

# Project Report HY-360

Team Members:

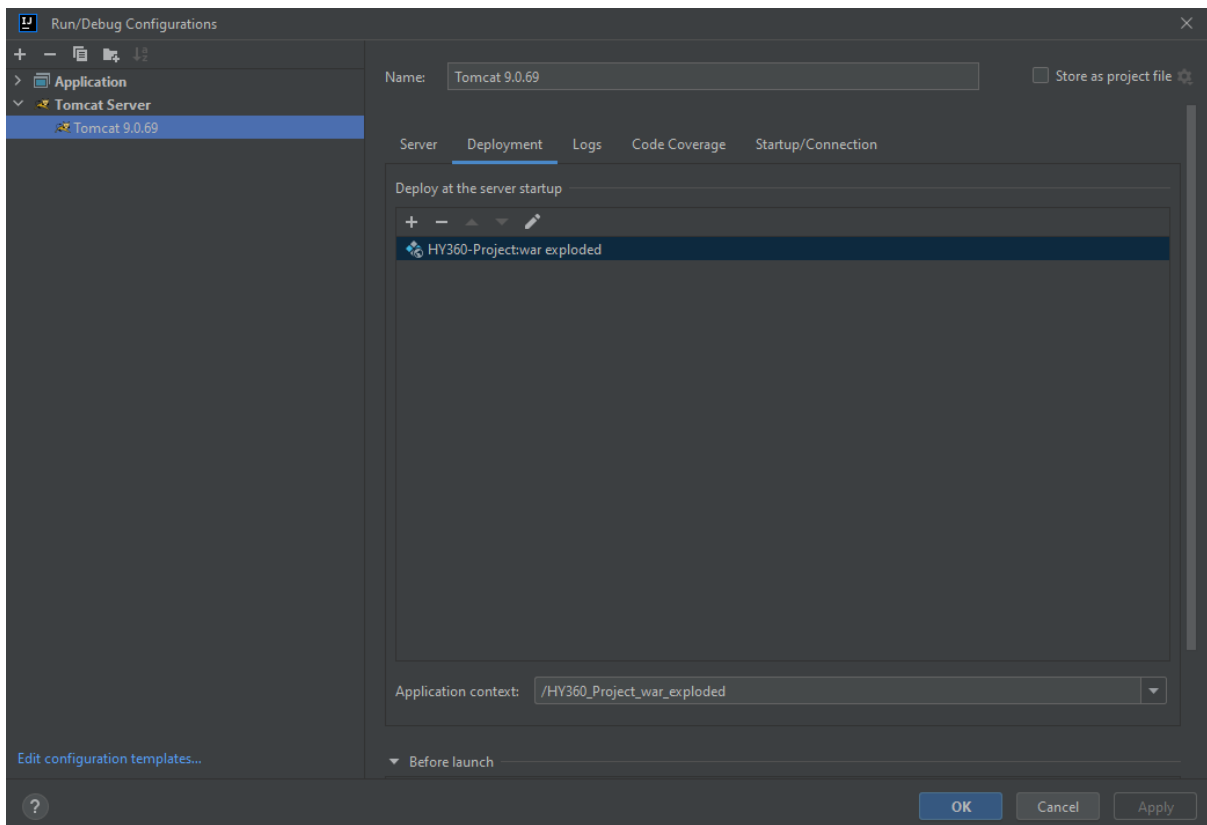
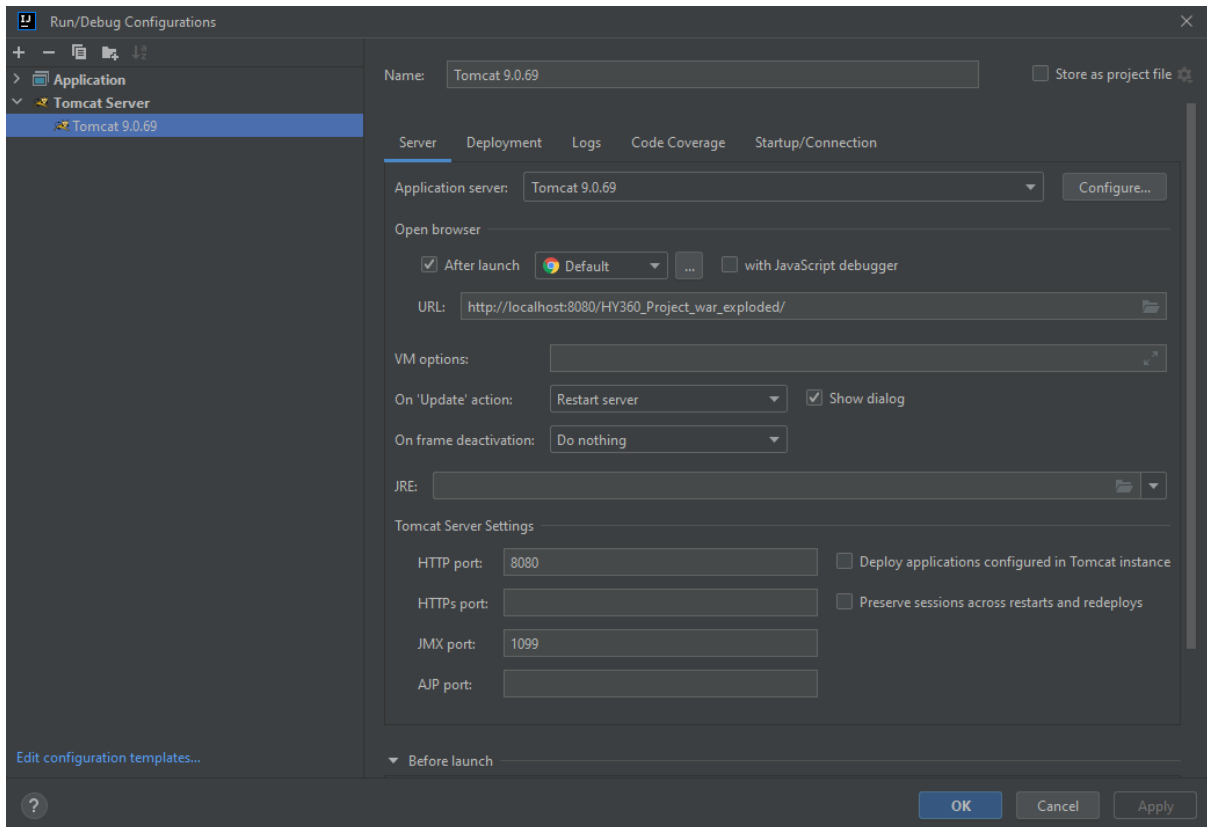
- Antonios Marinos Kostopoulos csd4446
- Michail Samaritakis csd4529
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## Setup to Test

To setup your computer to test the project in Windows 10(It is the only OS that the project to ) you have to install the following:

- XAMPP : <https://www.apachefriends.org/download.html>
- IntelliJ IDEA Ultimate :  
<https://www.jetbrains.com/idea/download/#section=windows>
- Tomcat apache, version: 9.0.69
- JDK Temurin 11 for Windows 10 :  
<https://adoptium.net/temurin/releases/?variant=openjdk11>

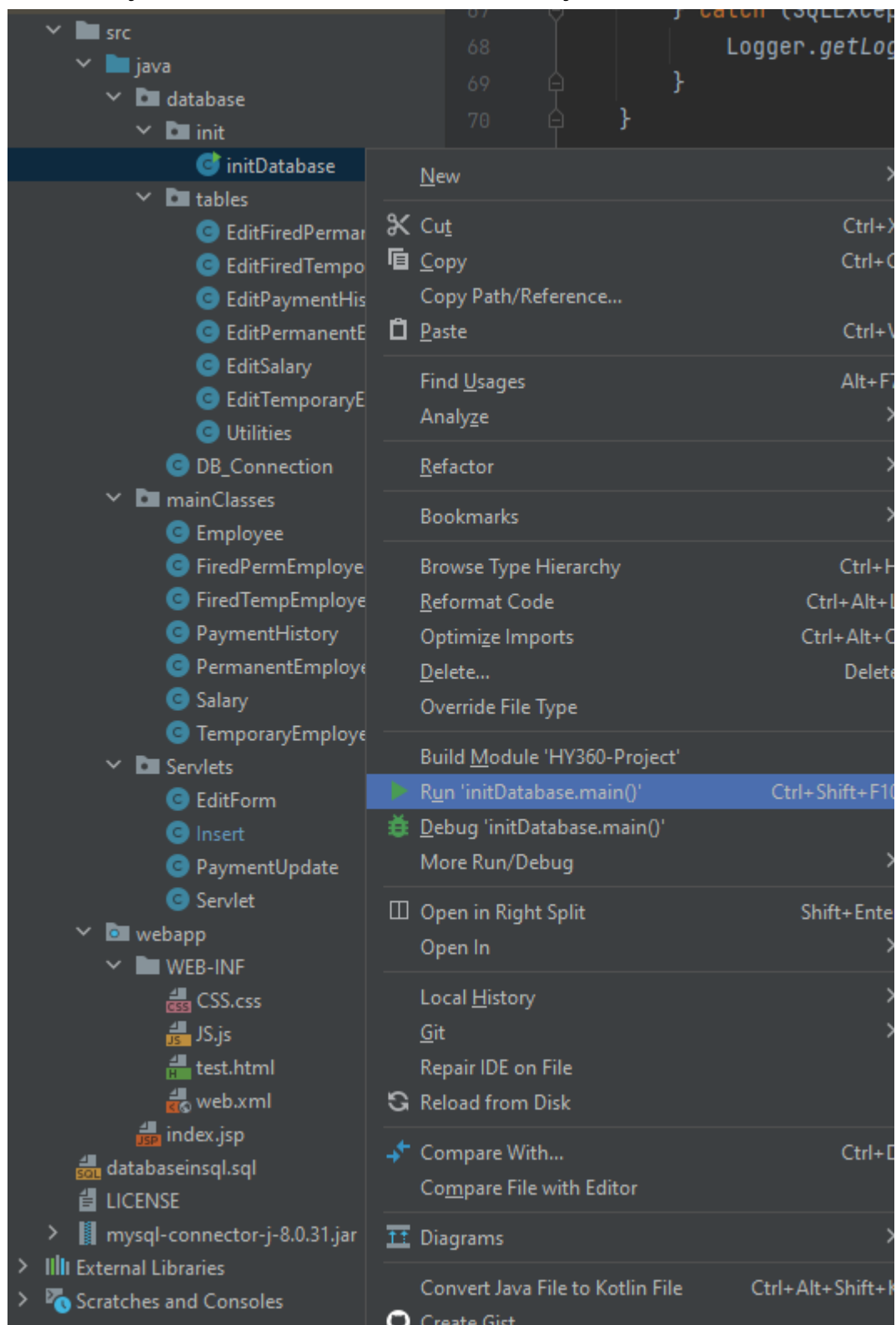
After the downloads above, you have to create a JetBrains account and activate the full licence to install IntelliJ IDEA Ultimate, after the installation is complete install XAMPP and the JDK and extract the Tomcat apache folder. Then insert the JDK into your IntelliJ settings and open the project, now create a configuration with the settings below:



Where the artifact name is the name of the folder which the project is in.

Then startup XAMPP and click start on Apache and MySQL.

Then find the `initDatabase();` main which is located at `src/main/java/database/init/InitDatabase.java` as shown here:



Now choose the Tomcat configuration which you created earlier and then hit run.

The project has now started running and is ready to be tested.

## **Classes and Visualization of the Implementation**

We mainly used servlets(Java) to create the implementation of our project, so that we could connect the graphic interface made in HTML with our database that was created using SQL.

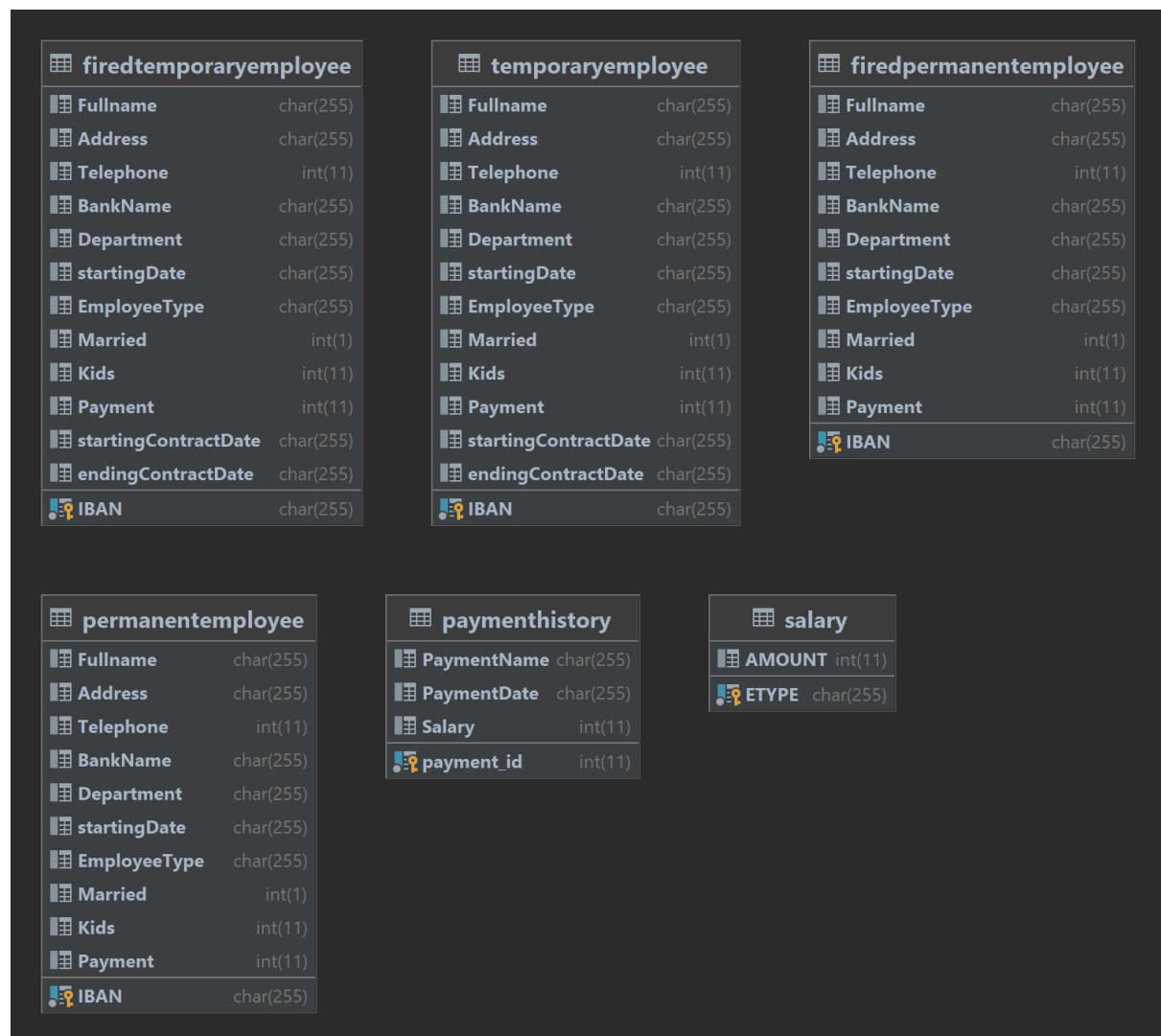
Each servlet has a designated function and is invoked whenever a corresponding button of "submit" type is pressed.

1. In the files : allsqlcommands.sql and databaseinsql.sql you can find all the SQL commands that were used throughout our code.

More specifically in allsqlcommands.sql: are all of the SQL commands. While in databaseinsql.sql: are only the ones that were needed to CREATE the database.

2. Here are the classes and methods that were used for this project:

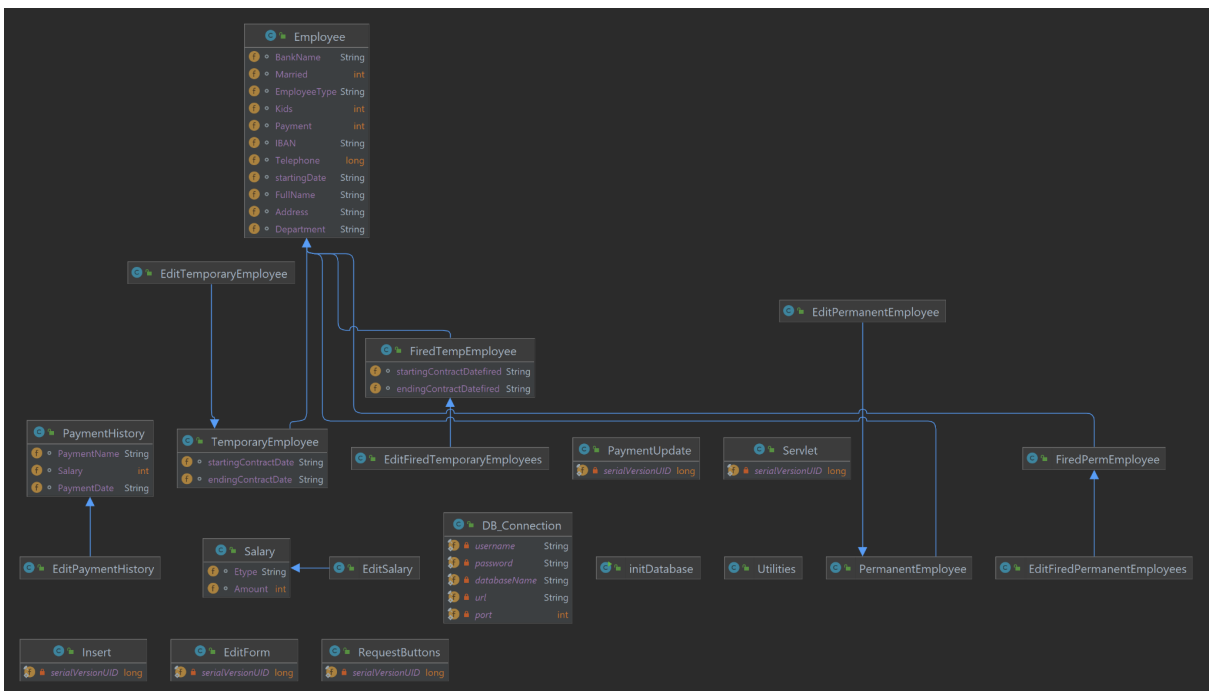
Visualization of our database:

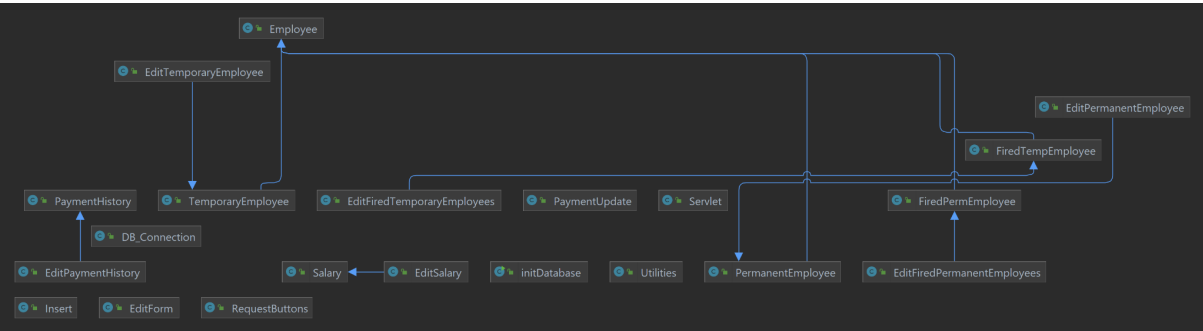
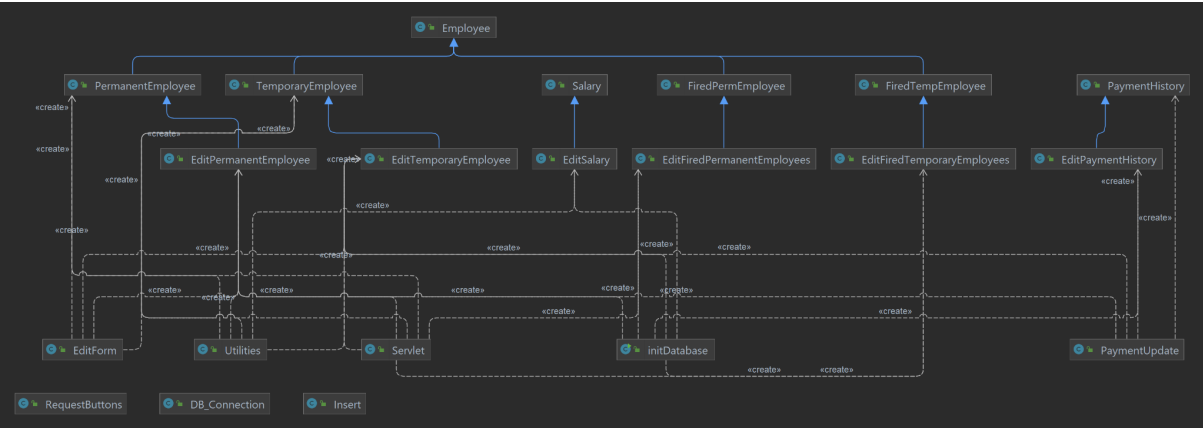


UML Diagram of the classes and methods:



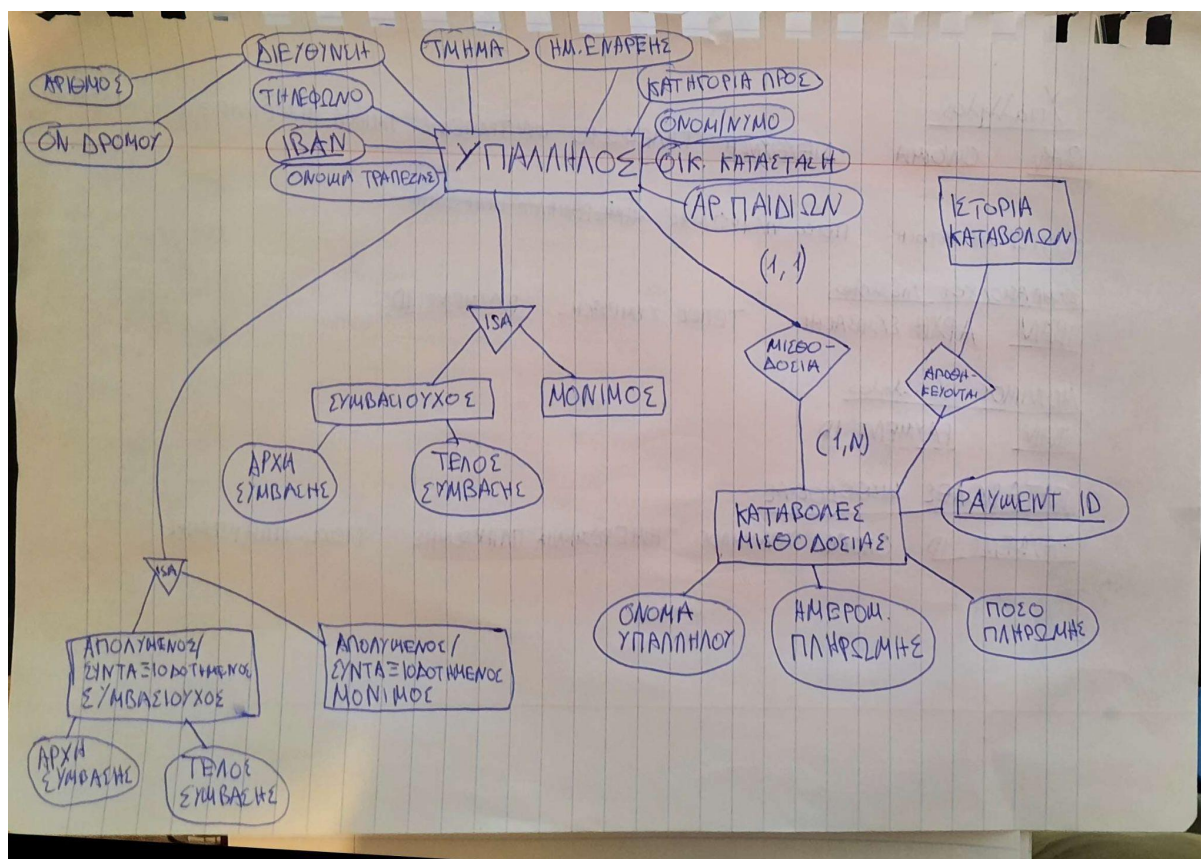
And here are its simpler versions:



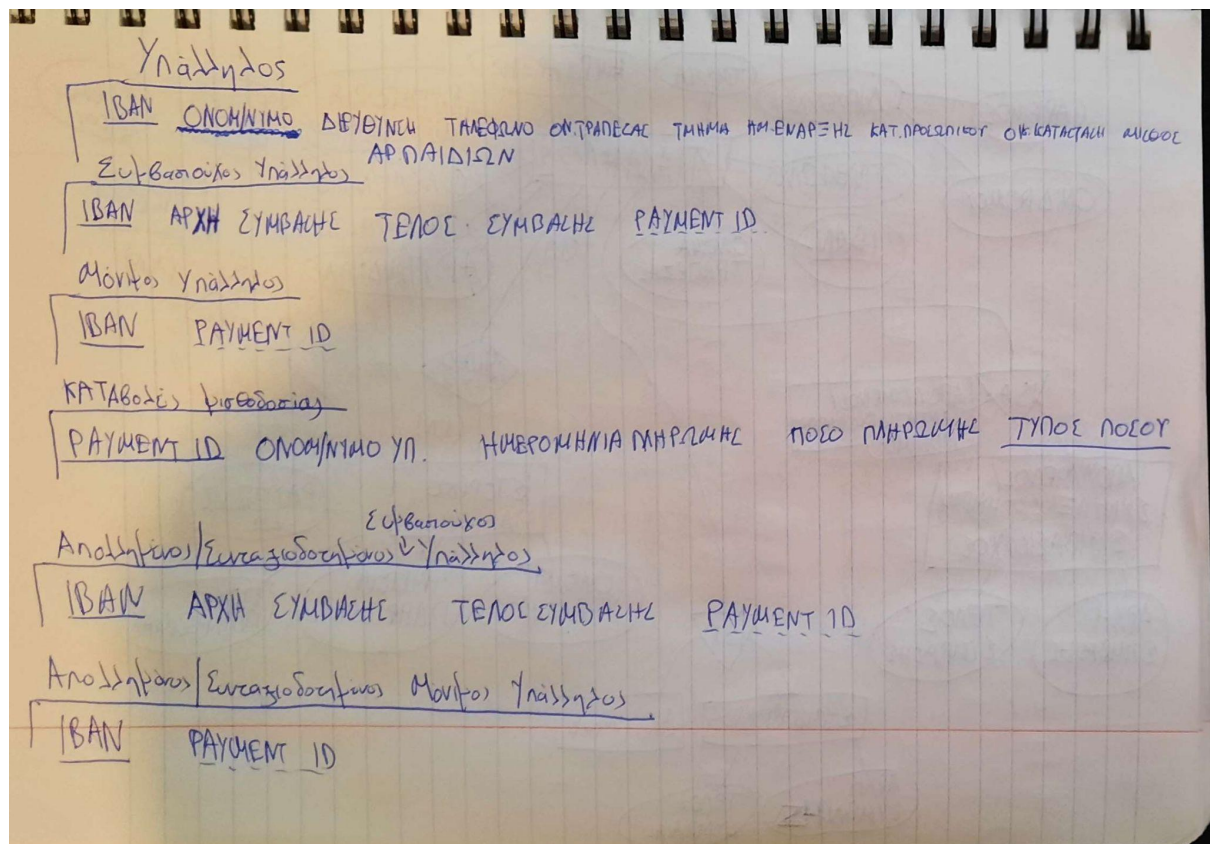




## Σχεδιάγραμμα Οντοτήτων Σχέσεων E-R



## Πίνακες Οντοτήτων Σχέσεων E-R





## Σχέσεις Εξαρτησέων και Μορφή 3NF

Functional Dependencies για τον πίνακα Υπάλληλοι:

Τηλέφωνο  $\rightarrow$  Όνομα (αφ' ότου ξέρουμε το τηλέφωνο <sup>είναι το</sup> ξέρουμε  
και το όνομα του υπαλλήλου)  
~~Διεύθυνση  $\rightarrow$  Όνομα (δίδεται)~~

Functional Dependencies για τον πίνακα Καταθ.Μισθοδοσίας:

Δεν έχει

Ο πίνακας Υπάλληλοι πρέπει να γίνει 1NF αφού δώσουμε <sup>αφ'</sup>  
στοιχείο

Υπάλληλος

ΙΔΑΝ ΟΝΟΜΑΤΕΠΩΝΥΜΟ (ΑΡΙΘΜΟΣ ΟΝ. ΔΡΟΜΟΥ) ΟΝ. ΤΡΑΠΕΖΑΣ

ΤΜΗΜΑ ΗΜ. ΕΝΑΡΞΗΣ ΚΑΤΗΓΟΡΙΑ ΠΡΟΣ. ΟΙΚΟΓΕΝ. ΚΑΤΑΣΤΑΣΗ

ΜΙΣΘΟΣ

Είναι και 2NF αφού δεν υπάρχει σχέση της μορφής

~~Μη πρωτεύον  $\rightarrow$  Μη πρωτεύον~~ Πρωτεύον (βη. κλειδί)  $\rightarrow$  Μη πρωτεύον

Δεν είναι 3NF επειδή υπάρχει σχέση της μορφής  
Μη πρωτεύον  $\rightarrow$  Μη πρωτεύον. ~~αλλά~~

Functional Dependencies για Νίνα και Ποσει:

Δεν έχει τη περιττή σχέση γιατί υπάρχει μόνο το στήλι και ένα από τα μη πρωτεύον attributes

## Screenshots από λειτουργίες

-Database creation (initDatabase()main):

```
C:\Program Files\Eclipse\plugins\org.eclipse.jdt.ui-3.10.0-1013001\bin\java.exe -no
Loading class 'com.mysql.jdbc.Driver'. This is deprecated. The new driver class is 'com.mysql.cj.jdbc.Driver'. The driver is automatically registered via the SPI and manual loading of the driver class is generally unnecessary.
Connected to database.
Connected to database.
Connected to database.
Connected to database.
Connected to database.
Connected to database.
Connected to database.
Connected to database.
INSERT INTO salary (ETYPE, AMOUNT) VALUES ('BasicManaging','1400')
# The salary was successfully added in the database.
Connected to database.
INSERT INTO salary (ETYPE, AMOUNT) VALUES ('BasicEducational','1200')
# The salary was successfully added in the database.
Connected to database.
INSERT INTO salary (ETYPE, AMOUNT) VALUES ('benefitLibrary','150')
# The salary was successfully added in the database.
Connected to database.
INSERT INTO salary (ETYPE, AMOUNT) VALUES ('benefitResearch','300')
# The salary was successfully added in the database.
Process finished with exit code 0
```

-Fill database button:

```

INSERT INTO permanentemployee (IBAN,FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids) VALUES ('GR551231','Tunechi','Makedonias 12','69472','Eurobank','csd','200
# The permanent employee was successfully added in the database.
Connected to database.
INSERT INTO permanentemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids) VALUES ('GR1234567890','Michalis','Zarou 15','6906','Piraios','CSD','2022
# The permanent employee was successfully added in the database.
Connected to database.
INSERT INTO permanentemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids) VALUES ('GR1234567891','Manolis','Attalou 6','69892','Alfabank','MEM','20
# The permanent employee was successfully added in the database.
Connected to database.
INSERT INTO permanentemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Kids,Payment) VALUES ('GR1234567892','Antonis','Makedonias 12','69843','Pagkrhtia','XHM
# The permanent employee was successfully added in the database.
Connected to database.
INSERT INTO permanentemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Kids,Payment) VALUES ('GR1234567893','Lefteris','Apokoronou 1','6945','Eurobank','PHY',
# The permanent employee was successfully added in the database.
Connected to database.
INSERT INTO permanentemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Kids,Payment) VALUES ('GR1234567894','Marilena','Alperts 14','6989','Agrotikh','CSD','2
# The permanent employee was successfully added in the database.
Connected to database.
INSERT INTO temporaryemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids,startingContractDate, endingContractDate) VALUES ('GR890244731','Nick Tarz
# The temporary employee was successfully added in the database.
Connected to database.
INSERT INTO temporaryemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids,startingContractDate, endingContractDate) VALUES ('GR89024431','Nick Tarza
# The temporary employee was successfully added in the database.
Connected to database.
INSERT INTO temporaryemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids,startingContractDate, endingContractDate) VALUES ('GR8909241','Mpampis Kan
# The temporary employee was successfully added in the database.
Connected to database.
INSERT INTO temporaryemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids,startingContractDate, endingContractDate) VALUES ('GR82341','Giannis Papad
# The temporary employee was successfully added in the database.
Connected to database.
INSERT INTO temporaryemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids,startingContractDate, endingContractDate) VALUES ('GR231213','Giannis Anta
# The temporary employee was successfully added in the database.
Connected to database.
INSERT INTO firedtemporaryemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids,startingContractDate, endingContractDate) VALUES ('GR0909231','Iwanna
# The temporary fired employee was successfully added in the database.
Connected to database.
INSERT INTO firedtemporaryemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids,startingContractDate, endingContractDate) VALUES ('GR09090231','Nikos
# The temporary fired employee was successfully added in the database.
Connected to database.
INSERT INTO firedtemporaryemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids,startingContractDate, endingContractDate) VALUES ('GR8909231','Makis
# The temporary fired employee was successfully added in the database.
Connected to database.
INSERT INTO firedtemporaryemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids,startingContractDate, endingContractDate) VALUES ('GR023431','Manos T
# The temporary fired employee was successfully added in the database.
Connected to database.
INSERT INTO firedtemporaryemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids,startingContractDate, endingContractDate) VALUES ('GR89123231','Mpamp
# The temporary fired employee was successfully added in the database.
Connected to database.
INSERT INTO firedpermanentemployee (IBAN, FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids) VALUES ('GR09231','Markissa','Makedonias 15','69733','euronbank','ME
# The temporary employee was successfully added in the database.

```

-Hire temporary employee:

```

INSERT INTO temporaryemployee (IBAN,FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Kids,Payment,startingContractDate,endingContractDate) VALUES ('GR62651321','Sheesh God'
# The temporary employee was successfully added in the database.

```

-Hire permanent employee:

```

INSERT INTO permanentemployee (IBAN,FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids) VALUES ('GR551231','Tunechi','Makedonias 12','69472','Eurobank','csd','20
# The permanent employee was successfully added in the database.

```

-Fire temporary employee and add to fired table:

-Fire permanent employee and add to fired table:

```

INSERT INTO firedpermanentemployee (IBAN,FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Payment,Kids) VALUES ('GR231213','null','null','0','null','null','null','Not found'
# The permanent employee was successfully added in the history database.
Connected to database.
DELETE FROM permanentemployee WHERE IBAN = 'GR231213'
# The permanent employee was successfully deleted from the database.

```



-Edit info:

```
INSERT INTO firedtemporaryemployee (IBAN,FullName,Address,Telephone,BankName,Department,startingDate,EmployeeType,Married,Kids,Payment,startingContractDate,endingContractDate) VALUES ('GR8909241','Mpampis')
# The temporary employee was successfully added in the history database.
Connected to database.
DELETE FROM temporaryemployee WHERE IBAN = 'GR8909241'
# The temporary employee was successfully deleted from the database.
```

Department:

4	GR89024431	Nick Tarzanidis	Ionias 8	698536	eurobank	MEM	2018-01-01	Educational	1
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Update payments for employees:

```
INSERT INTO paymenthistory (PaymentName, PaymentDate, Salary) VALUES ('Lefteris','2023-01-29','1470')
# The payment history was successfully inserted into the database.
Connected to database.
Connected to database.
Connected to database.
INSERT INTO paymenthistory (PaymentName, PaymentDate, Salary) VALUES ('Marilena','2023-01-29','1740')
# The payment history was successfully inserted into the database.
Connected to database.
Connected to database.
Connected to database.
INSERT INTO paymenthistory (PaymentName, PaymentDate, Salary) VALUES ('Tunechi','2023-01-29','6090')
# The payment history was successfully inserted into the database.
Connected to database.
Connected to database.
Connected to database.
Connected to database.
INSERT INTO paymenthistory (PaymentName, PaymentDate, Salary) VALUES ('Giannis Antetokounmpo','2023-01-29','1650')
# The payment history was successfully inserted into the database.
Connected to database.
Connected to database.
Connected to database.
INSERT INTO paymenthistory (PaymentName, PaymentDate, Salary) VALUES ('SHeeesh God','2023-01-29','3420')
# The payment history was successfully inserted into the database.
Connected to database.
Connected to database.
Connected to database.
INSERT INTO paymenthistory (PaymentName, PaymentDate, Salary) VALUES ('Giannis Papadakis','2023-01-29','1402')
# The payment history was successfully inserted into the database.
Connected to database.
Connected to database.
Connected to database.
INSERT INTO paymenthistory (PaymentName, PaymentDate, Salary) VALUES ('Nick Tarzanidis','2023-01-29','1805')
# The payment history was successfully inserted into the database.
Connected to database.
Connected to database.
Connected to database.
INSERT INTO paymenthistory (PaymentName, PaymentDate, Salary) VALUES ('Nick Tarzanidis','2023-01-29','1805')
# The payment history was successfully inserted into the database.
Connected to database.
Connected to database.
Connected to database.
INSERT INTO paymenthistory (PaymentName, PaymentDate, Salary) VALUES ('Mpampis Karamamparos','2023-01-29','1800')
# The payment history was successfully inserted into the database.
```

Edit salaries:

	ETYPE	AMOUNT
1	BasicEducational	10000
2	BasicManaging	10000
3	benefitLibrary	1000
4	benefitResearch	1000