



NILS HARTMANN

<https://nilshartmann.net>

Practical
introduction:
Fullstack
with
Next.js

INTERNATIONAL JAVASCRIPT CONFERENCE | MUNICH, NOVEMBER, 13 2024 | @NILSHARTMANN

NILS HARTMANN

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Freelance Software Developer, Architect and Trainer from Hamburg

Java, Spring, GraphQL, React, TypeScript

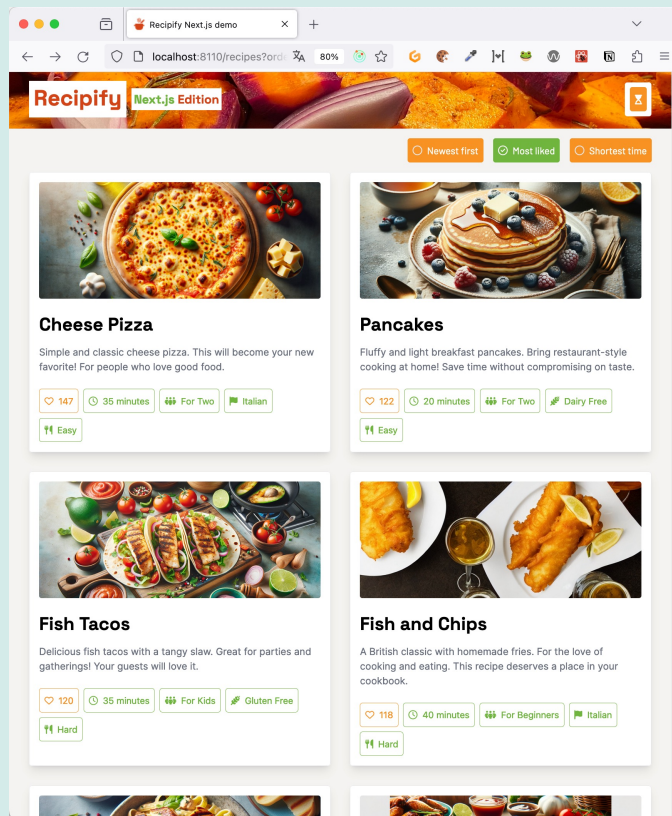


<https://graphql.schule/video-kurs>



<https://reactbuch.de>

[HTTPS://NILSHARTMANN.NET](https://nilshartmann.net)



<http://localhost:8110>

AN EXAMPLE...

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What makes up the sample application?

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- Lots of food 🤤


BREAKFAST

Pancakes

Fluffy and light breakfast pancakes. Bring restaurant-style cooking at home! Save time without compromising on taste.




♥ 122 🍴 For Two 🌱 Dairy Free 🥄 Easy



Fish and Chips

A British classic with homemade fries. For the love of cooking and eating. This recipe deserves a place in your cookbook.


♥ 118 ⌚ 40 minutes 🍴 For Beginners 🇮🇹 Italian 🥄 Hard



Cheese Pizza

Simple and classic cheese pizza. This will become your new favorite! For people who love good food.

♥ 147 ⌚ 35 minutes 🍴 For Two 🇮🇹 Italian 🥄 Easy



Fish Tacos

Delicious fish tacos with a tangy slaw. Great for parties and gatherings! Your guests will love it.

♥ 120 ⌚ 35 minutes 🍴 For Kids 🌱 Gluten Free 🥄 Hard

AN EXAMPLE...

What makes up the sample application?

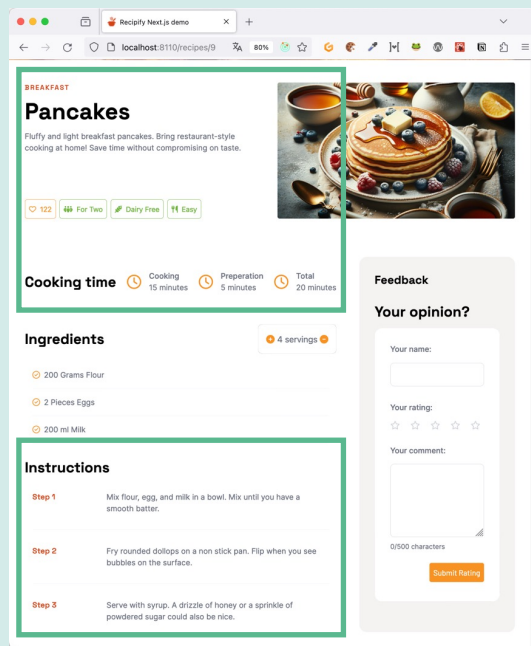
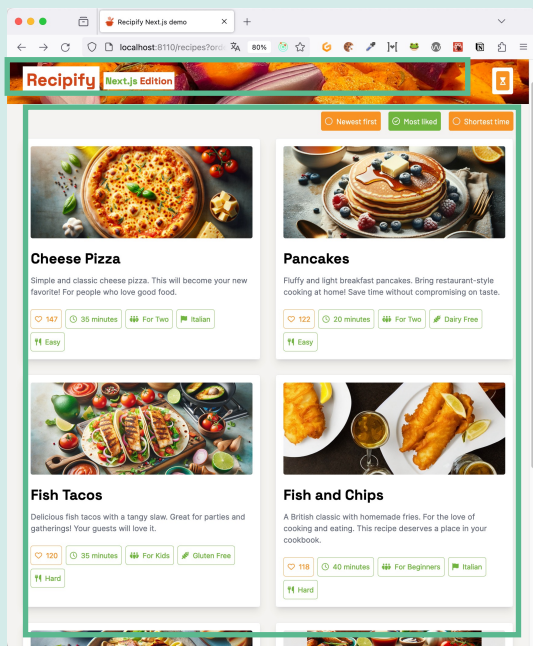
- Some bad AI-generated images



AN EXAMPLE...

What makes up the sample application... technically?

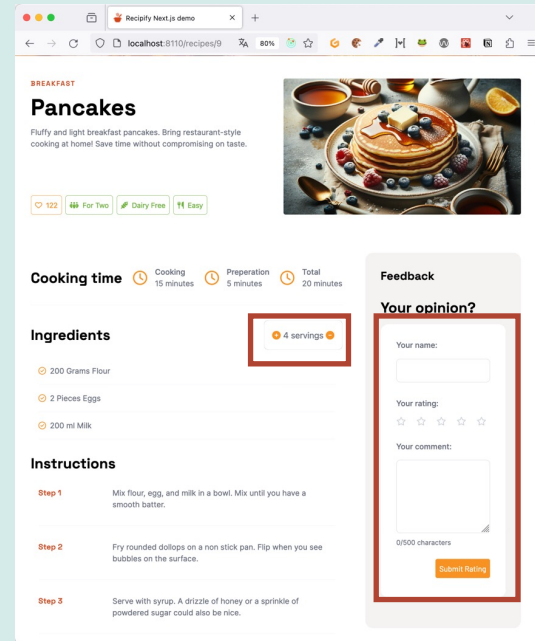
- Lots of static content 😊



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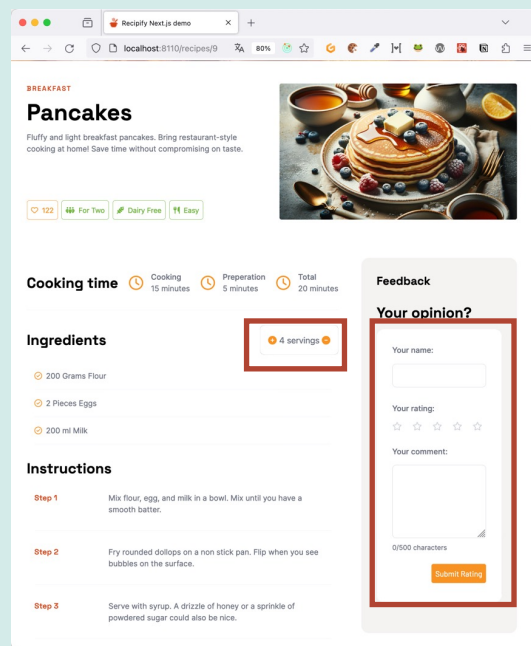
- Lots of static content 😊
- ... only a few interactions 🦉



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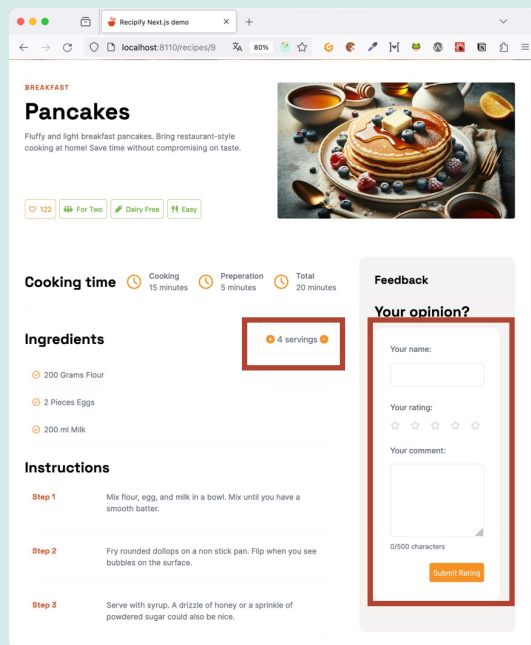
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- ... does that justify a Single-Page-Application? 🤔



AN EXAMPLE...

What makes up the sample application... technically?

- Lots of static content 😊
- ... only a few interactions 🦏
- ... does that justify a Single-Page-Application? 🤔
- ...huge amount of JS in the browser?
- ...no caching of content?
- ...not best possible SEO?



React

Server

Components

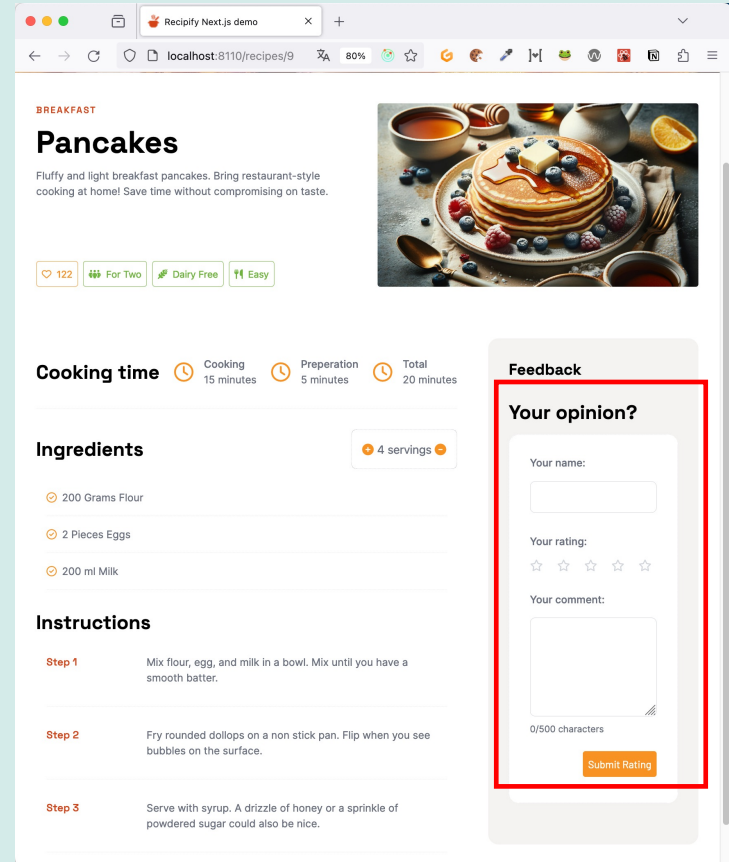
DIFFERENT KINDS OF COMPONENTS

Kinds of components

DIFFERENT KINDS OF COMPONENTS

Client components (as known before)

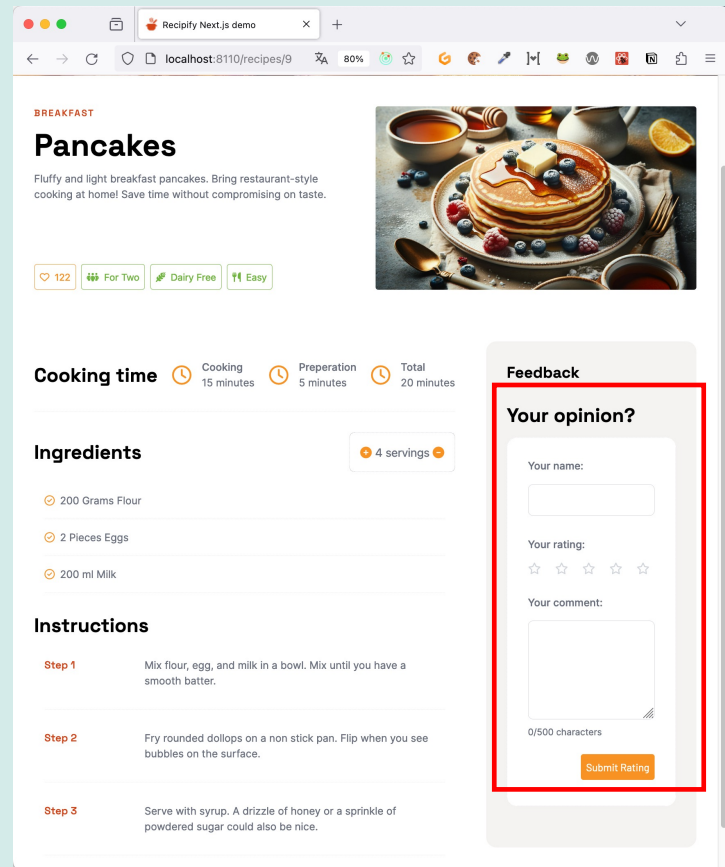
- Rendered on the Client



DIFFERENT KINDS OF COMPONENTS

Client componenten (as known before)

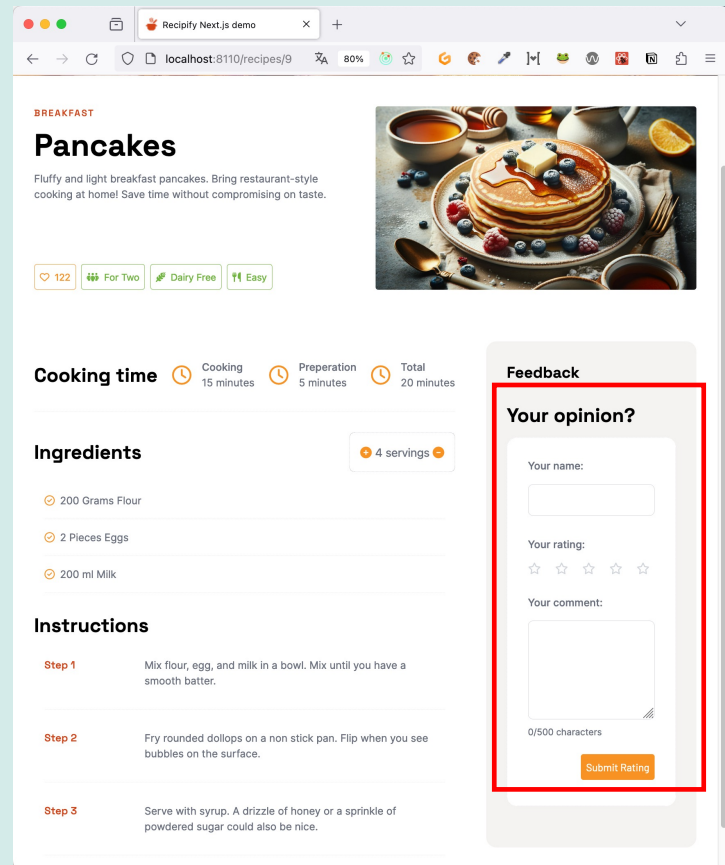
- Rendered on the Client
- or on the Server 🤖 (SSR)



DIFFERENT KINDS OF COMPONENTS

Client componenten (as known before)

- Rendered on the Client
 - or on the Server 🤖 (SSR)
-
- JavaScript-Code is sent to the browser
 - They can be interactive and can held state



DIFFERENT KINDS OF COMPONENTS

New: React Server Components

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- are rendered on the Server

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- or during Build 🤖

DIFFERENT KINDS OF COMPONENTS

New: React Server Components

- are rendered on the Server
- or during Build 🤖
- returning UI (!) to the browser (but no JavaScript-Code)

DIFFERENT KINDS OF COMPONENTS

Different kinds can be used together

- From JSX perspective they look the same



Next.js

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- in the demo we will see Next.js and React features
- This features are available in the App Router (Next.js 14+)

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- You need to run Next.js in production on a server
- that's a big difference to single-page-applications
- Both Next.js and React are also running in the browser



Demo

Server Components #1

- /recipes with fetchRecipes
- where is the component rendered?
 - Console.log
 - React Dev Tools
- how can we order and filter the list? we do not have state here!
- what is refetched when we re-order the list? -> Network tab!
- what is fetched when we re-load the page -> Network tab!

Next.js: Layout component

- `/recipe/layout.tsx` 1a
- Look at the timer!

Server Components #2: Suspense

- `/recipe/[recipeId]/page.tsx`. `rp`
- `notFound`
- `slow_down` in `demo-config.ts`
- Add `loading.tsx`

Server Components #2: Avoid waterfalls

- In RecipePageContent, Feedbacks are fetched
- slowdown_feedback
- Add Suspense Boundary
- What do we have now: Request takes Recipe-Request + Feedback-Request

Server Components #2: Avoid waterfalls

- Move `fetchFeedback` to `[recipeId]/index.tsx`
- Pass `feedbackPromise` to `RecipePageContent`
- Adjust `<FeedbackList ...>` in `RecipePageContent`
- Adjust `FeedbackList` to `await` promise

Server Actions: A very simple form

- LikeWidget "use server"
- This works without JavaScript!
- Note: with the new React 19 Hooks `useActionState`, `useFormStatus`, `useOptimistic` we could also build "real" forms that are progressively enhanced

Client Components: Now we need JavaScript in the Browser

- Show desired result in working application
- RecipePageContent: replace IngredientsSection with ConfigurableIS
- Note:
 - we pass props "as normal" from server to client components
 - that even works for promises!
 - we can use Server Functions to execute code on the server (no endpoint required)

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Thank you very much!

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

Questions and contact:

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<https://nilshartmann.net/contact>

