# What is create-react-app

**Not required for React** but very convenient

create-react-app (CRA) is a **program**

- Creates a directory for a new react application
- Creates/configures package.json
- Installs npm packages
- Common configs
- Webpack for bundling
- Eslint for linting
- Babel for transpiling
- Notable: fairly un-opinionated

# Installing and using CRA

```
npx create-react-app cats
```

Replace "cats" with a directory name of your choice

- a temporary global install of `create-react-app`
- and it executes (runs) create-react-app

Creates the directory `cats/` (or whatever)

Why not install it locally?

- Running this creates local installs
- A tool to setup your tools

# What did that do?

- Took a long time to install a lot
- Gave instructions (these are in the README)
- Installed a `package.json` and the dependencies
    - "react-scripts" package wraps webpack/babel/etc
    - "react-scripts" ALSO has the configs for those
    - Some config is in package.json directly
- Created a `/src` directory
- Created a `/public` directory

# What now?

Some commands are defined in `package.json`:

- `npm run eject` - removes CRA, leaves code/configs
  - Don't use this, but try it out on a test project
- `npm run build` - creates static files in `/build`
  - NOT `public/`! Like `/src`, `/public` is **input** here
  - NO SERVER - you have to write or use one
- `npm start` - starts a dev server
  - Auto reloads/rebuilds when the code changes
  - Not for final use - use `npm run build` and use the `/build` results for a real server

# What do we have?

- in `/public` the `index.html` file has no real content
    - but does have `<div id="root"></div>`
- `/src/index.js` loads `App` and injects into `#root`

But what is `App`?

**This Course**: `src/App.js` to `src/App.jsx`

# Build Process

All bundled using `webpack` and transpiled by `babel`

Run `npm start`

- This starts a dev-server (keeps terminal busy)
- This transpiles and bundles the code

This is just pre-configured work we've done before

# Non-JS imports

`import` is a standard, despite requiring a bundler

Some **non-standard** transpiling extensions are often used to bring CSS and/or images into a web-page

- requires a **configured** transpiler/bundler to do
- CRA gives you that config

```
import React from 'react'; // standard library import
import { useState } from 'react'; // standard library import
import logo from './logo.svg'; // NON-STANDARD, path to img
import './App.css'; // NON-STANDARD, adds CSS to page
import App from './App'; // standard local file import
```

# Dev Server

`create-react-app` uses the webpack dev server

- This means we can't modify the server!
  - no services!
- More on this later, no worries
- Today, we are looking at client-side only
- dev server is for development
  - not the actual final webserver

# Summary - Create React App

```
create-react-app
```

- A program to create a configured react project
- not required for react, but convenient
- includes not just react
    - babel, webpack, linting, etc

# Summary - cra commands

- Found in README.md of created project
- `npm start` - runs the dev server
- `npm run eject` - removes cra wrapper
  - great to learn from
  - not usually used
- `npm run build` - creates static files
  - usable in most static webservers
  - for deployment use, not development
  - we will use this soon!

# Summary - special imports

CRA babel/webpack config

- includes common but non-standardized imports
  - import CSS
  - import asset paths
- You can import `.js` or `.jsx` files
  - You can omit file extension on these

Additional options exist we won't use

- But TypeScript, SASS, etc
  - good to explore for future

# Summary - Required Setup Changes

For **this course**

- Rename `App.js` to `App.jsx`
- Use `kebab-case` css classes
    - not `MixedCase` like `class="App"`
- Always have exactly 1 component per `.jsx` file
- Components MixedCase.jsx filenames match component name
- JS filenames camelCase.js, no JSX in them

# Summary - Editing

All our source files will be in `src/`

- not `public/`