

IDENTITY MANAGEMENT SOFTWARE

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Fundamental Semester

M.sc Information System Management

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Subject Description

The Identity Management Software project is implemented in orders to manage the user identities. This is achieved using Java. It works with 1 kinds of logins - an admin account who has special privileges.

The project provides us a simple interface for maintenance of customer or student information. It can be used by schools or banks to maintain the records. The project is very useful for those who want to know about Identity Management System. The project provides facilities like registration and profile creation thus reducing paperwork and automating the record generation.

The environment used for development is Eclipse IDE.

The database used is Apache Derby.

PROCESSING ENVIRONMENT-HARDWARE AND

SOFTWARE: -

Operating system is a platform on which the specified application will be used. Once it has been complete, the software we are about to make, will execute on both client machine and server machine.

Configuration:

Users Views: Administrator

Platform Operating Systems: Mac

Technologies Used:

Front End: Java

RDBMS (Back end): Apache Derby

Software Requirements: Java SE 8

Eclipse Neon

Subject Analysis

The major features of this application are –

- Identity creation
- Identity access
- Identity modification
- User authentication
- Data access restriction
- User interface usage
- Data validation for email-id and phone number fields

Application feasibility

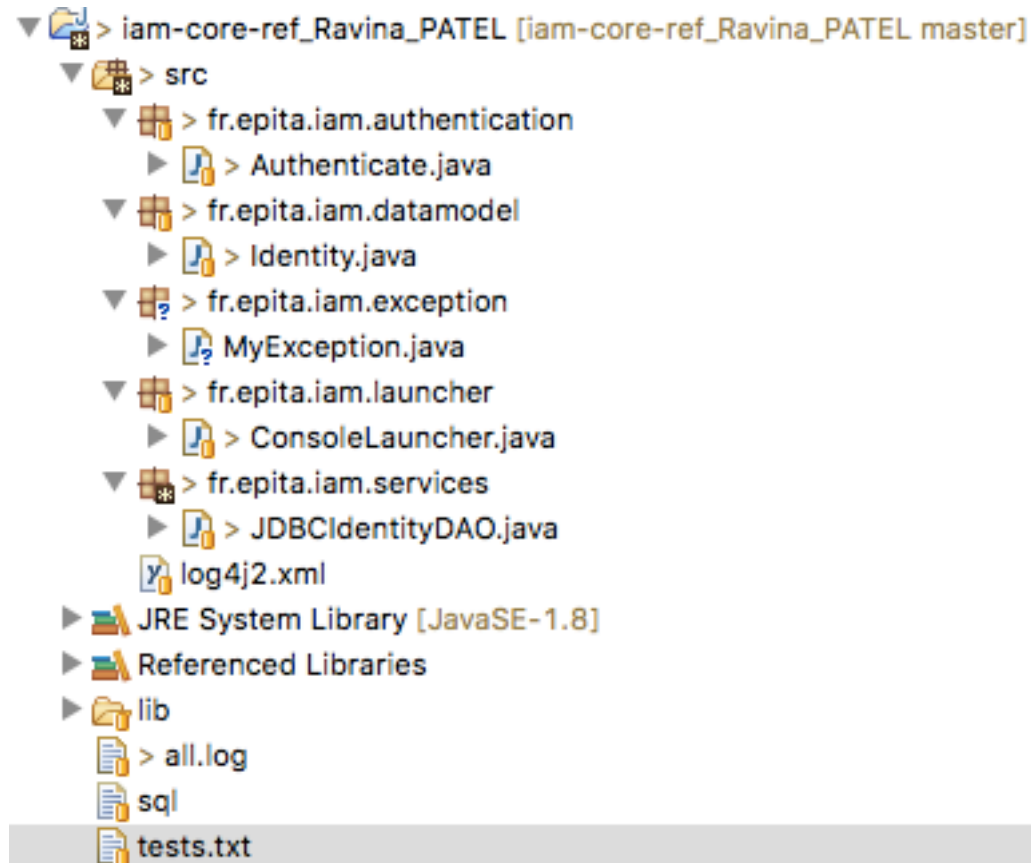
The Identity management software application is built up on a well-defined and feasible structure.

The application maintains a separate project for Core. Each project is further classified into modules. Some of the important classifications/features are as follows-

lam-core-ref_Ravina_PATEL

Src

It contains separate folders for maintaining configuration properties, a datamodel for identity class, JDBCIdentityDAO connection and a services folder which contains the implementation package for equating and comparing the identity objects.



Src

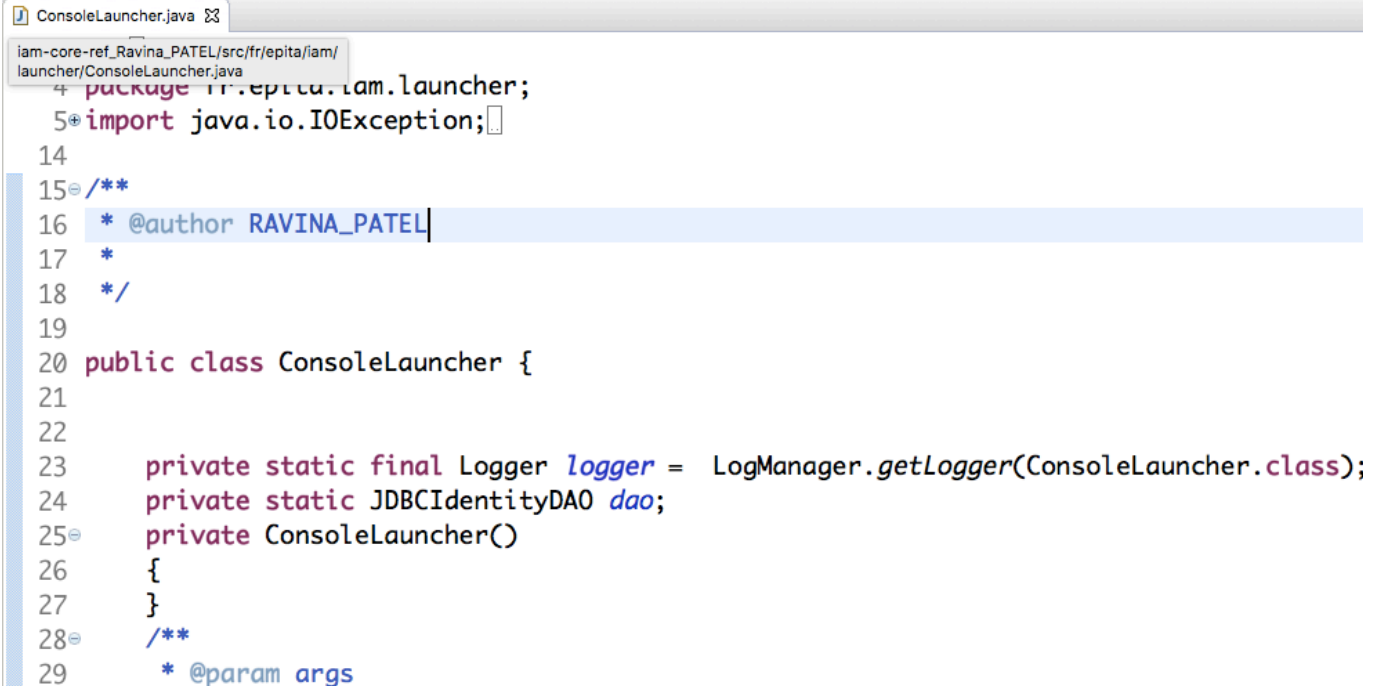
- This folder includes classes for Search, view, update, delete identity.
 - ConsoleLauncher.java
- Authentication class
 - Authenticate.java
- It also contains an 'exceptions' package which maintains for exceptions different DAO operation.
 - MyException.java
- Database Connection Folder
 - - JDBCIdentityDAO.java

using “info.logging”

When implementing a software, it is very useful to log information. We have implemented “info.logging” from Apache to implement loggings for this project

A jar file commons-logging-1.2.jar is included in the lib folder of

lam-core-ref_Ravina_PATEL project



```

1 ConsoleLauncher.java
2
3 iam-core-ref_Ravina_PATEL/src/fr/epita/iam/
4 launcher/ConsoleLauncher.java
5
6 package fr.epita.iam.launcher;
7
8 import java.io.IOException;
9
10
11 /**
12  * @author RAVINA_PATEL
13  *
14  */
15
16 public class ConsoleLauncher {
17
18     private static final Logger logger = LogManager.getLogger(ConsoleLauncher.class);
19     private static JDBCIdentityDAO dao;
20     private ConsoleLauncher()
21     {
22     }
23
24     /**
25      * @param args

```

- The xml file contains logger to print on console

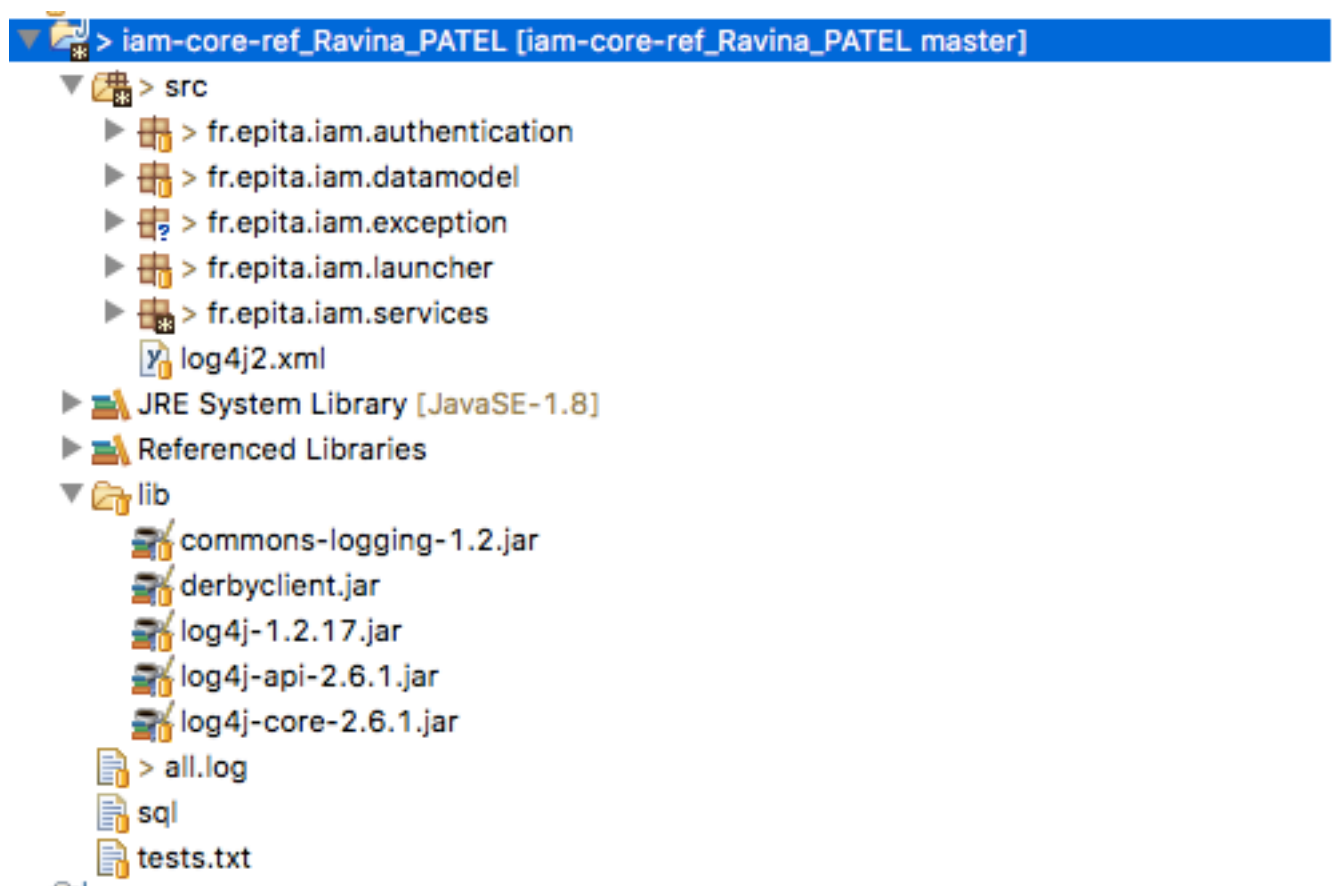
- log4j2.xml

```

log4j2.xml
1 <?xml version="1.0" encoding="UTF-8"?>
2 <Configuration status="WARN">
3   <Appenders>
4     <Console name="Console" target="SYSTEM_OUT">
5       <PatternLayout pattern="%msg%n" />
6     </Console>
7     <File name="MyFile" fileName="all.log" immediateFlush="false" append="false">
8       <PatternLayout pattern="%msg%n"/>
9     </File>
10  </Appenders>
11  <Loggers>
12    <Root level="info">
13      <AppenderRef ref="Console" />
14      <AppenderRef ref="MyFile"/>
15    </Root>
16  </Loggers>
17 </Configuration>

```

- Jar files added for logger



Data description

The project deals with managing the identities of Information system which allows the users to create their user accounts by entering their display name (user name) and email-id. The admin of this software has special rights of viewing all identities, updating and deleting identities.

There are one type of users for the system:

- Registered User
 - The registered user is given the rights to view his/her profile as well as update the profile.
 - The user can update all attributes except Unique Id and name.
 - The unique ids are auto-generated and available once the user is registered.
 - This maintains the uniqueness of the identities.
 - Only Registered User can enter Username and password to view and update profile.

Data Modification Options for the users:

The Identity Management Software provides following functionalities to the user:

1 View Profile

The registered user can view his/her profile at any point of time. The only requirement for this, is that the user should be a registered user. If the user is not registered, he has to registers using the form that is made available and then he is registered.

2 Update profile

If at any point of time, the user wants to change the contact details like email address or contact no then he can update this information but not the unique id. Once the changes are made, they are saved into the database against that unique id for further access.

Data Access Option for USER:

The Identity Management Software provides the following functionalities to user:

View All Profiles

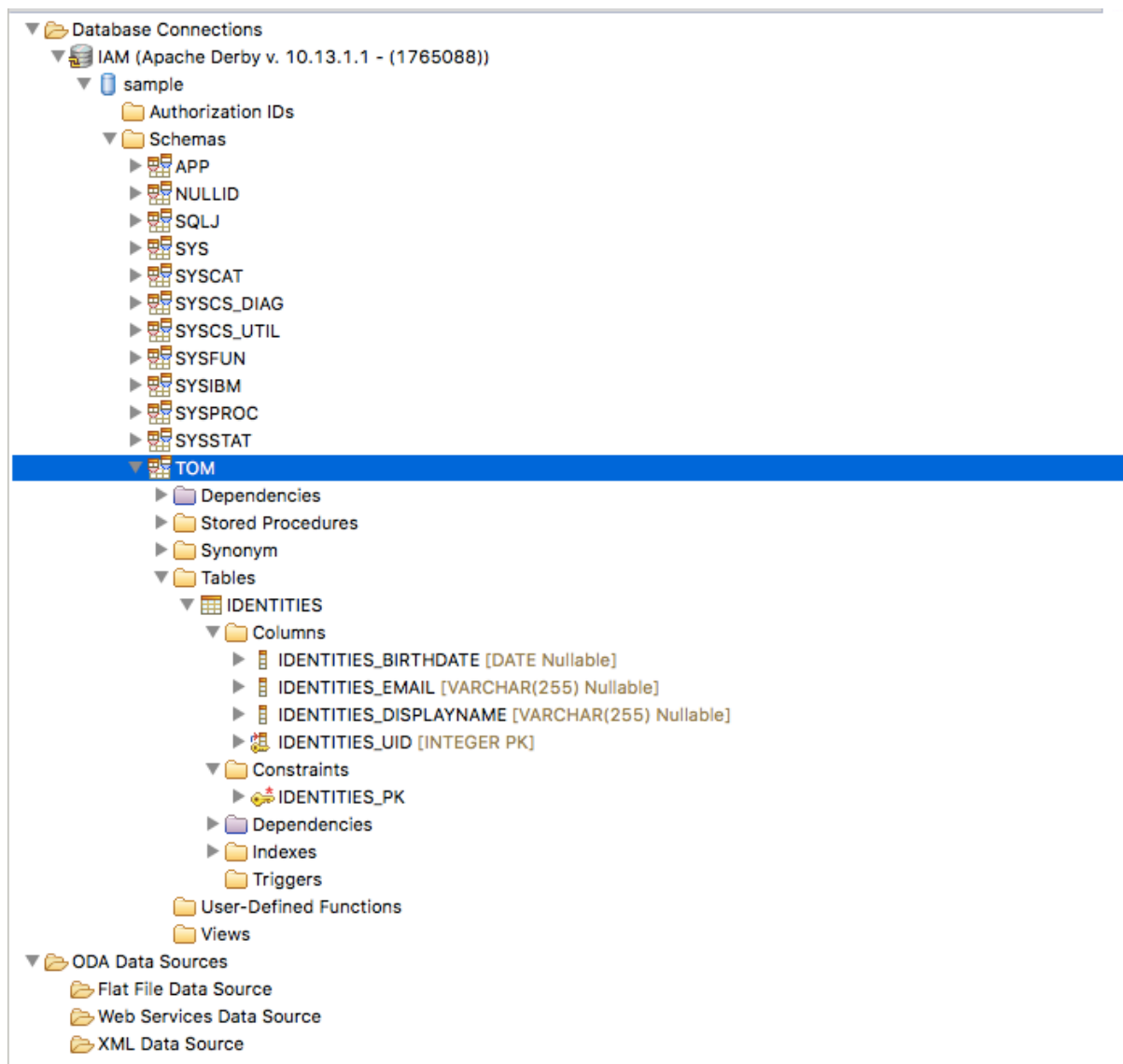
The user will be able to see all the identities that are registered and present in the database.

Search identities

The user can search for a particular users by entering his uid

Delete Profile

The user will have the right to delete the identity. For deletion, the user will use the 'Delete identity' option.



Database used:

Apache Derby

Connection Profile:

Type: Derby_10.x

Database Name: Sample

Schema Name: TOM

Table Name: TOM.IDENTITYIES

Sql Query for Create Table:

```
CREATE TABLE IDENTITIES
    (IDENTITIES_UID INT NOT NULL GENERATED ALWAYS AS
IDENTITY CONSTRAINT IDENTITIES_PK PRIMARY KEY,
    IDENTITIES_DISPLAYNAME VARCHAR(255),
    IDENTITIES_EMAIL VARCHAR(255),
    IDENTITIES_BIRTHDATE DATE
    );
```

Data Manipulation Language (DML) part of SQL: -

SELECT

- extracts data from a database table

UPDATE

- updates data in a database table

DELETE

- deletes data from a database table

INSERT INTO

- inserts new data into a database table

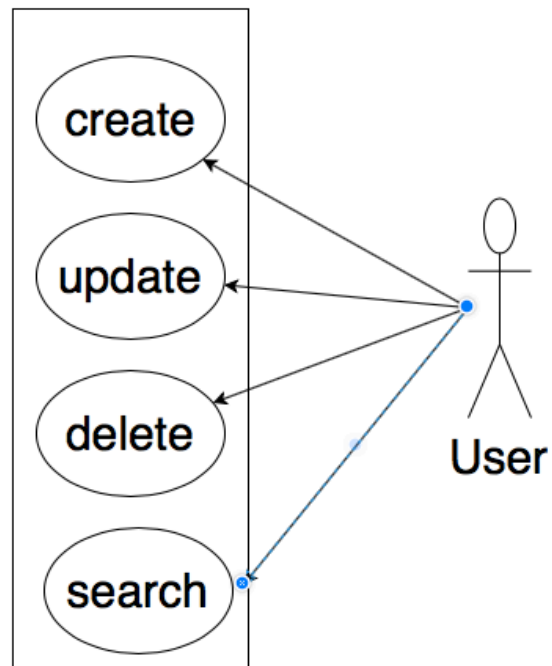
Scope of the application

This application is built to satisfy the very basic needs of Identity management. However, in order to make the identities closer to the real use, we can extend its scope. We can include alternate email-ids for a user, the user address and other details.

Evolutions:

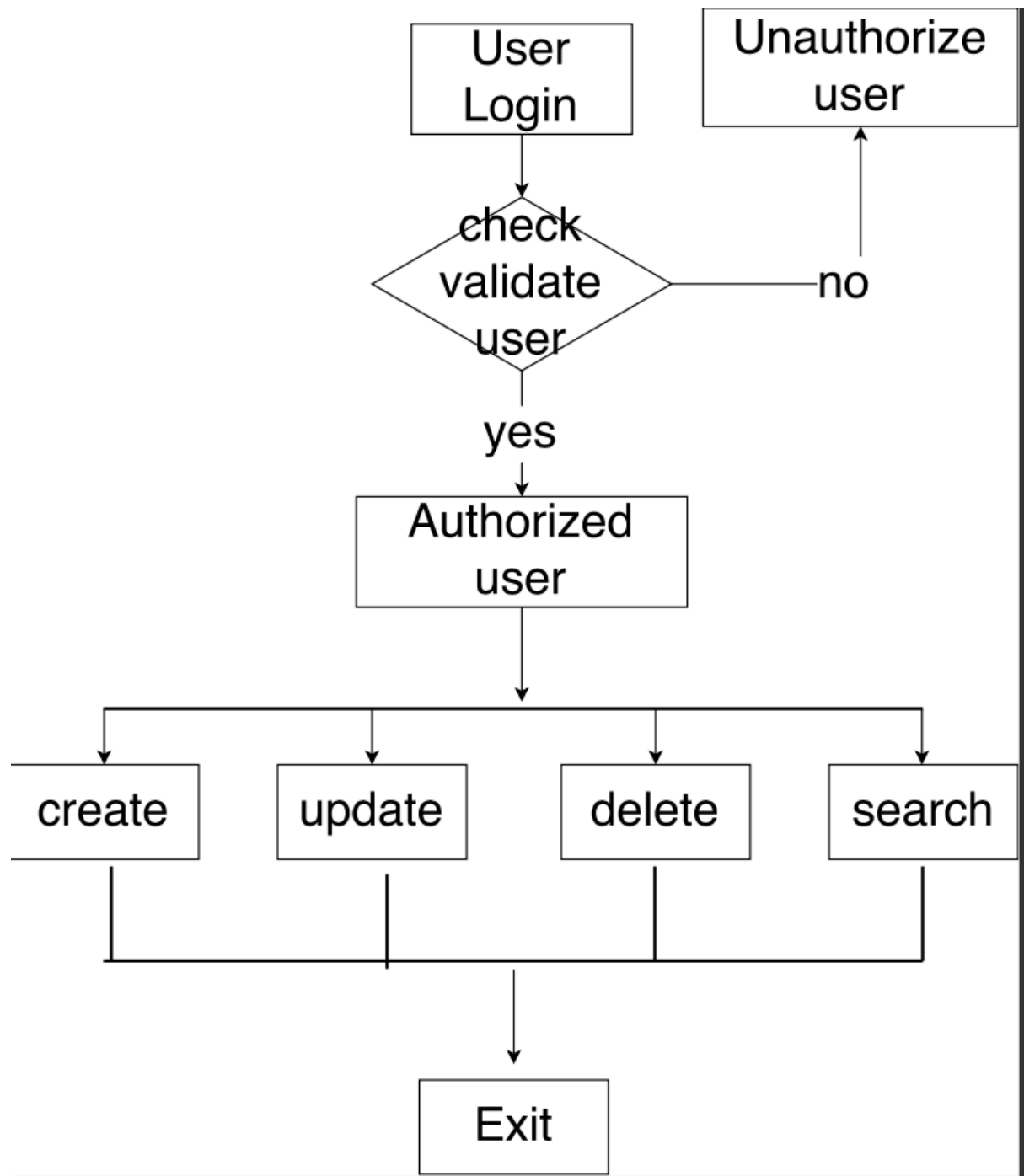
The Identity Management System currently exhibits all DAO operations of search, create, update and delete using database (derby).

Use case diagram



-
- User can create , update , delete and search the identities.

Data Flow Diagram:

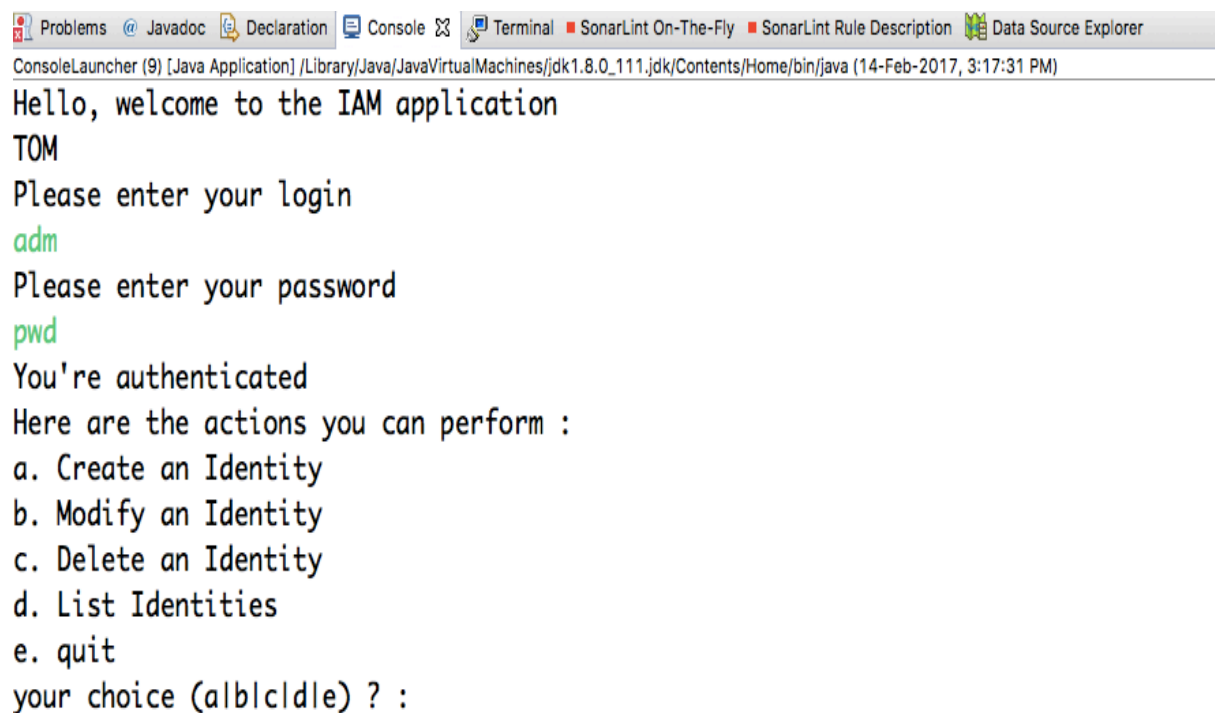


SNAPSHOTS

LOGIN

Login: adm

Password:pwd



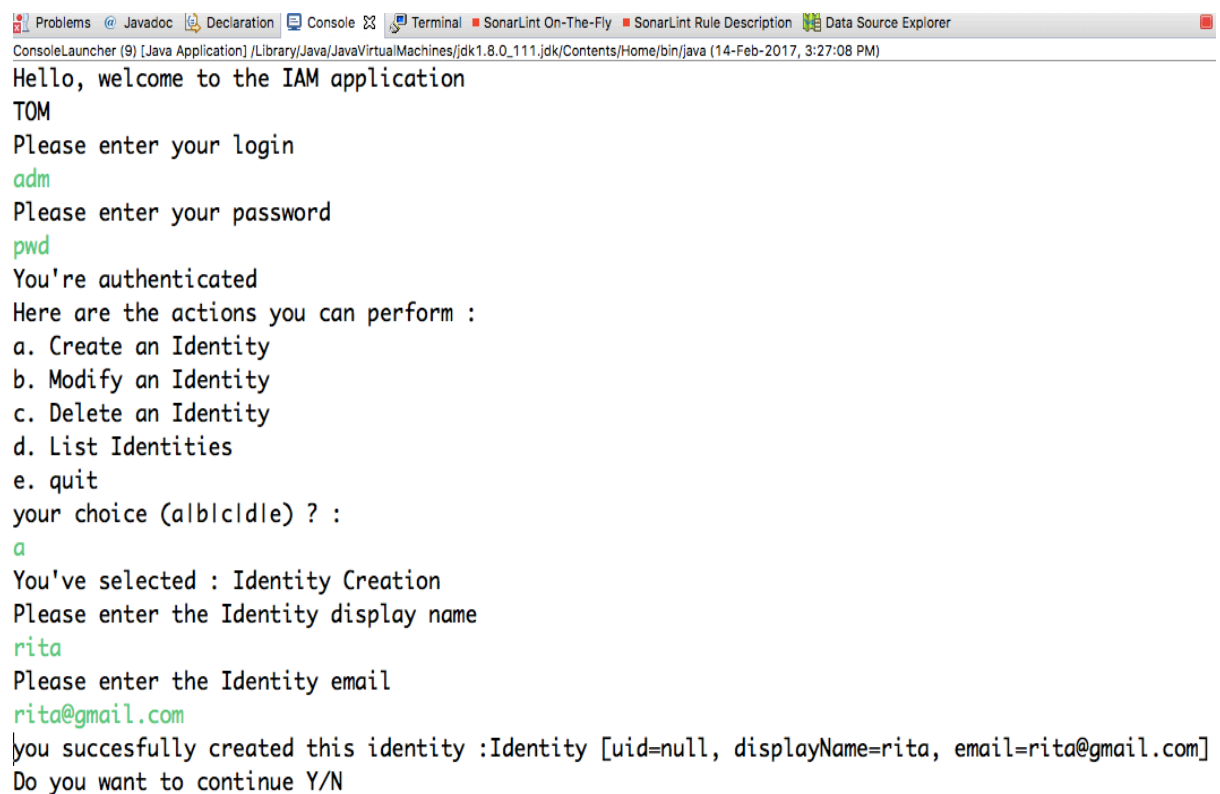
The screenshot shows an IDE terminal window with the following content:

```
Problems @ Javadoc Declaration Console ⌘ Terminal SonarLint On-The-Fly SonarLint Rule Description Data Source Explorer
ConsoleLauncher (9) [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_111.jdk/Contents/Home/bin/java (14-Feb-2017, 3:17:31 PM)
Hello, welcome to the IAM application
TOM
Please enter your login
adm
Please enter your password
pwd
You're authenticated
Here are the actions you can perform :
a. Create an Identity
b. Modify an Identity
c. Delete an Identity
d. List Identities
e. quit
your choice (a|b|c|d|e) ? :
```


CREATE IDENTITY

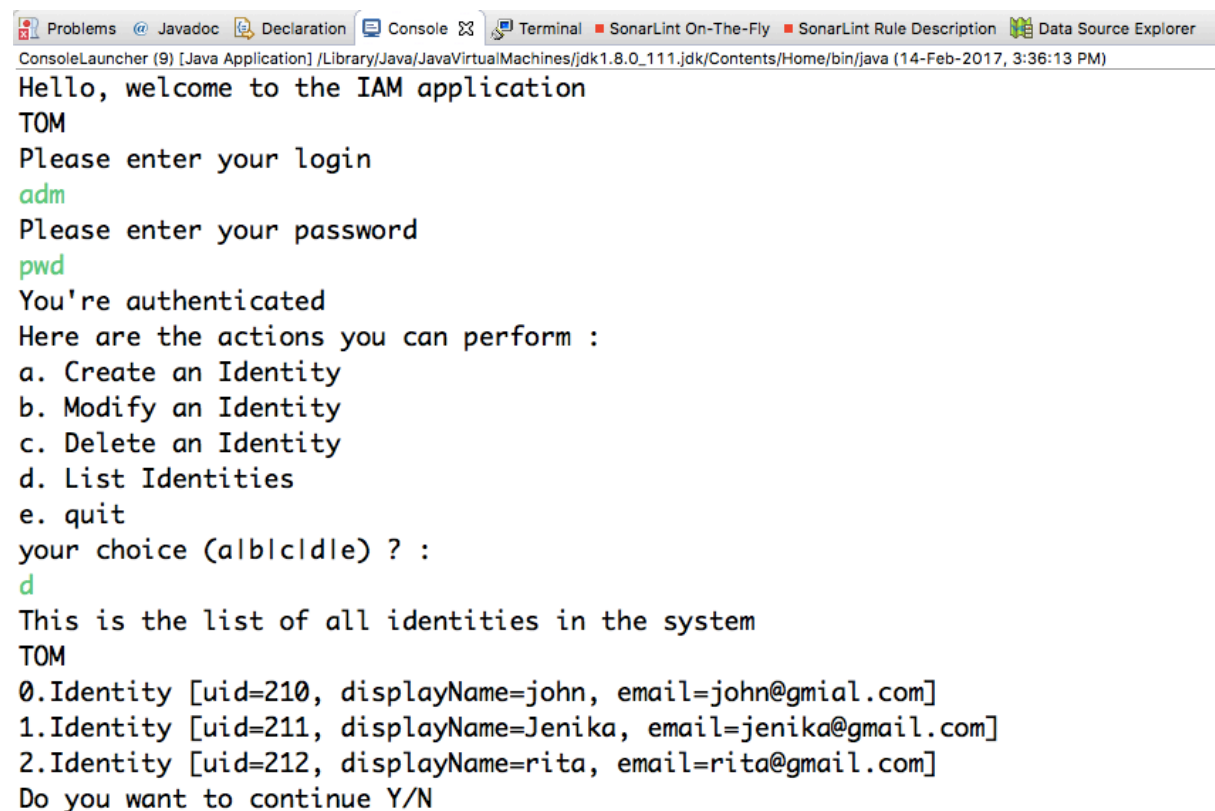
Display Name: Rita

Email: rita@gmail.com

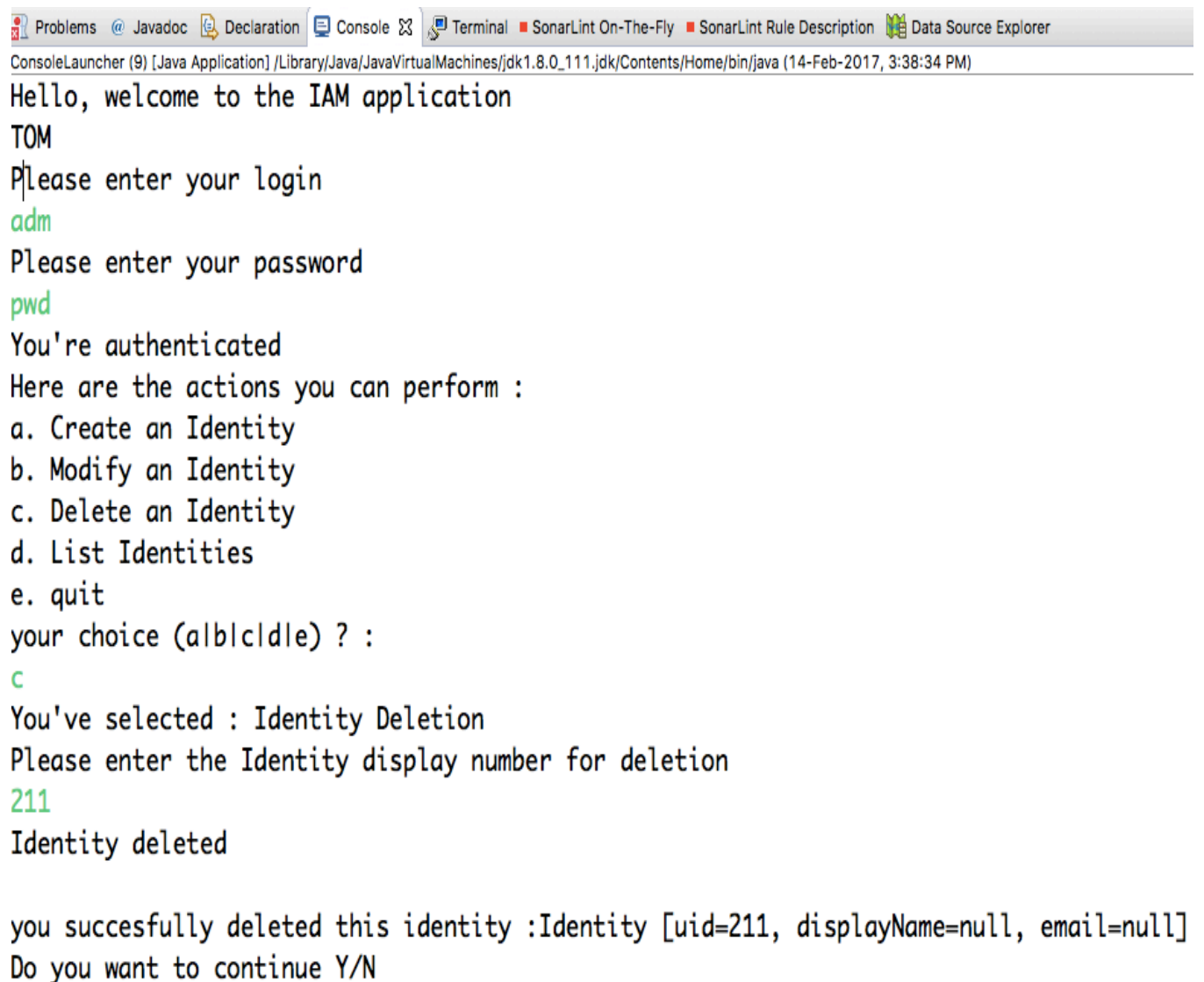


```
Problems @ Javadoc Declaration Console Terminal SonarLint On-The-Fly SonarLint Rule Description Data Source Explorer
ConsoleLauncher (9) [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_111.jdk/Contents/Home/bin/java (14-Feb-2017, 3:27:08 PM)
Hello, welcome to the IAM application
TOM
Please enter your login
adm
Please enter your password
pwd
You're authenticated
Here are the actions you can perform :
a. Create an Identity
b. Modify an Identity
c. Delete an Identity
d. List Identities
e. quit
your choice (a|b|c|d|e) ? :
a
You've selected : Identity Creation
Please enter the Identity display name
rita
Please enter the Identity email
rita@gmail.com
you succesfully created this identity :Identity [uid=null, displayName=rita, email=rita@gmail.com]
Do you want to continue Y/N
```

LIST OF IDENTITIES:



```
Problems Javadoc Declaration Console Terminal SonarLint On-The-Fly SonarLint Rule Description Data Source Explorer
ConsoleLauncher (9) [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_111.jdk/Contents/Home/bin/java (14-Feb-2017, 3:36:13 PM)
Hello, welcome to the IAM application
TOM
Please enter your login
adm
Please enter your password
pwd
You're authenticated
Here are the actions you can perform :
a. Create an Identity
b. Modify an Identity
c. Delete an Identity
d. List Identities
e. quit
your choice (a|b|c|d|e) ? :
d
This is the list of all identities in the system
TOM
0.Identity [uid=210, displayName=john, email=john@gmial.com]
1.Identity [uid=211, displayName=Jenika, email=jenika@gmail.com]
2.Identity [uid=212, displayName=rita, email=rita@gmail.com]
Do you want to continue Y/N
```

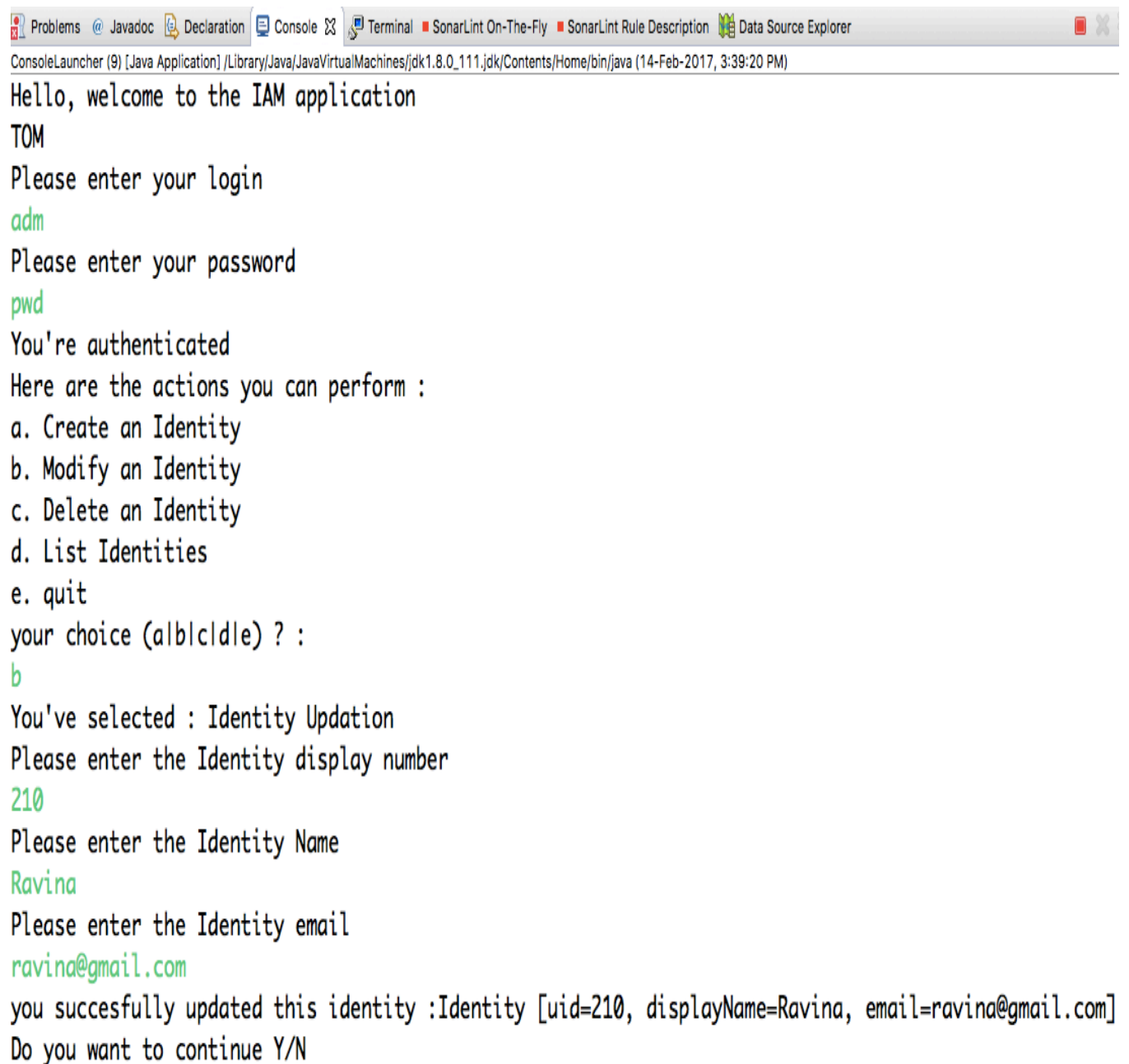
DELETE IDENTITY:**UID : 211**


```

Problems  @ Javadoc  Declaration  Console  Terminal  SonarLint On-The-Fly  SonarLint Rule Description  Data Source Explorer
ConsoleLauncher (9) [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_111.jdk/Contents/Home/bin/java (14-Feb-2017, 3:38:34 PM)
Hello, welcome to the IAM application
TOM
Please enter your login
adm
Please enter your password
pwd
You're authenticated
Here are the actions you can perform :
a. Create an Identity
b. Modify an Identity
c. Delete an Identity
d. List Identities
e. quit
your choice (a|b|c|d|e) ? :
c
You've selected : Identity Deletion
Please enter the Identity display number for deletion
211
Identity deleted

you succesfully deleted this identity :Identity [uid=211, displayName=null, email=null]
Do you want to continue Y/N

```

UPDATE IDENTITY:**UID: 210**


```

Problems  @ Javadoc  Declaration  Console  Terminal  SonarLint On-The-Fly  SonarLint Rule Description  Data Source Explorer
ConsoleLauncher (9) [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_111.jdk/Contents/Home/bin/java (14-Feb-2017, 3:39:20 PM)
Hello, welcome to the IAM application
TOM
Please enter your login
adm
Please enter your password
pwd
You're authenticated
Here are the actions you can perform :
a. Create an Identity
b. Modify an Identity
c. Delete an Identity
d. List Identities
e. quit
your choice (a|b|c|d|e) ? :
b
You've selected : Identity Updation
Please enter the Identity display number
210
Please enter the Identity Name
Ravina
Please enter the Identity email
ravina@gmail.com
you succesfully updated this identity :Identity [uid=210, displayName=Ravina, email=ravina@gmail.com]
Do you want to continue Y/N

```

Bibliography

- https://github.com/thomasbroussard/2016s1_fundamental
- <https://www.stackoverflow.com>
- <https://docs.oracle.com/javase/7/docs/api/>