Next.js React web framework

CONCEPTS

Folders under app/ are URL segments; a route goes public only once it has a page or route file.

layout shared shell
template re-mounts on nav
error error boundary
loading suspense fallback
not-found 404 boundary
page the route UI

Nesting order of special files in a segment

npm run forwards flags only after --, e.g. npm run dev -- -p 4000. pnpm, yarn and bun do not need it.

CREATE AN APP

npx create-next-app@latest *<name>*
Create a new project

create-next-app --yes
Reuse saved prefs or defaults, no prompts

create-next-app --js
JavaScript instead of TypeScript

create-next-app --src-dir
Put code in src/

create-next-app --no-tailwind
Skip Tailwind CSS

create-next-app --use-pnpm
Pick the package manager (npm, yarn, bun too)

create-next-app --example *<name>*
Start from an official example

DEV, BUILD, START

next dev
Dev server with hot reload

next dev -p *<port>*
Set the port (or PORT env var)

next dev -H *<host>*
Bind a hostname (default 0.0.0.0)

next dev --webpack
Use Webpack instead of Turbopack

DEV, BUILD, START (cont.)

next dev --experimental-https
HTTPS with a self-signed cert

next build
Optimized production build

next build --debug-prerender
Readable prerender errors, keeps going

next build --webpack
Build with Webpack

next start
Serve the production build

next start -p *<port>*
Port for the production server

TOOLS

next --help
List commands and options

next --version
Print the Next.js version

next info
Print system and package versions

next typegen
Generate route types without a build

next typegen && tsc --noEmit
Type-check routes in CI

next upgrade
Upgrade Next.js and its codemods

next analyze
Explore bundle size in the browser

next telemetry --disable
Opt out of telemetry

There is no next lint here: run your linter (ESLint or Biome) via its own script.

APP ROUTER FILES

app/layout.tsx
Shared shell; root one needs <html> and <body>

app/page.tsx
UI that makes a route public

app/loading.tsx
Fallback shown while a segment streams

APP ROUTER FILES (cont.)

app/error.tsx
Error boundary; must be a client component

app/not-found.tsx
UI for notFound() and unmatched URLs

app/global-error.tsx
Catches errors in the root layout

app/template.tsx
Like layout but remounts on navigation

app/api/*<name>***/route.ts**
Route handler (GET, POST, ...)

proxy.ts
Runs before requests; successor of middleware

next.config.ts
Framework config (.js and .mjs also work)

public/
Static files served from /

ROUTE FOLDERS

app/blog/page.tsx
Serves /blog

app/blog/[slug]/page.tsx
Dynamic segment

app/shop/[...slug]/page.tsx
Catch-all segment

app/(marketing)/page.tsx
Route group: name not in the URL

app/blog/_lib/
Private folder, never routed

ENVIRONMENT

.env
Defaults for every environment

.env.local
Local secrets; keep out of git

NEXT_PUBLIC_*<NAME>***=value**
Inlined into browser code at build time

process.env.*<NAME>*
Read a variable on the server

Variables without the NEXT_PUBLIC_ prefix stay server-side.