# JAM

Version 1.1.2

13.05.2025

# JAM

Job Application Management – a full stack application intended to manage job applications from the perspective of an applicant. Created using following tools and components:





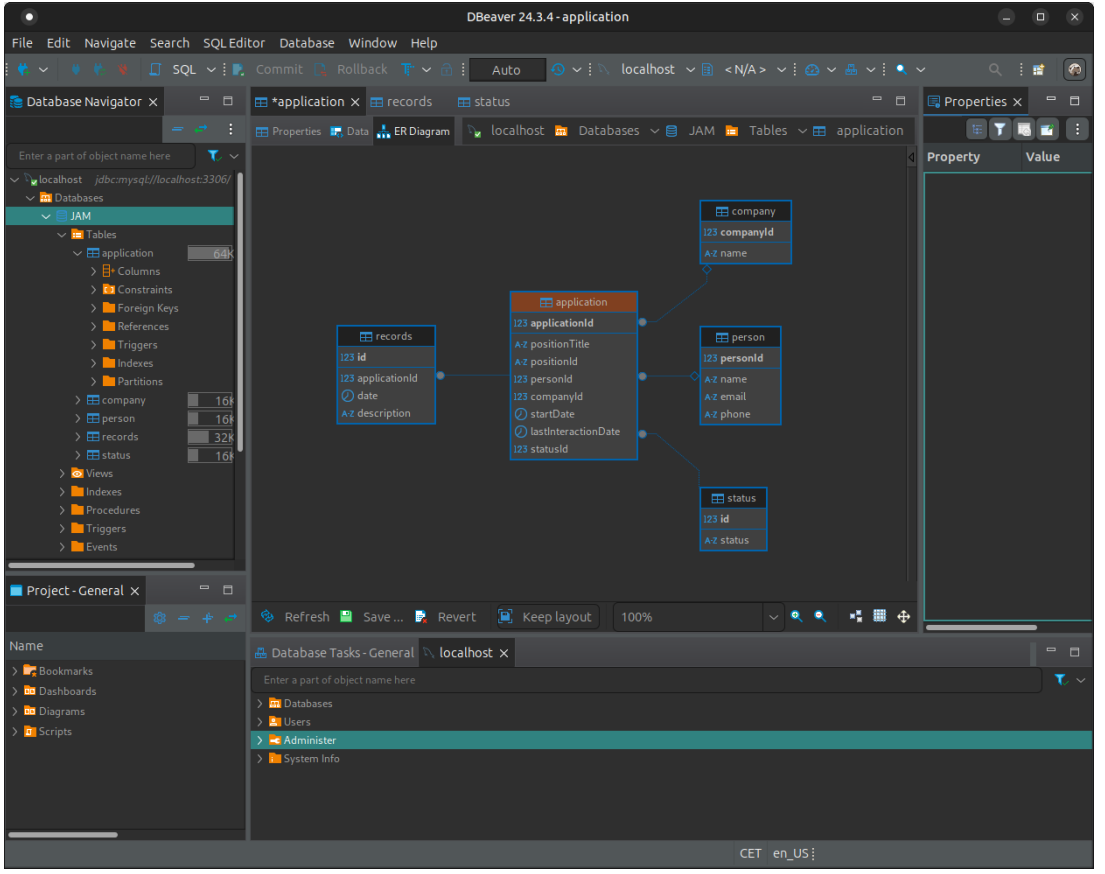




# Database layer

MySQL used as base layer database.

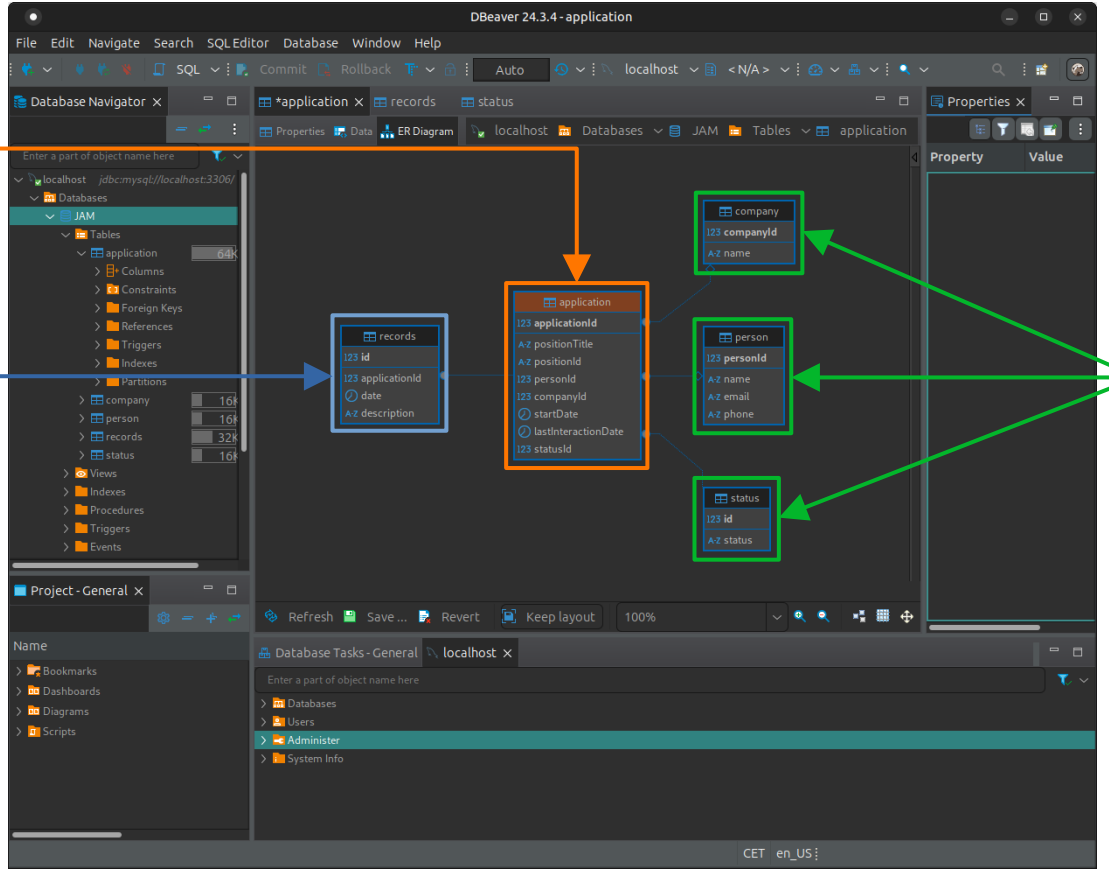
Layout of tables and views created using DBeaver



# Database layer

“application“ table used to hold information about applications

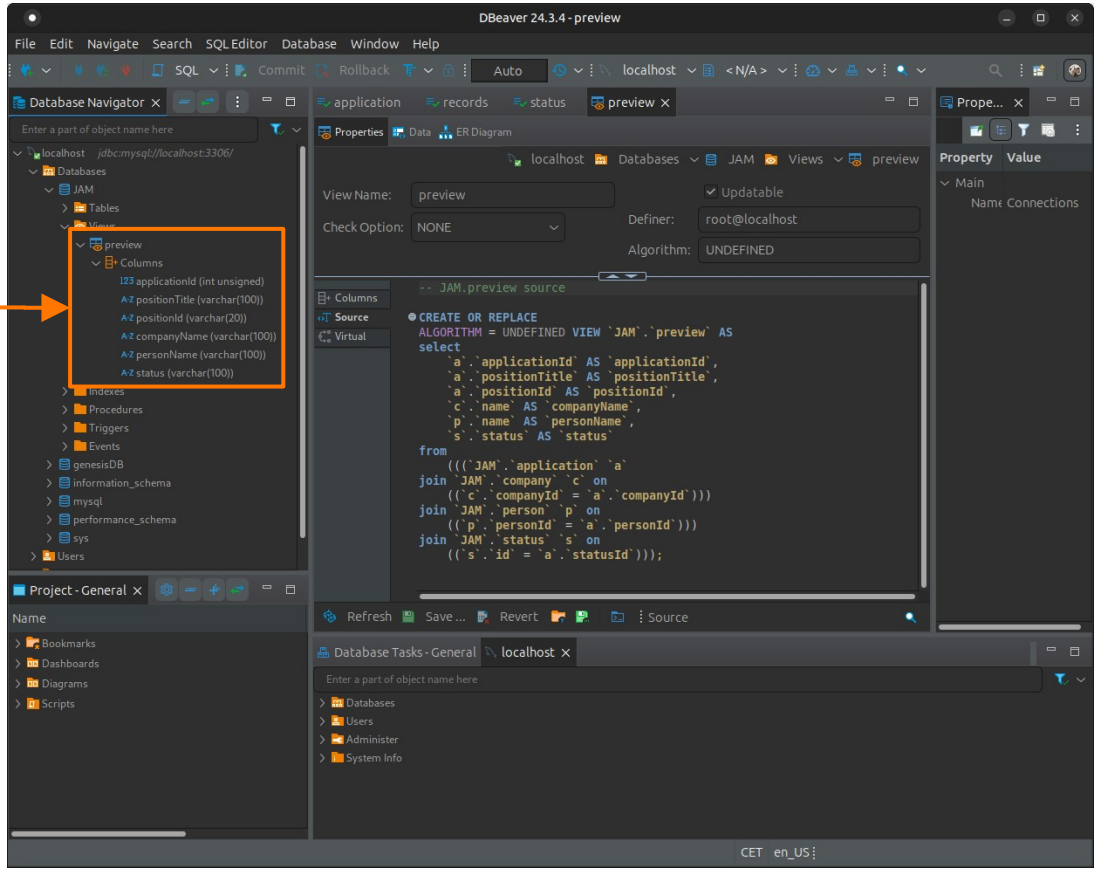
“records” table for various notes related to a particular application.




Tables holding information about persons, companies and status connected to “application” table via foreign keys

# Database layer

"preview" view created to ease access to data used for application card (see front end section)



# Back-end layer

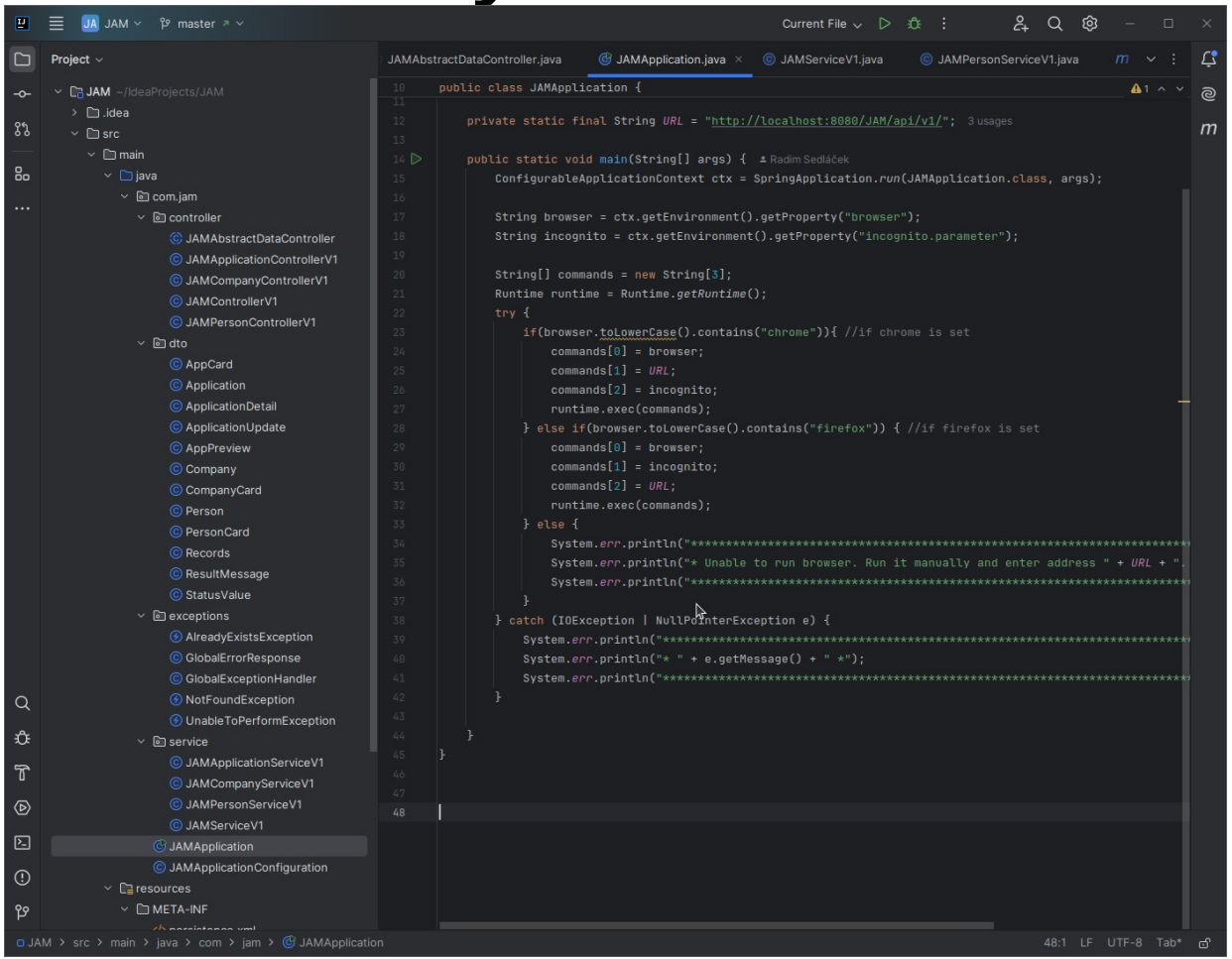
- Java based
- Spring boot used for REST web service/web server creation
- Maven used for packaging
- Coded in Intellij Idea IDE (community edition)
- Hibernate used for interactions with database
- Postman used for testing



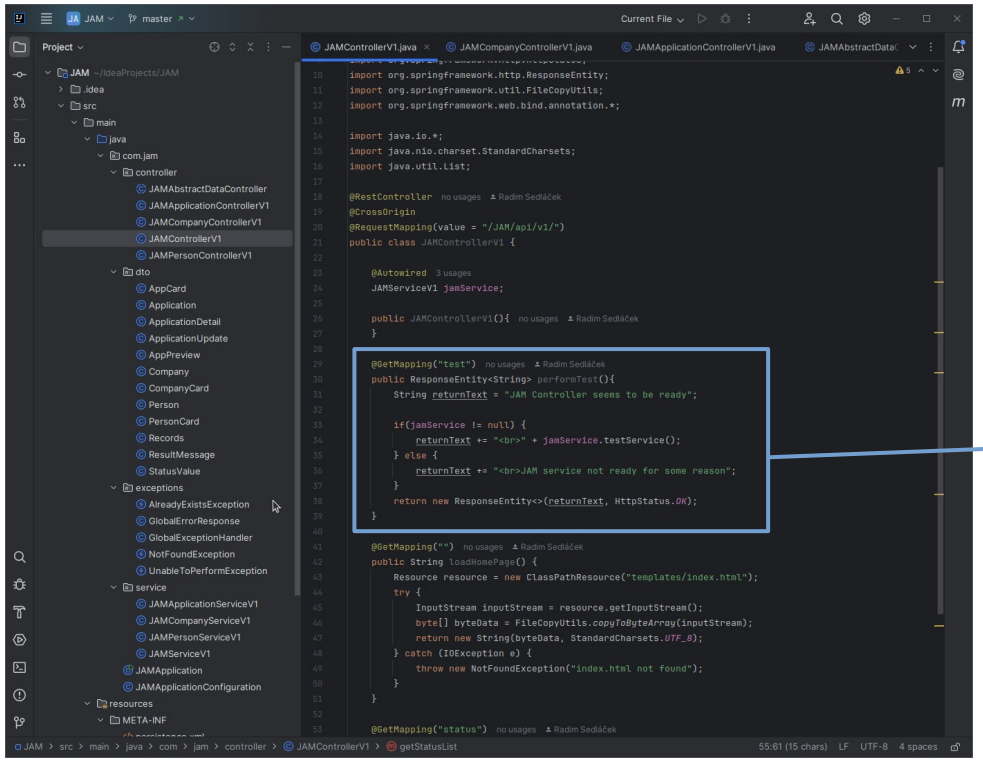



# Back-end layer

Spring boot application/controller/service leveraged for requests processing



# Back-end layer




A simple test of service and database readiness available on address “test” – see Front-end section for more details

```java
@GetMapping("test")  no usages  Radim Sedláček
public ResponseEntity<String> performTest(){
    String returnText = "JAM Controller seems to be ready";

    if(jamService != null) {
        returnText += "<br>" + jamService.testService();
    } else {
        returnText += "<br>JAM service not ready for some reason";
    }
    return new ResponseEntity<>(returnText, HttpStatus.OK);
}
```

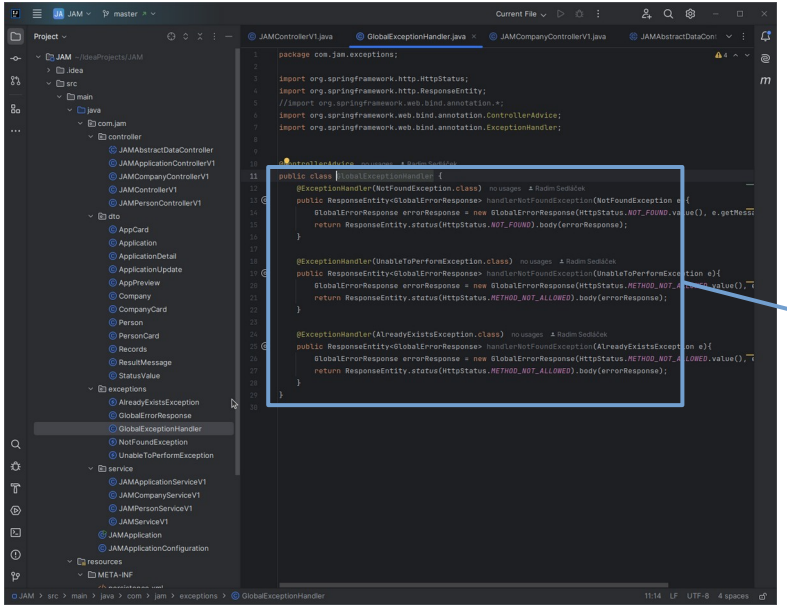
HIBERNATE

spring boot

Java

IJ

# Back-end layer



```java
@ControllerAdvice  no usages  Radim Sedláček
public class GlobalExceptionHandler {

    @ExceptionHandler(NotFoundException.class)  no usages  Radim Sedláček
    public ResponseEntity<GlobalErrorResponse> handlerNotFoundException(NotFoundException e){
        GlobalErrorResponse errorResponse = new GlobalErrorResponse(HttpStatus.NOT_FOUND.value(), e
        return ResponseEntity.status(HttpStatus.NOT_FOUND).body(errorResponse);
    }

    @ExceptionHandler(UnableToPerformException.class)  no usages  Radim Sedláček
    public ResponseEntity<GlobalErrorResponse> handlerNotFoundException(UnableToPerformException e)
        GlobalErrorResponse errorResponse = new GlobalErrorResponse(HttpStatus.METHOD_NOT_ALLOWED.v
        return ResponseEntity.status(HttpStatus.METHOD_NOT_ALLOWED).body(errorResponse);
    }

    @ExceptionHandler(AlreadyExistsException.class)  no usages  Radim Sedláček
    public ResponseEntity<GlobalErrorResponse> handlerNotFoundException(AlreadyExistsException e){
        GlobalErrorResponse errorResponse = new GlobalErrorResponse(HttpStatus.METHOD_NOT_ALLOWED.v
        return ResponseEntity.status(HttpStatus.METHOD_NOT_ALLOWED).body(errorResponse);
    }
}
```

Spring boot @ExceptionHandler leveraged for error processing

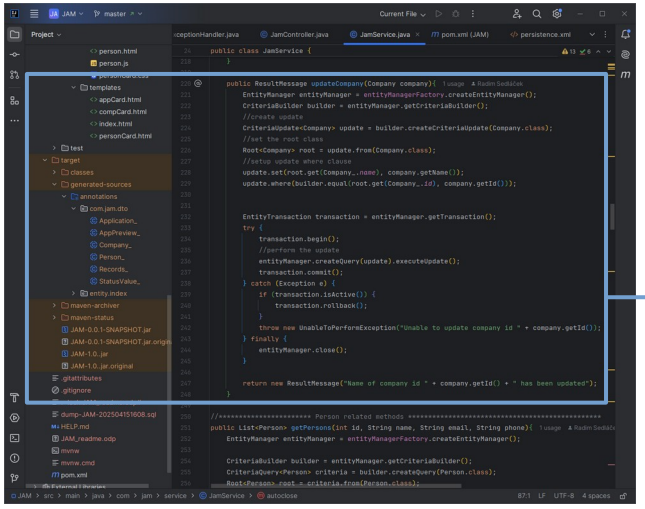
HIBERNATE

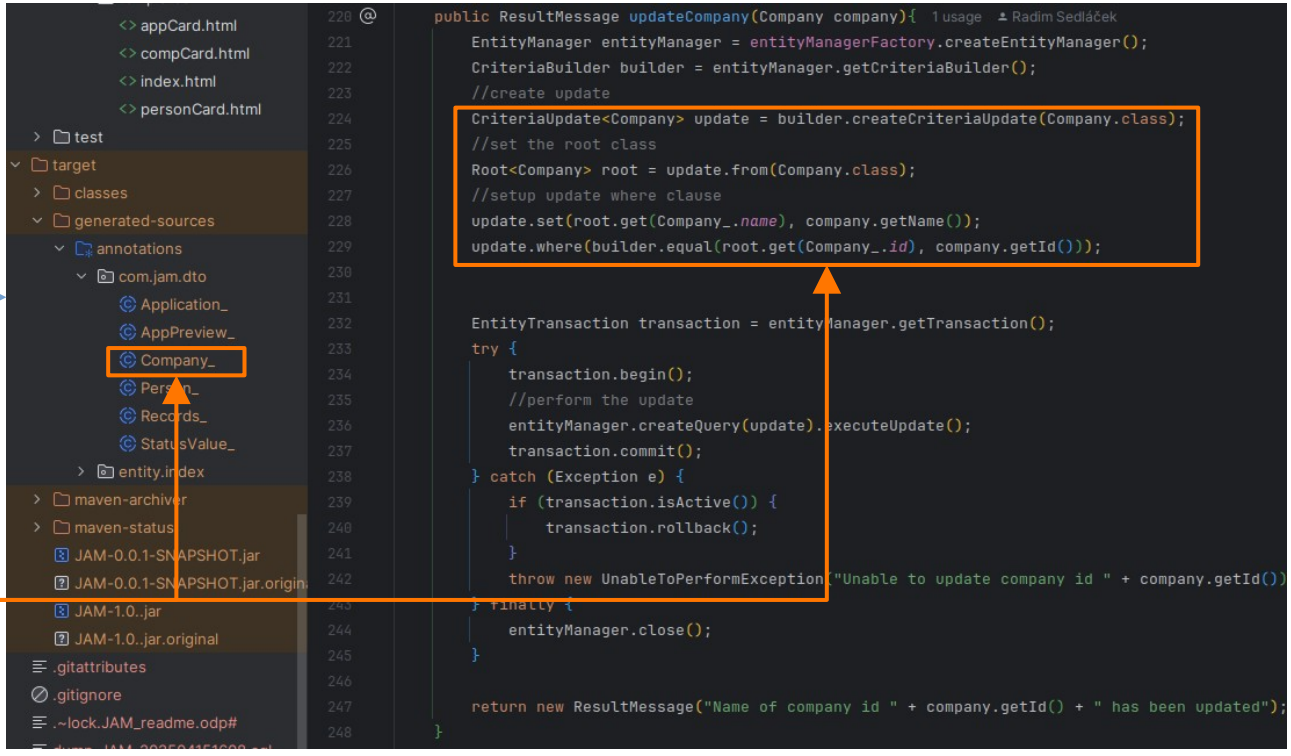
spring boot

Java

IJ

# Back-end layer



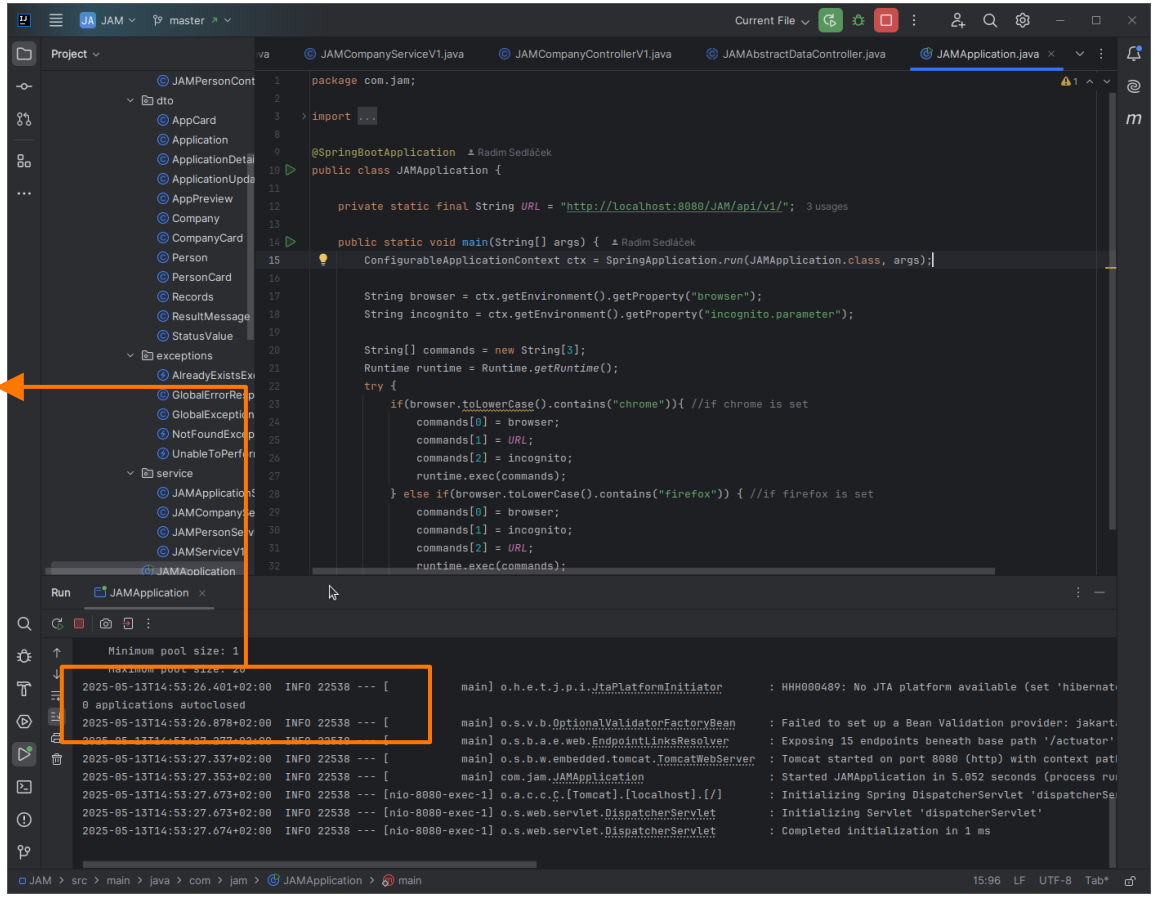



Hibernate static meta-model leveraged to enforce type safety

# Back-end layer

During every start the service checks database for application with idle time longer than 30 days and auto closes them

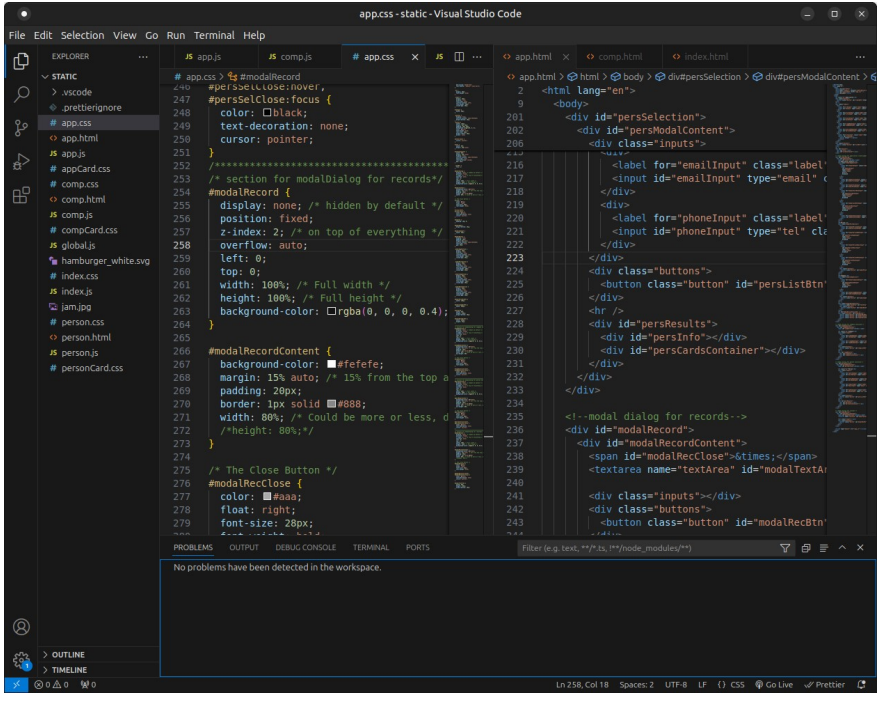
```
    Maximum pool size: 20
2025-04-16T14:18:55.220+02:00  INFO 18699 --- [
0 applications autoclosed
2025-04-16T14:18:55.458+02:00  INFO 18699 --- [
```

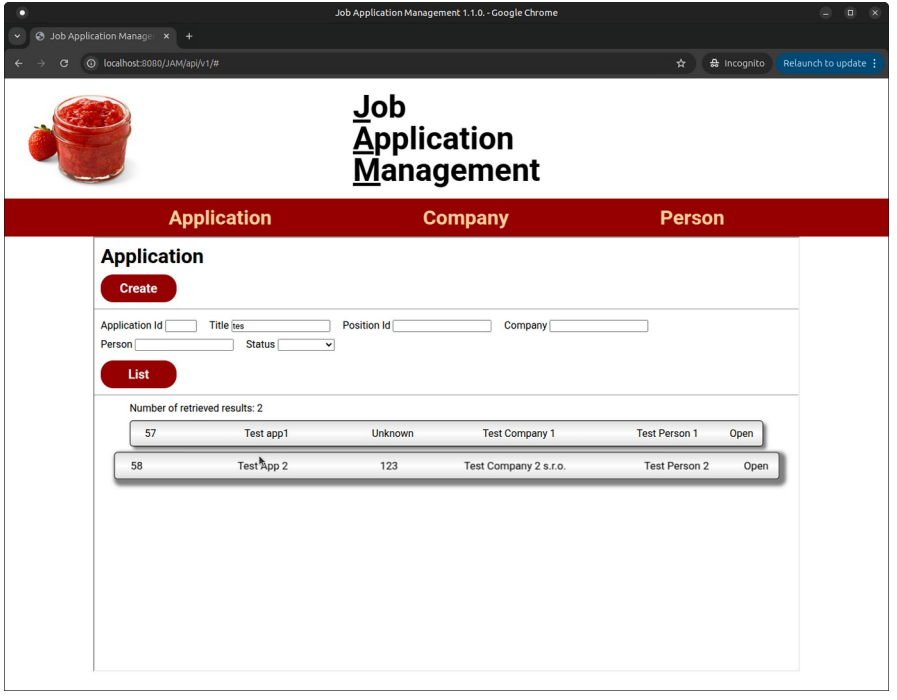





# Front-end layer

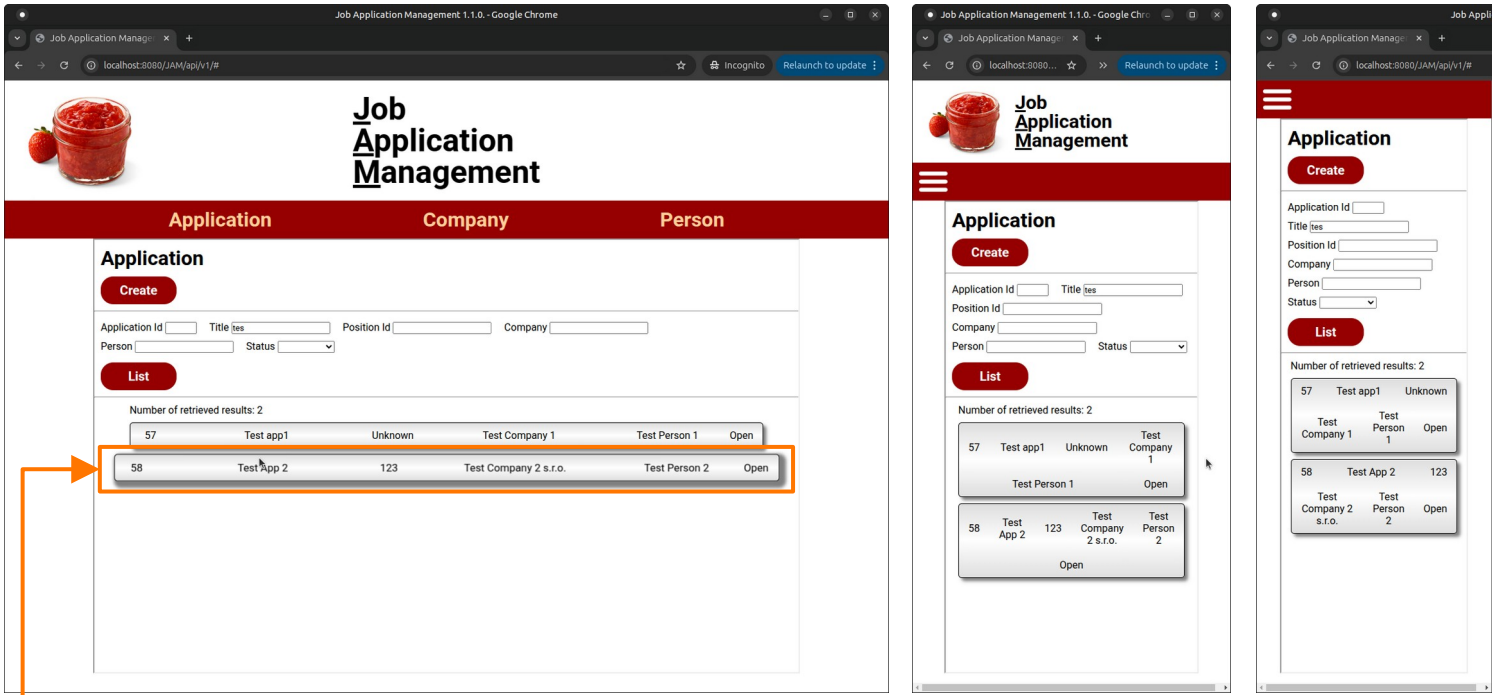
- HTML/CSS/JavaScript based web page
- Coded in Visual Studio Code



# Front-end layer

Responsive design for use on desktop, tablet as well as smart phone



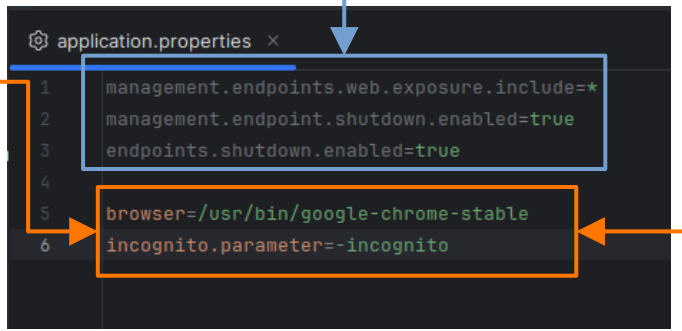

3D like effect when hovering over a card in the result list

# Front-end layer

Although created as a web app, currently is used as a desktop application.

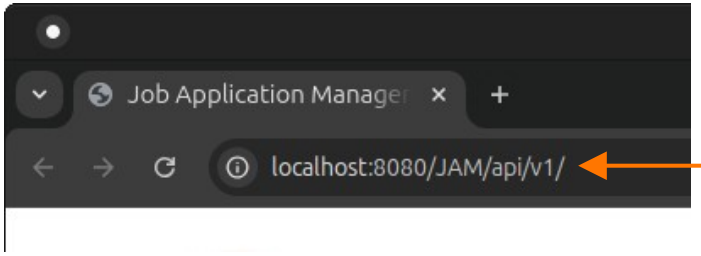
Preferable web browser can be configured via application.properties (currently only Chrome and Firefox is supported). Is reccomended to start it in incognito/private mode. Browser starts automatically after application context is available.

After leaving index.html page, the service is automatically stopped via spring actuator (currently works on Chrome only)

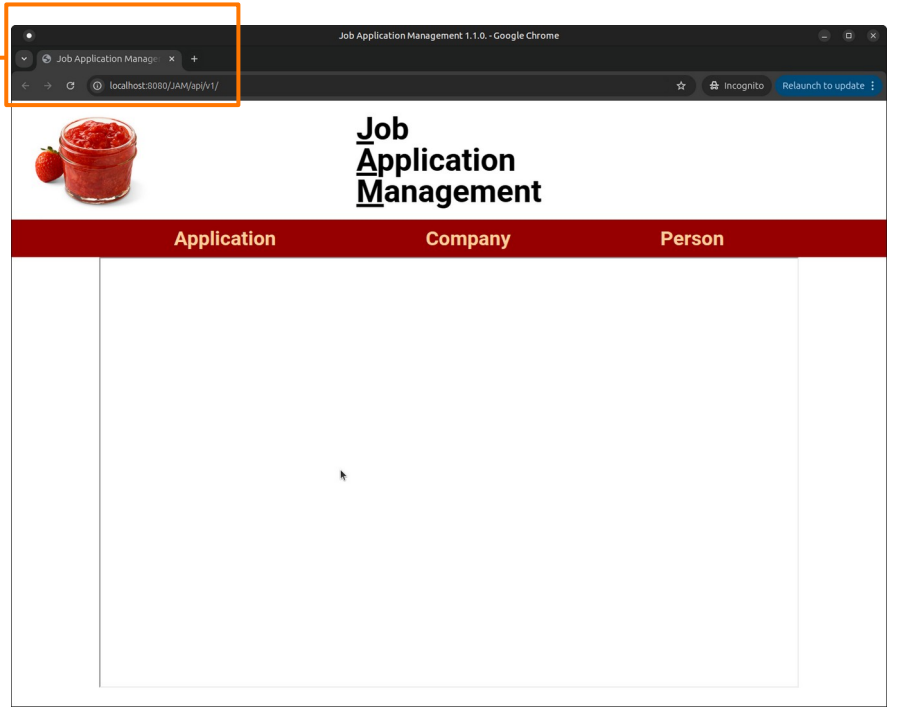



If unsupported or no browser is set, run it manually and enter address

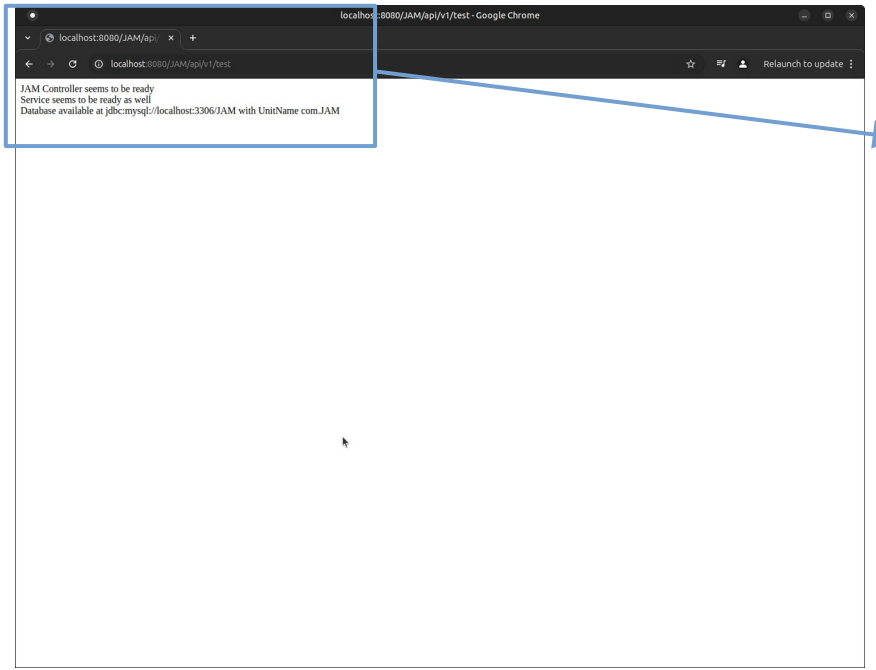

# Front-end layer

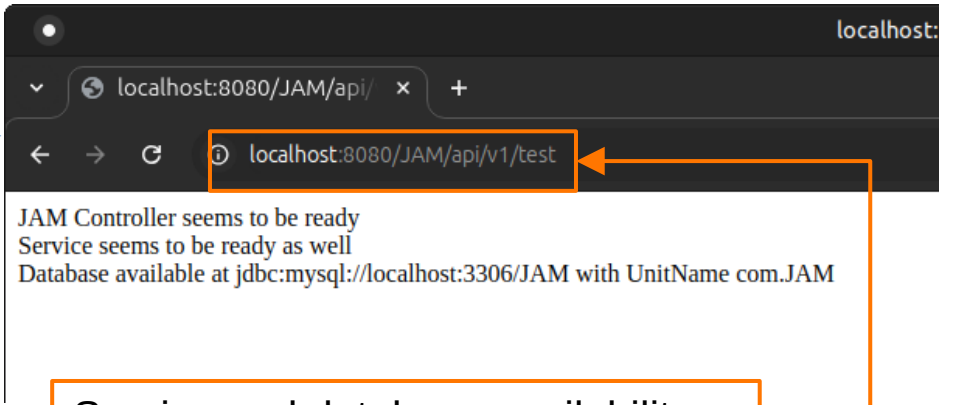



When the server is running, the main web page itself available on “JAM/api/v1” address




# Front-end layer



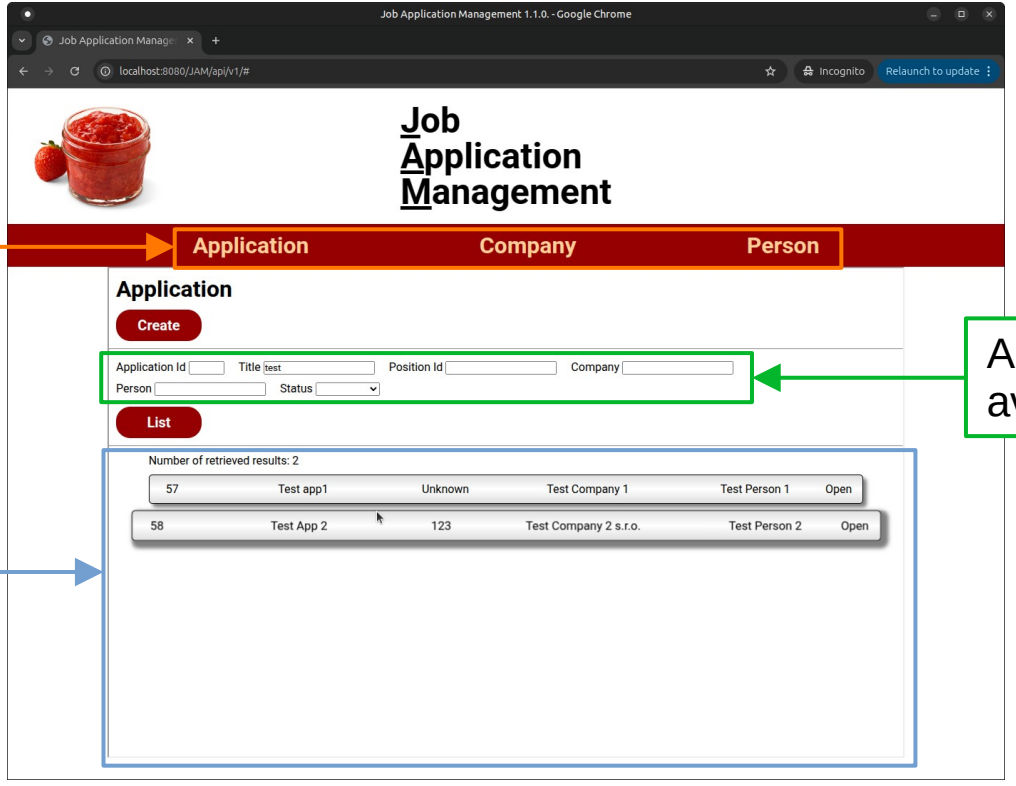




Service and database availability check accessible on “test” address

This test should be performed from new clean window, otherwise the service will stop due to unload of index.html page (see previous slides)


# Front-end layer

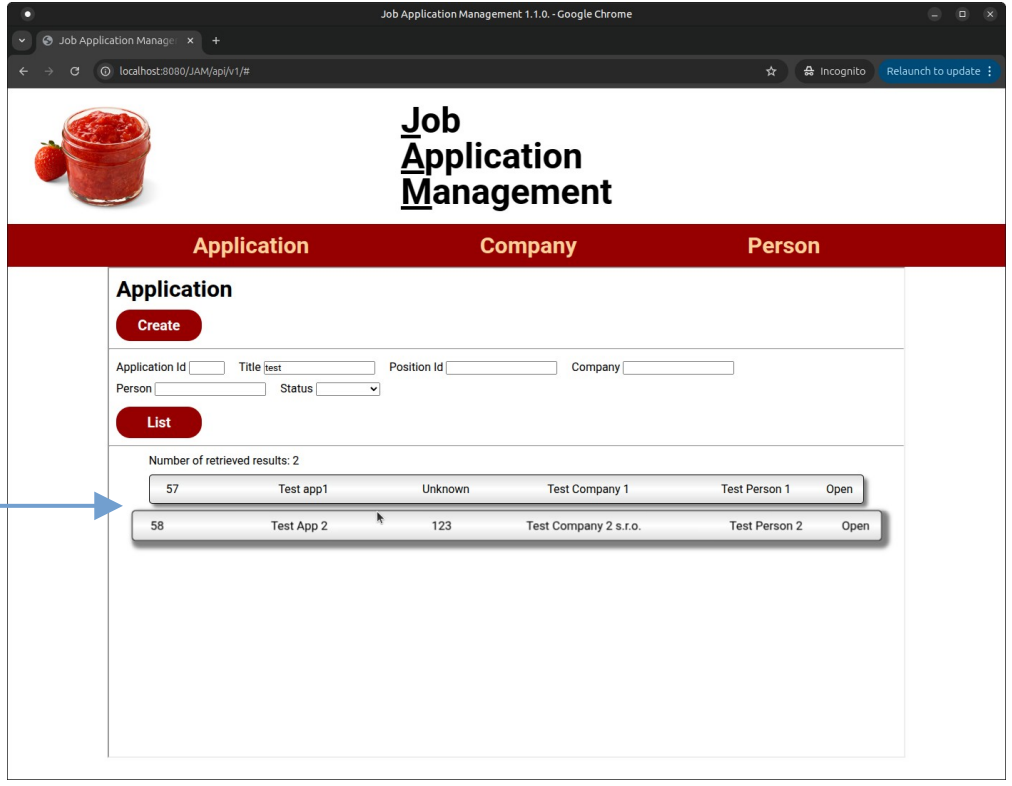
Area with entity to create/edit/delete selection




Area with filters available for each entity

Result list area

# Front-end layer



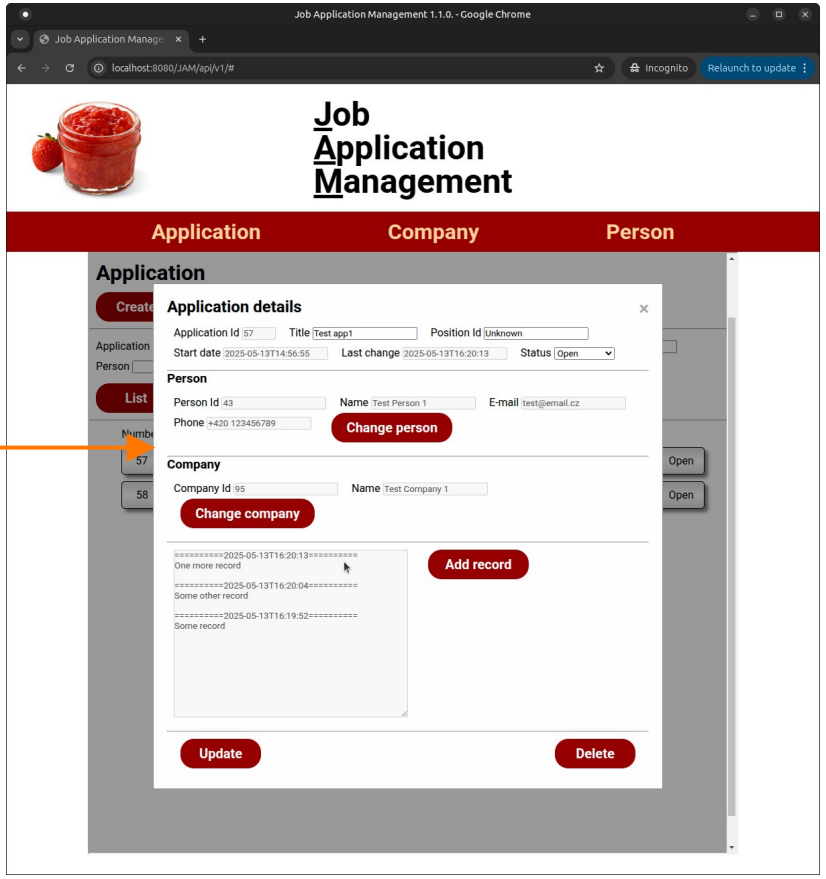

Data for each application card retrieved via “preview” view (see back-end layer section)

Clicking on a card will select given application for update

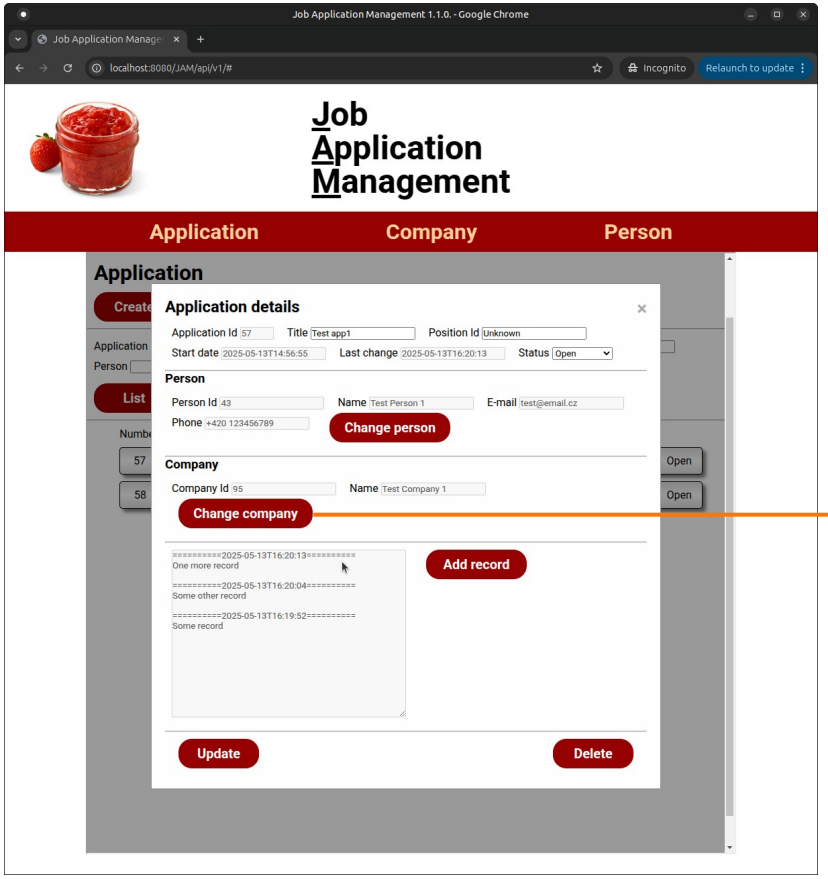
# Front-end layer

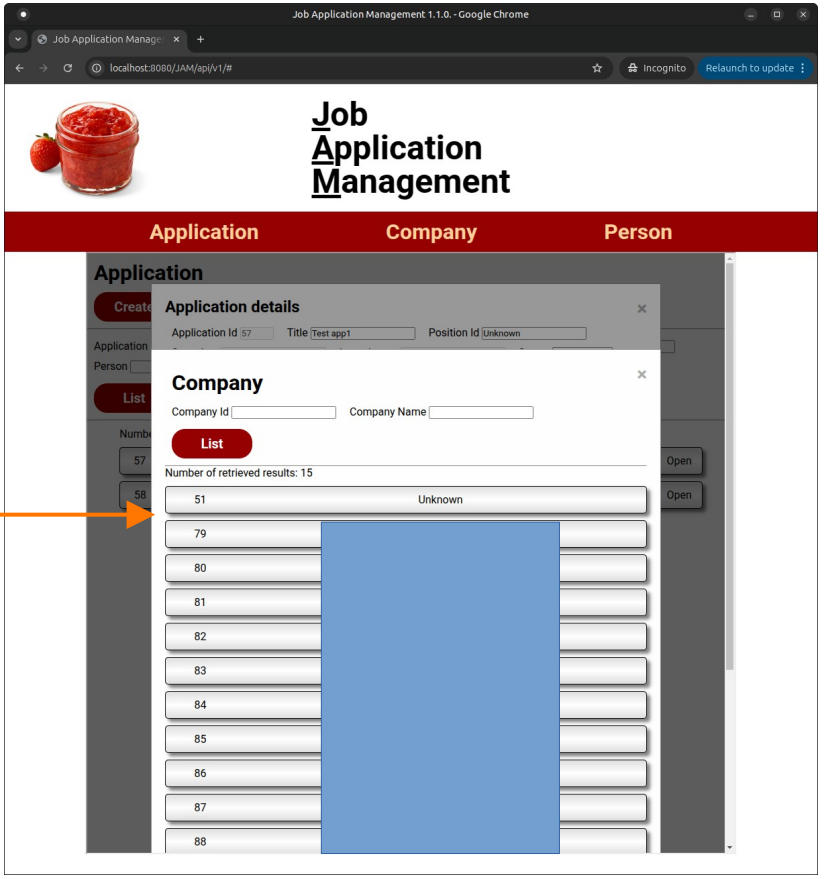
After selecting an application, modal window like dialog appears to allow changes.

Available changes include change of contact person or company as well as recording notes, or deletion of the application

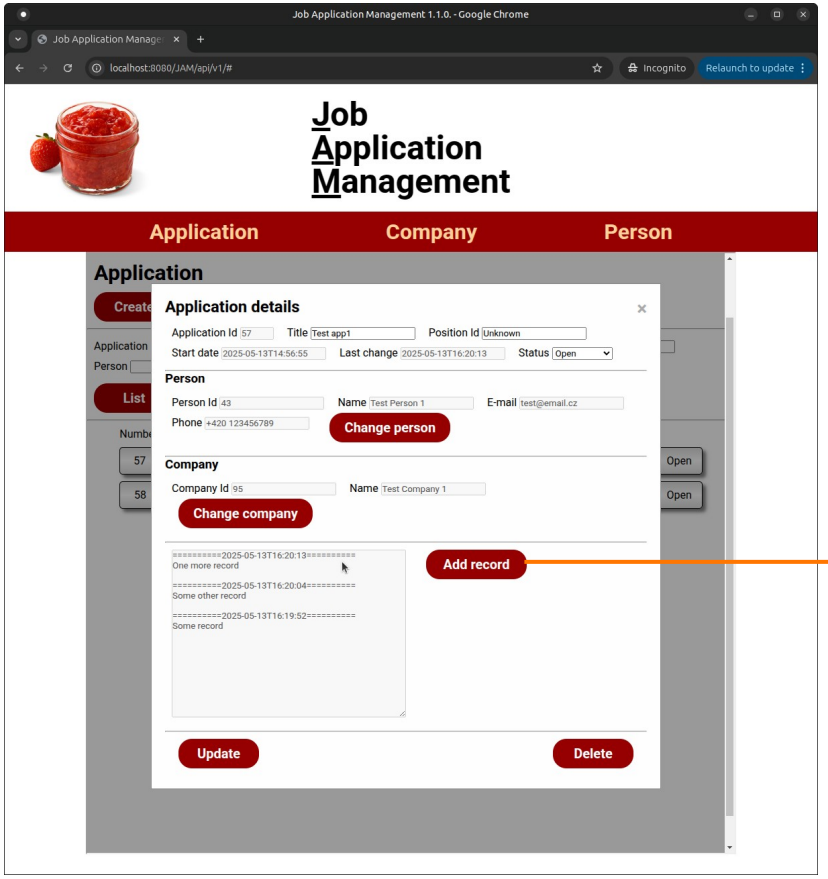


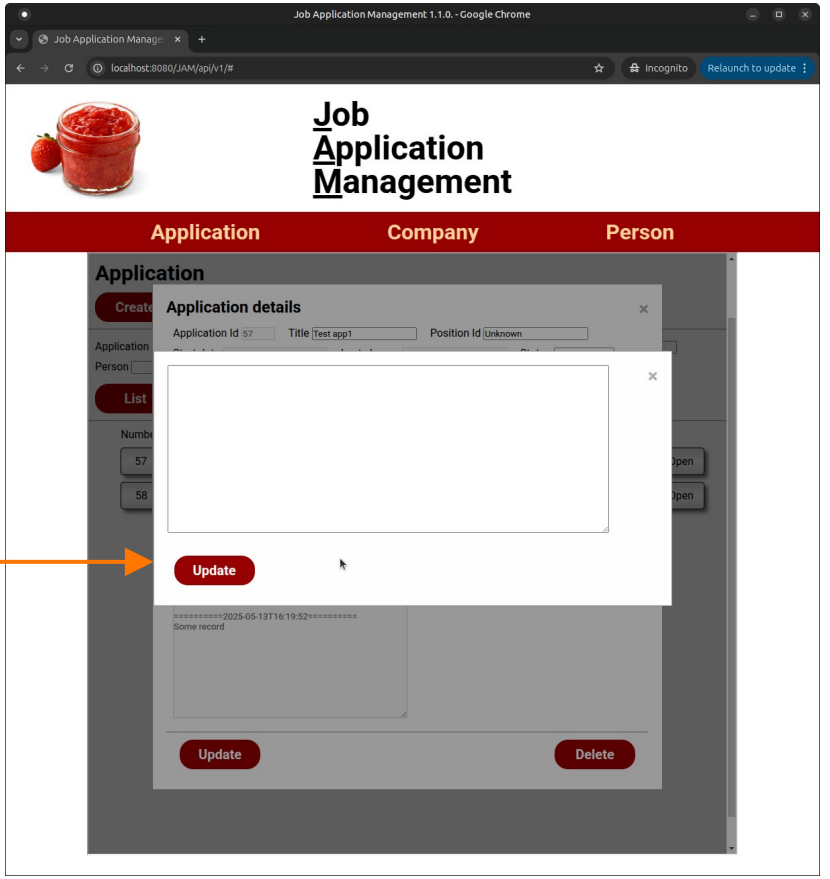
# Front-end layer



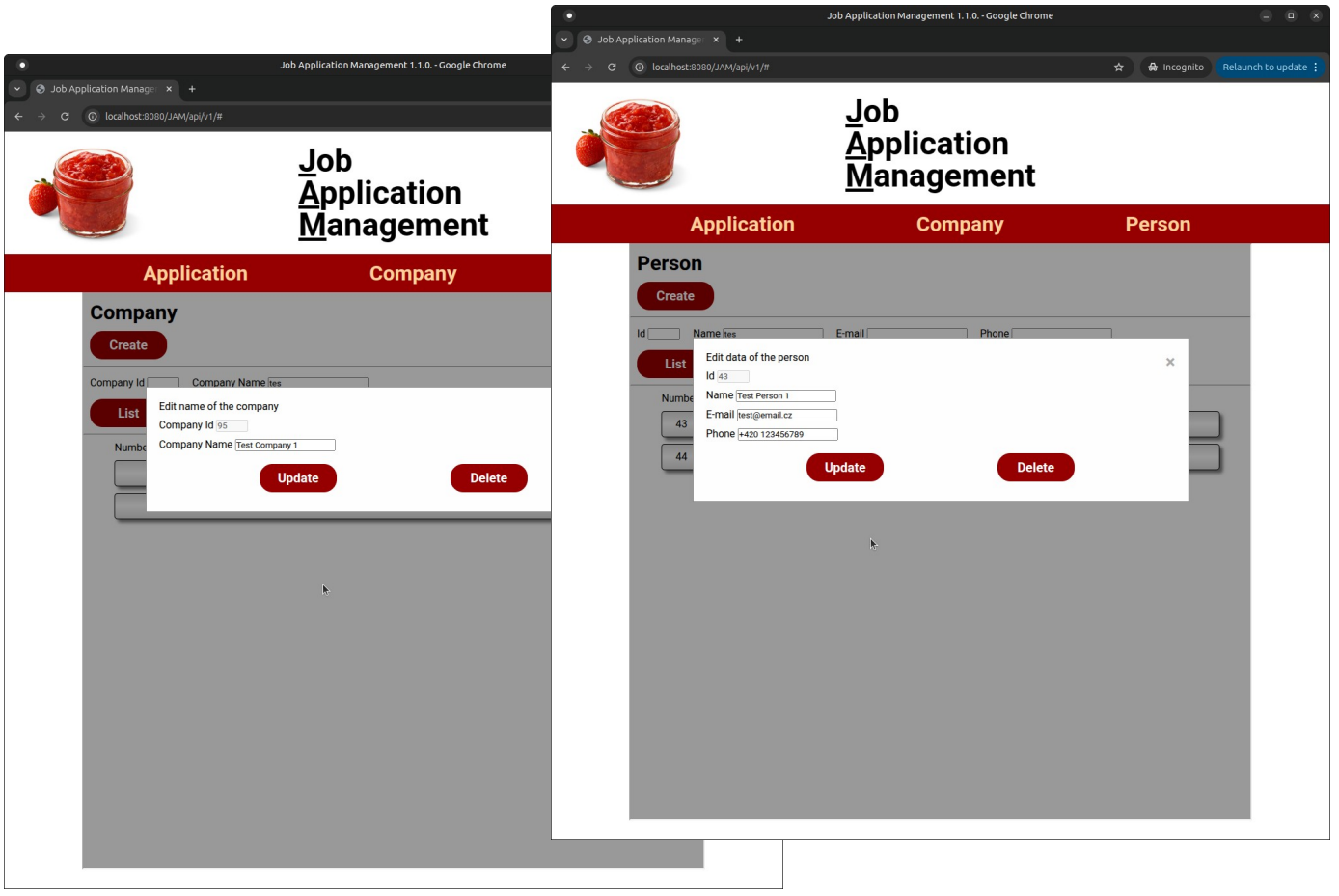
# Front-end layer




# Front-end layer

Same approach for editing an entity using modal like dialog is used for company and person as well



# JAM

Source code available on https://github.com/radimSed/JAM.git

Other work available on https://github.com/radimSed