

SixConf v2.0.2 User Guide

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Note: this application is provided for free, with no support. If you have suggestions or questions about rights, feel free to contact us at the above E-mail address. You can report errors, but we will address them only as time permits. If you are using it in IPv6 training, drop us a note to let us know how it's working for you.

SixConf is a standalone GUI application for Windows (7, 8.1 and 10, Server 2012, 2016) that provides intuitive point-and-click viewing and management of IPv4 and IPv6 addresses. It has far more capabilities than the standard address GUI management tools provided with Windows. It is ideally suited for users, system administrators and network administrators learning or deploying IPv6. Sixscape will be releasing a commercial product (DNMS) that is similar to SixConf, that includes a central database and command console, to implement a Distributed Network Management System. DNMS replaces DHCPv4, DHCPv6, SLAAC and legacy IPAMS. More information will be available on it at www.sixscape.com.

SixConf is written in C#.Net, which means the .Net Framework must be installed on your computer before SixConf can be installed. If this framework is not already present, the SixConf installer will load it automatically.

SixConf is available only in a 32-bit executable, but this will run on 64 bit version of Windows.

When you run SixConf, the opening screen looks like the following. The top part of the screen contains things regarding the node as a whole, including

- Node Name
- Internet Domain Name
- Microsoft Domain (or Workgroup) Name
- The currently selected Interface name (in a ComboBox control, automatically populated)

Below the Interface Name are items relevant to the currently selected interface, including:

- Interface description
- Interface type (e.g. Ethernet, Loopback, Wireless, etc)
- Interface status (Up / Down)
- The Operating System found (actually unrelated to the selected interface)
- The MAC Address (the 48 bit globally unique identifier on all network interfaces)

- The Zone ID (also known as the interface *number*)
- The interface speed (e.g. 10 Mbit, 100 Mbit, 1 Gbit, etc)
- Whether IPv4 and/or IPv6 are enabled on this interface

Finally, there is a set of tab pages, each of which contains detailed information on one aspect of the currently selected interface (IPv6 Unicast addresses, etc).

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Main Action Help

Network: Available Node Name: LEH-PC Domain Name: sg.sixscape.net MS Domain: SIXSCAPE-SG

Interface: Ethernet Refresh

Description: Realtek PCIe GBE Family Controller Type: Ethernet Status: Up

MAC Addr: fc-aa-14-be-96-89 Zone ID: 16 Link Speed: 1 GBit IPv4: Enabled IPv6: Enabled <https://www.sixscape.com>

IPv6 Unicast IPv6 Multicast IPv6 Settings IPv6 Neighbors IPv4 Settings IPv4 Neighbors

Address Type	Address	Status	Preferred Lifetime	Valid Lifetime	Address Source
Link Local Unicast	fe80::b019:23ce:6879:2c0d	Preferred	Infinite	Infinite	Automatic
Global Unicast	2001:470:ed3a:1000::2:1	Preferred	Infinite	Infinite	Manual
Global Unicast	2001:470:ed3a:1000:3c6b:d341:4cd1:68b6	Preferred	4d21h29m13s	8d21h29m13s	DHCP
Global Unicast	2001:470:ed3a:1000:b019:23ce:6879:2c0d	Preferred	3h59m56s	23h59m56s	SLAAC
Global Unicast	2001:470:ed3a:1000:95cb:670d:6fc7:e6b8	Preferred	3h59m56s	23h59m56s	SLAAC

Right Click is active in IPv6 Unicast List

You can select the type of information to view or manage by clicking on any of the tabs (*IPv6 Unicast*, *IPv6 Multicast*, etc). Some of the tab pages have *ListView* controls (that look like a spreadsheet) while others have a few *TextBox* or *ComboBox* controls. The *IPv6 Unicast* page is selected by default when the application is first started.

You can resize the columns in any *ListView* as needed by dragging the divider lines between headers. You can resize the entire *ListView* by resizing the application window (the *ListView* controls are anchored to the window frame). If more columns or rows are displayed than will fit in the window, it will automatically display horizontal and/or vertical scroll bars to allow viewing any amount of information.

Many of the lists allow adding new items by right clicking anywhere on the *ListView* and selecting the *Add* option (e.g. *Add Address*). Some *ListView* controls allow you to delete, update or view details of the information in any row by right clicking on a specific row and selecting one of the other options (e.g. *Delete*, *Edit*, *View Details*, etc). If you selected one of these options on an empty row, the action will be ignored.

IPv6 Unicast Address Page

The screenshot of this page is already shown above in the overview of SixConf. The fields in this ListView are:

- Address Type - *Link Local Unicast*, *Site Local Unicast* or *Global Unicast*
- Address – IPv6 unicast address in colon-hex notation
- Status - *Preferred* or *Deprecated* – when the address status reaches *Invalid*, it disappears
- Preferred Lifetime - either *Infinite*, or lifetime in DHMS (Days / Hours / Minutes / Seconds) format, e.g. 2d12h, 7d23h59m50s
- Valid Lifetime - either *Infinite*, or lifetime in DHMS format
- Address Source - *Automatic*, *Manual*, *SLAAC* or *DHCP*

Note that you can redraw the list (with current remaining lifetimes) by clicking the *Refresh* button. If new addresses are obtained by the node they will automatically appear in the ListView in a few seconds. If existing addresses are deleted or expire, they will automatically disappear from the ListView in a few seconds. You can force the ListView to update to the most recent information by clicking the *Refresh* button (this is useful for seeing the currently remaining preferred and valid lifetimes for addresses with finite lifetimes).

If you right click in this ListView, the following menu items are available:

- Add Address...
- Delete Address...
- Edit Address...
- Show Address Details...
- Copy Address (to scratchpad)

These menu options are covered individually below:

IPv6 Unicast / Add Address

When you select the *Add Address* menu option, you will see a dialog box similar to the following. Note that for this documentation, some IPv6 and IPv4 subnet prefixes have been created (see later in document for details on this).

Available Prefixes: 2001:470:ed3a:1000::/64 - HE Office primary /64

Prefix: 2001:470:ed3a:1000::

Suffix: ::16cb:a2a1:5f76:7f68 Random

Address: 2001:470:ed3a:1000:16cb:a2a1:5f76:7f68

Preferred Lifetime: Infinite Infinite

Valid Lifetime: Infinite Infinite

Address Type: Unicast

Right click is active in Available Prefixes ComboBox

To add this address now, click Add, else click Cancel

Add Cancel

You can enter Link Local (fe80::/10), Site Local (fec0::/10), Global (2000::/3) and Unique Local Addresses (fd00::/8) using this dialog box. Site local addresses were deprecated in RFC 3879, “Deprecating Site Local Addresses” in September 2004. We allow you to work with these in SixConf for educational purposes, but you should not use them in production networks. You should use ULAs (Unique Local Addresses (fd00::/8) instead.

The **Available Prefixes** ComboBox shows a list of available prefixes. There are three predefined prefixes:

- Manual – you can define any 64 bit prefix you like in the Prefix Text Box below
- fe80::/10 - Link Local
- fec0::/10 - Site Local

You can define custom IPv6 /64 prefixes using the *Main Menu / Action / Manage IPv6 Prefix Lists* menu option (documented later). Any you define will appear in the *Available Prefixes* ComboBox pulldown. Whichever prefix you select in the ComboBox will also appear in the *Prefix* TextBox, and as the first (most significant) 64 bits of the address in the *Address* TextBox. You should add all appropriate 64 bit prefixes used in your subnet (other than the *Link Local* and *Site Local* prefixes) for simple, rapid entry of addresses.

The **Prefix** TextBox shows the currently selected 64-bit prefix from the *Available Prefixes* ComboBox. It is normally Read Only. If you select the *Manual* option in the *Available Prefixes* ComboBox, the *Prefix*

TextBox will change to Read/Write and you can enter any 64-bit prefix you like here. Be sure to enter it as a valid IPv6 address, but with no bits set in the low 64 bits. This means you should include the “::” at the end to indicate the last 64 bits are all zero. For example, you might enter `2001:470:3d:3000::` manually. *Do not* include the prefix length (e.g. /64). When entering a prefix manually, SixConf automatically appends the trailing “::”. Position the cursor before the “::” and enter the prefix.

The **Suffix** TextBox can be automatically generated in various ways, or you can manually enter a 64 bit suffix (also known as *Interface Identifier*). You select the method of choosing the suffix with the ComboBox to the right of the *Suffix* TextBox. Anything entered in the *Suffix* TextBox (manually or automatically) will also appear as the bottom (least significant) 64 bits of the address in the *Address* TextBox. The available options for creating a suffix are:

- **Random** – suffix is generated using a good random number generator
- **EUI-64** – suffix is generated from the interface’s MAC address using the EUI-64 algorithm
- **IPv4 Coordinated** – suffix is generated using the same numeric digits as the IPv4 address, but in reality these are hexadecimal digits in 16 bit fields (while in IPv4 these are decimal digits in 8 bit fields). For example, if your IPv4 address is `172.20.2.1`, then the *IPv4 Coordinated* suffix will be `::172:20:2:1`. Note use of IPv4 Coordinated suffixes makes it easier for you to keep track of your IPv6 addresses, but it also makes it easier for a hacker to map your network. There is no IETF standard for IPv4 Coordinated addresses.
- **IPv4-Compatible IPv6** – the suffix contains 32 bits of zero (0x00000000) followed by the node’s IPv4 address as the remaining 32 bits. When you select IPv4-Compatible Suffix, the Prefix is automatically set to all zeros. **Note** – IPv4-Compatible IPv6 addresses were deprecated by RFC 4291, “IPv6 Version 6 Addressing Architecture”, February 2006. For educational purposes, SixConf allows you to create these addresses. You should not use them in production networks.
- **IPv4 Mapped IPv6** – the suffix contains 16 bits of zero and 16 bits of 1 (0x0000ffff) followed by the node’s IPv4 address in the remaining 32 bits. Note when you select IPv4 Mapped IPv6 Suffix, the Prefix is automatically set to all zeros. IPv4-Mapped IPv6 addresses are still valid, and are used to process both IPv4 and IPv6 packets with a single IPv6 socket, in some TCP/IP stack implementations. Please see the details in RFC 4291.
- **Manual** – this will set the *Suffix* TextBox to Read/Write so that you can enter any 64 bit suffix you like. This suffix should be specified as a valid IPv6 address, which means you should include a leading “::”, e.g. `::1234:5678:9abc:def0`, or `::123`. When entering a suffix manually, SixConf automatically prepends the leading “::”. Position the cursor after the “::” and enter the suffix.

The **Address** TextBox will combine the currently entered Prefix and Suffix values to make a 128-bit IPv6 address. You can also enter a full 128-bit address manually in this TextBox (but it will be overwritten if you change the Prefix or Suffix selections). If combining the current Prefix and Suffix happens to create an invalid IPv6 address (e.g. while entering them manually), the *Address* TextBox will display some arbitrary valid IPv6 address until such time as the combined Prefix and Suffix is a valid IPv6 address.

The **Preferred Lifetime** TextBox allows you to specify the preferred address lifetime (the time that the address remains in the *Preferred* state after creation, before changing to *Deprecated*). This is selected

using the ComboBox to the right of the *Preferred Lifetime* Text Box. You can choose *Infinite*, one of several common lifetimes, or *Manual* to enter any lifetime manually. Lifetimes are specified in DHMS format. This format allows any number of days, followed by “d”, then from 0 to 23 hours, followed by “h”, then from 0 to 59 minutes, followed by “m”, and finally, from 0 to 59 seconds, followed by “s”. You can enter any or all of the letters, but they should be entered in that order. For example *7 and a half days* would be entered as 7d12h. You can use lower or upper case letters. Internally the DHMS string will be converted to an integer number of seconds.

The ***Valid Lifetime*** TextBox allows you to specify the valid address lifetime (the time that the address remains valid after creation, before becoming invalid and being removed). This must be greater than or equal to the preferred lifetime. It is specified in the same manner as Preferred Lifetime.

The ***Address Type*** can be specified as *Unicast* or *Anycast*. An *Anycast* address is just a unicast address that will not have duplicate address detection performed on it. A single network can have multiple nodes that have the same anycast address. Care should be exercised when using anycast addresses. Normally only *routers* (nodes with multiple interfaces that can do forwarding) have anycast addresses assigned to them. *Hosts* (nodes that do not do forwarding between interfaces) normally would have no need of an anycast address. You can assign servers (like DNS) global anycast addresses, but only if your IPv6 routing infrastructure supports this.

Once all aspects of the IPv6 address have been specified, it can be added to the node by clicking the *Add* button. The new address should appear in the IPv6 Unicast address list once it has been added to the node. The new address will also appear in the output of *ipconfig*, and the *first* IPv6 address manually added will appear in the standard Windows GUI IPv6 address management tool. You should not add additional link local addresses unless you know what you are doing (although SixConf will allow you to do so). SixConf does not check for address conflicts before assigning an address, but Windows will inform you if there is an address conflict after it is added (but only for unicast addresses).

If you click the OK button in the Add IPv6 Address dialog, the new address will be configured on your node, and shortly appear in the list of IPv6 Unicast Addresses:

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Main Action Help

Network: Available Node Name: LEH-PC Domain Name: sg.sixscape.net MS Domain: SIXSCAPE-SG

Interface: Ethernet Refresh

Description: Realtek PCIe GBE Family Controller Type: Ethernet Status: Up

MAC Addr: fc-aa-14-be-96-89 Zone ID: 16 Link Speed: 1 GBit IPv4: Enabled IPv6: Enabled <https://www.sixscape.com>

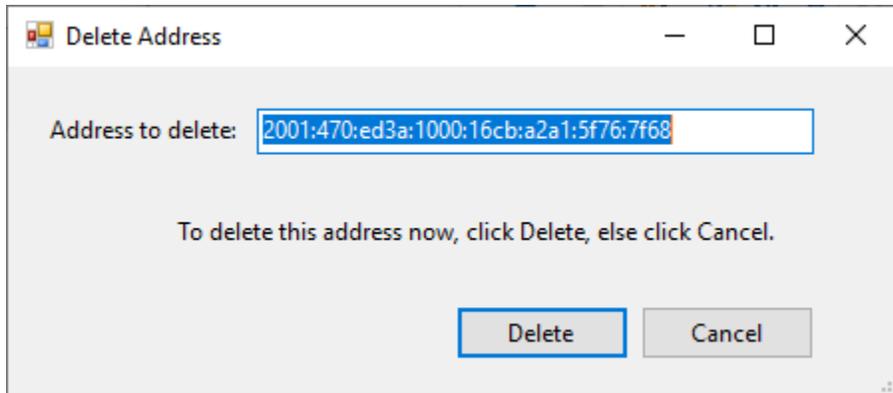
IPv6 Unicast IPv6 Multicast IPv6 Settings IPv6 Neighbors IPv4 Settings IPv4 Neighbors

Address Type	Address	Status	Preferred Lifetime	Valid Lifetime	Address Source
Link Local Unicast	fe80::b019:23ce:6879:2c0d	Preferred	Infinite	Infinite	Automatic
Global Unicast	2001:470:ed3a:1000::2:1	Preferred	Infinite	Infinite	Manual
Global Unicast	2001:470:ed3a:1000:16cb:a2a1:5f76:7f68	Preferred	Infinite	Infinite	Manual
Global Unicast	2001:470:ed3a:1000:3c6b:d341:4cd1:68b6	Preferred	4d21h22m20s	8d21h22m20s	DHCP
Global Unicast	2001:470:ed3a:1000:b019:23ce:6879:2c0d	Preferred	3h59m50s	23h59m50s	SLAAC
Global Unicast	2001:470:ed3a:1000:95cb:670d:6fc7:e6b8	Preferred	3h59m50s	23h59m50s	SLAAC

Right Click is active in IPv6 Unicast List

IPv6 Unicast / Delete Address

When you right click on an existing address in the Unicast address list, then select the *Delete Address* menu option, you will see a dialog box similar to this:



The *Address to delete* TextBox will show the address you right clicked upon (for confirmation). If you click on the *Delete* button, that address will be removed from the node, and in a few seconds, it will also disappear from the Unicast address ListView. If you decide not to delete the address shown, click on the *Cancel* button instead.

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Main Action Help

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Interface: Ethernet Refresh

Description: Realtek PCIe GBE Family Controller Type: Ethernet Status: Up

MAC Addr: fc-aa-14-be-96-89 Zone ID: 16 Link Speed: 1 GBit IPv4: Enabled IPv6: Enabled <https://www.sixscape.com>

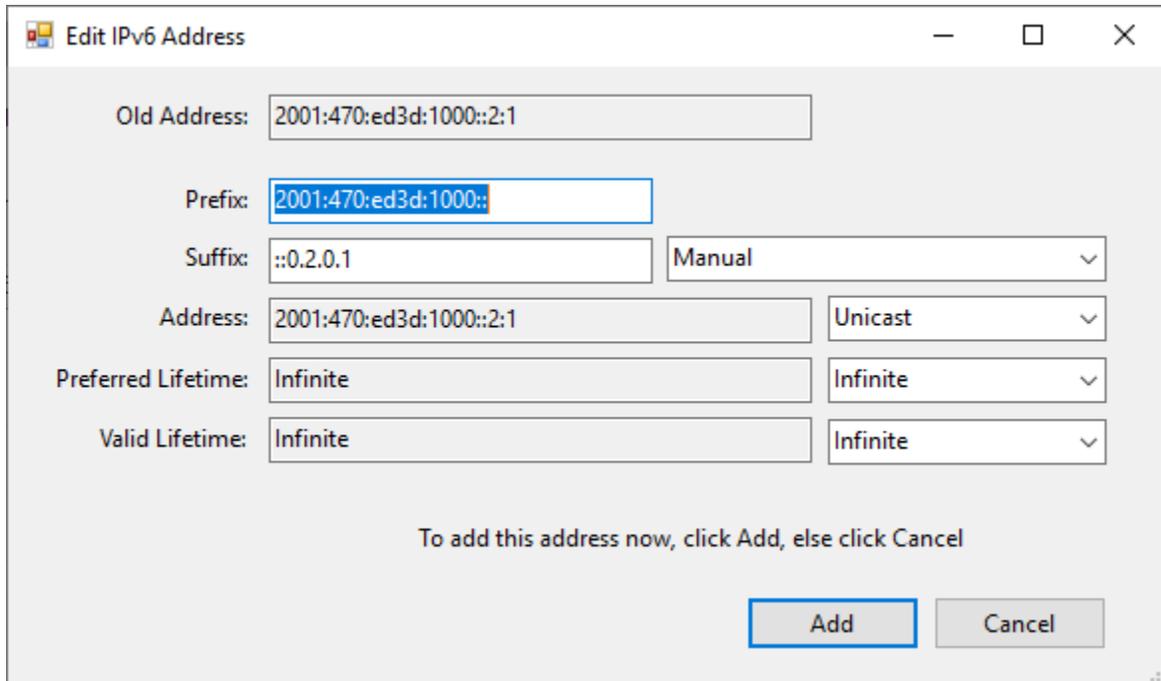
IPv6 Unicast IPv6 Multicast IPv6 Settings IPv6 Neighbors IPv4 Settings IPv4 Neighbors

Address Type	Address	Status	Preferred Lifetime	Valid Lifetime	Address Source
Link Local Unicast	fe80::b019:23ce:6879:2c0d	Preferred	Infinite	Infinite	Automatic
Global Unicast	2001:470:ed3a:1000::2:1	Preferred	Infinite	Infinite	Manual
Global Unicast	2001:470:ed3a:1000:3c6b:d341:4cd1:68b6	Preferred	4d21h20m55s	8d21h20m55s	DHCP
Global Unicast	2001:470:ed3a:1000:b019:23ce:6879:2c0d	Preferred	3h59m55s	23h59m55s	SLAAC
Global Unicast	2001:470:ed3a:1000:95cb:670d:6fc7:e6b8	Preferred	3h59m55s	23h59m55s	SLAAC

Right Click is active in IPv6 Unicast List

IPv6 Unicast / Edit Address

When you right click on an existing address in the Unicast address list, then select the *Edit Address* menu option, you will see a dialog box similar to this:



The screenshot shows a dialog box titled "Edit IPv6 Address". It contains the following fields and controls:

- Old Address:** 2001:470:ed3d:1000::2:1
- Prefix:** 2001:470:ed3d:1000::
- Suffix:** ::0.2.0.1
- Address:** 2001:470:ed3d:1000::2:1
- Preferred Lifetime:** Infinite
- Valid Lifetime:** Infinite

At the bottom of the dialog, there is a message: "To add this address now, click Add, else click Cancel". Below this message are two buttons: "Add" and "Cancel".

This dialog works in a similar manner to the *Add IPv6 Address* dialog above, but shows the old address and does not have as much flexibility in setting the prefix. When you are satisfied with the changed address, click the *Add* button. This will remove the old address and add the new, modified address. The new address will shortly appear in the Unicast address ListView. If you decide not to change the old address, click on the *Cancel* button instead, and the old address will be left unchanged.

Note that addresses with bits only in the low 32 bits of the Interface Identifier will be displayed in IPv4 notation (::0.2.0.1). You can enter either IPv6 or IPv4 notation in the new address.

If you select *Random* for the Suffix (Interface Identifier), it will look like this:

The screenshot shows a Windows dialog box titled "Edit IPv6 Address". It contains several input fields and dropdown menus. The "Old Address" field contains "2001:470:ed3d:1000::2:1". The "Prefix" field contains "2001:470:ed3d:1000:". The "Suffix" field contains "::5758:7887:b96b:1ed" and a dropdown menu is open showing "Random" selected. The "Address" field contains "2001:470:ed3d:1000:5758:7887:b96b:1ed" and a dropdown menu is open showing "Unicast" selected. The "Preferred Lifetime" field contains "Infinite" and a dropdown menu is open showing "Infinite" selected. The "Valid Lifetime" field contains "Infinite" and a dropdown menu is open showing "Infinite" selected. At the bottom, there is a message: "To add this address now, click Add, else click Cancel". Below the message are two buttons: "Add" and "Cancel".

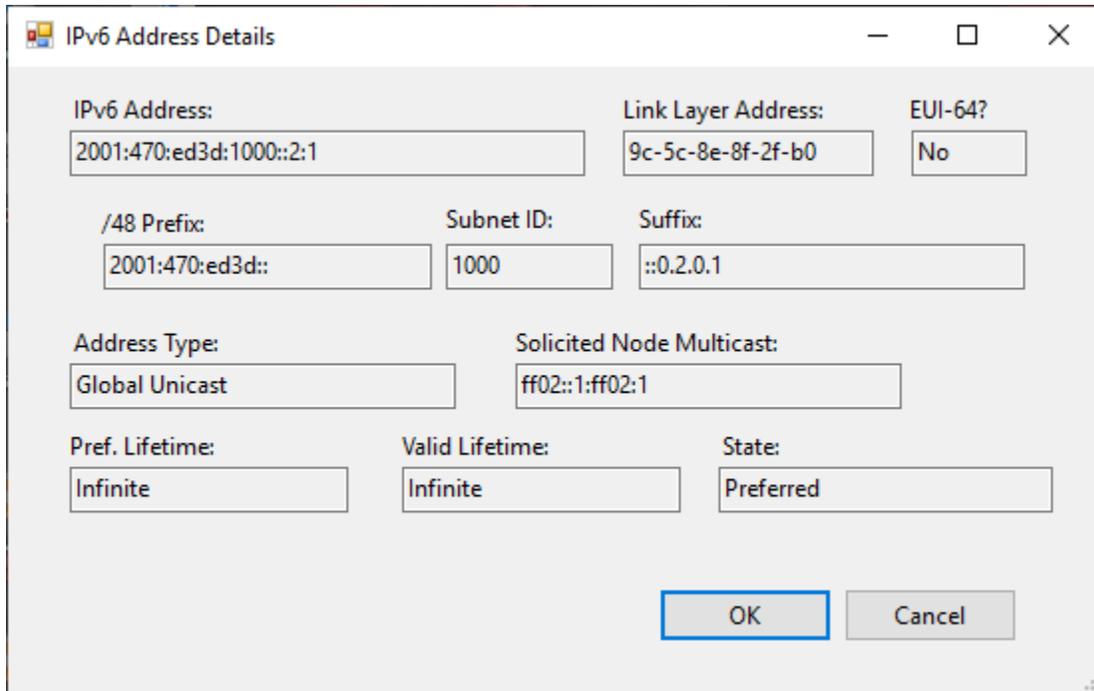
Old Address:	2001:470:ed3d:1000::2:1	
Prefix:	2001:470:ed3d:1000::	
Suffix:	::5758:7887:b96b:1ed	Random
Address:	2001:470:ed3d:1000:5758:7887:b96b:1ed	Unicast
Preferred Lifetime:	Infinite	Infinite
Valid Lifetime:	Infinite	Infinite

To add this address now, click Add, else click Cancel

Add Cancel

IPv6 Unicast / Show Address Details

When you right click on an existing address in the Unicast address list, then select *Show Address Details* menu option, you will see a dialog similar to this:



The screenshot shows a dialog box titled "IPv6 Address Details" with standard window controls (minimize, maximize, close). The dialog contains several input fields and labels:

- IPv6 Address:** 2001:470:ed3d:1000::2:1
- Link Layer Address:** 9c-5c-8e-8f-2f-b0
- EUI-64?** No
- /48 Prefix:** 2001:470:ed3d::
- Subnet ID:** 1000
- Suffix:** ::0.2.0.1
- Address Type:** Global Unicast
- Solicited Node Multicast:** ff02::1:ff02:1
- Pref. Lifetime:** Infinite
- Valid Lifetime:** Infinite
- State:** Preferred

At the bottom right, there are two buttons: "OK" (highlighted with a blue border) and "Cancel".

There are no active controls in this dialog other than OK and Cancel, which both simply dismiss the dialog box. It shows you the specified address split into three fields: 48 bit prefix, 16 bit Subnet ID and 64 bit suffix. It also shows whether it is an *EUI-64* address or not, and the *Solicited Node Multicast* address corresponding to this Unicast address. This is useful when learning IPv6.

IPv6 Unicast / Copy Address

When you right click on an existing address in the Unicast address list then select *Copy Address*, the selected address will be copied into the clipboard, for later pasting. This is just a convenience feature.

IPv6 Multicast Address Page

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Main Action Help

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Interface: Ethernet Refresh

Description: Realtek PCIe GBE Family Controller Type: Ethernet Status: Up

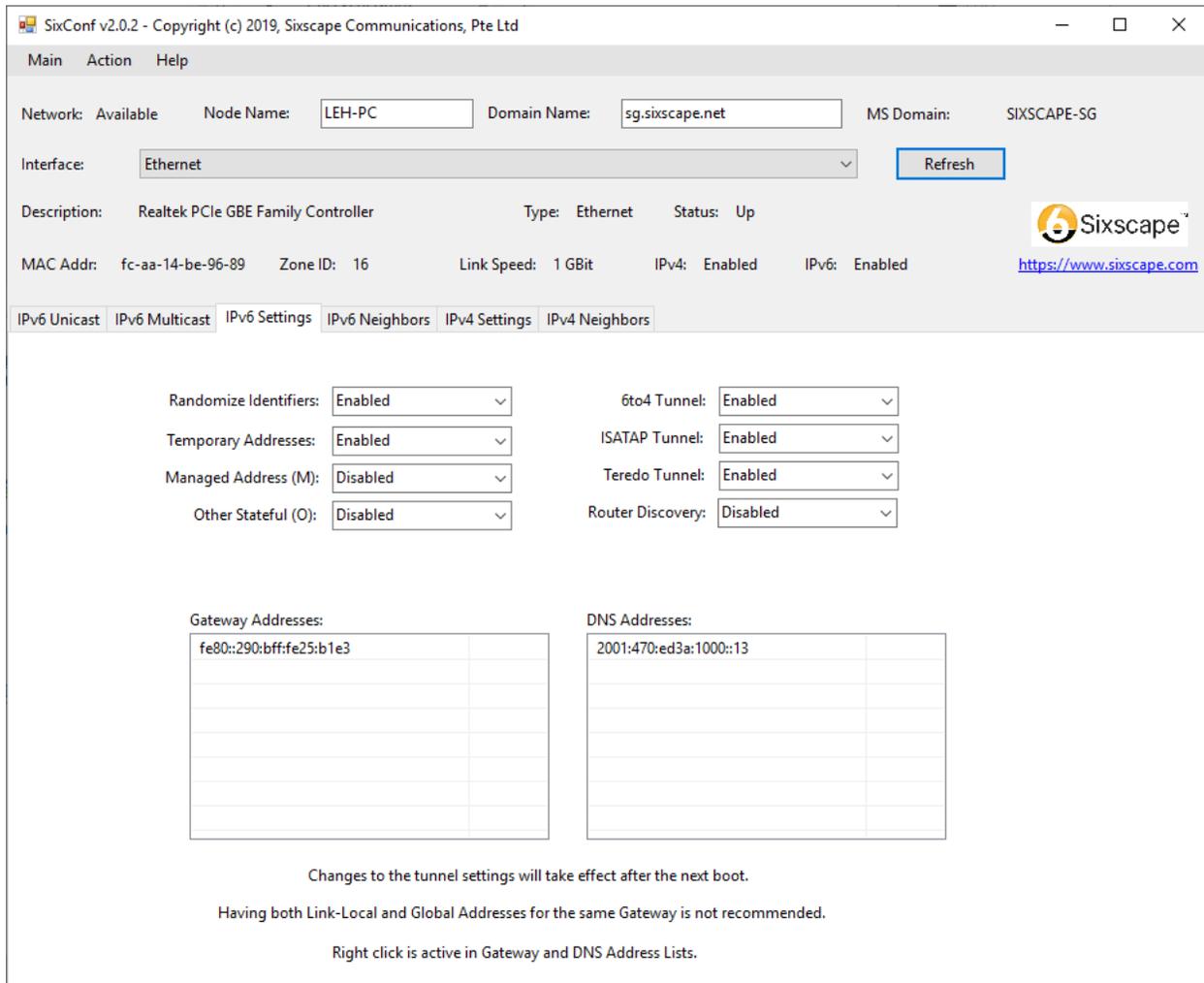
MAC Addr: fc-aa-14-be-96-89 Zone ID: 16 Link Speed: 1 GBit IPv4: Enabled IPv6: Enabled <https://www.sixscape.com>

IPv6 Unicast IPv6 Multicast IPv6 Settings IPv6 Neighbors IPv4 Settings IPv4 Neighbors

Address	Scope	Target
ff01::1	Interface Local	All Nodes
ff02::1	Link Local	All Nodes
ff02::c	Link Local	Simple Service Discovery Protocol
ff02::fb	Link Local	Multicast DNS
ff02::1:3	Link Local	Link-local Multicast Name Resolution
ff02::1:ff02:1	Link Local	Solicited Node
ff02::1:ff64:e523	Link Local	Solicited Node
ff02::1:ff76:7f68	Link Local	Solicited Node
ff02::1:ff79:2c0d	Link Local	Solicited Node
ff02::1:ffc7:e6b8	Link Local	Solicited Node
ff02::1:ffd1:68b6	Link Local	Solicited Node

There are no active controls on this page. It shows all the IPv6 Multicast addresses assigned to this node, including the scope and what it is used for (if known). In the above screen shot, the default assigned multicast addresses are *ff01::1* and *ff02::1*. Microsoft always includes the next two addresses (*ff02::c* and *ff02::1:3*). Any additional multicast addresses used by applications on this node will appear. The remaining multicast addresses are *Solicited Node Multicast* addresses automatically generated for the existing Unicast and Anycast addresses assigned to this node.

IPv6 Settings Page



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Main Action Help

Network: Available Node Name: LEH-PC Domain Name: sg.sixscape.net MS Domain: SIXSCAPE-SG

Interface: Ethernet Refresh

Description: Realtek PCIe GBE Family Controller Type: Ethernet Status: Up

MAC Addr: fc-aa-14-be-96-89 Zone ID: 16 Link Speed: 1 GBit IPv4: Enabled IPv6: Enabled <https://www.sixscape.com>

IPv6 Unicast IPv6 Multicast IPv6 Settings IPv6 Neighbors IPv4 Settings IPv4 Neighbors

Randomize Identifiers: Enabled 6to4 Tunnel: Enabled

Temporary Addresses: Enabled ISATAP Tunnel: Enabled

Managed Address (M): Disabled Teredo Tunnel: Enabled

Other Stateful (O): Disabled Router Discovery: Disabled

Gateway Addresses: DNS Addresses:

fe80::290:bff:fe25:b1e3					

2001:470:ed3a:1000::13					

Changes to the tunnel settings will take effect after the next boot.

Having both Link-Local and Global Addresses for the same Gateway is not recommended.

Right click is active in Gateway and DNS Address Lists.

There are several controls on this page: 8 ComboBoxes and 2 ListViews.

The **Randomize Identifiers** ComboBox controls how suffixes are generated when using SLAAC. If enabled, the suffix will be randomly generated out of the entire 2 to the 64th possible suffix values. If disabled, the suffix will be generated using EUI-64. This behavior is defined in section 3.2 of RFC 3041, “Privacy Extensions for Stateless Address Autoconfiguration in IPv6”, September 2007. If SLAAC is disabled (“Router Discovery” set to disabled), this setting has no effect.

The **Temporary Addresses** ComboBox also controls whether to generate a second, relatively short lived IPv6 global address using SLAAC, in addition to the first (normal lifetime) IPv6 global address. If this is disabled, only a single global address is generated, with typically 7 days preferred lifetime and 30 days valid lifetime. If this is enabled, a second global address will also be generated, with 7 days preferred and 7 days valid lifetime. This behavior is defined in section 3.3 of RFC 3041. If SLAAC is disabled (“Router Discovery” set to disabled), this setting has no effect.

The **Managed Address (M)** ComboBox control does not have any effect if Router Discovery is enabled. If Router Discovery is disabled, then this ComboBox specifies whether to try to obtain an IPv6 global address and stateless information (e.g. IPv6 address of DNS) from a stateful DHCPv6 server (Managed Address enabled), or not (Managed Address disabled).

The **Other Stateful (O)** ComboBox does not have any effect if Router Discovery is enabled. If Router Discovery is enabled, and Managed Address is disabled, then Other Stateful determines whether the node will try to obtain stateless information from a DHCPv6 server (enabled), or not (disabled).

The **6to4 Tunnel** ComboBox enables or disables 6to4 tunneling on this node. Even if enabled on your node, 6to4 tunneling will work only if it has been deployed in your subnet. Assuming your subnet already has IPv6 running, it is strongly recommended that you set this to disabled.

The **ISATAP Tunnel** ComboBox enables or disables ISATAP tunneling on this node. Even if enabled on your node, ISATAP tunneling will work only if the DNS in your subnet has been properly configured to enable ISATAP tunneling. Assuming your subnet already has IPv6 running, it is strongly recommended that you set this to disabled.

The **Teredo Tunnel** ComboBox enables or disables Teredo tunneling on this node. Nothing else is required for Teredo tunneling to work if it is enabled (assuming it is not blocked at your border gateway). Assuming your subnet already has IPv6 running, it is strongly recommended that you set this to disabled. Normally Teredo tunneling works if you are not a member of a Microsoft domain. There is a way to make Teredo work even if you are a member of such a domain. SixConf can use this by setting Teredo to enabled.

The **Router Discovery** ComboBox enables or disables Router Discovery. If enabled, your node will use SLAAC to discover the router (default gateway address) and configure one (or two) global addresses. If disabled, neither of these things will happen, so you will need to manually configure a default gateway address and at least one global address (for normal operation). If Router Discovery is enabled, then the *Managed Address* and *Other Stateful* settings have no effect. If Router Discovery is set to DHCP, then this functionality is controlled from DHCPv6.

The **Gateway Addresses** ListView shows the IPv6 gateways either determined through Router Discovery (from the list of potential routers) or manually configured (if Router Discovery is disabled). Normally only one gateway address is configured, and it is recommended that this be the IPv6 Link Local address of the gateway node (although the Global Address of the gateway node will work for most functions). It is *not* recommended to define both the Link Local and Global addresses of the gateway. This will cause some software (such as VirtualBox) to fail. If you right click in this ListView, you can add a new IPv6 gateway address. If you right click on an existing IPv6 gateway address, you can delete it.

The ***DNS Addresses*** ListView shows the IPv6 addresses of DNS configured on this node. These addresses can be obtained from DHCPv6 or manually configured. If you right click in this ListView, you can add a new IPv6 address for DNS. If you right click on an existing IPv6 DNS address, you can delete it.

IPv4 Settings Page (IP Static, DNS Static – DHCP disabled)

SixConf v2.0.2 - Copyright (c) 2019, Sixscape Communications, Pte Ltd

Main Action Help

Network: Available Node Name: Domain Name: MS Domain: SIXSCAPE-SG

Interface:

Description: Realtek PCIe GBE Family Controller Type: Ethernet Status: Up

MAC Addr: fc-aa-14-be-96-89 Zone ID: 16 Link Speed: 1 GBit IPv4: Enabled IPv6: Enabled <https://www.sixscape.com>

IPv6 Unicast IPv6 Multicast IPv6 Settings IPv6 Neighbors **IPv4 Settings** IPv4 Neighbors

Unicast Addresses:

Type	Address	Subnet Mask	State	Preferred Lifetime	Valid Lifetime	Source
Private Unicast	172.17.2.1	255.255.0.0	Preferred	Infinite	Infinite	Manual

Multicast Addresses:

Address	Target
224.0.0.1	All Nodes on Subnet
224.0.0.251	Multicast DNS
224.0.0.252	Link-local Multicast Name Resolution
239.255.255.250	Simple Service Discovery Protocol

DNS Server Addresses:

172.17.0.13	

Interface DNS Suffix:

Subnet Prefix:

Gateway Addresses:

172.17.0.1	

DHCP Status:

DHCP Setting:

DHCP Server Addresses:

Right click is active in Unicast, Gateway and DNS Server Address Lists.

This page allows viewing and setting of all IPv4 configurations for the currently selected interface.

You can obtain a Node Address, Subnet Mask and default gateway (and optionally DNS addresses) from DHCPv4, or you can manage all of these manually. The current state of DHCP is shown under DHCP Status, and you can change that state with DHCP Setting. The three settings for DHCP are:

- IP Static, DNS Static (completely manual configuration)
- IP Dynamic, DNS Static (IP address, subnet mask and gateway come from DHCP)
- IP Dynamic, DNS Dynamic (everything comes from DHCP)

The **Unicast Addresses** ListView is similar to the *IPv6 Unicast Addresses* ListView. If DHCP is disabled, you can use the right click context menu to add, delete or edit the node address. You can create multiple IPv4 node addresses, but some applications may not work well with more than one node address.

The **Type** field shows whether the address is *Private Unicast*, *Global Unicast* or APIPA (basically Link Local for IPv4).

The **Address** field shows the Node Address, in dotted decimal notation.

The **Subnet Mask** field shows the subnet mask, in dotted decimal notation.

The **State** field shows the current address lifecycle state, as *Preferred* or *Deprecated*. You may sometimes see it briefly show a new address is in the *Tentative* state while Duplicate Address Detection happens. Microsoft has implemented address lifetimes for IPv4, similar to those for IPv6. If you set finite preferred and valid lifetimes, the address will have a life cycle, from Preferred, through Deprecated, to Invalid, just like IPv6. This lifecycle processing is completely independent of DHCP lease processing. You can set very short preferred and valid lifetimes (e.g. 30 seconds preferred, 1 minute valid) and watch the lifecycle happen in real time by clicking the Refresh button every few seconds.

The **Preferred Lifetime** field shows the remaining time that the address will be in the preferred state. Once the Preferred Lifetime count reaches zero, the address will change from *Preferred State* to *Deprecated State*. A node will normally use only *preferred* addresses as source address for outgoing traffic, but will accept incoming traffic to any *valid* address (*preferred* or *deprecated*).

The **Valid Lifetime** field shows the remaining time that the address will be in the valid state (preferred or deprecated). Once the Valid Lifetime of an address counts down to zero, the address will disappear from the node (and hence from the Unicast Addresses *ListView*).

The **Source** field will show the source of the IPv4 address: *Manual*, *DHCP*, etc.

The **Multicast Addresses** *ListView* is just like the one for IPv6, and is also Read Only. Again, the *Target* field names the “well known” use for that multicast address, if there is any.

The **DNS Server Addresses** *ListView* shows the IPv4 addresses of DNS configured on this node. These can come from DHCP or be manually configured. You can add and delete DNS addresses using the right click context menu for this *ListView* (assuming DNS is manually configured).

The **Interface DNS Suffix** shows the Internet domain name obtained from DHCP, if any.

The **Subnet Prefix** shows the prefix used on your subnet, in CIDR notation.

The **DHCP Server Addresses** *ListView* shows the discovered address(es) of DHCP servers.

The **DHCP Status** *TextBox* shows the current DHCP setting (see above).

The **DHCP Setting** *ComboBox* allows you to change the DHCP setting. SixConf will attempt to keep the existing DHCP assigned addresses as manually assigned addresses if you disable DHCP. This could lead to an address conflict, unless you remove this address from your DHCP server’s pool.

The **Gateway Addresses** *ListView* shows you the current IPv4 default gateway address. You can right click in this *ListView* to add a new address, or right click on an existing address to delete it.

If you right click in the *Unicast Address* ListView and select *Add Address*, you will see the following dialog box:

The screenshot shows a dialog box titled "Add IPv4 Address". It contains the following fields and controls:

- IPv4 Prefix:** A dropdown menu with the selected value "172.17.0.0/8 - Office Main IPv4".
- Address / Mask:** A text box containing "172.17.11.1" and a dropdown menu with the selected value "255.255.0.0 - /16".
- Preferred Lifetime:** Two dropdown menus, both showing "Infinite".
- Valid Lifetime:** Two dropdown menus, both showing "Infinite".

Below the fields, the following text is displayed:

Right click is active in Netblock ComboBox.
To add this address now, click Add, else click Cancel.

At the bottom right, there are two buttons: "Add" and "Cancel".

The **IPv4 Prefix** ComboBox contains a list of common netblocks (prefixes), plus any custom ones entered via *Main Menu / Action / Manage IPv4 Prefixes* (documented later). Choosing one of these automatically fills in the base address of the selected subnet prefix (e.g. 172.17.0.0) and the subnet mask, to save time entering an address.

The **Address** TextBox and the subnet mask ComboBox to its right show the base address and subnet mask selected by the Netblock ComboBox, or you can enter values in the manually.

The **Preferred Lifetime** TextBox shows the currently selected lifetime from the ComboBox, or you can enter any value in this TextBox if you select *Manual* in the ComboBox. Address life cycle processing is not standard for IPv4 (and is independent of any DHCP lease time), but Microsoft has implemented the IPv6 functionality in their IPv4 (at least in Windows 7 and later).

The **Valid Lifetime** TextBox shows the currently selected lifetime from the ComboBox, or you can enter any value in this TextBox if you select *Manual* in the ComboBox. Address life cycle processing is not standard for IPv4 (and is independent of any DHCP lease time), but Microsoft has implemented the IPv6 functionality in their IPv4 (at least in Windows 7 and later).

To add the specified IPv4 address and subnet mask, click the **Add** button. If you change your mind, click the **Cancel** button, and no address will be added. If you are currently using DHCP assigned addresses, adding a static address will disable DHCP.

If you click *Add*, the new address will be configured on your node and will shortly appear in the list of IPv4 unicast addresses:

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Main Action Help

Network: Available Node Name: Domain Name: MS Domain: SIXSCAPE-SG

Interface: Refresh

Description: Realtek PCIe GBE Family Controller Type: Ethernet Status: Up

MAC Addr: fc-aa-14-be-96-89 Zone ID: 16 Link Speed: 1 GBit IPv4: Enabled IPv6: Enabled <https://www.sixscape.com>

IPV6 Unicast | IPV6 Multicast | IPV6 Settings | IPV6 Neighbors | **IPV4 Settings** | IPV4 Neighbors

Unicast Addresses:

Type	Address	Subnet Mask	State	Preferred Lifetime	Valid Lifetime	Source
Private Unicast	172.17.2.1	255.255.0.0	Preferred	Infinite	Infinite	Manual
Private Unicast	172.17.11.1	255.255.0.0	Preferred	Infinite	Infinite	Manual

Multicast Addresses:

Address	Target
224.0.0.1	All Nodes on Subnet
224.0.0.251	Multicast DNS
224.0.0.252	Link-local Multicast Name Resolution
239.255.255.250	Simple Service Discovery Protocol

DNS Server Addresses:

172.17.0.13

Interface DNS Suffix:

Subnet Prefix:

DHCP Server Addresses:

--

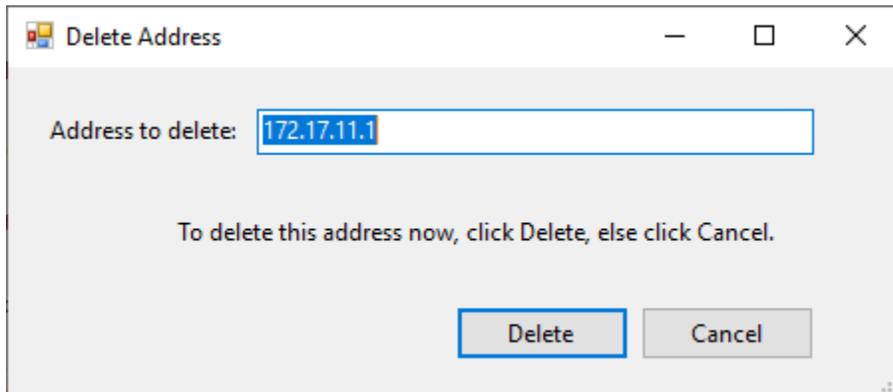
Gateway Addresses:

172.17.0.1	DHCP Status: <input type="text" value="IP Static, DNS Static"/>
	DHCP Setting: <input type="text" value="Leave unchanged"/>

Right click is active in Unicast, Gateway and DNS Server Address Lists.

Note that it is unusual to have more than one unicast IPv4 address on a single node, but it can be configured with SixConf, and it will function normally. It will accept incoming connection to all configured addresses, and will select one of the addresses as the source for outgoing connections.

If you right click in the *Unicast Address* ListView on an existing address and select **Delete Address**, you will see the following dialog box:



If you want to delete the address shown, click the **Delete** button, else click the **Cancel** button.

Deleting the address will remove it from your node, and shortly it will disappear from the list of IPv4 Unicast addresses:

SixConf v2.0.2 - Copyright (c) 2019, Sixscape Communications, Pte Ltd

Main Action Help

Network: Available Node Name: LEH-PC Domain Name: sg.sixscape.net MS Domain: SIXSCAPE-SG

Interface: Ethernet Refresh

Description: Realtek PCIe GBE Family Controller Type: Ethernet Status: Up

MAC Addr: fc-aa-14-be-96-89 Zone ID: 16 Link Speed: 1 GBit IPv4: Enabled IPv6: Enabled <https://www.sixscape.com>

IPv6 Unicast IPv6 Multicast IPv6 Settings IPv6 Neighbors IPv4 Settings IPv4 Neighbors

Unicast Addresses:

Type	Address	Subnet Mask	State	Preferred Lifetime	Valid Lifetime	Source
Private Unicast	172.17.2.1	255.255.0.0	Preferred	Infinite	Infinite	Manual

Multicast Addresses:

Address	Target
224.0.0.1	All Nodes on Subnet
224.0.0.251	Multicast DNS
224.0.0.252	Link-local Multicast Name Resolution
239.255.255.250	Simple Service Discovery Protocol

DNS Server Addresses:

172.17.0.13

Interface DNS Suffix: sg.sixscape.net

Subnet Prefix: 172.17.0.0/16 (mask 255.255.0.0)

DHCP Status: IP Static, DNS Static

DHCP Setting: Leave unchanged

DHCP Server Addresses:

Gateway Addresses:

172.17.0.1

Right click is active in Unicast, Gateway and DNS Server Address Lists.

If you right click in the *Unicast Address* ListView on an existing address and select **Edit Address**, you will see the following dialog box, with the information from the existing address displayed.

The screenshot shows a dialog box titled "Edit IPv4 Address". It contains the following fields and values:

Address / Mask:	172.17.2.1	255.255.0.0
Preferred Lifetime:	Infinite	Infinite
Valid Lifetime:	Infinite	Infinite

Below the fields, the text reads: "To add this address now, click Add, else click Cancel." At the bottom right, there are two buttons: "Add" and "Cancel".

You can change any of the information shown. If you click the *Add* button, it will replace the original address you selected with the updated information. You can set non-infinite lifetimes for an IPv4 address and it will be deprecated (once preferred lifetime expires) and removed (once valid lifetime expires). There is no way to do this with normal Windows network configuration.

IPv4 Settings Page (IP Dynamic, DNS Dynamic – DHCP enabled)

SixConf v2.0.2 - Copyright (c) 2019, Sixscape Communications, Pte Ltd

Main Action Help

Network: Available Node Name: LEH-PC Domain Name: sg.sixscape.net MS Domain: SIXSCAPE-SG

Interface: Ethernet Refresh

Description: Realtek PCIe GBE Family Controller Type: Ethernet Status: Up

MAC Addr: fc-aa-14-be-96-89 Zone ID: 16 Link Speed: 1 GBit IPv4: Enabled IPv6: Enabled  <https://www.sixscape.com>

IPv6 Unicast IPv6 Multicast IPv6 Settings IPv6 Neighbors IPv4 Settings IPv4 Neighbors

Unicast Addresses:

Type	Address	Subnet Mask	State	Preferred Lifetime	Valid Lifetime	Source
Private Unicast	172.17.2.1	255.255.0.0	Preferred	Infinite	Infinite	Manual

Multicast Addresses:

Address	Target
224.0.0.1	All Nodes on Subnet
224.0.0.251	Multicast DNS
224.0.0.252	Link-local Multicast Name Resolution
239.255.255.250	Simple Service Discovery Protocol

DNS Server Addresses:

172.17.0.13	

Interface DNS Suffix: sg.sixscape.net

Subnet Prefix: 172.17.0.0/16 (mask 255.255.0.0)

DHCP Status: IP Static, DNS Static

DHCP Setting: Leave unchanged

DHCP Server Addresses:

Gateway Addresses:

172.17.0.1	

Right click is active in Unicast, Gateway and DNS Server Address Lists.

Note that when DHCP is enabled, the IP address source is DHCP (as opposed to Manual). Also the Interface DNS Suffix is shown, as well as the DHCP Server Address.

You can try pinging a node then clicking Refresh and seeing it change from Stale to Reachable.

```
C:\Users\lhughes.SIXSCAPE-SG>ping 172.17.0.11
```

Pinging 172.17.0.11 with 32 bytes of data:

Reply from 172.17.0.11: bytes=32 time<1ms TTL=128

Ping statistics for 172.17.0.11:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

The screenshot shows the SixConf v2.0.2 interface. At the top, there are menu options: Main, Action, and Help. Below the menu, the network configuration is displayed: Network: Available, Node Name: LEH-PC, Domain Name: sg.sixscape.net, MS Domain: SIXSCAPE-SG. The interface is set to Ethernet, and there is a Refresh button. The description is Realtek PCIe GBE Family Controller, Type: Ethernet, Status: Up. The MAC address is fc-aa-14-be-96-89, Zone ID: 16, Link Speed: 1 GBit, IPv4: Enabled, and IPv6: Enabled. The Sixscape logo and website URL (https://www.sixscape.com) are also visible.

Below the configuration, there are tabs for IPv6 Unicast, IPv6 Multicast, IPv6 Settings, IPv6 Neighbors, IPv4 Settings, and IPv4 Neighbors. The IPv6 Neighbors tab is selected, showing a table with the following data:

Address	Link Layer Address	Reachability
169.254.255.255	00-00-00-00-00-00	Unreachable
172.17.0.1	00-90-0b-25-b1-e3	Reachable
172.17.0.11	00-0a-f7-21-87-64	Reachable
172.17.0.12	00-0a-f7-21-48-8c	Stale
172.17.0.13	00-1b-21-bf-86-9a	Stale
172.17.0.14	00-1b-21-bf-86-8d	Stale
172.17.3.7	f0-79-e8-2a-96-b9	Stale
172.17.3.27	2c-33-7a-3a-d6-ab	Stale

Main Menu / Action / Manage IPv6 Prefix Lists

If you click on the Action item in the Main Menu (at top of main window), then select *Manage IPv6 Prefix Lists*, you will see the following dialog box. It allows you to manage Global and ULA /48 prefixes available in your network, as well as /64 prefixes carved out of the /48 prefixes. The /64 prefixes will appear in the *Available Prefixes* lists in various controls.

Manage Prefix Lists

Global /48 Prefixes:

Prefix	Prefix Description
2001:470:ed3a::/48	HE Office /48

ULA /48 Prefixes:

Prefix	Prefix Description
fda6:5343:dca1::/48	Company ULA /48

Unicast /64 Prefixes:

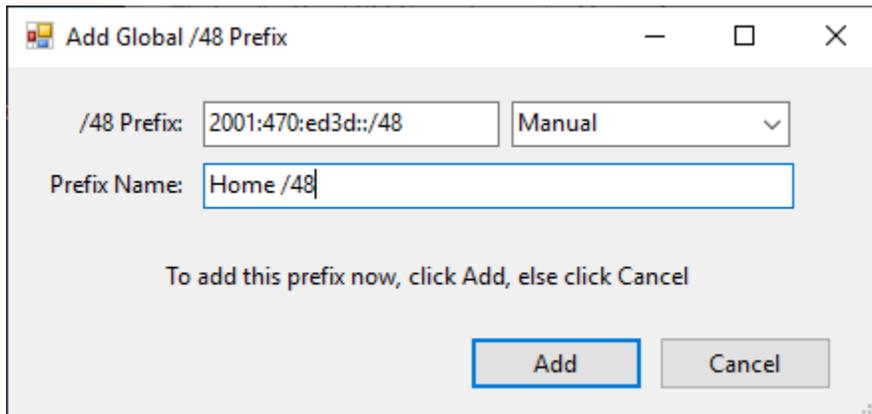
Prefix	Prefix Description
2001:470:ed3a:1000::/64	HE Office primary /64
fda6:5343:dca1:420e::/64	Company ULA /64

Right click is active in all Prefix lists.

Dismiss

Add/Delete IPv6 Global /48 Prefix

By default, no prefixes are defined. If you have a /48 global prefix from your ISP, you should enter it in the first ListView by right clicking anywhere in that ListView and selecting the *Add Prefix* option. If you do this, you will see the following dialog box. The only choice currently for Prefix type is *Manual*.



Add Global /48 Prefix

/48 Prefix: 2001:470:ed3d::/48

Manual

Prefix Name: Home /48

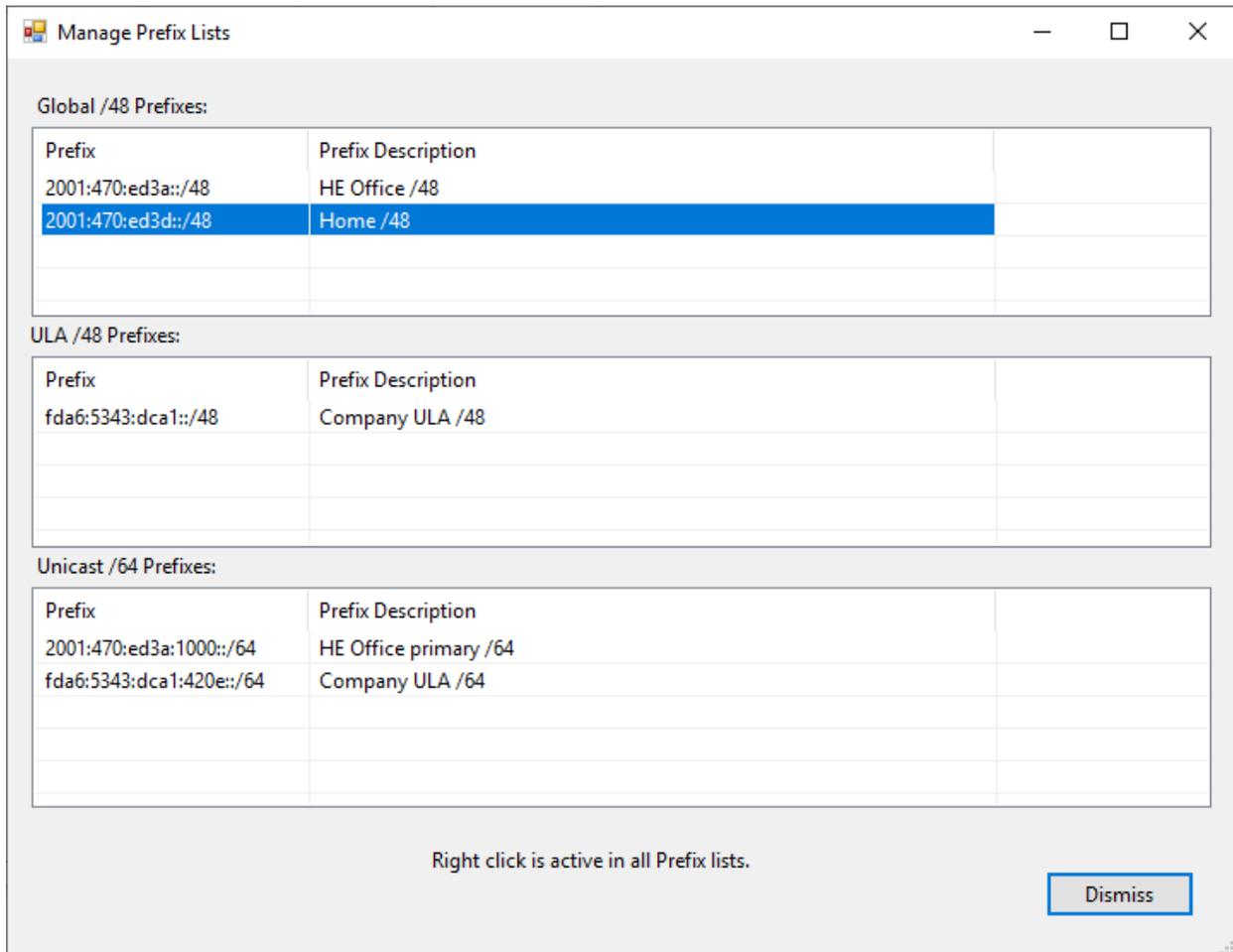
To add this prefix now, click Add, else click Cancel

Add

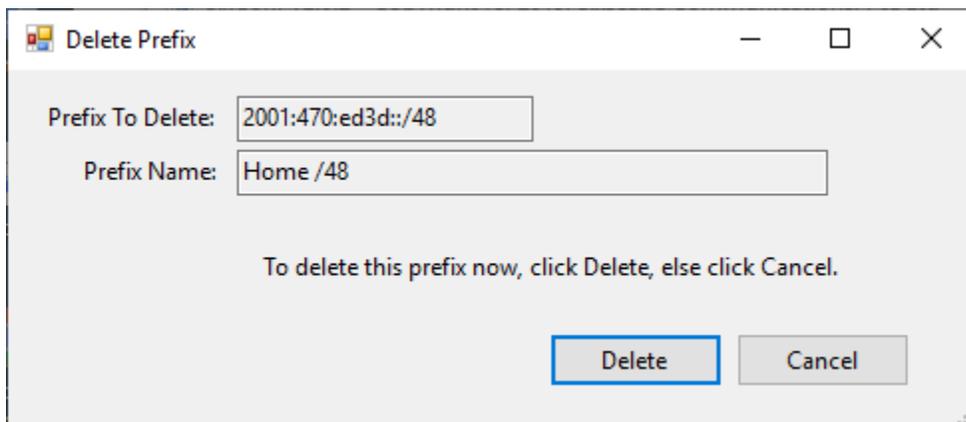
Cancel

Position the cursor before the supplied `::/48` and enter a valid /48 prefix (e.g. `2001:db8:1`). Do not enter the `::/48` – it is supplied automatically.

To add this new prefix to your Global /48 prefixes, click the *Add* button. To abort, click *Cancel*.



To delete an existing prefix, right click on the prefix and select the *Delete Prefix* option. You will see the following dialog box:

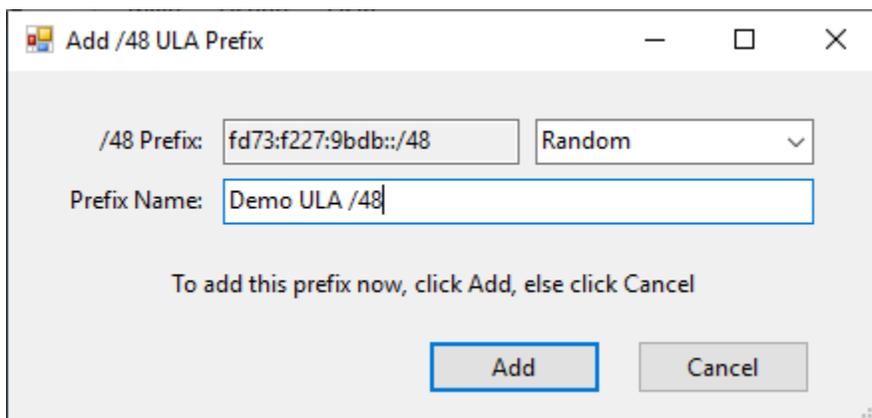


The selected prefix is shown for confirmation. If you want to delete it, click the *Delete* button, else click the *Cancel* button. The selected prefix will be removed from the list.

Add/Delete IPv6 ULA /48 Prefix

By default, no ULA prefixes are defined. If you have a /48 ULA prefix from your organization, you should enter it in the middle ListView by right clicking anywhere in that ListView and selecting the *Add Prefix* option. If you do this, you will see the following dialog box. There are two options for specifying a ULA prefix: *Random* and *Manual*.

If you do not currently have a /48 ULA Prefix for your organization, you can create one in compliance with RFC 4193, "Unique Local IPv6 Unicast Addresses", October 2005. The default option is Random. Each time you select that option, a new random prefix will be generated. If you want to accept a random prefix, supply a prefix name and click the *Add* button.



The screenshot shows a dialog box titled "Add /48 ULA Prefix". It features a standard Windows window title bar with minimize, maximize, and close buttons. The main content area contains two input fields: the first is labeled "/48 Prefix" and contains the text "fd73:f227:9bdb::/48"; the second is a dropdown menu currently showing "Random". Below these is a text input field labeled "Prefix Name" containing "Demo ULA /48". At the bottom of the dialog, there is a line of text: "To add this prefix now, click Add, else click Cancel". Below this text are two buttons: "Add" and "Cancel".

Manage Prefix Lists

Global /48 Prefixes:

Prefix	Prefix Description	
2001:470:ed3a::/48	HE Office /48	

ULA /48 Prefixes:

Prefix	Prefix Description	
fda6:5343:dca1::/48	Company ULA /48	
fd73:f227:9bdb::/48	Demo ULA /48	

Unicast /64 Prefixes:

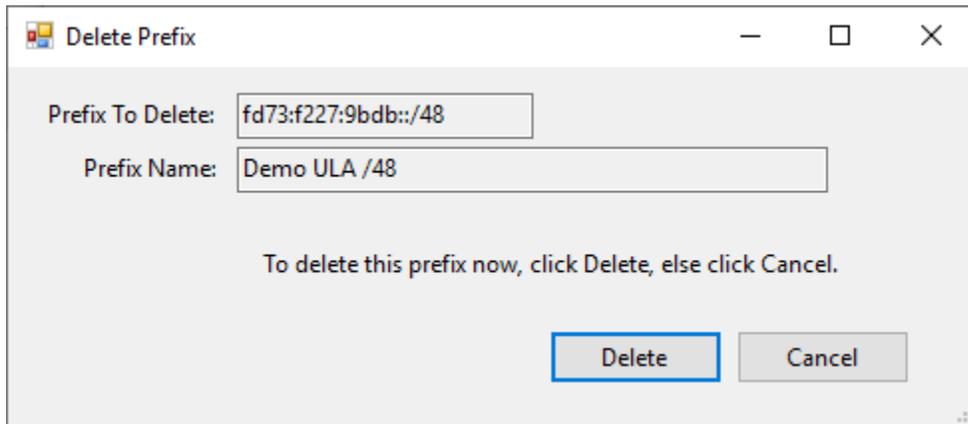
Prefix	Prefix Description	
2001:470:ed3a:1000::/64	HE Office primary /64	
fda6:5343:dca1:420e::/64	Company ULA /64	

Right click is active in all Prefix lists.

Dismiss

If your organization already has a /48 ULA Prefix, you can choose the *Manual* option and enter that prefix now, as for Global /48 prefix. Ask your network administrator if your organization has one already before creating a new one.

To delete an existing ULA /48 prefix, right click on the prefix and select the *Delete Prefix* option. You will see the following dialog box:



The selected prefix is shown for confirmation. If you want to delete it, click the *Delete* button, else click the *Cancel* button.

Add/Delete IPv6 Unicast /64 Prefix

The screenshot shows a dialog box titled "Add Unicast /64 Prefix". It contains the following fields and controls:

- /48 Prefix:** A text box containing "2001:470:ed3a::/48" and a dropdown menu showing "2001:470:ed3a::/48 - HE Office /48".
- Subnet ID:** A text box containing "2000" and a dropdown menu showing "2000".
- /64 Prefix:** A text box containing "2001:470:ed3a:2000::/64".
- Prefix Name:** A text box containing "Second Office /64 subnet".

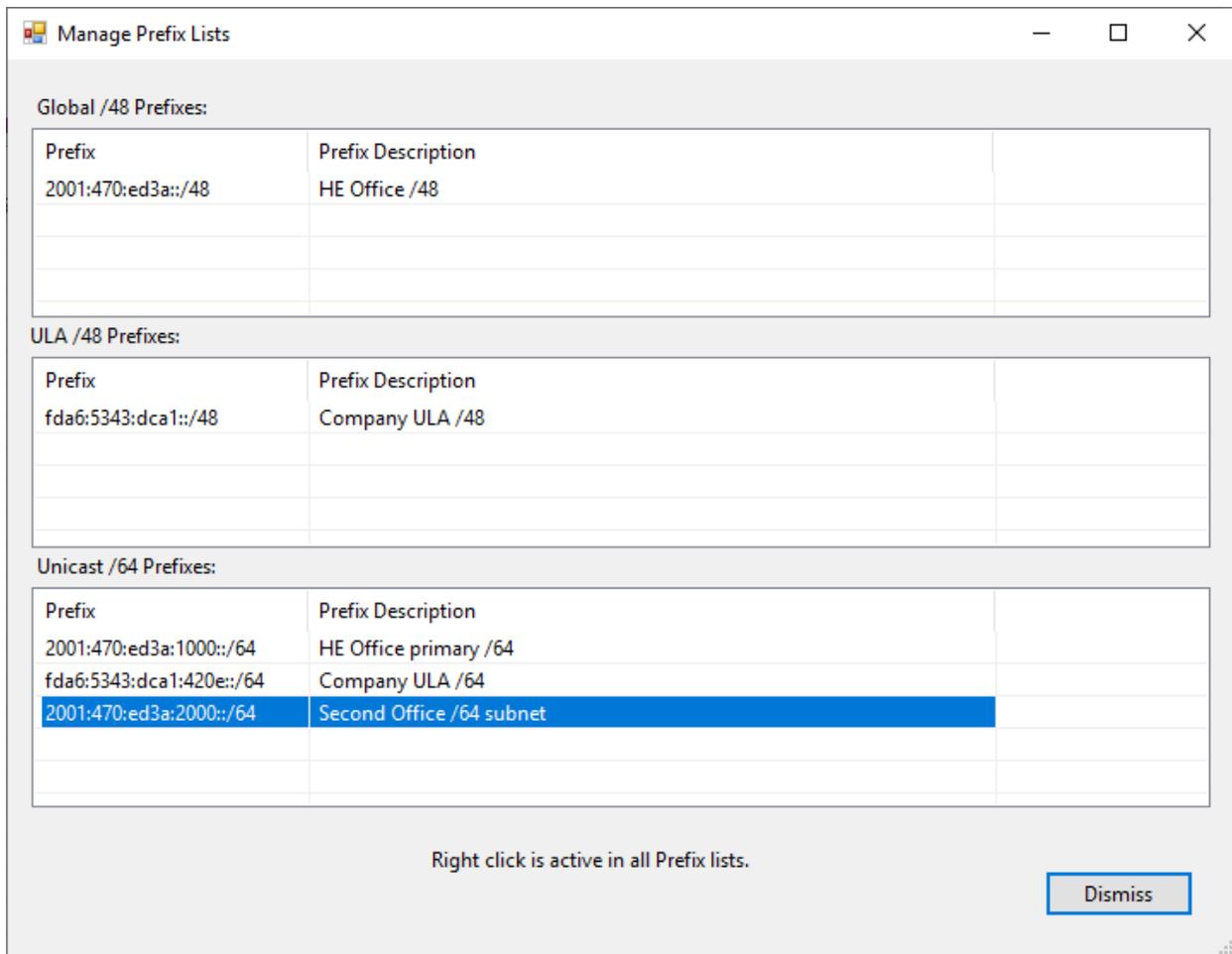
Below the fields, a message reads: "To add this prefix now, click Add, else click Cancel". At the bottom right, there are two buttons: "Add" and "Cancel".

To add a new /64 prefix, right click in the /64 Prefix *ListView* and select the *Add* option.

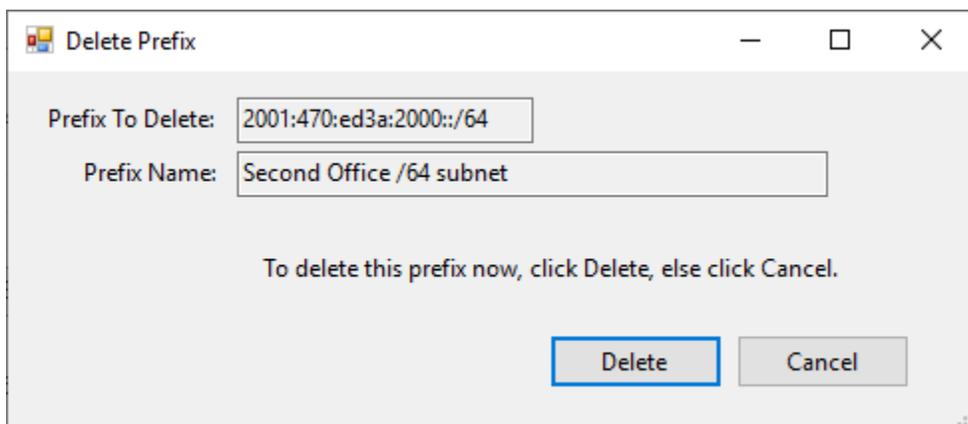
You can create and add any /64 Global or /64 ULA prefix here. If you have defined any /48 Global and/or ULA prefixes, you can choose those from the *ComboBox* to the right of the /48 Prefix *TextBox*. You can choose the fourth 16 bit field (Subnet ID) in various ways. You can choose one randomly, choose one of the defined subnet IDs (0000 to f000), or manually enter any Subnet ID. If you choose *Random* or one of the preset Subnet IDs, the *Subnet ID* *TextBox* will show the chosen Subnet ID, *Read Only*. If you choose *Manual*, the *Subnet ID* *TextBox* will be cleared and set to *Read/Write*, so you can enter any up to 4 digit hex value (e.g. 2400). Do not include any radix (e.g. "0x" or "H").

However you select the Subnet ID, the complete /64 prefix (selected /48 prefix combined with the chosen Subnet ID) will be shown in the /64 Prefix *TextBox*, in *Read Only* mode. When ready to add that prefix to your list of /64 prefixes, click the *Add* button. To abort, click the *Cancel* button.

Creating prefix lists like this will simplify and speed up your IPv6 address entry and reduce possible errors.



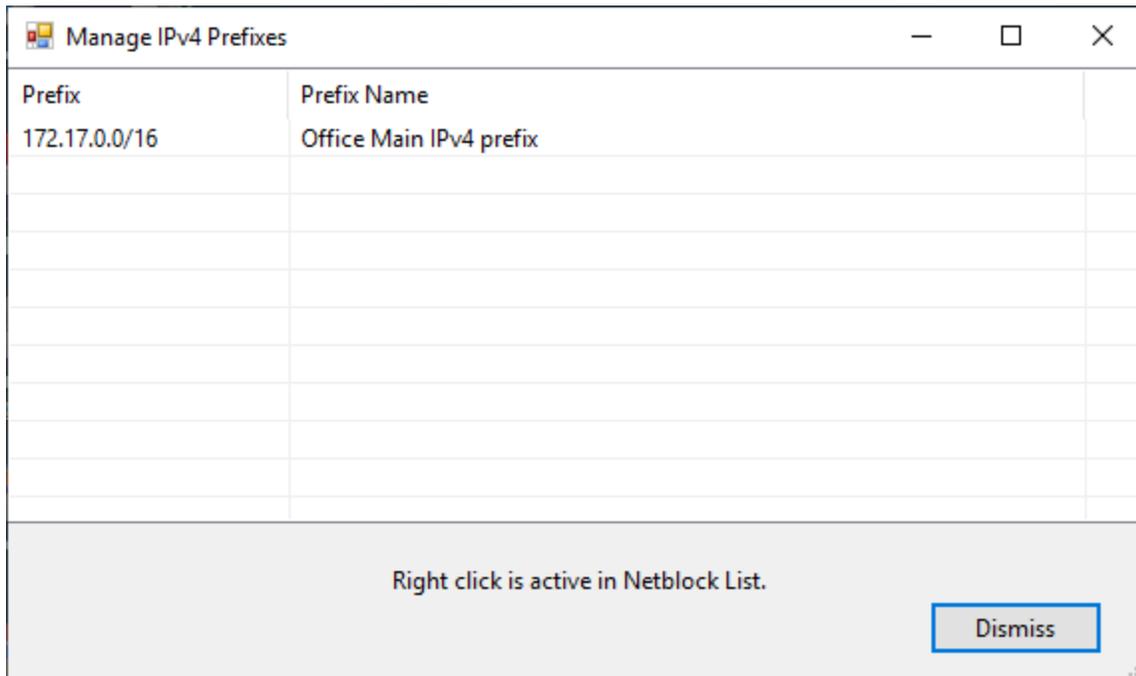
To delete an existing IPv6 /64 prefix, right click on the prefix and select the *Delete Prefix* option. You will see the following dialog box:



The selected prefix is shown for confirmation. If you want to delete it, click the *Delete* button, else click the *Cancel* button. When done managing your IPv6 prefixes, click the *Dismiss* button.

Main Menu / Action / Manage IPv4 Prefixes

If you click on the Action item in the Main Menu (at top of main window), then select *Manage IPv4 Prefixes*, you will see the following dialog box. It allows you to manage IPv4 prefixes available in your network. These will appear in the pulldown list in the *Add IPv4 Address* dialog.



You can add a new IPv4 prefix to this list by right clicking anywhere in the ListView and selecting the *Add IPv4 Prefix* option from the context menu. If you right click on an existing address and select *Delete IPv4 Prefix* you can remove that prefix.

If you select *Add IPv4 Prefix*, you will see the following dialog box.

Base Address of Prefix: 172.18.0.0

Subnet Mask / Prefix Length: 255.255.0.0 - /16

Prefix (CIDR format): 172.18.0.0/16

Prefix Name: Second IPv4 Prefix

To add this Prefix to IPv4 Prefix List, click Add, else click Cancel.

Add Cancel

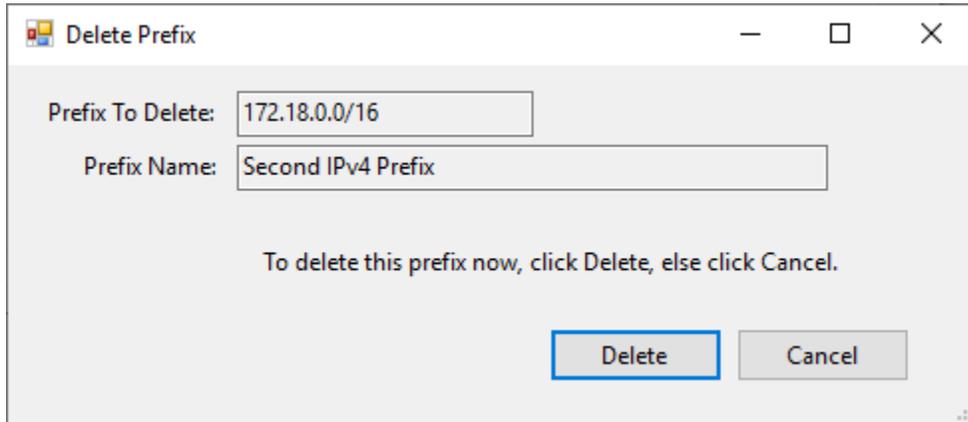
Enter the base (first) address of the prefix (e.g. 172.18.0.0 for 172.18.0.0/16) in the *Base Address* TextBox. Selected the desired subnet mask / prefix length in the following ComboBox. The *Prefix* TextBox (Read Only) will show the complete prefix in CIDR notation. Provide a name for the prefix in the *Prefix Name* TextBox. Click *Add* to add the prefix to the list or *Cancel* to abort.

Prefix	Prefix Name
172.17.0.0/16	Office Main IPv4 prefix
172.18.0.0/16	Second IPv4 Prefix

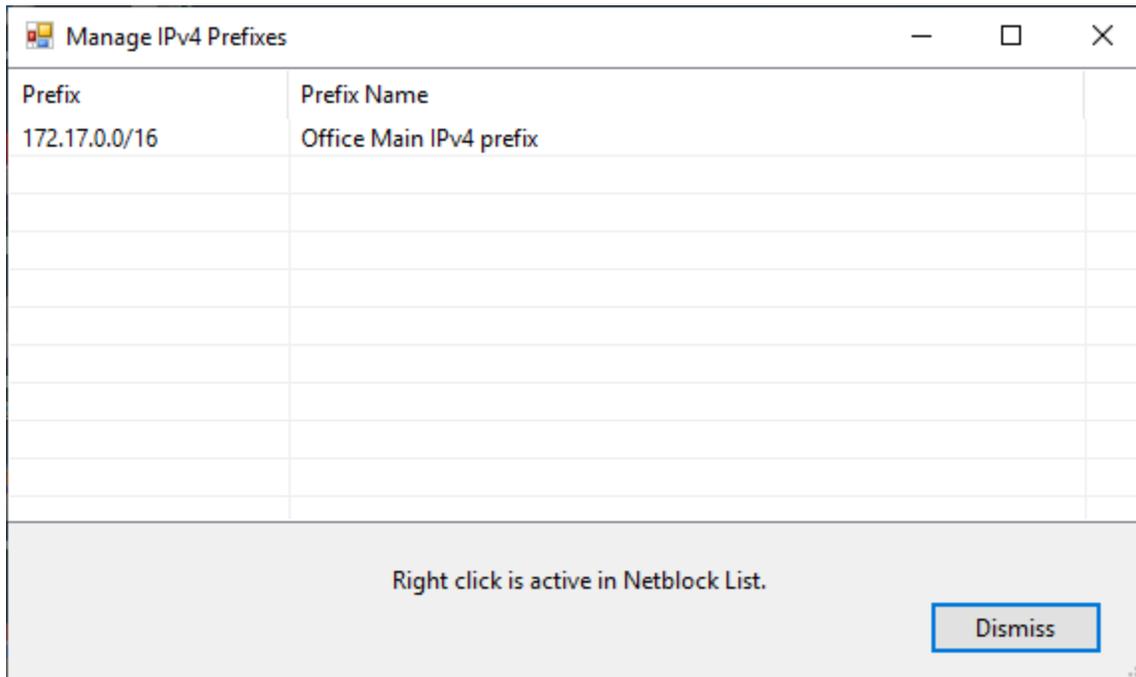
Right click is active in Netblock List.

Dismiss

To delete a prefix in the IPv4 Prefixes list, right click on the address to delete and select *Delete IPv4 Prefix* from the menu. You will see the following dialog box:



To delete the prefix, click *Delete*, else click *Cancel*.



When you are finished with managing your IPv4 Prefixes, click the *Dismiss* button.

Main Menu / Main / Backup Network Configuration

If you click Main / Backup Network Configuration on the main menu (top of main window), you will see a "Save As" dialog box. Choose a path and filename to save your configuration to. By default, it will save it in your Documents directory, using file type `.xml`. The default file name will be your node name. Once you have chosen a suitable path and filename, click *Save*. SixConf will write an XML file contain the network configuration of all of your interfaces. A typical file might look like the following:

```
<?xml version="1.0" encoding="UTF-8"?>
- <Node>
  <Node_Name>LEH-PC</Node_Name>
  <Domain_Name>sg.sixscape.net</Domain_Name>
  <Randomize_Setting>enabled</Randomize_Setting>
  <TempAddr_Setting>enabled</TempAddr_Setting>
  <SixToFourTunnel_Setting>enabled</SixToFourTunnel_Setting>
  <ISATAPTunnel_Setting>enabled</ISATAPTunnel_Setting>
  <TeredoTunnel_Setting>enabled</TeredoTunnel_Setting>
- <Interface>
  <Interface_Name>Ethernet</Interface_Name>
  <Interface_Description>Realtek PCIe GBE Family Controller</Interface_Description>
  <LinkLayer_Address>fc-aa-14-be-96-89</LinkLayer_Address>
  - <IPv4_Info>
    <DHCPv4_Status>Disabled</DHCPv4_Status>
    <Netblock>172.17.0.0/16 (mask 255.255.0.0)</Netblock>
    <DNS_Address Source="Manual">172.17.0.13</DNS_Address>
    <Gateway_Address>172.17.0.1</Gateway_Address>
    <Unicast_Address Source="Manual">172.17.2.1</Unicast_Address>
    <Multicast_Address>224.0.0.1</Multicast_Address>
    <Multicast_Address>224.0.0.251</Multicast_Address>
    <Multicast_Address>224.0.0.252</Multicast_Address>
    <Multicast_Address>239.255.255.250</Multicast_Address>
  </IPv4_Info>
  - <IPv6_Info>
    <ZoneID>16</ZoneID>
    <RouterDiscovery_Setting>default</RouterDiscovery_Setting>
    <ManagedAddress_Setting>default</ManagedAddress_Setting>
    <OtherStateful_Setting>default</OtherStateful_Setting>
    <DNS_Address Source="???">2001:470:ed3a:1000::13</DNS_Address>
    <Gateway_Address>fe80::290:bff:fe25:b1e3</Gateway_Address>
    <Unicast_Address Source="Automatic" Scope="LinkLocal">fe80::b019:23ce:6879:2c0d</Unicast_Address>
    <Unicast_Address Source="Manual" Scope="Global">2001:470:ed3a:1000::2:1</Unicast_Address>
    <Unicast_Address Source="DHCP" Scope="Global">2001:470:ed3a:1000:3c6b:d341:4cd1:68b6</Unicast_Address>
    <Unicast_Address Source="SLAAC" Scope="Global">2001:470:ed3a:1000:b019:23ce:6879:2c0d</Unicast_Address>
    <Unicast_Address Source="SLAAC" Scope="Global">2001:470:ed3a:1000:95cb:670d:6fc7:e6b8</Unicast_Address>
    <Multicast_Address>ff01::1</Multicast_Address>
    <Multicast_Address>ff02::1</Multicast_Address>
    <Multicast_Address>ff02::c</Multicast_Address>
    <Multicast_Address>ff02::fb</Multicast_Address>
    <Multicast_Address>ff02::1:3</Multicast_Address>
    <Multicast_Address>ff02::1:ff02:1</Multicast_Address>
    <Multicast_Address>ff02::1:ff64:e523</Multicast_Address>
    <Multicast_Address>ff02::1:ff76:7f68</Multicast_Address>
    <Multicast_Address>ff02::1:ff79:2c0d</Multicast_Address>
    <Multicast_Address>ff02::1:ffc7:e6b8</Multicast_Address>
    <Multicast_Address>ff02::1:ffd1:68b6</Multicast_Address>
  </IPv6_Info>
</Interface>
</Node>
```

This file can be used to document your network configuration or send to someone else (maybe your network administrator) via e-mail.

You can restore your network configuration to a previously saved configuration with Main / Restore Network Configuration.