Web.xml

```
<?xml version="1.0" encoding="UTF-8"?>

<web-app
        xmlns="http://xmlns.jcp.org/xml/ns/javaee"
         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
         xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app_3_1.xsd"
         version="3.1">
    <display-name>Adminstration</display-name>
    <description>Simple Adim Form</description>
    <!--this code show the admin servlet and run only first time when app run -->
   <welcome-file-list>
        <!--name of the welcome file-->
        <welcome-file>admin</welcome-file>
    </welcome-file-list>
   <!--name of admin servlet and class-->
    <servlet>
        <servlet-name>Admin</servlet-name>
        <servlet-class>com.admin.Admin</servlet-class>
       <!--> <load-on-startup>0</load-on-startup><-->
    </servlet>
    <!--mapping of admin servlet-->
    <servlet-mapping>
        <servlet-name>Admin</servlet-name>
        <url-pattern>/admin</url-pattern>
    </servlet-mapping>

    <!--=============================================================================-->
    <!--name of Student servlet and class-->
    <servlet>
        <servlet-name>StudentServlet</servlet-name>
        <servlet-class>com.admin.StudentServlet</servlet-class>
    </servlet>
    <!--mapping of Student servlet-->
    <servlet-mapping>
        <servlet-name>StudentServlet</servlet-name>
        <url-pattern>/student</url-pattern>
    </servlet-mapping>
    <!--StudentFilter name and class-->
    <filter>
        <filter-name>StudentFilter</filter-name>
        <filter-class>com.admin.StudentFilter</filter-class>
    </filter>
    <!--InsertServlet mapping-->
    <filter-mapping>
        <filter-name>StudentFilter</filter-name>
        <url-pattern>/StudentFilter/*</url-pattern>
    </filter-mapping>

    <!--=============================================================================-->
    <!--name of Insert servlet and class-->
    <servlet>
        <servlet-name>InsertServlet</servlet-name>
        <servlet-class>com.admin.InsertServlet</servlet-class>
    </servlet>
    <!--mapping of Insert servlet-->
    <servlet-mapping>
        <servlet-name>InsertServlet</servlet-name>
        <url-pattern>/InsertServlet</url-pattern>
    </servlet-mapping>
    <!--InsertFilter name and class-->
    <filter>
        <filter-name>InsertFilter</filter-name>
        <filter-class>com.admin.InsertFilter</filter-class>
    </filter>
    <!--InsertFilter mapping-->
    <filter-mapping>
        <filter-name>InsertFilter</filter-name>
        <url-pattern>/InsertServlet/*</url-pattern>
    </filter-mapping>
    <!--=============================================================================-->


</web-app>
```

Admin.xml

```
// package
package com.admin;

// import lib form the back jar
```

```
import javax.servlet.RequestDispatcher;
import javax.servlet.ServletContext;
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 java.io.IOException;
import java.io.PrintWriter;
import java.sql.SQLException;

// form test ok 99.9% test ok no error received
/**
 * Created by Nabeel on 10/17/2016.
 */
// name of the servlet 'Admin'
@WebServlet(name = "Admin")
// class name is 'Admin' extends with 'HttpServlet'
public class Admin extends HttpServlet {
    //
    // do-post method of 'Servlet'
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        //
        response.setContentType("text/html");
        PrintWriter printWriter = response.getWriter();

        showHTML(printWriter);

    }
   // this get method called first as default and then print the web page
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter printWriter = response.getWriter();
        // method for print the web page
        showHTML(printWriter);

    }
    //

    public void showHTML(PrintWriter printWriter){
        //response.setContentType("text/html");
        //PrintWriter printWriter = response.getWriter();
        try {
            // form query
            printWriter.println("<!DOCTYPE html>");
            printWriter.println("<html>");
            printWriter.println("<head>");
            printWriter.println("<meta charset=\"ISO-8859-1\">");
            printWriter.println("<title>Insert title here</title>");
            printWriter.println("</head>");
            printWriter.println("<body>");
            printWriter.println("<h1>User LogIn</h1>");
            printWriter.println("<form action=\"/InsertServlet\" method=\"post\">");
            printWriter.println("USer name<input type=\"text\" name=\"username\"/>");
            printWriter.println("PassWord<input type=\"password\" name=\"password\"/>");
            printWriter.println("<input type=\"submit\" value=\"Submit\">");
            printWriter.println("</form>");
            printWriter.println("</body>");
            printWriter.println("</html>");
            printWriter.close();

        }catch (Exception e){
            e.printStackTrace();
        }

    }

    //
}
```

ConnectionDB.JAVA

```
//------------package name is com.admin-------------
package com.admin;
// form test ok 99.9% test ok no error received
//
//import Build-In Lib
import java.sql.*;
import java.util.ArrayList;
import java.util.List;

/**
```

```
 * Created by Nabeel on 10/17/2016.
 */
//-----Start of Database Connection Class----------
public class ConnectionDB {
    //
    // static final path for JDBC_DRIVER
    private static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";
    // static final path for Database and localhost with port used for MySql...
    private static final String DB_URL = "jdbc:mysql://localhost:3306/nabeel";
    //  Database credentials
    // Database user name (static and final)
    static final String USER = "root";
    // Database user password (static and final)
    static final String PASS = "";
    // method for getting the Connectoin of database
    public static Connection getConnection(){
        // var of connection as null before the assign the Connection
        Connection connection = null;
        // statement under the try before the exe.
        try {
            // set the driver into the class
            Class.forName(JDBC_DRIVER);
            // set the connection for database
            connection = DriverManager.getConnection(DB_URL, USER, PASS);
        // catch used for handle the Exception
        }catch (ClassNotFoundException e){
            e.printStackTrace();
        }
        catch (SQLException e){
            // message if Exception rise
            System.out.print(e);
        }
        // return the connection for use
        return connection;
    }
    // watch log method for login the user
    public static String checkedLog(String user, String password) {
        // have two parameter (user name , password)
        try {
            //// getting the connection from the getConnection() method
            Connection connection = ConnectionDB.getConnection();
            // query build for exe...
            String query = "SELECT status FROM logtable WHERE username = '" + user + "' AND password = '" + password + "';";
            // start up the connection for exe the query as statement
            Statement statement = connection.createStatement();
            // getting the result for qury after exe.....
            ResultSet resultSet = statement.executeQuery(query);
            // if query execute then ture else false
            if (resultSet.next()) {
                // this will return the status when it resultSet is true
                return resultSet.getString("status");
            }
            // catch for Exception handling
         } catch (SQLException e) {
            e.printStackTrace();
        }
        // this will return empty string
        // how to handle this majid.....
        return "";
    }

    // method of insert the new record
    public static int Insert(Student student){
        // status for result
        int status= 0;
        //
        try{
            // getting the connection
            Connection connection = ConnectionDB.getConnection();
            // inti the variable for inserting into the DB
            PreparedStatement preparedStatement = connection.prepareStatement(
                    "insert into student(ID,Name,Email) values (?,?,?)");
            preparedStatement.setInt(1,student.getId());
            preparedStatement.setString(2,student.getName());
            preparedStatement.setString(3,student.getEmail());
            // after variable init execute the query and get status
            status=preparedStatement.executeUpdate();
            // close the connection
            connection.close();
        }catch(SQLException ex){
            ex.printStackTrace();
        }
        // return the status
        return status;
```

```
}
// method for update the record
public static int update(Student student){

     int status= 0;
    try{
        // getting  the connection
        Connection connection = ConnectionDB.getConnection();
        // // inti the variable for Update into the DB
        PreparedStatement preparedStatement = connection.prepareStatement(
                "update student set Name=?,Email=? where Id=?");
        preparedStatement.setString(1,student.getName());
        preparedStatement.setString(2,student.getEmail());
        preparedStatement.setInt(3,student.getId());
        // after variable init execute the query and get status
        status=preparedStatement.executeUpdate();
        // close the connection
        connection.close();
    }catch(SQLException ex){
        ex.printStackTrace();
    }
    // return the status
    return status;
}
//
// method for update
public static int delete(int id){

    int status= 0;
    try{
        // getting the connection
        Connection connection =ConnectionDB.getConnection();
        // init the variable for delete form the DB
        PreparedStatement preparedStatement=connection.prepareStatement("delete from student where id=?");
        preparedStatement.setInt(1,id);
        // after variable inti execute the query and get status
        status = preparedStatement.executeUpdate();
        // close the connection
        connection.close();
    }catch(SQLException e){
        e.printStackTrace();
    }
    // return the status
    return status;
}
//
// get Student by id
public static Student getStudentById(int id){
    Student student = new Student();

    try{
        // getting the connection
        Connection connection = ConnectionDB.getConnection();
        // init the variable for getting the id of the student
        PreparedStatement preparedStatement = connection.prepareStatement("select * from student where id=?");
        preparedStatement.setInt(1,id);
        // after variable init execute the query and get the result
        ResultSet resultSet=preparedStatement.executeQuery();
        // and getting the value
        if(resultSet.next()){
            // asgin the value of DB to the student class
            student.setId(resultSet.getInt(1));
            student.setName(resultSet.getString(2));
            student.setEmail(resultSet.getString(3));

        }
        // close the connection
        connection.close();
    }catch(SQLException ex){ex.printStackTrace();}
    // return the student object
    return student;
}
//
// get all the data from the database
public static List<Student> getAllEmployees(){
    // list of student
    List<Student> list = new ArrayList<>();

    try{
        // getting the connection
        Connection connection = ConnectionDB.getConnection();
        // init the variable for getting all the info from the DB
        PreparedStatement preparedStatement = connection.prepareStatement("select * from student");
        // after variable init execute the query and get the result
```

```
            ResultSet resultSet = preparedStatement.executeQuery();
            // loop for getting the result
            while(resultSet.next()){
                // getting each value and pass it to the as requirement fo the student object
                Student student = new Student();
                student.setId(resultSet.getInt(1));
                student.setName(resultSet.getString(2));
                student.setEmail(resultSet.getString(3));
                // add the object to the list
                list.add(student);
            }
            // close the connectoin
            connection.close();
        }catch(SQLException e){e.printStackTrace();}
        // retrun the list
        return list;
    }
}
```

InsertFilter.JAVA

```
package com.admin;

import javax.servlet.*;
import javax.servlet.http.Cookie;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;
import java.io.IOException;
import java.io.PrintWriter;

/**
 * Created by Nabeel on 10/27/2016.
 */
public class InsertFilter implements Filter{
    //
    String status;


    @Override
    public void init(FilterConfig filterConfig) throws ServletException {

    }

    @Override
    public void doFilter(ServletRequest servletRequest, ServletResponse servletResponse, FilterChain filterChain) throws IOException, ServletException {
        //
        try {
            HttpServletResponse httpResponse = (HttpServletResponse) servletResponse;
            HttpServletRequest httpRequest = (HttpServletRequest) servletRequest;
            //httpResponse.setHeader("","");
            // create the cookie

            String username = servletRequest.getParameter("username");
            String password = servletRequest.getParameter("password");
            status = ConnectionDB.checkedLog(username , password);
            servletRequest.setAttribute("status",status);
            // create the cookie
            Cookie cookie = new Cookie("user" , status);
            cookie.setMaxAge(60 * 60);


            if (servletRequest.getAttribute("status").toString().equalsIgnoreCase("admin")) {
                // cookie for admin
                httpResponse.addCookie(cookie);
                HttpSession session = httpRequest.getSession();
                session.setAttribute("user", status);
                session.setMaxInactiveInterval(1*60);
                filterChain.doFilter(servletRequest,servletResponse);
            }else if(servletRequest.getAttribute("status").toString().equalsIgnoreCase("student")){
                // cookie for student
                httpResponse.addCookie(cookie);
                HttpSession session = httpRequest.getSession();
                session.setAttribute("user", status);
                session.setMaxInactiveInterval(1*60);
                filterChain.doFilter(servletRequest,servletResponse);
            }else {

                servletResponse.setContentType("text/html");
                PrintWriter printWriter = servletResponse.getWriter();
                printWriter.println("Wrong PassWord and User name");
                RequestDispatcher requestDispatcher = servletRequest.getRequestDispatcher("/admin");
                requestDispatcher.include(servletRequest, servletResponse);
```

```
            }

        }catch (Exception e){

        }

    }
    @Override
    public void destroy() {

    }
    //
    private void setCookieandSession(){

    }
}
```

InsertServlet.JAVA

```
//----------package name is com.admin---------------------
package com.admin;

//
// import build-In Lab...
import javax.servlet.RequestDispatcher;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.*;
import java.io.IOException;
import java.io.PrintWriter;
import java.util.List;

/**
 * Created by Nabeel on 10/17/2016.
 */

@WebServlet(name = "InsertServlet")
//-------------
public class InsertServlet extends HttpServlet {
    //
    private PrintWriter printWriter;
    private String insert = null;
    private String edit = null;
    private String delete = null;
    private String logout = null;
    private Student s = null;

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

        response.setContentType("text/html");
        printWriter = response.getWriter();
        //
        Cookie ck[]=request.getCookies();
        printWriter.print("Hello "+ck[0].getValue());
        // HTML PAGE

        //-----------------------------------------------------

        // know get the parameter
        insert = request.getParameter("SAVE");

        if ("Save".equals(insert)) {
            //
            try {
                int id = Integer.parseInt(request.getParameter("id"));
                String name = request.getParameter("name");
                String email = request.getParameter("email");
                // coditoin

                Student student = new Student();
                student.setId(id);
                student.setName(name);
                student.setEmail(email);
                //
                int status = ConnectionDB.Insert(student);
                if (status > 0) {
                    printWriter.print("<p>Record saved successfully!</p>");

                } else {
                    printWriter.println("Sorry! unable to save record");

                }
```

```
    }catch (NumberFormatException e){
        printWriter.println("Enter the ID as NUMBER or Not Empty the ID field");
    }

}

// Edit button
edit = request.getParameter("Edit");

if (edit != null) {
    // get the value for editing
    s = ConnectionDB.getStudentById(Integer.parseInt(edit.replace(edit.substring(0,edit.length()-1),"")));
    // submint to the form
}
// showWeb(printWriter , s);
String editSave = request.getParameter("SAVE");
//
if ("Edit/Save".equals(editSave)) {
    // know get para value from the form
    try {
        int id = Integer.parseInt(request.getParameter("id"));
        String name = request.getParameter("name");
        String email = request.getParameter("email");
        s.setId(id);
        s.setName(name);
        s.setEmail(email);
        int status = ConnectionDB.update(s);
        if (status > 0) {
            printWriter.print("<p>Record Update successfully!</p>");
            s = null;

        } else {
            printWriter.println("Sorry! unable to Update record");

        }

    }catch (NumberFormatException e){
        printWriter.println("Enter the ID as NUMBER or Not Empty the ID field");
    }

}
//

 // Delete button
 delete = request.getParameter("Delete");
if (delete != null) {
    // convert the button value in integer format
    int value = Integer.parseInt(delete.replace(delete.substring(0,delete.length()-1),""));
    // pass the value to the method

     int status = ConnectionDB.delete(value);
     if (status > 0) {
        printWriter.print("<p>Record Delete successfully!</p>");
        s = null;

     }

}

// logout button
logout = request.getParameter("LogOut");
if(logout != null)
{
    // remove the cookie
    Cookie loginCookie = null;
    Cookie[] cookies = request.getCookies();
    if(cookies != null){
        for(Cookie cookie : cookies){
            if(cookie.getName().equals("admin")){
                loginCookie = cookie;
                break;
            }
        }
    }
    if(loginCookie != null){
        loginCookie.setMaxAge(0);
        response.addCookie(loginCookie);
    }
    // remove the session

    HttpSession session=request.getSession();
    session.invalidate();
```

```
        printWriter.print("You are successfully logged out!");
        RequestDispatcher requestDispatcher = request.getRequestDispatcher("/admin");
        requestDispatcher.include(request, response);

        printWriter.close();

    }

    showWeb(printWriter, s);
    showTable(printWriter);


}


protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
    //


}
//
public void showWeb(PrintWriter printWriter, Student s){
    printWriter.println("<!DOCTYPE html>");
    printWriter.println("<html>");
    printWriter.println("<head>");
    printWriter.println("<meta charset=\"ISO-8859-1\">");
    printWriter.println("<title>Insert title here</title>");
    printWriter.println("</head>");
    printWriter.println("<body>");
    printWriter.println("<h1>Add New Student</h1>");
    printWriter.println("<form action=\"/InsertServlet\" method=\"post\">");
    printWriter.println("<table>");
    printWriter.println("<tr>\n" +
            "            <td>ID:</td><td><input type=\"text\" name=\"id\" value='");
    if(s != null){
        printWriter.println(s.getId());
    }
    printWriter.println("'/></td>\n" +
            "            </tr>");
    printWriter.println(" <tr>\n" +
            "            <td>Name:</td><td><input type=\"text\" name=\"name\" value='");
    if(s != null){
        printWriter.println(s.getName());
    }
    printWriter.println(        "'/></td>\n" +
            "            </tr>");
    printWriter.println("<tr>\n" +
            "            <td>Email:</td><td><input type=\"email\" name=\"email\" value='");
    if(s != null){
        printWriter.println(s.getEmail());
    }
    printWriter.println(        "'/></td>\n" +
            "            </tr>");
    printWriter.println("</table>");
    if(s != null){
        printWriter.println("<p>\n" +
                "        <input type=\"submit\" name=\"SAVE\" value=\"Edit/Save\"/>\n" +
                "        <input type=\"reset\" value=\"CLEAR\" />\n");
    }else{
        printWriter.println("<p>\n" +
                "        <input type=\"submit\" name=\"SAVE\" value=\"Save\"/>\n" +
                "        <input type=\"reset\" value=\"CLEAR\" />\n");
    }
    printWriter.print("<input type=\"submit\" name=\"SAVE\" value=\"LogOut\"/>");
}

public void showTable(PrintWriter printWriter){

    //--------------table----------------------------------
    // show the table
    printWriter.println("<h1>Student List</h1>");
    List<Student> list = ConnectionDB.getAllEmployees();
    printWriter.println("<table border='1' width ='100%'");
    printWriter.println("<tr>" +
            "<th>Id</th>" +
            "<th>Name</th>" +
            "<th>Email</th>" +
            "<th colspan=\"2\">Other Op</th>" +
            "</tr>");
    for (Student e : list) {
        printWriter.println("<tr>" +
                "<td>" + e.getId() + "</td>" +
                "<td>" + e.getName() + "</td>" +
                "<td>" + e.getEmail() + "</td>");
```

```
            printWriter.println("<td>" +  "<input type='submit' name='Edit'  value='Edit "+e.getId()+"'/></td>");
            printWriter.println("<td>" +  "<input type='submit' name='Delete' value='Delete "+e.getId()+"'/></td>");

            printWriter.println("</tr>");
        }
        printWriter.print("</table>");
        //

        printWriter.println("</form>");
        printWriter.println("</body>");
        printWriter.println("</html>");
       // printWriter.close();

    }
}
```

Student.JAVA

```
//-----package name is com.admin----------
package com.admin;

// form test ok 99.9% test ok no error received

/**
 * Created by Nabeel on 10/17/2016.
 */
// this is Student class
public class Student {
    // var of class
    // name var used for student name
    private String name;
    // email var used for student email
    private String Email;
    // id var used for student id unique
    private int id;
    //------------all are private-------------

    // get-Email method to send the value of email student
    public String getEmail() {
        return Email;
    }
    //
    // get-Name method to send the value of name of student
    public String getName() {
        return name;
    }
    //
    // set-Email method to set the new value of email student
    public void setEmail(String email) {
        Email = email;
    }
    //
    // set-Name method to set the new value of name student
    public void setName(String name) {
        this.name = name;
    }
    //
    // get-Id method to send the value of id student
    public int getId() {
        return id;
    }
    //
    // set-Id method to set the new value of id student
    public void setId(int id) {
        this.id = id;
    }

}
//----------------------------end of student class----------------------------
```

StudentFilter.JAVA

```
package com.admin;

import javax.servlet.*;
import java.io.IOException;
import java.io.PrintWriter;

/**
 * Created by Nabeel on 10/28/2016.
 */
public class StudentFilter implements Filter {
    @Override
    public void init(FilterConfig filterConfig) throws ServletException {
```

```
    }

    @Override
    public void doFilter(ServletRequest servletRequest, ServletResponse servletResponse, FilterChain filterChain) throws IOException, ServletException {
        //

    }

    @Override
    public void destroy() {

    }
}
```

StudentServlet.JAVA

```
package com.admin;

import javax.servlet.ServletContext;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.Cookie;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import java.io.IOException;
import java.io.PrintWriter;

// form test ok 99.9% test ok no error received

/**
 * Created by Nabeel on 10/19/2016.
 */
@WebServlet(name = "StudentServlet")
public class StudentServlet extends HttpServlet {

    //
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        //
        try {
            //
            response.setContentType("text/html");
            PrintWriter printWriter = response.getWriter();
            Cookie ck[]=request.getCookies();
            printWriter.print("Hello "+ck[0].getValue());
            // getting the context from the previous servlet
            printWriter.println("<br>Welcome "+request.getAttribute("status").toString());
            printWriter.flush();
            printWriter.close();

        }catch (Exception e){
            e.printStackTrace();
        }

    }

    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {

    }
}
```