tsx Run TypeScript directly

CONCEPTS

> tsx is node with a TypeScript loader: it strips types with esbuild and never type-checks, so run tsc --noEmit for errors.

file.ts your source
↓ esbuild strips types
tsx loader on top of node
↓ JS, no type check
node runs the code
↓ tsc --noEmit
Type errors found by tsc only

> It handles ESM and CommonJS, .ts/.tsx/.mts/.cts files and tsconfig paths in one go, with no build step.

> Use tsx for scripts and dev runs; for production, compile with tsc or bundle with esbuild.

INSTALL

npx tsx *<file.ts>*
Run once without installing

npm install -D tsx
Add to the project

npm install -g tsx
Install globally

tsx --version
Show tsx and node versions

RUN

tsx *<file.ts>*
Run a TypeScript file

tsx *<file.ts> <args>*
Pass arguments to the script

tsx -e "*<code>***"**
Evaluate a TS snippet

tsx -p "*<expr>***"**
Evaluate and print the result

RUN (cont.)

tsx --import *<module>* *<file.ts>*
Preload a module first

tsx --env-file=*<file>* *<file.ts>*
Load env vars from a file

tsx --no-cache *<file.ts>*
Skip the compile cache

tsx --enable-source-maps *<file.ts>*
Source-mapped stack traces

./script.ts
Run as an executable script

> Any node flag goes before the script name and is passed to node.

WATCH

tsx watch *<file.ts>*
Rerun when imported files change

tsx watch --include "*<glob>***"** *<file.ts>*
Also watch extra paths

tsx watch --exclude "*<glob>***"** *<file.ts>*
Do not watch these paths

tsx watch --clear-screen=false *<file.ts>*
Keep earlier output

Enter (in watch mode)
Rerun by hand

> Watch ignores node_modules, dist, vendor and hidden folders by default; add them with --include.

CONFIG

tsx --tsconfig *<path>* *<file.ts>*
Use a specific tsconfig

CONFIG (cont.)

TSX_TSCONFIG_PATH=*<path>* **tsx** *<file.ts>*
Same, set via the environment

TSX_DISABLE_CACHE=1 tsx *<file.ts>*
Disable the cache via the environment

> tsx reads paths, jsx and target from tsconfig.json, but ignores type options such as strict.

USE WITH NODE

node --import tsx *<file.ts>*
Run TS with plain node

node --import tsx --test
Run the node test runner on TS

tsx --test
Same, shorter

node --require tsx/cjs *<file.ts>*
Register for CommonJS only

import { tsImport } from 'tsx/esm/api'
Import one TS file from JS

tsx --inspect *<file.ts>*
Attach a debugger

tsx -i
Always enter the REPL

RECIPES

package.json scripts

```
"dev": "tsx watch src/index.ts",
"start": "tsx src/index.ts",
"typecheck": "tsc --noEmit"
```

Dev run with env file

```
tsx watch --env-file=.env --
exclude "./logs/**" src/server.ts
```

Type-check and run

```
tsc --noEmit && tsx src/job.ts
<arg>
```

Tests with node runner

```
node --import tsx --test "src/**/
*.test.ts"
```