CCChat

BY OLIVER SCHNEIDER & LEONID IMMEL

Node Modules (Serverside)

| Module	Benefit
express	Web application framework that includes several useful features for web applications.
socket.io	Realtime event-based bidirectional communication.
socket.io-stream	Sending media over socket within stream
winston	Logger.
body-parser	Handles http post requests. Extracts body of http to req.body.
serve-favicon	Handles the requests from browsers for the favicon and caches the favicon.
express-handlebars	Builds semantic templates
mongoose	For MongoDB modeling. Saves all app data.
redis	For Redis Connection. Saves the cookies.
session-file-store	Fallback for failed database connections.
mocha	Testframework
chai	Helper for testframework
express-brute	Prevents bruteforce attacks on login
bcrypt	Secure hashing of passwords in database
express-session	Sessions, so that the user won't have to login all the time
express-socket.io-sessions	Creates a shared session for sockets
fs-extra	More functionality for fs module (needed to save data to tmp)
moment	Calculates time from now to certain point. For bruteforce module
nw-dialog	File Dialog for media transfer
popper	Required by bootstrap 4.0.0 Realtime Cross-Browser automation
winston	Logger

Vendor Libraries (Clientside)

Library	Benefit
bootstrap	Responsive website programming for mobile-first implementation.
jQuery	Easier handling of javascript
socket.io	To connect socket from client side
socket.io-stream	To stream media from client side
nw-dialog	Dialog to upload files from the client

Project Structure

- App
  - Public (all static served files)
    - Js
    - Css
    - Vendor
  - Services (All services for the app (for example login Service and chat Service)
    - Index
    - Login
    - Chat
      - Microservices (contains all microservices for chat module)
  - Modules (functionality and code shared in the whole app (database, logger, sockets,…))
  - Tests (applicationtests)
  - Layouts (Layouts for the handlebars)
  - Certs (Certification files for the https)
  - Tmp (all tmp files: logs, modules for handlebars,…)

Components

Sequence diagram
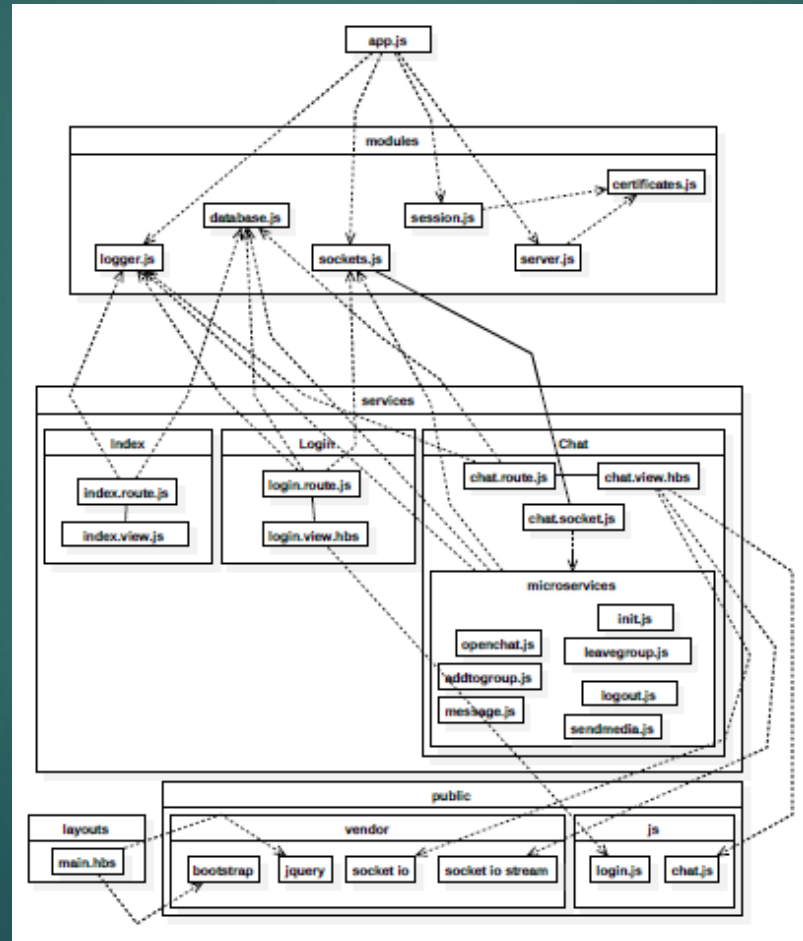
Implemented extra features

- Bruteforce prevention
- Bcrypt encrypted passwords
- Session with cookies
- Logging
- Unique chat ids

Lessons learned

1. Never reuse a socket within a socket.on function
2. Use node_modules whenever possible
3. Handlebars needs all views in one folder (-> annoying!)