System Architect Essentials I

EXERCISE GUIDE (v. 7.1)

Pega ACADEMY

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Table of Contents

BPM and Case Management Overview

This lesson group includes the following lessons:

- Introduction to BPM and Case Management (No Exercise)
- Accessing a PRPC Application (No Exercise)
- Tour of the Designer Studio

Exercise: Use Designer Studio to Create and Process a Case

Scenario

Before we can begin to implement a solution, we need to understand how users create, process, and resolve cases using Pega 7. Understanding how users perform their assignments helps us to determine how to implement an application and create, modify, and test its elements.

In this exercise, you will perform three different roles, as listed in the table below.

Role	**Username**	**Password**
Employee	User@MainCo	rules
Manager	Manager@MainCo	rules
System Architect	Admin@MainCo	rules

Approach

The login credentials provided in the scenario will open an Employee Reimbursements demo application with an Expense Voucher case type. In the Expense Voucher case, an employee fills out a voucher listing expenses. If the total is over $100, the expense voucher case is routed to a manager. The manager determines if the expense will be approved or rejected and then notifies the employee of the final voucher status.

To view the case type from each role, you will:

- Log in as an employee and use the Create menu to create a new expense voucher
- Log in as a manager, select open cases from the workbasket and approve or reject the expense voucher.
- Log in as a system architect to test the Expense Voucher case type

Hints

1. The portal can be launched using the Launch menu located in the header.
2. The case can be created using the Create menu located in the header.

Procedure

Launch the exercise system, if it is not already running. Then, follow the steps below to practice using Pega 7 from three different roles.

Employee: Create Expense Voucher

1. On the Login screen, enter the employee username (User@MainCo) and password shown in the Scenario section to log into the Employee Reimbursements application.

2. Use the Create menu to create an Expense Voucher case.

3. Complete and submit an expense voucher. Do this several times so that you can view the flow that occurs with vouchers over and under $100.

Note: Ensure that you create at least two expense voucher cases so that you can approve and reject from the finance staff member role.

Manager: Approve/Reject Voucher

1. On the Login screen, enter the manager username (Manager@MainCo) and password shown in the Scenario section to log into the Employee Reimbursements application.

2. View work items listed in the work basket, under the heading **My Worklist**. Click a blue highlighted ID link to open an expense voucher case.

3. Review a voucher and click **Submit** to approve it. Open another voucher and select **Reject** from the **Other actions** menu in the top-right of the screen. Notice that once you've opened the Reject screen, you can use the **Other actions** menu to return to the Approve screen.

4. To view the remaining open cases, select **Dashboard** or **My WorkList** from choices on the left. To update the list, click **Refresh list** on the My WorkList screen.

System Architect: Review Expense Voucher Case Type

1. On the Login screen, enter the system architect username (Admin@MainCo) and password shown in the Scenario section to log into the Case Designer.

2. Click **Cases** in the left column to select the Cases Explorer. Click **Expense Voucher** under Case Types to view the Expense Voucher Case Designer landing page.

3. Select **Create Expense Voucher Case** from the Create menu. Fill out all required forms and click **Submit** to advance the case to the Review Expenses stage.

4. When the case enters the Review Expenses case stage, notice that the Case Contents show the steps that have been completed. The current step is highlighted in blue and you can see that the approval step has been assigned to a Manager. From the Other actions menu, you can select to approve or reject this step

5. Since our system is not set up to deliver email, the administrator will receive an notice when mail delivery is attempted.

6. Create a new case two additional ways:

    a. Return to the Case Designer landing page for the Expense Voucher case and use the **Run** button to run the process (which will create a new case).

    b. Select **Case Manager 7** from the Launch menu to open a Case Manager portal and then use the Create menu to create a new Expense Voucher case.

Start Building an Application

This lesson group includes the following lessons:

- Introduction to HR Services (No Exercise)
- Creating a New Application
- Identifying Case Stages

Exercise: Create the HR Services Application

Scenario

Before we can begin to model processes, develop UIs, and implement a data model – all necessary parts of our solution – we must create the application itself. This basic structure will accommodate all of our work to implement the Candidate case.

To create our starting point, a Lead System Architect would run the New Application wizard. After collecting basic information about the application we need to implement, the wizard creates the base elements and structure of our application, upon which we can implement the processes, policies, user interfaces and data needed to manage Candidate cases from start to finish.

Note: The New Application wizard is normally run by Senior or Lead System Architects (SSAs/LSAs), and not system architects. For this exercise, we ignore some of the functionality of the wizard and focus solely on the steps that are necessary to create our application.

- **Role:** Senior/Lead System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Run the New Application wizard and provide the following information to create an application:

- Basic application information, such as the name and description of the application.
- Business objectives that the application must satisfy.
- The name and description of the case(s) to implement.
- Any data objects needed to manage information collected during case processing.

Note: Failure to enter certain information as specified will cause the wizard to create items whose names and behaviors differ from the names and behaviors assumed in later lessons. To avoid confusion and potential errors, use the following table to enter values in the appropriate field of the wizard, and verify all entries before completing the wizard and creating your application.

Field	Value
Application	HR Services
Description	The HR Services application manages Human Resources (HR) services for SAE Corporation. Employees can use this application to manage candidate applications for open positions within the company.
Built on Application	PegaRULES
Application Structure	Implementation only
Organization	SAE
Business objective	Improve response time throughout the candidate selection process
(Case) Name	Candidate
(Case) Description	Case for managing applications for open positions at SAE
(Data Object) Name	Candidate
(Data Object) Description	Information about candidates for open positions at SAE
Reuse Layer	Implementation

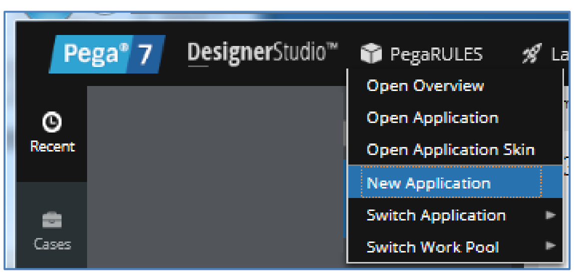
Procedure

Follow the steps below to create a new application:

1. Log in as a System Architect using the login credentials in the Scenario section.

Note: If you do not see the New Application option in the application menu, see the *Switch Application / Access Group* section at the end of this exercise.

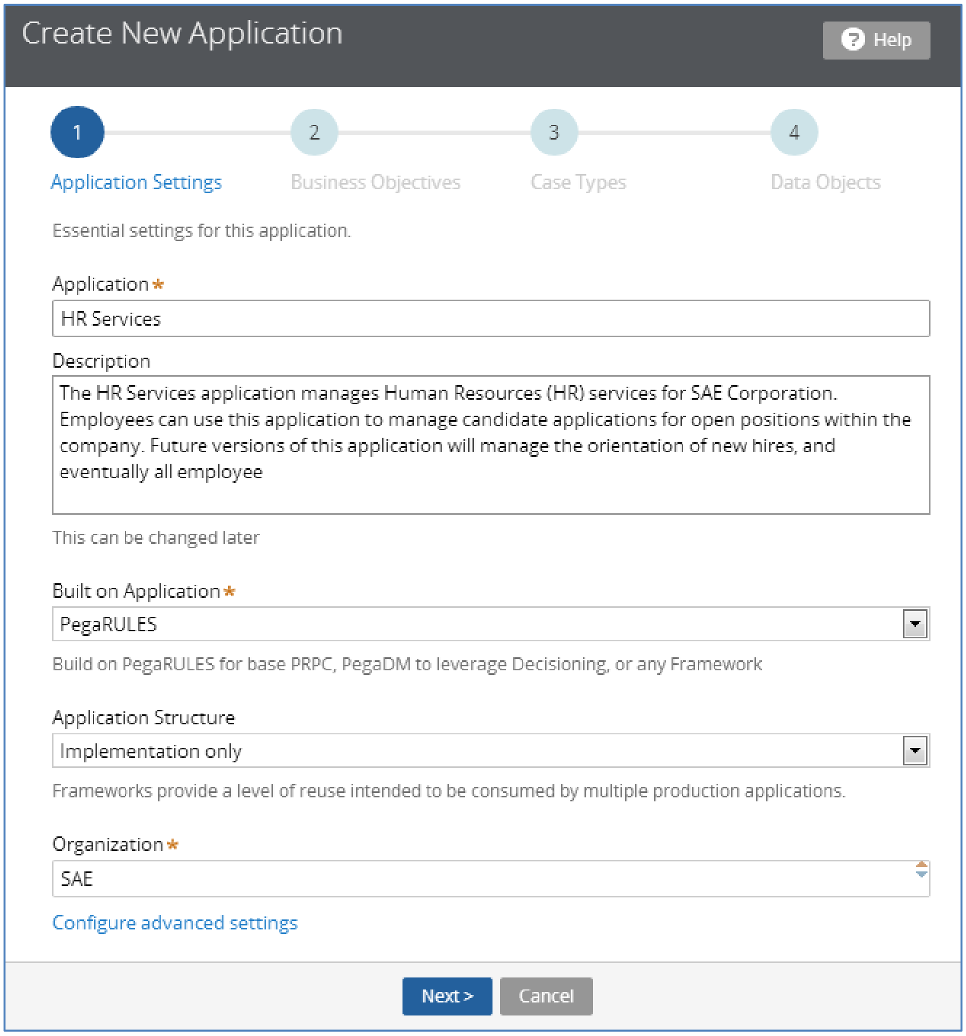
2. From the Application menu, select **New Application**.



3. Click **Create New Application** to start the wizard.

4. In the Application Settings step, enter information from the table in the Approach section.
   - Application: **HR Services**
   - Built on Application: **PegaRULES**
   - Application Structure: **Implementation only**

- Organization: **SAE**



IMPORTANT: The organization name must match the one shown above. As the new application is created, operator IDs, based on this organization name, will be created. For example, the new administrator operator ID for this application will be Admin@SAE

5. Click **Next** to advance to the Business Objectives step, and enter the following business objective: **Improve response time throughout the candidate selection process**.
6. Click **Next** to advance to the Case Types step, and enter the following information.
   - Name: **Candidate**
   - Description: **Case for managing applications for open positions at SAE**
7. Click **Next** to advance to the Data Objects step, and enter the following information.
   - Name: **Candidate**
   - Description: **Information about candidates for open positions at SAE**

▪ Reuse layer: **Implementation**

8. Click **Application Settings** to return to the first step of the wizard, and review the information provided at each step. Errors in this information may cause your application to behave in an unexpected manner, so be sure to confirm that the information you have entered is correct and matches the table in the Approach section of this lab exercise

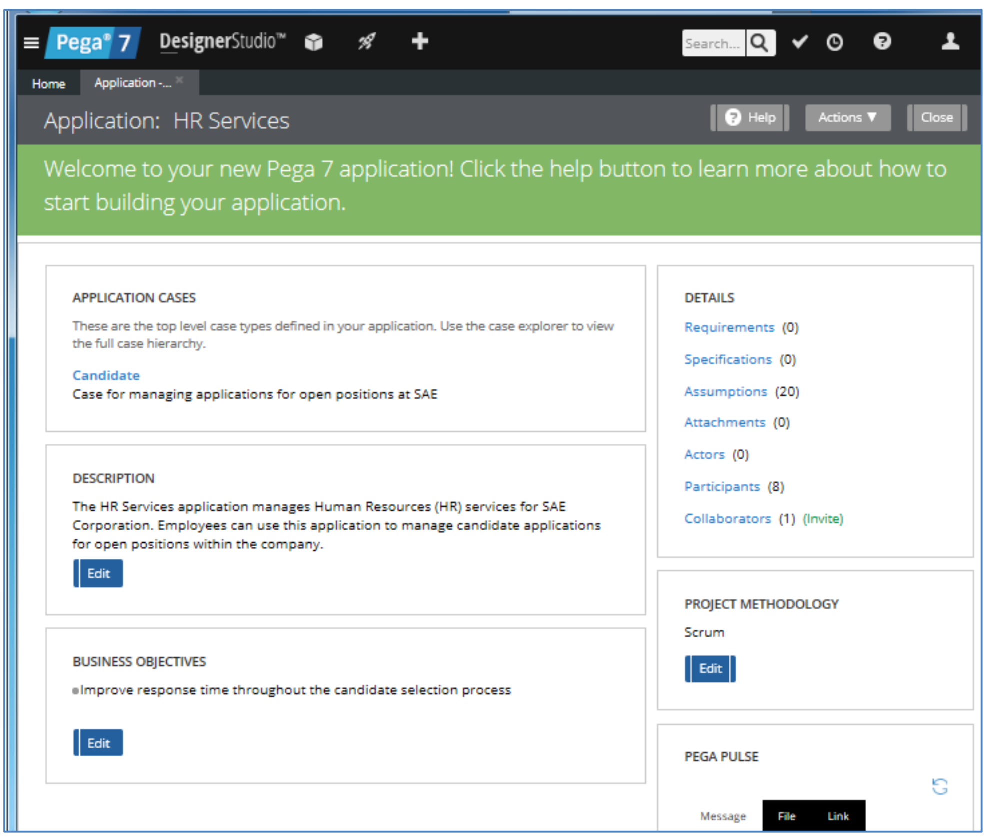
9. Return to the Data Objects step and click **Create**.

   As part of the creation process, the system generates the following operators for your organization. Note that the organization will match the organization name you entered in Step 1 of the Application Creation Wizard.

   - Admin@SAE
   - Manager@SAE
   - User@SAE

   Each operator is assigned the default password: *rules*.

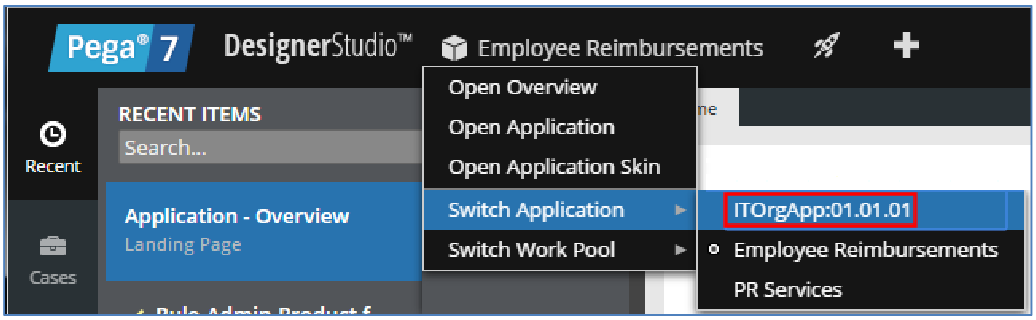
10. Log off and log back in using the administrator account created with the new application. View the Application Overview by selecting **Open Overview** from the Application menu.



Switch Application / Access Group

As a reminder, roles are assigned to an access group, and the privileges an operator can perform depend upon the access group roles.   After creating a new application, the operator's default access group changes to that of the administrator for the new organization. This access group may not have the role necessary to create another application.

To run the Application Creation Wizard (App Express) again, ensure that your operator is in an access group that has the application creation role. Do this by selecting **Switch Application** from the application menu.



Note: Your list of application may differ from the image displayed above.

Reference Information

- PRPC Help: Application Overview landing page
- PRPC Help: About the New Application Wizard (Application Express)

Exercise: Add Stages to a Case

Scenario

Once a Lead System Architect runs the New Application wizard to create a starting point for our application, we can begin creating and configuring the elements that will comprise our eventual solution. The first step in this process is to create stages for our case.

When working with a case, both end users and developers find it helpful to identify the stages that make up the workflow of the case. These stages provide valuable context for application designers, who can use them to organize the tasks and processes that comprise their case. They also provide valuable context for end users, who can use stages to measure the progress of a case as they process it.

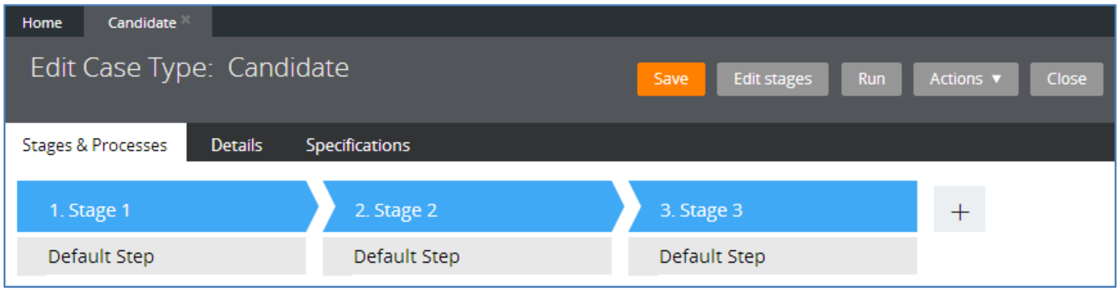
- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

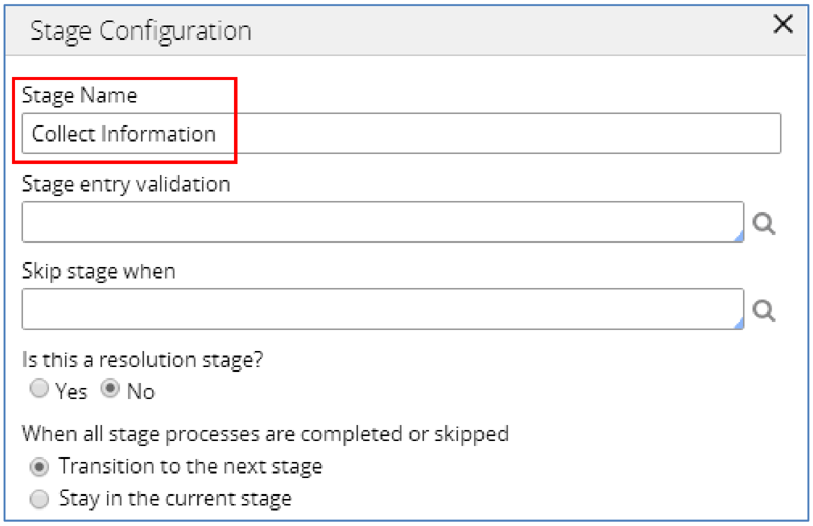
Use the Stage Designer to add the following six (6) primary stages to your case: Collect Information; Qualify; Interview; Decision; Offer; and Wrap Up.

Hints

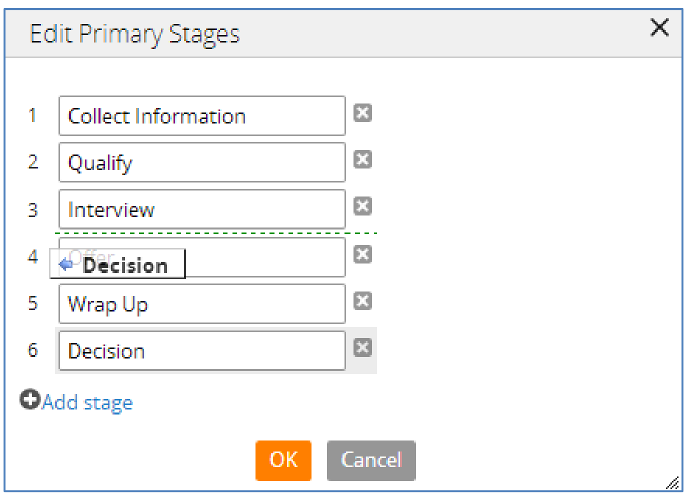
1. To edit case stages, use the Stage Designer, which can be found on the Stages & Processes tab of the Case Designer.



2. Use the Stage Configuration dialog to change the name of a stage.



3. Use the Edit Primary Stages dialog to reorder stages if necessary.

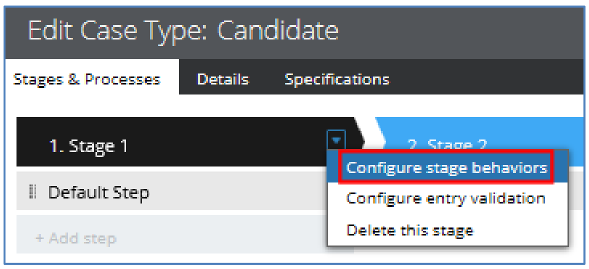


Procedure

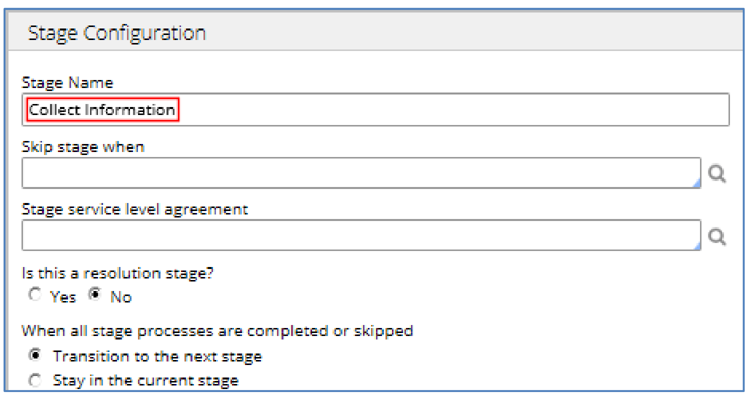
1. Open the Case Explorer and select the **Candidate** case.

> **Note:** If you don't see the explorer menus, click the icon to the left of the Pega 7 logo to open the explorer panel in the Designer Studio portal.
>
> 
>

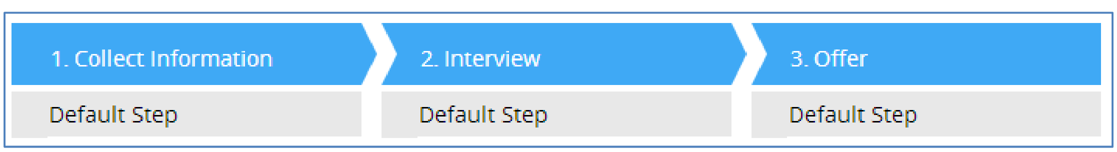
2. Click the Options menu for Stage 1 and select **Configure stage behaviors**.



3. In the Stage Name field, enter **Collect Information**. Click **OK**.

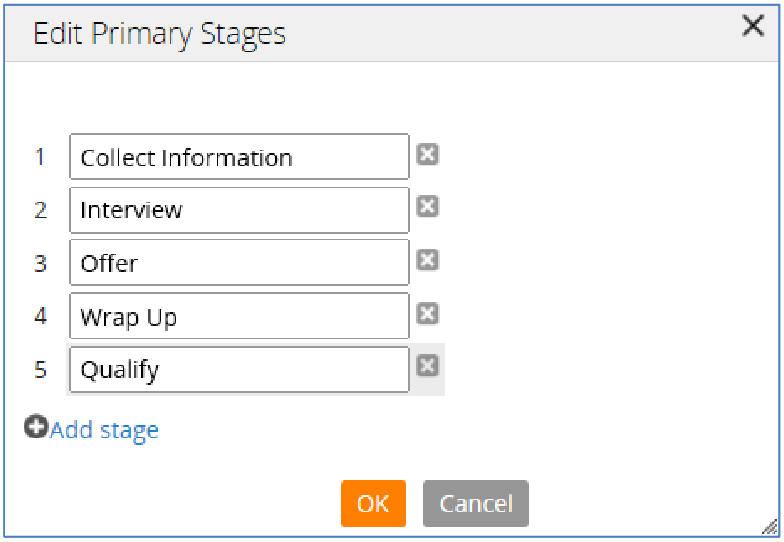


4. Change the name of Stage 2 to **Interview** and Stage 3 to **Offer**.



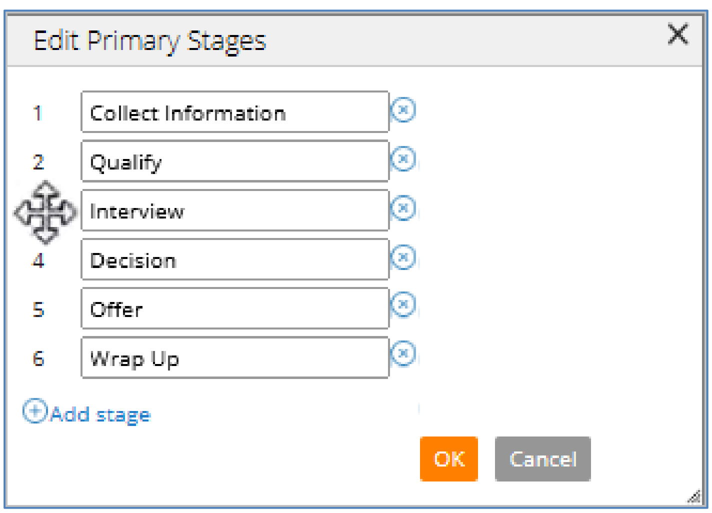
5. Click the + icon to add a fourth stage, and name the stage **Wrap Up**.
6. Select **Edit Stages** from the Actions menu to open the Edit Primary Stages dialog.

7. Click **+ Add Stages** to add a stage. Name the stage **Qualify**.



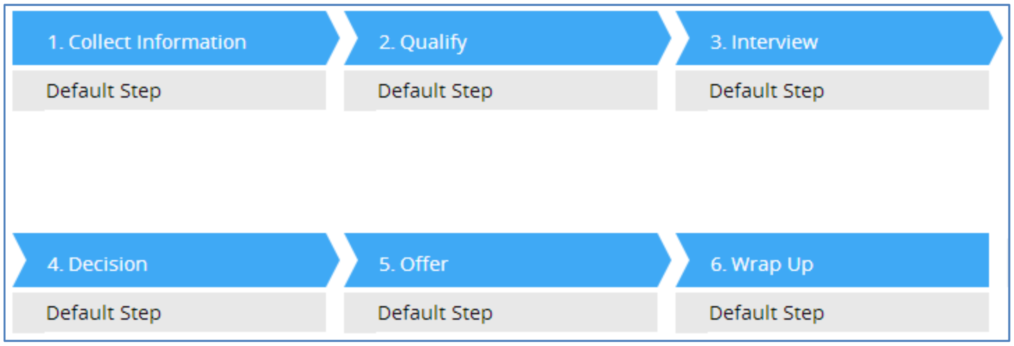
8. Add another stage named **Decision**.
9. Drag the Qualify stage above Interview, and the Decision Stage above Offer.

Note: To drag a stage, hover over the stage number until the cursor changes to a four-arrow icon and then click-and-drag.



Stages should now be in the order: Collect Information, Qualify, Interview, Decision, Offer and Wrap Up.

10. Click **OK** to close the dialog.



11. Click **Save** to save changes to the case type.

Optional Exercise

1. Select **Configure alternate stages** from the Actions menu
2. Name the alternate stage **Post Rejection**.
3. Click **Save** to save changes to the case type.

Defining the Process

This lesson group includes the following lessons:

- Adding Processes to Stages
- Modeling the Processes
- Adding Business Use Cases to Process
- Review of Defining the Process (No Exercise)

Exercise: Add Steps to a Case Stage

Scenario

Once we divide a case into stages, the next step is to add steps to each stage. Each step represents a specific action or item to complete in order to process – and ultimately resolve – a case.

Our business analyst has divided the Candidate Case into the following steps, which we need to implement using the Stage Designer:

COLLECT INFORMATION
* Personal Info
Professional Info
Educational Info

QUALIFY
* Screen Candidate
+ Determine Target Position
Request Technical Sample

INTERVIEW
* Schedule Interview
Conduct Interview

DECISION
+ * Assess Candidate
* Background Check

OFFER
* Determine Compensation
Extend Offer

WRAP UP
* Notify Candidate
Kick Off Onboarding
Resolve - Approve

* Step starts upon stage entry

\+ Step is a multi step process

Note: The Kick Off Onboarding step is not implemented in this course. It serves to illustrate where students could extend this application with the functionality implemented in System Architect Essentials II.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

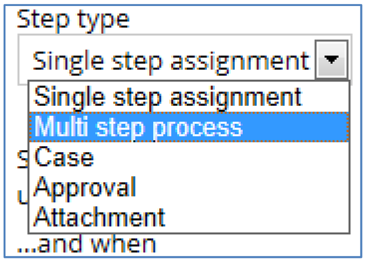
Approach

Configure the Candidate case to include the steps listed in the Scenario.

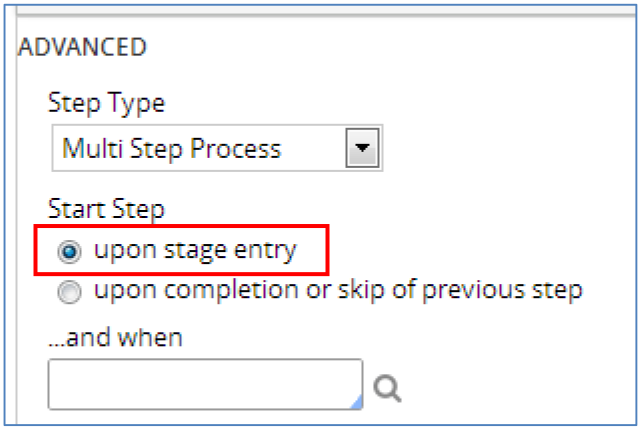
- Any step marked with an asterisk (*) should be configured to start upon stage entry.
- Any step marked with a plus sign (+) should be configured as a Multi Step Process.

Hints

1. By default, each step represents a single-step assignment. To change a step to a multi-step process, hover your mouse pointer over the step name, click the down arrow icon, and select **Configure step behaviors** to open the Step Configuration dialog. Then, select **Multi Step Process** from the Step Type drop-down list.



2. To configure a step to be available when the case enters a stage, open the Step Configuration dialog for that step and select **upon stage entry**.



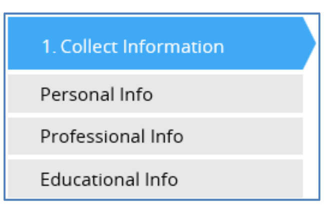
Procedure

Follow the steps below:

1. If necessary, return to the Case Designer and click the **Stages & Processes** tab.

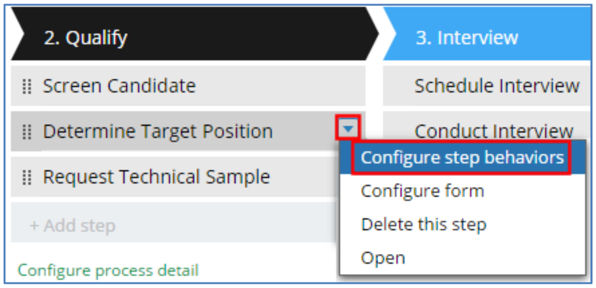
2. Under the Collect Information stage, click **Default Step**. In the resulting text field, enter **Personal Info**.

3. Under Personal Info, click **+ Add Step** to create a new step named **Professional Info** and then click **+ Add Step** again to add a new step named **Educational Info**.

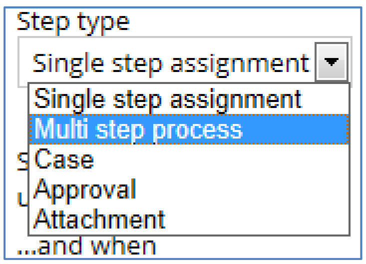


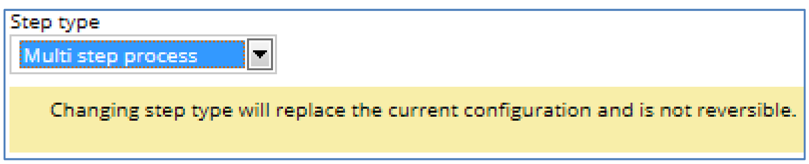
4. Rename the remaining Default Steps and continue to use the **+ Add step** link to add the rest of the steps listed in the Scenario for this case.

5. Hover your mouse pointer over the Determine Target Position step, click the down arrow icon, and select **Configure step behaviors** to open the Step Configuration dialog.

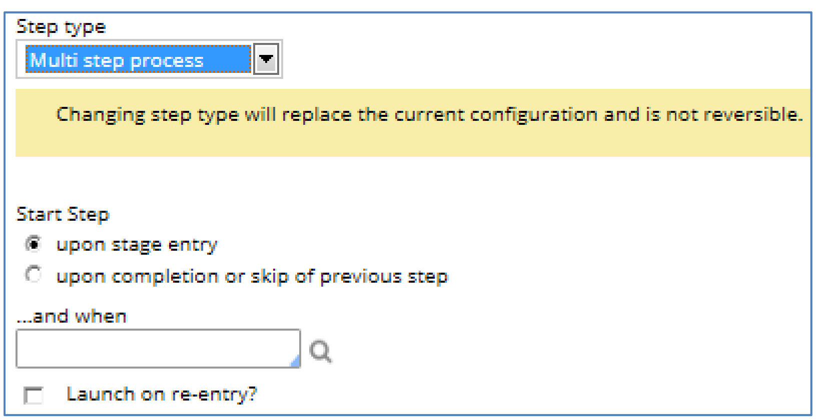


6. Configure the Determine Target Position step as a **Multi Step Process**. Note the warning that the step type change is not reversible and then click **OK** to close the dialog.

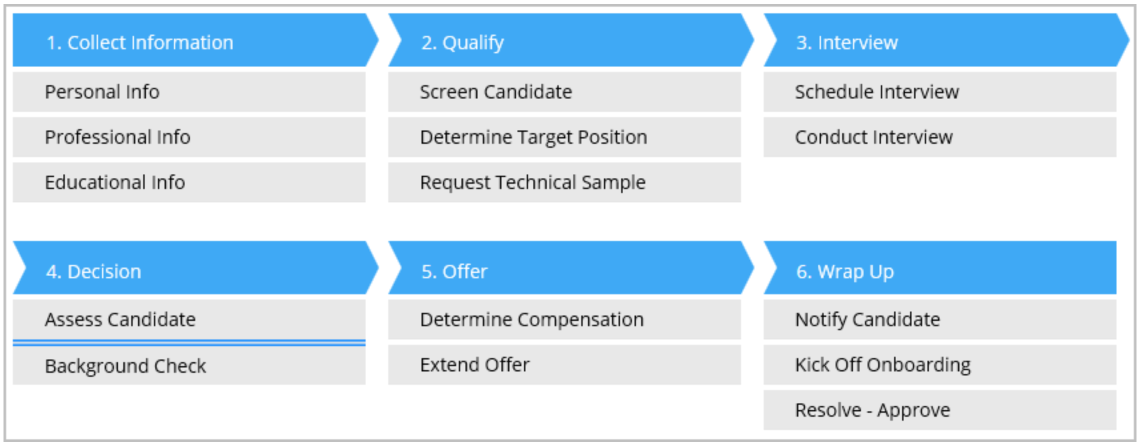




7. Open the Step Configuration dialog for the Assess Candidate step. Set the Step type to **Multi Step Process**, and configure the step to start **upon stage entry**. Click **OK** to save the change.



8. Review the contents of the Stage Designer and then click **Save** to save changes to the case type.



Reference Information

- PDN: Design Your Application with Case Lifecycle Management

Exercise: Configure Assignments with the Process Outline

Scenario

During case elaboration, system architects work with business analysts and subject matter experts to decompose cases into processes, and processes into steps. This allows business analysts and subject matter experts to decide on an application design that satisfies the needs of the business, and provides application designers with an approved design and set of specifications that they can use to implement solution functionality.

To properly decompose a case, we begin by dividing the case into stages, which we can then populate with steps. Once we establish the steps needed to process and resolve a case, we can model the processes that each step represents.

Modeling our processes allows us to establish the correct order for the actions that we know need to be performed, and results in a set of assignments and process flows that we can test and verify against business expectations. In addition, we can use our process model to help develop a set of draft user interfaces (UIs) and establish a data model.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Note: This exercise is divided into two parts. This is the first part of the exercise.

Approach

Create flow actions for the following steps in the Candidate case.

Assignment	Flow Action	Instructions
Personal Info	Collect Personal Info	Enter personal information
Professional Info	Collect Professional Info	Enter work history information
Educational Info	Collect Educational Info	Enter educational background
Screen Candidate	Screen Candidate	Conduct telephone interview
Request Technical Sample	Request Technical Sample	Obtain sample of prior work
Schedule Interview	Schedule Interview	Schedule hiring manager interview
Conduct Interview	Conduct Interview	Conduct interview with candidate

Hints

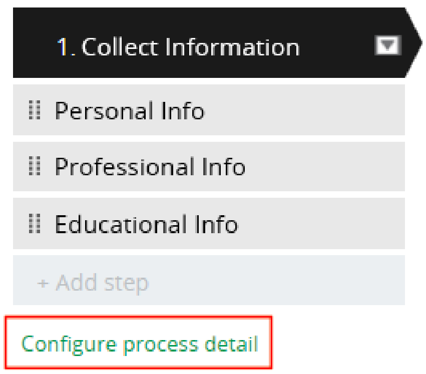
1. The Process Outline displays either a process diagram (for multi-step processes) or a properties panel (for single-step assignments), depending upon the configuration of the corresponding step.

Procedure

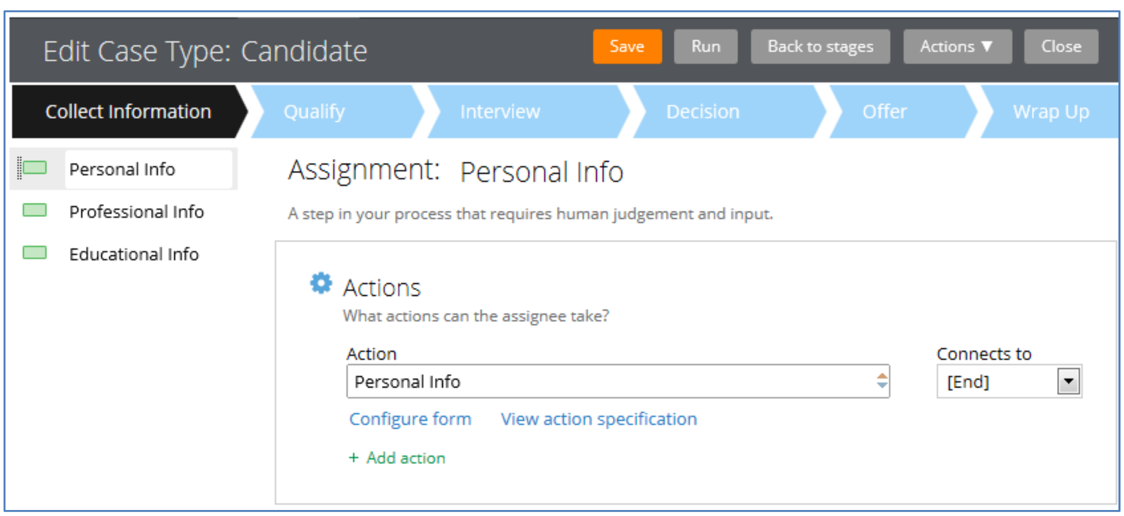
Follow the steps below:

1. If necessary, return to the Stage Designer.

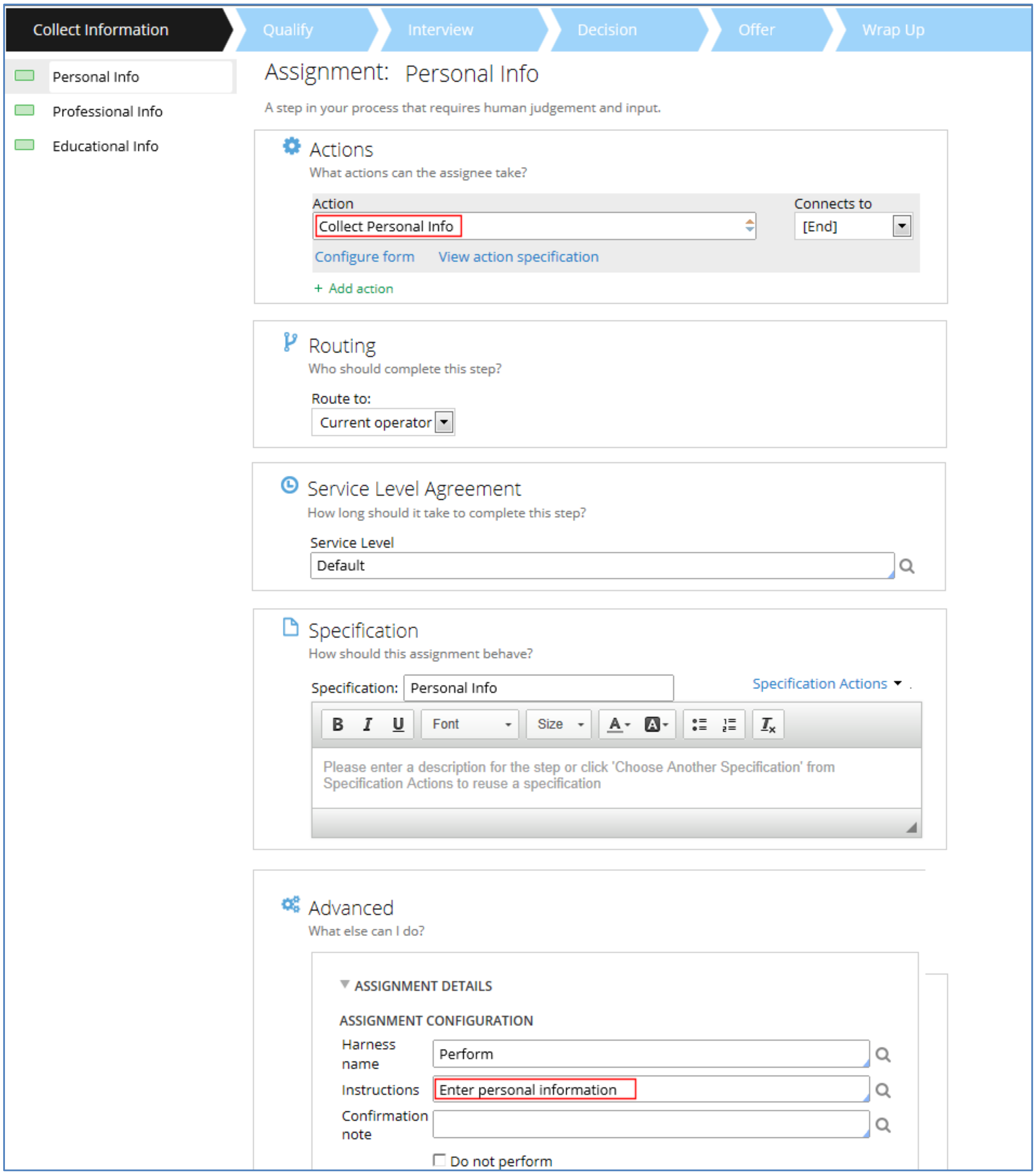
2. Hover over the first primary stage (Collect Information) and click **Configure Process Detail** when it appears.



The Process Outline appears, and displays the properties panel for the **Personal Info** assignment.



3. The action is given a default name that is based on the step name. Change the action name to **Collect Personal Info** and then scroll down to the Advanced section. Expand Assignment Details and enter the text **Enter personal information**. Click **Save**.



4. Repeat step 3 for the remaining assignments in the Collect Information stage. Update the flow action name and add instructions from the following table. Remember to Save after each update.

Assignment	Flow Action	Instructions
Professional Info	Collect Professional Info	Enter work history information
Educational Info	Collect Educational Info	Enter educational background

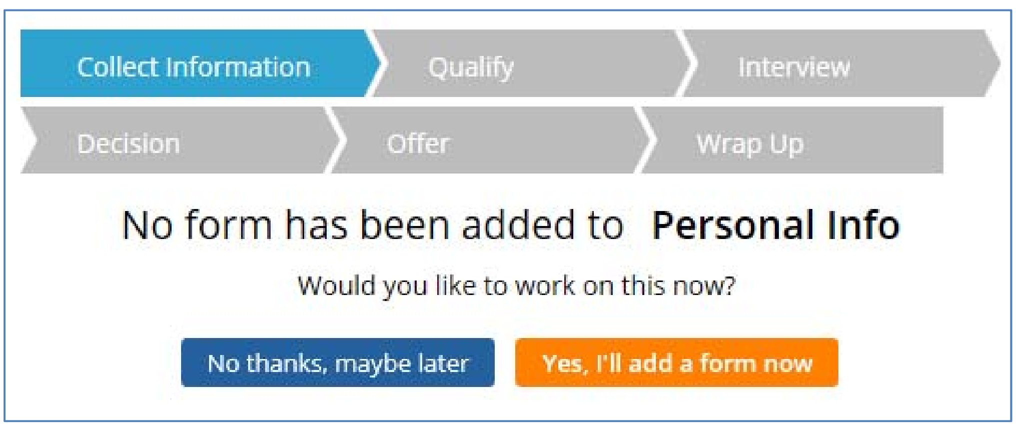
5. Configure the assignments in the Qualify stage, using information from the following table.

Assignment	Flow Action	Instructions
Screen Candidate	Screen Candidate	Conduct telephone interview
Request Technical Sample	Request Technical Sample	Obtain sample of prior work

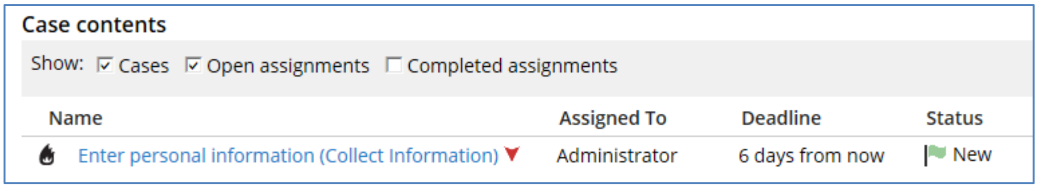
6. Configure the assignments in the Interview stage, using information from the following table.

Assignment	Flow Action	Instructions
Schedule Interview	Schedule Interview	Schedule hiring manager interview
Conduct Interview	Conduct Interview	Conduct interview with candidate

7. Click **Run** to start a Candidate Case process, and verify that a message appears to inform you when an input form for an assignment step has not yet been created. Click **No thanks, maybe later** to continue testing process flow.



8. Further down on the form, verify that the instruction you entered appears in the worklist, then click **Submit**.



9. Continue clicking **No thanks, maybe later** to verify the flow action message and instructions for each step. When you reach a stage that has two steps that begin at stage entry, you may need to click the blue highlighted step to continue. Continue testing your case for all stages and then close the case form.

Exercise: Model Processes with the Process Outline

Scenario

During case elaboration, system architects work with business analysts and subject matter experts to decompose cases into processes, and processes into steps. This allows business analysts and subject matter experts to decide on an application design that satisfies the needs of the business, and provides application designers with an approved design and set of specifications that they can use to implement solution functionality.

To properly decompose a case, we begin by dividing the case into stages, which we can then populate with steps. Once we establish the steps needed to process and resolve a case, we can model the processes that each step represents.

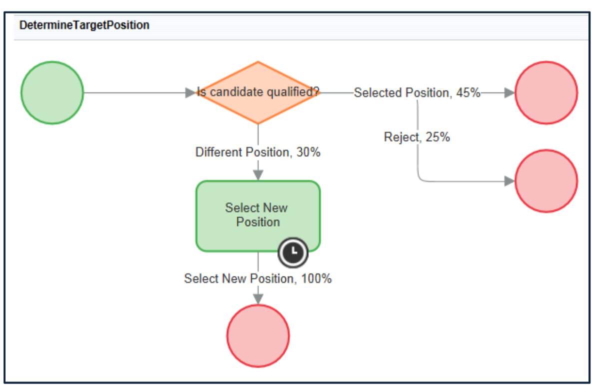
Modeling our processes allows us to establish the correct order for the actions that we know need to be performed, and results in a set of assignments and process flows that we can test and verify against business expectations. In addition, we can use our process model to help develop a set of draft user interfaces (UIs) and establish a data model.

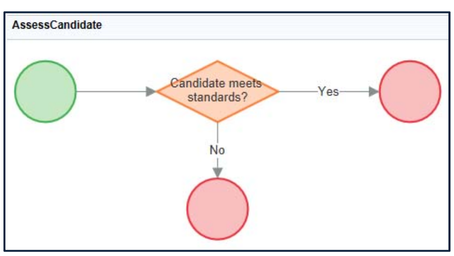
- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

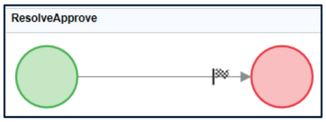
Note: This exercise is divided into two parts. This is the second part of the exercise.

Approach

Create process diagrams for the Determine Target Position, Assess Candidate and Resolve-Approve steps in the Candidate case.







Configure the flow shapes according to the following information.

Decision	Type	Rule	Audit Note
Is candidate qualified?	Decision Table	CandidateQualification	Determine if the candidate is qualified for the selected position
Candidate meets standards?	Decision Tree	CandidateScoring	Determine if the candidate meets company hiring standards

Assignment	Action	Instructions
Select New Position	SelectNewPosition	Select a new position for the candidate

Connector	Type	Likelihood	Audit Note
Different Position	Result	30	Candidate does not fit selected position, but still warrants consideration for other positions
Reject	Result	25	Candidate does not warrant further consideration
Selected Position	Result	45	Candidate fits selected position
Select New Position	Result	100	Select a new position for the candidate
Yes	Result	70	Candidate meets corporate standards
No	Result	30	Candidate does not meet corporate standards

Also, configure the Resolve – Approve step to remove the assignment and automatically finish the process by setting the work status to **Resolved – Completed**.

Hints

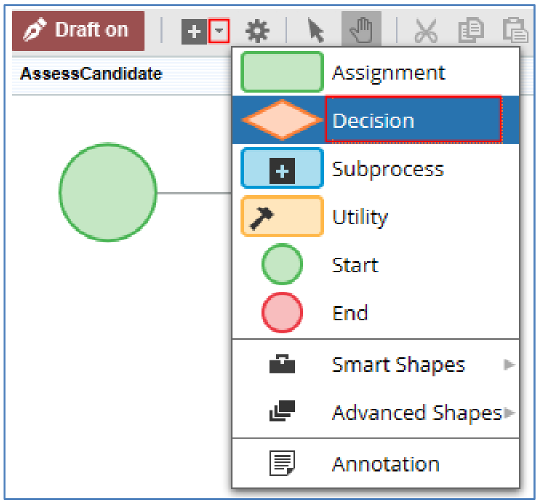
1. The Process Outline displays either a process diagram (for multi-step processes) or a properties panel (for single-step assignments), depending upon the configuration of the corresponding step.
2. To remove the assignment from a single-step assignment, first change the step type to Multi Step Process, then open the step in the Process Outline.

Procedure

Follow the steps below:

1. From the Case Designer for the Candidate case, click **Configure process detail** under the Decision stage and then select the **Assess Candidate** step. When the process diagram opens, delete the two assignments and the connector between them by right-clicking the shape and selecting **Delete** from the pop-up menu.

2. Add a decision shape to the process by selecting it from the Flow shapes menu.



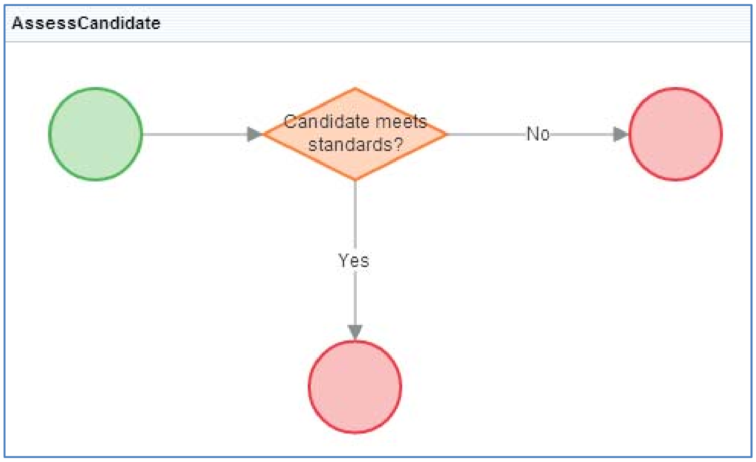
3. Right-click the decision shape and select **View Properties**. Configure the decision shape, using information in the following table and then click **OK** to close the form.

Decision	Type	Rule	Audit Note
Candidate meets standards?	Decision Tree	CandidateScoring	Determine if the candidate meets company hiring standards

4. Add a second End shape to the flow. Add a connector from the decision shape to each of the two End shapes. For each connector, right-click, select **View Properties** and then set properties using information in the following table.

Connector name	Condition Type	Likelihood	Audit note
Yes	Result	70	Candidate meets corporate standards
No	Result	30	Candidate does not meet corporate standards

Important: To ensure that the connectors are meeting up with the decision shape, click and drag the decision shape and make sure the connectors follow.



5. Click the Display Likelihoods icon to verify that the likelihood values you entered match the table in the previous step and then **Save** changes to the case type.

6. Open the **Determine Target Position** process in the Qualify stage. Delete the two assignments in the flow and the connector between them.

7. Add a decision shape to the process. Configure the decision shape, using information in the following table and then click **OK** to close the form.

Decision	Type	Rule	Audit Note
Is candidate qualified?	Decision Table	CandidateQualification	Determine if the candidate is qualified for the selected position

8. Add a new Assignment shape below the Decision shape and name it **Select New Position**.

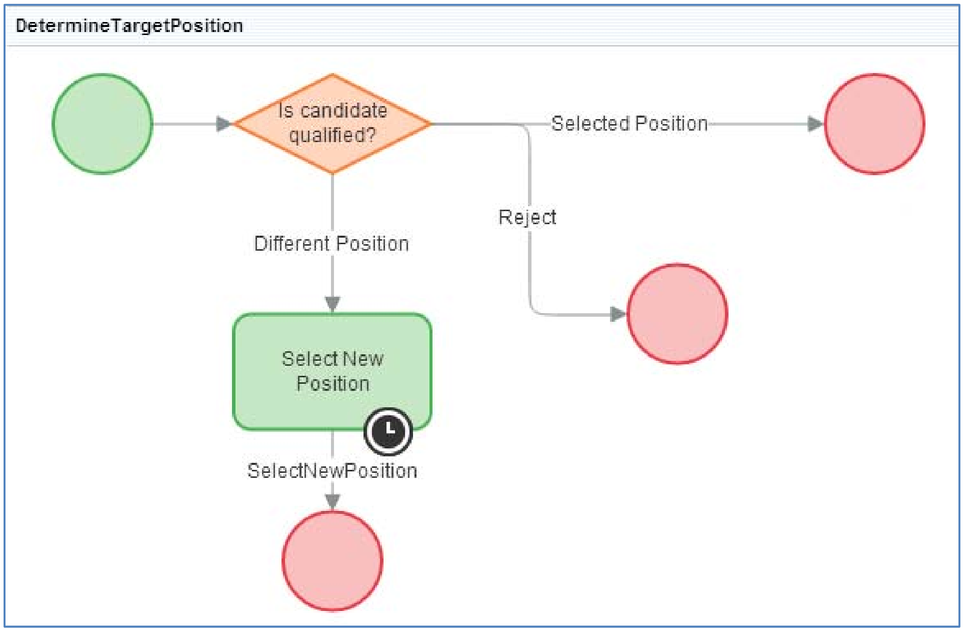
9. Add an End shape below the new assignment shape. Drag a connector from the Select New Position assignment shape to the End shape. Configure the connector using information in the following table and then click **OK** to close the form.

Connector name	Flow Action	Audit note
Select New Position	SelectNewPosition	Select a new position for the candidate

10. Add an additional (third) End shape. Configure three connectors from the decision shape, using information in the following table. Connect the Different Position result to the Select New Position assignment, and the remaining two results to End shapes.

Connector name	Condition Type	Likelihood	Audit note
Selected Position	Result	45	Candidate fits selected position

Reject	Result	25	Candidate does not warrant further consideration
Different Position	Result	30	Candidate does not fit selected position, but still warrants consideration for other positions

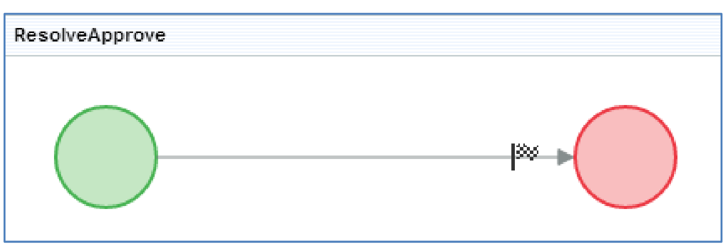


11. Verify that the likelihood values you entered match the expected values and that the connectors are all attached correctly. **Save** changes to the case type.

12. Click **Back to stages** to return to the Case Designer landing page. **Configure step behaviors** for the Resolve-Approve step in the Wrap Up stage to make it a **Multi Step Process**.

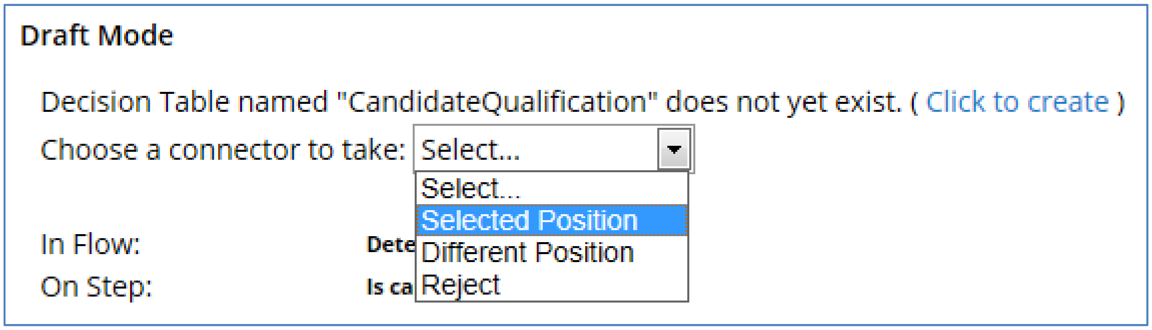
13. Open the Wrap Up stage in the Process Outline. Select the **Resolve-Approve** step to view its Process Diagram. Delete the two assignments and their associated connectors and then connect the start shape to the end shape.

14. Right-click the End shape and select **View Properties.** Set Work Status by beginning to type **Resolved-Completed** in the smart prompt field and then using the down-arrow key to select it from the menu. Click **OK** to close the Edit Properties form and then **Save** the process and return to the stage view.



15. **Run** the process to create a new test case.

> **Note:** After you have added a decision to a step, you will need to select a connector to take when running the process for a new case.



Reference Information

- PDN Article: Manage Flows with Process Outline (node/45356)
- http://pdn.pega.com/node/45356

Exercise: Add Specifications to a Process

Scenario

When we begin developing a solution, one of our first tasks is to model our processes and user interfaces. By modeling the processes and UI of our solution, we can verify our understanding of these elements with the subject matter experts from the business. Once we establish a common understanding of the process and UI, we can begin implementing specific rules to capture and present data and enforce business policies.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Open the Collect Information stage in the Process Outline and add descriptions for the Personal Info step using the following specifications.

Personal Info assignment:

The first step in the Candidate case. Prompt the candidate to enter personal information. Upon submission, the case advances to the Professional Info assignment. No other actions are available.

CollectPersonalInfo flow action:

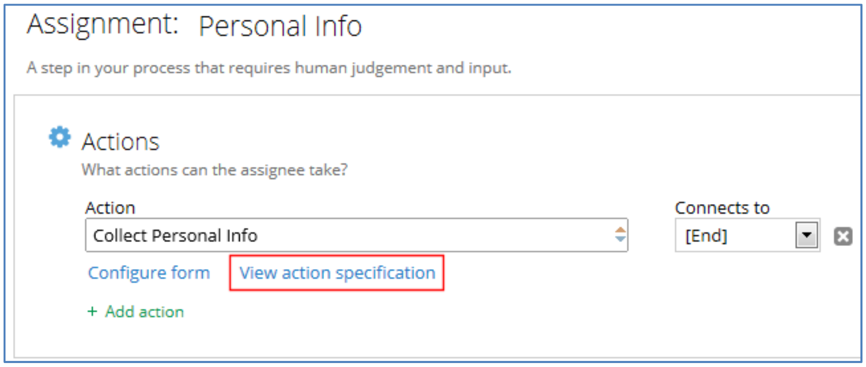
Collect the following information from the candidate:

- **First Name:** text; required
- **Last Name:** text, required
- **Date of Birth:** date
- **Email:** text
- **Phone Number:** text
- **Gender:** radio button (Male/Female)
- **Position Applied For:** Drop-down list populated from data table

Use the Application Overview to verify that the specifications have been added to the application, and that each specification properly links back to its implementation.

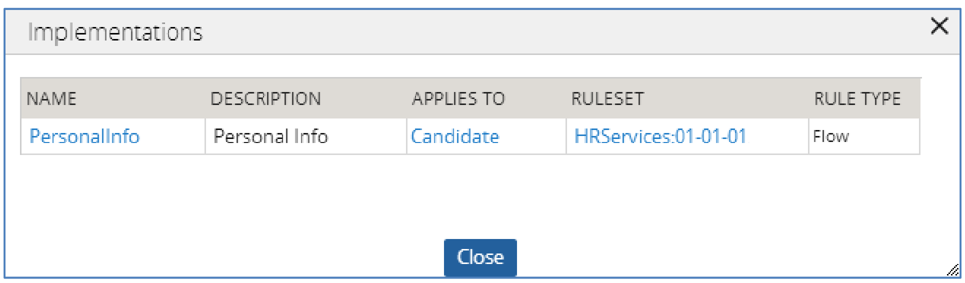
Hints

1. To create or review a specification for a flow action from an assignment properties panel, click **View Action Specification**.



2. To open the Application Overview, select **Open Overview** from the Application menu in the Designer Studio header.

3. To verify the link between a specification and its implementation, click the **View Related Implementations** icon. The number next to the icon indicates the number of implementations.



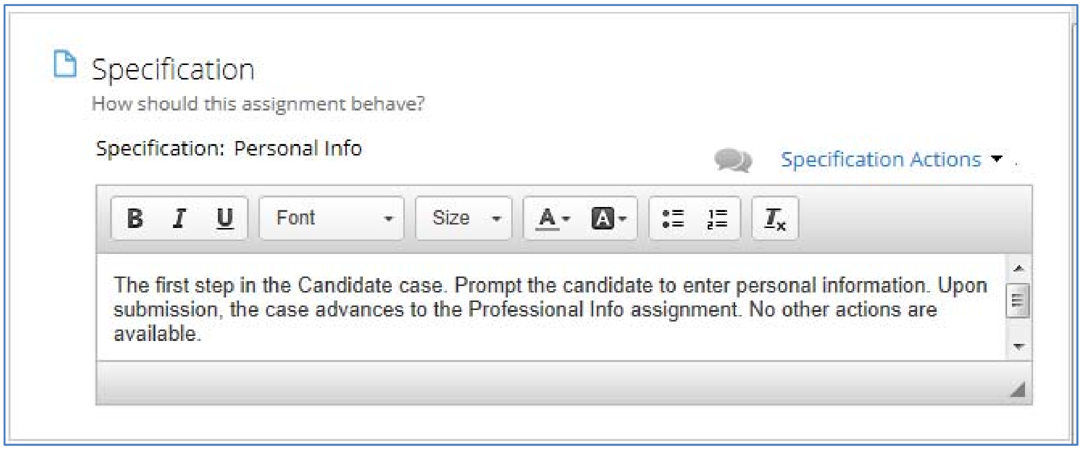
Procedure

Follow the steps below:

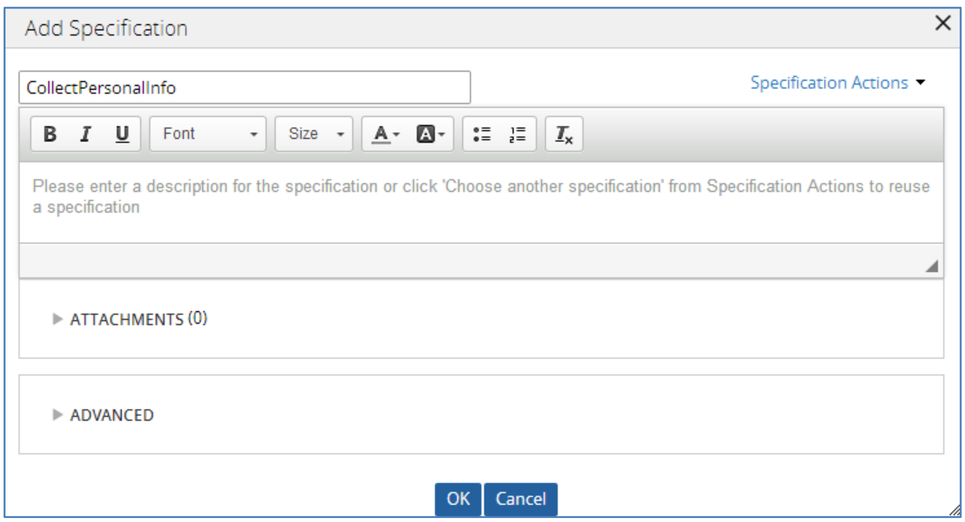
1. Open the **Candidate** case in the Case Designer, open the **Collect Information** stage in the Process Outline and then select the **Personal Info** step.

2. Scroll down to the Specification region and enter the following information.

```
The first step in the Candidate case. Prompt the candidate to
enter personal information. Upon submission, the case advances to
the Professional Info assignment. No other actions are available.
```

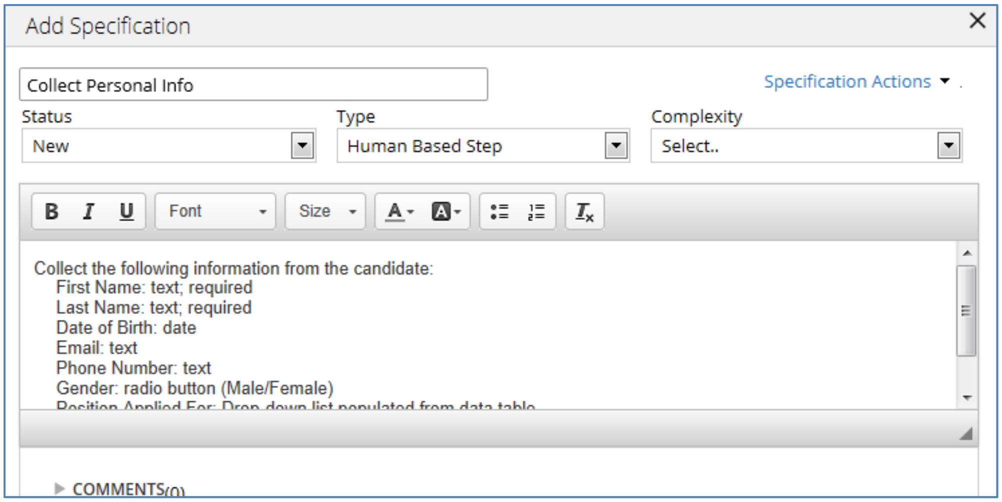


3. Scroll back up to the top and **Save** changes. Click **View Action Specification** to open the Add Specification dialog for the flow action.



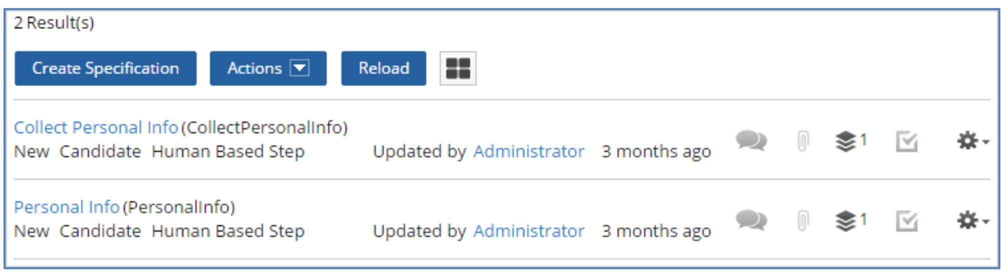
4. In the empty field at the top of the dialog, enter the following text to describe the flow action.

```
Collect the following information from the candidate:
▪ First Name: text; required
▪ Last Name: text; required
▪ Date of Birth: date
▪ Email: text
▪ Phone Number: text
▪ Gender: radio button (Male/Female)
▪ Position Applied For: Drop-down list populated from data table
```

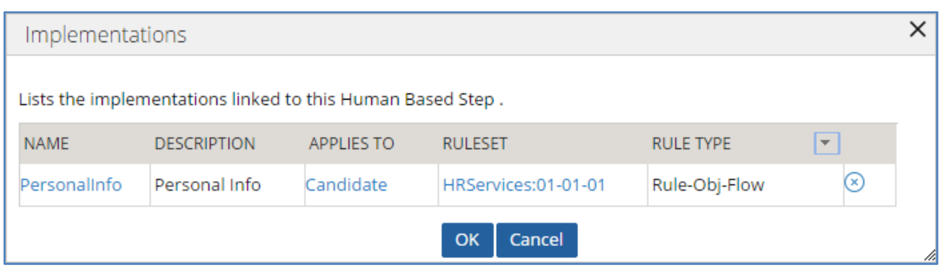


5. Click **OK** to close the Add Specification dialog and then **Save** your changes to the case type.

6. Open the Application Overview using the Application menu, then click **Specifications** to verify that the specifications you entered have been saved as part of the application.



7. Click the **View Related Implementations** icon to verify that each specification links to the appropriate implementation (assignment or flow action).



Defining the Data Elements

This lesson group includes the following lessons:

- Introduction to Data Elements
- Introduction to Data Modeling
- Setting Values of Data Elements
- Inspecting Data Elements
- Review of Defining the Data Elements (No Exercise)

Exercise: Create Single-Value Properties

Scenario

Once a recruiter qualifies a candidate for a position at SAE, they schedule the candidate for an interview with the respective hiring manager.

After the hiring manager completes the interview with the candidate, they must assess the candidate in three areas: the candidate's overall strengths, their technical competency, and their fit with the department and corporate culture.

To support the interview and decision-making processes, HR has asked you to add fields to collect this information.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

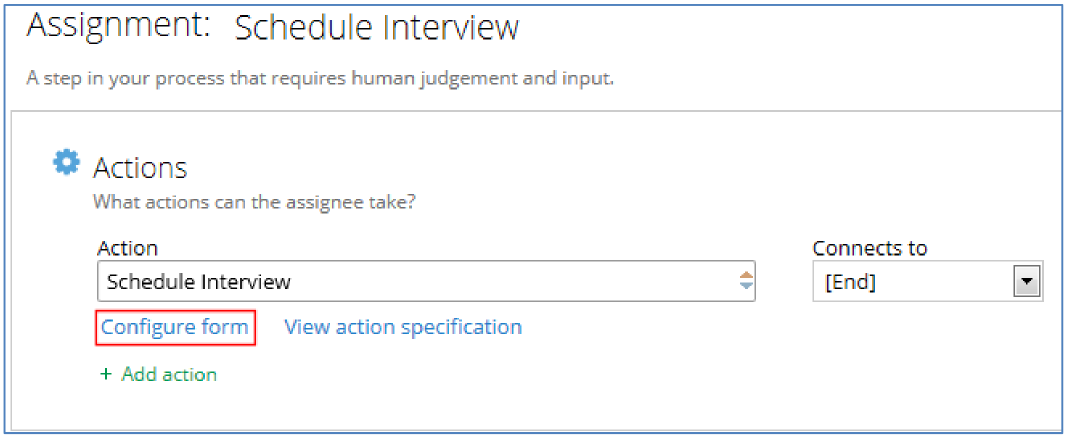
Approach

Use the properties panel for the Schedule Interview and Conduct Interview assignments to add the following properties to the data model.

Step	Property	Property Type
Schedule Interview	Interview Date	Date
Conduct Interview	Interviewer Rating	Decimal
Conduct Interview	Technical Skill Rating	Decimal
Conduct Interview	Interpersonal Skill Rating	Decimal

Hints

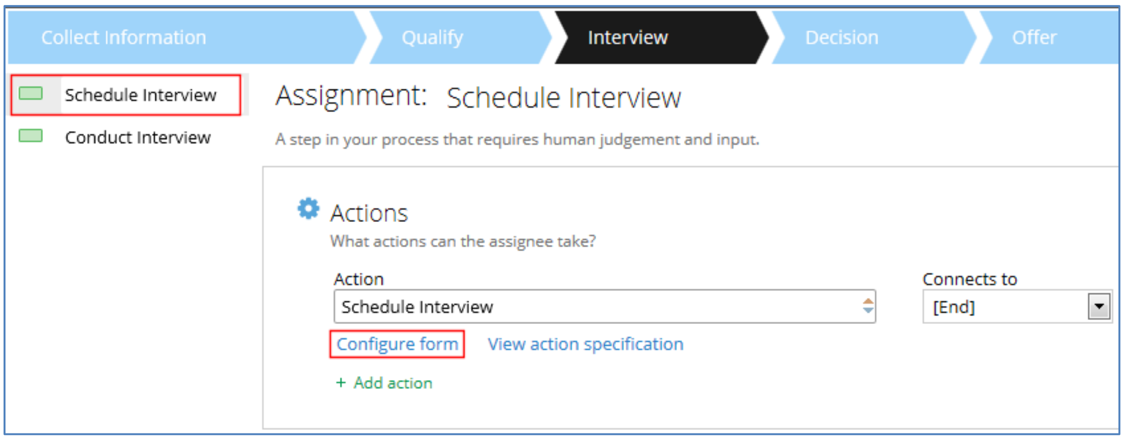
1. In the Process Outline, you can create a property by configuring a form. To do so, select the corresponding assignment in the left pane of the Process Outline and then click **Configure form** below the correct Flow Action.



Procedure

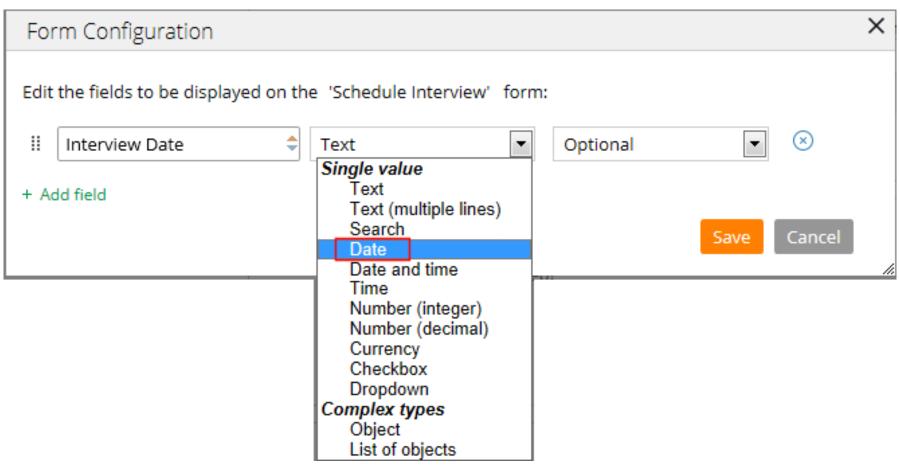
From the Case Designer for the **Candidate** case, open the process outline for the Interview Stage and then follow the steps below:

1. Open the **Schedule Interview** step in the Interview stage and then click **Configure form** in the properties panel.

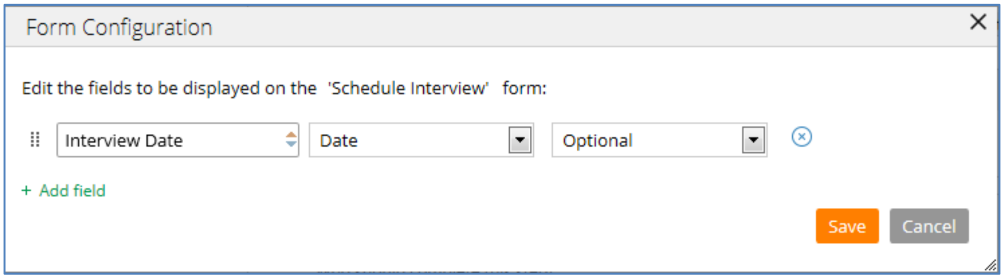


2. Enter **Interview Date** in the open field.

3. Set the property type to **Date**.



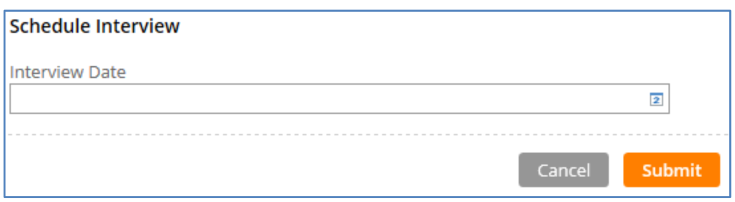
4. Click **Save** to save changes to the form and then **Save** updates to your case type.

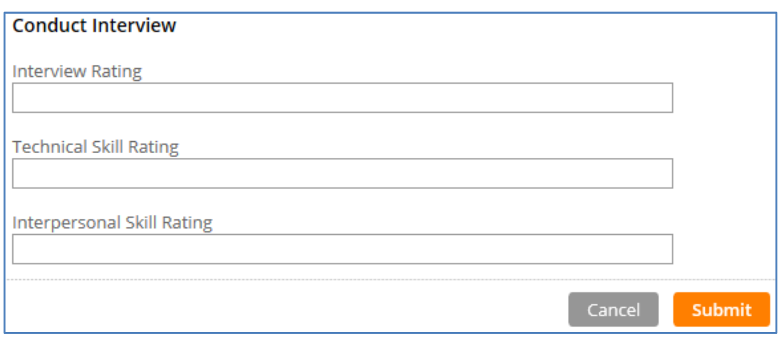


5. Open the **Conduct Interview** step and configure a form to include properties in the following table. Click **Save** to close the Form Configuration dialog and then **Save** your changes to the Candidate case type.

Property Name	Property Type
Interviewer Rating	Decimal number
Technical Skill Rating	Decimal number
Interpersonal Skill Rating	Decimal number

6. Click **Run** to create a Candidate case. For those steps that do not yet have a form, click **No thanks, maybe later** in response to the question "Would you like to work on this now?" If you reach a decision step, select a connector and then click **Submit**. Continue until you reach the Interview stage. Verify that the fields now appear for each property on the Schedule Interview and Conduct Interview forms.
IMPORTANT: Do not close the case after you review the Conduct Interview form. This open case will be used in the next exercise.





Exercise: Add Allowed Values to a Property Definition

Scenario

Upon reviewing the interview assessment form, HR is concerned that the current configuration of the form does not provide enough guidance to interviewers about assessing candidates. HR is concerned that interviewers may grade candidates inconsistently, and that this would negatively affect the hiring process.

To ensure that interviewers grade candidates consistently, HR has asked you to provide interviewers with guidelines for each rating. Hiring managers should provide a rating for each candidate in each category, on a scale of 0 to 100%. All ratings should provide a descriptive label for each value, so that hiring managers can apply the ratings consistently from candidate to candidate.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Configure the property form for each of the Interviewer Rating, Technical Skill Rating, and Interpersonal Rating properties so that they include a prompt list, using the values in the following table. Also, configure the property to display as a set of radio buttons by using the pxRadioButtons control.

Interviewer Rating

Standard Value	Prompt Value
0	Unqualified
0.2	Poor
0.4	Below Average
0.6	Average
0.8	Above Average
1	Excellent

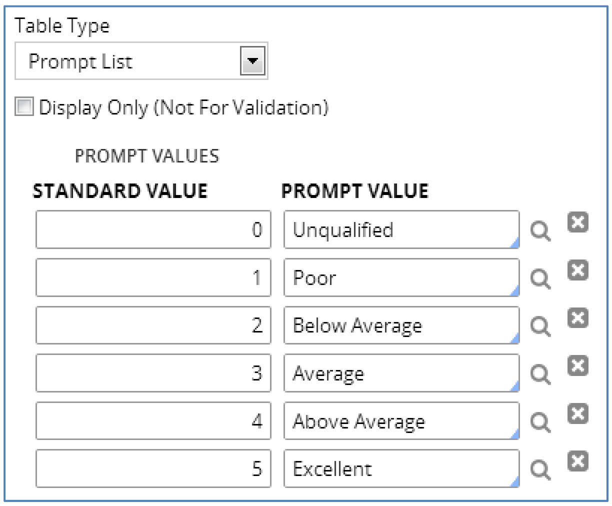
Technical Skill Rating and **Interpersonal Skill Rating**

Standard Value	Prompt Value
0	Poor
0.333	Below Average
0.667	Above Average
1	Excellent

Hints

1. Use the UI Inspector to identify the property rule that corresponds to each field.
2. To display a property as a set of one or more radio buttons, select the pxRadioButtons control on the rule form for the property.

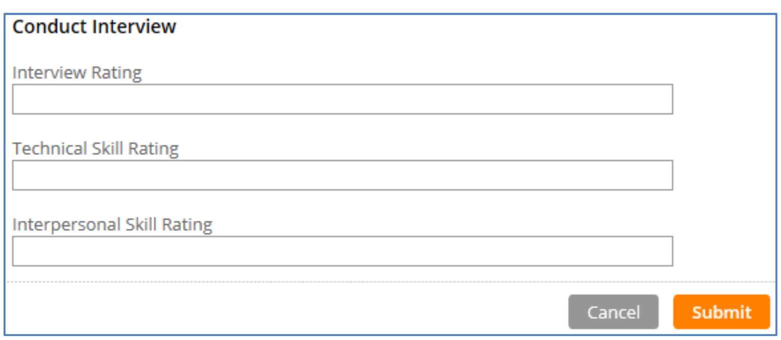
3. To create a list of choices that displays a descriptive label, rather than a number with no context, select Prompt List from the Table Type drop-down list.



Procedure

Follow the steps below:

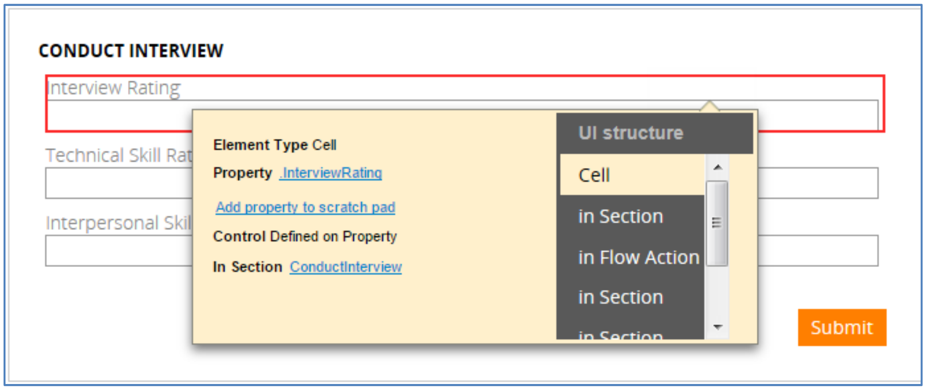
1. Return to the case used in the last exercise, or create a new case and proceed to the Conduct Interview form.



2. Use the UI Inspector to open the property rule for the Interviewer Rating field as described below.

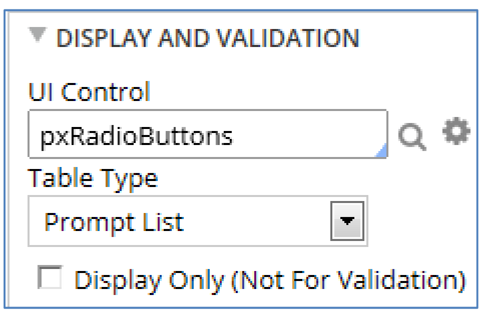
a. While the Conduct Interview form is displayed, click the **UI Inspector icon** in the Developer toolbar.

b. Hover over the Interviewer Rating field until the Information Panel displays and then click the blue **InterviewRating** property link.



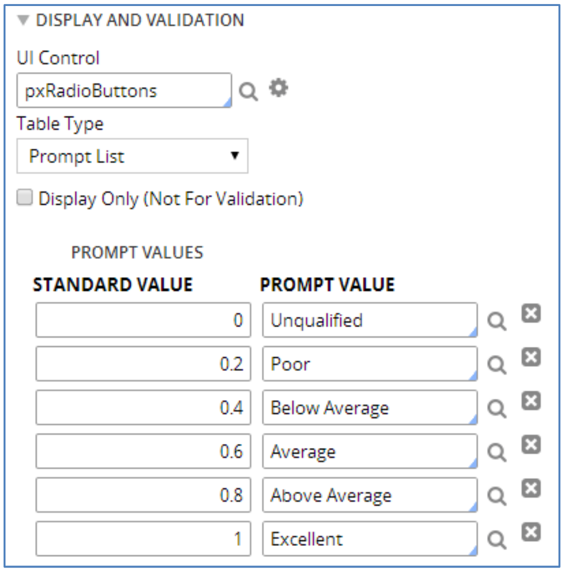
3. Expand the **Display and Validation** section.

4. Change the **UI Control** by clicking in the field and using the down-arrow to select **pxRadioButtons** from the list that appears. Select **Prompt List** from the Table Type drop-down list.



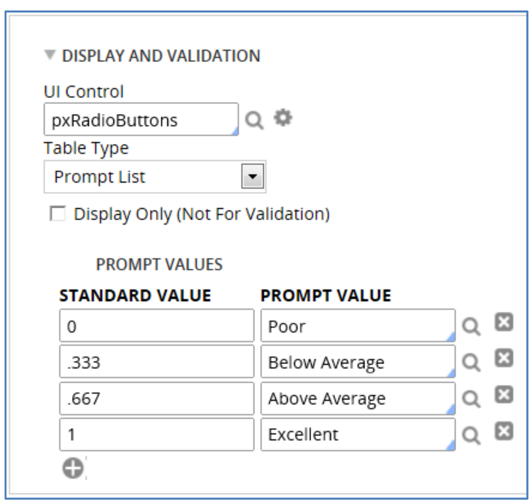
5. Enter prompt values from the following table. After each value, click the **Add a Row icon** to create an empty row for the next value. This prompt list table will allow operators to select a prompt value, and the associated standard value will be saved.

Standard Value	Prompt Value
0	Unqualified
0.2	Poor
0.4	Below Average
0.6	Average
0.8	Above Average
1	Excellent

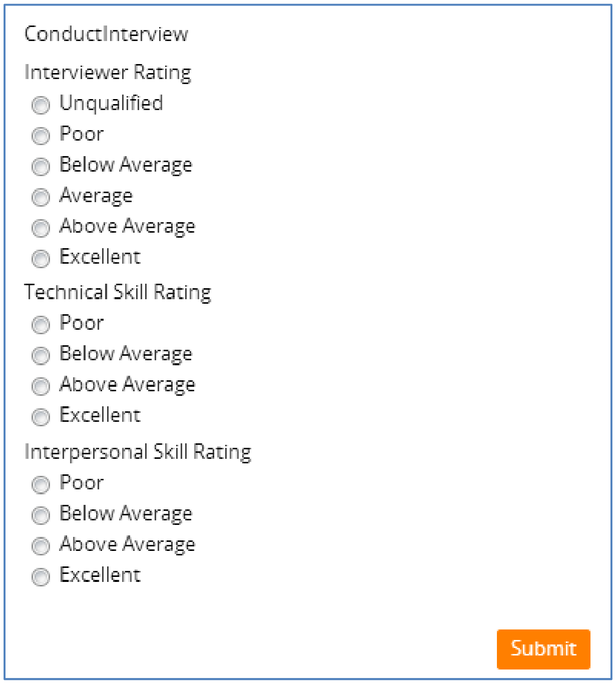


6. **Save** the rule, close the rule form tab and return to the open case.
7. Repeat steps 2 - 6 to add the list of default choices to both the **Technical Skill Rating** and the **Interpersonal Skill Rating** fields, using the values in the following table.

Standard Value	Prompt Value
0	Poor
0.333	Below Average
0.667	Above Average
1	Excellent



8. Save the rule and then return to the open case. From the Other Actions menu, select **Refresh**. Verify that each of the three fields now displays as a set of radio buttons.



Reference Information

- PRPC Help: Property form (Completing the General tab — Value modes)

Exercise: Create and Use Property Pages

Scenario

As part of the application process, candidates for open positions at SAE Corp must provide basic information about themselves. HR needs this information – name, email address, and phone number – to identify the candidate's application. HR also wants the candidate to indicate the position for which they are applying, and if they have been referred to SAE by a current employee.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

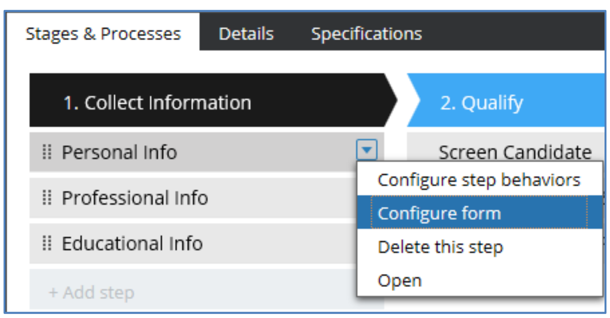
In the Personal Information step of the Collect Information stage, create a page property named Candidate, which contains the following single-value properties.

Property Name	Property Type
First Name	Text
Last Name	Text
Email	Text
Phone Number	Text

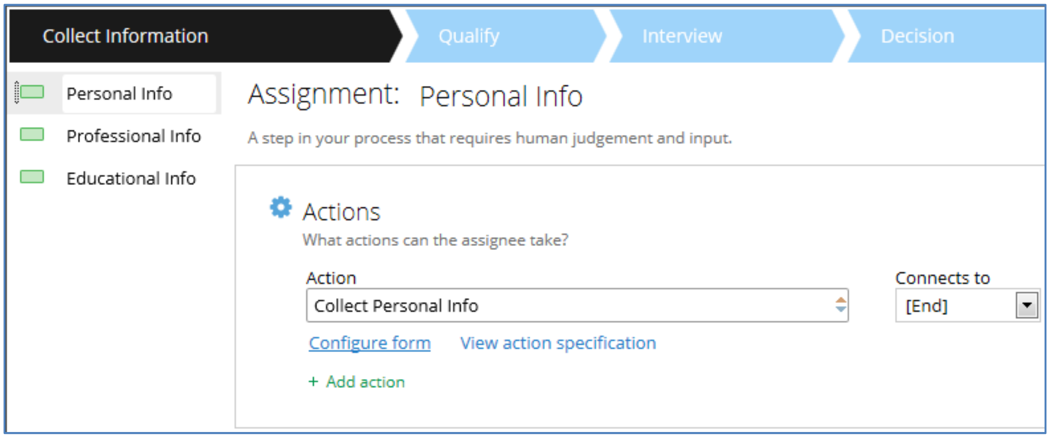
Also, create two top-level (*not* on the Candidate page) single-value properties: a Text property named **Position Applied For** and a TrueFalse property named **Referred By Employee**. These properties will be configured in future lessons.

Hints

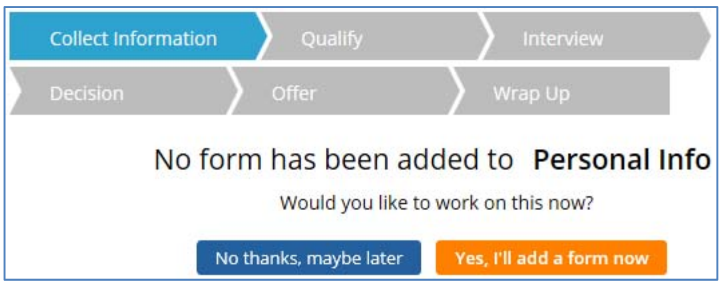
1. You can access the Form Configuration dialog in one of three ways:
   a. From the Case Designer landing page – Select **Configure form** from the Step options menu.



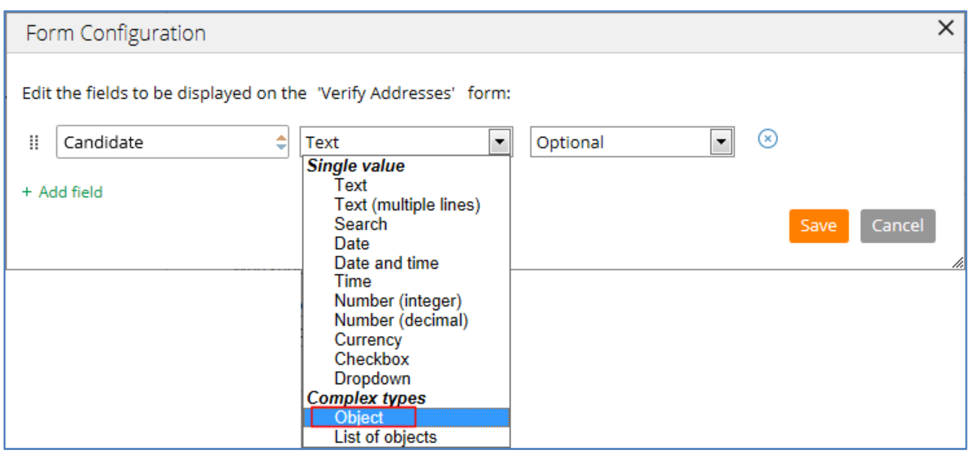
b. From the Properties panel – Select the step and then click the **Configure form** link.



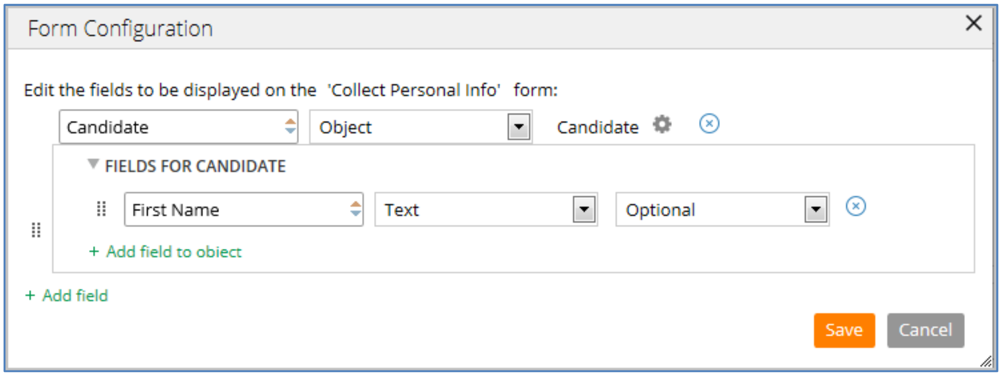
c. While running the process – click **Yes, I'll add a form now** while executing a step that currently has no form.



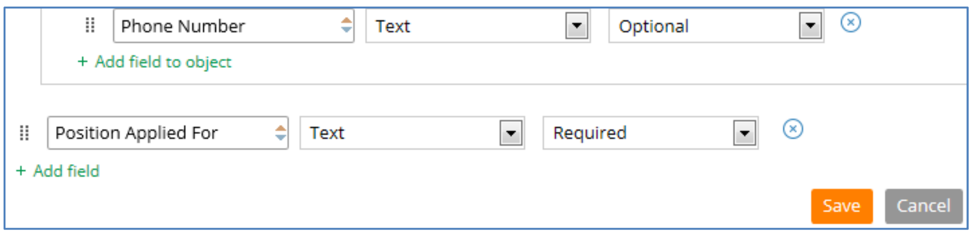
2. To define a page property, enter the property name and use the drop-down selector to select **Object** from the Complex types at the bottom of the list.



3. To add properties to a data object (page), enter the properties in the indented section.



4. To define a top-level property, click **Add field** and enter the property name in the resulting field.

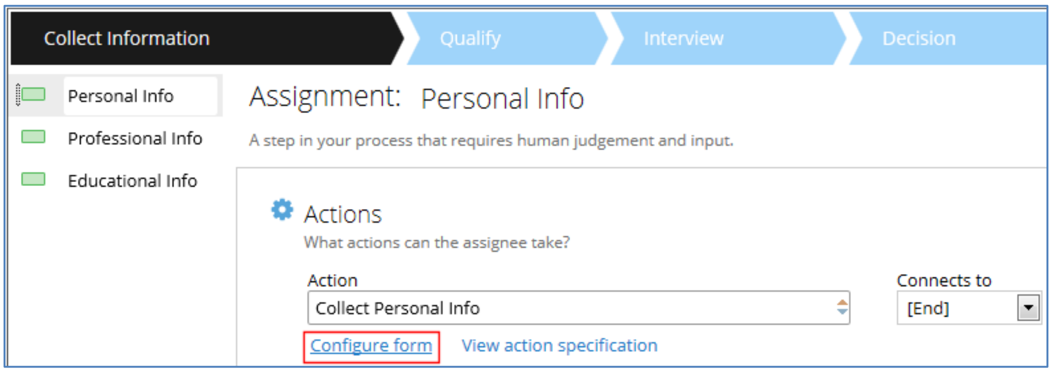


Procedure

In this exercise, we will use the Form Configuration dialog to add fields. The Form Configuration dialog can be opened from the step options menu on the Case Designer landing page, using the Configure form link on the properties panel or by selecting to add a form while running the process and testing a step that currently has no form.

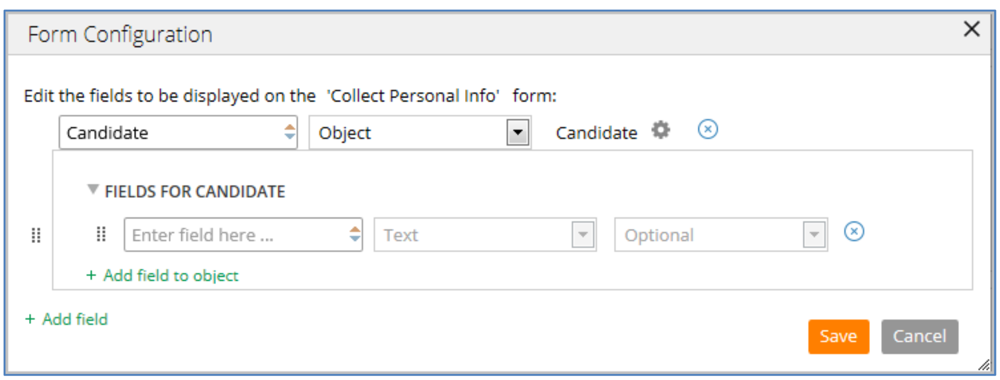
1. Open the Candidate case in the Case Designer, if necessary.

2. Click **Configure process details** under the Collect Information stage to open the stage in the Process Outline. The properties panel for the Collect Personal Info assignment appears.

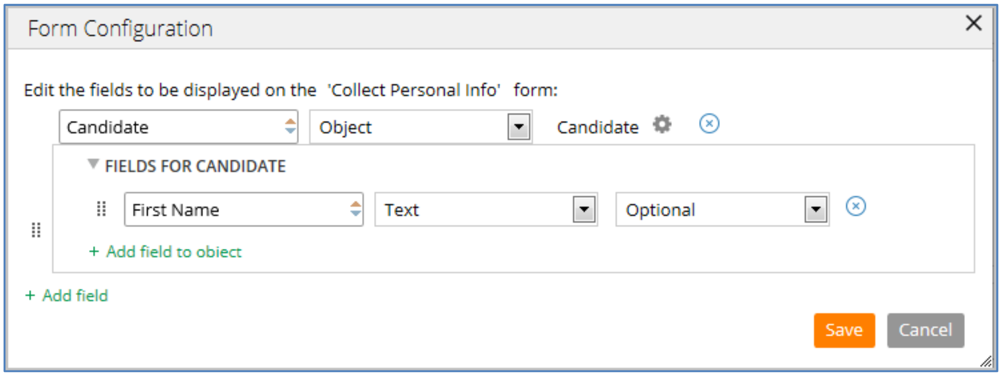


3. Click **Configure form** for the Collect Personal Info flow action to open the Edit Fields dialog.

4. In the empty field, enter **Candidate**, and use the drop-down list to the right of the field to select **Object** to generate a property of type Page.

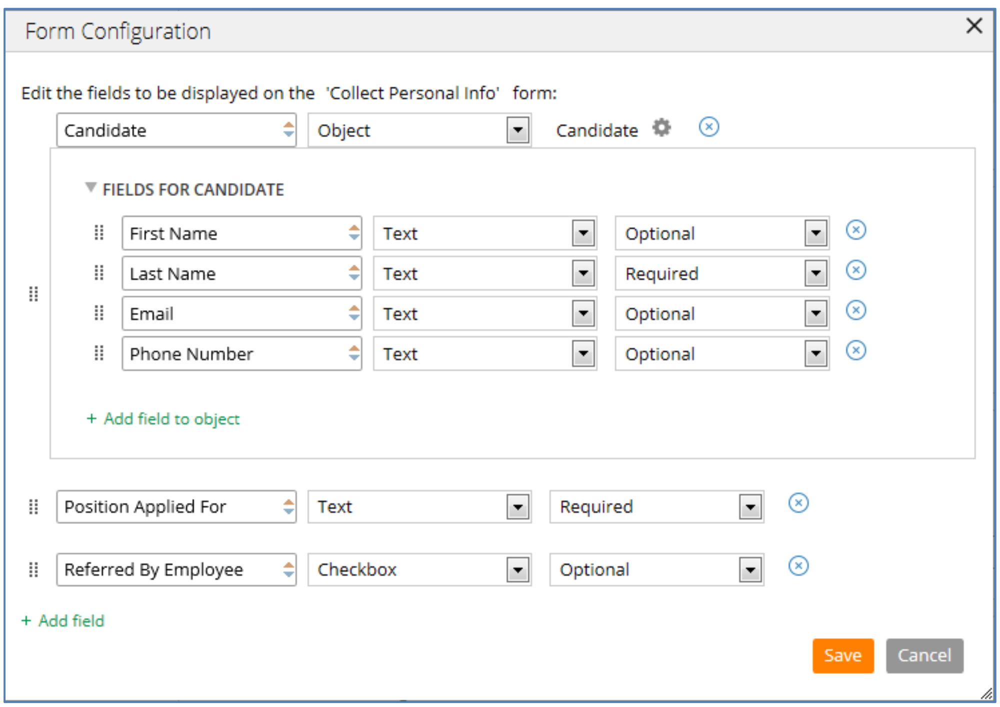


5. In the empty field under FIELDS FOR CANDIDATE, enter **First Name**.



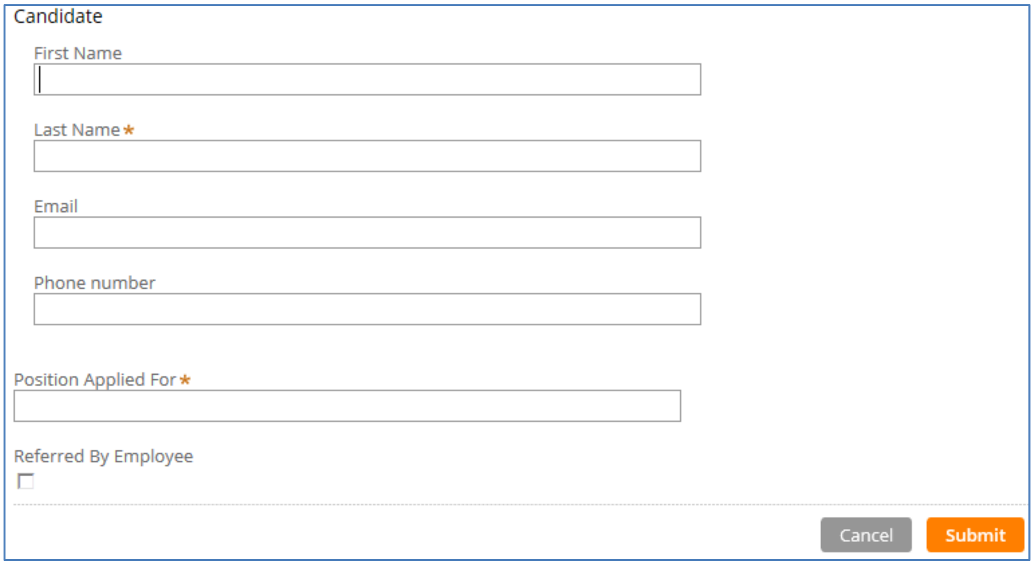
6. Click **Add field to object** three times and in the resulting cells add the **Last Name**, **Email**, and **Phone Number** properties to the page. Select the **Required** option for the Last Name property.

7. Click **Add field** twice to create two top-level properties. Enter **Position Applied For** in one field, and make the field **Required**. In the other field, enter **Referred By Employee**, and select the **Checkbox** property type.



8. Click **Save** to close the Form Configuration dialog and then save updates to the case type.

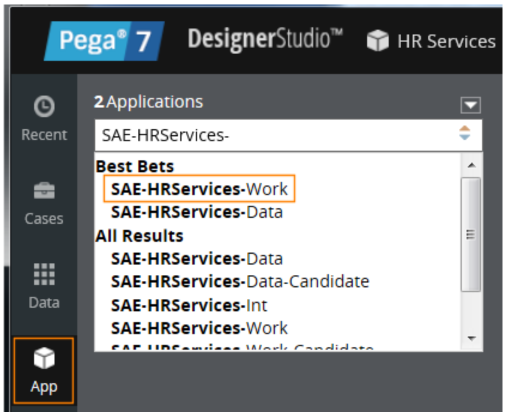
9. **Run** the process to create a new case, and verify that properties now appear on the Collect Personal Information form. Asterisks should appear next to the labels **Last Name** and **Position Applied For** to indicate that a value is required for these fields.



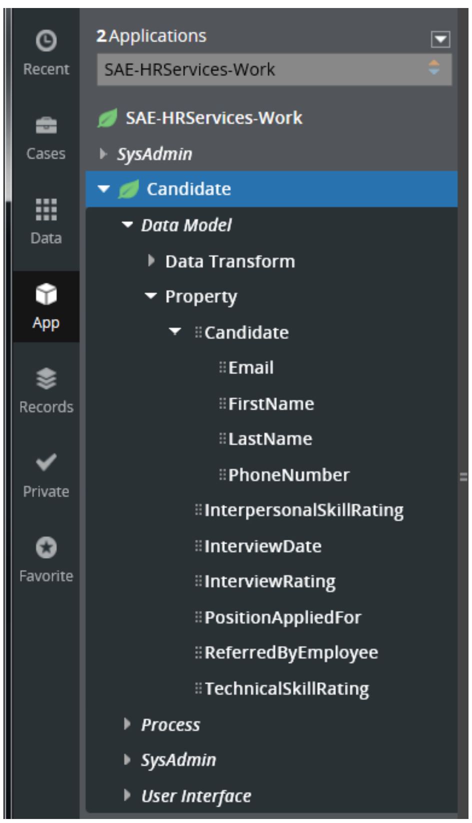
Optional Exercise

When you add fields to a process, properties are created in a work class that contains rules for the current work item. The work class is unique for each case that is created. View properties in the work class using the steps below.

1. Open the Application Explorer, type **SAE-HRServices-** in the auto complete field and then use the down-arrow to select **SAE-HRServices-Work** from the list that appears.

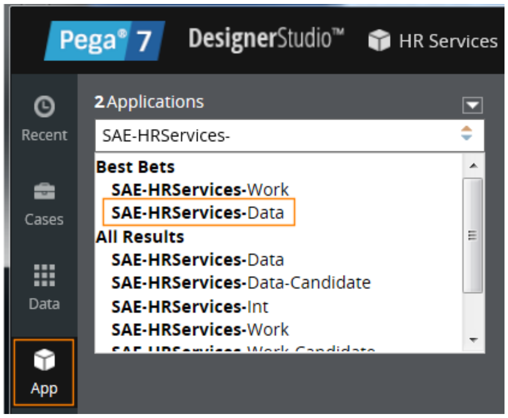


2. Expand **Candidate → Data Model → Property** to see the properties that have been created for the fields that were added to the Candidate case type.

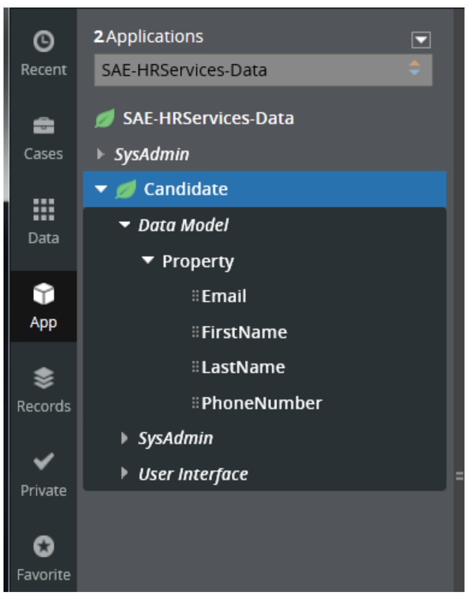


When you define a page in the Edit Fields dialog, a data object type is created in the application's data class. Additional data pages can be created using this object type. View rules in the application's data class using the steps below.

1. Open the Application Explorer, type **SAE-HRServices-** in the auto complete field and then use the down-arrow to select **SAE-HRServices-Data** from the list that appears.



2. Expand **Candidate** → **Data Model** → **Property** to see the properties that are part of the Candidate data object type.



Exercise: Set a Property Value with a Data Transform

Scenario

When applicants for an open position at SAE express interest in a position they complete several forms by providing basic information about themselves, including their first and last names.

To facilitate the process of reviewing applications, recruiters have asked that the candidate case include the full name of the applicant, which would consist of their first name, followed by their last name, separated by a space. This full name would appear on the case when a recruiter, manager, or HR partner opens it for processing.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

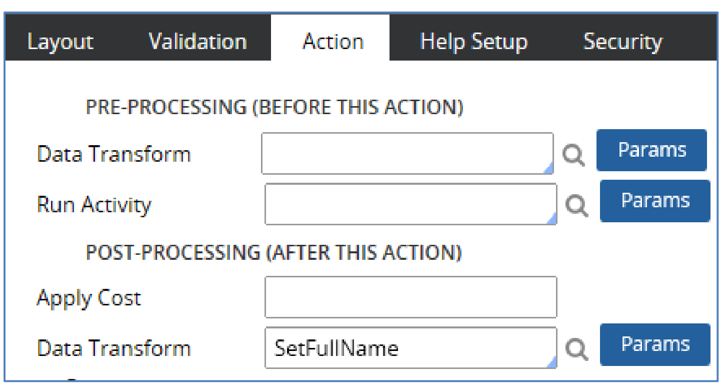
Add a read-only field for the property Full Name to the Schedule Interview step.

Create a data transform, named SetFullName, to set the value of the property .FullName according to the formula .FirstName + " " + .LastName. All properties are defined on the Candidate page.

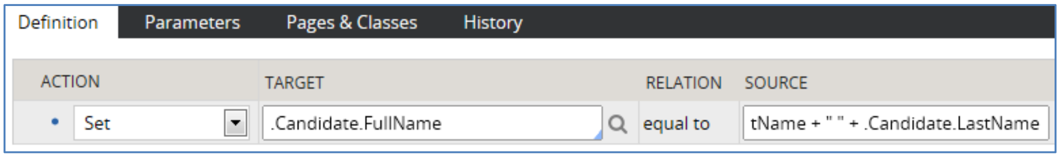
Add the data transform to the flow action CollectPersonalInfo as a post-processing action.

Hints

1. By default, when you add an existing page to a flow action, PRPC attempts to add fields to display all of the properties currently defined on that page. Delete the entry for each field that you do **not** want to display on the flow action. Doing so does not delete the property itself, just the field for the property on the current flow action.
2. A post-processing action for a flow action is specified on the Actions tab.



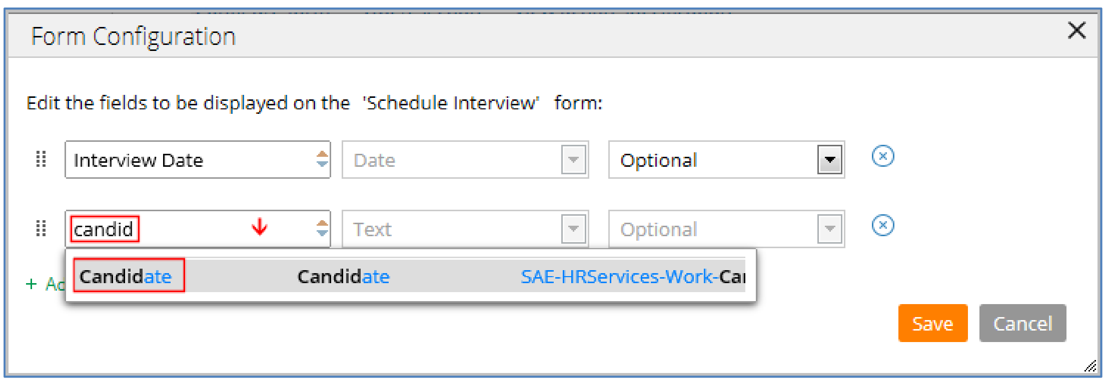
3. Remember that the First Name, Last Name, and Full Name properties are all on the Candidate page.



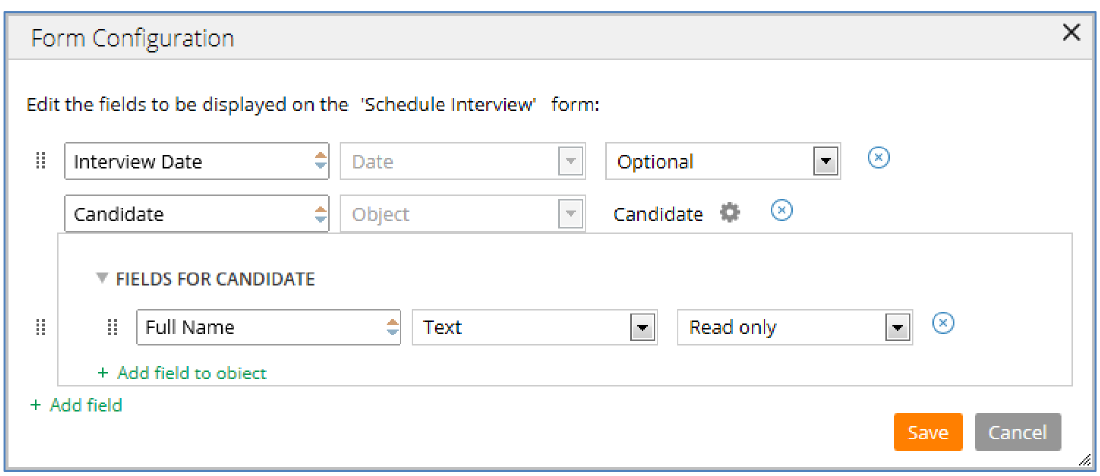
Procedure

Follow the steps below:

1. Open the **Candidate** case in the Stage Designer, if necessary.
2. Hover over the Interview stage and click **Configure process detail** to open the process outline.
3. Locate the Schedule Interview flow action and click **Configure form**.
4. In the Form Configuration dialog, click **Add field**, begin to type **Candidate** into the new field cell, and then use the down-arrow to select the existing **Candidate** page property.



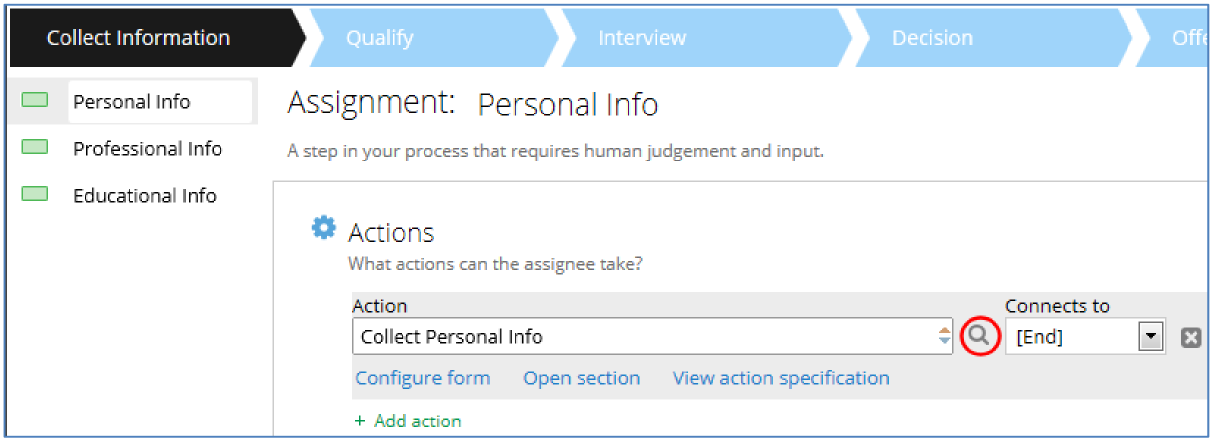
5. Remove all of the fields on the Candidate page from the form by clicking the **X** icon on the right.
6. Click **Add field to object**, enter **Full Name** and enable the **Read Only** option for the field.



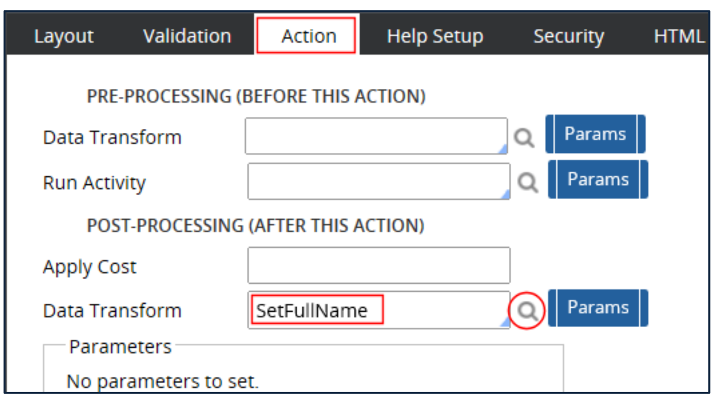
7. Click **Save**. After returning to the Properties Panel, **Save** updates to the case type and then return **Back to stages**.

8. Hover over the Collect Information stage and click **Configure process detail** to open the Process Outline.

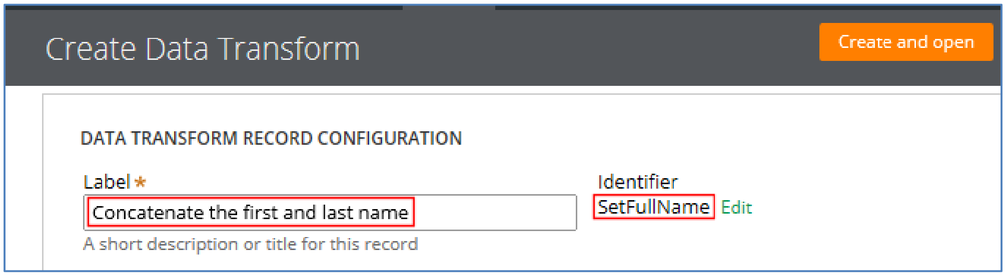
9. Open the Collect Personal Info flow action by clicking the **Open icon** .



10. Create a data transform to activate after personal information is entered, to concatenate first and last names. To do this, click the **Action** tab of the Collect Personal Info flow action form. In the Post-Processing area of the form, click in the **Data Transform** field and enter **SetFullName**. Click the **Open icon** next to the Data Transform field to open the Create Data Transform Record form.

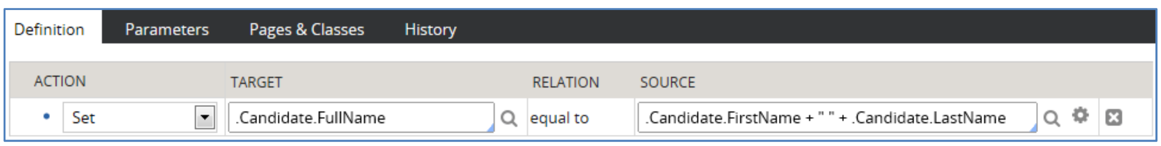


11. In the Label field of the Create Data Transform form, enter the text **Concatenate the first and last name**. Leave the Identifier as **SetFullName** and then click **Create and open**.



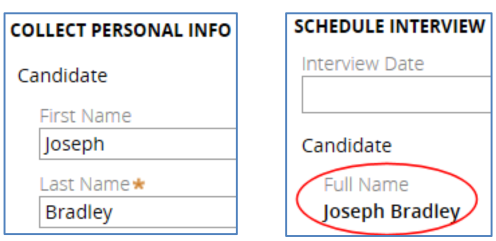
12. When the Edit Data Transform form opens, click in the Target field and use the down-arrow to select **Candidate**. Add a period ("**.**") to the end of **.Candidate** and then use the down-arrow again to select **FullName**. In the Source field, enter **.Candidate.FirstName + " " + .Candidate.LastName**.

> **Note:** You can use down-arrows to select .Candidate.FirstName and .Candidate.Last name using the same procedure used to select the .Candidate.FullName property.



13. **Save** the data transform and close the tab. Return to the CollectPersonalInfo flow action tab and **Save** the flow action. Return to the Candidate Process Outline view in the Stage Designer. Click **Save** to update the case design.

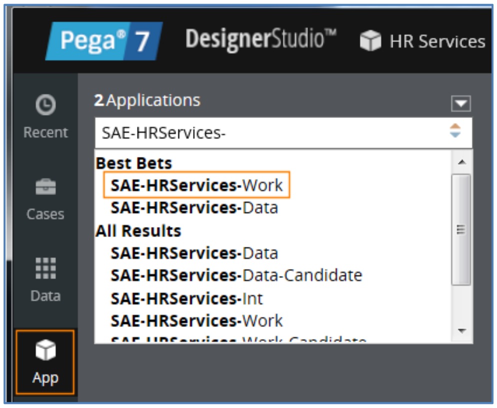
14. Create a new Candidate case, and enter your first name and last name on the Personal Info form. Continue through the process to the Schedule Interview step and verify that the correct full name appears on the form.



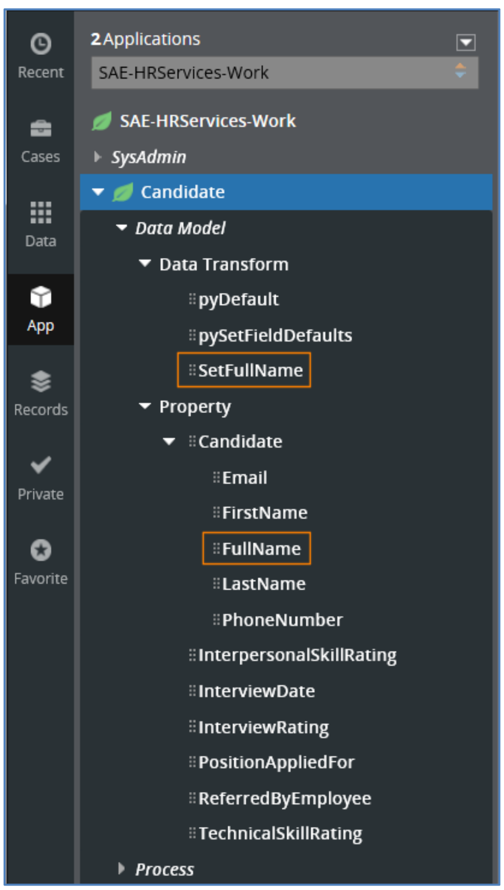
Optional Exercise

After a new field is added to the Candidate case, the property associated with that field can be found in the Application Explorer work class. View the property and its associated data transform using the steps below.

1. Open the Application Explorer, type **SAE-HRServices-** in the auto complete field and then use the down-arrow to select **SAE-HRServices-Work** from the list that appears.



2. Expand **Candidate → Data Model → Data Transform** to see the SetFullName Data Transform and then expand **Candidate → Data Model → Property** to see that the new FullName property has been added to the Candidate property page.



Reference Information

- PRPC Help: About Data Transforms

Exercise: Review Case Data with the Clipboard

Scenario

As we build out our solution, we occasionally need to review application data. While some data is presented on the forms that make up our UI, other data is hidden from view. To access this hidden data we use a tool named the Clipboard.

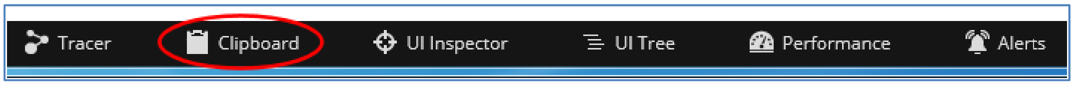
- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

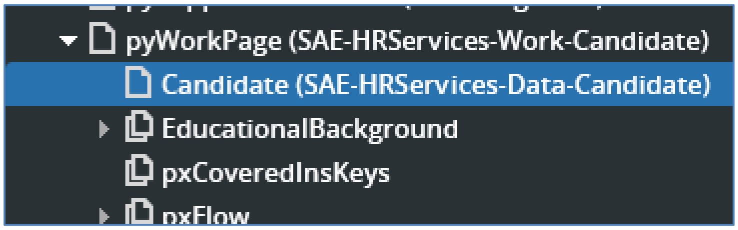
Use the Clipboard to review data on both pyWorkPage and the Candidate page. Update the telephone number for the applicant from the Clipboard.

Hints

1. You can access the Clipboard from the Developer tool bar.



2. The Candidate page is embedded within pyWorkPage.

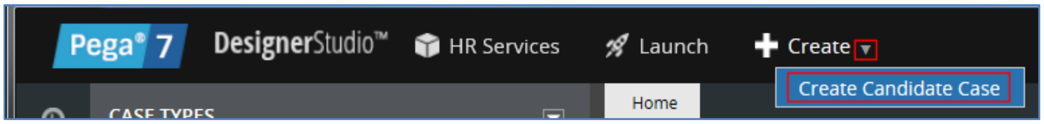


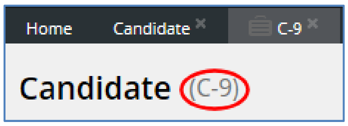
3. To edit a property value on a page, click **Edit**.

Procedure

Follow the steps below:

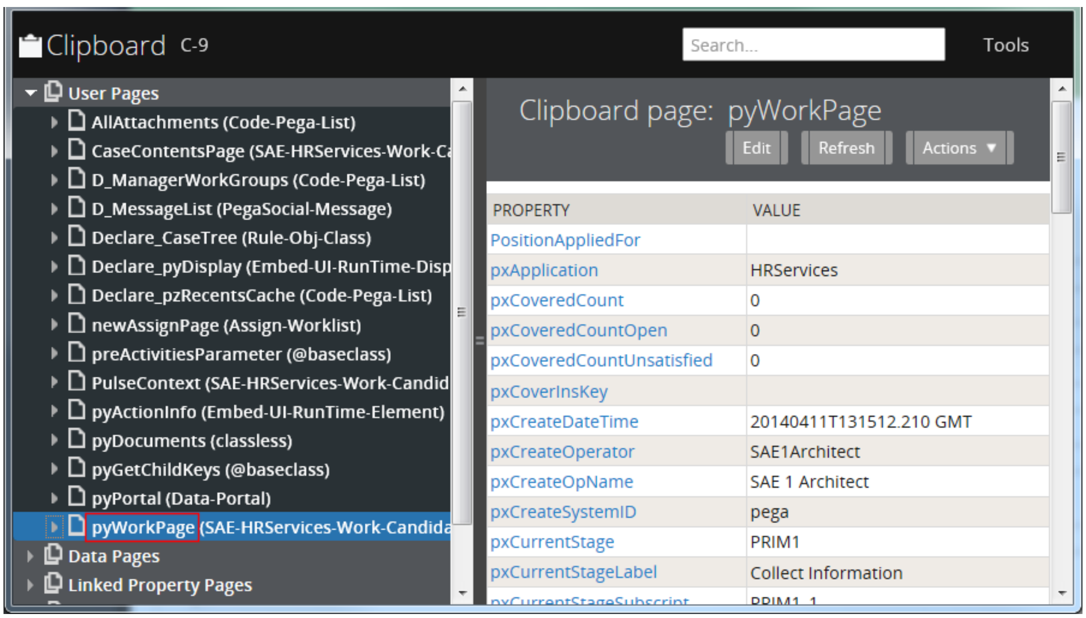
1. Create a new Candidate case and note the case ID.



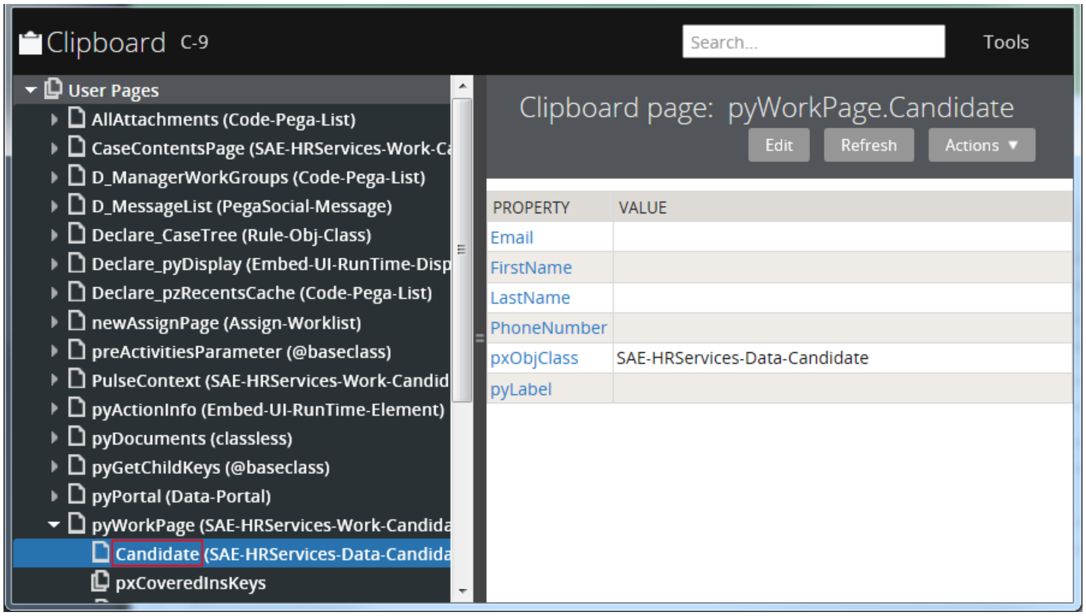


2. On the Developer tool bar, click the **Clipboard icon** .

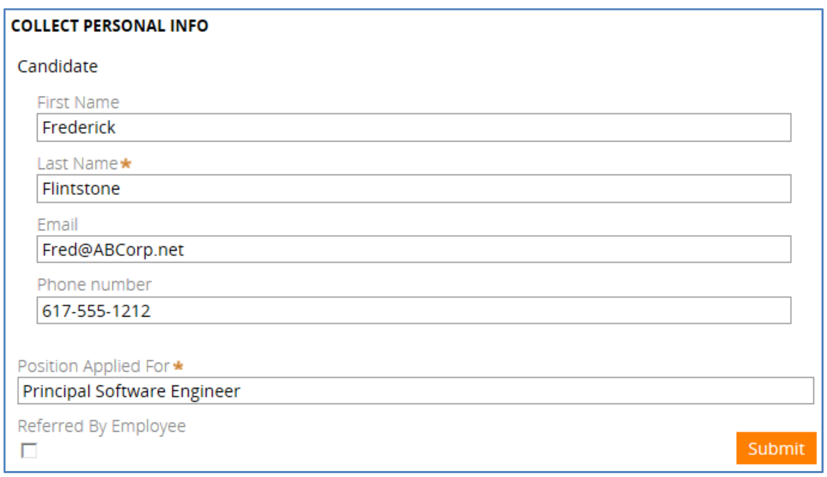
3. In the left pane, locate and open **pyWorkPage**, and review the data written to the page. This data was written automatically when the case was created.



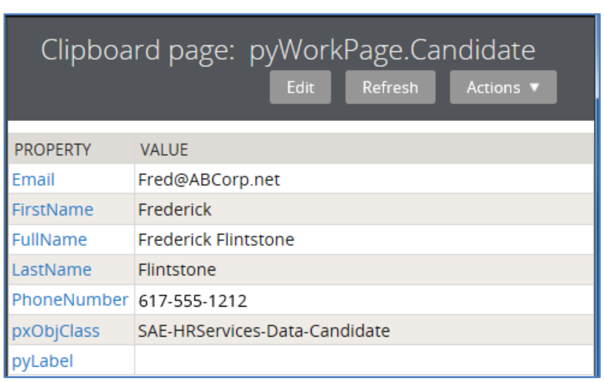
4. In the left pane, expand pyWorkPage and click the embedded page named **Candidate**.



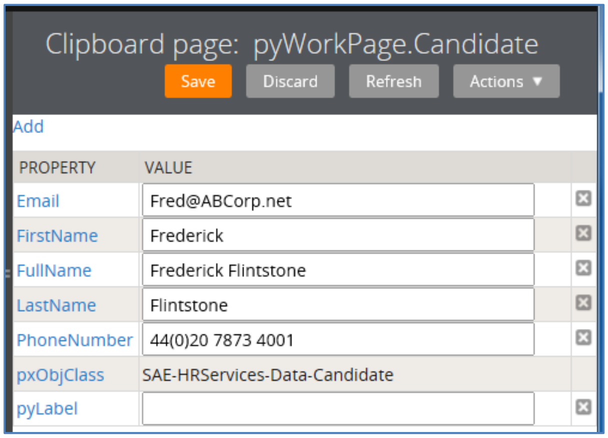
5. Keep the Clipboard open and return to the Candidate case. Complete the Personal Info form and **Submit** it.



6. Return to the Clipboard page and click **Refresh**. The Candidate page updates with the data entered on the Personal Info form. Note that the FullName property has been added to the page.



7. Click **Edit** and provide a new value for the PhoneNumber property.



8. Click **Save** to update the case with the new telephone number.

Reference Information

- PRPC Help: Using the Clipboard tool

Enhancing the User Interface

This lesson group includes the following lessons:

- Introduction to UI (No Exercise)
- Designing Layouts
- Creating Repeating Layouts
- Formatting Data Elements
- Validating Data Elements
- Review of Enhancing the User Interface (No Exercise)

Exercise: Adding Layouts

Scenario

When the recruiter screens the candidate they need to enter if the candidate has relevant experience, the expected salary of the candidate, their feedback about the candidate in terms of if they fit the role or not, and any additional comments.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

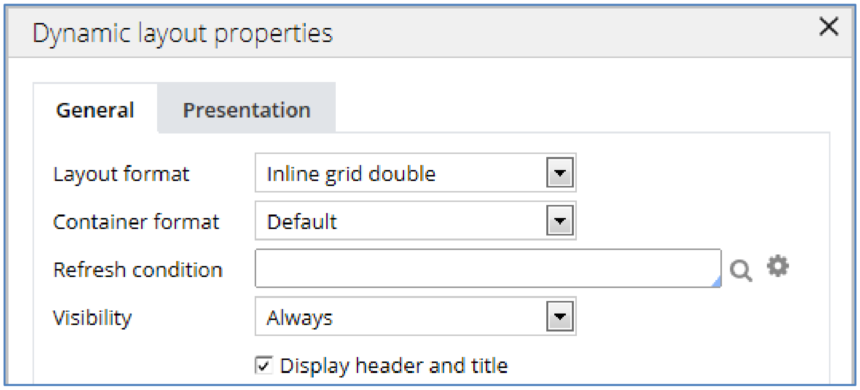
Use Stage Designer to define the properties:

Property Name	Property Type
Expected Salary	Decimal
Screener Feedback	Text
Screener Comments	Text
Relevant Experience	TrueFalse

Open the newly created section and change the format of the layout to use Inline grid double.

Hints

1. Properties can be added in the outline view.
2. Outline view can be accessed using the configure process detail link that appears in that stage.
3. Need to go back and save the stage designer view before opening the section.
4. The layout type can be changed in the format field.

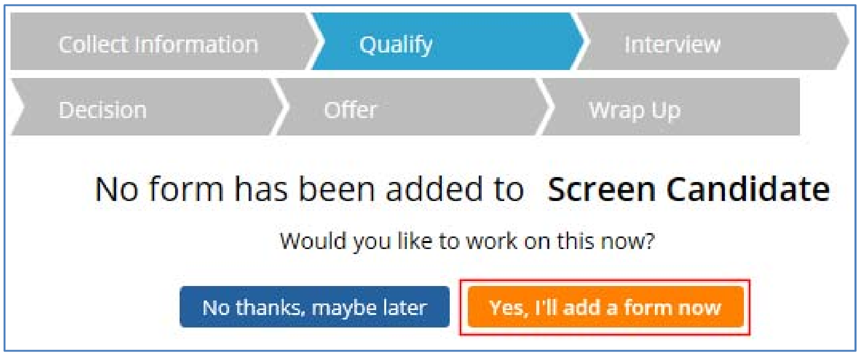


Procedure

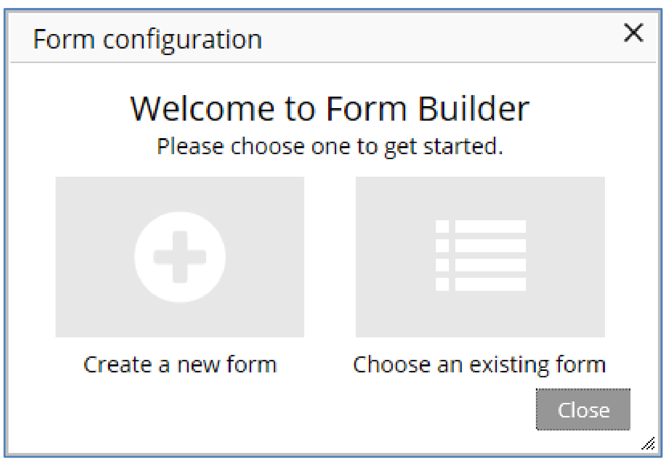
We have seen how you can add fields and configure a form for an assignment step by going to the process outline. In this exercise, we will configure the form while testing a case.

1. Open the Candidate case in the Case Designer and then click **Run** to create a case.

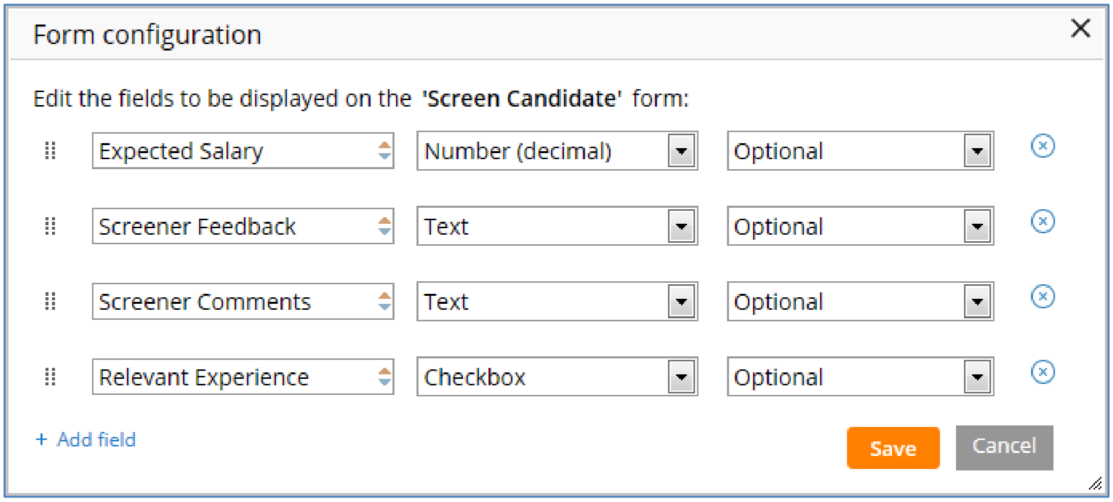
2. Step through process flow until you reach the Screen Candidate step in the Qualify stage. At the prompt *Would you like to work on this now?* click **Yes, I'll add a form now**.



3. In the Form configuration Welcome screen, click **Create a new form**.

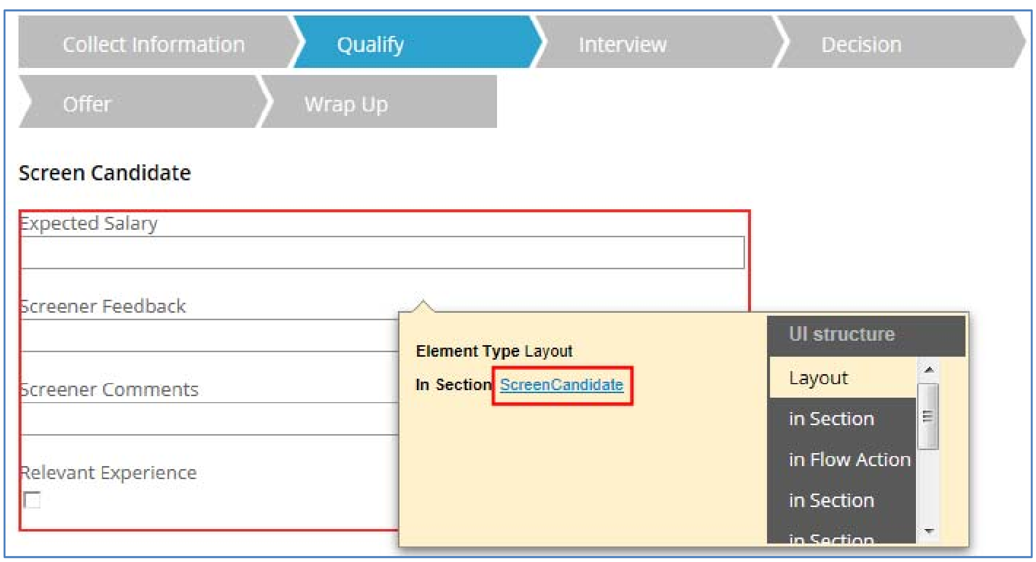


4. In Form configuration, add **Expected Salary**, **Screener Feedback**, **Screener Comments** and **Relevant Experience** fields using types listed in the Approach section of this exercise.

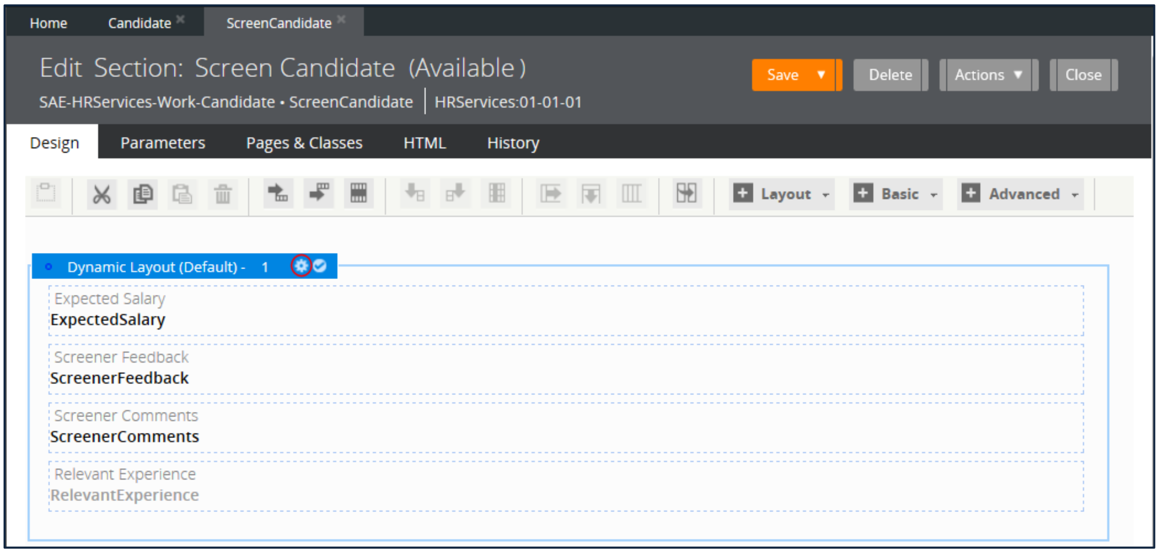


5. Click **Save** to close the Form configuration dialog and then **Save** changes in the process outline.

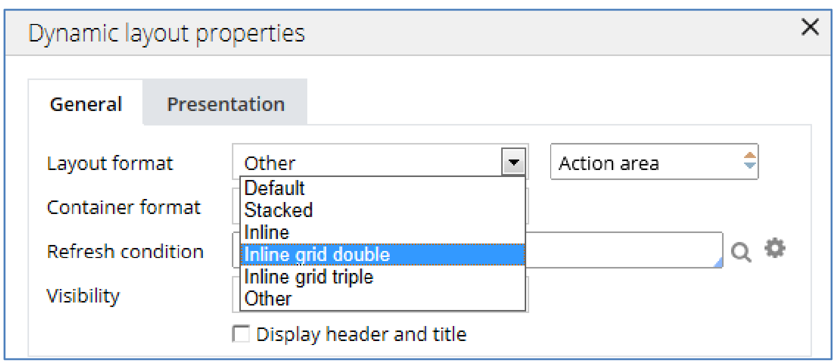
6. Return to the running process and click the **UI Inspector icon** in the developer toolbar to toggle the UI Inspector on. Pause your mouse over the new Screen Candidate section. When the information panel displays, click **ScreenCandidate** to open the section rule form.



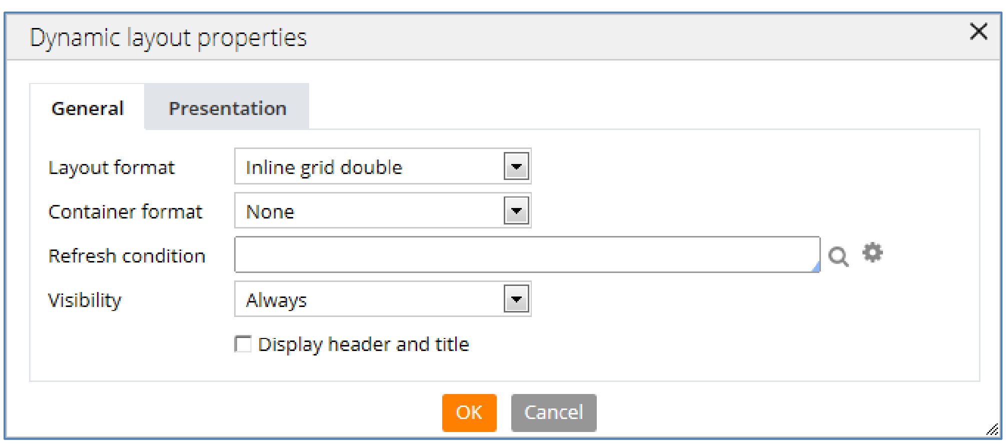
7. Click in the layout and then click the **View Properties icon** .



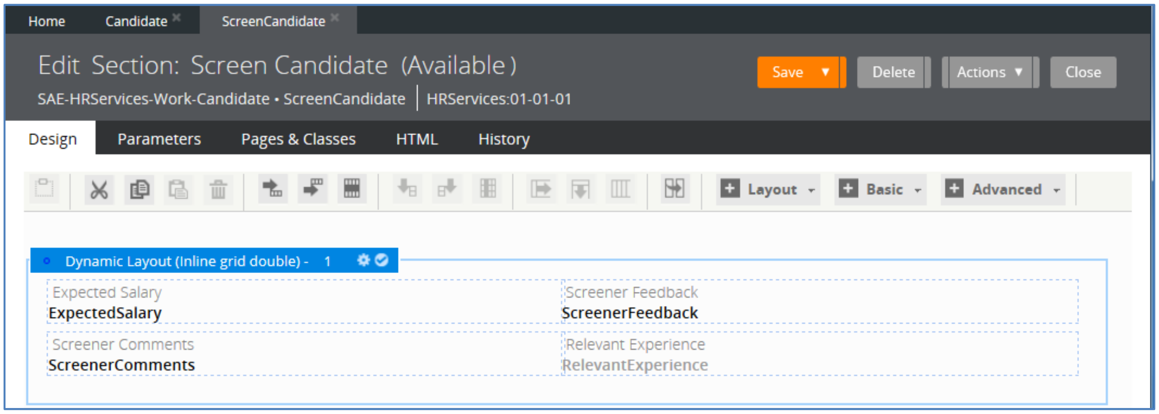
8. Change the format to use **Inline grid double** by selecting it from the drop-down list.



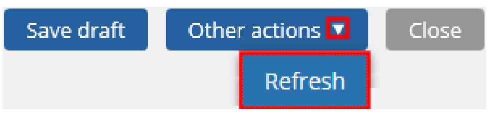
9. Click **OK** to close the Dynamic layout properties form.



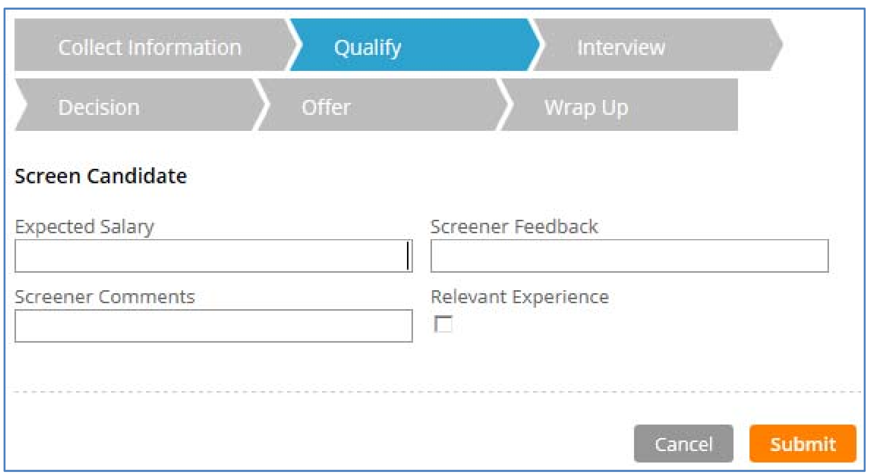
10. **Save** updates and then **Close** the Screen Candidate section.



11. Return to the running process and select Refresh from the Other Actions menu to view your updates.



12. **Close** the candidate case.

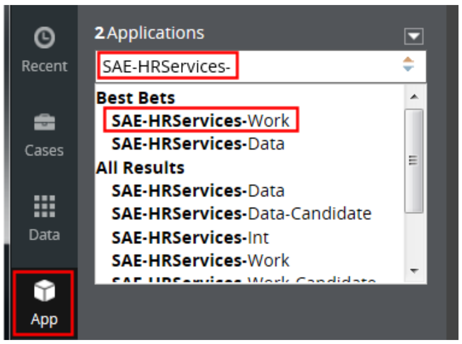


13. Return to the process outline. To see that the form has been created, select Refresh from the Actions menu. **Save** changes to the case.

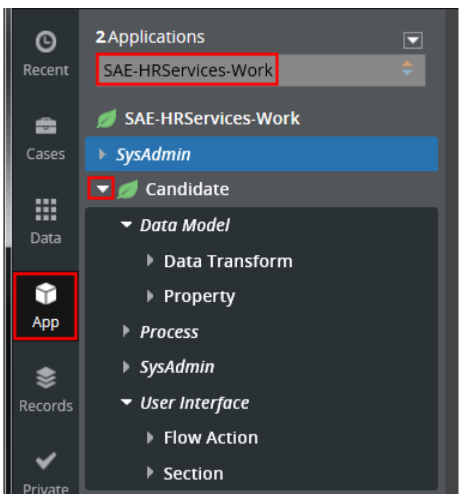
Optional Exercise

Use this optional exercise to look in the Application Explorer for the data properties and user interface sections that have been created for the Candidate case.

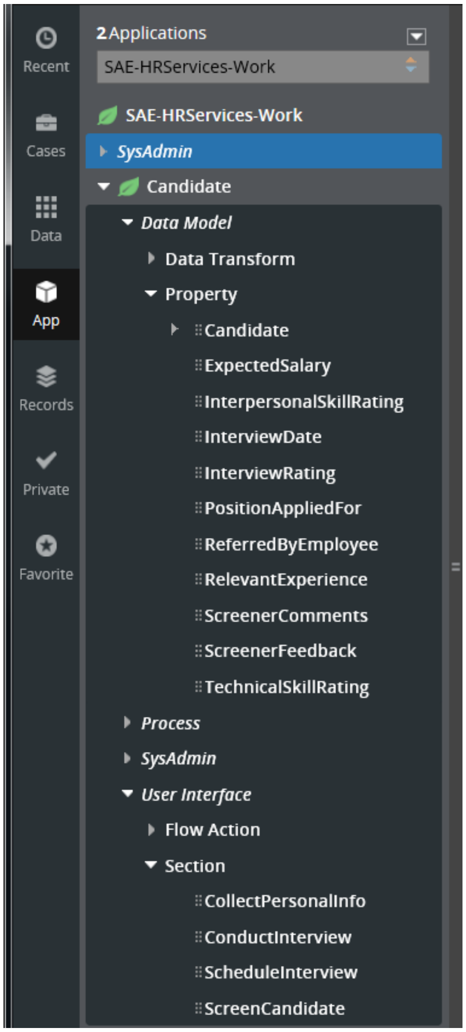
1. Open the Application Explorer, type **SAE-HRServices-** in the auto complete field and then use the down-arrow to select **SAE-HRServices-Work** from the list of classes that appears below.



2. Expand **Candidate** to find the Data Model and User Interface branches.



3. Expand **Candidate → Data Model → Property** to view all of the data properties created for the current work item and then expand **Candidate → User Interface → Section** to view the User Interface sections that have been created so far.



Exercise: Adding a Repeating Layout

Scenario

When the candidate applies for the job they must include any professional work experience that would help the recruiters to consider them for the open position. This information should include the company name, job title, and both starting and ending date.

Similarly, the candidates should indicate their educational background in terms of institution name, highest grade achieved, and year of graduation.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Use the stage designer approach that we learned in the lesson to create new repeating layouts in the Collect professional info and Collect educational info steps.

For the Collect Professional Information action, create a page list named Work History with properties from the table below.

Property Name	Property Type
Company Name	Text
Job Title	Text
Start Date	Date
End Date	Date

For the Collect Educational Information action, create a page list named Educational Background with properties from the table below.

Property Name	Property Type
Institution Name	Text
Highest Grade Achieved	Text
Year of Graduation	Integer

Hints

1. Reminder that there are three ways to open Form Configuration.

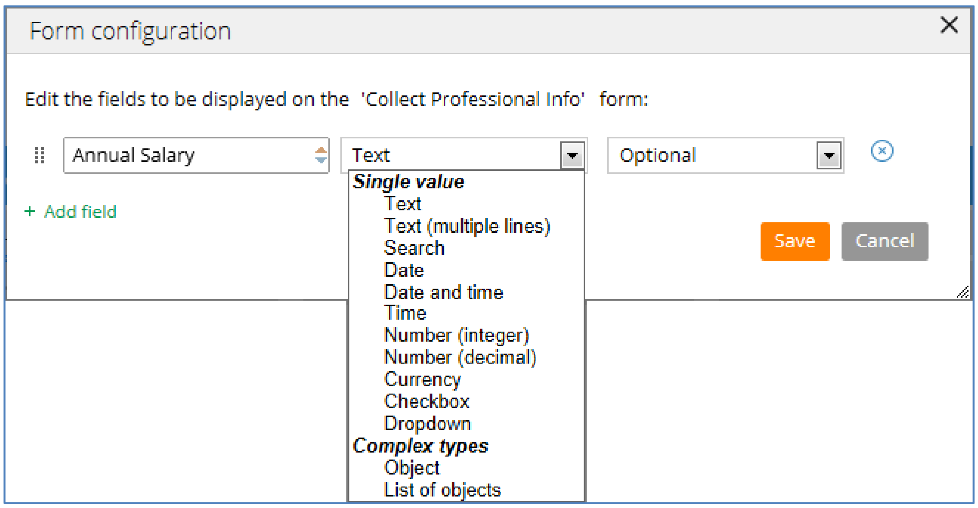
a. From the Case Designer landing page – Select **Configure form** from the Step options menu.

b. From the Properties panel – Select the step and then click the **Configure form** link.

c. While running the process – click **Yes, I'll add a form now** while executing a step that currently has no form.

2. Click the Configure process detail link in the Case Designer to open the outline view.

3. New fields default to Text in the Configure form dialog. Select Object to generate a property of type Page. Select List of objects to generate a Page List.

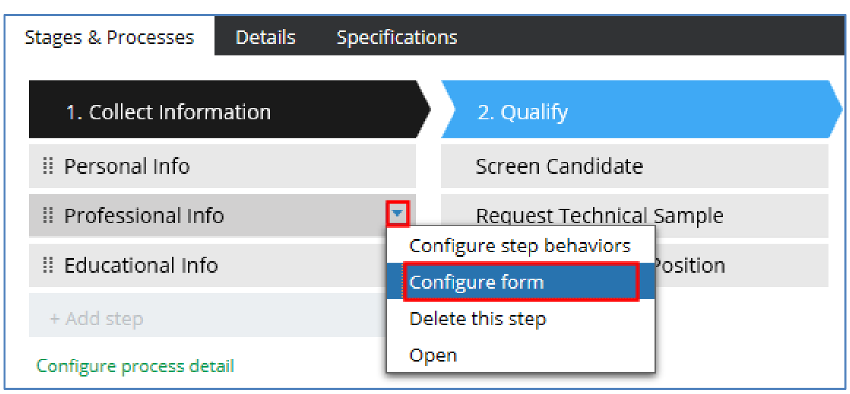


Procedure

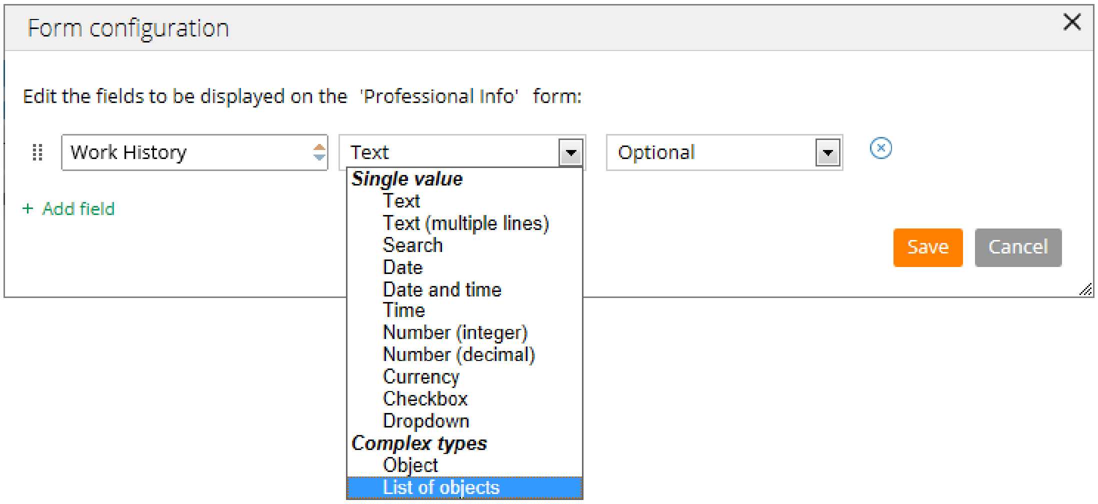
We have seen how you can configure a form for an assignment step by going to the process outline and while testing a case. In this exercise, we will select Configure form from the step menu in the case designer.

1. Open the Candidate case in the Case Designer, if necessary.

2. Open the step menu for the Professional Info step and select **Configure form**.

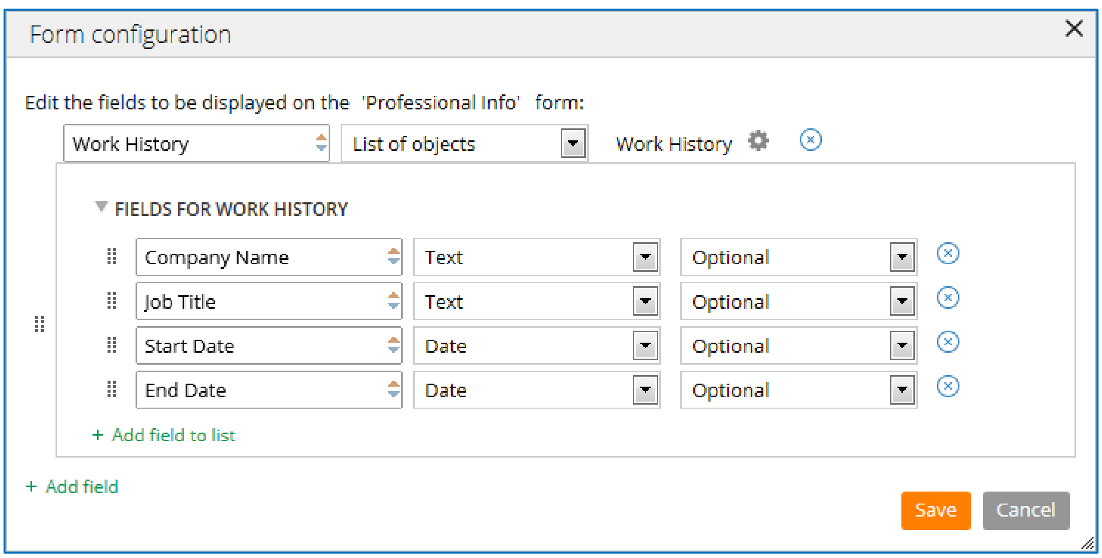


3. In Form configuration, enter **Work History** and select **List of objects** to generator a page list type property.



4. In the first field for Work History, enter **Company Name**.

5. Click **Add field to list** three times and then enter the remaining field names (**Job Title**, **Start Date** and **End Date**) and property modes from the table in the Approach section of this exercise



Important: Ensure that all of your fields have been entered correctly and that Work History is a List of objects before saving your new page list.

6. Click **Save** to close the Form configuration dialog. **Save** the updates to the case type.

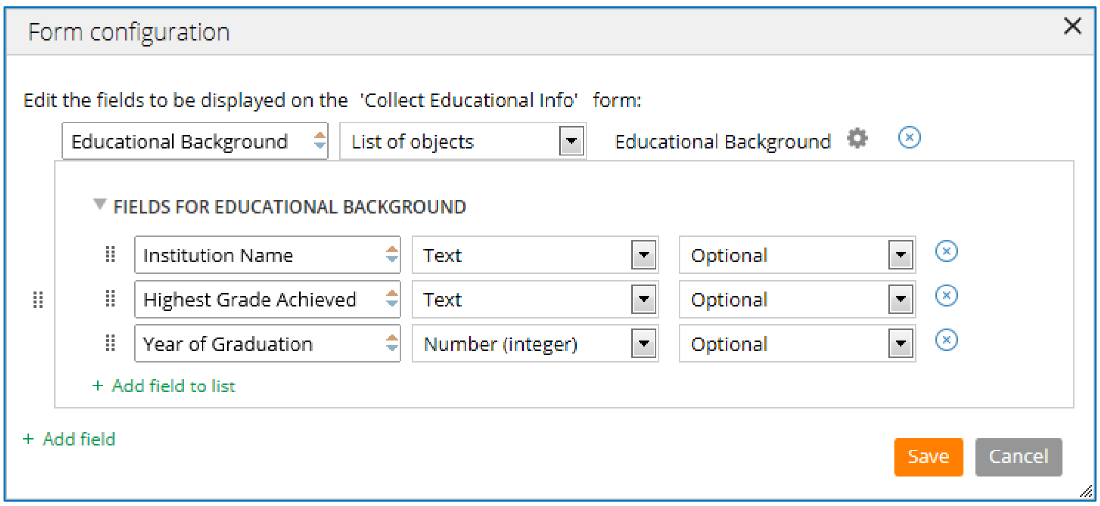
7. Verify that the rules have been created by looking for the new data properties in the Application Explorer SAE-HRServices-Work class.

Note: You may need to **Refresh** the Application Explorer to see the new page list.

8. Test the new UI by running the process to create a new case.

9. Return to the Candidate case and create a form for the Educational Info step in the Collect Information stage. Open the Form configuration dialog using any of the ways listed in the Hints section.

10. Using instructions supplied in steps 3-5, create a page list named **Educational Background** with fields (**Institution Name**, **Highest Grade Achieved** and **Year of Graduation**) listed in the Educational Background table in the Approach section of this exercise.



11. After checking to be sure that your data types are correct, click **Save** to close the Form configuration dialog and **Save** updates to the case type. **Run** the process to create a case so you can view the updated UI section.

Exercise: Adding a New Control on an Existing Field

Scenario

The business architect reviewed the screens that we have created so far and gave us a few additional requirements. The first request is that we add a new field which permits the capturing of candidate skills information. The second request is to increase the size of the current Screener Comment field. It is currently too small and does not allow for the capture of a significant amount of feedback from the recruiters. They would like to have this fixed by providing the operator with an option to enter a few lines of feedback that can be easily read.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

In the professional information step of the collect information stage, add a new property named Skills using the Stage Designer. This property can be defined as text (which will use pxTextinput). Modify the control to use the Rich Text Editor (RTE). Make sure all relevant options in the toolbar are selected.

In the Screen Candidate step of the Qualify stage, modify the control in Screener Comments to use a Text Area.

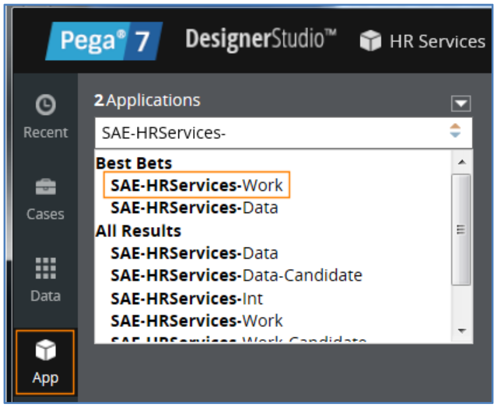
Hints

1. The section can be accessed by opening the process in outline view.
2. Add the property for Skills in the step before accessing the section.
3. The product creates the property with a text input field, open the properties panel and change control to use RichTextEditor (RTE).
4. Configure the parameters for RTE in the properties panel of the field.

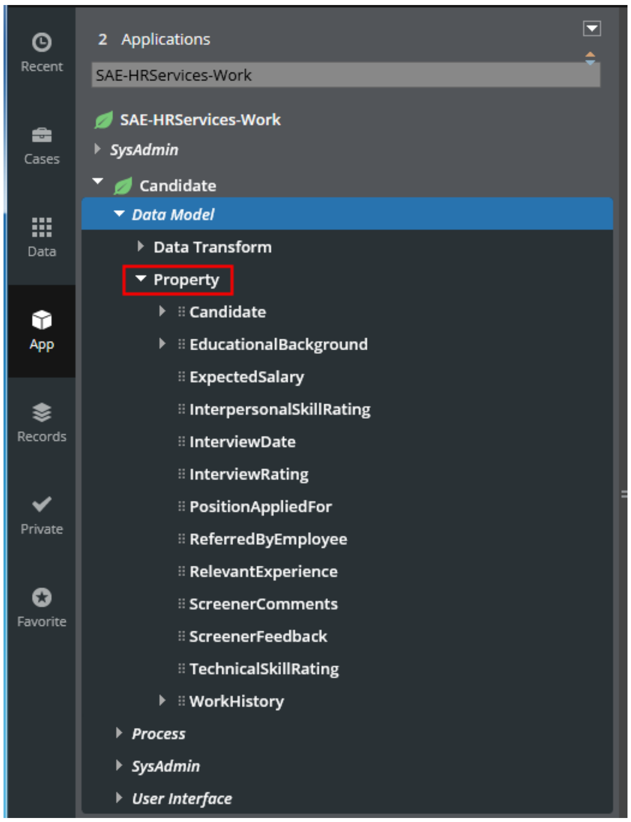
Procedure

We have created a form to enter candidate professional information, but need to add a field for Skills. Begin by creating a Skills property and then add it to the Professional Information section.

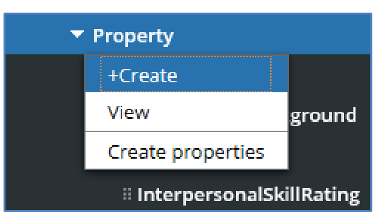
1. Open the Application Explorer, type **SAE-HRServices-** in the auto complete field and then use the down-arrow to select **SAE-HRServices-Work** from the list that appears.



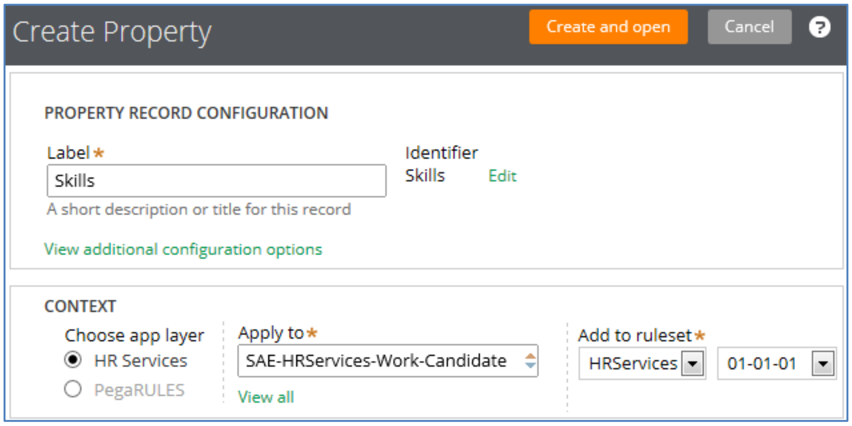
2. Expand **Candidate → Data Model → Property** to see the properties defined for this case type.



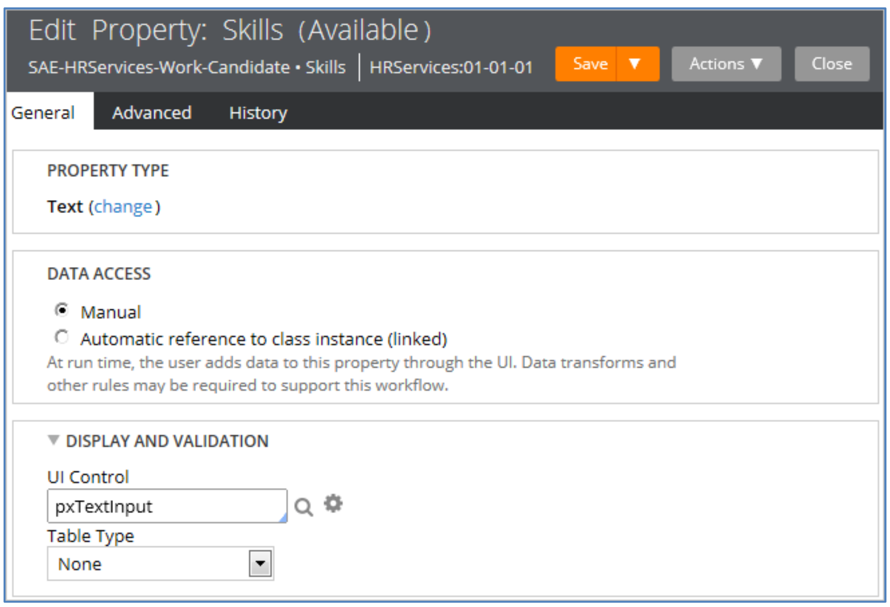
3. Right-click **Property** and select **+Create** to create a new property for the Candidate case type.



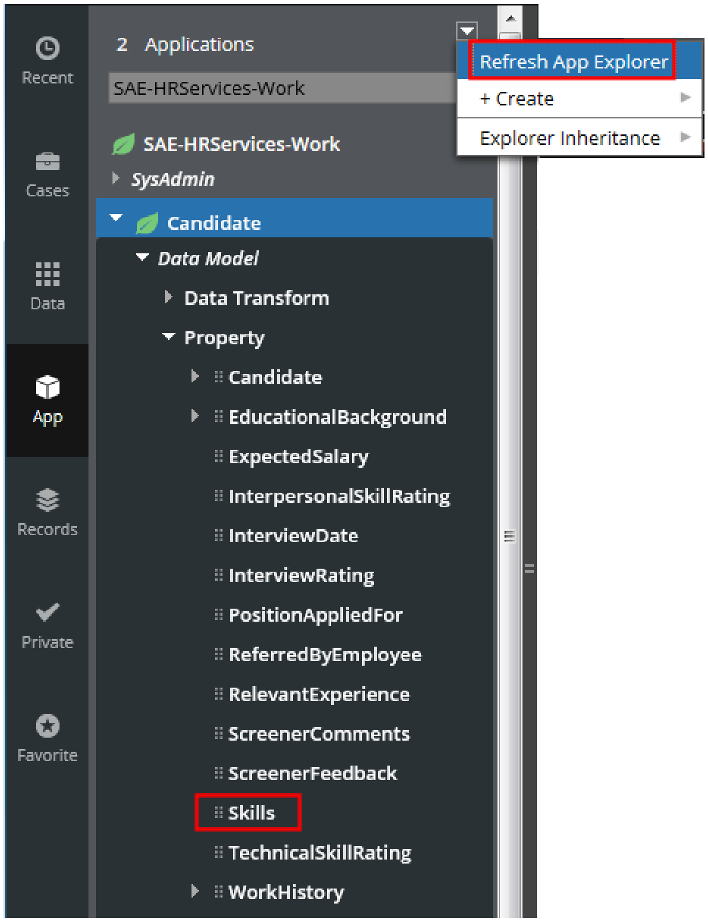
4. Name the property **Skills**, note the context (that it will apply to SAE-HRServices-Work-Candidate) and then click **Create and open**.



5. Use property defaults, including a property type of Text. **Save** and then **Close** the property rule form for the new Skills property.

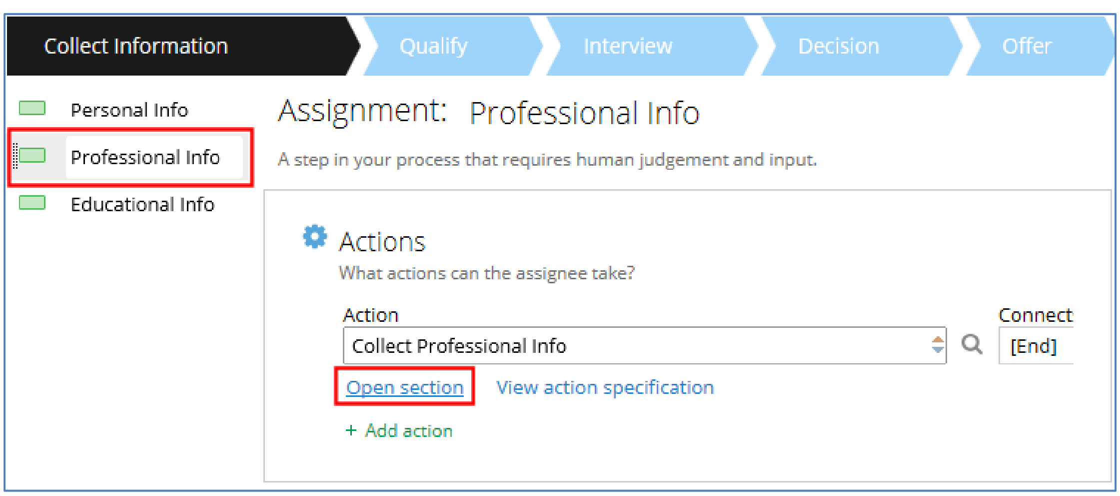


6. Refresh the Application Explorer and look for your new property.

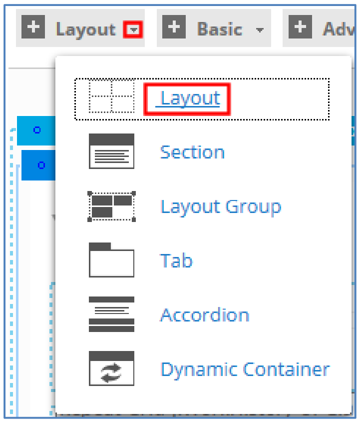


7. Open the Candidate case in the Case Designer and then click **Configure process detail** under the Collect Information stage to open the stage in the Process Outline.

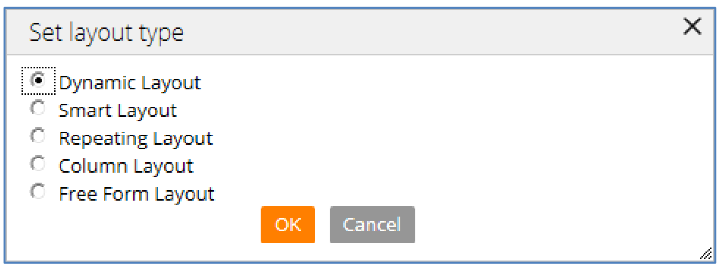
8. Select the **Professional Info** step in the stage steps. Click **Open section** to open the Edit Fields dialog for the Collect Professional Info action.



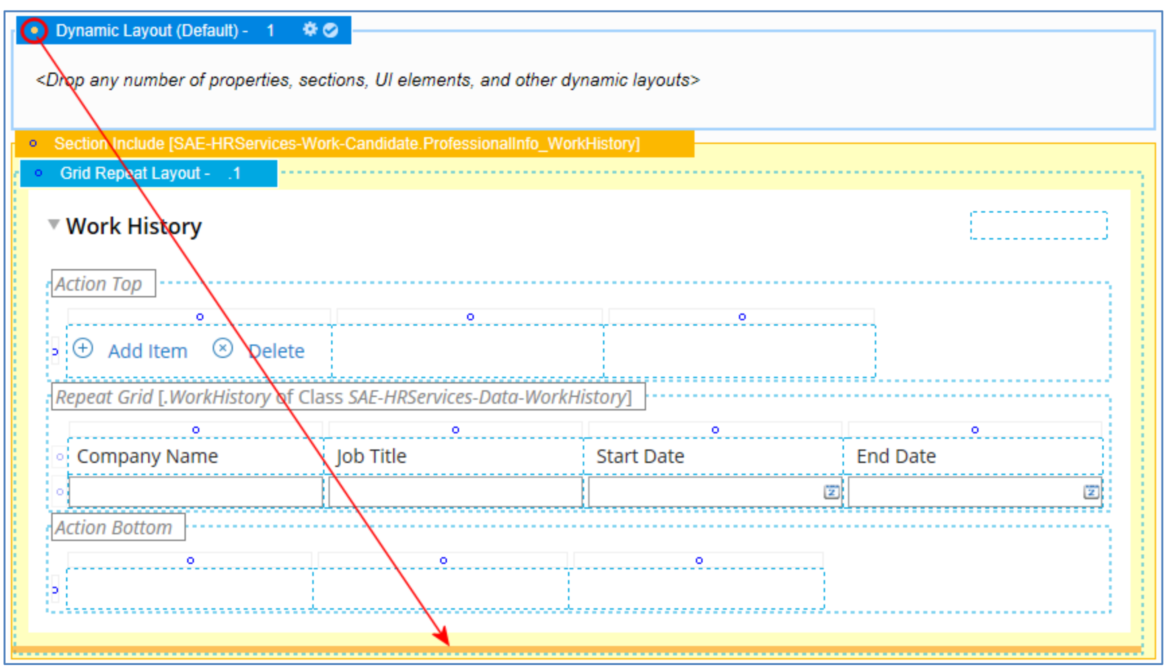
9. When the section opens, it contains only a Grid Repeat Layout. Since Skills is not a list object, we need to add a new layout that can hold this property. Select **Layout** from the Layout menu.



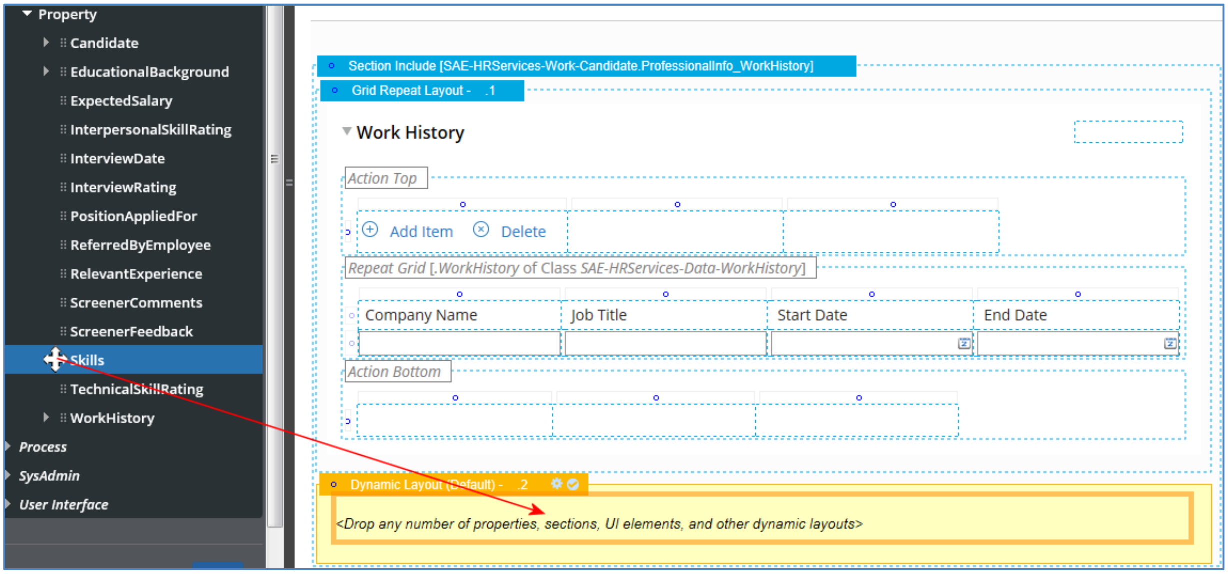
10. Set layout type to **Dynamic Layout**.



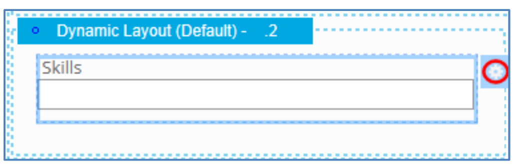
11. Click the handle of the new dynamic layout and drag it below the work history.



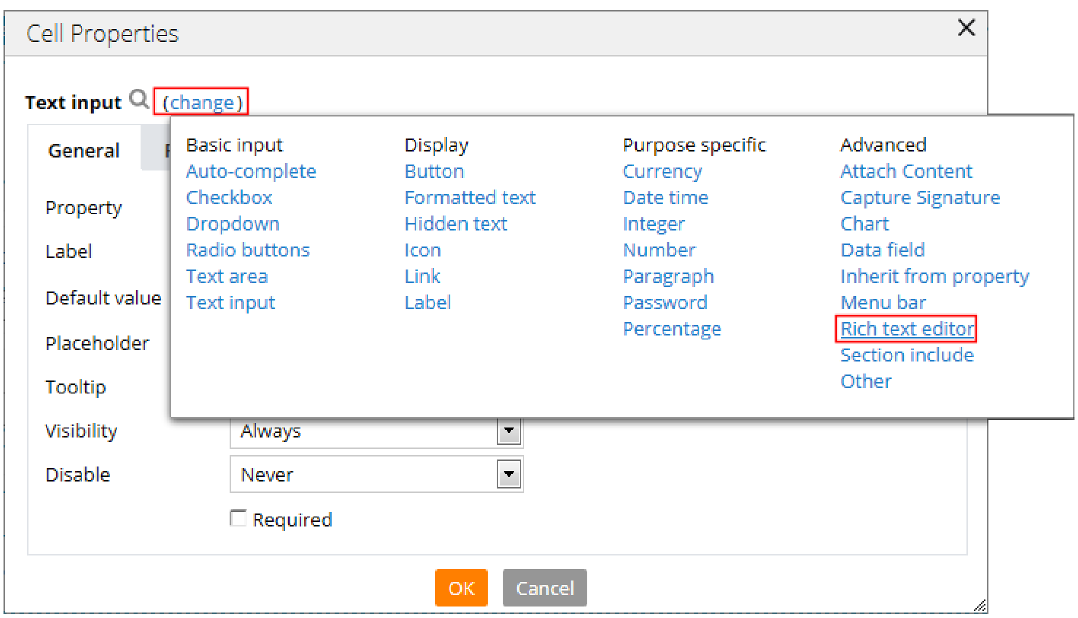
12. Click handle of the Skills property and drag it into the new layout.



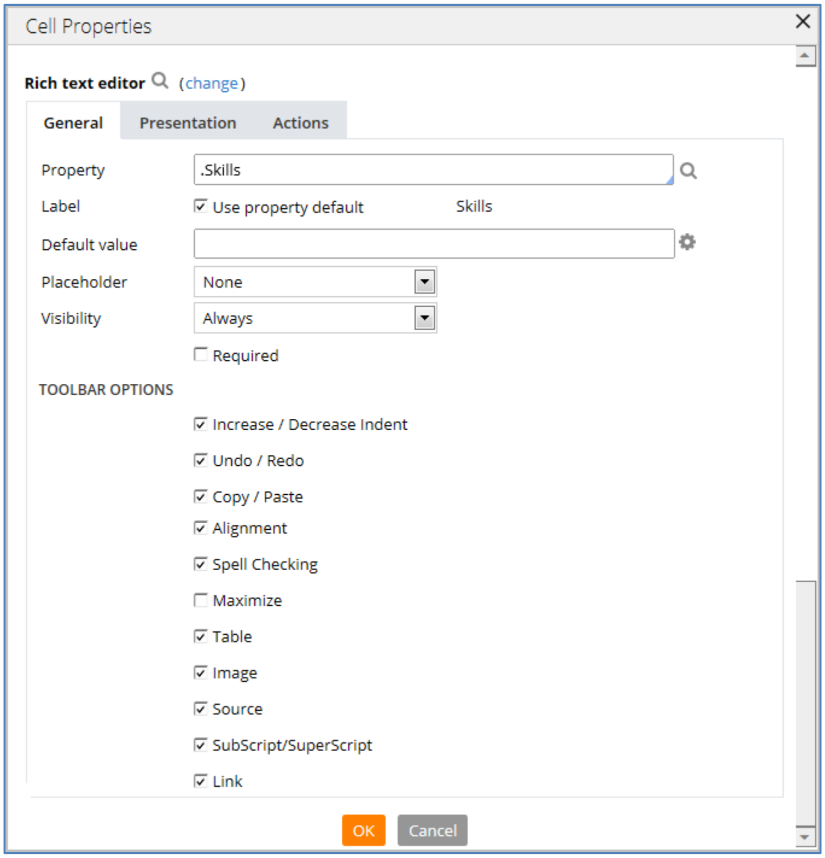
13. Click in the **Skills** cell and then click the View Properties icon to open the cell properties rule form.



14. Change the control from Text input to **Rich text editor**.



15. After selecting the control, enable some of the options for the Rich text editor toolbar.



16. Click **OK** to close the layout cell properties form and then **Save** changes to the section. Close the Section tab.

To allow more space in the screener comments, do the following:

17. Open the Qualify Stage in the process outline. Select the **Screen Candidate** step and then click **Open section**.

18. Using the instruction beginning in step 13, view properties for the Screener Comments cell and set the field to use a Text Area control.

Exercise: Adding List-Based Controls

Scenario

In an effort to reduce data entry errors for candidate cases, the HR department would like to limit the list of values for the Screener Feedback field to:

- Fits the Role
- Requires Additional Training
- Is Not a Fit for the Role

Similarly, for the relevant experience field, they want the recruiter to only be able to select yes or no.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

In the Screen Candidate step of the Qualify stage, modify the control for the Screener Feedback field to use a dropdown menu with the following selections:

- Fits the Role
- Requires Additional Training
- Is Not a Fit for the Role

For relevant experience, use a radio button to show the values instead of the checkbox.

Hints

1. To edit cell or section properties using the UI Inspector, **Run** the process to create a new case and then do the following:
    a. While the applicable form is displayed, click the **UI Inspector icon** in the Developer toolbar.
    b. Hover over the cell or section that you want to change until the Information Panel displays and then click the blue rule property link for the cell or section.
2. The list of values is stored as local list in the property definition.
3. The dropdown exists in the basic palette.
4. The radio button also exists in the basic palette

Procedure

Follow the steps below:

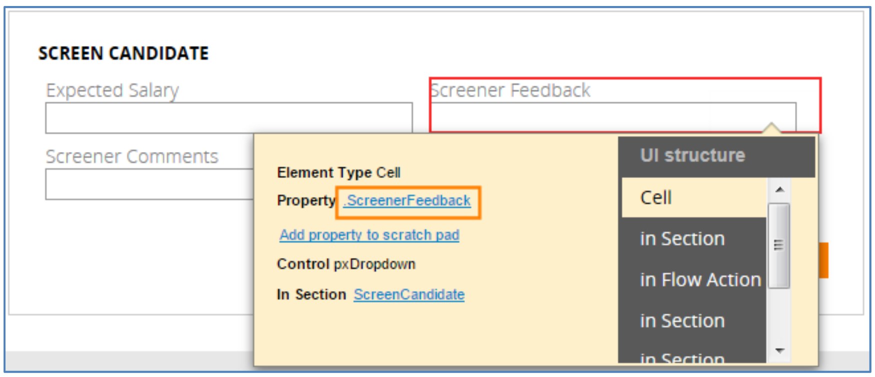
1. Create a new Candidate case using either the **Run** button or the Create menu. **Submit** user input for each process step until you reach the Screen Candidate step.

   Edit Cell Properties to use a Local List to create three choices for Screener Feedback

2. Use the UI Inspector to open the property rule for the Screener Feedback field as described below.

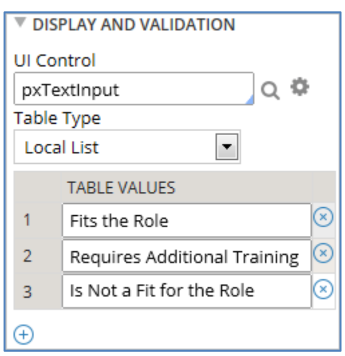
   a. While the Screen Candidate form is displayed, click the **UI Inspector icon** in the Developer toolbar.

   b. Hover over the Screener Feedback field until the Information Panel displays and then click the blue **ScreenerFeedback** property link for the Cell.



3. In the property rule edit form, expand **DISPLAY AND VALIDATION** and set Table Type to **Local List**.

4. When table value fields open up, enter values (**Fits the Role**, **Requires Additional Training**, **Is Not a Fit for the Role**) from the Approach section of this exercise.



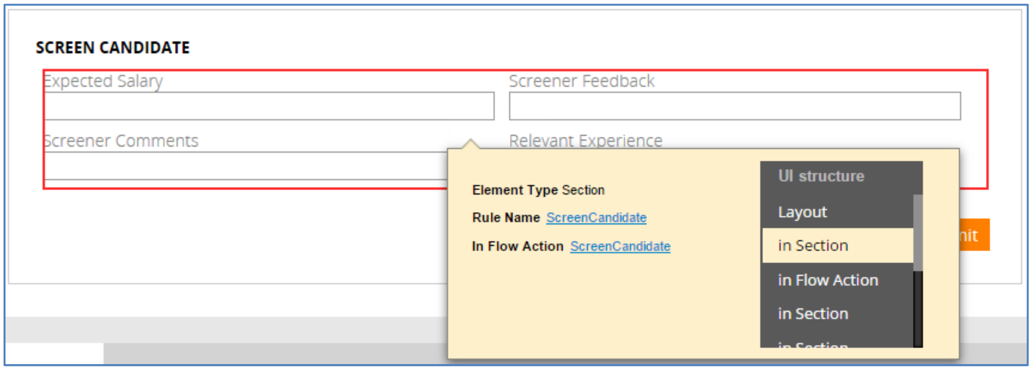
5. **Save** changes and then return to the open case.

   Edit Section Properties to set Dropdown list and Radio button layouts

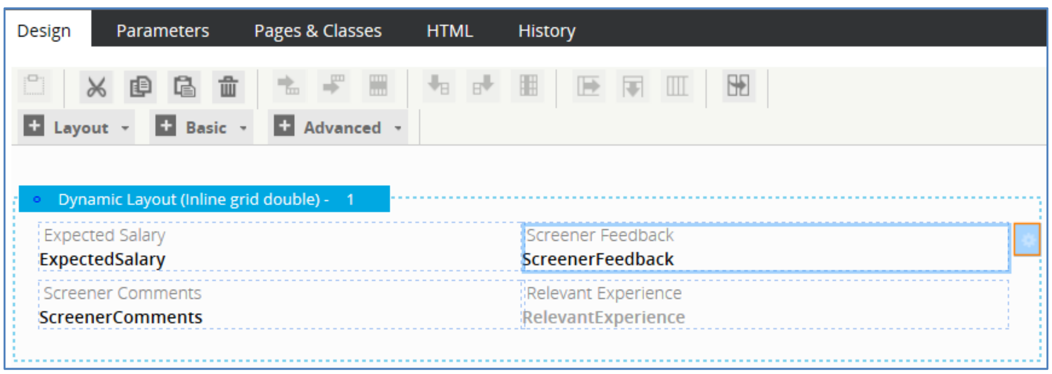
6. Use the UI Inspector to open the property rule for the Screen Candidate section as described below.

a. While the Screen Candidate form is displayed, toggle on the **UI Inspector icon** in the Developer toolbar.

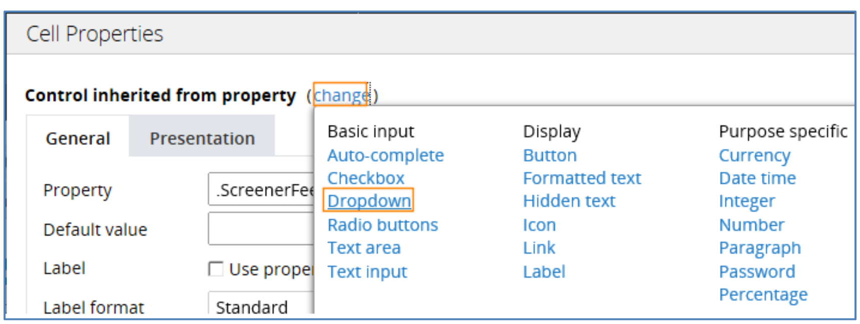
b. Hover over the group of fields that comprise the Screen Candidate section until the Information Panel displays and then click the blue **ScreenCandidate** property link for the Section.



7. Click inside the **Screener Feedback** cell and then click the **View Properties icon** to view layout cell properties.

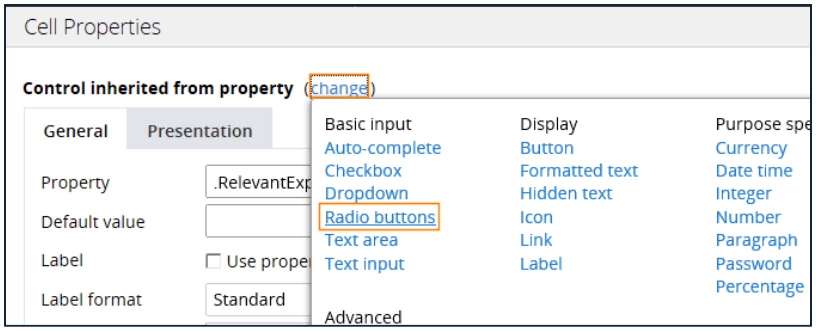


8. Click the **change** link in the layout cell properties form and then select **Dropdown** from the basic input group. Click **OK** to close the layout cell properties dialog.



9. After returning to the Screen Candidate layout section form, click inside the **Relevant Experience** cell then click the **View Properties icon** to view Relevant Experience layout cell properties.

10. Click the **change** link in the layout cell properties form and then select **Radio buttons** from the basic input group. Click **OK** to close the layout cell properties dialog.



11. **Save** the Screen Candidate section changes and then **Close** the tab.

12. **Save** updates to the Candidate case type. Refresh the open case or create a new case to test changes made to the Screen Candidate user interface.

Exercise: Identifying Mandatory Fields

Scenario

When a candidate is entering an application, the company wants to ensure that something is entered for each of the following fields:

- Last Name
- Email Address
- Previous Job Details
  - Company Name
  - Start Date

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Use the Stage Designer view to make sure the fields are marked as required.

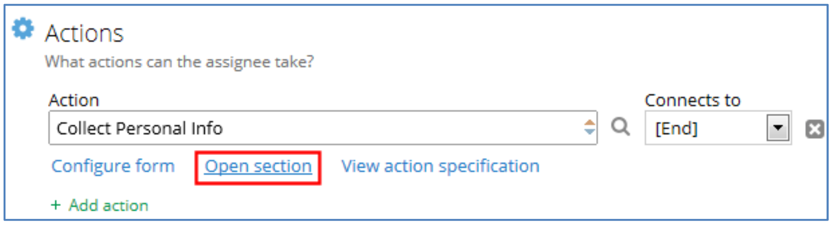
If you have already made changes in the section rule, the section cannot be opened in the stage designer view. In that case, open the section rule and mark the field as required.

Procedure

Follow the steps below:

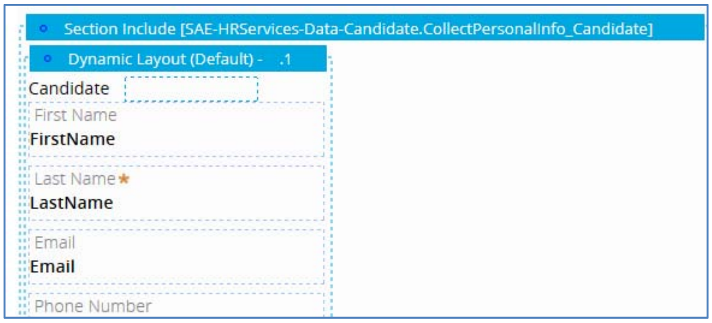
1. From the Case Designer landing page for the Candidate case, click **Configure Process Detail** under the Collect Information stage to open the Process Outline.

2. To make Email a required field, click the **Personal Info** step in the stage steps area to view the properties panel for Personal Info. Click **Open Section**.

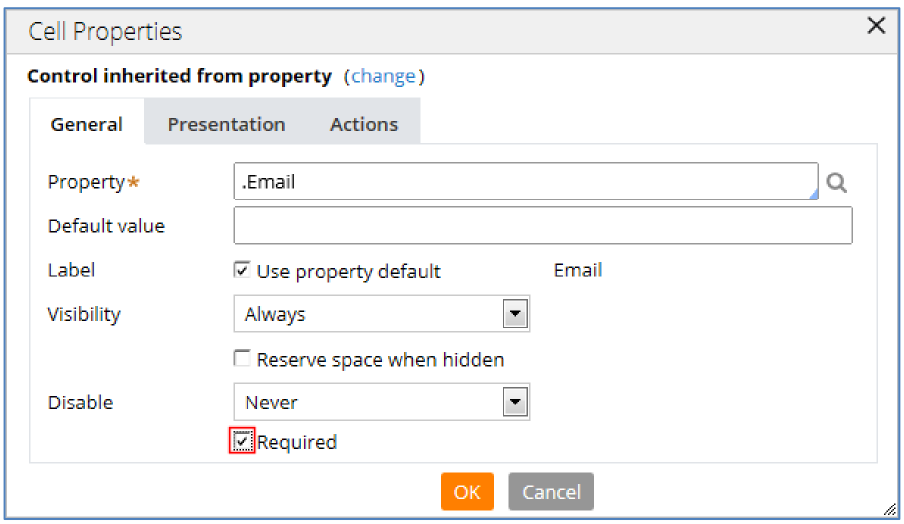


Note: If you have opened and saved a section the Configure form link may no longer be visible.

An orange asterisk appears to the right of the required fields Last Name and Position Applied For. Email address should also be a required field.



3. Click inside the **Email** cell then click the **View Properties icon** to view Email Cell Properties.
4. Select the **Required** option in the Cell Properties form and then click **OK** to close the Cell Properties dialog.



5. **Save** changes to the section and then **Close** the section tab.
6. To make Company Name and Start Date required fields begin by selecting the **Professional Info** step from the Case Designer stage steps. Click **Open Section** in the properties panel for Professional Info and then follow the procedure listed above to set **Company Name** and **Start Date** to **Required**.

Be sure to save any updates made to sections and then to the Candidate case type. Create a new case to test changes made to the case type.

Exercise: Validating User Entries

Scenario

When a candidate is entering an application, the company might want to contact them during case processing to notify them of their hiring decision. The company prefers to send all communication through email. When the candidate is entering their personal information, we need to make sure they are entering a proper email address.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

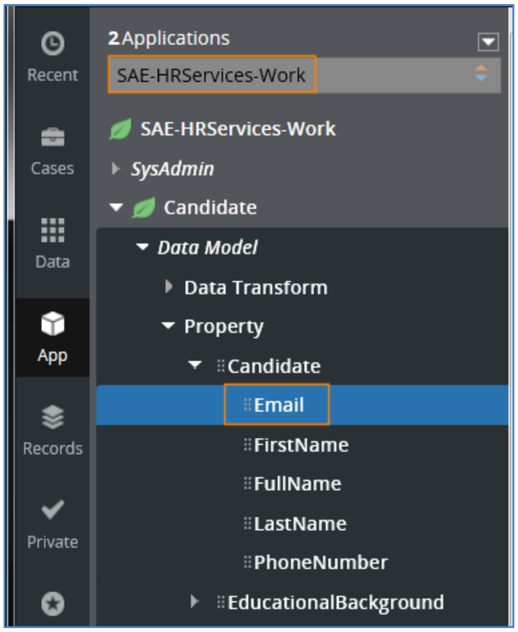
Approach

Use the standard edit validate rule, ValidEmailAddress that is shipped as part of the product.

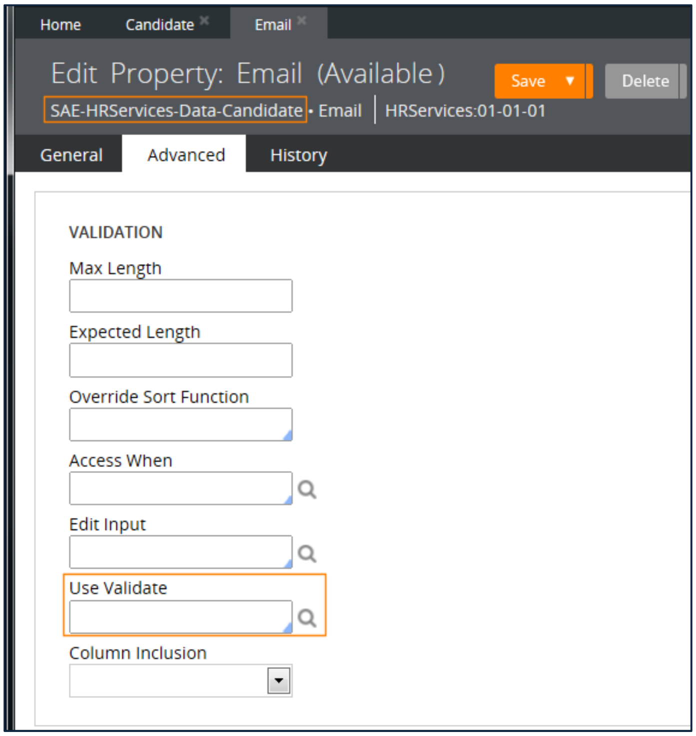
Procedure

Follow the steps below:

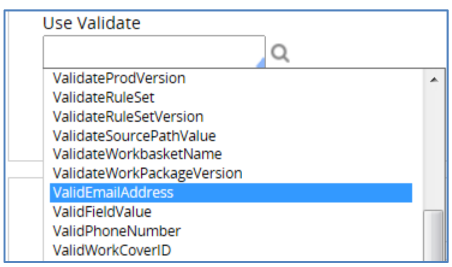
1. Open the Application Explorer, type **SAE-HRServices-** in the auto complete field and then use the down-arrow to select **SAE-HRServices-Work** from the list that appears.
2. Expand **Candidate → Data Model → Property → Candidate** to see the properties for the Candidate case type. Select **Email**.



3. Open the **Advanced** tab. Notice that the form is referencing the SAE-HRServices-Data-Candidate class, and provides a field to specify use validation.



4. Click inside the **Use Validate** field and then use the **down-arrow** to select **ValidEmailAddress** from the available validation types.



5. **Save** the updated email properties and then **Close** the Edit Property tab.

Be sure to save any updates and then create a new case to test changes made to the case type. Try to enter an invalid email address to ensure that email validation is working.

Accessing Data in the Application

This lesson group includes the following lessons:

- Introduction to Data Tables
- Accessing Data in the User Interface
- Creating a Dynamic User Interface
- Accessing External Systems
- Review of Accessing Data in the Application (No Exercise)

Exercise: Create a New Data Table

Scenario

In the candidate application process, candidates need to select the position they are applying for. The SAE HR team gets approvals for open positions and, once the approval is received, they create the position. Position details will include the job details, experience required, salary information, hiring manager and recruiter information. This is used in various steps of the candidate process.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Use the Data Table wizard, available from the Designer Studio Data Model menu, to create a data table that will contain open positions.

Describe the Position table using the following information:

- The rules created in the wizard will be stored in the SAE-HRServices-Data-Position class
- The derived class will be SAE-HRServices-Data
- Accept the defaults for RuleSet information

The results of the data table must be accessible in the application using the two data pages- D_Position and D_PositionList.

Add columns using fields in the following table.

Name	Label	Type
ReqID	Text	Text
Department	Department	Text
MinSalary	Minimum Salary	Integer
MaxSalary	Maximum Salary	Integer
ExperienceRequired	Experience Required	Integer
JobDescription	Job Description	Text
ReportingManager	Reporting Manager	Text
DepartmentVP	Department VP	Text
Recruiter	Recruiter	Text

Download the Excel spreadsheet `DataTables.xlsx` from the *Related Lessons and Content* section of the Pega Academy page for this exercise or get it from your instructor. This data can be used to populate the newly created data table.

Hints

1. The Data Table Wizard can be accessed from the Designer Studio menu by selecting Data Model > Data Tables. Click **Add a new Data Table** to begin the wizard.
2. Use the autocomplete feature to pick the class name.
3. Enable the data page creation so that the results of the data table can be accessed in the application. For names use D_Position and D_PositionList.
4. To enter data, click the icon to edit instances and then add each row one at a time.

Procedure

Follow the steps below:

1. View the current Data Tables by selecting **Data Model → Data Tables** from the Designer Studio menu.

2. Click **Add a new Data Table** to open the Data Table wizard.

   Note: If a new window does not open up, try changing to a different browser.

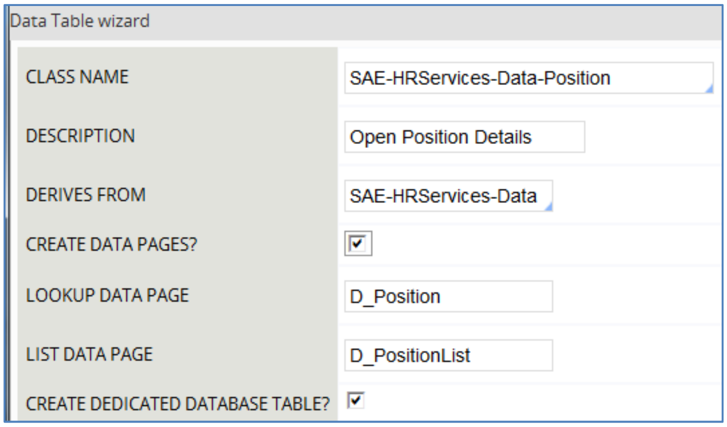
3. Create a table that will keep track of open positions, using the following information.

Class Name	**SAE-HRServices-Data-Position**
Description	**Open Position Details**
Derives From	**SAE-HRServices-Data**

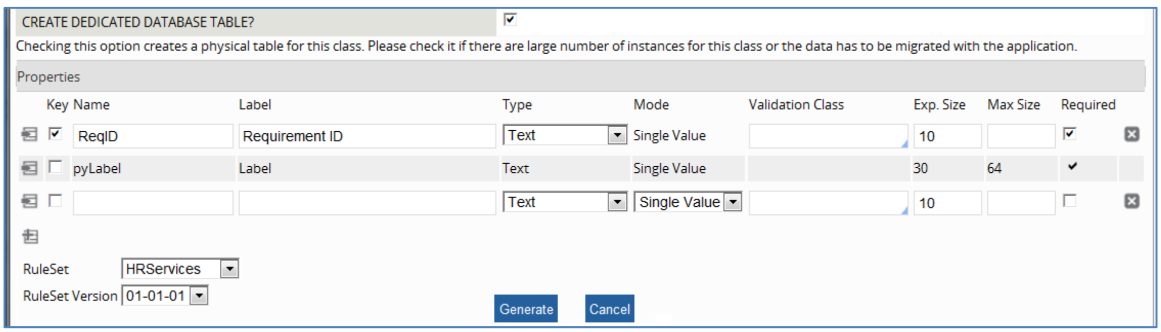
   Note: When entering Class Name and Derives From values into auto complete fields, begin typing **SAE-HRServices** and then use the down-arrow to select **SAE-HRServices-Data**. Append **–Position** to Class Name.

4. Enable **Create Data Pages** and then enter the following:
   - Lookup Data Page: **D_Position**
   - List Data Page: **D_PositionList**

5. Enable **Create Dedicated Database Table**.

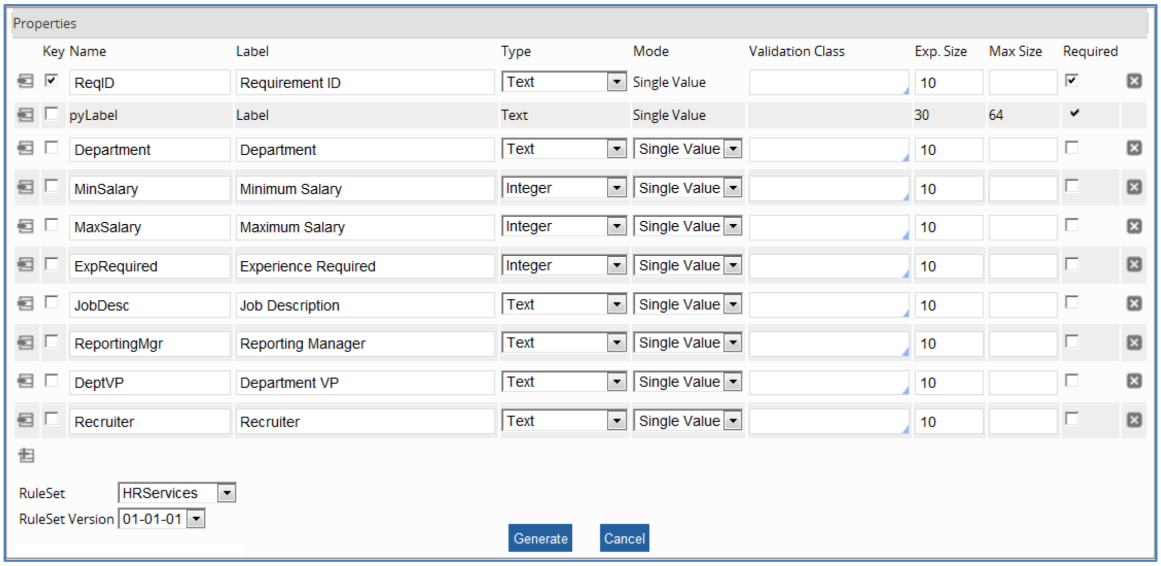


6. Leave **Key** enabled in the first row of properties. Enter the name **ReqID** and Label **RequirementID** and then click the **Add a row icon** to open up a new property row under pyLabel.



7. Enter properties from the following table.

Name	Label	Type
ReqID	Requirement ID	Text
Department	Department	Text
MinSalary	Minimum Salary	Integer
MaxSalary	Maximum Salary	Integer
ExpRequired	Experience Required	Integer
JobDesc	Job Description	Text
ReportingMgr	Reporting Manager	Text
DeptVP	Department VP	Text
Recruiter	Recruiter	Text

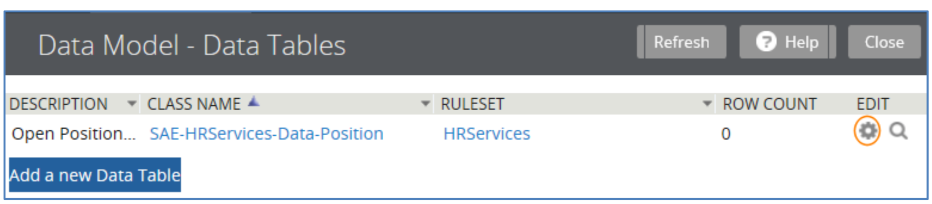


8. Accept defaults which use the current ruleset and ruleset version and then click **Generate**.

9. Add rows by clicking the **List Editor** link.

10. Click the Add a row link and enter values for fields using the spreadsheet referred to in the Approach section of this exercise.

Note that you can add additional rows later using the **Edit data instances** icon.



Reference Information

- PRPC Help: About the Data Table Wizard

Exercise: Populate Dropdown From a Data Page

Scenario

When the candidate is entering personal information, they should also select the position they are applying for. The Position Applied For field must be able to perform a lookup in the list of all positions that are currently open in the company.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password**: password

This is exercise one of two related exercises.

Approach

Configure the PositionAppliedFor field in the Collect Personal Info section to use a drop down control. Use the data page that is created by the Data Table wizard to display the list of all positions. The available positions should have an ID stored internally but should display the label to help the candidate to easily select the position.

Hints

1. Open the Data Explorer to see the name of the data page that contains the position list.
2. Open the data table landing page to see which property has id and value in the data table.

Procedure

Follow the steps below:

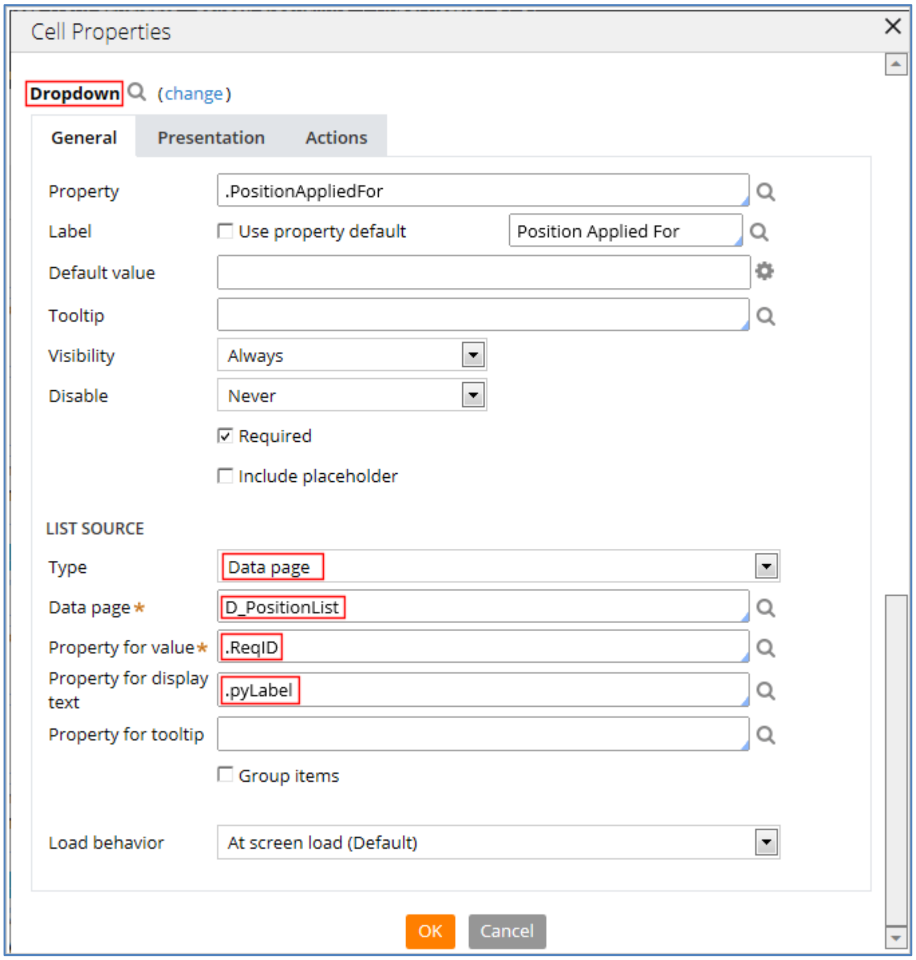
1. Open the process outline for the **Personal Info** step in the Collect Information stage and then click **Open Section** for the Collect Personal Info action.

2. Click the **View properties icon** for the PositionAppliedFor field to open the Cell Properties form.

3. Click the **change** link and change the control to **Dropdown**.

4. In the List Source section, enter values from the following table. Note that lookup is done by ReqID (the position number) but the operator will see pyLabel (the position title).

Type	**Data page**
Data page	**D_PositionList**
Property for value	**.ReqID**
Property for display text	**.pyLabel**



5. Click **OK** to close the Cell Properties form, **Save** changes to the section and then **Close** the Edit Section tab.

Optional Exercise

1. Open the **Data explorer** and then expand **Open Position Details** to view the data pages used to manage open positions.
2. From the **Designer Studio** menu, select **Data Model** → **Data Tables** and then open the **SAE-HRServices-Data-Position** class. At the bottom of the page, test the connection to the database table.

Reference Information

- PRPC Help: Dropdown control Properties — General tab

Exercise: Populate a Data Page in an Embedded Section

Scenario

A candidate selects the position they are applying for in the Collect Information stage. When the recruiter performs the screen candidate step, they should see details of the position for which the candidate is applying. This screen should display details based on the position the candidate has selected.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password**: password

This is exercise two of two related exercises.

Approach

Configure the ScreenCandidate section to use a new embedded section. This embedded section should use the data page D_Position to provide page context. The parameter used for lookup should be the property that the candidate has used for selecting the position.

Create a new section within the Screen Candidate section and add the following fields in a dynamic layout – use Inline Grid Triple or Inline Grid Double as the format.

Field
ReqID
pyLabel
Department
MinSalary
MaxSalary
Experience Required
Job Description
Reporting Manager
Department VP
Recruiter

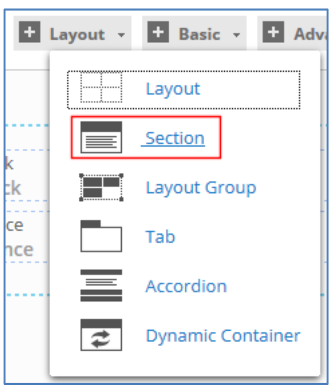
Hints

1. The section can be added by using the layout palette.
2. The parameter for data page should use .PositionApplyingFor.
3. The section can be created by entering a name and clicking the icon next to the section field.
4. Add a Text Input control to add the field into the cell. Make sure the Use property label field is enabled to see the label.
5. The fields added must be marked as read-only in the edit options fields on the presentation tab.
6. Save the section where you included the new section.

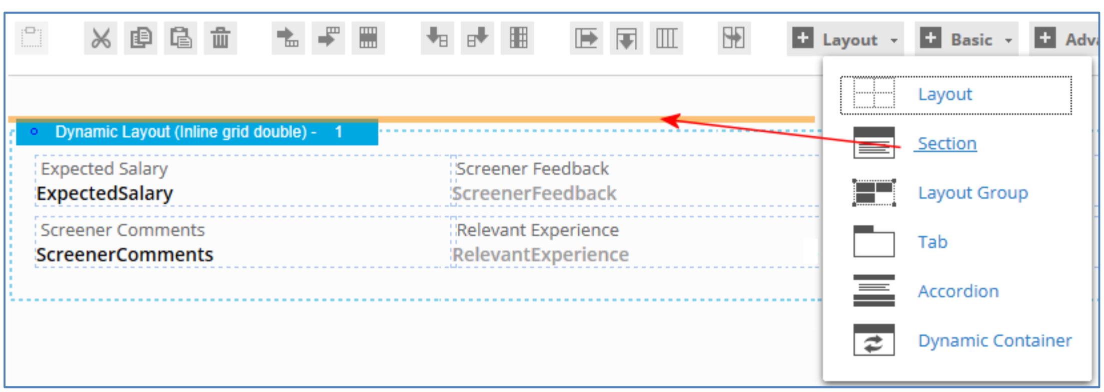
Procedure

Follow the steps below:

1. Open the process outline for the **Screen Candidate** step in the Qualify stage and then click **Open Section** for the Screen Candidate action.
2. Open the **Layout** palette.



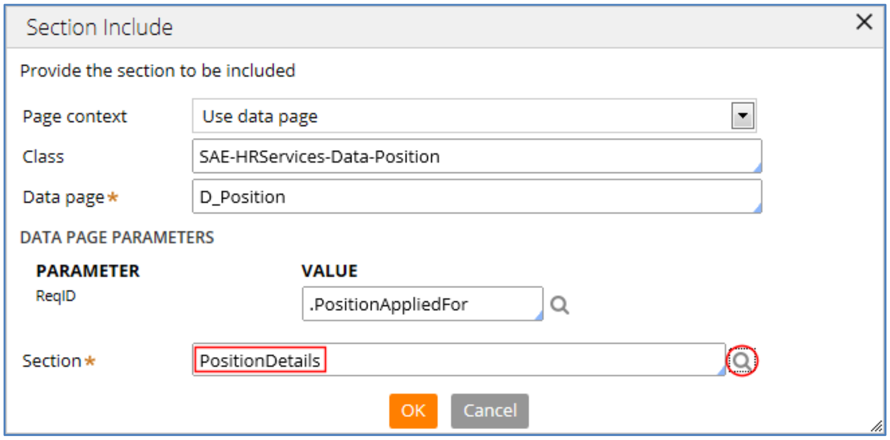
3. Click the new **Section** link and drag it to be located above the existing layout before releasing the mouse button.



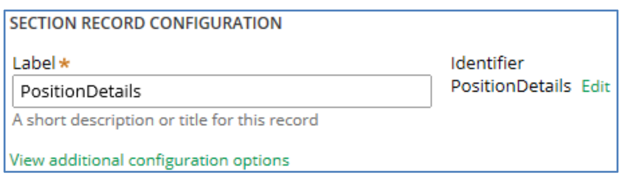
4. In the Section Include dialog, use information from the following table to indicate that the section will be populated by a data page and that the parameter used for lookup will come from the PositionAppliedFor field.

Page context	**Use data page**
Class	**SAE-HRServices-Data-Position**
Data page	**D_Position**
ReqID	**.PositionAppliedFor**

5. To create the new section, give it a name (**PositionDetails**) and then click the **Open icon**.



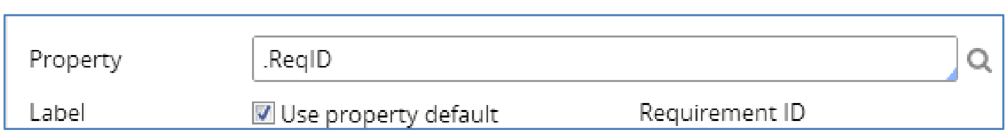
6. In the Section Record rule form, enter **PositionDetails** in the Label field and then click **Create and open**.



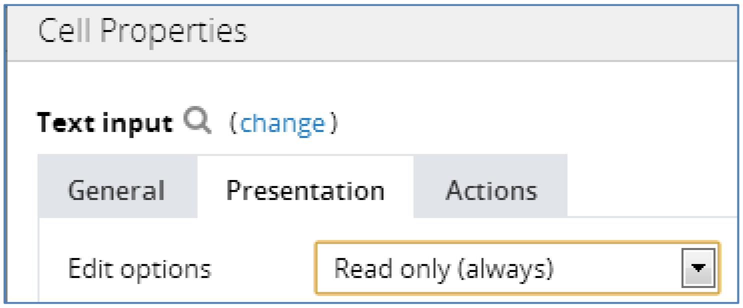
7. When the Section rule form appears for PositionDetails, click the **View Properties icon** for the Dynamic Layout. In the Dynamic layout properties dialog, select **Inline grid triple** from the Layout format dropdown menu. Click **OK** to close the Dynamic layout properties dialog.

8. After returning to the Section rule form for Position Details, open the Basic pallet, click and hold **Text Input** and drag it into the new section.

9. Click the **View Properties icon** for the new Text Input cell. In the Cell Properties dialog, configure the Text Input control to use the **.ReqID** property and select to **Use property default** for the display label.



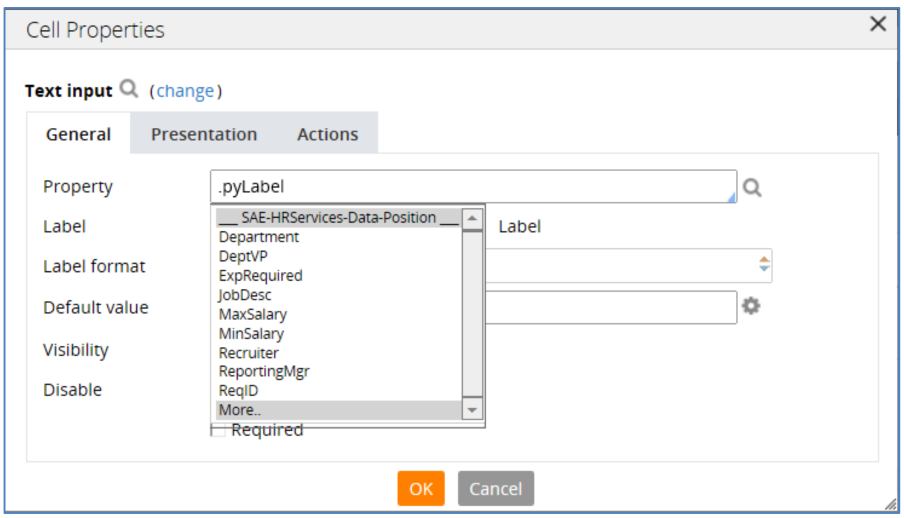
10. Click the **Presentation** tab and select **Read Only (always)** in the Edit options field.

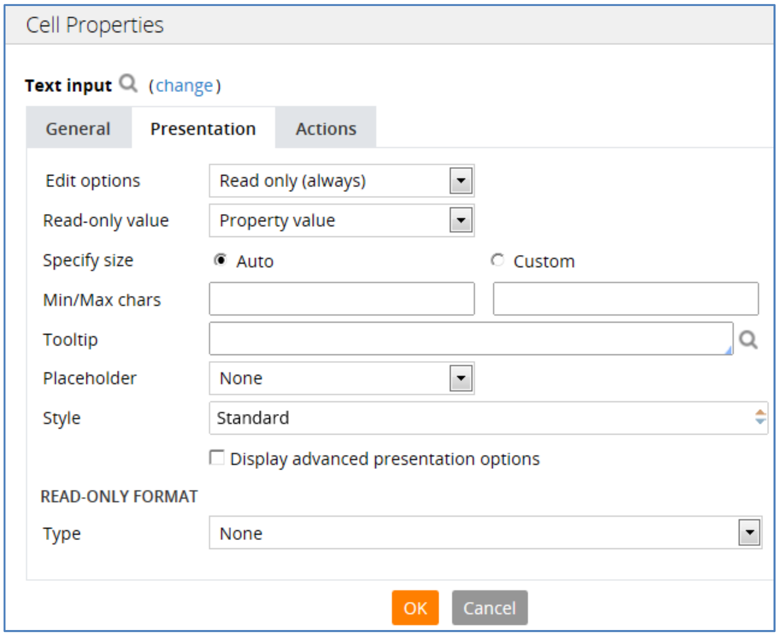


11. Click **OK** to close the Cell Properties dialog.

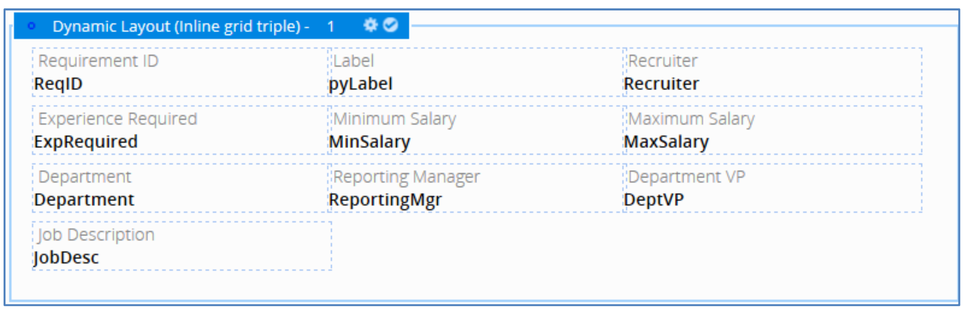
12. After returning Section rule form for Position Details, repeat steps 8 through 10 above (add a new text input cell and update properties) for the remaining fields in the table shown in the Approach section for this exercise.

> **Note:** In the Cell Properties dialog, use the down-arrow to select from available properties. This will provide all properties (Department, MinSalary, etc.) except .pyLabel, which you can enter manually or after selecting **More**.

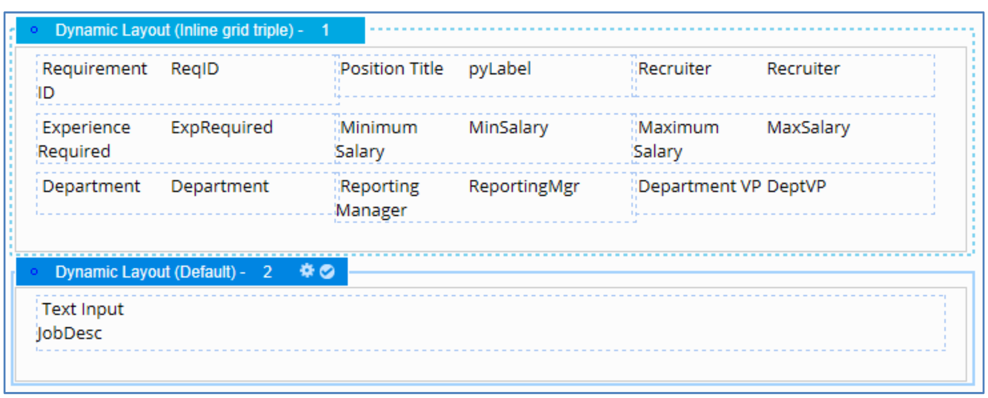




13. Move cells around to your preferred order.

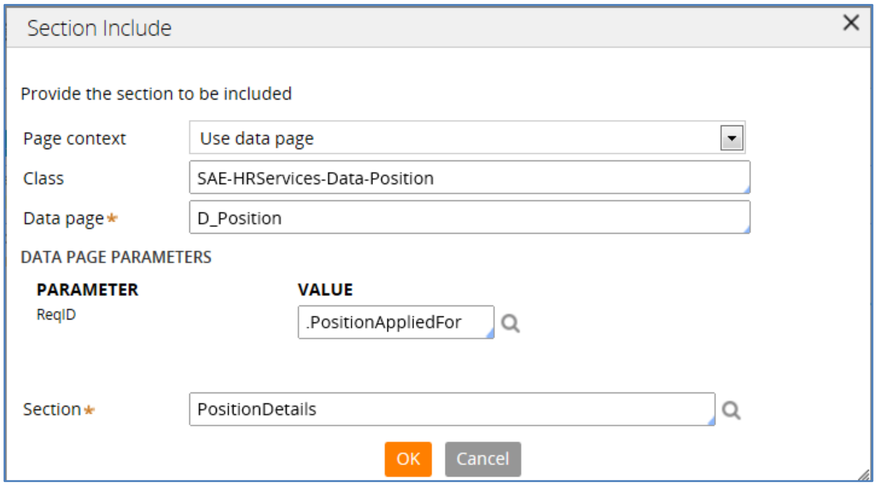


14. Optional – Consider experimenting with your section. Some things you can try include adding a label, such as *Position Title* to .pyLabel instead of using the default. You could also add a separate layout for Job Description that uses the full screen width.

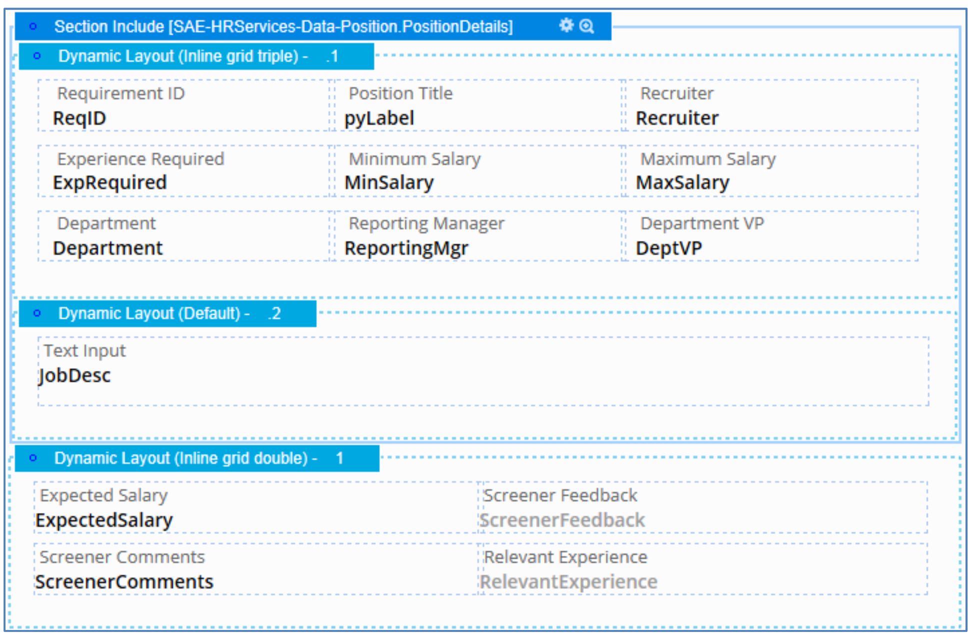


15. **Save** the section and then **Close** the Section details rule form.

16. Return to the Section Include dialog and click **OK** to close the dialog box.

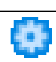
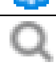


17. Return to the Screen Candidate Section rule form and **Save** changes.



Be sure to save any updates and then create a new case to test changes made to the case type.

Icon Key

	View Properties icon
	Open icon

Exercise: Auto Populate a Page Property

Scenario

The candidate selects the position they are applying for in the Collect Info stage. If the recruiter determines that the candidate is not a good fit for the selected position, he or she can select a different position. After the position is selected, we need to update the position details to correctly determine the appropriate offered salary.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

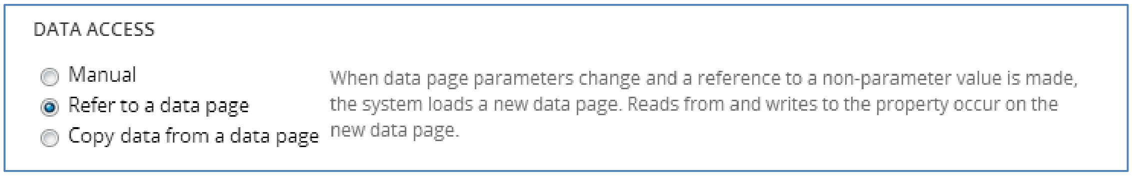
Perform the tasks listed below.

- Add a new page property to the Schedule Interview section and name it Position.
- Configure the Position property to auto-populate position data from the existing data page D_Position, using the property Position Applied For as the value used for lookup. Open the Position property and select Refer to a data page in the Data Access Area.
- Use the data page D_Position to source this property and set the Position Applied For Property as the value of its parameter.

Note: Normally, a Senior System Architect would be responsible for configuring a page to automatically populate values for the properties it contains. As a result, this feature is not taught in this course. However, not automatically populating these property values causes other parts of our application – specifically, the calculation for the salary offered to a candidate – to function incorrectly. To ensure that your application functions as it should, we have included this exercise.

Hints

1. Select Refer to a data page for the Data Access field.



2. Use the data page named D_Position.
3. The parameter used as input to for the data page lookup should be .PositionAppliedFor.

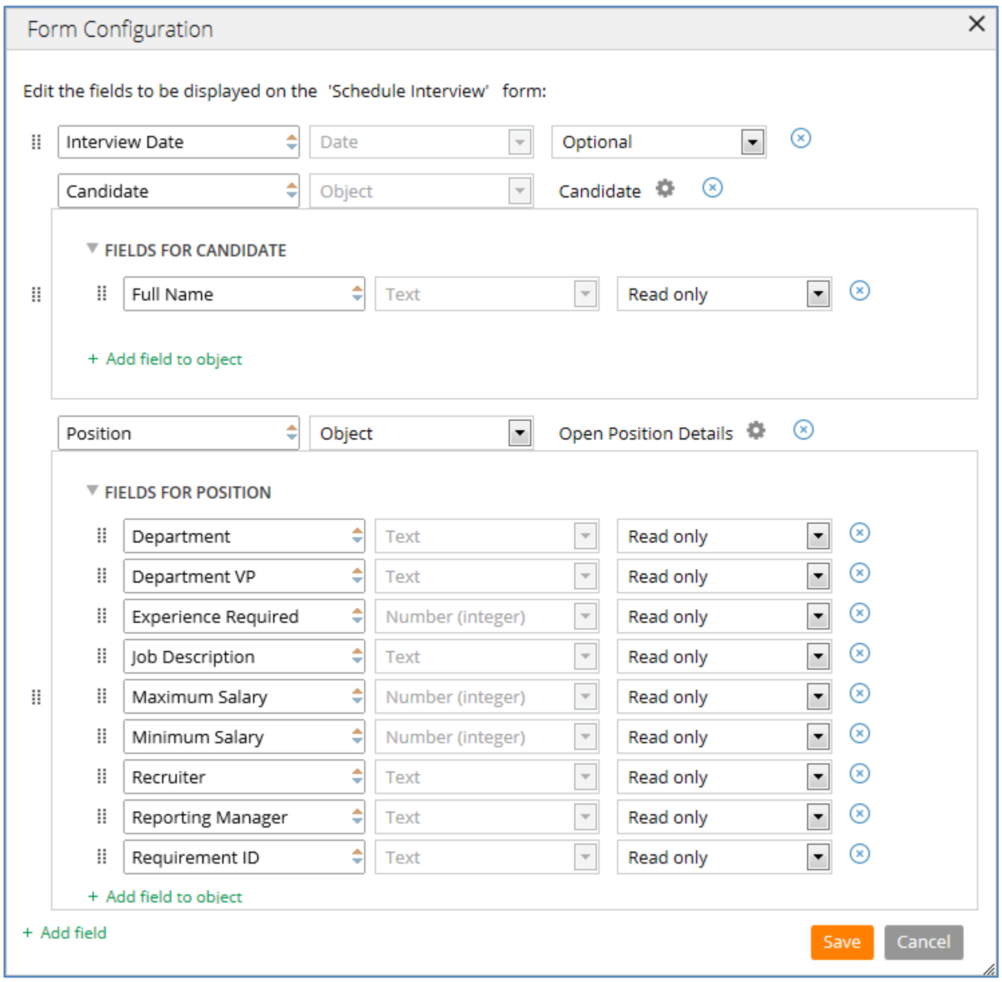
Procedure

Follow the steps below:

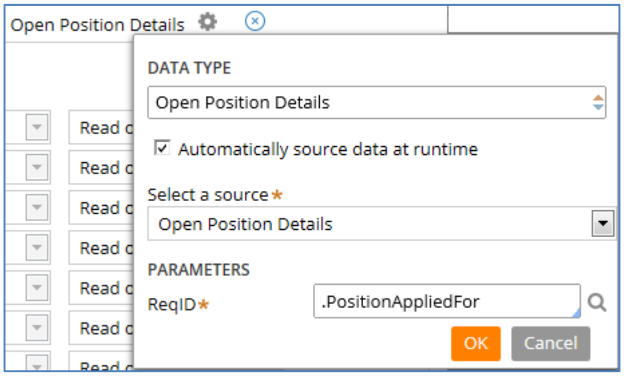
1. Open the Process Outline for the Interview stage and select the **Schedule Interview** step. Use the **Configure form** link to add a Position property with mode type **Page**.

Notes:

- If the Configure form link is not available, add the Position page manually, using the App Explorer, as detailed in an earlier exercise.
- Position fields should be Read only as they will not be modified.
- Do not click Save yet.



2. Click the Open Position Details edit icon ⚙. When the Data Type details form appears, select to **Automatically source data at runtime**. This will open additional fields. Use:
    - Select a source: **Open Position Details**
    - ReqID parameter value: **.PositionAppliedFor**



3. Click **OK** to close the Data Type details and then **Save** form configuration changes.

Be sure to save any updates and then create a new case to test changes made to the case type. Changes made in this exercise will enable the auto-populate feature for this property.

Exercise: Creating a Dynamic User Interface

Scenario

The candidate selects the position they are applying for in the Collect Info stage. The case moves to a recruiter in the Qualify stage. The recruiter screens the candidate and enters their feedback in the Screen Candidate step. The system then moves to Select Target Position where it uses a decision rule to decide if the candidate is a good fit for the position. The decision rule comes up with three choices – the candidate is a good match for the selected position, the candidate should be matched with a different position, or the candidate should be rejected.

When the system decides that the candidate is a better fit for a different position, it displays a screen for the recruiter to see the position the candidate has currently applied for, and allows the recruiter to switch to a different position. In the select different position screen, the candidate should see a dropdown field containing the list of available positions and a section that displays all the data elements for a position. When a new position is selected the process should refresh the section that displays all the position details.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password**: password

Approach

Configure your solution to modify the Select Position screen to perform the functionality described in the scenario.

From the process outline for the Qualify stage, expand the Determine Target Position step and then select the Select New Position Assignment. Add fields for the PositionAppliedFor text mode property and Position page property.

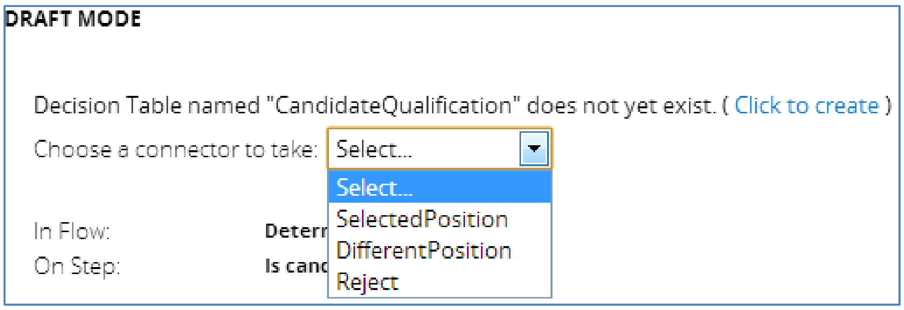
Open the section and change the control used for PositionAppliedFor to Dropdown. Configure the listing source to use D_PositionList. Display the pyLabel as display field and ReqId for storing the value for PositionAppliedFor field.

For the included section that displays position details, switch the page context to use a data page instead of the embedded page. This allows values for the position details to be accessed from the data page.

Apply the refresh condition so that the section refreshes when the value in the dropdown changes.

Hints

1. In the form configuration, enter Position to display the currently selected position data page so that the operator can view all the properties on the position page. Make all of the fields read-only.
2. Change the field control to Dropdown.
3. Configure the event and actions (to update the position page fields) in the action tab.
4. Post Value will submit changes without clicking the submit button.
5. You can force a refresh when the operator is in the included section, or add it as another action for the dropdown control.
6. Select a different position to test these changes.

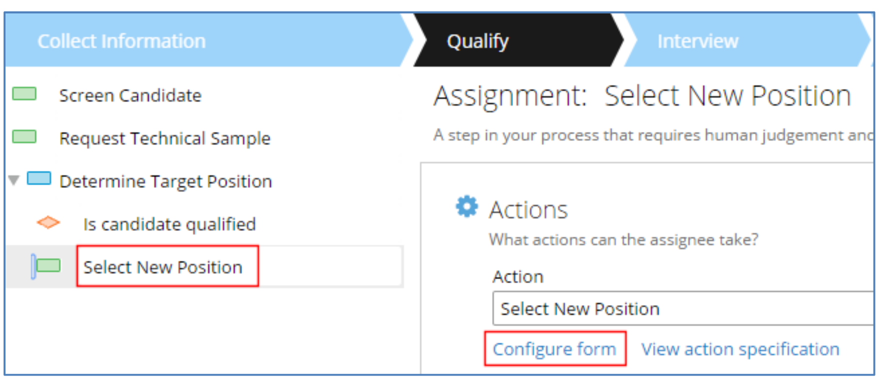


Procedure

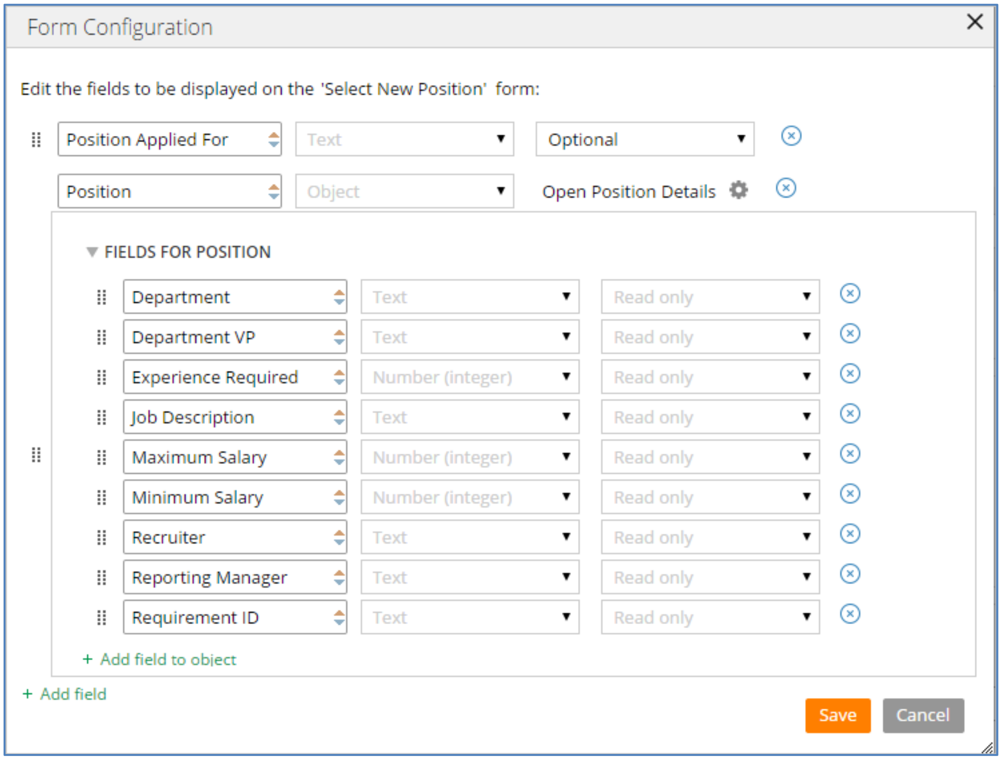
Follow the steps below:

1. Open the process outline for the Qualify Step by clicking **Configure process detail** from the Case Designer stages view. Select the **Determine Target Position** multi-step process and then click the **Select New Position** assignment.

2. Click **Configure form** for the Select New Position action.



3. Add a **PositionAppliedFor** text mode property and a **Position** page property. All fields in the Position data page should be **Read Only**



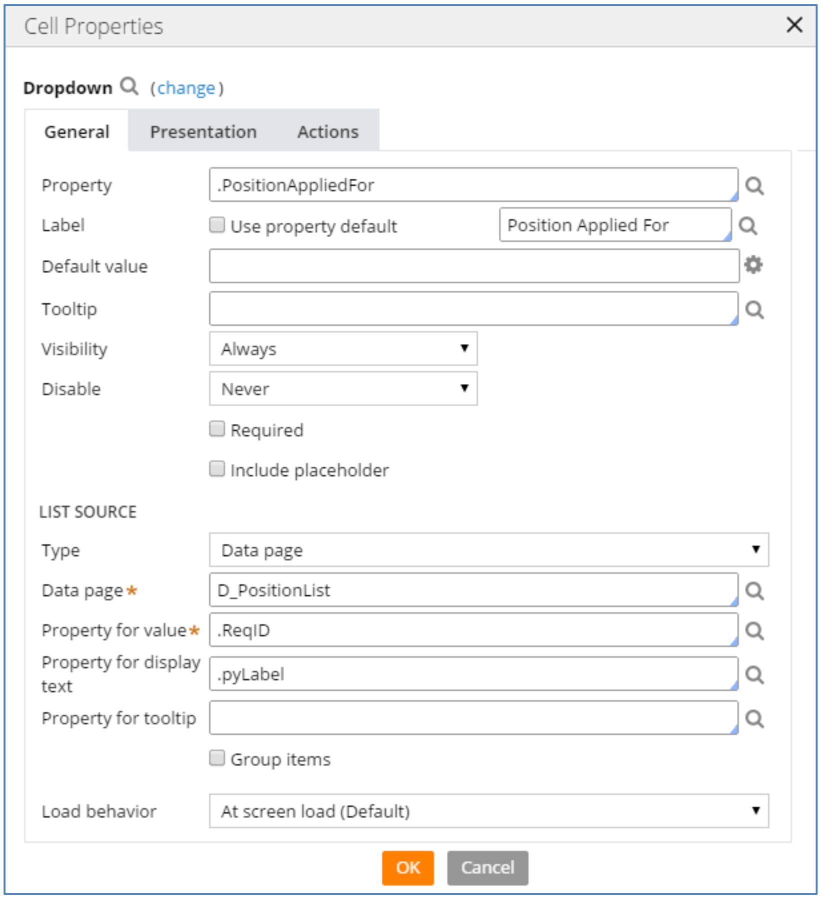
4. Click **Save** to close the Form Configuration dialog.

5. **Save** updates to the case and then click **Open Section** to open the Select New Position section rule form.

6. Use the **View properties icon** to open Cell Properties for the PositionAppliedFor field. Make the following changes to the PositionAppliedFor cell property.

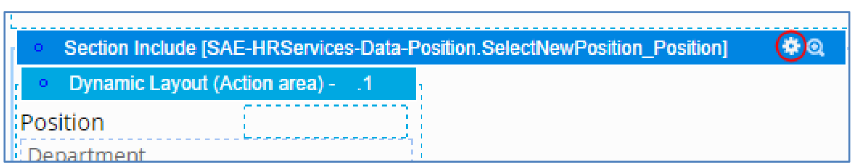
Control	**Dropdown**
List Source: Type	**Data page**
Data page	**D_PositionList**
Property for value	**.ReqID**
Property for display text	**.pyLabel**

Reminder: Enter dot (".") and then use the down-arrow in the auto-complete field to select the .ReqID property. For .pyLabel, select **More..** first.

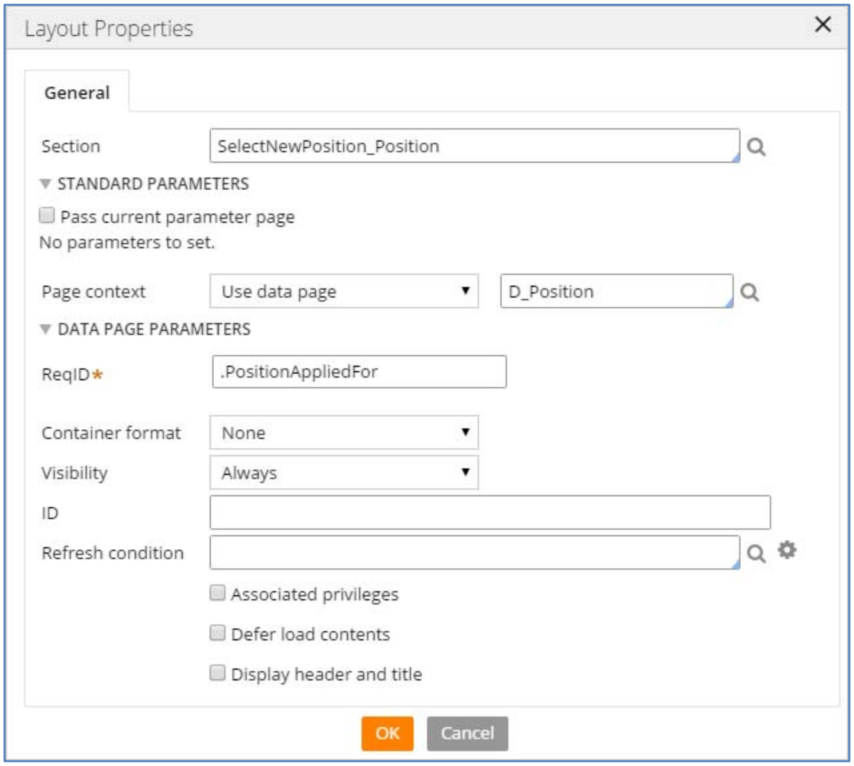


7. Click **OK** to close the Cell Properties dialog and **Save** changes.

8. Click the view properties icon to view properties for the section that displays position details.

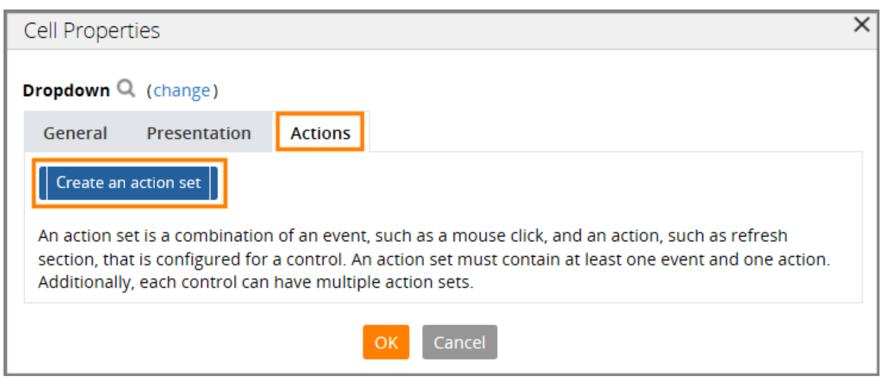


9. Set the Page context to **Use data page**, select **D_Position** as the page and use .PositionAppliedFor as the ReqID parameter.

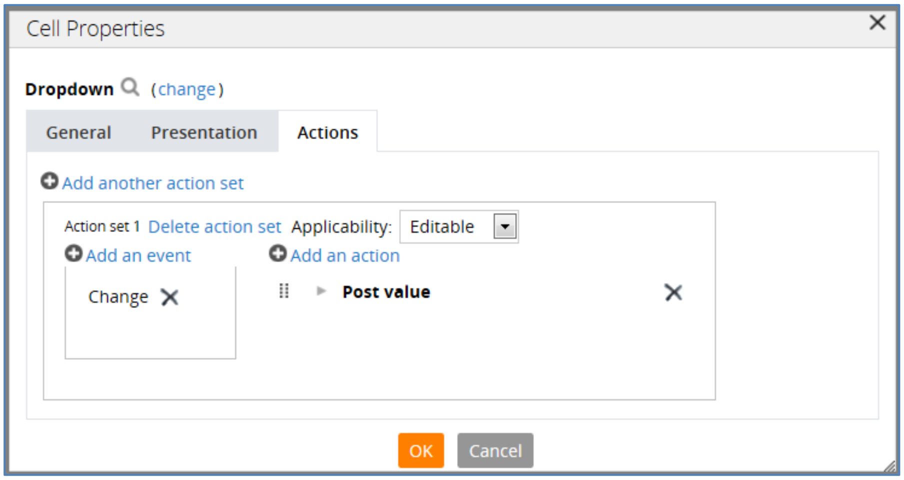


10. Click **OK** to save updates and then **Save** changes to the section.

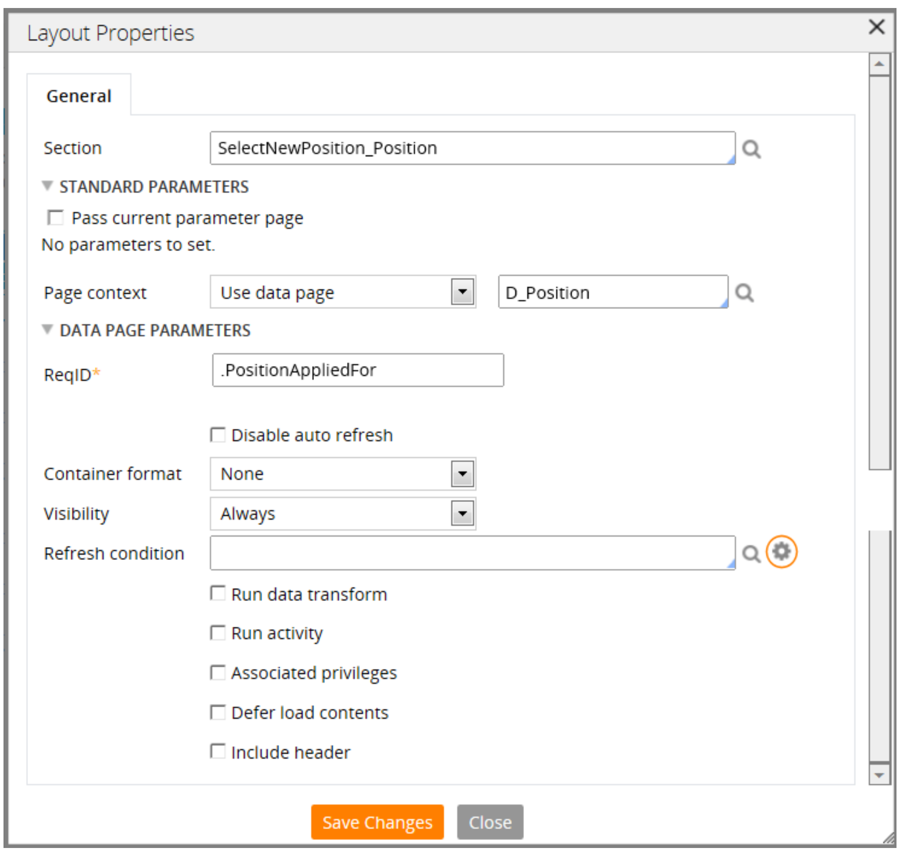
11. View properties for the PositionAppliedFor cell and then select the **Actions** tab. Click **Create an action set**.



12. On the Actions tab of the Cell Properties rule form for the PositionAppliedfor Field, create a new action set to occur on a **Change** event and **Post value** as the action. Click **OK** to close the Cell Properties dialog.



13. View properties for the section that displays position details. Use the **Open** icon to open the refresh condition builder.



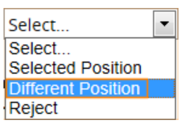
14. Set a refresh to occur when the PositionAppliedFor changes. And then click **Save Changes**.

15. Click **OK** to close the Layout Properties dialog.

16. Optionally, move fields around or change the dynamic layout properties to an inline grid double layout format. Leave the section open to try the optional section reuse exercise.

17. **Save** changes to the section and case type.

18. Create a new Candidate case process. When you reach the Candidate Qualification screen, select **Different Position**.



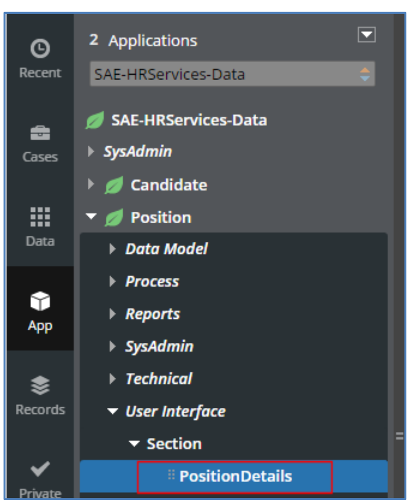
19. Continue submitting forms until you reach the Select New Position screen. Change selected position to see changes to this section.

Optional Exercise: Reuse a Section

Check to see if you have a section, created in an earlier exercise, which contains fields from the Position page. If so, add it below the current Schedule Interview section using the following steps.

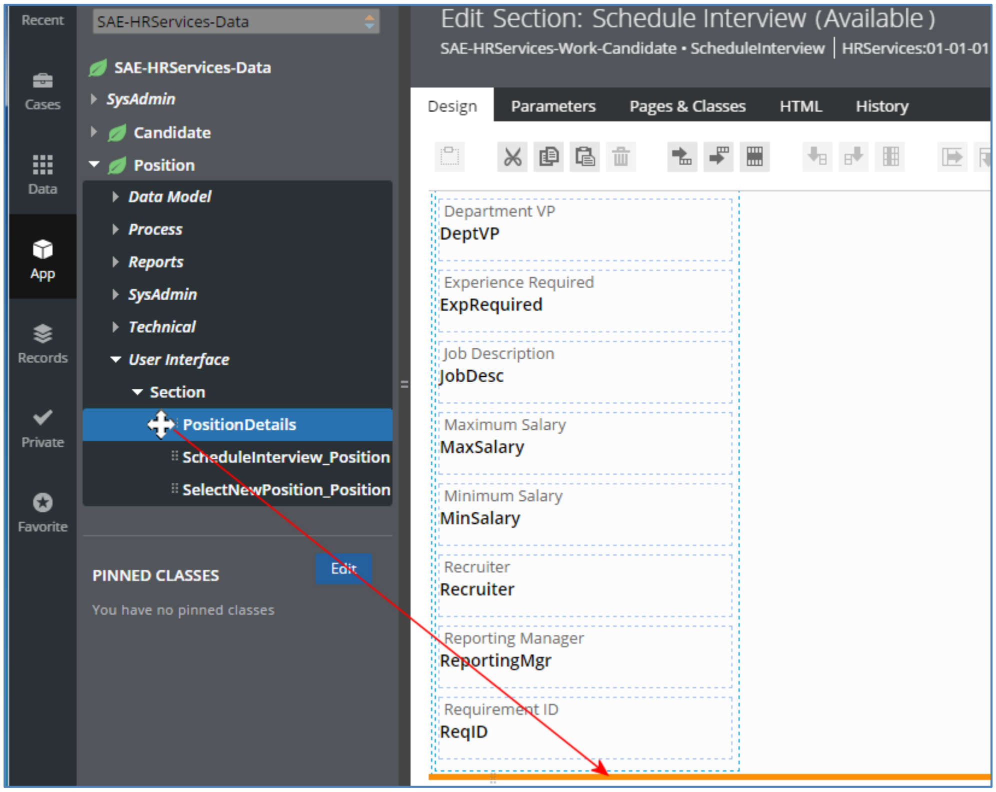
1. Open the Application Explorer and view the SAE-HRServices-Data class.

   Locate the PositionDetails section in **Position → User Interface → Section**.

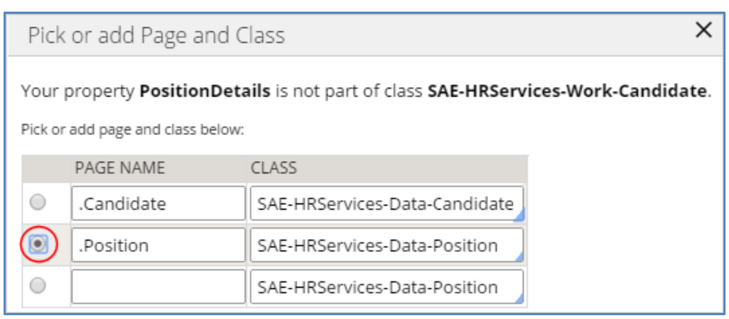


2. Return to the Schedule Interview Section (if the tab is not currently available, open the section from the process outline for the Schedule Interview step in the Interview stage).

3. Drag the existing Position Details section below the Schedule Interview section.



4. The Schedule Interview section is in the context of SAE-HRServices-Work-Candidate. Since the section we just included is not, when you get prompted for the page that the properties in this section are associated with, enter or select the SAE-HRServices-Data-Position class.



5. When all fields are entered, View properties for the dynamic layout and change the Layout format from Default to Inline grid double.

6. View properties for each field, select the Presentation tab of the Cell Properties dialog and change the Edit options to Read only.

7. Save changes to the Schedule Interview section and then test the new included section by running the process and creating a case.

Note: You will probably have the position details included in the Schedule Interview section twice (in two different formats). After you test the case, you can decide to remove one of the duplicate sections.

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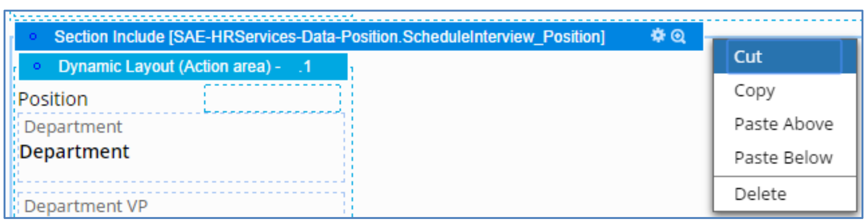
8. If you have duplicate fields, return to the Schedule Interview section to remove the section you do not need. Right-click the wireframe around the section and select **Cut** from the menu.



9. Save changes to the Schedule Interview section and close the tab.

Reminder: Save changes made to the case type and test your changes before continuing.

Exercise: Reusing Data Transform for Background Check

Scenario

As part of the decision process, the company wants to conduct a background check on the candidate. This task has been performed before, by other applications, and the objects required to perform the process already exist. To perform the background check, we will implement an existing data transform and User Interface section.

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Complete the Background Check in the Decision stage by accessing existing data objects and a User Interface Section.

Normally, you would import a file that contains rules that you want to use in your application. For this training, the file has already been included in your exercise environment, and will appear in the list of files available for import.

The Candidate's Social Security Number (SSN) is used to perform a background check, so an SSN field needs to be added to the Collect Personal Info step. We also need to add a flow name and fields to the Background Check step. Fields that will be added to the flow are those returned from the background check transform that is imported.

Once properties that will contain the return values from the background check have been added to the flow, we can reuse the User Interface Section that was included in the import.

Hints

1. Select **Application > Distribution > Import** from the Designer Studio menu to import the rules that will be used to perform a background check.
2. Add a SSN field to the Collect Personal Info flow action, to be used by the Perform Background Check step.
3. View the data transform that is imported to see what fields are returned when a background check is performed.
4. Add the fields returned from the data transform to the Background Check step, and then display them using the User Interface section that was imported.

Procedure

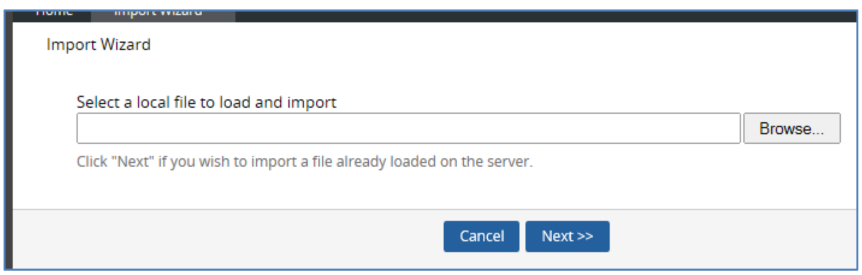
This procedure will consist of five parts:

1. Import rules to perform a background check.
2. Add an SSN property to the Collect Personal Information section
3. Add a Flow name to the Background Check step
4. Add fields to the Background Check step
5. Edit the Background Check section to include the imported section

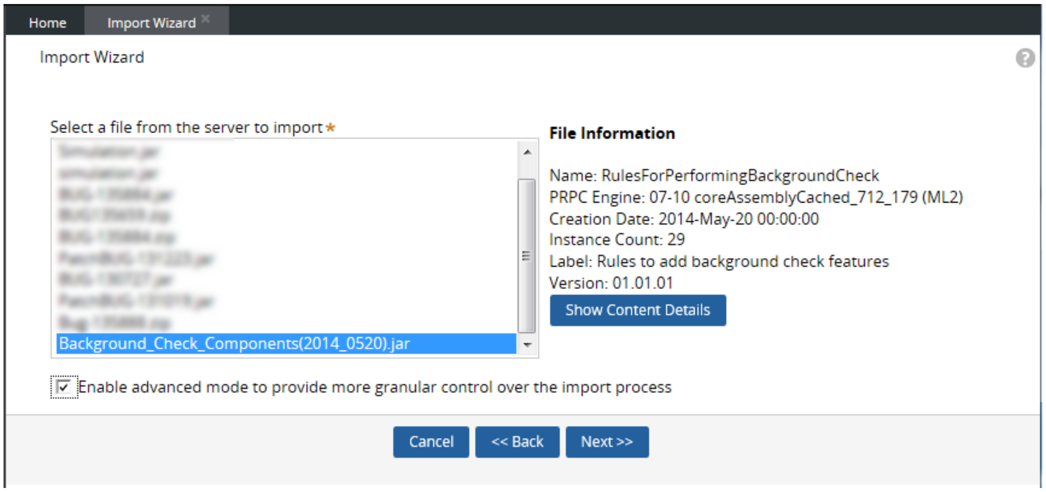
Part 1 – Import rules to perform a background check

1. From the Designer Studio menu, select **Application → Distribution → Import**.
2. Select the file to import and then click **Next**.

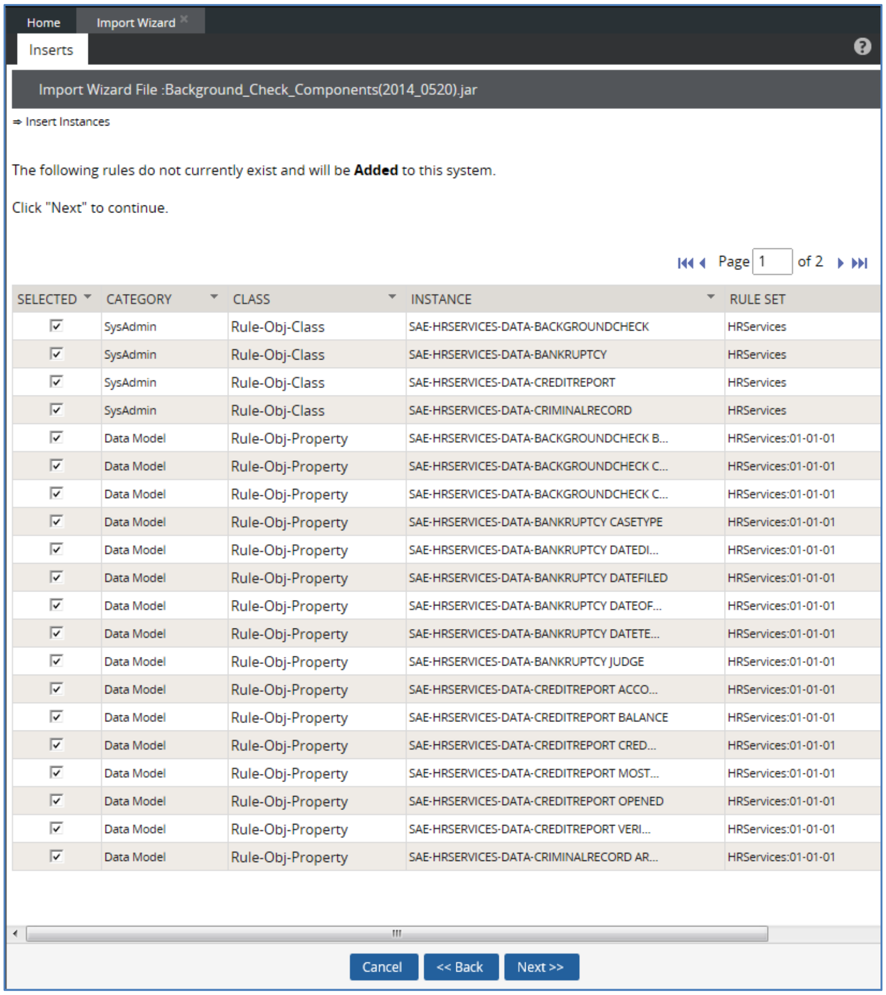
Note: Leave this cell blank and click **Next** to continue. If the file is missing from the next step, return back to this step. Look on the Pega Academy site for a link named *Instructions for Installing the Updates*. Download to your local system and unpack the zip archive. The download will contain both instructions and the import file: **`Background_Check_Components_2014_0520.jar`**. Browse to this file.



3. Scroll through the list of available files and select the Background Check file to import. To view components that will be imported, select **Enable advanced mode to provide more granular control** and then click **Next**.

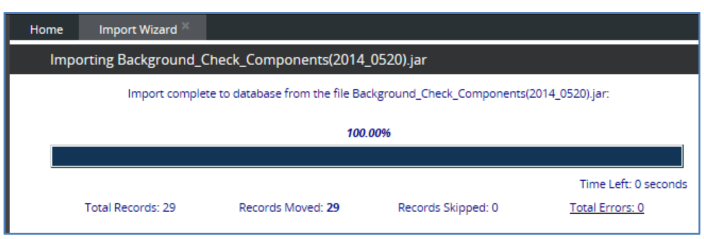


4. View components.



SELECTED	CATEGORY	CLASS	INSTANCE	RULE SET
☑	SysAdmin	Rule-Obj-Class	SAE-HRSERVICES-DATA-BACKGROUNDCHECK	HRServices
☑	SysAdmin	Rule-Obj-Class	SAE-HRSERVICES-DATA-BANKRUPTCY	HRServices
☑	SysAdmin	Rule-Obj-Class	SAE-HRSERVICES-DATA-CREDITREPORT	HRServices
☑	SysAdmin	Rule-Obj-Class	SAE-HRSERVICES-DATA-CRIMINALRECORD	HRServices
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-BACKGROUNDCHECK B...	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-BACKGROUNDCHECK C...	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-BACKGROUNDCHECK C...	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-BANKRUPTCY CASETYPE	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-BANKRUPTCY DATEDI...	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-BANKRUPTCY DATEFILED	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-BANKRUPTCY DATEOF...	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-BANKRUPTCY DATETE...	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-BANKRUPTCY JUDGE	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-CREDITREPORT ACCO...	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-CREDITREPORT BALANCE	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-CREDITREPORT CRED...	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-CREDITREPORT MOST...	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-CREDITREPORT OPENED	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-CREDITREPORT VERI...	HRServices:01-01-01
☑	Data Model	Rule-Obj-Property	SAE-HRSERVICES-DATA-CRIMINALRECORD AR...	HRServices:01-01-01

5. Click **Next** and then view results.



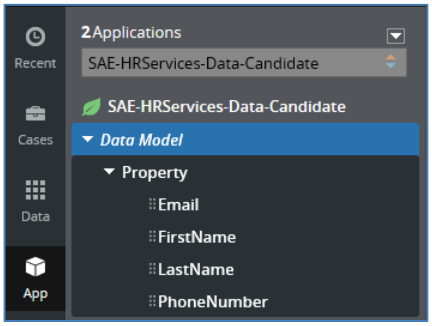
6. Click **Done** to close this window.

Part 2 – Add an SSN property to the Collect Personal Info section

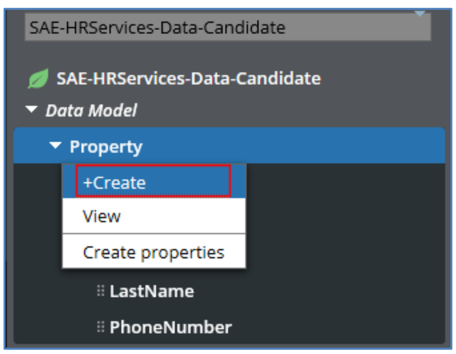
A background check will be done on the candidate by submitting the candidate's Social Security Number (SSN). A data transform will return information on any previous bankruptcy, a recent credit report and criminal record. The first thing we need to do is to add SSN to the Candidate properties.

Follow the steps below to add SSN to the Candidate data object type:

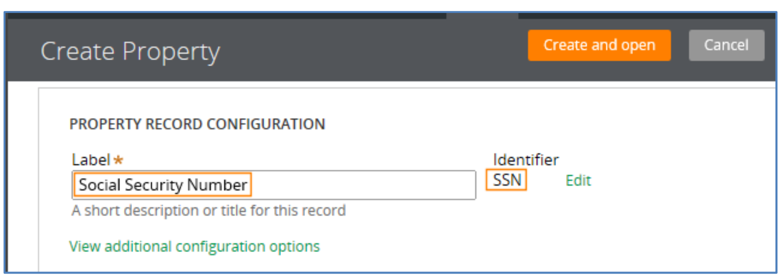
1. Open the Application Explorer, begin to type **SAE-HRServices-Data** in the auto complete field and then use the down-arrow to select the **SAE-HRServices-Data-Candidate** class from the list that appears.
2. Expand **SAE-HRServices-Data-Candidate → Data Model → Property** to see properties in the Candidate data object type.



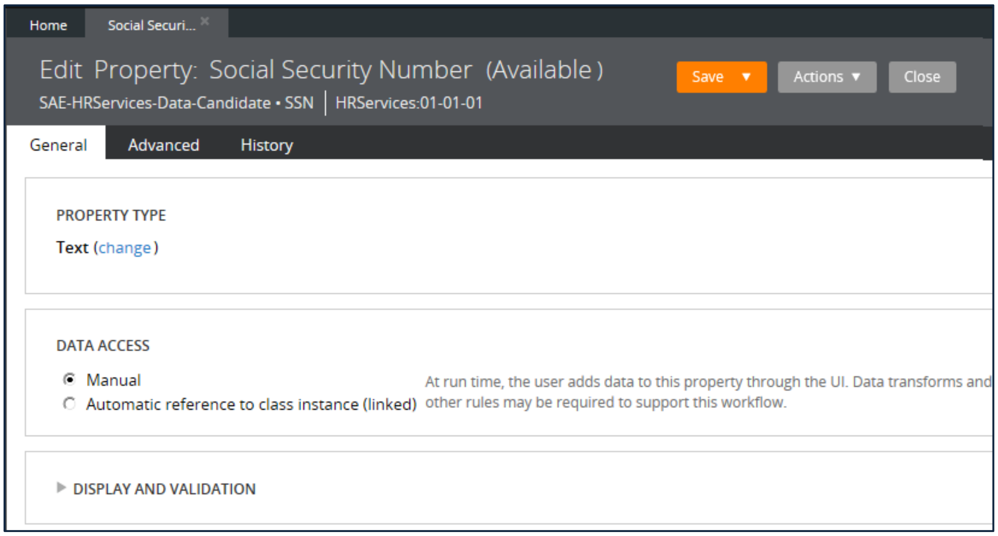
3. Right-click **Property** and select **+Create** from the drop-down menu to add a new property to the Candidate data object type.



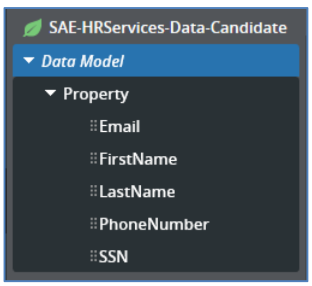
4. Give the property the Label **Social Security Number** and the Record Identifier **SSN** and then click **Create and open**.



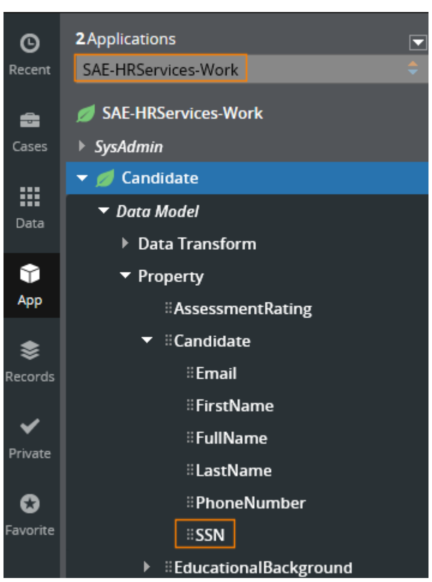
5. Leave the default property type Text and click **Save**.



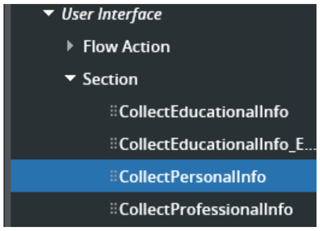
6. Refresh the Application Explorer and then expand **Data Model → Property** again to see the new SSN property.



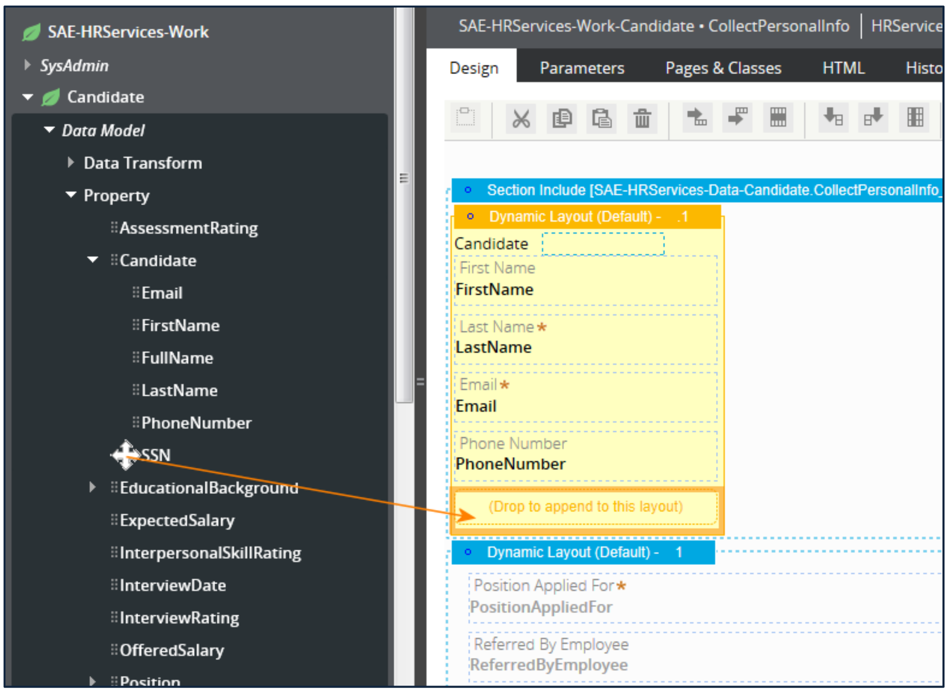
7. Change the viewing class in the Application Explorer to **SAE-HRServices-Work** and expand **Candidate → Data Model → Property → Candidate** to see that SSN is now part of the Candidate property used by each work item.



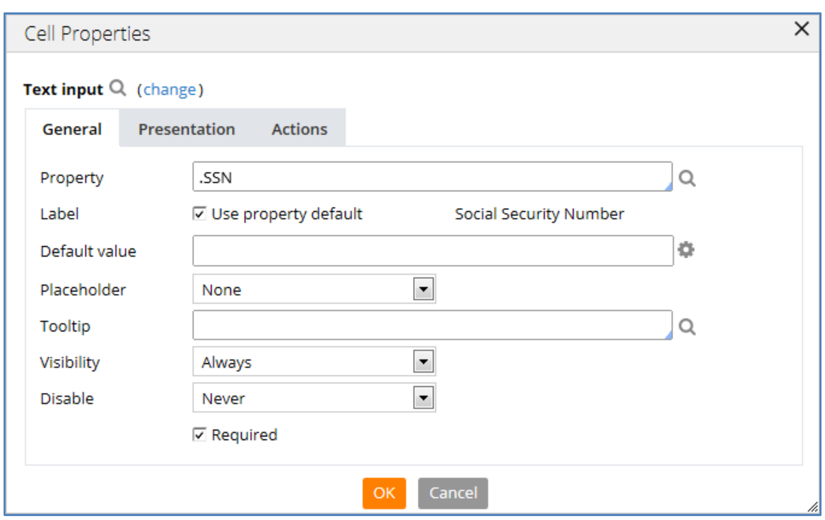
8. While still viewing the **SAE-HRServices-Work** class in the Application Explorer, expand **Candidate → User Interface → Section** and select the **CollectPersonalInfo** section.



9. Select the SSN property and drag it into the Candidate section.



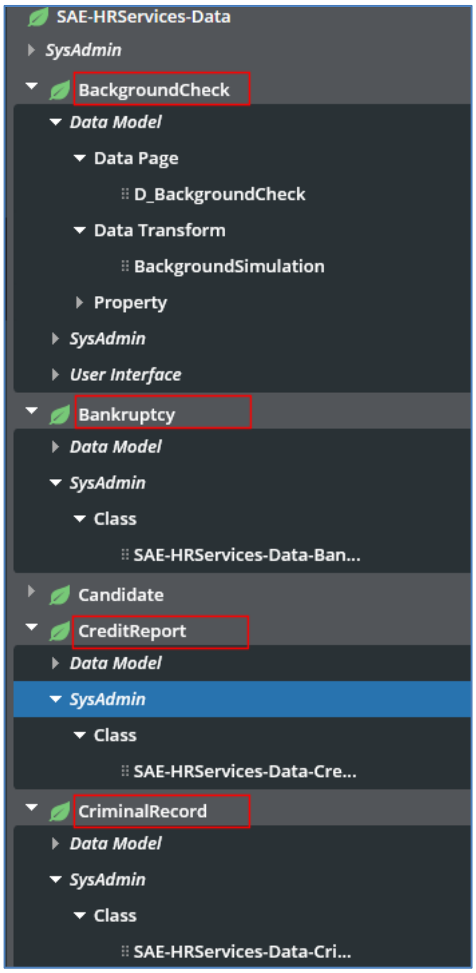
10. View properties () for the Social Security Number cell and make it a **Required** field.



11. Click **OK** to close the Cell Properties dialog and then click **Save** to save changes to the section.

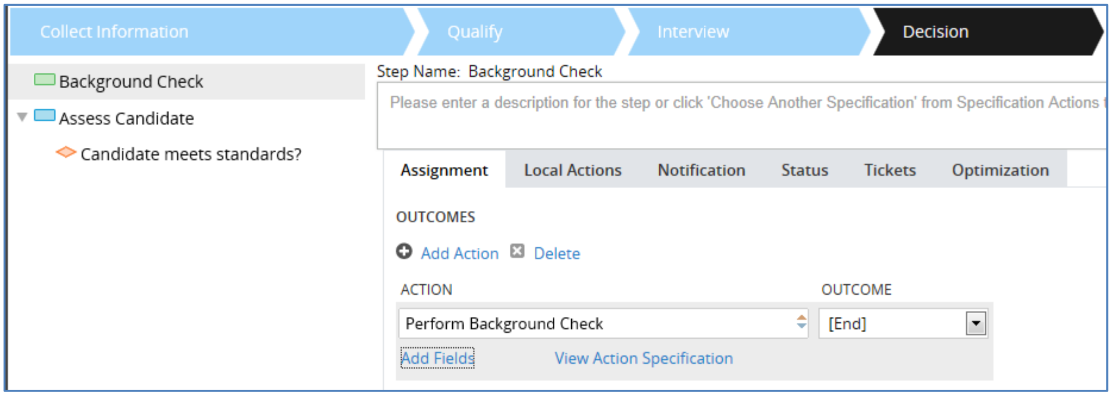
Part 3 – Add a Flow to Background Check Step

1. Open the Application Explorer SAE-HRServices-Data class to view the rules that were included and will be re-used to check a candidate's background.



2. Open the process outline for the Decision Stage and select the **Background Check** step.

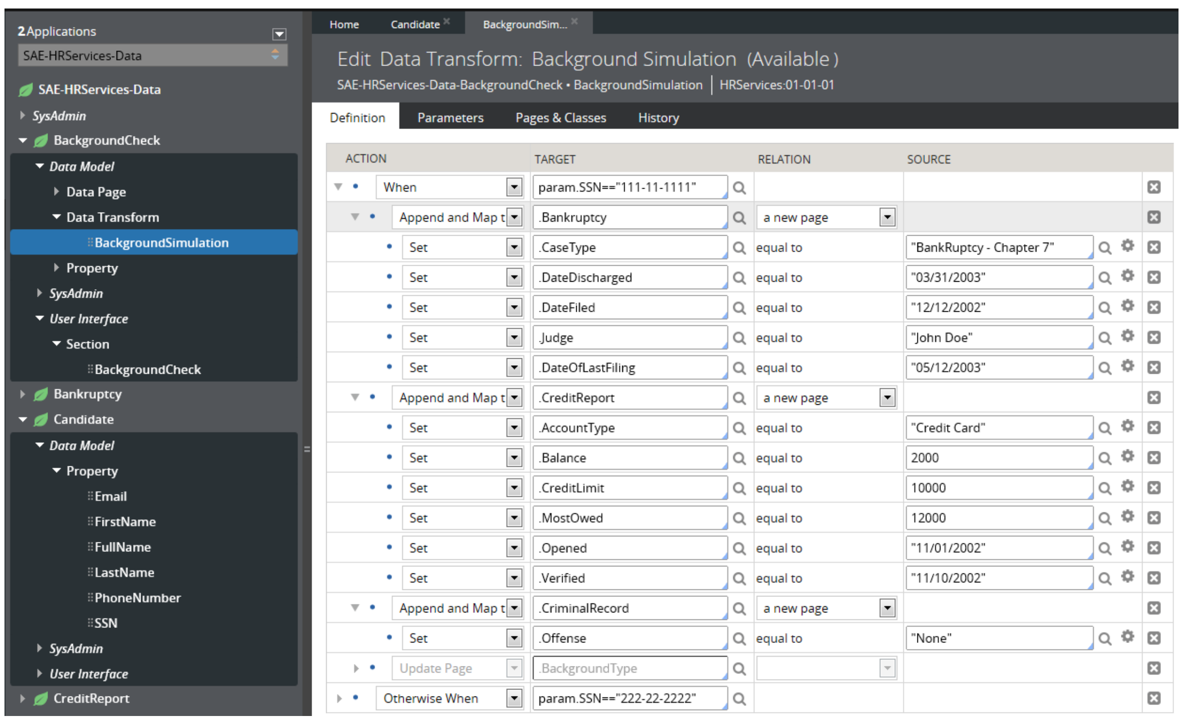
3. Rename the Flow Action to **Perform Background Check** and then **Save** the update



4. Return **Back to stages**.

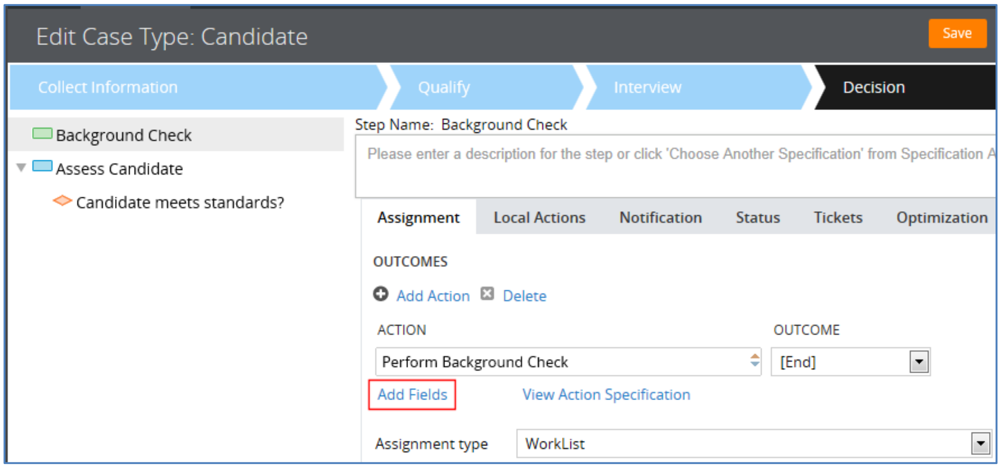
Part 4 – Add Fields to the Background Check step

1. View the BackgroundSimulation Data Transform to see what fields it returns.



Note: Look for the Bankruptcy, CreditReport and CriminalRecord pages.

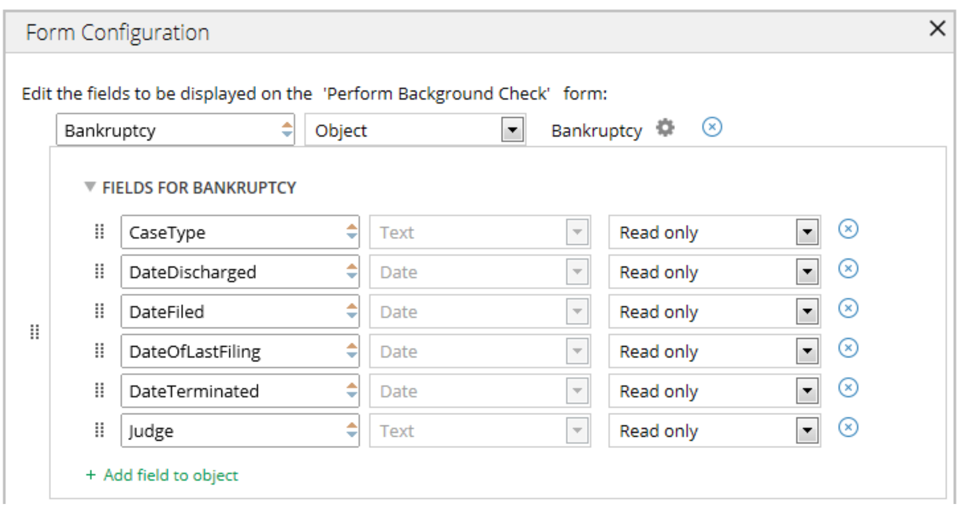
2. Open the Background Check step of the Decision stage in the process outline. If the action hasn't already been added, name it Perform Background Check and then click the **Configure form** link.

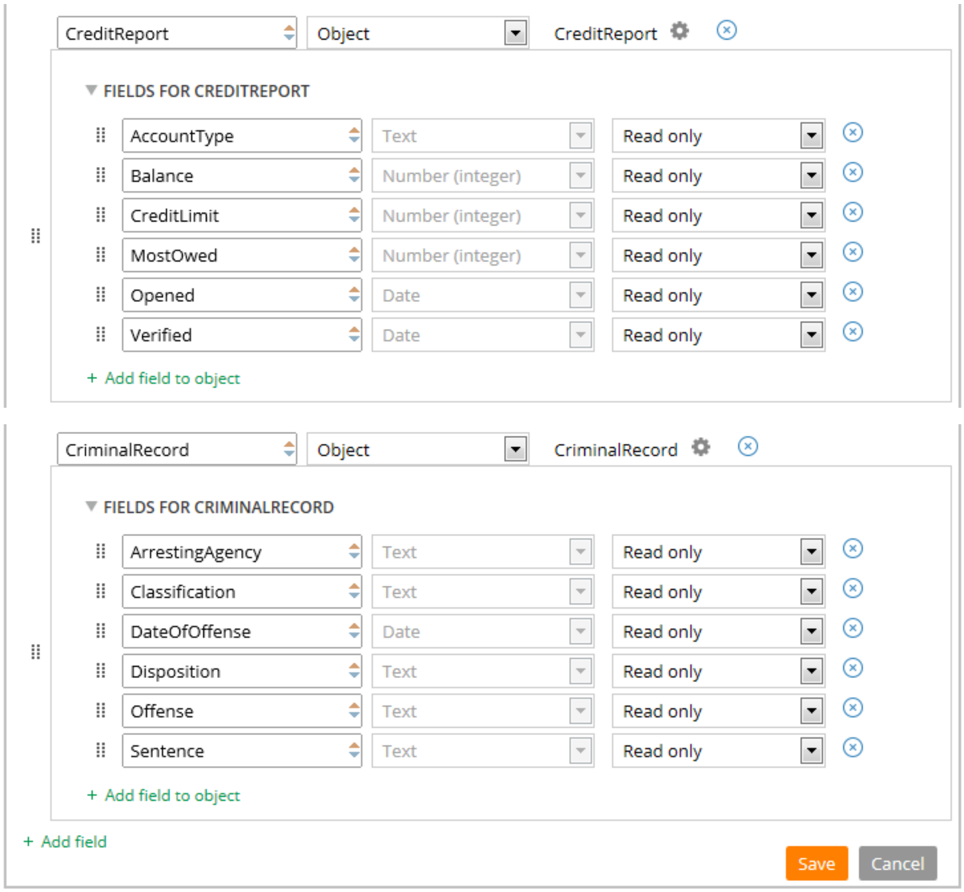


3. Looking back at the BackgroundSimulation Data Transform viewed earlier in this exercise; add the fields that were returned by the data transform. These will be:

   - Bankruptcy – Object
   - CreditReport – Object
   - CriminalRecord – Object

   Note: After each page property is added, fields in the page should automatically appear. You should change them all to **Read Only**.





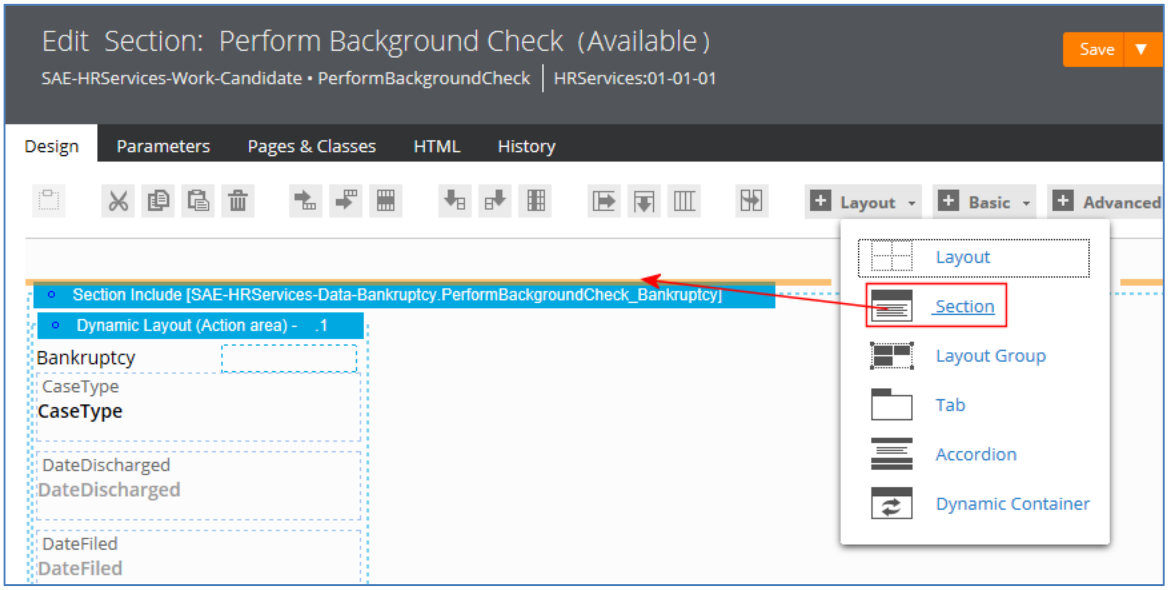
4. Click **Save** to close the Form Configuration rule form, click **Save** to save changes to the case type and then click **Back to stages**.

Part 5 – Edit the Background Check Section to use the imported section

1. From the process outline for the Background Check step in the Decision stage, click **Open Section** to view the default section that was created when fields were added.

   Note: You may have to return back to stages and then re-open the process outline.

2. Open the Layout menu and then drag a new Section above the default section that was created when fields were added to this step.



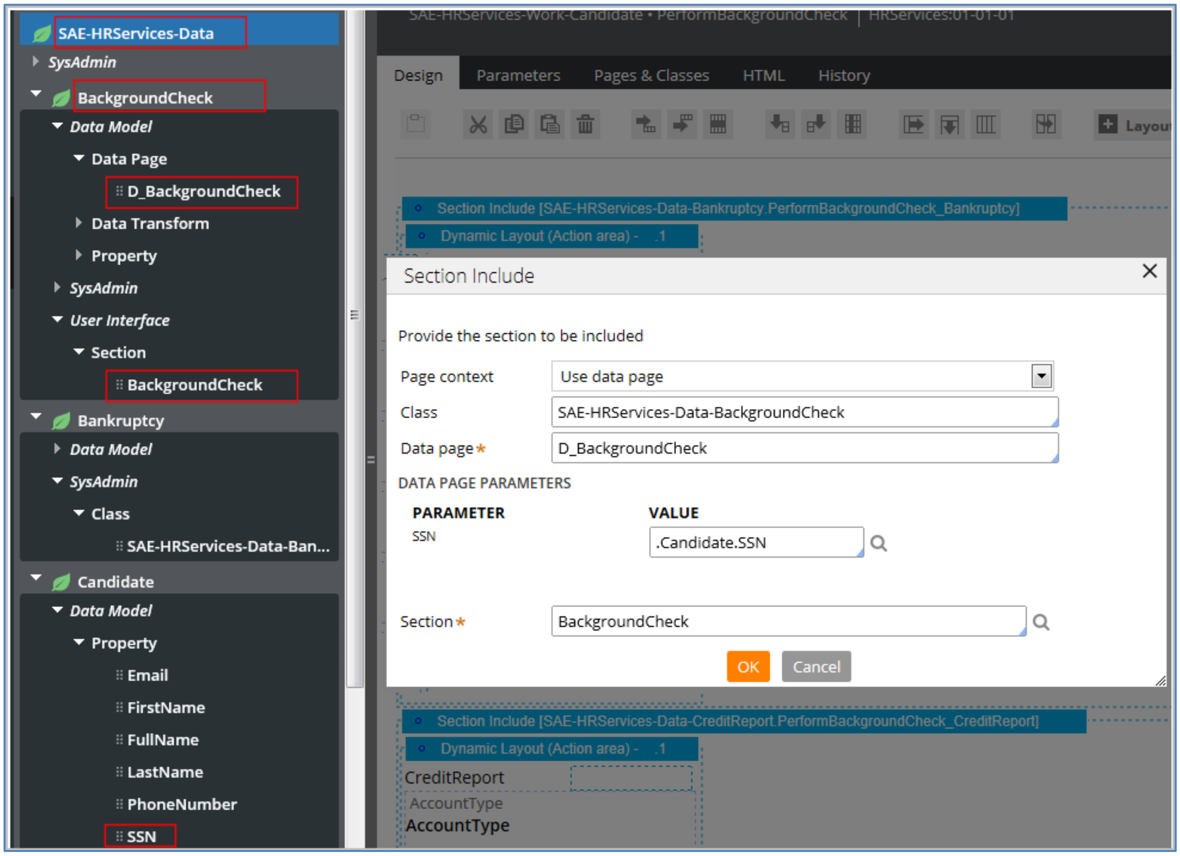
3. Set the page context of the section to **Use data page**. To obtain the correct values to define the data page:

   a. Set the Application Explorer context to the **SAE-HRServices-Data** class to confirm the name of the Class **SAE-HRServices-Data-BackgroundCheck**. (Note that it may not be available using a down-arrow in the autocomplete fields, so be sure to spell correctly).

   b. Expand **BackgroundCheck → Data Model → Data Page** to confirm that the name of the Data page is **D_BackgroundCheck**.

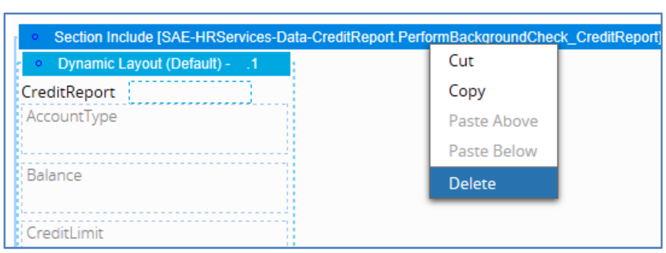
   c. The SSN will be used to perform the background check – Find it by first typing a dot ("**.**") and then use the down-arrow key to select **Candidate**. Append another dot ("**.**") and then use the down-arrow key to select **SSN**.

d. In the Application Explorer, expand **Background Check → User Interface → Section** to confirm the name of the UI section is **BackgroundCheck**.



4. Click **OK** to close the Section Include dialog and then click **Save** to save changes to the section.

5. Scroll down below this BackgroundCheck UI Section to the sections that were created automatically when fields were added. Select each of these sections, right-click and select **Delete** from the menu. Do this for each of the three sections that were replaced when the BackgroundCheck section was imported.



6. **Save** the section and then **Close** the section rule form tab.

Reminder: Always save updates to the case type and test the case before continuing. To active the new background check data transform, enter 111-11-1111 as the new candidate's SSN.

Automating Business Policies

This lesson group includes the following lessons:

- Introduction to Declarative Processing
- Conditional Processing
- Automating Business Processes Using Decision Rules
- Review of Automating Business Policies (No Exercise)

Exercise: Determine Offered Salary

Scenario

In the “Determine Compensation” step of the Offer stage, the system must show the salary that will be offered to the candidate. This is automatically calculated as a two-step process. Two properties, Assessment Rating and Offered Salary, must be created.

- Assessment Rating is calculated as the average of Interpersonal Skill Rating, Technical Skill Rating and Interviewer Rating (add all three ratings and divide by 3.0).
- Offered Salary is calculated as Minimum Salary + (Maximum Salary – Minimum Salary) * Assessment Rating.

Use the following login information

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

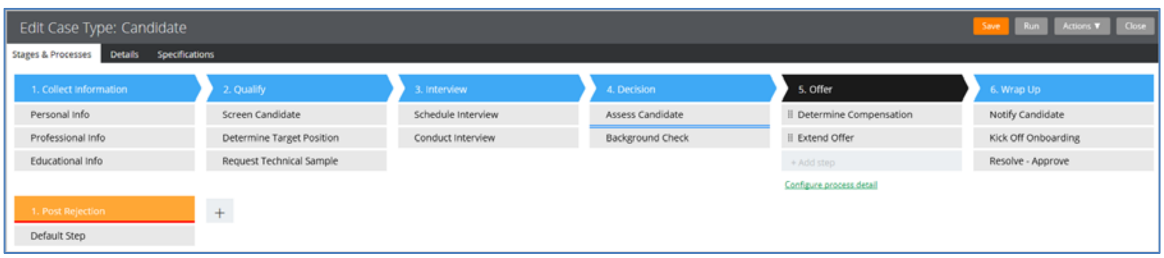
Approach

Part 1 – Configure your solution to use two Declare Expressions. For average calculation, use the average function or compute the sum of all three factors and divide by three.

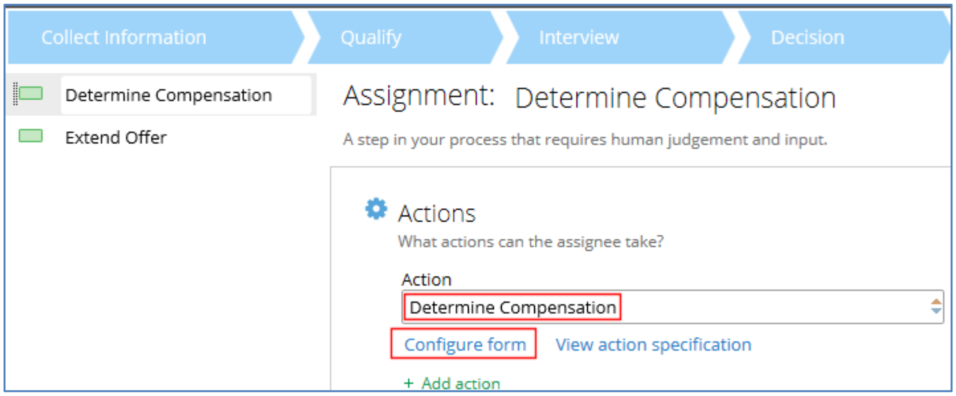
Part 2 – Create the flow action and section for Extend Offer the screen. Use Candidate, Position and Offered Salary as fields to display. Mark all of them except OfferedSalary as read-only.

Hints

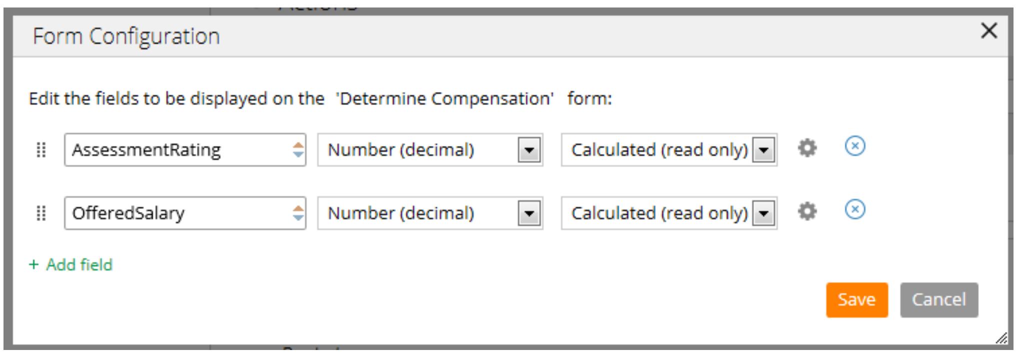
1. To create the necessary properties, declare expression rules, section and flow action rules, click the **Configure Process Details** link under the associated stage name.



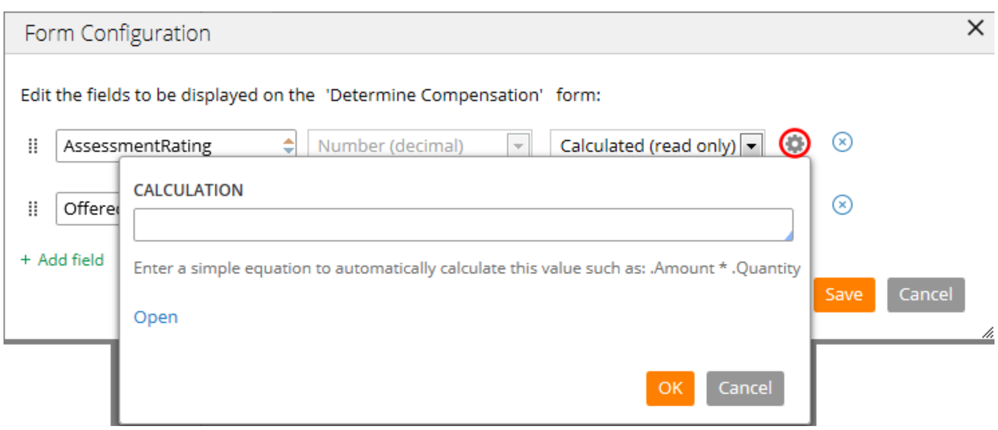
2. In the Action field for the Determine Compensation flow, ensure there is an action name. To begin adding fields, click **Configure form**.



3. In Form Configuration, make the fields **decimal** and select **Calculated (read only)** to create new properties.



4. Click the gear icon next to the calculated field to define the declare expression rule. This will open a calculation dialog. Set the value as specified in the scenario and save the rule.

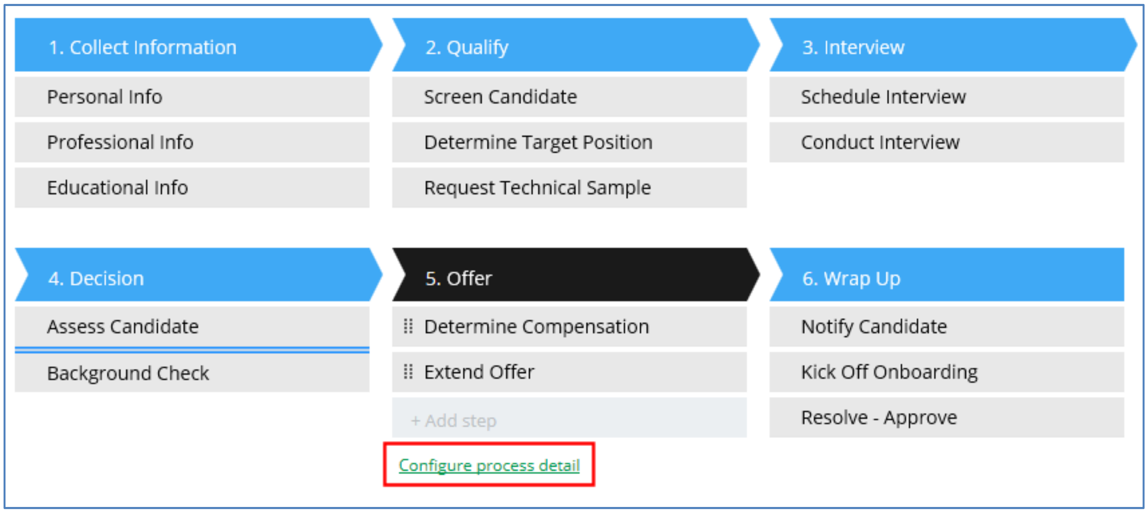


Procedure

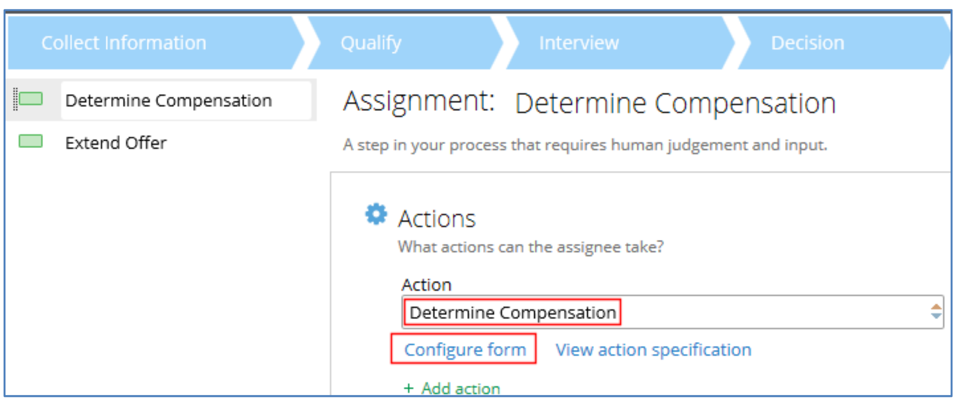
Part 1 – Determine Offer Salary

Follow the steps below:

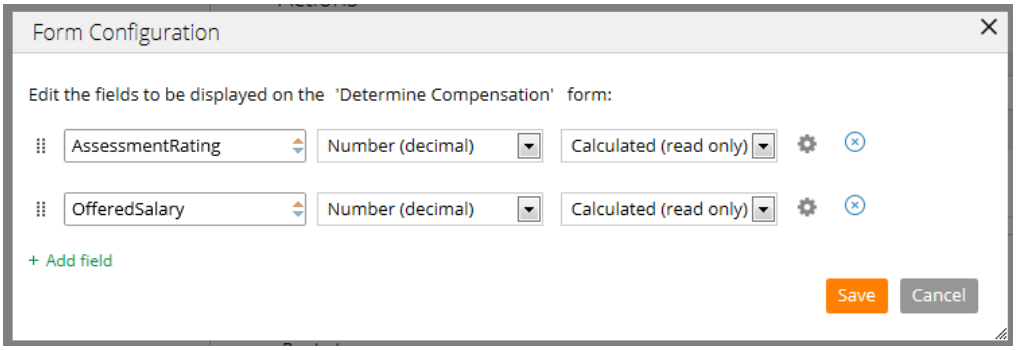
1. Click on the **Configure process detail** link under the Offer stage.



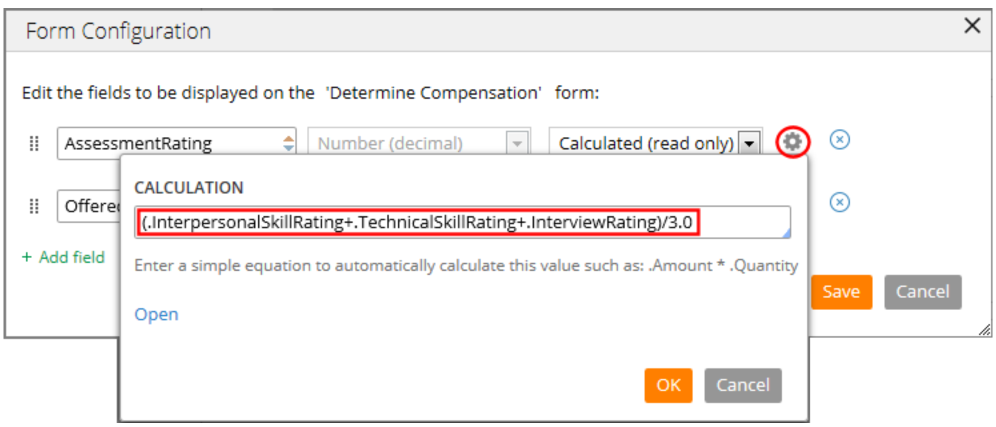
2. Ensure there is a name in the Action field and then click **Configure form** to open Form Configuration.



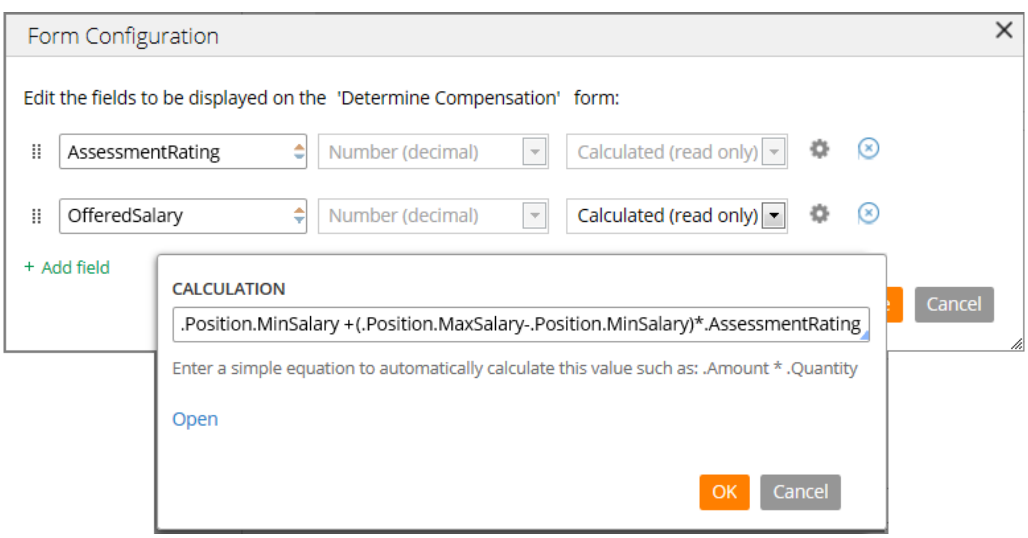
3. Add **Assessment Rating** and **OfferedSalary** fields. Make both fields decimal and specify that they will be calculated.



4. Click the gear icon next to the first calculated field to define the declare expression rule. This will open a calculation dialog. Set the value of Assessment Rating to be equal to the Value of **(.InterpersonalSkillRating +.TechnicalSkillRating +.InterviewRating)/3.0** and then click **OK** to close the form.

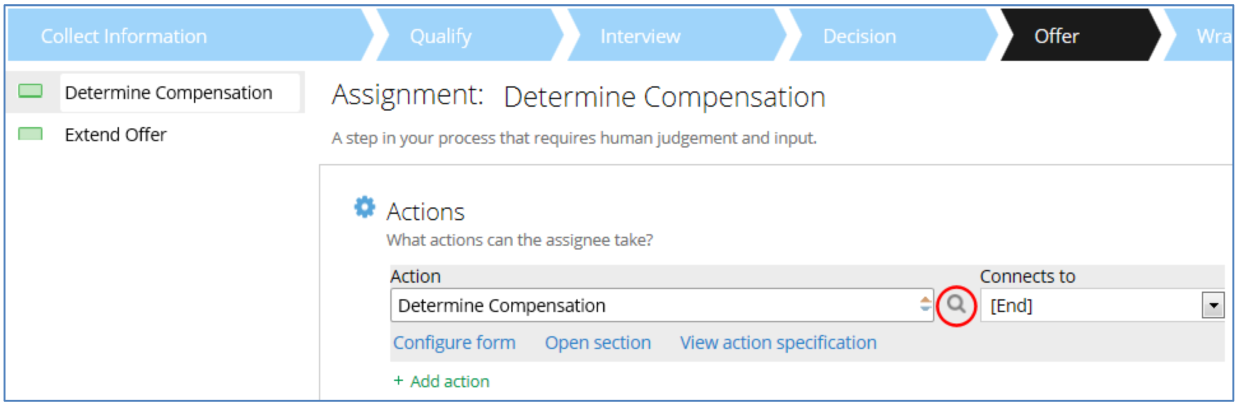


5. When you return to Form Configuration, click the gear icon next to the second calculated field, In the calculation dialog, set the value of Offered Salary to **.Position.MinSalary + (.Position.MaxSalary-.Position.MinSalary)*.AssessmentRating** and then click **OK**.

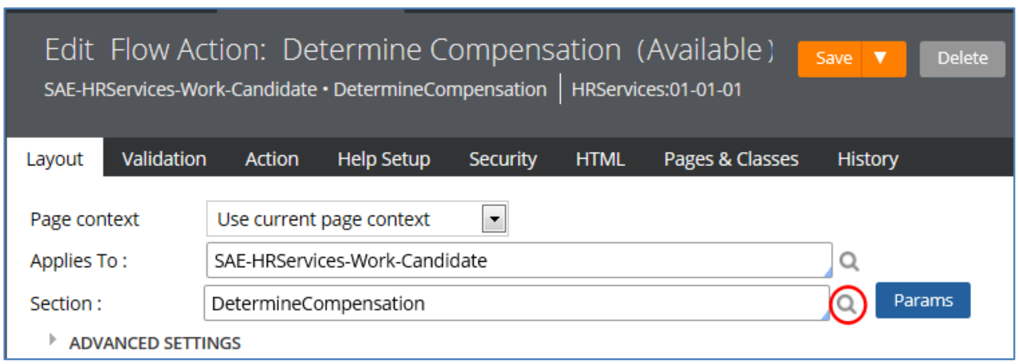


6. Save your Form Configuration and then save changes to the case type.

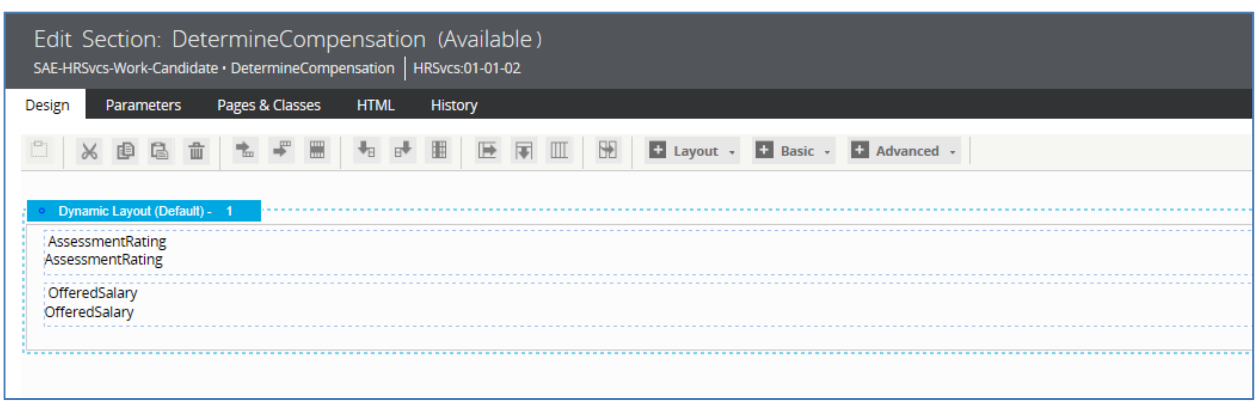
7. Open the flow action rule just created by clicking the **Open icon** next to the Action name.



8. When the Edit Flow Action rule form displays, open the section created for this flow action by clicking the **Open icon** for the section.



9. The Determine Compensation section rule will display. It can be edited to add more existing fields from the App Explorer work class, if needed.



10. Create a new case to test the flow and check the value of the offered salary in the Determine Compensation user interface.

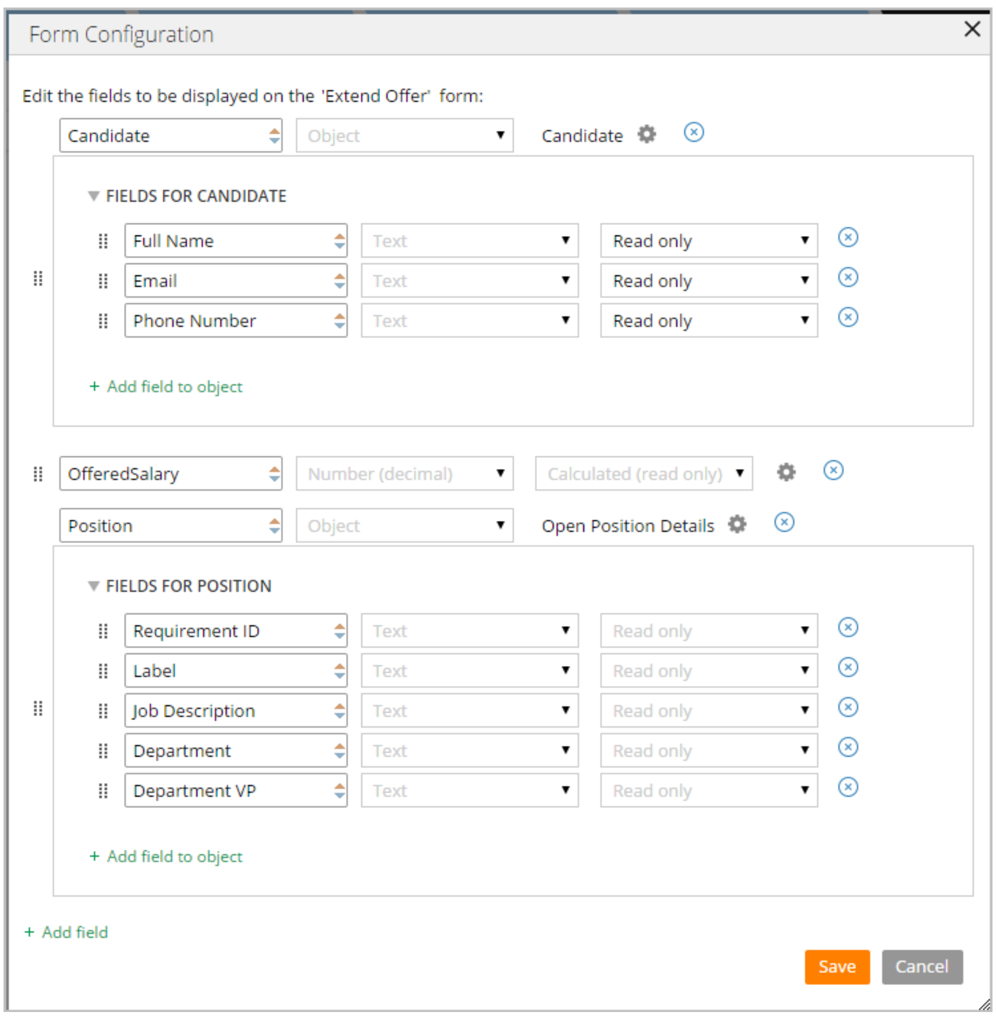
Save any changes to the case and run the process to test a case instance.

Part 2

Create the flow action and section for Extend Offer screen. Use Candidate, Position and Offered Salary as fields to display. Mark all of them except OfferedSalary as read-only.

Follow the steps below:

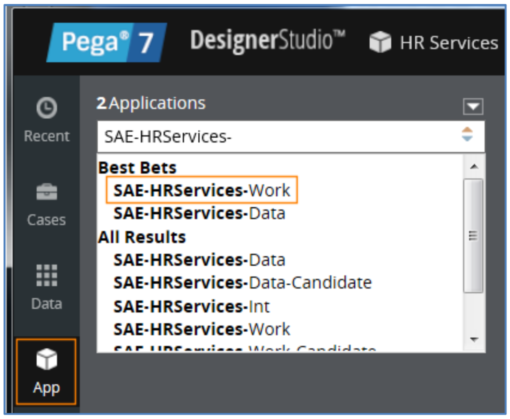
1. Open the process outline view for the Offer stage and select the **Extend Offer** step.
2. Name the Flow Action **Extend Offer** and then click the **Configure form** link.
3. Add fields for Candidate **Full Name**, **Email** and **Phone Number** and then add **Offered Salary** and **Position**.
4. Mark all fields as Read Only.



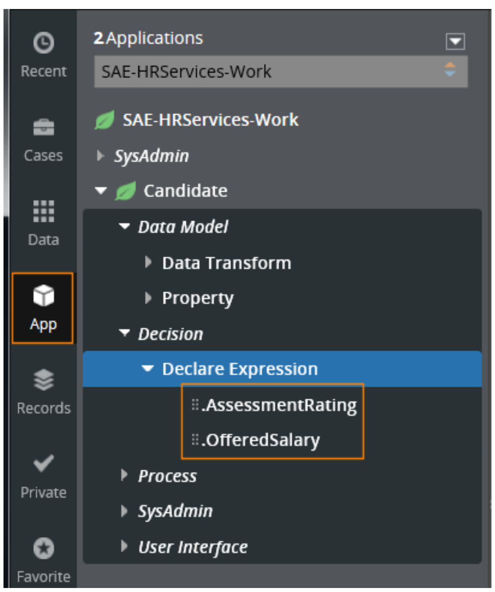
Optional Exercise

After a declare expression is added to the case, the declare expression rule can be found in the Application Explorer work class. View the two new declare expressions using the steps below.

1. Open the Application Explorer, type **SAE-HRServices-** in the auto complete field and then use the down-arrow to select the **SAE-HRServices-Work** class from the list that appears.



2. Expand **Candidate → Decision → Declare Expression** to find the AssessmentRating and OfferedSalary declare expressions.



3. Open the AssessmentRating expression and view the rule form.

Exercise: Skip Screening Process

Scenario

If the candidate to be interviewed is referred by an employee, the HR department wants to change the process by skipping the initial qualification process and schedule the interview directly.

Use the following login information

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Configure your solution to skip the "Qualify" stage when referred by an employee.

Hints

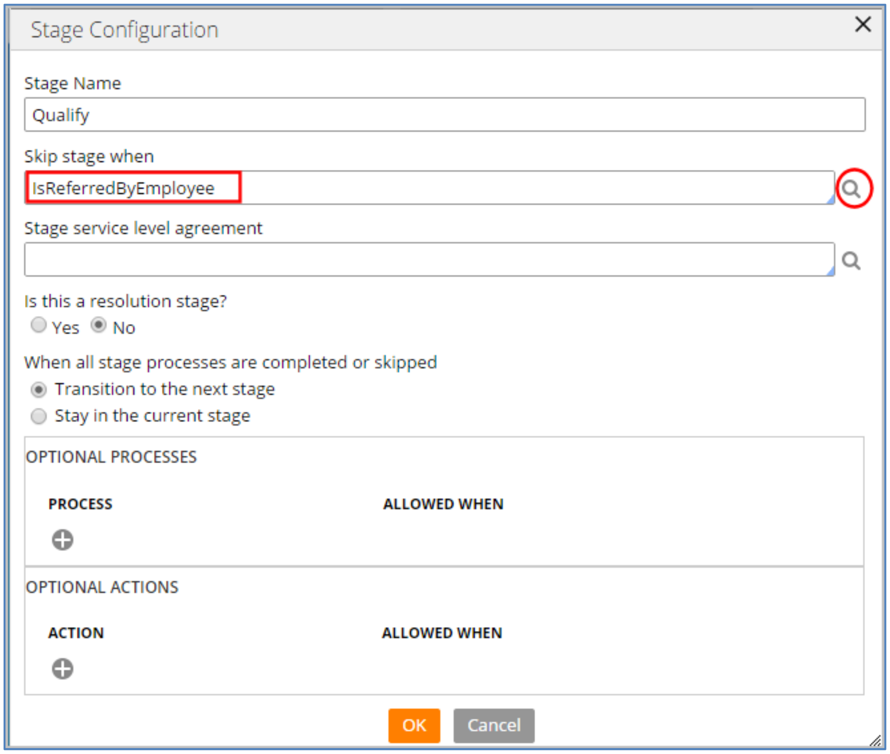
1. Skip Stage When can be configured configuring stage behaviors for the Qualify stage.
2. Create the When rule by clicking on the magnifying glass after naming it.

Procedure

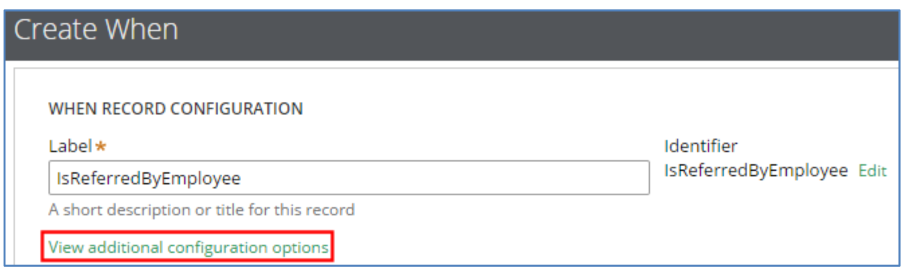
Follow the steps below:

1. Open the Stage Configuration form for the Qualify stage. Specify to Skip the stage when the candidate is referred by an employee by entering **IsReferredByEmployee**.

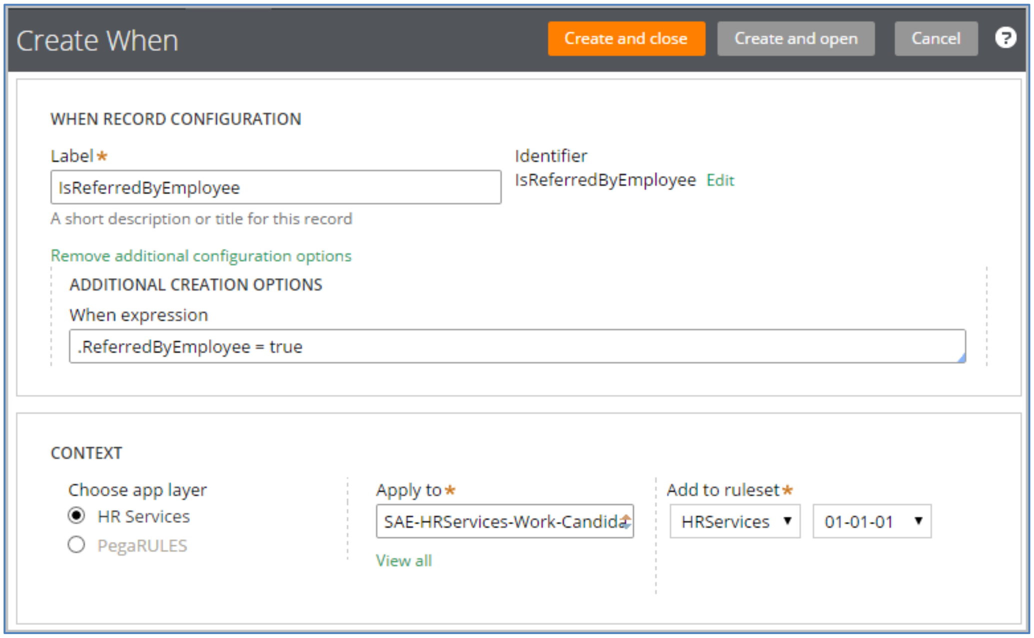
2. Click the **Open icon** next to the When rule name to open the form used to create the When rule.



3. Give the When Record the label name **Is Referred By Employee** and then select to **View additional configuration options**.

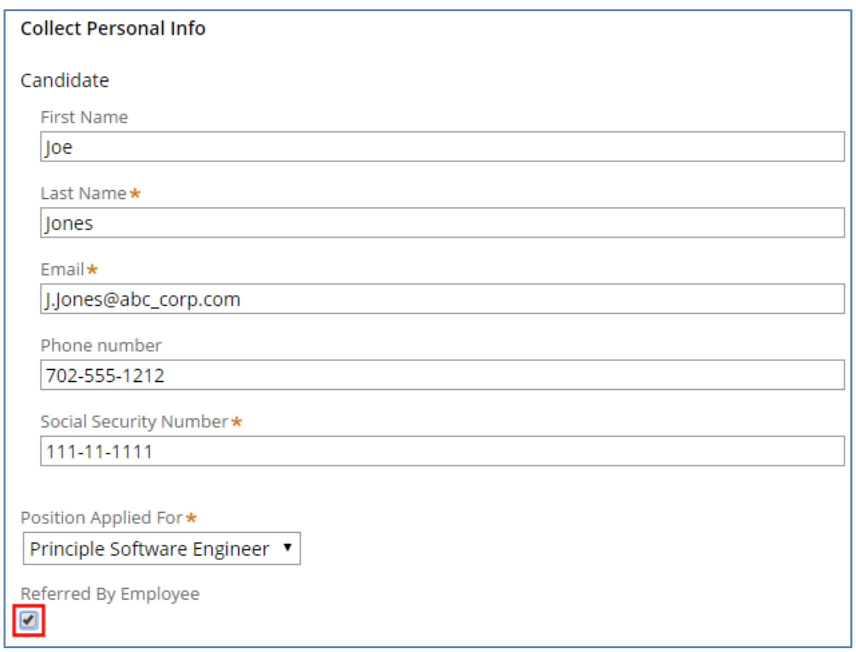


4. Configure the When rule to check for the **ReferredByEmployee** property to be equal to **true** and then click **Create and close**.



5. Click **OK** to close the Stage Configuration dialog and then **Save** the updates.

6. Test the When rule by creating a new Candidate case. The Qualify stage should be skipped when the referred by employee property is set to true.



Optional Exercise: Request Technical Sample for Engineering Positions

This is an optional exercise. While it is not required we recommend that you try to complete this exercise as it will help to reinforce the concepts taught in this course.

Scenario

If the candidate is applying for a position in the Engineering Department the company would like to provide an option for the candidates to include a sample of their code.

Use the following login information

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Add the following fields to the Request Technical Sample User Interface:

- URL
- Sample Code

Enter this step only if the position is in the Engineering department.

Hints

1. Use the Configure form link to add fields to the step
2. Run the process to create a new case and then use the UI inspector to open the new section.
3. Change the layout cell control to Rich Text Editor (RTE)
4. Use the Step Configuration dialog "… and when" cell to add a when condition to the Request Technical Sample step.
5. The When rule can compare the .Position.Department field to see if the position is in the Engineering department.

Procedure

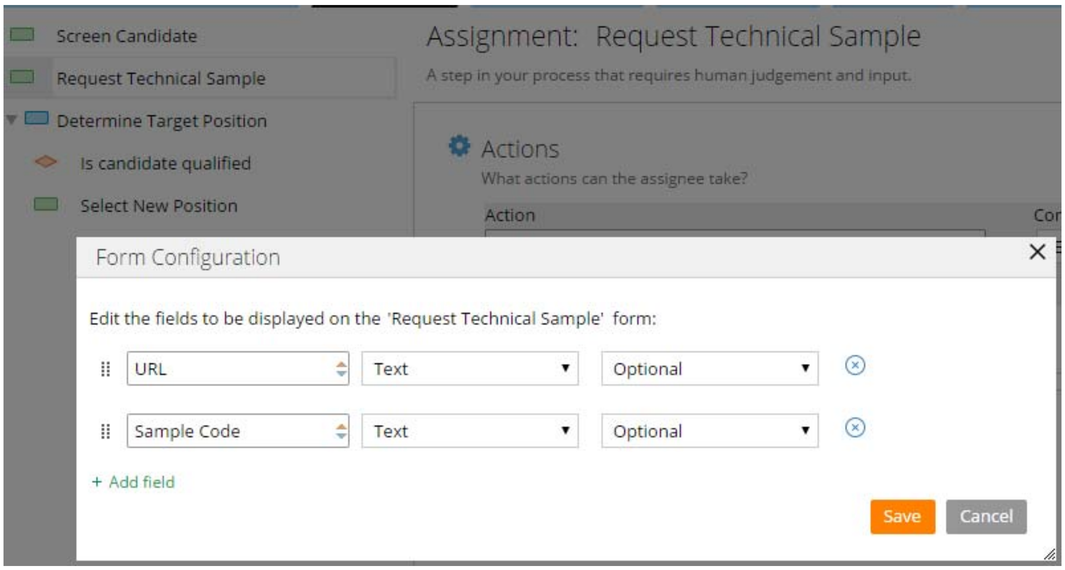
Part 1 of 2 – Add URL and Sample Code fields to Request Technical Sample

Follow the steps below:

1. Open the process outline for the Qualify stage. Select the **Request Technical Sample** step from the stage steps and then click **Configure form**.

2. Add the fields listed in the table below.

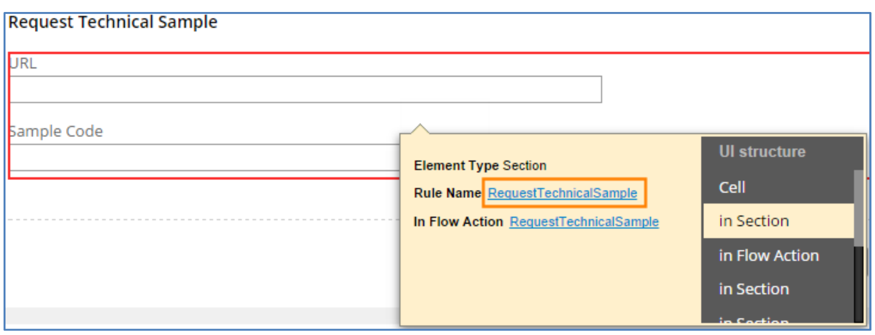
URL	Text
Sample Code	Text



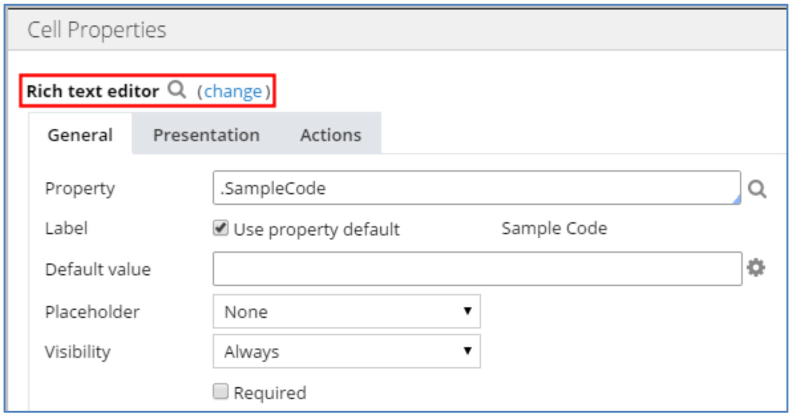
3. Click **Save** to close the Form Configuration screen and then **Save** updates to the case type.

4. Use the Run or **Create** buttons to create a new Candidate case. Do not select Referred by Employee, so that you will not skip the Qualify stage. Stop when you read the Request Technical Sample step.

5. Use the UI Inspector to open the **RequestTechnicalSample** section.



6. Click the View properties icon to open the Cell Properties form for the SampleCode property. Change the control to **Rich text editor**.

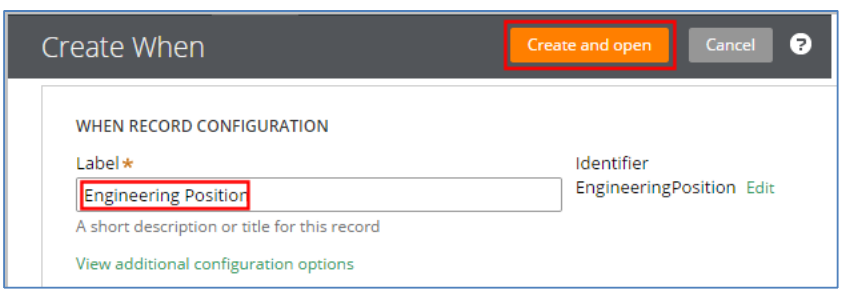


7. Click **OK** to close the cell properties form, **Save** the section changes and then **Close** the Edit Section tab.

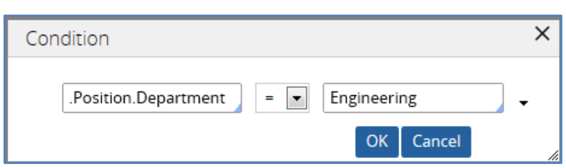
Part 2 of 2 – Make Request Technical Sample a Conditional Step

Follow the steps below:

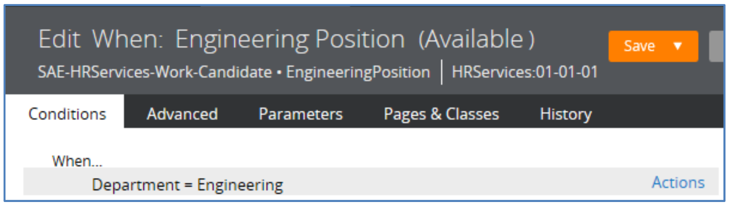
1. Open the Step Configuration dialog for the Request Technical Sample step.
2. Click the **Open icon** to the right of the empty … and when cell.
3. Give the When condition record the short description name **Engineering Position** and then click **Create and open**.



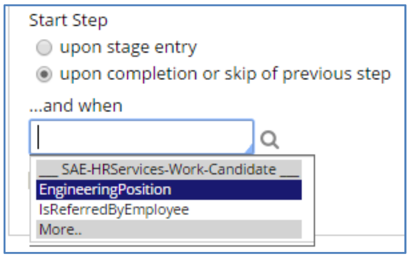
4. In the Edit When rule form, double-click to add the condition.
5. To select the Department, enter a period ("**.**") and then use the down-arrow to select **Position**. Append a period and then use the down arrow again to select **Department**. Set the value to **Engineering** and then click **OK**.



6. **Save** the new When condition.



7. The condition should now be available when you click in the ...and when cell and use the down-arrow to view a list of When conditions in the Step Configuration dialog.



8. Click **OK** to close the Step Configuration dialog.

Save updates to the case type and **Run** the process to create a case so you can test the changes made in this exercise. Note that due to the order of the steps in this stage, if the candidate does not match the original Engineering position applied for, a technical sample may still be requested before a new position is selected.

Exercise: Direct Flow Processing with a Decision Table

Scenario

During the Qualify stage, the recruiter screens the candidate over the telephone to determine if the candidate has accurately portrayed themselves with their resume and the information they provide in the Collect Information stage. Once they complete the telephone call, the recruiter must assess the candidate and determine whether their qualifications match the targeted position, match a different position, or do not match any currently open position. The VP of HR has requested that the case be directed through the process automatically, based upon the recruiter's assessment.

Use the following login information

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Update the allowed values for the Screener Feedback property to "Matches the position", "Matches a different position", and "Does not match any position".

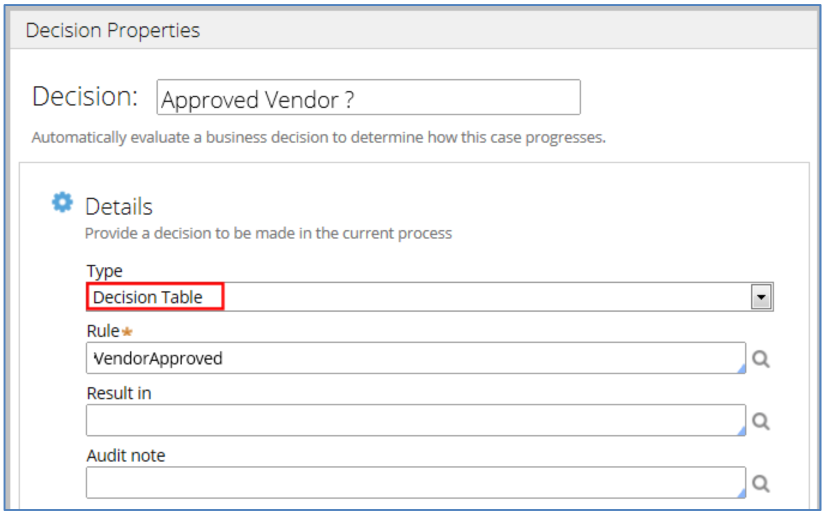
Create a decision table to direct the Candidate case through the Determine Target Position process. This table should evaluate the value of the Screener Feedback property, and direct the case according to the following logic:

- If the recruiter selects "Matches the position", return the result "Selected Position".
- If the recruiter selects "Matches a different position", return the result "Different Position".
- If the recruiter selects "Does not match any position", return the result "Reject".

Hints

1. In order to use the Property Screener Feedback – which is defined for the Candidate case – you must create the decision in the same class as the property. To do so, select **SAE-HRServices-Work-Candidate** in the Applies To field when creating the decision table rule.
2. To use a decision table to direct flow processing, the decision table results must correspond to the connectors on the corresponding decision shape.
3. To test a decision shape, select **Run** from the Actions menu and enter the condition you wish to test.
4. PRPC evaluates a decision table by starting with the top row and working down to the bottom row, until it returns a true result. If your decision table does not return the expected result, click **Show Conflicts** to identify any rows that are not being evaluated. If necessary, re-order the rows to ensure that PRPC tests each row.

5. When you associate the decision table with the Is Candidate Qualified? decision shape in the Determine Target Position process, verify that the decision shape is configured for decision table rules.



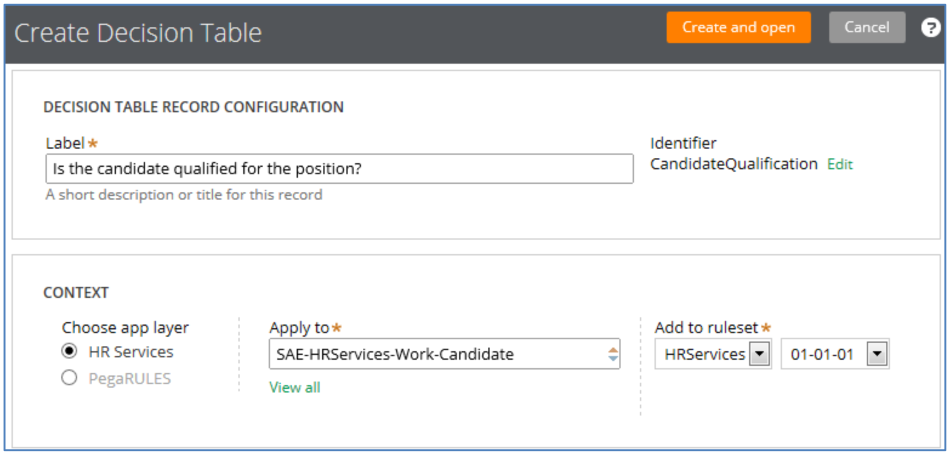
Procedure

Part 1 – Add the Decision Table

Follow the steps below to create a decision table.

1. Open the **Qualify** stage in the process outline.
2. Open the Screener Feedback property in one of the following ways:
   - Create a Candidate case, run the process until you reach the Screen Candidate step and then use the UI Inspector to open the **ScreenerFeedback** property.
   - Open the Application Explorer SAE-HRServices-Work class, expand **Candidate → Data Model → Property** and then open the ScreenerFeedback property.
3. In the Screener Feedback property form, expand Display and Validation and replace the validation table values with the following values.
   - Matches the position
   - Matches a different position
   - Does not match any position
4. **Save** the updated Screener Feedback rule form.
5. From the Determine Target Position step in the process outline for the Qualify stage, View Properties for the Is Candidate Qualified? decision shape. Click the **Open icon** 🔍 to the right of the Rule field on the Decision Properties rule form to create the decision table.

6. In the Label field, enter “Is the candidate qualified for the position?” Verify that this decision table record is applied to **SAE-HRServices-Work-Candidate**, and click **Create and open**.



Note: The entry in the Applies To field is a class reference, and represents the Candidate case. Classes are covered in System Architect Essentials II. For now, verify that the class reference in the field ends with “-Work-Candidate”.

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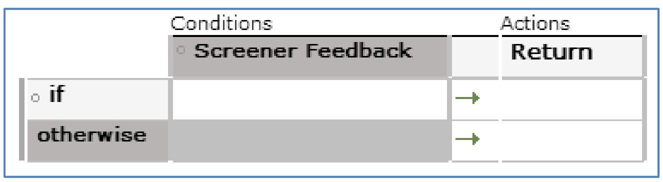
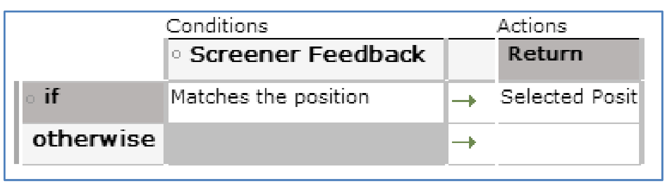
7. Click the column header under Conditions and select the **Screener Feedback** property. Click **Save** to return to the decision table form.

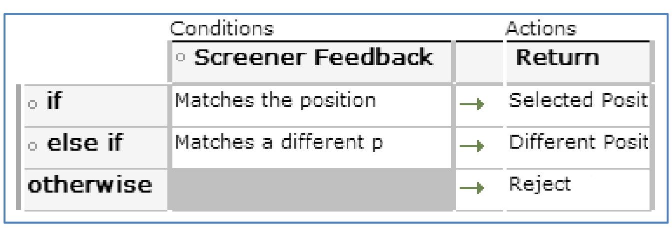


8. In the **if** row, click in the Screener Feedback column and use the down-arrow to select **Matches the position**. Enter **Selected Position** in the Result column.



9. Click the **Insert row after icon** to add an else if row to the table. In this row, select **Matches a different position** as the condition, and enter **Different Position** as the result.

10. In the otherwise row, enter **Reject** as the result.



Note: Ensure that the connectors from the "Is Candidate Qualified" decision shape match the return values in this table.

11. **Save** the decision table. Don't close the Edit Decision Table tab.

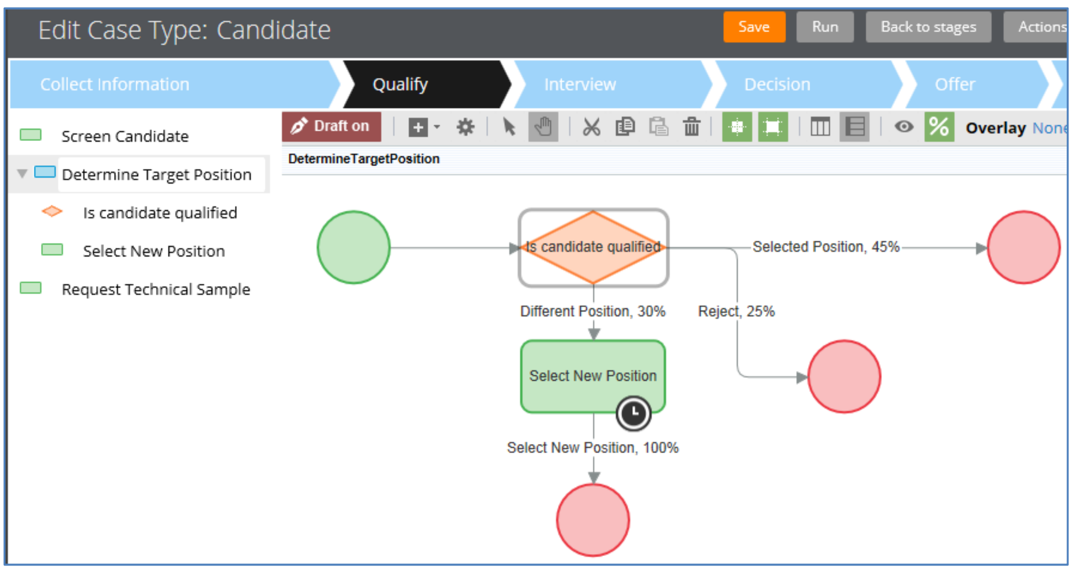
12. Unit test the decision table by selecting **Run** from the Actions menu. In the .ScreenerFeedback field, enter each of the allowed choices – "Matches the position", "Matches a different position", and "Does not match any position" and then click **Run Again** to verify that the table returns the correct result.

13. Save and then close the Decision Table rule form.

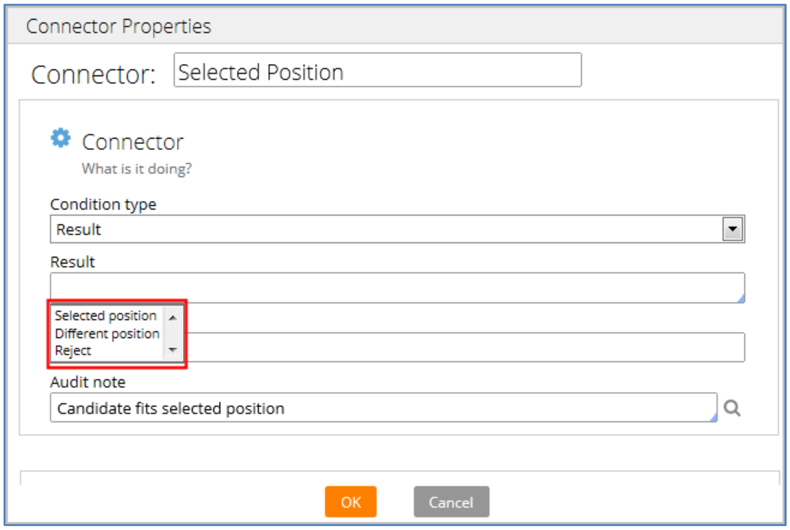
Part 2 – Check Decision Shape Connectors

Follow the steps below to ensure that the connectors leaving your decision shape match the return values in the decision table.

1. Open the Determine Target Position step in the process outline.



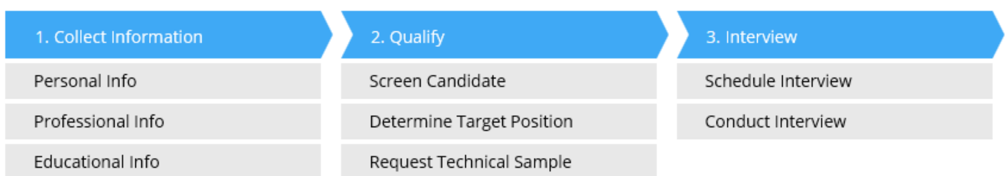
2. Right-click and select **View Properties** for each of the connectors that exit the decision shape. Ensure that the result matches one of the results in the decision table.



3. **Save** changes to the process diagram.

4. Create a new case, and advance to the Screen Candidate step. Select the **Matches a different position** option. Verify that the case is directed to the Select New Position assignment.

Note: You may be directed to the Request Technical Sample assignment before a new position is selected. Consider changing the order of your steps so that the technical sample is requested after the final target position is determined.



Reference Information

- PRPC Help: About Decision Tables

Exercise: Direct Flow Processing with a Decision Tree

Scenario

As part of the process of assessing a candidate, the feedback provided by the interviewer is reviewed and used to decide whether or not to hire the candidate for the position. The VP of HR would like to automatically reject candidates who scored too low on the interview. Candidates with an overall score of 40% or less should be rejected automatically, and candidates with an overall score of 60% or less should be rejected if any of the component scores is less than “average”.

Use the following login information

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Note: This exercise should be performed using the Internet Explorer (IE) browser. If you have trouble getting the tools to work, ensure you are using IE for this exercise.

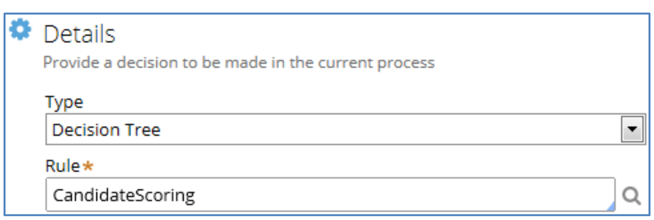
Approach

Create the Candidate Scoring decision tree to evaluate the interview for each candidate, and automatically return No for a candidate who meets any of the following criteria:

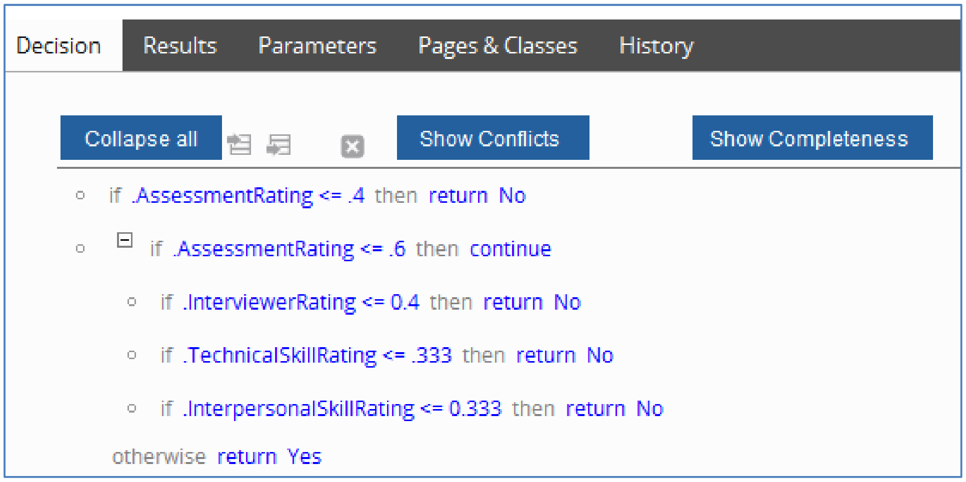
- The Assessment Rating is .4 or less.
- The Assessment Rating is greater than .4 and less than or equal to .6, and the Interviewer Rating is .4 or less.
- The overall Assessment Rating is greater than .4 and less than or equal to .6, and either the Technical Skill Rating or Interpersonal Skill Rating is .333 or less.

Hints

1. To create a decision tree from the decision shape, first set the Type on the properties panel to Decision Tree.



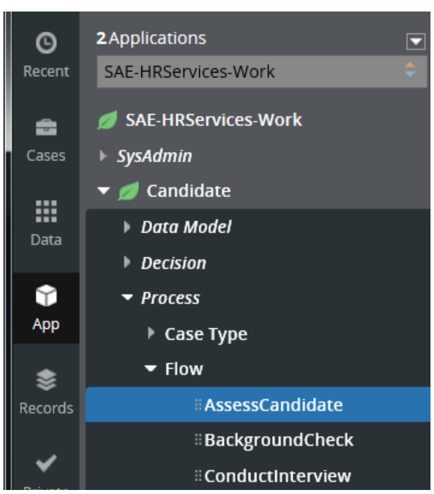
2. PRPC evaluates decision trees by starting with the top condition and working down to the otherwise condition at the bottom, until it returns a true result. If your decision tree does not return the expected result, click **Show Conflicts** to identify any conditions that may not be evaluated. If necessary, re-order the rows to ensure that PRPC tests each row.



Procedure

Follow the steps below:

1. Open the Application Explorer, type **SAE-HRServices-** in the auto complete field and then use the down-arrow to select the **SAE-HRServices-Work** class from the list that appears.
2. Expand **Candidate → Process → Flow** to see the flows used by the Candidate case type.

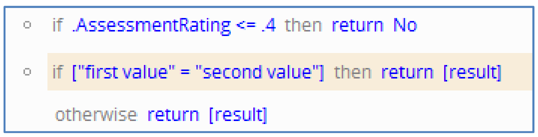


3. Open the **AssessCandidate** flow. View Properties for the Candidate meets standards decision shape.

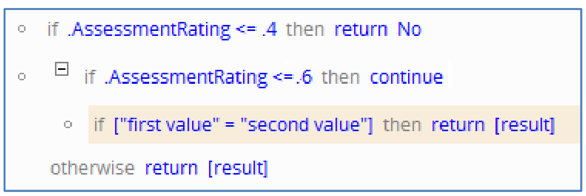
4. When the Decision Properties dialog appears, click the **Open icon** for the CandidateScoring Rule. Give the rule the Label name **Candidate Scoring** and then click **Create and open**.

5. Click ["first value" = "second value"]. In the left field type a period (.) and then use the down-arrow to select the **Assessment Rating** property. In the right field, enter **.40**. Change the operator to **<=** (less than or equal to). Click [result] and enter **No** in the resulting field.

6. Click the **Insert After icon** to create a new row below the one you just completed.

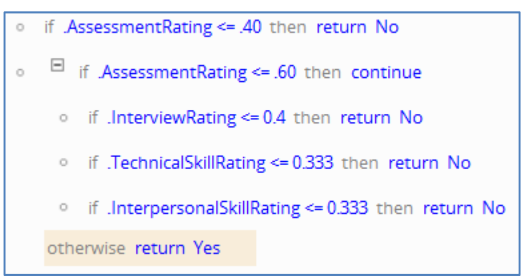


7. In the new row, select the **Assessment Rating** property, and enter the condition that it be **<=** (less than or equal to) to .6. Click **return** and select **continue** to create a subcondition.

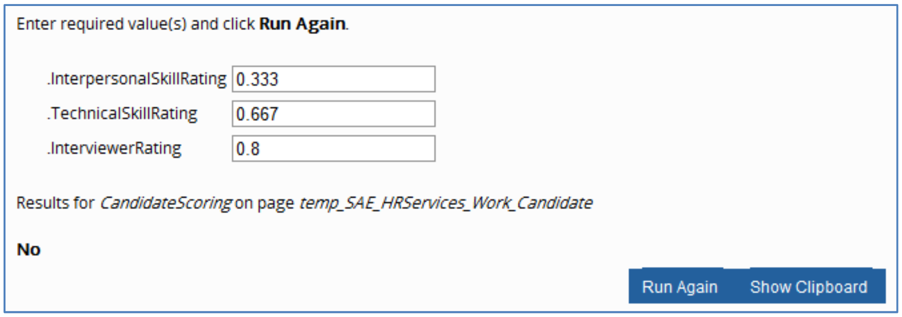


8. Create three subconditions to test if either the Interviewer Rating is less than or equal to .4, or the Technical Skill Rating is less than or equal to .333, or the Interpersonal Skill Rating is less than or equal to .333. For each condition, return No.

9. In the otherwise row, click **[return]** and enter **Yes** in the resulting field.



10. From the **Actions** menu of the Decision Tree rule form, select **Run** to test the decision tree. In the dialog, enter a value for the first property field on the form. Click **Run Again**, and enter property values in each new field until the decision tree returns a result.



11. **Close** the test window, **Save** the decision tree rule and then **Close** the Decision Tree rule form.
12. Click **OK** to close the Decision Properties dialog.
13. Right-click and **View Properties** for each of the connectors leaving the decision shape. If a result value is not set, use the down arrow to select Yes or No.

Note: Ensure that the result connectors in the Assess Candidate flow match the return values in the decision tree.

14. **Save** changes to the case type and then test by running the process to create a case.

Reference Information

- PRPC Help: About Decision Trees

Advanced Case Processing

This lesson group includes the following lessons:

- Routing Cases
- Case Stage Configuration
- Creating an Optional Process
- Introduction to Task Based Smart Shapes
- Creating a Case Level SLA
- Review of Advanced Case Processing (No Exercise)

Exercise: Routing to get Approval for Offer

Scenario

After the candidate information is collected, the case moves to qualify stage. The Qualify Stage starts the screening process, which must be assigned to a recruiter. The company has many recruiters and the case must be routed appropriately so that any of them are able to select and work on it.

Use the following login information

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

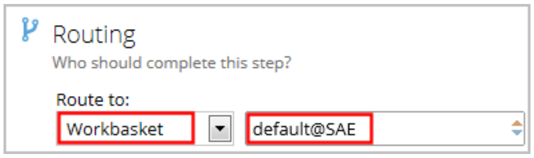
Approach

Configure your solution to add routing to the Screen candidate step of the Qualify stage. The assignment must be routed to a group-wide workbasket.

Note: The default@SAE workbasket was created by the Application Creation Wizard when you ran App Express. Creation of a more task-specific workbasket is typically the responsibility of a Senior System Architect.

Hints

1. Click on the stage name and then click configure process detail to open outline view.
2. Click the step name to access the assignment where we can change routing information to route the case to a Workbasket.



Procedure

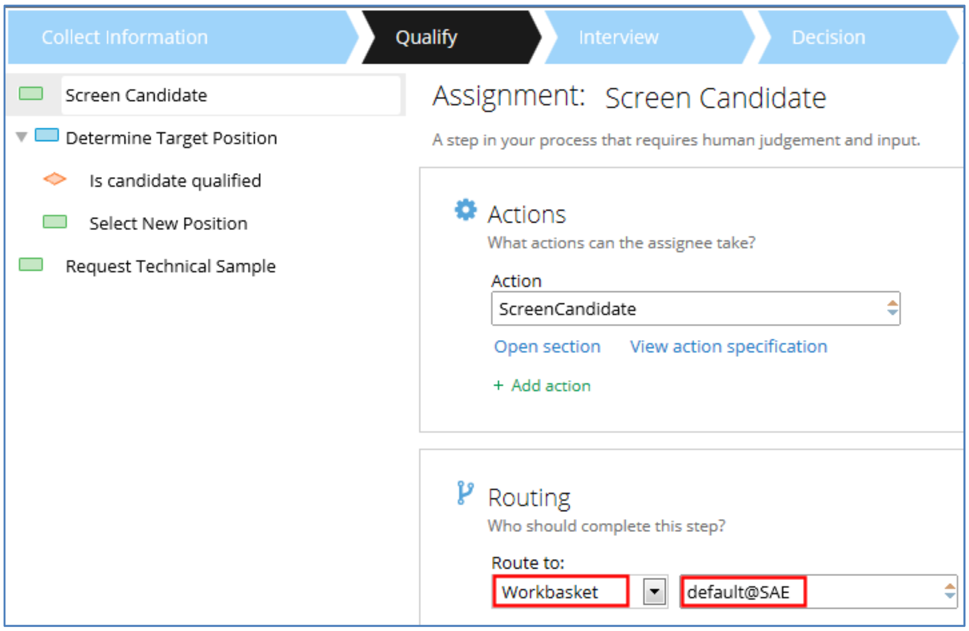
Follow the steps below to update the routing field:

1. Open the **Screen Candidate** step in the process outline of the Qualify stage.

2. In the Routing frame:

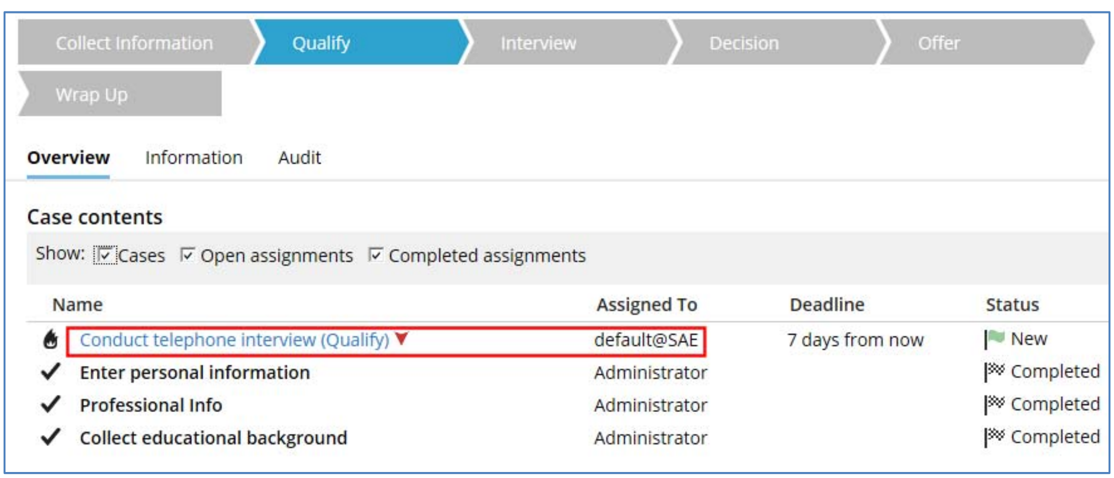
   a. Route to: **Workbasket**.

   b. Select the **default@SAE** workbasket.



3. **Save** changes to the case type.

4. To test the change, create a new Candidate case and advance it to the Qualify stage. It should be assigned to the default@SAE workbasket.



5. Click the **Conduct telephone interview (Qualify)** link to continue processing.

Exercise: Identifying the Resolution Stages

Scenario

The business users have reviewed the stage based case design approach. They would like an easier way to determine where the case gets resolved.

Use the following login information

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

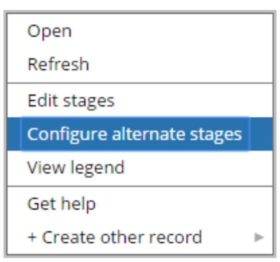
Approach

Perform the following tasks:

- Create a new alternate stage named Post-Rejection.
- Configure your solution to make sure both Wrap-up and Post-Rejection stages are resolution stages.
- Add a step in Post-Rejection stage and set the work status as "Resolved-Rejected".

Hints

1. Stage behavior can be configured by clicking on the arrow which appears when hovering over the stage name.
2. The alternate stages can be added by using configure alternate stages in the actions menu.



Procedure

Part 1 – Make Wrap Up a Resolution Stage

1. Open the **Candidate** case in the Stage Designer, if necessary.
2. Hover over the Wrap Up stage until the down-arrow appears. Click to open the drop-down menu and select **Configure stage behaviors** to open the Stage Configuration dialog.

3. Enable the **Is this a resolution stage?** flag.

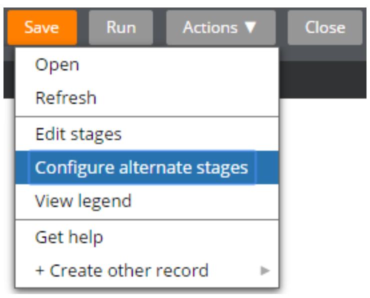
4. Click **OK** to dismiss the dialog box

Part 2 – Create an Alternate Stage

1. Check to see if you have already created an alternate Post Rejection stage.

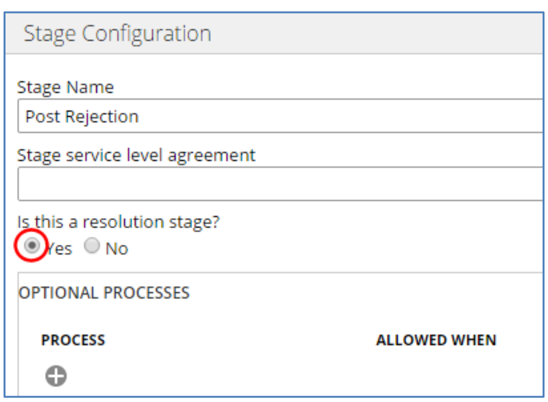
2. If you already have a Post Rejection alternate stage, skip to step 5.

3. If you don't have a Post Rejection alternate stage, open the Actions menu in the Designer Studio toolbar and select **Configure Alternate stages**.

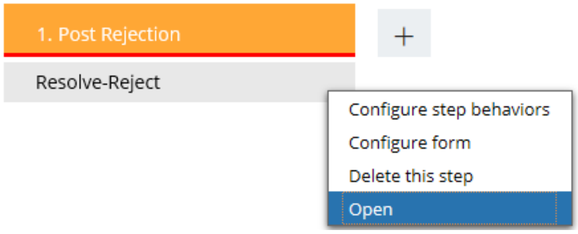


4. Click the Alternate stage name and rename to **Post Rejection**.

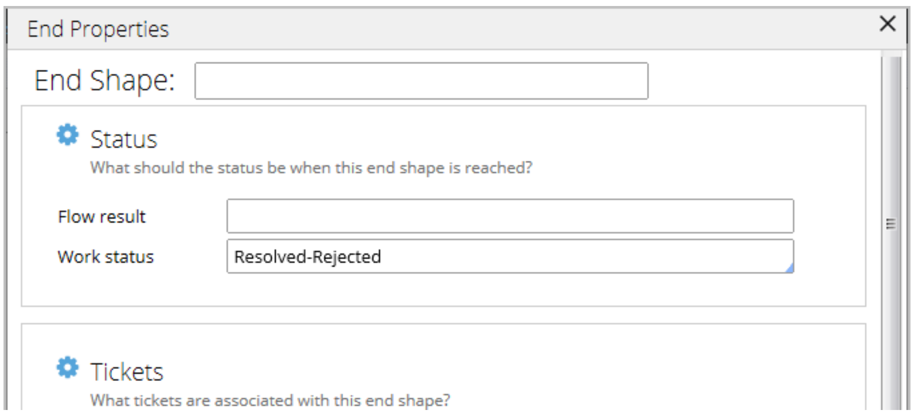
5. Using instructions in the previous section configure stage behaviors to make Post Rejection a resolution stage.



6. Rename the default step in the Post Rejection stage to **Resolve-Reject**. Hover over the step name, open the drop-down menu and select **Open**.



7. View properties for the End shape in the process diagram. In the End Properties dialog, click inside the Work status cell and then use the down-arrow to select **Resolved-Rejected** from the list.



8. Click **OK** to close the End Properties dialog. **Save** updates to the flow image and then **Close** the Resolve-Reject process diagram tab. **Save** updates to the case type.

Exercise: Schedule Company Tour

Scenario

While working with candidates, the HR person would like to schedule a company tour for them. Not all candidates would need to tour the company and it is up to the discretion of the HR person to start this process.

Use the following login information

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Configure your solution to reference an optional process named Schedule Company Tour in the Interview stage.

Hints

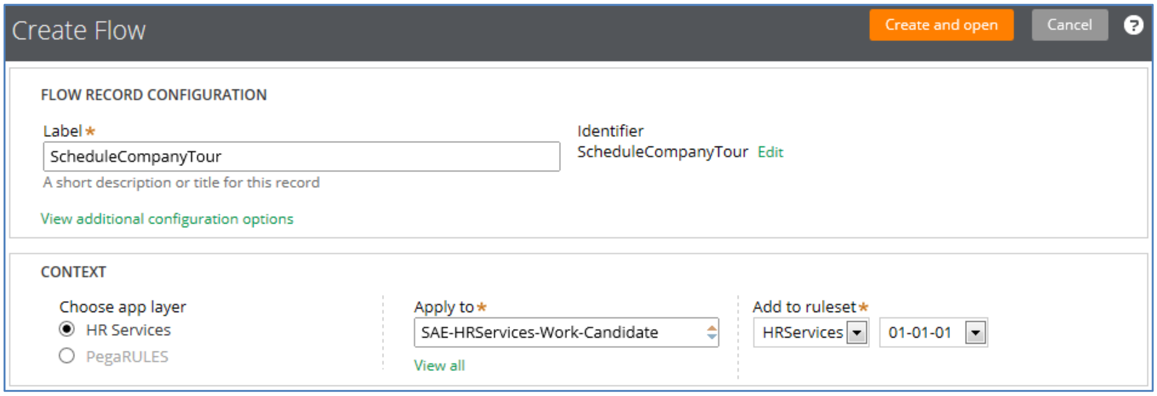
1. Optional processes are configured at the stage level under Configure stage behaviors.
2. Optional processes are displayed as steps in the outline view of the stage.

Procedure

Follow the steps below:

1. Open the **Candidate** case in the Stage Designer, if necessary.
2. Hover over the Interview stage name until the down-arrow appears. Click to open the drop-down menu and select **Configure stage behaviors**.
3. In the Optional Processes section of the Stage Configuration dialog, click the **Add a row icon** ⊕ to add space for a new process name.
4. Name the new optional process **ScheduleCompanyTour** and then click the **Open icon** 🔍 to open the Create Flow Record rule form.

5. Ensure there is a descriptive label and then click **Create and open**.

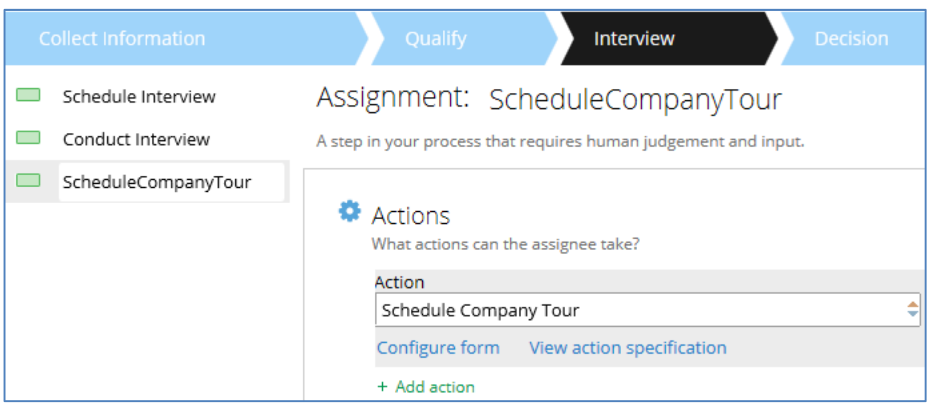


6. **Save** the flow record without making any changes and then **Close** the Flow process diagram tab (ignore any draft mode warning).

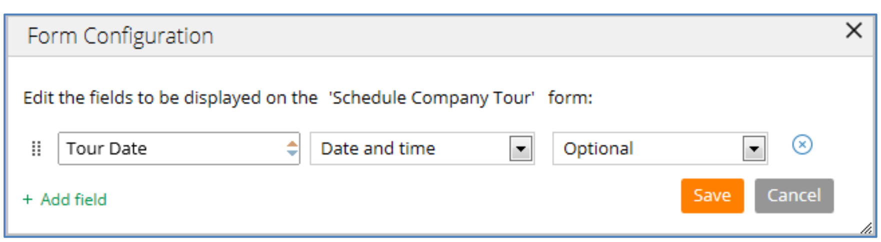
7. Click **OK** to close the Stage Configuration dialog and then **Save** changes to the case type.

8. Open the Interview stage in the process outline and select the **ScheduleCompanyTour** step.

9. If the flow action does not have a name, give it the name **Schedule Company Tour** and then click **Configure form**.

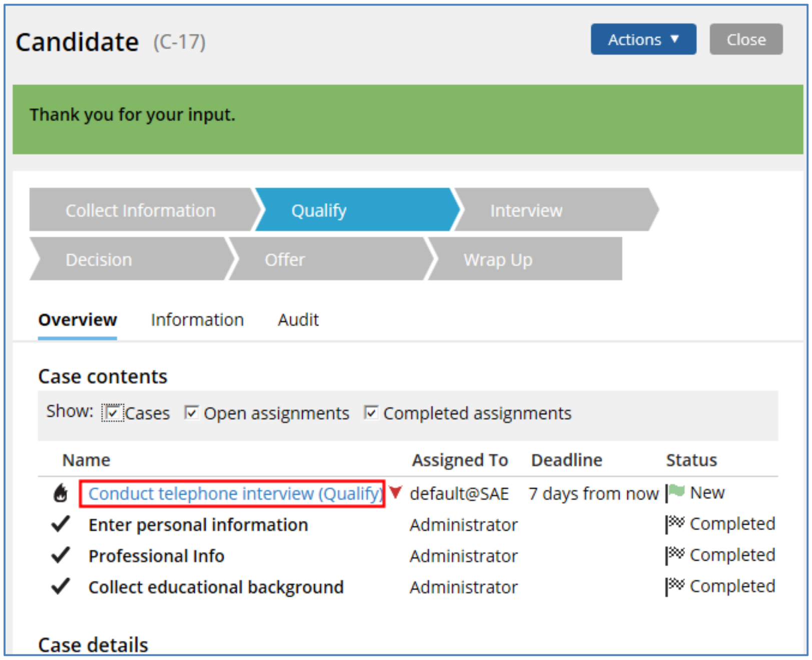


10. Add a **Tour Date** property with a **DateTime** data type and then click **Save** to close the Form Configuration dialog.

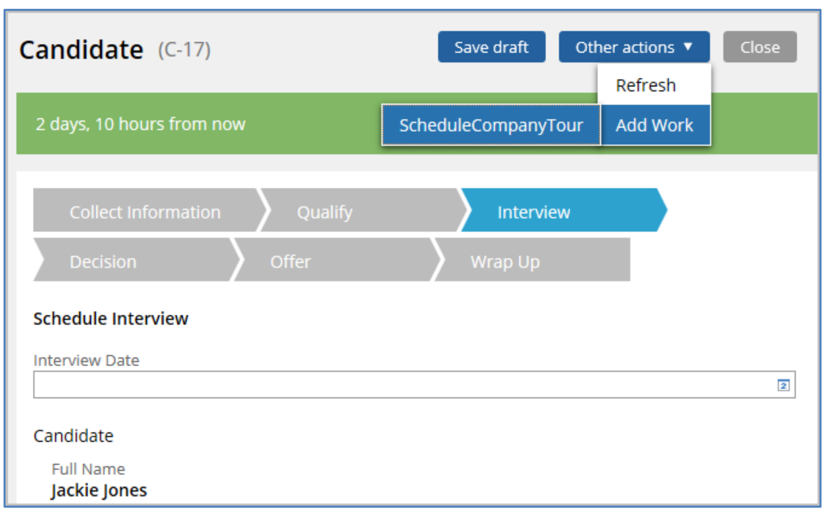


11. **Save** updates to the case type.

12. Use the **Run** process button to create a new case. Advance the case to the Qualify stage and then click the link to start the **Conduct telephone interview** step.



13. Advance to the Interview stage. Select **Add Work** from the **Other actions** menu to see the newly created process.



Exercise: Add and Configure Smart Shapes

Scenario

The VP of HR has requested two changes to the Candidate case, without which the case cannot be considered complete. First, once a candidate has been selected for an open position, HR wants to notify the candidate by email. Second, if a candidate is rejected by a recruiter during the Qualification stage, the case should be redirected to the Post Rejection alternate stage.

Use the following login information

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Convert the Notify Candidate step to a process that contains a Send Email smart shape configured to send an email to the candidate with the following information.

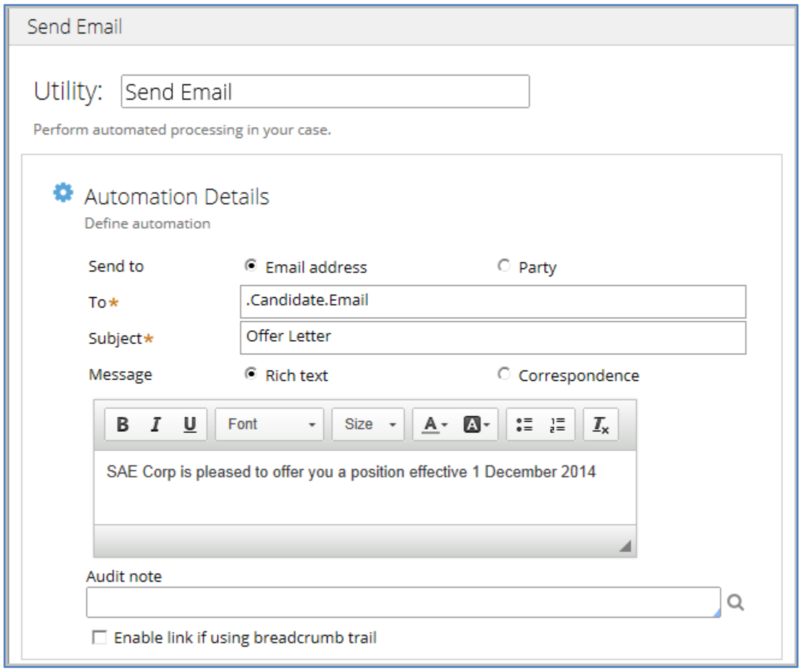
- **Subject**: Offer Letter
- **Message**: SAE Corp is pleased to offer you a position, effective 1 December 2014.

Update the Determine Target Position flow with a Change Stage smart shape added to the Rejected connector, to direct the case to the Post Rejection stage.

Hints

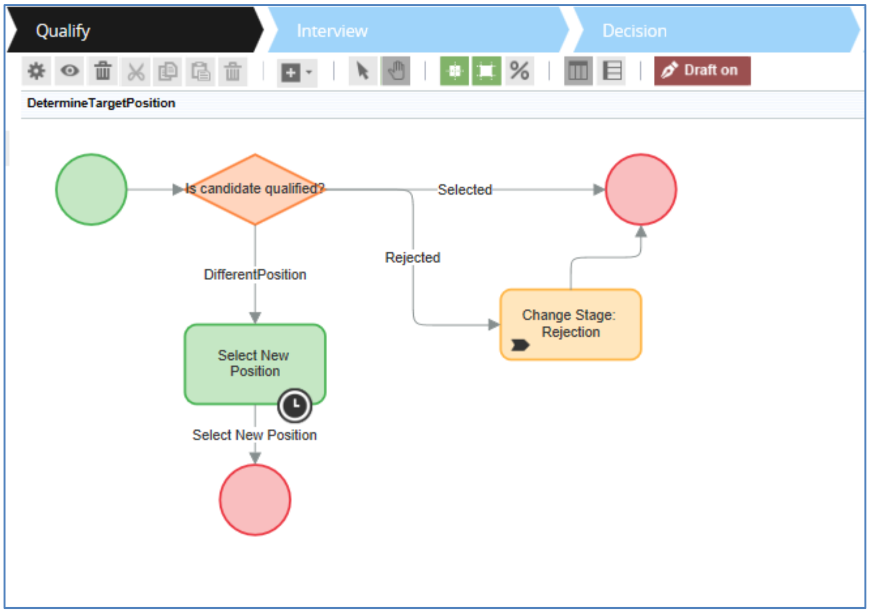
1. The Send Email and Change Stage smart shapes can be found on the Shapes menu, under Smart Shapes.

2. To send the email to the Candidate, reference the Email property on the Candidate page.



3. Test your changes by creating a new case and resolving it. Verify that the generated email is attached to the case as an attachment. Open the attachment and verify the contents. Ignore the error, which results from not configuring an email server.

4. In the Determine Target Position flow, add the Change Stage smart shape to the Rejected connector.



Procedure

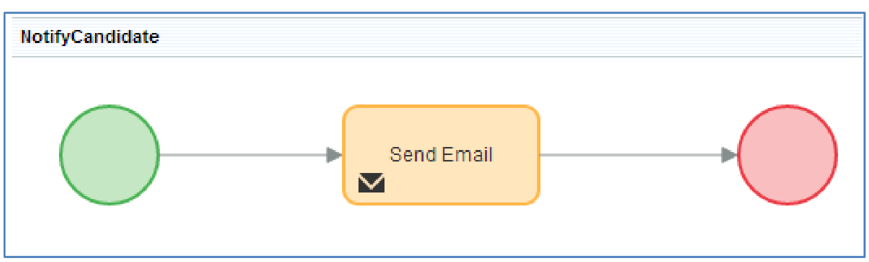
Part 1 of 3 – Send email to candidate with job offer

Follow the steps below:

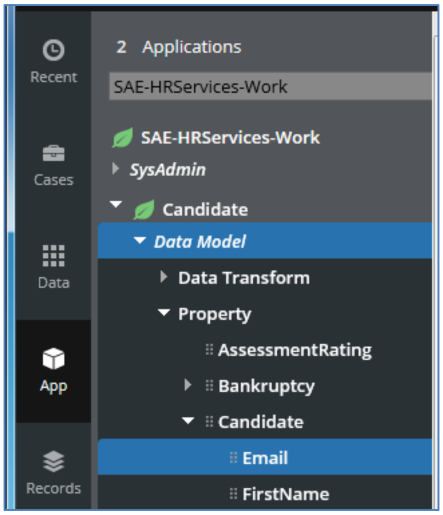
1. Open the Step Configuration dialog for the Notify Candidate step and change it to a multi-step process.

2. Open the process diagram for the Notify Candidate step in the process outline, and delete all of the assignments and resulting orphan connectors.

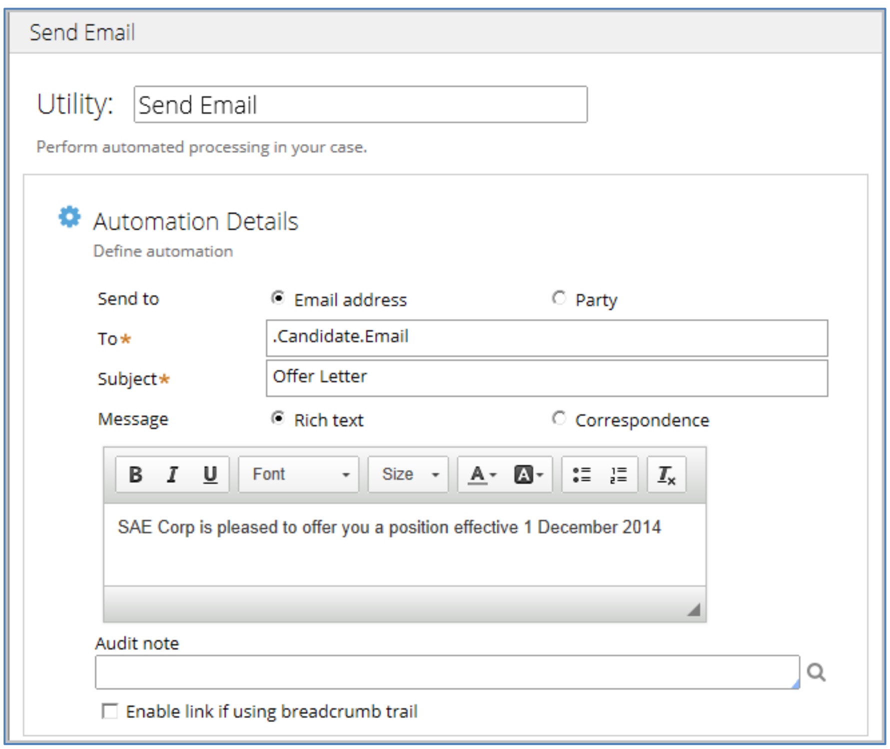
3. Add a Send Email smart shape to the process. Connect the Send Email Smart Shape to the Start and End shapes.



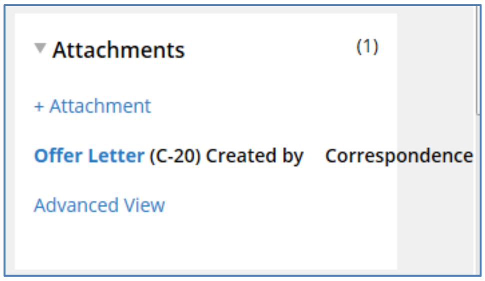
4. Open the properties panel for the Send Email smart shape. In the To field, reference the Email property on the Candidate page. (Note that you can confirm the property name using the Application Explorer.)



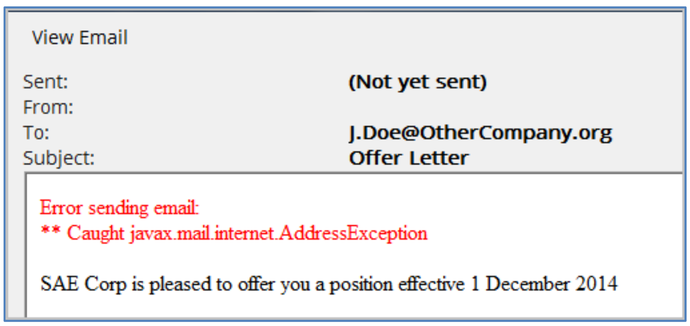
5. In the Subject field, enter "**Offer Letter**" and in the Message field, type "**SAE Corp is pleased to offer you a position effective 1 December 2014**." Click **OK** to close the form.



6. Disable draft mode and **Save** updates to the flow. Test the flow by creating a new case and advancing to completion. Once you complete the case, review the generated email, which is added to the case as an attachment.



7. Open the attachment and verify its contents. Ignore the exception that you see in the email attachment; this error indicates that the email cannot be sent to the person. This is expected behavior since we have not configured an email server and account that can send outgoing emails.

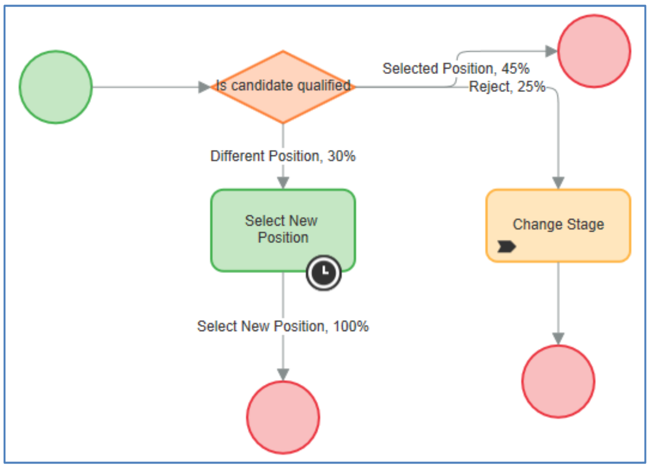


Part 2 of 3 – Change Stage if Candidate does not qualify for a Position

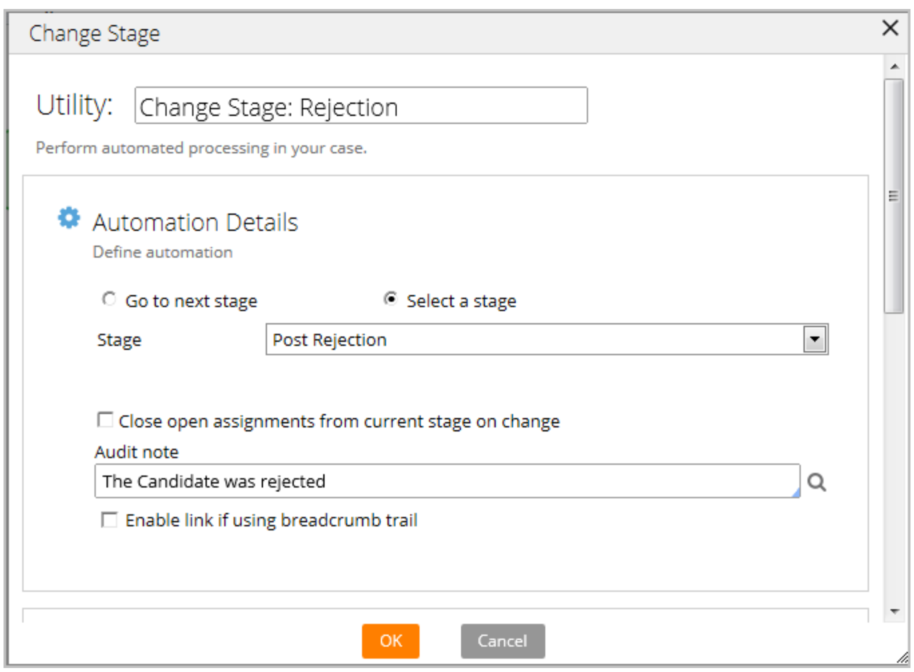
Follow the steps below to enter the Post Rejection stage if the candidate does not qualify for a position.

1. Open the Determine Target Position process diagram in the process outline.

2. Add a Change Stage smart shape to the process, between the Rejected connector and the end shape.

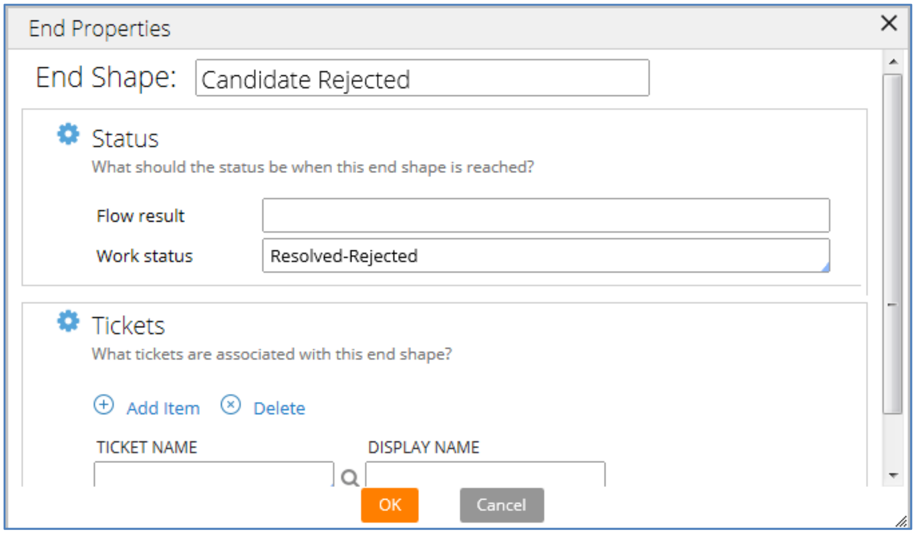


3. Right-click and **View properties** for the Change Stage shape. When the Change Stage dialog appears name the utility shape, click **Select a stage**, select the **Post Rejection** stage from the drop-down list, and enter an audit note.

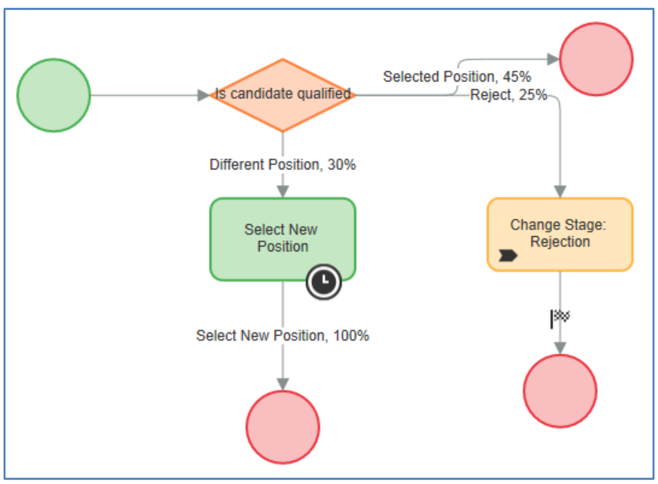


4. Click **OK** to close the Change Stage dialog

5. Right-click and **View Properties** for the End shape that follows the Change Stage shape. Set Work Status to **Resolved-Rejected**.

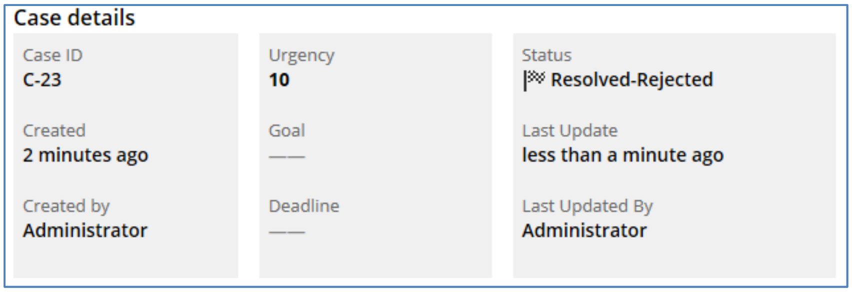


6. Click **OK** to close the End Properties dialog and view the resulting flow. Notice the new name in the Change Stage shape and the icon indicating the Resolved status.



7. **Save** changes to the case type.

8. Test the flow by creating a new case. Advance to the Screen Candidate step. In the Screener Feedback field, select **Does not match any position** to reject the candidate. Verify that the case advances to the Post Rejection stage and the status is set to “Resolved-Rejected.”

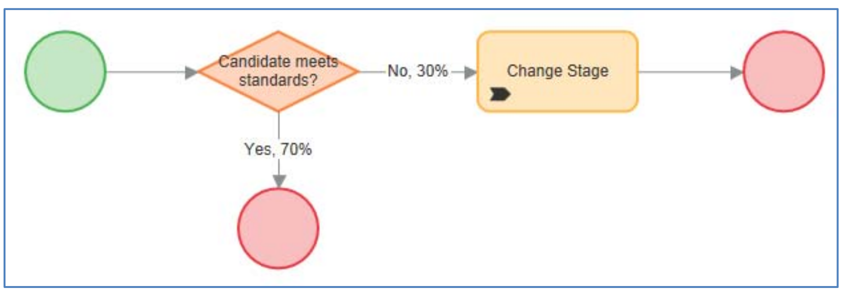


Part 3 of 3 – Change Stage if Candidate does not meet standards

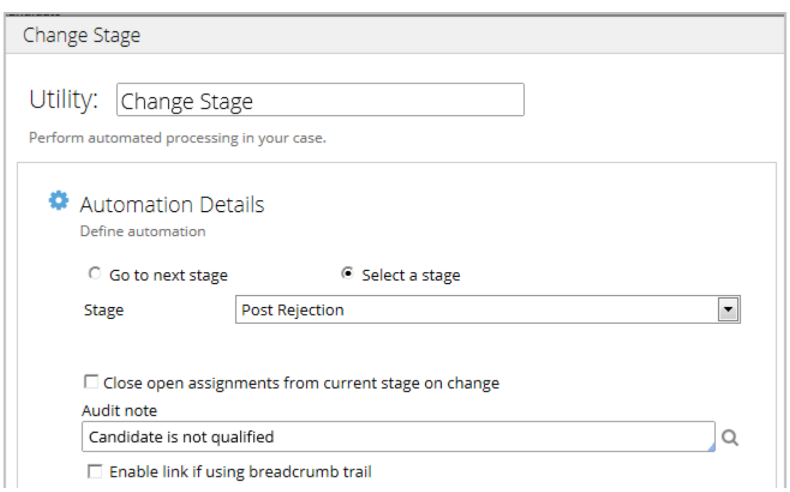
Follow the steps below:

1. Open the Assess Candidate process diagram in the process outline.

2. Add a Change Stage smart shape to the process, between the not qualified result and the end shape.

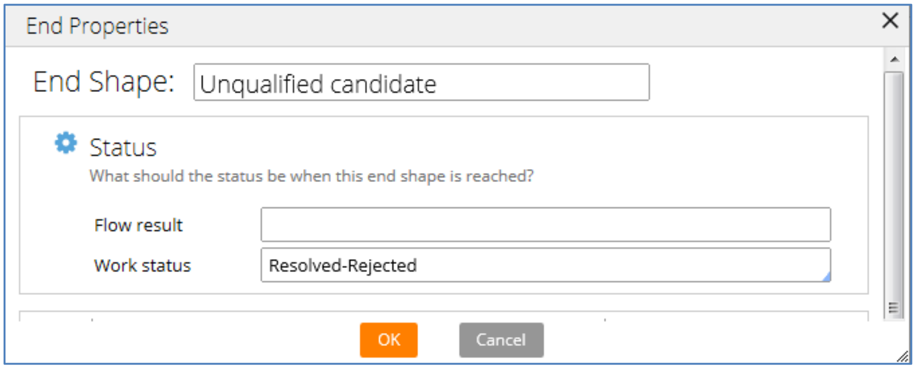


3. Right-click and **View properties** for the Change Stage shape. When the Change Stage dialog appears click **Select a stage**, select the **Post Rejection** stage from the drop-down list, and enter an audit note.



4. Click **OK** to close the Change Stage dialog

5. Right-click and **View Properties** for the End shape that follows the Change Stage shape. Set Work Status to **Resolved-Rejected**.



6. Click **OK** to close the End Properties dialog and view the resulting flow.

7. **Save** changes to the case type and then test the flow by creating a new case and advancing to candidate scoring to determine a candidate is not qualified.

Exercise: Set Goal and Deadline Intervals for a Case

Scenario

To ensure that SAE Corp does not acquire a negative perception with outside recruiters and prospective employees, the VP of HR wants to ensure that all applications for employment are resolved within a reasonable timeframe. Historically, SAE Corp has resolved applications for employment with either a yes or no answer within 6 weeks (42 days). The VP wants to shorten the process by one week, and has requested a deadline of 5 weeks (35 days). In addition, the VP would like establish a goal to resolve applications within 3 weeks (21 days).

Use the following login information

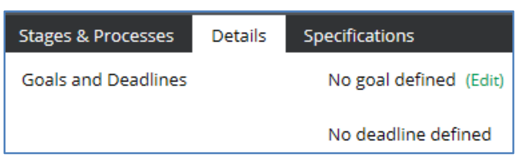
- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

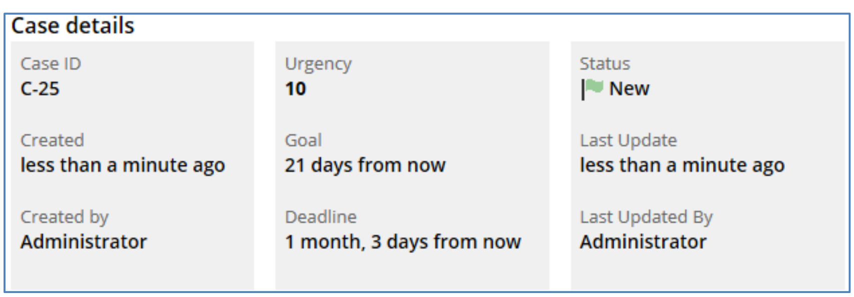
Establish a goal interval of 21 days and a deadline interval of 35 days for the Candidate case type, using the Details tab of the Case Designer.

Hints

1. Goal and deadline intervals are set in the same dialog, accessed by clicking the (Edit) link to the right of the Goals and Deadlines entry on the Details tab of the Case Designer.



2. Goal and Deadline information for a case are displayed below the form for the current assignment.

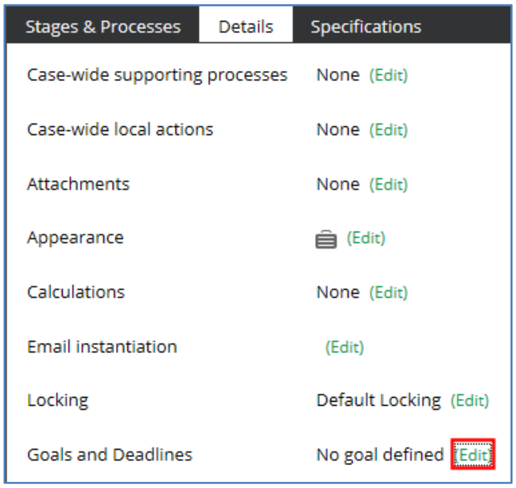


Procedure

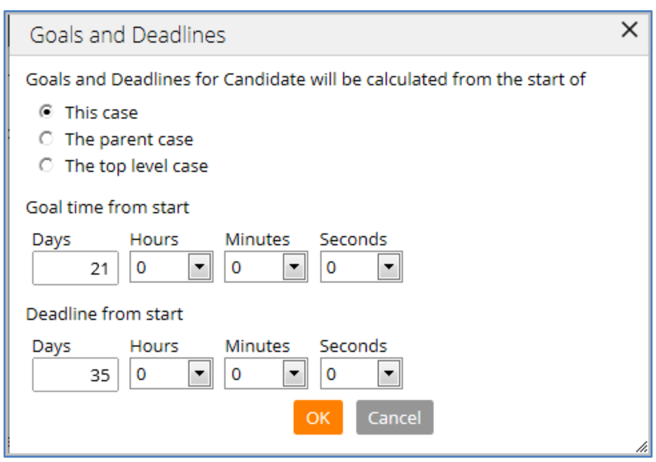
Follow the steps below:

1. Open the **Candidate** case in the Stage Designer, if necessary.

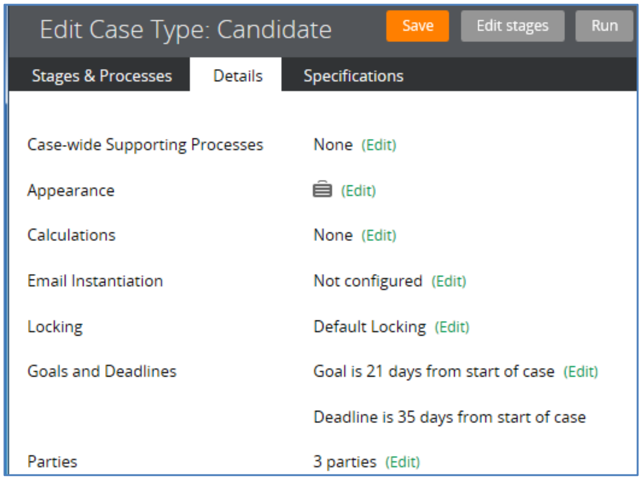
2. Click the **Details** tab and then click the **Edit** link to the right of Goals and Deadlines.



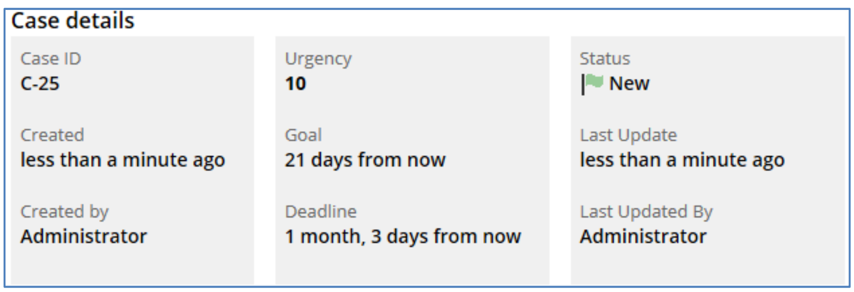
3. In the Case Designer: Goals and Deadlines dialog, confirm that the goal and deadline interval are calculated from the start of the current Candidate case. Under Goal Time from Start, enter **21** in the Days field. Under Deadline Time from Start, enter **35** in the Days field.



4. Click **OK** to close the Goals and Deadlines dialog.
5. **Save** changes to the case type.



6. Create a new Candidate case. Scroll down below the Personal Info form to view Case Details and verify that the Goal and Deadline times are calculated correctly.



Reference Information

- PRPC Help: About Goals and Deadlines
- PRPC Help: Goals definition
- PRPC Help: Deadline definition

Documenting the Application

This lesson group includes the following lessons:

- Documenting an Application

Exercise: Document an Application

Scenario

During each phase of the development process, we need to document our application. This helps other individuals to understand the changes in the application since documentation was last generated. Now that we have completed this phase of the project, we should generate documentation for the application for use as a reference when the next development team is ready to update the application.

Use the following login information

- **Role:** System Architect
- **User Name:** LeadArchitect
- **Password:** password

Approach

Run the Document wizard to generate an application document in Microsoft Word format, using the following options:

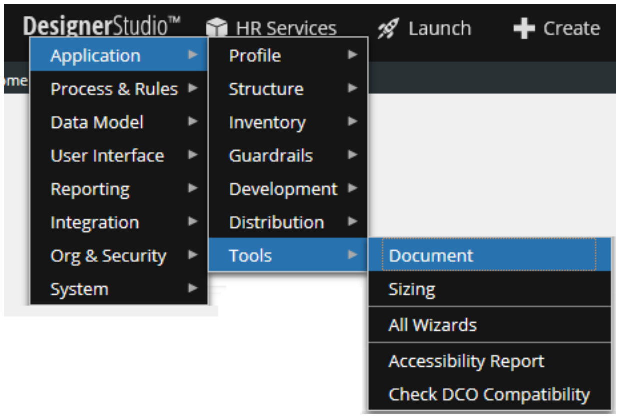
- **Detail Level:** Full Application Documentation
- **Suppress Class and RuleSet references:** enabled
- **Include entity relationship diagrams:** disabled
- **RuleSet Name and RuleSet Version (for screenshot data):** HRServices:01-01-01

Tip: The Document wizard generates documentation by importing content into Microsoft Word. Before you start the wizard, close any open Word documents and disable the Word option **Confirm file format conversion on open**, found by clicking **File → Options → Advanced** and scrolling down to the **General** section. If you don't perform this step, Word may prompt you to confirm the file format each time it receives content from PRPC.

Tip: Documentation cannot be generated using Microsoft Office 64-bit version. Currently it works only with 32-bit version only. IE should be 32-bit as the 32-bit ActiveX does not work with 64-bit IE.

Hints

1. To start the Document wizard, open the Designer Studio menu and click **Application > Tools > Document**.



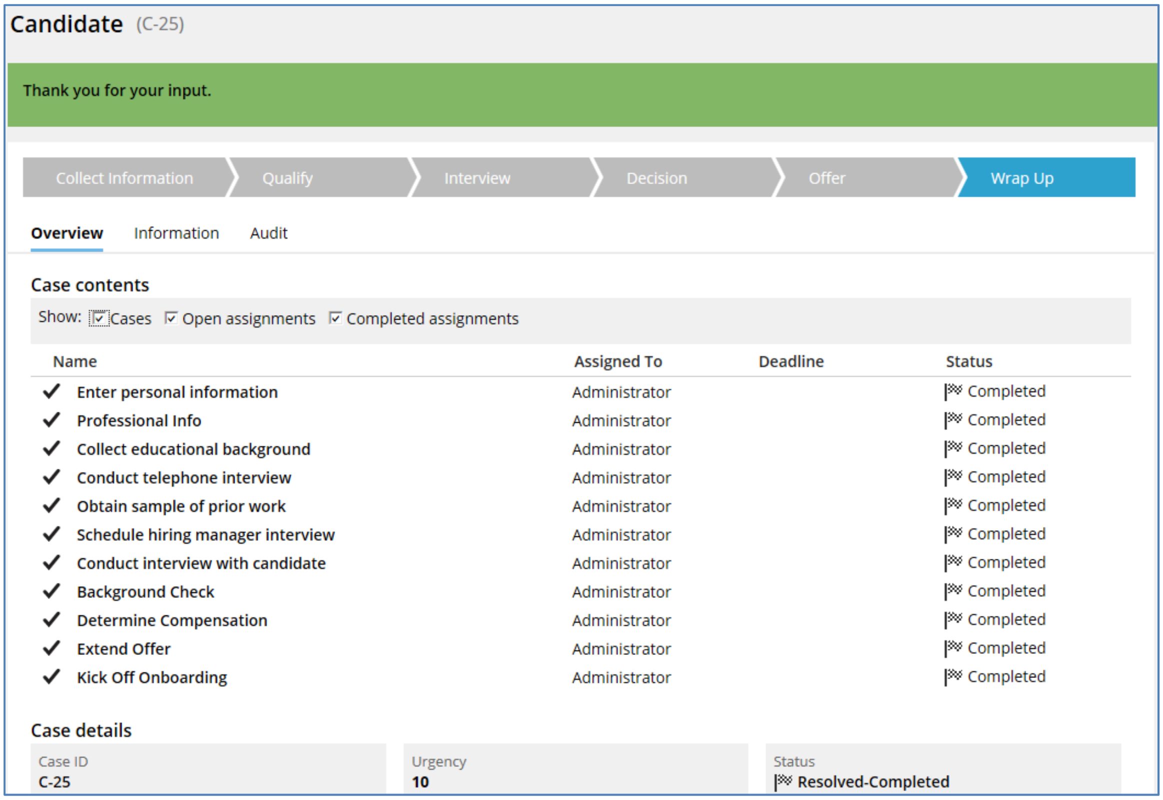
2. After you change the level of detail for your document remember to refresh the contents

3. To generate sample data for screenshots you must provide an ID number for a case, which the wizard can use as a data source. If you don't know a valid case ID, create a new case, note the case ID, and complete the case, then restart the Application Document wizard.

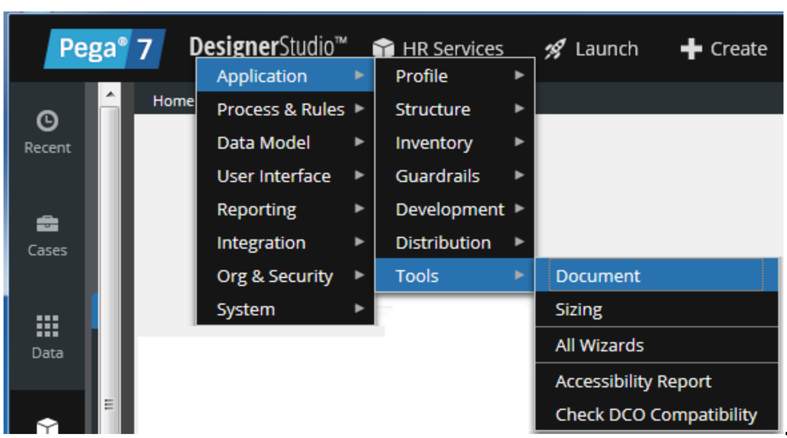
Procedure

Follow the steps below:

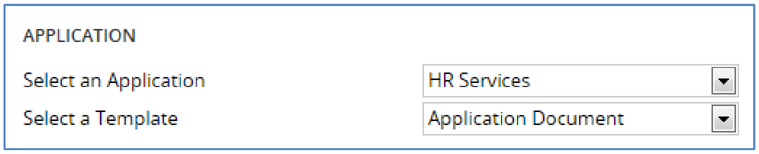
1. Start and complete a Candidate case. Note the case ID for use when generating screenshot data.



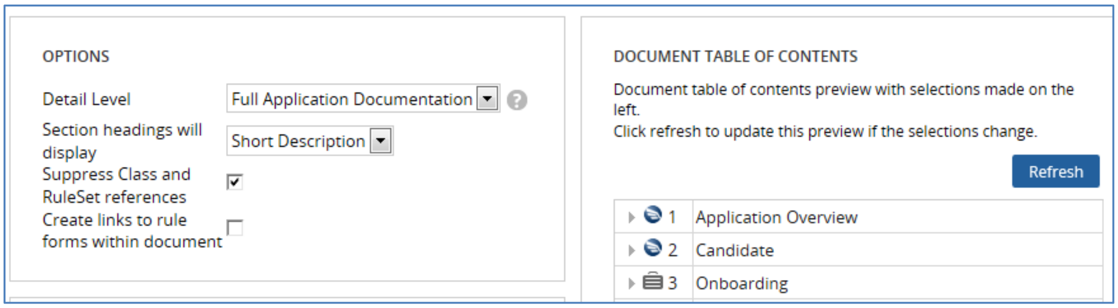
2. From the DesignerStudio menu, click **Application → Tools → Document** to start the Document wizard.



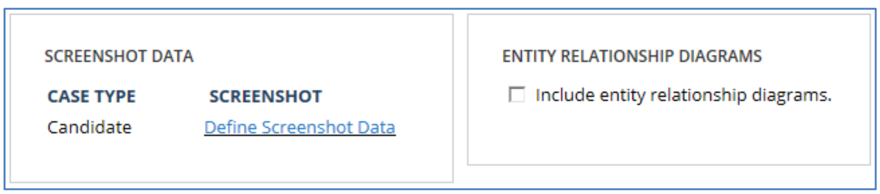
3. Confirm that the wizard will use the **Application Document** template.



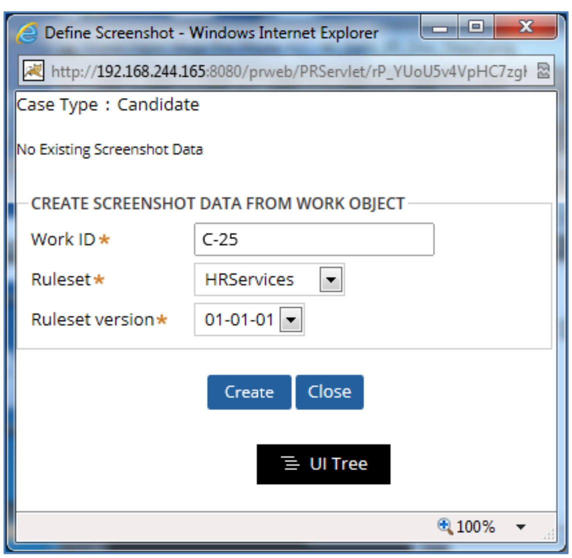
4. Set the Detail Level to **Full Application Documentation**, suppress RuleSet and class references, and **Refresh** the table of contents. When you finish, click **Next**.



5. In Step 2, disable the inclusion of Entity Relationship Diagrams, and click **Define Screenshot Data** to generate sample data for screenshots.

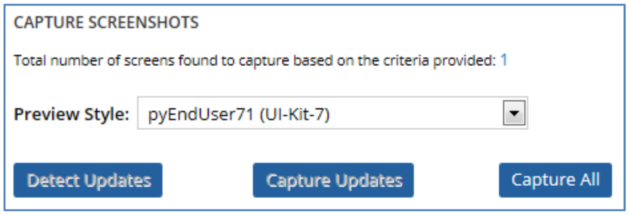


6. In the Screenshot Data window, enter the case ID you noted in step 1. From the RuleSet Name drop-down list, select **HRServices**, and from the RuleSet Version drop-down list, select **01-01-01**. Click **Create** to generate the data.

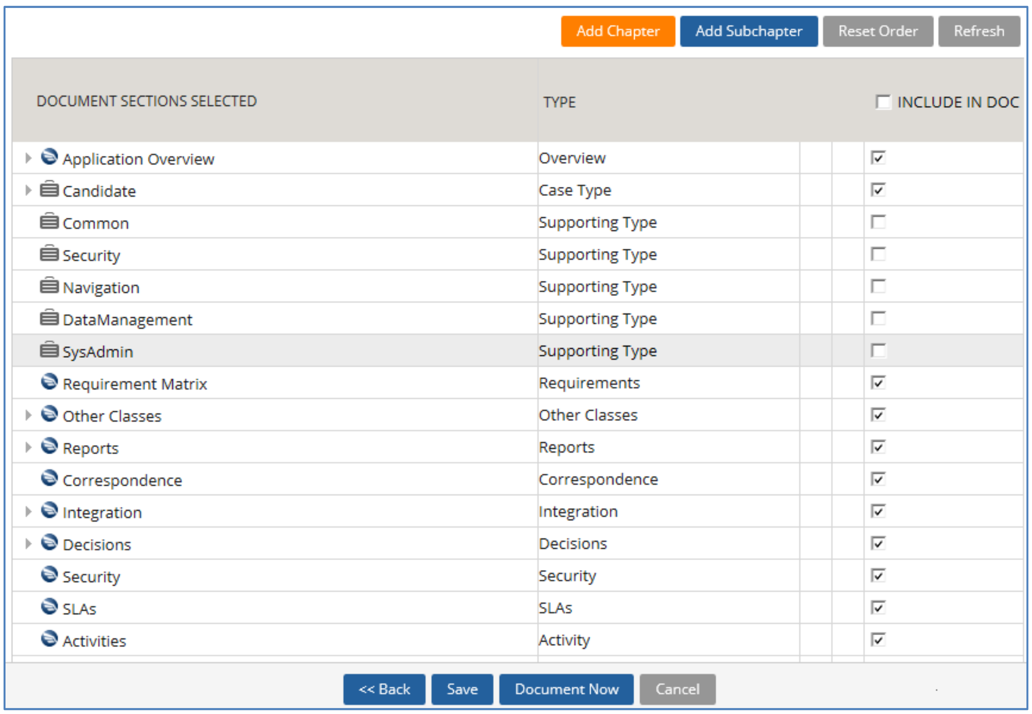


7. Click **Close** to return to the wizard, and then click **Next**.

8. In Step 3, click **Capture All** to capture the screenshots. Wait until all screenshots are captured, then click **Next**.



9. In Step 4, remove the Common, Security, Navigation, DataManagement, and SysAdmin chapters from the document, then click **Document Now** to generate your documentation.



Note: If you get a message that the Silverlight installation is required, follow the steps on the screen to perform the installation. Then, log out of your PRPC system and close your browser. Open a new browser window, return to your PRPC system and repeat the exercise.

Reference Information

- PRPC Help: Document wizard