Decision With Input Data

The *Decision With Input Data* pattern demonstrates how a decision 'requires' its inputs from a structural Input Data and uses the instance in the expressions.

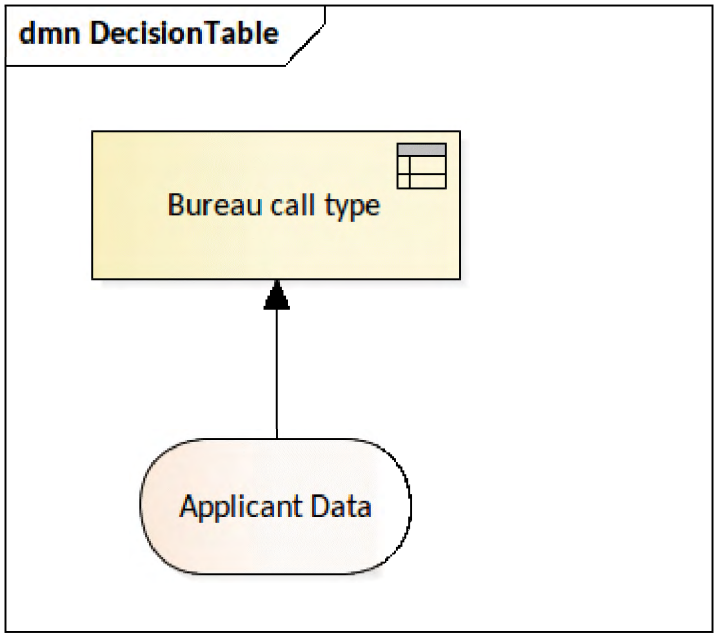
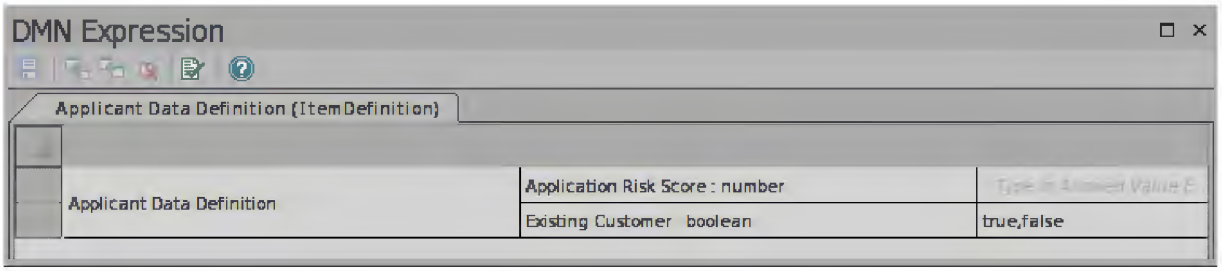


Figure 1. A decision 'requires' an Input Data

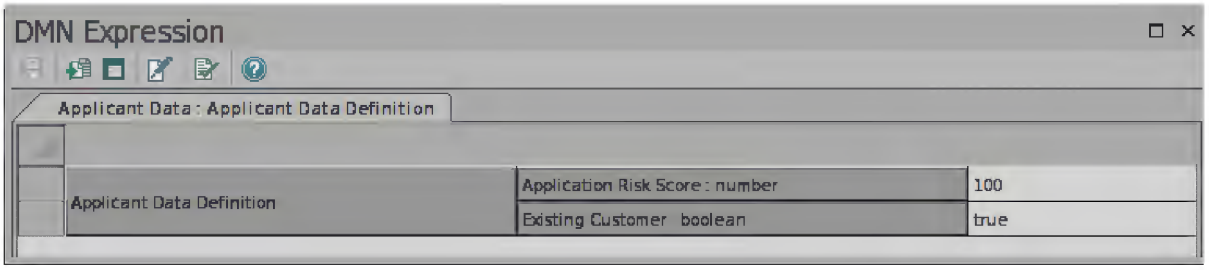
Item Definition & Input Data

Each Input Data element must specify a type for an Item Definition. An Item Definition could be either set to a simple type or composite other Item Definitions.

Item Definition *Applicant Data Definition* composites two other Item Definitions *Application Risk Score* and *Existing Customer*, with the types *number* and *boolean* respectively.



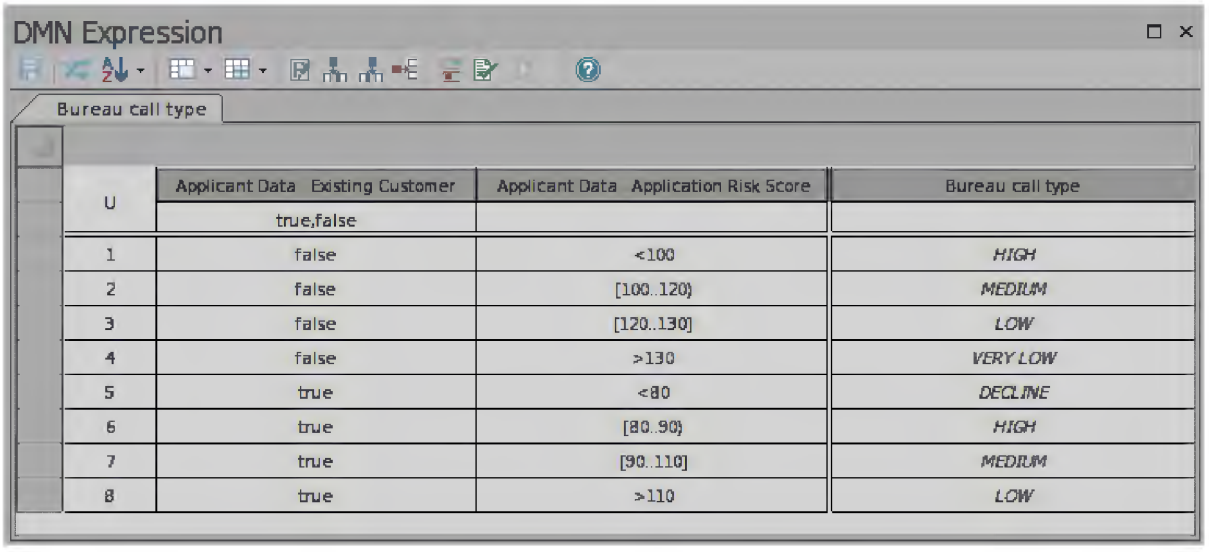
Input Data *Applicant Data* sets the type for *Applicant Data Definition,* and the values **100** and **true** are provided for *Application Risk Score* and *Existing Customer* respectively.



Decision

In this example, the Decision is implemented as a Decision Table with two input clauses and one output clause. The input expression is referring to the Input Data instance.

Note: The expression can access the 'leaf' component of the Input Data.

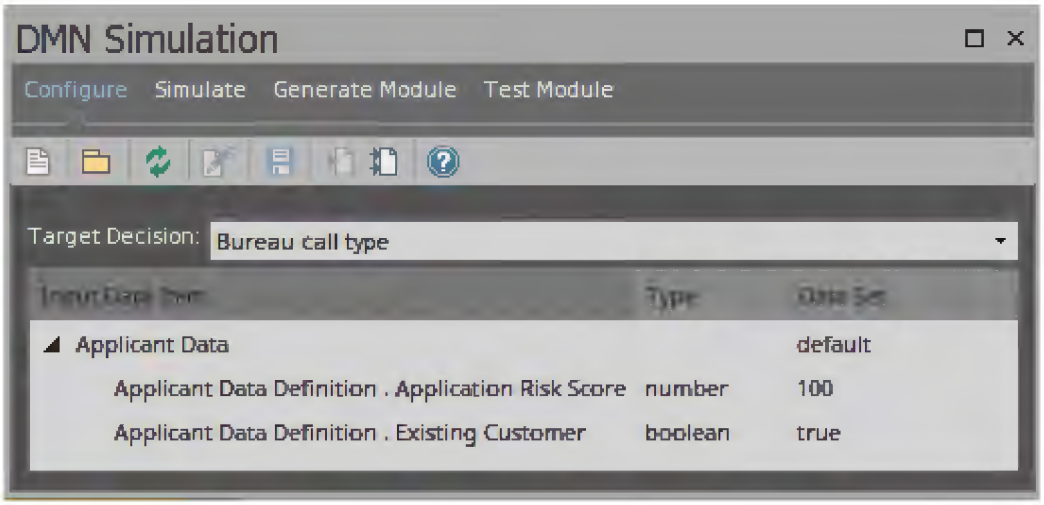


U	Applicant Data Existing Customer	Applicant Data Application Risk Score	Bureau call type
	true,false		
1	false	<100	*HIGH*
2	false	[100..120)	*MEDIUM*
3	false	[120..130]	*LOW*
4	false	>130	*VERY LOW*
5	true	<80	*DECLINE*
6	true	[80..90)	*HIGH*
7	true	[90..110]	*MEDIUM*
8	true	>110	*LOW*

Simulation

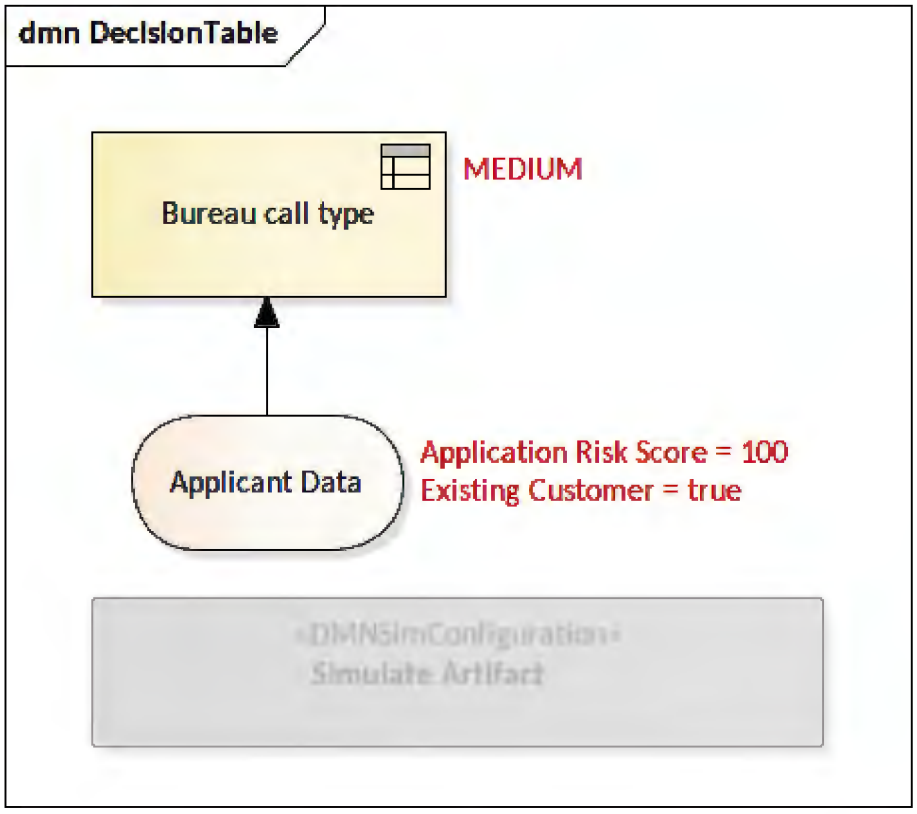
Create a *DMNSimConfiguration* element on the diagram, and double-click on it to open it in the *DMN Simulation* window. Set *Bureau call type* as the Target Decision; the

required Input Data will be automatically loaded. You can specify a Data Set to simulate the model.

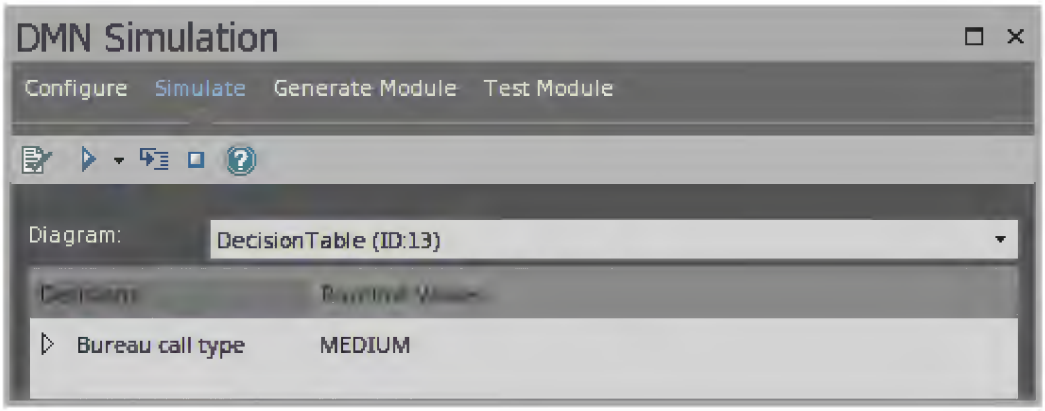


Validate and Run; the simulation result will be shown both on the diagram and in the Simulation window.

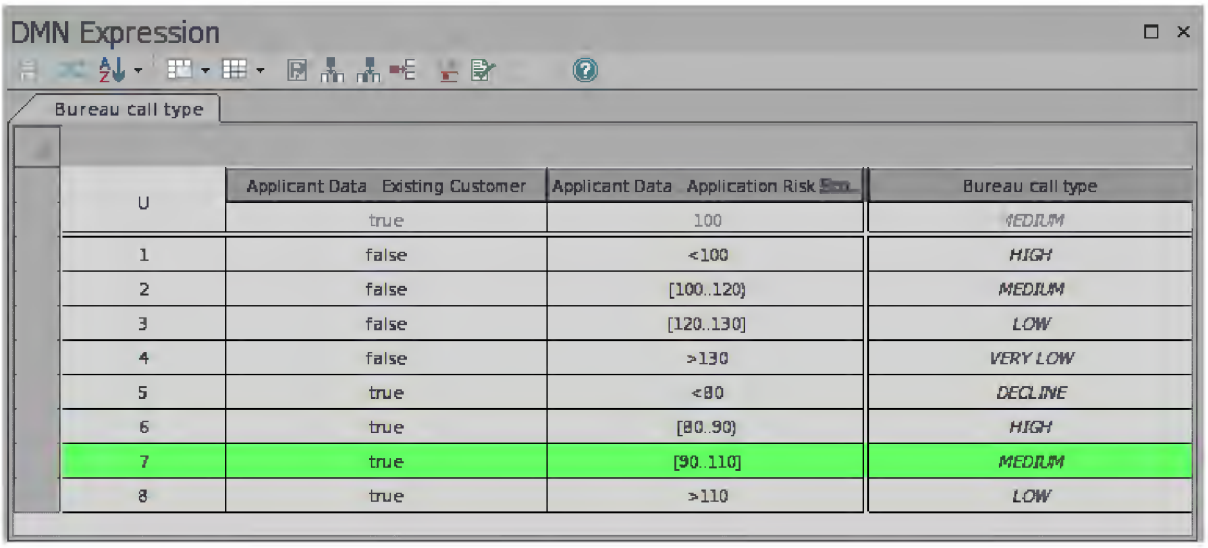
The runtime result for each decision is shown on the diagram:



The runtime simulation result is shown on the Simulation window.



If we click on the 'Step' button, the Decision Table will show the input and output runtime values and highlight the matching rule.



U	Applicant Data Existing Customer	Applicant Data Application Risk Scor...	Bureau call type
	true	100	MEDIUM
1	false	<100	HIGH
2	false	[100..120)	MEDIUM
3	false	[120..130]	LOW
4	false	>130	VERY LOW
5	true	<80	DECLINE
6	true	[80..90)	HIGH
7	true	[90..110]	MEDIUM
8	true	>110	LOW