smarter drafter PRO by tensis

Apply Logic in Forms

Module 10 – Logic

Version 1.0

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1. Logic

1.1 What is Logic?

Logic is what changes the simple idea of a questionnaire into a smart form. As you build the form, you can use logic to steer the form in different directions. This allows you to cater for variations so that one form can deliver multiple outcomes.

Rather than asking a form filler every possible question, forcing them to ignore what they don't need or confusing them with irrelevant options, logic can be used to control the behaviour of the form. It allows you to create an extensive form and then set conditions to handle the various alternatives. While the form will include questions for every possibility, when the form filler generates the document and starts answering the questions, the logic will interpret their answers and determine what to ask next.

By applying logic, you can instruct Smarter Drafter on how to determine:

- Whether a section is to be shown
- Whether a field is to be shown
- What options to include in a list
- What document/s to generate with the form

1.2 Where can I use Logic?

Logic can be applied to:

- Sections
- Section blocks
- Fields
- Option lists
- Attaching templates

By default, all of the above will be visible/active when created. If logic is applied, the logic will set the conditions and control the direction of the form.

1.3 Logic operators

When applying logic, there are various operators available to set the conditions to be applied, which are:

=	**Equal to** Result must be an exact match to the conditions
!=	**Not equal to** Result must not match the conditions
>	**Greater than** Result must exceed the conditions
>=	**Greater than or equal to** Result must equal or be greater than the conditions
<	**Less than** Result must be less than the conditions
<=	**Less than or equal to** Result must equal or be less than the conditions
Is answered	**Is answered** An answer must be provided
Is not answered	**Is not answered** An answer must not be provided

1.4 Logic Structure

Logic can be built using:

- A single condition
- Multiple conditions
- Nested conditions
- Wrapped condition sets

Each of these options will be covered in this guide.

1.5 Logic Expressions

The expression of logic is: **IF** <set condition> **THEN** <do this>.

Experienced automators will be familiar with the expression IF – THEN – ELSE. Smarter Drafter's logic tool is a basic IF – THEN statement, but the calculation tool can handle IF – THEN – ELSE statements (see the **Calculations** guides).

1.6 Logic Condition Outcomes

Logic conditions are designed to return a result of TRUE or FALSE.

Where the condition/s are met, the result is TRUE and so the expression can proceed to perform the conditioned outcome.

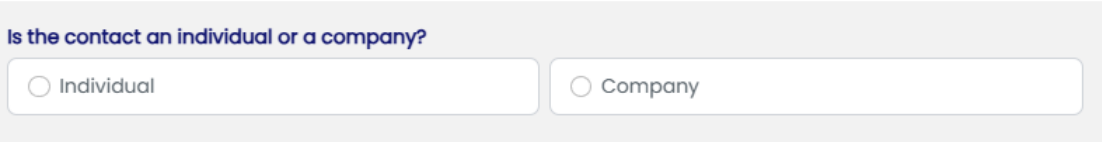
Where the condition/s are not met, the result is FALSE so therefore the expression can't proceed and there is no outcome.

2. Logic Conditions

2.1 Logic with a Single Condition

Logic can be based on a single condition, meaning a rule is created setting one criteria to be met.

In this example, a question will be asked whether the contact is an individual or a company.



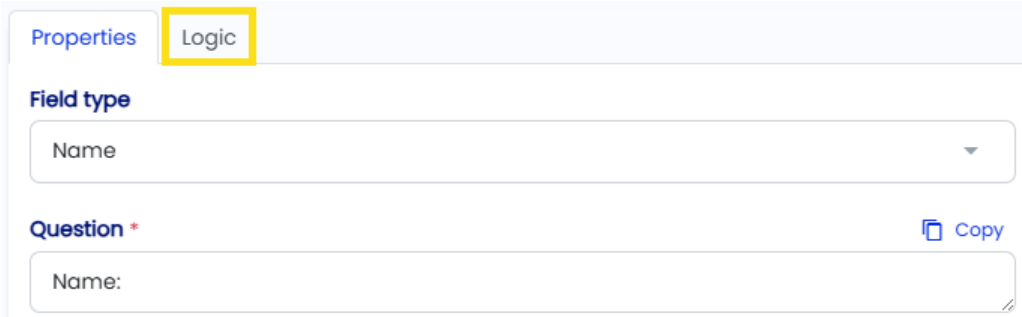
Logic will then be used to determine what to do next depending on the answer selected:

>> If an individual, ask for the full name – use a name field

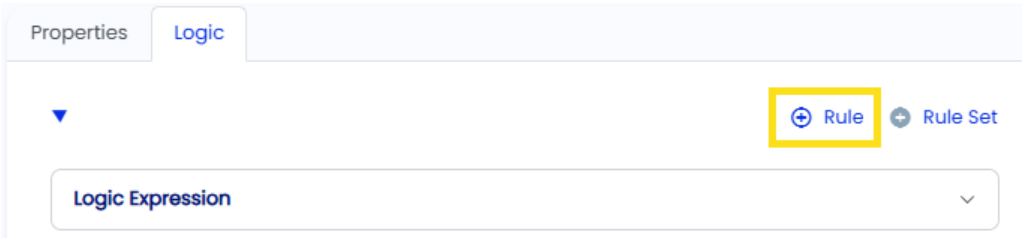
>> If a company, ask for the company name – use a text field

Logic is required against each field to control when to reveal / hide it.

In the field properties, click on the Logic tab to apply logic:

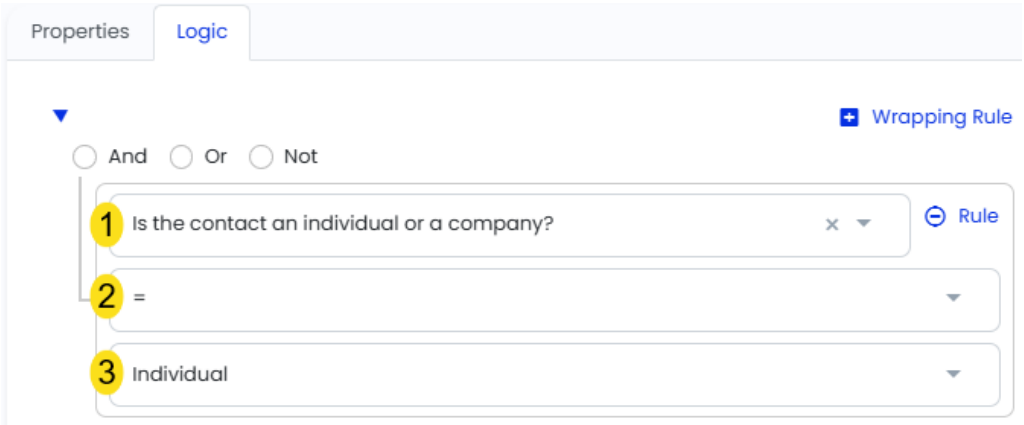


In the Logic tab, click **+Rule** to add a rule:



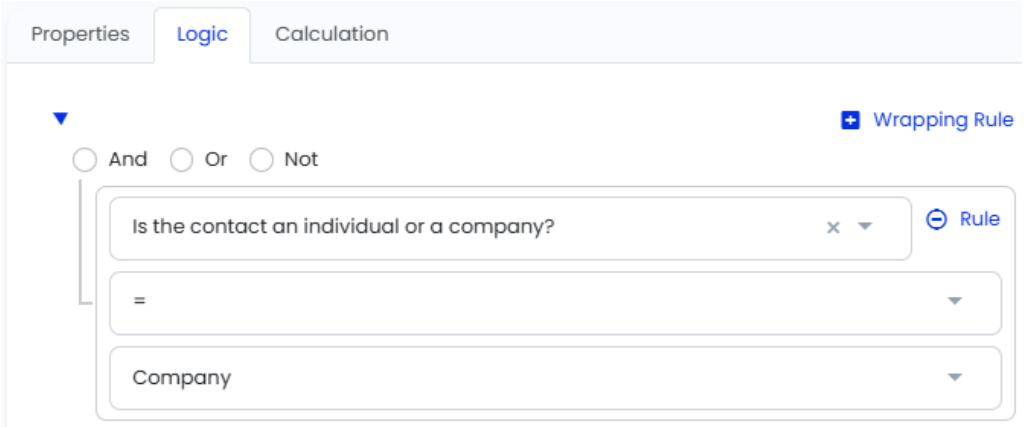
On the full name field, set the logic so that it's only revealed where the answer is individual.

1. Click on the drop-down and find the field that is the deciding factor.
2. Set the operator.
3. Set the required response.

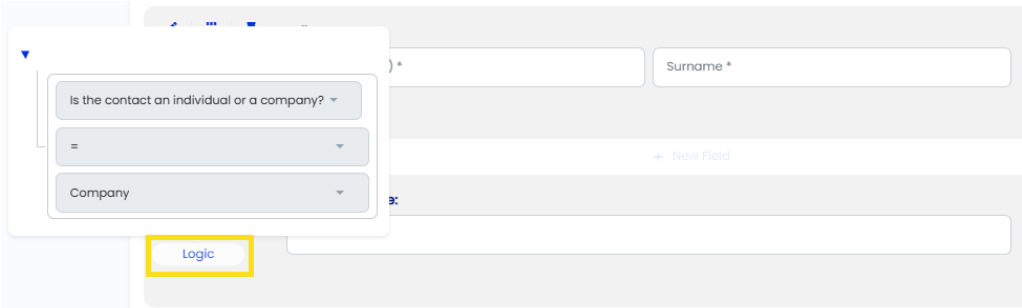


Note: When searching for the field to use in your logic expression, it can be time consuming to scroll through the fields in a lengthy list. Place your cursor in the field drop-down and type a keyword to navigate quickly.

The same is done on the company name field, where the alternate answer is selected so that this question is only revealed where the answer is company:



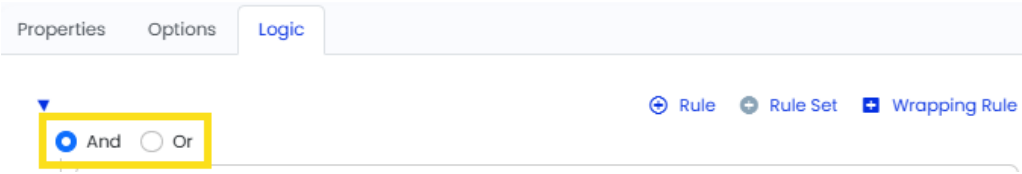
A logic pill will appear on fields where logic has been applied. Click on the pill to reveal a summary of the logic that was used.



2.2 Logic with Multiple Conditions – Rule Sets

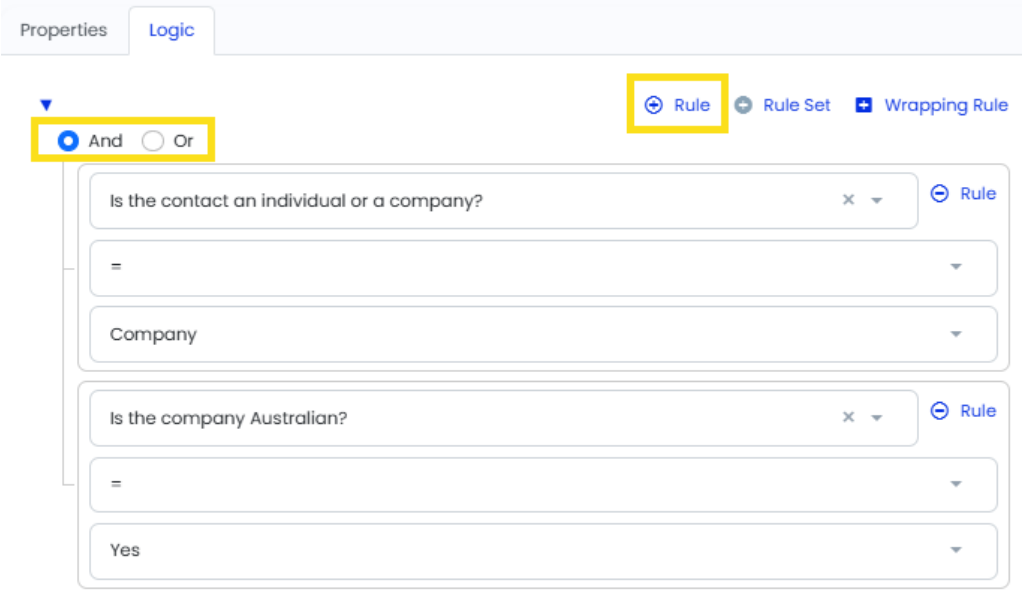
Logic can be based on multiple conditions, meaning several rules are created to set multiple criteria to be met. The multiple conditions are referred to as a Rule Set.

When applying multiple conditions, the available connectors are AND – OR. The connectors control whether the conditions all need to be met (AND) or if only a single condition needs to be met (OR).

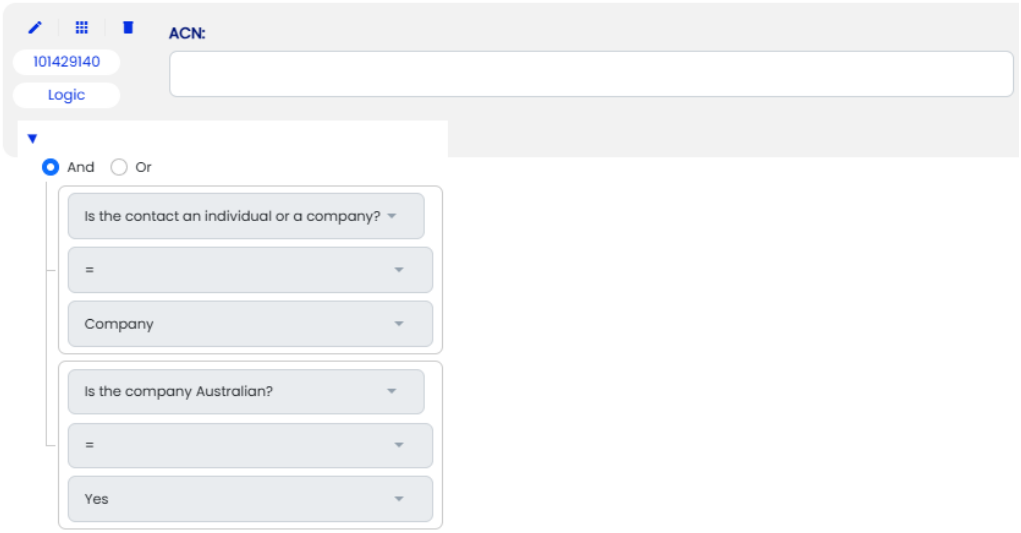


In this example, the ACN is only required where (1) the contact is a company and (2) it is an Australian company. Where both criteria have been met, the ACN question will be asked.

To build this logic, create each rule and use the AND connector.



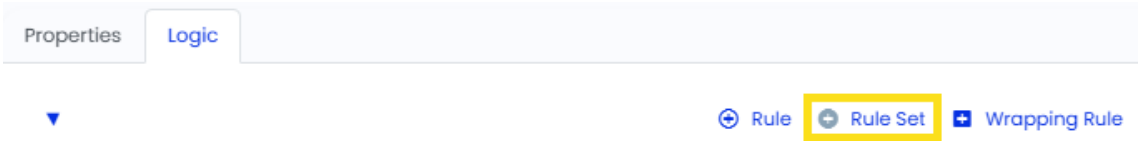
With this logic applied, the supervisor question will only appear where both conditions are met.



2.3 Logic with Multiple Rule Sets

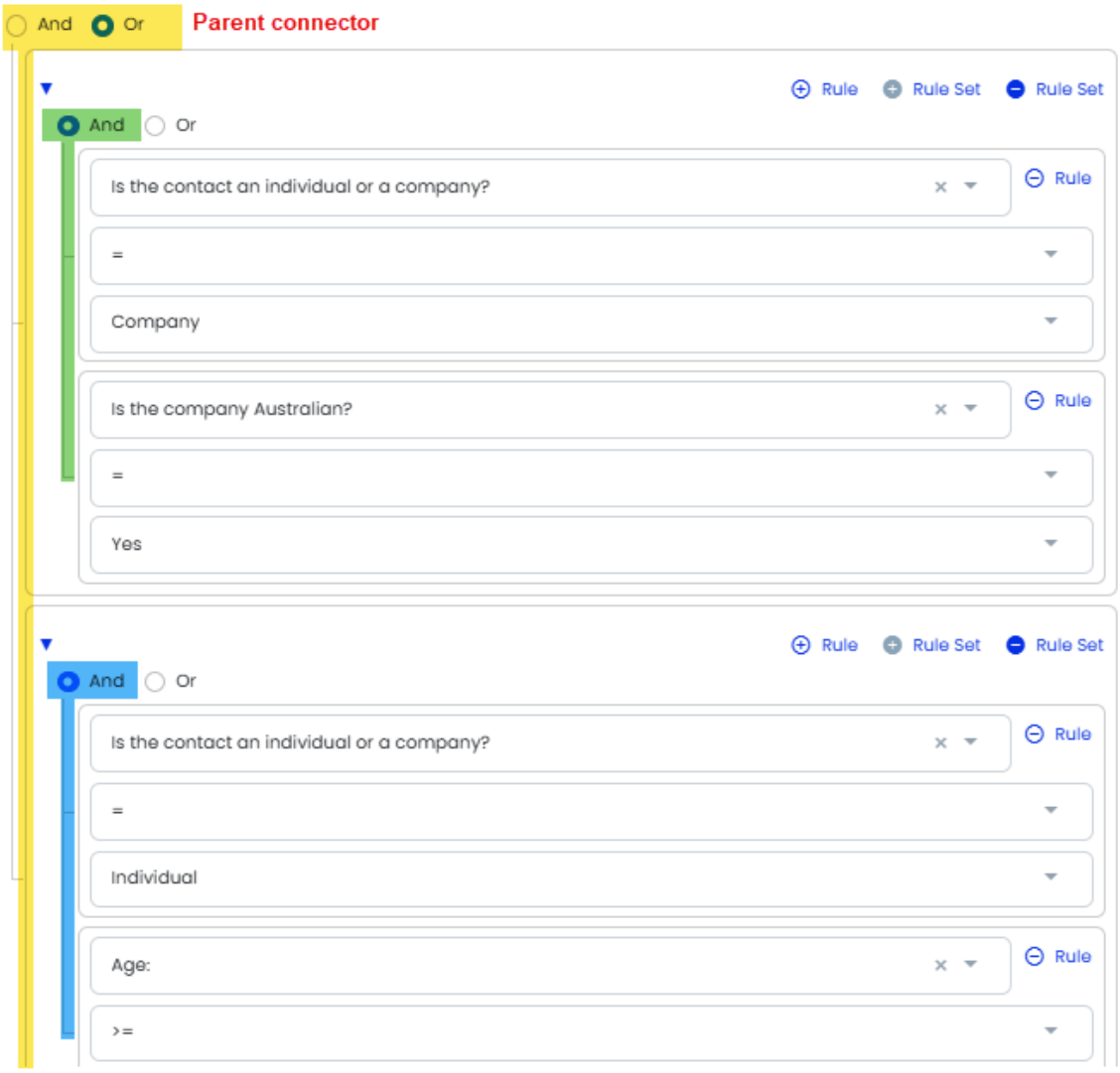
Logic can contain multiple separate rule sets.

To achieve this, click Rule Set and build the first set of rules as above, applying the connector as relevant to this specific set.



Then click Rule Set again and build the next set of rules, and repeat for as many sets as you require.

Once all of the rule sets have been created with their individual connectors applied, set the parent connector to define how the collective group of rule sets should be interpreted together. In the example below, the parent connector has been set as OR, so only one of the rule sets needs to return TRUE for the ultimate response to the logic to return TRUE.



2.4 Logic with Nested Conditions

Nested logic refers to a parent condition that must be met, followed by optional child logic – meaning there is a key criteria that must be met before the subsequent logic becomes relevant:

>> If the parent logic is FALSE, the expression immediately ends

>> if the parent logic is TRUE, the expression continues to check the next layer of logic

This is where logic can start to handle complex combinations of criteria. The criteria can be as layered and complicated as you can design in.

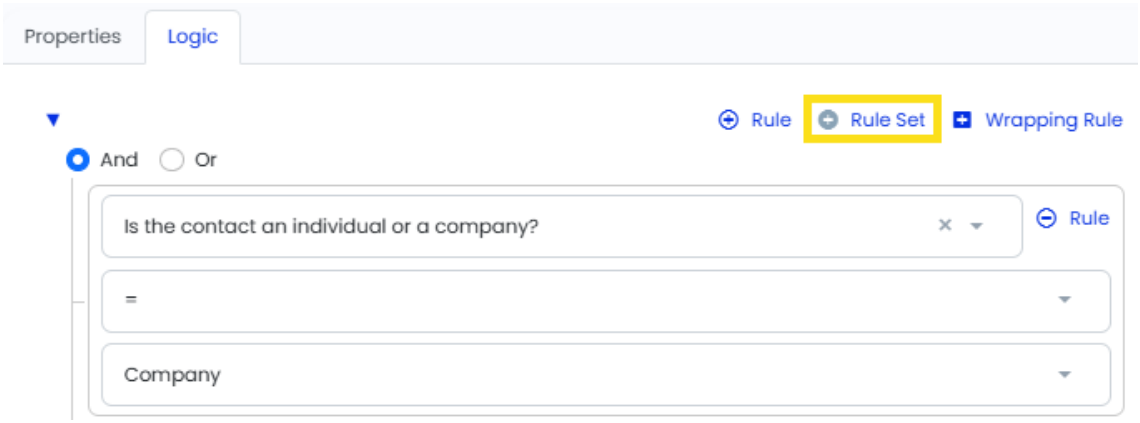
In this example, the criteria is:

Parent:	The contact must be a company
	IF TRUE
Child 1:	The company is Australian

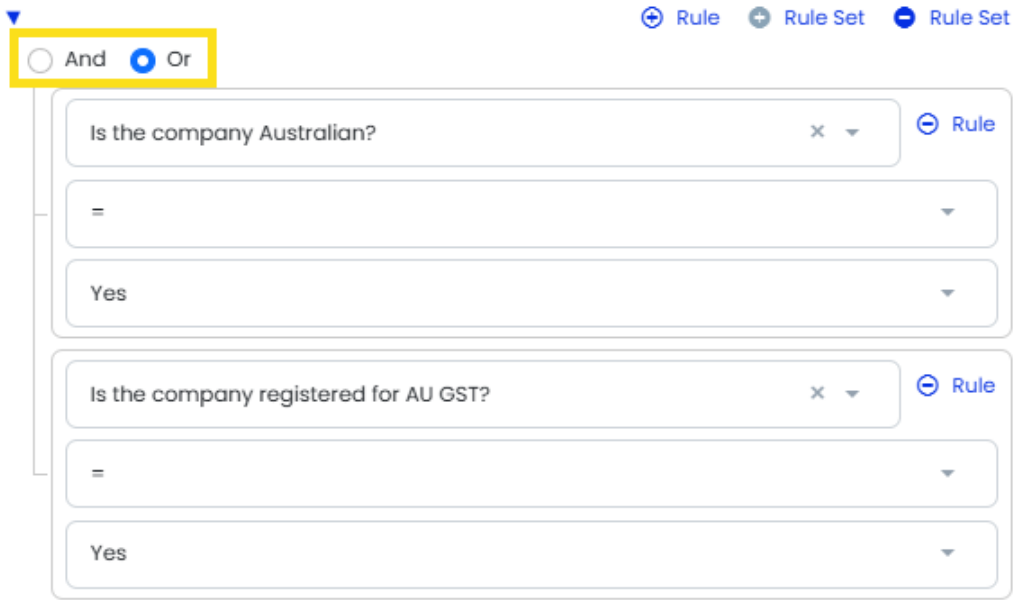
OR

Child 2: The company is not Australian but is registered for AU GST

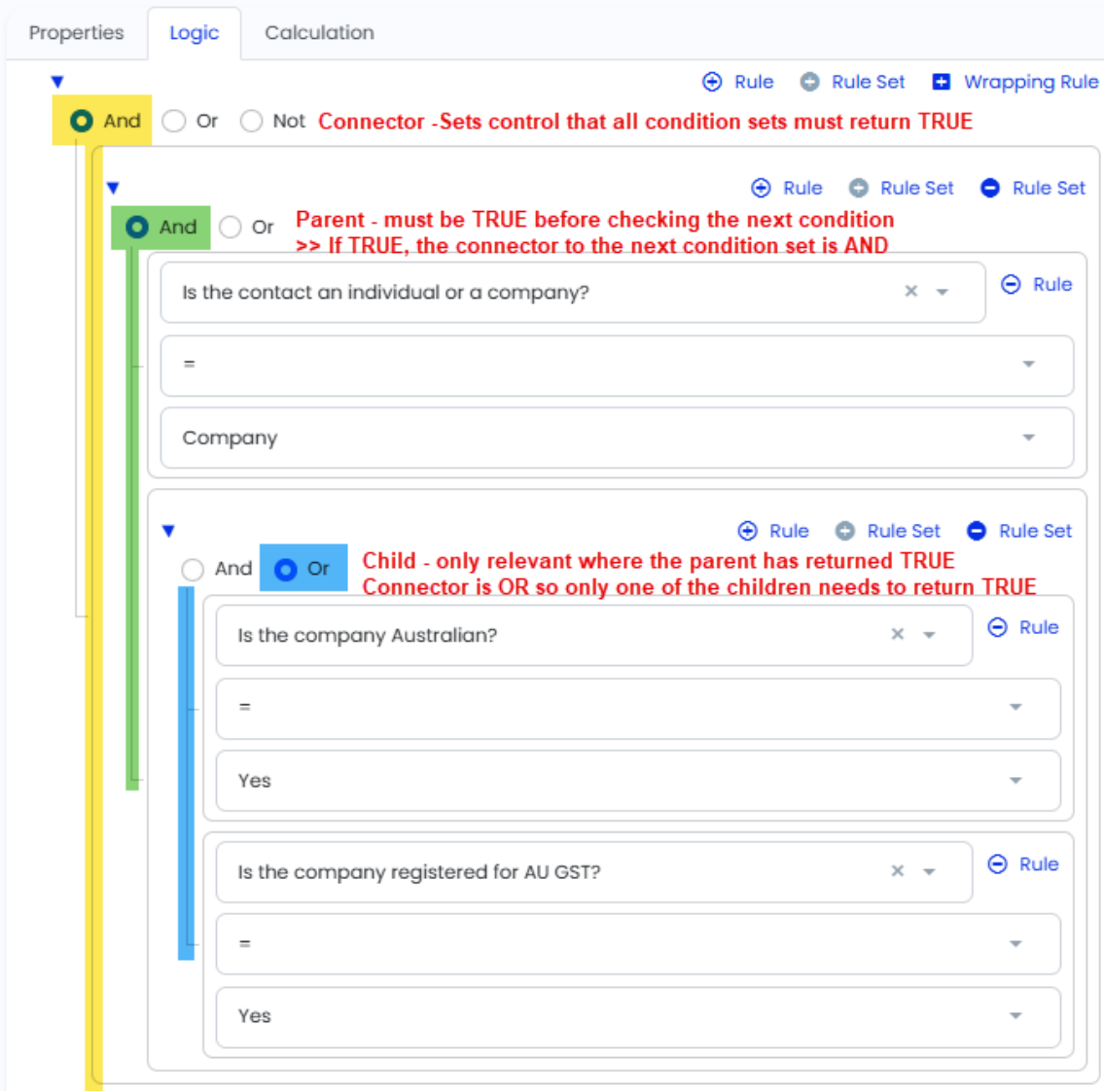
To achieve this, create the parent rule and select the AND connector. Click +Rule Set.



The next step is to build the OR statement for the child rules.



The next image illustrates the full layout of the nested condition set.



2.5 Logic with Multiple Nested Rule Sets – Wrapped Sets

Wrapped sets is a further extension of nested logic that can handle multiple conditions in multiple nests.

Adding a wrapped rule applies a higher parent layer to your rule sets. Like nested rules, you need to build out each separate set and then click +Wrapping Rule to set the highest connector to apply to the collection of conditions / rule sets / nests.

To achieve this, create each rule set and/or nested set the parent rule and select the AND connector. Click +Rule Set. Like the image above, the layers will continue to build according to the sets and connectors used.

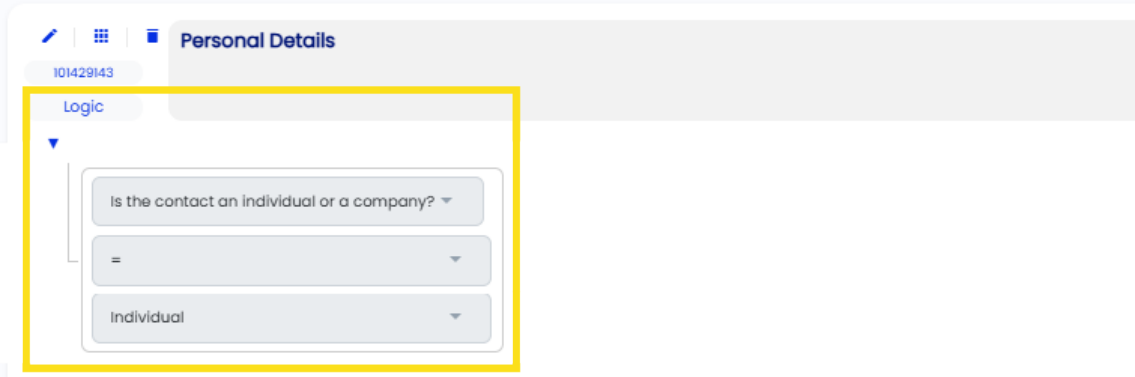
3. Applying Logic in Forms

3.1 Sections

Logic can be applied to a section to set conditions on whether the whole section is displayed or hidden. In this example, the section asks questions about a person and is only relevant if the contact type is an individual. By applying logic at the section level, it can determine whether or not to reveal the section and save applying logic to each separate question.

To apply logic to a section, go to the Logic tab, set the criteria and save.

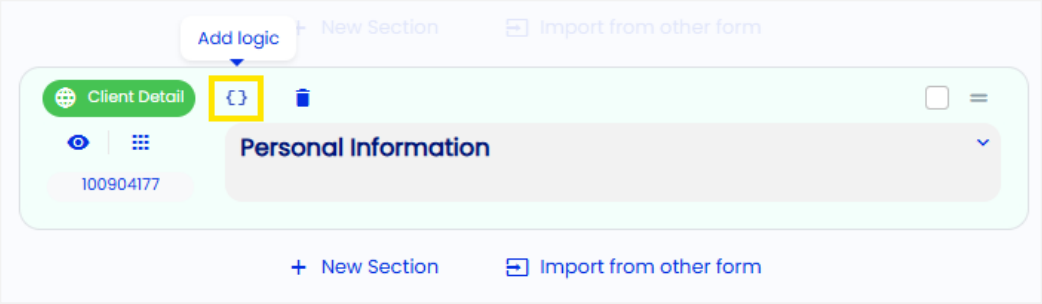
The logic pill will appear on the section banner. Click on the pill to see a summary of the logic applied.



3.2 Section Blocks

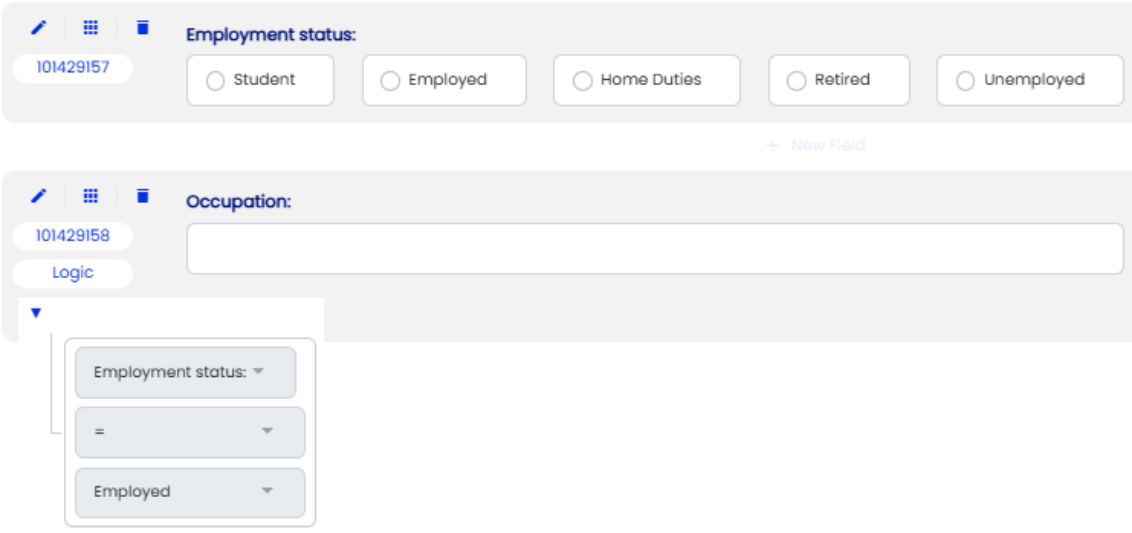
When a section block has been imported into a form, logic can be applied to set conditions for when the section block is or isn't included. If a section block is made up of multiple sections, logic can be applied to each section individually so that you have control over each separate section.

Once the section block has been imported, click the **Add Logic** button in the banner of the section to apply the required logic.



3.3 Fields

Logic can be applied to an individual field to set conditions on when the question is to be displayed or hidden. In this example, the occupation will only be asked where the person's employment statis is 'employed'.

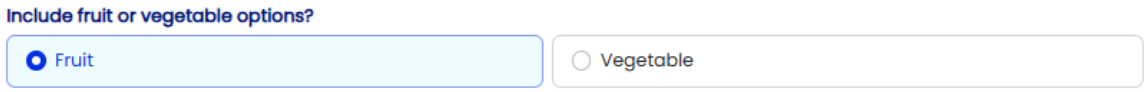


Setting logic on a field is applied in the same way as a section. In the field properties, go to the Logic tab, set the criteria and save. The logic pill will appear on the field banner and the summary will be displayed when you click on it.

3.4 Lists

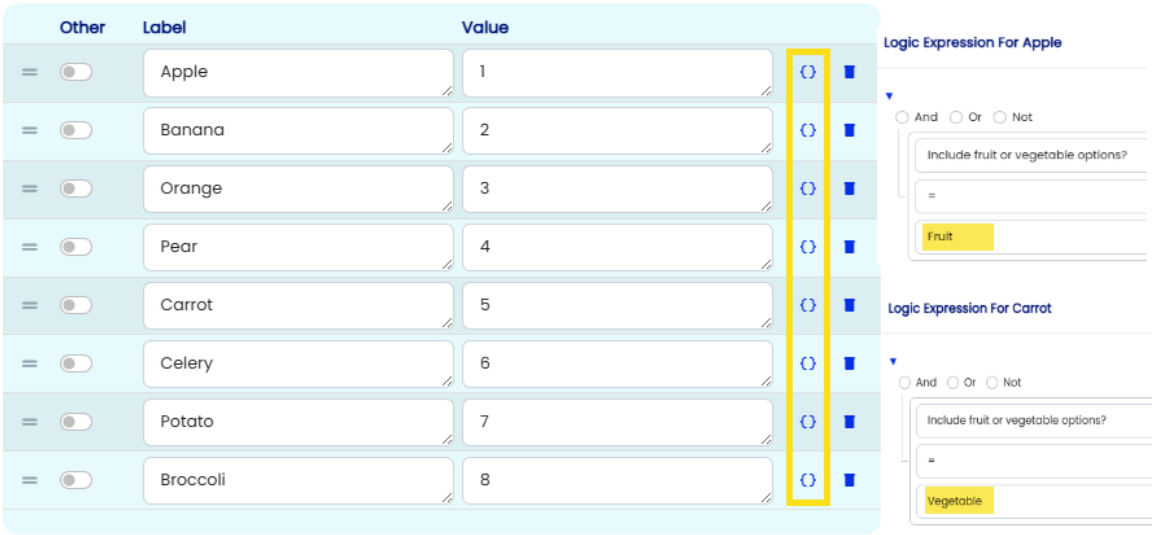
When creating a select field (radio / drop-down / checkbox) you can apply logic to determine whether to show / hide each individual option in the list.

In this example, the first question provides a choice of fruit or vegetable.



The next question has logic applied to each of the options in the list to determine the choices that will appear in the final list presented to the form filler.

Next to each option, click the logic {} and apply the relevant rule/s.



Depending on whether the user selects fruit or vegetable, the list will adjust only showing them the valid options they can select from:

3.5 Templates

You can attach multiple templates to a form and use logic to determine when each document should or shouldn't be generated.

Attach all template options to the form and then apply logic as required: