The background of the slide features a wide-angle photograph of a natural landscape. In the foreground, there's a dirt path leading through a field of dry grass and small yellow flowers. Beyond the path is a large, turquoise-blue lake. In the distance, a range of mountains with snow-capped peaks rises against a bright blue sky with scattered white clouds.

NILS HARTMANN

<https://nilshartmann.net>

Modern React SPAs with TanStack Router and Query

INTERNATIONAL JAVASCRIPT CONFERENCE | MUNICH, NOVEMBER 12 2024 | @NILSHARTMANN

NILS HARTMANN

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Java, Spring, GraphQL, React, TypeScript



<https://graphql.schule/video-kurs>

<https://reactbuch.de>

HTTPS://NILSHARTMANN.NET

TanStack Query

(formerly known as React Query)

<https://tanstack.com/query/latest>

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All-inclusive Data Fetching solution for React (and others)

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Suspense, Caching, TypeSafety, Error Handling

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Filebased, typesafe Routing

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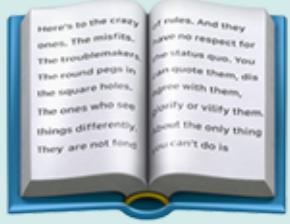
Filebased, typesafe Routing

Search Params as global State

Code

Examples

[HTTP://LOCALHOST:24080](http://localhost:24080)



Lazy Routes

- 🕵️ about.lazy.tsx ↗
- 🕵️ __root.tsx: Add Link
- 🕵️ Network traffic

Typesafe Routes

-  \$bookId/index.tsx
-  <Link> in BookList.tsx
-  Show \$bookId useParams bri

Loading data with suspense

- 🕵️ book-query.ts
- 🕵️ \$bookId/index.tsx

Pending state

-  book-query.ts - slowdown
-  \$bookId/index.tsx - pendingComponent

Validation using zod

-  book-types.ts: add zod
-  book-query.ts – TBookDetails.parse

Router: State as search params

- 🕵️ books/index.tsx – define search params
- 🕵️ BookmarkButton.ts – consume search params
- 🕵️ event-store.ts – enabledLogEvents = ["Rendered"]

Query cache

- 🕵️ add 40_query_cache/00_material
- 🕵️ BookDetails.tsx add <ReviewLink />
- 🕵️ ReviewLink.tsx implement
- 🕵️ reviews/index.tsx: Load book data
- 🕵️ What is happening when on the network? What is happening in the cache?
 - Navigate from bookId -> reviews
 - Reload reviews

Router: Early loading

- 🕵️ add 45_before_load/00_material with route.tsx
- 🕵️ Implement route.tsx
- 🕵️ What is happening when on the network? What is happening in the cache?
 - Navigate from bookId -> reviews
 - Reload reviews
 - Still slow, but Requests in parallel
 - There are other ways to achieve the same

Mutations

-  Remove slowdown in bookByIdQueryOpts
-  __root.tsx: enable BookOfTheMonth
-  BookOfTheMonth: Load book
 - Note: again the queryOpts
 - Note: again it's coming from the cache
-  Enable LikeButton in BookDetails
-  like-mutation: implement mutation
-  LikeButton: implement mutation

Summary

Should I use it?

SUMMARY

TanStack Query

TanStack Query

Seems to be de-facto standard nowadays

(often in combination with zod)

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Seems to be de-facto standard nowadays

(often in combination with zod)

I really like it and would use it in almost all cases

(Exceptions: GraphQL, Redux)

SUMMARY

TanStack Router

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Would I use it? Probably, but...

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Quite new (less than one year!)

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Very active development (can be hard to keep up)

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Would I use it? Probably, but...

Quite new (less than one year!)

Very active development (can be hard to keep up)

Not as widely used (as React Router)

Example application

Source-Code and Slides:

<https://react.schule/ijs-tanstack>

I will commit my live coding source code on an own branch later

Thank you very much!

Slides & Code: <https://react.schule/ijs-tanstack>

Questions and contact:

nils@nilshartmann.net

<https://nilshartmann.net/contact>

