

# Authentication & Authorization

localhost:3000/signin

# Sign In

Mail

Password

**Sign In**

No account? [Sign up here.](#)

localhost:3000/signup

# Sign Up

Mail

Password

**Sign Up**

Already have an account? [Sign in here.](#)

localhost:3000/posts

## Posts

**POSTS**    **ADD POST**    **PROFILE**

Rasmus Cederdorff  
Senior Lecturer

Exploring the city center of Aarhus

Dan Okkels Brendstrup  
Lecturer

A cozy morning with coffee

Rasmus Cederdorff  
Senior Lecturer

Serenity of the forest

Maria Louise Bendixen

localhost:3000/posts/65d1f502f5b3f142ef417bb8

Anne Kirketerp  
Head of Department

localhost:3000/profile

## Profile

Name: Rasmus Cederdorff  
Title: Senior Lecturer  
Mail: race@eaaa.dk

**Logout**

# Authentication (godkendelse)

Bekræfter hvem en bruger er.

- Eks.: Logge ind med e-mail og adgangskode, Google-login, Facebook, GitHub osv.
- Hvis godkendelsen lykkes, får brugeren adgang til systemet.

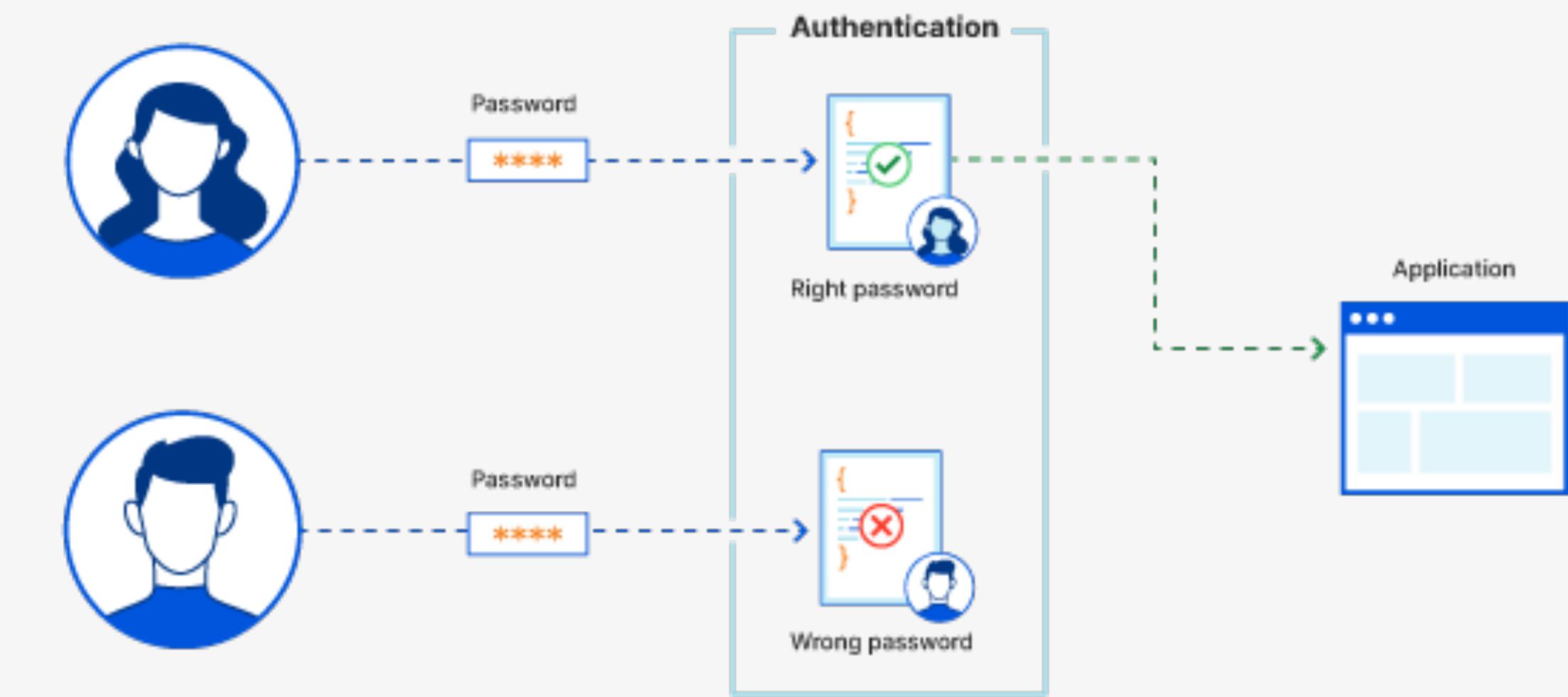
# Authentication



Confirms users  
are who they say they are.

# Authentication?

Authentication is the process of **verifying the identity of a user or system**, typically through credentials like **usernames and passwords, biometric data, or security tokens**, to ensure that individuals are who they claim to be before **granting access** to secure systems or information.

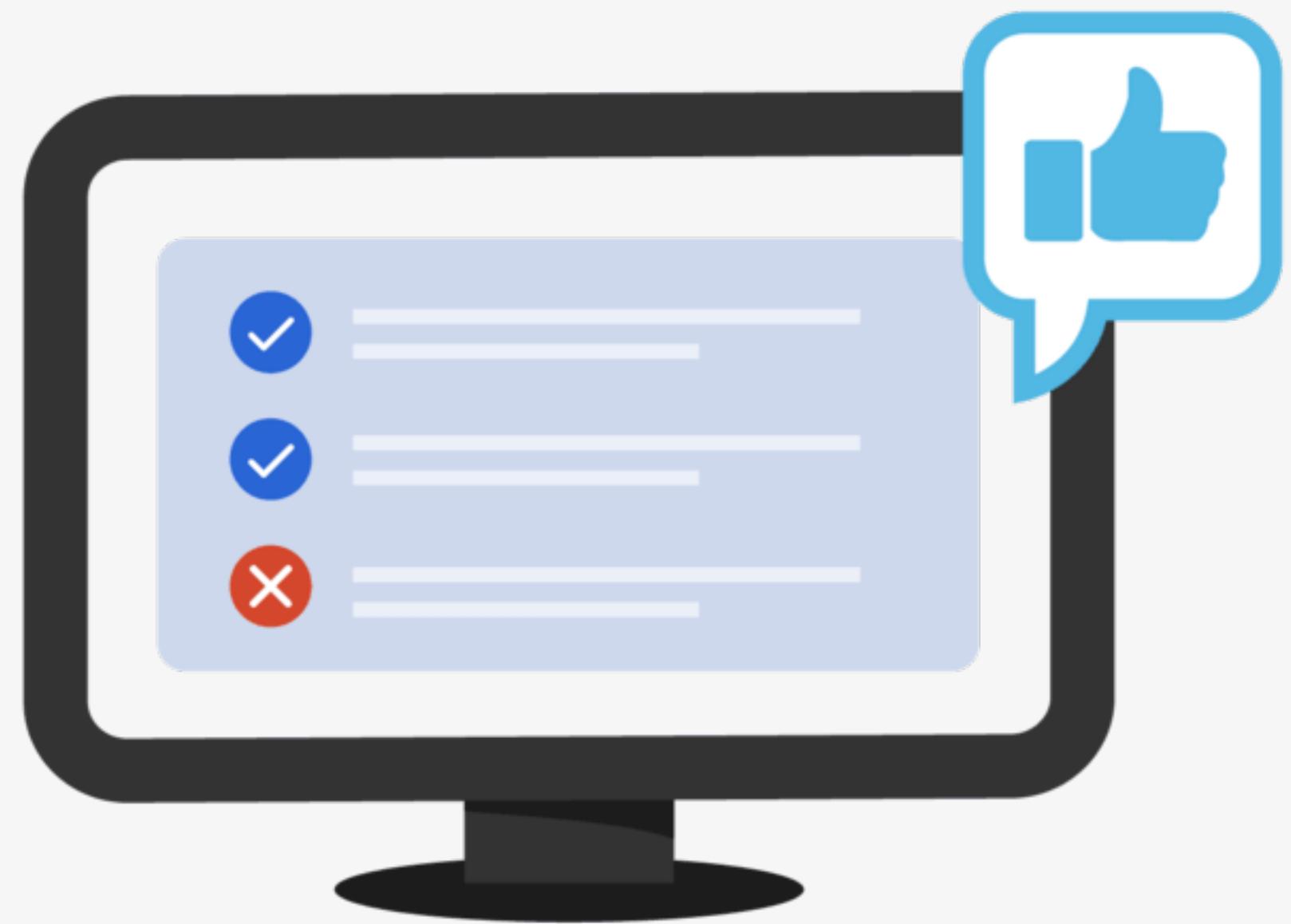


# Authorization (autorisering)

Bestemmer hvad en bruger har adgang til.

- Eks.: En admin-bruger kan se og ændre indstillinger, mens en almindelig bruger kun kan se sin egen profil.
- Finder sted efter authentication.

# Authorization



Gives users permission  
to access a resource.

Authentication = "Er du den, du siger, du er?";

Authorization = "Hvad har du lov til at gøre?";

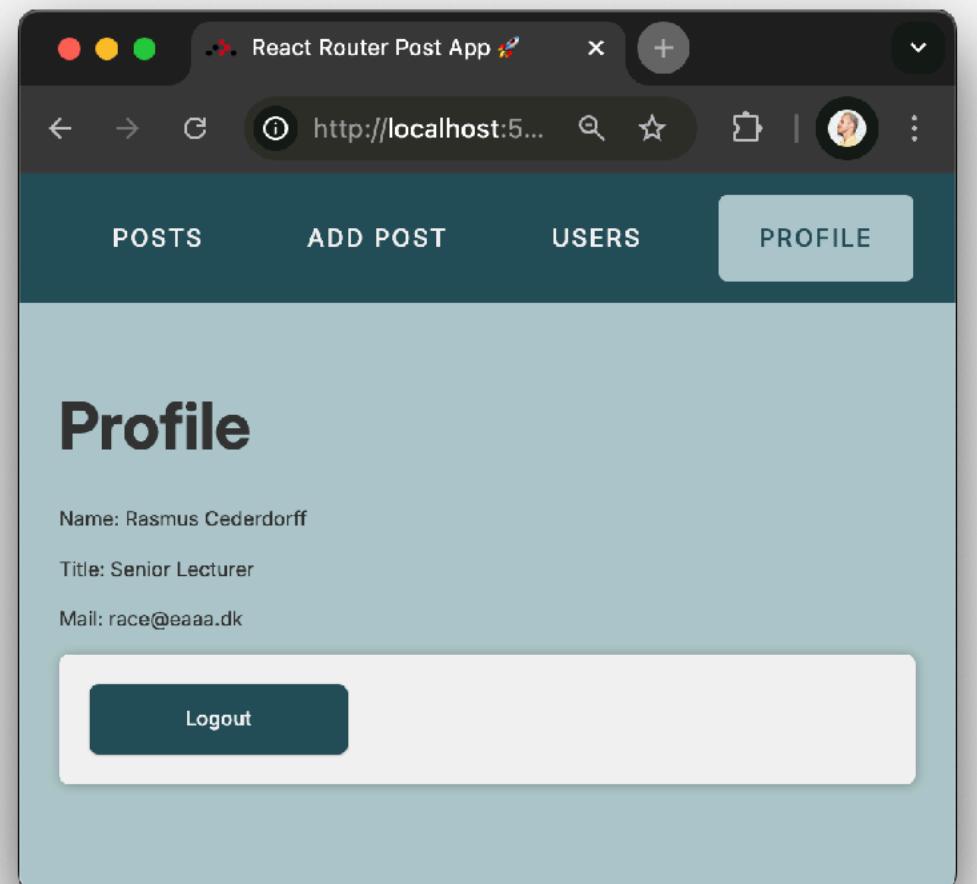
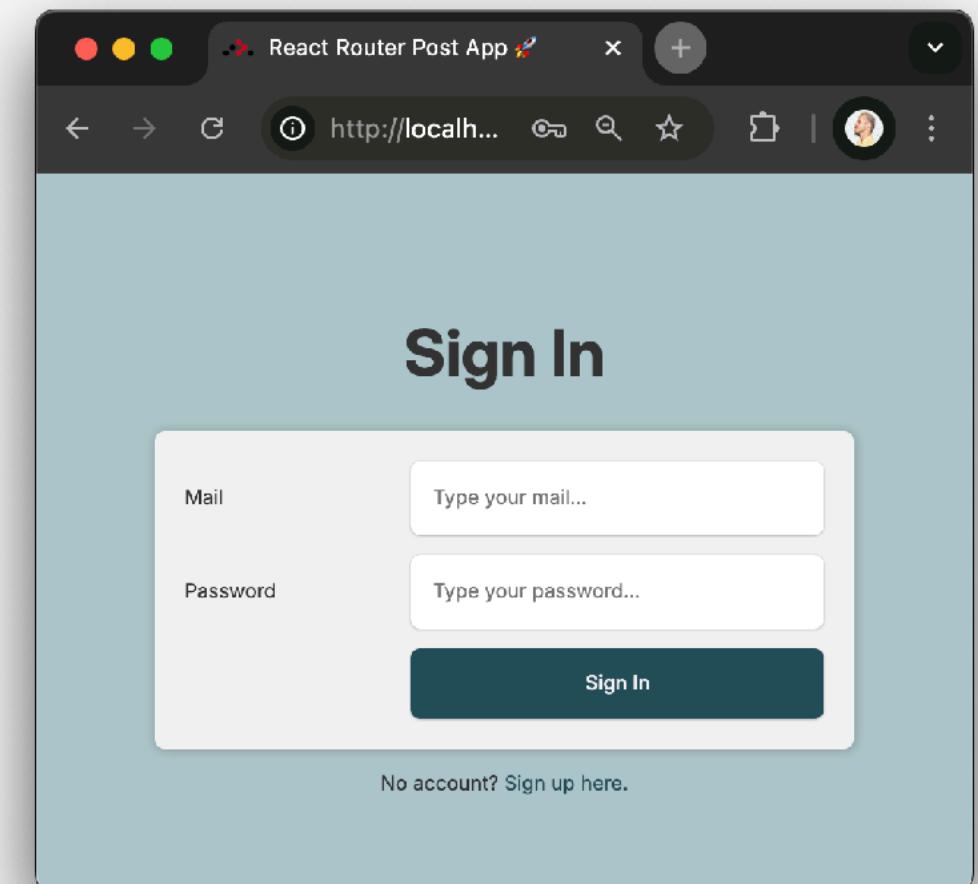
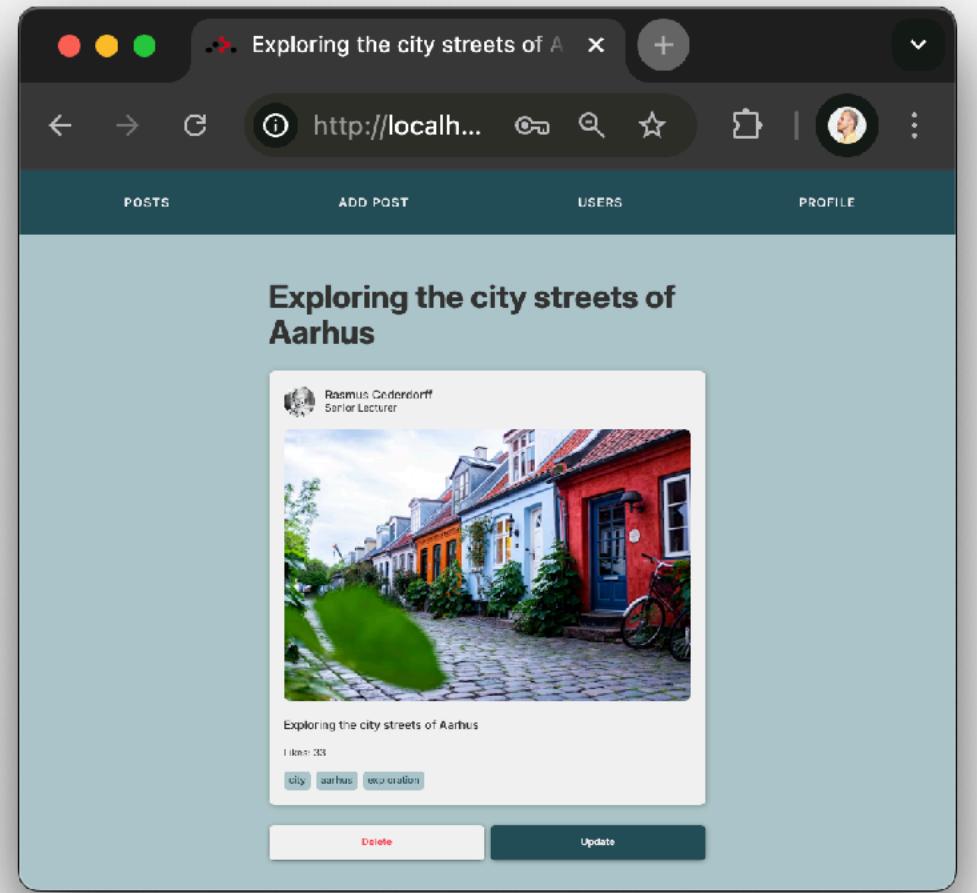
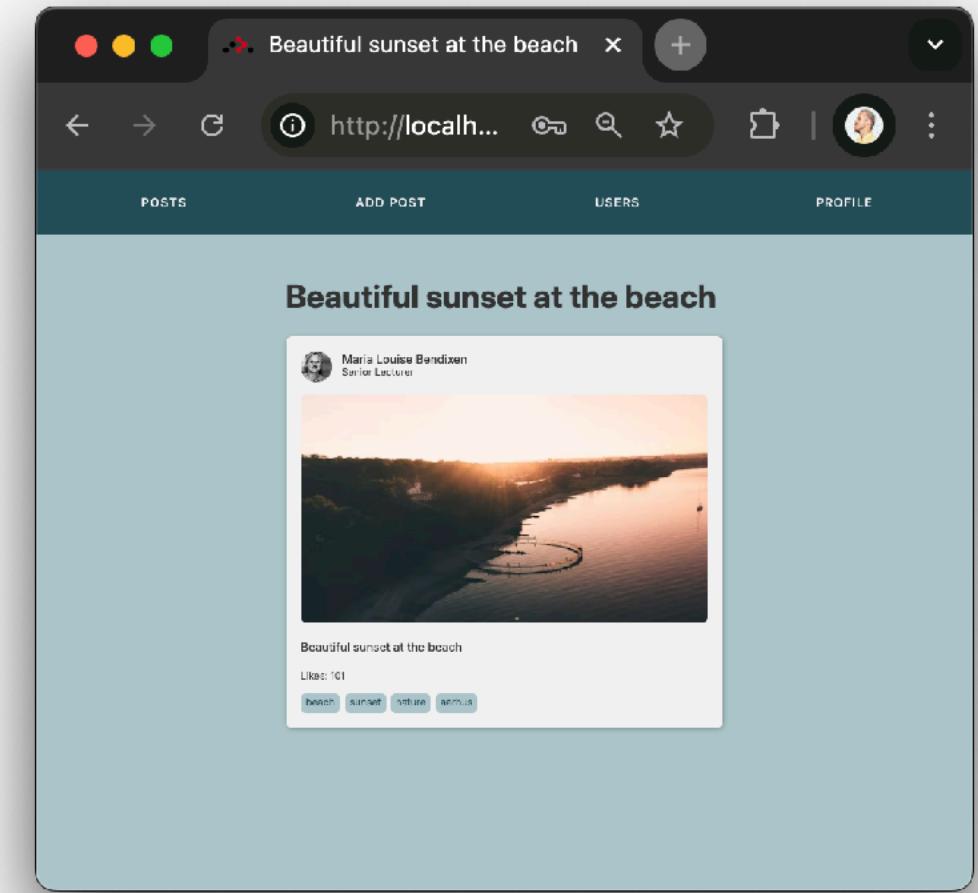
# Eksempel 1: Webapp med login

- **Authentication:**

- Brugeren logger ind med e-mail og adgangskode eller Google/Facebook-login.

- **Authorization:**

- En almindelig bruger kan kun se sin egen konto. Og kan kun oprette, redigere og slette egne posts.
- En admin-bruger kan redigere alle brugere og ændre systemindstillinger.



# Eksempel 2: GitHub

- **Authentication:**
  - Du logger ind på GitHub med dit brugernavn og adgangskode.
- **Authorization:**
  - Du kan læse og ændre dine egne repositories.
  - Du kan kun bidrage til andres repositories, hvis du har fået de rette tilladelser (fx read, write eller admin access).



# Eksempel 3: Firebase Authentication + Firestore Rules

- **Authentication:**

- Firebase håndterer login med e-mail, Google, Facebook osv.

- **Authorization:**

- Firestore Security Rules sikrer, at:
  - Brugere kun kan læse/skrive deres egne data.
  - Admins har fuld adgang til databasen.



```
1  {
2    "rules": {
3      "users": {
4        ".read": true,
5        "$user":{
6          ".write": "auth != null && auth.uid == $user", // Only authenticated users
7          ".validate": "newData.hasChildren(['name', 'mail', 'image'])",
8          "name": { ".validate": "newData.val().length > 0" },
9          "mail": { ".validate": "newData.val().length > 0" },
10         "image": { ".validate": "newData.val().length > 0" }
11       },
12       ".indexOn": [ "name", "mail", ".value" ]
13     },
14     "posts": {
15       ".read": true,
16       "$post":{
17         ".write": "auth !== null && (auth.uid == newData.child('uid').val() || auth
18         ".validate": "newData.hasChildren(['caption', 'image', 'uid'])",
19         "caption": { ".validate": "newData.val().length > 0" },
20         "image": { ".validate": "newData.val().length > 0" },
21         "uid": { ".validate": "newData.val().length > 0" }
22       },
23       ".indexOn": [ "uid" ]
24     }
25   }
26 }
```

# Protected Routes

User navigates  
to protected page



Is there a userId  
in the cookie session?

Yes

Renders  
page

No

Redirects to  
login page

# Login Route

User navigates  
to login page



Is there a userId  
in the cookie session?

Yes

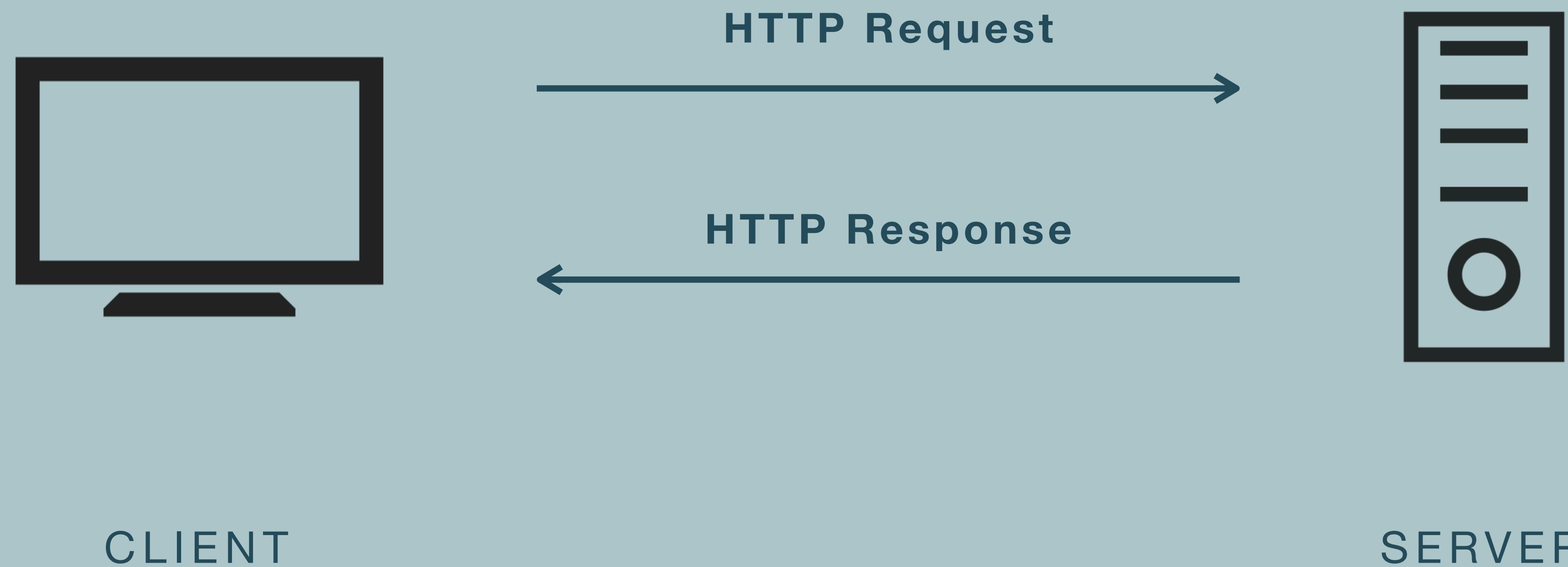
Redirects to  
home page

No

Renders page

# Client-Server Model

Communication between web **clients** and web **servers**.



# Client-Server Model

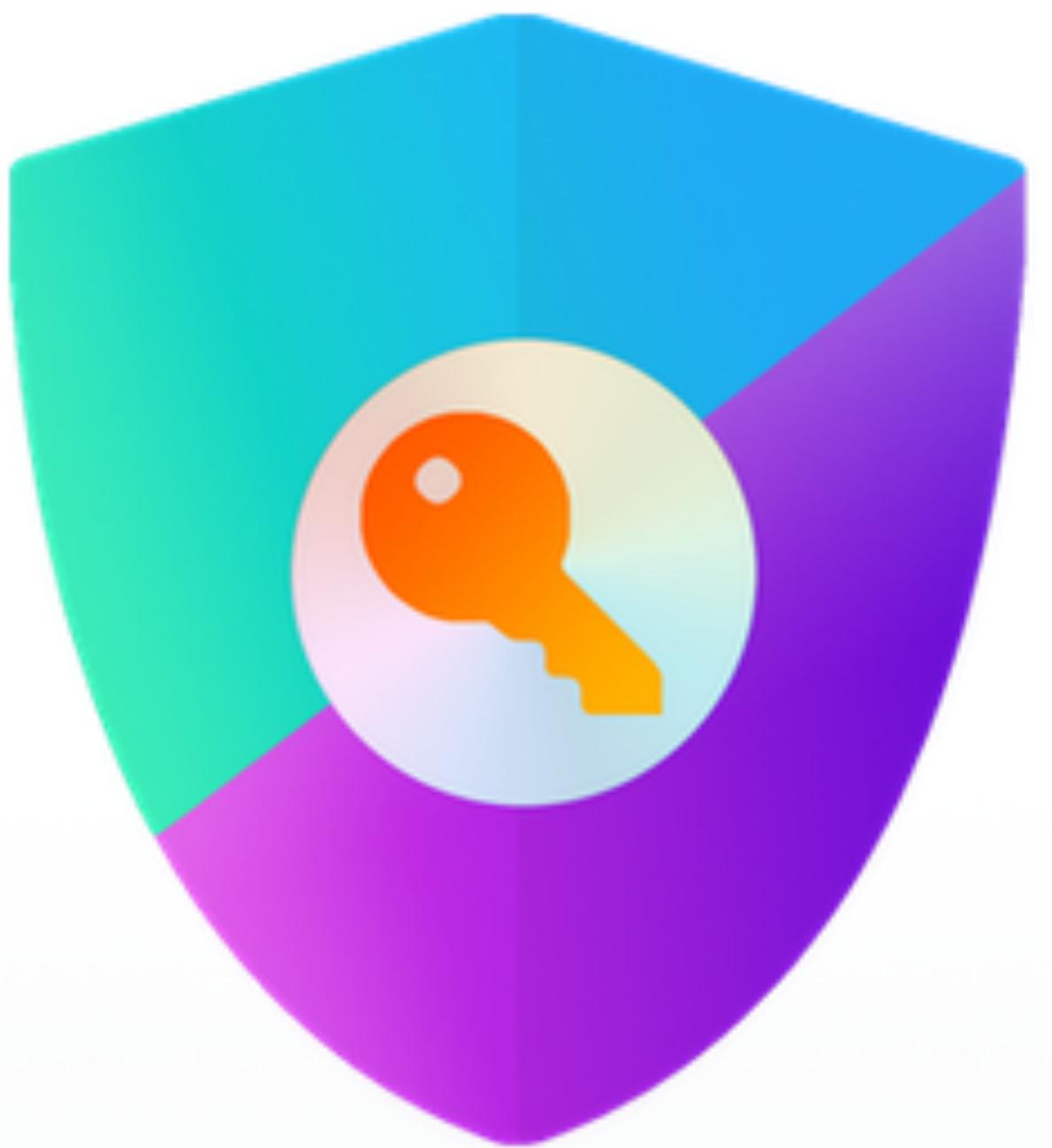
Communication between web **clients** and web **servers**.



# Session vs Token Authentication in 100 Seconds



<https://www.youtube.com/watch?v=UBUNrFtufWo>



# Auth.js

Authentication for the Web.

- Et moderne JavaScript authentication-library
- Bruges til at håndtere login, sessioner og sikkerhed
- Understøtter OAuth-providers (Google, GitHub), email og credentials
- Fungerer med Next.js, Remix, SvelteKit m.fl.
- Modulariseret, fleksibelt og nemt at integrere i projekter

# Auth.js

Authentication for the Web.

Free and open source.

Get Started

Source

ex



More >



```
// auth.ts
import NextAuth from "next-auth"
import GitHub from "next-auth/providers/github"
export const { auth, handlers } = NextAuth({ providers: [GitHub] })

// middleware.ts
export { auth as middleware } from "@/auth"

// app/api/auth/[...nextauth]/route.ts
import { handlers } from "@/auth"
export const { GET, POST } = handlers
```