**17CS3116R – ENTERPRISE PROGRAMMING**

**PROJECT BASED LAB REPORT**

**ON**

**ONLINE BANKING SYSTEM**

***submitted in partial fulfillment of the requirement for the award of the degree of***

**BACHELOR OF TECHNOLOGY**

**In**

**COMPUTER SCIENCE AND ENGINEERING**

**By**

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Under the Esteemed Guidance of

**Dr. Shaik Mohammed Gouse *M.Tech***

******

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**K L (Deemed to be) University**

Green Fields, Vaddeswaram, Guntur District – 522 502

**(2019-2020)**

**K L (Deemed to be) University**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**



**CERTIFICATE**

This is certify that the project based report entitled **“ONLINE BANKING SYSTEM”** is a bonafide work done and submitted by **G Viswendranath (170030400),** **S Gopi (170030401),** **Mohan Srisai(170030307),G Kartheek(170030366)** in partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY** in Department of Computer Science Engineering, K L (Deemed to be University), Guntur District during the academic year **2019-2020**.

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**



**DECLARATION**

This is certify that the project based report entitled **“ONLINE BANKING SYSTEM”** is a bonafide work done and submitted **by G Viswendranath (170030400), S Gopi (170030401), Mohan Srisai(170030307),G Kartheek(170030366)**  in partial fulfillment of the requirements for the award of the degree of **BACHELOR OF TECHNOLOGY** in Department of Computer Science Engineering, K L (Deemed to be University), Guntur District during the academic year **2019-2020**.

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We thank all the members of teaching and non-teaching staff members, and also who have assisted me directly or indirectly for successful completion of this project.

Finally, I sincerely thank my friends and classmates for their kind help and co-operation during our work.

G Viswendranath (170030400)

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1. **ABSTRACT**

The online Banking System aims at creation of a secure Internet banking system for the account holders in bank all over the world. The main scope of this approach is to optimize the Work of a Bankers and an opportunity to the customers to have some important transactions to be done from where they are at present without moving to bank. In this project we are going to deal the existing facts in the bank i.e.; the transactions which takes place between customer and bank. We provide a real time environment for the existing system in the bank. The user can request for any requirements like cheque book, ATM Card etc. Also if any problem we can make stop payment to cheques by sending request to bank. By using this system the user can able to view their monthly statements and annual statements any time. Also the user can transfer money to other accounts easily by using money transfer options. The user can deposit his amount and send loan application by using this system The Confirmation of money transfer mail will be send to the mail id which is registered in the Bank. By using our system we can make the bank transaction faster and easier in secure way.

1. **METHODOLOGY**

**MODULES:**

1. **BLOCK DIAGRAM**

Login

Transfer

Change amounts in database

Return to homepage

Post email

Mail controller

Retrieve transactions from database

Login

Statements

1. **SOFTWARE REQUIREMENTS**

**Front End – HTML, CSS and JavaScript**

**HTML:**

**Hypertext Markup Language** (**HTML**) is the standard markup language for documents designed to be displayed in web browser. The term was coined by Ted Nelson in 1965. It is also called as hyper media. It is combination of text, audio, videos, images and graphics.HTML can embed programs written in a scripting language such as JavaScript, which affects the behavior and content of web pages. Inclusion of CSS defines the look and layout of content.

**CSS:**

**Cascading Style Sheets** (**CSS**) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS describes how elements should be rendered on screen, on paper, in speech, or on other media. CSS **saves a lot of work**. It can control the layout of multiple web pages all at once. External stylesheets are stored in **CSS files.**

**JAVASCRIPT:**

**JavaScript** often abbreviated as **JS**, is a high-level, interpreted scripting language that conforms to the ECMA Script specification. JavaScript has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first class functions.

Middleware – Servlets / JSP

**SERVLETS:**

A **servlet** is a small Java program that runs within a Web server. A Java servlet is a Java software component that extends the capabilities of a server. Servlet technology used to create a web application (resides at server side and generates a dynamic web page). Servlet is an API which provides many interfaces and classes. Servlet can be displayed in many ways depending on context.

**JSP:**

JSP stands for Java Server Page. JSP is serve side scripting language. **Java Server Pages** (**JSP**) is a collection of technologies that helps software developers create dynamically generated web pages based on HTML, XML, SOAP, or other document types. Released in 1999 by Sun Microsystems, JSP is similar to PHP and ASP, but it uses the Java programming language.

**Backend – Oracle**

**ORACLE:**

**Oracle Database** (commonly referred to as **Oracle RDBMS** or simply as **Oracle**) is a proprietary multi-model Database management system produced and marketed by Oracle Corporation. It is a database commonly used for running online transaction processing (OLTP), data warehousing (DW) and mixed (OLTP & DW) database workloads

IDE – Eclipse

**ECLIPSE:**

**Eclipse** is an Integrated Development Environment (IDE) used in computer Programming. It contains a base workspace and an extensible plug-in system for customizing the environment. Eclipse is written mostly in Java and its primary use is for developing Java applications. It can also be used to develop documents with LaTeX (via a Eclipse plug-in) and packages for the software Mathematica.

Web server – Apache Tomcat 7 or above

**APACHE TOMCAT:**

**Apache Tomcat** (sometimes simply "Tomcat") is an [open source](https://en.wikipedia.org/wiki/Open_source_software) implementation of the [Java Servlet](https://en.wikipedia.org/wiki/Java_Servlet), [JavaServer Pages](https://en.wikipedia.org/wiki/JavaServer_Pages" \o "JavaServer Pages), [Java Expression Language](https://en.wikipedia.org/wiki/Unified_Expression_Language) and [WebSocket](https://en.wikipedia.org/wiki/WebSocket) technologies.. Tomcat provides a "pure [Java](https://en.wikipedia.org/wiki/Java_(programming_language))" [HTTP](https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol) [web server](https://en.wikipedia.org/wiki/Web_server) environment in which [Java](https://en.wikipedia.org/wiki/Java_(programming_language)) code can run.Tomcat is developed and maintained by an open community of developers under the auspices of the [Apache Software Foundation](https://en.wikipedia.org/wiki/Apache_Software_Foundation), released under the [Apache License](https://en.wikipedia.org/wiki/Apache_License) 2.0 license.

Development Kit – JDK 1.7 or above

**JDK:**

The **Java Development Kit** (**JDK**) is an implementation of either one of the [Java Platform, Standard Edition](https://en.wikipedia.org/wiki/Java_Platform,_Standard_Edition), [Java Platform, Enterprise Edition](https://en.wikipedia.org/wiki/Java_Platform,_Enterprise_Edition), or [Java Platform, Micro Edition](https://en.wikipedia.org/wiki/Java_Platform,_Micro_Edition) platforms[[1]](https://en.wikipedia.org/wiki/Java_Development_Kit#cite_note-1) released by [Oracle Corporation](https://en.wikipedia.org/wiki/Oracle_Corporation) in the form of a binary product aimed at [Java](https://en.wikipedia.org/wiki/Java_(programming_language)) developers on [Solaris](https://en.wikipedia.org/wiki/Solaris_(operating_system)), [Linux](https://en.wikipedia.org/wiki/Linux), [macOS](https://en.wikipedia.org/wiki/MacOS) or [Windows](https://en.wikipedia.org/wiki/Windows). The JDK includes a private JVM and a few other resources to finish the development of a Java Application.[[2]](https://en.wikipedia.org/wiki/Java_Development_Kit#cite_note-2) Since the introduction of the [Java](https://en.wikipedia.org/wiki/Java_(software_platform)) platform, it has been by far the most widely used Software Development Kit.

1. **IMPLEMENTATION**

**Welcome.jsp**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<meta http-equiv="X-UA-Compatible" content="ie=edge">

<title>Welcome</title>

</head>

<body>

<br><br>

<img src="pic.jpg" alt="image here" style="float:left">

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

<jsp:include page='login.jsp' />

</body>

</html>

Login.jsp

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<meta http-equiv="X-UA-Compatible" content="ie=edge">

<title>Login</title>

<style>

body {

font-family: Arial, Helvetica, sans-serif;

font-size: 15px;

}

.mt-btn {

background-color: #4285f4;

border-style: none;

border-radius: 5px;

color: white;

padding: 5px 20px 5px 20px;

width: auto;

height: 2.5em;

transition: 0.4s;

}

.mt-btn:hover {

background-color: #005ef5;

box-shadow: 0px 0px 3px #000;

}

.txt {

margin: 5px 10px 5px 10px;

border: 1px solid black;

padding: 5px 10px 5px 10px;

border-radius: 3px;

transition: 0.2s;

outline: none;

}

.txt:focus {

border: 1px solid #005ef5;

}

.container {

margin: 30px;

padding: 15px;

/\* box-shadow: horizontal vertical blur-intensity intensity color\*/

box-shadow: 1px 1px 15px 2px gray;

}

</style>

</head>

<body>

<div class="container" style="width: 425px; float: left; margin-left: 100px; height: 200px; padding-top: 65px;">

<center>

<form action="loginHandle.jsp" method="POST">

<table>

<tr>

<td><label for="username">Username</label></td>

<td><input type="text" name="username" id="username" class='txt' required></td>

</tr>

<tr>

<td><label for="password">Password</label></td>

<td><input type="password" name="password" id="password" class='txt' required></td>

</tr>

<tr>

<td colspan="2" align="center"><input type="submit" name='login' value="Login" class="mt-btn">

</td>

</tr>

<tr>

<td></td>

<td><a href="register.jsp" style="float:right">Register</a></td>

</tr>

<tr>

<td colspan="2" align="center"><span id='message' style="color: red; font-size: 12px;"></span></td>

</tr>

</table>

</form>

</center>

</div>

</body>

</html>

**Loginhandle.jsp**

<%@page import='java.sql.\*' %>

<%

String uname = request.getParameter("username");

String password = request.getParameter("password");

Class.forName("oracle.jdbc.driver.OracleDriver");

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "tiger");

String loginQuery = String.format(

"select count(\*) from account where uname='%s' and password='%s'", uname, password);

Statement stmt = con.createStatement();

ResultSet rs = stmt.executeQuery(loginQuery);

while(rs.next()){

int count = rs.getInt(1);

System.out.println(count);

if(count == 1){

System.out.println("Login success");

session.setAttribute("uname", uname);

String loginDetails = String.format("select \* from account where uname='%s' and password='%s'",

uname,password);

rs = stmt.executeQuery(loginDetails);

while(rs.next()){

session.setAttribute("amount", Double.toString(rs.getDouble(3)));

session.setAttribute("email", rs.getString(4));

session.setAttribute("ph\_number", rs.getString(5));

}

%><jsp:forward page='home.jsp' /><%

}else{

System.out.println("Wrong password or uname");

System.out.println(uname);

System.out.println(password);

out.println("<script>window.onload = function(){document.getElementById('message').innerHTML = 'Username or password is incorrect';}</script>");

%><jsp:include page='welcome.jsp' /><%

}

}

%>

**Register.jsp**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<meta http-equiv="X-UA-Compatible" content="ie=edge">

<title>Register</title>

<link rel="stylesheet" href="style.css">

<script>

function phoneValidation() {

var inputtxt = document.getElementById('phone').value;

for (i in inputtxt) {

if (inputtxt[i] < '0' || inputtxt[i] > '9') {

alert("Enter a valid email address");

document.getElementById('phone').value = '';

}

}

}

function validateemail() {

var x = document.getElementById('email').value;

var atposition = x.indexOf("@");

var dotposition = x.lastIndexOf(".");

if (atposition < 1 || dotposition < atposition + 2 || dotposition + 2 >= x.length) {

alert("Enter a valid e-mail address");

document.getElementById('email').value = '';

}

}

function passValidation() {

console.log(document.getElementById('password').value);

console.log(document.getElementById('confirmpassword').value);

if (document.getElementById('password').value != document.getElementById('confirmpassword').value) {

alert('Password and confirm password should be same');

document.getElementById('confirmpassword').value = '';

}

}

</script>

</head>

<body>

<br><br>

<img src="pic.jpg" alt="image here" style="float:left">

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

<div class="container" style="width: 450px; float:right; margin-right: 50px; height: 250px;">

<center>

<form action="registerHandler.jsp" method="POST">

<table>

<tr>

<td><label for="username">Username</label></td>

<td><input type="text" name="susername" id="username" class='txt' required></td>

</tr>

<tr>

<td><label for="password">Password</label></td>

<td><input type="password" name="password" id="password" class='txt' required></td>

</tr>

<tr>

<td><label for="confirmpassword">Confirm Password</label></td>

<td><input type="password" name="confirmpassword" id="confirmpassword" class='txt'

onchange='passValidation()' required>

</td>

</tr>

<tr>

<td><label for="email">Email</label></td>

<td><input type="email" name="email" id="email" class='txt' onchange="validateemail()" required>

</td>

</tr>

<tr>

<td><label for="phone">Phone</label></td>

<td><input type="text" name="phone" id="phone" class='txt' onchange="phoneValidation();"

required></td>

</tr>

<tr>

<td colspan="2" align="center"><input type="submit" name='register' value="Register"

class="mt-btn"></td>

</tr>

<tr>

<td colspan="2" align="center"><span id='message' style="color: red; font-size: 12px;"></span></td>

</tr>

</table>

</form>

</center>

</div>

</body>

</html>

Register\_handler.jsp

<%@page import='java.sql.\*' %>

<%

String uname = request.getParameter("susername");

String password = request.getParameter("confirmpassword");

String email = request.getParameter("email");

String ph\_number = request.getParameter("phone");

System.out.println("In registerHandler.jsp -- " + uname);

Class.forName("oracle.jdbc.driver.OracleDriver");

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe","system","tiger");

Statement stmt = con.createStatement();

String registerCheckQuery = String.format("select count(\*) from account where uname = '%s'", uname);

ResultSet rs = stmt.executeQuery(registerCheckQuery);

boolean valid = false;

while(rs.next()){

if(rs.getInt(1) == 0){

valid = true;

}

}

if(valid){

String registerQuery = String.format("insert into account values( '%s', '%s', 0, '%s', '%s')",

uname,password,email,ph\_number);

stmt.executeUpdate(registerQuery);

System.out.println("Registered Successfully");

out.println("<script>window.onload = function(){document.getElementById('message').innerHTML = 'Registered successfully'; document.getElementById('message').style = 'color: green; font-size: 12px;'}</script>");

%><jsp:include page='welcome.jsp' /><%

}else{

out.println("<script>window.onload = function(){document.getElementById('message').innerHTML = 'The username is already taken. Please choose something else.';}</script>");

%><jsp:include page='register.jsp' /><%

}

%>

**Home.jsp**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<meta http-equiv="X-UA-Compatible" content="ie=edge">

<title>Home</title>

<link rel="stylesheet" href="style.css">

</head>

<body>

<!-- Header start -->

<% if(session.getAttribute("uname") != null){ %>

<div class="container" name='dashboard' style="height: 100px;">

<div style="float:left">

<table>

<tr>

<td>Username</td>

<td><%= session.getAttribute("uname") %></td>

</tr>

<tr>

<td>Balance</td>

<td><%= session.getAttribute("amount") %></td>

</tr>

<tr>

<td>Phone No.</td>

<td><%= session.getAttribute("ph\_number") %></td>

</tr>

</table>

</div>

<div style="float:right">

<br>

<form action="logout.jsp">

<input type="submit" value="Logout" class='mt-btn' name='logout'>

</form>

</div>

</div>

<!-- Header end -->

<div class="container" style="background-image: inherit;">

<form action="operationController.jsp" method="POST">

<table>

<tr>

<td><input type="submit" class='mt-btn' value="Transfer" name="operation"></td>

<td><input type="submit" class='mt-btn' value="Deposit" name="operation"></td>

<td><input type="submit" class='mt-btn' value="Statements" name="operation"></td>

<td><input type="submit" class='mt-btn' value="Apply" name="operation"></td>

</tr>

</table>

</form>

</div>

<img src="back.jpg" alt="Image here" style="margin-left: 30px; width: 95%;">

<%

}else{

%>

<center>Session is invalid please login <a href="welcome.jsp">here</a></center>

<%

}

%>

</body>

</html>

Operation\_controller.jsp

<%

if(session == null || session.getAttribute("uname") == null){

%> Your session has already expired. Please login <a href="welcome.jsp">here</a> <%

}else{

if(request.getParameter("operation").equals("Transfer")){

out.println("Tranfer page");

%><jsp:forward page='transfer.jsp'/><%

}else if(request.getParameter("operation").equals("Deposit")){

out.println("Deposit page");

%><jsp:forward page='deposit.jsp' /><%

}else if(request.getParameter("operation").equals("Statements")){

out.println("Statements page");

%><jsp:forward page='statements.jsp' /><%

}else if(request.getParameter("operation").equals("Apply")){

out.println("Apply page");

%><jsp:forward page='apply.jsp' /><%

}

}

%>

**Deposit.jsp**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<meta http-equiv="X-UA-Compatible" content="ie=edge">

<title>Deposit</title>

<link rel="stylesheet" href="style.css">

<script>

function amountValidation(){

var am = document.getElementById('transfer\_amount').value;

if(am <= 0){

document.getElementById('transfer\_amount').value = '';

}

}

</script>

</head>

<body>

<!-- Header start -->

<% if(session != null && session.getAttribute("uname") != null){ %>

<div class="container" name='dashboard' style="height: 100px;">

<div style="float:left">

<table>

<tr>

<td>Username</td>

<td><%= session.getAttribute("uname") %></td>

</tr>

<tr>

<td>Balance</td>

<td><%= session.getAttribute("amount") %></td>

</tr>

<tr>

<td>Phone No.</td>

<td><%= session.getAttribute("ph\_number") %></td>

</tr>

</table>

</div>

<div style="float:right">

<br>

<form action="logout.jsp">

<input type="submit" value="Logout" class='mt-btn' name='logout'>

</form>

</div>

</div>

<!-- Header end -->

<!-- Tranfer start -->

<div class="container">

<form action="deposit\_controller.jsp">

<table>

<tr>

<td><label for="transfer\_amount">Amount : </label></td>

<td><input type="text" name="transfer\_amount" id="transfer\_amount" class="txt" onchange='amountValidation();' required><br></td>

</tr>

<tr>

<td colspan="2" align="center"><input type="submit" value="Deposit" class="mt-btn" name='deposit'></td>

</tr>

</table>

</form>

</div>

<%

}else{

%>

<center>Session is invalid please login <a href="welcome.jsp">here</a></center>

<%

}

%>

</body>

</html>

**Deposit\_controller.jsp**

<%@ page import='java.sql.\*' %>

<%

if(session == null || session.getAttribute("uname") == null){

%> Your session has already expired. Please login <a href="welcome.jsp">here</a> <%

}else{

double deposit\_amount = Double.parseDouble(request.getParameter("transfer\_amount"));

double current\_amount = Double.parseDouble((String)session.getAttribute("amount"));

Class.forName("oracle.jdbc.driver.OracleDriver");

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe","system","tiger");

Statement stmt = con.createStatement();

String amountUpdateQuery = String.format("update account set amount = %f where uname = '%s'",

current\_amount + deposit\_amount, (String)session.getAttribute("uname"));

stmt.executeUpdate(amountUpdateQuery);

session.setAttribute("amount", Double.toString(current\_amount+deposit\_amount));

%>Payment Successfull.<br>You will be redirected to home page...<%

response.setHeader("Refresh", "2;url=home.jsp");

}

%>

**Transfer.jsp**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<meta http-equiv="X-UA-Compatible" content="ie=edge">

<title>Transfer</title>

<link rel="stylesheet" href="style.css">

<script>

function amountValidation() {

var am = document.getElementById('transfer\_amount').value;

if (am <= 0) {

document.getElementById('transfer\_amount').value = '';

}

}

</script>

</head>

<body>

<!-- Header start -->

<% if(session != null && session.getAttribute("uname") != null){ %>

<div class="container" name='dashboard' style="height: 100px;">

<div style="float:left">

<table>

<tr>

<td>Username</td>

<td><%= session.getAttribute("uname") %></td>

</tr>

<tr>

<td>Balance</td>

<td><%= session.getAttribute("amount") %></td>

</tr>

<tr>

<td>Phone No.</td>

<td><%= session.getAttribute("ph\_number") %></td>

</tr>

</table>

</div>

<div style="float:right">

<br>

<form action="logout.jsp">

<input type="submit" value="Logout" class='mt-btn' name='logout'>

</form>

</div>

</div>

<!-- Header end -->

<!-- Tranfer start -->

<div class="container">

<form action="transfer\_controller.jsp" method="POST">

<table>

<tr>

<td><label for="transfer\_name">Transfer to :</label></td>

<td><input type="text" name="transfer\_name" id="transfer\_name" class="txt"></td>

</tr>

<tr>

<td><label for="transfer\_amount">Amount : </label></td>

<td><input type="text" name="transfer\_amount" id="transfer\_amount" class="txt" onchange='amountValidation();' required><br></td>

</tr>

<tr>

<td colspan="2" align="center"><input type="submit" value="Pay" class="mt-btn" name="pay"></td>

</tr>

</table>

</form>

</div>

<%

}else{

%>

<center>Session is invalid please login <a href="welcome.jsp">here</a></center>

<%

}

%>

</body>

</html>

**Transfer\_controller.jsp**

<%@ page import='java.sql.\*' %>

<%

if(session == null || session.getAttribute("uname") == null){

%> Your session has already expired. Please login <a href="welcome.jsp">here</a> <%

}else{

String transfer\_name = request.getParameter("transfer\_name");

double transfer\_amount = Double.parseDouble(request.getParameter("transfer\_amount"));

double current\_amount = Double.parseDouble((String)session.getAttribute("amount"));

Class.forName("oracle.jdbc.driver.OracleDriver");

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe","system","tiger");

Statement stmt = con.createStatement();

if(current\_amount >= transfer\_amount){

String retriveQuery = String.format("select amount from account where uname ='%s'", transfer\_name);

ResultSet rs = stmt.executeQuery(retriveQuery);

double personAmount = 0;

while(rs.next()){

personAmount = rs.getDouble(1);

}

double totalAmount = personAmount + transfer\_amount;

System.out.println("transfer\_controller.jsp -- to users balance would be " + (transfer\_amount+personAmount));

String currentAmountQuery = String.format("update account set amount = %f where uname='%s'",

current\_amount-transfer\_amount, (String)session.getAttribute("uname"));

stmt.executeUpdate(currentAmountQuery);

session.setAttribute("amount", Double.toString(current\_amount-transfer\_amount));

session.setAttribute("transfer\_amount", Double.toString(transfer\_amount));

String amountQuery = String.format("update account set amount = %f where uname='%s'", totalAmount, transfer\_name);

int rowsAffected = stmt.executeUpdate(amountQuery);

System.out.println("Rows affected are " + rowsAffected);

if(rowsAffected == 0){

%>Payment Failed.<%

String failRecoveryQuery = String.format("update account set amount = %f where uname='%s'",

current\_amount, (String)session.getAttribute("uname"));

session.setAttribute("amount", Double.toString(current\_amount));

}else{

String updateTransactionQuery = String.format("insert into transactions values('%s','%s',%f)",

(String)session.getAttribute("uname"), transfer\_name, transfer\_amount);

stmt.executeUpdate(updateTransactionQuery);

session.setAttribute("content","Your transaction of amount INR. " + (String)session.getAttribute("transfer\_amount") + " was successfull. <br> If this wasn't you please contact customer care.");

session.setAttribute("subject","Your transaction was successfull");

%><jsp:include page='mailController.jsp' /><%

%>Payment Successfull.<%

}

%><br>You will be redirected to home page...<%

}else{

%>Insufficient Balence.<br>You will be redirected to home page...<%

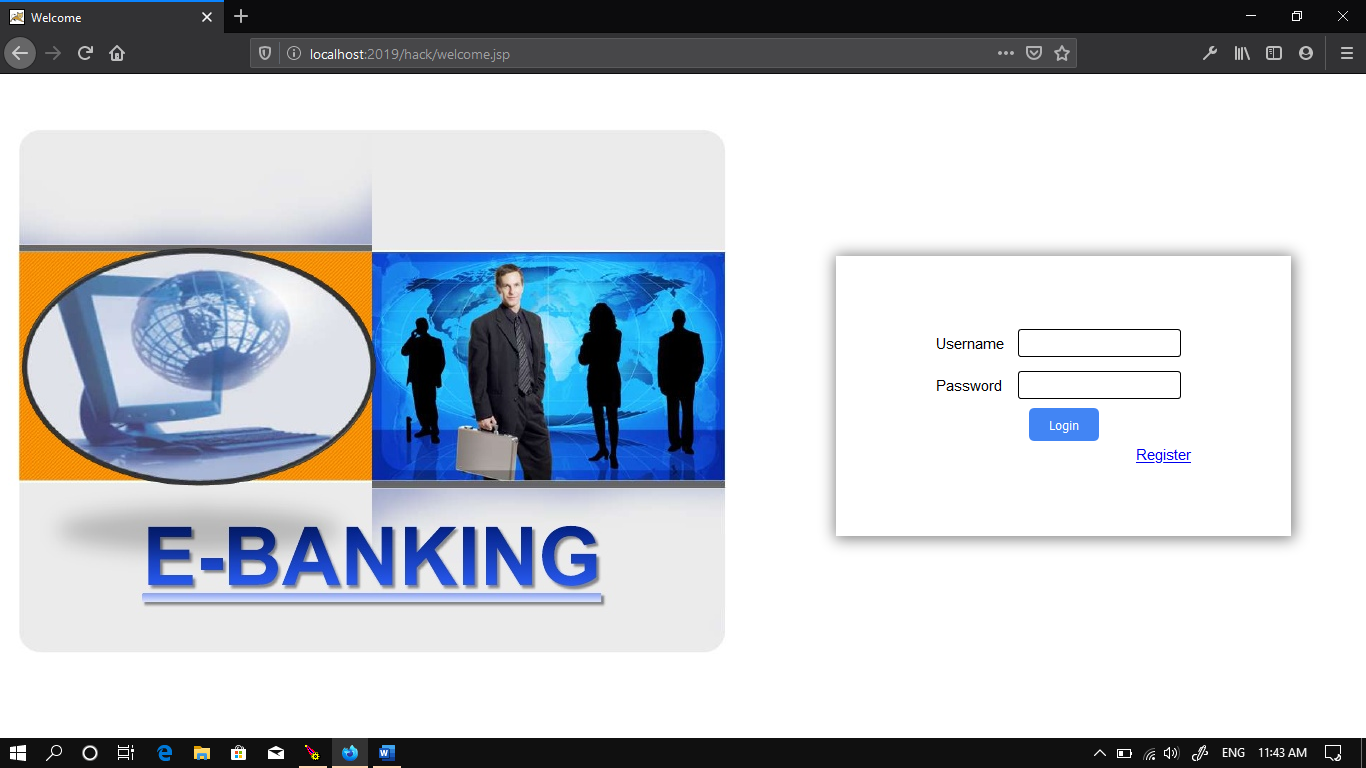
}

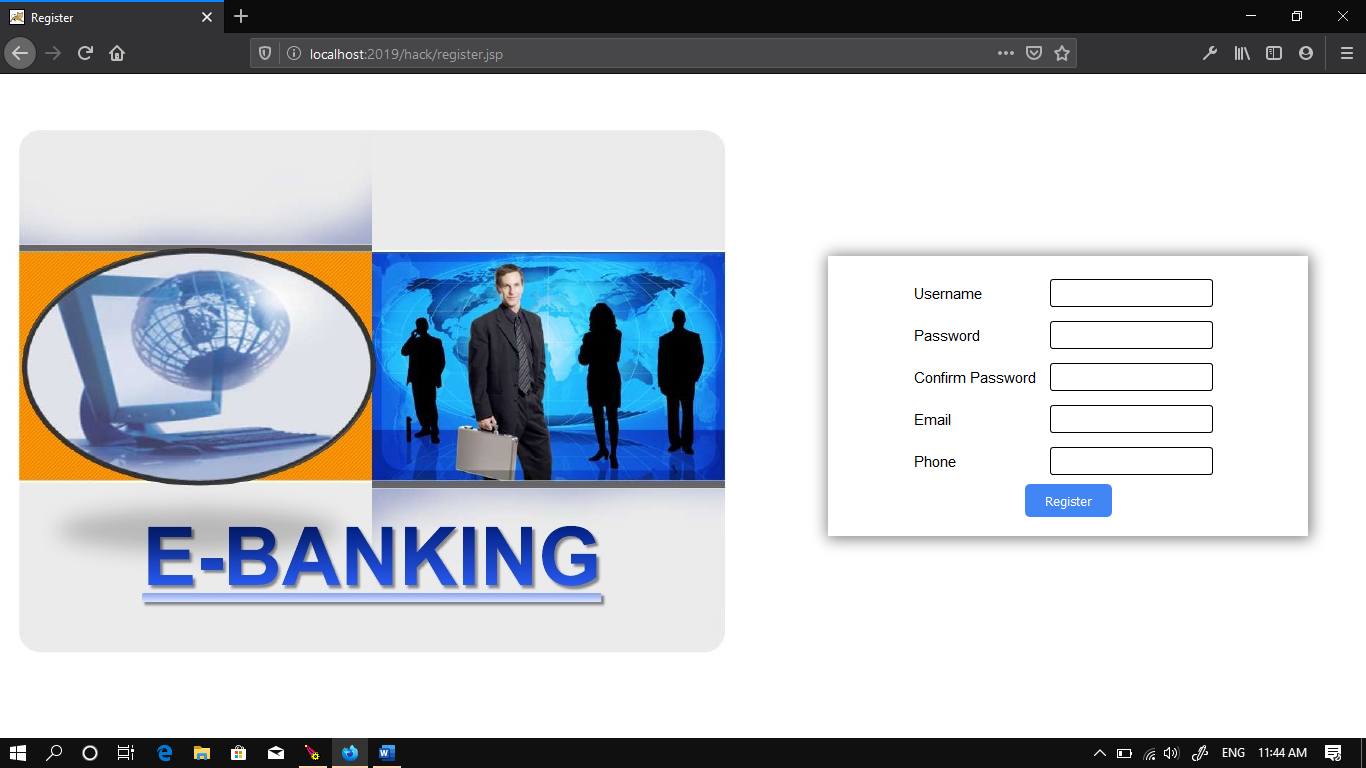
response.setHeader("Refresh", "2;url=home.jsp");

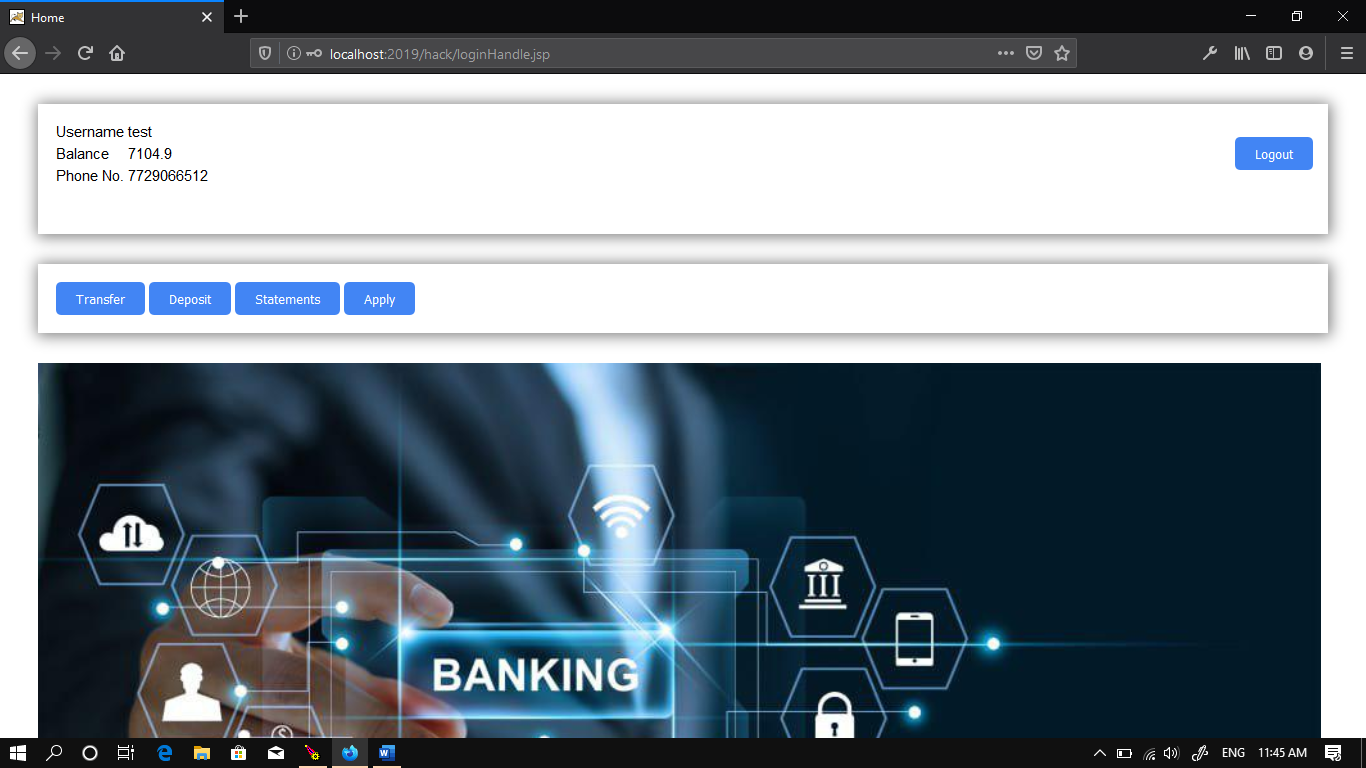
}

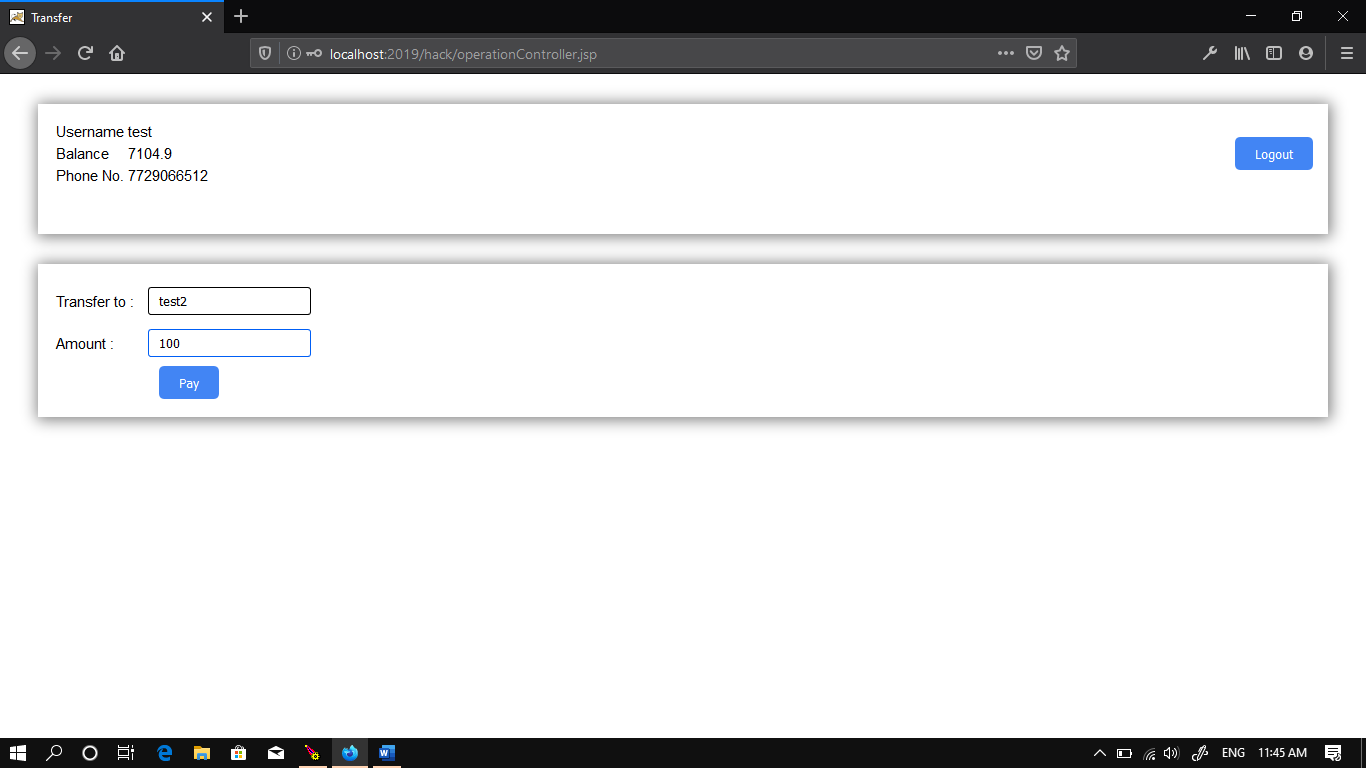
%>

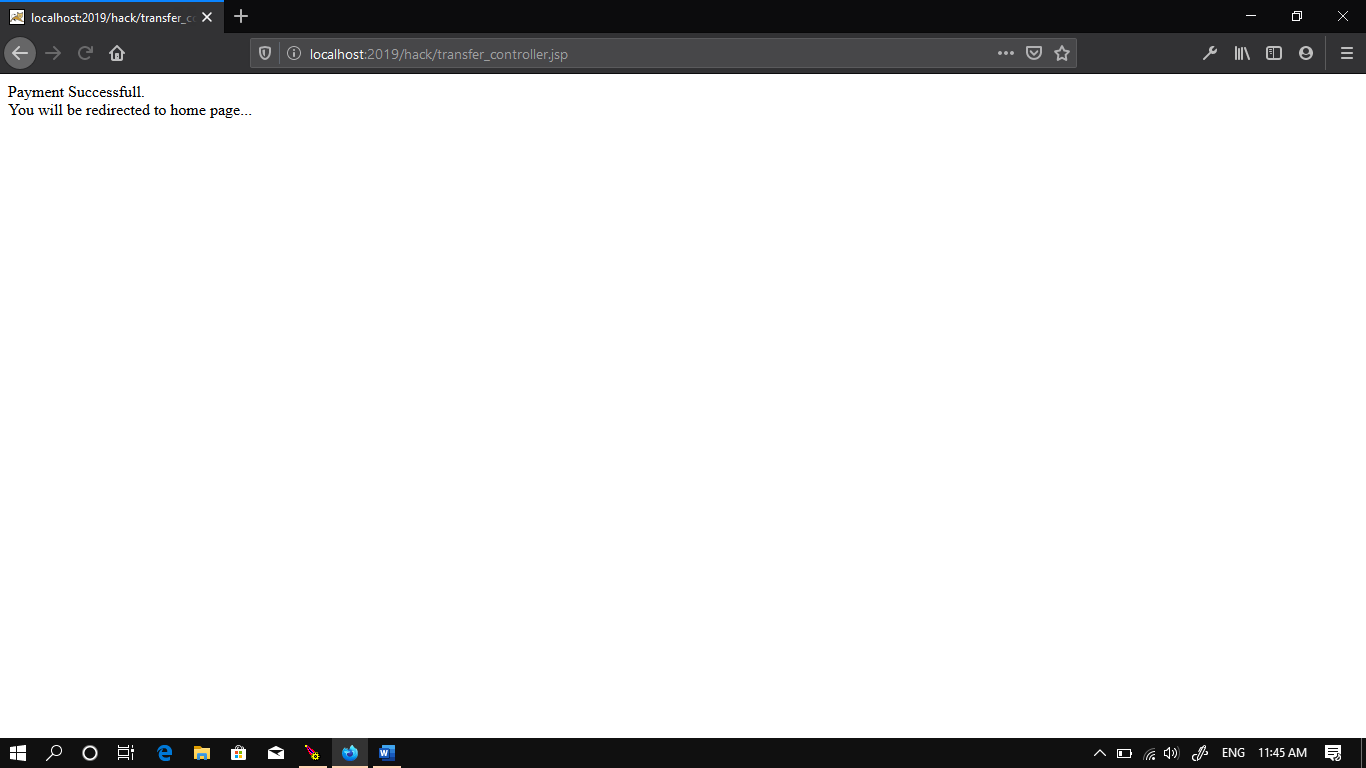
**OUTPUT SCREENSHOTS:**

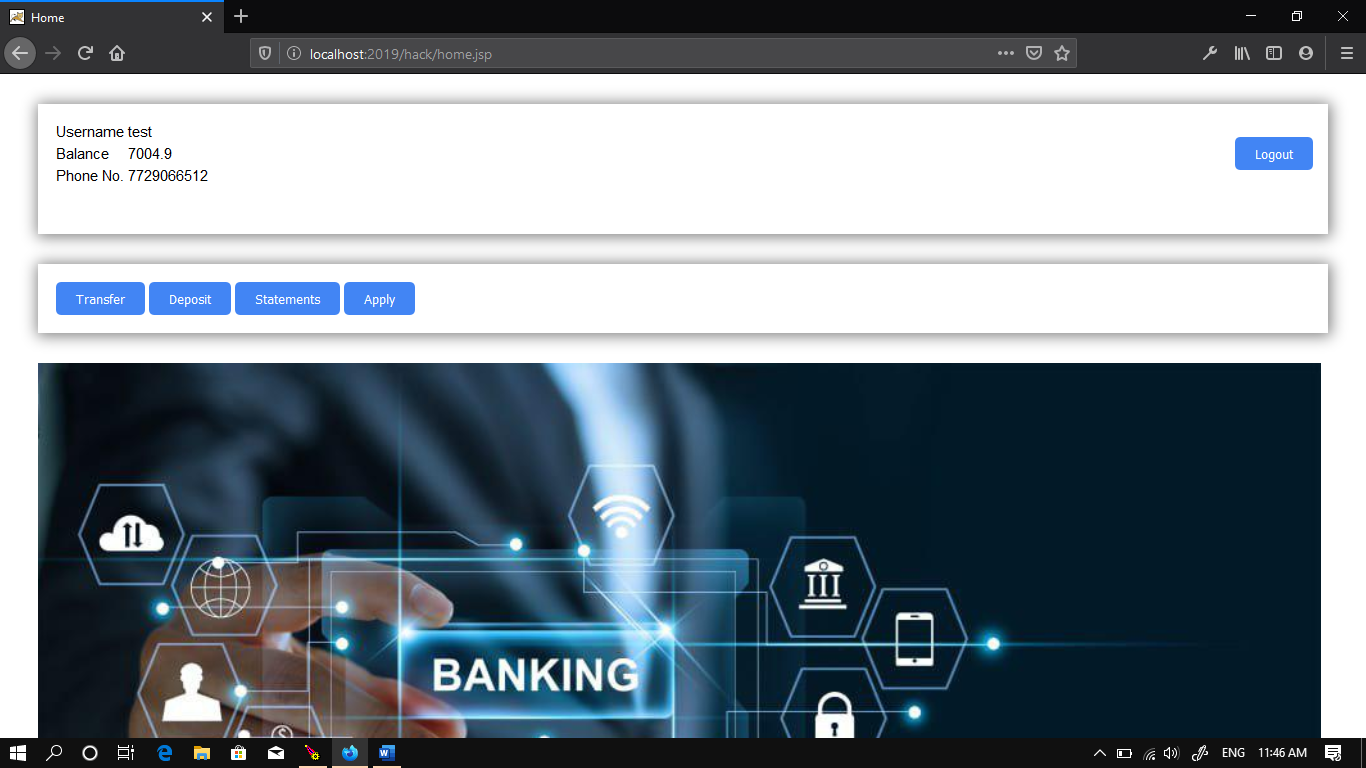
****

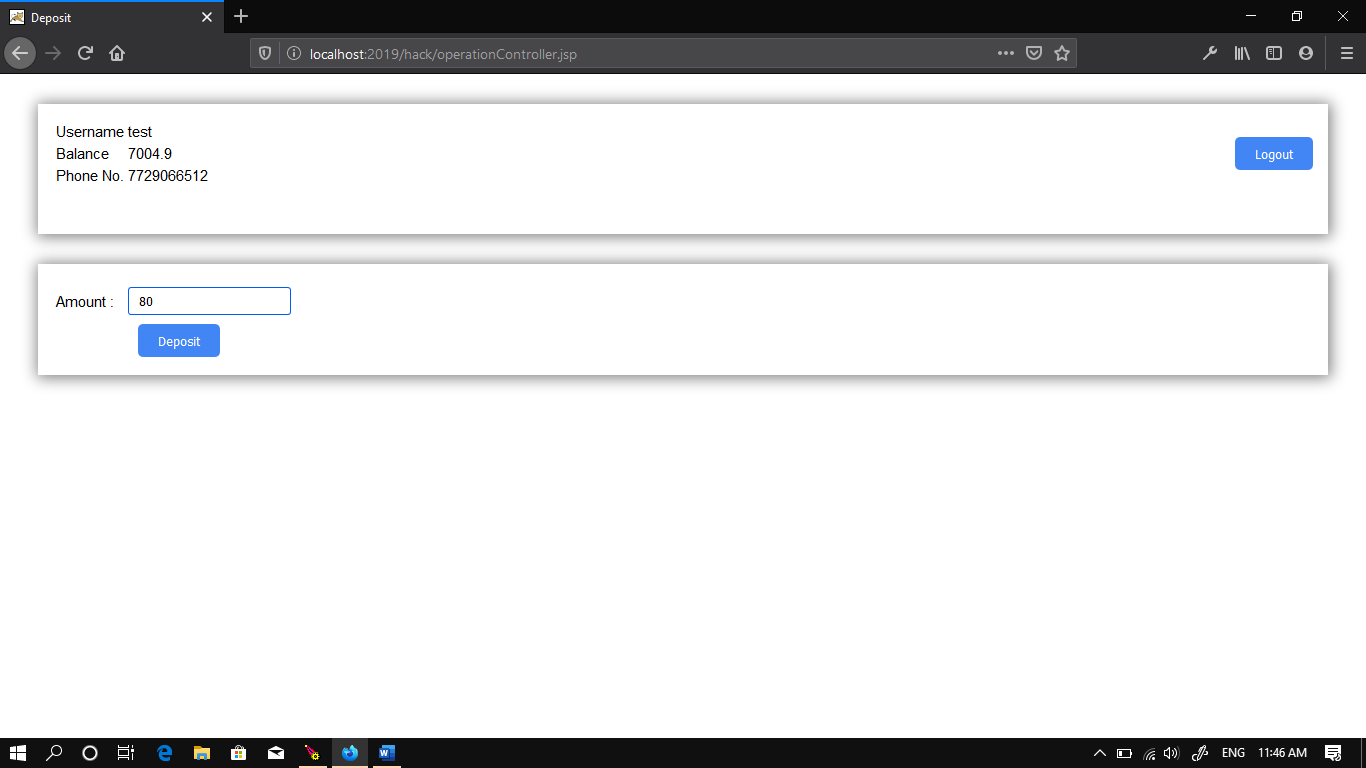
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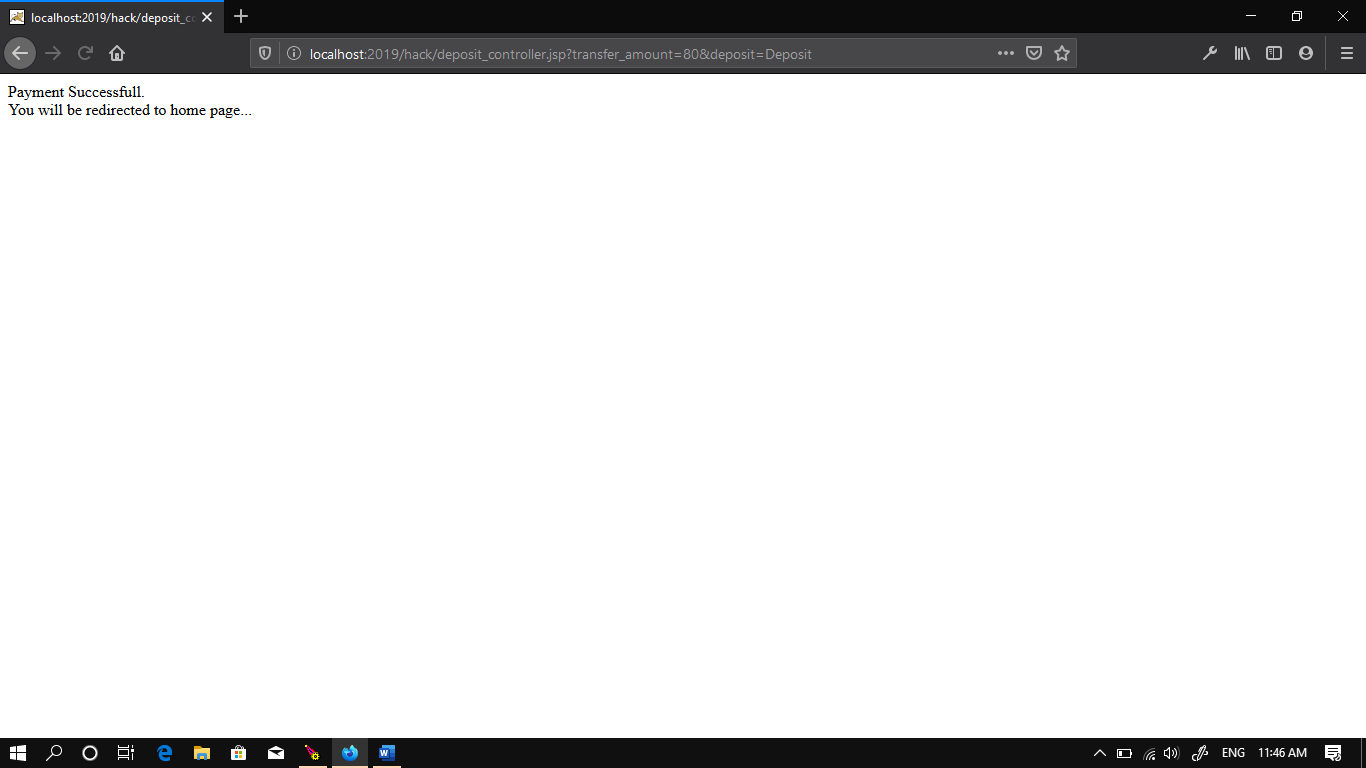
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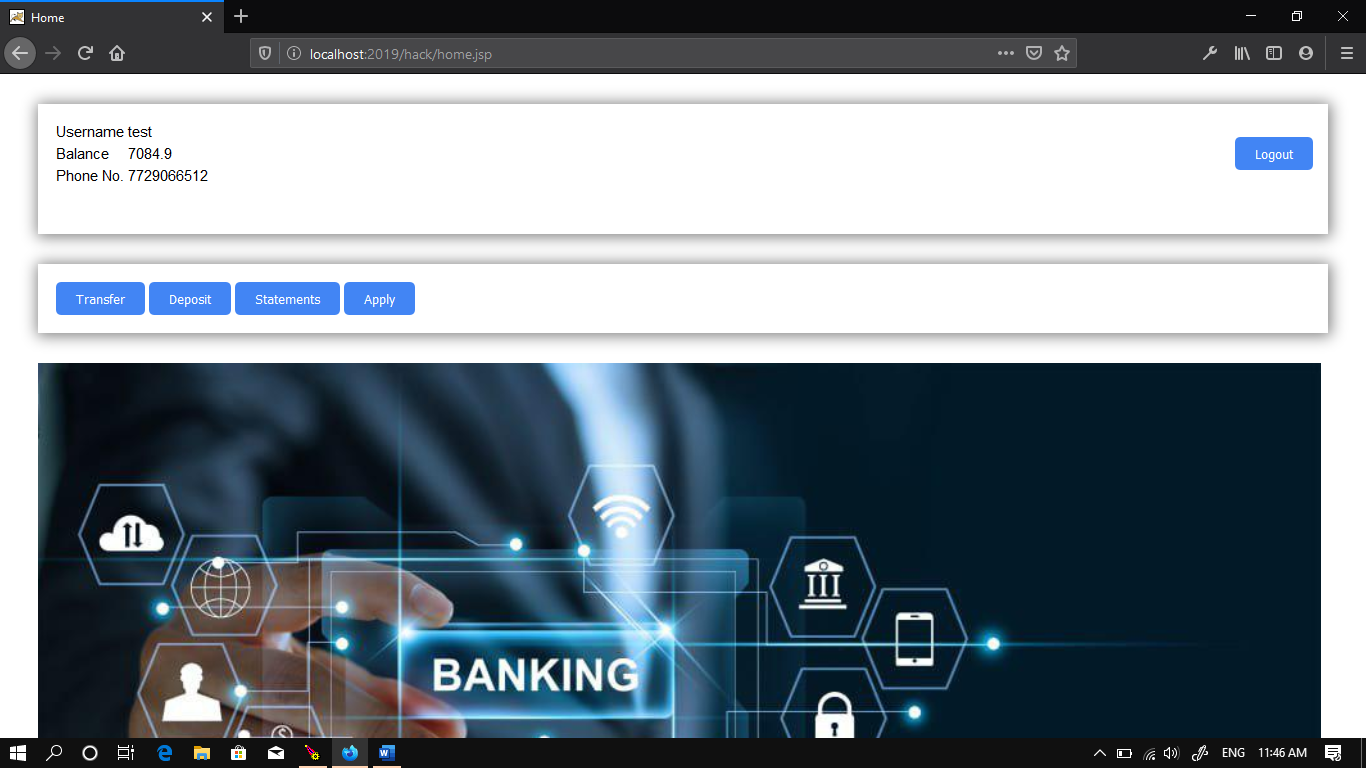
****

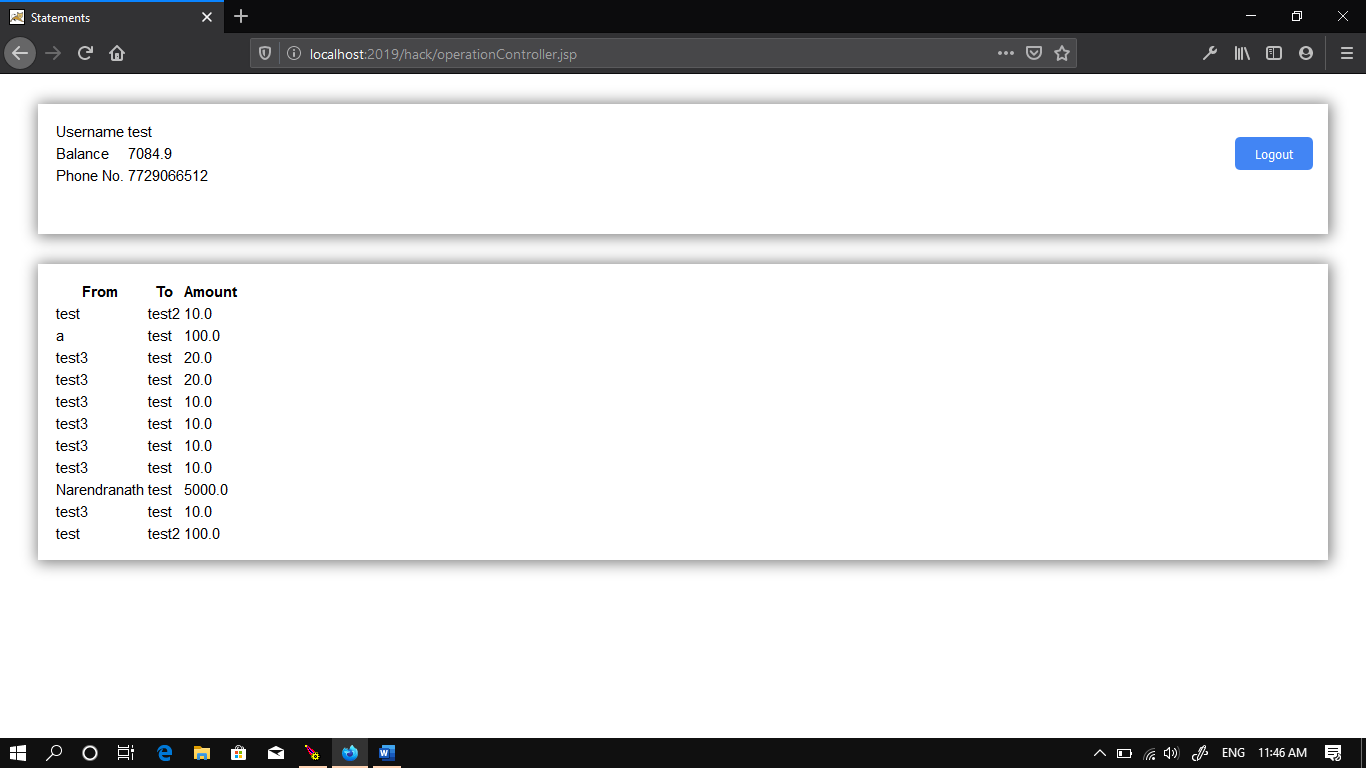
****

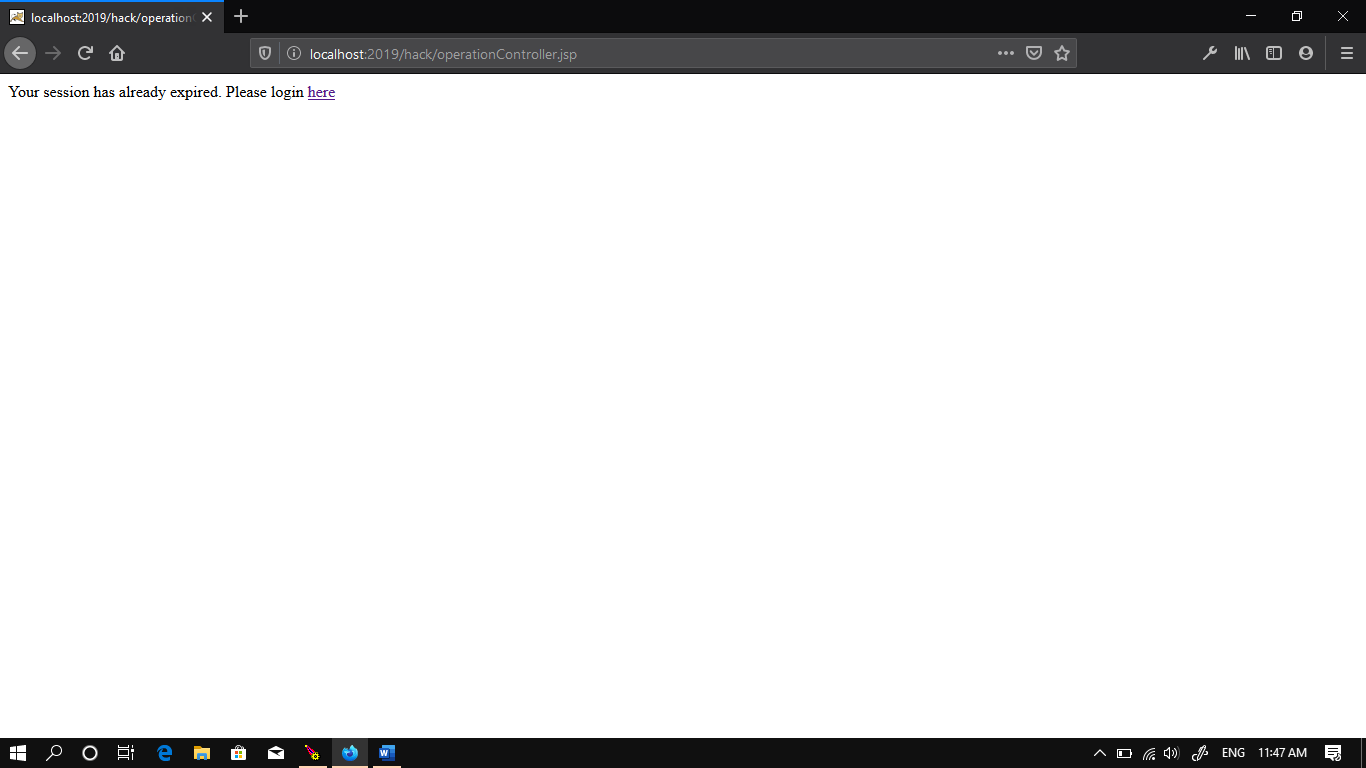
****

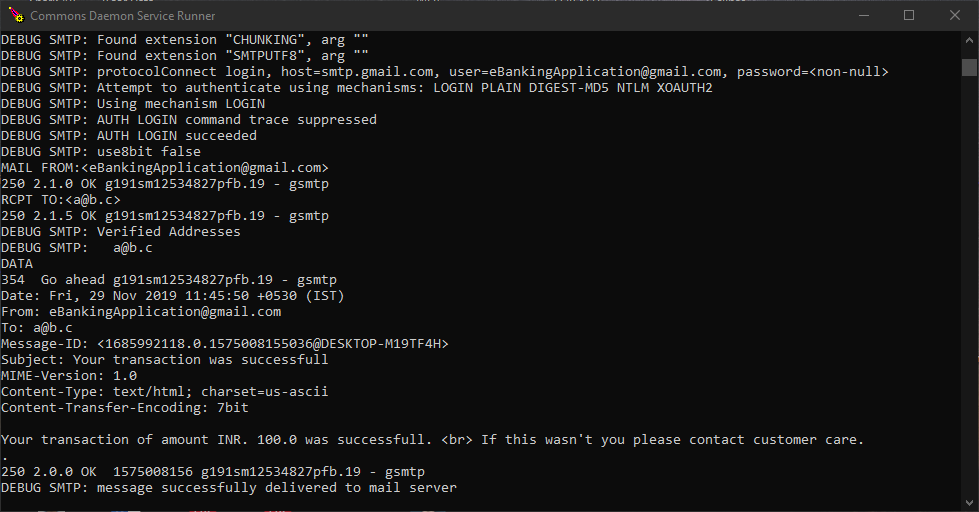
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1. **CONCLUSION AND FUTURE SCOPE**

**CONCLUSION:**

The use of electronic banking services is increased gradually in daily life and existing online banking required the usage of security card from each bank which does not match modern mobile environment because we do not know when and where online banking will be used. If there is emergency situation to do online banking, the online banking cannot be done without the security card. In order to overcome such discomfort of security card, online banking authentication system using 2D barcode instead of security card is proposed.

**FUTURE SCOPE:**

The growth of the use of these services via Internet brings with it the increase of cyber- attacks, which harms both banks and users. Therefore, banks invest in security mechanisms and provide information to users about the existence of these mechanisms in their systems. studies have shown that users-faced with many competing demands on their time and cognitive resources-try to minimise to effort they expend on security.

**8. REFERENCES**

**TEXT BOOKS:**

1. J2EE,A Complete Reference By James Keogh.
2. Mohammad Mannan, P. C. Van Oorschot, “Security and Usability: The Gap in Real-World Online Banking”, NSPW’07, North Conway, NH, USA, Sep. 18-21, 2007.

**WEB LINKS:**

1. <https://www.researchgate.net/publication/228730162_Security_and_usability_The_gap_in_real-world_online_banking>