# webpack JS module bundler

**START HERE**

**`npm i -D webpack webpack-cli`**
Install locally

**`npx webpack`**
Build with config

**`npx webpack --mode production`**
Minified build

**`npx webpack watch`**
Rebuild on change

**`npx webpack serve --open`**
Dev server

**`npx webpack configtest`**
Check the config

**`npx webpack --analyze`**
Inspect bundle size

**`npx webpack info`**
Print system info

**Entry** ./src/index.js → `imports` → **Loaders** module.rules → `graph` → **Plugins** whole bundle → `emit` → **Output** dist/

## CONCEPTS

Webpack starts at the entry, follows imports, runs loaders per file type and plugins over the result.

Install webpack-cli next to webpack; the webpack command comes from the CLI package.

## COMMANDS

**`npx webpack [entries...]`**
Build (default command)

**`npx webpack build`**
Build, explicit form

**`npx webpack watch`**
Build and rebuild on changes

**`npx webpack serve`**
Run webpack-dev-server

**`npx webpack configtest [path]`**
Validate a config file
*Defaults to ./webpack.config.js.*

**`npx webpack info`**
Show system and package info

**`npx webpack version`**
Show webpack, CLI, dev-server versions

**`npx webpack help [cmd]`**
Help for a command or option

**`npx create-webpack-app [dir]`**
Scaffold a new project

**`npx create-webpack-app plugin [dir]`**
Scaffold a plugin

**`npx create-webpack-app loader [dir]`**
Scaffold a loader

## BUILD OPTIONS

**`--mode <mode>`**
development, production or none

**`-c, --config <file>`**
Use this config file

**`--entry <path>`**
Add an entry point

**`--entry-reset <path>`**
Replace configured entries

**`-o, --output-path <dir>`**
Output directory

**`-t, --target <target>`**
Build target, e.g. web or node

**`-d, --devtool <type>`**
Source map style

**`--no-devtool`**
Disable source maps

**`--name <name>`**
Name this configuration

**`--fail-on-warnings`**
Exit non-zero on warnings

**`-w, --watch`**
Watch for changes

**`--no-watch`**
Do not watch

## CONFIG AND ENV

**`--env <key>[=<value>]`**
Pass env to a function config
*Repeatable; read as the first argument of a config function.*

**`--config-node-env <env>`**
Set process.env.NODE_ENV

**`--config-name <name>`**
Run only the named config

**`--merge`**
Merge several --config files

**`-e, --extends <file>`**
Extend another config

## CONFIG AND ENV (cont.)

**`--disable-interpret`**
Skip interpret when loading config

**`WEBPACK_SERVE / WEBPACK_BUILD / WEBPACK_WATCH`**
Built-in env flags

**`NODE_OPTIONS=--max-old-space-size=4096 npx webpack`**
Give the build more memory

## OUTPUT AND ANALYSIS

**`--stats <preset>`**
Stats output detail

**`--no-stats`**
Silence stats output

**`--json [file]`**
Print or write stats as JSON

**`--analyze`**
Open webpack-bundle-analyzer

**`--progress[=profile]`**
Show progress, optionally profile

**`--color / --no-color`**
Toggle console colors

**`--help=verbose`**
List every flag

## DEV SERVER

**`npx webpack serve --open`**
Serve and open the browser

**`npx webpack serve --static <dir>`**
Serve static files from a dir

**`npx webpack serve --no-hot`**
Disable hot reloading

## DEV SERVER (cont.)

**`npx webpack serve --mode development`**
Serve in development mode

## CONFIG FILES

### Lookup order

| Base name | Extensions |
|---|---|
| `webpack.config` | js mjs cjs ts cts mts |
| `.webpack/webpack.config` | same |
| `.webpack/webpackfile` | same |

Exit codes: 0 success, 1 webpack errors, 2 bad options or internal error.

## RECIPES

### Minimal webpack.config.js

```
const path = require('path');
module.exports = {
  entry: './src/index.js',
  output: { path:
path.resolve(__dirname,
'dist'), filename:
'[name].js' },
  module: { rules: [{ test: /
\.css$/, use: ['style-loader',
'css-loader'] }] },
  plugins: [],
  devServer: { static: './
dist', hot: true },
};
```

### Env-aware config

```
# webpack.config.js exports
(env, argv) ⇒ ({...})
npx webpack --env production --
mode production
npx webpack serve --env
port=3000
```

### Size investigation

```
npx webpack --mode production
--json stats.json
# upload stats.json to an
analyzer, or:
npx webpack --mode production
--analyze
```

### Verify before CI

```
npx webpack configtest
npx webpack --mode production
--fail-on-warnings
```