esbuild Fast JS bundler

CONCEPTS

Without --bundle esbuild only transforms each file (TS/JSX to JS) and does not follow imports. With no --outfile it prints to stdout.

Entry points app.ts, ...
↓ resolve
Module graph imports, packages
↓ loader + target
Transformed TS/JSX to JS, minify
↓ format
Output --outfile / --outdir

Flag forms: --flag, --flag=value for single values, --flag:key=value for repeatable ones (--loader:.png=file, --external:react).

Quote globs like "src/**/*.ts" so esbuild expands them instead of your shell.

BUILD

esbuild *<entry>* --bundle --outfile=*<file>*
Bundle one entry into a file

esbuild *<a>* *<b>* --bundle --outdir=*<dir>*
Bundle several entries into a directory

--minify
Minify whitespace, syntax and names

--sourcemap
Write a linked .map file

--sourcemap=inline
Embed the source map as a data URL

--tsconfig=*<file>*
Use this tsconfig instead of discovery

PLATFORM AND FORMAT

--platform=browser|node|neutral
Pick target environment (default browser)

--format=iife|cjs|esm
Output module format

--target=es2020,chrome100
Lower syntax for these engines

PLATFORM AND FORMAT (cont.)

--external:*<pkg>*
Leave a module out of the bundle

--packages=external
Keep every package import external

--splitting --format=esm --outdir=*<dir>*
Share code between entries in chunks

--global-name=*<name>*
Global variable name for iife output

LOADERS AND ASSETS

--loader:.*<ext>*=*<loader>*
Choose how a file type is read

--loader:.png=dataurl
Inline images as data URLs

--loader:.png=file
Copy asset and import its path

--loader:.js=jsx
Allow JSX in .js files

--jsx=automatic
Use the React 17+ JSX runtime

--entry-names=*<template>*
Output name pattern for entries

OPTIMIZE

--define:*<name>*=*<value>*
Replace an identifier with a constant

--define:process.env.NODE_ENV=\"production\"
Set NODE_ENV for dead-code removal

--drop:console
Remove console.* calls

--drop:debugger
Remove debugger statements

--keep-names
Keep function and class .name

WATCH AND SERVE

--watch
Rebuild when inputs change

--watch=forever
Keep watching after stdin closes

WATCH AND SERVE (cont.)

--servedir=*<dir>*
Serve a directory plus build output

--serve=*<port>*
Serve build output on a port

ANALYZE AND LOGS

--metafile=*<file>*
Write build metadata JSON

--analyze
Print a size report of the bundle

--analyze=verbose
Detailed report with import chains

--log-level=*<level>*
verbose|debug|info|warning|error|silent

RESOLUTION

--alias:*<from>*=*<to>*
Rewrite an import path or package

--conditions=*<names>*
Extra package exports conditions

TRANSFORM STDIN

esbuild --loader=ts < *<in.ts>*
Transform TypeScript from stdin

echo '*<code>*' | esbuild --minify
Minify a quick snippet

RECIPES

Production browser bundle

```
esbuild src/index.ts --bundle --minify --sourcemap \
  --target=es2020 --define:process.env.NODE_ENV=\"production\" \
  --outfile=dist/app.js
```

Node CLI with dependencies external

```
esbuild src/cli.ts --bundle --platform=node --target=node20 \
  --packages=external --format=esm --outfile=dist/cli.mjs
```

Dev loop with live static server

```
esbuild src/index.tsx --bundle --jsx=automatic --sourcemap \
  --servedir=public --outdir=public/js --watch
```