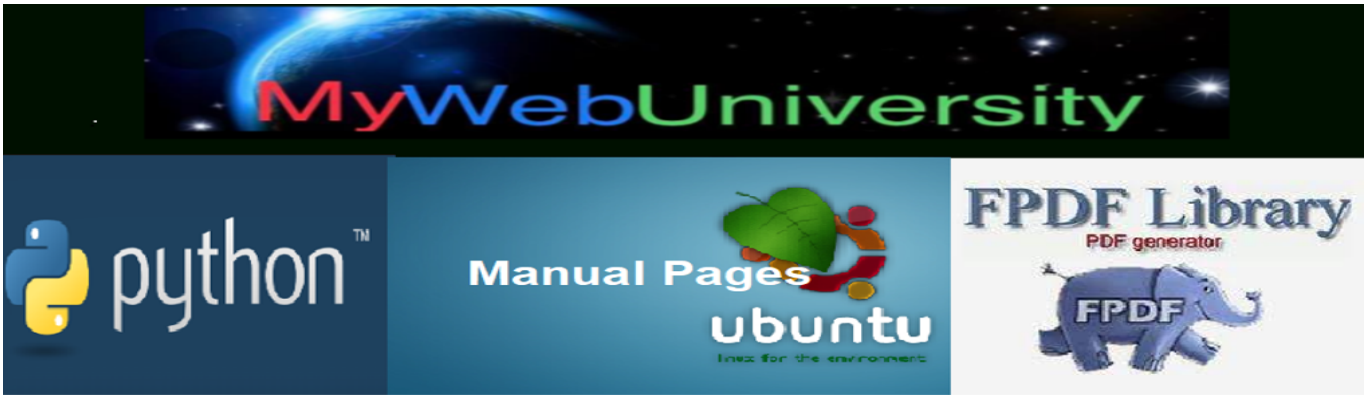

Rocky Enterprise Linux 9.2 Manual Pages on command 'nm-settings-keyfile.5'

$ 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. The files are in a .ini-style format and located in /etc/NetworkManager/system-connections/, /usr/lib/NetworkManager/system-connections/ and /run/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 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 (for example via 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)

?Property	? Keyfile Variable	? Format	? Description
?dns	? dns	? list of DNS IP addresses	? List of DNS servers. Example: dns=1.2.3.4;8.8.8.8;8.8.4.4;
?addresses	? address1, address2, ...	? address/plen	? List of static IP addresses. 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)

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

?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, address2, ? address/plen ? List of static IP addresses. ?
? ? ... ? ? ?
? ? ? ? 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)

??

?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)

??

?Property ? Keyfile Variable ? Format ? Description ?

??

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

? ? named after keys of ? ? data dictionary are ?

? ? the dictionary ? ? 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 of ? ? secrets dictionary ?

? ? the dictionary ? ? are used as variable ?

? ? ? ? names directly under ?

? ? ? ? [vpn-secrets] ?

? ? ? ? section. ?

? ? ? ? ? ?

? ? ? ? Example: ?

? ? ? ? password=Popocatepetl ?

??

Table 7. wifi-p2p setting (section)

??

?Property ? Keyfile Variable ? Format ? Description ?

??

?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)

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

?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 ?

??

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

??

?Property ? Keyfile Variable ? Format ? Description ?

??

?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)

??

?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