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1	**Module Code & Title**	**YH7 30019 WEB SOFTWARE ENGINEERING**
2	**Course**	**MSC IN SOFTWARE ENGINEERING**
3	**Name of Lecturer**	**Ms. FARHANA BINTI MOHAMAD YAAKOB**
4	**Submission Date**	**15th JANUARY 2016**

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Web-Based Application

FTMS Global
Established since 1986 COLLEGE

Web-Based Application Report

Submitted by

AMIR ANSARI (1540746)

Submitted in accordance with the requirements for the degree

Of

MSC IN SOFTWARE ENGINNERING

Under the guidance of
Ms. Farhana Binti Mohamad Yaakob
Department of School of Computing

SEPTEMBER– 2015

CERTIFICATE

This is certifying that Mr. Amir Ansari, M.Sc in Software Engineering student of FTMS GLOBAL ACADAMY has submitted project under my guidance.

Ms. Farhana Binti Mohamad Yaakob
Department of School of Computing

ACKNOWLEDGEMENT

After having completed my project report, there remains only the pleasant task of acknowledging the help I received in writing my reports. I really feel an immense pleasure to acknowledge all those people who had constantly support me during the project making & helped me a lot in writing my project report. It’s almost certain that without their valuable & timely suggestions, it would have taken me years to complete.

DECLARATION BY CANDIDATES

I hereby declare that the work entitled "**Web-Based Application"** is an authentic work carried out by me at **"FTMS GLOBAL ACADAMY"** under the guidance of Ms. Farhana Binti Mohamad Yaakob, for the fulfillment for the award of the "Msc in Software Engineering" and this has not been submitted anywhere else for the award of any other degree.

CONTENTS

1.0 Introduction:

Information is one of the most valuable things of the current information society. Fast access to needed information is critical in business at the present time. Companies have to spend huge amount of money for transferring information using various ways for communication. Communication can be done in numerous ways; the way depends on the distance between the sender and the receiver of the information also each way of communication has its own cost. Two persons close to each other communicate by their own voice or by exchange of some storage medium.

When the information has to be passed to a longer distance, there are multiple options for it, as we can pass information using postal system, telephones, e-mails, broadcasting etc**.** Generally we use telephones, letters & E-Mails only, from these postal system is not so reliable and too slow, so use of postal system is decreasing, telephones are the easiest one, but cannot be used for large amount of data and cost a lot, and the last the E-Mail, this is cheap, reliable and also very fast but it is not more secure because administrator cannot access individual email and to send an email to individual employee because it will take much time and also will be difficult to get response from the employees. This "**Web-based application"** will solve all the problem and will provide the facilities both administrator and employees. Employee can access the files easily which are sent by another employee and administrator can also access and can give some information to the employee using this portal. This is also good for security purpose because only authorized employees can access these file and also can send some data from one employee to another employee. There are two sections in this portal first one which is important part of the web portal is "**Administrator's Account"** and another one is **"Employees' Account"** both are dependent with each other and provide different methods and accessibility.

1.1 Aim:

The goal of this project is to provide the security of the companies' data because most of the hackers want to access companies' data and sell to another company so this web-based application will provide a secure web application where one employee can share any files with the another employees who are working for the same company but in different branches or country. Employees can access these files within a second and can give their feedback on this portal. This web portal reduce the time to access the email or by phone because all the files will be on the server and whatever the requirements they can download or can search a file with specific name. This portal is also beneficial for the administrator because there is no need to send information individually they can upload any file on this server and employees can access it easily.

1.2 Problem Statement: Email is a good source for sending and receiving data from one client to another client and it is also secure but it is only good for a small organization and they can share some files easily using email system but for a big organization it is not good because at one time many employees can send the files which will be impossible for administrator or individual employee to access these files but this web portal will help to reduce this problem because all the files will be at one place on the server and it can be accessed by authorized employees.

1.3 Objective: The main objective of the project is to develop a **"Web-based portal"** which provides more security to sending and receiving files from one employee to another employee quickly who are working different branch in the same company. The objective was not built in a day or two but it was a thoroughly planned idea that was really the need of hour. This type of web site is developed for the those companies which have many branches in the same country or different country and the employees want to share some data with another employees without accessing the third party. They can send the data easily using this portal because only authorized employees can access this portal which is recruited by administrator. The basic idea behind the project is to reduce time and money for sending files by courier or any other methods. The portal has also beneficial economically. Although, developing this portal is quite expensive ones but it will be a one-time investment and portal can offer to the customers, the money will worth to spend. Further it saves money from several quarters like less number of workers, no official stationary at all etc.

1.4 Feasibility: This portal shall feasible from many ways:

Response Time: The system has quick data access so the response lime is very less.

Data Integrity: This portal shall have a centralized data which will be accurate.

Reliability: A system is reliable if it fulfills requirements and recognizes and prevents errors. This project is reliable for this way.

Communicativeness: This system will be accessible through Internet.

Environment Factor: The portal will save paper because of data files stores on hardware. This one decreases air pollution.

Compatibility: As the project will be accessible through Internet, so it will be made to compatible with the standard hardware and software.

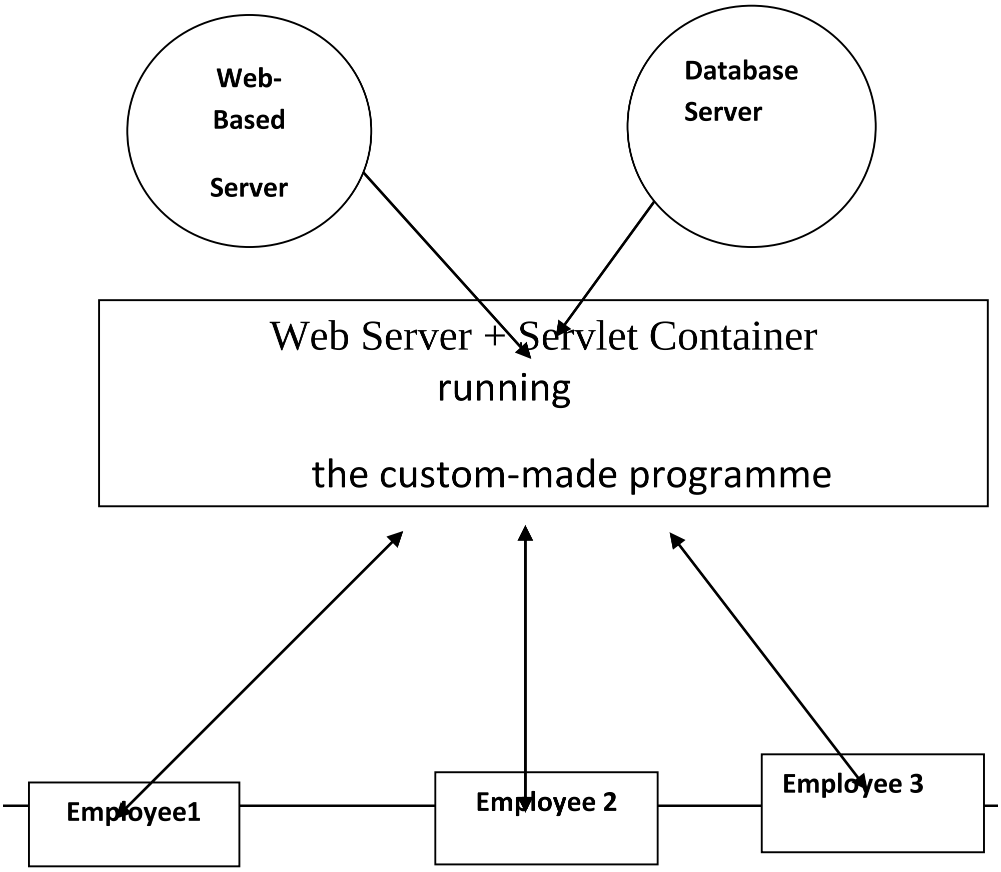
Social Objective: In today's busy and last world where there is always a deficiency of time, this portal saves the time and efforts to sending file and accessing file in the system.

User-Friendly: The portal will make to be interactive and user-friendly. Employee with least knowledge or no knowledge at all about the portal can send files.

Security: The portal is secure because for new employee the admin will insert the details of the that employee after that admin will give an id and whenever employee wants to access account then he has to use this id and when an employee will send any file then this file will go the server including ip address.

1.5 Scope: This web portal has very big scope because it only one time investment after that employees and admin can work together for the same company and does not matter where they are working in a same company branch or different branch. This web portal also helpful those employees who are fresher because they can contact with their senior and ask them to send the file whatever they need and also discuss anything. This web-project will join all the companies together and will work like same places it will reduce the distance between the branches of the company.

*** PICTORIAL REPRESENTATION OF ARCHITECTURE***



1.6 Over of Resources Available: This web project is the combination of many technologies some are client side and some are server side which helps to develop this project. This project has to be quite flexible in terms of requirements needed. It should use the existing machines and must not have any special requirement. The requirements are as follows:

1.6.1 Software Requirements:

Java Development kit (JDK) -> is a tool which is used to development the JAVA SE, JAVA ME, or JAVA program in a system etc.

Java Runtime Environment (JRE) -> this application is used to run the java program on a system not for development. JDK is important for development so for this project both Software needs. This project will be required JDK 1.7 and JRE 7 and also it depends on the tomcat server.

Eclipse: This software is used to implement the JAVA, JSP or any other programming languages. Web application eclipse IDE for Java EE Developers will be needed because this is a web application. Eclipse Mars.1 (4.5.1) is used to implement this project.

Tomcat: This is server which is used to deploy the code and output can be seen on the browser. Tomcat 6.0 or above version is required for this project.

MySQL: This is a database which is used to store the data about the client or another information at one place and can be accessed easily.

Web Browser: There are two web browser to see the output first one internal which is embedded with eclipse and other is external browser (Google Chrome, Firefox etc.).

1.6.2 Languages Used

The project uses the **J2EE platform** and some another technologies will be used for a little work and some will be used throughout. The following is a complete list of all technologies and their use in the project in detail:

JAVA – It is one of the most powerful Object Oriented Platform Independent Language. Java is used in most of the project in one form or another.

JSP – Java Server Pages or JSP for short is a server-side technology that takes Java language with its inherent simplicity, and uses it to create highly interactive and flexible web applications. JSP will be used in the project to create most of the web pages that interact with the user.

JavaScript – JavaScript is used for client- side scripting. It enables the web pages to have some programmatic functionality in the browser. JavaScript works with and can manipulate the HTML page in which it is embedded. JavaScript is used in the project to validate the data entered in the web pages by the user before it is send to the server.

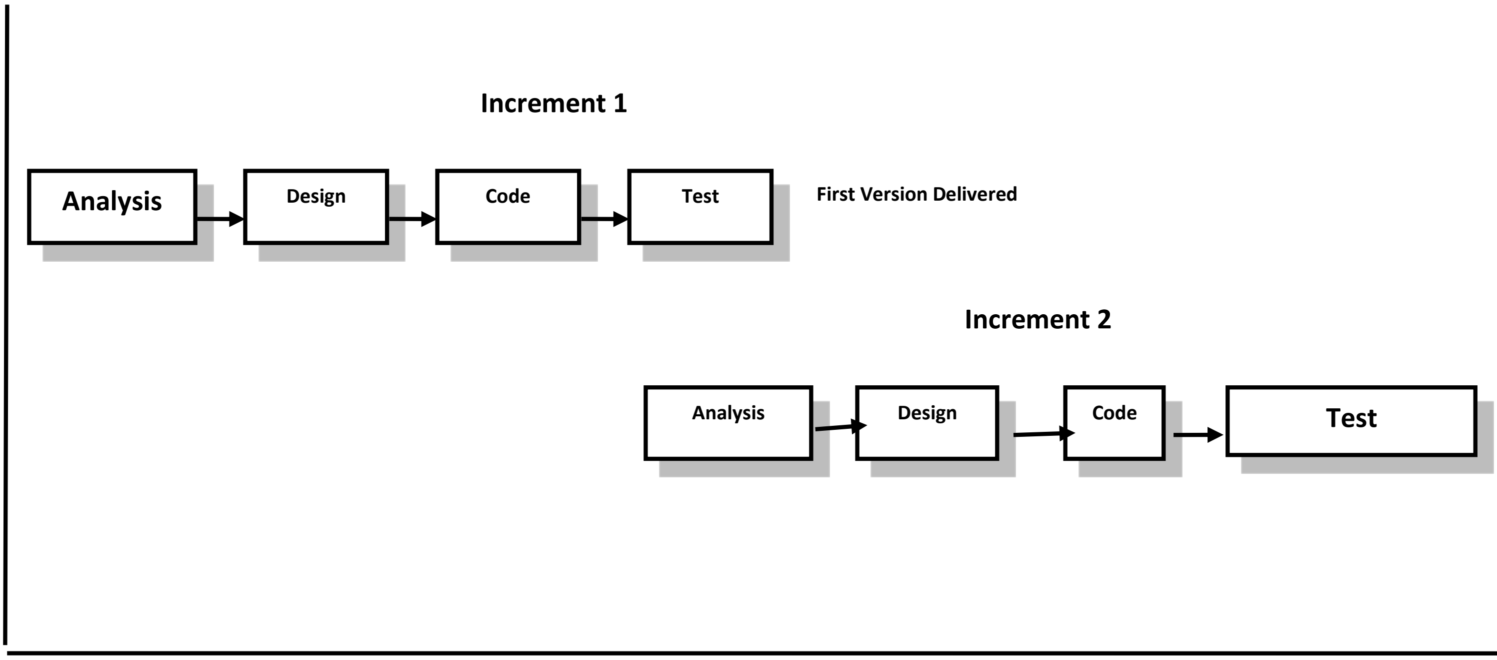
Servlet – A Servlet is a Java program that generates dynamic web content. They are written using the Java Servlet API and are managed by a Servlet container such as Tomcat. The Servlet processes the user request, builds a response, and passes it to the container which it back to the user. I have used a Servlet for making the controller in the web based system. It processes the user requests and gives appropriate response according to them.

HTML – HTML or Hyper Text markup Language is used creating web pages. HTML pages are static and do not interact with the user but can be made interactive by adding JSP elements them. Most of the web pages in the project are designed in HTML and after that JSP elements are added to them.

XML – Extensible Markup Language or XML for short has become the de facto standard for data interchange on the Internet. We have not used it directly but a lot of configuration files of Apache Tomcat Server as well as Apache James E-mail server are written in this format.

1.7 Overview of Constraints: The overall problem to develop this project and the first problem was to establish a connection between eclipse, tomcat and MySQL database and it is necessary because some version does not support to establish a connection all of the three.

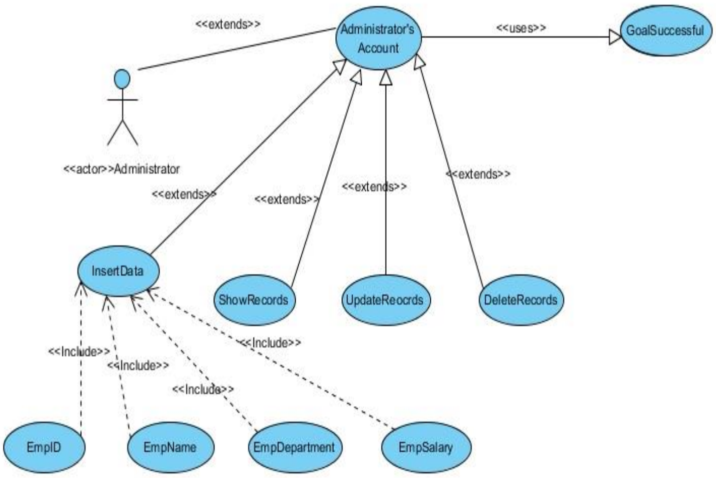
PICTORIAL REPRESENTATION OF SOFTWARE ENGINEERING PARADIGM



2.0 Theoretical Background:

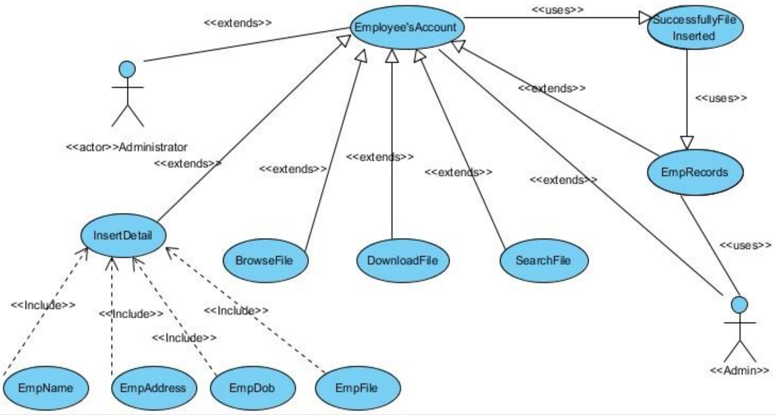
This web portal is server side but in this portal client side language also used so output can be seen on the web browser in html or text format which is easily accessed by employees. This web project is developed only the demand of the company because companies want to share some data with all the employees who are working in all over the world at one time and also want to increased communication between two employees who are working different branch of the same company. This project is also made learning purpose because one employee can share his thought with another employee and learn from with each other and it is especially good for fresher and they can get experience from his senior.This web portal will increase the productivity of the company. There are two parts of this project first one is administrator and second one is employee.

Administrator: Administrator is very important part of this web project because only this department will recruit the employee and will provide the unique id to the employee to access the companies' profile. Administrator has account and only authorized admin can access this account after that he can enter in the companies' profile where he can insert the data of the employees. In administrator's account there are many option also available like update, show and delete record of the employees. If the employees want to change some data then he has to concern with admin because he is the only one person who can change the details. Administrator can also access all the employees' details at one place at one time and if admin fire any employee then he will delete the records of that particular employee.

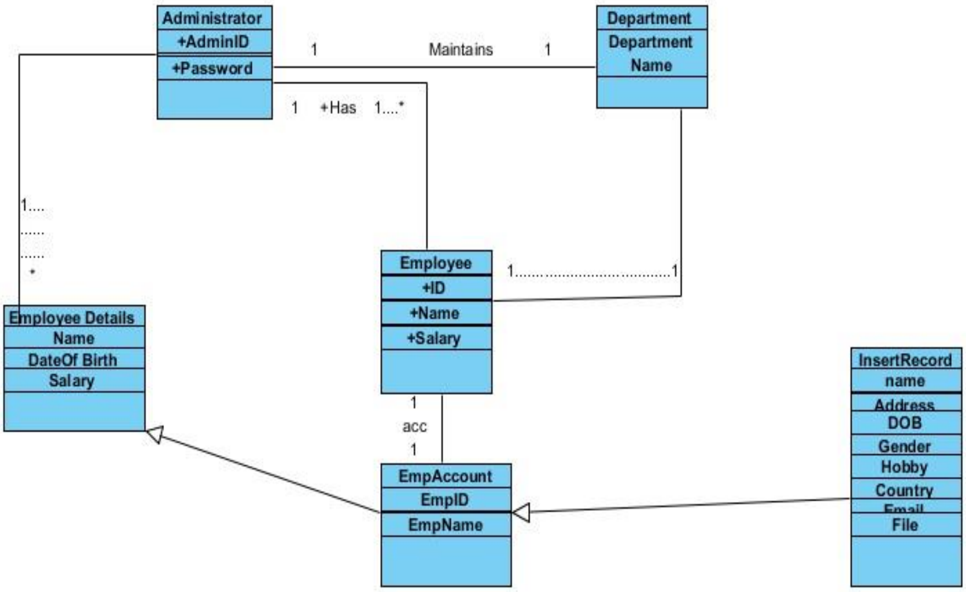


Use case diagram   Administrator 'Account

Employees: This is another account which can be accessed by admin as well employee. This account can be accessed by only authorized employees who have valid id and which is provided by the administrator. Employees cannot share this id with another one for security purpose. Every employees have their own id and using this id they can enter in the companies' employee's account and where they can upload, download, search and browse file which is sending by another employee. When any employee will enter this account a message will show on the screen that from which id this account is accessed.



Use case Diagram   Employees' Account



Class Diagram of "Web-Based Application"

3.0 Implementation Project: Now, the implementation of the project using above computer languages and software.

3.1 Home Page: This coding of home page where Employees and admin will be shown and it will be accessed which they have permission.

Index.jsp :

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-15"

    pageEncoding="ISO-8859-15"%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-15">

<title>WebInfoTech Company</title>

</head>

<body background="images/first.jpg">
```

```
<center>

<table height=400 >

<br><br><br>

<center><font color=cyan size=10> WEB TECHNOLOGY COMPANY </font></center>

<br><br><br><br><br>

<tr><td><a href="admin.jsp"><img src="images/admin.jpg" ></img></a></td></tr>

<tr><td><a href="emp.jsp"><img src="images/employee.jpg" ></img></a></td></tr>

</table>

</center>

</body>

</html>
```

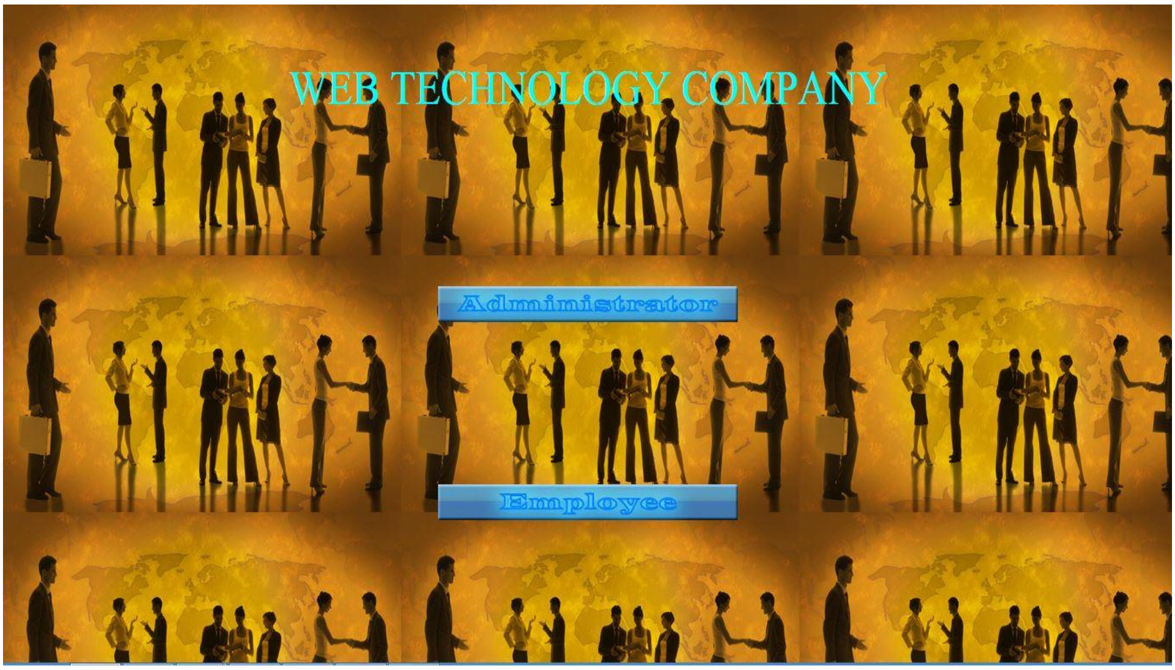


Fig 1.1 Home Page

3.2 Administrator Section: There are many parts to complete this section.

admin.jsp: This page will show only admin account which can be accessed by authorized admin.

```
%@ page language="java" contentType="text/html; charset=ISO-8859-15"

    pageEncoding="ISO-8859-15"%>
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

<title>Administration Account  </title>

<script type="text/javascript">

function aidval(){

var username = document.getElementById("aid").value;

var password = document.getElementById("pass").value;

if ( username == "softinfo@web.com" && password == "softech12"){

alert ("Login successfully");

window.location ="insertrecord.jsp"; // Redirecting to other page.

return true;

}

else{

alert("You are not valid admin");

}

}

</script>

</head>

<body bgcolor="cyan">

<center>

<form id= "form_id" method="post" name="myform">

 <a href="index.jsp"><mark> Web Technology Company</mark> </a><br>

 <table><br><br><br>

 <center><font color=blue size=10>ADMINSTRATOR ACCOUNT</font></center><br><br><br><br><br>

<tr><td><mark><font size=5>admin id</font></mark></td><td><input type="text" name="aid"
id="aid"/></td></tr>

<tr><td><mark><font size=5>password</font></mark></td><td><input type="password" name="pass"
id="pass"/></td></tr>

<tr><td><input type="button" value="Login" id="submit" onclick="aidval()"/></td></tr> </table>

 </form>
```

```
</center>

</body>

</html
```

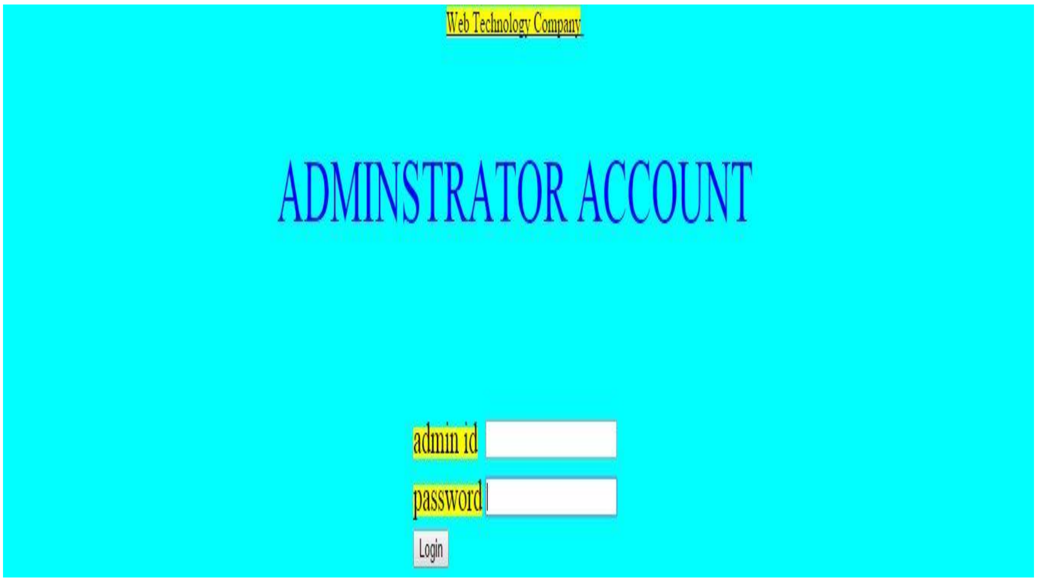
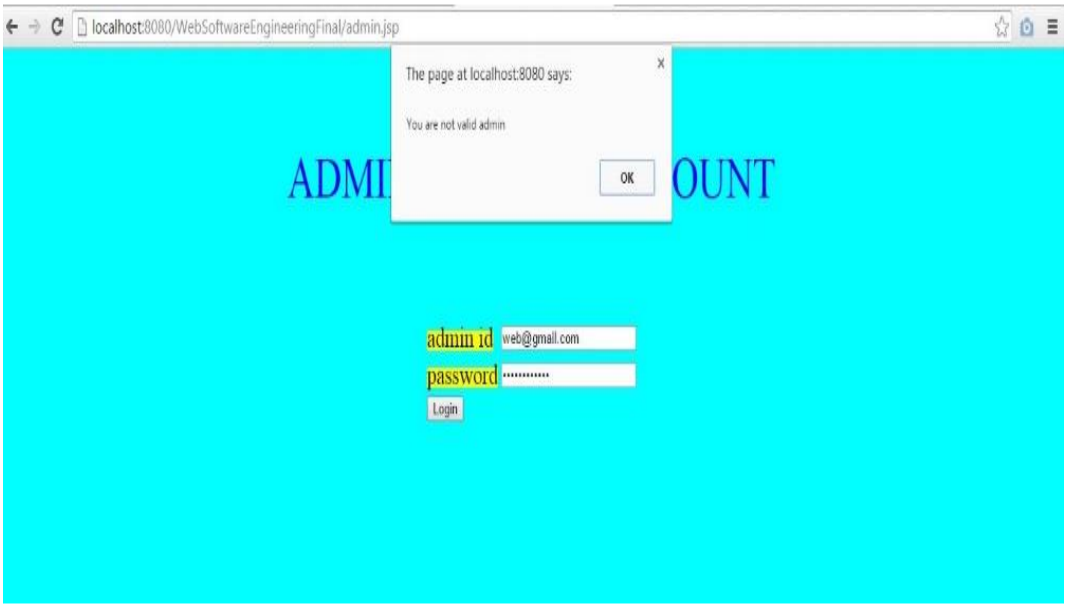


Fig 1.2 Administrator’s Account

Unauthorized Admin: When a user will try to access this account who does not have appropriate id and password then this error will show on the screen.


localhost:8080/WebSoftwareEngineeringFinal/admin.jsp

The page at localhost:8080 says:

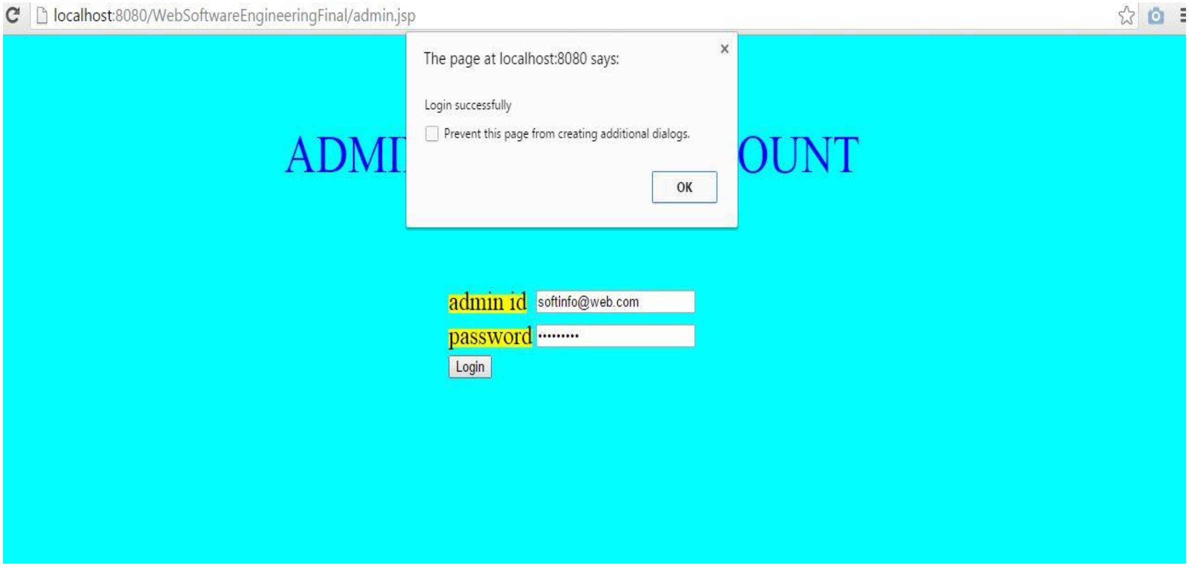
You are not valid admin

admin id web@gmail.com

password •••••••••••

Fig 1.3 Unauthorized Admin

Authorized Admin: Authorized users can access this account then again on the screen a pop up will come which will show successful login.



localhost:8080/WebSoftwareEngineeringFinal/admin.jsp

The page at localhost:8080 says:

Login successfully

□ Prevent this page from creating additional dialogs.

admin id softinfo@web.com

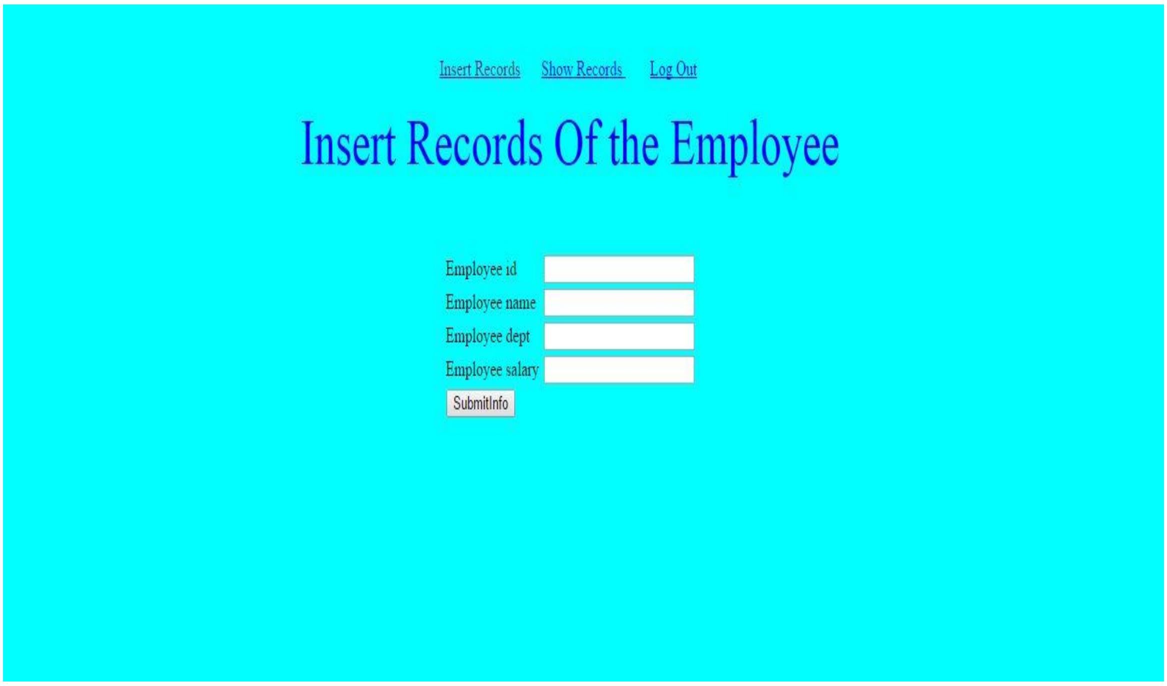
password ••••••••

Fig 1.4 Authorized Admin

insertrecord.jsp: After successful login admin can hire the new employee and can insert employees details in to the form which will store in MySQL database.

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-15"

    pageEncoding="ISO-8859-15"%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-15">

<title>Successful Admin Account </title>

</head>

<body bgcolor="cyan" >

<center>

<br><br>

<form action="successadmin" method="post">

<a href="insertrecord.jsp">Insert Records</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;
```

```
<a href="ShowServlet"> Show Records </a> &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

<a href="logout"> Log Out</a>

<br><br>

<center><font size=100 color=blue>Insert Records Of the Employee</font></center>

<table><br><br><br>

 <tr><td>Employee id</td><td><input type ="text" name="id"></td></tr>

 <tr><td>Employee name</td><td><input type ="text" name="name"></td></tr>

<tr><td>Employee dept</td><td><input type ="text" name="dept"></td></tr>

<tr><td>Employee salary</td><td><input type ="text" name="salary"></td></tr>

 <tr><td><input type="submit" value="SubmitInfo">


 </table>

        </form>

    </center>

</body>

</html>
```



Insert Records Of the Employee

Employee id	
Employee name	
Employee dept	
Employee salary	

Fig 1.5 Insert Records of the Employee

successadmin.java: This is a servlet page when insertrecord.jsp page will come on the server it will store the information into the database.

```
package admin;

import java.io.*;

import java.sql.*;

import javax.servlet.http.*;

public class successadmin extends HttpServlet

{

    @Override

    public void doPost(HttpServletRequest req,HttpServletResponse res)

    {

        try

        {

            PrintWriter pw=res.getWriter();

            pw.println("<html><body bgcolor=cyan></body></html>");

            pw.println("<br><br>");

            pw.println("<center>");

            pw.println("<a href=insertrecord.jsp>Insert 
Records</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

            pw.println("<a href=ShowServlet> Show Records </a>
&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

            pw.println("<a href=logout> Log Out</a>");

            pw.println("<center>");

            String id    = req.getParameter("id");

            String name  = req.getParameter("name");

            String dept  = req.getParameter("dept");

            String salary= req.getParameter("salary");

            Class.forName("com.mysql.jdbc.Driver");

           Connection conn = 
DriverManager.getConnection("jdbc:mysql://localhost/adminstrator","root","");

           Statement stmt = conn.createStatement();
           String sql="insert into admin1 value('"+id+"','"+name+"','"+dept+"','"+salary+"')";

           stmt.execute(sql);

           res.setContentType("text/html");

           pw.println("<br><br><br><br>");

           pw.println("<center><font color=blue size=8>Insert Records
Successfully</font></center> <a href=success.jsp><br><br><br><center><font color=cyan
size=20>Go to home Page</center></a></font>");

        }

        catch(Exception e)

                {

                 System.out.println("Error>>>"+e);



                }

           }

            }
```

DBConnection: This is a java class which will connect servlet to MySQL database and data will be directly stored into the MySQL and also data can be retrieved.

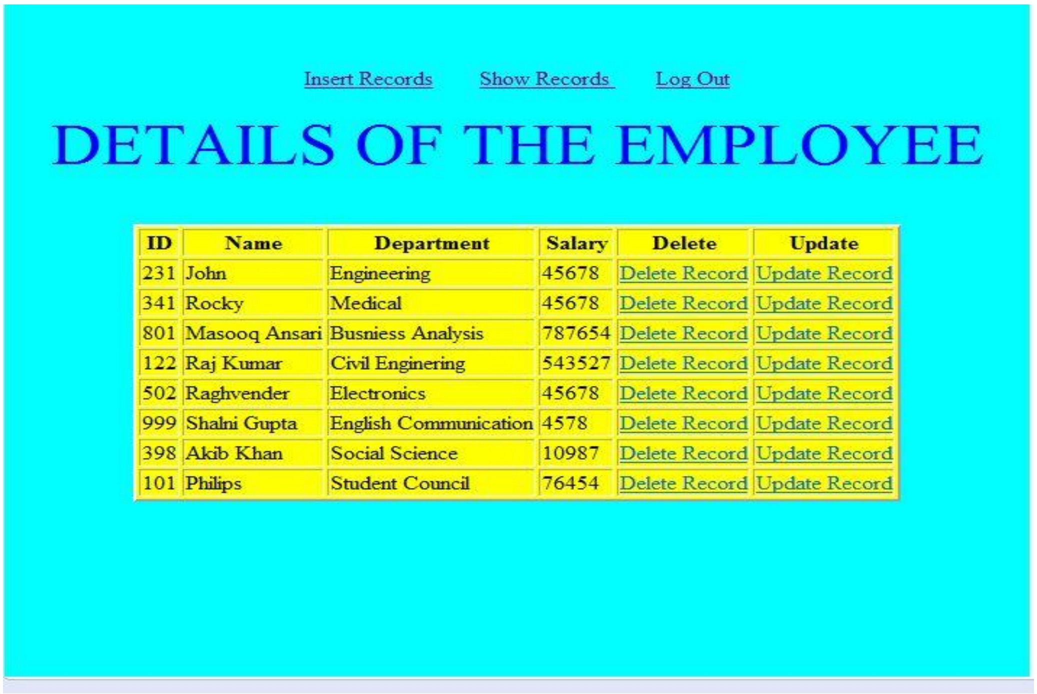
```
package admin;

import javax.swing.*;

import java.sql.*;

class DBConnection

{

public static Connection getConnection()

{

  Connection conn=null;

  try

  {

   Class.forName("com.mysql.jdbc.Driver");

   conn=DriverManager.getConnection("jdbc:mysql://localhost/adminstrator","root","");

  }

  catch(ClassNotFoundException e)
```

```
   {
   JOptionPane.showMessageDialog(null,"Connection failed  "+e);
   }
   catch(SQLException e)
   {
  System.out.println("Error <<<<<<<<>>>>>>>>>>> DBConnection "+e);
   }
   return conn;
}

public static ResultSet retrieveRecords(String sql)
{  ResultSet rs=null;
      try
      {
             Connection conn=getConnection();
             Statement stmt=conn.createStatement();
             rs=stmt.executeQuery(sql);
      }
   catch(SQLException e)
   {
   System.out.println("Error <<<<<<<<>>>>>>>>>>> DBConnection "+e);
   }
   return rs;
}

public static int executeSql(String sql)
{
    try
   {
      Connection conn=getConnection();
      Statement stmt=conn.createStatement();
      int x=stmt.executeUpdate(sql);

      return x;


   }

   catch(SQLException e)

   {

    System.out.println("Error <<<<<<<<>>>>>>>>>>> DBConnection "+e);

   }

   return 0;

}

}
```

ShowServlet.java: This servlet page will retrieve the data about the employees from MySQL database and will show on the browser in html or text form.

```
package admin;


import java.io.*;

import java.sql.ResultSet;

import javax.servlet.*;

import javax.servlet.http.*;

public class ShowServlet extends HttpServlet

{

    public void doGet(HttpServletRequest req,HttpServletResponse res)

    {

     try

     {

         PrintWriter pw=res.getWriter();

         pw.println("<html><body bgcolor=cyan></body></html>");

         pw.println("<br><br>");

         pw.println("<center>");

         pw.println("<a href=insertrecord.jsp>Insert 
Records</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");
```

```
         pw.println("<a href=ShowServlet> Show Records </a>
&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

         pw.println("<a href=logout> Log Out</a>");

         pw.println("<center>");

         pw.println("<br>");

         pw.println("<html><body><center><font color=blue size=10> DETAILS OF THE
EMPLOYEE</font></center></body></html>");

        ResultSet rs=DBConnection.retrieveRecords("select *from admin1");

        res.setContentType("text/html");

        pw.println("<br><br>");

        pw.println("<table border=2 align=center bgcolor=yellow>");

        pw.println("<tr>");

        pw.println("<th>ID</th>");

        pw.println("<th>Name</th>");

        pw.println("<th>Department</th>");

        pw.println("<th>Salary</th>");

        pw.println("<th>Delete</th>");

        pw.println("<th>Update</th>");

        pw.println("</tr>");

        while(rs.next())

        {

            pw.println("<tr>");

            pw.println("<td>"+rs.getString(1)+" </td>");

            pw.println("<td>"+rs.getString(2)+" </td>");

            pw.println("<td>"+rs.getString(3)+" </td>");

            pw.println("<td>"+rs.getString(4)+" </td>");

            pw.println("<td> <a href=DeleteServlet?id="+rs.getString(1)+">Delete
Record</a></td>");

            pw.println("<td> <a href=UpdateServlet1?id="+rs.getString(1)+">Update Record</a>
</td>");

            pw.println("</tr>");

        }
         pw.println("</table>");
     }
     catch(Exception e)
     {
         System.out.println("Error <<<<<<<<>>>>>>>>>> "+e);
     }
    }
}
```



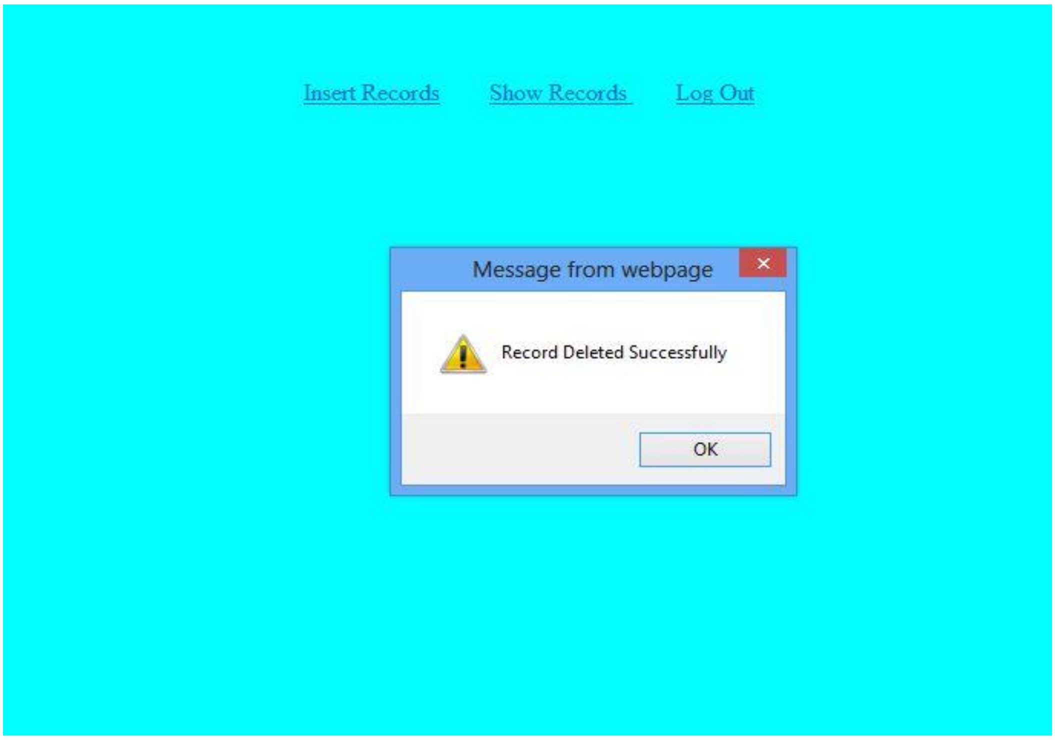
DETAILS OF THE EMPLOYEE

ID	Name	Department	Salary	Delete	Update
231	John	Engineering	45678	Delete Record	Update Record
341	Rocky	Medical	45678	Delete Record	Update Record
801	Masooq Ansari	Busniess Analysis	787654	Delete Record	Update Record
122	Raj Kumar	Civil Enginering	543527	Delete Record	Update Record
502	Raghvender	Electronics	45678	Delete Record	Update Record
999	Shalni Gupta	English Communication	4578	Delete Record	Update Record
398	Akib Khan	Social Science	10987	Delete Record	Update Record
101	Philips	Student Council	76454	Delete Record	Update Record

Fig 1.6 Details of the Employee

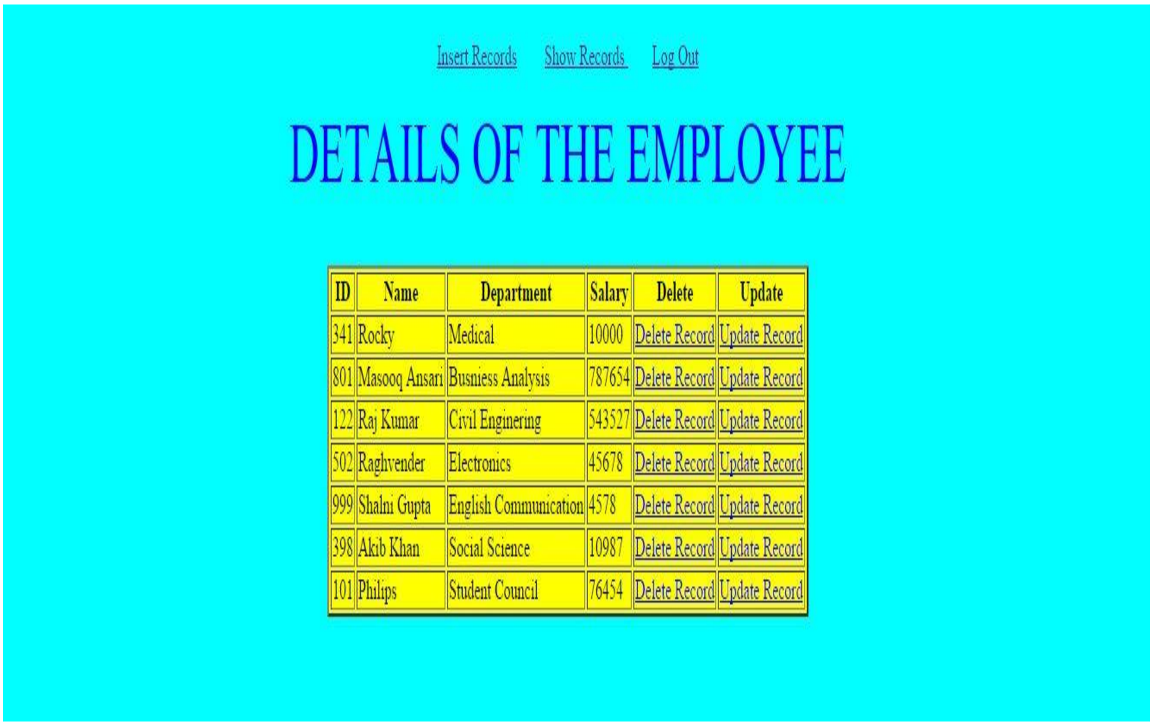
DeleteServlet.java: This servlet page will delete the record of the Employee which is not the part the company now.

```
package admin;
import java.io.*;
import java.sql.ResultSet;
import javax.servlet.*;
import javax.servlet.http.*;
public class DeleteServlet extends HttpServlet {
public void doGet(HttpServletRequest request, HttpServletResponse response)
{
  try
  {
      PrintWriter pw=response.getWriter();
      pw.println("<html><body bgcolor=cyan></body></html>");
      pw.println("<br><br>");
      pw.println("<center>");
      pw.println("<a href=insertrecord.jsp>Insert
Records</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");
      pw.println("<a href=ShowServlet> Show Records </a>
&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");
      pw.println("<a href=logout> Log Out</a>");
      pw.println("<center>");
      pw.println("<br>");
      String id = request.getParameter("id");
      if((DBConnection.executeSql("delete from admin1 where id = "+id))>0)
      {
         pw.println("<script>alert(\"Record Deleted Successfully\");</script>");
      }
      else
      {
         pw.println("<script>alert(\"Record Not found\");</script>");
      }


      pw.println("<center><font size=10 color =blue>Record Deleted
Successfully</font></center>");
  }
  catch(Exception e)
  {
       System.out.println("Error <<<<<<<<>>>>>>>>>>> "+e);
  }
 }
}
```



Record Deleted Successfully

Fig 1.7 ID 231 Name John Record deleted



DETAILS OF THE EMPLOYEE

ID	Name	Department	Salary	Delete	Update
341	Rocky	Medical	10000	Delete Record	Update Record
801	Masooq Ansari	Busniess Analysis	787654	Delete Record	Update Record
122	Raj Kumar	Civil Enginering	543527	Delete Record	Update Record
502	Raghvender	Electronics	45678	Delete Record	Update Record
999	Shalni Gupta	English Communication	4578	Delete Record	Update Record
398	Akib Khan	Social Science	10987	Delete Record	Update Record
101	Philips	Student Council	76454	Delete Record	Update Record

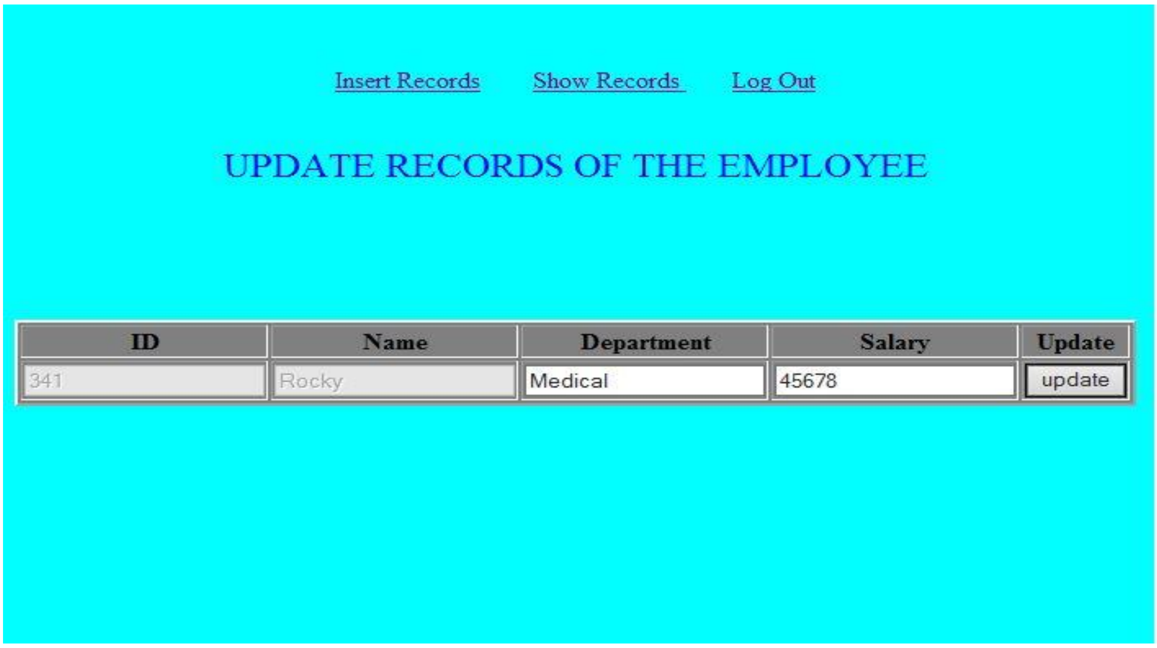
Fig 1.8 after Deletion Records

UpdateServlet1.java: This servlet class will redirect ConUpdate servlet which will update the records of the employees.

```
package admin;

import javax.servlet.*;

import javax.servlet.http.*;

import java.io.*;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import javax.swing.JOptionPane;


public class UpdateServlet1 extends HttpServlet

{


    public void doGet(HttpServletRequest req,HttpServletResponse res)

    {

        try

        {

            PrintWriter pw=res.getWriter();

           pw.println("<html><body bgcolor=cyan></body></html>");

           pw.println("<br><br>");

           pw.println("<center>");

           pw.println("<a href=insertrecord.jsp>Insert 
Records</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

           pw.println("<a href=ShowServlet> Show Records </a>
&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

           pw.println("<a href=logout> Log Out</a>");

           pw.println("<center>");
```

```
            res.setContentType("text/html");

            String id=req.getParameter("id");

            Class.forName("com.mysql.jdbc.Driver");

            Connection 
conn=DriverManager.getConnection("jdbc:mysql://localhost/adminstrator","root","");

            PreparedStatement psmt=conn.prepareStatement("select *from admin1 where id=?");

            psmt.setString(1, id);

            ResultSet rs=psmt.executeQuery();

            pw.println("<br><br>");

            pw.println("<html><body><center><font color=blue size=5>UPDATE RECORDS OF THE 
EMPLOYEE</font></center></body></html>");

            pw.println("<br><br>");

           pw.println("<table border=2 align=center bgcolor=gray>");

           pw.println("<tr>");

           pw.println("<th>ID</th>");

           pw.println("<th>Name</th>");

           pw.println("<th>Department</th>");

           pw.println("<th>Salary</th>");

           pw.println("<th>Update</th>");

           pw.println("</tr>");

            if(rs.next())

            {

             pw.println("<tr>");

             pw.println("<form action=ConUpdate method=get>");

             pw.println("<td><input type=text name=id value="+rs.getString(1)+" disabled 
=true></td>");

             pw.println("<input type=hidden name=id value="+rs.getString(1)+"></td>");

             pw.println("<td><input type=text name=name value="+rs.getString(2)+" disabled 
=true></td>");

             pw.println("<input type=hidden name=name value="+rs.getString(2)+"></td>");

             pw.println("<td><input type=text name=dept value="+rs.getString(3)+"></td>");

             pw.println("<td><input type=text name=salary value="+rs.getString(4)+"></td>");
```

```
              pw.println("<td><input type=submit  value=update></td>");


              pw.println("</form>");

              pw.println("<br><br><br>");


             // pw.println("<td><h2><a href=ShowServlet><font color=cyan size=6>Goto Show
Records</font></a></h2></center></td>");


              pw.println("</tr>");


             }

             pw.println("</tabel>");

         }

         catch(Exception e)

         {

           System.out.println("Error >>>>>>>>>>>   "+e);

         }

     } }
```



Insert Records   Show Records   Log Out

UPDATE RECORDS OF THE EMPLOYEE

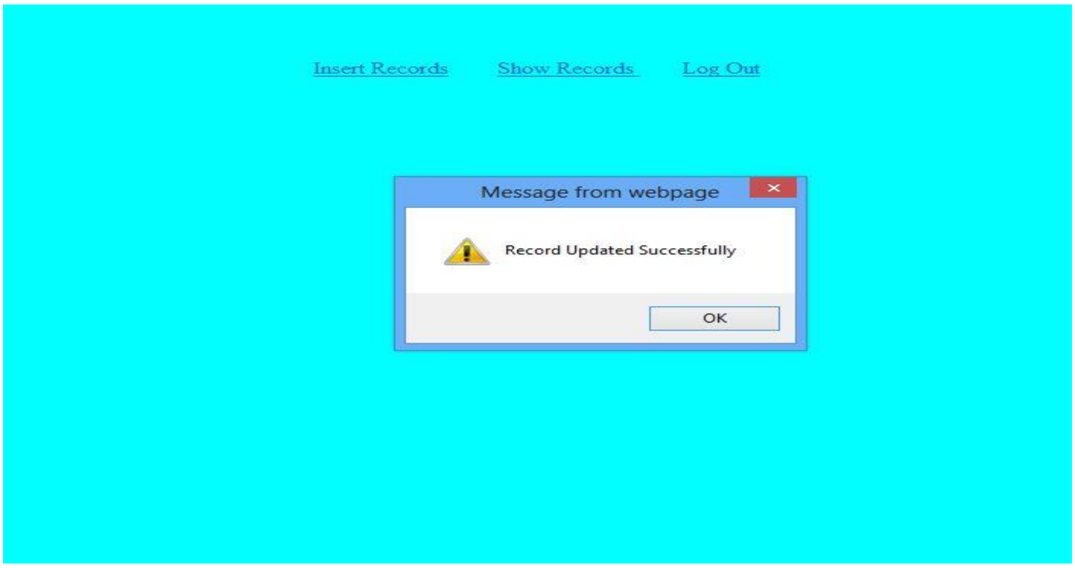
ID	Name	Department	Salary	Update
341	Rocky	Medical	45678	update

Fig 1.9 Update Records of the ID 341

ConUpdate.java: This servlet class will update the records of the ID 341

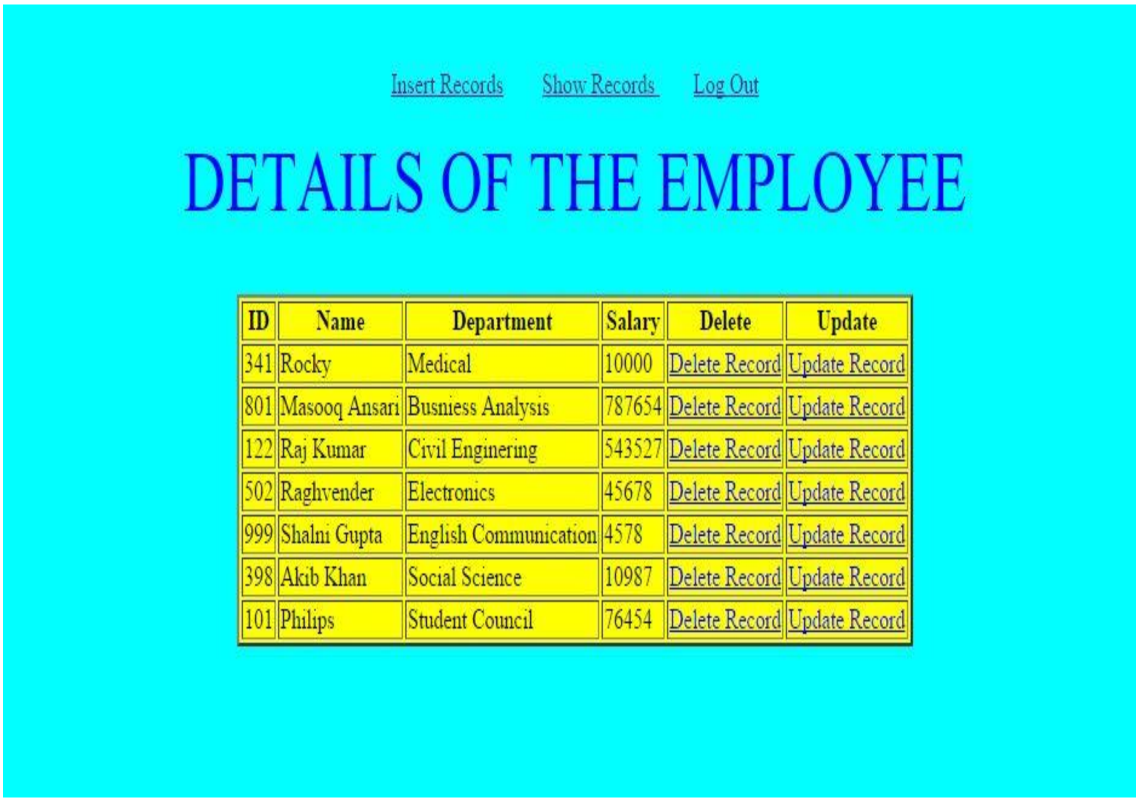
```
package admin;

import java.io.*;

import javax.servlet.*;

import javax.servlet.http.*;

import java.sql.*;

public class ConUpdate extends HttpServlet

{

  public void doGet(HttpServletRequest req,HttpServletResponse res)throws
IOException,ServletException

  {

    try

       {

       PrintWriter pw=res.getWriter();

       pw.println("<html><body bgcolor=cyan></body></html>");

         pw.println("<br><br>");

         pw.println("<center>");

         pw.println("<a href=insertrecord.jsp>Insert
Records</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

         pw.println("<a href=ShowServlet> Show Records </a>
&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

         pw.println("<a href=logout> Log Out</a>");

         pw.println("</center>");

           res.setContentType("text/html");

           String id=req.getParameter("id");

           String name = req.getParameter("name");

           String dept=req.getParameter("dept");

           String salary=req.getParameter("salary");

           String driver=getInitParameter("driver");

           String url=getInitParameter("url");

           Class.forName("com.mysql.jdbc.Driver");

Connection conn= DriverManager.getConnection("jdbc:mysql://localhost/adminstrator","root","");
```

```
            Statement stmt = conn.createStatement();

        String sql="update admin1 set dept = '"+dept+"', salary='"+salary+"' where id =  "+id;;

           if((DBConnection.executeSql(sql))>0)

            {

               pw.println("<script>alert(\"Record Updated Successfully\");</script>");

            }

            else

            {

               pw.println("<script>alert(\"Record Not found\");</script>");

            }

           pw.println("<br><br><br><br>");

           pw.println("<center><font color=blue size=20>Record Updated 
Successful</font></a></center>");

     }

        catch(Exception e)

        {

            System.out.println("Error  >>>>>>>><<<<<<<<  "+e);

        }

  }

}
```



Record Updated Successfully

Fig 1.10 Record Updated Successfully



DETAILS OF THE EMPLOYEE

ID	Name	Department	Salary	Delete	Update
341	Rocky	Medical	10000	Delete Record	Update Record
801	Masooq Ansari	Busniess Analysis	787654	Delete Record	Update Record
122	Raj Kumar	Civil Enginering	543527	Delete Record	Update Record
502	Raghvender	Electronics	45678	Delete Record	Update Record
999	Shalni Gupta	English Communication	4578	Delete Record	Update Record
398	Akib Khan	Social Science	10987	Delete Record	Update Record
101	Philips	Student Council	76454	Delete Record	Update Record

Fig 1.11 after Successfully Updated Record

Database Structure: It will show the structure and query of MySQL database.

```
 Field   |    Type           | Null    | Key  | Default | Extra |
id       |   varchar(100)  | No      | Primary Key    | NULL
name    |   varchar(100)  | YES   |      | NULL
dept     |    varchar(100)  | YES   |      | NULL
salary |    varchar(100)  | YES   |      | NULL
```

3.3 Employees Section: This is an employee's account where employees can upload, download, search and also browse the files who are authorized employees. There are many steps to complete the whole process.

emp.jsp: This is employees' account and only valid employee can access this account.

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-15"

    pageEncoding="ISO-8859-15"%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-15">

<title> Employee Account</title>

</head>

<body background="images/emp.jpg">

<a href="index.jsp"><mark> Web Technology Company</mark> </a><br>

<form action="empval" method="post">

<center><br><br>

<b><font color= green size=100> EMPLOYEE ACCOUNT </font></b><br><br><br><br></center>

<table>

<tr><td><font color="black"><mark>Enter id</mark></font></td><td><input type="text"
name="id" required placeholder="Enter  valid id"></td></tr>

<tr><td><font color="black"><mark>Enter Name</mark></font></td><td><input type="text"
name="name"  required placeholder="Enter Full Name"></td></tr>

<tr><td><input type="submit" value= "Member Login"></td></tr>

</table>

</form>

</body>

</html>
```

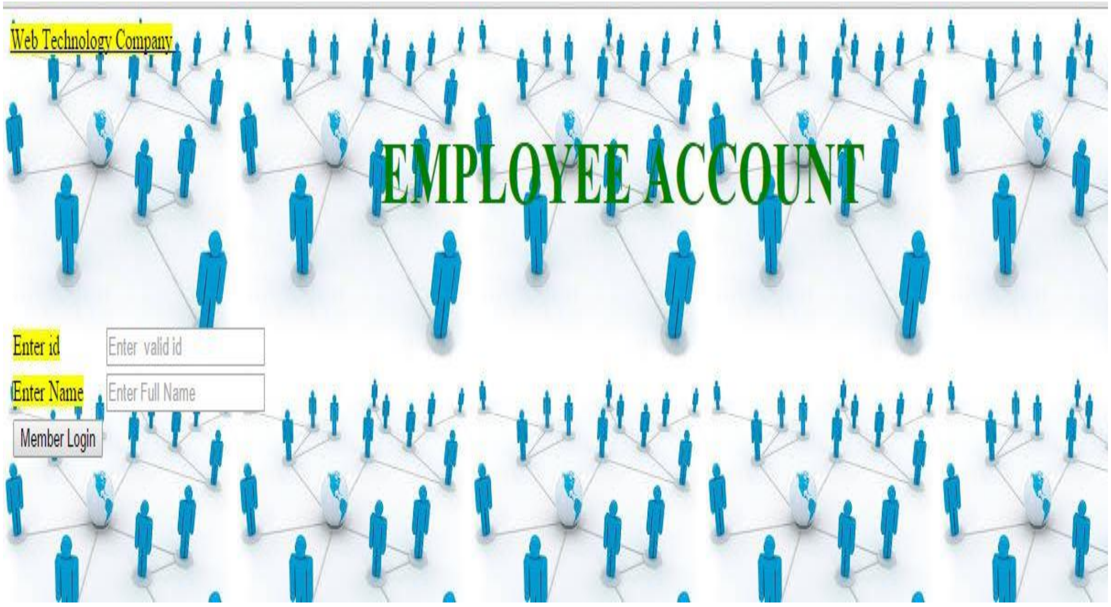
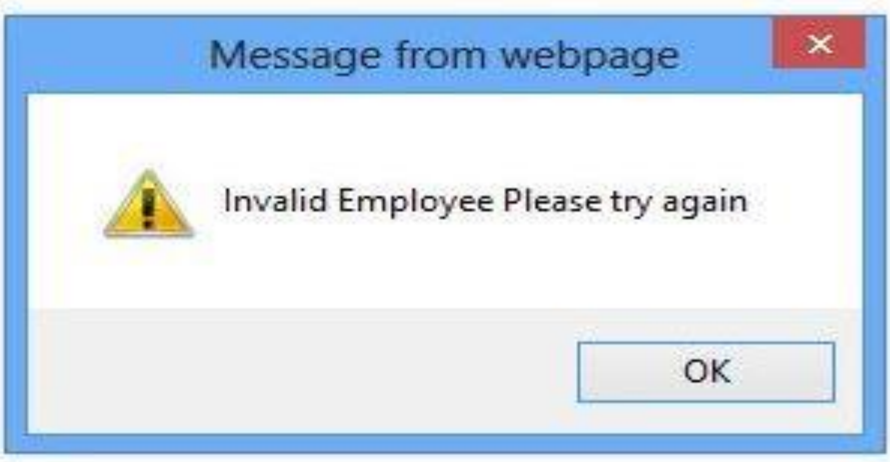


Fig 2.1 Employee’s account

empval.java: This servlet class will check that who are authorized or unauthorized employees are when unauthorized user will try to access this account an error message will show on the screen.

```
package employee;

import java.io.*;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

import javax.servlet.*;

import javax.servlet.http.*;

import javax.sql.*;


public class empval extends HttpServlet

{

public void doPost(HttpServletRequest req,HttpServletResponse res) throws IOException

{

        PrintWriter out=res.getWriter();

try
```

```
{
String empid= req.getParameter("id");
String name= req.getParameter("name");
Class.forName("com.mysql.jdbc.Driver");
Connection con = DriverManager.getConnection("jdbc:mysql://localhost/adminstrator","root","");
Statement stmt=con.createStatement();
ResultSet rs= stmt.executeQuery("Select *from admin1 where id='"+empid+"'");
      if(rs.next())
      {
      if(rs.getString("id").equals(empid))
      {
      out.println("<script>alert(\"Welcome \");</script>");
      req.setAttribute("id",empid);
    req.setAttribute("name",name);
    RequestDispatcher rd=req.getRequestDispatcher("uploadfile.jsp");
      rd.forward(req, res);
      }
      else
      {
      res.setContentType("text/html");

    out.println("<script>alert(\"Invalid Employee id Please try again\");</script>");
   // out.println("<font color=red size=2>You are not valid user try again</font>");
    RequestDispatcher rd=req.getRequestDispatcher("emp.jsp");
    rd.include(req, res);
      }
      }
}
    catch(Exception e)
      {
   System.out.println(e);
}
}}
```


Message from webpage

Invalid Employee Please try again

Fig 2.2 Unauthorized Employee

Authorized Account: if id is correct then it will redirect to next page where employees can select any options for the file.

For example: id =341 and Name=Rocky which is valid id from adminstrator’s database it will redirect uploadfile.jsp page

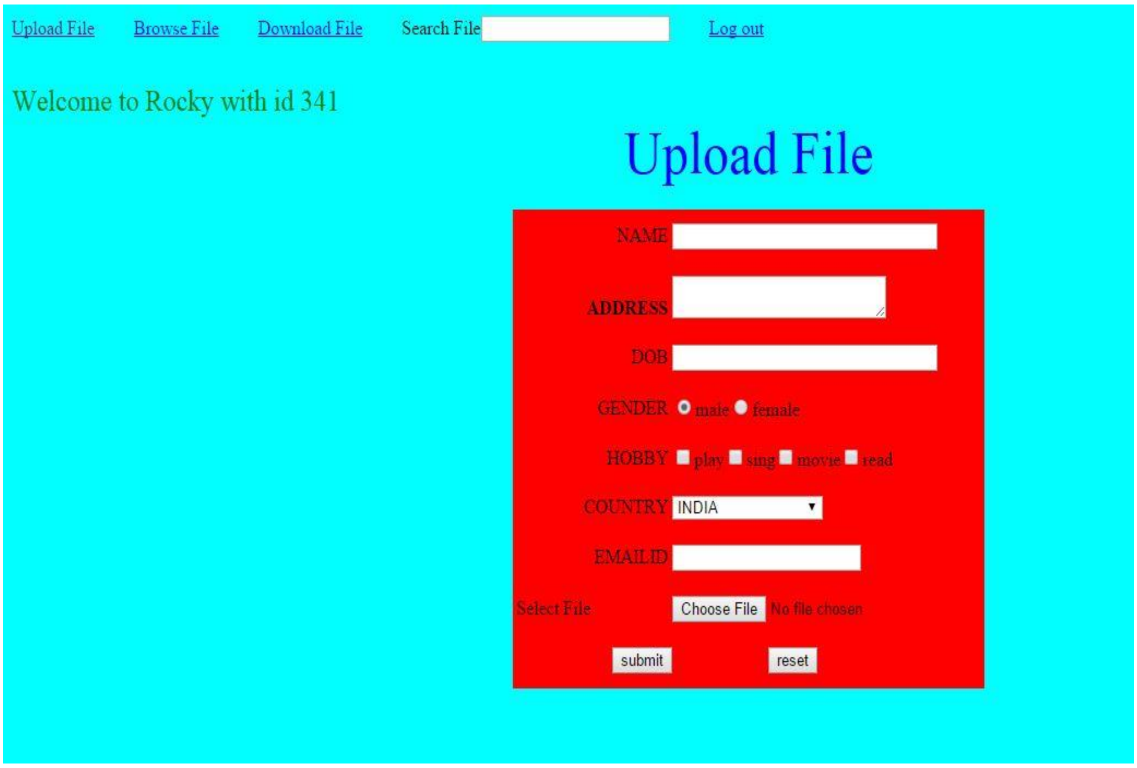
Uploadfile.jsp

```
<html>
<head>
<title>UPLOAD FILE </title>
<script type="text/javascript">
       function validate(f)
       {
            t1=f.T1.value
              s1=f.S1.value
              t2=f.T2.value
              t4=f.T4.value
              if(t1.length==0)
            {
               document.getElementById("aa").innerText="name  should not be blank"


            f.T1.focus()

            return false

      }

      if(s1.length==0)

      {

            alert("passwordshould not be blank")


            f.S1.focus()

            return false

      }

      return true

      }

</script>

</head>

<%  String name= request.getParameter("name");%>

<%  String empid = request.getParameter("id");%>

<body bgcolor="cyan">

<br>

<form action="searchfile" method="get">

<a href="uploadfile.jsp">Upload File</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

<a href="browse">Browse File</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

<a href="downloadfile">Download File</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

Search File<input type="text" name="se">&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

<a href="logoutemp">Log out</a>

</form>

<br>

<%
```

```
out.println("<html><font color=green size=5> Welcome to   "+name +"       with id  "+empid+"
</font>" );

%>

<center><font color=blue size=20>Upload File</font></center><br>

<form action="uploadfile" method="POST"   enctype="multipart/form-data" onsubmit="return
validate(this)">

<div align="center">

        <table border="0" width="32%" bordercolorlight="#00FF00" bordercolordark="#0000FF"
bgcolor="#FF0000" bordercolor="#008080" height="383">

                <tr>

                        <td width="139">

                        <p align="right">NAME</td>

                        <td><input type="text" name="T1" size="30"><label id="aa"></label></td>

                </tr>

                <tr>

                        <td width="139">

                        <p
align="right">&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&n
bsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

                        <b>ADDRESS</b></td>

                        <td><textarea rows="2" name="S1" cols="25"></textarea></td>

                </tr>

                <tr>

                        <td width="139">

                        <p align="right">DOB</td>

                        <td><input type="text" name="T2" size="30"></td>

                </tr>

                <tr>

                        <td width="139">

                        <p align="right">GENDER</td>

                        <td><input type="radio" value="male" checked name="R1">male<input
type="radio" name="R1" value="female">female</td>

                </tr>
```

```
             <tr>

                    <td width="139">

                    <p align="right">HOBBY</td>

                    <td><input type="checkbox" name="C1" value="play">play<input
type="checkbox" name="C1" value="sing">sing<input type="checkbox" name="C1"
value="movie">movie<input type="checkbox" name="C1" value="read">read</td>

             </tr>

             <tr>

                    <td width="139">

                    <p align="right">COUNTRY</td>

                    <td><select size="1" name="D1">

                    <option value="INDIA">INDIA</option>

                    <option value="USA">USA</option>

                    <option value="UK">UK</option>

                    <option value="MALAYSIA">MALAYSIA</option>

                    <option value="SINGAPORE">SINGAPORE</option>

                    <option>select your country</option>

                    </select></td>

             </tr>

             <tr>

                    <td width="139">

                    <p align="right">EMAILID</td>

                    <td><input type="text" name="T4" size="20"></td>

             </tr>

             <tr>

  <td>Select File </td>

  <td>

  <input type="file" name="FILE" >

  <td>

  </tr>

             <tr>
```

```
                    <td colspan="2">&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

                    <input type="submit" value="submit" name="B1">&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

                    <input type="reset" value="reset" name="B2">

                    </tr>

   </table>

</div>

<input type="hidden" name="h1" value=ok/>

</form>

</body>

</html>
```



Welcome to Rocky with id 341

Upload File

NAME	
ADDRESS	
DOB	
GENDER	○ male ○ female
HOBBY	□ play □ sing □ movie □ read
COUNTRY	INDIA ▾
EMAIL ID	
Select File	Choose File No file chosen

Fig 2.3 Employee’s Account (Upload File)

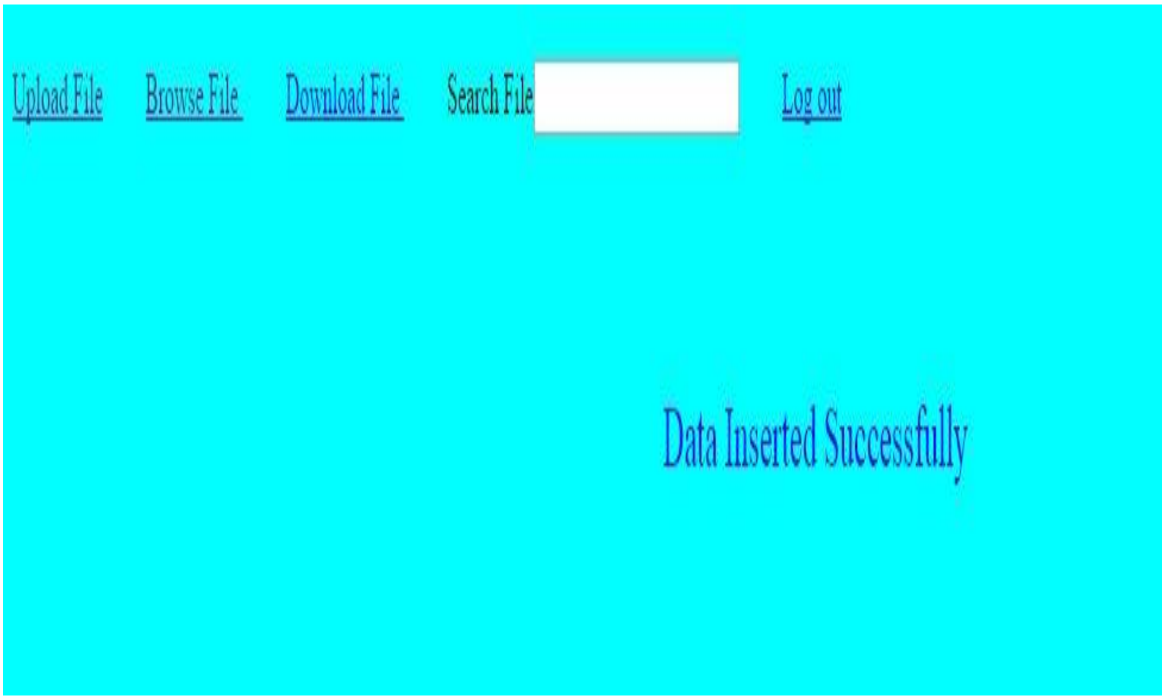
Uploadfile.java: This servlet will store the files into MySQL database which will come from uploadfile.jsp but there is also some restriction in the file size.

```
package employee;

import java.io.File;

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

import java.util.List;

import java.io.FileNotFoundException;

import java.io.FileOutputStream;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import javax.servlet.annotation.MultipartConfig;

import javax.servlet.annotation.WebServlet;

import java.net.InetAddress;

import org.apache.commons.fileupload.FileItem;

import org.apache.commons.fileupload.disk.DiskFileItemFactory;

import org.apache.commons.fileupload.servlet.ServletFileUpload;

@WebServlet("/uploadServlet")

@MultipartConfig(maxFileSize = 16177215) // upload file's size up to 16MB

public class uploadfile extends HttpServlet {

      Connection con;

       Statement st;

       ResultSet rs;

       PrintWriter out;

       String dbPath="";
       String n="";

       String a="";

       String d="";

       String g="";

       String h1="";

       String c="";

       String em="";

       String  ip ="";


       public void doPost(HttpServletRequest request, HttpServletResponse response)
                    throws ServletException, IOException {


             response.setContentType("text/html;charset=UTF-8");

             PrintWriter out = response.getWriter();


              try

              {

             InetAddress ip = InetAddress.getLocalHost();

                     out.println("<HTML>");

                     out.println("  <BODY bgcolor=cyan>");

                     System.out.println("okok2") ;

                     List<FileItem> items=new ServletFileUpload(new
DiskFileItemFactory()).parseRequest(request);

                     for(FileItem item:items)

                           { System.out.println("okok3") ;

                                 if(!item.isFormField())

                                 {

                                        System.out.println("okok4") ;

                                 System.out.println("field name:"+item.getFieldName())      ;

                                 System.out.println("field name:"+item.getName())    ;

                                 System.out.println("field size:"+item.getSize())    ;
```

```
                                System.out.println("file type:"+item.getContentType());

                                File cfile=new File(item.getName());

                                String realPath=request.~~getRealPath~~("");

                                String filePath=realPath+"/photo/Vendor/";

                                System.out.println("filePath::"+filePath);


                                File tosave=new
File(getServletContext().getRealPath("/photo/Vendor/"),cfile.getName());

                                item.write(tosave);


                                dbPath="photo/Vendor/"+cfile.getName();

                                }


                          }

                    FileItem id=(FileItem)items.get(0);

                           n=id.getString();

                          FileItem id1=(FileItem)items.get(1);

                           a=id1.getString();

                          FileItem id2=(FileItem)items.get(2);

                           d=id2.getString();

                          FileItem id3=(FileItem)items.get(3);

                          g=id3.getString();

                          FileItem id4=(FileItem)items.get(4);

                           h1=id4.getString();

                          FileItem id5=(FileItem)items.get(5);

                           c=id5.getString();

                          FileItem id6=(FileItem)items.get(6);

                           em=id6.getString();

                           FileItem id7 = (FileItem)items.get(7);

                          // ip = id7.getString();

                    Class.forName("com.mysql.jdbc.Driver");
```

```
con=DriverManager.getConnection("jdbc:mysql://localhost/company","root","");

                    st=con.createStatement();

                    System.out.println("okok7") ;

                   //String sql="insert into web
values('"+n+"','"+a+"','"+d+"','"+g+"','"+h1+"','"+c+"','"+em+"','"+dbPath+"','"+request.getRe
moteAddr()+"')"; RemoteAddress


                   String sql="insert into empdata
values('"+n+"','"+a+"','"+d+"','"+g+"','"+h1+"','"+c+"','"+em+"','"+dbPath+"','"+ip.getHostAdd
ress()+"')";// Local Host ip


                   st.execute(sql);

                    System.out.println("okok8") ;


                   out.println("<br>");

                   out.println("<form action=searchfile method=get>");

              out.println("<a href=uploadfile.jsp>Upload
File</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

              out.println("<a href=browse>Browse File
</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

              out.println("<a href=downloadfile.jsp>Download File
</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

              out.println("Search File<input type=text
name=se>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

              out.println("<a href=logoutemp>Log out </a>");

              out.println("</form>");

              out.println("<br><br><br>");

                   out.println("<center><font size=5 color=blue>Data Inserted
Successfully</font></center>");


                   out.println("  </BODY>");

                   out.println("</HTML>");

              }

              catch(Exception e)
```

```
            {
                  out.println(e);
                  out.println("data not inserted");
            }

        out.println("<HTML>");
        out.println("  <HEAD><TITLE>A Servlet</TITLE></HEAD>");
        out.println("  <BODY>");

        out.println("  </BODY>");
        out.println("</HTML>");
        out.flush();
        out.close();
    }
}
```



Data Inserted Successfully

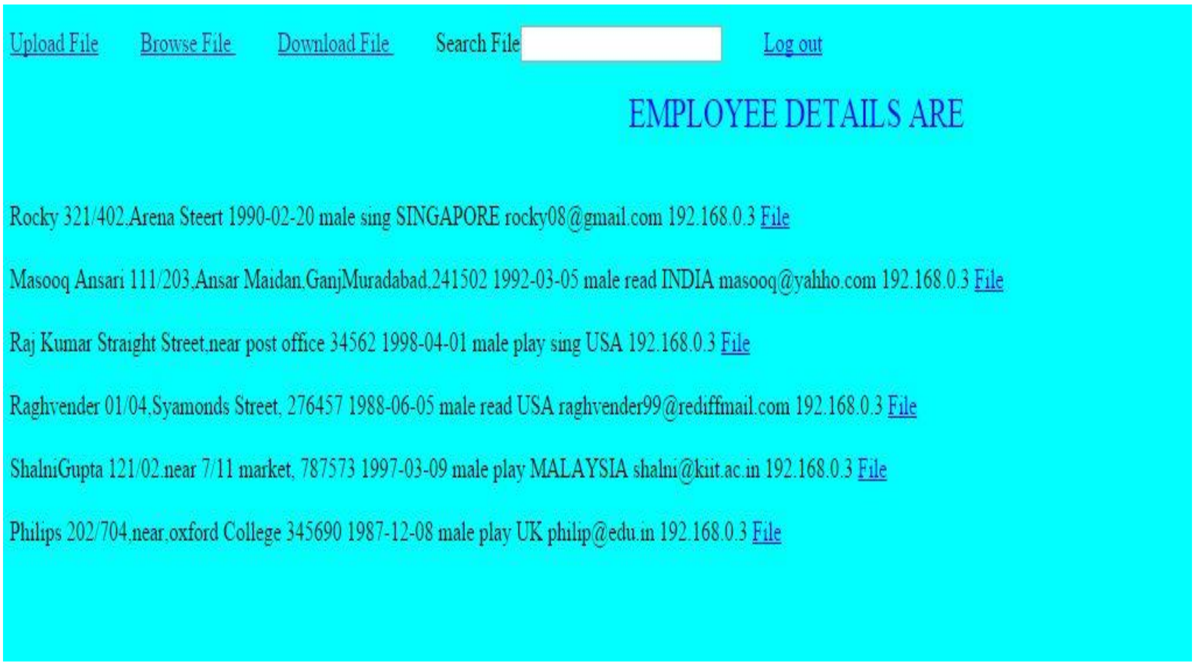
Fig 2.4 Successfully Data Inserted

Browse.java: It will show all the details of the employees and also uploaded file. This page will retrieve the value from MySQL database and will show on the browser.

```
package employee;

import java.sql.*;

import java.io.*;

import javax.servlet.*;

import javax.servlet.http.*;

import java.io.File;

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

import java.util.List;

import java.io.FileNotFoundException;

import java.io.FileOutputStream;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import org.apache.commons.fileupload.FileItem;

import org.apache.commons.fileupload.disk.DiskFileItemFactory;

import org.apache.commons.fileupload.servlet.ServletFileUpload;

public class browse extends HttpServlet{

    public void service(HttpServletRequest request, HttpServletResponse response)

     throws ServletException, IOException{

    String a = request.getParameter("T1");

    String b = request.getParameter("S1");

    String c = request.getParameter("T2");
    String d = request.getParameter("R1");

    String e = request.getParameter("C1");

    String f = request.getParameter("D1");

    String g =  request.getParameter("T4");

    String h =  request.getParameter("file");

    PrintWriter out = response.getWriter();

    Connection con=null;

    try{

      Class.forName("com.mysql.jdbc.Driver");

        con = DriverManager.getConnection("jdbc:mysql://localhost/company","root","");

        Statement st1=con.createStatement();



        ResultSet rs1 = st1.executeQuery("select * from empdata");

        out.println("<br>");

        //String imgLen="";

        out.println("<form action=searchfile method=get>");

        out.println("<a href=uploadfile.jsp>Upload
File</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("<a href=browse>Browse File
</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("<a href=downloadfile>Download File
</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("Search File<input type=text
name=se>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("<a href=logoutemp>Log out </a>");

        out.println("</form>");

        out.println("<center><font color=blue size=5>EMPLOYEE DETAILS
ARE</font></center><br><br>");



        int count =0;

        while(rs1.next()){
```

```
     out.println("<body bgcolor=cyan>");
      out.println("<html>");


      String name   = rs1.getString(1);
      String addr   = rs1.getString(2);
      String dob    = rs1.getString(3);
      String  gen   = rs1.getString(4);
      String hobb   = rs1.getString(5);
      String  coun  = rs1.getString(6);
      String email  = rs1.getString(7);
     String file   =  rs1.getString(8);
     String ip     =  rs1.getString(9);
     out.println(""+ name);
    out.println(""+addr);
    out.println(""+dob);
    out.println(""+gen);
    out.println(""+hobb);
    out.println(""+coun);
    out.println(""+email);
    out.println(""+ip);
 // out.println("<a href=file> download</a>");


 out.println("<a href='"+rs1.getString(8) +"'>File</a><br><br>");
  // out.println(""+rs1.getString(8));
  out.println("</body>");
   out.println("<html>");


  count++;
 }
 rs1.close();
con.close();
```

```
        if(count==0)

        {

        System.out.println("<tr><td colspan='4'> No File Found..!! </td></tr>");

        }

    }

    catch (Exception E){

      E.printStackTrace();

    }

  }

}
```



EMPLOYEE DETAILS ARE

Rocky 321/402.Arena Steert 1990-02-20 male sing SINGAPORE rocky08@gmail.com 192.168.0.3 File

Masooq Ansari 111/203,Ansar Maidan.GanjMuradabad,241502 1992-03-05 male read INDIA masooq@yahho.com 192.168.0.3 File

Raj Kumar Straight Street,near post office 34562 1998-04-01 male play sing USA 192.168.0.3 File

Raghvender 01/04,Syamonds Street, 276457 1988-06-05 male read USA raghvender99@rediffmail.com 192.168.0.3 File

ShalniGupta 121/02.near 7/11 market, 787573 1997-03-09 male play MALAYSIA shalni@kiit.ac.in 192.168.0.3 File

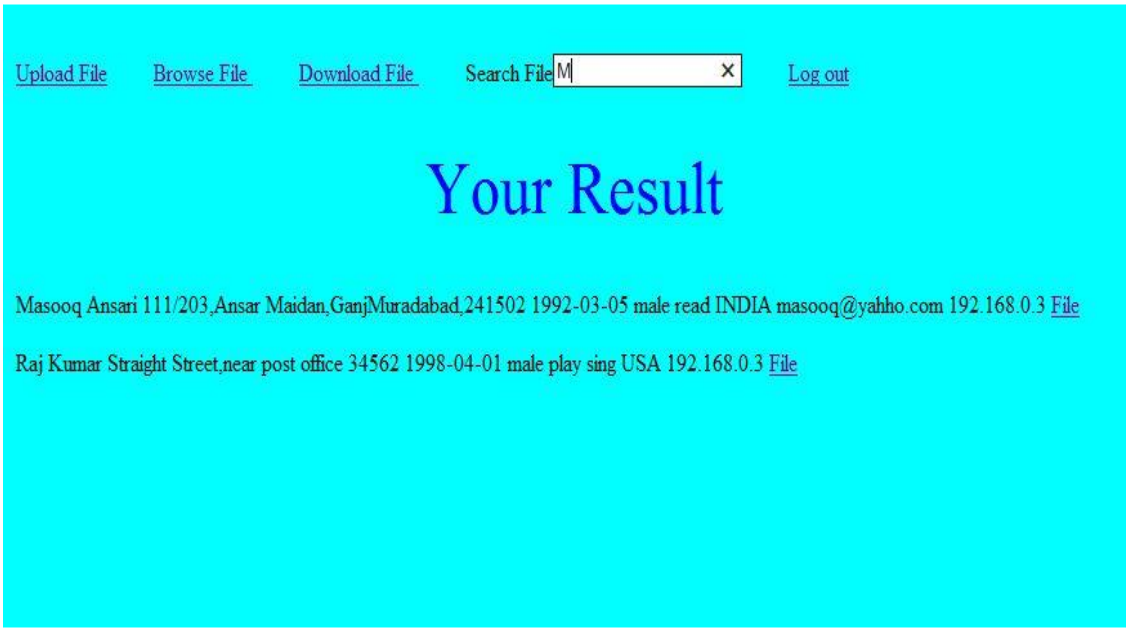
Philips 202/704,near,oxford College 345690 1987-12-08 male play UK philip@edu.in 192.168.0.3 File

Fig 2.5 Employee Details who have uploaded the files.

searchfile.java: This servlet will show all those records which will be searched by the employees.

```
package employee;

import java.sql.*;

import java.io.*;

import javax.servlet.*;

import javax.servlet.http.*;
import java.io.File;

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

import java.util.List;

import java.io.FileNotFoundException;

import java.io.FileOutputStream;

import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import org.apache.commons.fileupload.FileItem;

import org.apache.commons.fileupload.disk.DiskFileItemFactory;

import org.apache.commons.fileupload.servlet.ServletFileUpload;

@WebServlet("/DownloadFileServlet")

public class searchfile extends HttpServlet{

    public void doGet(HttpServletRequest request, HttpServletResponse response)

     throws ServletException, IOException{


    String se1 =request.getParameter("se");

    String a = request.getParameter("T1");

    String b = request.getParameter("S1");

    String c = request.getParameter("T2");

    String d = request.getParameter("R1");

    String e = request.getParameter("C1");

    String f = request.getParameter("D1");

    String g =  request.getParameter("T4");
    String h =  request.getParameter("file");

    PrintWriter out = response.getWriter();

    Connection con=null;

    try{



      Class.forName("com.mysql.jdbc.Driver");

        con = DriverManager.getConnection("jdbc:mysql://localhost/company","root","");

        Statement st1=con.createStatement();

 ResultSet rs1 = st1.executeQuery("select * from empdata where Name LIKE '" + "%"+ se1 + "%"
+"'");

        out.println("<br>");

        out.println("<form action=searchfile method=get>");

        out.println("<a href=uploadfile.jsp>Upload
File</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("<a href=browse>Browse File
</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("<a href=downloadfile>Download File
</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("Search File<input type=text
name=se>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("<a href=logoutemp>Log out </a>");

        out.println("</form>");

        out.println("<br>");

       out.println("<center><font color=blue size=10>Your Result</font></center><br><br>");

        int count =0;

        while(rs1.next()){

          out.println("<body bgcolor=cyan>");

          out.println("<html>");

             String name   = rs1.getString(1);

             String addr   = rs1.getString(2);

             String dob    = rs1.getString(3);

             String  gen   = rs1.getString(4);

             String hobb   = rs1.getString(5);
```

```
           String  coun  = rs1.getString(6);
           String email  = rs1.getString(7);
          String file   =  rs1.getString(8);
          String ip     =  rs1.getString(9);
         out.println(""+ name);
         out.println(""+addr);
         out.println(""+dob);
         out.println(""+gen);
         out.println(""+hobb);
         out.println(""+coun);
         out.println(""+email);
         out.println(""+ip);
       String headerKey = "Content-Disposition";
        response.setContentType("APPLICATION/OCTET-STREAM");
       out.println("<a href='"+rs1.getString(8) +"'> File </a><br><br>");
        out.println("</body>");
        out.println("<html>");
        count++;
      }
      rs1.close();
     con.close();
      if(count==0)
      {
      System.out.println("<tr><td colspan='4'> No File Found..!! </td></tr>");
      }
  }
  catch (Exception E){
    E.printStackTrace();
  }
} }
```

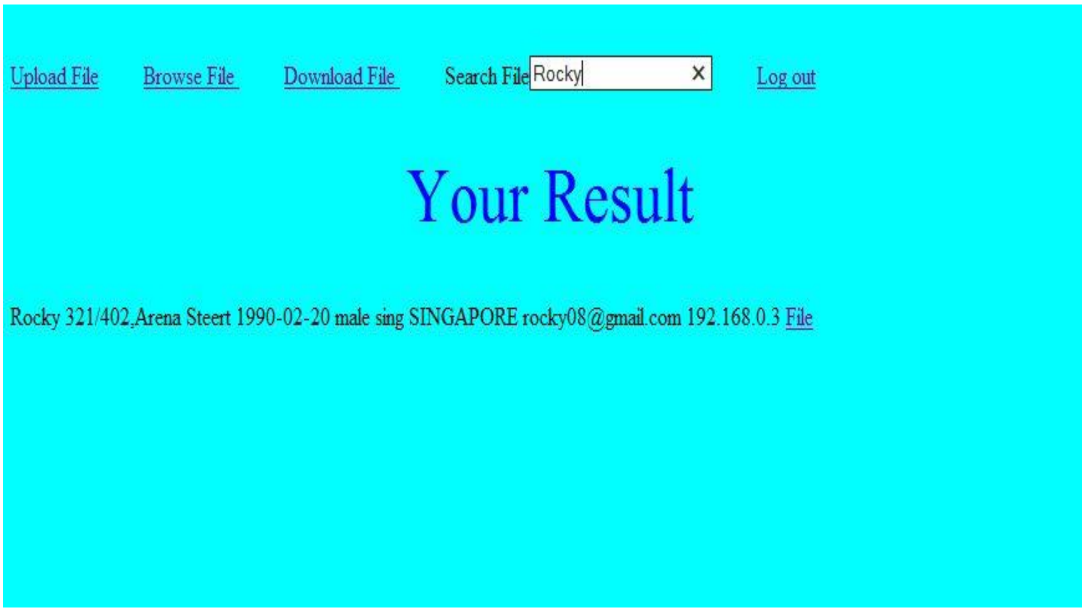


Your Result

Masooq Ansari 111/203,Ansar Maidan,GanjMuradabad,241502 1992-03-05 male read INDIA masooq@yahho.com 192.168.0.3 File

Raj Kumar Straight Street,near post office 34562 1998-04-01 male play sing USA 192.168.0.3 File

Fig 2.6 Search by character ‘M’



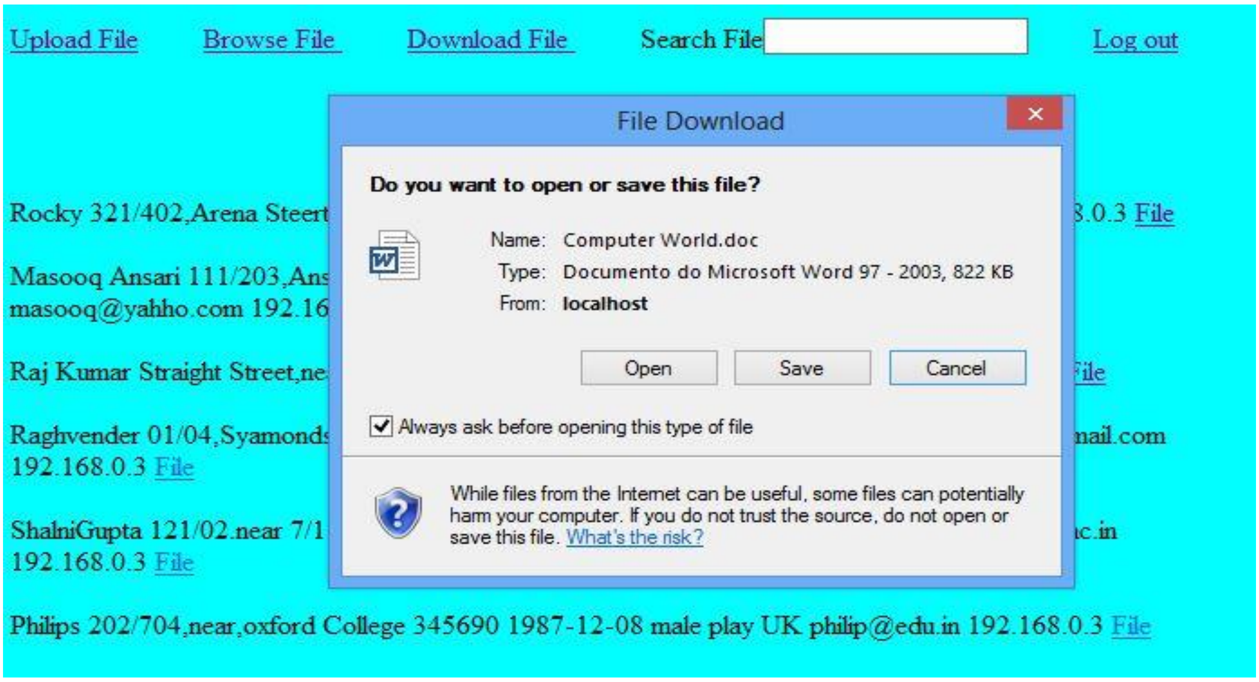
Your Result

Rocky 321/402,Arena Steert 1990-02-20 male sing SINGAPORE rocky08@gmail.com 192.168.0.3 File

Fig 2.7 Search record by Name

downloadfile.java: This servlet will choose two options first one to open a file and other is download file on the clicking of the file option.

```
package employee;

import java.sql.*;

import java.io.*;

import javax.servlet.*;
import javax.servlet.http.*;

import java.io.File;

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

import java.util.List;

import java.io.FileNotFoundException;

import java.io.FileOutputStream;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import org.apache.commons.fileupload.FileItem;

import org.apache.commons.fileupload.disk.DiskFileItemFactory;

import org.apache.commons.fileupload.servlet.ServletFileUpload;

public class downloadfile extends HttpServlet{

    public void service(HttpServletRequest request, HttpServletResponse response)

     throws ServletException, IOException{

    String a = request.getParameter("T1");

    String b = request.getParameter("S1");

    String c = request.getParameter("T2");

    String d = request.getParameter("R1");

    String e = request.getParameter("C1");

    String f = request.getParameter("D1");

    String g =  request.getParameter("T4");

    String h =  request.getParameter("file");

    PrintWriter out = response.getWriter();

    Connection con=null;
    try{

      Class.forName("com.mysql.jdbc.Driver");

        con = DriverManager.getConnection("jdbc:mysql://localhost/company","root","");

        Statement st1=con.createStatement();

        ResultSet rs1 = st1.executeQuery("select * from empdata");

        out.println("<br>");

        //String imgLen="";

        out.println("<form action=searchfile method=get>");

        out.println("<a href=uploadfile.jsp>Upload 
File</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("<a href=browse>Browse File 
</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("<a href=downloadfile.jsp>Download File 
</a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("Search File<input type=text 
name=se>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;");

        out.println("<a href=logoutemp>Log out </a>");

        out.println("</form>");

        out.println("<center><font color=blue size=5>EMPLOYEE DETAILS 
ARE</font></center><br><br>");

        int count =0;

        while(rs1.next()){

        out.println("<body bgcolor=cyan>");

         out.println("<html>");

         String name   = rs1.getString(1);

        String addr   = rs1.getString(2);

             String dob    = rs1.getString(3);

             String  gen   = rs1.getString(4);

             String hobb   = rs1.getString(5);

             String  coun  = rs1.getString(6);

             String email  = rs1.getString(7);

            String file   =  rs1.getString(8);

            String ip     =  rs1.getString(9);
            out.println(""+ name);
           out.println(""+addr);
           out.println(""+dob);
           out.println(""+gen);
           out.println(""+hobb);
           out.println(""+coun);
           out.println(""+email);
           out.println(""+ip);
        // out.println("<a href=file> download</a>");
         out.println("<a href='"+rs1.getString(8) +"'>File</a><br><br>");
         // out.println(""+rs1.getString(8));
         out.println("</body>");
          out.println("<html>");
        count++;
        }
        rs1.close();
       con.close();
        if(count==0)
        {
        System.out.println("<tr><td colspan='4'> No File Found..!! </td></tr>");
        }
    }
    catch (Exception E){
      E.printStackTrace();
    }
  }
}
```



Upload File Browse File Download File Search File Log out

Rocky 321/402,Arena Steert 3.0.3 File

Masooq Ansari 111/203,Ans masooq@yahho.com 192.16

Raj Kumar Straight Street,ne File

Raghvender 01/04,Syamonds nail.com 192.168.0.3 File

ShalniGupta 121/02.near 7/1 ac.in 192.168.0.3 File

Philips 202/704,near,oxford College 345690 1987-12-08 male play UK philip@edu.in 192.168.0.3 File

File Download

Do you want to open or save this file?

Name: Computer World.doc

Type: Documento do Microsoft Word 97 - 2003, 822 KB

From: **localhost**

Open Save Cancel

☑ Always ask before opening this type of file

While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. What's the risk?

Fig 2.8 Choose Options Open or Download

Database Structure: This is database structure to store the employees sending data.

```
| Field    | Type        | Null | Key | Default | Extra |

------------------------------------------------

 NAME | varchar(30) | YES  |     | NULL    |

ADDRESS | varchar(50) | YES  |     | NULL

 DOB     | date        | YES |     | NULL    |      |

GENDER  | char(10)    | YES |     | NULL    |

 HOBBY   | varchar(20) | YES  |     | NULL    |

COUNTRY | varchar(30) | YES  |     | NULL |

 EMAILID | varchar(30) | YES  |     | NULL    |

FILE    | longblob    | YES  |     | NULL    |      |

 IP      | varchar(30) | YES  |     | NULL    |      |
```

4.0: Framework:

The web technology has become the most important part in IT field but it is also complex issues which is security because it is not more secure and every day thousands of hacker try to hack the websites . The huge demand of the web application it is creating more load on the internet and also it is creating challenging environment between the developers. Now days, everywhere is web and every work is related to this. The popularity and demands of the web, web developers have started to add some infrastructure with the web application and this infrastructure is called framework and now it is the first choice of developer and they are trying to develop all the web application using this framework. It is configurable with multiple view technologies Ex Java Server Pages, Velocity, Tiles, iText etc (Praveen Gupta, 2010) . There are many framework available which are the building block of the components are. For example, MVC, EJB, spring, Hibernate etc. and which have different roles with web applications. EJB is heavy weight and dependent on application server but spring is light weight so it is not dependent on the server or OS library. Hibernate framework is solved all the queries which are related to database and it is associated with less number of modules but spring framework is the associated with many modules. Spring is a free and open source technology that offers a lot of functions to developers and programmers. The most important features of it are the Inversion of Control, Aspect oriented programming and Spring MVC. Spring has its own MVC framework that can be used with other frameworks or can be used alone (Ankur Bawiskar, 2012).

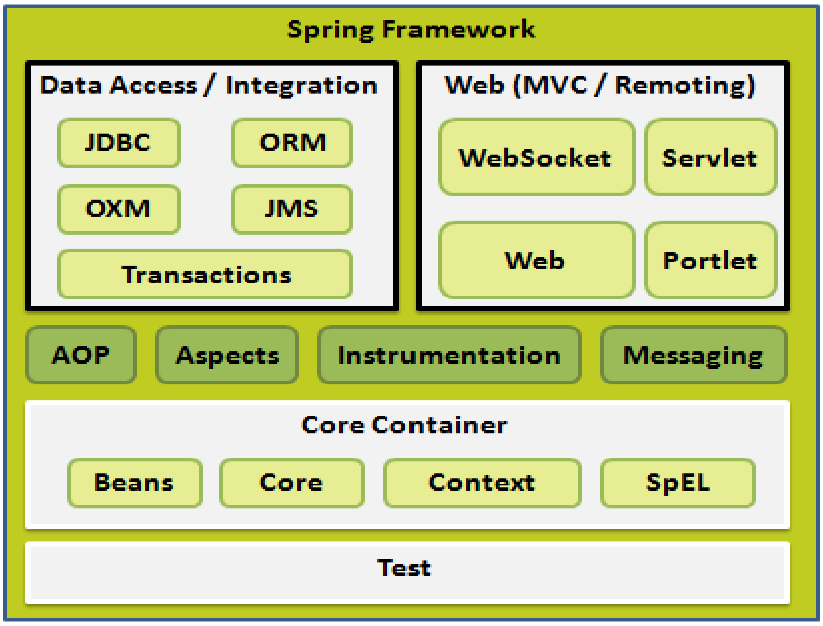


Fig 3.1 Spring Framework Module

4.1 Spring Framework and J2EE Application: xml language is used with all the J2EE application and also it has major role in spring framework because it deploys the application and saves much time. The role xml is used to store the data, which is used during the execution and create mapping.

Hello.java

```
package pk;

public interface Hello {
    public String sayHello(String s);


}
HelloImpl.java
package pk;
public class HelloImpl implements Hello {

    public String getGreeting() {
        return greeting;
    }
    public void setGreeting(String greeting) {
        this.greeting = greeting;
    }
    private String greeting;
    public HelloImpl()
    {

    }
    public HelloImpl(String a)
    {
        greeting=a;
    }
    public String sayHello(String s)
    {
        return greeting+s;
    }
}

HelloClient.java
package pk;
import org.springframework.core.io.*;
import org.springframework.beans.factory.*;
import org.springframework.beans.factory.xml.*;
import java.io.*;
public class HelloClient {

    /**
     * @param args
     */
    public static void main(String[] args) {
        try
        {
            System.out.println("please wait");
            Resource res=new ClassPathResource("applicationContext.xml");
            BeanFactory factory=new XmlBeanFactory(res);
            //HelloImpl bean1=(HelloImpl)factory.getBean("helloBean");

            Hello bean1=(Hello)factory.getBean("hellos");
            String s=bean1.sayHello(args[0]);

            System.out.println(s);
        }
        catch (Exception e1) {
            // TODO: handle exception
            System.out.println(""+e1);
        }

    }

}
```

applicationContext.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<beans
    xmlns="http://www.springframework.org/schema/beans"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:p="http://www.springframework.org/schema/p"
    xsi:schemaLocation="http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/spring-beans-2.5.xsd">

<bean id="hellos" class="pk.HelloImpl">
<property name="greeting">
<value>Good</value>
</property>
</bean>
```

From the above program it can be seen that how xml file trying to match the id from the java code when id and property name will match it will redirect the page and will display the output. Spring frame is collection of modules so there is no need to write the code simply add the jar file into lib folder of the project and it will automatically run.

4.2 Major Spring Components: Spring framework also related to MVC principals. These are used internet and desktop application.

A .Controller: This components solve all the problems which are related to business logic and make connection with the service tier.

B. Model: It is the contract between controller and the view contains the data needed to the render the view populated by the controller (Praveen Gupta, 2010).

C. View: It gives the response which comes from the model.

4.3 Core Components in the Spring Framework: There are the core components of the spring framework on which every spring application depends and these start the application deployments.

1. DispatcherServlet: When a user send a request through the browser into server then web.xml files receives the request and if it is a valid request then it forwarded to the DispatcherServlet and this the spring first front controller and it controls flow of the application.

2. Controller: this is the client side components which is created by users to handling the requests.

3. View: view is the most important components because it tells that what the users want to see but it may be different if the users use different devices like laptop, computer, smart phone etc.

4. ModelAndView: This component is created by the controller to implements the business logic of the application when a user send a request on the browser then view components try to give same output as the users want so view component make a connection with model and give response so both are associated with each other (Praveen Gupta, 2010).

5. ViewResolver: What the output should be displayed everything depends on the ModelAndView but ViewResolver create ampping logical view to actual view.

6. HandlerMapping: On the internet at one time many senders send many request after that every users get response as they want and this processes is handled by handler Mapping .It very useful when senders send some request on the server it decide for mapping incoming requests to individual Controllers.

5.0 Restful Web Service:

In Restful web services everything is resources and it's identified by its URI or global id. When many clients send many request at one time on the server then server identify every request with its id. REST stands for REpresentational State Transfer (tutorialspoint, 2015). It is web standard based architecture and uses. In the REST architecture, clients and servers exchange representations of resources using a standardized interface and protocol. These principles encourage REST applications to be simple, lightweight, and have high performance (Hatem Hamad, 2010).

GET: This methods is used to send the data from client to server but it is not secure because URI or global ID can be accessible by another users. This method is used only to send small amount of data and there is no need security.

POST: This is another methods which are frequently used with web service because it is more secure and URI or ID cannot be accessed by another clients and it is used to send a big amount of data on the server.

There are many other web services also available which have their own characteristics.

SMTP: Simple Mail Transfer Protocol (SMTP) this web service is used to establish a connection between two client on the server and they can communicate with each other for long time without any problem.

FTP: File Transfer Protocol (FTP) this web service is used to sending any file from one client to another client. This service is very important and almost every web application based on this service.

Restful web service is used to create APIs in web based application. This type of services are using with many websites because these are user friendly and users can upload something on this website. best example of the restful web service is the Facebook game, when any users open Facebook account they see many games but these all games are not developed by Facebook company external clients can also include any game with Facebook because it provide free API for the users.

5.1 Restful Services in Spring Framework: Restful services are frequently used in spring framework because in spring framework when one client send a request on the server restful web service pick up the request and try to generate a global id or url which is identified by the server application and it shows the output. Every client request has unique id so it gives the appropriate response to the users.

6.0 Conclusion:

Spring Framework is associated with many modules which create inbuilt platform for developers and it is also easy to use to developing a web project in very less time using framework. Framework has changed the thinking of the developer now they are more concerned to use framework because it saves much time and money instead of writing more code. It is also good for everyone because customers can get web application very soon in a given time but it is not possible without knowing about restful web services because it is also combination of many web service which create global id or url for every request which comes from the clients and response according to the demand.

References

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[2]Hatem Hamad, M. S. (2010). Performance Evaluation of RESTful Web Servicesfor Mobile Devices . *International Arab Journal of e-Technology*, 3-4.

[3]Praveen Gupta, M. G. (2010). Spring Web MVC Framework for rapid open source J2EE application development: a case . *International Journal of Engineering Science and Technology* , 1-2.

[4]tutorialspoint. (2015, November 23). Retrieved from http://www.tutorialspoint.com: http://www.tutorialspoint.com/restful/