

Dokumentation

Ticket System

from

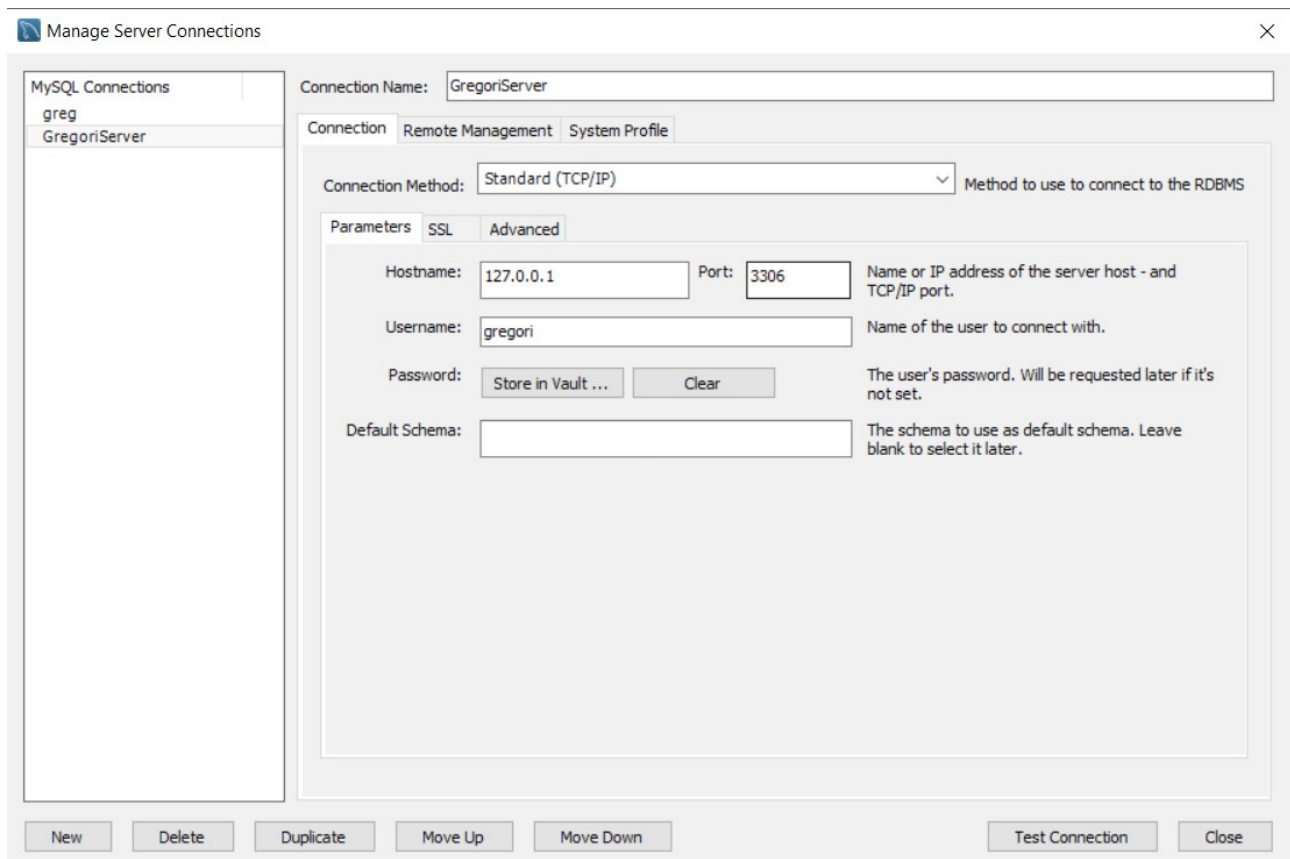
Gregori Daljevic

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MySQL Setup

At first we have to Download MySQL Workbench from their Official Website <https://www.mysql.com/de/downloads/> . Next we will go through the Standard Setup of the Installation. After the Installation is done we will Set up a Database with the following Details



As you can see the Hostname is a Local Host Service with the IP 127.0.0.1 and the Username is gregori and the Password, which is stored in the Vault is also gregori. For the Next Step we create a Schema called „DB“ and we will create 3 Different Tables. We will create the tables „mitarbeiter“, „benutzer“ and „termin“ They will also have Certain Values which will be Displayed in this Dokumentation.












Table Name:

Charset/Collation:

Comments:

Scher

Engin

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
 id	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
 Vorname	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
 Nachname	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
 EMail	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
 Amt	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
 Datum	LONGTEXT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
 Uhrzeit	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
 Termin	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL

The „benutzer“ table has the values id,Vorname,Nachname,Email,Amt,Datum,Uhrzeit,Termin. The id is of the Type integer and Datum is of the Type Longtext. As for the Rest it is defined as varchar with the character length of 45 chars.

benutzer mitarbeiter termin benutzer - Table **mitarbeiter - Table** ×

Table Name:

Charset/Collation:

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
idmitarbeiter	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
username	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
password	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
vorname	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
nachname	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
Amt	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL

The table „mitarbeiter“ has the values idmitarbeiter,username,password,vorname,nachname and Amt. While idmitarbeiter is of type integer the others are of type varchar with the character length of 45 chars.

benutzer mitarbeiter termin benutzer - Table mitarbeiter - Table **termin - Table** ×

Table Name:

Charset/Collation:

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
idTermin	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
username	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
Termin	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
Vorname	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
Nachname	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
EMail	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
Uhrzeit	LONGTEXT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
Datum	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL

The table „termin“ has the values idTermin,username,Termin,Vorname,Nachname,Email,Uhrzeit

,Datum. While idtermin is of type integer and Uhrzeit is of type Longtext are the others of type varchar with the character length of 45 chars.

This is Basically all you need to set up in MySQL to get started with the Programm.

JDBC Connection/JCalendar

The next thing we used in the Project is the JDBC Connector so we could connect our Project to an MySQL Database.

We can Download the Software from here:

<https://dev.mysql.com/downloads/connector/j/>

Then you can right click on your Project choose build path and from there add external jar to import the archive.

If you dont know how to do it properly there are tons of Tutorials on the Internet on how to import an archive.

The Same goes for the JCalendar. You can Doenload it from here: <https://toedter.com/jcalendar/>

We then imported the java.sql.* first and then decided not all of it is needed and just kept a few imports.

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.Statement;
```

We then connected our Project via a Typical Connection Procedure.

```
// Connection Aufbau
public static Connection getConnection() throws Exception{
    try {
        String driver = "com.mysql.cj.jdbc.Driver";
        String url = "jdbc:mysql://127.0.0.1:3306/DB?useTimezone=true&serverTimezone=UTC";
        String username = "gregori";
        String password = "gregori";
        Class.forName(driver);

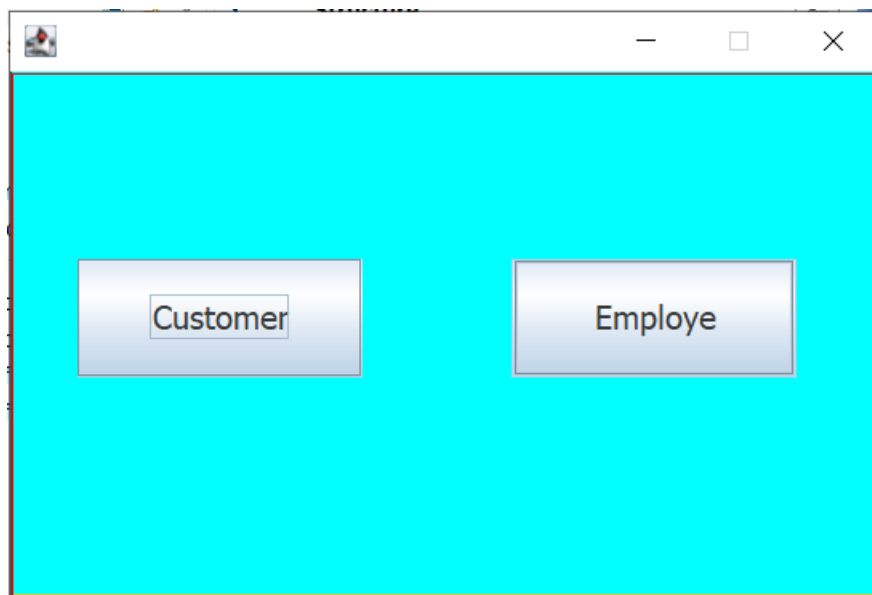
        Connection con = DriverManager.getConnection(url,username,password);
        System.out.println("");
        return con;
    }catch(Exception e) {
        System.out.println(e);
    }

    return null;
}
```


As we are finished setting up our Connection we can finally come to the next Step which is the Project itself.

Java Software

The Idea Behind creating a Ticket System was that nowadays everyone works from Home and has little to no Time to call a Departure and make an Appointment or even getting someone on the phone is rather difficult today, because most workers are either in a meeting or are booked for the day. Therefore using a Ticket System to ensure that the customer will get an Appointment and the worker sees that an Appointment is made is necessary in these days. We will start the Main Function and let it run.



In the first Frame of our Project you can Decide if you go in as a Customer or an Employee. If you click on one of these Buttons you get to the next Frame. First we go in as a Customer and later in this Dokumentation we come to Employee Frame.

 Register
 —
□
×

Vorname:
Bitte Auswählen ▼

Nachname:

E-Mail:

März ▼

2021

▲
 ▼

	Mo.	Di.	Mi.	Do.	Fr.	Sa.	So.
09	1	2	3	4	5	6	7
10	8	9	10	11	12	13	14
11	15	16	17	18	19	20	21
12	22	23	24	25	26	27	28
13	29	30	31				

Uhrzeit	Termin
8-9	
9-10	
10-11	
13-14	
14-15	
15-16	
16-17	

☐ Arbeit und Beruf
 ☐ Berufsausbildu...
 ☐ Fahrzeug und V...
 ☐ Pass und Auswe...
 ☐ Bauen

Back
Send

In the Customer Frame we can Firstly enter our Firstname and Lastname. Numbers or special Characters are blocked in the Code.

For Example „Hans1!“ is not permitted, because as soon as we press the 1 the Field is turning red and is blocking this Character, but after pressing another Character you can go on typing. In the E-Mail Field you can Type your E-Mail address which later in the sending process will be checked if the E-Mail has the typical pattern of an E-Mail address. In the next

step you select in the combobox one of three Option. You can choose from "Finanz-Amt-ST", "Bürger-Amt-St" and "Führscheinbehörde-FFM" to ensure the right departuer gets your Ticket and lastly you click on the Calender below on which Day you want your Appointment. As soon as you do that the Jtable below will show you which Hours are blocked on this Day.

Register

Vorname:

Gregori

Finanz-Amt-ST

Nachname:

Daljevic

E-Mail:

@googlemail.com

März

2021

	Mo.	Di.	Mi.	Do.	Fr.	Sa.	So.
09	1	2	3	4	5	6	7
10	8	9	10	11	12	13	14
11	15	16	17	18	19	20	21
12	22	23	24	25	26	27	28
13	29	30	31				

Uhrzeit	Termin
8-9	
9-10	blocked
10-11	blocked
13-14	blocked
14-15	blocked
15-16	
16-17	

☐ Arbeit und Beruf
 ☐ Berufsausbildu...
 ☐ Fahrzeug und V...

☐ Pass und Auswe...
 ☐ Bauen

Back

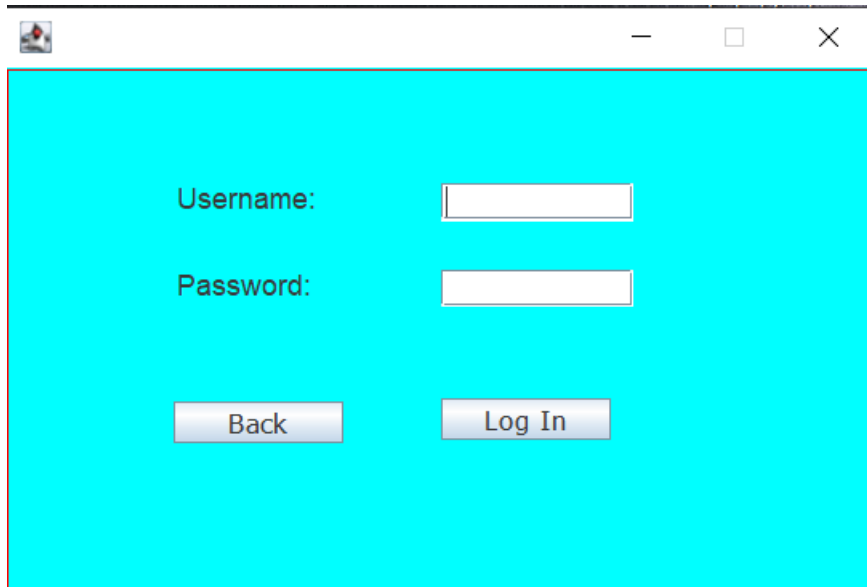
Send

Now you can select in the checkbox below what Appointment you want to have by clicking a free spot in the Table and then selecting on of the chechboxes. You can not overwrite an already blocked Appointment. You can write something in the free Appointment but only the Text of the checkboxes will be send to the Database.

For Example something like „Versicherung“ will not be sent to the Database, because it is not part of the checkbox selection. When you filled everything out and made your Appointments simply press the „Send“ Button and you made

an Appointment. When you Press the „Back“ Button you change to the Decide Frame.


Back on the Decide Frame we can now select the Employe Button and jump to the Log In Frame.



The image shows a standard login window. It has a title bar with a small icon on the left and standard minimize, maximize, and close buttons on the right. The main area has a solid cyan background. In the center, there are two labels: 'Username:' and 'Password:'. Each label is followed by a white rectangular text input field with a thin border. Below the input fields, there are two buttons: 'Back' on the left and 'Log In' on the right. Both buttons are light gray with a slight gradient and a thin border.

Here we can Log in as an worker. When the Username and the Password matches one of the Username and the Passwords of the „Mitarbeiter“ Database we can Log in or we can go back to the Decide Frame with the „Back“ Button.

Not only the workes can Log in from here also the Admin can log in from here. By typing Admin as the Username and also Admin as the Password you jump from this Frame to the Admin console. We will first see what the worker Console looks like and later focus on the Admin console.



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Username: test

Log out

März

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2021

	Mo.	Di.	Mi.	Do.	Fr.	Sa.	So.
09	1	2	3	4	5	6	7
10	8	9	10	11	12	13	14
11	15	16	17	18	19	20	21
12	22	23	24	25	26	27	28
13	29	30	31				

Uhrzeit	Termin	Vorname	Nachname	E-Mail
8-9				
9-10	Berufsausbildung	greg	greg	greg@gmx.de
10-11	Arbeit und Beruf	greg	dase	gegof@gom.de
13-14	Arbeit und Beruf	dumm	dumm	dumm@ddd.com
14-15	Fahrzeug und Ver...	greg	greg	greg@gmx.de
15-16				
16-17				

Termin freigeben

Termin nehmen

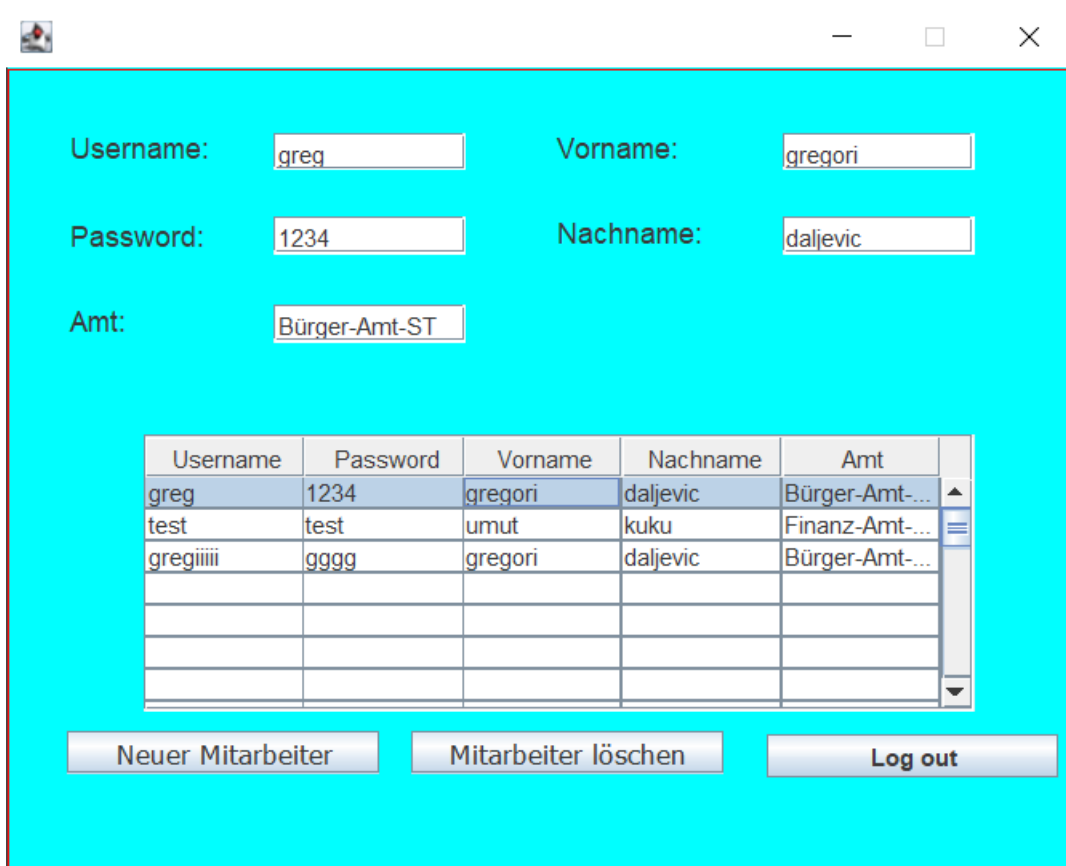
Uhrzeit	Termin	Vorname	Nachname	E-Mail
8-9				
9-10				
10-11				
13-14	Berufsausbildung	Jessica	Biczysko	tbgtrg@ttrgrtg.de
14-15				
15-16				
16-17				

As you can see we logged in as a test user that is working for the „Finanz-Amt-ST“. On top Of the Frame you see the Username, which is test and also a „Log out“ Button from which you can jump back to the Log In Frame. When you click on the Calendar you se that the first jTable is filled with the Data from the „benutzer“ table that were send to the „Finanz-Amt-ST“ and only these Appointments are shown. The Second jTable on the botton is a Filled with the „termin“ table values that are basically sorted by Username who is logged in at the moment.

As for the Button „Termin nehmen“ you can take an Appointment from the Table above, free that Slot from the Database and take that Appointment but only if you are free at that time. If you are not available at that moment the

Appointmant will not be taken.

The same goes for the Button „Termin freigeben“. If you want to free an Appointment there has to be a free Slot in the „benutzer table“ at that time and day so you can free it.



Username: Vorname:

Password: Nachname:

Amt:

Username	Password	Vorname	Nachname	Amt
greg	1234	gregori	daljevic	Bürger-Amt-...
test	test	umut	kuku	Finanz-Amt-...
gregiiii	gggg	gregori	daljevic	Bürger-Amt-...

When we log id as the „Admin“ we come to the Admin Console. Here you have the Option to create a new Worker by clicking the „Neuer Mitarbeiter“ Button. As you click this the Programm will search the Database if the Username is already taken and the same goes for the Password, because the thought Process was at that time that these has to be dirstinct from all others in the tables. The you have the Button „Mitarbeiter löschen“ where you cn erase a worker from the Databse by simply clicking the worker and pressing the Button. The last Button is the „Log out“ Button where we jump back to the Log In Frame.

Open Problems

One of the Problems we still have is that most of the changes in the Database are only Visible in the Java Code when you change the Date in the Jcalendar and change back to the original Date. This could be fixed if we used „Trigger“ in MySQL. Another Problem that occurred in the Development of the Software is when you are on the Customer Frame and you select an Appointment on a Specific Day and Time you can simply press another Appointment Topic from the Checkboxes and overwrite it and not only that. You then have two Checkboxes selected but only one Appointment has it. In the Admin Console we have the Problem that only The Data is shown to the Admin if he clicks on the Jtable and waits a bit. It is not automatically shown to him.

Further Development

The Fixes of the Problems that occurred during the Software Development are Part of the further Development, but there are also new features that we would like to have implemented into the Software but didn't, because time and already existing Problems made it difficult to implement all the wished Methods and Options that we imagined for the Software to have.

As for further Development we wanted to implement a Button called „Mitarbeiter bearbeiten“ onto the Admin Frame which allows the Admin to change different values of an already existing worker.

For Example he could change the Last Name of the worker, because the worker maybe got married and therefore had to change it or the worker has moved to a different City and has to change Departures.

We wanted to implement an option where the worker could give his Appointments to another worker, because we thought of the occasion when the worker is sick or is on

vacation.

One more thing we wanted to create is a function where the worker can contact the customer via e-mail, but at that time we thought we must have an e-mail server to do so and this alone would take so much time that the Software Development would not be the focus of this project anymore.