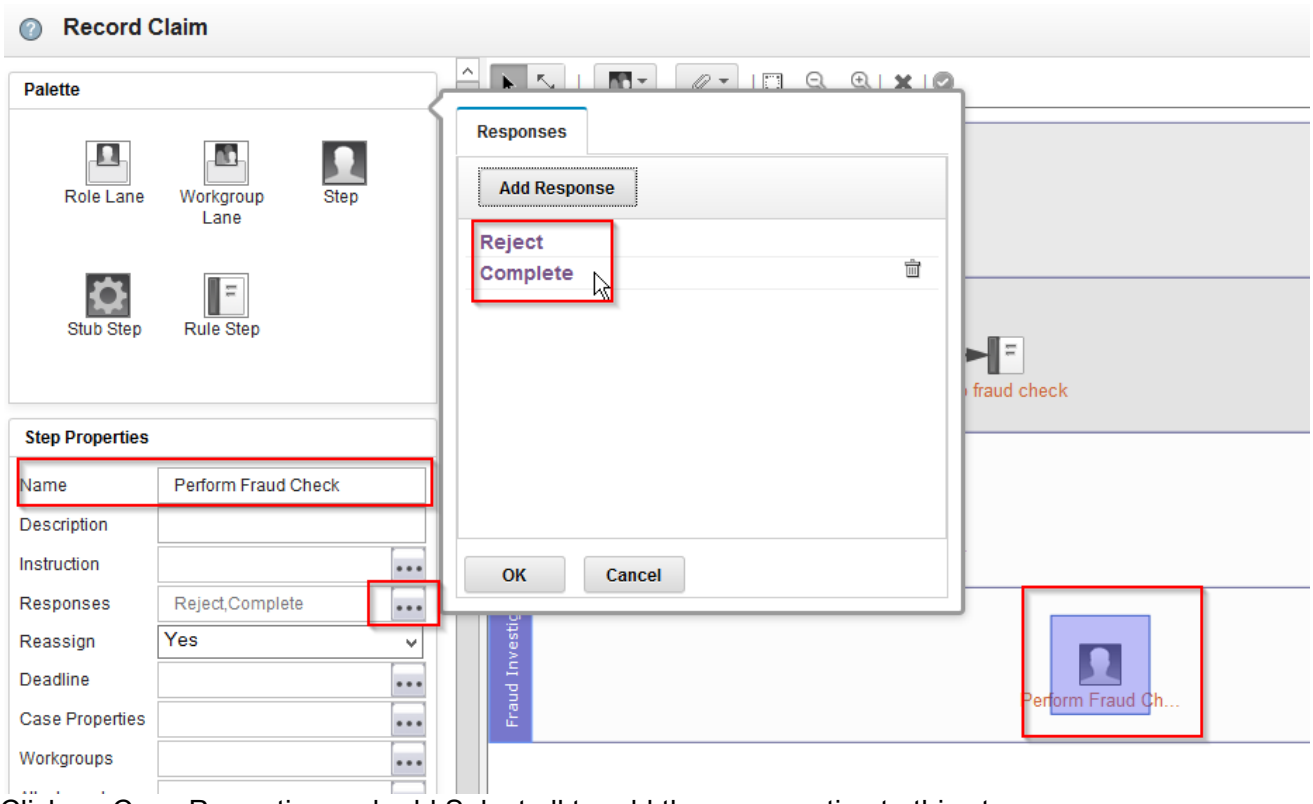
Click Ok and Save (top right corner) to save the solution. Now, we will design the workflow for this task.
Click on Edit Steps (hover over to the first icon on the Task)



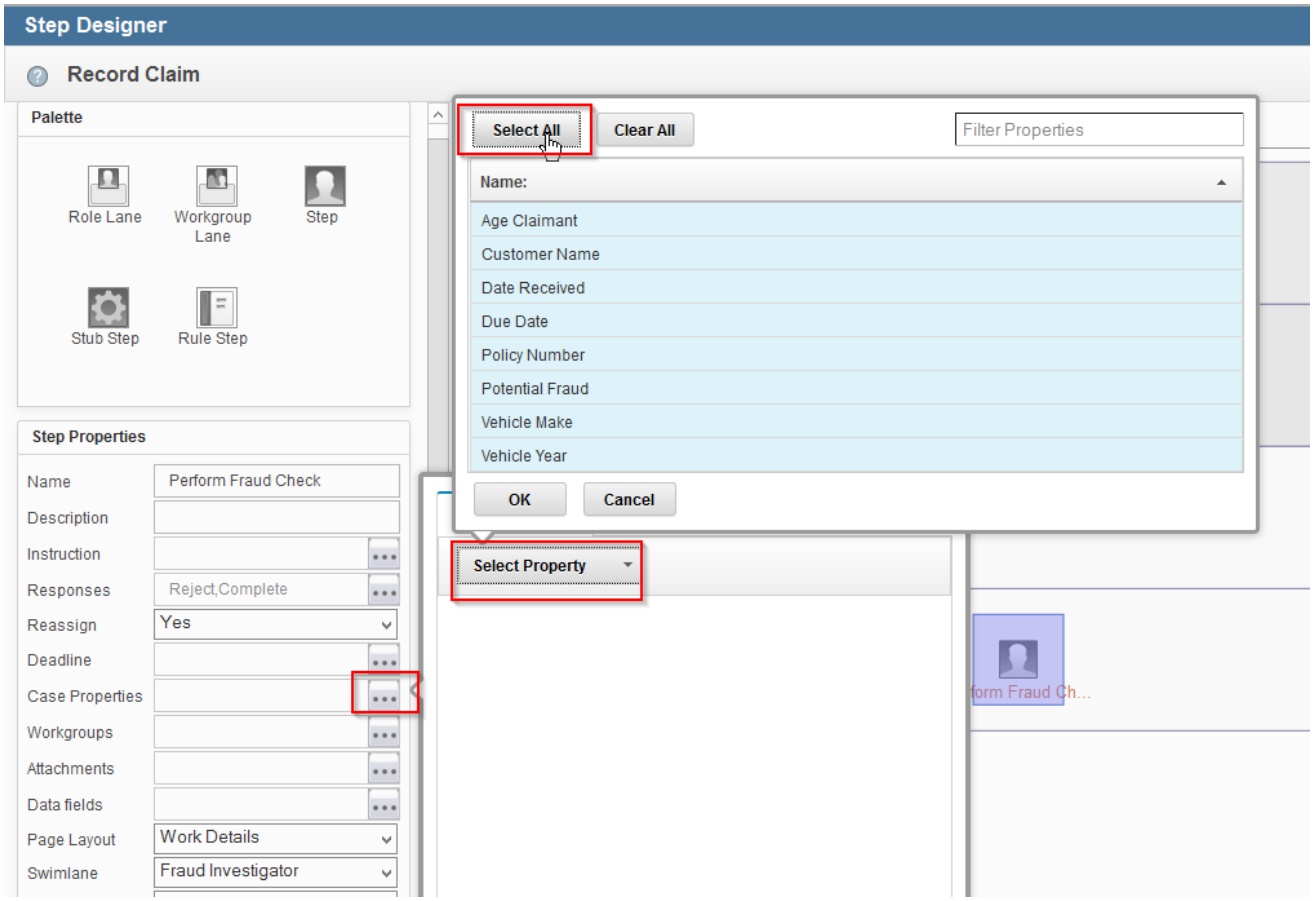
Drag and Drop a Role lane from the palette to the right pane as shown below



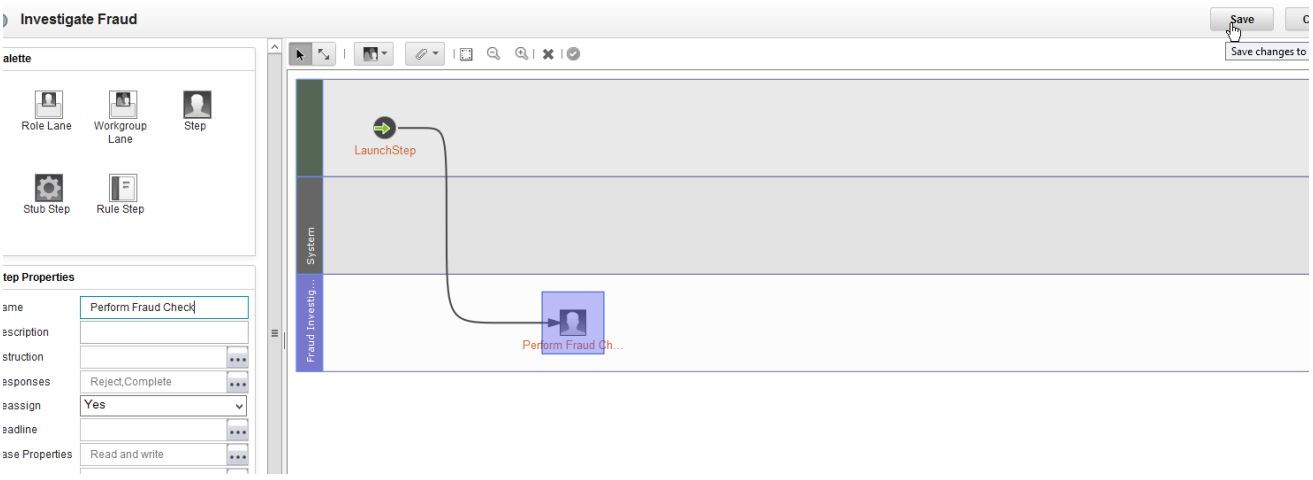
Drag and Drop a Step from the palette to the Fraud Investigator role lane. Rename this step to Perform Fraud Check and add 2 Responses (Complete and Reject) as shown below



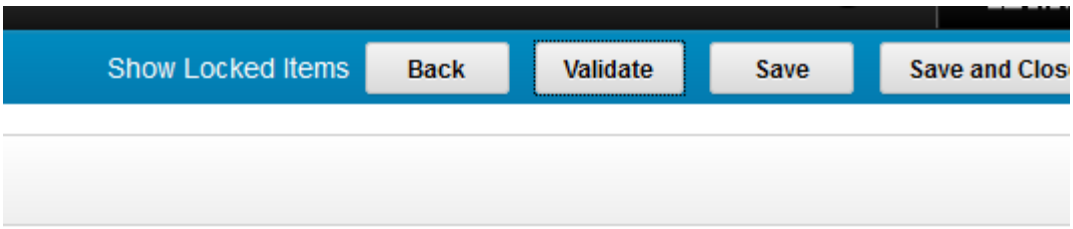
Click on Case Properties and add Select all to add these properties to this step:



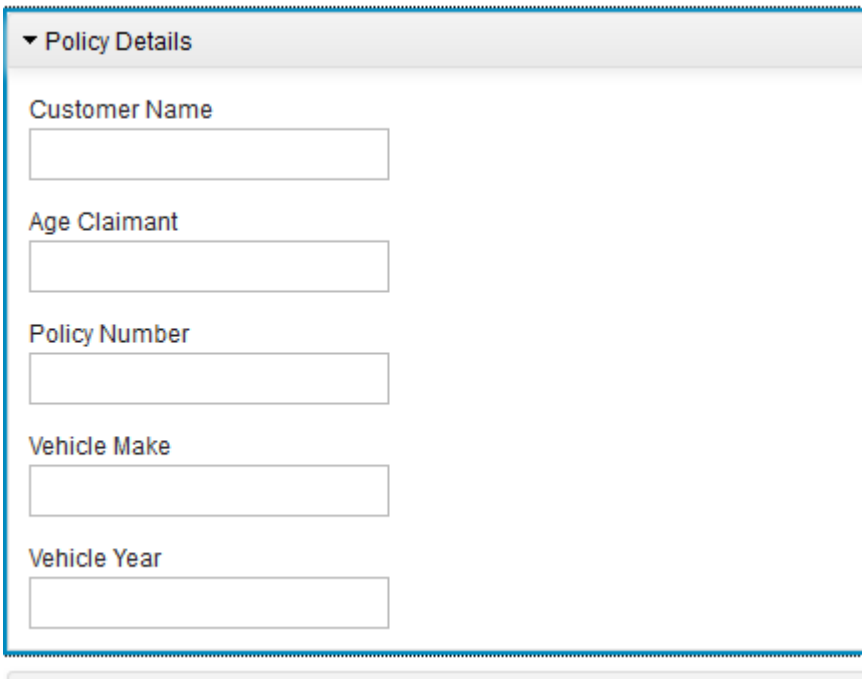
Connect the launch step to the Perform Fraud Check Step and Save the workflow



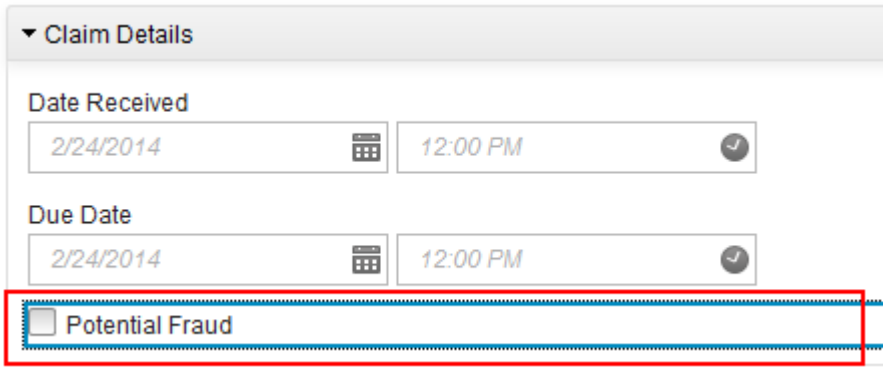
Close the workflow and Validate the tasks on the Tasks page



Click the Save button. Click the Views link, then the Properties Layout tab. Click on the Case Data View link, and open the Properties View Designer. Add the Age Claimant, Vehicle Make, and Vehicle Year properties to the Policy Details Titled layout:

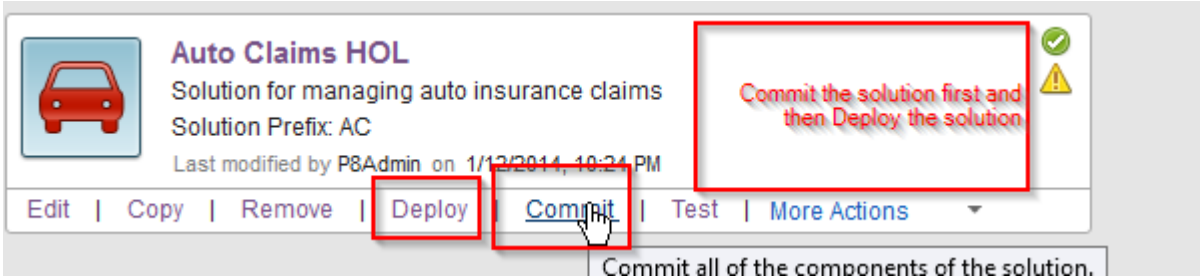


Add the Potential Fraud property from the palette to the Claims Details:

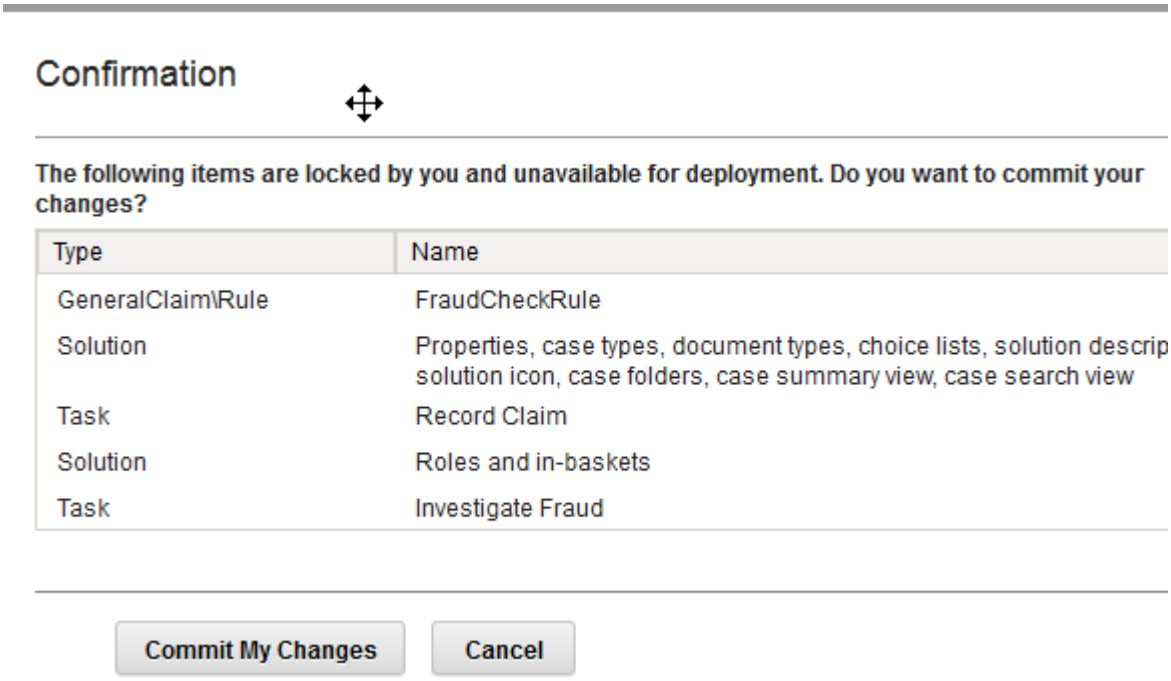


Click Save, then Close to exit the Properties View Designer.

Save and Close the solution.

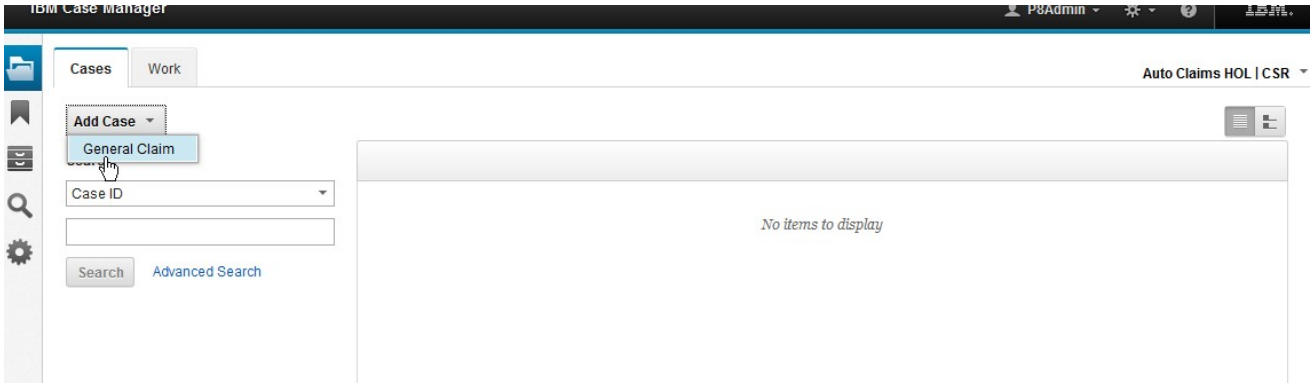


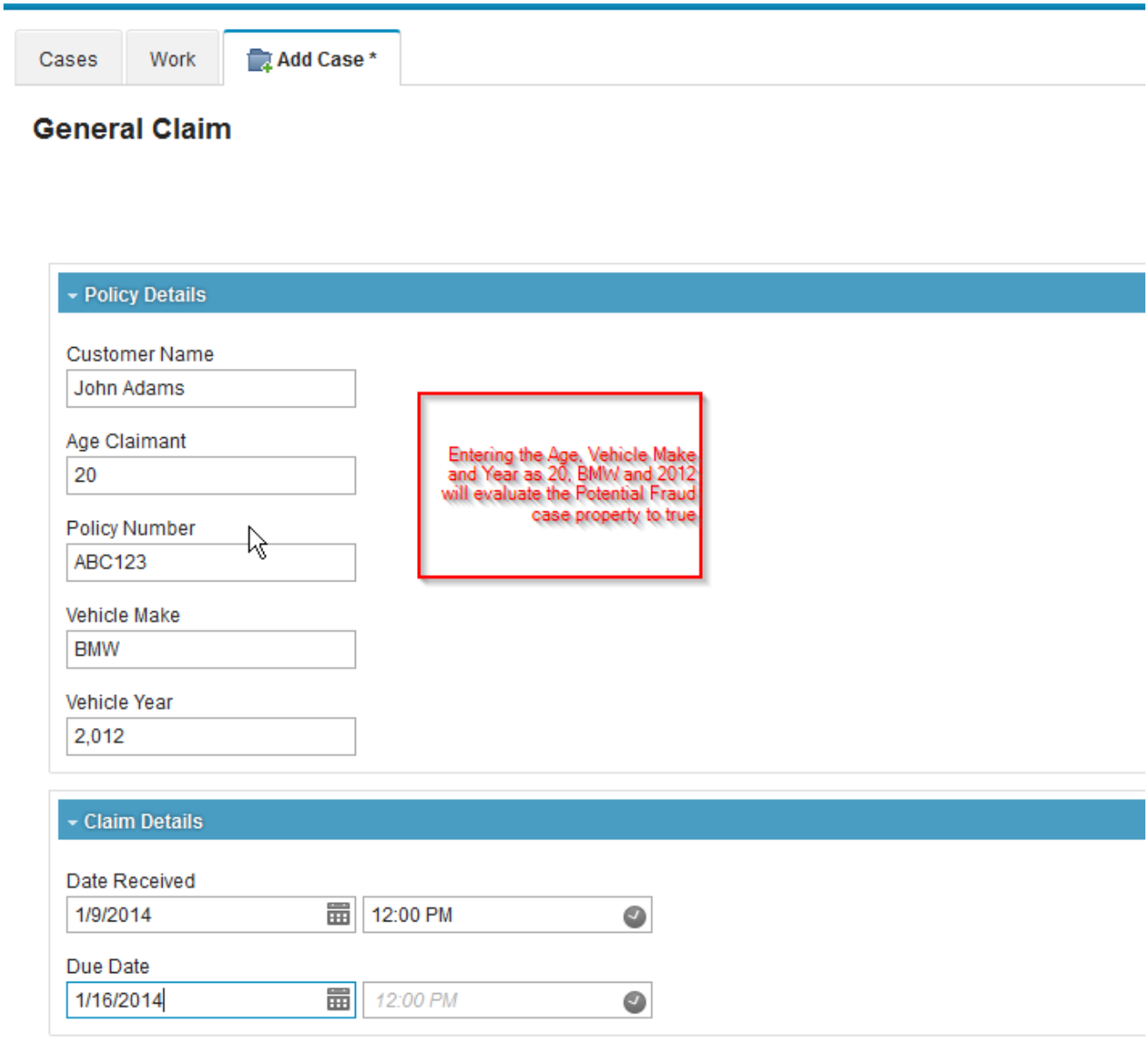
Commit changes and then Deploy



After successful deployment, launch the Case Client using the Test link. Map the p8admin user to the CSR and FraudInvestigator roles Click on the Auto Claims HOL link in the upper right corner and select Manage Roles. Add the p8admin user to the CSR and Fraud Investigator roles.

Using the Role selector, switch to CSR and click on Add Case:

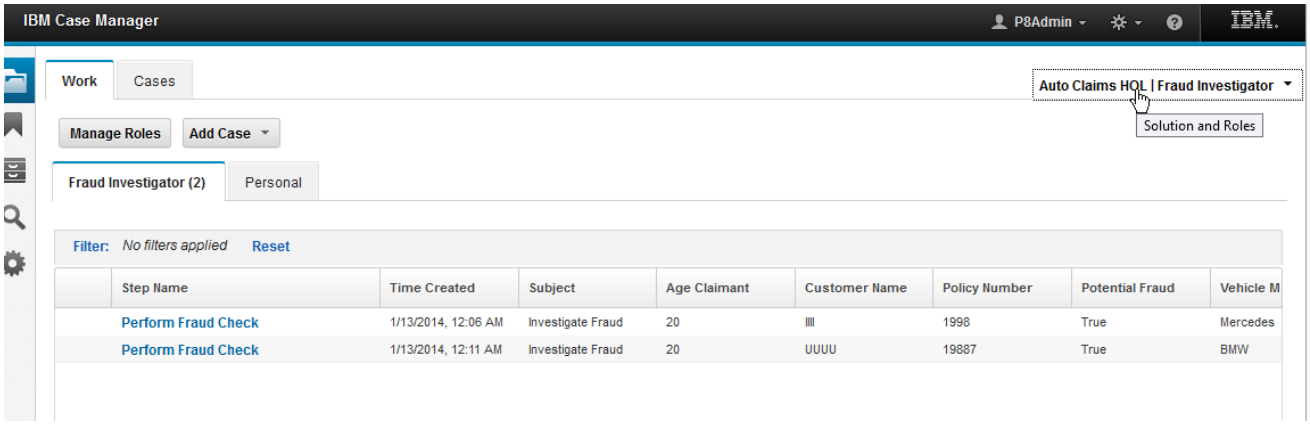




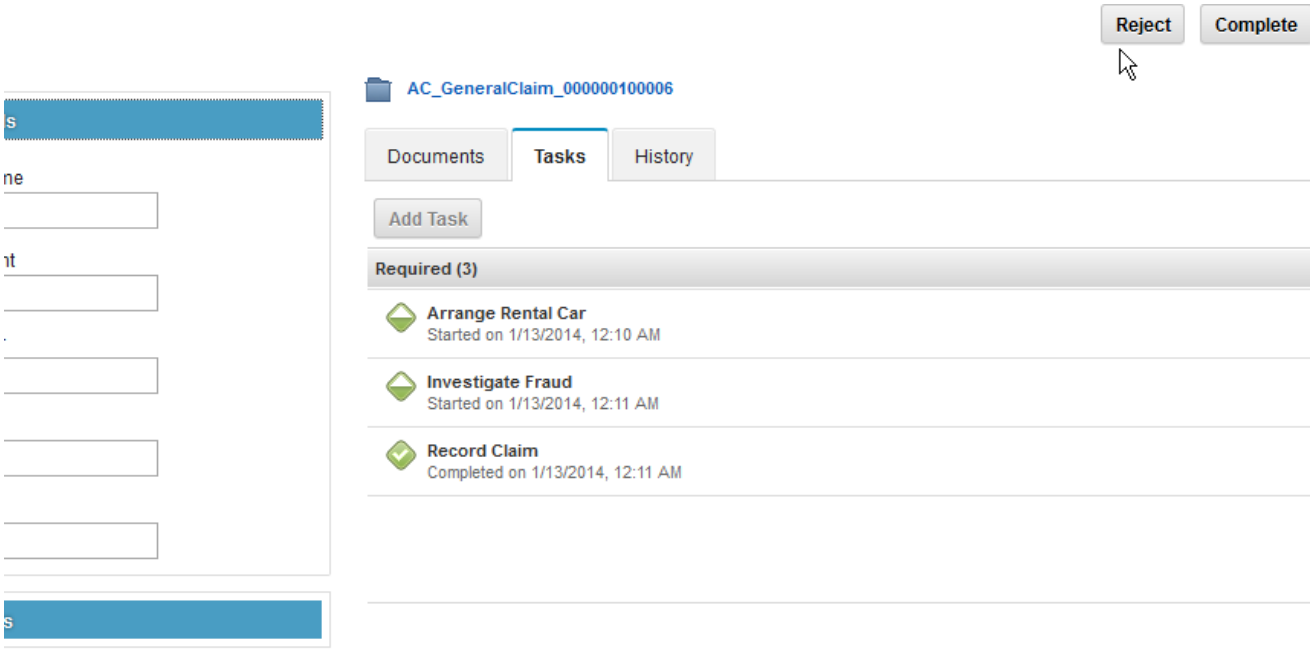
Click on Add to create the Case, and switch to the Work tab to process the work item created in the CSR inbasket. The first step in that workflow is Record FNOL and second step is Complete Dataset. Click on Complete and open the same work item again in the CSR inbasket and complete

it. When the second step is completed, the FraudCheckRule step is invoked and the Potential Fraud case property is evaluated to true.

Using the Role selector, switch to Fraud Investigator and you will see a work item to perform fraud check as shown below:



Notice that the Rules Engine set the Potential Fraud property to true. Open the work item and switch to the Tasks tab. You will see that the Investigate Fraud task was started after the Record Claim was completed.



You can click Complete to finish this work.

Create another case but this time, set the Vehicle Make as Honda (keep other values the same). When you complete the work as CSR, you will notice that the Investigate Fraud task does not get started because the Rules Engine does not evaluate the Potential Fraud property to true (because the vehicle make is not one of BMW, Mercedes, Audi)

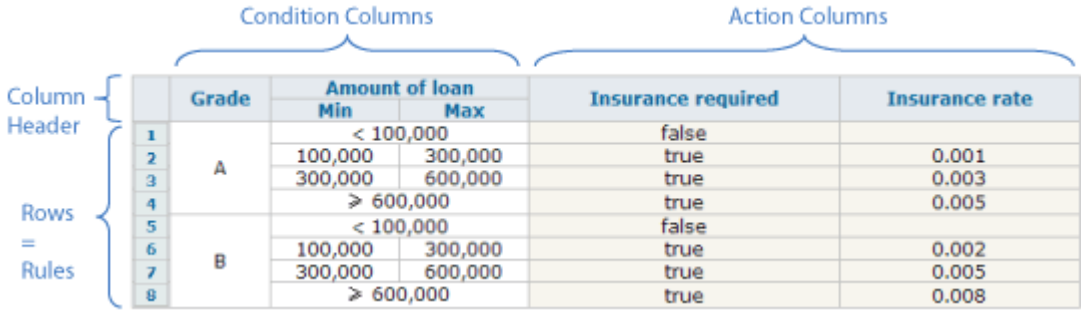
You have completed the Text Based Rules Integration Lab with IBM Case Manager.

Decision Table Based Rules

Now, we will create the same rule using a decision table. Decision tables provide an alternative and more convenient way of viewing and managing large sets of symmetric business rules.

What is a decision table?

A decision table expresses sets of similar conditions and actions in a table. Consistency checks are available to help identify overlaps and gaps.



	Grade	Amount of loan Min	Amount of loan Max	Insurance required	Insurance rate
1	A	< 100,000		false	
2		100,000	300,000	true	0.001
3		300,000	600,000	true	0.003
4		⩾ 600,000		true	0.005
5	B	< 100,000		false	
6		100,000	300,000	true	0.002
7		300,000	600,000	true	0.005
8		⩾ 600,000		true	0.008

Columns

Each column in a decision table represents a condition or an action. The column header identifies an object being tested in a condition or the target of an action. The columns of a decision table define the conditions and actions that apply to the rules contained in the table. Condition columns are unshaded and appear on the left, while action columns appear shaded and on the right.

Each row in the table corresponds to one rule. The actions of a given rule are performed when all of its conditions are valid. For example, the rule corresponding to the second row in the above figure reads as follows:

if

all of the following conditions are true:

- the loan grade is A
- the amount of the loan is between 100000 and 300000

then

set the Insurance required to true

set the Insurance rate to 0.001

Rows and cells

Each row in a decision table corresponds to a rule. Condition and action cells can be left empty. To make the rows of decision tables more intuitive to read, cells that are shared by more than

one rule are merged.

	Grade	Amount of loan	
		Min	Max
1	A	100,000	300,000
2		300,000	600,000

In this table, each row corresponds to a rule, and they share the same condition.

Rule 1

if

all of the following conditions are true:

- the loan grade is A
- the amount of loan is at least 100000 and less than 300000

Rule 2

if

all of the following conditions are true:

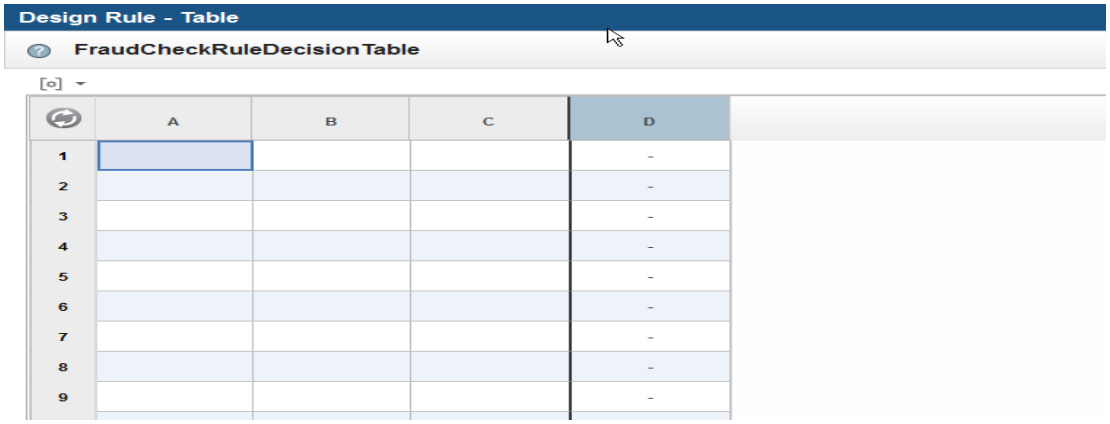
- the loan grade is A
- the amount of loan is at least 300000 and less than 600000

Preconditions

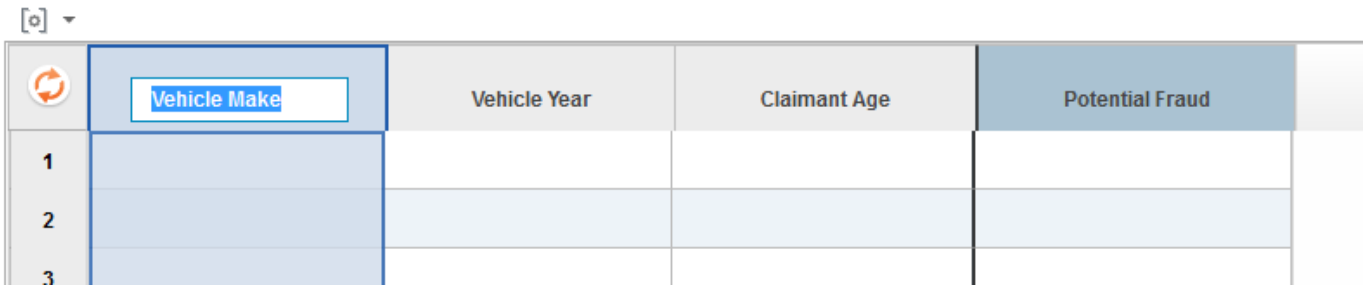
You can set preconditions and apply conditions throughout a decision table.

- Open the Auto Claims HOL solution, and in the Case Types → General Claim → Rules page, click on Add Rule and add a new rule as below:
- Name: FraudCheckRuleDecisionTable

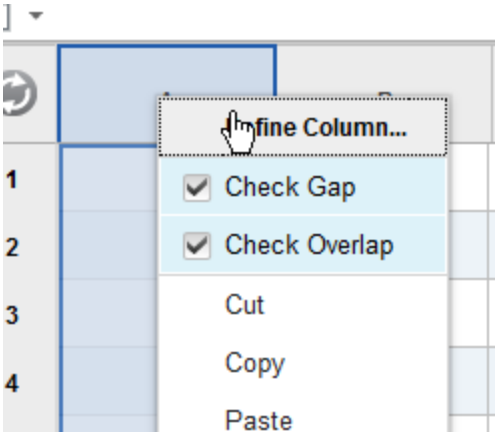
Select Type: as Table-based rule. Click OK and Save. Click on the rule to open the Decision Table Rule Designer:



Click on the label A and replace it to Vehicle Make. Similarly, replace B with Vehicle Year, C with Claimant Age and D with Potential Fraud as shown below:

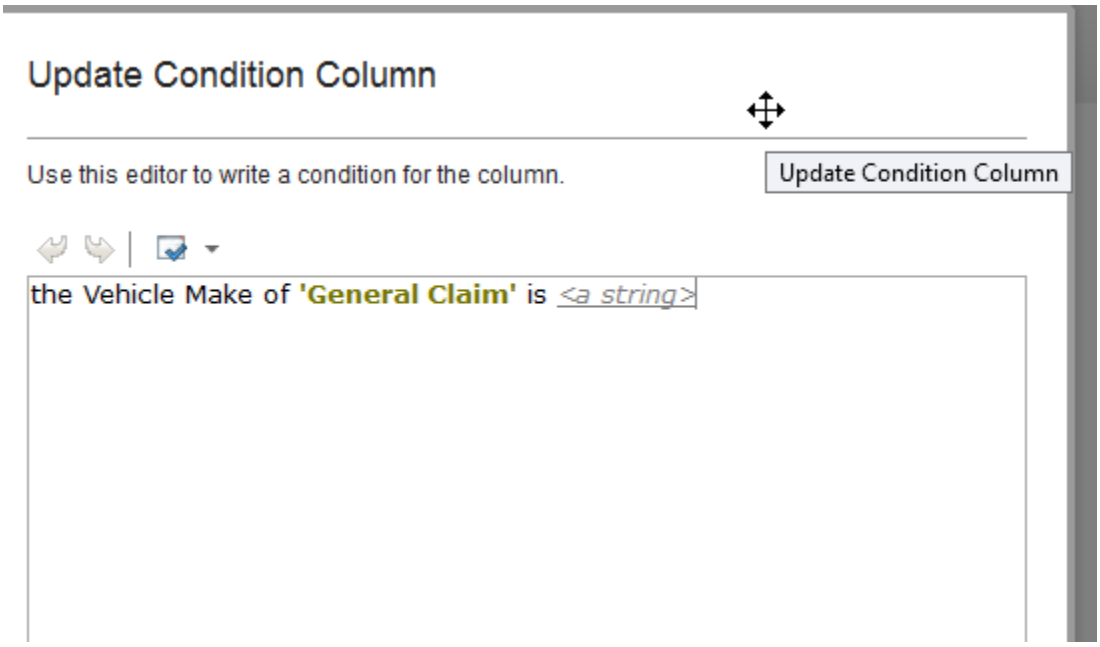


Right click on Vehicle Make and select Define Column



In the pop up dialog, enter the following

the Vehicle Make of 'General Claim' is <a string>



Click Define and move to the next column, Vehicle Year. Right click → Define Column and enter the following:

the Vehicle Year of 'General Claim' is more than <a number>

Click Define and move to the next column, Claimant Age. Right click → Define Column and enter the following:

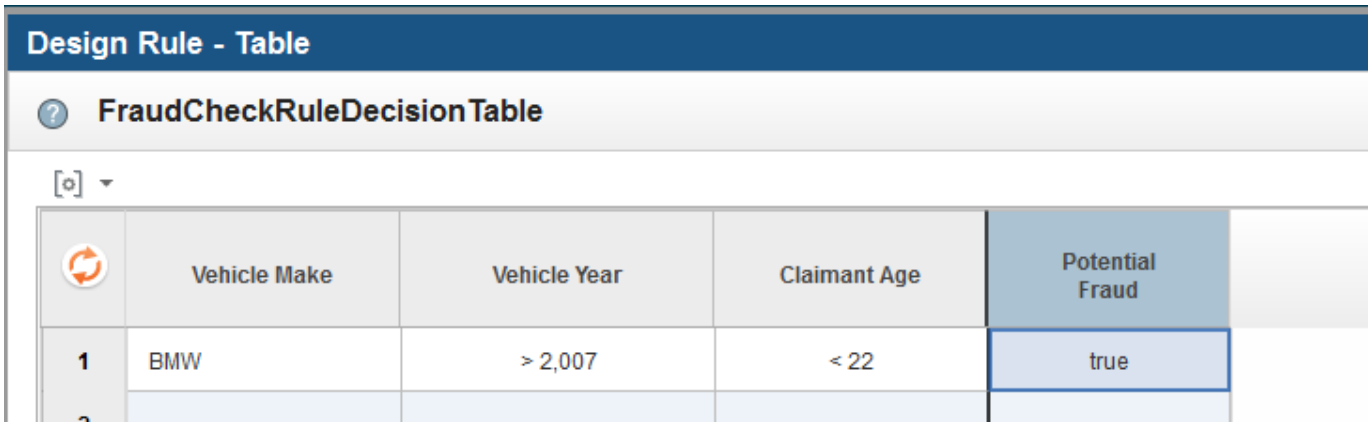
the Age Claimant of 'General Claim' is less than <a number>

Click Define and Right Click on the last column. Right click → Define Column (this is the action column), and enter the following:

make it <a boolean> that 'General Claim' is Potential Fraud

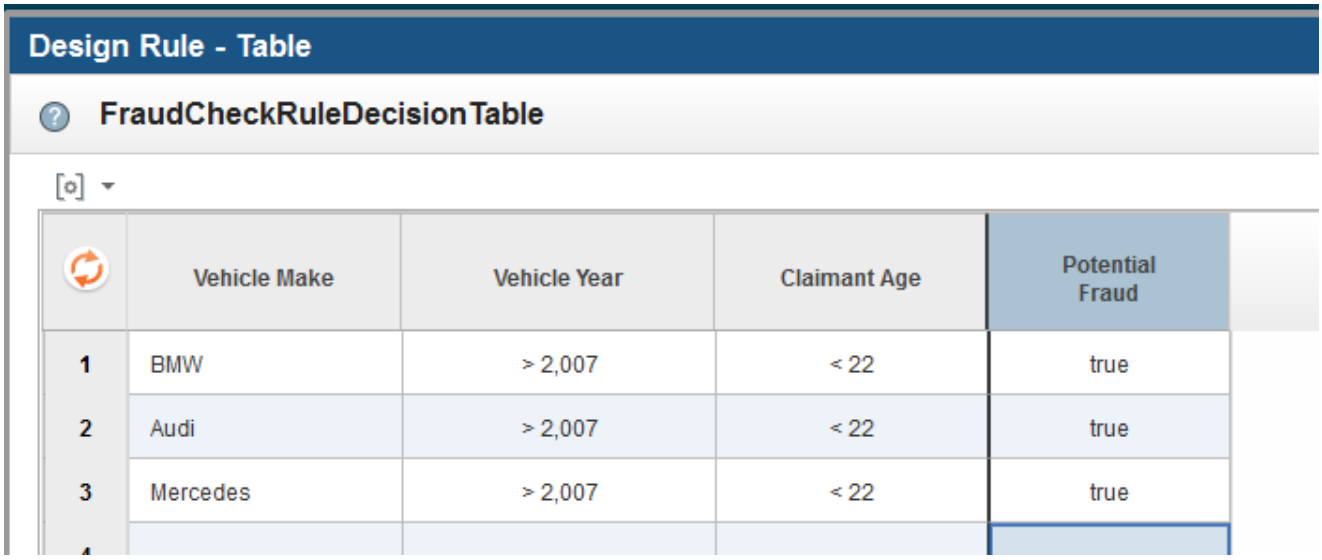
Click Define.

We have set up the column conditions. Now we will enter the values in the rows as shown below. Place your cursor on the first cell (1,1) and double click and enter BMW. In the second cell in row 1, double click and enter 2007. In the third cell in row 1, double click and enter 22. Finally in the last cell of row 1, select true. You should have the following row:



	Vehicle Make	Vehicle Year	Claimant Age	Potential Fraud
1	BMW	> 2,007	< 22	true

Repeat the values for Audi and Mercedes as shown below:



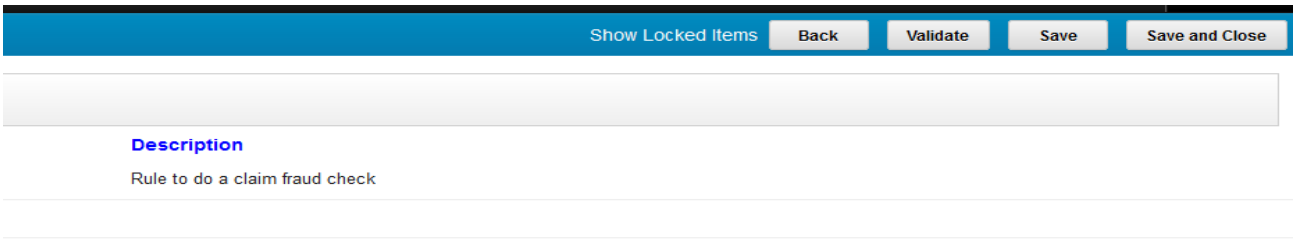
	Vehicle Make	Vehicle Year	Claimant Age	Potential Fraud
1	BMW	> 2,007	< 22	true
2	Audi	> 2,007	< 22	true
3	Mercedes	> 2,007	< 22	true

In the last row, right click on the first cell and select Set to Otherwise. Repeat it for cells 2 and 3 of row 4 and set the Potential Fraud value to false as shown below:

	Vehicle Make	Vehicle Year	Claimant Age	Potential Fraud
1	BMW	> 2,007	< 22	true
2	Audi	> 2,007	< 22	true
3	Mercedes	> 2,007	< 22	true
4	Otherwise	Otherwise	Otherwise	false

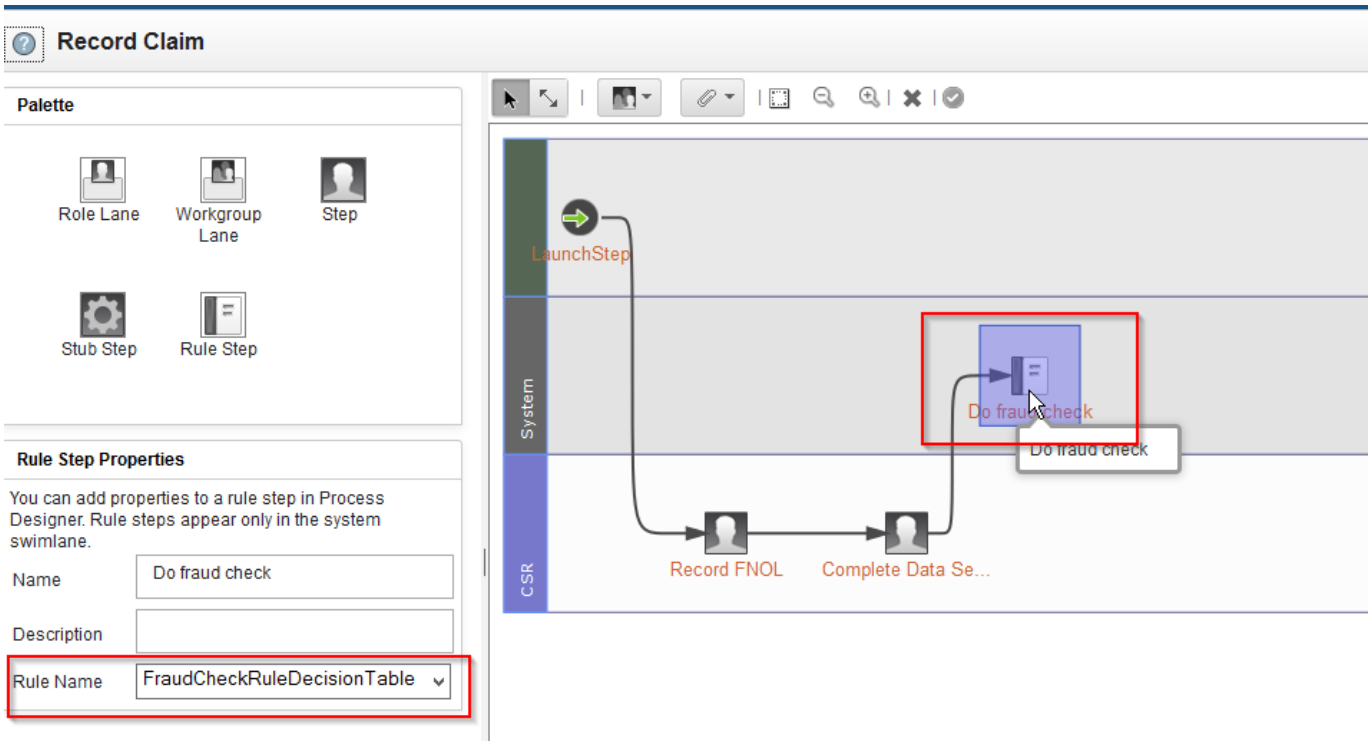
Click on Save (top right corner), Close (If prompted with a Save Discard dialog, click Save)

On the Case Types page, click on Validate and then Save.

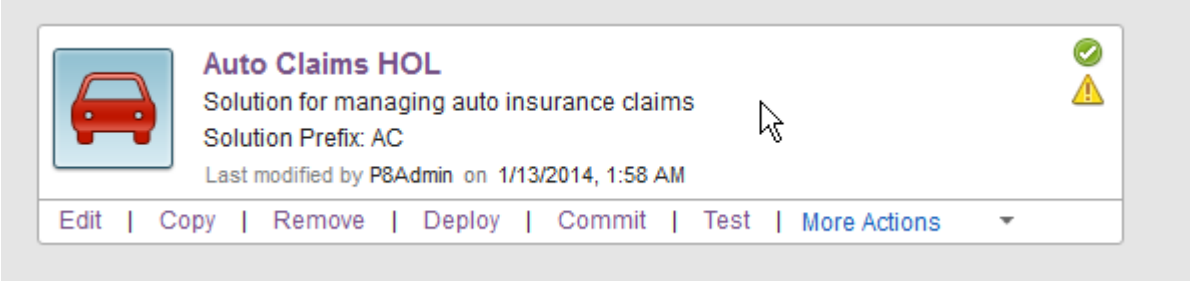


Now, we will go back to the Record Claim task and modify the Rule step to use the newly created Decision Table Rule. Click on Tasks → Record Claim Task → Edit Steps

Select the Do Fraud Rule step in the System swim lane and change the Rule Name to FraudCheckRuleDecisionTable as shown below



Click on Save to save the changes to the workflow. Click Close in the step editor. Then in the Case Types page click on Validate and Save and Close. Click on Commit and Deploy.



After successful deployment, test the decision table. Create a new case (just like you did before) with the values that will evaluate the potential fraud case property to true. Check the CSR inbasket and process the work items in the first 2 steps (click Complete response) and you will see that the Investigate Fraud task is enabled and the Fraud Investigator receives a work item to Perform Fraud Check.

Repeat with a new case but this time enter values that evaluate Potential Fraud to false. Check the case history and verify that the Investigate Fraud task does not get enabled (It should be in the Waiting state)

This concludes the Rules integration lab.