

# System Architect Essentials

7.3.1

Exercise Guide

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# **COURSE INTRODUCTION**

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# Before you begin

# Completing the exercises

When learning new concepts or skills, there is no substitute for learning by doing.

This course includes exercises that provide practical, hands-on experience to help you apply your new skills immediately.

The exercises help reinforce the learning objectives of each lesson. They include a scenario that describes a business problem that needs to be solved and an overview of the tasks you need to perform to complete the exercise.

To help you complete the exercises, two levels of support are provided:

- Your Assignment — specifies the high level steps you need to perform to solve the business problem provided in the scenario.
- Detailed Steps — shows the series of steps needed to complete the exercise.

It is our goal that you can complete the exercises using the scenario and the tasks noted in your assignment. Use the detailed steps to check your work, or as a last resort to complete the exercise.

## Exercise environment

The exercise system for this course is available online and accessed through the **Open Exercise System** link on each exercise page. Use the credentials provided in each exercise scenario.

Click the **Open Exercise System** link to log in to your exercise environment. Enter the credentials provided in the scenario. After you complete an exercise, log out of the exercise environment. Ensure you use the correct credentials to log in for each exercise.

**Note:** The exercise environment provides a pre-built Pega Platform application configured specifically for this course. This allows you to focus on the key tasks of each exercise without having to complete ancillary tasks.

## Exercise guide reference

While individual exercises are included for each lesson online, you may find it useful to download and print out the complete exercise guide. This is available in the related content section on the right side of this lesson.



# INTRODUCTION TO PEGA PLATFORM

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# Pega Platform

## Exercise: Guided tour of Pega Express

Pega Express showcases staged-based case management, the ability to edit your designs as you build and run your application. Pega Express also has tools you can use to preview the application on a desktop, laptop, tablet, or mobile phone.

Using Pega Express, you build applications quickly using any of the interactive tools and features. For a more guided approach, you can take a tour. Or you can complete the tasks that display in the Achievements widget of your dashboard. Context-sensitive help and online help are also available to assist you each step of the way.

A guided tour of Pega Express is available in your training environment.

To take the guided tour, use the **Open exercise system** link to access your personal training environment.

The following table provides the login credentials you need to take a guided tour of Pega Express.

Role	Operator ID	Password
Explorer	explorer.sampleapp	rules

# DESIGNING A CASE LIFE CYCLE

# Designing a case life cycle

## Exercise: Modeling a case life cycle

### Scenario

TGB wants to extend its human resources (HR) application to process onboarding cases for new employees. These cases guide new employees and HR business partners through the onboarding process. The process for onboarding new employees includes:

- Identifying the corporate location (home office) from which the new employee will be based
- Selecting the new employee's orientation plan
- Preparing and emailing a welcome packet to the new employee
- Requesting that the Facilities department prepare a cubicle or office
- Allowing the employee to sign up for benefits, including company-sponsored health care

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

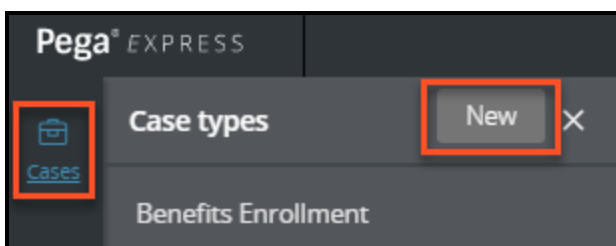
Model the case life cycle for the onboarding process.

### Detailed steps

Follow these steps to model the case life cycle of the onboarding process.

#### Building the Pre-Arrival Setup stage

1. In Pega Express, select the **Cases Explorer**, and then click **New** to create a new case type.

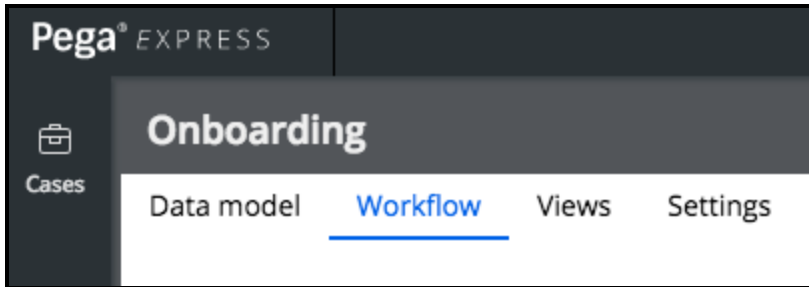


2. In the **Case type name** field, enter Onboarding, and then click **Next**. A new case type record

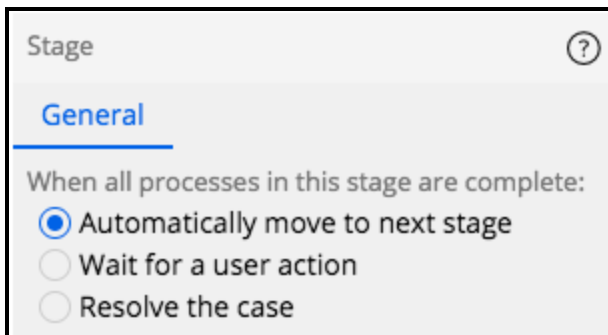
displays in the work area.

**Tip:** Click the **X** in the guided tour dialog to close the guided tour.

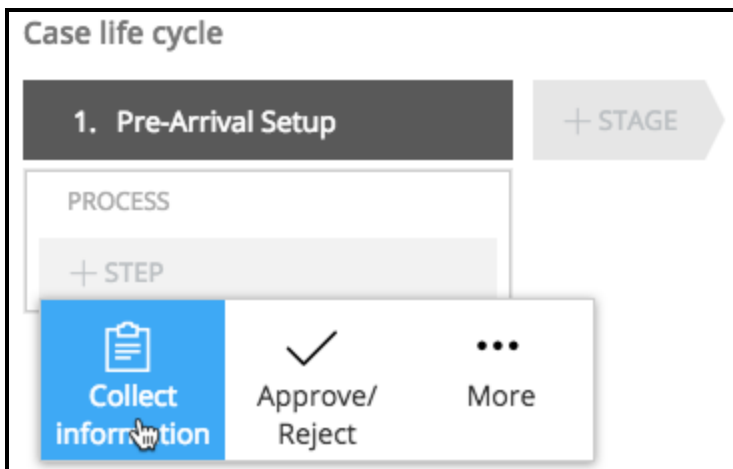
3. Click the **Workflow** tab to begin modeling the Onboarding case life cycle.



4. Click **Add lifecycle**. A case life cycle with one stage displays.
5. In the text field of the first stage, enter **Pre-Arrival Setup** as the name of the first stage.
6. In the contextual properties panel on the right, ensure that **Automatically move to next stage** is selected to advance automatically.

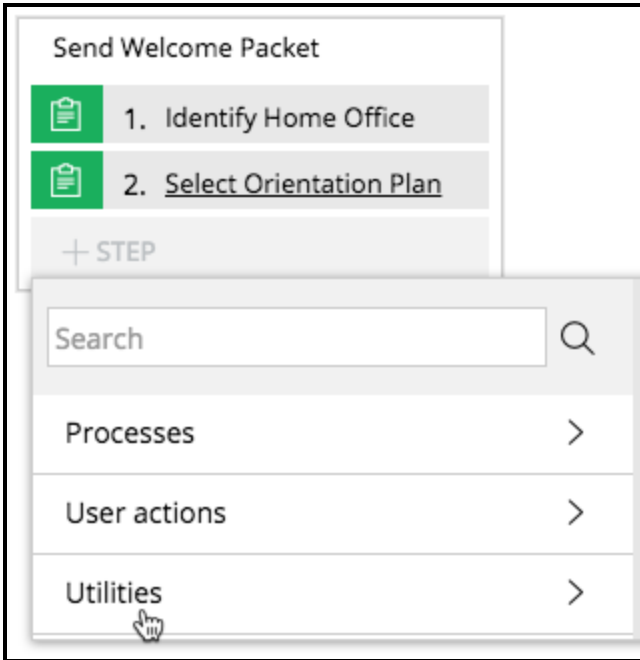


7. Move your mouse over **+ PROCESS** and then click **+ STEP**.
8. Select the **Collect information** step type.

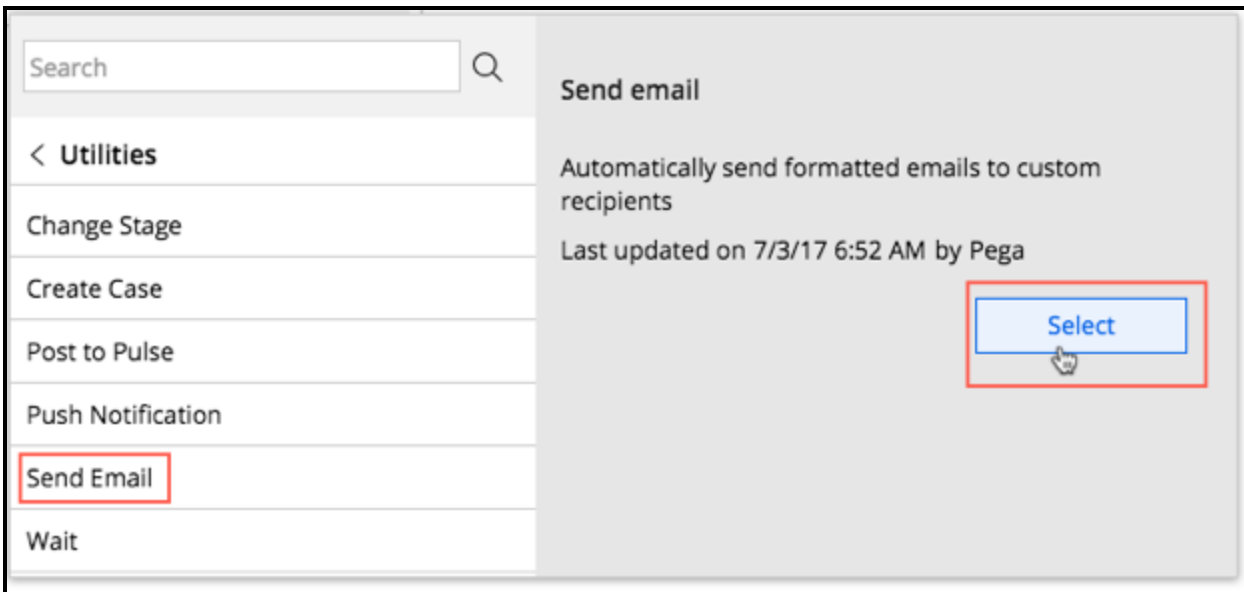


9. Enter **Identify Home Office** as the name of the step.
10. Enter **Send Welcome Packet** as the name of the process.
11. Add a second **Collect Information** step, and enter **Select Orientation Plan** as the name of the step.

12. Click **+ STEP**, then select **More > Utilities** to view choices.

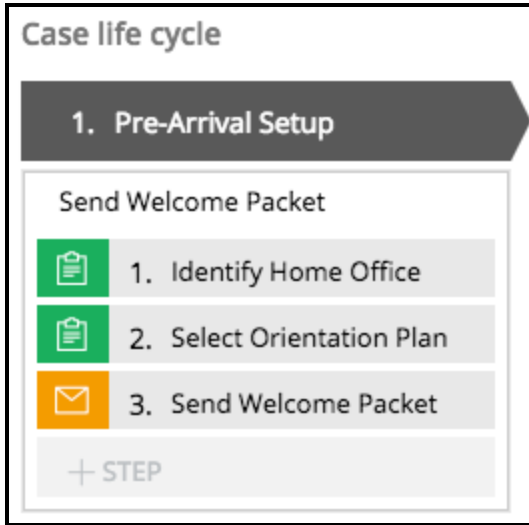


13. Select the **Send Email** utility, and then click **Select**.



14. Enter **Send Welcome Packet** as the name of the third step.

15. Save your changes. The Onboarding case life cycle displays as shown in the following image:



## Building the Facilities Setup and Benefits Enrollment stages

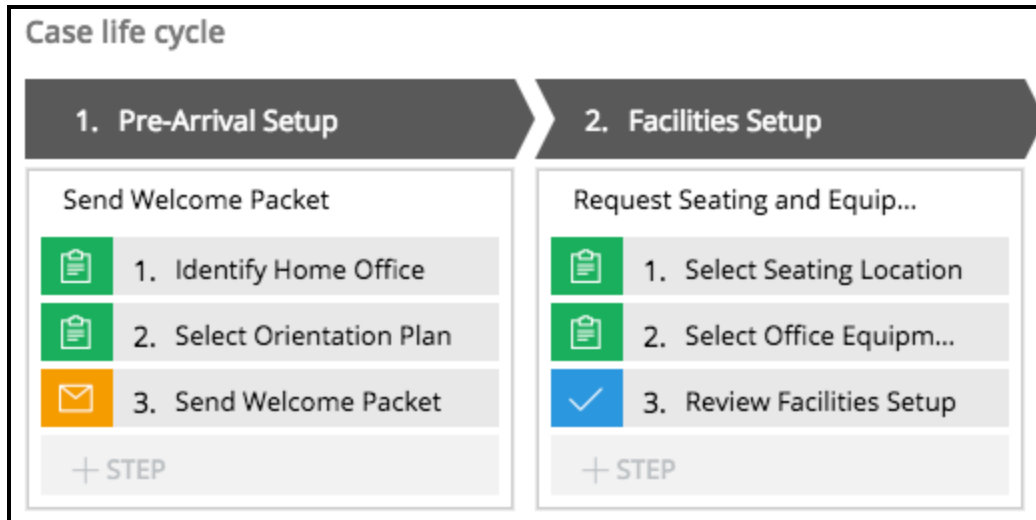
1. Click **+ STAGE** to add a second stage to the Onboarding case life cycle.
2. Enter **Facilities Setup** as the name of the second stage, and ensure that the **Automatically move to next stage** option in the contextual properties panel is selected.
3. Add three steps to the default process in the Facilities Setup stage using the information in the following table:

Step order	Step type	Step name
1	Collect Information	Select Seating Location
2	Collect Information	Select Office Equipment
3	Approve/Reject	Review Facilities Setup

**Note:** Notice an alternate stage is added to the case life cycle. You will add details to this alternate stage later.

4. Enter **Request Seating and Equipment** as the name of the process.

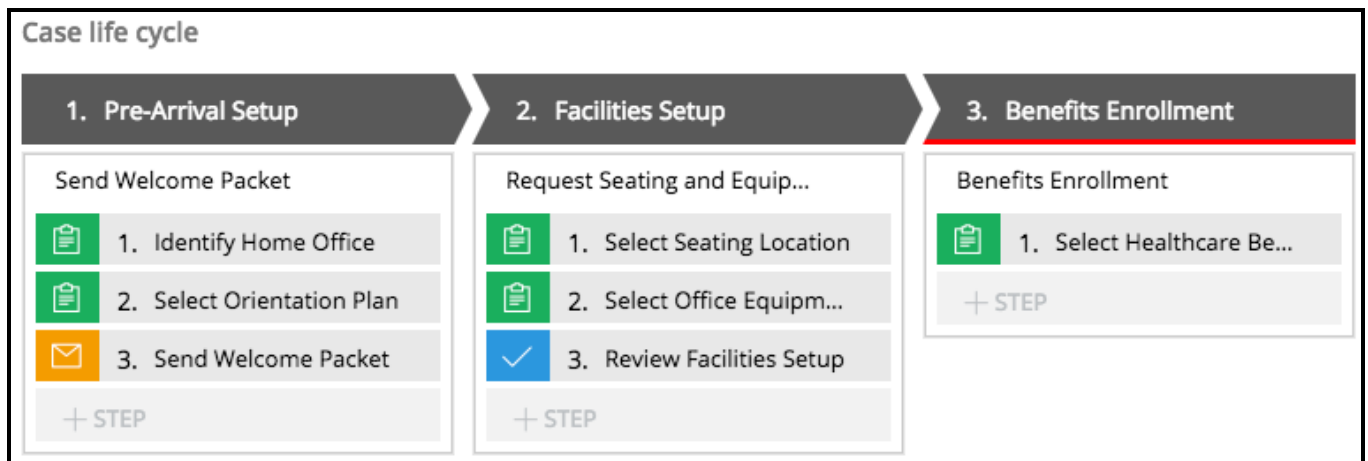
5. Save your changes. The Onboarding case life cycle displays as shown in the following image:



6. Add a third stage to the Onboarding case life cycle, enter **Benefits Enrollment** as the name of the stage, and select the **Resolve the case** option in the contextual properties panel.

7. Add a **Collect Information** step, and enter **Select Healthcare Benefits** as the name of the step.

8. Save your changes. The Onboarding case life cycle displays as shown in the following image:



## Verify your work

Test the Onboarding case to verify the steps added to the case life cycle.

**Note:** This playback helps demonstrate how a case life cycle model can be executed without any additional configuration.

1. Click **Run** to create a new instance of the Onboarding case type. A new Onboarding case is created.
2. The new Onboarding case does not have any data fields defined yet. Click **Done** to advance the case to the next step.
3. Notice the case is on the Identify Home Office step in the first stage (Pre-Arrival Setup). This playback is used only to confirm the case advances from one stage and step to another as defined



in the case life cycle. You can configure views later. Click **No, advance the case** to advance the case to the next step.

4. Confirm the case is on the Select Orientation Plan step in the Pre-Arrival Setup stage. Click **No, advance the case** to advance the case to the next step.

5. Confirm the case is on the Select Seating Location step in the Facilities Setup stage. Click **No, advance the case** to advance the case to the next step.

**Note:** The Send Welcome Packet step is not displayed because it is an automated step.

6. Confirm the case is on the Select Office Equipment step in the Facilities Setup stage. Click **No, advance the case** to advance the case to the next step.

7. Confirm the case is on the Approval step in the Facilities Setup stage. Click **Approve** to advance the case to the next step.

8. Confirm the case is on the Select Healthcare Benefits step in the Benefits Enrollment stage. Click **No, advance the case** to advance the case to the next step.

9. Confirm the status of the Onboarding case is set to Resolved-Completed.

---

# Guiding users through a case life cycle

## Exercise: Guiding users through a workflow

### Scenario

The goal for this iteration of the Onboarding case life cycle is to add directional cues and set the relevant status of the case. These enhancements help new employees, and those involved in the onboarding case, clearly understand the status of the case and the intent of assignments.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

**Note:** Logging in as author.hrapps displays Pega Express. You will switch to Designer Studio to enter the instructions and complete this exercise.

Ensure the status and instructions are provided for each step of the Onboarding case. Use the information in the following table to complete this assignment:

Step	Status	Instructions
Identify Home Office	Open	Specify the company office where the new employee will be based
Select Orientation Plan	Open	Prepare the new employee orientation plan
Select Seating Location	Open	Select an office seat for the new employee
Select Office Equipment	Open	Select office equipment for the new employee
Select Healthcare Benefits	Open	Select your preferred healthcare benefits or waive the coverage

**Important:** If you want to add punctuation to the end of the instructions, you must encase the instructions in double quotes. Using punctuation without encasing the text string in double quotes will result in an execution error at run time.

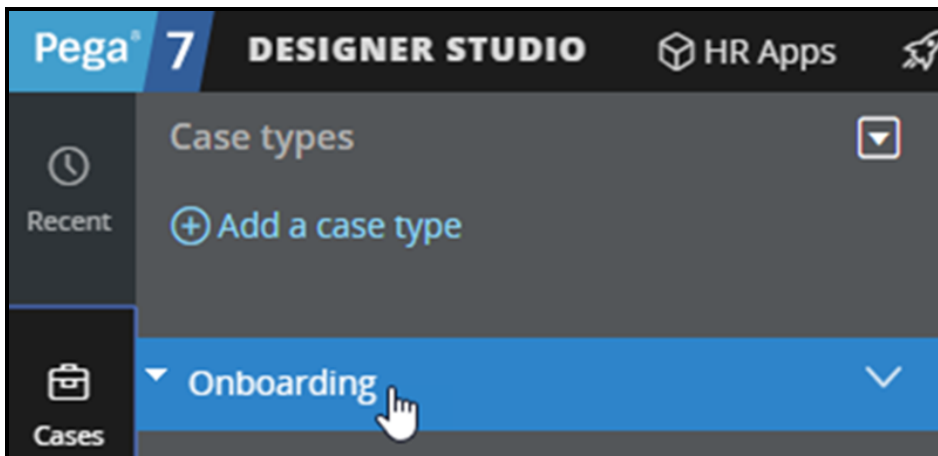
## Detailed steps

Follow these steps to add user guidance to a case type.

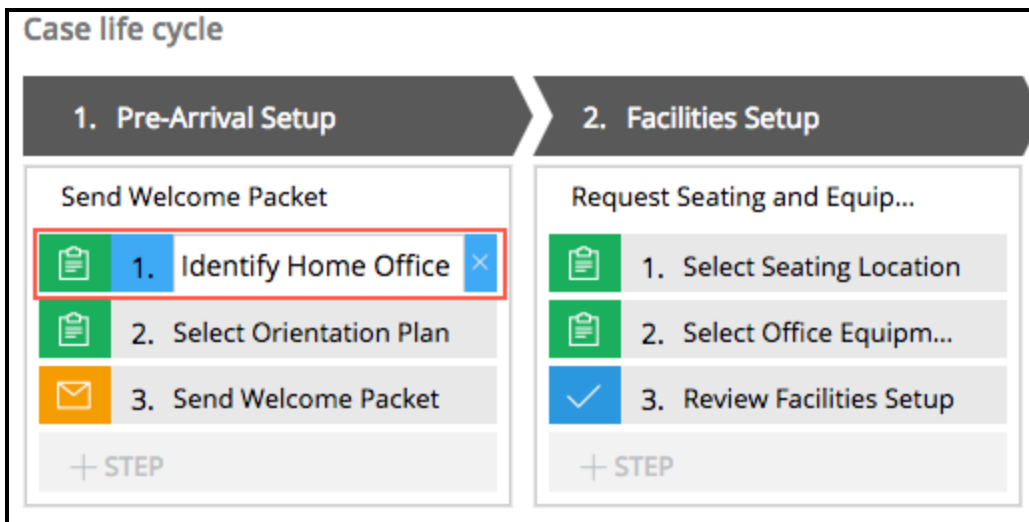
1. Click the double-headed arrow in the lower left corner to switch to Designer Studio to add instructions for steps.



2. In Designer Studio, click **Cases** to view a list of available case types.
3. In the **Case types** panel, select the **Onboarding** case type.



4. Select the **Identify Home Office** step.



5. On the **General** tab of the Contextual Properties panel, set the case status to Open.

**Tip:** Place your cursor in the **Set case status** field, and then press the down arrow on your keyboard to display a list of available statuses.

- In the **Instructions** text field, enter Specify the company office where the new employee will be based as the text to display.

**Important:** If you want to use punctuation, encase the text string — including all punctuation — in double quotes.

Step description goes here

General Goal & deadline

Route to  
Current user

Set case status  
Open

Instructions  
Specify the company office where the n

Configure view

- Repeat steps 3 through 5 to set the case status and specify instructions for each of the remaining steps using the information in the following table:

**Note:** Complete as many of these additional steps as you believe are necessary for mastering this task.

Step	Status	Instructions
Select Orientation Plan	Open	Prepare the new employee orientation plan
Select Seating Location	Open	Select office seating for the new employee
Select Office Equipment	Open	Select office equipment for the new employee
Select Healthcare Benefits	Open	Select your preferred healthcare benefits or waive coverage

- Click **Save** to save your changes.

## Verify your work

Create a new Onboarding case to test your changes.

- Open the Onboarding case type, and then click **Run** to create a new instance of the Onboarding case type.
- On the **New: Onboarding** screen, click **Done**.

The instructions and status are displayed on the Identify Home Office screen.

**Identify Home Office**

Specify the company office where the new employee will be based

Cancel

Continue advancing through the Onboarding case to verify the case status and instructions for each of the steps you completed in the exercise.

---

# Defining user views

## Exercise: Configuring a standard user view

### Scenario

The initial case life cycle design for the Onboarding case type is complete. You can now configure user views to collect and display the information required to complete the onboarding of a new employee.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

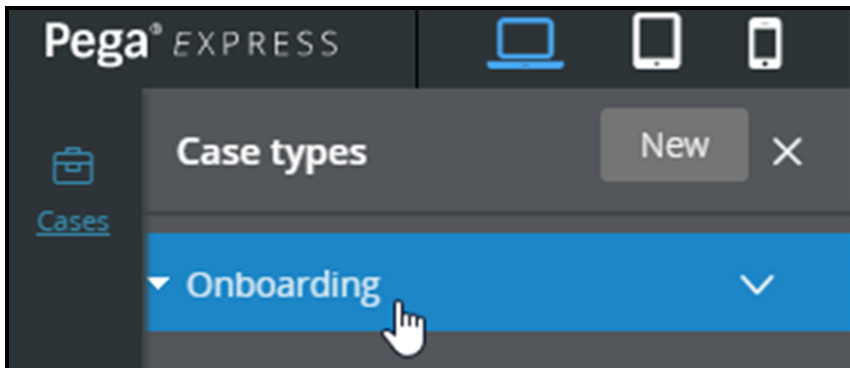
Configure the default Create user view with a field group named Employee, that contains the fields as shown in the following table:

Label	Type	Options
Start Date	Date only	Optional
Department	Text (single line)	Optional
Manager	Text (single line)	Optional
Contractor	Boolean	Optional
First Name	Text (single line)	Optional
Last Name	Text (single line)	Optional
Email Address	Email	Optional

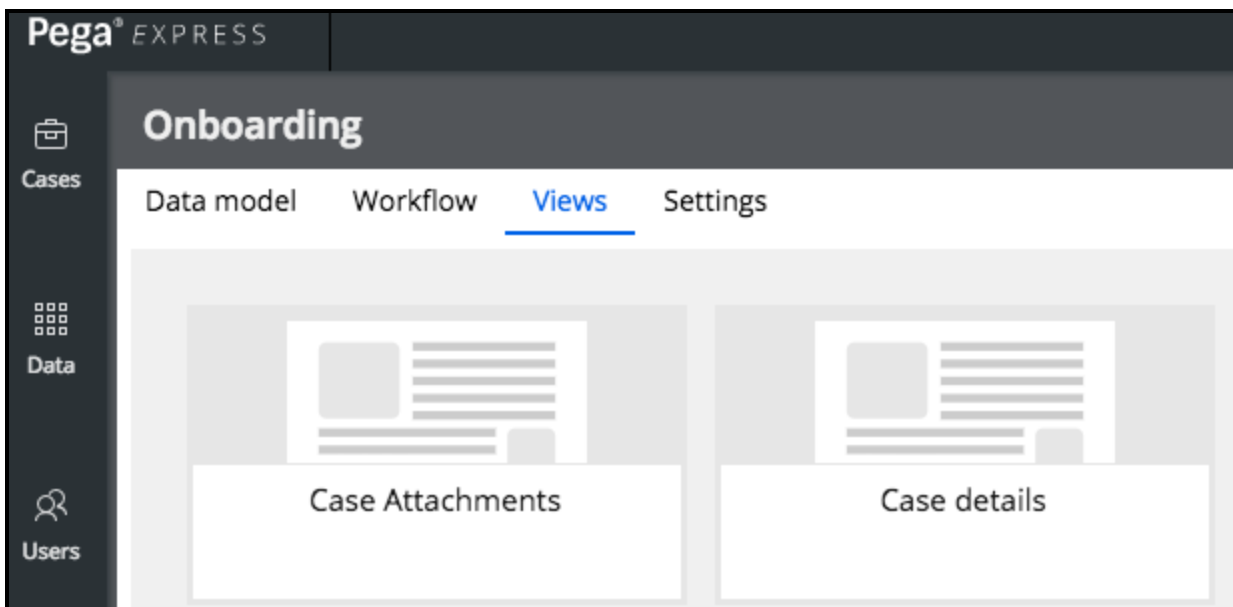
### Detailed steps

Follow these steps to configure a standard user view.

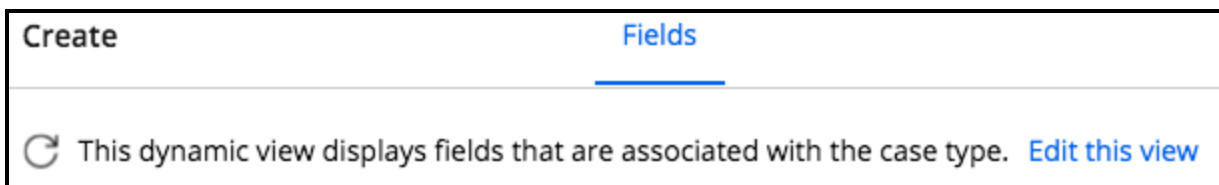
1. In Pega Express, click **Cases** to view a list of available case types.
2. In the **Case types** panel, select the **Onboarding** case type.



3. Click **Views** to display available user views, and then select the **Create** view.



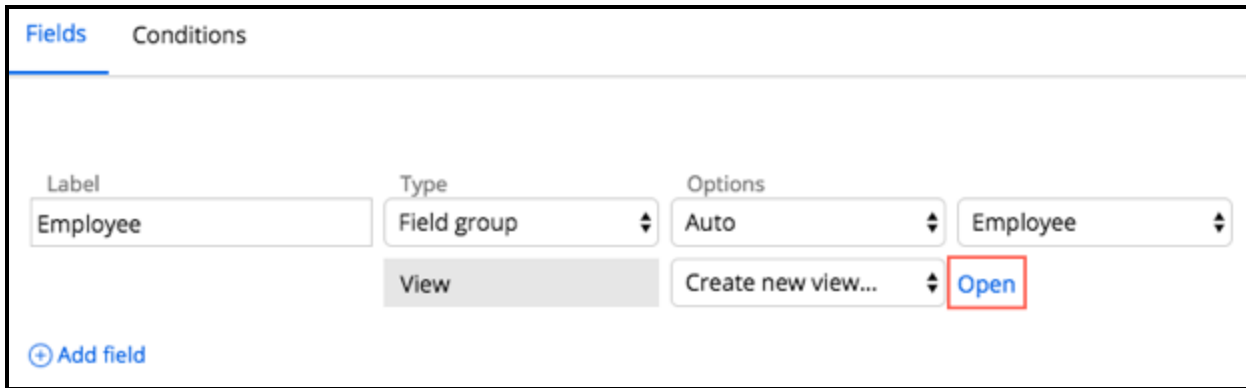
4. Click **Edit this view** to add fields to the user view.



5. In the first empty **Label** field, enter Employee.
6. **Tab** to the **Type** drop-down list and select Field group.

**Tip:** The *Field group* option is in the *Complex types* section at the bottom of the list.

7. Click **Open** to add fields to the Employee field group.



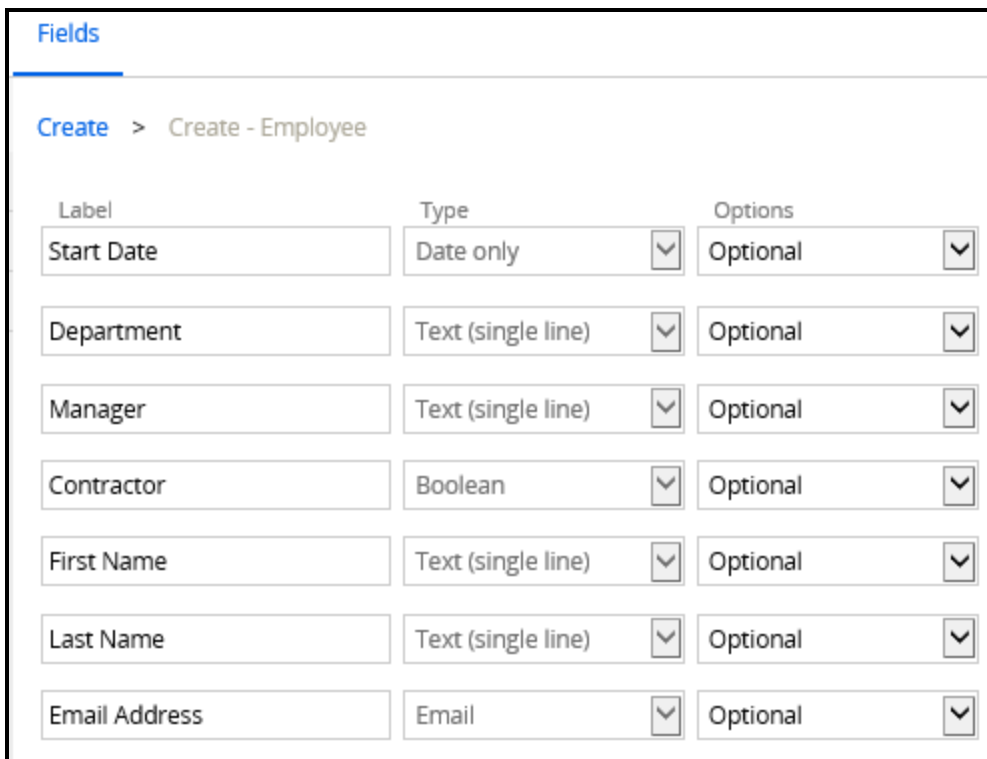
8. In the first empty **Label** field, enter Start Date.

9. **Tab** to the **Type** drop-down list and select **Date only**.

10. Below the field you just entered, click **Add field** to add another field to the user view.

11. Repeat steps 8 through 10 to add the fields shown in the following table:

Label	Type	Options
Department	Text (single line)	Optional
Manager	Text (single line)	Optional
Contractor	Boolean	Optional
First Name	Text (single line)	Optional
Last Name	Text (single line)	Optional
Email Address	Email	Optional







12. Click **Submit** to save your changes to the user view.
13. In the upper right corner of Pega Express, click **Save** to save your changes to the Onboarding case type.

## Verify your work

In the upper right corner of Pega Express, click **Run** to run an instance of the Onboarding case type.

**Employee** 

Start Date  
 

Department

Manager

Contractor

First Name

Last Name

Email address

The fields you created are added to the standard Create view.

## Exercise: Configuring a custom user view

### Scenario

The initial case life cycle design for the Onboarding case type is complete. You can now configure user views to collect and display the information required to complete the onboarding of a new employee.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

## Your assignment

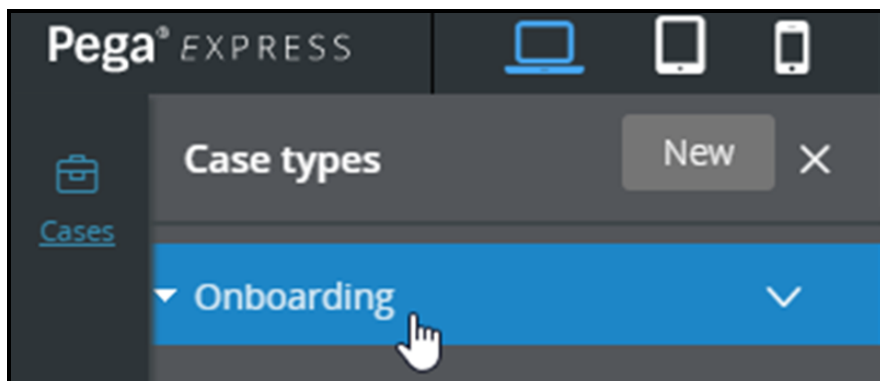
Configure user views for the steps in the Onboarding case as shown in the table below:

Step	Field Label	Field Type	Options	List choices
Identify Home Office	Office	Picklist		Atlanta Berlin Tokyo
	Remote employee?	Boolean		
Select Seating Location	Office	Text (Single line)	Read-only	
	Location	Picklist		

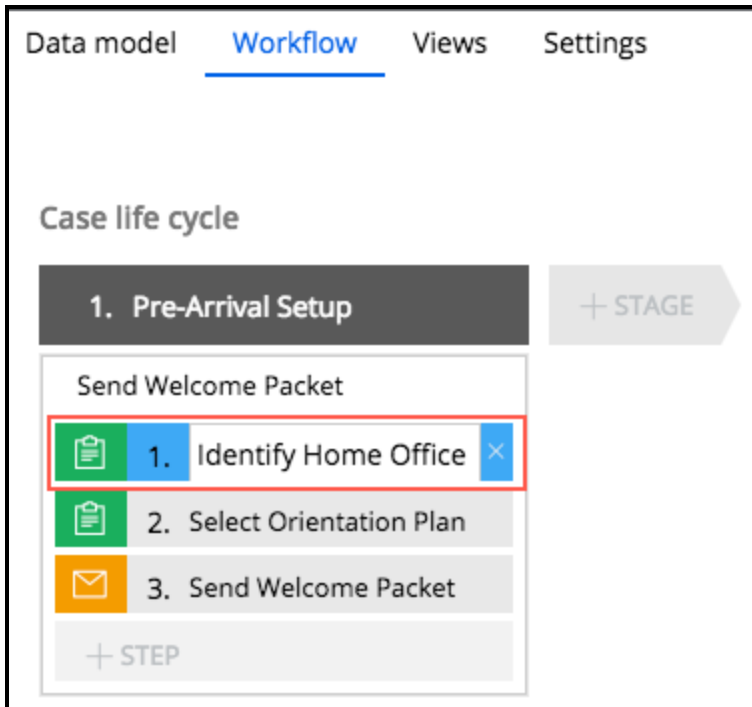
## Detailed steps

### Configure the Identify Home Office user view

1. In Pega Express, click **Cases** to view a list of available case types.
2. In the **Case types** panel, select the **Onboarding** case type.



3. From the case life cycle view, select the **Identify Home Office** step.



4. From the Contextual Properties panel, click **Configure view** to add properties to the form.

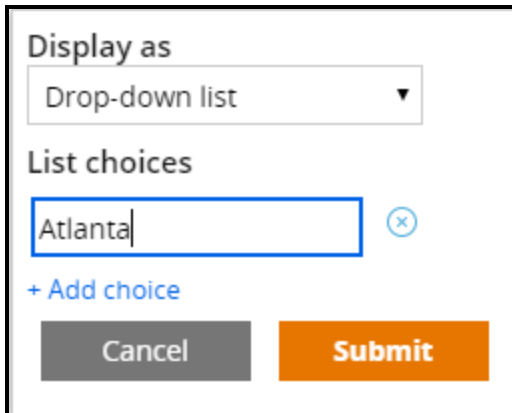
5. In the first empty **Label** field, enter Office.

6. **Tab** to the **Type** drop-down list and select **Picklist** as the field type.



7. To the right of the **Options** drop-down list, click the **Gear** icon to open a popup to configure the field.

8. In the **List choices** field, enter Atlanta.



Display as  
Drop-down list

List choices  
Atlanta

+ Add choice

Cancel Submit

9. Under the field, click **+Add choice** to add an empty field to the list.

10. In the empty field, enter Berlin.

11. Click **+Add choice** to add an empty field to the list.

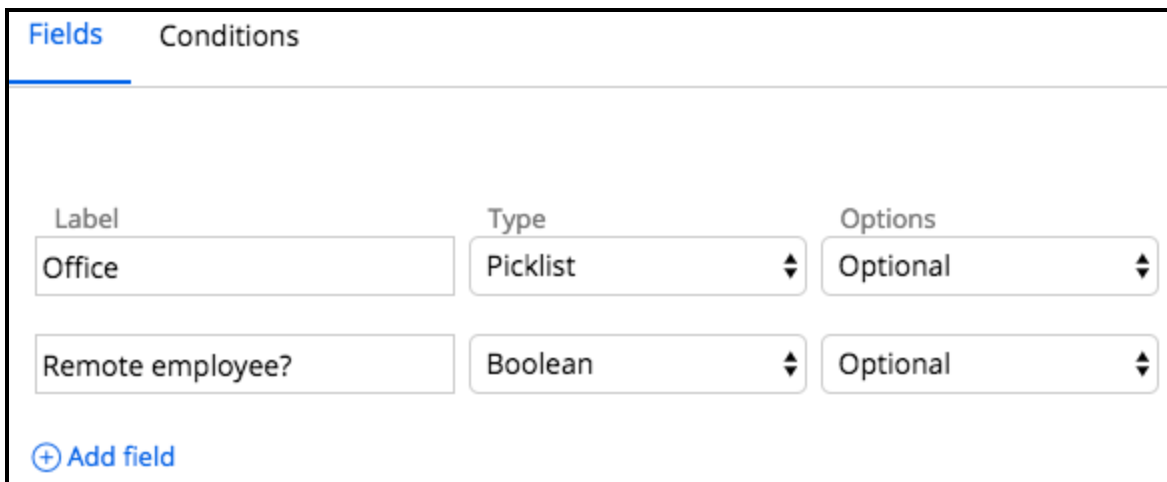
12. In the empty field, enter Tokyo.

13. Click **Submit** to complete the configuration of the picklist and return to the user view configuration.

14. Below the field you just added, click **Add field** to add another field to the user view.

15. In the empty **Label** field, enter Remote employee?

16. From the **Type** drop-down list, select Boolean as the field type.



Label	Type	Options
Office	Picklist	Optional
Remote employee?	Boolean	Optional

+ Add field

17. Click **Submit** to save your changes to the user view.

18. Click **Save** to save your changes to the Onboarding case type.

## Configure the Select Seating Location user view

Follow the procedure above to configure the Select Seating Location user view.

1. Add fields to the user view using the data shown in the following table:

Label	Type	Options
Office	Picklist	Read-only
Location	Picklist	Optional

The screenshot shows a configuration window with two tabs: 'Fields' (selected) and 'Conditions'. Under the 'Fields' tab, there are two rows of field configurations. Each row consists of three columns: 'Label', 'Type', and 'Options'. The first row has 'Office' in the Label column, 'Picklist' in the Type column, and 'Read-only' in the Options column. The second row has 'Location' in the Label column, 'Picklist' in the Type column, and 'Optional' in the Options column. At the bottom left, there is a blue button with a plus sign and the text '+ Add field'.

2. Click **Submit** to save your changes to the user view.
3. In the upper-right corner of Pega Express, click **Save** to save your changes to the Onboarding case type.

## Verify your work

1. In the upper-right corner of Pega Express, click **Run** to run an instance of the Onboarding case type.
2. Click **Done** to advance the case to the Identify Home Office step. The fields you added to the Identify Home Office user view are displayed.


The screenshot shows a step titled 'Identify Home Office' with a green circle containing the letter 'A'. Below the title is the instruction 'Specify the company office where the new employee will be based'. There is a drop-down menu for 'Office' with the text 'Select...' and a pencil icon. Below the drop-down is a checkbox labeled 'Remote employee?'.

3. From the **Office** drop-down list, select **Atlanta**.
4. Click **Submit** to advance the case to the next step. Confirm the case is on the Select Orientation Plan step.

5. Click **No, advance the case** to advance the case to the Select Seating Location step. The fields you added to the Select Seating Location user view are displayed. The Office field displays the value Atlanta. The **Location** Picklist is not yet complete.

### Select Seating Location A

Select an office seat for the new employee

Office   
Atlanta

Location  
 ▼

---

# Validating case data

## Exercise: Validating user entries on forms

### Scenario

To avoid processing delays for onboarding and benefits enrollment cases, the Human Resources (HR) department asks you to ensure that users provide accurate data when processing an onboarding request. HR wants to ensure that users enter a start date and select a home office. In addition, HR wants to ensure that the start date for a new hire is entered correctly as a future date.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

Validate the start date for a new employee to ensure that users can only enter a future date. To do this:

- Create a validate rule to test the employee's start date (.StartDate).
- Configure the first stage of the workflow to call the validate as a stage entry condition.

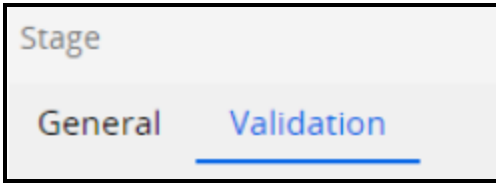
### Detailed steps

#### Create a validate rule to test the value of the Start Date property

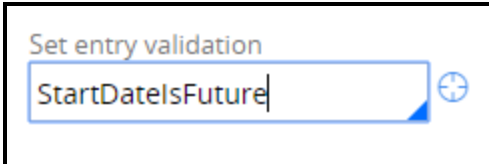
For an onboarding case, the start date of the employee must be a date in the future. Create a validate rule to test the value entered by the user. If the date is not in the future, prevent the case from advancing to the Pre-Arrival Setup stage.

1. Switch to Designer Studio for access to the Validation tab.
2. From the Case Explorer, open the onboarding case.
3. On the **Workflow** tab, click the **Pre-Arrival Setup** stage. You will be adding the employee start date validation at the beginning of this stage.
4. In the contextual properties panel for the Pre-Arrival Setup stage, click the **Validation** tab to display

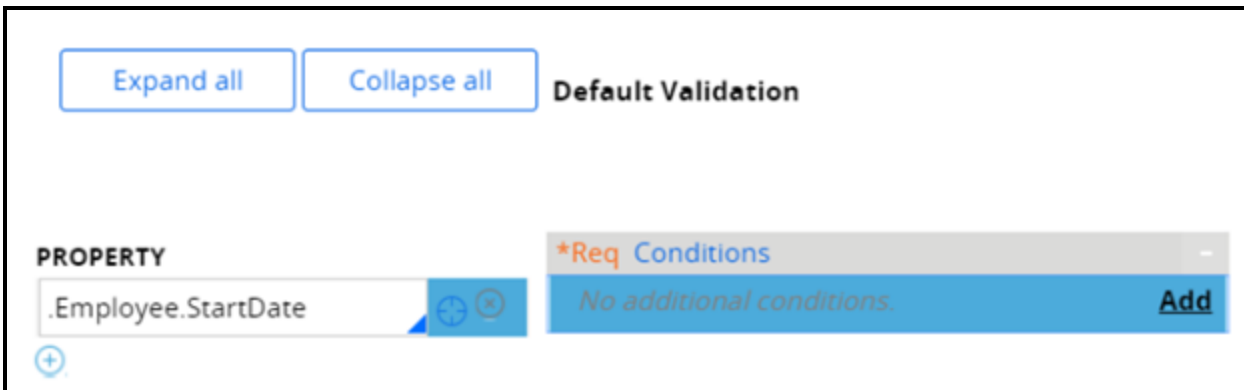
the validation field.



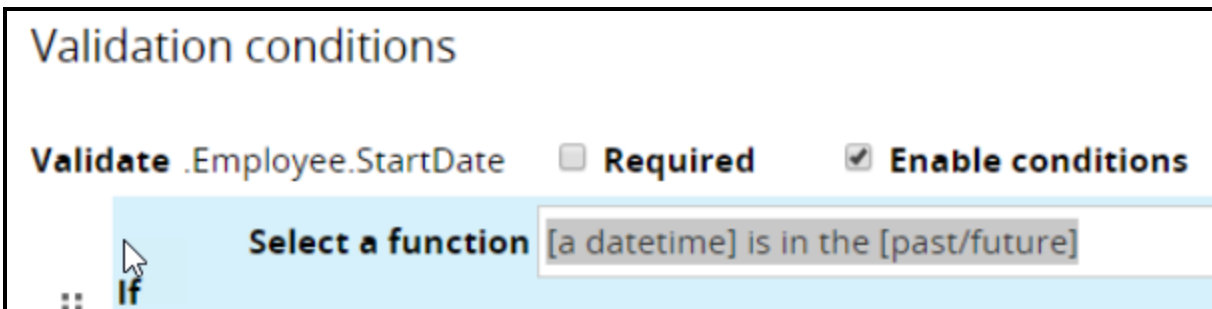
5. In the **Set entry validation** field, enter StartDateIsFuture to name the validate record and click the target to the right of the field to display the Create Validate form.



6. In the **Label** field, ensure StartDateIsFuture is displayed and click **Create and open** to open the Edit Validate form.
7. In the **Property** field, select .Employee.StartDate to specify the property that will be flagged if validation fails.



8. To the right of the **Property** field, click the **Add** link to define the validation condition.
9. In the **Select a function** field, press the **down arrow** on the keyboard and select **[a datetime] is in the [past/future]** as the validation function.



10. In the field below **Select a function**, select **.Employee.StartDate** to test the start date.
11. In the **is in the** field, ensure **Past** is selected.



Validate `.Employee.StartDate`  Required  Enable conditions

Select a function [a datetime] is in the [past/future]

If `.Employee.StartDate` is in the Past

12. In the **Message** field, enter Must be a future date.

Validation conditions

Validate `.Employee.StartDate`  Required  Enable conditions

Select a function [a datetime] is in the [past/future]

If `.Employee.StartDate` is in the Past

Message `Must be a future date.`

Continue validation

13. Click **Submit** to complete the configuration of the validation condition.

14. Click **Save** to display the completed condition on the form.

15. Navigate back to the workflow and click **Save** to be sure all your changes are saved.

PROPERTY `.Employee.StartDate`

\*Req Conditions

IF `.Employee.StartDate` is in the Past  
THEN display message:  
Must be a future date.

## Require the start date and office fields

By default, start date and office are optional fields. By configuring start date and office as required fields, you ensure that the user enters a start date and the office location.

1. From the Cases explorer, click the **Onboarding** case type and select the **Views** tab to display the available views.
2. Click the **Create** view to display the fields in the create view.
3. Click the **Open** link next to the **Create - Employee** options field to view employee properties.

4. In the **Start Date** row, click the **Options** drop-down and select **Required** to make the start date a required field.

5. Click **Submit** to close the form.
6. Click the **Identify Home Office** view to display the fields in this view.
7. In the **Office** row, click the **Options** pull-down and select **Required** to make the office a required location.
8. Click **Submit** to close the form.
9. Navigate to the **Workflow** tab and click **Save** to save your changes.

## Verify your work

Review your changes by creating an onboarding case. Verify that the Collect Employee Information form requires users to provide a start date that is in the future. Also verify that the Identify Home Office form requires users to select an office location.

1. From the +Create menu, select **New > Onboarding** to create a new onboarding case.
2. On the **New: Onboarding** form, click **Done**. Verify that you are unable to submit the form until you provide entries in the required fields.
3. In the **Start date** field, enter today's date.
4. Click **Done**. Verify that the **Start date** field is flagged with a message indicating that the entered date must be in the future.
5. Correct the error by selecting tomorrow's date.
6. Click **Done**. The Identify Home Office form is displayed.
7. On the Identify Home Office form, do not select a home office and click **Submit**. Verify that you are unable to submit the form.

8. From the Office list, select one of the values.
9. Click **Submit**. The application displays Select Orientation Plan form.

**Tip:** During development, you can update the *pyDefault* data transform to automatically provide values for required fields to save time when testing your application. If you do, remember to remove these initial property values from the *pyDefault* data transform before your application is released.

---

# Managing case-processing dependencies

## Exercise: Enforcing a case processing dependency

### Scenario

TGB wants to extend its human resources (HR) application to process healthcare benefits enrollment cases for new employees as part of the onboarding process. Before an onboarding case can be completed, the user must complete the benefits enrollment process.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

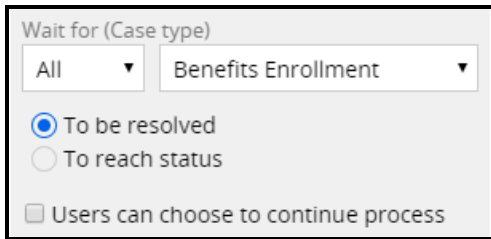
Configure the Onboarding case type to create a benefits enrollment child case during case processing and suspend processing until the user resolves the benefits enrollment child case.

### Detailed steps

Follow these steps to prevent Onboarding cases from resolving until the Benefits Enrollment case resolves.

1. In Pega Express, from the Cases explorer, select the **Onboarding** case type.
2. Click the **Workflow** tab to view the case life cycle of the Onboarding case type.
3. In the Benefits Enrollment stage, click **+STEP > More > Utilities > Create Case > Select** to create a new child case in the Benefits Enrollment process.
4. Change the name of the step to Create Benefits Enrollment Case.
5. In the Contextual Properties panel, select **Benefits Enrollment** to create the case.
6. In the Benefits Enrollment stage, click **+STEP > More > Utilities > Wait > Select** to add a Wait step in the Benefits Enrollment process.
7. In the Contextual Properties panel, select **All** and **Benefits Enrollment** to establish the dependency.

8. Select **To be resolved** to require that the benefits enrollment case be resolved before the onboarding case can continue processing.
9. Clear the **Users can choose to continue process** check box to prevent users from completing the onboarding case before completing the benefits enrollment case.



Wait for (Case type)

All Benefits Enrollment

To be resolved

To reach status

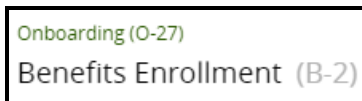
Users can choose to continue process

10. In the Benefits Enrollment process, hover over the Select Healthcare Benefits step, then click the **x** to delete the step from the case life cycle.
11. Click **Save** to complete the configuration of the Onboarding case type.

## Verify your work

Test the Onboarding case to verify the steps added to the case life cycle.

1. Click **Run** to create a new instance of the Onboarding case type.
2. Advance the Onboarding case until you reach the Benefits Enrollment stage.
3. When you reach the Benefits Enrollment stage, you should see that the Benefits Enrollment is a child case of Onboarding. It should look similar to the following image:



Onboarding (O-27)

Benefits Enrollment (B-2)

---

# Capstone Exercise: Designing a case life cycle

## Capstone Exercise: Designing a case life cycle

### Scenario

Acme Better Booking, LLC (ABB) manages an online community marketplace where people can list, find, and book unique global accommodation experiences. ABB has rolled out their first release of the Reservelt application built on Pega Platform. In this release, ABB members can list their properties to lease or rent for short-term lodging on the ABB website. ABB members can also book a listing via ABB's website, the mobile app, or with the assistance of a call center representative.

For the second release, ABB wants to add automated guest reviews to the Reservelt application.

Three days after the check-out date, an automated email notification is sent to the guest inviting them to provide a review of their stay. The guest must be able to decline the invitation in the email notification.

The guest review is comprised of three categories: their experience with the booking process, their interactions with the host, and their experience during their stay (including a review of the location, property, and accommodations).

The guest can rate each category using a descending scoring scale of 5 (five) to 1 (one) points:

Score	Description
5	Excellent
4	Above average
3	Average
2	Below average
1	Poor

The guest may submit comments in their review. The guest may choose to cancel their review at any time prior to submitting the review. The guest has the ability to review and update their feedback prior to submission. A confirmation email is sent to the guest after they submit their review and a notification email is sent to the host after every guest review is submitted.

If the guest completes the review, they receive a voucher for a 10 percent discount on a future ABB booking.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.reserveit	rules

## Approach

Add a new case type to the existing Reservelt application and define the life cycle of a guest review by organizing the guest review process into stages and steps.

**Tip:** Complete the Description for each step to help ensure you have accounted for all of the requirements.

Configure the user view for the first step to present the user with a yes/no choice to accept the invitation to provide feedback.

Configure user views for each of the review categories: the booking experience, the host interaction experience, and the stay experience.

Add a case-wide optional action to enable the guest to cancel their review at any time prior to completing the review.

Add a *Create Case* step to the Booking case type. This step should create a stand-alone instance of the guest review case type and start the guest review case by allowing the guest to select whether to provide or skip the review.

## Test case

The following table provides the credentials you need to complete the test case.

Role	Operator ID	Password
Guest	user.reserveit	rules

To test that a Guest Review case is created after the guest completes their stay, log in to the Reservelt application using the credentials noted in the table above. Create a booking case, and submit the initial request. Use the **Change stage** action to advance the Booking case to the Review stage. Use the **Continue Process** to advance the Booking case past the three day wait timer. Confirm a Guest Review case is created.

**Tip:** Consider turning off the default create screen that Pega displays by default when creating new cases. You can achieve this in Pega Express by selecting the desired case type from the Case Type Explorer and clicking the **Settings** tab. Then select the **Skip 'Create' view when users create a new case** check box.

To test the Guest Review case type, confirm the following behaviors:

- The guest receives an invitation to provide a review of their stay, or can decline to do so.
- The guest can review their experience with the booking process, their interactions with the host, and their experience during their stay (including a review of the location, property, and accommodations).
- Each review category provides a rating scale of 5 to 1.
- The guest can add free-form text comments to their review.

- The guest can choose to cancel the review at any time prior to submitting their review.
- The guest is provided an opportunity to review their feedback prior to submitting the review.
- A confirmation email is sent to the guest after they submit their review.



# MODELING CASE DATA

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# The building blocks of a Pega application

## Exercise: Updating inheritance for the Employee data class

### Scenario

When TGB hires a new employee, that employee participates in the onboarding process designed to integrate the new hire into the company. As part of this process, employees receive the training and equipment to support their work at TGB.

To reduce development time in the future, the Lead System Architect (LSA) assigned to the project has identified a data class that contains data elements that you may be able to reuse to describe the employee.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

Update the directed inheritance for the Employee data class to allow developers to reuse data elements in the *Data-Party-Person* data class and its parent classes.

### Detailed steps

Follow these steps to update the inheritance of the Employee data class and reuse standard Pega Platform data elements.

1. Log in to the exercise system with Operator ID `author.hrapps` using password `rules`.
2. In Pega Express, in the lower-left corner, click the **double-headed arrow** icon to switch to Designer Studio.
3. In Designer Studio, open the Data Explorer.
4. In the Data Explorer, hover over the Employee data type to display the Options menu.



- From the Options menu for the Employee data type, select **View definition** to open the class record for the Employee data type.
- On the Employee class record, in the **Parent class (Directed)** field, enter or select **Data-Party-Person** to configure the Employee class to inherit data elements and other records from the Data-Party-Person class and its parent classes.
- Click **Save** to complete the configuration of the Employee class record.

## Verify your work

- In Designer Studio, in the lower-left corner, click the **double-headed arrow** icon to switch to Pega Express.
- In Pega Express, click **Data > Employee** to open the Employee data type.
- On the **Data model** tab of the Employee data type, in the upper-right corner of the tab, enable the **Show reusable fields** option to display additional fields available from the Data-Party-Person class through inheritance.

Data model   Records   Views   Settings			
			<input checked="" type="checkbox"/> Show reusable fields <span>?</span>
Name	Type	Options	
Party role	Identifier		
Full Name	Text (single line)		
Name Suffix	Text (single line)		
Start Date	Date & time		
Department	Text (single line)		
Manager	Text (single line)		
Contractor	Boolean		
First Name	Text (single line)		
Last Name	Text (single line)		
Email address	Email		
Add field			

**Note:** The inherited fields are indicated by a greyed-out trash can icon. The inherited fields are defined in a locked ruleset provided as part of the Pega Platform installation, and cannot be deleted.

---

# Setting property values automatically

## Exercise: Initializing a page type property

### Scenario

When you configure user views with field group (page) type properties in Case Designer, Pega Platform automatically adds a Set action to the Pega-provided *pySetFieldDefaults* data transform. The *pySetFieldDefaults* data transform then initializes the page type property when an instance of the case type is created. However, you can use a custom data transform if you want the page type properties to initialize after the instance of the case type is created, and only when certain conditions are met.

In this scenario, you must implement a requirement so the Dependents page list property is initialized only if the employee selects the Spouse/Partner option as their marital status.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

- Create a field group list named *Dependents*, based on the *Dependents* data type that is already defined in the application. Add the field group list to the Identify Dependents user view for the Benefits Enrollment case.
- Create a data transform named *Initialize Spouse* in the Benefits Enrollment case type. Configure the data transform to set the value of the Relationship property in the first in the first index position of the Dependents page list to Spouse/Partner when the employee selects Married/Partnered as their marital status.
- Add the data transform to the Confirm Employee Details connector in the Select Participants process so that the *Initialize Spouse* data transform executes only after the employee completes the Confirm Employee Details assignment.
- Remove the Set action for *.Dependents(1).pyLabel* equal to " " in the *pySetFieldDefaults* data transform so the Dependents page list is initialized only when the *Initialize Spouse* data transform executes.

## Detailed steps

### Create the Dependents field group list on the Identify Dependents user view

1. In your exercise system, log in as author.hrapps using password rules.
2. In Pega Express, click **Cases > Benefits Enrollment** to configure the Benefits Enrollment case type.
3. In the the Benefits Enrollment case type, select the **Identify dependents** step to open the contextual properties panel for the step to the right of the case life cycle.
4. In the contextual properties panel, click **Configure view** to configure the user view for the Identify dependents step.
5. In the **Label** field, enter Dependents.
6. From the **Type** drop-down, select Field group (list).
7. Press the **Tab** key to exit the **Type** drop-down. Pega selects the Dependents data type, already defined in the application, and adds the fields to the user view.

Label	Type	Options	
Dependents	Field group (list)	Optional	Dependents
First Name	Text (single line)	Optional	🗑️
Last Name	Text (single line)	Optional	🗑️
Relationship	Picklist	Optional	⚙️ 🗑️

[+ Add field to Dependents](#)

[+ Add field](#)

8. Click **Submit** to complete the configuration of the user view.
9. Click **Save** to update the Benefits Enrollment case type.

### Create a data transform to initialize the Dependents page list if the employee indicates they have dependents

Configure a data transform to set the value of Relationship in the first row of the Dependents page list to Spouse/Partner if the employee is married or partnered.

1. In Pega Express, click the **double-headed arrow** icon in the bottom left corner of the browser window to switch to Designer Studio.

2. In the Application Explorer, expand **Benefits Enrollment > Data Model**.
3. Right-click **Data Transform** and select **+Create**. A Create Data Transform form is displayed.
4. In the **Label** field on the form, enter Initialize Spouse.
5. Click **Create and open**. The Initialize Spouse data transform record is created and displays for editing.
6. In the first row of the data transform, from the **Action** drop-down list, select **When**. The data transform record displays a second row with an action of **Set**.
7. In the first row, in the **Target** field, enter `.MaritalStatus=="Married/Partnered"`.
8. In the second row, in the **Target** field, enter or select `.Dependents(1).Relationship`.
9. In the **Source** field, enter "Spouse/Partner".

	Action	Target	Relation	Source
▼ • 1	When ▼	<code>.MaritalStatus=="Married/Partnered"</code>		
• 1.1	Set ▼	<code>.Dependents(1).Relationship</code>	equal to	"Spouse/Partner"

10. Click **Save** to save your Initialize Spouse data transform.

## Add the InitializeSpouse data transform to the Select Participants process

Configure the *Select Participants* process to run the *Initialize Spouse* data transform after a user completes the Confirm Employee Details assignment.

1. On the **Workflow** tab of the Benefits Enrollment case type, click the Select Participants process.
2. In the context panel, click **Open process**. The Select Participants flow rule opens.
3. Double-click the connector labeled **Confirm Employee Information**. The Connector properties panel opens.
4. In the Connector properties panel, under Set properties, select **Apply Data Transform**. The **Data transform** field is displayed.
5. In the **Data transform** field, enter or select InitializeSpouse.

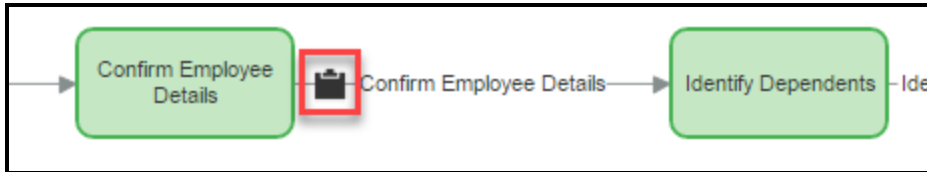
**Set properties**  
What does it need?

Set properties
  Apply data transform

Data transform

▼ **PARAMETERS**  
No parameters to set.

6. Click **Submit**. A **clipboard** icon appears on the Confirm Employee Details connector.



7. Click **Save** to save the flow rule.

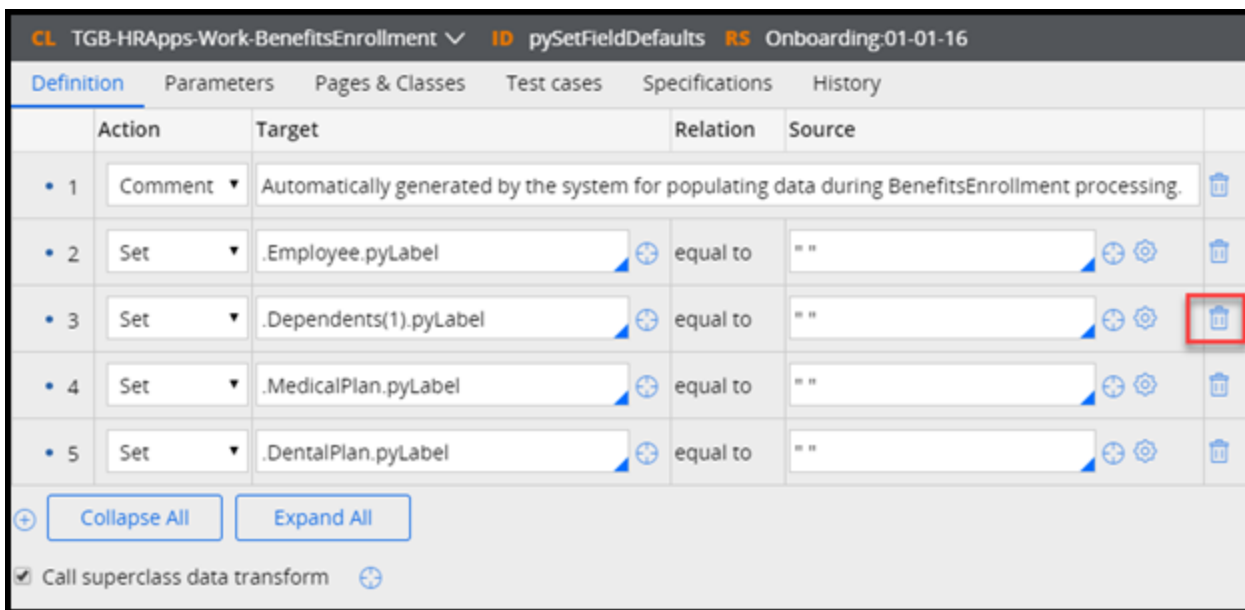
8. Click the **Benefits Enrollment** tab to return to the Case Designer.

9. Click **Save** to save the case type.

## Edit the pySetFieldDefaults data transform and remove the Set .Dependents(1).pyLabel action

When you create the *Dependents* field group list, Pega configures the *pySetFieldDefaults* data transform with a step to display an empty row in the list of dependents. Update the data transform to remove the initialization step.

1. Return to the Application Explorer, and expand **Benefits Enrollment > Data Model** (if not already expanded).
2. Click **pySetFieldDefaults**. The Data Transform record is displayed.
3. On the far right side of the .Dependents(1).pyLabel Set action, click the **trash can** icon to delete the row.



4. Click **Save**. Removing this action prevents setting the page by default when a case is created. It will only be set based on the outcome of your when condition in the Initialize Spouse data transform.



## Verify your work

Create a benefits enrollment case to test that the relationship listed in the first row of the Dependents list is set to Spouse/Partner if the user selects a marital status of Married/Partnered.

1. From the Case Designer, click **Run**. The New: Benefits Enrollment form opens.
2. Click **Done**. The Collect Employee Details form opens.
3. On the Confirm Employee Details form, from the **Marital Status** field, select **Married/Partnered**.
4. Click **Submit** to advance to the Identify Dependents form.
5. On the Identify Dependents form, verify that the Dependents list contains one row, and that in this row, the drop-down list in the Relationship column has been set to Spouse/Partner as shown in the following image.



The screenshot shows the 'Identify Dependents' form. At the top right is a user icon labeled 'SA'. Below the title is a section for 'Dependents' with a dropdown arrow. There are two buttons: '+ Add Item' and 'x Delete'. Below these are three columns: 'First Name', 'Last Name', and 'Relationship'. The first row has the number '1' in the first column, empty text boxes in the second and third columns, and a dropdown menu in the fourth column showing 'Spouse/Partner'. At the bottom are three buttons: 'Cancel', 'Save', and 'Submit'.

	First Name	Last Name	Relationship
1			Spouse/Partner

Optional: Run another instance of Benefits Enrollment, but this time set the marital status to Single. Compare the results.

---

# Setting property values declaratively

## Exercise: Automatically updating the total cost of benefits

### Scenario

During the benefits enrollment process, employees select a medical insurance plan, dental insurance plan, and a vision insurance plan offered by the company. To make affordable choices, employees need to know the combined cost of their selections. To help employees select affordable options, HR wants benefits enrollment cases to calculate the total insurance cost and display the total during each step of the coverage selection process.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

To calculate the total cost of health insurance, another system architect configured the following for you:

- A data type for each type of coverage. These data types contain properties to describe insurance plans, including a property to store the cost paid by the employee for coverage (.PlanCost).
- A page property for each benefit type to record the employee cost for each insurance plan.

Page property	Benefit type
MedicalPlan	Medical Plan
DentalPlan	Dental Plan
VisionPlan	Vision Plan

Now you will create and calculate the total cost property and add it to each of the coverage selection forms and the Review Selections form:

- Create a property named "Total benefit cost" to store currency data.
- Configure the expression for the Total benefit cost property to calculate the total benefit cost as the sum of the employee cost (.PlanCost) for each plan.

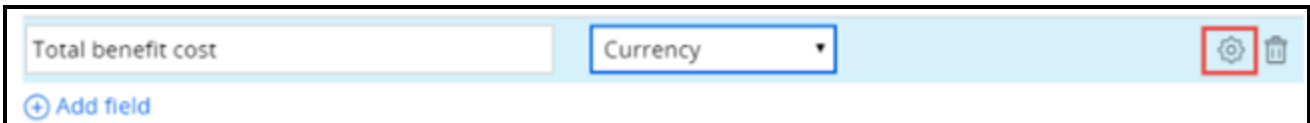
- Add the Total benefit cost property to the following four assignments in the Benefits Enrollment case life cycle.
  - Select Medical plan
  - Select Dental plan
  - Select Vision plan
  - Review selections

## Detailed steps

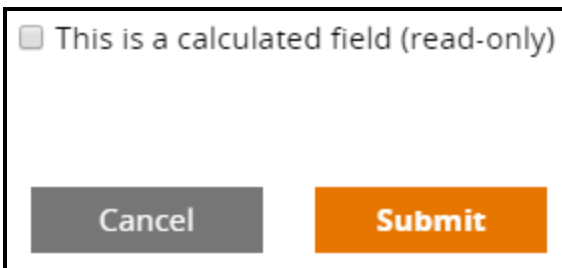
### Create the Total benefit cost property for benefit enrollment cases

Create a property to store the total cost of benefits selected by the user.

1. In your exercise system, log in as author.hrapps.
2. In the Cases Explorer, select the Benefits Enrollment case type.
3. On the **Data model** tab, click **Add field**. A new row is added to the list of properties.
4. Under Name, in the empty field, enter **Total benefit cost**.
5. Under Type, in the empty field, from the drop-down list select **Currency**.
6. Click the gear to define **Total benefit cost**.



7. Check the box to specify that **Total benefit cost** is a calculated field.



8. From the **Function** pull-down, select **Custom** to specify the calculation.

9. Click in the blank field, and enter or select `.MedicalPlan`.

10. After `.MedicalPlan.PlanCost`, enter `<space>+<space>` and select the next plan: `.DentalPlan.PlanCost`.

11. After `.DentalPlan.PlanCost`, enter `<space>+<space>` and select the last plan: `.VisionPlan.PlanCost`.

12. Click **Submit** to submit your calculated field.

13. Click **Save** to create the Total benefit cost property for the Benefits Enrollment case type.

## Add the Total benefit cost property to each of the insurance selection forms and the Review Selections form

Add the total benefit cost to the Select Medical Coverage, Select Dental Coverage, Select Vision Coverage, and Review Selections forms. This field displays the total cost of the benefits selected by the user on each form.

1. On the Benefits Enrollment case type, click the **Workflow** tab to return to the case life cycle.
2. In the **Insurance selection** stage, select the **Select Medical plan** step.
3. In the context panel for the step, click **Configure view**. The View Configuration dialog is displayed.
4. On the **Fields** tab, in the leftmost field, enter or select Total benefit cost.
5. Press Tab to exit the field. The contents of the form updates to reflect the property details.

Label	Type	Options
Medical plan	Field group	Auto
	View	Select Medical plan - I
Total benefit cost	Currency	Calculated (read-only)

[Open](#)

[+ Add field](#)

6. Click **Submit** to close the View Configuration dialog.
7. Repeat steps 3-7 for the remaining two insurance selection forms and for the Review selections form. The Review selections form includes all three plans and the Total benefit cost.
8. Set the Options for the three insurance plans to **Read-only** on the Review selections form before clicking **Submit**.
9. Click **Save** to commit your changes to the Benefits Enrollment case type.

## Verify your work

Create a benefits enrollment case to test your configuration.

1. On the Case Designer header, click **Run** to create a case.
2. Advance the case to the Select Medical plan screen.

3. Click in the Plan Name field, press down arrow, and click on a plan to select a Medical plan from the three choices presented.

### Select Medical plan

#### Medical Plan

Plan Name

  
**Leave blank**  
Medical Standard  
Standard medical coverage; 150.000000000  
Medical Premium  
Premium medical coverage; 200.000000000  
Medical Basic  
Basic medical coverage; 100.000000000

**Note:** The Plan Name field can be converted to a drop-down menu. Plan Cost can be displayed in currency format. These issues are not the focus of this exercise.

4. Click Submit to advance the case to the next benefit plan.

**Note:** The Total benefit cost increases each time a plan is submitted.

5. Repeat steps 3 and 4 for the Dental and Vision plans.

6. On the Review Selections view, you see all three plans selected, their associated costs, and the final Total benefit cost.

### Review selections A

---

**Medical Plan**  
Plan Name  
Medical Premium  
Description  
Premium medical coverage  
Plan Cost \$200.00

**Dental plan**  
Plan Name  
Dental Premium  
Description  
Premium dental coverage  
Plan Cost \$50.00

**Vision plan**  
Plan Name  
Vision Basic  
Description  
Basic vision coverage  
Plan Cost \$10.00

Total benefit cost \$260.00

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---

# Configuring a work party

## Exercise: Creating an employee work party

### Scenario

The human resources (HR) department communicates with each new employee through email, fax, and mail during the onboarding process. To facilitate communication, you must add the employee to the onboarding case as a work party.

The table below provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

Add the new employee to an onboarding case as a party to the case and populate the work party with employee information from the Create Employee Info form. To do this:

- Define the Employee work party for the Onboarding case.
- Create a data transform named *EmployeeParty* to populate the work party with identifying information.
- Add a process named *Create Employee Party* to the Onboarding case type as the first process in the Pre-Arrival Setup stage.
- Configure the Create Employee Record process to call the *addWorkObjectParty* API activity and add the Employee work party to the Onboarding case.

### Detailed steps

#### Create the EmployeeParty data transform to copy data to the work party

Create a work party to represent the employee in an onboarding case.

1. Log in to the exercise system with Operator ID `author.hrapps` using password `rules`.
2. In Designer Studio, from the Cases Explorer, select the **Onboarding** case type.
3. From the **Onboarding** case type, select the **Settings** tab to edit the case type.
4. On the left, from the list of settings, select **Parties** to open the list of parties who work on the Onboarding case or are associated with it.



5. On the right, in the Parties section under the Interested party name, click **+ Add party**. The **Add party** dialog is displayed.

The screenshot shows the 'Edit case type: Onboarding' interface. The top navigation bar includes 'Home', 'Onboarding', and buttons for 'Save', 'Run', and 'Actions'. Below the navigation bar are tabs for 'Data model', 'Workflow', 'Views', 'Settings', and 'Test cases'. The 'Settings' tab is active, and the 'Parties' section is highlighted in blue. The 'Parties' section is titled 'Parties' and includes a subtitle 'List the parties who work on a case or are associated with it.' Below the subtitle is a list of parties: 'Customer', 'Owner', and 'Interested', each with a trash icon. At the bottom of the list is a '+ Add party' link. The left sidebar contains various settings categories, each with a count in a circle: 'Actions' (2), 'Attachment categories' (0), 'Case-wide supporting processes' (0), 'Email instantiation' (0), 'Goal & deadline', 'Integration', 'Locking', 'Notifications', 'Parties' (checked), 'Specialization' (0), 'Specifications' (0), and 'Track duplicates'.

6. In the **Add party** dialog, click **Type** and select Party/Person to designate the appropriate class.

7. In the **Data transform** field, enter EmployeeParty.

The screenshot shows a form with the following elements:

- Role:** An empty text input field.
- Type:** A dropdown menu currently showing "Party/Person".
- Description:** A large empty text area.
- Data transform:** A dropdown menu showing "EmployeeParty" with a crosshair icon to its right.
- Options:** Three unchecked checkboxes: "Display on creation", "Required", and "Allow multiple".
- Buttons:** An orange "OK" button at the bottom right.

8. To the right of the **Data Transform** field, click the **crosshair** icon to create the *EmployeeParty* data transform. The New Record form opens.
9. In the upper-right corner of the New Record form, click **Create and open** to create the data transform. The Data Transform rule form displays.
10. On the **Definition** tab of the rule form, in the first row of the data transform, under **Target**, enter or select .pxPartyRole.
11. Under **Source**, enter "Employee".
12. Click the + icon to create three additional rows.
13. Complete each empty row on the data transform using the values in the following table.

Action	Target	Source
Set	.pyEmail1	pyWorkPage.Employee.EmailAddress
Set	.pyFirstName	pyWorkPage.Employee.FirstName
Set	.pyLastName	pyWorkPage.Employee.LastName

14. Click **Save** to save the data transform. Note the errors that occur.

This record has 3 error(s) in 3 place(s) .  
**Source— Property @baseclass.Employee is undefined.**  
**Source— Property @baseclass.Employee is undefined.**  
**Source— Property @baseclass.Employee is undefined.**

Show next error

Definition Parameters Pages & Classes Specifications History

	Action	Target	Relation	Source	
• 1	Set ▼	.pxPartyRole	equal to	"Employee"	⊕ ⚙ 🗑
• 2	Set ▼	.pyEmail1	equal to	pyWorkPage.Employee.EmailAddre	⊕ ⚙ 🗑
• 3	Set ▼	.pyFirstName	equal to	pyWorkPage.Employee.FirstName	⊕ ⚙ 🗑
• 4	Set ▼	.pyLastName	equal to	pyWorkPage.Employee.LastName	⊕ ⚙ 🗑

⊕ Collapse All Expand All

Call superclass data transform ⊕

**Note:** These errors occur because the context of the source properties is unknown. To resolve this issue, add a reference for *pyWorkPage* on the **Pages & Classes** tab of the data transform.

15. On the Edit Data Transform rule form, click the **Pages & Classes** tab to specify the class for the page *pyWorkPage*.
16. Under **Page** name, enter *pyWorkPage*.
17. Under **Class**, enter or select TGB-HRAApps-Work-Onboarding.
18. To the left of the **Pages & Classes** tab, return to the **Definition** tab.

- Click **Save** to save the data transform. Note that the data transform saves with no errors.

	Action	Target	Relation	Source
• 1	Set	.pxPartyRole	equal to	"Employee"
• 2	Set	.pyEmail1	equal to	pyWorkPage.Employee.EmailAddre
• 3	Set	.pyFirstName	equal to	pyWorkPage.Employee.FirstName
• 4	Set	.pyLastName	equal to	pyWorkPage.Employee.LastName

Call superclass data transform

## Create the Employee party for the Onboarding case

Create the employee party to copy property values from the Onboarding case to the Employee work party,

- In Designer Studio, return to the open **Onboarding** case type tab.
- In the Parties section, click **+ Add party**.
- In the **Add party** dialog, enter the information as indicated in the table below.

Role	Type	Description	Data Transform
Employee	Party/Person	New hire	EmployeeParty

Role: Employee  
 Type: Party/Person  
 Description: New hire  
 Data transform: EmployeeParty  
 Display on creation  
 Required  
 Allow multiple  
 OK

4. Click **OK** to close the dialog.
5. Click **Save** to save the case edits.

## Add the addWorkObjectParty activity to the Create Employee Record process

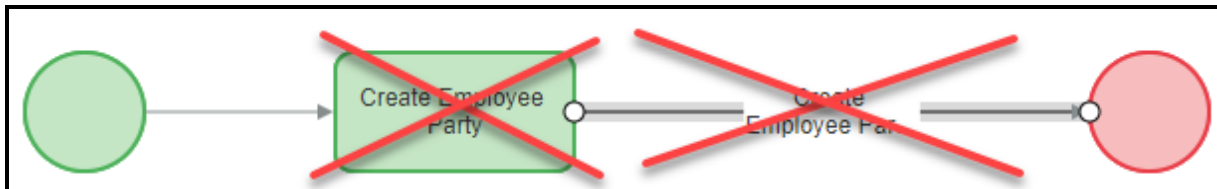
### Add a process named Create Employee Party to the Onboarding case type as the first process in the Pre-Arrival Setup stage.

1. From the **Onboarding** case type, select the **Workflow** tab to edit the case life cycle.
2. On the right side of the Pre-Arrival Setup stage, click the down arrow and select **Add process**.
3. In the new process field, enter Create Employee Party.
4. Move the *Create Employee Party* process so that it is the first process in the Pre-arrival stage, above the *Send Welcome Packet* process.
5. Click **Save** to save your process.

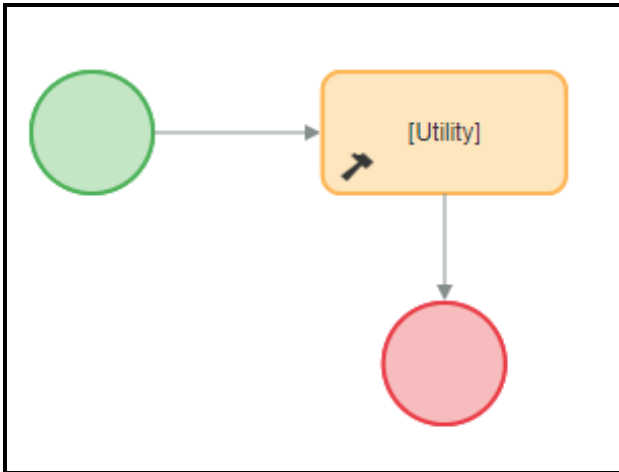
### Add the API activity addWorkObjectParty to the Create Employee Party process to create the Employee work party automatically.

1. From the **Workflow** tab, select the **Create Employee party** process.
2. On the right, in the Process menu pane, click **Open process** to open the *Create Employee Party* flow form.
3. Select and delete the Collect Employee party assignment that was automatically added to the flow.

**Note:** The employee information is already on the create view.



4. Add a Utility shape to the process, and connect the shapes as indicated in the screen shot below.



5. Double-click the Utility shape to open the Properties panel.
6. In the **Utility** field, enter Create Employee Work Party.
7. In the **Rule** field, enter addWorkObjectParty.
8. Press the **Tab** key to add the activity parameters to the Properties panel.
9. In the **PartyRole** field, enter Employee to add the Employee work party to the case.
10. In the **PartyClass** field, enter Data-Party-Person.

11. In the **PartyModel** field, enter EmployeeParty.

**Automation details**  
Define automation

Rule\*  
addWorkObjectParty

Parameters

PartyRole	Employee
PartyClass	Data-Party-Person
PartyModel	EmployeeParty
PartyRepeatable	<input type="checkbox"/>
partyPage	
PartyIDUsed	
OutputPageName	pyOutput
OutputPageClass	Code-ProcessOutput

Cancel Submit

12. Click **Submit** to close the Properties panel.

13. Click **Save** to save the flow.

**Note:** Model is an older name for a data transform rule.

## Test your changes

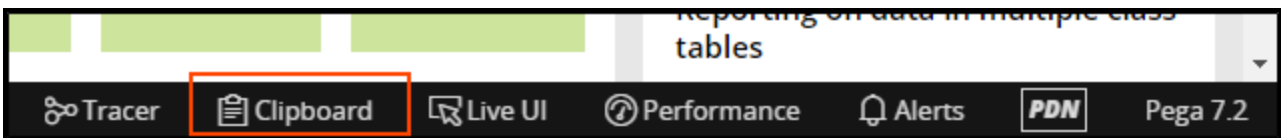
Create a new onboarding case to confirm that the Employee work party is created automatically after the user completes the Collect Employee Info assignment.

1. In Designer Studio, from the **+ Create** menu, select **New > Onboarding**. The Collect Employee Info form displays.
2. Complete the Collect Employee Info form.
3. Click **Submit** to submit the form. The Identify Home Office form displayeddisplays.

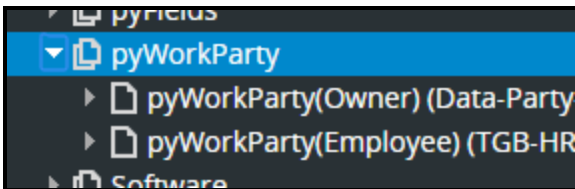
4. In the Participants section, verify that the application created the Employee party.



5. On the bottom, along the Developer toolbar, click **Clipboard** to open the Clipboard tool.



6. In the Clipboard tool, under **User Pages**, expand **pyWorkPage > pyWorkParty**.



7. Select **pyWorkParty(Employee)** and verify that the information you entered on the Collect Employee Info form populates the Employee work party.

**Note:** The Employee work party includes information you did not copy with your data transform. Pega automatically adds additional information to the work party by using rules defined in the *Data-Party* class.



---

# Exchanging data between cases

## Exercise: Passing data to another case

### Scenario

To avoid data entry errors, the human resources (HR) department wants to avoid entering employee information on a Benefits Enrollment case during the onboarding process. The HR manager requests that the new hire data from the onboarding case automatically copy to the benefits enrollment child case when the case is created.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

Configure the Onboarding case type to automatically copy employee data to the benefits enrollment child case when creating the benefits enrollment case.

Add fields to the Collect Employee Information form of the Benefits Enrollment case to allow users to view values for the properties on the Employee page.

### Detailed steps

#### Configure the Onboarding case to copy data to the child case

To configure the Onboarding case type to copy data to the benefits enrollment child case, follow these steps.

1. In Pega Express, from the navigation panel, click **Cases**, then click the **Onboarding** case type. The case life cycle for the Onboarding case type is displayed.
2. In the case life cycle, select the **Create Benefits Enrollment Case** step.
3. In the contextual properties panel for the Create Benefits Enrollment case, click the **Transfer information to new case** check box to display the Transfer information dialog.

**Transfer information**

Map fields

Transfer the following information to 'Benefits Enrollment' case

<input type="checkbox"/> 'From' field	'To' field
<input type="checkbox"/> Employee	
<input type="checkbox"/> Location	
<input type="checkbox"/> Office	

View

Add mapped fields to 'Onboarding Info' view (in 'Benefits Enrollment' case type)

4. In the Transfer Information dialog, in the Map fields section, select the check box next to **Employee** to copy the Employee field group from an onboarding case to a benefits enrollment child case.
5. In the View section, clear the **Add mapped fields to 'Onboarding Info' view (in 'Benefits Enrollment' case type)** check box.
6. Click **OK**. The fields are added to the child case and to the Onboarding Info view.
7. Click **Save** to commit your changes.

## Configure the Collect Employee Information user view to display properties set through data propagation

Add properties to the Collect Employee Information form to display the data copied from an onboarding case to a benefits enrollment case by following these steps.

1. From the navigation panel, click **Cases**, then click the **Benefits Enrollment** case type. The case life cycle of the Benefits Enrollment case type is displayed.
2. In the Benefits Enrollment case life cycle, click the **Confirm Employee Information** step.
3. In the contextual properties panel, click **Configure View**. The View Configuration dialog opens.
4. In the left panel of the View Configuration dialog, select **Fields** to display the list of fields defined for the Employee field group.
5. Position the mouse over Employee, then click the **plus** icon to add the Employee field group to the Confirm Employee Information user view.
6. In the first row, click the **trash can** icon to remove the empty row from the user view.

The screenshot shows a configuration window with the following elements:

- Header: Fields | Conditions
- Form fields:
  - Label: Employee
  - Type: Field group
  - Options: Auto
  - Employee: Employee
- Buttons: View, Create new view..., Open
- Footer: + Add field

7. Click **Open** to create a new user view for the Employee field group.

The screenshot shows the 'Create - Employee' configuration window with the following elements:

- Header: Create - Employee | Fields
- Search: Search
- Navigation: Fields, Views, Data types
- Form fields:
 

Label	Type	Options
Start Date	Date only	Required
Department	Text (single line)	Optional
Manager	Text (single line)	Optional
Contractor	Boolean	Optional
First Name	Text (single line)	Optional
Last Name	Text (single line)	Optional
Email Address	Email	Optional

**Note:** If the *Confirm Employee Information - Employee* user view does not display the full set of fields, return to the *Confirm Employee Information* user view (step 6), use the drop-down list to the left of the **Open** link to change the user view, re-select *Confirm Employee Information - Employee*, then click **Open** again.


8. Click **Submit** to complete the configuration of the user views and dismiss the View Configuration dialog.
9. Click **Save** to commit your changes to the Benefits Enrollment case type.

## Verify your work

1. From the navigation panel, click **Cases**, then click the **Onboarding** case type.
2. In the upper right corner, click **Run** to execute an instance of the Onboarding case type.
3. Complete the New: Onboarding form.

## Employee

Start Date \*

3/28/2018 

Department

Sales

Manager

Amy Davis

Contractor

First Name

Tim

Last Name

Johnson

Email address

tj@gmail.com

4. After you complete the New: Onboarding form, note the contents of the form, then click **Done** to advance to the next step.
5. Continue through the steps of the Onboarding case, until you create the Benefits Enrollment child case.  
**Note:** After you complete an approval step, select the next step from the **Action** menu.
6. On the Confirm Employee Information step of the Benefits Enrollment case, confirm that the contents of the fields match your entries on the New: Onboarding form.

## Confirm employee information



### Employee



Start Date\*

3/28/2018



Department

Sales

Manager

Amy Davis

Contractor

First Name

Tim

Last Name

Johnson

Email address

tj@gmail.com

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# Caching data with data pages

## Exercise: Creating a data page to populate a list of seating locations

### Scenario

During the onboarding process, new employees are assigned an office or cubicle in one of TGB's five offices. To ensure that users select a valid seating assignment, Human Resources (HR) wants to access a list of seating locations maintained by the Facilities department. This information should be presented as a drop-down list, allowing users to select an open seating location in the appropriate office.

The table below provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

The Seating Locations data type includes records for both available and unavailable offices and cubicles in TGB facilities. Use the *Filtered Seating Locations* report provided in your exercise environment to populate a data page with only available seating locations in the selected home office. Then update the Select Seating Location user view to display the open seating locations in a drop-down list.

**Note:** This exercise requires use of Designer Studio to configure the data page and user view.

**Important:** Remember to check out and check in records as needed to complete the exercise.

### Detailed steps

To accomplish this task you will:

- Create a data page named *D\_FilteredSeatingLocations* and source the page using the *Filtered Seating Locations* report.
- Configure the Location drop-down list on the *Select Seating Location* user view to use a data page as a source. Select the seating location property (.ID) on the drop-down list as the value to display and as the value to set.

## Configure a data page to read data from the appropriate database table

1. In Designer Studio, in the navigation pane, click **Data** to open the Data Explorer.
2. In the Data Explorer, right-click the Seating Location data type and select **Add data page** to create a new data page to present seating location records.
3. In the **Label** field, enter *Filtered seating locations* to name the data page.
4. Click **Create and open**. The data page rule form is displayed.
5. From the **Structure** drop-down list, select *List* to return a list of results.
6. From the **Source** drop-down list, select *Report Definition*.
7. In the **Name** field, enter *FilteredSeatingLocations* to populate the data page with the results returned by the *FilteredSeatingLocations* report.

The screenshot shows the 'Data page definition' form in Designer Studio. It is divided into two main sections: 'Data page definition' and 'Data sources'.

**Data page definition**

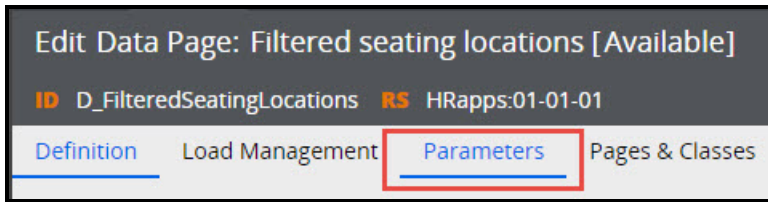
- Structure:** A dropdown menu with 'List' selected.
- Object type\*:** A dropdown menu with 'TGB-HRApps-Data-Seating' selected.
- Edit mode:** A dropdown menu with 'Read-Only' selected.
- Scope:** A dropdown menu with 'Thread' selected.

**Data sources**

1

- System name:** An empty text input field.
- Source\*:** A dropdown menu with 'Report Definition' selected.
- Name\*:** A text input field containing 'FilteredSeatingLocations'. Below this field, there is a blue link that reads 'TGB-HRApps-Data-Seating Parameters'.

8. On the data page, click the **Parameters** tab to add a parameter to the data page.



9. On the **Parameters** tab, in the **Name** field, enter HomeOffice.

10. In the **Description** field, enter Home office for new employee.

11. Click the **Definition** tab to continue configuring the data page.

12. On the **Definition** tab, in the Data sources section, under the **Name** field, click **Parameters** to display the Parameters for FilteredSeatingLocations dialog and specify a value for the parameter used by the report.

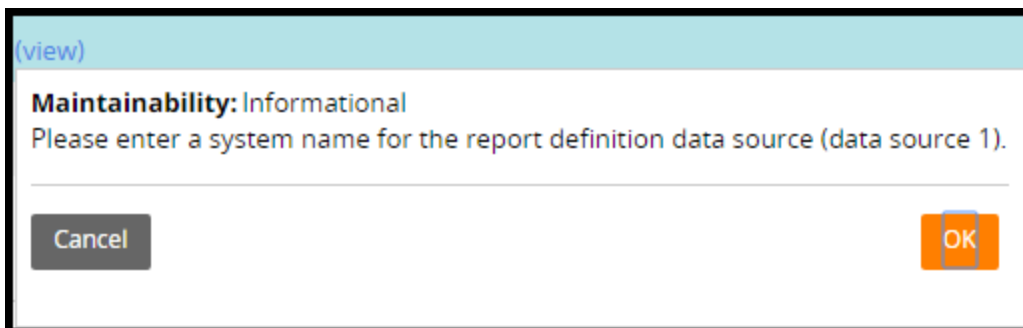


13. In the **Value** field, enter Param.HomeOffice.

14. Click **Submit** to close the Parameters for FilteredSeatingLocations dialog.

15. Click **Save** to save the data page. A warning appears in the rule header.

16. In the rule header, click **view** to view the warning.



17. In the Data sources section, in the **System name** field, enter Seating Locations table.

18. Click **Save** to complete the configuration of the data page. The warning disappears from the rule header.

## Configure the Location drop-down list on the Select Seating Location form to source data from a data page

1. In the Application Explorer, select **Onboarding > User Interface > Section > SelectSeatingLocation** to open the section that defines the *Select Seating Location* user view.

2. To the right of the **Location** field, click the **gear** icon to open the Properties panel.



## Cell Properties

Dropdown ⊕ (change)

General Presentation Actions

Property  ⊕

Label  Use property default Location

Default value  ⚙️

Tooltip  ⊕

Visibility  ▼

Disable  ▼

Required  ▼

Include placeholder

**LIST SOURCE**

Type  ▼

Load behavior  ▼

3. In the List source section, from the **Type** drop-down list, select Data Page. When you select Data Page, additional fields display on the form.
4. In the **Data Page** field, enter D\_FilteredSeatingLocations.
5. In the **Value** field, enter or select .Office to pass the value of the **Office** field to the data page as a parameter.
6. In the **Property for value** field, enter .ID.

**List source**

Type

Data page\*

PARAMETER	VALUE
HomeOffice	<input type="text" value=".Office"/>

Disable auto refresh

Property for value\*

Property for display text

Property for tooltip

Group items

7. Click **Submit** to close the properties panel.
8. Click **Save** to save the Select Seating Locations section.

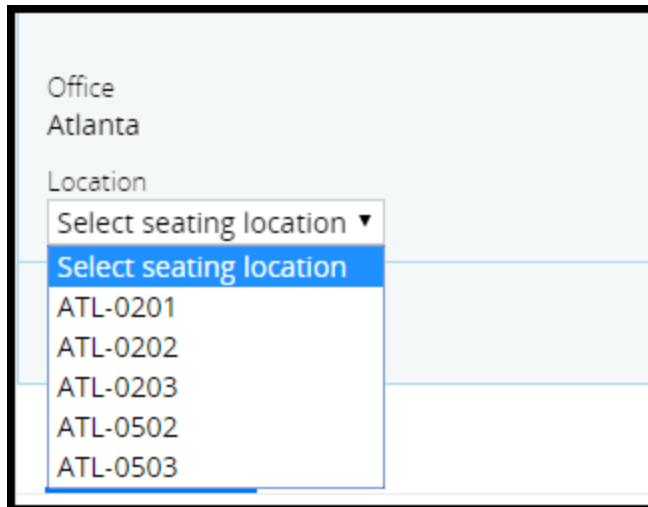
## Verify your work

1. From the Actions menu, select **Preview**. The Preview window opens.
2. Verify that the Locations drop-down contains a list of open offices.

**Note:** In the Preview window, the list of open offices is not filtered by home office, since the report relies on the value of the .Office property. You can enter a value for the Office property— for example, Atlanta or Berlin— and observe that the available seat list changes.

3. Create a new Onboarding request.
4. On the Identify Home Office form, from the **Office** drop-down list, select a home office.
5. Advance to the Select Seating Location step.

6. Verify that the application only returns a list of seating locations for the selected home office.



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# Managing reference data

## Exercise: Configuring a list of dynamic values

### Scenario

The Identify Home Office user view prompts the user to select the home office for a new employee. The current list is defined as a static list, which makes it hard to update when new offices open. TGB opened two new offices in London and Vancouver. To better reflect the opening and closing of TGB offices worldwide, configure the drop-down control to display a dynamic list of offices, rather than a static list.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

Add records to the *Office* data type for the two new offices.

Update the *Identify Home Office* section to populate the Office drop-down list using the data page *D\_OfficeList*, rather than a static list populated from the property definition.

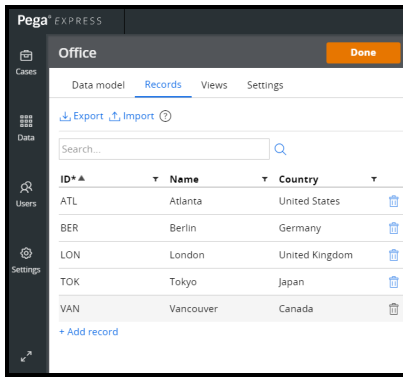
### Add records to Pega local storage

Add records to the *Office* data type for the two new offices.

1. In the Data Explorer, select **Office**.
2. Click the **Records** tab to view the existing data associated with the *Office* data type.
3. Click **+ Add record** to add two new data entries.

ID	Name	Country
LON	London	United Kingdom
VAN	Vancouver	Canada

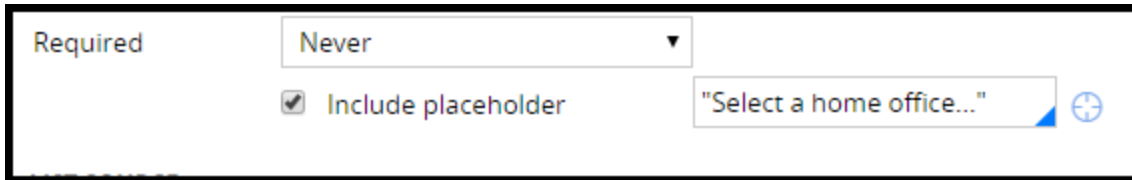
4. Click **Done** to commit your changes to the *Office* property record.



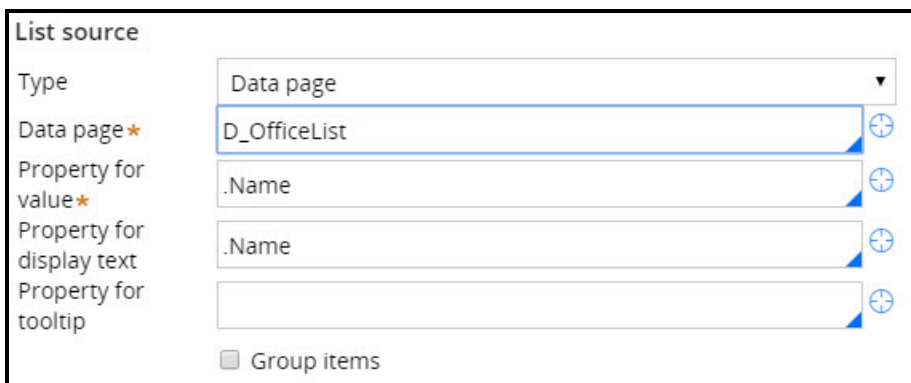
## Configure the dynamic list

Configure the *Identify Home Office* user view to populate the list of office locations from a data type.

1. In the Application Explorer, select **Onboarding > User Interface > Section > IdentifyHomeOffice** to open the section that defines the *Identify Home Office* user view.
2. To the right of the **Office** field, click the **gear** icon to display the Cell properties panel.
3. In the field to the right of the **Include placeholder** check box, enter "Select a home office...".



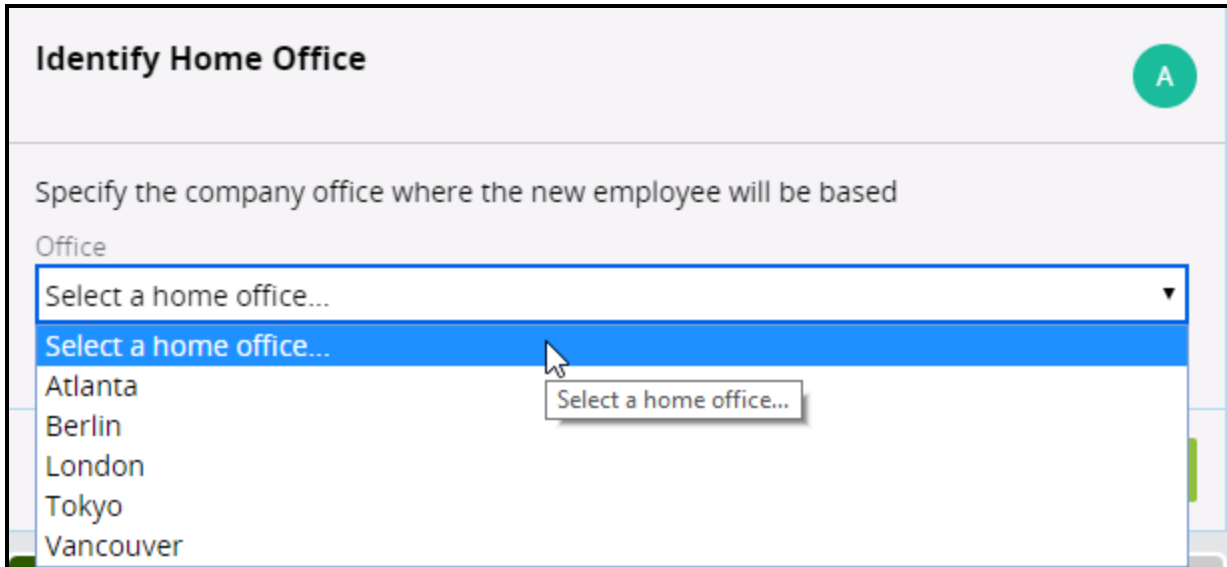
4. Under **List Source**, from the **Type** list, select **Data Page**.
5. In the **Data page** field, enter or select D\_OfficeList.
6. In the **Property for value** field, enter or select .Name.



7. Click **Submit** to complete your configuration of the Office drop-down list and dismiss the Cell Properties panel.
8. Click **Save** to commit your changes to the *Identify Home Office* user view.

## Verify your work

1. Create a new Onboarding case.
2. Click **Done** to complete the New: Onboarding form and advance to the Identify Home Office form.
3. Click the **Office** drop-down list and confirm that the list includes two new entries: London and Vancouver.



The screenshot shows a form titled "Identify Home Office" with a green circular icon containing the letter "A" in the top right corner. Below the title, the instruction "Specify the company office where the new employee will be based" is displayed. Underneath, the label "Office" is positioned above a dropdown menu. The dropdown menu is open, showing a list of office locations: "Select a home office...", "Atlanta", "Berlin", "London", "Tokyo", and "Vancouver". A mouse cursor is hovering over the first "Select a home office..." option, which is highlighted in blue. A tooltip with the text "Select a home office..." is visible next to the cursor.

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# Capstone Exercise: Modeling case data

## Capstone Exercise: Modeling case data

### Scenario

The product manager at Reservelt wants to improve the quality of feedback provided by guests. The product manager requests that you add two steps to the booking feedback process to allow guests to identify the parts of the booking process they liked best and least.

In addition, the product manager wants to support a future request to display an average of review scores on a listing. To satisfy this request, the product manager asks that you convert the text values provided by the rating picklists to integer values.

### Approach

Create a data type containing a list of areas of the booking process and ID codes to sort the areas. Add the areas and ID codes in the following table to the data type.

Area (text)	ID number (integer)
Amount of detail in listings	1
Ease of booking process	2
Speed of responses to inquiries	3
Variety of listings	4
Other...	100

**Note:** The **ID number** field can be used to sort the list of areas to ensure that **Other...** is displayed last in the list. The actual sorting takes place in Designer Studio and is not covered in this exercise. Sorting is a challenge task accomplished by configuring the report used to populate the list.

Configure a user view in the Assess Booking process to allow guests to identify the part of the booking process they liked the most. Configure a second user view to allow guests to identify the part of the booking process they liked the least. To each user view, add a drop-down list that displays the areas from the data type you created. Prompt users by displaying a placeholder for each list. Following each list, add a text field to allow guests to identify an unlisted area if the guest selects **Other...** from the list.

**Tip:** Create a data reference on each user view to populate the list of areas for the guests.

Create three integer properties to store the converted ratings. Configure a data transform in Designer Studio to set the value of each integer property by converting the text values for the booking, host interaction, and stay ratings provided by the user. Use the function `@toInt` to convert the rating value

when users provide feedback on a booking, host, or stay. If the user does not provide a rating, then skip the conversion. For example, if the user chooses to rate only the booking process, then the data transform skips the conversion of the host rating and stay rating.

## Test cases

To test your application, run the Guest Review case in Pega Express. The following table provides the credentials you need to complete the test case.

<b>Role</b>	<b>Operator ID</b>	<b>Password</b>
Case Designer	author.reserveit	rules

Confirm the following behavior when reviewing the booking process.

- Users can select their favorite area of the booking process
- Users can add an area if their choice is not available from the list of favorite areas
- Users can select their least favorite area of the booking process
- Users can add an area if their choice is not available from the list of least favorite areas

Confirm that the application converts the ratings provided by users into integer values after users review their feedback. Use the Clipboard tool to confirm that the data transform provides integer equivalents for each rating provided by guests.

## Detailed steps

A proposed solution for this exercise is available as a download in the Related Content section.



# AUTOMATING BUSINESS POLICIES

---

# Configuring a service level agreement

# Exercise: Adding a service level to a case

## Scenario

TGB has a business policy of onboarding new employees within 15 business days of formal offer acceptance.

The Human Resources (HR) department promotes a goal of 10 business days to encourage members to process cases before the deadline. TGB wants members of the HR department to be able to track the time remaining for the goal and deadline when processing an onboarding case.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

## Your assignment

Configure the Onboarding case type with a goal and a deadline.

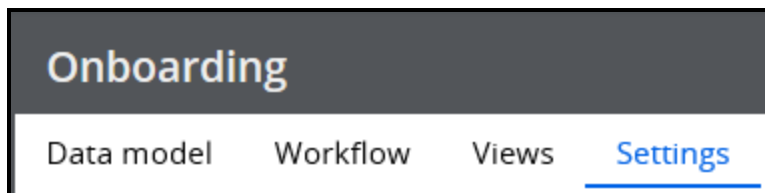
The following table lists the intervals and urgencies to configure.

Interval	Urgency
Goal - 10 business days	10
Deadline - 15 business days	20

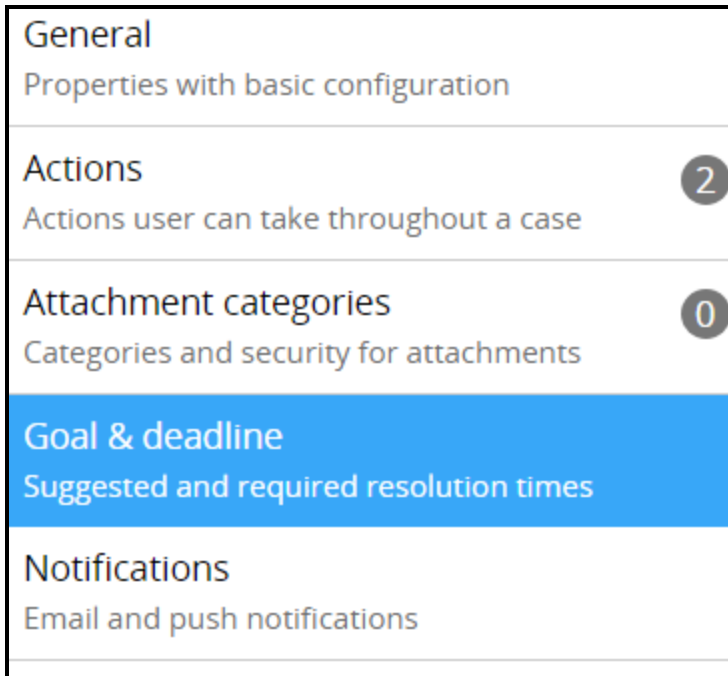
## Detailed steps

Follow these steps to add a service level to a case.

1. In Pega Express, open the **Onboarding** case type.
2. Click **Settings** to edit the settings for the case type.



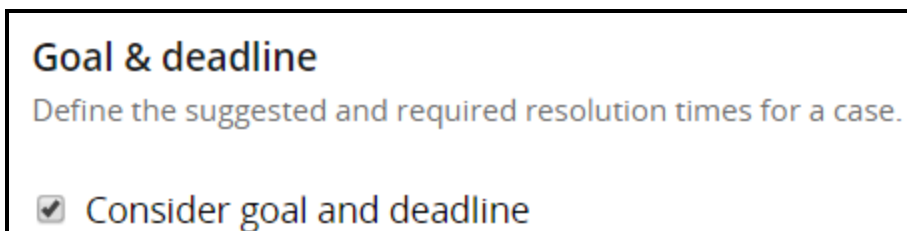
3. Click **Goal & deadline** to edit the goal and deadline settings.



A vertical list of settings categories. The 'Goal & deadline' category is highlighted in blue. To the right of 'Actions' and 'Attachment categories' are circular icons containing the numbers '2' and '0' respectively.

- General  
Properties with basic configuration
- Actions (2)  
Actions user can take throughout a case
- Attachment categories (0)  
Categories and security for attachments
- Goal & deadline**  
Suggested and required resolution times
- Notifications  
Email and push notifications

4. Select the **Consider goal and deadline** check box.



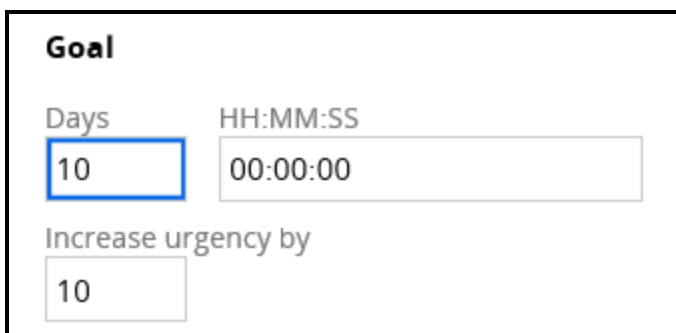
The 'Goal & deadline' settings page. The checkbox for 'Consider goal and deadline' is checked.

**Goal & deadline**  
Define the suggested and required resolution times for a case.

Consider goal and deadline

5. In the **Days** field for the **Goal**, enter 10. This is the preferred time frame to complete the case.

6. In the **Increase urgency by** field, confirm urgency increase is set to 10.



The 'Goal' settings form. The 'Days' field is highlighted with a blue border and contains the value '10'. The 'Increase urgency by' field also contains the value '10'.

**Goal**

Days:  HH:MM:SS:

Increase urgency by:

7. In the **Days** field for the **Deadline**, enter 15. This is the maximum time frame to complete the case.

8. In the **Increase urgency by** field, enter 20.

**Deadline**  
Days:  HH:MM:SS:   
Increase urgency by:

9. In the upper right corner of the case, click Save to save your changes to the goal and deadline settings.

## Verify your work

1. In the upper right corner of the case, click **Run** to execute the Onboarding case type.
2. In the Employee information view, click **Done** to advance to the identify Home Office user view.

New: Onboarding 

3. Verify that the **Goal**, **Deadline**, and **Urgency** are correct.

**Identify Home Office**  
DUE IN 15 DAYS FROM NOW  
Specify the company office where the new employee will be based  
Office:   
 Remote employee?

**Case details**  
**10** Goal Deadline in 9d in 14d  
Last updated by Author.HRApPs (1m ago)  
Created by Author.HRApPs (1m ago)

**Note:** At run time, the countdown for both the goal and the deadline begins immediately, displaying only the number of days remaining. In this example, the remaining **Goal** time is 9 days and the **Deadline** is 14 days.

# Exercise: Configuring a service level agreement rule

## Scenario

As part of the onboarding process, managers must identify an orientation plan for each new employee. During the onboarding process, HR selects one or more orientation courses for the employee. To ensure that HR can enroll the new employee in the selected courses, the orientation plan for an employee must be completed within two days, and preferably within one day. If the HR partner assigned to the onboarding case fails to complete the assignment within two days, a reminder email is sent to the HR partner every day until the assignment is completed.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
System Architect	author.hrapps	rules

## Your assignment

Add a service level agreement to the Select Orientation Plan assignment of the Onboarding case type. Configure the service level agreement to remind HR partners to select orientation courses for the employee in a timely manner by configuring:

- A goal interval of one day.
- A deadline of two days.
- A repeating action for late assignments to send a reminder email to the HR partner.

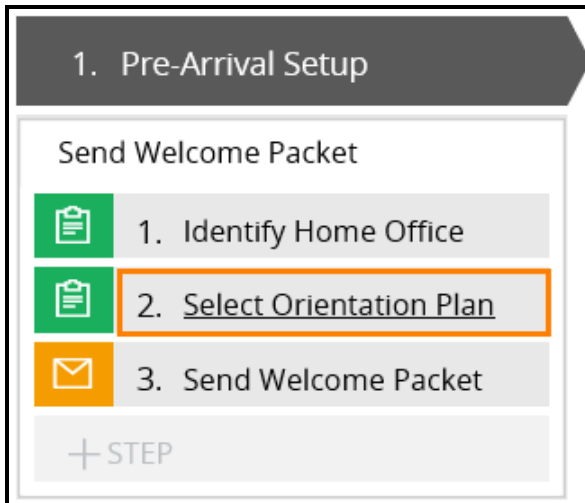
## Detailed steps

Configure a service level agreement for the Select Orientation Plan assignment. For this service level agreement:

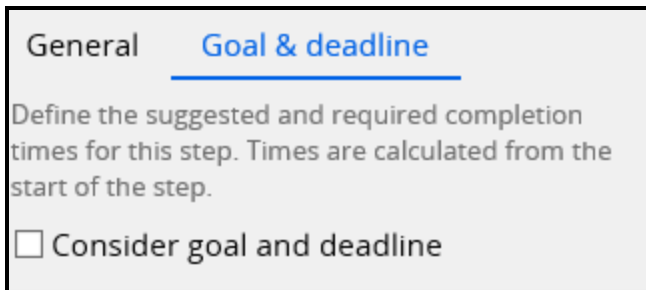
- Create the service level agreement for the Select Orientation Plan.
- Configure intervals and urgency adjustments for the service level agreement.
- Verify your work.

## Create the service level agreement for the Select Orientation Plan

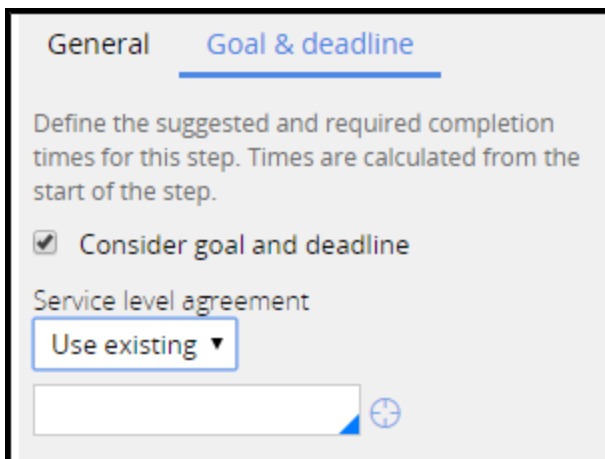
1. In Designer Studio, open the Onboarding case type.
2. In the Pre-Arrival Setup stage, click the **Select Orientation Plan** step. The properties panel for the step opens to the right of the case life cycle.



3. In the properties panel, click the **Goal & deadline** tab.



4. Select the **Consider goal and deadline** check box. The properties panel updates to display goal and deadline configuration options.
5. From the **Service level agreement** list, select **Use existing**. An empty field displays below the list.



6. In the empty field, enter SelectOrientationPlan.

7. Click the **crosshair** icon to the right of the field to open the New Record form as shown in the following image.

Create Service Level Agreement Create and open

Service Level Agreement Record Configuration

Label \*  Identifier  [Edit](#)

A short description or title for this record

Context

HR Apps  UI Kit  PegaRULES

Apply to \*  [View all](#)

Add to ruleset \*

8. Click **Create and open** to create and open the Service Level Agreement rule form.

Start of service level

Initial Urgency

Assignment Ready

Service level definitions

Calculate service levels

Goal

Days  Hrs  Mins  Secs

Amount to increase urgency

Time interval starts when the associated assignment (or work item) is created

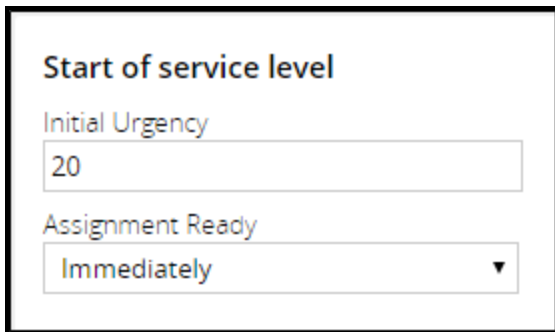
Only calculate using business days

Actions	When
<input type="text" value="Select Action..."/>	<a href="#">Edit</a>



## Configure intervals and urgency adjustments for the service level agreement

1. In the **Initial Urgency** field, enter 20.

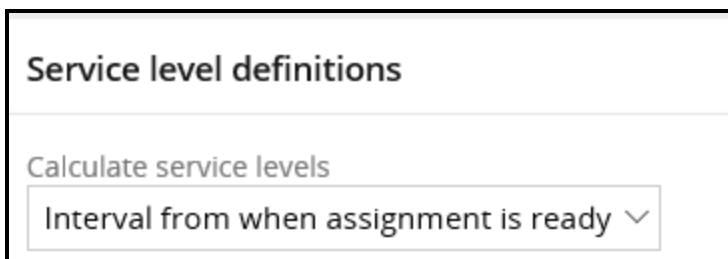


**Start of service level**

Initial Urgency  
20

Assignment Ready  
Immediately ▼

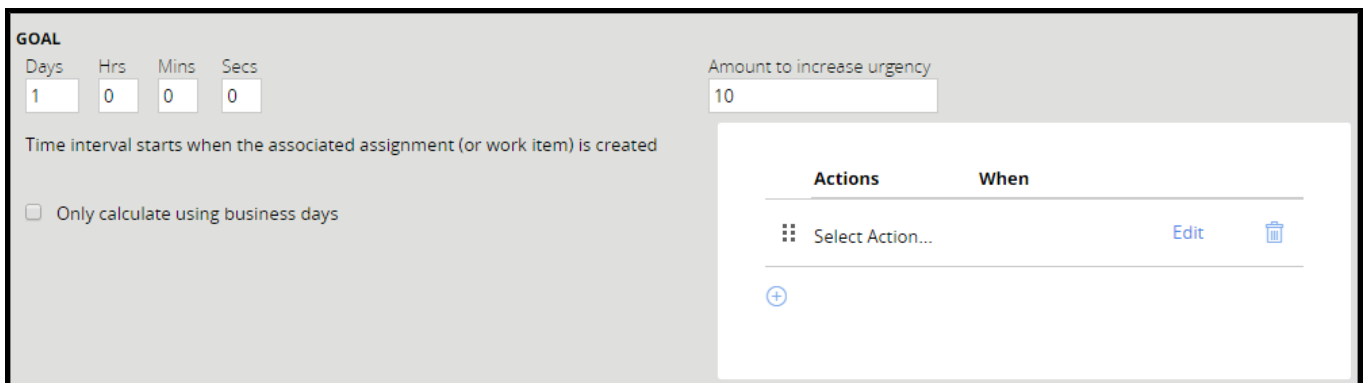
2. In the Service level definitions section, confirm that the **Calculate service levels** list is set to **Interval from when assignment is ready**.



**Service level definitions**

Calculate service levels  
Interval from when assignment is ready ▼

3. In the **Goal** section, under **Days**, enter 1.
4. Under **Amount to increase urgency**, enter 10.



**GOAL**

Days	Hrs	Mins	Secs	Amount to increase urgency
1	0	0	0	10

Time interval starts when the associated assignment (or work item) is created

Only calculate using business days

Actions	When
⋮ Select Action...	Edit
+	

5. In the **Deadline** section, under **Days** enter 2.

6. Under **Amount to increase urgency**, enter 10.

**DEADLINE**

Days Hrs Mins Secs

2 0 0 0

Amount to increase urgency

10

Time interval starts when the associated assignment (or work item) is created

Only calculate using business days

Actions	When
Select Action...	

7. In the **Passed Deadline** section, clear the contents of the **Limit passed deadline events to** field.

8. Under **Days**, enter 1.

9. Under **Amount to increase urgency**, enter 10.

10. Under **Actions**, click **Select Action**. The **Perform Action** list is displayed for the Passed Deadline interval.

11. From the **Perform Action** list, select **Notify Assignee**.

Actions	When
Notify Assignee	

Perform Action: Notify Assignee

When: [Empty]

12. Click **Save** to save the rule.

13. Click the **Onboarding** tab. Designer Studio returns to the workflow for the Onboarding case.

14. Click **Save** to save the rule in the case type.

## Verify your work

1. In the Onboarding case type workflow, in the upper right corner, click **Run** to execute the Onboarding case type.

2. In the Employee user view, click **Done**. The onboarding case advances to the Identify Home Office form.

3. Click **Submit**. The onboarding case advances to the Select Orientation Plan form. The time remaining in the goal interval is displayed on a green background.

**Note:** This case type also has a service level agreement at the case level. The time remaining for the entire case displays under Case details.

The screenshot displays a user interface for an onboarding case. At the top, the case is titled "Onboarding (0-16)" with an "OPEN" status indicator. Below the title, a green progress bar shows the time remaining, with a callout box indicating "23 hours from now". The main content area is divided into two sections. On the left, a task card titled "Select Orientation Plan" is shown, with a sub-header "DUE IN 2 DAYS FROM NOW" and a green circular icon containing the letter "A". On the right, a "Case details" section is visible, featuring a horizontal line separator. Below the separator, the number "10" is displayed, followed by the text "Goal Deadline in 9d in 14d".

---

# Configuring and sending correspondence

# Exercise: Sending a welcome email to new employees

## Scenario

As part of the onboarding process, TGB sends each new employee a welcome email. This email contains the start date, manager, and home office for the employee. The email also provides information about paperwork that the employee must bring on the first day.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

## Your assignment

Create the welcome email to send to new employees during the onboarding process.

To accomplish this task, perform the following in the Send Welcome Packet step in the Onboarding case life cycle.

- Create the email text and the properties.
- Configure the email routing.

**Note:** Your exercise environment is not configured to send email correspondence. During this exercise, you may notice that the attached email indicates an exception error. This exception results from the application being unable to send the email in the exercise environment. You can ignore this error.

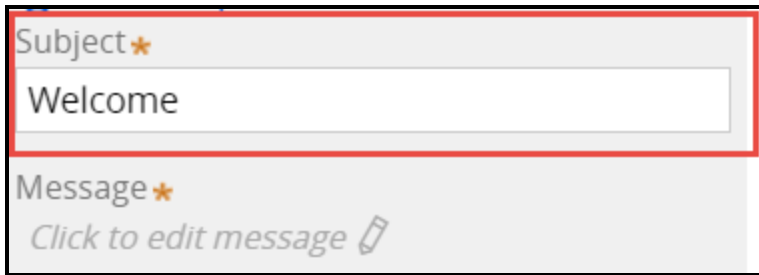
## Detailed steps

### Configure the Onboarding case type to send the welcome email

Configure the Onboarding case type to send the welcome email to the employee at the Send Welcome Packet step.

1. In Pega Express, click **Onboarding** to open the Onboarding case type.
2. On the **Workflow** tab in the Send Welcome Packet flow, select the **Send Welcome Packet** step. The properties panel for the Send Email utility shape opens to the right of the case life cycle.

3. In the **Subject** field, enter Welcome.



The screenshot shows an email compose interface. At the top, there is a 'Subject' field with a red border, containing the text 'Welcome'. Below it is a 'Message' field with a red border, containing the text 'Click to edit message' and a pencil icon.

4. Under **Message**, select **Click to edit message**. The compose message dialog box displays the Correspondence rule form editor.

## Create the contents of the Welcome email

Enter the contents of the email on the correspondence rule form.

1. In the Correspondence rule form editor, enter the following text:

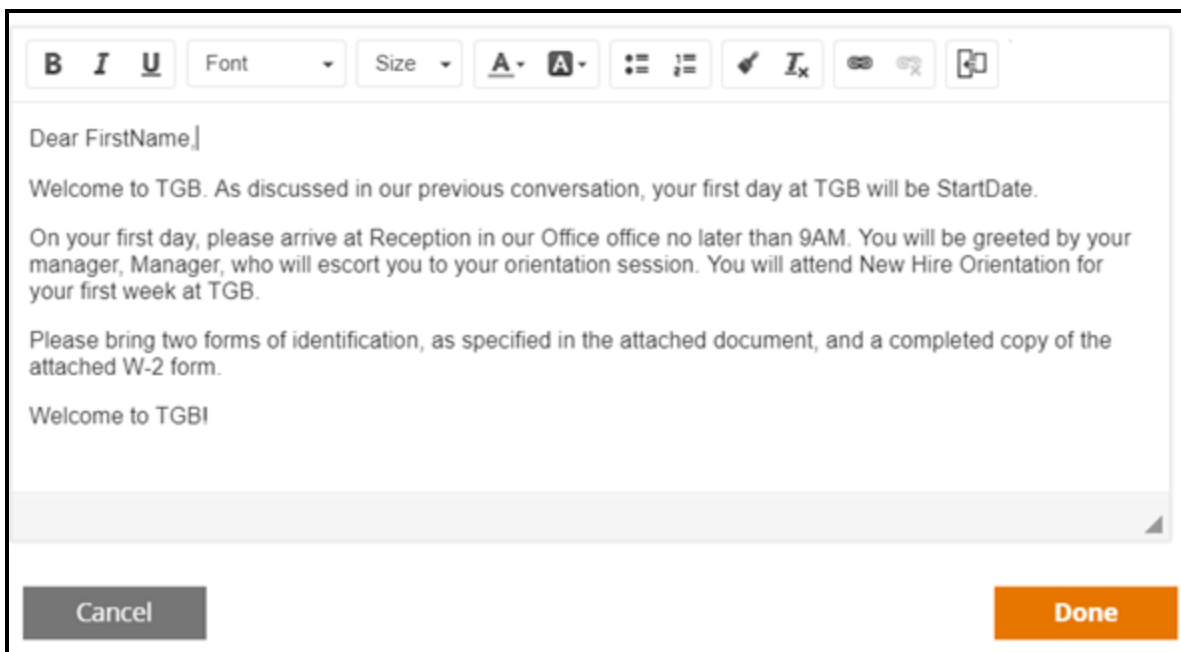
Dear FirstName,

Welcome to TGB. As discussed in our previous conversation, your first day at TGB will be StartDate.

On your first day, please arrive at Reception in our Office office no later than 9AM. You will be greeted by your manager, Manager, who will escort you to your orientation session. You will attend New Hire Orientation for your first week at TGB.

Please bring two forms of identification, as specified in the attached document, and a completed copy of the attached W-2 form.

Welcome to TGB!



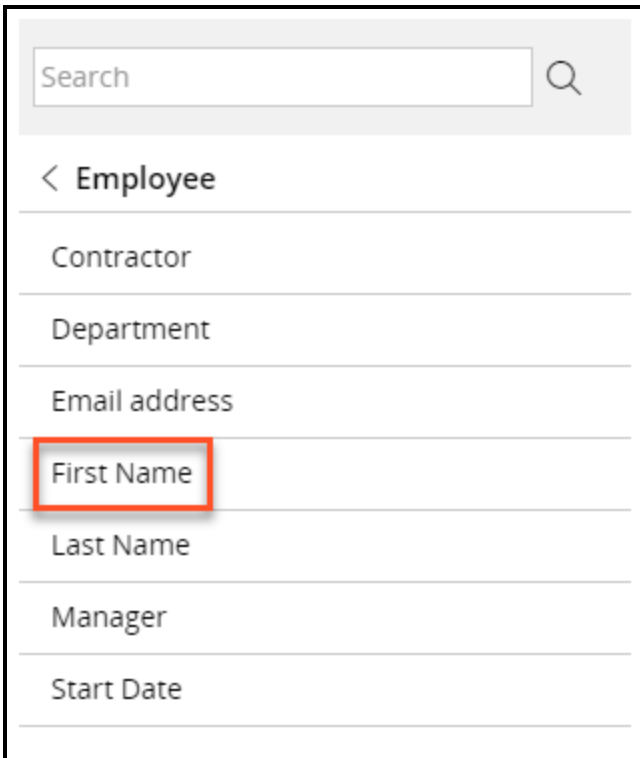
The screenshot shows the Correspondence rule form editor. At the top, there is a toolbar with various formatting options: Bold (B), Italic (I), Underline (U), Font, Size, Text color (A), Background color (A), Bulleted list, Numbered list, Link, Unlink, and Attachments. Below the toolbar is a text area containing the following text:  
Dear FirstName,  
Welcome to TGB. As discussed in our previous conversation, your first day at TGB will be StartDate.  
On your first day, please arrive at Reception in our Office office no later than 9AM. You will be greeted by your manager, Manager, who will escort you to your orientation session. You will attend New Hire Orientation for your first week at TGB.  
Please bring two forms of identification, as specified in the attached document, and a completed copy of the attached W-2 form.  
Welcome to TGB!  
At the bottom of the editor, there are two buttons: 'Cancel' and 'Done'.

**Note:** FirstName, StartDate, Office, and Manager are placeholders for property references. Enter these placeholders for now, to indicate where to insert property references in upcoming steps.

2. In the text of the email, select the text **FirstName**.
3. On the Editor toolbar, click the **Insert Property** button to open the Properties dialog.



4. On the properties dialog, select **Employee First Name** to add the first name of the onboarding employee to the email.



- Repeat steps 1-4 to replace the StartDate, Office, and Manager text with property references associated with the employee onboarding process.

Compose message Use template

**B I U** Font Size A A

Dear <<.Employee.FirstName>>

Welcome to TGB. As discussed in our previous conversation, your first day at TGB will be <<.Employee.StartDate>>

On your first day, please arrive at Reception in our <<.Office>> office no later than 9AM. You will be greeted by your manager, <<.Employee.Manager>>, who will escort you to your orientation session. You will attend New Hire Orientation for your first week at TGB.

Please bring two forms of identification, as specified in the attached document, and a completed copy of the attached W-2 form.

Welcome to TGB!

- Click **Done** to dismiss the Compose Message dialog.
- Click **Save** to update the Onboarding case type.

## Add the recipient information

Continue the task by adding the recipient information.

- Under **Send to**, select **Field**.
- In the field below the one with **Field** selected, select **Employee email** to identify the field with the recipient's email address.

Send to \*

Field ▼



Employee email ▼

- Click **Save** again to update the Onboarding case type to send the email to the recipient during case processing.

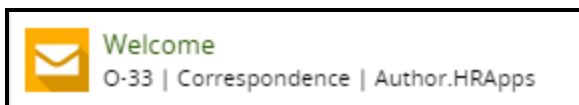


## Verify your work

1. Create a new Onboarding case.
2. In the **New: Onboarding** form, enter data in the fields as shown in the following example.

<b>Employee</b>	
Start Date *	
4/16/2018	
Department	
Sales	
Manager	
Frank Taylor	
<input type="checkbox"/> Contractor	
First Name	
Tom	
Last Name	
Havens	
Email address	
th@gmail.com	

3. From the New Onboarding form, click **Done** to advance the case to the Identify Home Office form.
4. On the Identify Home Office form, in the **Office** field, select Berlin.
5. On the Identify Home Office form, click **Submit** to advance the case to the Select Orientation Plan form.
6. Click **Advance this case**. Under **Attachments**, the email generated by the application is listed.



7. Click **Welcome** to open the email attachment.

8. Verify that the content matches the rule and the data you entered on previous forms is in the case.

Dear Tom ,

Welcome to TGB. As discussed in our previous conversation, your first day at TGB will be 4/16/18 .

On your first day, please arrive at Reception in our Berlin office no later than 9AM. You will be greeted by your manager, Frank Taylor , who will escort you to your orientation session. You will attend New Hire Orientation for your first week at TGB.

Please bring two forms of identification, as specified in the attached document, and a completed copy of the attached W-2 form.

Welcome to TGB!

---

# Routing assignments

# Exercise: Routing assignments using business logic

## Scenario

During the onboarding process, the Facilities department must set up a workstation for on-site employees. To avoid delays in the onboarding process, HR wants to ensure that each Facilities request is routed to the correct local office of the Facilities department.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

## Your assignment

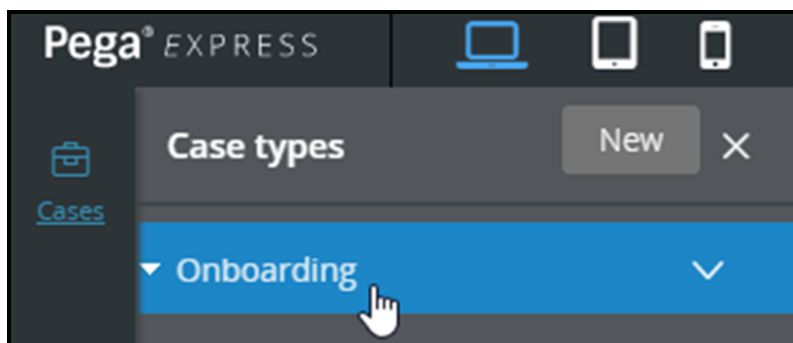
Update the Onboarding case life cycle to route the Review Facilities Setup step to the appropriate work queue, based upon the home office specified for the employee. Use the following list of work queues:

- Facilities\_ATL@TGB (Atlanta home office)
- Facilities\_BER@TGB (Berlin home office)
- Facilities\_TOK@TGB (Tokyo home office)

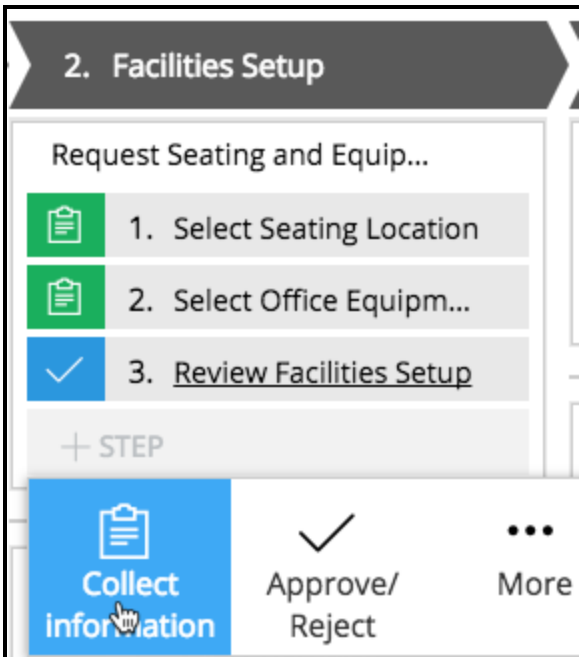
## Detailed steps

Follow these steps to route an assignment using business logic.

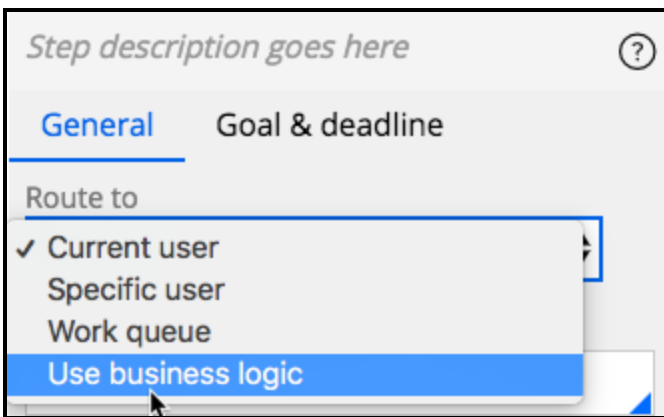
1. In Pega Express, click **Cases** to view a list of available case types.
2. In the **Case types** panel, select the **Onboarding** case type. The case type opens in the editor.



- In the Request Seating and Equipment process, select **+ STEP > Collect Information** to add a new assignment to the process.



- In the text field, enter **Review Facilities Setup** as the name of the assignment step.
- In the contextual properties panel on the right, from the **Route to** drop-down list, select **Use business logic** to define the conditions used to route the assignment.



- Next to the **Custom condition** field, click the **Gear** icon to add a custom condition.
- From the **Action** drop-down list, select **Route to work queue**.



- In the **Value** text field, enter **Facilities\_ATL@TGB**.
- From the **Field** drop-down list, select **Office** as the field to evaluate.

- In the **Value** text field, enter **Atlanta** as the value.

- Click **Add condition** to add a second condition to the business logic table.
- Repeat steps 7 through 11 to add business logic conditions for other offices using the information in the following table.

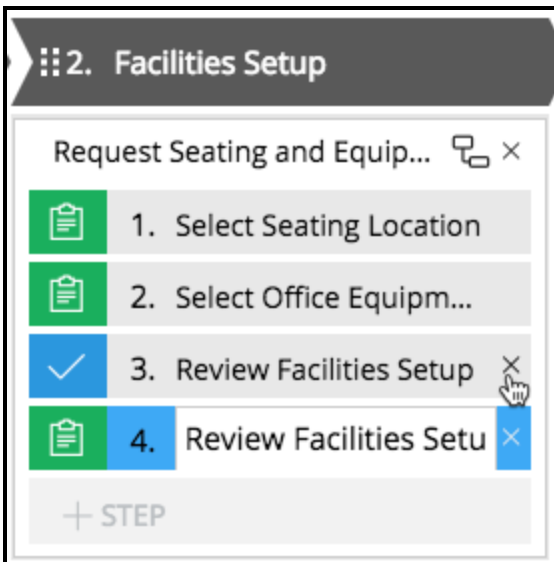
**Note:** Add as many of the conditions as you feel are necessary for mastering this task.

Office	Work queue to route assignment to
Berlin	Facilities_BER@TGB
Tokyo	Facilities_TOK@TGB

- In the **otherwise** section, from the **Action** drop-down list, select **Route to work queue** to define a default work queue.

**Tip:** If this form gets too long to scroll through, you can use the **Tab** key to navigate through the form.

- In the **Value** field, enter **Facilities@TGB** as the default work queue.
- Click **Submit** to save your changes to business logic conditions.
- Hover your pointer over the *Review Facilities Setup Approve/Reject* step, and then click the **X** to delete the step.



- Save your changes to the Onboarding case type.

## Verify your work

1. Create a new Onboarding case.
2. Complete the New: Onboarding form.
3. Click **Submit**. The Identify Home Office form is displayed.
4. In the **Office** field, enter one of the home office locations: Atlanta, Berlin, or Tokyo.  
**Note:** If you do not enter one of the valid office locations, Pega returns an error on the Facilities Review form. Remember not to check **Remote employee?**
5. Click **Submit**.
6. Continue to the Facilities Review form.
7. Verify that the Facilities Review assignment was routed to the workbasket that corresponds to the home office you entered in step 4. You may need to click on the **Audit** tab to see that the next task has been assigned to the relevant work queue.

---

# Delegating business rules



# Exercise: Delegating business rules

## Scenario

At TGB, managers assign courses that are appropriate to each new employee. The course list details change monthly. Currently, the managers submit IT tickets for course changes. The managers prefer to make the changes themselves.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Business architect	author.hrapps	rules
Human resources manager	manager.hrapps	rules

## Your assignment

Delegate the records for the *Courses* data type to the HR Business Owners access group.

Test your work by logging on to the case manager portal as a human resources manager. Confirm you can edit the course list details.

## Detailed steps

Follow these steps to delegate the records for the *Courses* data type.

1. Log in to Pega Platform with the business architect credentials.
2. In the bottom left of Pega Express, click the **double arrow** to switch to Designer Studio.
3. Select the **Data** explorer to display the data types.
4. Click **Courses** to open the *Courses* data type.



5. From the **Actions** menu, select **Delegate**.

6. In the **Delegate to access group** field, begin typing Ma to select Manager.

**Delegate Class** [Close]

What will the end user be able to edit?  
Select one:

Manage data records

Delegate to access group \*  
Manager

Title \*  
50 characters max

Detailed description  
This will be displayed to the end-user to help them understand what they are changing

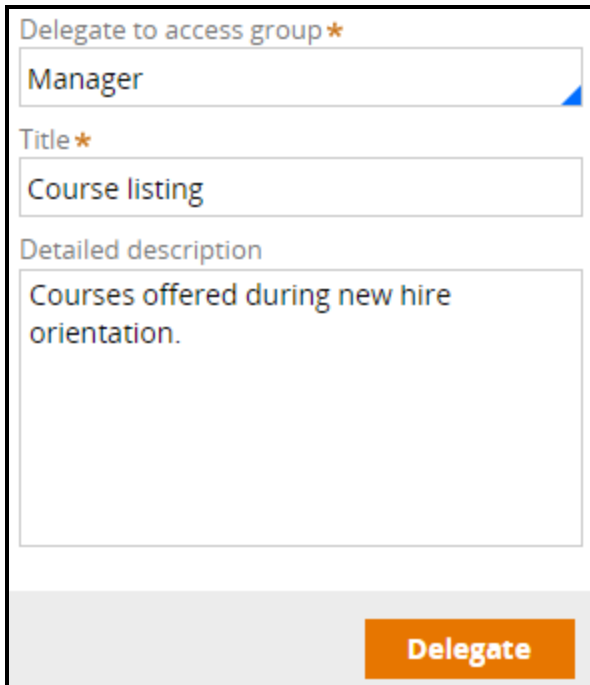
Cancel Delegate

7. In the **Title** field, enter Course listing.

Delegate to access group \*  
Manager

Title \*  
Course listing

8. In the **Description** field, enter Courses offered during new hire orientation.



Delegate to access group \*

Manager

Title \*

Course listing

Detailed description

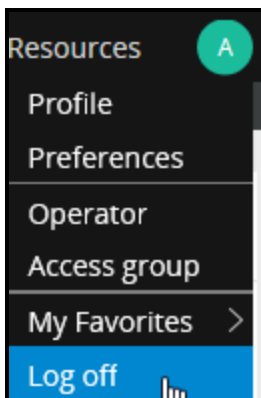
Courses offered during new hire orientation.

Delegate

9. Click **Delegate** to delegate the *Courses* data type.

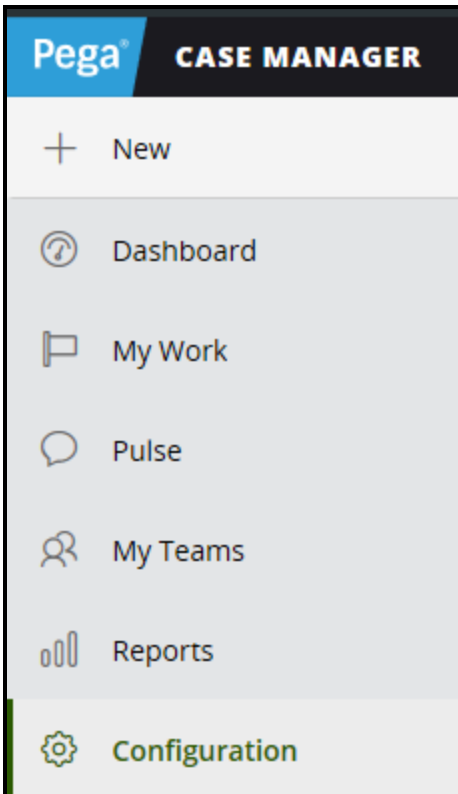
## Verify your work

1. Click the operator profile icon, and select **Log off** to log out of Designer Studio.

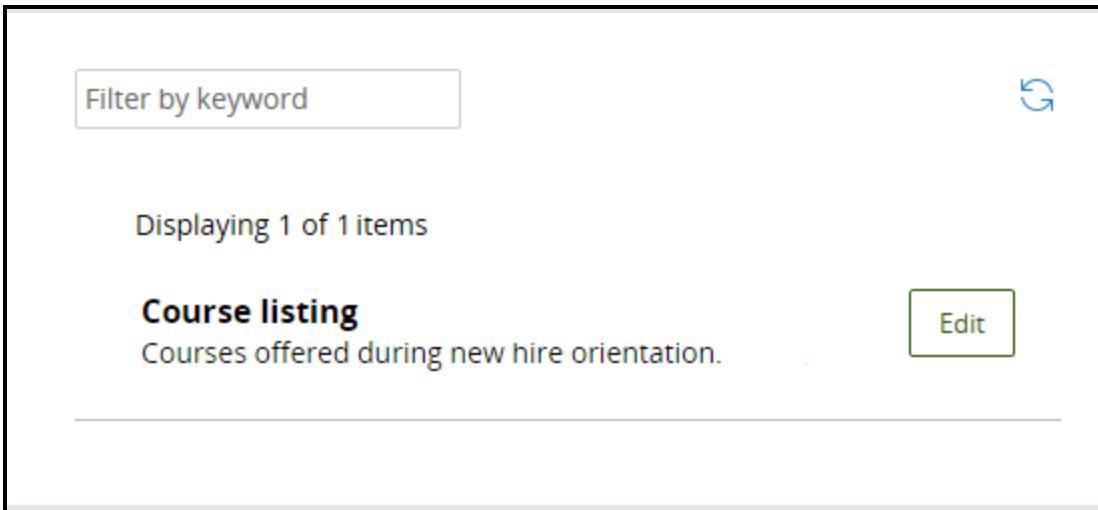


2. On the Pega Platform log in screen, log on with the human resources manager credentials.

3. On the left side of the Case Manager portal, select **Configuration** to display the available delegated rule.



4. Select **Edit** to open the courses rule.



5. Select the line item for any course. The following image shows the selection of course code GEN002.

ID*	Title	Description	Hours	Department	
ENG-001	Engineering Orientation	Learn the basic organization of the Engineering group	2	Engineering	
GEN-001	Company Orientation	Learn about the company's history and corporate structure	1	All	
GEN-002	Time Off Management	Review the time off reportin	0.5	All	

6. In the **Hours** field, enter 4 to change the duration to 4 hours.

▼ Hours
2
1
4

7. Click **Save** to save the change and show the new duration.

GEN-002	Time Off Management	Review the time off reporting system	4
---------	---------------------	--------------------------------------	---

---

# Controlling the flow of a case life cycle

# Exercise: Configuring a process to skip execution based on conditions

## Scenario

TGB hires remote employees — employees who do not work in one of the five main TGB offices. The onboarding process for remote employees does not require selecting a seating location or requesting office equipment such as a desk or telephone. The HR department policies indicate that for these remote employees, onboarding cases should skip the Request Seating and Equipment process.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

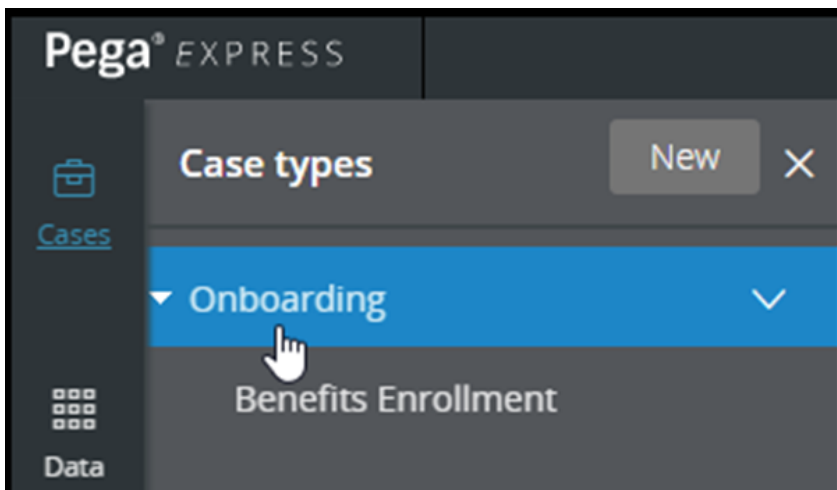
## Your assignment

Configure the onboarding case type to skip the Request Seating and Equipment Setup process for remote employees.

## Detailed steps

Follow these steps to configure a process to skip execution based on conditions:

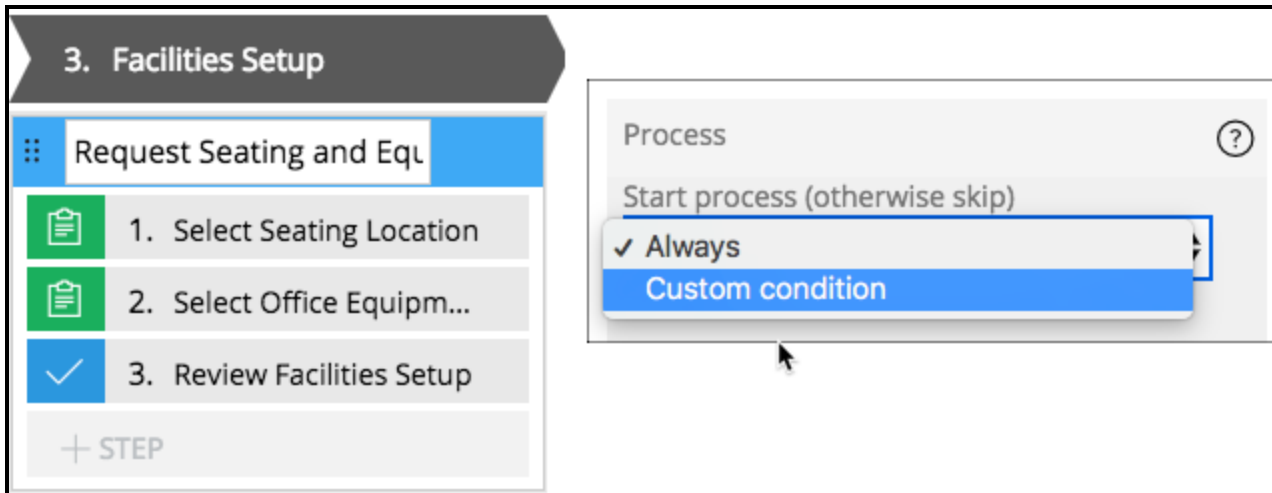
1. In Pega Express, click **Cases** to view a list of available case types.
2. In the **Case types** panel, select the **Onboarding** case type. The case type opens in the editor.



3. Select the **Request Seating and Equipment** process.

**Note:** Some exercise systems may display the process name as **Facilities Setup**.

4. In the **Process** panel, under **Start process**, select **Custom condition**.

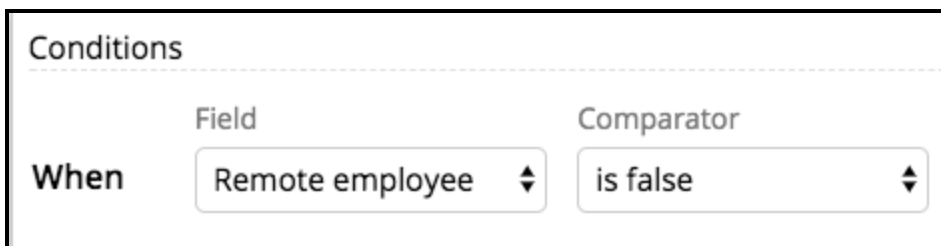


5. Next to the Custom condition field, click the **gear** icon to add a custom condition.

6. From the Field drop-down list, select **Remote employee**.

7. From the Comparator drop-down, select **is false**.

**Note:** This "reverse" logic ensures the Request Seating and Equipment process only runs for employees that are not remote.



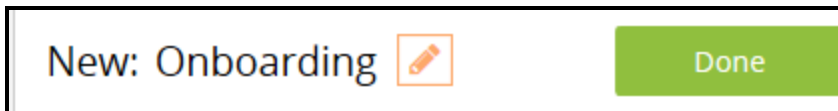
8. Click **OK** to save your changes to the custom condition.

9. Click **Save** to save your changes to the Onboarding case type.

## Verify your work

1. In the upper-right corner, click **Run** to execute an instance of the Onboarding case type.

2. Click **Done** to advance to the Identify Home Office step.



3. Select the check box for the Remote employee option.



### Identify Home Office

Specify the company office where the new employee will be based.

Office

Select a home office... ▾

Remote employee?

4. Click **Submit** to advance the case.
5. Confirm the case is on the *Select Orientation Plan* step in the Pre-Arrival Setup stage. Click **No, advance the case** to advance the case to the next step.
6. Confirm the case advances to the Benefits Enrollment stage.

The Request Seating and Equipment process should not have executed because the value of *Remote employee* was set to true.

Pre-Arrival Setup ✓

Facilities Setup ✓

Benefits Enrollment

Information    Audit

Run another instance of the Onboarding case type, but do not select the *Remote employee* option. Then, advance the case to the second stage. The *Request Seating and Equipment* should execute.

---

# Circumstancing rules

## Exercise: Circumstancing the welcome email for contract employees

### Scenario

TGB sends a welcome email to both full-time and contract employees. Unlike full-time employees, contractors have a shorter orientation period—one day—and must provide different paperwork on their first day. You must customize the email sent to contractors to reflect these differences.

The table below provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

Customize a version of the welcome email to send to contract employees to mention that orientation lasts one day and that the employee must provide a completed copy of the Contract Employee Agreement on their first day of work.

**Important:** The welcome email is saved as part of the Onboarding case type. Before you customize the email, copy the text of the email to a correspondence rule named *Welcome* to use as a base rule.

To do this, create a circumstanced version of the Welcome correspondence rule. For a circumstancing condition, test whether the value of the Contract employee property (.Employee.Contractor) is true.

### Detailed steps

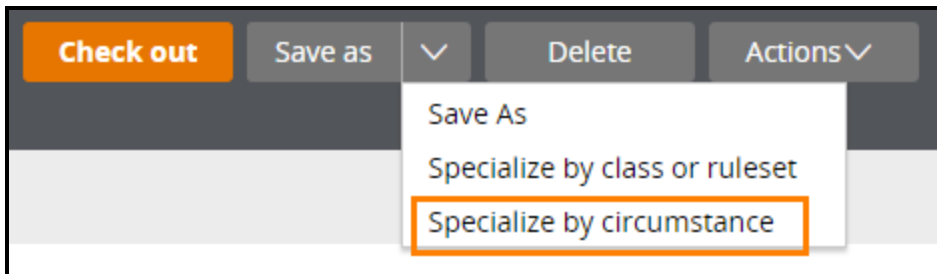
#### Create the base rule for Welcome correspondence

1. In the Cases Explorer, click **Onboarding** to open the Onboarding case type.
2. Select the Send Welcome Packet step.
3. In the contextual properties panel, click the message text to open the Compose Message dialog.
4. Copy the message text, then click **Done** to close the Compose Message dialog.
5. In the contextual properties panel, from the **Message** drop-down list, select Correspondence to display the Correspondence template field.
6. In the **Correspondence template** field, enter Welcome.
7. Click **Save** to update the Onboarding case to reference the Welcome correspondence record.
8. Click the **crosshair** icon to open the Create Correspondence form.

9. On the Create Correspondence form, in the **Correspondence type** field, select Email.
10. Click **Create and open** to create the correspondence record.
11. Paste the message into the rich-text field.
12. Click **Save** to complete the configuration of the Welcome correspondence record.

## Create a circumstanced version of the Welcome correspondence rule

1. Click the pull-down menu on the **Save as** button, and select **Specialize by circumstance**.



2. On the Specialize Correspondence form, select **Property and Date**.

 A screenshot of the 'Correspondence Record Configuration' form. The form has several fields: 'Label\*' with the value 'Welcome', 'Identifier' with the value 'Welcome', and 'Correspondence Type' with the value 'Email'. Below these, there is a section for 'CIRCUMSTANCE BY' with two radio buttons: 'Template' and 'Property and Date'. The 'Property and Date' radio button is selected and highlighted with a green rectangular border. Below this section, there are two input fields: 'Property' and 'Value'.

3. In the **Property** field, select or enter .Employee.Contractor.
4. In the **Value** field, enter true.

 A screenshot of the 'CIRCUMSTANCE BY' section of the form. The 'Property and Date' radio button is selected. Below it, the 'Property' field contains the text '.Employee.Contractor' and the 'Value' field contains the text 'true'.

5. Click **Create and open**. The Correspondence rule form opens.

## Define the behavior for the circumstance

1. Update the text of the email to read:

Dear <<.Employee.FirstName>> ,

Welcome to TGB. As discussed in our previous conversation, your first day at TGB will be <<.Employee.StartDate>> .

On your first day, please arrive at Reception in our <<.Office>> office no later than 9AM. You will be greeted by your manager, <<.Employee.Manager>> , who will escort you to your orientation session. You will attend New Hire Orientation for your first day at TGB.

Please bring two forms of identification, as specified in the attached document, and a completed copy of the attached Contract Employee Agreement.

Welcome to TGB!

2. Click **Save** to save your circumstanced rule.
3. Click **Check in** to complete your configuration.

## Verify your work

1. From the Create menu, select **New > Onboarding** to create a new onboarding case.
2. On the Collect Employee Info form, select **Contractor**, then complete the remaining fields on the form.

### Employee

Contractor

First Name  
Tom

Last Name  
Havens

Department  
Sales

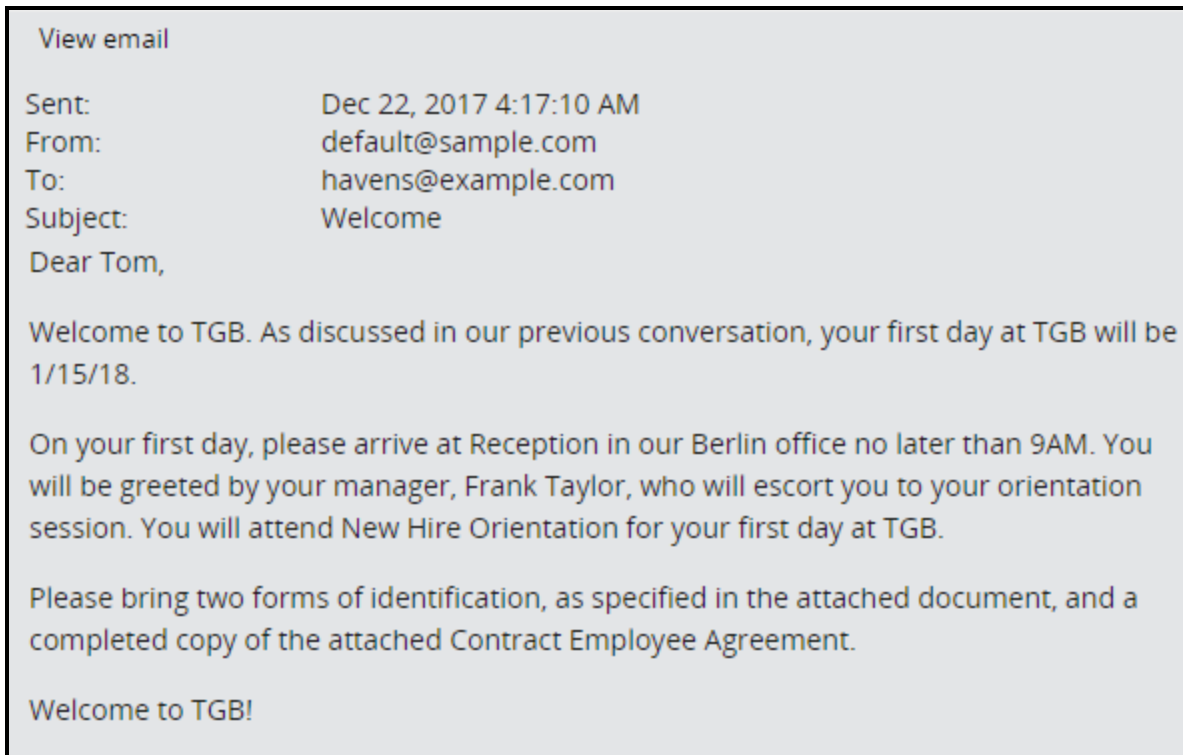
Manager  
Frank Taylor

Email 1  
havens@example.com

Start Date  
1/15/2018

3. Click **Done**. The case advances to the Identify Home Office form.
4. On the Identify Home Office form, from the **Office** drop-down list, select Berlin.

5. Click **Submit**. The case advances to the Select Orientation Plan form.
6. On the Select Orientation Plan form, click **Submit**.
7. Open the attached email and verify that the content matches the circumstanced version of the rule. The attached email should mention that the recipient attends New Hire Orientation for their first day, and that the recipient should bring a completed copy of the Contract Employee Agreement.



8. Close the onboarding case.

---

# Capstone Exercise: Automating business policies

## Capstone Exercise: Automating business policies

### Scenario

To ensure that customers provide feedback regarding their stays in a timely manner, ABB has identified several desired process improvements to encourage timely user responses and resolve orphaned cases.

Implement the following process improvements specified by ABB:

- To receive the 10 percent voucher, the guest must begin their review within three calendar days after the Guest Review case is created. Send a reminder email one calendar day after the review is created to remind the guest of the discount offer. If the guest does not begin the review within three calendar days, close the case with the status of Resolved-Withdrawn.
- If the guest chooses to provide a review, the Guest Review case advances to the Select Feedback Areas form. Otherwise, the Guest Review case is moved to the Cancellation stage and withdrawn.
- The guest may select one, two, or all three check boxes to identify those feedback areas they wish to assess. To ensure that the guest provides feedback about at least one part of the reservation process, one choice is required. If no choice is selected, display the error message "One area must be selected."

Permit only those views related to the feedback areas selected to be visible to the guest. Skip views related to unselected check boxes during processing.

The following table details the feedback areas and their related views.

<b>Feedback area</b>	<b>Related view</b>
Booking experience	Provide Booking Process Feedback
Host interaction	Provide Host interaction Feedback
Stay	Provide Stay Feedback

- After the guest submits the review, a confirmation email is sent to the guest containing the following content.

Dear ABB guest,

Thank you for submitting an assessment of your recent ABB stay.

Your voucher for 10% off a future ABB property reservation will arrive via email in the next 24 hours. Your reference # is <insert assessment case ID here>.

Happy travels,

ABB Customer Service Team

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.reserveit	rules

## Approach

To ensure that guests begin the review within three calendar days after the case is created, create an SLA for the Accept Review step. Set a goal of one day and send a notification to the customer. Then, set a deadline of three days and specify the *pxChangeStage* activity to move the case to the Cancellation stage, which withdraws the case.

**Note:** To verify that the SLA works as expected, you can set the goal for five minutes and the deadline for 10 minutes. These settings are used in the Test Case later in this exercise.

To ensure that guests can choose to skip a review, add business logic to move the case to the Cancellation stage when the user chooses to skip their review.

To ensure that guests provide feedback for at least one area, create a validation condition for the Feedback stage. Define the error message and create a when condition that evaluates the three check boxes.

To ensure only views related to selected feedback areas are visible to the guest, configure business logic for each of the Feedback stage processes. Each condition evaluates the **Select Feedback Area** check box selections.

To send the confirmation email, first create a field in your case type to capture the email addresses for the guest. Add the fields to the Accept Review user view. Then, configure the Send Email step in the Resolve stage.

**Note:** When you create a Guest Review case from a Booking case, the Guest Review case skips the Create view. To mimic this behavior when you create a stand-alone Guest Review for testing, you can disable use of the Create view. To do so, click the Settings tab on the case type, select General, and click Skip 'Create' view when users create a new case.

## Test case

Create a Guest Review case, but do not complete and submit the Accept Review form. On the form, open the **Audit** tab. After five minutes have passed, refresh the form. On the **Audit** tab, a new item indicates that the Notify Assignee activity has run. After ten minutes have passed, refresh the form again. Note that the Change Stage activity has run. The case's status is Resolved-Withdrawn.

Create another Guest Review case. In the Accept Review form, indicate that you do not want to provide feedback. Then, submit the form. The case's status is set to Resolved-Withdrawn.

Create another Guest Review case. In the Accept Review form, indicate that you will give feedback. Enter an email address in the field you added to the form. Do not select a **Select Feedback Area** check box. Then, submit the form. The error message you specified in your configuration is displayed.

Select a check box and submit the form to view the relevant feedback form. For example, if you elect to provide feedback on the host interaction, the Provide Host Interaction Feedback form is displayed.

When you resolve the case, the Attachments section on the user form displays an email link. Click the link to read the message that you configured. The message to the guest contains the case ID.

**Note:** The correspondence displays an error message indicating the address is not available. This is expected as you have not configured your application to send email.

## Detailed steps

A proposed solution for this exercise is available as a download in the Related Content section.



# DESIGNING A USER INTERFACE

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# Configuring a user form

## Exercise: Configuring a user form

### Scenario

As part of the onboarding process, a member of the Human Resources (HR) department enrolls a new employee in one or more orientation courses. These courses provide the employee with information about company and department processes. The HR department wants to add a form to Onboarding cases to present the user with a selectable list of courses. The HR department also wants to ensure the important course information displays on mobile devices.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

- Configure the Select Orientation Plan user view to display a list of courses that users can select to generate an employee orientation plan.
- Change the courses column order to ensure the important course information displays on mobile devices.

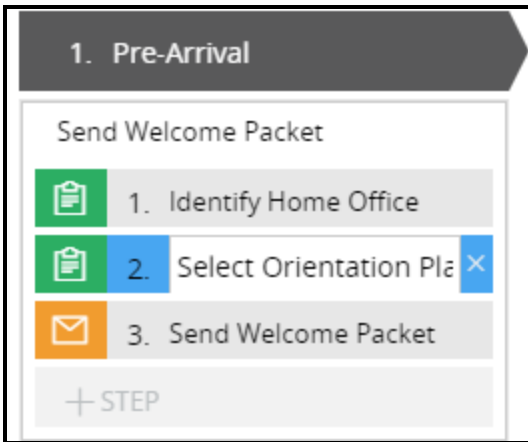
### Detailed steps

#### Configure the Select Orientation Plan view fields

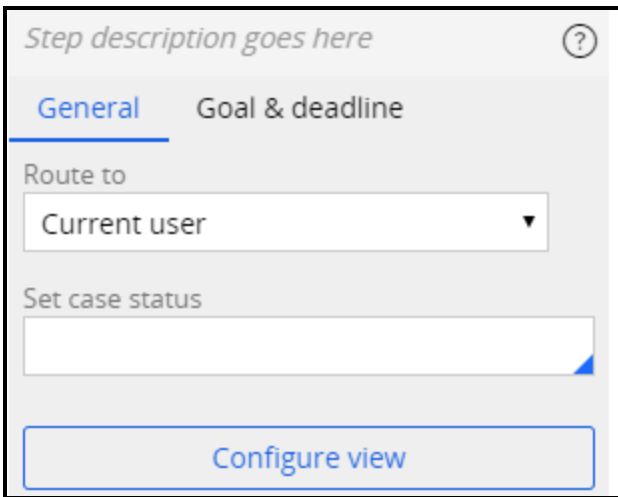
Create a **Courses** field group list that references the Courses data type in the Select Orientation Plan view.

1. Log in to Pega Express as **author.hrapps** using password **rules**.
2. In the Cases Explorer, select the **Onboarding** case type to display the Onboarding case type.

3. In the Send Welcome Packet process in the Pre-Arrival stage, select the **Select Orientation Plan** step to display the contextual properties panel for the step.



4. On the **General** tab of the contextual properties panel, click **Configure view** to display the View configuration window.



5. On the **Fields** tab of the Select Orientation Plan view window, click in the **Label** field and enter Courses.

- Press **Tab** on your keyboard to move the cursor to the **Type** drop-down list and select **Field group (list)**. The Select Orientation Plan window updates to display the elements of the field group list.

Label	Type	Options	
Courses	Field group (list) ▼	Optional ▼	Courses ▼
Department	Text (single line) ▼	Optional ▼	🗑️
Description	Text (single line) ▼	Optional ▼	🗑️
Hours	Decimal ▼	Optional ▼	🗑️
ID	Text (single line) ▼	Optional ▼	🗑️
Selected	Boolean ▼	Optional ▼	🗑️
Title	Text (single line) ▼	Optional ▼	🗑️

- To the right of the **Courses** drop-down, click the **Gear** icon to open the **Data type** panel.
- In the **Data type** panel, select the **Is this a data reference?** check box. Below the check box, the **Select a source** drop-down list is displayed.
- From the **Select a source** drop-down list, select List Courses to populate the list of courses.

**Data type**

Is this a data reference?

Select a source\*

List Courses ▼

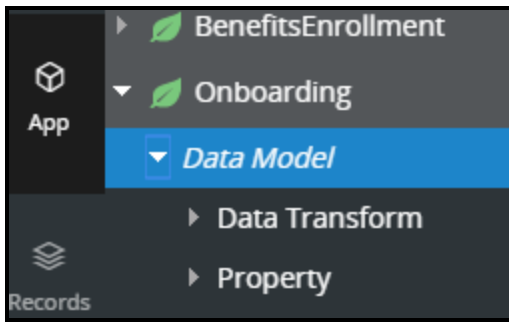
Cancel Submit

- Click **Submit** to complete the configuration of the data reference. Each field in the **Courses** field group list displays as read-only.
- Click **Submit** to apply the field list to the Select Orientation Plan view.
- Click **Save** to save the changes to the Select Orientation Plan view.

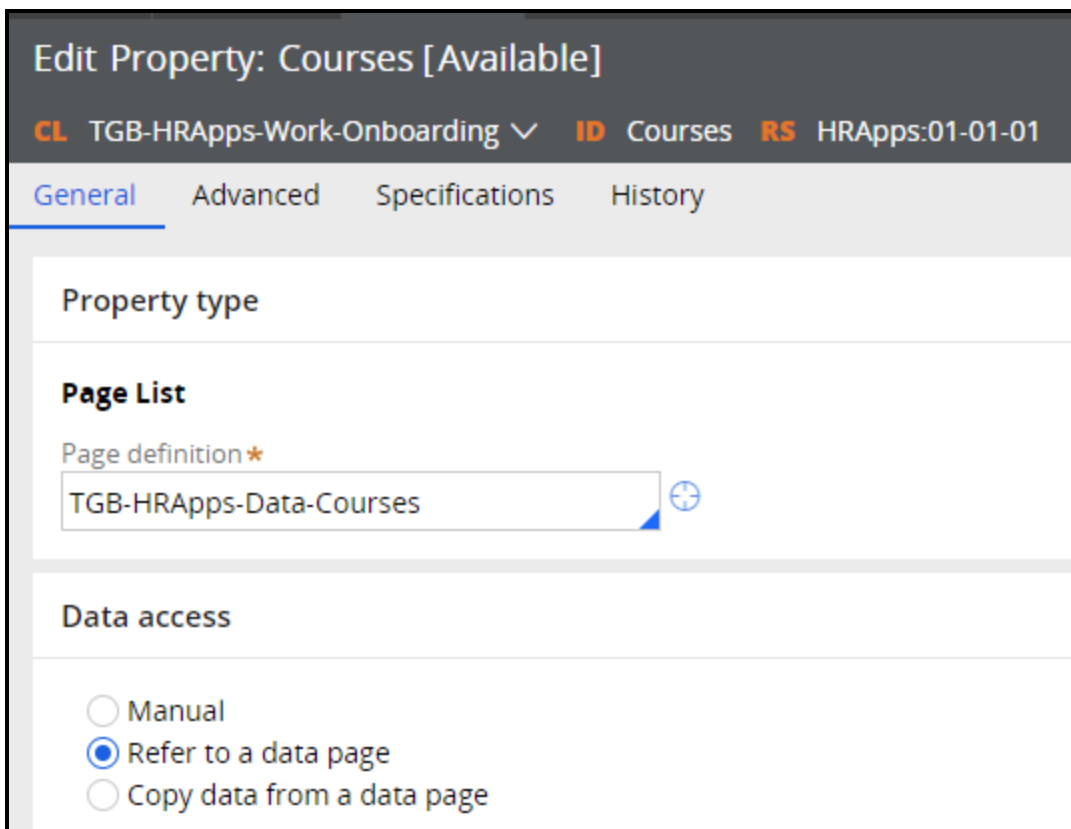
## Configure the Courses page list to copy a list of records from the data type

The data reference for the Courses list refers to the reference data defined for the Courses data type. Configure the Courses page list to copy data from the data page that displays a listing of the courses, enabling users to customize the list in an Onboarding case.

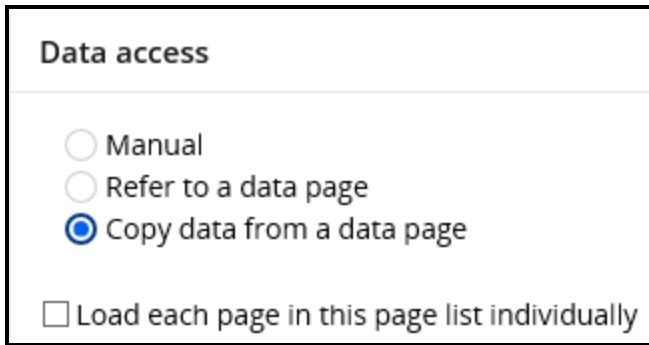
1. In the lower-left corner of Pega Express, click the **double arrow** to switch to Designer Studio.
2. From the App Explorer, expand **Onboarding > Data Model** to show the available rule types.



3. Expand **Data Model > Property** to display a list of the configured properties.
4. Under Property, select **Courses** to display the **Edit Property: Courses** window.



5. On the **General** tab, under Data access, select the radio button to the left of **Copy data from a data page** to configure the page list to display the fields from the courses list.



**Data access**

Manual

Refer to a data page

Copy data from a data page

Load each page in this page list individually

6. Click **Save** to apply the changes to the *Courses* rule.

## Configure the Courses section

Configure the **Courses** section to arrange fields in order of importance.

1. In the lower-left corner of Designer Studio, click the **double arrow** to switch to Pega Express.
2. In the Cases Explorer, select the **Onboarding** case type to display the Onboarding case type.
3. On the Onboarding heading, select **Run** to run the case.
4. Move the case to the Select Orientation Plan view.

**Note:** The way in which you move through the case views depends on the views you created in previously-completed exercises.

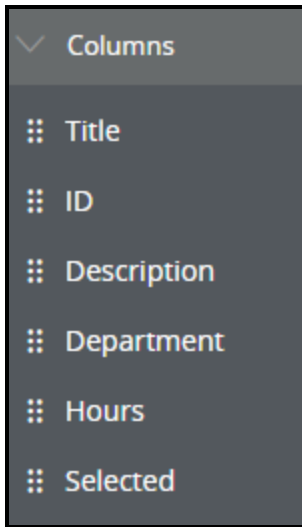
5. Hover your pointer over the **pencil** icon and select **Configure this view** to display the Configure form panel.



6. In the Configure form panel, under **A**, click **Modify this list** to display the list of fields.



7. Change the column order by selecting the column title rows and dragging them to the designated position. The following image shows the updated column order.



**Tip:** Reordering the columns in Pega Express automatically updates the column importance.

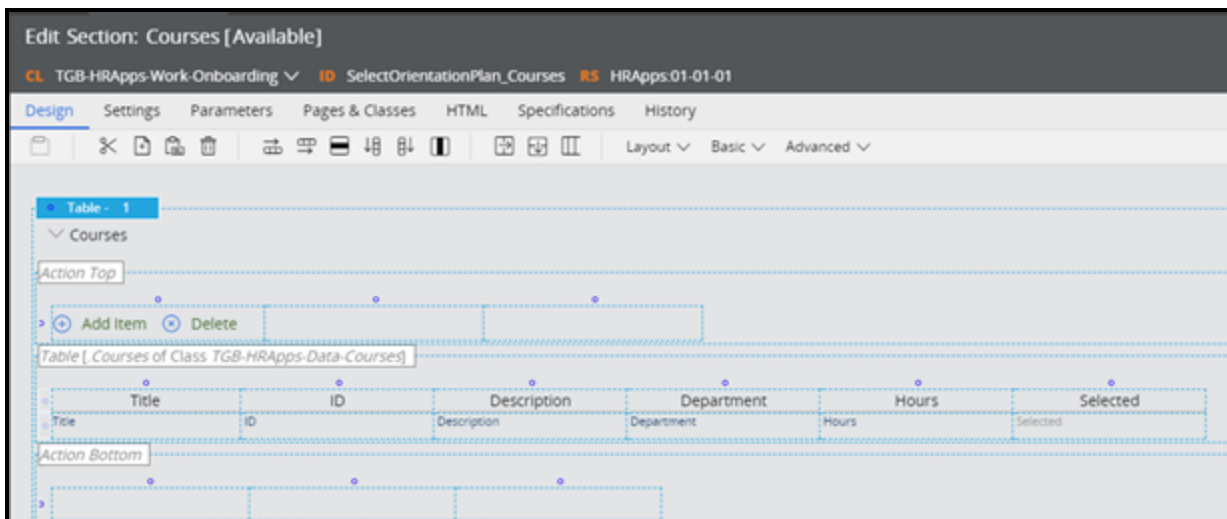
8. In the Configure form header, click the **X** to close the configure form.

**Note:** Leave the case you are viewing open. for the Verify your work tasks.

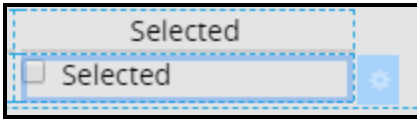
## Configure the Selection check box

Configure the **Selection** check box.

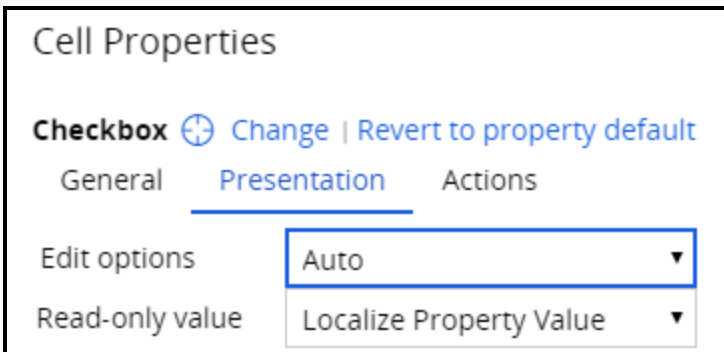
1. In the lower-left corner of Pega Express, click the **double arrow** to switch to Designer Studio.
2. From the App Explorer, expand **Onboarding > User Interface > Section** to display the configured sections.
3. Under **Section**, select **SelectOrientationPlan\_Courses** to open the section rule.



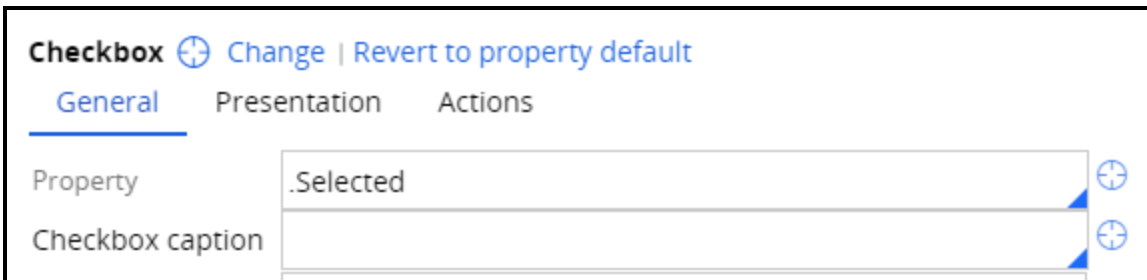
- Under Table, below the **Selected** label, select the cell to display the **Gear** icon.



- Click the **Gear** icon to open the Cell Properties dialog for the Selected check box.
- Click the **Presentation** tab to display the presentation properties.
- In the **Edit options** field, select **Auto** to enable editing the field in this section.



- Click the **General** tab to display the check box properties.
- In the **Checkbox caption** field, clear the contents to remove the caption for the check box.



- Click **Submit** to apply the change.
- Click **Save** to save the changes.

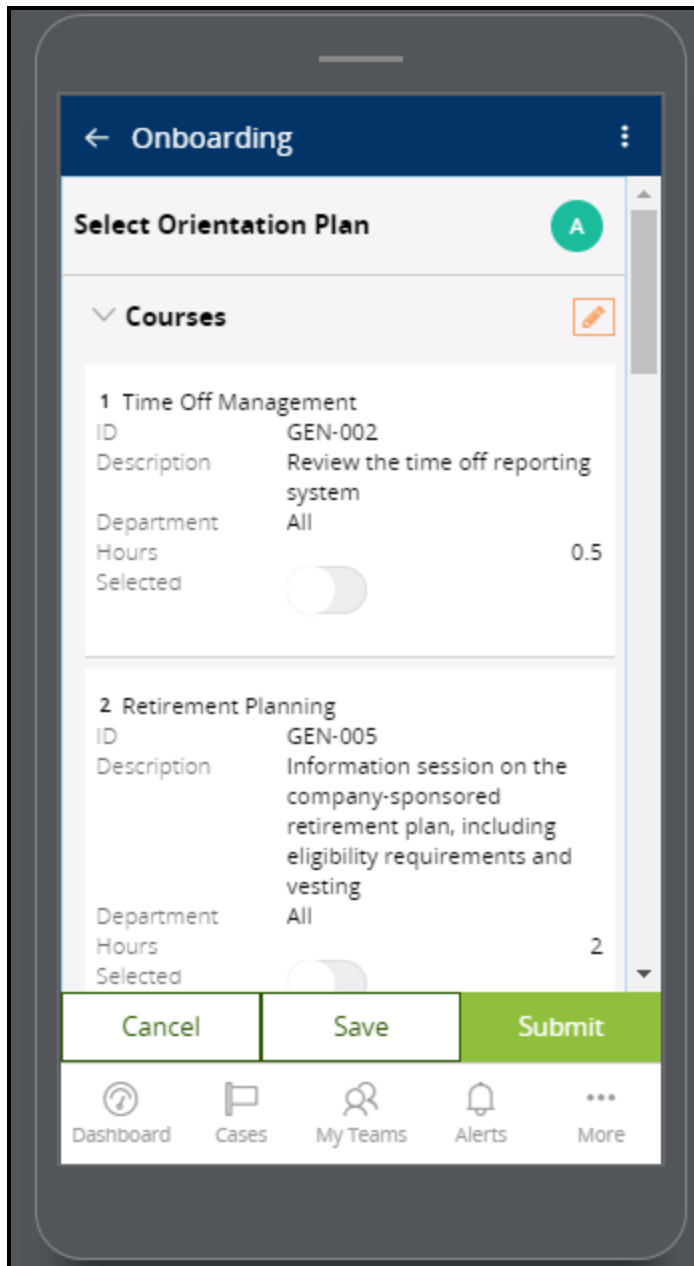
## Verify your work

- Return to Pega Express by clicking the **double arrow**.
- In the Select Orientation Plan view, in your unfinished case, confirm that you can click the selection boxes in the list.
- To the right of the Pega Express heading, select each layout option in turn to confirm that the display of the Courses list changes with the available display area.



For example, the mobile phone layout with the default Apple iPhone 6s option displays an Apple iPhone 6s interface and shows all of the course fields in a scrolling window.





## Exercise: Configuring responsive behavior for a table layout

### Scenario

The HR department wants to improve the application display for users by moving select course details from the courses list when viewing the list on a mobile device.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

## Your assignment

In the existing Courses section, set the importance for the **ID**, **Hours**, and **Description** fields to **Other** so they are hidden on devices with smaller screens.

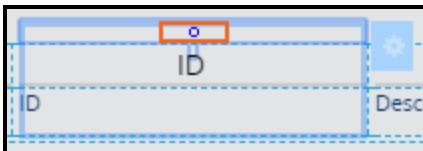
## Detailed steps

### Change field importance settings

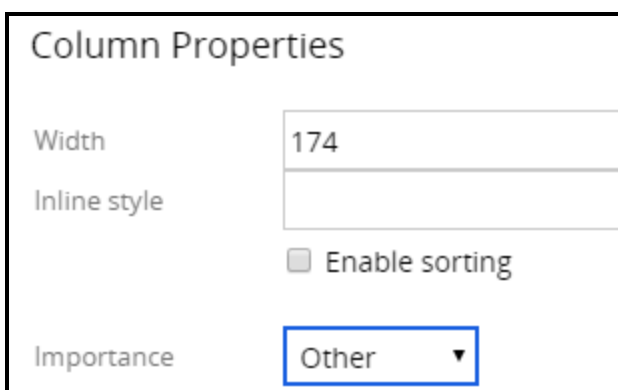
Follow these steps to configure the importance settings for the **ID**, **Hours**, and **Description** fields.

**Note:** Disregard step 1 if you are logged in to the exercise environment. Disregard step 2 if you are in Designer Studio.

1. Log in to Pega Express as **author.hrapps** using password rules.
2. In the lower-left corner of Pega Express, click the **double arrow** to switch to Designer Studio.
3. From the App Explorer, under Onboarding, select the **arrow** to the left of User Interface to display the Section heading.
4. Click the **arrow** to the left of Section to display the section list.
5. From the Section list, select **SelectOrientationPlan\_Courses** to open the section rule.
6. Under Table, click the small circle above **ID** to select the ID column and display the gear icon for the column.



7. Click the **Gear** icon to open the Column Properties dialog box.
8. In the **Importance** field, select **Other**.



9. Click **Submit** to apply your change.

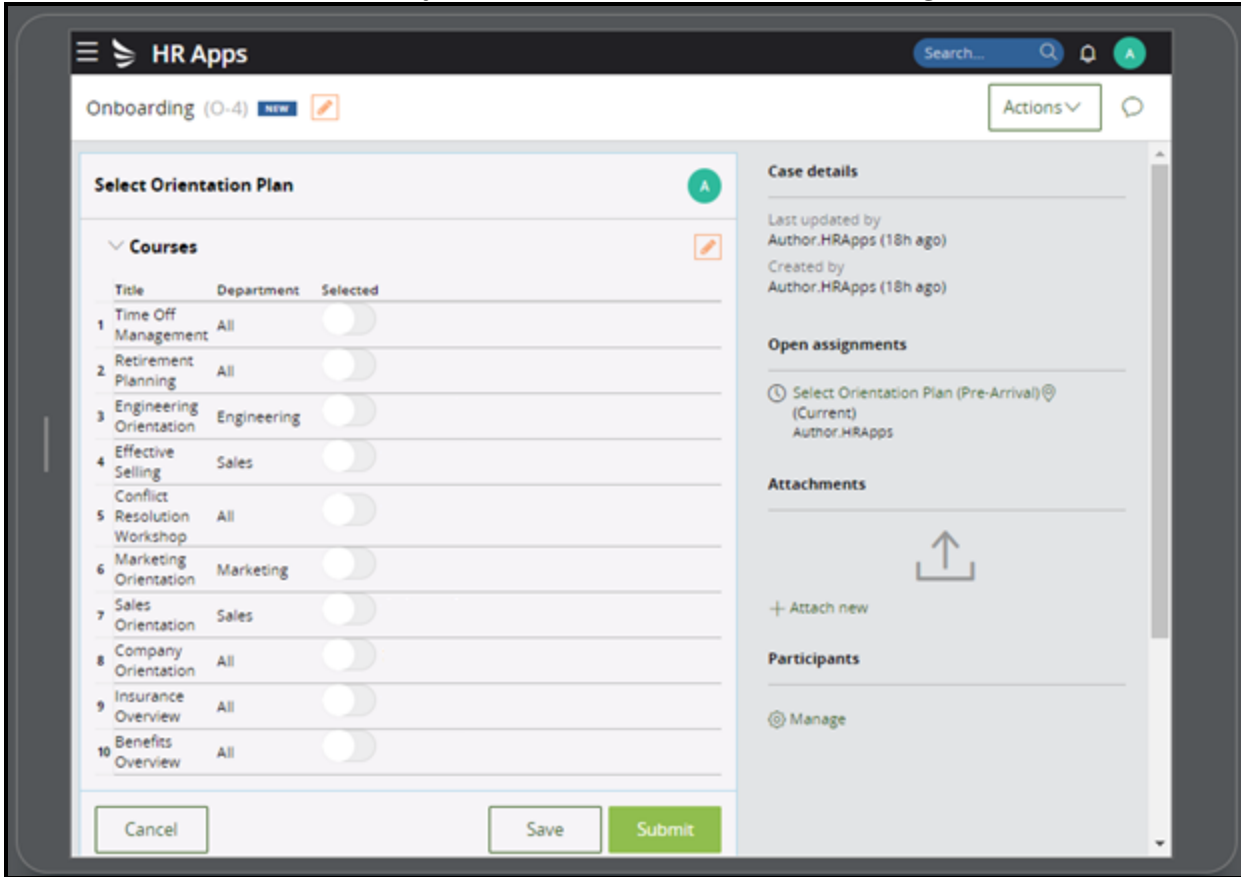
10. Repeat steps 6 through 9 for the **Description** and **Hours** fields.
11. Click **Save** to save your work.

## Verify your work

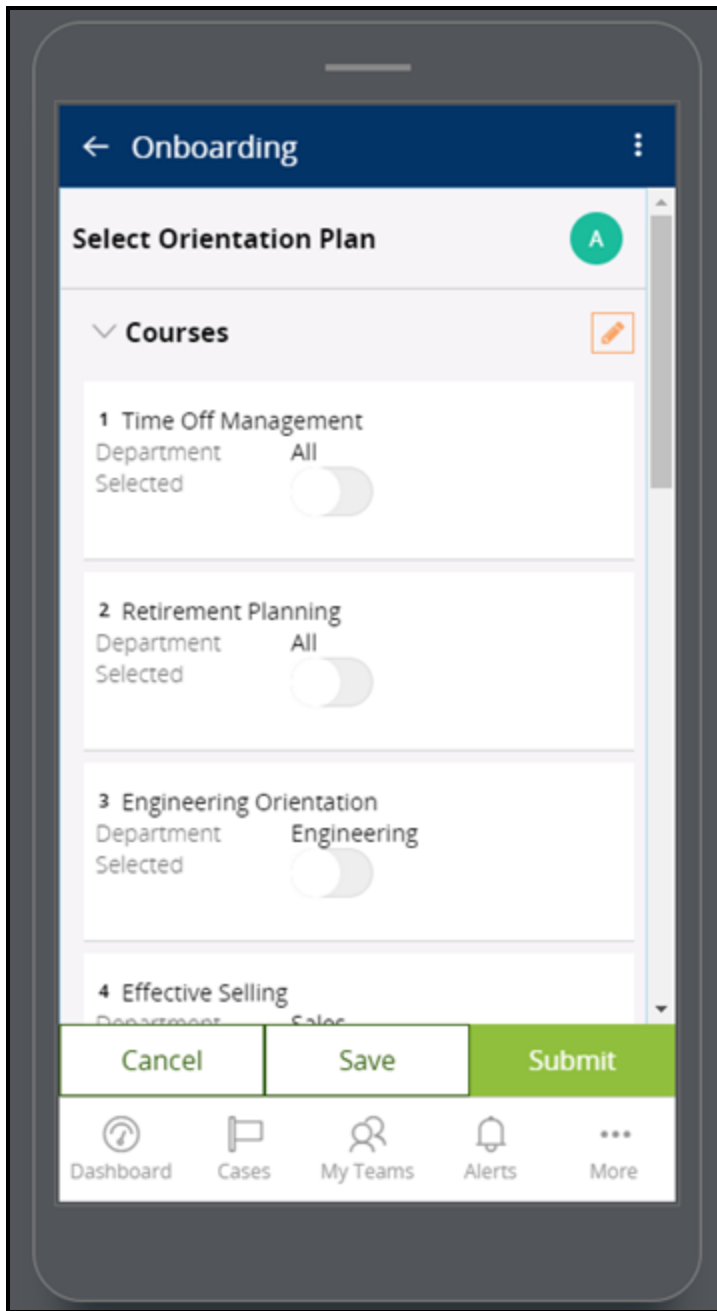
1. Return to Pega Express by clicking the **double arrow**.
2. On the Dashboard, select an unfinished case that is on the Select Orientation Plan step.
3. Optional: create a new Onboarding case and advance it to Select Orientation Plan.
4. To the right of the Pega Express heading, select each layout option in turn to confirm that the fields display according to their importance, as listed in the following table.

<b>Field</b>	<b>Importance</b>
Title	primary
ID	other
Description	other
Hours	other
Department	secondary
Selected	secondary

For example, selecting either the tablet or mobile phone layouts displays the Title, Department and Selected columns. The tablet layout can accommodate all the existing course rows on one screen.



The mobile phone layout displays the rows in a scrolling window.



---

# Creating dynamic content in user views

## Exercise: Adding dynamic behavior to a user view

### Scenario

The Human Resources (HR) department has identified an improvement to selecting the orientation plan for a new employee. HR wants to allow users to quickly clear all of their selections in the list.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

Configure the Select Orientation Plan user view to display a button in the list header to allow the user to clear their selections.

- Create a data transform to set the value (*.Selected*) to **false** for each item in the Courses list.
- Configure the button to call the data transform when clicked.

### Detailed steps

#### Configure a data transform to clear all selections in the Courses list

Configure a data transform to set the value of the *.Selected* property to **false** for each item in the list.

1. Log in to the exercise system as **author.hrapps** using password rules.
2. Switch to Designer Studio.
3. In the **App Explorer**, right-click **Onboarding** and select **Create > Data Model > Data Transform** to open the Create Data Transform form.
4. On the Create data transform form, in the **Label** field, enter **Clear course selections**.
5. Click **Create and open** to configure the data transform behavior.
6. In the **Action** column, click the drop-down list and select **For Each Page In** to configure a step that acts on each element of a page list. The data transform updates to add a child row below the current row.

	Action	Target
▼ • 1	For Each Page In ▼	[page list / group] ⊕
• 1.1	Set ▼	[value] ⊕

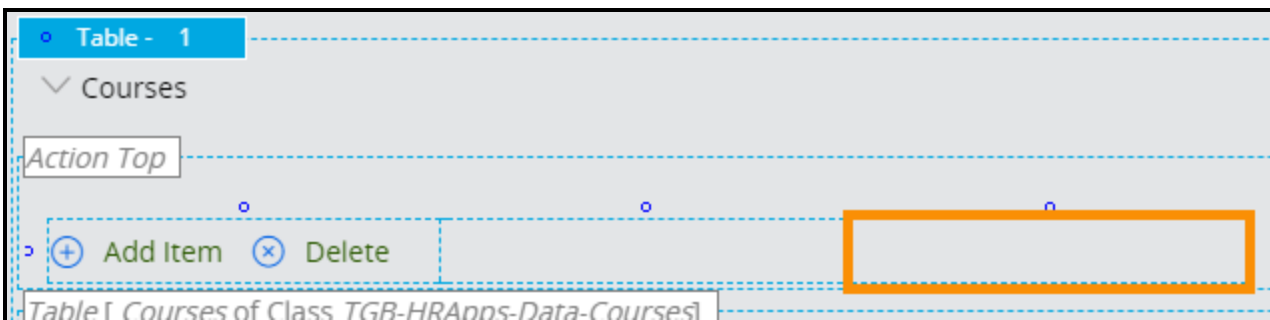
- In the row labeled 1, in the **Target** field, enter or select `.Courses` to configure the step to act on elements of the Courses page list.
- In the row labeled 1.1, in the **Target** field, enter or select `.Selected` to set the value of the check box displayed in each row of the course listing.
- In the **Source** field, enter `false` to set the value of the `Selected` property and the check box in the user view.
- Click **Save** to complete the configuration of the data transform.

	Action	Target	Relation	Source
▼ • 1	For Each Page In ▼	<code>.Courses</code> ⊕		<input type="checkbox"/> Also use each page as source context
• 1.1	Set ▼	<code>.Selected</code> ⊕	equal to	<code>false</code> ⊕ ⚙

## Configure a button to allow users to clear all selections from the Courses list

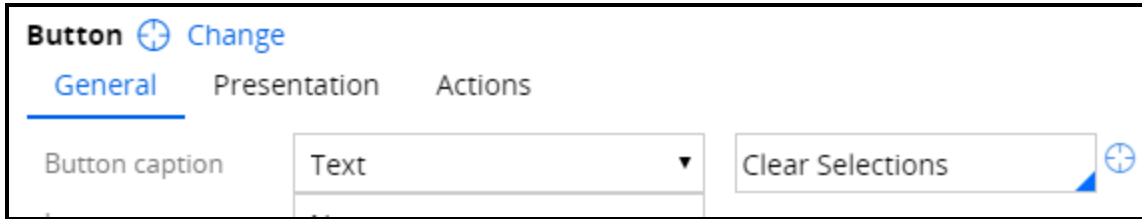
Add a button to the user view to run the data transform you configured in the preceding section.

- From the **App Explorer**, in the **TGB-HRApps-Work-Onboarding** class, open **User Interface > Section > SelectOrientationPlan**.
- To the right of the Courses column, click **Section** to open the embedded section containing the Courses list.
- From the **Basic** menu, click **Button** and hold down the left mouse button.
- Drag the cursor to the cell on the far right, in the first row, under the Courses table heading. An orange line indicates where the button is added to the section.



- Release the left mouse button. A **Gear** icon is displayed to the right of the section.
- Click the **Gear** icon to open the Cell Properties panel.

7. On the **General** tab, enter Clear Selections in the Button caption **Text** field.



8. Click the **Actions** tab to display and add an action set.

9. Click **Create an action set** on the Cell Properties dialog to configure the application behavior when the user clicks the button.

10. Click **Add an event > Click** to configure the action set to respond when a user clicks the button.

11. Click **Add an action > Display: Refresh** to configure the action set to refresh the display of the section when a user clicks the button.

12. In the **Data Transform** field, enter or select ClearCourseSelections to run the data transform you configured in the preceding section.

13. On the Cell Properties dialog, click **Submit** to update the table.



14. Click **Save** to apply the change to the section.

## Verify your work

Test the Onboarding case to verify the Clear Selections button clears the course selections.

1. Return to Pega Express by clicking the **double arrow**.

2. Select the Onboarding case from the **Cases Explorer** to view the case type details.

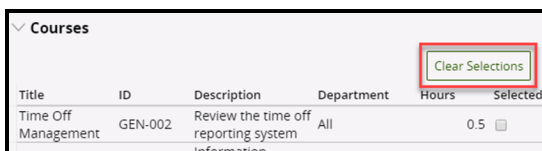
3. Click **Run** to create a new instance of the Onboarding case type.

4. Click **Done** to display the Identify Home Office form.

5. Click **Submit** to display the Select Orientation Plan form.

6. From the courses list, in the Selected column, select multiple courses by clicking in the check boxes for each course you are selecting.

7. On the upper-right corner of the list, click **Clear Selections** to verify that the checks marks are cleared from the check boxes.





# Exercise: Displaying additional information with a SmartInfo pop-up

## Scenario

The Human Resources (HR) department has identified an improvement to selecting the orientation plan for a new employee for mobile users. HR wants to provide users on mobile devices with a button to access additional details for a course.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

## Your assignment

Configure the behavior of the Select Orientation Plan user view to display content dynamically. Add a button to the list rows to display the following additional information about each course: course ID, hours, and description.

- Add a button to the list row, and configure the button with an action set to present the section as a SmartInfo pop-up when the button is clicked.
- Add a visible when condition to the cell and column header for the button to display only when the form is viewed on a mobile device. Use the standard when rule *pylsMobile* to test whether the form is displayed on a mobile device.

**Important:** Test the behavior in Express to mimic a mobile display.

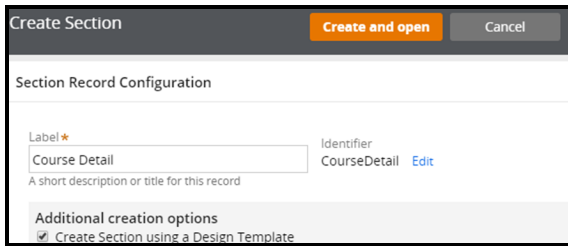
## Detailed steps

### Configure a section to display additional course details

The responsive behavior of the *Select Orientation Plan* user view hides the course ID, number of hours, and description from the user. Create a section to display this missing information.

1. Log in to the exercise system as `author.hrapps` using password rules.
2. Switch to Designer Studio.
3. In the Designer Studio header, select **+Create > User Interface > Section** to open the Create Section form.
4. In the **Label** field, enter `Course detail` to name the section rule.
5. Under Additional creation options, select the **Create Section using a Design Template** check box to apply a design template to the section rule.
6. In the **Apply to** field, enter or select `TGB-HRApps-Data-Courses` to create the section in the data class for the *Courses* data type.

7. In the Create Section header, click **Create and open** to create the section rule.



8. On the **Design** tab, click **Add new** to display a pop-up menu of UI controls that you can add to the section rule.

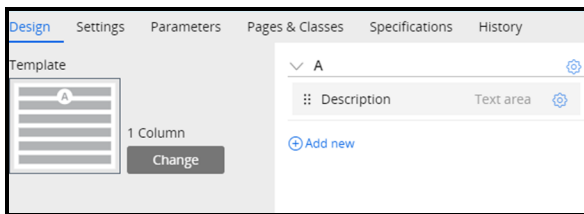
9. Click **Text Area** to add a *Text area* control to the *Course detail* section.

10. To the right of the **Text area** control, click the **Gear** icon to open the Cell Properties panel for the control.

11. In the Cell Properties dialog, in the **Property** field, enter or select **Description** to configure the field to display the value of the *.Description* property.

12. On the **Presentation** tab, from the **Edit options** drop-down list, select **Read-only (Always)** to display the control as read-only content.

13. In the Cell Properties panel, click **Submit** to complete the configuration of the control and return to the Design tab of the section rule.



## Configure a heading to display the course ID and duration

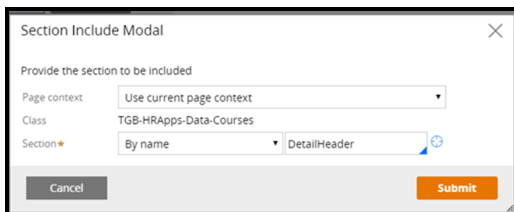
Add a heading to the *Course Detail* section to display the course ID and duration.

1. On the **Design** tab, click **Add new** to display a pop-up menu of UI controls that you can add to the section rule.

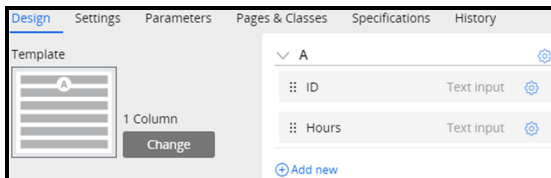
2. In the pop-up menu, click the **Advanced** tab and select **Embedded section** to embed a second section in the section rule. The **Section Include Modal** dialog is displayed.

3. In the **Section Include Modal** dialog, in the empty field in the row labeled **Section**, enter **DetailHeader**.

4. To the right of the field, click the **Crosshair** icon to display the Create Section form.



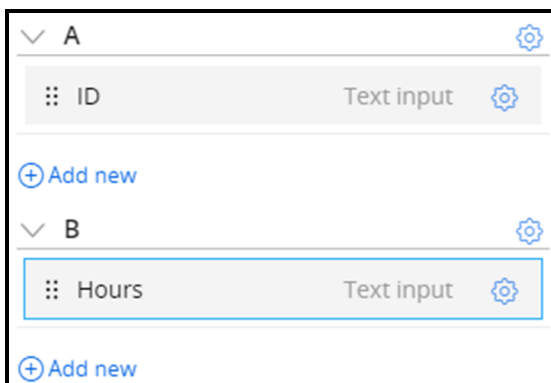
5. Select the **Create Section using a Design Template** check box to apply a design template to the section rule.
6. Click **Create and open** to create the *DetailHeader* section rule.
7. In the *DetailHeader* section, click **Add new** to display the pop-up menu of UI controls.
8. On the **Basic** tab, select **Text Input** to dismiss the pop-up and add a *Text input* control to the section.
9. To the right of the **Text input** control, click the **Gear** icon to open the Cell Properties panel for the control.
10. In the Cell Properties dialog, in the **Property** field, enter or select ID to configure the field to display the value of the *.ID* property.
11. In the Cell Properties panel, click **Submit** to complete the configuration of the ID field and return to the Design tab of the section rule.
12. On the **Design** tab, click **Add new**.
13. Repeat steps 8-11, but enter or select Hours to configure the field to display the value of the *.Hours* property.



## Apply a two-column template to the header section

Configure the *DetailHeader* section to display content in two columns.

1. On the **Design** tab, click **Change** and select **2 Column** to apply the two-column design template. A second layout labeled B is added to the section.
2. Click the selection handle for the **Hours** control and drag the control to the layout labeled B.



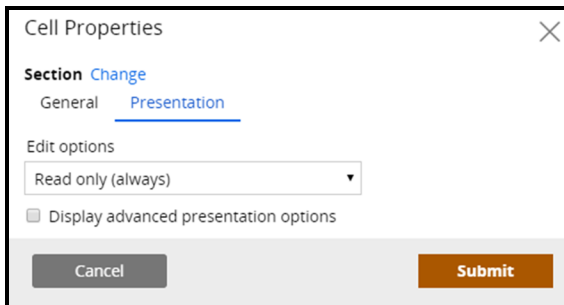
3. Click **Save** to complete the configuration of the *DetailHeader* section.
4. Click the **New** tab to return to the *Course detail* section.
5. In the **Section Include Modal** dialog, click **Submit** to embed the *DetailHeader* section in the *Course detail* section.

**Note:** If clicking **Submit** returns an error, click **Cancel** to dismiss the dialog, then reattempt embedding the *DetailHeader* section.

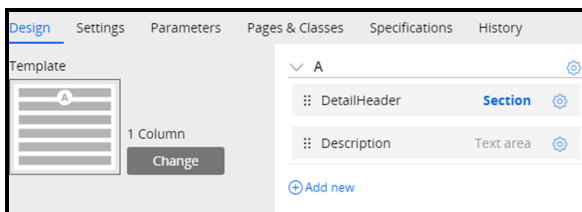
## Complete the configuration of the *Course details* section

Arrange the *DetailHeader* section above the course description. Configure the *DetailHeader* section to display as read-only content.

1. Click the selection handle and drag the **DetailHeader** section control above the **Description** text area control.
2. To the right of the **Section** control, click the **Gear** icon to open the Cell Properties panel for the control.
3. On the **Presentation** tab, from the **Edit options** drop-down list, select **Read-only (Always)** to display the section as read-only content.
4. In the Cell Properties panel, click **Submit** to complete the configuration of the control and return to the **Design** tab of the section rule.



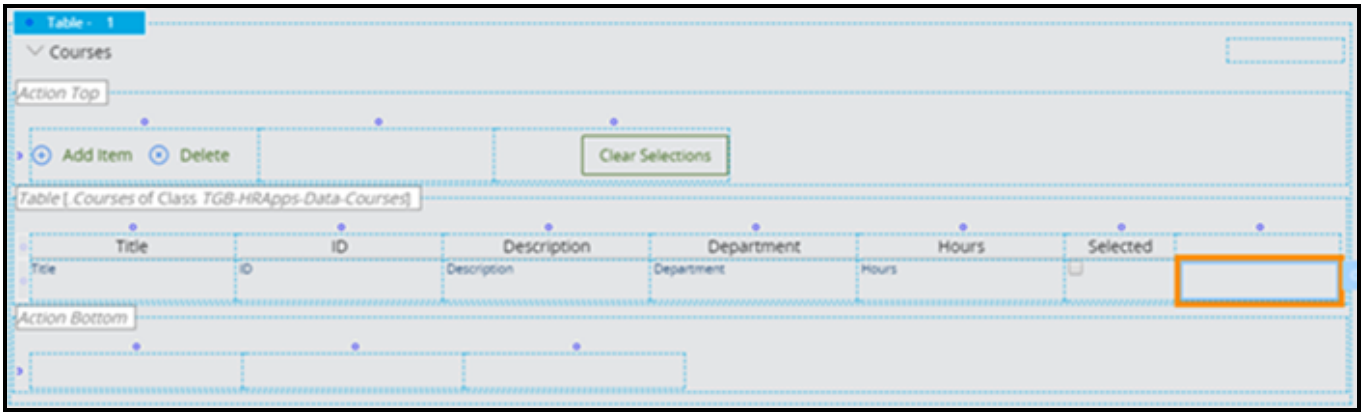
5. Click **Save** to complete the configuration of the *Course detail* section rule.



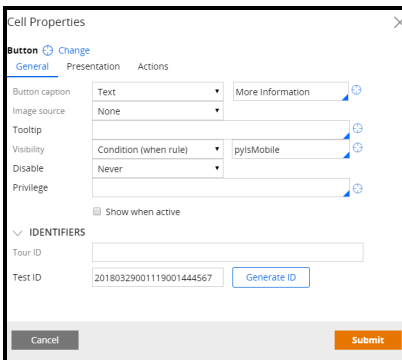
## Configure a button to enable mobile users to access additional course details

Add a button to the course listing to display the *Course detail* section when the user displays the course listing on a mobile device.

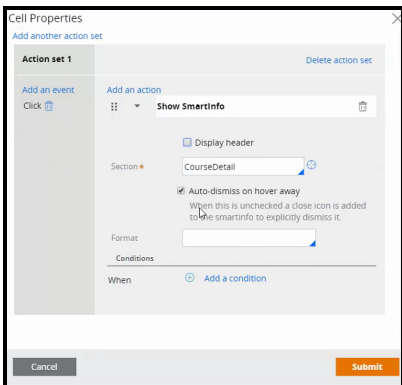
1. Open the *SelectOrientationPlan\_Courses* section.
2. Right-click the **Selected** column and select **Insert Column > Right** to add a column to the table to the right of the check box.
3. From the **Basic** menu, click **Button** and hold down the left mouse button.
4. Drag the cursor to the cell in the second row, on the far right of the *Selected* heading. An orange line indicates where the button is added to the section.



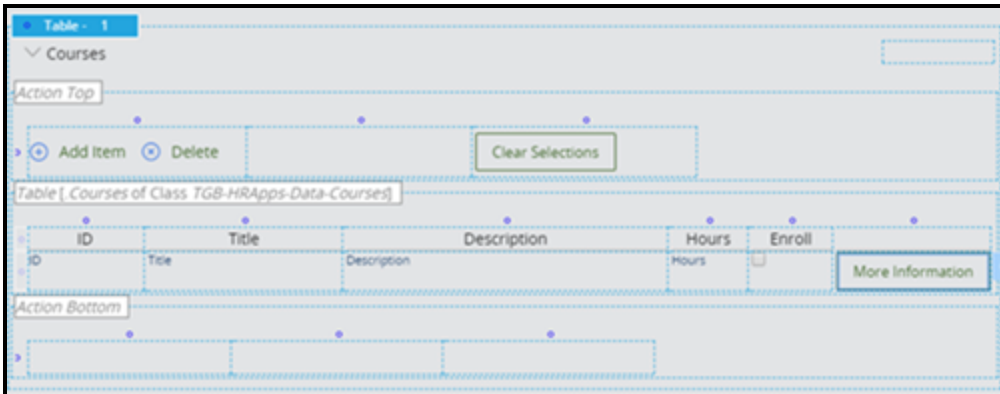
5. Release the left mouse button. A **Gear** icon is displayed to the right of the section.
6. Click the **Gear** icon to open the Cell Properties panel.
7. On the **General** tab, enter More Information in the Button caption **Text** field to name the button.
8. In the **Visibility** field, select Condition (when rule) from the drop-down menu to set a when condition.
9. To the right of the **Visibility** field, enter pyIsMobile to set up the button for mobile device display only.



10. Click **Actions > Create an action set**.
11. Click **Add an event > Click**.
12. Click **Add an action > All Actions > Show SmartInfo** to create the action associated with the button.
13. In the **Section** field, enter or select CourseDetail to identify the section the action applies to.



14. Deselect the **Auto-dismiss on hover away** check box to provide users with a **Close** icon to dismiss the pop-up.
15. Click **Submit** to update the table.
16. In the *SelectOrientationPlan\_Courses* section, delete the **Button** heading.



17. Click **Save** to complete the configuration of the Select Orientation Plan user view.

## Verify your work

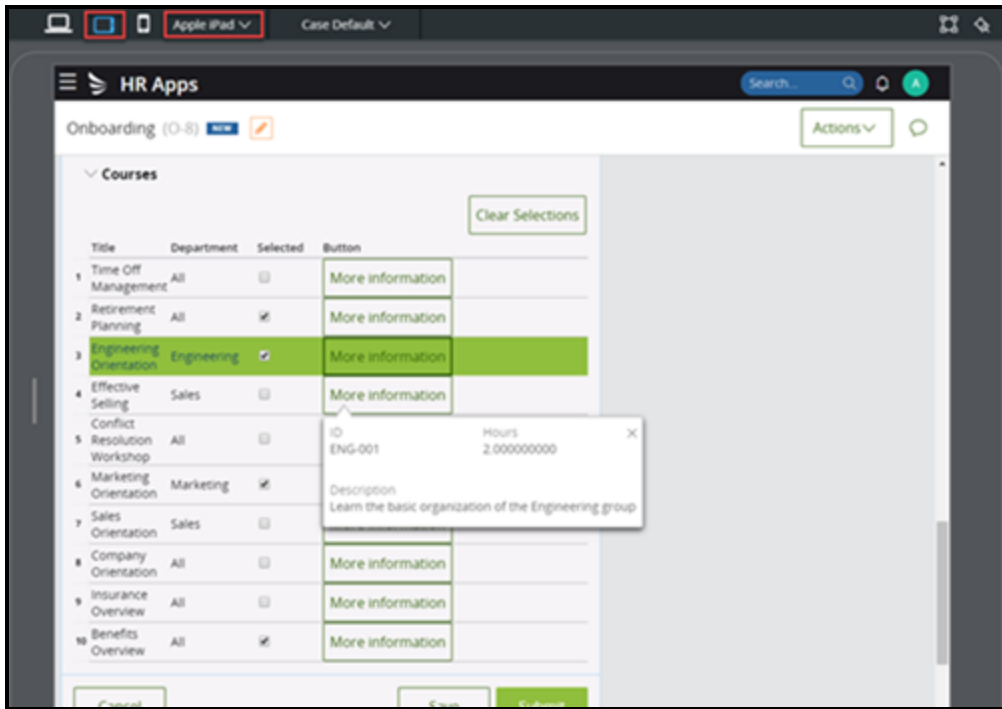
Test the Onboarding case to verify the **More Information** button appears for mobile devices only and provides the additional omitted information.

1. Return to Pega Express by clicking the **double arrow**.
2. From the Cases Explorer, click **Run** to create a new instance of the Onboarding case type.
3. Click **Done**. The Identify Home Office form displays.
4. Click **Submit**. The Select Orientation Plan form displays.
5. Click the **Tablet** icon and select **Apple iPad** from the drop-down to see the responsive behavior change for a mobile device.

**Note:** Ensure you remain in landscape mode for the best view of the **More Information** buttons.

6. Click any one of the **More Information** buttons to verify the additional information for course ID,

hours, and description is displayed.



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# Capstone Exercise: Designing user views

## Capstone Exercise: Designing a user interface

### Scenario

The product manager for ReserveIt wants to improve the feedback provided by guests. The manager requests that you make two updates to the feedback user forms.

First, when entering booking feedback, guests select an area from the **Area** drop-down list in the Identify Favorite Area and Least Favorite Area user forms. Currently, a text field allows users to enter area information if the area is not on the list. Guests who select a listed area should not be able to enter information. Therefore, guests should see the text field only when they select **Other...** in the list.

Second, when entering stay feedback in the Provide Stay Feedback form, guests should be able to review the information the guests entered when they created the booking request. To avoid clutter on the user form, guests should have the option to show or hide the information.

Your assignment is to add both enhancements to the existing feedback user views.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.reserveit	rules

### Approach

#### Make the Other Favorite Area and Other Least Favorite Area fields dynamic

Use a visible when condition in the **Other Favorite Area** and **Other Least Favorite Area** fields so that they are displayed only when users select **Other...** in the **Area** drop-down list. The fields are located in the Search for Favorite Area and the Search for Least Favorite sections. To reduce user distraction, configure the fields so that they do not shift on the form when the fields are displayed.

The embedded sections that contain the **Area** and **ID** fields are not relevant to users. Therefore, set the sections so that they are never visible.

#### Configure a button that displays the booking details in a SmartInfo form

Do the following:



1. Copy the arrival date, departure date, and listing ID from the Booking case.
2. Create a SmartInfo form to display the booking information. Use the following mockup to guide your design.

**Selected Listing**  
**Stay Information**  
Arrival Date      Departure date  
**Listing Information**  
**Listing Header**  
Metro area      Title  
Address  
Summary

3. Add a button to the Provide Stay Feedback user view to display the booking information. Use the following mockup to guide your design.

The mockup shows a rectangular form with a light gray background. At the top left, the text 'Provide Stay Feedback' is displayed in a bold, black font. Below this, there is a section labeled 'Header' in bold black text. Inside the 'Header' section, there are two elements: a rectangular input field on the left containing the text 'Rating', and a rectangular button on the right containing the text 'View Listing'. Below the 'Header' section is a large, empty rectangular area labeled 'Comments' in bold black text at its top left corner.

## Test case

Create a Booking case. In the New: Booking user form, enter reservation information in all the fields and book the location. Advance the Booking case so that it instantiates a Guest Review case.

In the Accept Review Request user form, indicate that you want to provide feedback. Submit the form. In the Select Feedback Areas user form, indicate that you will provide booking feedback and stay feedback. Submit the form and advance the case to the Identify Favorite Area user form and select **Other...** from the **Area** drop-down list. The **Other favorite area** field is displayed. Advance to the Identify Least Favorite Area form. In the **Area** drop-down list, select **Other...** to display the **Other least favorite area** field. Note that the fields on the form do not shift position. The **Area** and **ID** fields beneath the **Area** drop-down list are not displayed on either form.

Advance the Guest Review case to the Provide Stay Feedback user form. Select the **View Listing** button. This opens a SmartInfo form. The form includes the **Arrival date**, **Departure date**, **Metro area**, **Title**, **Address**, and **Summary** fields in read-only format.

## Detailed steps

A proposed solution for this exercise is available as a download in the Related Content section.

# DESIGNING BUSINESS REPORTS

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# Creating business reports

# Exercise: Using the Report Editor

## Scenario

The HR manager at TGB has requested a report that counts the number of unresolved onboarding cases created in the past 90 days. This report contains information for each case returned, such as case status, entered on date, current stage, and total cases.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

## Your assignment

Create a report containing all of the information the HR manager needs. Include a chart to make it easy for the HR manager to tell at-a-glance how onboarding cases are progressing.

The report includes the following columns:

- Case status
- Entered on
- Current stage
- Total

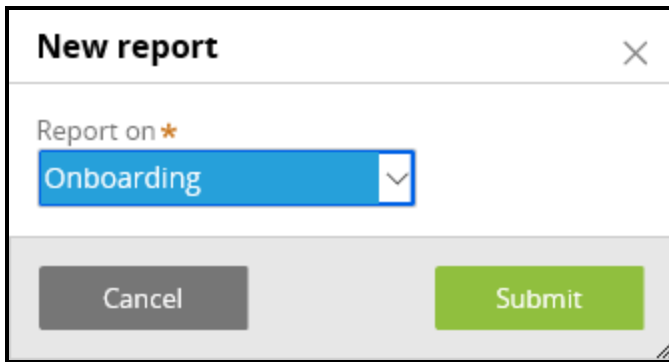
Filter the report to display only unresolved cases created in the last 90 days.

## Detailed steps

### Create the report

Use the following steps to enter the Report Browser and add a Summary or chart report with data from the Onboarding case type.

1. In Pega Express, click **Reports** to access the Report Browser.
2. In the Report Browser, click **New report** to create a new report.
3. In the New Report pane, from the **Report on** drop-down list select **Onboarding** to report on data specific to the Onboarding case type.

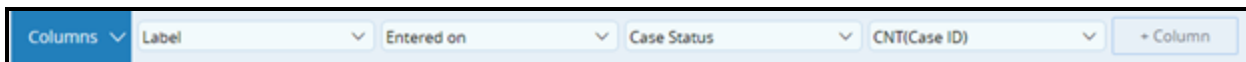


4. From the New Report pane, click **Submit** to access the Report Editor where you can add columns and filters to your report.

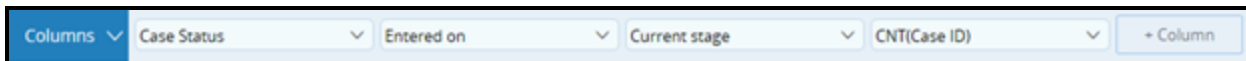
## Update columns

When you enter the Report Editor, the following columns are included for you in this order: **Label**, **Case ID**, **Entered on**, and **Case Status**. Use the following steps to move one column and add another column to create a report that has the columns in this order: **Case Status**, **Entered on**, **Current stage**, and **CNT(Case ID)**.

1. Click **Case ID** and select Show Data as > Count to summarize the data in the **Case ID** column. The summarized column shifts to the right-most position in the report.



2. Click **Case Status > Move left** to move the **Case Status** column to the left of the **Entered on** column.
3. Click **Label > Remove column** to delete the **Label** column from the report.
4. Click **+Column** and select Fields > Current stage to add the **Current stage** column to the report to the left of the **CNT(Case ID)** column.

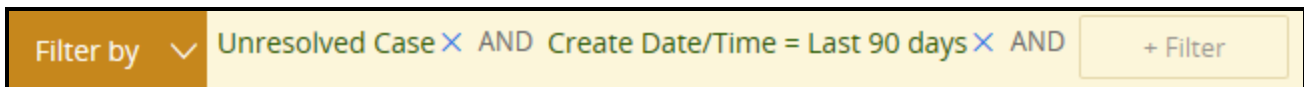


## Update report filters

The following steps guide you through removing a filter and adding a new filter to display a report containing only unresolved cases created in the last 90 days.

1. From Filter by, click **X** to remove the **Updated in Last 7 Days** filter.
2. Click **+Filter** and select Fields > Create Date/Time to display the Add filter dialog.

3. In the **Add filter** dialog, click **Select values** to open the Select values pane.
4. In the Select values pane, from the **Value** drop-down list, select Last 90 days.
5. Click **OK** to return to the Add filter dialog.
6. Click **Submit** complete the filter. Notice that Filter by now has two filters, including Unresolved Case and Create Date/Time = Last 90 days.



All of the unresolved onboarding cases created within the last 90 days are now displayed.

## Add a chart

Use the following steps to create a chart that displays all unresolved cases created in the last 90 days broken out by the status and current stages.

1. In the Report Editor, click the **Add chart** button. A clustered column chart is selected by default for your data.
2. From the **Group by** drop-down list, select **Case Status** to group results by case status.
3. Click **Then group by** to create a second grouping condition.
4. From the **Then group by** drop-down list, select **Current stage** to group results by case status within each clustered column.
5. From the **Series** drop-down list, select **Case ID** to count the number of cases in each column.



**Note:** The preceding illustration is an example of the configured chart. Your report results depend upon your configuration.

6. Click **Submit** to save your chart.

## Make your report available

Use the following steps to save your report and make it available to other managers under Open Cases.

1. In the Report Editor, click the **Done editing** button and the **Save report as** pane displays.
2. Enter Unresolved onboarding cases created in the last 90 days in the **Title** field.
3. **My Reports** is the default category where your report is saved. Select **Open Cases** to make your report available to other managers.
4. Click **Submit** to save your report and make it available in the Report Browser under **Open Cases**.
5. From the navigation pane, click the **Reports** icon to return to the Report Browser.

## Verify your work

1. In the Report Browser, verify that your report is in the list of reports.

**Tip:** Click the **Report** column header twice to list the available reports in descending alphabetical order.

2. In the Report Browser, click the title of your report to verify it displays in the Case Manager portal.
3. Drill down to the data by clicking on one of the bars in the chart. The data that the bar represents is displayed in table format.
4. Click the **Unresolved onboarding cases created in the last 90 days** link to return to the chart.



Unresolved onboarding cases created in the last 90 days > Open•Benefits Enrollment

Filtered by: **Case status = Open** and **Current stage = Benefits Enrollment** and ( **Unresolv**

Displaying 1 record

Label	Case ID	Er
Onboarding	O-1	12

5. Click on any of the entries in the table of your report. You can drill down to the data behind each entry in your report.

---

# Optimizing report data

## Exercise: Reporting on unresolved onboarding cases

### Scenario

The human resources (HR) department wants to ensure that onboarding cases are processed promptly. To help track open onboarding cases, HR requests a report that lists each unresolved onboarding case, grouped by the manager responsible for the case. The report must display the case ID, home office, start date of the new employee, and current stage for each case returned.

Role	Operator ID	Password
Case Designer	author.hrapps	rules

### Your assignment

Create a report that displays:

- The manager responsible for the onboarding case (.Employee.Manager)
- The case ID (.pyID)
- The home office of the employee (.Office)
- The start date of the employee (.Employee.StartDate)
- The current stage of the onboarding case (.pxCurrentStageLabel)

Add a filter to the report to skip resolved Onboarding cases.

Group the report results by manager.

Optimize properties to resolve any performance warnings identified for the report.

**Note:** This report includes unoptimized data.

### Detailed steps

**Important:** By default, Pega Express can only report on optimized data. If you need to report on any unoptimized data, switch to Designer Studio.

1. From the **App Explorer**, right-click the **Onboarding** class, then click **Create > Reports > Report Definition** to create a new report definition.
2. In the **Label** field, enter Open onboarding cases by manager and office as the rule name.

- In the Edit Columns section of the report definition rule form, under **Column source**, select or enter .Employee.Manager.
- Click **Add column** to create four additional columns.
- Add the following properties to the columns you created in step 3: .pyID, .Office, .Employee.StartDate, and .pxCurrentStageLabel.

Edit columns

Column source	Column name	Summarize	Sort type	Sort order
.Employee.Manager	Manager	<blank>	<blank>	
.pyID	Case ID	<blank>	<blank>	
.Office	Office	<blank>	<blank>	
.Employee.StartDate	Start Date	<blank>	<blank>	
.pxCurrentStageLabel	Current stage	<blank>	<blank>	

[Add column](#)

- In the Edit Filters section, under **Column Source**, select or enter .pyStatusWork.
- For the filter you created in the previous step, from the **Relationship** list, select **Does not start with**
- In the **Value** field, enter "Resolved".

Edit filters

Filter conditions to apply

A

Condition	Caption	Column source	Relationship	Value
A		.pyStatusWork	Does not start with	"Resolved"

[Add filter](#)

- On the **Report Viewer** tab, enable the **Group results** option in the Grouping section.

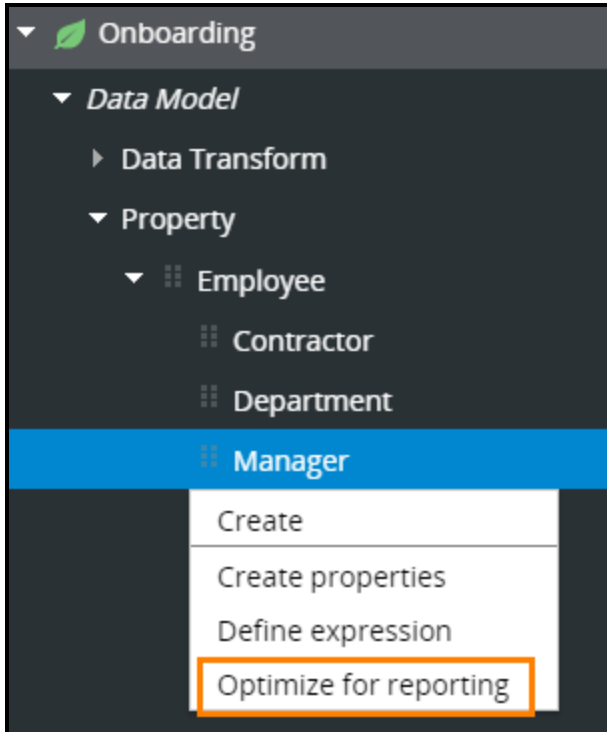
**Note:** By default, the report only groups results by the first column, which is sufficient for this exercise. To group by additional columns, edit the upper limit once it appears on screen.

**Grouping**

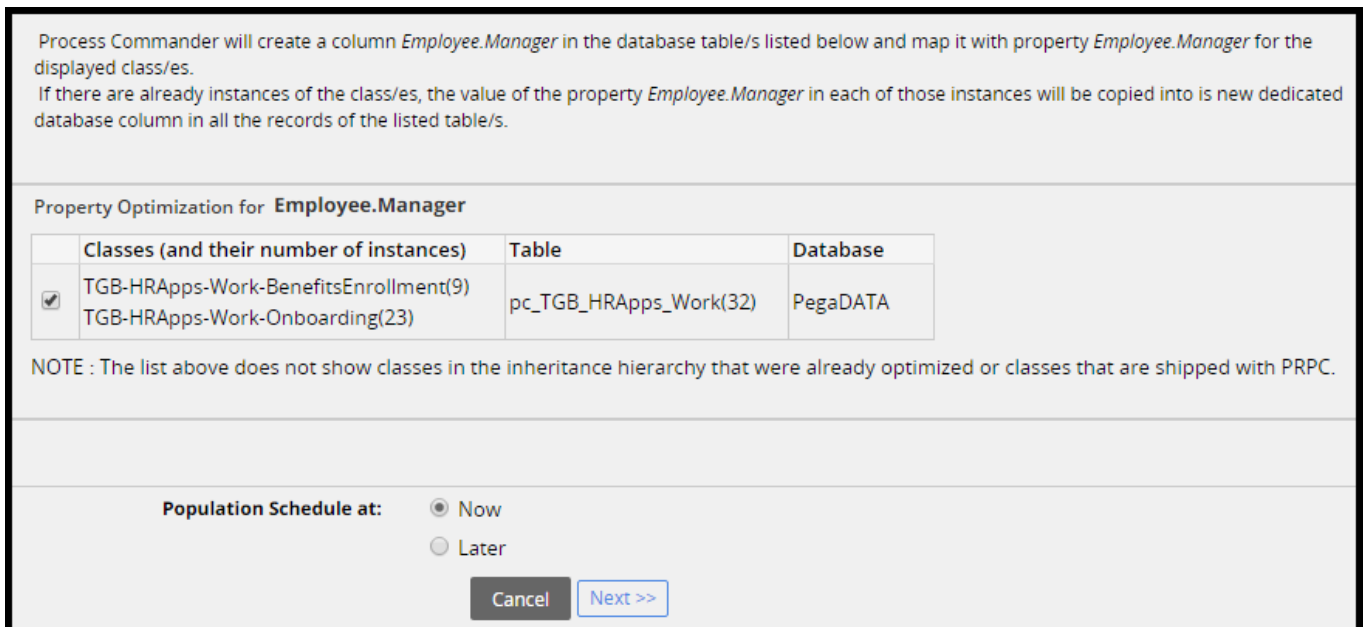
Group results and display values in sort columns 1 - 1 as group headings

- Save the report. A message appears on the report, indicating two unreviewed warnings.
- Important:** Once you save the report, you must check out the rule before attempting any edits.
- In the report header, click **(review/edit)** to view the rule warnings. The first warning indicates that three properties are not optimized, while the second warning indicates that the report filter may impact report performance.

12. Under the Informational warning about the report filter, click **Add justification**. In the field that appears, enter **Report must filter out resolved cases**.
13. Click **OK**. Note that the number of unreviewed warnings decreases to one.
14. In the App Explorer, under Onboarding, expand **Data Model > Property > Employee**.
15. Right-click the **Manager** property, then select **Optimize for reporting**.



16. The Property Optimization tool opens. The first screen indicates the property to optimize, and the number of cases affected.



17. Click **Next**. The second screen of the tool confirms the selection.

18. Click **Next** to begin the optimization process.

To monitor the optimization process, open the **Column Population Jobs Dashboard**. The optimization is complete once the Processed % column reaches 100.

19. Repeat steps 15-18 to optimize the remaining properties mentioned in the rule warning.

20. Return to the report. Save the report and verify that the warning no longer appears.

21. Check in the report so the rule is available to other users.

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# Capstone Exercise: Designing business reports

## Capstone Exercise: Designing business reports

### Scenario

The product manager for the Reservelt app has requested two reports. The first report displays the listings for which guests have provided feedback, sorted by the ratings provided. The second report displays the response rate for guest review cases.

Your assignment is to create both reports using the existing Reservelt application in Designer Studio.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.reservelt	rules

### Approach

#### Create a summary report displaying the breakdown of listings by ratings

Create a new summary report for the *ABB-Reservelt-Work-GuestReview* class named Summary of listings by rating.

**Note:** This report uses unoptimized properties. Optimize any properties identified in guardrail warnings.

Add columns to design and organize how your report is displayed. The report has only three columns, arranged in this order: **Listing ID**, **Booking rating**, and **Case ID**. Summarize the case ID using the **Count** function.

**Note:** The Case ID is stored using the *.pyID* property.

Add report filters to display customer feedback on the booking process. Filter the report to display only when the customer provides booking process feedback, specifies a booking process score, and the review includes a listing ID. Optimize the data called out on the guardrail warnings.

Add a stacked chart for your data where Case ID is the vertical axis and Booking ID is the horizontal axis. The column data is Listing ID.

When you finish, add the report to the Case Metrics category in the Report Browser.

## Create a summary report displaying the response rate for guest reviews

Create a new report for the Guest Review case type named Completion rates for guest reviews. This report has only two columns: **Case ID** and **Work status**. Summarize the **Case ID** to count the resolved cases. Add report filters to display customer feedback. Filter the report to display only resolved cases.

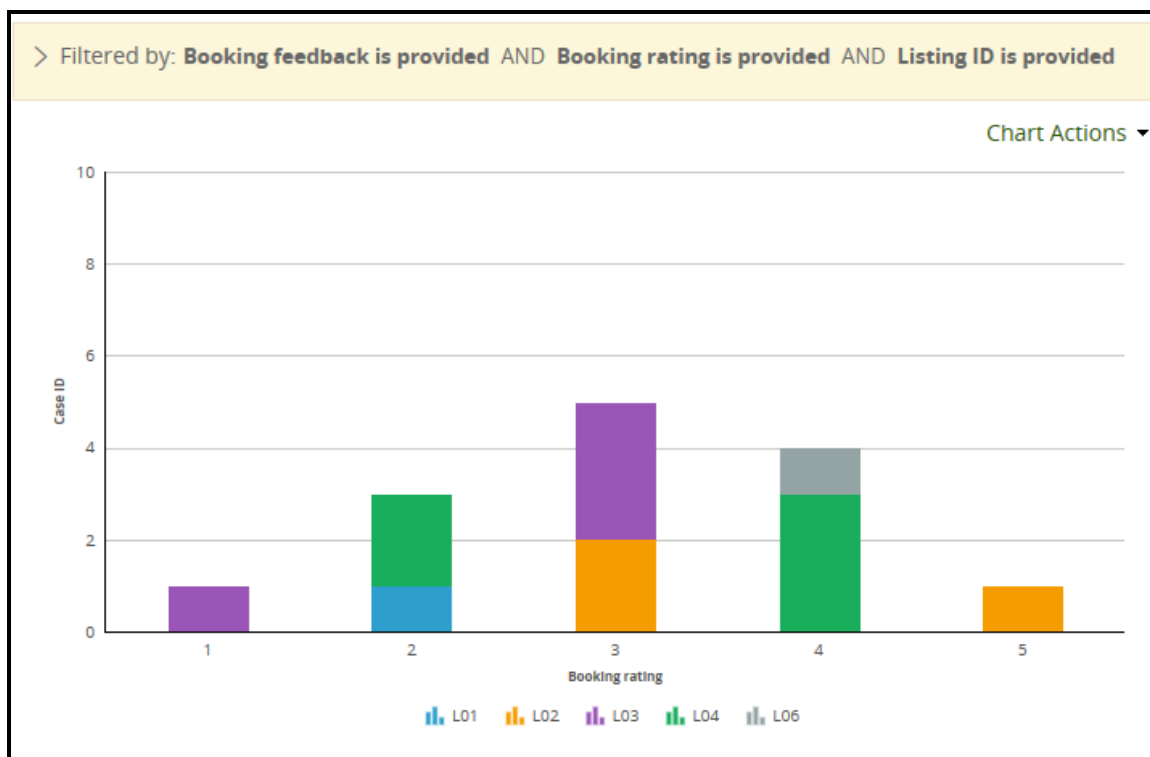
Add a pie chart for your data where **Case ID** is the vertical axis and **Case status** is the horizontal axis.

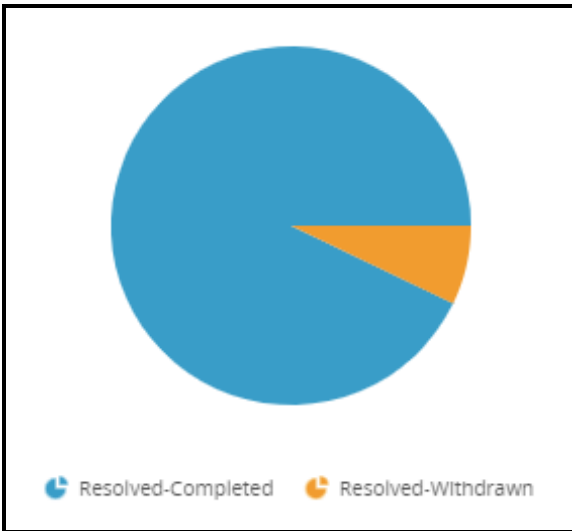
When you finish, add the report to the Case Metrics category in the Report Browser.

## Test case

**Important:** Create several guest review cases and provide booking process feedback by using the Provide booking feedback form to generate data for the *Summary of listings by rating* report.

Verify your reports against the examples provided in the following screenshots. Although the report data may differ, the organization of each report should match the examples provided.





## Detailed steps

A proposed solution for this exercise is available as a download in the Related Content section.



# TESTING AND DEBUGGING APPLICATIONS

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# Unit testing application rules

## Exercise: Recording test cases for automated testing

### Scenario

You are preparing your application for production. You want to ensure that the Benefits Enrollment default work urgency value of 10 was not unintentionally updated. Create a test case to verify that the value has remained the same.

The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
tester	tester.HRAppsTest	rules

### Your assignment

As the SA on the project, you will create an automated testing rule for the `pyDefault` data transform, which sets the `pxUrgencyWorkClass` value. You create the test case in the `HRAppsTest` application, which contains a ruleset for test case rules.

To achieve your goal, you will do the following:

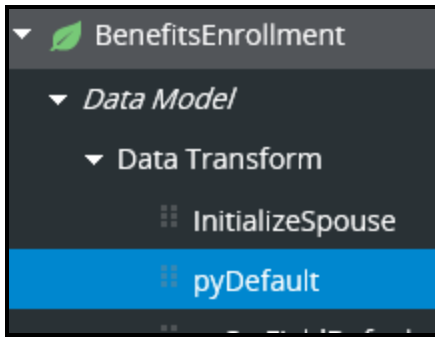
1. Open the `HRAppsTest` application.
2. Open and run the Benefits Enrollment data transform `pyDefault`.
3. To the data transform, add a test case rule.
4. Add a condition to the test case rule to test the `pxUrgencyWorkClass` value.
5. Verify the functionality for both passed and failed test results.

### Detailed steps

Complete the following steps to create a test case.

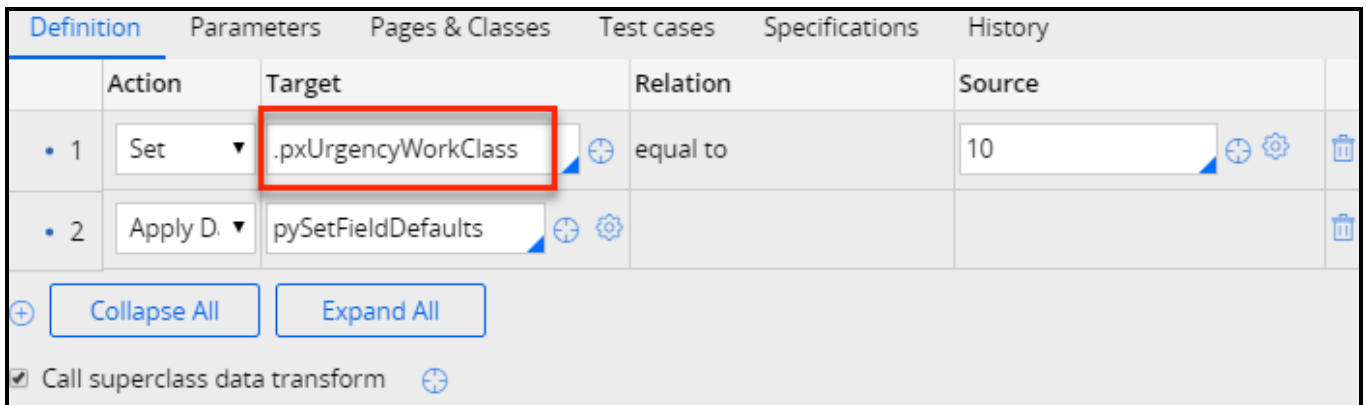
1. Log in to your test system as `tester.HRAppsTest` using password `rules`. This opens the `HRAppsTest` application.
2. If you are in Express, click the double arrow to switch to Designer Studio.

- In the Application Explorer, select **Benefits Enrollment > Data Model > Data Transform > pyDefault**.

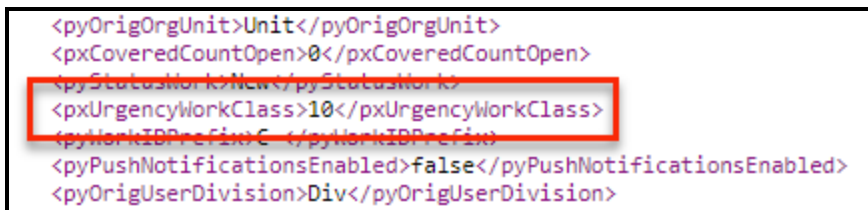


The *pyDefault* data transform opens.

- If the **Target** in the first row is not set to *.pxUrgencyWorkClass* set it to *.pxUrgencyWorkClass* and click **Save**.

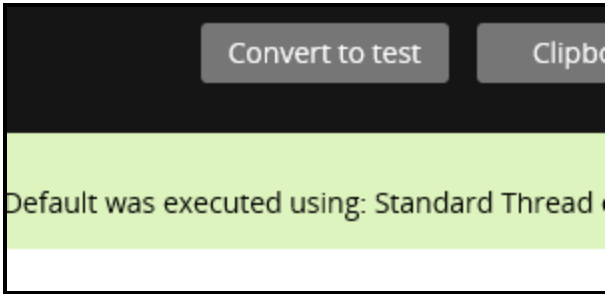


- On the data transform record header, click **Actions > Run** to invoke the data transform.
- Click **Run** again to display the results in an XML file. Locate the *pxUrgencyWorkClass* line item in the XMP output file and verify the *pxUrgencyWorkClass* value is 10.

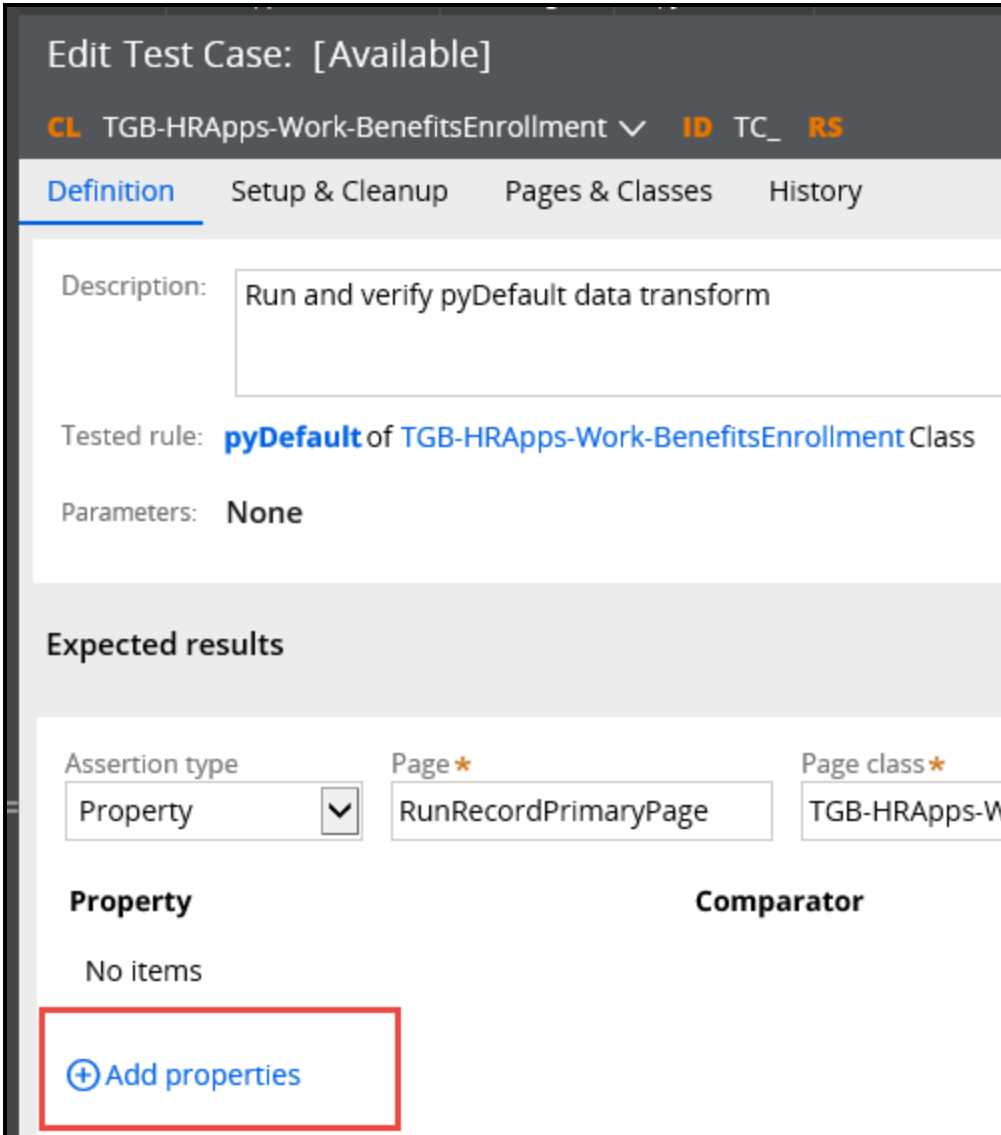


**Note:** You may need to disable pop-up blockers to see the XMP output panel. The Convert to test button does not appear until the XMP output displays.

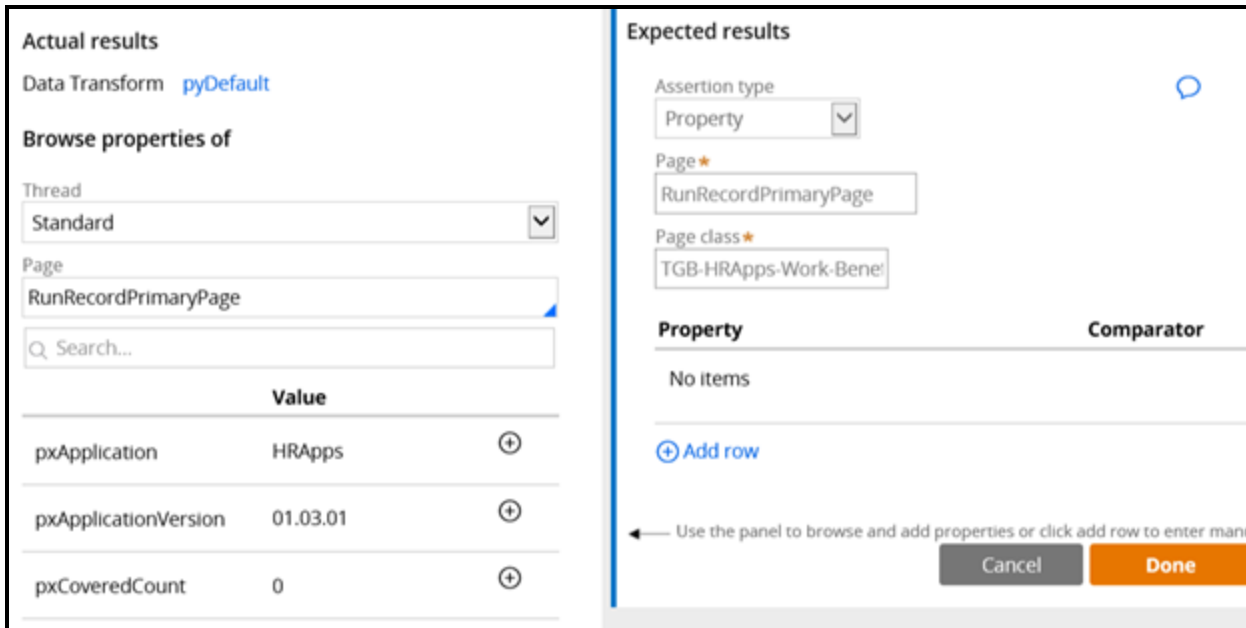
7. In the XML file header, click **Convert to test** to create a new Test Case record.



8. On the **Test Case Definition** tab, select **Add properties** to open a list of the property values.



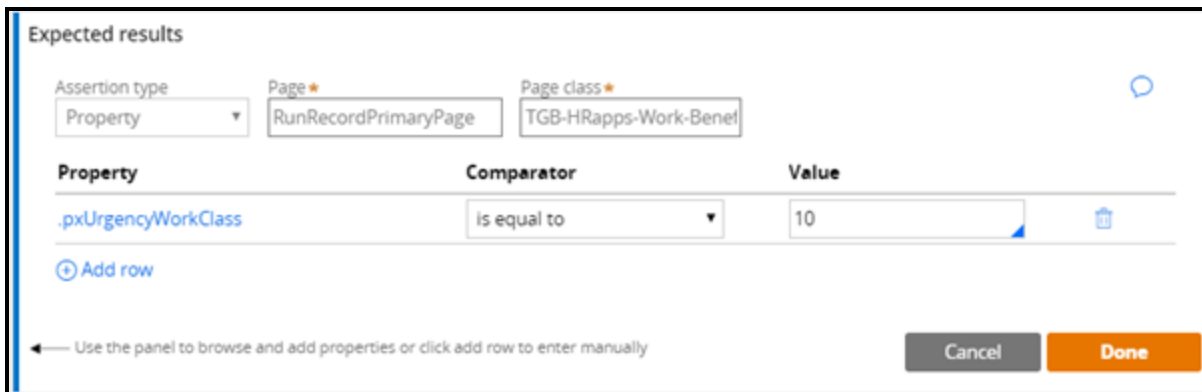
The list of property values is displayed on the left side of the record and Expected results display on the right.



- In the list of values, select the **plus sign** next to *pxUrgencyWorkClass*. When it is selected, the plus sign turns into a green checkmark.

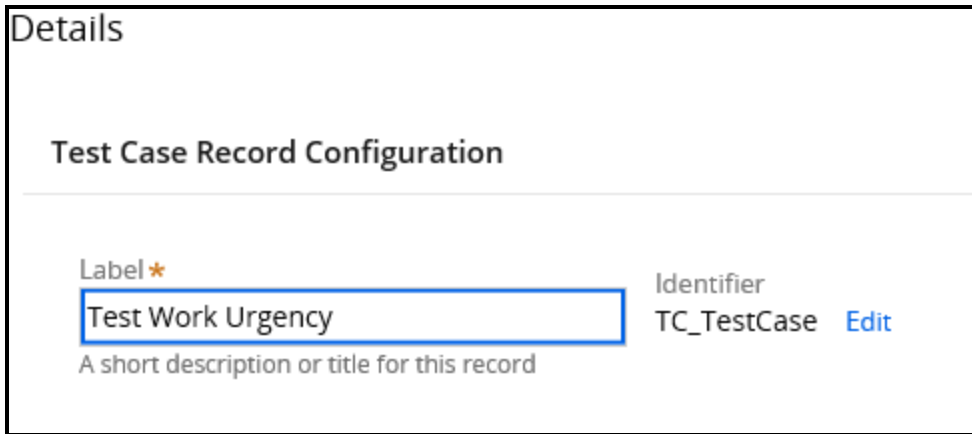


The property and value are added to the Expected results section.



- Click **Done** to confirm your selection and close the section.
- Click **Save** to open the **Details** pop-up dialog.

12. In the **Label** field, enter a description for the test.



Details

### Test Case Record Configuration

Label ★ Identifier

TC\_TestCase [Edit](#)

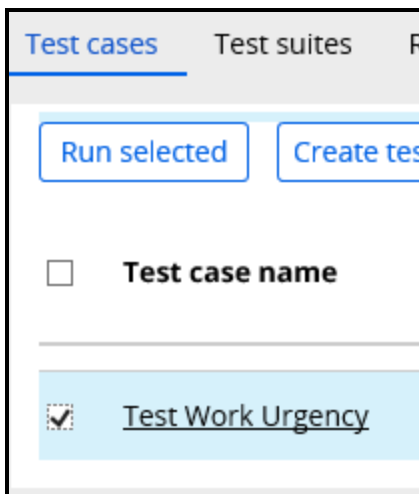
A short description or title for this record

13. Click **Submit** to close the dialog and create your test case.

## Verify your work

Do the following to verify that a match between the test case and *pxUrgencyWorkClass* values produces a passed result:

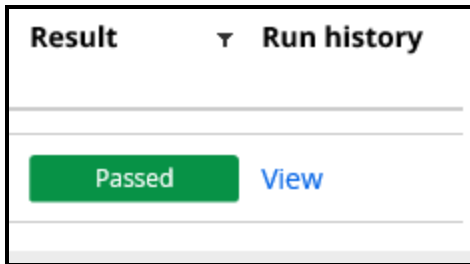
1. Navigate to the Test cases landing page by selecting **Designer Studio > Application > Automated Testing > Test Cases**.
2. On the Test cases landing page, in the Test case name column, select the check box next to Test Work Urgency and click **Run**.



Test cases Test suites R

<input type="checkbox"/>	Test case name
<input checked="" type="checkbox"/>	Test Work Urgency

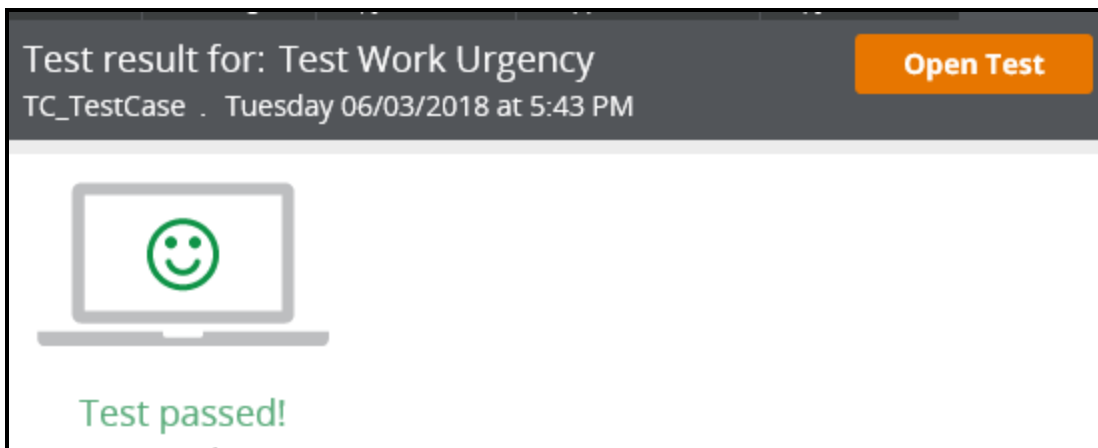
In the Result column on the right side of the landing page, a green **Passed** button is displayed. This indicates that the *pxUrgencyWorkClass* value and the value in the test case are the same.



## Test for a failed result

Do the following to test whether a mismatch between the test case expected value and *pxUrgencyWorkClass* value produces a failed result. In this test, update the expected value to 20. The *pxUrgencyWorkClass* value is still 10.

1. In the Result column, click **Passed** to display the test result.
2. On the Test result header, click **Open Test** to open the test case record.

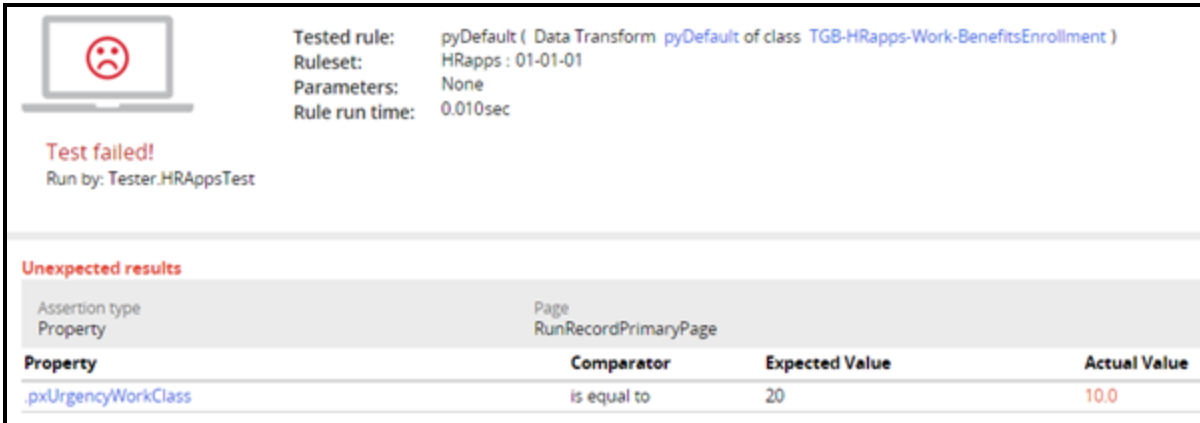


3. In the **Expected results** section in the test case record, update the *pxUrgencyWorkClass* **Value** to 20.



4. In the upper right corner, click **Check out, Save, Check in**.
5. Enter Change value in the **Check-in comments**, and click **Check in** to save the updated value.
6. Return to the Test cases landing page by clicking the **Application: Automated Testing** tab.
7. Click **Run** to run your test case again. The Result column now displays a **Failed** button.

8. Click **Failed** to open the test result. The test failed because the expected value in the test case and the *pxUrgencyWorkClass* actual value do not match as shown in the following image.



The screenshot displays a test failure report. At the top left, there is a red sad face icon. To its right, the following details are listed:

- Tested rule: pyDefault ( Data Transform pyDefault of class TGB-HRapps-Work-BenefitsEnrollment )
- Ruleset: HRapps : 01-01-01
- Parameters: None
- Rule run time: 0.010sec

Below this, the text "Test failed!" is shown in red, followed by "Run by: Tester.HRAppsTest".

A section titled "Unexpected results" contains a table with the following data:

Assertion type	Page	Property	Comparator	Expected Value	Actual Value
Property	RunRecordPrimaryPage	.pxUrgencyWorkClass	is equal to	20	10.0



# SOLUTION BUILD

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# Solution build

## SAE Solution Build

### Use your new knowledge to build a case type

You should now be able to design and configure a case type based on the content in this course. The SAE Solution Build provides you with an opportunity to practice the skills you learned in this course. For the SAE Solution Build, you complete the following exercise to configure a case type to process requests for roadside assistance from claimants with disabled vehicles. The scenario and approach in the following sections detail the application requirements.

Everything you need to know to build this application is within the course. As you build your application, remember to save often and to test the application periodically using the provided test cases. You should review these test cases before you begin. After you complete the solution build, verify your configuration against the proposed solution. The proposed solution for this exercise is available as a download in the Related Content section.

### Scenario

Indemnity Insurance Company is adding a roadside assistance coverage option to their auto insurance portfolio through a new business subsidiary named Go-Go Roadside Assist. Roadside assistance coverage helps drivers when their vehicle breaks down. Coverage includes battery service, flat tire service, fuel delivery, and lockout service. During roadside assistance, a service professional performs minor mechanical repairs to enable the car to function again.

Indemnity Insurance Company will configure a Pega application to make the process of obtaining service accessible to insured drivers while on the road. Claimants may request roadside assistance using a website, a mobile application, or calling a customer service representative. Claimants with Gold membership are not invoiced for the service. Claimants with Standard memberships are invoiced.

When the application starts, display the Roadside Assistance Landing page. Claimants can select an appropriate service request from the landing page. A request for roadside assistance is divided into four stages: Notification, Setup, Service, and Wrap-up.

- In the Notification stage, claimants create an assistance request by entering the service issue, personal information and membership type, the service location, and a description of the vehicle. If claimants have a standard membership, they must also provide credit card details for invoicing. Claimants can update the information at any point in the stage.
- In the Setup stage, a representative from Go-Go Roadside Assist reviews the submitted information to verify the claimant making the request has coverage. If approved, the claimant selects the service provider: AAA, Acme, or Tow Mater. If rejected, the request is canceled and resolved. The application emails a rejection notification to the claimant that reads, "We are sorry to inform you that your service request for <service type> is not covered." It is expected that a representative will complete

their assignment within 15 minutes. If not completed after 30 minutes, the application notifies the representative's manager.

- In the Service stage, the application creates a service case so that service providers can review the request details, specify services that were provided to the claimant, and verify that work has been completed.

Service providers should see a list of the services and the unit costs of each. Service providers can enter the quantity of each service. The form should automatically display the total cost of each service based on the quantity and unit cost, and calculate a total for all the services provided.

When a service case is created, the application emails a notification to the claimant that reads, "We have dispatched *<name of the service provider>* to assist you. They should arrive shortly."

Sometimes, claimants may change their vehicle location after the service case was opened. Therefore, claimants must have the option to update their location while the service case is open. Updating the location in the assistance request should automatically update the location information in the service case.

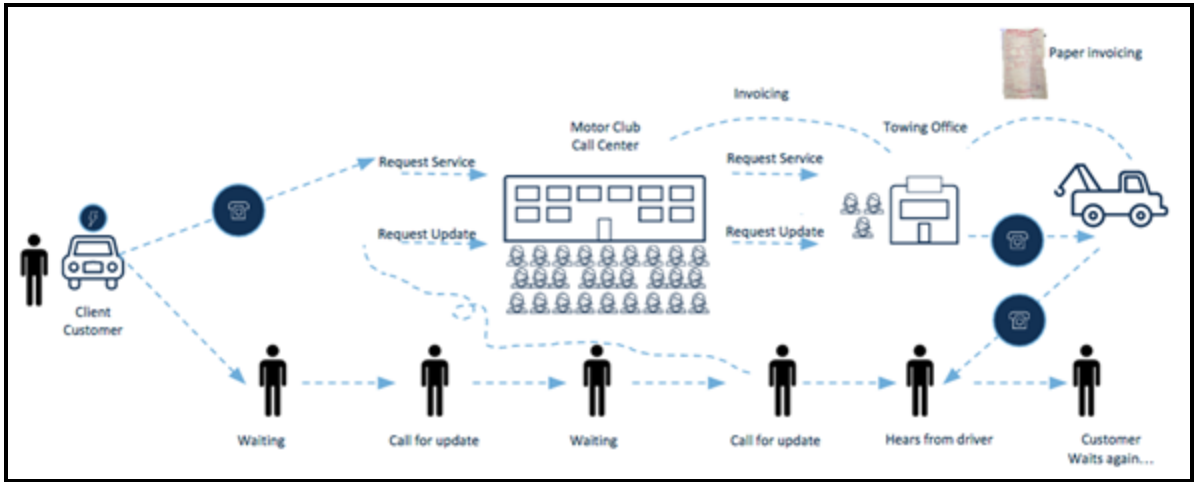
- In the Wrap-up stage, requests from Gold members are resolved automatically. Requests from Standard members are processed for invoicing. A representative reviews the details of the request and submits it. The application emails a copy of the invoice that reads, "Your credit card has been billed for your selected service." The invoice includes the payment information and the grand total of the services the service providers enter in the service case.

Claimants may cancel their service request at any time. A cancellation resolves the request and emails a notification to claimants that reads, "Your service request *<case ID>* has been canceled."

Managers must be provided with the following reports:

- A report that shows the number and work status of requests that have been worked on in the previous 30 days. Managers should be able to view this information in a bar chart that displays the number of requests for each day.
- A report, organized by state, a listing of membership types, service providers, service providers, case counts, and average service costs of assistance request cases.
- A report that shows in a map chart, the average service cost of resolved assistance request cases opened in the last 90 days, organized by state. Managers should be able to click a state on the map and see the related information provided in the services by membership type, service type, and service provider report described previously.

Your assignment is to build a Pega application that satisfies the Indemnity Insurance Company's requirements. The following diagram illustrates the overall process the application automates.



The following table provides the credentials you need to complete the exercise.

Role	Operator ID	Password
Case Designer	author.gogoroad	rules

## Approach

### Create an Assistance Request case type and life cycle stages

When you open your exercise system, the application contains a Service case type that processes service vehicle cases. Create an Assistance Request case type for processing assistance requests.

Configure the Assistance Request case type life cycle with four primary stages: Notification, Setup, Service, and Wrap-up. Add two alternate stages: Cancel Request and No Coverage.

### Notification stage

The Notification stage includes two processes. The first process creates the assistance request. The second process enables claimants who have Standard memberships to enter payment information.

The stage also includes an optional action that enables claimants to update any information they enter while working in the stage.

### Create request process

In this process, claimants enter the information needed to create a request. Claimants specify the issue that has disabled the vehicle, enter personal information including the type of membership, enter the vehicle's location, and enter a description of the vehicle. Because each set of information is used elsewhere in the life cycle, you will have the users enter the information in four forms.

In the specify issue form, claimants must select one of the following vehicle issues:

- Locked out
- Flat tire
- Dead battery
- Out of fuel

In the enter claimant information form, claimants must enter the following information:

- First name
- Last name
- Email
- Membership type, which can be either Standard or Gold

After claimants submit this information, create a Customer work party using information provided on the claimant information form.

In the location form, claimants must enter the following location information:

- Street
- City
- State

**Note:** Optionally, you can use information that is appropriate for another country. For example, you can specify provinces if the country is Canada.

When the case reaches the location form, change the status of the case to Pending-Qualification. This means that a representative needs to review and approve the case after the customer submits their request.

In the vehicle information form, claimants must enter the following vehicle information:

- Make
- Model
- Year
- Color

When claimants submit the vehicle information, a Gold membership request advances to the Setup stage for approval. Claimants with a Standard membership must provide payment information before the request advances to the Setup stage.

## Payment information process

Configure business logic so that only Standard membership requests use this process.

**Note:** This business logic is also used to start the invoicing process in the Wrap-up stage, which you will configure later in this exercise.

Claimants must enter the following payment information:

- Card type, which can be either Visa or MasterCard
- Card number
- Expiration date

When a claimant submits this information, the request advances to the Setup stage.

## Update information optional action

For this stage, add an optional action that allows claimants to review and update the claimant, location, vehicle, and payment information they enter in the stage.

## Setup stage

The Setup stage includes two processes. The first process enables a representative to verify the information and either approve or reject the request. The second process enables approved claimants to select a company to provide assistance.

## Verify process

This process contains a step that routes the request to any representative for approval. The representative reads the claimant, location, and vehicle information and determines whether the vehicle operator qualifies for coverage. The representative can also enter details about the decision.

If the representative approves the request, it advances to the select provider process. If the request is denied, the request advances to the No Coverage alternate stage and is resolved as rejected. A notification email is sent to claimants that contains the message described in the scenario.

Add an SLA for this verification step. Define a goal of 15 minutes and a deadline of 30 minutes and add a related escalation action that notifies the manager. Accept the default urgency values.

## Select provider process

In this process, claimants select one of the following providers:

- Acme
- AAA
- Tow Mater

Route the task of selecting a service provider to the operator who created the case.

When claimants submit the information, the request advances to the Service stage.

## Service stage

**Note:** To save time, the Service case type is already created as part of your exercise system. For this exercise, configure the Assistance Request case type to automatically create a Service case as a child case.

The Service stage is entirely automated and includes the service process and the Wait until service completed process.

The first step in the service process first creates a service child case. You must transfer service type, location, vehicle, and claimant information from the assistance request case to the service case.

The second step sends an email notification to claimants that contains the message described in the scenario.

Your exercise environment is not configured to send email correspondence. During this exercise, you may notice that the attached email indicates an exception error. This exception results from the application being unable to send the email in the exercise environment. Ignore this error.

The Wait until service completed process instructs the system to wait until the Service case is resolved before advancing the Request case to the Wrap-up stage.

**Note:** When the service providers verify that the service is completed, the Service case is resolved.

While the Assistance Request case is in the Service stage, the claimant may update the location provided during the Notification stage. For the Service case, configure an optional action to allow the claimant to update their location and pass the updated location to the Service case.

## Service case type updates

The Service Vehicle process in the existing Service case type includes only the Resolve service step. You must update the Service case type to support your requirements.

Add a first step that allows service providers to review the assistance request information. The Assistance Request service process automatically populates the values.

Add a second step that enables service providers to select the services and determine the costs. Add a service data type that includes the columns you want to display in this order: service, unit cost, quantity, and total cost (calculated). This value should change whenever inputs change.

Define a record for each service using the costs provided in the following table.

Service	Unit Cost
Battery charge	40
Battery replacement	150
Gasoline	10
Replacement key	50
Tire repair	25
Tire replacement	100
Tow	1
Unlock	25

**Note:** When providing gasoline, service providers use the quantity field to indicate the quantity provided. When providing a tow, service providers use the quantity field to indicate the distance the vehicle is towed.

To the user view for the second step, add three fields as described in the following list.

1. A field that displays the service type as a read-only field.
2. A field group list that uses the services data type you created. Configure the property for the field group list to copy data from the data page that lists the records for the data type.
3. A field that calculates the cost for all the services provided. The value should update whenever inputs change. The calculation should execute regardless of the page containing the expression.

The third step in the process is now Resolve service.

## Change location optional action

For this stage, add an optional action that enables claimants to update the location information they enter in the Notification stage.

The first step presents claimants with a form for updating the existing information. The next step automatically updates the location information in the service case.

The source properties are in the Assistance Request class but the target properties are in the Service class. Therefore, create the data transform in the context of the Service class.

**Note:** The name of the data transform is displayed in the **Data Transform** field but is not displayed in the list of available rules.

## Wrap-up stage

Gold membership requests are resolved when they enter this stage. However, Standard membership requests must be invoiced before they are resolved. The stage includes a process for invoicing those requests.

The first step in this process enables a representative to review the payment information claimants enter in the payment information process. This view also contains a field that displays the invoiced cost. This is calculated from the total cost calculated in the service case.

The second step automatically emails claimants a copy of the invoice with the information described in the scenario.

**Tip:** You can reuse the section rule created for the user view that processes payment information in the Notification stage.

## Cancellation request process

Claimants can cancel a request at any point during the request life cycle. The claimants indicate whether they want to cancel the request. Then, automated business logic decides how to handle the request based on the choice the claimants make. If claimants cancel their request, the application transfers the case to the Cancel Request alternate stage for resolution. The application confirms the cancellation by sending an email to claimants. The email contains the message described in the scenario.

## Manager reports

Create the manager reports in the Assistance Request class as follows:

- Number and status of requests updated in past 30 days — Add columns for the fields described in the requirement. Show the case status data as a count. Use a filter to include only cases updated in last 30 days. Configure a column-type chart grouped by the entered-on data and a series of case ID count.
- Services by membership type, service type, and service provider — Use the state field in the first column. Add the columns in the sort order described in the report requirement. Summarize the number of cases and calculate the average service cost.
- Average service cost per state — Use the state field in the first column. Summarize the number of cases and calculate the average service cost. Use filters to determine the work status (resolved) and



time frame (90 days). Use a map-type chart using state and average service cost as the columns. Specify the Services by membership type, service type, and service provider as a drill-down report.

To enhance report performance, optimize the business properties used in filters and sorting. These include state, service type, and service provider.

## Test cases

Test your application using the steps in the following tables.

### Case 1 — Notification stage processing

Step	Do this:	What happens:
1	Select any service type and submit.	The enter customer information form is displayed.
2	Enter the information, select the Standard membership type, and submit.	The location information form is displayed. The request has a status of Pending-Qualification. The Customer work party is displayed in the Participants section.
3	Enter the location information and submit.	The vehicle information form is displayed.
4	Enter vehicle information and submit.	The payment information form is displayed.
5	From the Action menu, select the update information option.	A form is displayed that contains all the fields for entering customer, location, vehicle, and payment information.
6	Enter payment information and submit.	The request is routed to a representative for approval.
7	Create another request, select the Gold membership type and submit.	The request is routed to a representative for approval.

### Case 2 — Setup stage processing

Step	Do this:	What happens:
1	Create a request, advance it to the representative for approval, and open the request.	The approval form displays the customer, location, and vehicle information in read-only format. Reject and Approve buttons are displayed at the bottom of the form.

Step	Do this:	What happens:
2	Reject the request.	The request is resolved as rejected and the service not covered notification is attached to the case.
3	Repeat step 1 and approve the request.	The form for selecting the service provider is displayed.

### Case 3 — Service and Wrap-up stage processing

Step	Do this:	What happens:
1	Create a Standard membership request. Advance it to the Select Provider form, select a provider, and submit the form.	A Service child case is created and the Review service details user form is displayed. It contains the service type, customer, location, and vehicle information.
2	Submit the form.	The Select services form is displayed. It contains a table containing Service, Unit cost, Quantity, and Service cost columns. The Service, Unit cost, Service cost fields are read-only. The Quantity field is editable.
3	Enter a number in a Quantity field and tab or click out of field.	The total cost of the service is calculated and displayed in the Total cost field.
4	Submit the form.	The Resolve service form is displayed.
5	Indicate that the service is complete and submit the form.	The service case user form shows that the case is resolved.
6	From the form header, open the parent assistance request case.	The Assistance request form is displayed. The "Help is on the way" notification is attached to the case.
7	Begin the Invoice (Wrap-up) assignment.	The Review Service form is displayed, which contains the service type, service provider, customer information, and service cost in read-only format.
8	Submit the form.	The case is resolved. The invoice is attached to the case.
9	Open the attached invoice.	The invoice contains the text message, the payment information, and the total cost of services. <b>Note:</b> In this exercise, the payment fields are editable. In an actual implementation, a system architect would configure the fields as read-only.
10	Create a Gold membership request as described in step 1 and complete steps 2 through 5.	The assistance request case is resolved.

## Case 4 — Change location information

Step	Do this:	What happens:
1	Create a request and advance it to the Review service details form in the Service case. Note the current location information.	N/A
2	Open the parent assistance request case.	The assistance request case opens in a review form.
3	From the Actions menu, invoke the <b>Update Location</b> action.	The Enter Location Information user form opens.
4	Update the information in any of the location fields and submit the form.	The assistance request review form opens.
5	Open the service child case and refresh it.	Your updates are displayed in the Review service details form.

## Case 5 — Cancel request processing

Step	Do this:	What happens:
1	Create a request and select the Cancel Request option from the Action menu.	The cancel request confirmation form is displayed.
2	Indicate that you want to cancel.	The case is resolved. The cancellation notification is attached to the case.
3	Open the correspondence.	The message includes the case ID.
4	Create a request and select the Cancel Request option from the Action menu.	The cancel request confirmation form is displayed
5	Indicate that you want to cancel, but click the Cancel button.	The Unsaved changes dialog is displayed, which warns you that you are about to discard your unsaved changes.
6	Click Discard.	The Assistance Request case is displayed.

## Case 6 — Manager reports

Create about 10 to 20 assistance request cases in various work statuses including New, Pending-Qualification, Resolved-Completed, and Resolved-Rejected. Process these cases using various membership types, service types, and locations.

From the Reports dashboard, open your reports.

- Number and status of requests updated in past 30 days — A bar graph is displayed. Click a bar to display the individual requests created that day.
- Services by membership type, service type, and service provider — A list of assignment request cases is displayed. For each state, the report displays the membership type, service type, service provider, count, and average service cost.
- Average service cost per state/region — A map that shows the average invoiced total for cases from each state is displayed. Click an item on the map to view the related data in the Services by membership type, service type, and service provider report.

## Detailed steps

A proposed solution for this exercise is available as a download in the Related Content section.

# COURSE SUMMARY

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# Course summary

## System Architect Essentials summary

Now that you have completed this course, you should be able to:

- Explain the benefits of using the Pega model-driven application design and development approach
- Model the life cycle of a case that mirrors the way business people think about how work is completed
- Identify the high-level responsibilities associated with Pega Platform for both Pega business architects and system architects
- Describe Pega's Direct Capture of Objectives™ approach to increasing the speed and accuracy of application delivery
- Explain the purpose and benefits of best practices and guardrails
- Validate case data to ensure that user entries match required patterns
- Configure a Wait shape to enforce a case processing dependency
- Configure user views and data elements during case life cycle creation
- Use the Clipboard tool to review case data in memory
- Set property values automatically using data transforms and declare expressions
- Configure and populate a work party with case data
- Create data classes and properties for use in a Pega application
- Automate decision-making to improve process efficiency
- Design responsive user forms for use on any platform or browser
- Design reports to deliver key insights to business users
- Incorporate and manage reference data to allow applications to adapt to changing business conditions
- Test your application design to analyze rule behavior and identify configuration errors

## Next steps

Completion of System Architect Essentials helps prepare students for the Certified System Architect exam. To help you study for the exam, enroll in the CSA Practice Exam course in Pega Academy.

[Register for the exam.](#)