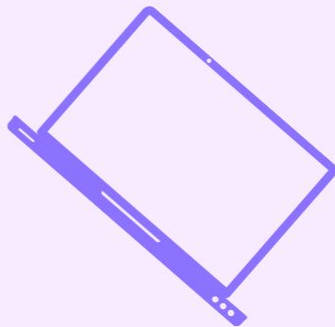




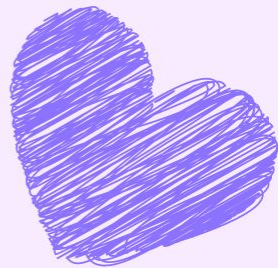
Untangling Your Dependencies



A Pattern for a Well-Knitted
JavaScript Project

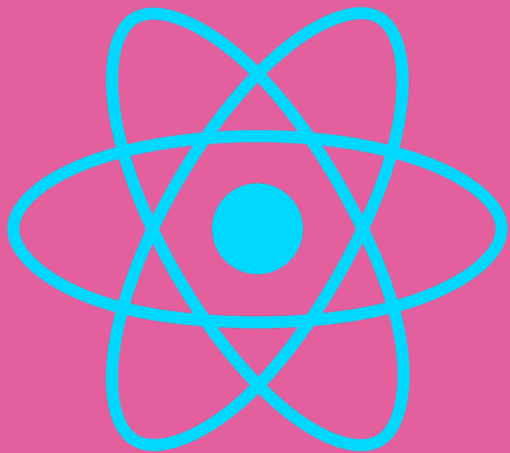


carmenh.dev



“I have a client looking for a React Native dev. Remote, freelance, good rate, could end up being a retainer situation.”

- Vienna Freelancer's Slack group



React Native



```
./node_modules/.bin/react-native run-ios
2.6.6
Scanning folders for symlinks in
  /Users/ramonh/coding/big-project/mobile/node_modules (13ms)
Found Xcode workspace BigProject.xcworkspace

Could not find iPhone 6 simulator
```

FAILURE: Build failed with an exception.

* What went wrong:

Execution failed **for** task `':app:preDebugBuild'`.

> Android dependency `'com.google.android.gms:play-services-measurement-base'` has different version **for** the compile (16.3.0) and runtime (17.1.0) classpath. You should manually **set** the same version via `DependencyResolution`

* Try:

Run with `--stacktrace` option to get the stack trace. Run with `--info` or `--debug` option to get more log output. Run with `--scan` to get full insights.

* Get more **help** at <https://help.gradle.org>

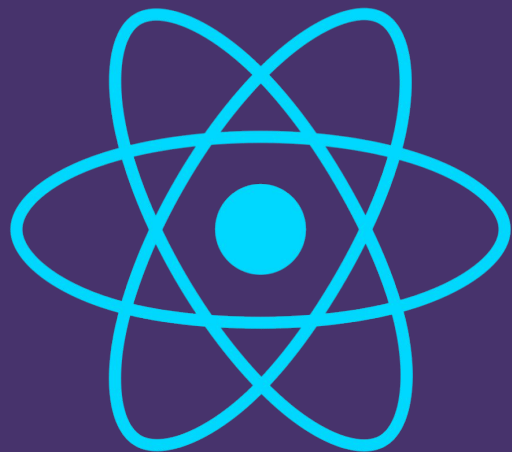
BUILD FAILED **in** 1m 32s

389 actionable tasks: 389 executed

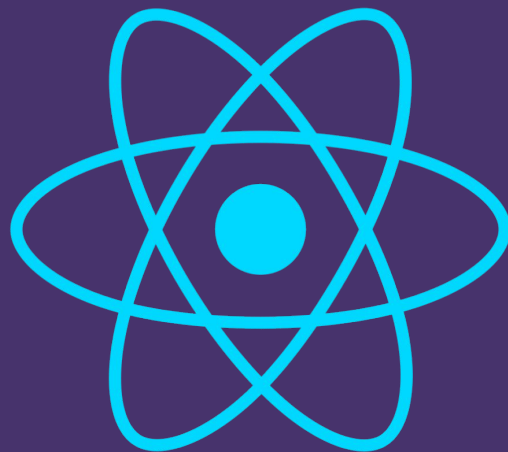
I joined a **very long** time
after the last commit had been made!

“I’ll have to upgrade the
heck out of this.”

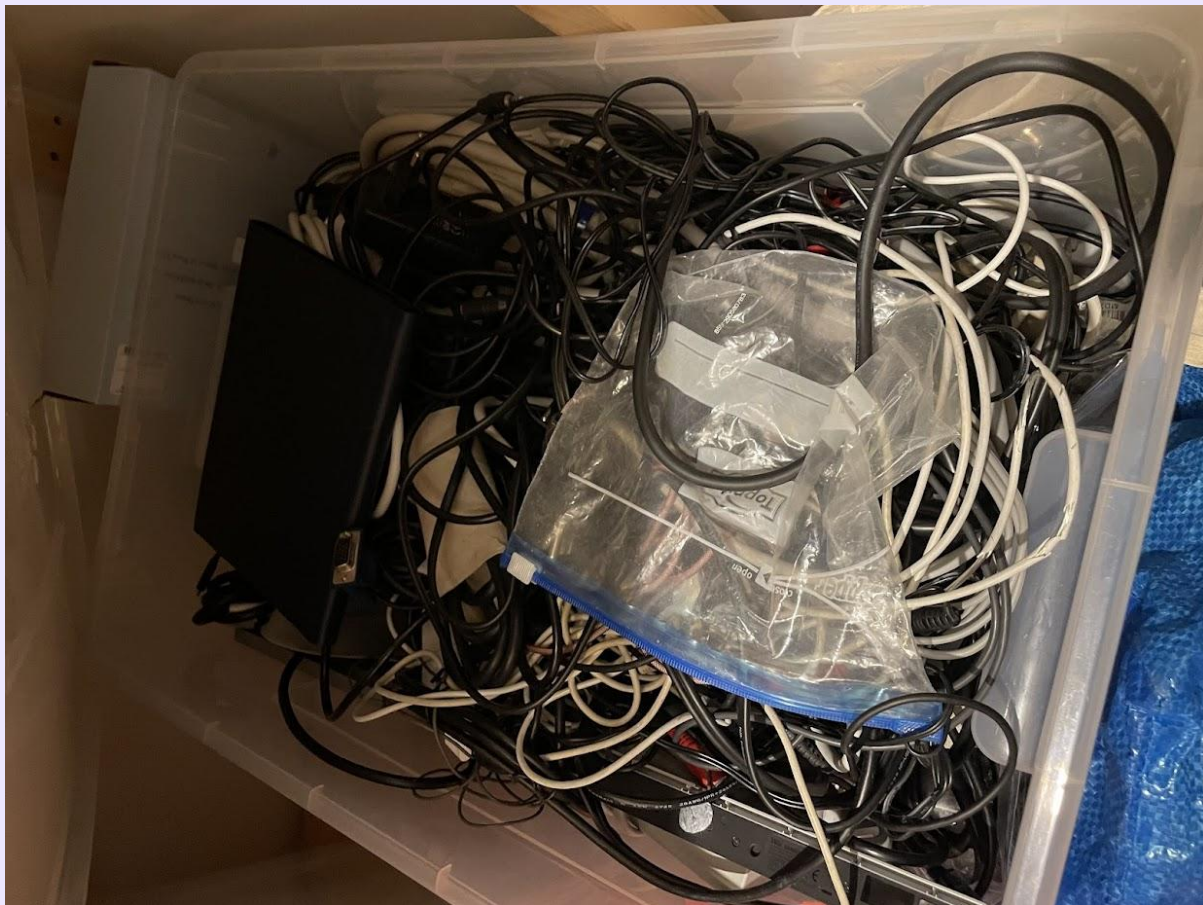
- Me, with no plan. So innocent, so young.



React Native
0.55.4



React Native
0.74.1





What's the best practices for managing dependencies?

my favourite
What's ~~the best practices~~ for
managing dependencies?



I'm Carmen! (she/her)

From , living in 

Co-Founder: [BadWebsite.Club](https://www.badwebsite.club/)

Head of Dev. Ed., DevCraft Academy

DevRel Strategy Consultant

egghead Instructor

Community member

Mozilla tech speaker alum

Kids' coding coach

**Dependencies are every
bit as critical to software
as the code we write.**

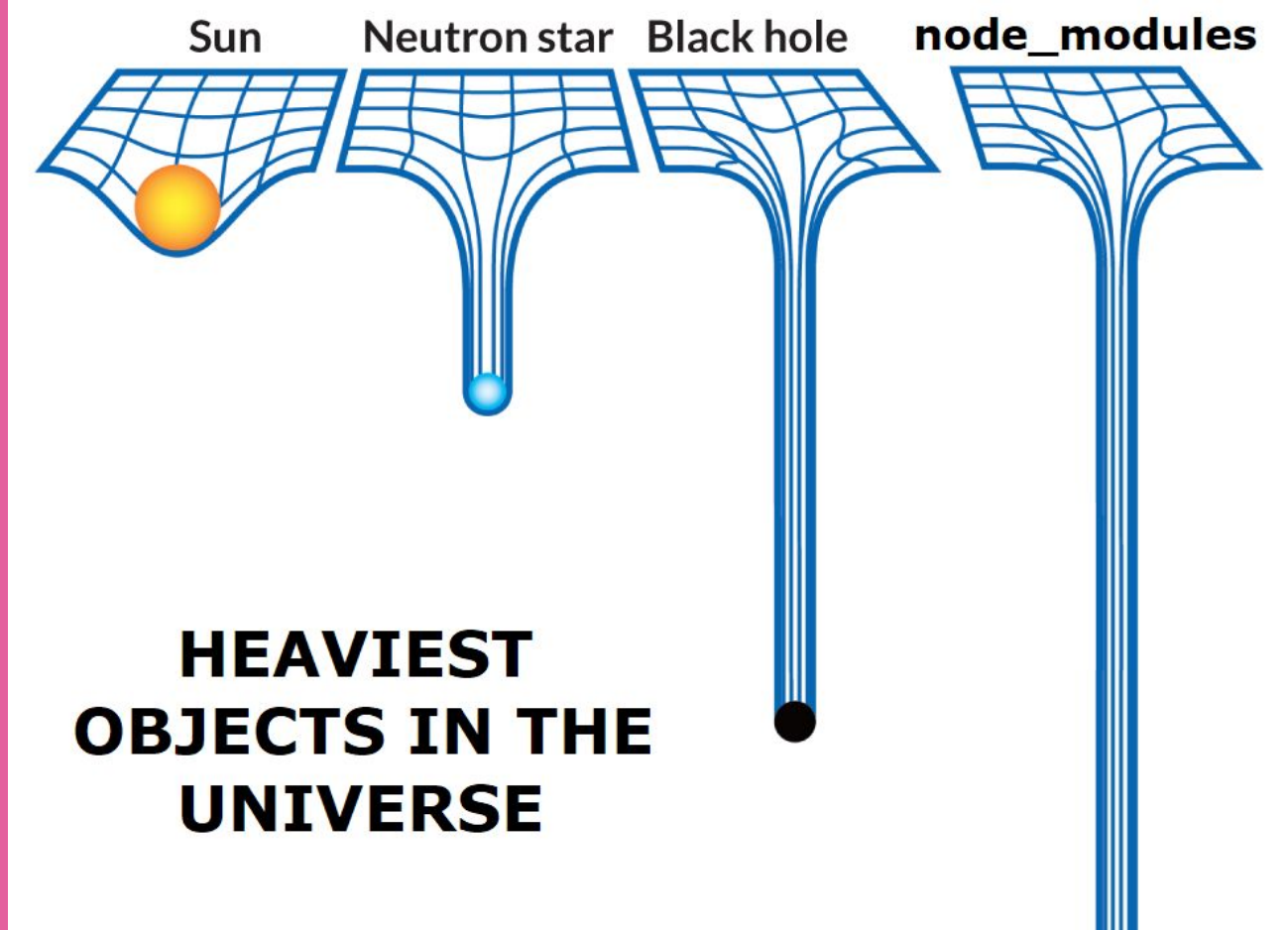


Photo by [Jeremy Thomas](#) on
[Unsplash](#)





Photo by [John Moeses Bavan](#) on [Unsplash](#)

**“Art is never finished,
only abandoned.”**

- Leonardo da Vinci

1. Weaving the dependency landscape

What kind of dependencies are there?

dependencies



devDependencies



direct dependencies

dependencies



devDependencies



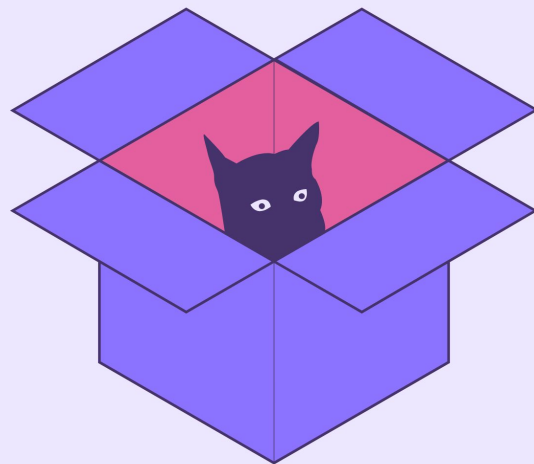
direct dependencies

transitive dependencies

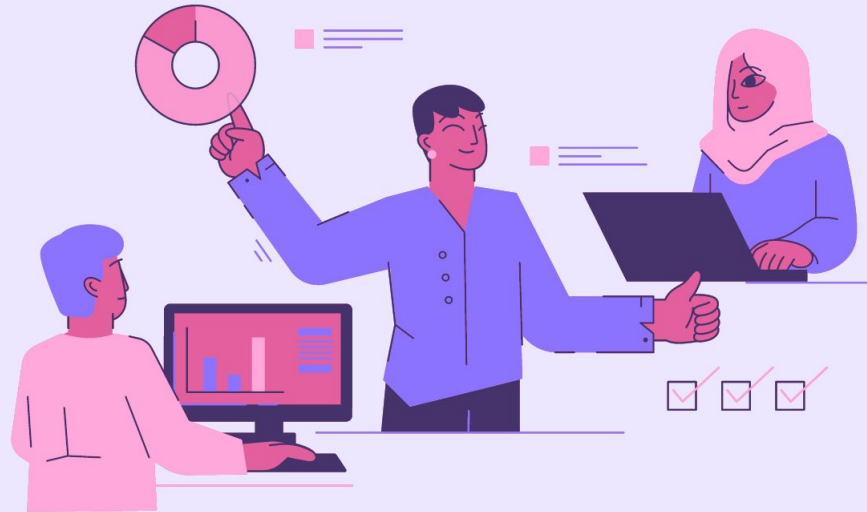
dependencies




devDependencies



Peer Dependencies



package.json



```
Zellij (profound-capsicum) - vi  ×  +  ▾  
Zellij (profound-capsicum)  Tab #1  
vim package.json  
1 {  
2   "name": "fancy-charts",  
3   "version": "1.0.0",  
4   "peerDependencies": {  
5     "chart.js": "^3.x.x"  
6   }  
7 |  
-- INSERT -- 7,2 All  
Ctrl +  g  p  t  n  h  s  o  q
```


package-lock.json

```
Zellij (curious-diplodocus) Tab #1 Tab #2
vim package-lock.json
18395 },
18396   "engines": {
18397     "node": ">=8"
18398   },
18399 },
18400 "node_modules/yocto-queue": {
18401   "version": "0.1.0",
18402   "resolved": "https://registry.npmjs.org/yocto-queue/-/yocto-queue-0.1.0.tgz",
18403   "integrity": "sha512-rVksvsNcDdJ/ohGc6xgPwyN8ehecXsilm8mxuE/t/mOVqJewPu01miLpTHQirgTKCLexL4MeAFVagts7HmNZ2Q==",
18404   "engines": {
18405     "node": ">=10"
18406   },
18407   "funding": {
18408     "url": "https://github.com/sponsors/sindresorhus"
18409   },
18410 },
18411 "node_modules/yup": {
18412   "version": "1.3.3",
18413   "resolved": "https://registry.npmjs.org/yup/-/yup-1.3.3.tgz",
18414   "integrity": "sha512-v8QwZSsHH2K3/G9WSkp6mZKO+hugKt1EmnMqLNucfu51HU9MDyhLETT/3gtzprnrnQHPWsjc6MUDMBp/L9fNnw==",
18415   "dependencies": {
18416     "property-expr": "^2.0.5",
18417     "tiny-case": "^1.0.3",
18418     "toposort": "^2.0.2",
18419     "type-fest": "^2.19.0"
18420   },
18421 },
18422 "node_modules/yup/node_modules/type-fest": {
18423   "version": "2.19.0",
18424   "resolved": "https://registry.npmjs.org/type-fest/-/type-fest-2.19.0.tgz",
18425   "integrity": "sha512-tg+zfPQ8oO1YBTUEw1WL3q89JpVf6FbXJw3bfq7xwfy73aFJWTabeTHh5mCq4Cg4qgK56Hz4B8VWt1/3w==",
18426   "engines": {
18427     "node": ">=12.20"
18428   },
18429   "funding": {
18430     "url": "https://github.com/sponsors/sindresorhus"
18431   },
18432 }

18427,1 99%
```

Ctrl + <g> LOCK <p> PANE <t> TAB <n> RESIZE <h> MOVE <s> SEARCH <o> SESSION <q> QUIT

Tip: Alt + <n> => open new pane. Alt + <←→> or Alt + <h>=> navigate between panes. Alt + <+|-> => increase/decrease pane size.

2. Remember:
You're one stitch in a large chain
You are not alone.

```
yarn upgrade-interactive [--latest]
```

```
npx npm-check-updates
```

Zellij (profound-capsicum) - yi ✕ + ▾

Zellij (profound-capsicum) Tab #1

yarn upgrade-interactive --latest

SCROLL: 0/7

? Choose which packages to update. (Press <space> to select, <a> to toggle all, <i> to invert selection)

devDependencies

name	range	from	to	url
o @excalidraw/eslint-config	latest	1.0.0	> 1.0.3	https://github.com/excalidraw/eslint-config#readme
o @types/lodash.throttle	latest	4.1.6	> 4.1.9	https://github.com/DefinitelyTyped/DefinitelyTyped/tree/master/types/lodash.throttle
o @types/pako	latest	1.0.1	> 2.0.3	https://github.com/DefinitelyTyped/DefinitelyTyped/tree/master/types/pako
o @types/resize-observer-browser	latest	0.1.5	> 0.1.11	https://github.com/DefinitelyTyped/DefinitelyTyped/tree/master/types/resize-observer-browser
o eslint-config-prettier	latest	8.3.0	> 9.1.0	https://github.com/prettier/eslint-config-prettier#readme
o eslint-plugin-prettier	latest	3.3.1	> 5.1.3	https://github.com/prettier/eslint-plugin-prettier#readme
o firebase-tools	latest	9.9.0	> 13.9.0	https://github.com/firebase/firebase-tools
o husky	latest	4.3.8	> 9.0.11	https://github.com/typicode/husky#readme
o jest-canvas-mock	latest	2.3.1	> 2.5.2	https://github.com/hustcc/jest-canvas-mock#readme
o lint-staged	latest	10.5.4	> 15.2.2	https://github.com/okonet/lint-staged#readme
o prettier	latest	2.2.1	> 3.2.5	https://prettier.io
o rewire	latest	5.0.0	> 7.0.0	https://github.com/jhnns/rewire

dependencies

name	range	from	to	url
o @sentry/browser	latest	6.2.5	> 8.2.1	https://github.com/getsentry/sentry-javascript/tree/master/packages/browser
o @sentry/integrations	latest	6.2.5	> 7.114.0	https://github.com/getsentry/sentry-javascript/tree/master/packages/integrations
o @testing-library/jest-dom	latest	5.11.10	> 6.4.5	https://github.com/testing-library/jest-dom#readme
o @testing-library/react	latest	11.2.6	> 15.0.7	https://github.com/testing-library/react-testing-library#readme
o @types/jest	latest	26.0.22	> 29.5.12	https://github.com/DefinitelyTyped/DefinitelyTyped/tree/master/types/jest
o @types/react	latest	17.0.3	> 18.3.2	https://github.com/DefinitelyTyped/DefinitelyTyped/tree/master/types/react
o @types/react-dom	latest	17.0.3	> 18.3.0	https://github.com/DefinitelyTyped/DefinitelyTyped/tree/master/types/react-dom
o @types/socket.io-client	latest	1.4.36	> 3.0.0	https://github.com/DefinitelyTyped/DefinitelyTyped.git
o browser-fs-access	latest	0.18.0	> 0.35.0	https://github.com/GoogleChromeLabs/browser-fs-access#readme
o clsx	latest	1.1.1	> 2.1.1	https://github.com/Lukeed/clsx#readme
o firebase	latest	8.3.3	> 10.12.0	https://firebase.google.com/
o il18next-browser-languagedetector	latest	6.1.0	> 8.0.0	https://github.com/il18next/il18next-browser-languageDetector
o nanoid	latest	3.1.22	> 5.0.7	https://github.com/ai/nanoid#readme
o open-color	latest	1.8.0	> 1.9.1	https://github.com/yeun/open-color
o pako	latest	1.0.11	> 2.1.0	https://github.com/nodeca/pako#readme
o perfect-freehand	latest	0.4.7	> 1.2.2	https://github.com/stevevruizok/perfect-freehand#readme
o points-on-curve	latest	0.2.0	> 1.0.1	https://github.com/pshihn/bezier-points#readme
o react	latest	17.0.2	> 18.3.1	https://reactjs.org/

(Move up and down to reveal more choices)

Ctrl + <g> LOCK <p> PANE <t> TAB <n> RESIZE <h> MOVE <s> SEARCH <o> SESSION <q> QUIT

Tip: Alt + <n> => open new pane. Alt + <↑↓> or Alt + <hjk> => navigate between panes. Alt + <+> => increase/decrease pane size.

https://react-native-community.github.io/upgrade-helper



React Native Upgrade Helper

☆ Star 3,464



What's your app name?

What's your app package?

What's your current react-native version?

To which version would you like to upgrade?

[Show me how to upgrade!](#)

Useful content for upgrading



Release 0.73

React Native 0.73 includes an updated process for the iOS privacy manifest, now required by Apple

1. [Learn how to update your app's Apple privacy settings](#)
2. [React Native 0.73 changelog](#)

3. Untangling the inevitable knots

Breaking the problem down.

```
X ~/coding/excalidraw master ± npm update react
npm ERR! code ERESOLVE
npm ERR! ERESOLVE could not resolve
npm ERR!
npm ERR! While resolving: react-dom@17.0.2
npm ERR! Found: react@15.0.2
npm ERR! node_modules/react
npm ERR!   react@"15.0.2" from the root project
npm ERR!   peer react@"*" from @testing-library/react@11.2.6
npm ERR!     node_modules/@testing-library/react
npm ERR!       @testing-library/react@"11.2.6" from the root project
npm ERR!
npm ERR! Could not resolve dependency:
npm ERR! peer react@"17.0.2" from react-dom@17.0.2
npm ERR! node_modules/react-dom
npm ERR!   react-dom@"17.0.2" from the root project
npm ERR!   peer react-dom@"*" from @testing-library/react@11.2.6
npm ERR!     node_modules/@testing-library/react
npm ERR!       @testing-library/react@"11.2.6" from the root project
npm ERR!
npm ERR! Conflicting peer dependency: react@17.0.2
npm ERR! node_modules/react
npm ERR!   peer react@"17.0.2" from react-dom@17.0.2
npm ERR!     node_modules/react-dom
npm ERR!       react-dom@"17.0.2" from the root project
npm ERR!   peer react-dom@"*" from @testing-library/react@11.2.6
npm ERR!     node_modules/@testing-library/react
npm ERR!       @testing-library/react@"11.2.6" from the root project
npm ERR!
npm ERR! Fix the upstream dependency conflict, or retry
npm ERR! this command with --force or --legacy-peer-deps
npm ERR! to accept an incorrect (and potentially broken) dependency resolution.
```

- Get the iOS build
running
- Get the Android build
running

Get the iOS build running

- Adapt to autolinking
- Fix compiler errors
- Fix broken UI elements
- Fix bugs introduced by upgrading
- Fix compiler warnings

Get the iOS build running

- ~~Adapt to autolinking~~
- Fix compiler errors
- Fix broken UI elements
- Fix bugs introduced by upgrading
- Fix compiler warnings

Get the iOS build running

- ~~Adapt to autolinking~~
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Get the iOS build running

- ~~Adapt to autolinking~~
- ~~Fix compiler errors~~
- ~~Fix broken UI elements~~
- ~~Fix bugs introduced by upgrading~~
- ~~Fix compiler warnings~~

Get the Android build running

- Adapt to autolinking
- Fix compiler errors
- Fix broken UI elements
- Fix bugs introduced by upgrading
- Fix compiler warnings

Get the iOS build running

- ~~Adapt to autolinking~~
- ~~Fix compiler errors~~
- Fix broken UI elements
- ~~Fix bugs introduced by upgrading~~
- ~~Fix compiler warnings~~

Greenhouse, Game & Watch (1982)

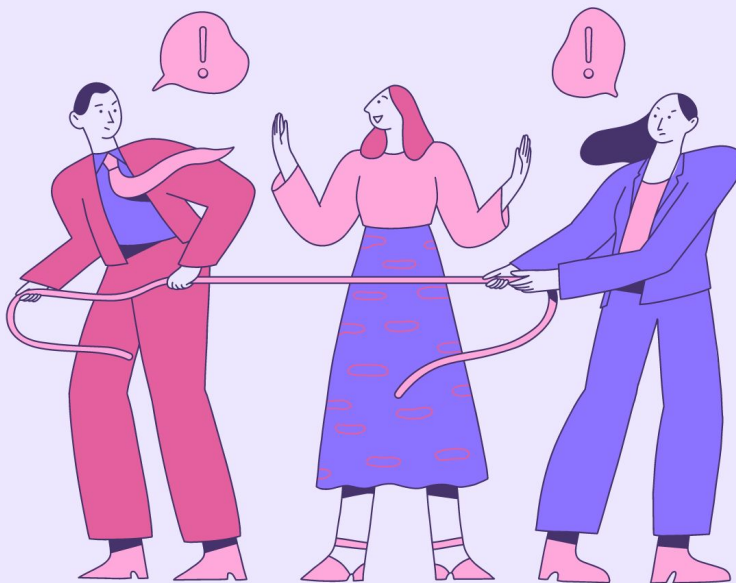


**The trick is:
Staying focussed on
one task at a time!**

4. Picking the right knitting needles

The right tools for the job!

yarn vs npm vs pnpm




npm why

```
~/client-work/craftstrom/app ↗ main npm why dequal
dequal@2.0.3 dev
node_modules/dequal
  dequal@"^2.0.3" from aria-query@5.3.0
    node_modules/aria-query
      aria-query@"^5.3.0" from eslint-plugin-jsx-a11y@6.8.0
        node_modules/eslint-plugin-jsx-a11y
          dev eslint-plugin-jsx-a11y@"^6.8.0" from the root project
          peer eslint-plugin-jsx-a11y@"^6.5.1" from eslint-config-airbnb@19.0.4
            node_modules/eslint-config-airbnb
              dev eslint-config-airbnb@"^19.0.4" from the root project
dequal@"^2.0.3" from axobject-query@3.2.1
node_modules/axobject-query
  axobject-query@"^3.2.1" from eslint-plugin-jsx-a11y@6.8.0
    node_modules/eslint-plugin-jsx-a11y
      dev eslint-plugin-jsx-a11y@"^6.8.0" from the root project
      peer eslint-plugin-jsx-a11y@"^6.5.1" from eslint-config-airbnb@19.0.4
        node_modules/eslint-config-airbnb
          dev eslint-config-airbnb@"^19.0.4" from the root project
```

What about my own box
of shared wools?

What about monorepos?

Yarn Workspaces

Get StartedFeaturesCLIconfigurationAdvancedBlogAPImaster (4.2.2-dev)▼DiscordGitHubQ

Cache strategies

Constraints

Extensibility

Install modes

Package patching

Performances

Plug'n'Play

Release Workflow

Scripting

Security

Workspaces

🏠 > Workspaces

Workspaces

What are workspaces?

Workspaces are the name of individual packages that are part of the same project and that Yarn will install and link together to simplify cross-references.

This pattern is often called monorepo when used in conjunction with a repository. Workspaces were initially popularized by projects like Lerna, but Yarn was the first package manager to provide native support for them - support which never stopped improving over years as we build more features around them.

📘 INFO

We always try to dogfood the features we offer, and workspaces are a prime example: Yarn is composed of a couple of dozens of packages that can each be deployed independently if needed!

When should I use workspaces?

Workspaces shine in many situations, with the main ones being:

- When a project has a core package surrounded with various add-ons; this is for example the case for Babel.
- When you need to publish multiple packages and want to avoid your contributors having to open PRs on many

What are workspaces?

When should I use workspaces?

How are workspaces declared?

Workspace-related features

Constraints

Cross-references

Focused installs

Global scripts

Parallel execution



Monorepo World: October 7, 2024 [Join us! →](#)



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Solutions ▾

Documentation


Blog

CI Pricing ^

Resources ▾



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 Go to App





Introducing [Nx Agents](#), the next leap in CI. [Read more →](#)

Smart Monorepos · Fast CI

Nx is a **build system** with **built-in tooling** and **advanced CI capabilities**. It helps you maintain and scale monorepos, both locally and on CI.

Get started

Contact us

Built with  for speed &  for extensibility



npm shrinkwrap

`npm-shrinkwrap.json` is a file created by `npm shrinkwrap`. It is identical to `package-lock.json`, with one major caveat: Unlike `package-lock.json`, `npm-shrinkwrap.json` may be included when publishing a package.

The recommended use-case for `npm-shrinkwrap.json` is applications deployed through the publishing process on the registry: for example, daemons and command-line tools intended as global installs or `devDependencies`. It's strongly discouraged for library authors to publish this file, since that would prevent end users from having control over transitive dependency updates.

<https://docs.npmjs.com/cli/v10/commands/npm-shrinkwrap>

npm audit

```
# npm audit report
```

```
follow-redirects <=1.15.5
```

```
Severity: moderate
```

```
follow-redirects' Proxy-Authorization header kept across hosts - https://github.com/advisories/GHSA-cxjh-pqwp-8mfp
```

```
fix available via `npm audit fix`
```

```
node_modules/follow-redirects
```

```
1 moderate severity vulnerability
```

Dependency Management (Automation) Tools

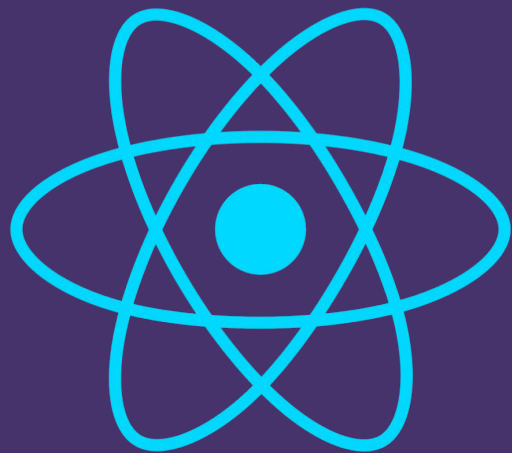


snyk

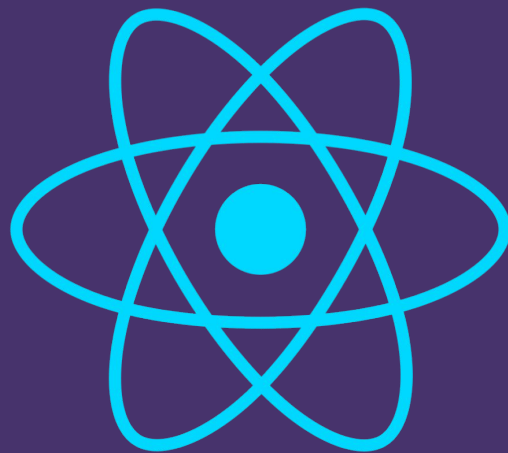


**5. One big stitch in time saves
over 9 (thousand)**

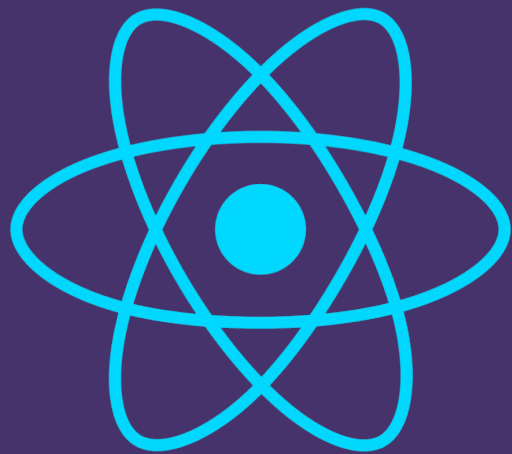
☞ Making large version upgrades



React Native
0.55.4



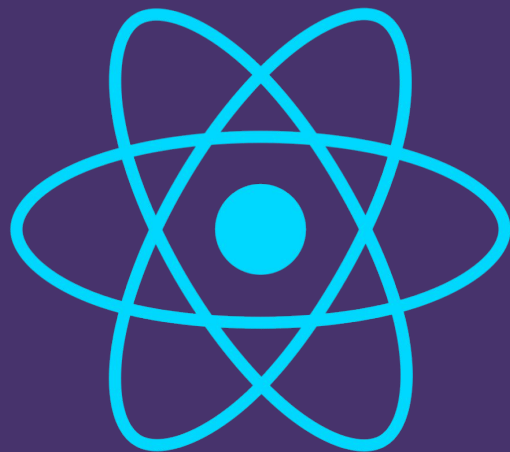
React Native
0.59.0



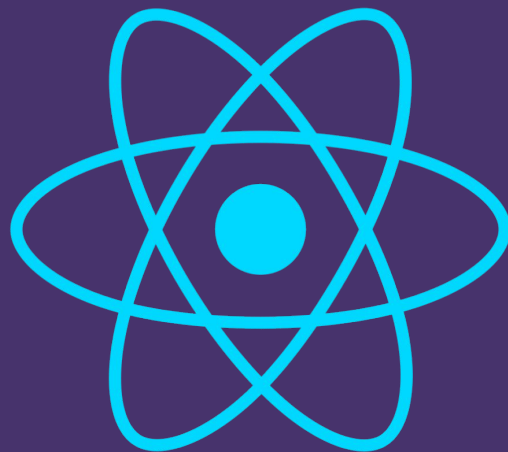
React Native
0.59.0

Updated JSC means performance gains and 64-bit support on Android

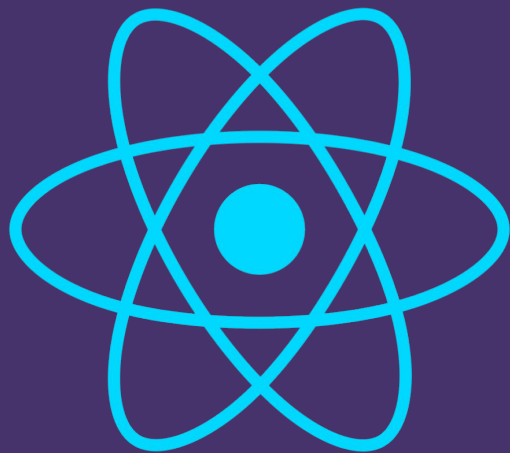
React Native uses JSC ([JavaScriptCore](#)) to power your application. JSC on Android was a few years old, which meant that a lot of modern JavaScript features weren't supported. Even worse, it performed poorly compared iOS's modern JSC. With this release, that all changes.



React Native
0.55.4



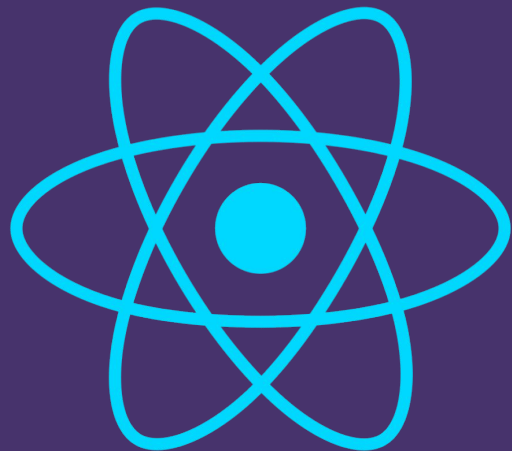
React Native
0.60.0



React Native
0.60.0

Native Modules are now Autolinked

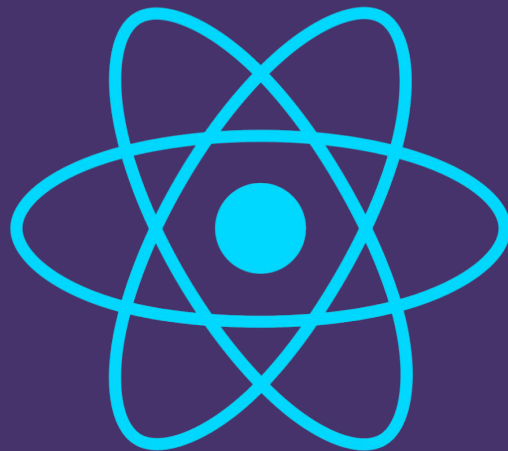
The team working on the [React Native CLI](#) has introduced major improvements to native module linking called [autolinking](#)! Most scenarios will not require the use of `react-native link` anymore. At the same time, the team overhauled the linking process in general. Be sure to `react-native unlink` any preexisting dependencies as mentioned in the docs above.



React Native

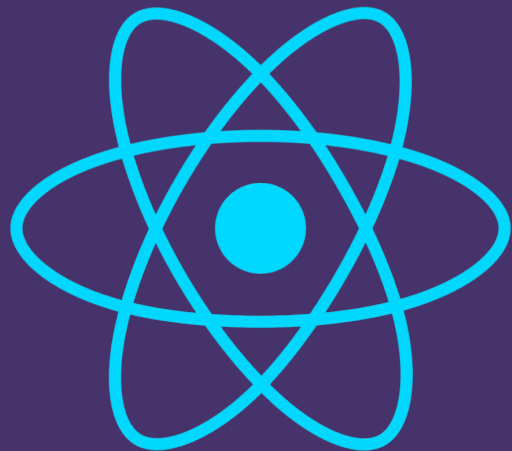
0.55.4

Why?



React Native

0.74.1

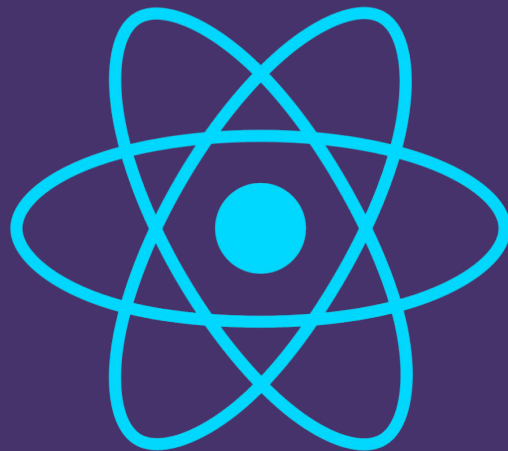


React Native

0.55.4



Why
not?



React Native

0.74.1

- Stability
- Future-Proofing
- Y'all are gonna have to do it eventually

“...if it hurts, do it more often. It has the happy property of seeming nonsensical on the surface, but yielding some valuable meaning when you dig deeper”

- Martin Fowler

<https://martinfowler.com/bliki/FrequencyReducesDifficulty.html>

6. Experimenting with Stitches

Keeping a work-in-progress version
control branch

bleeding-edge branches

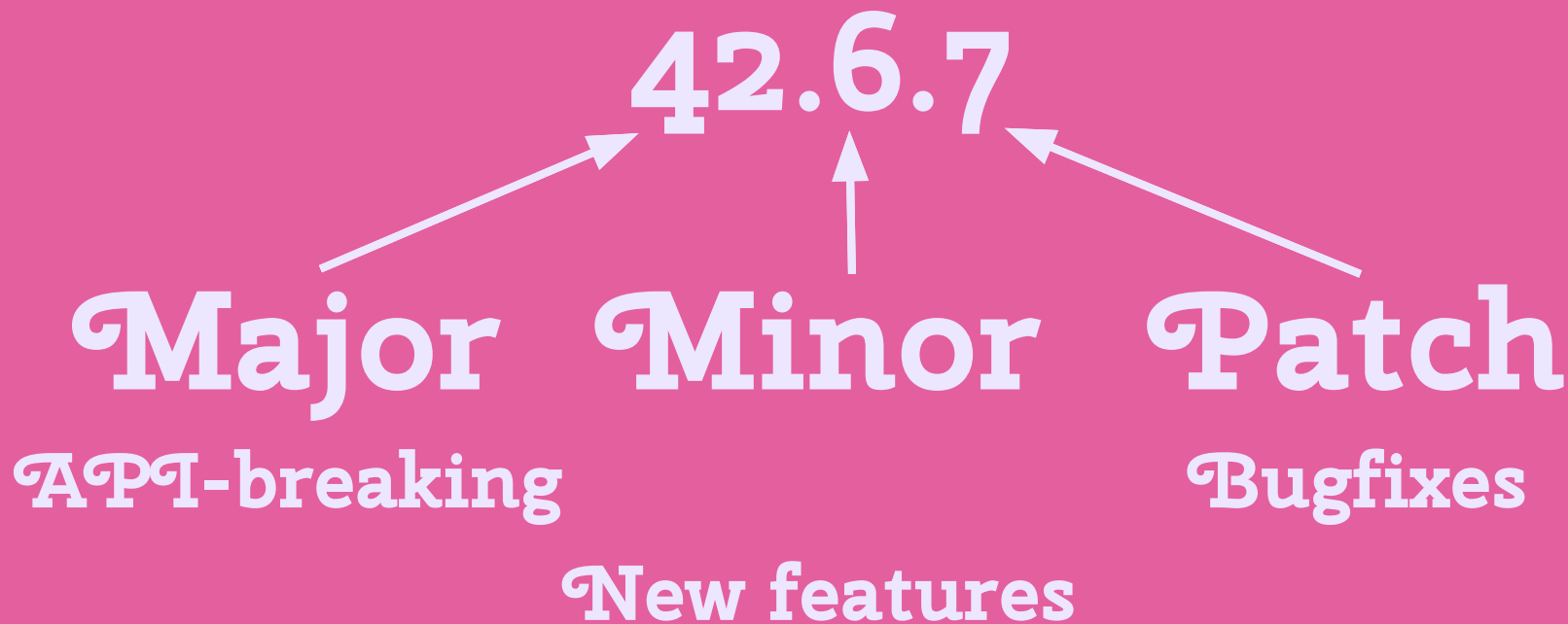
<https://git-scm.com/book/en/v2/Git-Branching-Branching-Workflows>

- Tiny, likely broken commits
- Clear, defined history
 - Easy to rebase!

7. Knowing where to draw lines

72 packages in package.json

I did not update them all!



Not now !== never

7 lessons learned

1. Weaving the dependency landscape
2. Remember: You're one stitch in a large chain
3. Untangling the inevitable knots
4. Picking the right knitting needles
5. One big stitch in time saves over 9 (thousand)
6. Making experimental stitches
7. Knowing where to draw lines

**‘We’ve all been there before,
and likely will again.**

So am I done?

So am I done?

Absolutely not!

**“Software is never
finished. Only
abandoned.”**

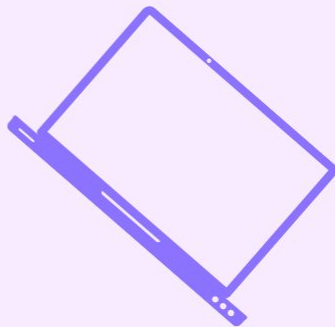
- Leonardo da Vinci, probably, if he were doing this today

Resources:

- <https://nx.dev/features/automate-updating-dependencies>
- <https://classic.yarnpkg.com/lang/en/docs/dependency-types/>
- <https://yarnpkg.com/cli/upgrade-interactive>
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**Thank you,
Friends!**



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