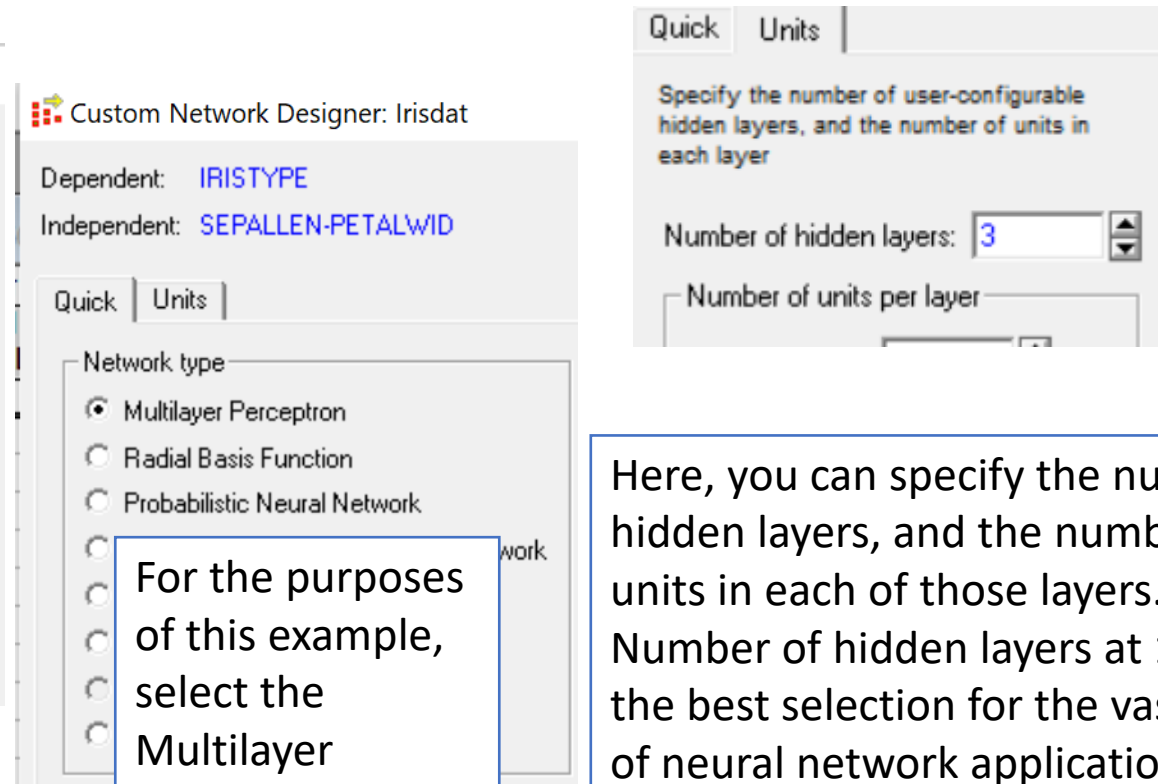
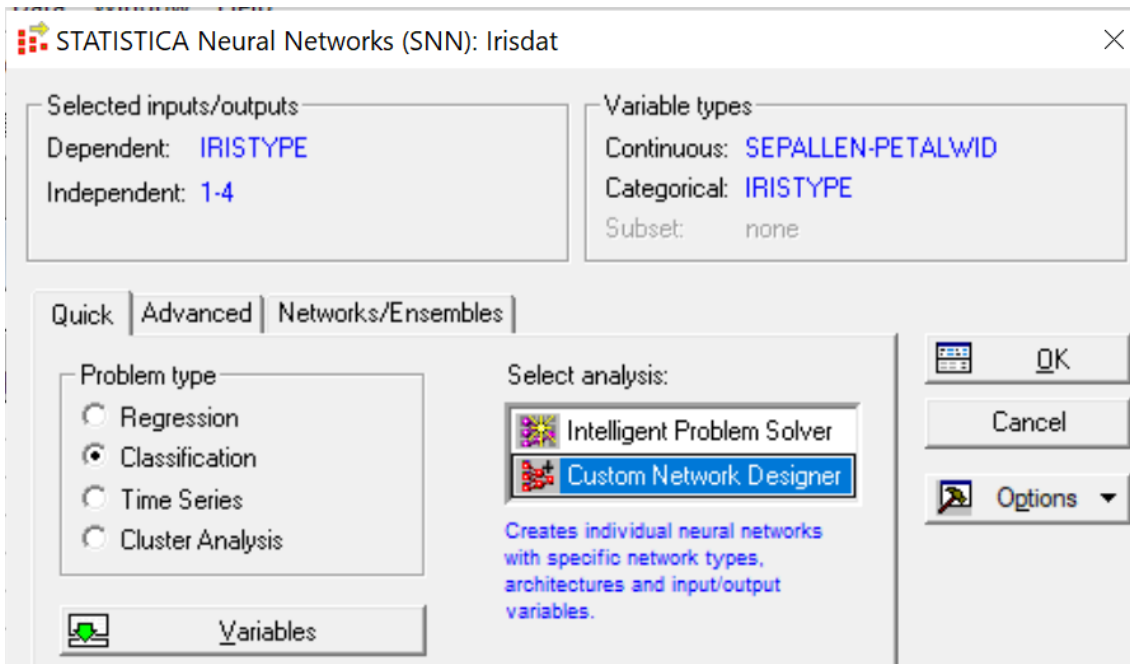


SNN Example 11: Creating a Custom Neural Network

The [Custom Network Designer](#) can be used to design and train neural networks at a much lower level than the [Intelligent Problem Solver](#), specifying the precise choice of network architecture and training algorithm(s), while still maintaining considerable ease of use. Finer control over the design process can allow you to achieve better results, albeit with greater design effort.



For the purposes of this example, select the Multilayer Perceptron network type.

Here, you can specify the number of hidden layers, and the number of units in each of those layers. Leave the Number of hidden layers at 1 (which is the best selection for the vast majority of neural network applications), but alter the Number of units per layer - Hidden layer 1 to 3.

Note.

Neural networks in STATISTICA Neural Networks are quite complex, including a range of user-selectable features such as activation functions and input/output pre- and post-processing functions.

Clicking **OK on the Custom Network Designer** dialog assigns defaults to all these features.

Train Multilayer Perceptron: Irisdat

Quick | Start | End | Classification | Decay | Interactive | BP(1)

Adjust learning rate and momentum each epoch

	Initial		Final
Learning rate:	<input type="text" value="0.01"/>	<input type="button" value="▲"/> <input type="button" value="▼"/>	<input type="text" value="0.01"/> <input type="button" value="▲"/> <input type="button" value="▼"/>
Momentum:	<input type="text" value="0.3"/>	<input type="button" value="▲"/> <input type="button" value="▼"/>	<input type="text" value="0.3"/> <input type="button" value="▲"/> <input type="button" value="▼"/>

Shuffle presentation order of cases each epoch

Add Gaussian noise

Deviation:

Note.

Neural networks in STATISTICA Neural Networks are quite complex, including a range of user-selectable features such as activation functions and input/output pre- and post-processing functions.

Alternatively, you can click the **Edit button on the Custom Network Designer dialog.** This displays the Neural Network Editor, allowing you to further customize the network before commencing training.

The screenshot shows the Neural Network Editor dialog box for the Iris dataset. The dialog is titled "Neural Network Editor: Irisdat". It features a table with the following data:

Index	L...	S/A	Refs.	Profile	Train Perf.	Select Perf.	Test Perf.	Train Error	Sele
1			0	MLP 4:4-5-3:1	0,000000	0,000000	0,000000	0,000000	0,00

Below the table, there are tabs for "Quick", "Variables", "Layers", "Weights", "Time Series", "Advanced", "Pruning", and "Thresholds". The "Quick" tab is selected. There are input fields for "Note:" and "Training:". There are also checkboxes for "Lock (prevents deletion/replacement until unlocked)" and "Available as a stand alone model".

The dialog box has a "Train" button at the bottom right. A blue star is placed over the "Edit" button in the Custom Network Designer dialog, which is partially visible in the background.