

## **Project 2: Learner's Academy back-end administrative portal**

### **Documentation**

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#### Sprint planning

There were 4 sprints planned. Tasks achieved in these sprints are listed below:

##### Sprint 1

- Project instruction understanding
- Application planning
- DB structure design and POJOs creation

##### Sprint 2

- Basic web app structure creation
- Admin login/logout
- DB connection
- CRUD functions implementation

##### Sprint 3

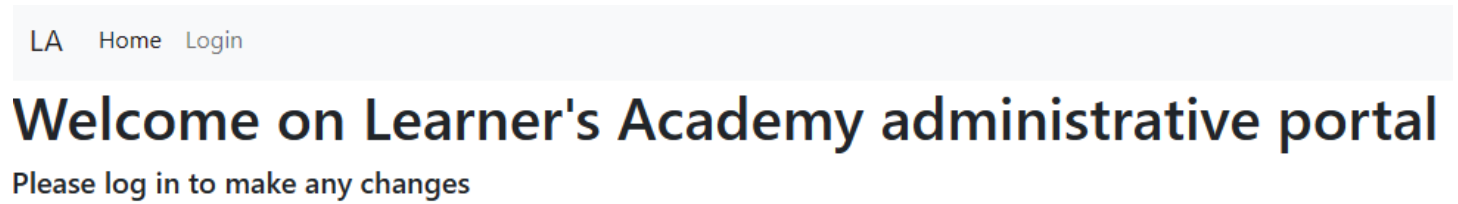
- Front-end design
- Data listing creation
- Edit and Delete function implementation

##### Sprint 4

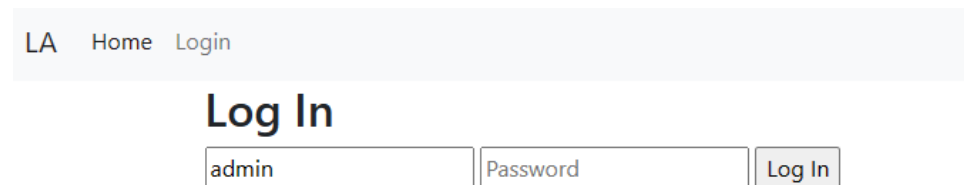
- Exception handling
- Program testing
- USPs definition and enhancement proposals

## User-view: Administrative portal description

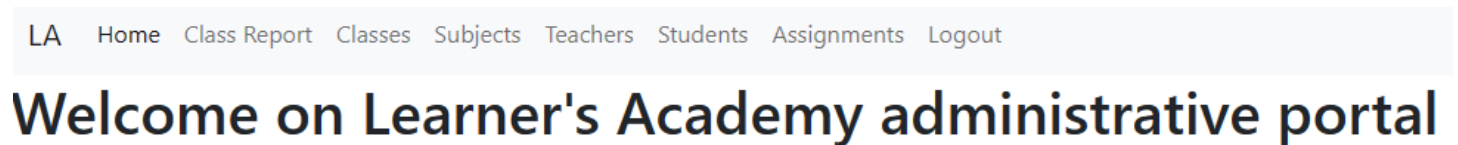
There are 2 versions of the Home page. In the first picture, the Home page without logging in is shown:



After logging in (user “admin”, password “admin”),



more options are displayed on top and “please log in” message is not shown:



Class report shows all the details about current classes (list of students, teachers and subjects):

[LA](#) [Home](#) [Class Report](#) [Classes](#) [Subjects](#) [Teachers](#) [Students](#) [Assignments](#) [Logout](#)

## Class Report

### A1 Class

#### Students

- Osborn Harry
- Parker Peter
- Watson Mary Jane

#### Teachers

- Banner Bruce (Chemistry)
- Stark Tony (Mathematics)

#### Subjects

- Chemistry (Banner Bruce)
- Mathematics (Stark Tony)

### B1 Class

#### Students

- Allen Barry
- Darkhölme Raven
- Maximoff Wanda

#### Teachers

- Banner Bruce (Biology)
- Stark Tony (Physics)

In the “Class” tab, admin can add a new class and also list of current classes is shown in alphabetical order:

LA

Home

Class Report

Classes

Subjects

Teachers

Students

Assignments

Logout

Add a new class

Class Name:

Enter Class Name

Class ID:

Enter Class ID

Add class

Added classes

Class Name	Class ID	Delete
A1 Class	a1	<a href="#">Delete</a>
B1 Class	b1	<a href="#">Delete</a>
C1 Class	c1	<a href="#">Delete</a>

“Subject” tab looks similarly like “Class” tab, but it contains subject options and list:

LA

Home

Class Report

Classes

Subjects

Teachers

Students

Assignments

Logout

Add a new subject

Subject Name:

Enter Subject Name

Add subject

Added subjects

Subject Name	Subject ID	Delete
Biology	2	<a href="#">Delete</a>
Chemistry	1	<a href="#">Delete</a>
Mathematics	6	<a href="#">Delete</a>
Physics	5	<a href="#">Delete</a>

In the next tab, new teachers can be added and list of current teachers is displayed:

LA Home Class Report Classes Subjects Teachers Students Assignments Logout

Add a new teacher

Teacher's First Name:

Enter First Name

Teacher's Last Name:

Enter Last Name

Add teacher

Added teachers

Last Name	First Name	Teacher's ID	Delete
Banner	Bruce	1	<a href="#">Delete</a>
Stark	Tony	4	<a href="#">Delete</a>
Xavier	Charles	3	<a href="#">Delete</a>

Both subjects and teachers can be deleted. In case the subject or teacher is still assigned to a class, a warning message is shown and deletion is denied.

LA Home Class Report Classes Subjects Teachers Students Assignments Logout

Add a new teacher

Teacher cannot be removed, he/she is still assigned to classes.

Teacher's First Name:

Enter First Name

Teacher's Last Name:

Enter Last Name

In the “Students” tab, students can be registered and assigned to a class. To avoid invalid user input, there is a drop-down list of current classes in “Class ID” box:

LA Home Class Report Classes Subjects Teachers Students Assignments Logout

Register a new student

Student's First Name:

Enter First Name

Student's Last Name:

Enter Last Name

Class ID:

A1 Class

A1 ClassB1 ClassC1 Class

Registered students

Last Name	First Name	Student's ID	Class ID	Edit	Delete
Allen	Barry	4	b1	<a href="#">Edit</a>	<a href="#">Delete</a>
Braddock	Elizabeth	11	c1	<a href="#">Edit</a>	<a href="#">Delete</a>
Darkhölme	Raven	10	b1	<a href="#">Edit</a>	<a href="#">Delete</a>
Grev	Jean	8	c1	<a href="#">Edit</a>	<a href="#">Delete</a>

Admin can delete students or edit the records. While editing records, student's first and last names are fixed, only assigned class can be changed from the drop-down:

LA Home Class Report Classes Subjects Teachers Students Assignments Logout

### Update the student

Student's ID:

10

Student's First Name:

Raven

Student's Last Name:

Darkhölme

Class ID:

A1 Class

Save

On the “Assignments” tab, subjects and teachers are assigned to classes. Again, to avoid invalid user input, drop-down lists displaying current options are in all the boxes:

LA Home Class Report Classes Subjects Teachers Students Assignments Logout

### Assign subjects and teachers to classes

Class ID:

A1 Class

Subject ID:

Biology

Teacher ID:

Banner Bruce

Banner Bruce

Stark Tony

Xavier Charles

#### Assigned subjects and teachers

Class ID	Subject ID	Teacher ID	Edit	Delete
a1	1	1	<a href="#">Edit</a>	<a href="#">Delete</a>
b1	2	1	<a href="#">Edit</a>	<a href="#">Delete</a>
b1	5	4	<a href="#">Edit</a>	<a href="#">Delete</a>
a1	6	4	<a href="#">Edit</a>	<a href="#">Delete</a>

Assignments can be edited (only subject and teacher can be changed) or deleted. After an assignment is deleted, “success” message is shown:

LA Home Class Report Classes Subjects Teachers Students Assignments Logout

### Assign subjects and teachers to classes

Assignment deleted successfully.

Class ID:

A1 Class

Subject ID:

Biology

Last tab on the top serves for logging out. Then user is redirected to the Home page again:

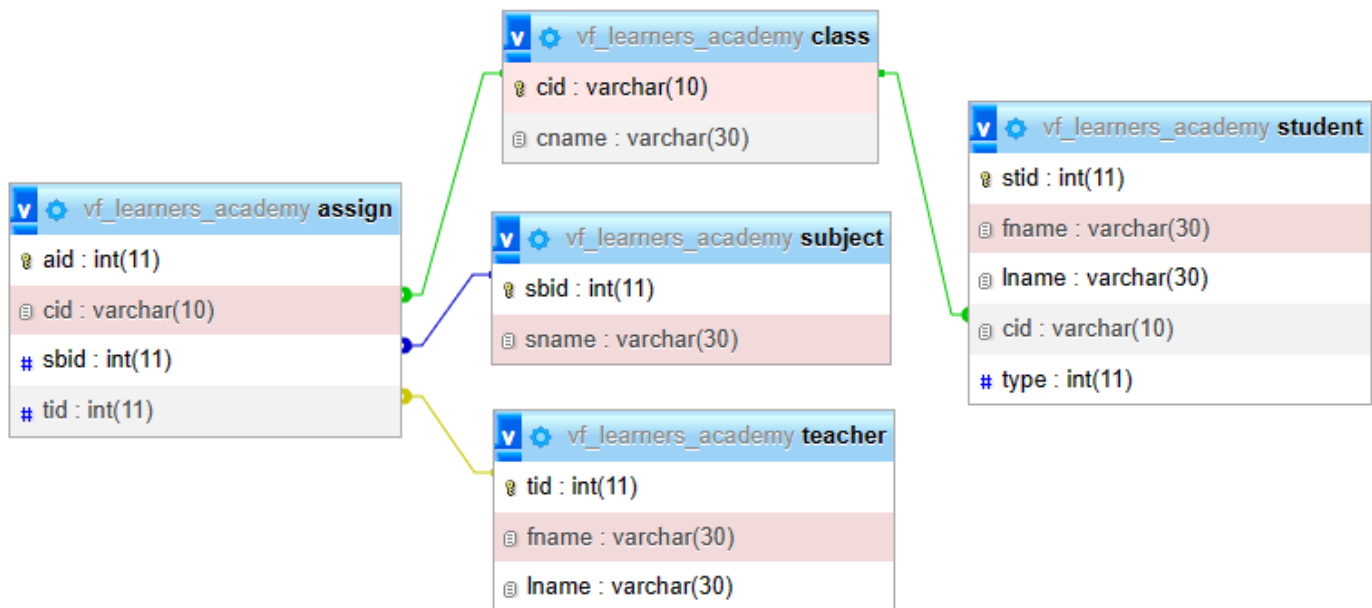
LA Home Login

# Welcome on Learner's Academy administrative portal

Please log in to make any changes

## Developer-view: Algorithms and flowcharts

In the MySQL admin app, a database containing following tables was created:



The connection to this database was created using the Hibernate framework and POJOs files were mapped using Hibernate annotations.

For deploying the application, Apache Tomcat server was used. Multiple servlets were created in order to implement business logic.

To make web page content more dynamic, JSP files instead of HTML files were used.

## Core concepts, frameworks & programs used

- Object-oriented programming concepts
- Collections & sorting techniques
- Exception handling
- DB connection via MySQL and Hibernate
- Dynamic web application via servlets and JSP, deployed on Apache Tomcat server

## GitHub repository

[https://github.com/mianto5/FSDp\\_Project2](https://github.com/mianto5/FSDp_Project2)

## Conclusion and enhancing possibilities

Learner's Academy administrative portal is a simple application for keeping track of academy's classes, subjects, teachers and students. These elements can be added and deleted easily thanks to user-friendly graphic interface, students can be registered to an existing class, subjects and teachers can be assigned to different classes. All data is saved in a database, so they are not lost after application ends.

This application is an early product. Many enhancing possibilities can be designed, such as for example timetable creating system or rooms reservation system. The GUI can be also designed in a more sophisticated and esthetic way in the future.