pnpm Fast Node package manager

START HERE

`pnpm` **`install`**
Install all dependencies

`pnpm` **`dlx`** *`<pkg>`*
Run a package once

`pnpm` **`add`** *`<pkg>`*
Add a dependency

`pnpm` **`update`**
Update within ranges

`pnpm` **`remove`** *`<pkg>`*
Remove a dependency

`pnpm` **`--filter`** *`<pkg>`* *`<cmd>`*
Target one workspace package

`pnpm` **`run`** *`<script>`*
Run a package script

`pnpm` **`install --frozen-lockfile`**
Clean install for CI

Registry npm packages → `fetch once` → **Global store** shared files → `hard links` → **node_modules/.pnpm** virtual store → `symlinks` → **node_modules** direct deps only

CONCEPTS

pnpm keeps one content-addressable store on disk and hard-links files into node_modules, so repeat installs are fast and cheap.

node_modules holds only your direct dependencies, so code that imports an undeclared package fails instead of working by accident.

Workspace settings live in pnpm-workspace.yaml; per-project settings can go in .npmrc.

INSTALL AND ADD

`pnpm` **`install`**
Install all dependencies

`pnpm` **`add`** *`<pkg>`*
Add a dependency

`pnpm` **`add -D`** *`<pkg>`*
Add a dev dependency

`pnpm` **`add`** *`<pkg>`*`@`*`<version>`*
Add a specific version or tag

`pnpm` **`add -g`** *`<pkg>`*
Install a global package

`pnpm` **`add -E`** *`<pkg>`*
Save the exact version

`pnpm` **`install --frozen-lockfile`**
Fail if lockfile needs changes
This is already the default in CI environments; use --no-frozen-lockfile to override.

`pnpm` **`install --prod`**
Skip devDependencies

`pnpm` **`install --ignore-scripts`**
Do not run lifecycle scripts

REMOVE AND UPDATE

`pnpm` **`remove`** *`<pkg>`*
Remove a dependency

`pnpm` **`update`**
Update within package.json ranges

`pnpm` **`update`** *`<pkg>`*
Update one package

REMOVE AND UPDATE (cont.)

`pnpm` **`update --latest`**
Ignore ranges, go to latest

`pnpm` **`update -i`**
Pick updates interactively

`pnpm` **`update -i --latest`**
Pick latest versions interactively

`pnpm` **`outdated`**
List outdated packages

`pnpm` **`dedupe`**
Merge duplicate versions in lockfile

RUN SCRIPTS

`pnpm` **`run`** *`<script>`*
Run a package script

`pnpm` *`<script>`*
Shorthand for pnpm run
Works unless the name clashes with a built-in pnpm command.

`pnpm` **`test`**
Run the test script

`pnpm` **`start`**
Run the start script

`pnpm` **`run`** *`<script>`* **`--`** *`<args>`*
Pass arguments to a script

`pnpm` **`exec`** *`<cmd>`*
Run a binary from node_modules/.bin

`pnpm` **`dlx`** *`<pkg>`* **`[args]`**
Fetch and run without installing

`pnpm` **`create`** *`<starter>`*
Scaffold from a create-* starter

`pnpm` **`init`**
Create a package.json

INSPECT

`pnpm` **`list`**
Show installed packages as a tree

`pnpm` **`ls --depth`** *`<n>`*
Limit tree depth

`pnpm` **`ls`** *`<pkg>`*
Find where a package is used

`pnpm` **`why`** *`<pkg>`*
Show what depends on a package

`pnpm` **`audit`**
Check for known vulnerabilities

WORKSPACES

`pnpm` **`-r`** *`<cmd>`*
Run a command in every package

`pnpm` **`--filter`** *`<pkg>`* *`<cmd>`*
Run in one package

`pnpm` **`--filter`** *`<pkg>...`* *`<cmd>`*
Package and its dependencies

`pnpm` **`--filter`** *`...<pkg>`* *`<cmd>`*
Package and its dependents

`pnpm` **`--filter "...[origin/main]"`** *`<cmd>`*
Packages changed since a ref

`pnpm` **`-w add -D`** *`<pkg>`*
Add to the workspace root

`pnpm` **`add`** *`<pkg>`* **`--workspace`**
Link a local workspace package

`pnpm` **`-r --parallel run`** *`<script>`*
Run everywhere at once, no ordering

`pnpm` **`-r run`** *`<script>`*
Run in dependency order

pnpm-workspace.yaml

```
packages:
  - 'packages/*'
  - '!**/test/**'
```

Depend on a sibling with "<pkg>": "workspace:*"; pnpm swaps it for a real version on publish.

CATALOGS AND SETTINGS

Shared versions in pnpm-workspace.yaml

```
catalog:
  react: ^19.0.0
catalogs:
  legacy:
    react: ^17.0.2
```

Use them in package.json

```
"react": "catalog:"
"react": "catalog:legacy"
```

`pnpm` **`add`** *`<pkg>`* **`--save-catalog`**
Add and record it in the default catalog

`pnpm` **`config get`** *`<key>`*
Read a setting

CATALOGS AND SETTINGS (cont.)

`pnpm` **`config set`** *`<key>`* *`<value>`*
Write a setting

`pnpm` **`approve-builds`**
Allow dependency build scripts
Recent pnpm versions block dependency install scripts until approved.

STORE AND PATCHING

`pnpm` **`store path`**
Show the store location

`pnpm` **`store prune`**
Delete unreferenced packages from the store

`pnpm` **`link`** *`<dir>`*
Link a local package into this project

`pnpm` **`patch`** *`<pkg>`*`@`*`<version>`*
Extract a package to edit

`pnpm` **`patch-commit`** *`<dir>`*
Save the edits as a patch

`pnpm` **`publish`**
Publish to the registry

RECIPES

Start a project

```
pnpm init
pnpm add express
pnpm add -D typescript vitest
pnpm test
```

CI install and test

```
pnpm install --frozen-lockfile
pnpm -r run build
pnpm -r run test
```

Build one app and what it needs

```
pnpm --filter <app>... run build
# only changed packages and dependents
pnpm --filter "...[origin/main]" run test
```

Patch a dependency

```
pnpm patch <pkg>@<version>
# edit the printed folder
pnpm patch-commit <dir>
```