

# **Click!It**

## **user manual**

Version: 1.0

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# Content

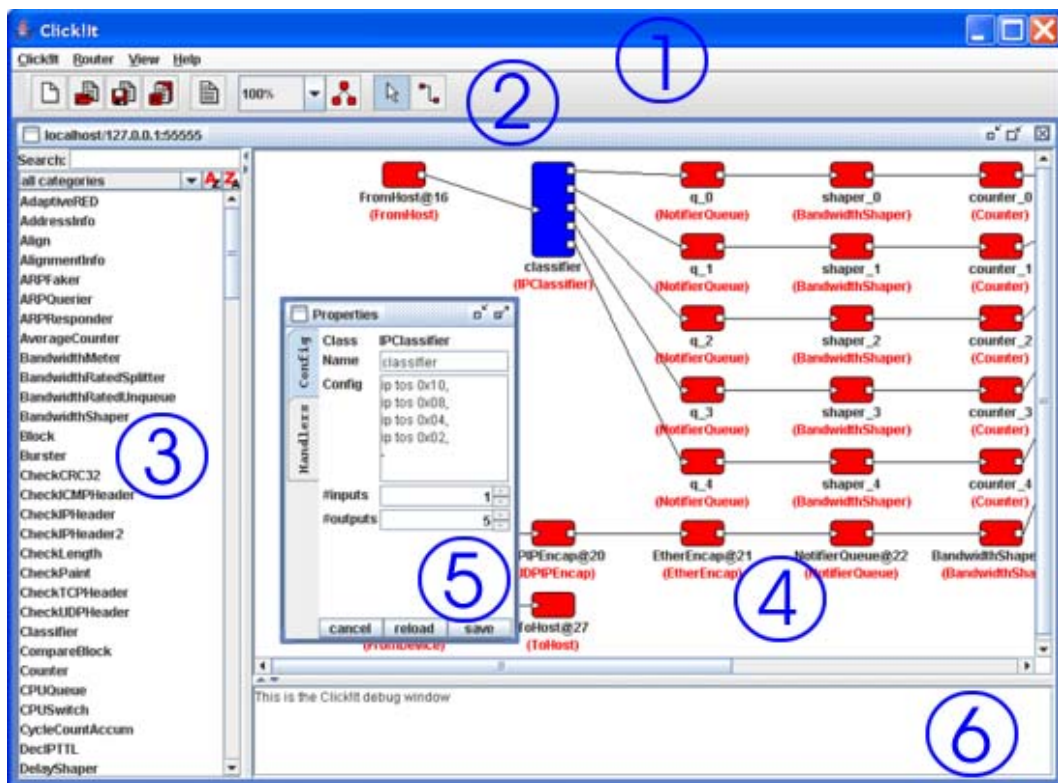
Overview

The menu bar

The toolbar

Router management

# Overview



## (1) menu bar

Offers some general and router specific functions. See the next section for further information.

## (2) toolbar

Offers router specific functions. The actions take place on the router who's frame or tab is currently selected. See "the toolbar" section for further information.

## (3) element repository

The element list consists of all the elements that your Click Modular Router server knows about. The search field on top allows fast and easy access.

## (4) configuration panel

This is where the router configuration is displayed. The "router management" section explains the full functionality of the configuration panel.

## (5) properties frame

This frame displays the configuration setup of the currently selected element, which is highlighted in blue. The tab on the left makes it possible to see and manipulate the element's handlers.

## (6) debug window

The debug window displays information about router installation. If you install the router configuration you made on the configuration panel, this is the place to look for errors and warnings.

# The menu bar

## Click!It

### New Connection

Open a new connection to a Click!It server. The following connection dialog box will be displayed:



Fill in the host name or the IP address of the server you want to connect to. If you don't use the standard Click!It port, change the port number as well. Finally press "Open" to connect to the server. Please note that it can take a few seconds before the frame showing the router configuration pops on the screen. This is especially the case when you have a slow network connection.

### Close Connection

Close the connection to the router whose frame or tab is currently selected. All changes since your last save will be lost.

### Exit

Close all active connections and exit the program. All changes since your last save will be lost.

## Router

### Open

Open a locally saved router configuration. Note that the configuration you wish to open needs to be in the flat configuration format. This means that all elements must be declared before connections are defined. Inline declarations are also not allowed. Any file you saved with the client can be opened this way.

### Save

Save the router configuration that is currently displayed on the screen to your local hard disk. The format is the Click Modular Router flat configuration format. So you can use these files on your server directly.

### Save snapshot

Save the router configuration that is currently displayed on the screen as an image to your local hard disk. This function comes in handy if you want to take a screen capture of your router configuration. The formats you can save in depend on what Java Runtime Environment you are running. Versions below 1.4 do not have the necessary ImageIO library, so saving as an image is impossible with these versions.

### **Clear config**

Remove all elements and edges from the currently displayed configuration. This operation does not affect the server. It only gives you a blank router configuration locally.

### **Install config**

Install the router that is displayed on the screen on the server. If the server generates errors or warnings during the install, they are shown in the debug window. If the installation was successful, the debug window will show the message "New Router Image installed!". If you like to see the changes, you will need to reload the configuration from the server.

### **Load config**

Load the configuration that is currently installed on the server. After a successful load operation, the configuration panel and element repository will be updated. If an error occurred during loading, the user will be given a detailed error message.

### **Recover config**

If you press the "load config" button, the program will take a backup of the router configuration that is displayed on screen at the time. If you press the recover button, that backup will be put back in place. This prevents you from losing an unsaved configuration after an unintentional load operation.

### **Display config**

Show the configuration that is currently on the screen as a flat configuration text file. The flat config will pop up in its own frame.

## **View**

### **Frames**

Switch to internal frame mode. When this mode is initialized, all the routers are displayed in their own internal frame. This allows you to display several routers at the same time.

### **Tabs**

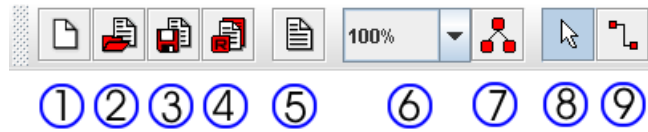
Switch to tabbed mode. When this mode is initialized, all the routers are displayed using tabs. Only one router can be displayed at a time, but this mode provides easier access to all routers.

## **Help**

### **About**

Show information about the Click!It client, including the version number.

# The toolbar



## (1) Clear config

Remove all elements and edges from the currently displayed configuration. This operation does not affect the server. It only gives you a blank router configuration locally.

## (2) Load config

Load the configuration that is currently installed on the server. After a successful load operation, the configuration panel and element repository will be updated. If an error occurred during loading, the user will be given a detailed error message.

## (3) Install config

Install the router that is displayed on the screen on the server. If the server generates errors or warnings during the install, they are shown in the debug window. If the installation was successful, the debug window will show the message "New Router Image installed!". If you like to see the changes, you will need to reload the configuration from the server.

## (4) Recover config

If you press the "load config" button, the program will take a backup of the router configuration that is displayed on screen at the time. If you press the recover button, that backup will be put back in place. This prevents you from losing an unsaved configuration after an unintentional load operation.

## (5) Display config

Show the configuration that is currently on the screen as a flat configuration text file. The flat config will pop up in its own frame.

## (6) Resize config

Change the size of the elements and edges on the configuration panel. This allows you to more elements on the screen if you have a big configuration. When taking snapshots, it can be beneficial to put the size on 200%. This way your image will be better suited for presentations.

## (7) Layout config

Layout the elements that are currently being displayed on the configuration panel. The layout algorithm will put all elements in a tree like manner. No elements will overlap. The algorithm also strives to cross as little edges as possible.

**(8) Selection mode**

When pressing this button, you enable selection mode. This mode allows you to select elements and edges on the configuration panel. You need to be in this mode if you want to change element or edge positions. Changing element properties and handler values is also only possible in this mode.

**(9) Edge drawing mode**

When edge drawing mode is enabled, you can draw new edges onto the router configuration panel. To draw an edge, you need to left click the panel. If you keep holding down the mouse button and start to move, the edge will become larger. It is possible to directly connect edges to element ports as you draw.

# Router management

## Adding an element

To add an element, you will first need to find the element type you want to add in the element repository on the left of the screen. You can do this by scrolling the element list, or by using the search field on top. If you use the search field, the repository will be filtered as you type and thus narrowing the number of elements you can select. Simply erase the text in the search field to get all the elements back.

Once you have found the element type you wish to add, left click on it and hold down the mouse button. Now drag to the position on the configuration panel where you wish to add the element. When you release your mouse button, the element will be added to the router configuration.

All added elements will have an auto generated name and an empty configuration field. They will also have no input or output ports. Please read on if you want to know how to change this.

## Removing an element

First make sure you are in selection mode. To remove an element, left click on it so it is selected. If the element is selected, it will turn blue. Press "delete" to remove the element from the router configuration. Note that you will have to remove the edges that were connected to this element manually (or you could connect them to other elements).

## Adding an edge

Press the edge mode button on the toolbar. You are now in edge drawing mode. Drawing an edge is very simple. Left click on the configuration panel and drag your mouse while keeping the mouse button pressed. An edge will appear on the screen.

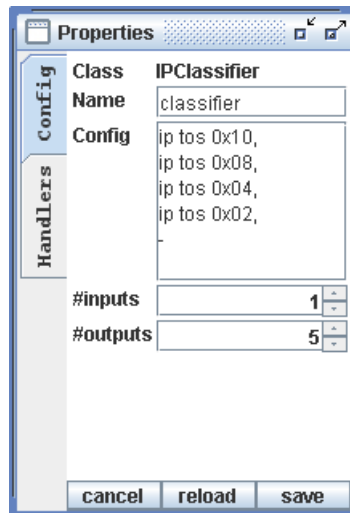
Return to selection mode to move the edge you just drew in place. There are 2 ways to move edges around. You can either drag the entire edge around or you can take an edge by it's input or output port and move one port at a time.

## Removing an edge

Just like removing an element, you first have to select the edge you wish to remove. If the edge is selected, it's input and output port will become blue. Press "delete" to remove the edge from the current router configuration.

## The properties panel

If you want to change an element's characteristics, you will need to select it first. So make sure you are in selection mode and left-click on the element you want to change. Once the element is selected, it will turn blue and it's properties will appear in the properties panel.



### Changing an element's name

Type the name you wish to give your element in the name text field. Now press the save button, or just hit ENTER. If everything went well, you will see the new element name appear on the configuration panel.

### Changing an element's configuration

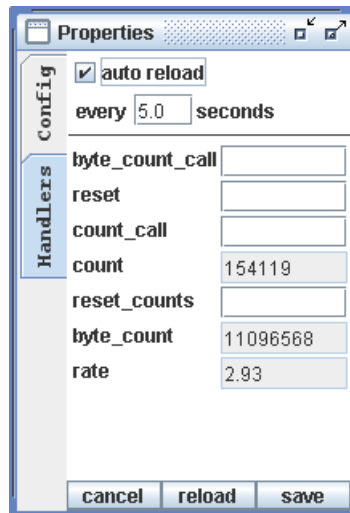
Type the configuration in the config text area. Once you are finished, press save. The next time you install your configuration on the server (using the save button on the toolbar, or in the router menu), the new element configuration will be used.

### Changing the number of input or output ports

To change the number of input or output ports simply click on the arrows in the spinbox. The up arrow will add ports, while the down arrow will remove ports. If you wish to add several ports at a time, you can also type directly in the text field and hit enter.

### Reload an element from the server

If you press the reload button, the element properties will be reloaded from the server. All changes you made since your last save on the server will be lost.



### Change an element handler value

If an element handler is writable, you will see a white text field or text area. To change the value of a handler, simply type the new value in the text field. When you press save or hit ENTER, the changes will take effect on the server. After a handler value save, all handlers will be automatically reloaded and refreshed.

### Reload element handler values

Press the reload button to get the up-to-date handler values. Note that all changes that weren't saved will be lost.

### Monitor element handler values

On top of the handler properties panel, you see the "auto reload" function. If you select the checkbox next to it, the program will reload all element handlers every 5 seconds (default). If you want to change the reload time, enter the new time in the time text field and press enter. Once you select another element, the reload function will be disabled and the newly selected element's properties will be displayed.

To monitor an element, other than the one that is currently selected, you need to right click on it. A menu will appear, which has a "properties" button in it. If you press this button, a new properties frame will be opened.



This properties frame will not disappear once you select another element. Use the auto-reload function in this frame to monitor the displayed element. Handler values will be updated at the selected times, even when the frame does not have the focus.