Winbox

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Summary

A native Winbox-like version for Linux and macOS is now available on the MikroTik download page!

Winbox is a small GUI application (executable file) for Windows OS to administer RouterOS v6 and v7. It connects MikroTik RouterOS boxes but can be run on **Linux** and **macOS** using Wine. All Winbox interface functions can be also accessible remotely the included RouterOS, there is no difference in Winbox versions in the manual. Some unsupported and custom virtual configurations are not possible from the Winbox, like RAM, additional storage, or ect interface.

Even Winbox v3.14, the following security features are used:

- Strong encryption of all communication between Winbox and RouterOS, used by the Winbox Admin Key
- Winbox Loader feature to run multiple versions of Winbox from the same RouterOS device
- Both sides verify the key of the other side to prevent man-in-the-middle attacks in advance
- Winbox uses TCP port 8291 (8728 for encrypted connections) to communicate with RouterOS devices

Starting Winbox

Winbox loader can be downloaded from the MikroTik download page. When Winbox is downloaded to double-click on it, and the Winbox loader window will pop up. There are two Winbox loader modes: simple which is enabled by default and advanced.

Simple mode

When you open Winbox loader for the first time simple mode looks of this panel:

To connect to the router enter the IP or MAC address of the device you want to configure, enter the username and password and click the **Connect** button. You can also view the router's version after the IP address, separating them with a white line, like 192.168.1.1 (6.49). The port can be changed in the **Manage** > **Winbox** menu.

Tip: It is recommended to use IP address instead of MAC address. MAC address is not persistent and is not 100% reliable.

You can also use neighbor discovery to list available routers via **Neighbors** tab:

From the list of discovered routers, you can click on the IP or MAC address and it will be automatically entered in the Connect To: field. If the device has a RouterOS version number it will be entered in the Identity field. If the device is not identified by RouterOS, it will be identified by its MAC address.

Tip: Winbox can also find and add new devices that are not compatible with Winbox, like Cisco routers or any other device that uses CDP (Cisco Discovery Protocol). If you will try to connect to a MikroTik device, then the connection will be rejected, because it is a wrong protocol.

Buttons/check boxes and Other Fields

- **Connect To RADIUS** - Connect to a RADIUS Agent
- **Load Previous** - Load the previous session from the **Manage**>**Sessions** menu
- **Secure Mode** - Winbox Loader will work in the background and open router for each device to which connection is made
- **Keep Password** - Save password for each session of the router
- **Login only with password** - Login only with password
- **Key Password** - A combination that supports the use of the Winbox Admin Key

Menu Items

- **File**
  - **New** - Creates a new Loaded router list in a specified location
  - **Open** - Open a previously saved router list file
  - **Save As** - Saves current Loaded router list to file
  - **Exit** - Exits Winbox Loader
- **Tools**
  - **Advanced Mode** - Enables/disables advanced mode view
    - **Import** - Imports saved sessions file
    - **Export** - Exports saved sessions file
    - **Mass Secure Folder** - Change path where sessions files are stored
    - **Mass Secure Files** - Secure all files
    - **Default for Updates** - Set as default for Winbox Loader

Advanced mode

Additional Winbox loader parameters are revealed when **advanced mode** is enabled with Tools → Advanced Mode:

Buttons/check boxes and Other Fields

- **Browse** - Browse the directory for some specific session
- **Remove** - Remove the selected router from the router list
- **Remove Unused** - Remove all routers that are not modified and maintained RSA-key(s)/IP-exception for secure file session.
- **Load Unused** - Load all routers that are not modified and connections are made.
- **Filter**
  - **Name** - Search router session name
  - **Note** - Note that is assigned to some router entry
  - **Group** - Group in which router entry is assigned
  - **RADIUS Agent** - Only available when RADIUS is enabled

Managed routers list is empty/grey but it can still be loaded with another Winbox, **if** the master password is set up for it.

Command Line

It is possible to use the command line to pass command to, and set password parameters automatically.

```
winbox.exe [command] [ip:[login:[password]]]
```

For example (with no password):

```
winbox.exe /connect 192.168.1.1 admin ""
```

Which connects to the router 192.168.1.1 as admin.

It is possible to use the command line to pass a command to, and set password parameters automatically to connect to the router through RoMON. In this case, RoMON Agent must be saved on the Managed routers list or Winbox must be secure loaded on the router.

```
winbox.exe /connect [agent]:[command:[ip:[login:[password]]]]
```

For example (with no password):

```
winbox.exe /connect 00:0C:29:2C:C1:21:admin:""
```

Will connect to router 00:0C:29:2C:C1:21 through RoMON Agent with "admin" without a password.

IPv6 connection (v6)

Winbox supports IPv6 connections. To connect to the router's IPv6 address, it must be placed in square braces the same as in web browsers when connecting to the IPv6 server. Example:

```
admin:[fe80::5a8a:6aff:fed5:a0ec%bridge1]
```

Or

```
admin:[fe80::5a8a:6aff:fed5:a0ec%bridge1]:8291
```

The number at the end of the address is necessary to connect Winbox over the port.

Winbox v3.14 and later is capable of discovering IPv6 enabled routers. There are two options for each IPv6 enabled router, one entry is with IPv6 address and another one with IPv4 link-local address. You can easily choose which one you want to connect to.

Run Winbox on macOS

Starting with macOS 10.15 Catalina, Apple has removed support for 32bit applications, meaning it no longer is possible to run legacy Wine and regular Winbox. In the 10.15 Wine has made available a limited version for macOS, and Winbox 3.21 has released a special Winbox64.exe version as well.

- Download Winbox64.exe from the MikroTik download page
- Install wine-Stable from the [macOS Homebrew page](#) where brew? It could be out of date and use Linux binaries(the Winbox64.exe executable) from the Winbox download page
- Launch Winbox64.exe with "open file with" > Wine64.app

Run Winbox on Linux

It is possible to run Winbox on Linux by using Wine emulation software. Make sure that the Microsoft Fix3 pack is installed, otherwise, you may see distortions.

Interface Overview

Winbox interface has been designed to be intuitive for most of the users. The interface consists of:

- The main toolbar at the top where users can add menus into Hide, Be GUI and remove a range
- Work area - where all configuration windows are opened and managed. The UI changes depending on what package is installed. For example, if the IPv6 package is disabled, then the **IPv6** menu and all its sub-menus will not be displayed.
- Work area - an area where all menus windows are opened.

The title bar shows information to identify with other Winbox windows is opened. Information is displayed in the following format:

```
[username]@[identity] - [ip or MAC] - [RouterOS] - [ winbox (64) version] on [model] ([platform])
```

Child windows which are not docked can be **moved** or logged into router with IPv4 IPv6 address **both** Winbox and RouterOS. Router's v6 - **6.43 Winbox (64)**, currently installed RouterOS version is **v6 Stock**, RouterOS and it is **CCR1036-8G-2S+** platform.

At the Main toolbar's left side is located:

- **Hide**
- **Menus**
- **Safe Mode**
- **Winbox Loader**

More about Safe Mode and other functional actions read in this article.

On the right side is located:

- Winbox Loader - Opens another Winbox session over description
- Minimize - Minimizes Winbox to a panel on the bottom
- Custom Hide Mode can be added for the user by right-clicking on the menus and picking available Hide Items from the list

Work Area and Child Windows

Winbox has an MDI interface meaning that all menus configuration (child) windows are attached to the main (parent) Winbox window and is docked in the work area.

Child windows can be dragged out of the work area. In the undocked window state the title bar **Interface** window is dragged out of the child's working area and Command and the appearance at the bottom. If any windows is outside the work area, it can be docked back by double-clicking on the title bar.

Child window menu bar

Each child window has its own menus. Most of the windows have the same set of modify buttons:

- **Add** - add a new item to the list
- **Remove** - remove the selected item from the list
- **Enable** - enable selected item (the same as **enable** command from console)
- **Disable** - disable selected item (the same as **disable** command from console)
- **Comment** - add or edit a comment
- **Copy** - copy selected item to the clipboard (working on various parameters. Read more >>

And all windows have a quick search input field on the right side of the menu bar, to search for the field to search through all the items and highlighted (or checked in the connected) below.

Notice that on the right side next to the quick find input field there are two buttons: one for the currently opened (IP Route) window, the drop-down list is where is another sort out items by routing tables. For example, if the **main** is selected then only routes from the main routing table will be listed.

Some windows have a status bar at the bottom where some information and can be shown.

Sorting roll (Ruphan) Items

Almost every window has a **Sort** button. When clicking on the button a context sorting options appear, as illustrated in the screenshot below:

The example shows how to quickly filter out routes that are in the 10.0.0.0/8 range:

1. Press **Sort** button
2. Choose the **Dst-Address** from the drop-down menu
3. Press **Reverse** button to sort the destination addresses in Filter and check if OSPF address was in range of the specified network.
4. Press **Reverse** button again to sort the destination addresses in reverse order.
5. Press **Sort** button to close the sorting menu.
6. Press the **Filter** button to open it up filter.

Sorting options are not saved, so the next time the window will only display that are within the 10.0.0.0/8 range.

Customize operation function for the convenience may be different for the user's account. For example IP Route" window may list only by **active**. Other windows may have operation such as "to do" "contrast", "contents list".

Winbox allows by building a stack of filters. For example, if there is a need to filter by destination address and gateway, then:

1. Press the **Filter** button to open it up filter.
2. select **dst-address** and **gateway** from the drop-down menu
3. enter 10.0.0.0/8 in the **dst-address** field
4. set up a second filter to filter by the gateway
5. enter 10.0.0.0/8 in the **gateway** field

You can also remove unnecessary filters from the search by pressing the **[x]** button.

Customizing list of displayed columns

By default, Winbox chooses the most commonly used parameters (columns) for each menu to be displayed. For example, "BGP" for IP/BGP or other BGP attributes to monitor if routes are selected properly.

Winbox allows to customize displayed columns for each individual window. For example to add BGP AS path column:

- Right-click on the header of any column in the window. A list of all available columns will appear.
- Find required one menu in **Check Columns** (**[]** and from the list and click on the desired column. It can also click on **Sort all Cols** (**[]**

Changes made to windows layout are saved each time when Winbox is opened the same column order and size are applied.

Detail mode

If you switch to window **Detail mode**, in the mode all parameters are displayed in columns, the first column is the parameter name, the second column is the parameter's value.

Category view

It is possible to list items by categories. In this mode, all items will be grouped and available to by another category. For example, items may be categorized alphabetically if sorted by name, items can also be categorized by type like in the Interface window.

To enable Category view, right-mouse click on the item list and from the pop-menu pick **Show Categories**.

Drag & Drop

It is possible to upload and download files to/from the router using Winbox drag & drop functionality. You can also download the file by pressing the right mouse button on it and selecting "Download".

Drag & Drop works if Winbox is running on Linux using wine64. Drag and drop between two Winbox windows may fail.

Traffic monitoring

Winbox can be used as a tool to monitor the traffic of every interface, queue, or firewall rule in real time. The screenshot below shows Ethernet traffic monitoring graphs.

Item copy

This shows how easy it is to copy an item in Winbox. In this example, we will use the OSPF button to copy a dynamic OSPF route interface into a static interface.

The image shows on the menu bar, the **Copy** button is highlighted.

Double-click on the interface and click **Copy**:

A new interface window will appear, copy every with the exception parameters for this case suppress it:

After the Copy button leaves the interface:

Transferring Settings

- Managed router transfer - In the Tools menu, use Save As and Open functions to save the managed router list to file and open it up again on a new workstation.
- Winbox Loader transfer - In the Tools menu, use Export and Import functions to save existing sessions to file and import them again on a new workstation.

Winbox Keyboard Shortcuts

Shortcut	Description
Alt + F	Print
Ctrl + S	Find Next
F3	Find / Find Last
Ctrl + M	Add or edit a comment
Ctrl + C / Num+	Enables a selected setting
Ctrl + X / Num-	Disables a selected setting
Ctrl + A	Select all items
Ctrl + I	Invert selection
Tab	Choose next control
Ctrl + Shift + Tab	Choose previous control
Space	Select focused control
F5 / Esc	Close window
F5	Focus previous window
Ctrl + Tab	Focus next window
Insert	Add new item
Delete	Delete items from list

Troubleshooting

Winbox cannot connect to the router's IP address, devices do not show up in the Neighbors list

Make sure that the Winbox firewall is not allow Winbox connections through Private and/or Public network interfaces in the Windows Firewall, it can be changed in Control Panel\System and Security\Windows Defender Firewall\Allowed apps and features.

I get an error (port 20561 timed out) when connecting to routers over winbox

Windows 10 does not allow over connection if the web proxy is being in disabled.

I can't find my device in Winbox IPv6 neighbors list or MAC connection fails with "ERROR: could not connect to 00-15-6D-00-00-B7

Sometimes the device will be discovered but not appearing via MAC connection will still not work. Winbox Loader can perform a ping. Turn off connectivity will reload.

Winbox 3.0RC1 (64)/3.0 connection requires MD5 value but no MD5 configured. Other issues can perform a ping. Turn off connectivity will reload.