VisiRule365 (April 2019)

Notes: not all errors are currently detected on the browser.

On the Desktop, VisiRule Author uses the underlying LPA Prolog system to help detect syntax errors and link errors and node type errors.

In VR365, a lot of these errors are not detected on the browser but do generate errors downstream typically when attempting to publish the chart.

Take great care that if you include **spaces** or **hyhens** in expressions, then these expressions are '**quoted'**

VisiRule is also documented in:

- VisiRule User Guide (vsr_ref.pdf)

- VisiRule Tutorial (vsr_tut.pdf)

These can all be downloaded from the LPA web-site:
http://www.lpa.co.uk/dow_doc.htm

In addition, there are multiple annotated charts available on the VisiRule web-site:

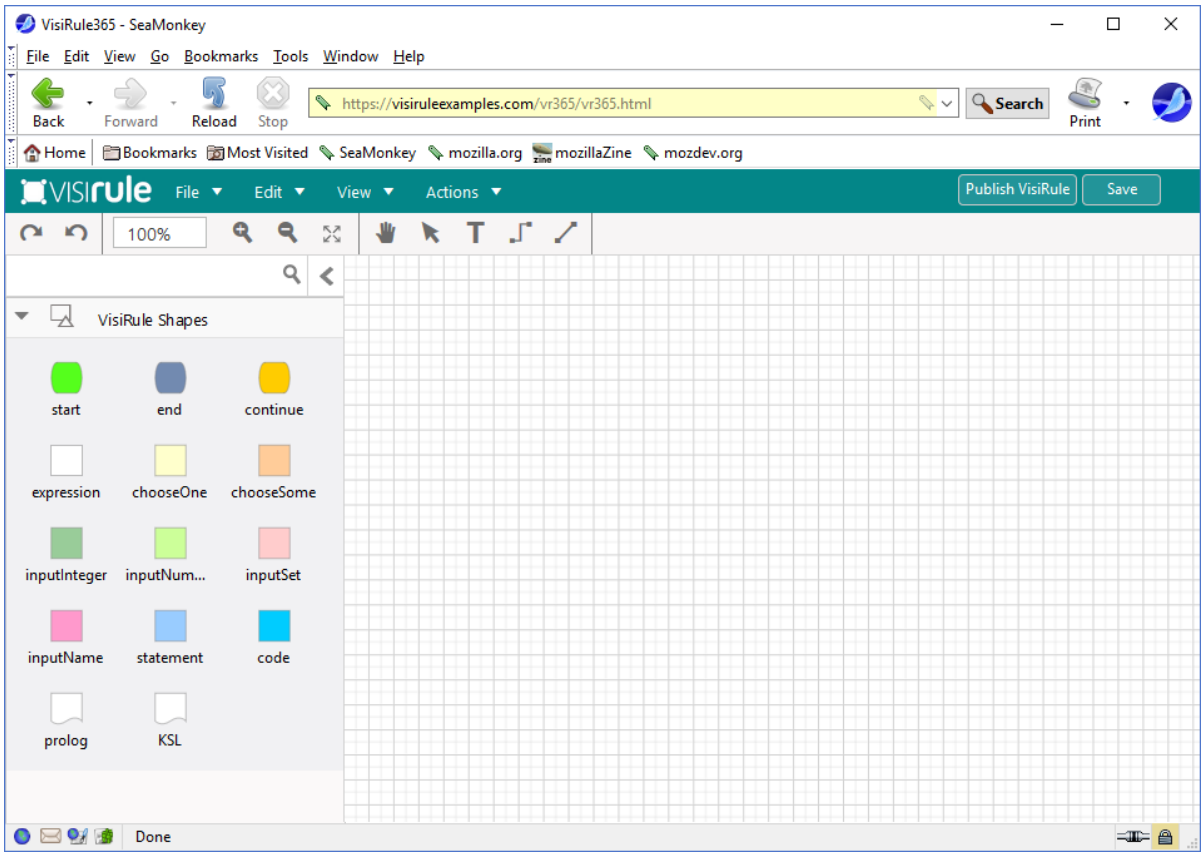
https://www.visirule.co.uk/visirule-charts

BE VERY CAREFUL WHEN LINKING TO RELEASE ONLY AFTER SEEING VISUAL CONFIRMATION THAT THE LINK IS OK

If in doubt, select the node and drag it to ensure that the (connected) link follows the node.

VR365 does generate standard VSR files (which can be used on the desktop), but currently that is a one-way journey.

Initial Screen



On the left we see the standard VisiRule Shapes. Each one of these corresponds to a different type of VisiRule Node

Start Node – every chart has at least one of these to start the process/chart

For now – you MUST have your main start node named **start**.

End Node – or conclusion – ever chart has typically a few of these to end the process/chart – you need at least 1

Continue Node – allows you to break charts into sub-charts; each Continue node MUST match by name with a corresponding start node otherwise you will get an error when this node is reached.

Expression – the value which is used to test the preceding question or statement; acts like a guard in that it has to succeed for the computation to carry on down that branch

chooseOne – single choice question formed from the values referenced in the expressions following the question

chooseSome – multi-choice multi-answer question formed from the values referenced in the expressions following the question

integer – integer input question

number – floating point input question

set – set input question

name – text edit input question

statement – a computable question containing executable code which can reference the values in questions

code – a code box which contains explicit Prolog/Flex directives/goals to be immediately executed

Prolog – can contain any amount of Prolog program statements, routines, functions, predicates

KSL – can contain any amount of Flex program/rule/frame statements or rules, actions, procedures

A typical VisiRule chart has a start node, some questions, some answers in the form of expression logic, and branching, and one or more conclusions.

The diagram of the chart is saved either locally or in the cloud and can then be published.

Local – means the diagram is saved in the browser's cache

Cloud – means the diagram is saved in the cloud. You can then access it from other machines and from other browsers.

> If you have your own private VR365 user space, then this is protected from the eyes of other authors. If you are using the Open VR365, then your chart is accessible by others.

Publishing involves uploading the file to the VisiRule (cloud-based) Server. It is then accessible by any User who knows the URL.

VisiRule Server will analyse the chart and generate a Flex KSL program (question, action, group and relations), a Prolog file, an SVG image of the chart and some other data. All of this is accessible using the VR365 Manager.

The generated KSL file is then executed by the VisiRule run-time engine which asks a page of questions, and once the user has submitted their answers, processes the answers to see which expression or expressions have succeeded. It then follows that branch to the next askable question, and creates the next page, until it reaches a conclusion.

Key points in drawing:

Drag and Drop Nodes

Drag a node from the Toolbox on the left and drop it on the canvas. You can press and hold your mouse button to select the object, and drag the node to the desired location and drop it by releasing the mouse button.

Edit Text

You can edit the text of a node in one of two ways. Edit text after you create a new shape by immediately typing, or double-click on the node to edit text or select the edit icon.

Connect Nodes

Insert connections between nodes. Just choose one of these methods:

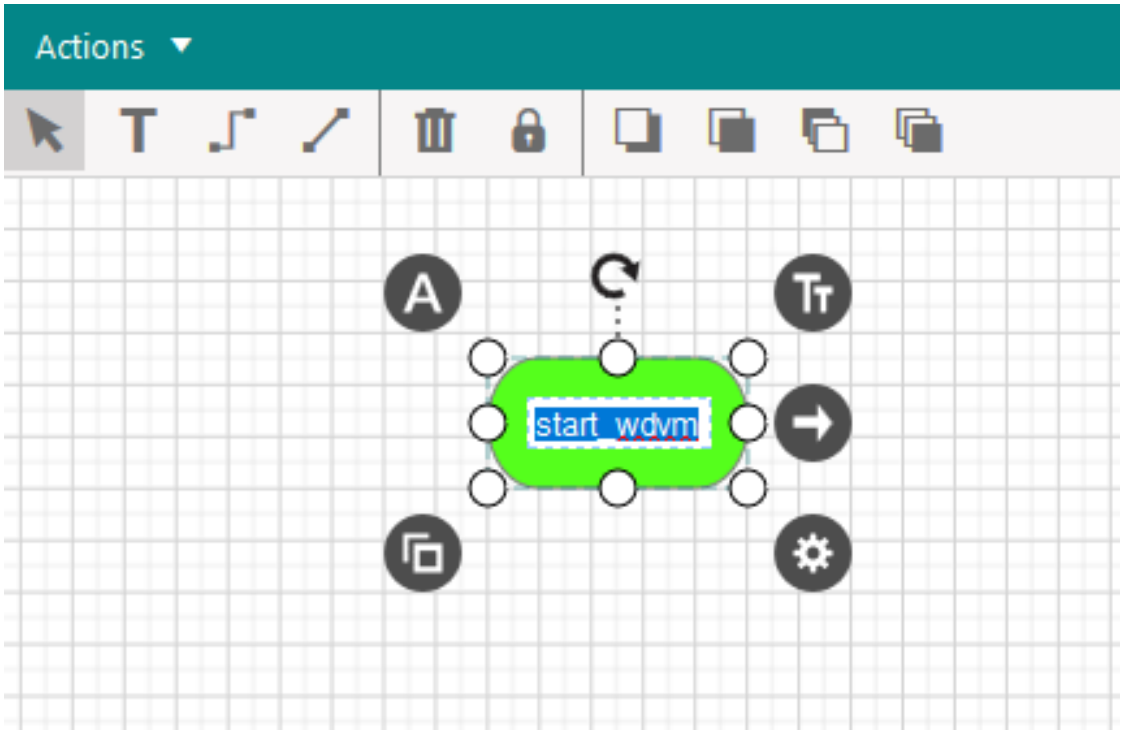
1. Drag and drop one of the line shapes from the panel and select the nodes.
2. Click the port on the right edge of a node and drag your mouse to next node

The entire edge of each shape acts as a connection point to attach lines, but its best to connect to ports on nodes. Once you connect a line to a port/node, the line will move with the node.

Take care that you have indeed made the connection – if in doubt try dragging the node.

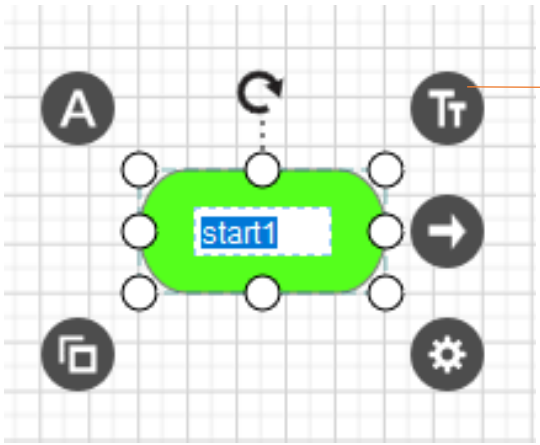
Let’s start by creating an initial Start node.

First: select the green shape from the VisiRule Shapes pane and drag it over on to the canvass and release.

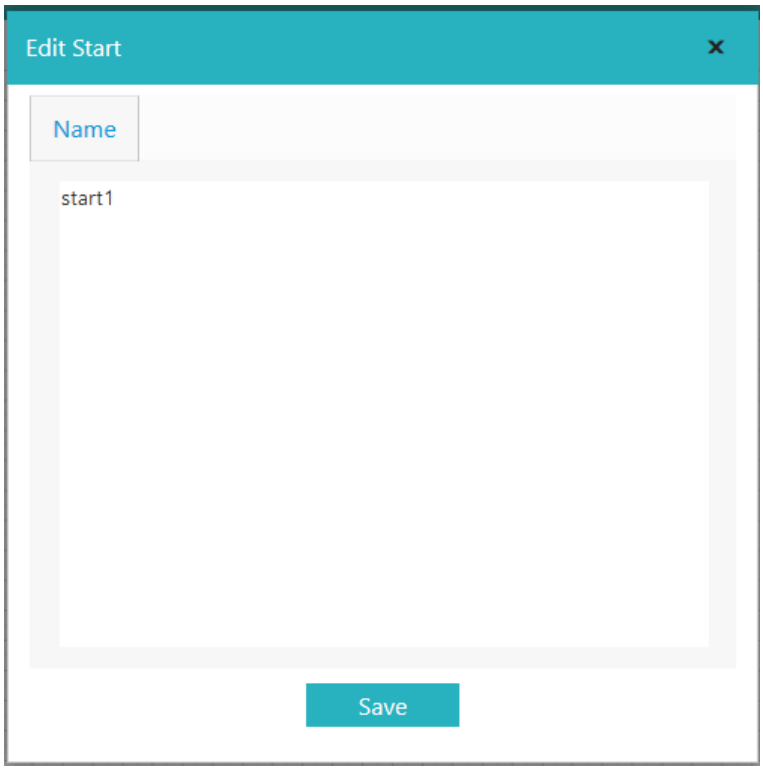


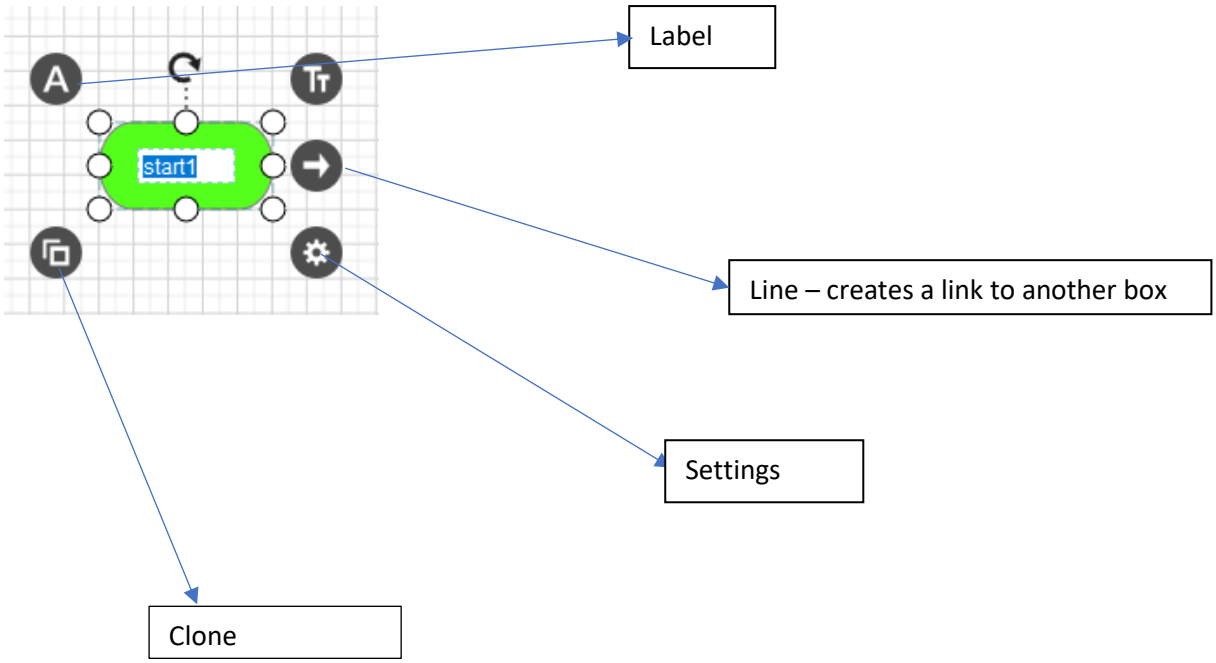
Notice we have 8 PORTS --- these are important when trying to link nodes together

We can edit the node either directly or by selecting the edit halo

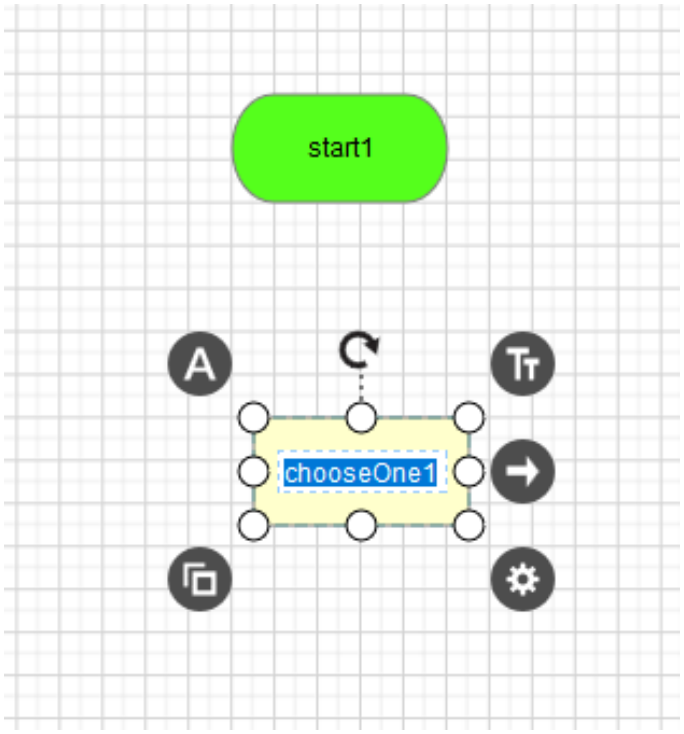


Edit properties in tabbed dialog




start1
Label
Line – creates a link to another box
Settings
Clone

We can add a question:



3 Tabs in Questions

Tab 1]

The Internal Name for the box ... normally not used nor required UNLESS the question is referenced explicitly by name within an expression (or statement box) later in the chart;

The Internal Name is mainly visible from a Chart Developers' viewpoint; it is not visible at run-time (other than for debugging and/or reporting purposes)

It is used in the question trail which records and reports on the user's session.

Try NOT to use spaces (or even a CapitalInitialLetter), as this means quotes will be needed in any future expression.

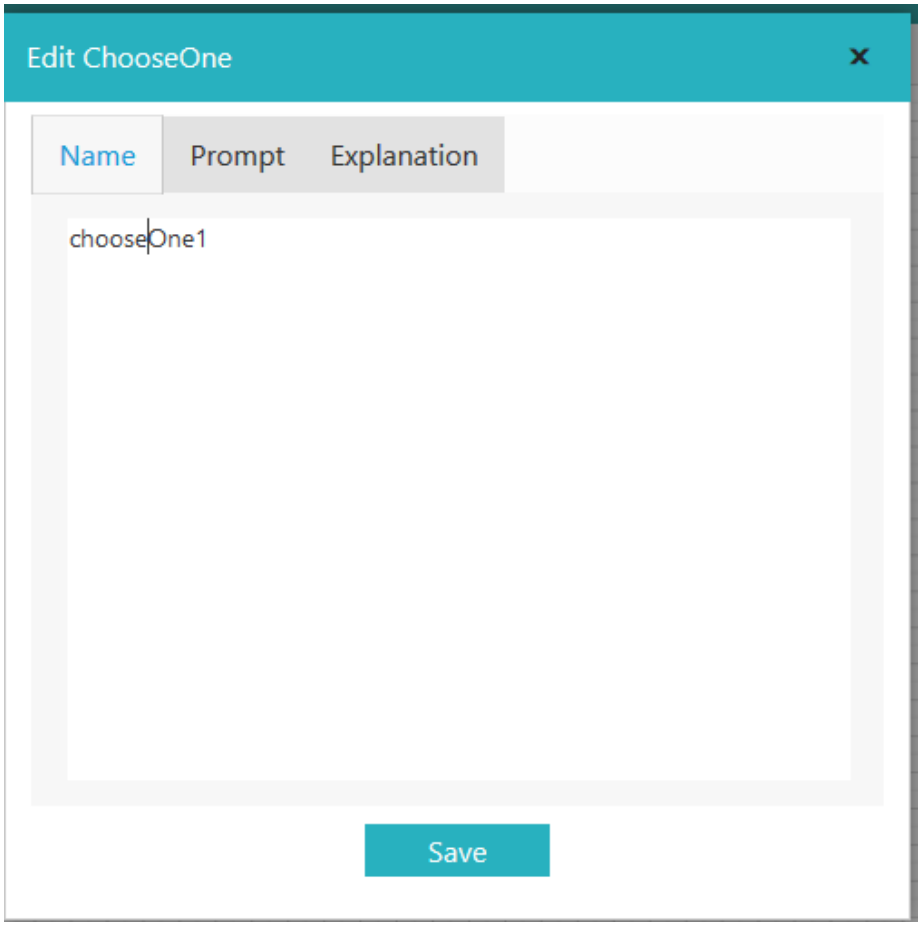
Tab 2]

'The text which is to be presented at run-time as the question prompt'

Tab 3]

An optional piece of text which serves as an explanation .... could be include a URL which will act as a link ... or any well formed HTML

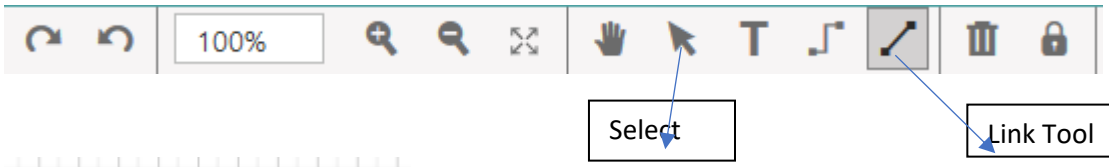
If interlocutors are supported, such as HOW, WHY, What, then follow the instructions for how to organize them.

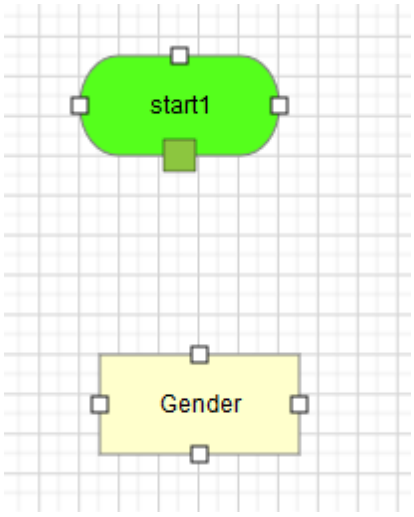


We can edit the name and prompt tab for the question

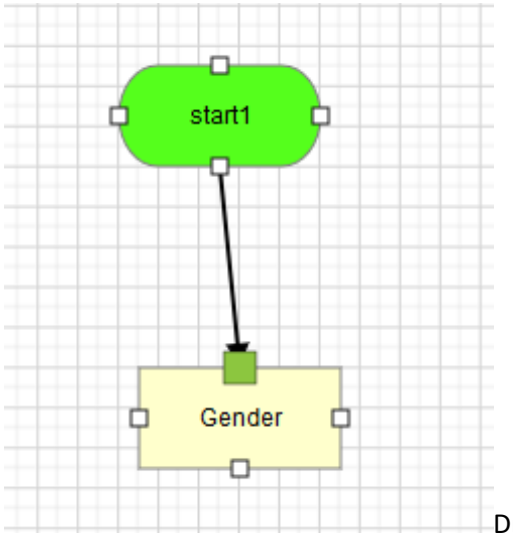
We can link the Start node to the Question

The recommended way to do this is to Select the Link tool from the panel at the top of the canvass

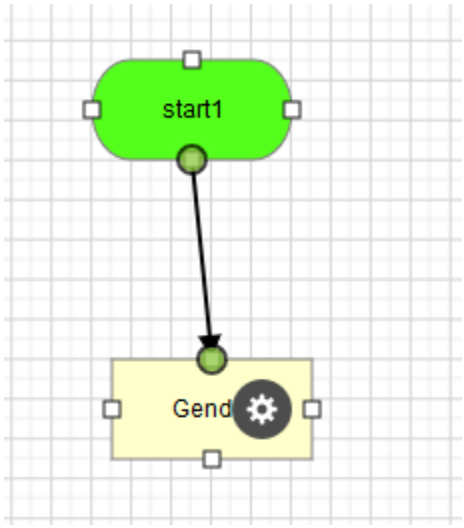




Select a Port on the start node – it becomes a solid green box



Drag to a Port on the 2nd Node – it becomes a solid green box



And release – both Ports should become green circles

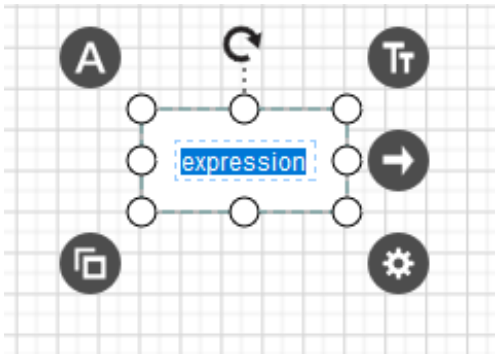
You can check that the boxes are linked correctly, by selecting one of them using the select tool and then dragging the box somewhere. The link should follow!

Conditional logic in VR365 is represented by expressions being linked to Questions.

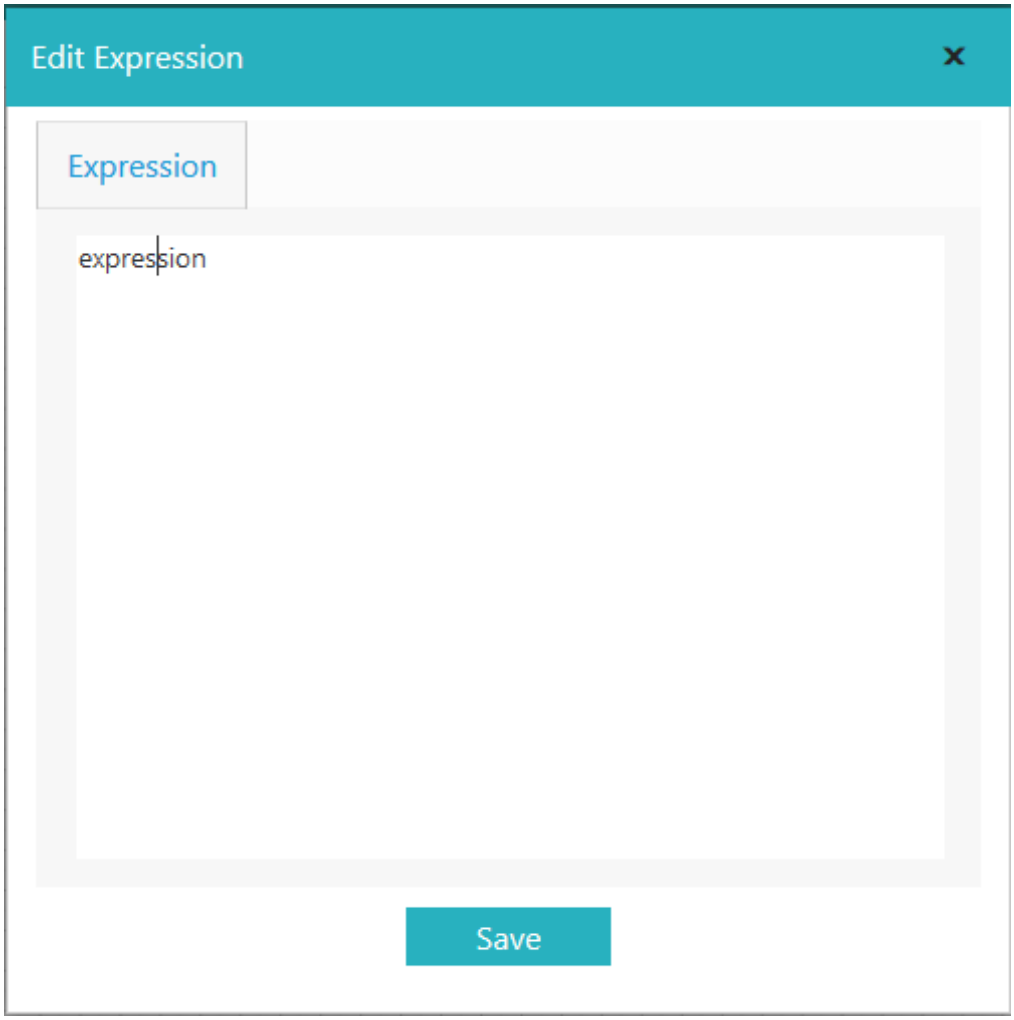
The experessions act as a logical guard; i.e the expression has to be true for the execution to be able to follow that path i.e. that line of reasoning.

This is the equivalent of an If-Then rule.

We can create expressions using the Expression tool:



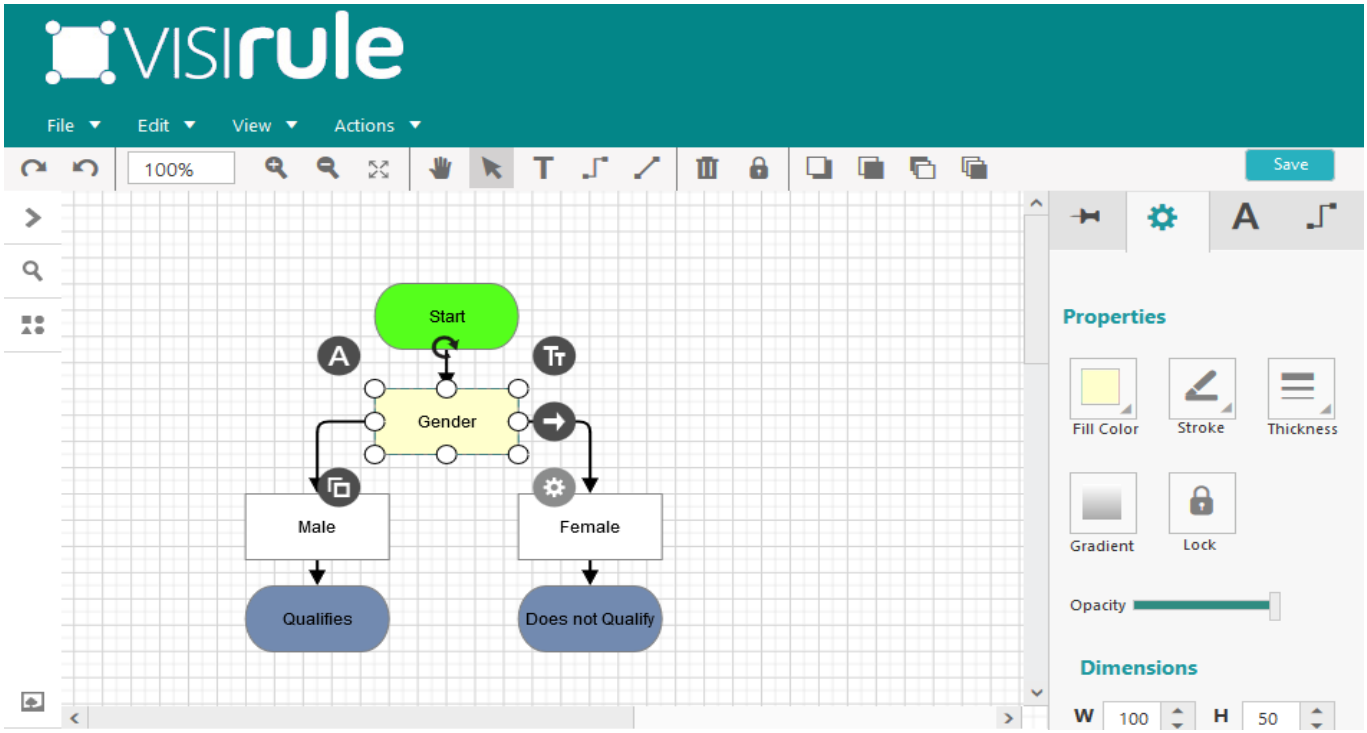
When we edit the expression we only see a single tab field



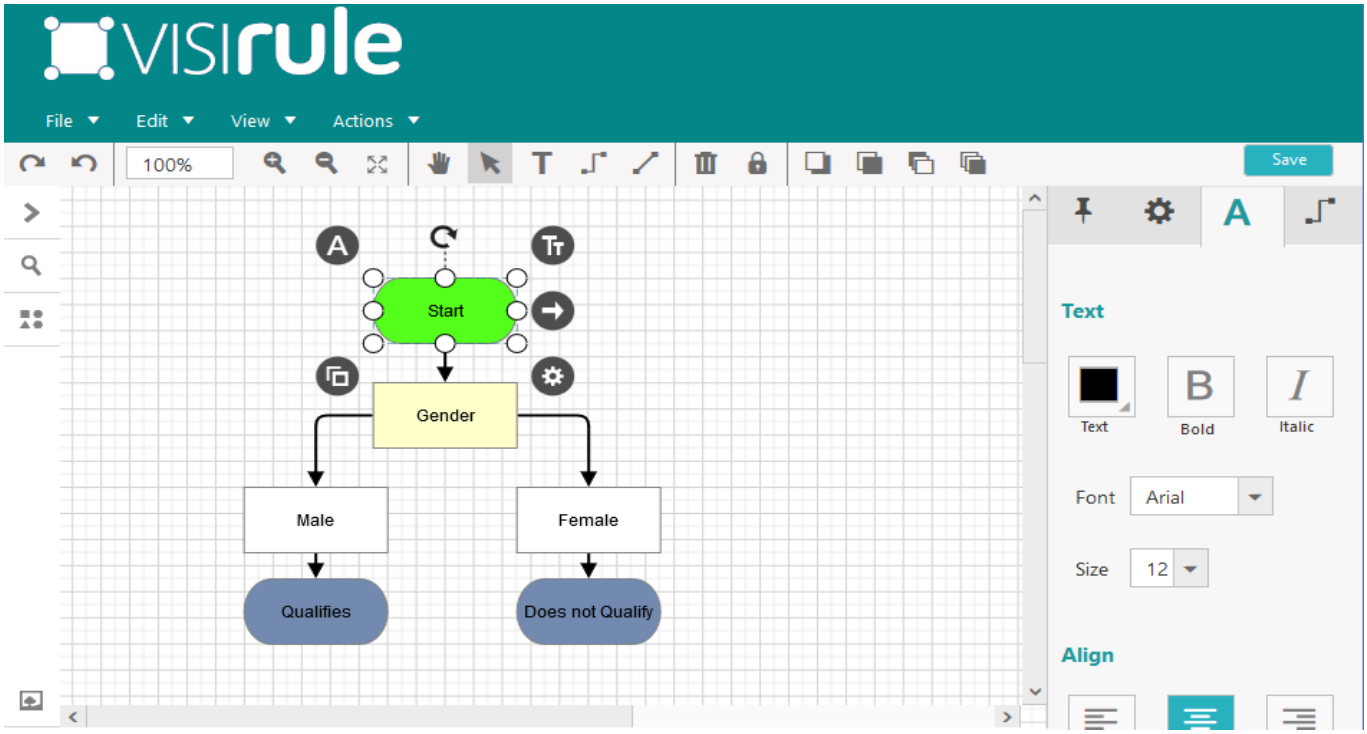
The type of expression we enter should match the type of question we are testing.

So in the case of single-choice questions, we generally test for simple values as the expression.

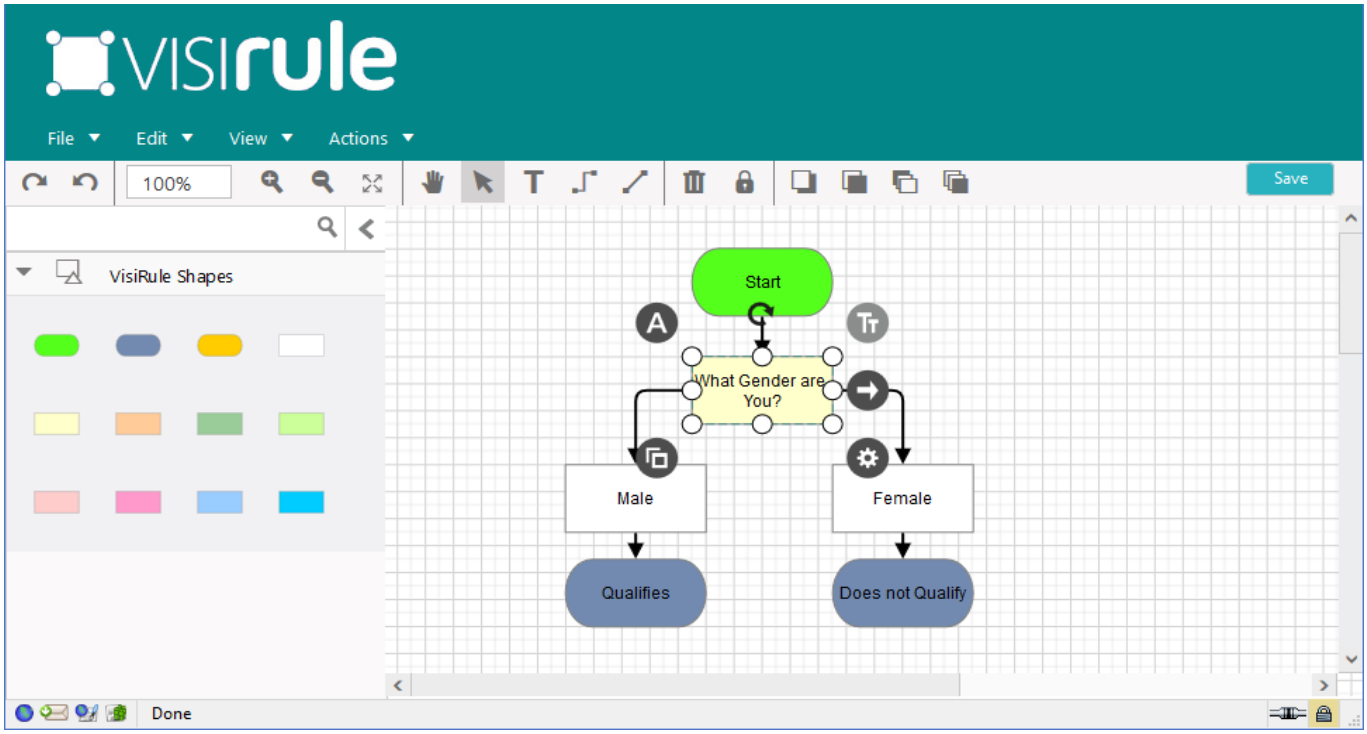
Remember: if you have space in your expression, you MUST quote the expression



The Settings pane provides control over how the node is displayed



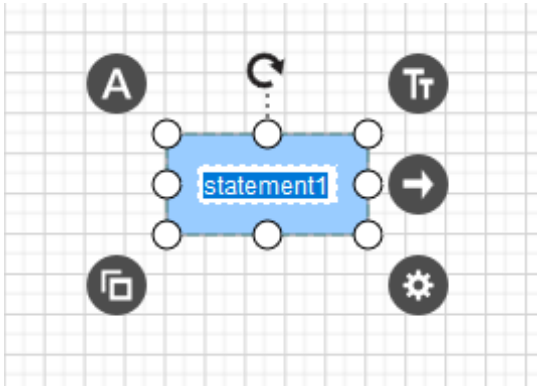
The label pane allows us to change the properties of the label



You can also use non-straight lines to link nodes

Again care must be taken ensure that the link does start ON a Port and end ON a Port

Statement boxes are in effect computational questions, i.e. rather than ask the user for an answer, they compute the answer using some code which typically refers to other answers in other questions … i.e. a derived value based on earlier input or look-up values.

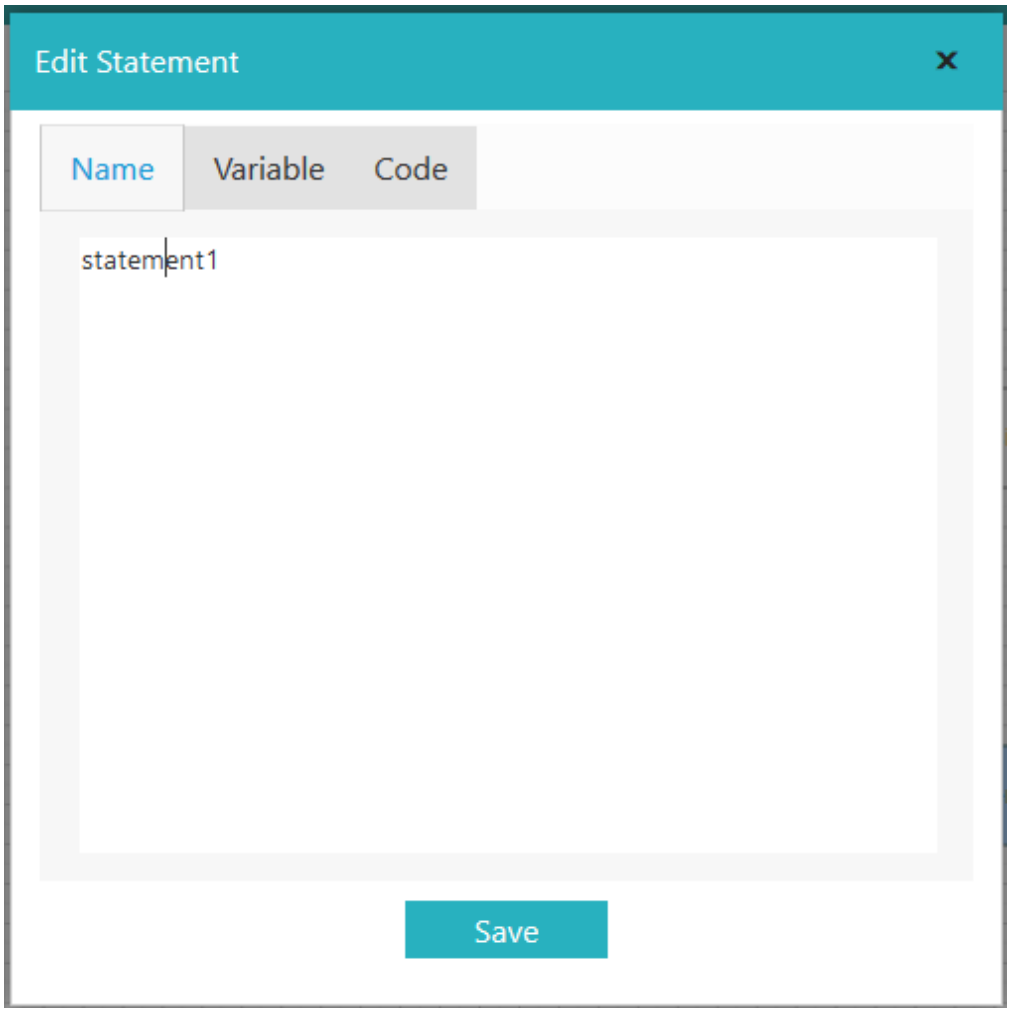


Statement boxes also have 3 fields:

Name

Variable (to be used to expose the result)

Code (which contains at least one use of the exposed variable)



The 3 Tabs in a Statement Box

Tab 1) The Internal Name for the Statement Box ... normally never used UNLESS the statement box is referenced explicitly by name in a later expression (or statement box) in the chart. As with Question Names, the Internal Name is only visible from a Chart Developers' viewpoint; it is not visible at run-time (other than for debugging and/or reporting purposes)

Tab 2) The name of the logical Variable (UpperCaseInitialLetter) which occurs in the statement box code (Tab 3) which contains the answer

A typicaly logical variable is:

- `X`
- `Answer`
- `Income`

Tab 3) Some program code which can use one or more LogicalVariables; only one of which (the one in Field 2) will be used to communicate the computed value of the statement

Examples of implication (If-Then-Else) are:

```
( 'Value' >   0, 'Value' <  50 -> Answer = 'Low';

 'Value' >= 51, 'Value' < 100 -> Answer = 'Medium';

 Answer = 'High )
```

Calculations in Statement Boxes

Example:

1]

```
Total is Question1 + Question2
```

2]

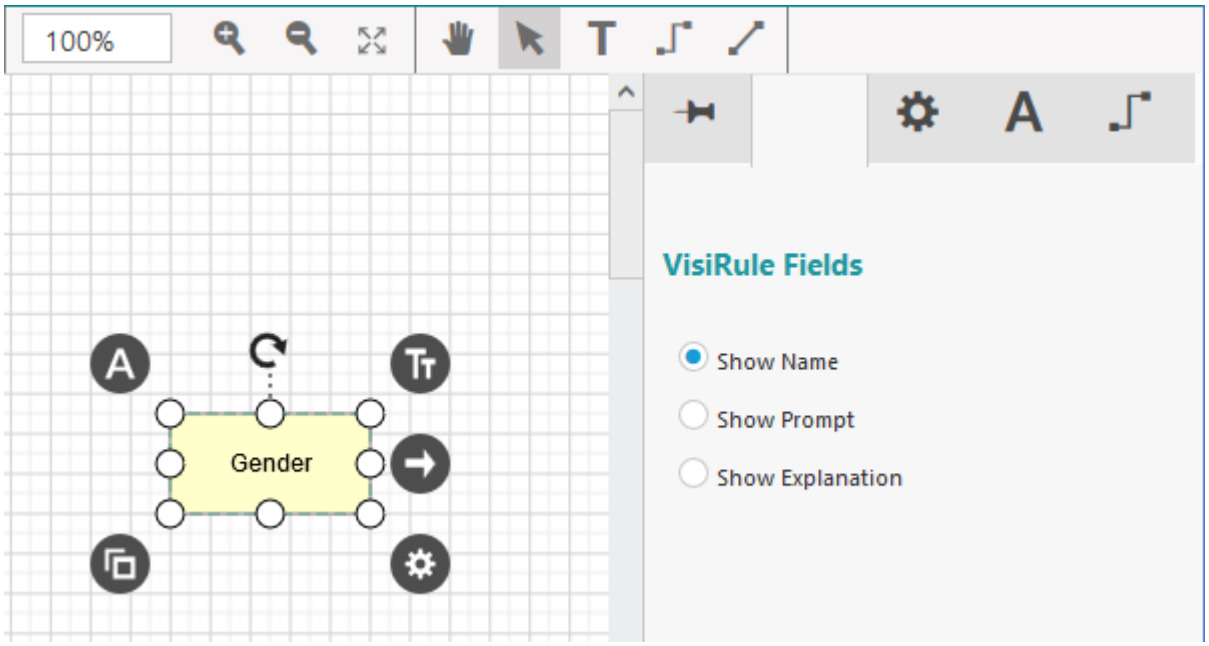
```
Total1 is Q1 + Q2 * 12,
Total2 is Q3 + Q4 * 12,
Diff is Total1 - Total2
```

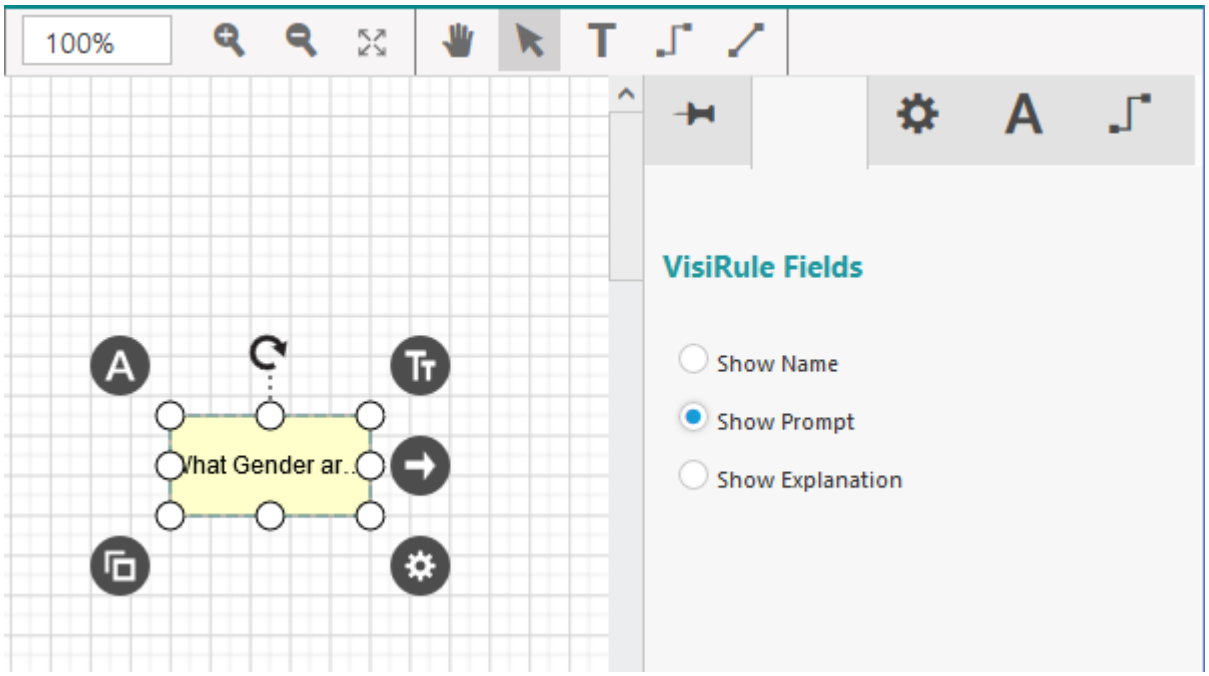
The variable of interest in [1] is `Total` and in [2] is `Diff`

3]

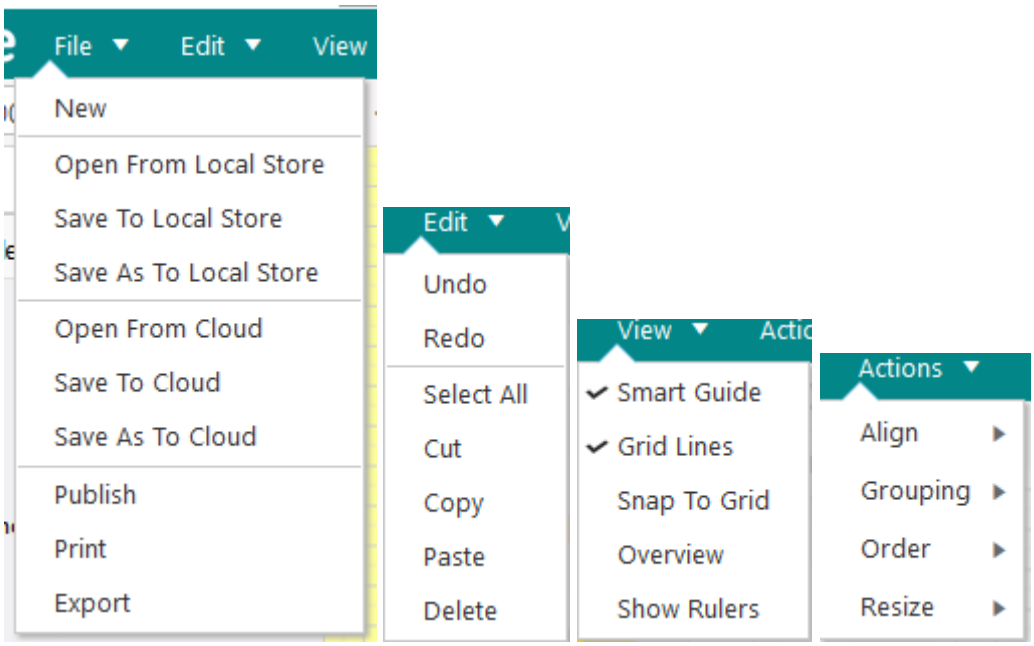
```
TotalCost is ('CarCost' * 1.2 ) + 120
```

You can change which of the fields is displayed on the canvass for a node.

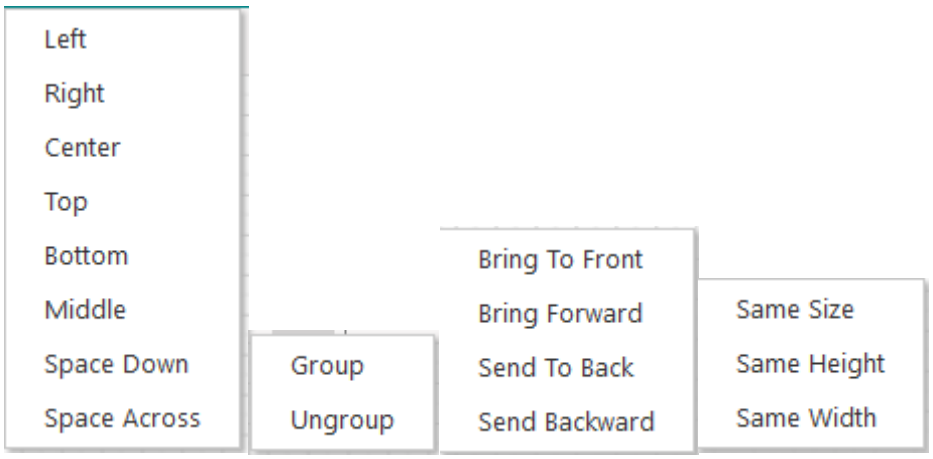




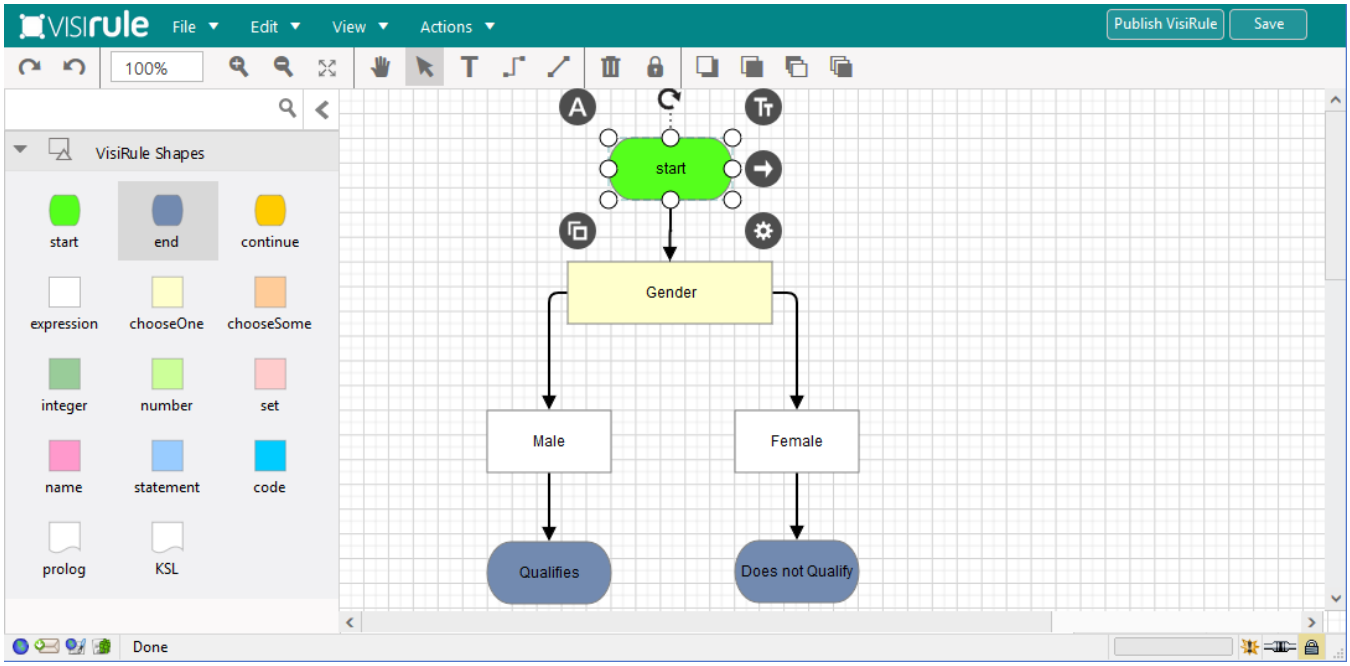
There are 4 menus



The last menu has 4 sub-menus

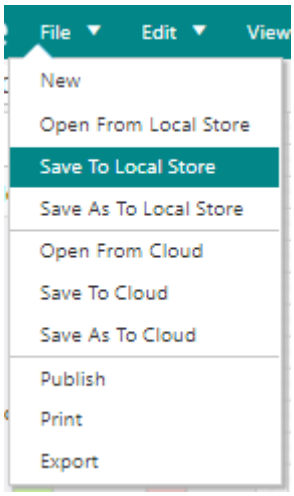


Whenever we can save our chart, either locally or globally.

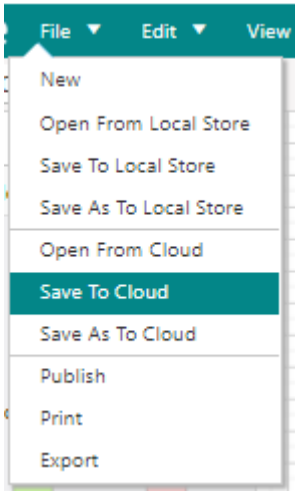


You can Save the chart locally so that you can come back and carry on editing it another time.

This is saved on to your browser.



Do NOT include any spaces in the file name

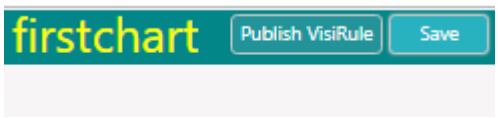


In addition, you can upload and save it to VisiRule in the cloud onto the VisiRule Server.

This is neccesary if you want to publish it.

It also allows you to share it with other users of VR365.

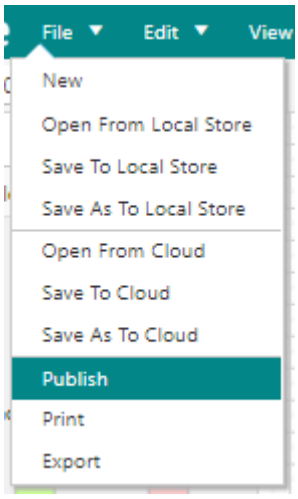
We can save our chart using the Save to Cloud option from the File menu or from button in the Top Right Hand Corner

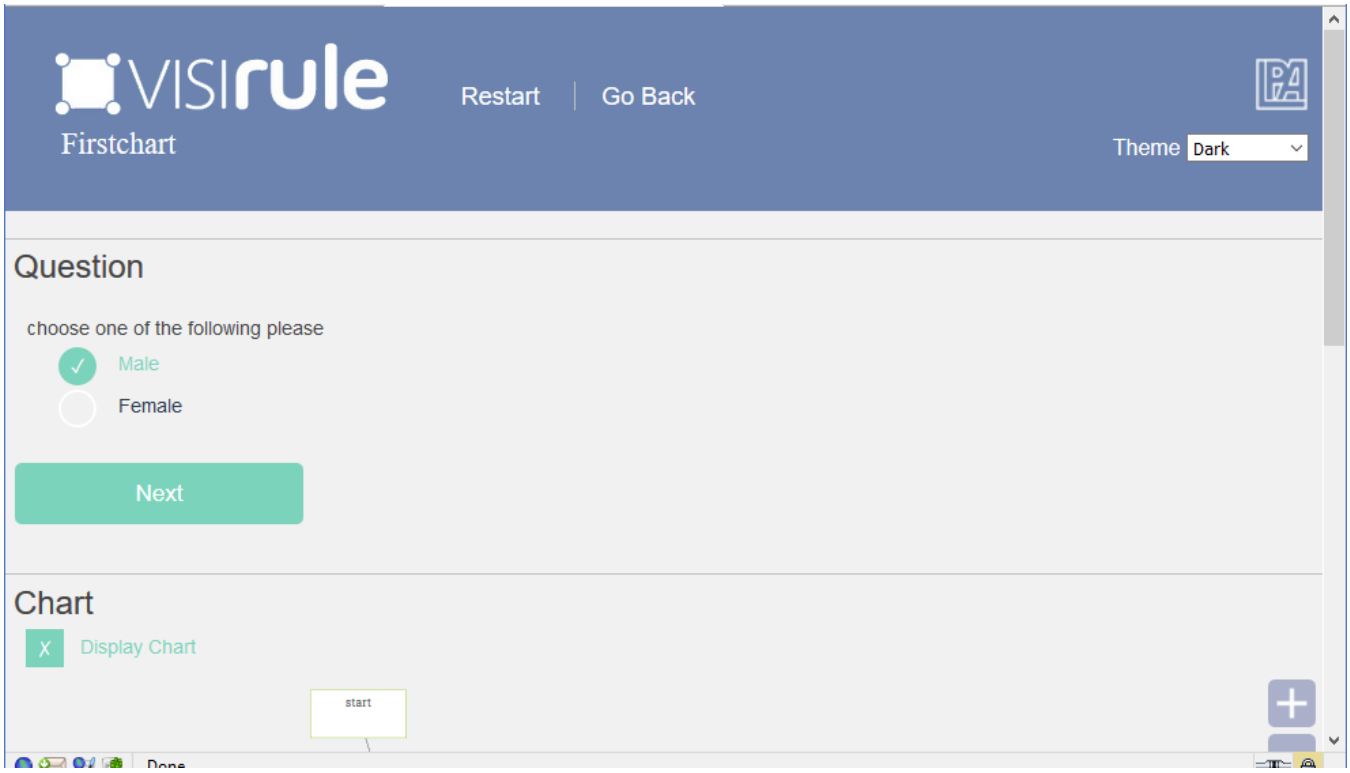


If it's a new untitled chart … you will be prompted to supply a file name.

Do NOT include any spaces in the file name

We can Publish using the button next to the Save button or by using the Publish option on theFile menu.





If this doesn't work then there may have a problem with the chart, or the file name.