

# nmcli Cheatsheet

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Quick reference for using nmcli to manage NetworkManager devices, connection profiles, Wi-Fi, static IP addresses, DNS, and troubleshooting

The `nmcli` command controls NetworkManager from the terminal. This cheatsheet covers the common commands for checking network status, managing devices and profiles, connecting to Wi-Fi, configuring static IP addresses, and troubleshooting network changes.

## Basic Syntax

Use this structure for most `nmcli` commands.

<code>nmcli [OPTIONS] OBJECT COMMAND</code>	General command syntax
<code>nmcli OBJECT help</code>	Show help for an object
<code>nmcli --version</code>	Show nmcli version
<code>nmcli -t ...</code>	Use terse output for scripts
<code>nmcli -f FIELD1,FIELD2 ...</code>	Select output fields
<code>nmcli -g FIELD ...</code>	Print field values only

## General Status

Check NetworkManager state and hostname settings.

<code>nmcli general status</code>	Show overall NetworkManager status
<code>nmcli networking connectivity</code>	Check internet connectivity state
<code>nmcli general hostname</code>	Show system hostname
<code>sudo nmcli general hostname server01</code>	Set system hostname
<code>nmcli general permissions</code>	Show NetworkManager permissions
<code>nmcli general logging</code>	Show logging level and domains

## Devices

Inspect and control network interfaces.

<code>nmcli device status</code>	List devices and connection state
<code>nmcli device show eth0</code>	Show detailed device properties
<code>nmcli -f GENERAL,IP4 device show eth0</code>	Show selected device sections
<code>sudo nmcli device connect eth0</code>	Connect a device
<code>sudo nmcli device disconnect eth0</code>	Disconnect a device
<code>nmcli device reapply eth0</code>	Reapply active profile settings

## Connection Profiles

Manage saved NetworkManager profiles.

<code>nmcli connection show</code>	List all profiles
<code>nmcli connection show --active</code>	List active profiles
<code>nmcli connection show "home-wifi"</code>	Show one profile
<code>sudo nmcli connection up "home-wifi"</code>	Activate a profile
<code>sudo nmcli connection down "home-wifi"</code>	Deactivate a profile
<code>sudo nmcli connection delete "home-wifi"</code>	Delete a saved profile

## Wi-Fi

Scan networks and connect to wireless profiles.

<code>nmcli radio wifi</code>	Show Wi-Fi radio state
<code>sudo nmcli radio wifi on</code>	Turn Wi-Fi on
<code>sudo nmcli radio wifi off</code>	Turn Wi-Fi off
<code>nmcli device wifi list</code>	Scan visible Wi-Fi networks
<code>sudo nmcli device wifi connect "SSID" password "PASSWORD"</code>	Connect with password
<code>sudo nmcli --ask device wifi connect "SSID"</code>	Prompt for Wi-Fi password
<code>sudo nmcli device wifi connect "SSID" password "PASSWORD" hidden yes</code>	Connect to hidden network

## Static IPv4

Set or remove manual IPv4 settings on a profile.

<code>sudo nmcli connection modify "Wired connection 1" ipv4.method manual</code>	Use manual IPv4
<code>sudo nmcli connection modify "Wired connection 1" ipv4.addresses 192.168.1.50/24</code>	Set static address
<code>sudo nmcli connection modify "Wired connection 1" ipv4.gateway 192.168.1.1</code>	Set gateway
<code>sudo nmcli connection modify "Wired connection 1" ipv4.dns "1.1.1.1 9.9.9.9"</code>	Set DNS servers
<code>sudo nmcli connection up "Wired connection 1"</code>	Apply profile changes
<code>nmcli -g IP4.ADDRESS,IP4.GATEWAY connection show "Wired connection 1"</code>	Check IPv4 settings

## DHCP and DNS

Return to DHCP or adjust DNS servers.

<code>sudo nmcli connection modify "Wired connection 1" ipv4.method auto</code>	Use DHCP for IPv4
<code>sudo nmcli connection modify "Wired connection 1" ipv4.addresses ""</code>	Clear static address
<code>sudo nmcli connection modify "Wired connection 1" ipv4.gateway ""</code>	Clear static gateway
<code>sudo nmcli connection modify "Wired connection 1" ipv4.dns ""</code>	Clear static DNS
<code>sudo nmcli connection modify "Wired connection 1" +ipv4.dns 8.8.8.8</code>	Append DNS server
<code>sudo nmcli connection modify "Wired connection 1" -ipv4.dns 8.8.8.8</code>	Remove DNS server

## Add Profiles

Create new wired and wireless profiles.

<pre>sudo nmcli connection add type ethernet ifname eth0 con-name "wired-dhcp"</pre>	Add wired DHCP profile
<pre>sudo nmcli connection add type ethernet ifname eth0 con-name "wired-static" ip4 192.168.1.50/24 gw4 192.168.1.1</pre>	Add wired static profile
<pre>sudo nmcli connection add type wifi ifname wlan0 con-name "office-wifi" ssid "Office"</pre>	Add Wi-Fi profile
<pre>sudo nmcli connection modify "office-wifi" wifi-sec.key-mgmt wpa-psk</pre>	Set WPA-PSK security
<pre>sudo nmcli connection modify "office-wifi" wifi-sec.psk "PASSWORD"</pre>	Set Wi-Fi password
<pre>sudo nmcli connection up "wired-static"</pre>	Activate new profile

## Scripting Output

Use stable output formats in scripts.

<pre>nmcli -t connection show --active</pre>	Terse active profile list
<pre>nmcli -t -f NAME,DEVICE connection show --active</pre>	Active names and devices
<pre>nmcli -g GENERAL.STATE device show eth0</pre>	Print device state value
<pre>nmcli -g IP4.ADDRESS device show eth0</pre>	Print IPv4 address values
<pre>nmcli -f DEVICE,TYPE,STATE device status</pre>	Select device status fields
<pre>nmcli -m multiline connection show "home-wifi"</pre>	Multiline profile details

## Monitor and Reload

Watch changes and reload profile files.

<pre>nmcli monitor</pre>	Watch NetworkManager events
<pre>nmcli device monitor eth0</pre>	Watch one device
<pre>sudo nmcli connection reload</pre>	Reload profile files from disk
<pre>sudo nmcli general reload</pre>	Reload NetworkManager configuration
<pre>sudo nmcli general reload dns-rc</pre>	Rewrite DNS resolver configuration
<pre>journalctl -u NetworkManager -n 100</pre>	Show recent NetworkManager logs

## Troubleshooting

Fast checks for common NetworkManager issues.

NetworkManager is not running	<code>sudo systemctl start NetworkManager</code>
Wi-Fi list is empty	<code>sudo nmcli radio wifi on</code> and <code>rfkill list</code>
Wrong profile is active	<code>nmcli connection show --active</code>
Static IP did not apply	<code>sudo nmcli connection up "PROFILE"</code>
DNS is not working	<code>nmcli -g IP4.DNS device show eth0</code>
Permission denied	Run the command with <code>sudo</code>

## Related Guides

Use these articles for detailed networking workflows.

<a href="#">nmcli Command in Linux</a>	Complete <code>nmcli</code> command guide
<a href="#">Linux ip Command with Examples</a>	Interface, address, and route management
<a href="#">How to Configure Static IP Address on Ubuntu</a>	Netplan and desktop static IP setup
<a href="#">How to Use the dig Command</a>	DNS lookup and troubleshooting
<a href="#">SSH Command in Linux</a>	Remote shell access and options