DNF Fedora package manager

START HERE

`dnf check-update`
List available updates

`sudo dnf install <pkg>`
Install a package

`sudo dnf upgrade`
Install all updates

`sudo dnf remove <pkg>`
Uninstall a package

`dnf search <term>`
Find a package

`dnf provides <file>`
Which package ships a file

`dnf info <pkg>`
Read package details

`dnf history`
Browse past transactions

Repositories /etc/yum.repos.d → `metadata cache` → **Dependency solver** one transaction → `confirm, download` → **RPM transaction** install / remove → `recorded` → **History** undo / rollback

CONCEPTS

Unlike apt, dnf refreshes stale metadata itself, so there is no separate update step. upgrade is the one that installs.

Fedora, RHEL and derivatives. Changing the system needs root, so prefix with sudo. Command syntax here follows the DNF 4 manual; DNF 5 (Fedora 41+) mostly matches, but check dnf5 help for edge cases.

config-manager comes from the dnf-plugins-core package; install it first if the command is missing.

UPDATE AND UPGRADE

`dnf check-update`
List updates; exit code 100 if any
Exit code 100 means updates exist, 0 none, 1 an error: handy in scripts.

`sudo dnf upgrade`
Upgrade all packages

`sudo dnf upgrade <pkg>`
Upgrade one package

`sudo dnf upgrade --security`
Only security advisories

`sudo dnf upgrade --bugfix`
Only bugfix advisories

`sudo dnf upgrade --refresh`
Expire metadata first

`sudo dnf distro-sync`
Match repo versions, even downgrade

`sudo dnf upgrade --releasever=<n>`
Target another release

INSTALL AND REMOVE

`sudo dnf install <pkg>`
Install a package

`sudo dnf install <pkg1> <pkg2>`
Install several at once

`sudo dnf install ./<file>.rpm`
Install a local rpm with deps

`sudo dnf remove <pkg>`
Remove a package and dependents
Also removes packages that depend on it; read the list before confirming.

INSTALL AND REMOVE (cont.)

`sudo dnf autoremove`
Remove orphaned dependencies

`sudo dnf reinstall <pkg>`
Reinstall a package

`sudo dnf downgrade <pkg>`
Go back to a lower version

`sudo dnf install <pkg>-<version>`
Install an exact version

`sudo dnf swap <old> <new>`
Replace one package with another

`sudo dnf install --allowerasing <pkg>`
Let it remove conflicting packages

`sudo dnf install --skip-broken <pkg>`
Skip packages that cannot resolve

`sudo dnf install --downloadonly <pkg>`
Download without installing

`sudo dnf install -y <pkg>`
Answer yes to prompts

`sudo dnf install --enablerepo=<id> <pkg>`
Use a repo for this run

`sudo dnf install --exclude=<pkg> <pkg>`
Leave one package out

SEARCH AND INSPECT

`dnf search <term>`
Search names and summaries
Several keywords are ANDed; --all makes it match any.

`dnf info <pkg>`
Show package details

`dnf provides <path>`
Find the package owning a file

`dnf list --installed`
List installed packages

`dnf list --available`
List installable packages

`dnf list --upgrades`
List packages with updates

`dnf list --extras`
Installed but in no repo

`dnf repoquery -l <pkg>`
List files in a package

`dnf repoquery --requires <pkg>`
Show what a package needs

SEARCH AND INSPECT (cont.)

`dnf repoquery --whatrequires <pkg>`
Show what depends on it

`dnf repoquery --userinstalled`
Packages you installed yourself

`dnf repoquery --unneeded`
Packages autoremove would drop

`dnf repoquery -i <pkg>`
Package info from the repos

`dnf repoquery --installed --duplicates`
Find duplicate versions

HISTORY AND UNDO

`dnf history`
List recent transactions

`dnf history info <id>`
Show what a transaction did

`sudo dnf history undo <id>`
Revert one transaction

`sudo dnf history undo last`
Revert the latest transaction

`sudo dnf history redo <id>`
Repeat a transaction

`sudo dnf history rollback <id>`
Revert everything after <id>
Rolls back all transactions after the given one, not just that one.

`dnf history userinstalled`
Packages installed by request

GROUPS AND MODULES

`dnf group list`
List package groups

`dnf group info <group>`
Show a group's packages

`sudo dnf group install <group>`
Install a whole group

`sudo dnf group install --with-optional <group>`
Include optional members

`sudo dnf group remove <group>`
Remove a group

`dnf module list`
List modules and streams
Modularity is deprecated and will go away in DNF 5.

GROUPS AND MODULES (cont.)

`sudo dnf module enable <name>:<stream>`
Enable a module stream

REPOS AND CACHE

`dnf repolist`
List enabled repos

`dnf repolist --all`
Include disabled repos

`dnf repoinfo`
Repo details

`sudo dnf config-manager --set-enabled <repo>`
Enable a repo permanently

`sudo dnf config-manager --set-disabled <repo>`
Disable a repo permanently

`sudo dnf makecache`
Rebuild the metadata cache

`sudo dnf clean all`
Drop all cached data

`sudo dnf clean packages`
Drop cached rpms only

`sudo dnf --refresh <command>`
Expire metadata for one run

`dnf --disablerepo=<id> <command>`
Ignore a repo for one run

`dnf --setopt=<opt>=<val> <command>`
Override config for one run

`sudo dnf mark install <pkg>`
Mark as user-installed

`sudo dnf mark remove <pkg>`
Mark as autoremovable

RECIPES

Routine system update

```
dnf check-update
sudo dnf upgrade
sudo dnf autoremove
```

Find and install the tool for a command

```
dnf provides '*/bin/<cmd>'
sudo dnf install <pkg>
```

Undo a bad install

```
dnf history
dnf history info <id>
sudo dnf history undo <id>
```

Install from a disabled repo once

```
dnf repolist --all
sudo dnf install --
enablerepo=<id> <pkg>
```