# DNF Fedora package manager

## CONCEPTS

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

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

## UPDATE AND UPGRADE

**dnf check-update**
List updates; exit code 100 if any

**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

## 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

**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

## INSTALL AND REMOVE (cont.)

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

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

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

## SEARCH AND INSPECT

**dnf search** *<term>*
Search names and summaries

**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 repoquery -l** *<pkg>*
List files in a package

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

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

**dnf repoquery --userinstalled**
Packages you installed yourself

## 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 rollback** *<id>*
Revert everything after <id>

## 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

## REPOS AND CACHE

**dnf repolist**
List enabled repos

**dnf repolist --all**
Include disabled repos

**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 --refresh** *<command>*
Expire metadata for one run

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

## 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>
```