NodeJS: Authentication

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Agenda

- Protected Routes
- Authentication & Authorization
- HTTP Authentication
- HTTP Authorization

Protected Routes

- Routes in our Express-App look like this:

  /

  /api

  /customers

  ...

Protected Routes

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  /

  /api

  /customers

  ...

- What if we want to **protect** them from certain users? I.e. users, that are unknown to us.


ROAD
CLOSED
ROAD
CLOSED
55

Protected Routes

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- The guy looks up “hallo“ and “world“ in his database and finds you.
- You are now **authenticated** as known user and you get your **ticket** which **authorizes** you to drive along the road.


ROUTE
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Authentication & Authorization

Authentication: is the process of verifying that the user is **somebody** the system knows.

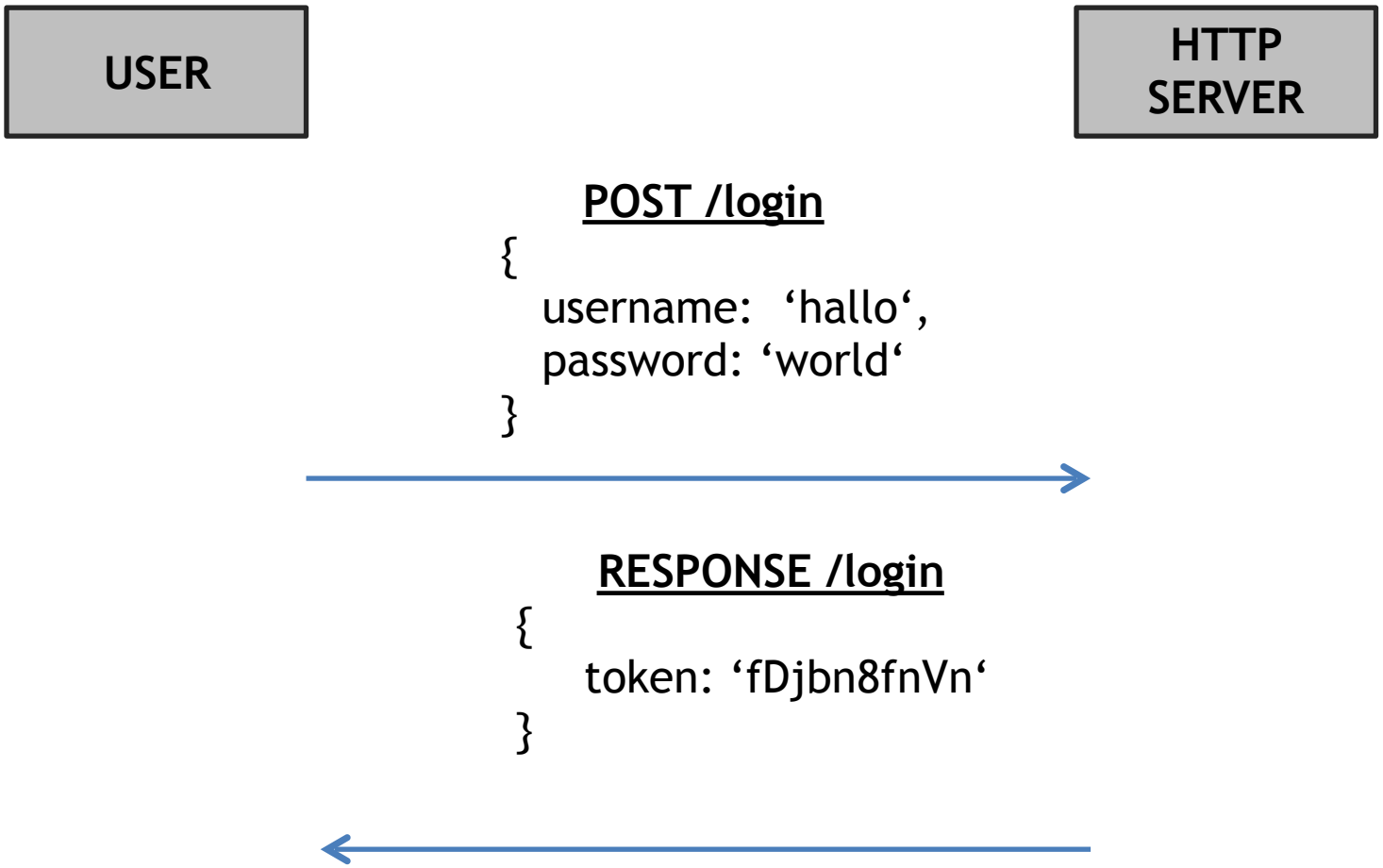
Authorization: is the process of verifying that the user has access to **something** the system owns.

Ticket: A proof that the users is authorized. Mostly it is a token.

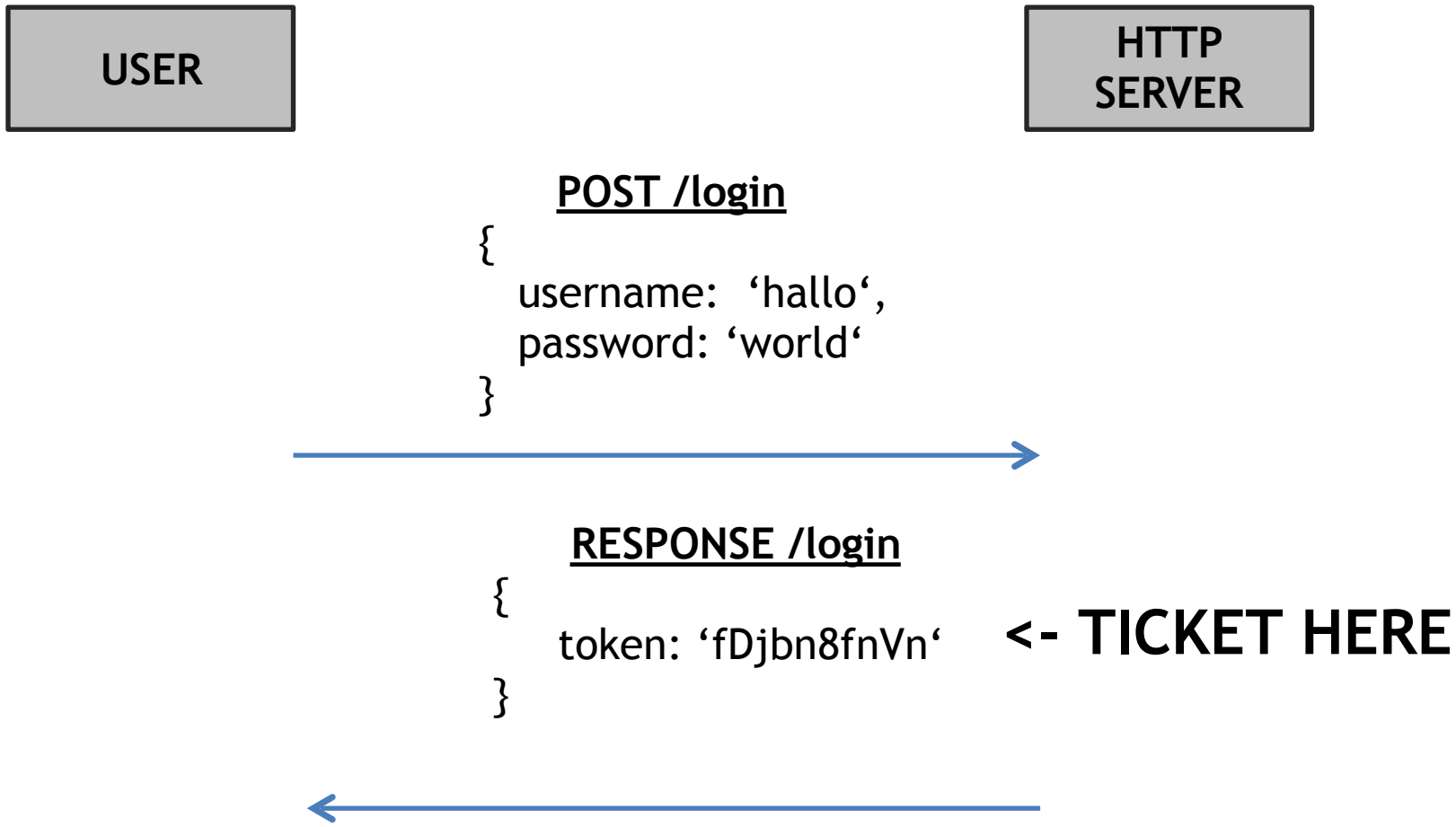
HTTP Authentication

HTTP Authentication

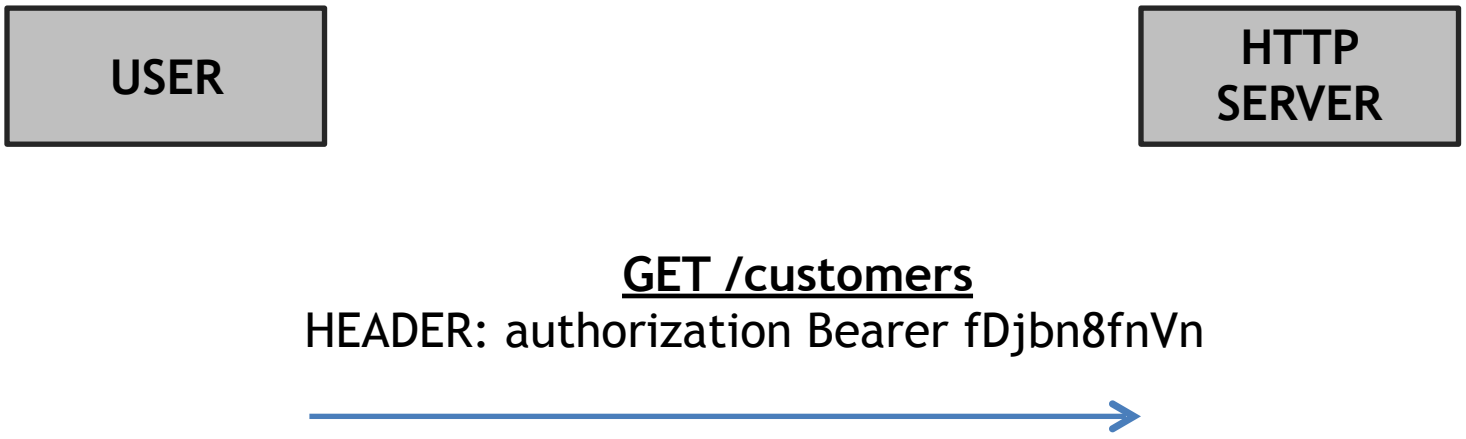
HTTP Authentication Flow



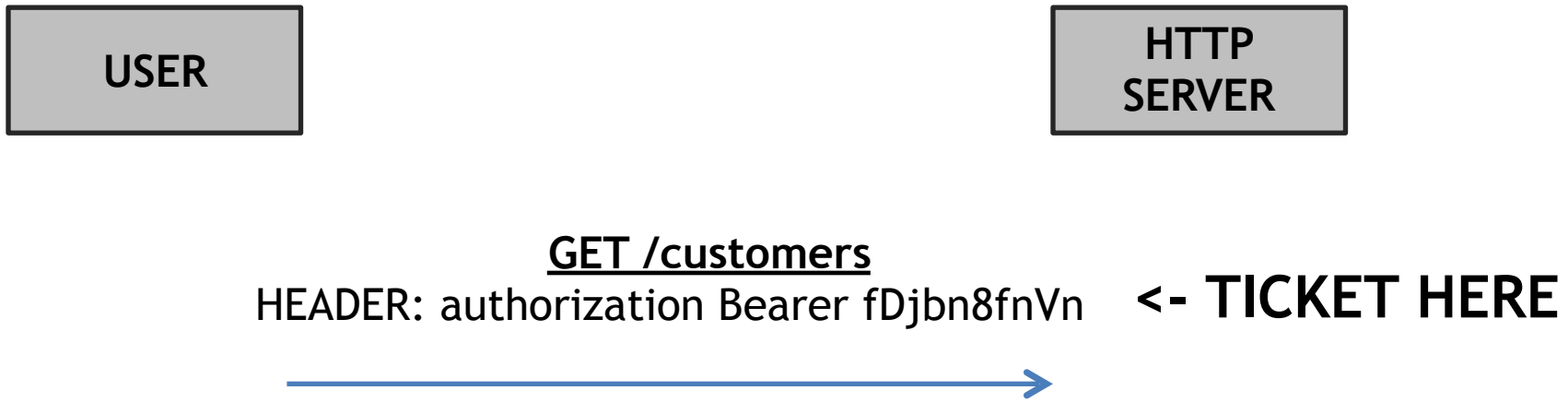
HTTP Authentication



HTTP Authorization



HTTP Authorization



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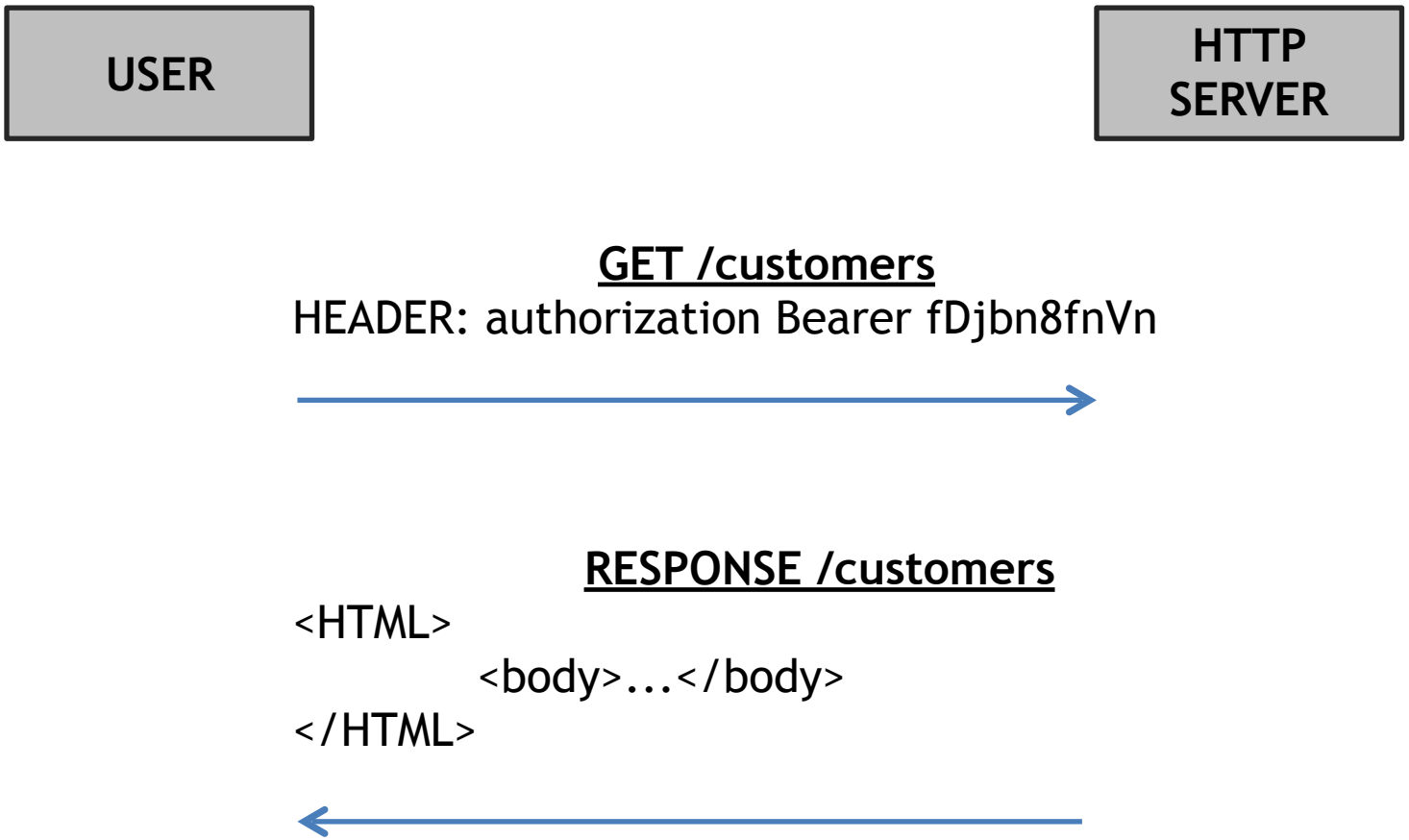

Authentication Types

There are two types of Authentication you can use in any web application development.

1. **Session-based Authentication**
2. **Token-based Authentication**

NodeJS Sessions & Cookies

1. Stateless VS Stateful
2. Cookies & Sessions
3. SessionAuthentication
4. Task

1. Introduction

- Stateless

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- Stateless

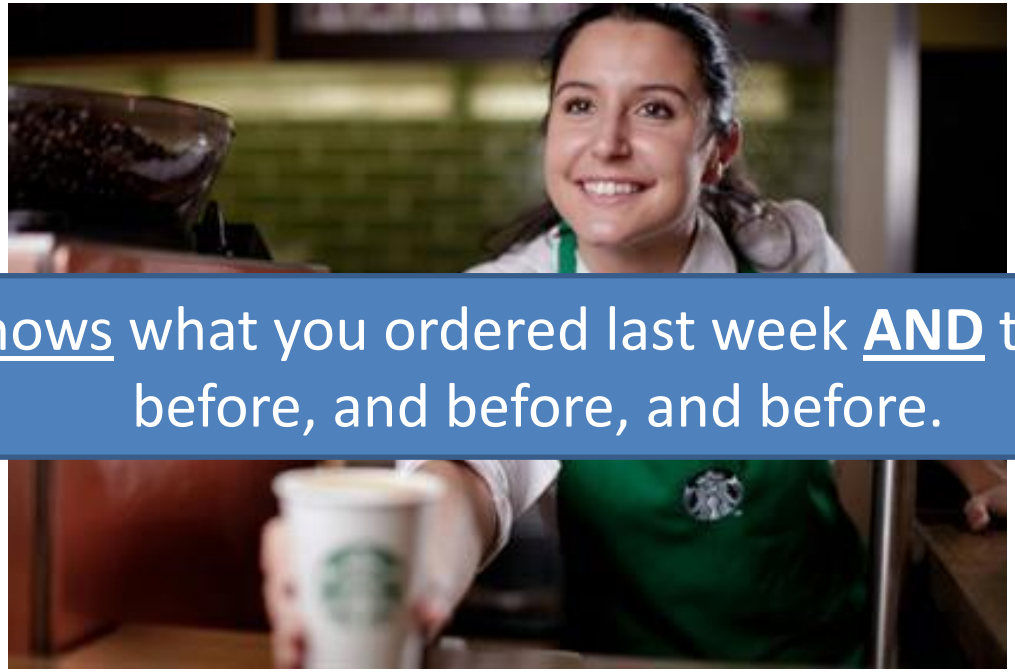
She does not know what you ordered last week.

1. Introduction

- Stateful

1. Introduction

- Stateful



She knows what you ordered last week **AND** the week before, and before, and before.

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- **Transaction:** One pair of Requests and Responses („One coffee please“ – „There you go – here it is“)
- **Session:** A set of transactions
  - „One coffee please“ – „There you go – here it is“)
  - „One latte please“ – „Okay – here it is“)
  - „One espresso please“ – „Okay.“)

2. Cookies & Sessions

- **Cookies:** is an ID that is sent in the HTTP-Header and identifies a session (saved mostly client-side).
- **Session:** A set of transactions, saved server-side mostly in the memory, as a file or on the database.

- No JavaScript necessary. When a browser receives a reponse, it automatically saves the cookie in all future requests.
- Getting rid of cookies: delete them in browser configs.

3. Session Authentication (1/4)

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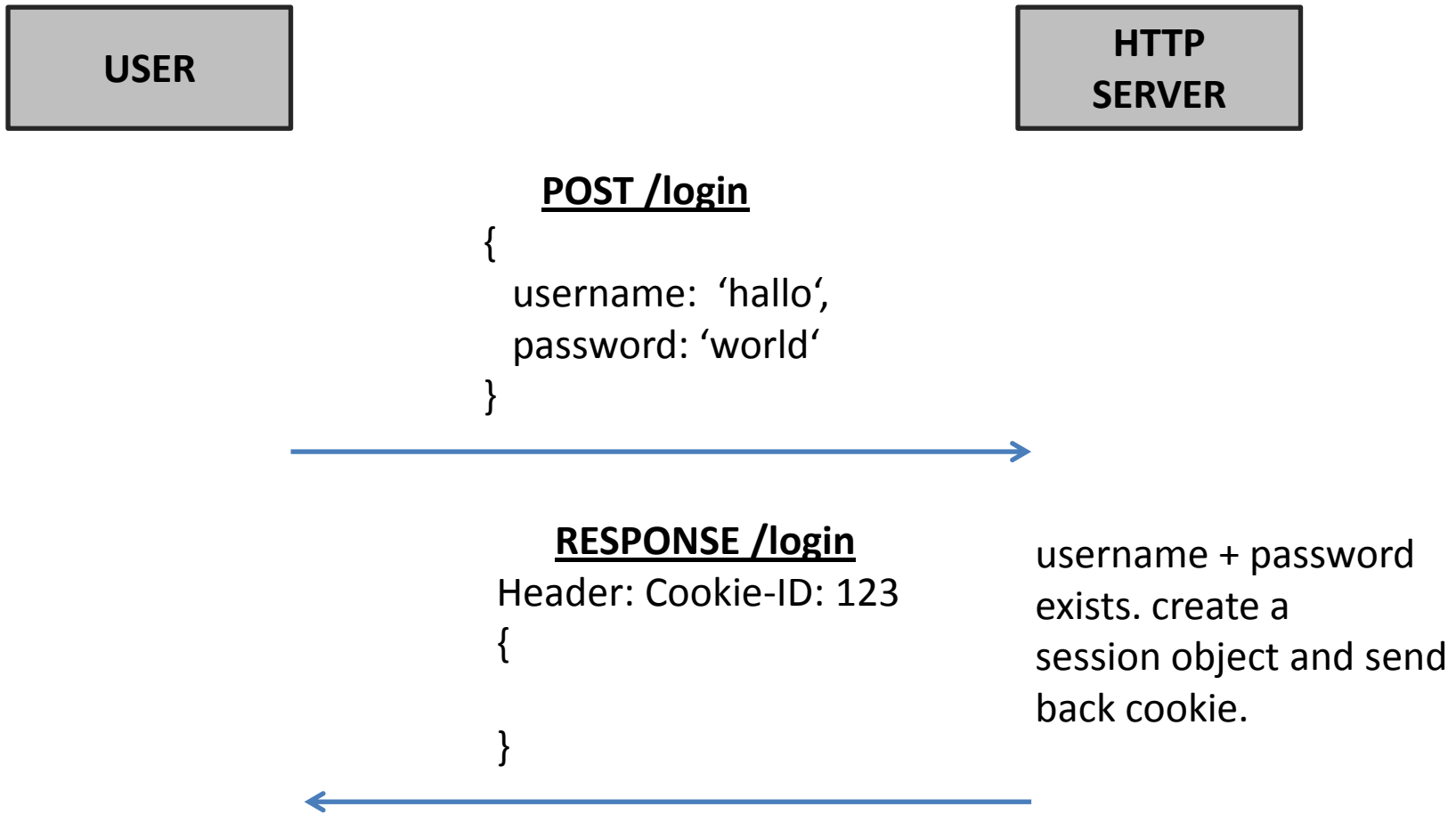
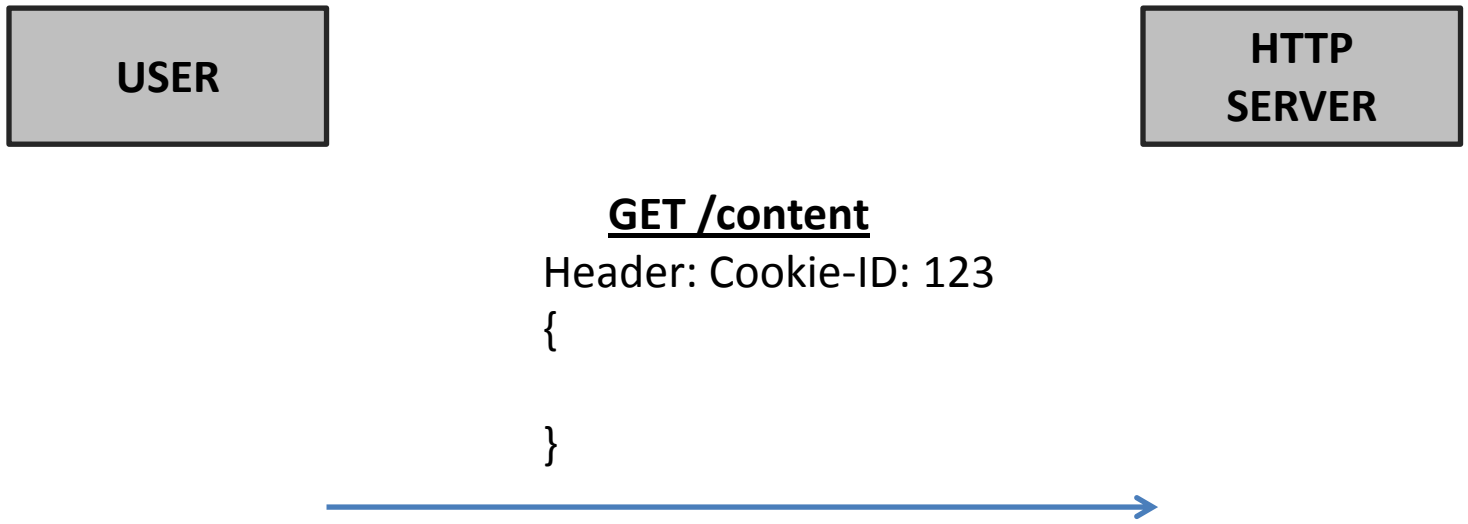
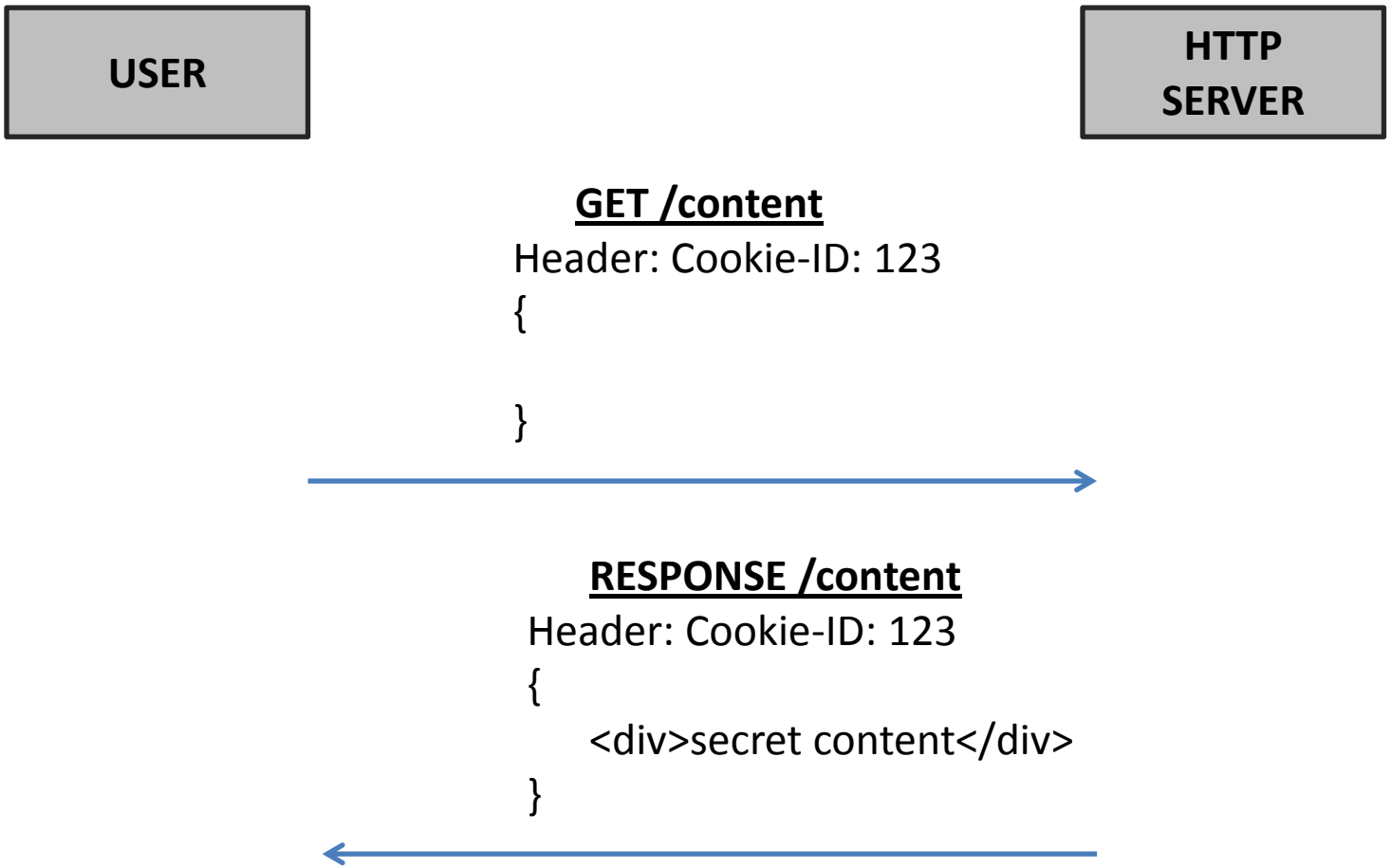


3. Session Authentication (3/4)



3. Session Authentication (4/4)



4. Task

4. Task

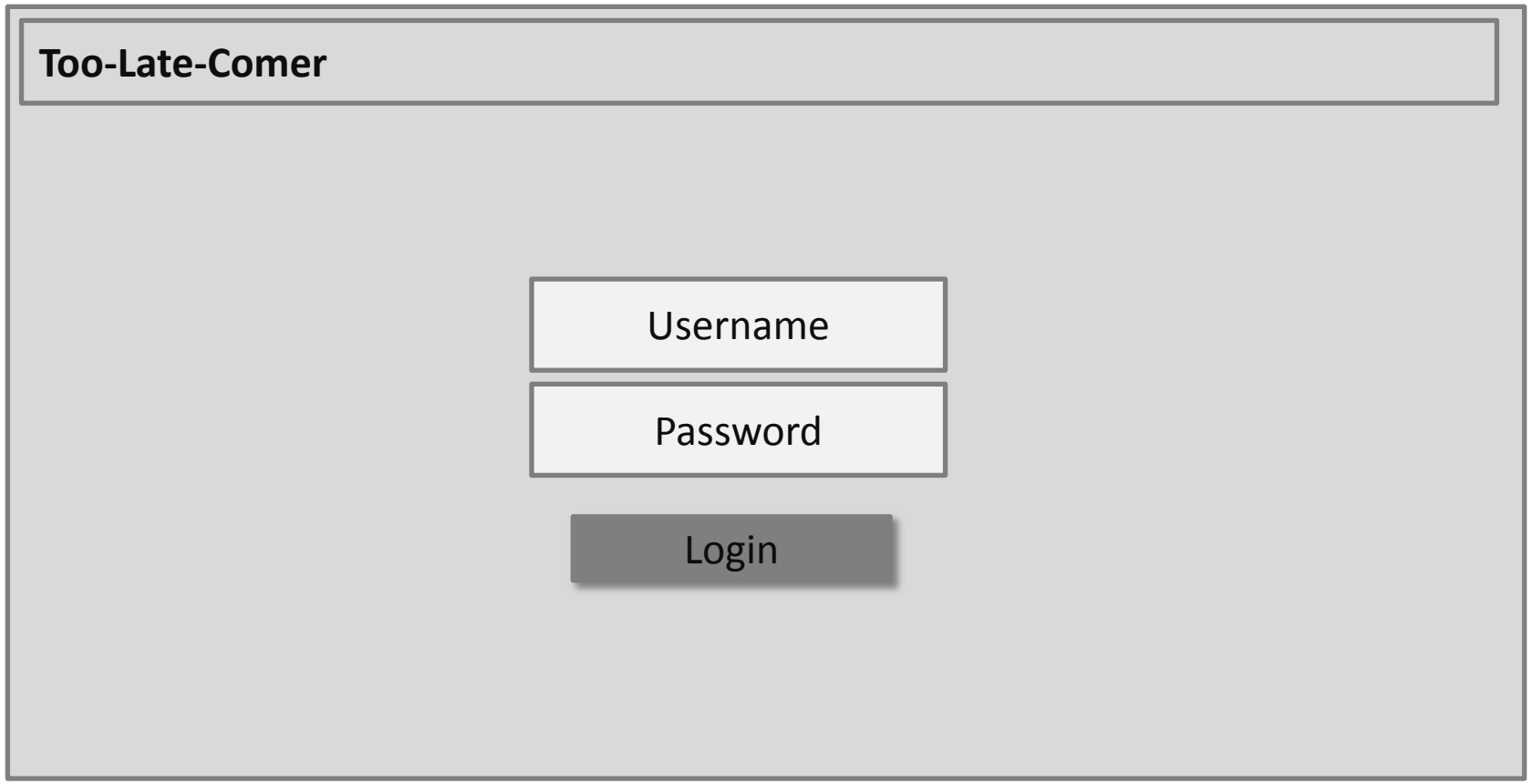
Create a small Too-late-comer website with
Webpack, Jquery, Bootstrap and MongoDB.
The user can keep track of students who come too late.

1) It has three navigation points.
    1) Logout
    2) New Later-Comer (a form where a new too-late comer can be saved)
    3) History (shows a history of people coming too late)

    By default, 3) is the landing page

4. Task

1) New Too Later Comer GUI



4. Task

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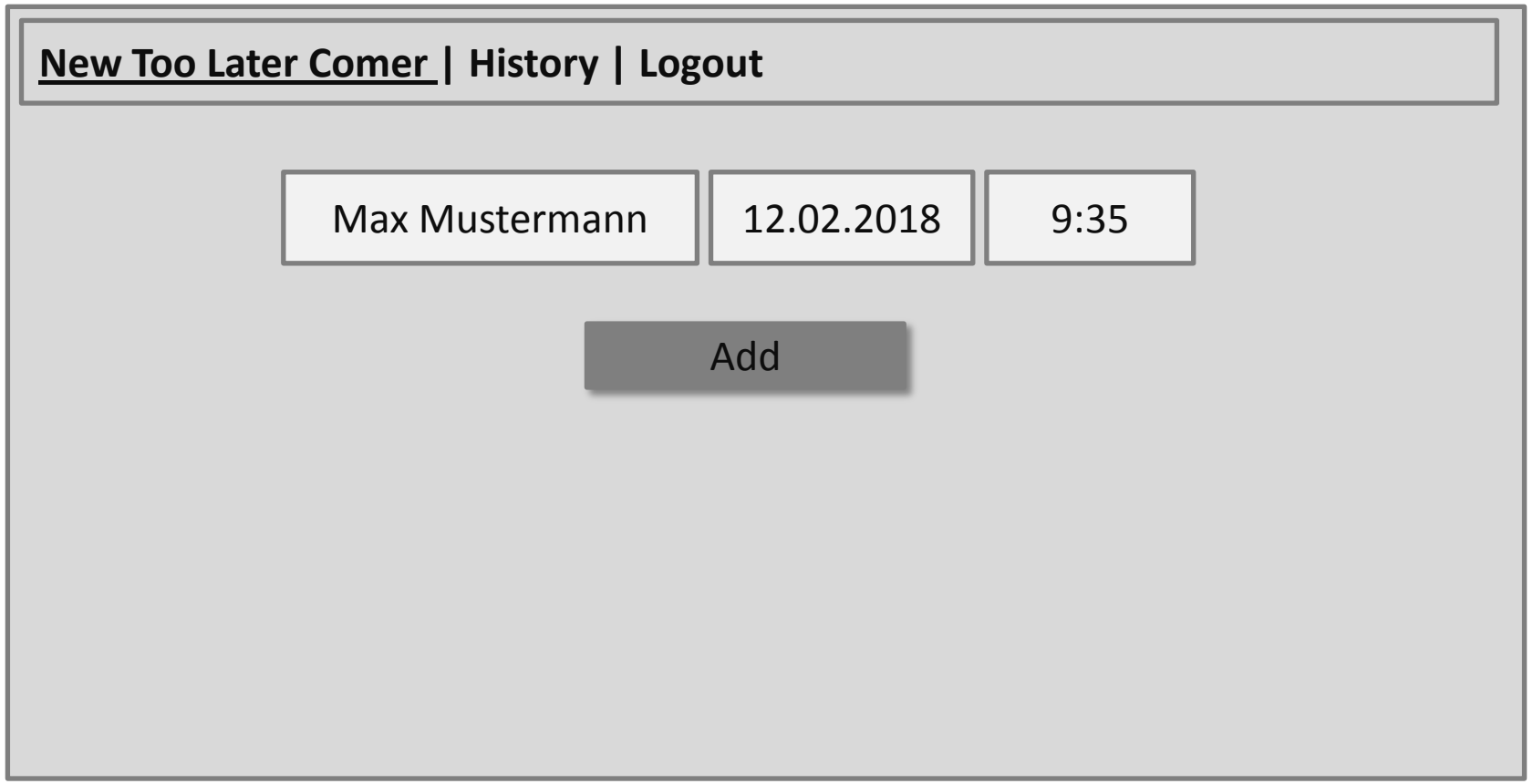
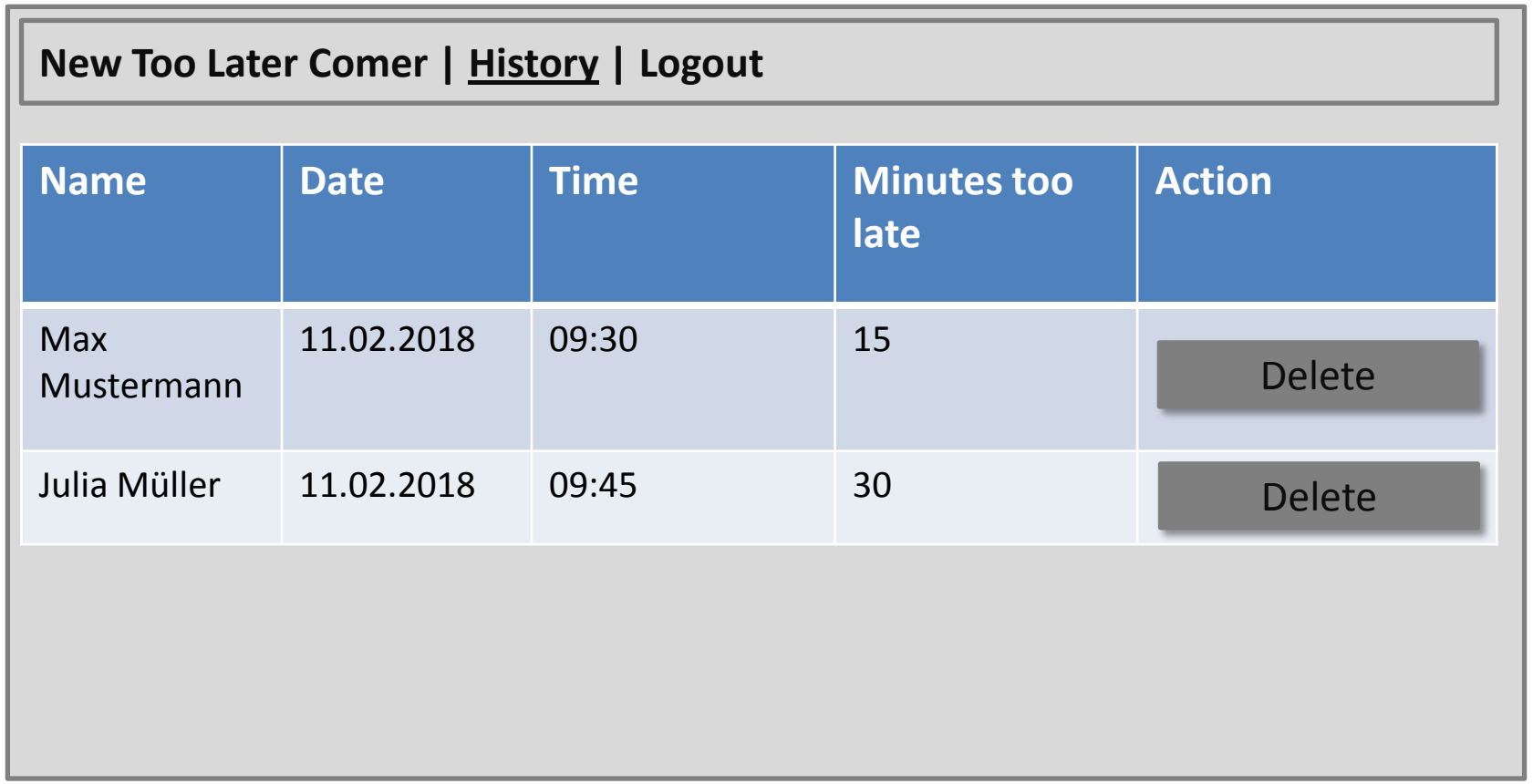


4. Task

1) History



4. Task

1) Login/Logout