Rocky Enterprise Linux 9.2 Manual Pages on command 'nm-settings-keyfile.5'

C:\>man nm-settings-keyfile.5

NM-SETTINGS-KEYFILE(5) Configuration NM-SETTINGS-KEYFILE(5)

NAME

nm-settings-keyfile - Description of keyfile settings plugin

DESCRIPTION

NetworkManager is based on the concept of connection profiles that contain network configuration (see nm-settings(5) for details). The profiles can be stored in various formats. NetworkManager uses plugins for reading and writing the data. The plugins can be configured in NetworkManager.conf(5).

The keyfile plugin is the generic plugin that supports all the connection types and capabilities that NetworkManager has. It writes files out in a .ini-style format in /etc/NetworkManager/system-connections/. This plugin is always enabled and will automatically be used to store any connections that are not supported by any other active plugin. For security, it will ignore files that are readable or writable by any user or group other than 'root' since private keys and passphrases may be stored in plaintext inside the file.

FILE FORMAT

The keyfile config format is a simple .ini-style format. It consists of sections (groups) of key-value pairs. Each section corresponds to a setting name as described in the settings specification (nm-settings(5)). Each configuration key/value pair in the section is one of the properties listed in the settings specification. The majority of properties of the specification is written in the same format into the keyfile too. However some values are inconvenient for people

to use. These are stored in the files in more readable ways. These properties are described below. An example could be IP addresses that are not written as integer arrays, but more reasonably as "1.2.3.4/12 1.2.3.254". More information of the generic key file format can be found at GLib key file format[1] (Lines beginning with a '#' are comments, lists are separated by character ; etc.).

Users can create or modify the keyfile connection files manually, even if that is not the recommended way of managing the profiles. However, if they choose to do that, they must inform NetworkManager about their changes (see monitor-connection-file in nm-settings(5) and nmcli con (re)load).

Examples of keyfile configuration.

A sample configuration for an ethernet network:

```
[connection]
id=Main eth0
uuid=27afa607-ee36-43f0-b8c3-9d245cdc4bb3
type=802-3-ethernet
autoconnect=true
[ipv4]
method=auto
[802-3-ethernet]
mac-address=00:23:5a:47:1f:71
```

A sample configuration for WPA-EAP (PEAP with MSCHAPv2) and always-ask secret:

```
[connection]
id=CompanyWIFI
uuid=cdac6154-a33b-4b15-9904-666772cfa5ee
type=wifi
autoconnect=false
[wifi]
ssid=CorpWLAN
mode=infrastructure
security=802-11-wireless-security
[wifi-security]
key-mgmt=wpa-eap
[ipv4]
```

method=auto

[ipv6]

method=auto

[802-1x]

eap=peap;

identity=joe

ca-cert=/home/joe/.cert/corp.crt

phase1-peapver=1

phase2-auth=mschapv2

password-flags=2

A sample configuration for openvpn:

[connection]

id=RedHat-openvpn

uuid=7f9b3356-b210-4c0e-8123-bd116c9c280f

type=vpn

timestamp=1385401165

[vpn]

service-type=org.freedesktop.NetworkManager.openvpn

connection-type=password

password-flags=3

remote=ovpn.my-company.com

cipher=AES-256-CBC

reneg-seconds=0

port=443

username=joe

ca=/etc/openvpn/ISCA.pem

tls-remote=ovpn.my-company.com

[ipv6]

method=auto

[ipv4]

method=auto

ignore-auto-dns=true

never-default=true

A sample configuration for a bridge and a bridge port:

```
[connection]                          [connection]
id=MainBridge                           id=br-port-1
uuid=171ae855-a0ab-42b6-bd0c-60f5812eea9d    uuid=d6e8ae98-71f8-4b3d-9d2d-2e26048fe794
interface-name=MainBridge                  interface-name=em1
type=bridge                             type=ethernet
                                     master=MainBridge
[bridge]                              slave-type=bridge
interface-name=MainBridge
```

A sample configuration for a VLAN:

```
[connection]
id=VLAN for building 4A
uuid=8ce1c9e0-ce7a-4d2c-aa28-077dda09dd7e
interface-name=VLAN-4A
type=vlan
[vlan]
interface-name=VLAN-4A
parent=eth0
id=4
```

DETAILS

keyfile plugin variables for the majority of NetworkManager properties have one-to-one mapping. It means a NetworkManager property is stored in the keyfile as a variable of the same name and in the same format. There are several exceptions to this rule, mainly for making keyfile syntax easier for humans. The exceptions handled specially by keyfile plugin are listed below. Refer to nm-settings(5) for all available settings and properties and their description.

Name aliases. Some of the NetworkManager setting names are somewhat hard to type or remember. Therefore keyfile introduces aliases that can be used instead of the names.

```
setting name                keyfile alias
802-3-ethernet           =  ethernet
802-11-wireless          =  wifi
802-11-wireless-security  =  wifi-security
```

Table 1. bridge setting (section)

??

?Property ? Keyfile Variable ? Format ? Description ?

??

?mac-address ? mac-address ? usual ? MAC address in ?

? ? ? hex-digits-and-colons ? traditional ?

? ? ? notation ? hex-digits-and-colons ?

? ? ? ? notation, or ?

? ? ? ? semicolon ?

? ? ? ? separated list of ?

? ? ? ? 6 decimal bytes ?

? ? ? ? (obsolete) ?

? ? ? ? ?

? ? ? ? Example: ?

? ? ? ? mac-address=00:22:68:12:79:A2 ?

? ? ? ? mac-address=0;34;104;18;121;162; ?

??

Table 2. infiniband setting (section)

??

??????????????????????

?Property ? Keyfile Variable ? Format ? Description ?

??

??????????????????????

?mac-address ? mac-address ? usual ? MAC address in ?

? ? ? hex-digits-and-colons ? traditional ?

? ? ? notation ? hex-digits-and-colons ?

? ? ? ? notation, or or ?

? ? ? ? semicolon ?

? ? ? ? separated list of ?

? ? ? ? 20 decimal bytes ?

? ? ? ? (obsolete) ?

? ? ? ? ?

? ? ? ? Example: ?

? ? ? ? mac-address= ?

? ? ? ? 80:00:00:6d:fe:80:00:00:00:00:00:00:00:02:55:00:70:33:cf:01 ?

??

Table 3. ipv4 setting (section)

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?Property ? Keyfile Variable ? Format ? Description ?

??

?dns ? dns ? list of DNS IP ? List of DNS ?

? ? ? addresses ? servers. ?

? ? ? ? ?

? ? ? ? Example: ?

? ? ? ? dns=1.2.3.4;8.8.8.8;8.8.4.4; ?

??

?addresses ? address1, ? address/plen ? List of static IP addresses. ?

? ? address2, ... ? ? ?

? ? ? ? Example: ?

? ? ? ? address1=192.168.100.100/24 ?

? ? ? ? address2=10.1.1.5/24 ?

??

?gateway ? gateway ? string ? Gateway IP addresses as a ?

? ? ? ? string. ?

? ? ? ? ?

? ? ? ? Example: ?

? ? ? ? gateway=192.168.100.1 ?

??

?routes ? route1, route2, ? route/plen[,gateway,metric] ? List of IP routes. ?

? ? ... ? ? ?

? ? ? ? Example: ?

? ? ? ? route1=8.8.8.0/24,10.1.1.1,77 ?

? ? ? ? route2=7.7.0.0/16 ?

??

Table 4. ipv6 setting (section)

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?Property ? Keyfile Variable ? Format ? Description ?

??

?dns ? dns ? list of DNS IP ? List of DNS ?

? ? ? addresses ? servers. ?

? ? ? ? ?

? ? ? ? Example: ?

? ? ? ? dns=2001:4860:4860::8888;2001:4860:4860::8844; ?

??

?addresses ? address1, ? address/plen ? List of static IP addresses. ?

? ? address2, ... ? ? ?

? ? ? ? Example: address1=abbe::cafe/96 ?

? ? ? ? address2=2001::1234 ?

??

?gateway ? gateway ? string ? Gateway IP addresses as a string. ?

? ? ? ? ?

? ? ? ? Example: gateway=abbe::1 ?

??

?routes ? route1, route2, ? route/plen[,gateway,metric] ? List of IP routes. ?

? ? ... ? ? ?

? ? ? ? Example: ?

? ? ? ? route1=2001:4860:4860::/64,2620:52:0:2219:222:68ff:fe11:5403 ?

??

Table 5. serial setting (section)

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?Property ? Keyfile Variable ? Format ? Description ?

??

?parity ? parity ? 'e', 'o', or 'n' ? The connection ?

? ? ? ? parity; even, odd, ?

? ? ? ? or none. Note that ?

? ? ? ? older versions of ?

? ? ? ? NetworkManager ?

? ? ? ? stored this as an ?

? ? ? ? integer: 69 ('E') ?

? ? ? ? for even, 111 ?

? ? ? ? ('o') for odd, or ?

? ? ? ? 110 ('n') for ?

? ? ? ? none. ?

? ? ? ? ? ?

? ? ? ? Example: parity=n ?

??

Table 6. vpn setting (section)

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?Property ? Keyfile Variable ? Format ? Description ?

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?data ? separate variables ? ? The keys of the ?

? ? named after keys ? ? data dictionary ?

? ? of the dictionary ? ? are used as ?

? ? ? ? variable names ?

? ? ? ? directly under ?

? ? ? ? [vpn] section. ?

? ? ? ? ?

? ? ? ? Example: ?

? ? ? ? remote=ovpn.corp.com ?

? ? ? ? cipher=AES-256-CBC ?

? ? ? ? username=joe ?

??

?secrets ? separate variables ? ? The keys of the ?

? ? named after keys ? ? secrets dictionary ?

? ? of the dictionary ? ? are used as variable ?

? ? ? ? names directly under ?

? ? ? ? [vpn-secrets] ?

? ? ? ? section. ?

? ? ? ? ?

? ? ? ? Example: ?

? ? ? ? password=Popocatepetl ?

??

Table 7. wifi-p2p setting (section)

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?Property ? Keyfile Variable ? Format ? Description ?

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?peer ? peer ? usual ? MAC address in ?

? ? ? hex-digits-and-colons ? traditional ?

? ? ? notation ? hex-digits-and-colons ?

? ? ? ? notation (e.g. ?

? ? ? ? 00:22:68:12:79:A2), ?

? ? ? ? or semicolon ?

? ? ? ? separated list of ?

? ? ? ? 6 bytes (obsolete) ?

? ? ? ? (e.g. ?

? ? ? ? 0;34;104;18;121;162). ?

??

Table 8. 802-3-ethernet setting (section)

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??????????????

?Property ? Keyfile Variable ? Format ? Description ?

??

??????????????

?mac-address ? mac-address ? usual ? MAC address in ?

? ? ? hex-digits-and-colons ? traditional ?

? ? ? notation ? hex-digits-and-colons ?

? ? ? ? notation (e.g. ?

? ? ? ? 00:22:68:12:79:A2), ?

? ? ? ? or semicolon ?

? ? ? ? separated list of ?

? ? ? ? 6 bytes (obsolete) ?

? ? ? ? (e.g. ?

? ? ? ? 0;34;104;18;121;162) ?

??

??????????????

?cloned-mac-address ? cloned-mac-address ? usual ? Cloned MAC address in ?

? ? ? hex-digits-and-colons ? traditional ?

? ? ? notation ? hex-digits-and-colons ?

? ? ? ? notation (e.g. ?

? ? ? ? 00:22:68:12:79:B2), ?

? ? ? ? or semicolon ?

? ? ? ? separated list of 6 ?

? ? ? ? bytes (obsolete) ?

? ? ? ? (e.g. ?

? ? ? ? 0;34;104;18;121;178). ?

??

??????????????

?mac-address-blacklist ? mac-address-blacklist ? list of MACs ? MAC address ?

? ? ? (separated with ? blacklist. ?

? ? ? semicolons) ? ?

? ? ? ? Example: ?

? ? ? ? mac-address-blacklist= ?

? ? ? ? 00:22:68:12:79:A6;00:22:68:12:79:78 ?

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????????????

Table 9. 802-11-wireless setting (section)

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?Property ? Keyfile Variable ? Format ? Description ?

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????????????

?ssid ? ssid ? string (or ? SSID of Wi-Fi ?

? ? ? decimal-byte list ? network. ?

? ? ? - obsolete) ? ?

? ? ? ? Example: ?

? ? ? ? ssid=Quick Net ?

??

????????????

?mac-address ? mac-address ? usual ? MAC address in ?

? ? ? hex-digits-and-colons ? traditional ?

? ? ? notation ? hex-digits-and-colons ?

? ? ? ? notation (e.g. ?

? ? ? ? 00:22:68:12:79:A2), ?

? ? ? ? or semicolon ?

? ? ? ? separated list of ?

? ? ? ? 6 bytes (obsolete) ?

? ? ? ? (e.g. ?

? ? ? ? 0;34;104;18;121;162). ?

??

?cloned-mac-address ? cloned-mac-address ? usual ? Cloned MAC address in ?

? ? ? hex-digits-and-colons ? traditional ?

? ? ? notation ? hex-digits-and-colons ?

? ? ? ? notation (e.g. ?

? ? ? ? 00:22:68:12:79:B2), ?

? ? ? ? or semicolon ?

? ? ? ? separated list of 6 ?

? ? ? ? bytes (obsolete) ?

? ? ? ? (e.g. ?

? ? ? ? 0;34;104;18;121;178). ?

??

?mac-address-blacklist ? mac-address-blacklist ? list of MACs ? MAC address ?

? ? ? (separated with ? blacklist. ?

? ? ? semicolons) ? ?

? ? ? ? Example: ?

? ? ? ? mac-address-blacklist= ?

? ? ? ? 00:22:68:12:79:A6;00:22:68:12:79:78 ?

??

Table 10. wpan setting (section)

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?Property ? Keyfile Variable ? Format ? Description ?

??

?mac-address ? mac-address ? usual ? MAC address in ?

? ? ? hex-digits-and-colons ? hex-digits-and-colons ?

? ? ? notation ? notation (e.g. ?

? ? ? ? 76:d8:9b:87:66:60:84:ee). ?

??

Secret flags

Each secret property in a NetworkManager setting has an associated flags property that describes how to handle that secret. In the keyfile plugin, the value of -flags variable is a decimal number (0 - 7) defined as a sum of the following values:

? 0 - (NM owned) - the system is responsible for providing and storing this secret.

? 1 - (agent-owned) - a user-session secret agent is responsible for providing and storing this secret; when it is required, agents will be asked to provide it.

? 2 - (not-saved) - this secret should not be saved but should be requested from the user each time it is required.

? 4 - (not-required) - in some situations it cannot be automatically determined that a secret is required or not. This flag hints that the secret is not required and should not be requested from the user.

FILES

/etc/NetworkManager/system-connections/*

SEE ALSO

nm-settings(5), nm-settings-ifcfg-rh(5), NetworkManager(8), NetworkManager.conf(5), nmcli(1), nmcli-examples(7)

NOTES

1. GLib key file format

https://developer.gnome.org/glib/stable/glib-Key-value-file-parser.html#glib-Key-value-file-parser.description