

# Forced Interactions



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## Overview

This section explains how to use the Forced Interactions feature of Xray Test Case Designer.

Forced Interactions are a method to train the model about specific business rules that must always be considered on the generated tests, as long as the required values and outcomes.

With Forced Interactions, the system will always ensure these interactions are added to your model output.

## When to Use Forced Interactions

If you need Xray Test Case Designer tests to include a particular test for a required business rule, for example:

**Requirement: (#2947 – Notify about Certain High Risk Flood Zone Applications)**

*The business rule that you want to test reads, “if a regular applicant applies for a large loan in a flood zone with 90% LTV, send the notification to the manager.”*

In our example, you must have these specific 4 Values included together in a single test:

- Customer status must be Regular
- Loan to value ratio must be 90%
- The loan amount must be Large
- And the property needs to be In a Flood Zone

Go to the Forced Interactions screen under Rules and add your scenario.

## How to Use Forced Interactions

1

(Optional) Type the name and/or number of your forced scenario

2

(Optional) Type its expected result.

3

Select only the Values you need to trigger your business requirement, then save.

1. I.e., if our plan has 10 parameters, but the business rule only needs 4 to trigger, we include just those 4 in the forced interaction.

Parameters				
<b>RULES</b>				
Constraints				
<b>Forced Interactions</b>				
SCENARIOS				
SCRIPTS				

Name	Description	Forced Parameter Values	Expected Outcome
Requirement: (#2947 – Reject Certain High Risk Flood Zone Applications)	if a regular applicant applies for a large loan in a flood zone with 90% LTV, send the notification to the manager.	Customer status = Regular LTV = 90% Loan amount = Large Property location = In a Flood Zone	Send the notification to the manager.
Import	Optional name	Optional description	Click here to force specific parameter values to be used together in a scenario Then this outcome

When you create your tests, your forced scenario will appear in a newly generated set of tests.

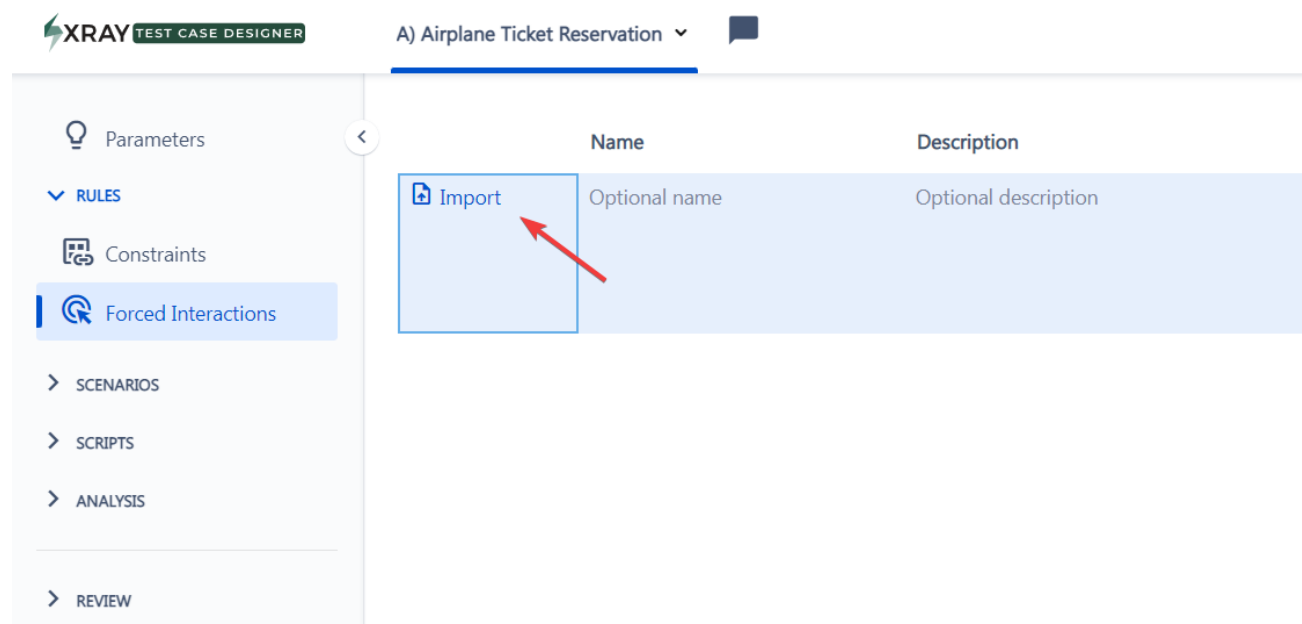
#	Customer status	LTV	Loan amount	Property location	Expected Outcome
1	Regular	90%	Large	In a Flood Zone	Send the notification to the manager.
2	VIP	90%	Medium	Not in a Flood Zone	
3	Employee	50%	Large	Not in a Flood Zone	

#### Keep the following usage tips in mind when using Forced Interactions

1. This feature is not just for “official requirements.” Consider including other critical ideas in your Xray Test Case Designer generated suite, like a forced scenario that contains the most common Value for each Parameter (i.e., “Happy Path”).
2. As shown above, you don’t need to specify every Value. In fact, it’s better if you only force the Values needed to trigger the requirement /business rule. That way, the most variation in your Xray Test Case Designer generated tests is possible.
3. Keep the concept of “Expected Results” clearly separated in your mind from ordinary Parameters and Values. Treat them differently from each other as you enter your plans. Typically, do not enter Expected Result values in the “Parameters” screen. The primary places you should enter the Expected Result are the “Forced Interactions” and “Scripts” screens. You can read more in the “How to Handle Expected Results” article from the Test Design Principles section.
4. Use this feature selectively. Remember that many combinations will automatically appear in the Test Case Designer generated models without you needing to do anything special. Suppose you have a business rule that only requires two Values to appear together, for example. In that case, that requirement will already be satisfied automatically whenever you create a 2-way (“pairwise”) set of tests. If you’re creating a 2-way set of tests, you would only need to use this special feature when you’re trying to ensure that 3 or more specific Values get tested together in a single test case.

## Import Forced Interactions

You can import forced interactions, which allows you to upload data-driven scenarios. Once you navigate to the screen, you should see the icon on the left side.



The screenshot shows the XRAY Test Case Designer interface. The top bar includes the XRAY logo, the text 'TEST CASE DESIGNER', and a dropdown menu for 'A) Airplane Ticket Reservation'. A left sidebar contains a navigation menu with the following items: 'Parameters' (lightbulb icon), 'RULES' (checkmark icon), 'Constraints' (puzzle pieces icon), 'Forced Interactions' (circular arrows icon, highlighted with a blue bar), 'SCENARIOS' (greater-than icon), 'SCRIPTS' (greater-than icon), 'ANALYSIS' (greater-than icon), and 'REVIEW' (greater-than icon). The main area displays a table with two columns: 'Name' and 'Description'. The first row of the table has the text 'Optional name' and 'Optional description'. A blue box highlights the 'Import' button (with a document icon) in the first row, and a red arrow points to it.

	Name	Description
Import	Optional name	Optional description

Clicking it opens the dialog similar to the model import.

As before, we recommend using the Excel template (you can download it from the link at the top of the dialog) and pasting your scenarios in the table format to cell D1 (given you have parameter names).