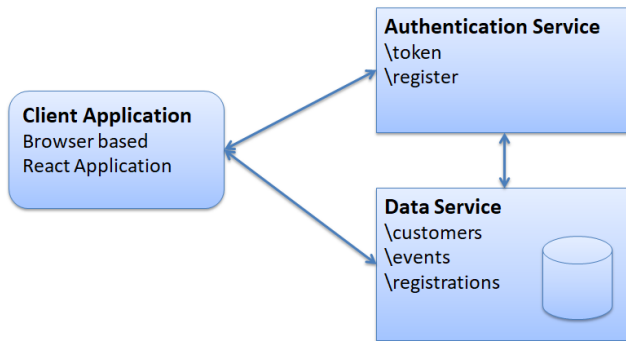


## Component Diagram

### Components



## Component List

- Authentication Service
- Data Service
- Client Application

## Component Interaction

- The client application gets JWT token from the authentication service during login
- The client application accesses Customer, Event and Registration data via the Data API
- The client application adds the JWT token to all Data API requests
- The authentication service calls the Data API to verify user/password during token requests
- The authentication service calls the Data API to insert Customer records during register requests

## Authentication Service

- Service information:
  - context path = \account
  - port = 8081
- Endpoints
  - \account\token
  - \account\register
  - \account\
- Root Endpoint (\account\)
  - Returns a message confirming that the service is up and running.

- Token Endpoint
  - Responds to requests for JWT tokens
  - Takes username and password as parameters
  - Checks that username exists in customer store
  - Checks that password matches the one listed for the customer in the customer store
  - Returns a JWT token suitable for connecting to the data service
- Register endpoint
  - Takes name, email and password and adds them to the Customer data store via the Customer endpoint of the data service
- Security
  - A token is not required to access the authentication service endpoints

## Data Service

- Service information
  - context path = \api
  - port = 8080
- Backend Data
  - Will use embedded hsql database
- Endpoints
  - \account\customers
  - \account\events
  - \account\registrations
- Root Endpoint (\api\)
  - Returns a message confirming that the service is up and running.
- Security
  - A servlet filter will be used to intercept calls to the api and check requests for JWT tokens
- Customers Endpoint
  - Supports CRUD management of Customer records
  - Supports GET, PUT, POST and DELETE requests
  - A JWT token is required for all requests
- Events Endpoint
  - Supports CRUD management of Events records
  - Supports GET, PUT, POST and DELETE requests
  - A JWT token is required for all requests
- Registrations Endpoint

- Supports CRUD management of Registrations records
- Allows customers to register for events
- Supports GET, PUT, POST and DELETE requests
- A JWT token is required for all requests

#### Work Plan (high level)

- Create Customer endpoints
- Test Customer endpoints
- Create Authentication API's token endpoint
- Test token endpoint
- Secure the Data API service with filter that checks for JWT tokens
- Get token and test Customer endpoints including token
- Test APIs using the React client application

#### Work Plan (task backlog)

- Create local git repos for
  - Data API Code
  - Auth API Code
- Implement Data API's root endpoint
- Implement the Data API's Customer GET endpoint
- Test created endpoints with postman REST tool
- Implement PUT, POST and DELETE Customer API endpoints
- Test created endpoints with Postman
- Test customer endpoints using React client
- Implement Events and Registrations endpoints
- Test created endpoints with Postman
- Test created endpoints using React client
- Create Authentication API
- Implement token endpoint
- Test token endpoint using postman
- Test token endpoint using React client (the client's login function uses the token endpoint)
- Add authentication filter to the Data API to require a JWT token to access services
- Try accessing Data API with authentication filter in place using Postman
- Test login and access to customers, events and registrations records using the react client