nmcli NetworkManager CLI

START HERE

`nmcli general status`
Overall state

`nmcli device status`
List interfaces

`nmcli device wifi list`
Scan Wi-Fi

`nmcli --ask device wifi connect <ssid>`
Join Wi-Fi

`nmcli connection show`
Saved profiles

`nmcli connection up <name>`
Activate profile

`nmcli connection down <name>`
Deactivate profile

`nmcli connection modify <name> <prop> <value>`
Edit profile

Device eth0, wlan0 → has → **Profile** saved settings → up → **Active connection** running config

CONCEPTS

A device is a network interface; a connection is a saved profile that can be activated on a device.

Names can be abbreviated: nmcli c s, nmcli d, nmcli d w l.

connection modify writes the saved profile only; run connection up again (or device reapply) to apply it.

Use -t -f <fields> (or -g) and LC_ALL=C for stable output in scripts.

STATUS

`nmcli general status`
Show NetworkManager state

`nmcli device status`
List devices and their state

`nmcli device show <ifname>`
Show device details and IP

`nmcli networking connectivity check`
Recheck internet connectivity

`nmcli -t -f RUNNING general`
Is NetworkManager running?

`nmcli monitor`
Watch changes live

STATUS (cont.)

`nmcli device monitor <ifname>`
Watch one device

WI-FI

`nmcli device wifi list`
List access points

`nmcli device wifi connect <ssid> password <pw>`
Connect to a network
The password lands in shell history; use --ask to be prompted instead.

`nmcli --ask device wifi connect <ssid>`
Connect, prompt for password

`nmcli radio wifi off`
Switch Wi-Fi off

`nmcli radio wifi on`
Switch Wi-Fi on

`nmcli device wifi rescan`
Trigger a new scan

`nmcli device wifi list --rescan yes`
Rescan, then list

`nmcli device wifi connect <ssid> password <pw> hidden yes`
Join a hidden network

`nmcli device wifi connect <ssid> password <pw> ifname <ifname>`
Use a specific adapter

WI-FI (cont.)

`nmcli device wifi show-password`
Show current SSID and key

`nmcli device wifi hotspot ssid <ssid> password <pw>`
Start a hotspot

CONNECTIONS

`nmcli connection show`
List saved profiles

`nmcli connection show --active`
List active connections

`nmcli connection show <name>`
Show every setting of a profile

`nmcli connection up <name>`
Activate a profile

`nmcli connection down <name>`
Deactivate a profile

`nmcli connection up <name> ifname <ifname>`
Activate on a given device

`nmcli connection delete <name>`
Delete a profile

`nmcli connection clone <name> <new-name>`
Copy a profile

`nmcli connection edit <name>`
Edit interactively

CONNECTIONS (cont.)

`nmcli connection reload`
Reread profiles from disk

`nmcli connection show -s <name>`
Show profile including secrets

ADD AND MODIFY

`nmcli connection add type ethernet ifname <ifname> con-name <name>`
Create an Ethernet profile (DHCP)

`nmcli connection add type wifi ifname <ifname> con-name <name> ssid <ssid>`
Create a Wi-Fi profile

`nmcli connection modify <name> connection.autoconnect no`
Stop auto-connecting

`nmcli connection modify <name> wifi-sec.key-mgmt wpa-psk wifi-sec.psk <pw>`
Set Wi-Fi security

`nmcli connection modify <name> ipv4.method manual ipv4.addresses <ip>/<len> ipv4.gateway <gw>`
Set a static IPv4 address

`nmcli connection modify <name> ipv4.dns "<dns1> <dns2>"`
Set DNS servers

ADD AND MODIFY (cont.)

`nmcli connection modify <name> +ipv4.dns <dns>`
Append a DNS server

`nmcli connection modify <name> -ipv4.dns <dns>`
Remove a DNS server

`nmcli connection modify <name> ipv4.method auto`
Back to DHCP

DEVICES AND SYSTEM

`nmcli device connect <ifname>`
Connect a device

`nmcli device disconnect <ifname>`
Disconnect, block auto-connect

`nmcli device reapply <ifname>`
Apply profile changes live

`nmcli general hostname`
Show the hostname

`nmcli general hostname <name>`
Set the hostname

OUTPUT AND OPTIONS

`nmcli -p <command>`
Pretty output

OUTPUT AND OPTIONS (cont.)

`nmcli -t -f <fields> <command>`
Terse, selected fields

`nmcli -g <fields> <command>`
Print only the values

RECIPES

Static IP on Ethernet

```
nmcli connection modify "Wired
connection 1" \
  ipv4.method manual \
  ipv4.addresses
192.168.1.50/24 \
  ipv4.gateway 192.168.1.1 \
  ipv4.dns "1.1.1.1 9.9.9.9"
nmcli connection up "Wired
connection 1"
```

Join Wi-Fi and check it

```
nmcli radio wifi on
nmcli device wifi list --rescan
yes
nmcli --ask device wifi connect
"MyNet"
nmcli connection show --active
```

Share Wi-Fi from this machine

```
nmcli device wifi hotspot
ifname wlan0 ssid MyAP password
s3cretpass
nmcli device wifi show-password
# stop it later
nmcli connection down Hotspot
```

Script: SSID of the active Wi-Fi

```
LC_ALL=C nmcli -t -f
active,ssid device wifi | grep
'^yes' | cut -d: -f2
```