

How to change NIC names

It is possible to have the need to assign a particular NIC name or to have the need to rename NICs after cloning a server with the RAID mirror system.

To do this you have to operate changes to **UDEV** configuration files.

For example you can have the following situation:

```
root@torello01:~# ifconfig -a
bond0      Link encap:Ethernet  HWaddr 00:1B:78:40:AE:CA
            inet addr:192.168.30.186  Bcast:192.168.30.191  Mask:255.255.255.224
            UP BROADCAST RUNNING MASTER MULTICAST  MTU:1500  Metric:1
            RX packets:37717 errors:0 dropped:0 overruns:0 frame:0
            TX packets:44943 errors:0 dropped:0 overruns:0 carrier:0
            collisions:0 txqueuelen:0
            RX bytes:8577245 (8.1 Mb)  TX bytes:11363384 (10.8 Mb)

eth7       Link encap:Ethernet  HWaddr 00:1B:78:5C:9F:0A
            BROADCAST MULTICAST  MTU:1500  Metric:1
            RX packets:0 errors:0 dropped:0 overruns:0 frame:0
            TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
            collisions:0 txqueuelen:1000
            RX bytes:0 (0.0 b)  TX bytes:0 (0.0 b)
            Base address:0x8000 Memory:fdfe0000-fe000000

eth8       Link encap:Ethernet  HWaddr 00:1B:78:5C:AD:CB
            BROADCAST MULTICAST  MTU:1500  Metric:1
            RX packets:0 errors:0 dropped:0 overruns:0 frame:0
            TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
            collisions:0 txqueuelen:1000
            RX bytes:0 (0.0 b)  TX bytes:0 (0.0 b)
            Base address:0x5020 Memory:fdca0000-fdcc0000

eth9       Link encap:Ethernet  HWaddr 00:1B:78:40:AE:CA
            UP BROADCAST RUNNING SLAVE MULTICAST  MTU:1500  Metric:1
            RX packets:37714 errors:0 dropped:0 overruns:0 frame:0
            TX packets:34333 errors:0 dropped:0 overruns:0 carrier:0
            collisions:0 txqueuelen:1000
            RX bytes:8577053 (8.1 Mb)  TX bytes:10486423 (10.0 Mb)
            Interrupt:98 Memory:fa000000-fa012100

eth10      Link encap:Ethernet  HWaddr 00:1B:78:5C:9F:0B
            BROADCAST MULTICAST  MTU:1500  Metric:1
            RX packets:0 errors:0 dropped:0 overruns:0 frame:0
            TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
            collisions:0 txqueuelen:1000
            RX bytes:0 (0.0 b)  TX bytes:0 (0.0 b)
            Base address:0x8020 Memory:fdfa0000-fdfc0000
```

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```
eth11    Link encap:Ethernet  HWaddr 00:1B:78:40:AE:CC
         UP BROADCAST RUNNING SLAVE MULTICAST  MTU:1500  Metric:1
         RX packets:3 errors:0 dropped:0 overruns:0 frame:0
         TX packets:10610 errors:0 dropped:0 overruns:0 carrier:0
         collisions:0 txqueuelen:1000
         RX bytes:192 (192.0 b)  TX bytes:876961 (856.4 Kb)
         Interrupt:130 Memory:f8000000-f8012100

eth12    Link encap:Ethernet  HWaddr 00:1B:78:5C:AD:CA
         BROADCAST MULTICAST  MTU:1500  Metric:1
         RX packets:0 errors:0 dropped:0 overruns:0 frame:0
         TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
         collisions:0 txqueuelen:1000
         RX bytes:0 (0.0 b)  TX bytes:0 (0.0 b)
         Base address:0x5000 Memory:fdce0000-fdd00000

lo       Link encap:Local Loopback
         inet addr:127.0.0.1  Mask:255.0.0.0
         UP LOOPBACK RUNNING  MTU:16436  Metric:1
         RX packets:110150 errors:0 dropped:0 overruns:0 frame:0
         TX packets:110150 errors:0 dropped:0 overruns:0 carrier:0
         collisions:0 txqueuelen:0
         RX bytes:34228093 (32.6 Mb)  TX bytes:34228093 (32.6 Mb)
```

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In this situation NIC's configuration it's imposed by the UDEV configuration file:
"/etc/udev/rules.d/30-net__persistent__names.rules".

```
root@torello01:~# cat /etc/udev/rules.d/30-net_persistent_names.rules
[... ]
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:ae:2d", IMPORT="/lib/udev/rename_netiface %k eth3"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1c:c4:97:9f:9c", IMPORT="/lib/udev/rename_netiface %k eth1"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:92:45", IMPORT="/lib/udev/rename_netiface %k eth5"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:92:44", IMPORT="/lib/udev/rename_netiface %k eth4"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1c:c4:97:9f:9a", IMPORT="/lib/udev/rename_netiface %k eth0"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:ae:2c", IMPORT="/lib/udev/rename_netiface %k eth2"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:ad:cb", IMPORT="/lib/udev/rename_netiface %k eth8"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:9f:0a", IMPORT="/lib/udev/rename_netiface %k eth7"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:40:ae:ca", IMPORT="/lib/udev/rename_netiface %k eth9"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:9f:0b", IMPORT="/lib/udev/rename_netiface %k eth10"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:40:ae:cc", IMPORT="/lib/udev/rename_netiface %k eth11"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:ad:ca", IMPORT="/lib/udev/rename_netiface %k eth12"
```

The wrong affiliation between NICs and their names is a direct consequence of the system mirroring. To accommodate the configuration you can follow two different practices, the first one brings to an automatic reconfiguration of NIC's names, the second allows you to impose name to NICs ad your needs.

To perform an automatic NIC's names configuration it's sufficient to delete the content of the file: "/etc/udev/rules.d/30-net__persistent__names.rules" and to reboot the system; during the reboot the file will be automatically filled with all NICs associated with a progressive name from "eth0".

To perform a manual NIC's names allocation you have to change the file: "/etc/udev/rules.d/30-net__persistent__names.rules" inserting the correct names in reference to MAC address and reboot the system.

```
root@torello01:~# cat /etc/udev/rules.d/30-net_persistent_names.rules
[... ]
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:40:ae:ca", IMPORT="/lib/udev/rename_netiface %k eth0"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:40:ae:cc", IMPORT="/lib/udev/rename_netiface %k eth1"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:9f:0a", IMPORT="/lib/udev/rename_netiface %k eth2"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:9f:0b", IMPORT="/lib/udev/rename_netiface %k eth3"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:ad:ca", IMPORT="/lib/udev/rename_netiface %k eth4"
SUBSYSTEM=="net", ACTION=="add", SYSFS{address}=="00:1b:78:5c:ad:cb", IMPORT="/lib/udev/rename_netiface %k eth5"
```

References:

<http://www.kernel.org/pub/linux/utils/kernel/hotplug/udev.html>

Alfonso Vacca (alfonso.vacca@nuvolinux.org)

