

**A Project Report
on**
**A SECURE SEARCHABLE ENCRYPTION FRAMEWORK FOR
PRIVACY CRITICAL CLOUD STORAGE SERVICES**

submitted in partial fulfillment of the requirements for the award of the degree
of
BACHELOR OF TECHNOLOGY
in
COMPUTER SCIENCE AND ENGINEERING

by

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BVRIT HYDERABAD
College of Engineering for Women
(NBA Accredited – EEE, ECE, CSE and IT)
(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)
Bachupally, Hyderabad – 500090**

May, 2021

DECLARATION

We hereby declare that the work presented in this project entitled “**A SECURE SEARCHABLE ENCRYPTION FOR PRIVACY CRITICAL CLOUD STORAGE SERVICES**” submitted towards completion of Project Work in IV year of B.Tech - CSE at ‘BVRIT HYDERABAD College of Engineering For Women’, Hyderabad is an authentic record of our original work carried out under the guidance of Mr. Shivamurthy Hiremath, Assistant Professor, Department of CSE.

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Department of Computer Science and Engineering



CERTIFICATE

This is to certify that the Project Work report on "**A SECURE SEARCHABLE ENCRYPTION FRAMEWORK FOR PRIVACY CRITICAL CLOUD STORAGE SERVICES**" is a bonafide work carried out by Ms. V.Sri Vidya (17WH1A0579) ; Ms. G.Aishwarya (17WH1A0584) ; Ms. K.Prathimasree (17WH1A05B8) in the partial fulfillment for the award of B.Tech. degree in **Computer Science and Engineering, BVRIT HYDERABAD College of Engineering for Women, Bachupally, Hyderabad**, affiliated to Jawaharlal Nehru Technological University Hyderabad, Hyderabad under my guidance and supervision.

The results embodied in the project work have not been submitted to any other University or Institute for the award of any degree or diploma.

Head of the Department
Dr. K Srinivasa Reddy
Department of CSE

Guide
Mr. Shivamurthy Hiremath
Assistant Professor

External Examiner Acknowledgement

We would like to express our sincere thanks to **Dr. K V N Sunitha, Principal, BVRIT HYDERABAD College of Engineering for Women**, for providing the working facilities in the college.

Our sincere thanks and gratitude to our **Dr. K Srinivasa Reddy, Professor, HOD Department of CSE, BVRIT HYDERABAD College of Engineering for Women** for all the timely support and valuable suggestions during the period of our project.

We are extremely thankful and indebted to our internal guide, **Mr. Shiva Murthy, Assistant Professor, Department of CSE, BVRIT HYDERABAD College of Engineering for Women** for his constant guidance, encouragement and moral support throughout the project.

Finally, we would also like to thank our Project Coordinator, all the faculty and staff of **CSE Department** who helped us directly or indirectly, parents and friends for their cooperation in completing the project work.

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1. ABSTRACT

The goal of a cloud security strategy is to reduce the threat posed by these risks as much as possible by protecting data, managing user authentication and access, and staying operational in the face of an attack.

This project contains the Trust Manager, Data Owner, Data Consumer modules. Trust manager can view the feedback given by end user and list all negative and positive feedback. Trust Manager lists number of users in cloud services. Trust manager can view the attackers in cloud servers and number of times attacked. In Data owner module initially the data owner has to get register to the cloud server. Data owner will login to the corresponding cloud server, he got registered. Data owner will encrypted and upload the file to the cloud server. Data owner verifies the file he uploaded either it is safe or not. Data owner can view how many files has been uploaded to the corresponding cloud. Cloud Consumer first has to register to the cloud server, he can login and download files. Secure searchable encryption framework for privacy critical cloud storage services is a web enabled application developed in JAVA, JSP (java servlet pages), Mysql Database, DriveHQ cloud.

.

2.INTRODUCTION

Our Project aims to introduce a novel searchable symmetric encryption framework, which achieves a high level of privacy, efficient search for data consumer, uploading files for Data owner and low client storage with actual deployments on real time cloud DriveHQ . The files which are being uploaded by the data owner are encrypted using Advanced Encryption Framework (AES). The files uploaded in the cloud can be accessed by the authorized data consumers only when the name of the file and name of the owner are known. Trust Manager ensures safety of the cloud and prevent malicious attacks. The malicious attacks that might occur may be of two types and they are collision attacks and sybil attacks. We fully implemented our framework and evaluated its performance on Mysql Database and DriveHQ.

2.1 Objective

To build a responsive website to manage the different cloud storage activities like file uploads, downloads and to track different attacks and feedback from end users.

3. THEORETICAL ANALYSIS OF THE PROPOSED PROJECT

3.1 Requirements Gathering

3.1.1 Software Requirements

Operating system : Windows 7 , 8, 9, 10:
Server side Modules JSP
Client side : HTML, JavaScript,CSS
Server : Apache Tomcat
Database connection : Mysql
Web browser : Google chrome
IDE : MyEclipse 8.6 version

3.1.2 Hardware Requirements

Processor : Intel Core i3 or more:
Memory 4 GB (RAM) or more
Hard disk : 240 GB

3.2 Technologies Description:

- **HTML:**

HTML stands for Hypertext Markup Language, and it is the most widely used language to write Web Pages.

Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus, the link available on a web page is called Hypertext.

HTML is a Markup Language which means you use HTML to simple "mark-up" a text document with tags that tell a Web browser how to structure it to display.

Originally, HTML was developed with the intent of defining the structure of documents like headings, paragraphs, lists, and so forth to facilitate the sharing of scientific information between researchers.

Now, HTML is being widely used to format web pages with the help of different tags available in HTML language.

- **CSS:**

Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.

CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs, and variations in display for different devices and screen sizes as well as a variety of other effects.

CSS is easy to learn and understand but it provides powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the markup languages HTML or XHTML.

- **JAVA:**

Java is high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. It is a general-purpose programming language intended to let application developers write once, run anywhere meaning that compiled Java code can run on all platforms that support Java without the need for recompilation. Java applications are typically compiled to bytecode that can run on any Java virtual machine (JVM) regardless of the underlying computer architecture. The syntax of Java is similar to C and C++, but has fewer low-level facilities than either of them. The Java runtime provides dynamic capabilities (such as reflection and runtime code modification) that are typically not available in traditional compiled languages.

- **JSP:** Java Server Pages (JSP) is a server-side programming technology that enables the creation of dynamic, platform-independent method for building Web-based applications. JSP have access to the entire family of Java APIs, including the JDBC API to access enterprise databases.

- **MySQL :**

MySQL is the most popular open source database server. With MySQL, we can query a database for specific information and have a record set returned. A database defines a structure for storing information. MySQL is ideal for both small and large applications. It supports standard SQL. MySQL compiles on a number of platforms. It is free to download and use. PHP combined with MySQL are cross-platform MySQL is a relational database system. It can store bits of information in separate tables and link those tables together. Each table consists of separate fields, which represent each bit of information.

- **MyEclipse:**

MyEclipse is a commercially available Java EE IDE. MyEclipse is built upon the Eclipse platform,[1] and integrates both proprietary and open source code into the development environment.

- **TOMCAT Server:**

Apache Tomcat is a free and open-source implementation of the Java Servlet, JavaServer Pages, Java Expression Language and WebSocket technologies. Tomcat provides a "pure Java" HTTP web server environment in which Java code can run. Tomcat is developed and maintained by an open community of developers under the auspices of the Apache Software Foundation.

4. DESIGN:

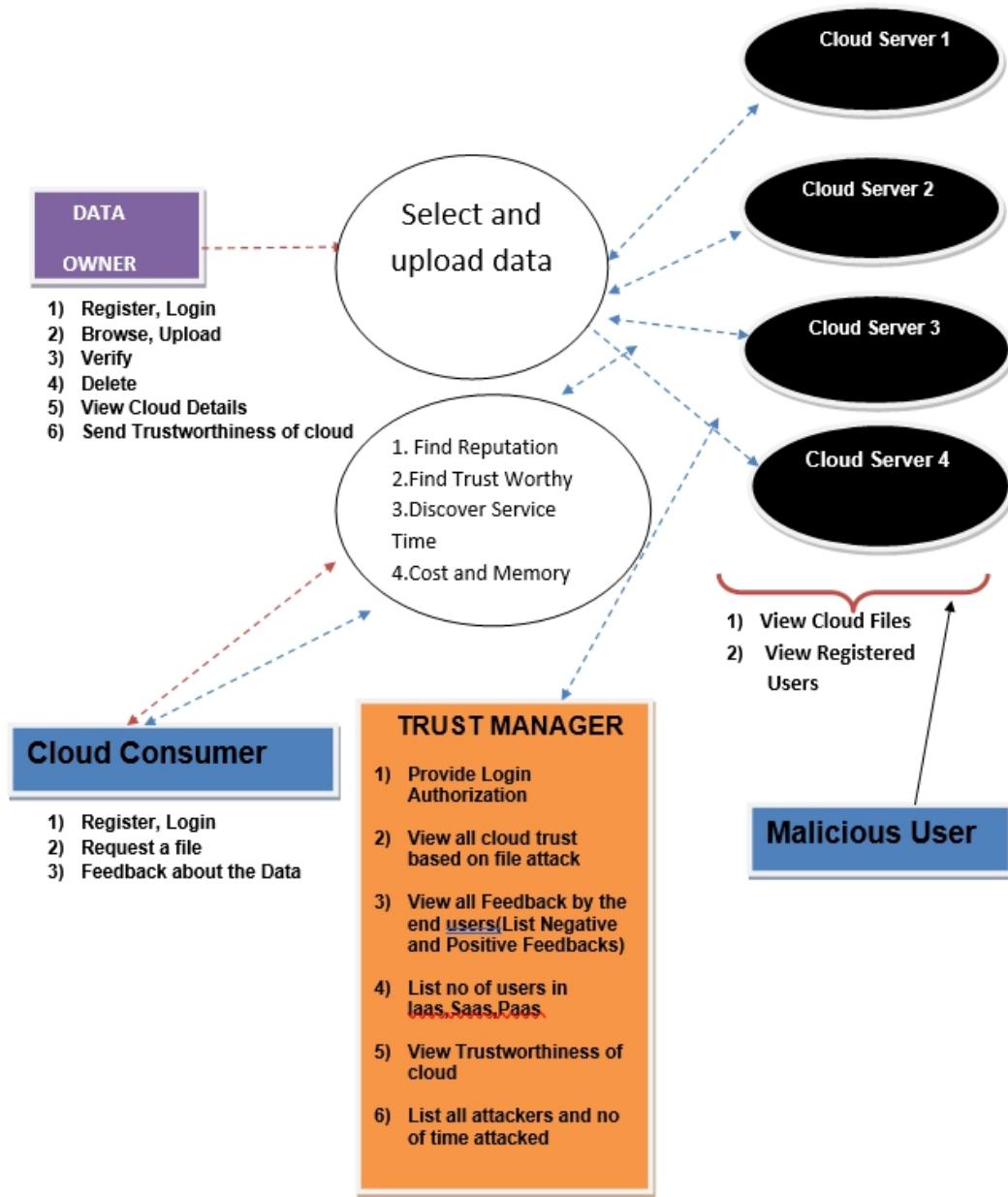
4.1 Introduction:

Software design sits at the technical kernel of the software engineering process and is applied regardless of the development paradigm and area of application. Design is the first step in the development phase for any engineered product or system. The designer's goal is to produce a model or representation of an entity that will later be built. Beginning, once system requirements have been specified and analyzed, system design is the first of the three technical activities -design, code and test that is required to build and verify software.

The importance can be stated with a single word “Quality”. Design is the place where quality is fostered in software development. Design provides us with representations of software that can assess quality. Design is the only way that we can accurately translate a customer's view into a finished software product or system. Software design serves as a foundation for all the software engineering steps that follow. Without a strong design we risk building an unstable system – one that will be difficult to test, one whose quality cannot be assessed until the last stage.

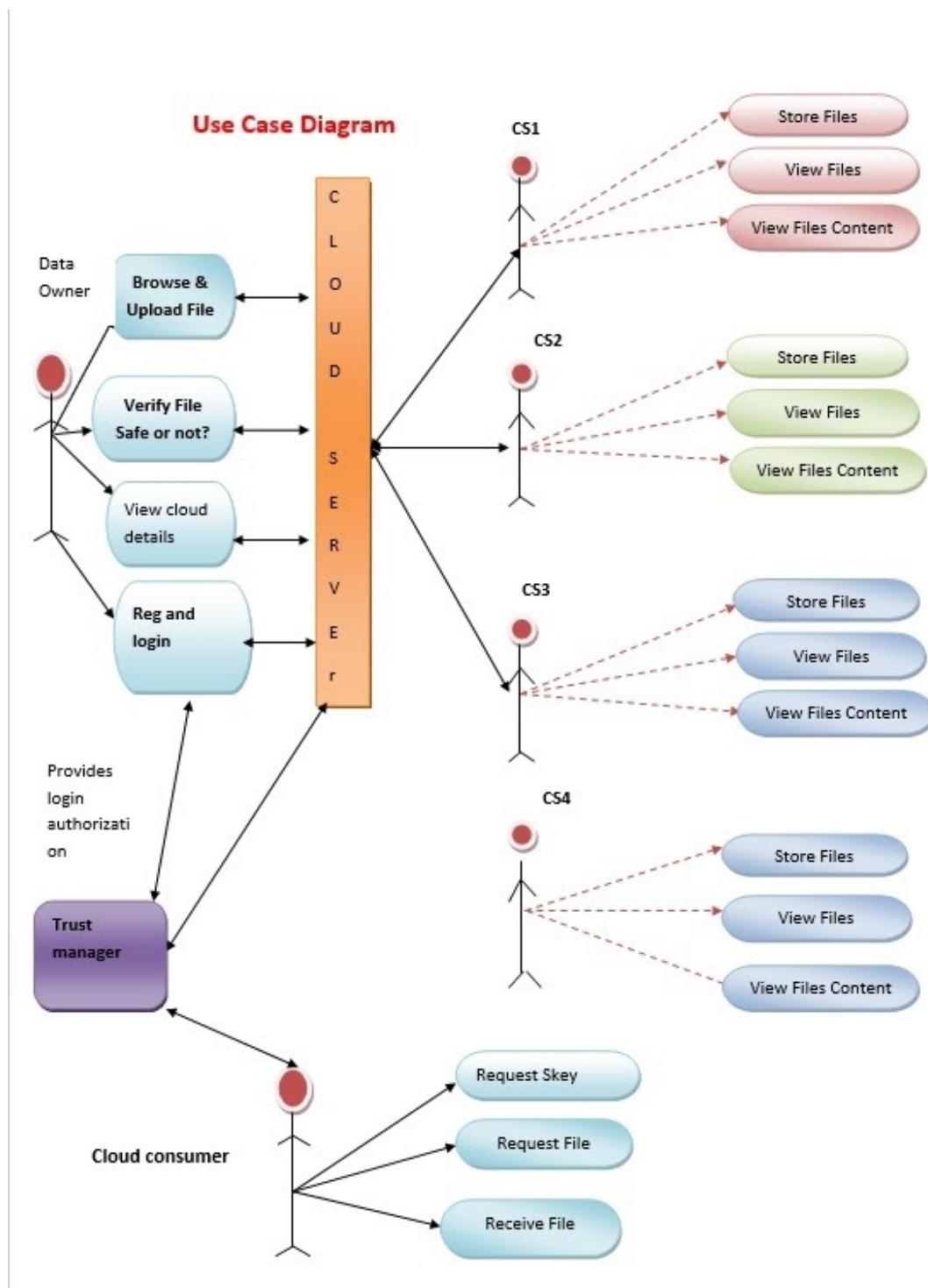
During design, progressive refinement of data structure, program structure, and procedural details are developed, reviewed and documented. System design can be viewed from either technical or project management perspective. From the technical point of view, design is comprised of four activities – architectural design, data structure design, interface design and procedural design.

4.2 Architecture Diagram:

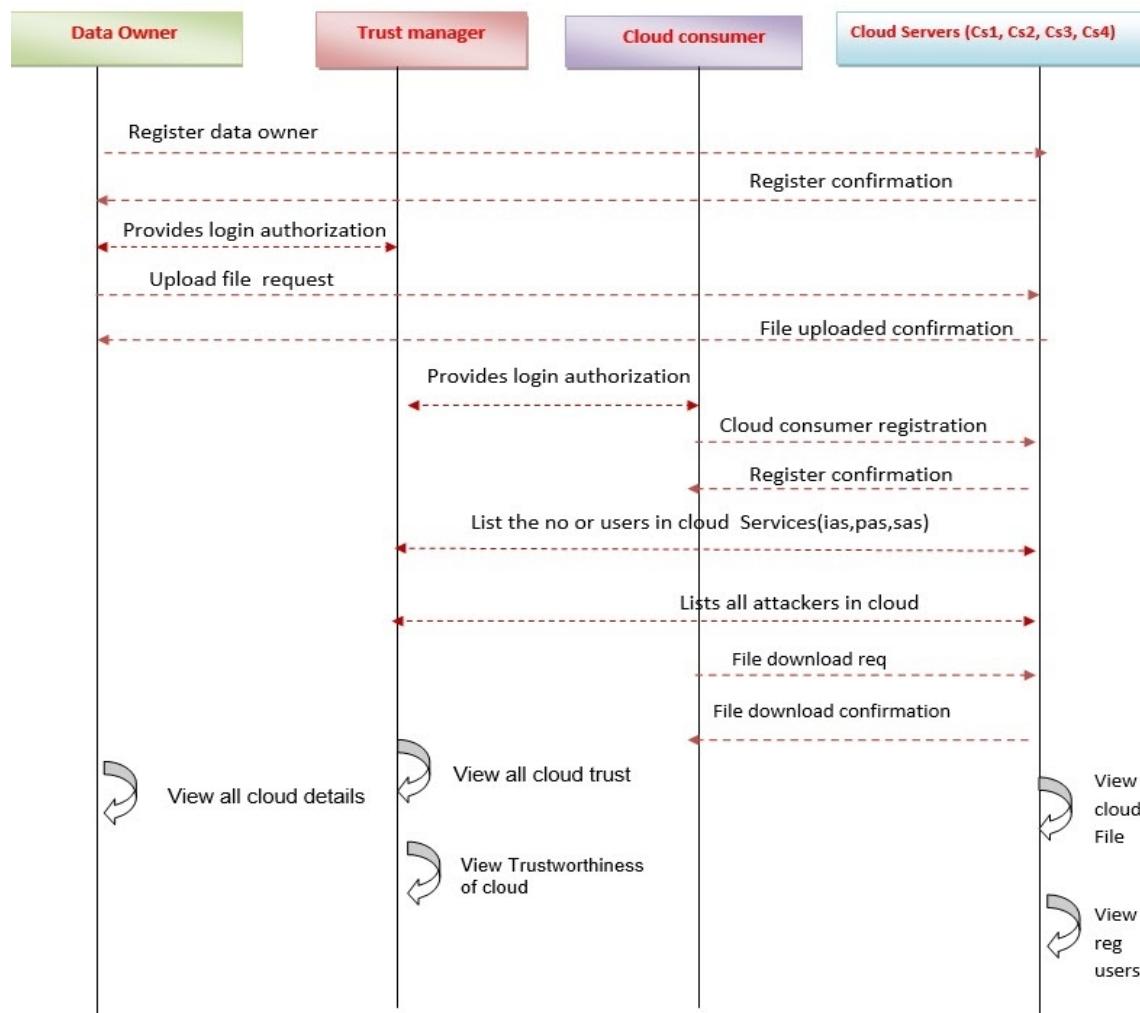


4.3 UML DIAGRAMS:

4.3.1 Use Case Diagram

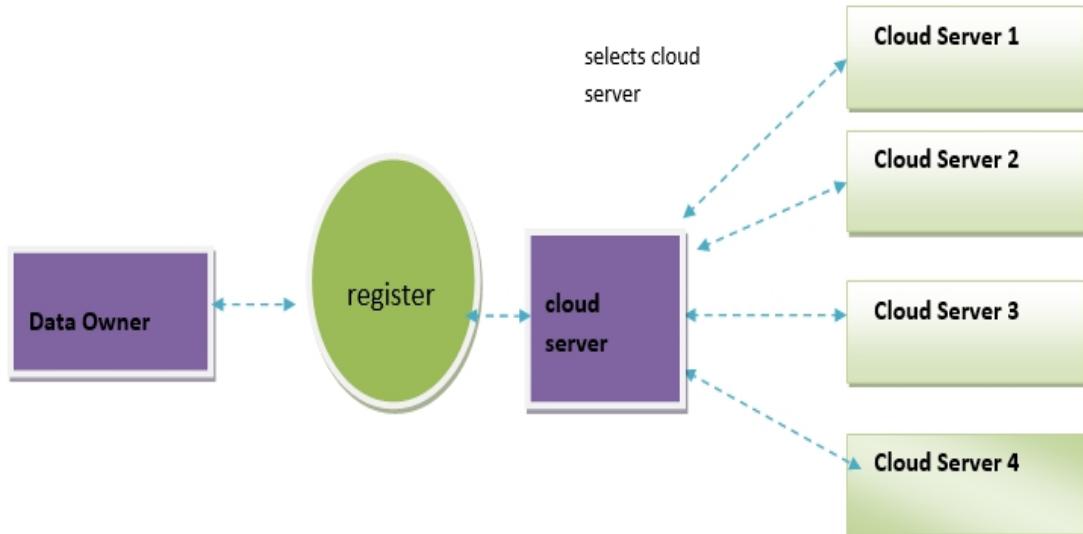


4.3.2 Sequence Diagram

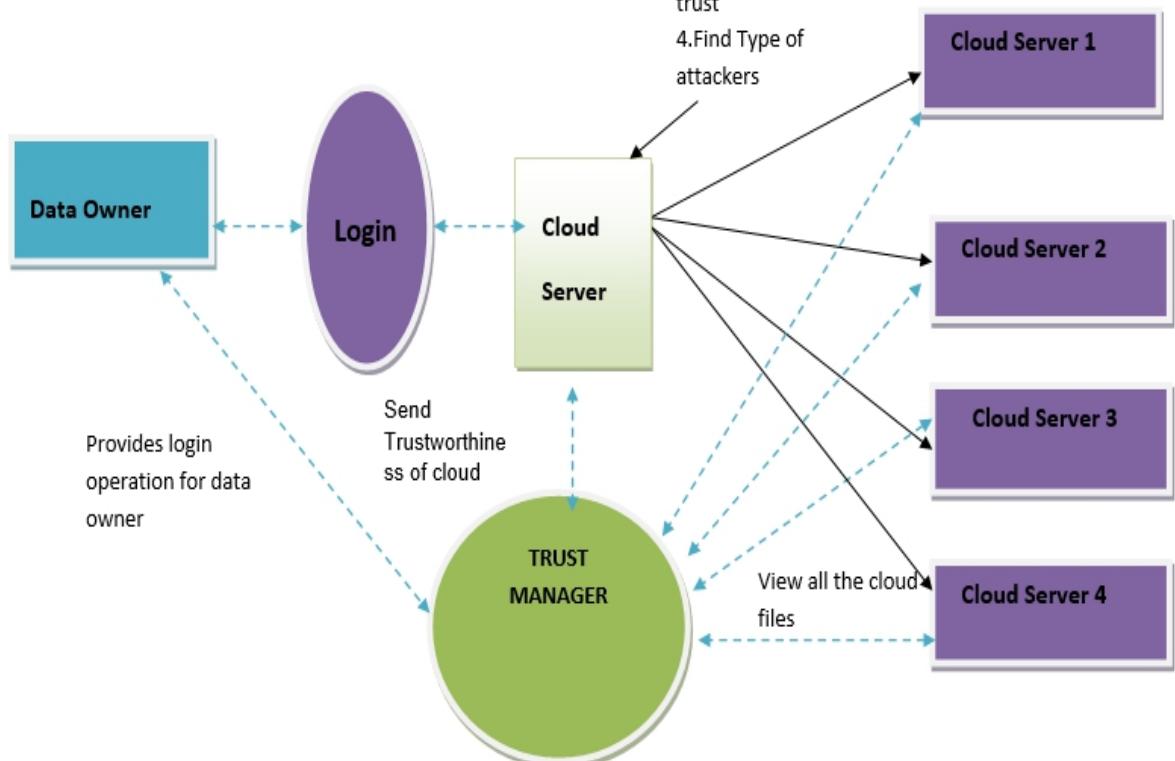


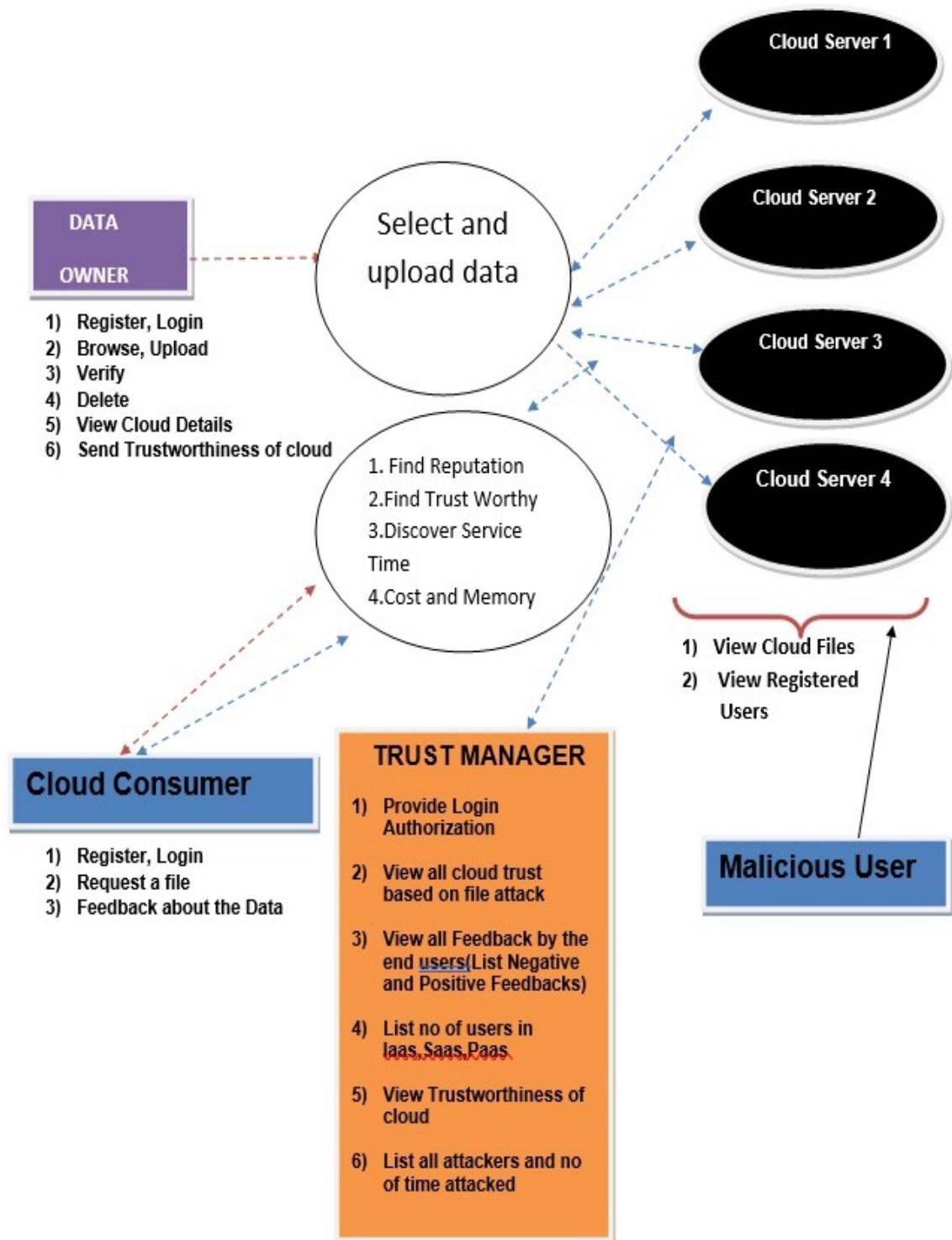
4.3.3 Data Flow Diagram:

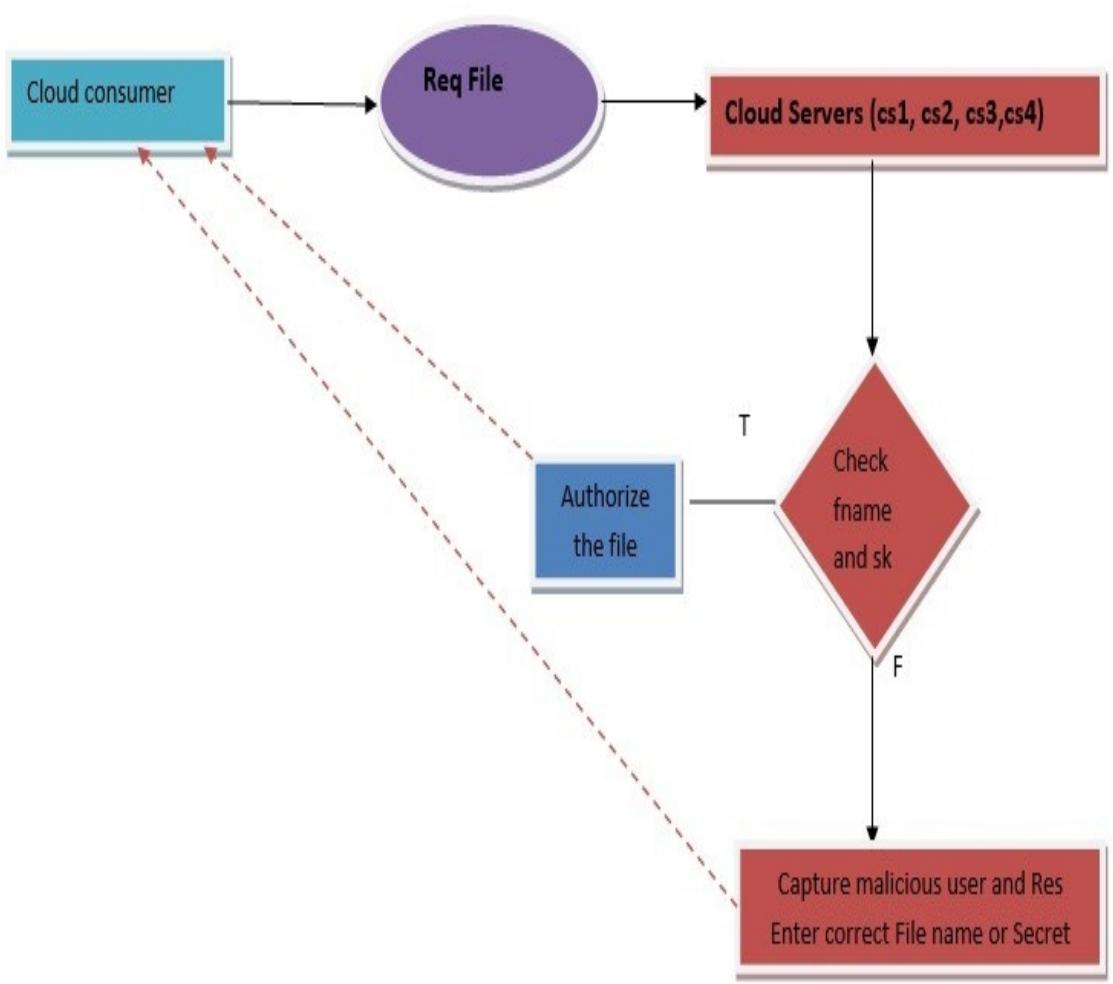
Level 0



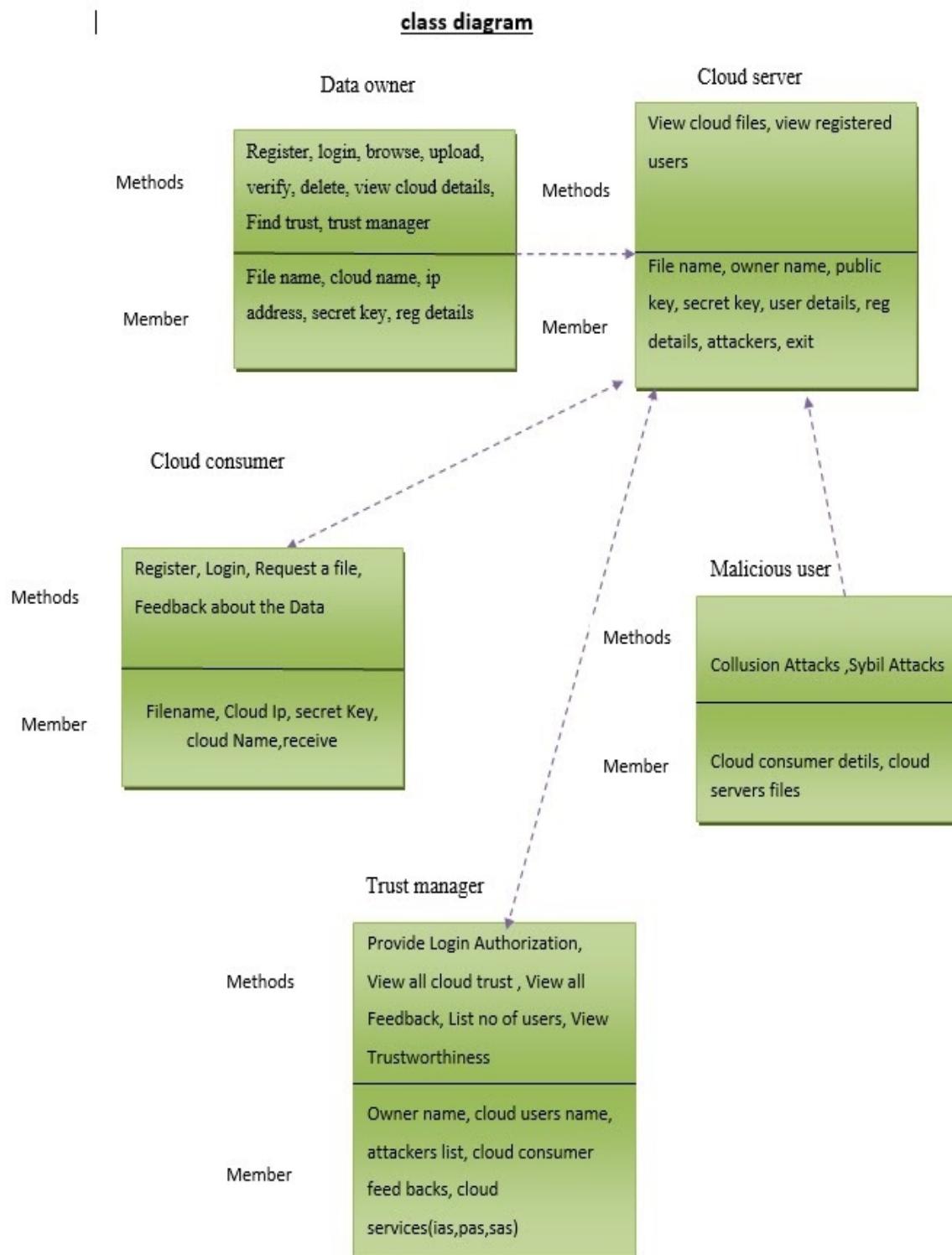
Level 1



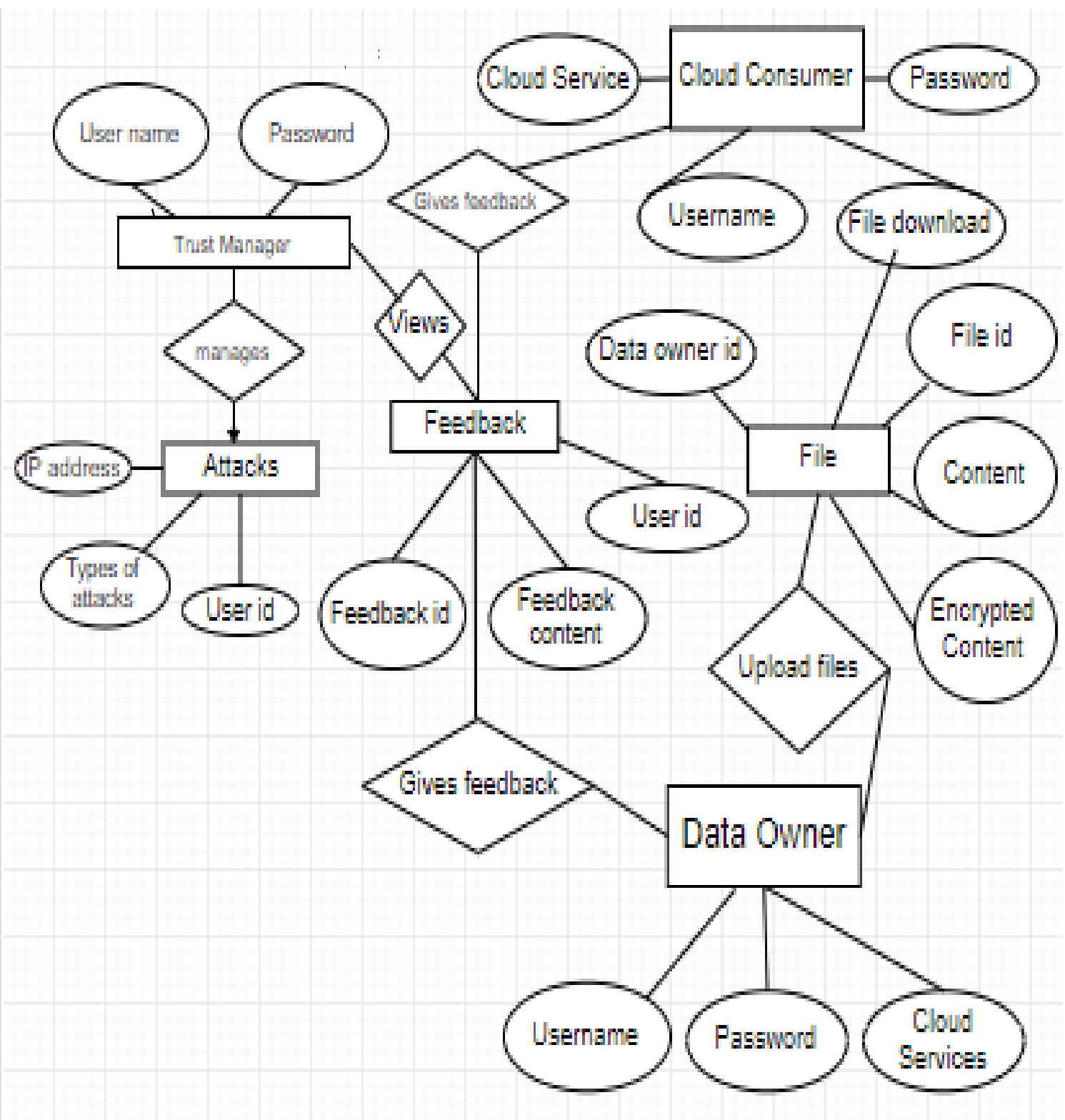




4.3.4 Class Diagram:



4.3.5 E-R Diagram



5. IMPLEMENTATION

5.1 Coding

admin_login.jsp

```
<%@ include file="connect.jsp" %>
<%@ page import="java.util.Date" %>

<%
String username=request.getParameter("adminid");

String Password=request.getParameter("pass");

try
{
    String sql="SELECT * FROM Admin where username='"+username+"' and
password='"+Password+"'";
    Statement stmt = connection.createStatement();
    ResultSet rs =stmt.executeQuery(sql);
    String utype="";
    if(rs.next())
    {
        response.sendRedirect("admin_main.jsp");
    }
    else
    {
        response.sendRedirect("wronglogin.html");
    }
}

catch(Exception e)
{out.print(e);}
%>
```

admin_main.jsp

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Trust Manager Main</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>
<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>
<style type="text/css">
<!--
.style1 {
font-size: 24px;
color: #FF0000;
}
-->
</style>
</head>
<body>
<div class="main">
<div class="header">
<div class="header_resize">
<div class="logo">
<h1><a href="index.html" class="style1">A Secure Searchable Encryption
Framework for Privacy Critical Cloud Storage Services</a></h1>
</div>
<div class="searchform">
<form id="formsearch" name="formsearch" method="post" action="#">
<span>
<input name="editbox_search" class="editbox_search" id="editbox_search"
maxlength="80" value="Search our ste:" type="text" />
</span>
<input name="button_search" src="images/search.gif" class="button_search"
type="image" />
</form>
</div>
<div class="clr">dfd</div>
<div class="slider">
```

```
<div id="coin-slider"><a href="#"></a><a href="#"></a><a href="#"></a></div>
<div class="clr"></div>
</div>
<div class="clr"></div>
<div class="menu_nav">
<ul>
<li class="active"><a href="admin_main.jsp"><span>Home Page</span></a></li>
<li class="active" ><a href="listallcollusion.jsp"><span>Collusion Attacks</span></a></li>
<li class="active"><a href="listallsybil.jsp"><span>Sybil Attacks</span></a></li>
<li class="active"><a href="viewuserservice.jsp"><span>Uers on Services</span></a></li>
<li class="active"><a href="index.html"><span>Logout</span></a></li>
</ul>
</div>
<div class="clr"></div>
</div>
</div>
<div class="content">
<div class="content_resize">
<div class="mainbar">
<div class="article">

<div class="mainbar">
<div class="article">
<p>&nbsp;</p>
<h2>Welcome to Trust Manager</h2>
<div class="clr"></div>

</div>
</div>
</div>
<div class="article">
<h2>&nbsp;</h2>
<div class="clr">
<div align="center"></div>
</div>
</div>
</div>
<div class="sidebar">
<div class="gadget">
<h2 class="star">Menu Operations </h2>
<div class="clr"></div>
<ul class="sb_menu">
```

```

<li><a href="viewpos.jsp">List +ve Feedbacks</a></li>
<li><a href="viewneg.jsp">List -ve Feedbacks</a></li>
<li><a href="listallusers1.jsp">List All Users</a></li>
<li><a href="listallcontent.jsp">List All Content Attackers</a></li>
<li><a href="listalluserdownloads.jsp">List All User Downloads</a></li>
<li><a href="ViewResults.jsp">View Reputation Results</a></li>

</ul>
</div>
</div>
<div class="clr"></div>
</div>
</div>
<div class="fbg">
<div class="fbg_resize">
<div class="col c1">
<h2>&nbsp;</h2>
</div>
<div class="col c2">
<h2>&nbsp;</h2>
</div>
<div class="col c3">
<h2>&nbsp;</h2>
</div>
<div class="clr"></div>
</div>
</div>
<div class="footer">
<div class="footer_resize">
<div style="clear:both;"></div>
</div>
</div>
</div>
</body>
</html>

```

Attack11.jsp:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Attacker</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>

```

```

<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>
<style type="text/css">
<!--
.style1 {color: #00FF00}
.style5 {color: #FF0000; font-weight: bold; }
.style7 {
font-size: 24px;
color: #FF0000;
}
-->
</style>
</head>
<body>
<div class="main">
<div class="header">
<div class="header_resize">
<div class="logo">
<h1><a href="index.html"><span class="style7">A Secure Searchable  
Encryption Framework for Privacy Critical Cloud Storage Services</span></a></h1>
</div>
<div class="searchform">
<form id="formsearch" name="formsearch" method="post" action="#">
<span>
<input name="editbox_search" class="editbox_search" id="editbox_search" maxlength="80" value="Search our ste:" type="text" />
</span>
<input name="button_search" src="images/search.gif" class="button_search" type="image" />
</form>
</div>
<div class="clr"></div>
<div class="slider">
<div id="coin-slider"> <a href="#"></a> <a href="#"></a> <a href="#"></a> </div>
<div class="clr"></div>
<div class="clr"></div>
<div class="menu_nav">
<ul>
</ul>
</div>
<div class="clr"></div>
</div>
</div>

```

```

<div class="content">
  <div class="content_resize">
    <div class="mainbar">
      <div class="article">

        <div class="mainbar">
          <div class="article">
            <p>&nbsp;</p>
            <h2 class="style1">Attack Cloud Files </h2>
            <br />
            <form name="form1" method="post" action="attack22.jsp">
              <table width="371" border="0" align="center">

                <tr>
                  <td><span class="style5">Select the Cloud Server</span></td>
                  <td><label>
                    <select name="t1">
                      <option>--Select--</option>
                      <option>CS1</option>
                      <option>CS2</option>
                      <option>CS3</option>
                      <option>CS4</option>
                    </select>
                  </label></td>
                </tr>
                <tr>
                  <td><span class="style5">Enter the File Name </span></td>
                  <td><input type="text" name="t2" /></td>
                </tr>
                <tr>
                  <td><span class="style5">Enter the Owner Name </span></td>
                  <td><input type="text" name="t3" /></td>
                </tr>
                <tr>
                  <td>&nbsp;</td>
                  <td>&nbsp;</td>
                </tr>
                <tr>
                  <td>&nbsp;</td>
                  <td><label>
                    <input type="submit" name="Submit" value="Submit">
                  </label></td>
                </tr>
              </table>
            </form>
          </div>
        </div class="article">
        <h2>&nbsp;</h2>
        <div class="clr"></div>

```

```

</div>
</div>
<div class="sidebar">
  <div class="gadget">
    <h2 class="star">&nbsp;</h2>
    <div class="clr"></div>
    <ul class="sb_menu">

      </ul>
    </div>
  </div>
  <div class="clr"></div>
</div>
</div>
<div class="fbg">
  <div class="fbg_resize">
    <div class="col c1">
      <h2>&nbsp;</h2>
    </div>
    <div class="col c2">
      <h2>&nbsp;</h2>
    </div>
    <div class="col c3">
      <h2>&nbsp;</h2>
    </div>
    <div class="clr"></div>
  </div>
</div>
<div class="footer">
  <div class="footer_resize">
    <div style="clear:both;"></div>
  </div>
</div>
<div align=center></div>
</body>
</html>

```

Attack22.jsp:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<%@ include file="connect.jsp" %>
<%@page import
="java.util.* , java.text.SimpleDateFormat,java.util.Date,java.io.FileInputStream,java.i
o.FileOutputStream,java.io.PrintStream"%>
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Attacker</title>

```

```

<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>
<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>
<style type="text/css">
<!--
.style1 {
font-size: 24px;
color: #FF0000;
}
-->
</style>
</head>
<body>
<div class="main">
<div class="header">
<div class="header_resize">
<div class="logo">
<h1><a href="index.html" class="style1">A Secure Searchable Encryption
Framework for Privacy Critical Cloud Storage Services
<span></a></h1>
</div>
<div class="searchform">
<form id="formsearch" name="formsearch" method="post" action="#">
<span>
<input name="editbox_search" class="editbox_search" id="editbox_search"
maxlength="80" value="Search our ste:" type="text" />
</span>
<input name="button_search" src="images/search.gif" class="button_search"
type="image" />
</form>
</div>
<div class="clr"></div>
<div class="slider">
<div id="coin-slider"><a href="#"></a> <a href="#"></a> <a href="#"></a> </div>
<div class="clr"></div>
<div class="clr"></div>
<div class="menu_nav">
<ul>
</ul>

```

```

</div>
<div class="clr"></div>
</div>
</div>
<div class="content">
<div class="content_resize">
<div class="mainbar">
<div class="article">

<div class="mainbar">
<div class="article">
<p>&nbsp;</p>
<h2>Attack Cloud Files</h2>
<br />
<form name="form1" method="post"
action="attack33.jsp">

<%

```

```

String s1="",s2="",s3="",s4="",s5="",s6="",s7="",s8,s9="",s10,s11,s12,s13;
int i=0,j=0,k=0;
```

```

try
{
    String cname=request.getParameter("t1");
    String fname=request.getParameter("t2");
    String oname=request.getParameter("t3");
    String uname=(String)application.getAttribute("uname");
```

```

    String query="select * from cfiles where cname='"+cname+"' and
    fname='"+fname+"' and oname='"+oname+"' ";
    Statement st=connection.createStatement();
    ResultSet rs=st.executeQuery(query);
if( rs.next() )
{
    s2=rs.getString("ct");

    %>
```

```

<table width="548" border="1" align="center">
<tr>
<td><span class="style10"> Cloud Name:- </span></td>
<td><input type="text" name="t1" value="<%>= cname %>" readonly></td>
</tr>
<tr>
<td><span class="style10"> File Name:- </span></td>
<td><input type="text" name="t2" value="<%>= fname %>" readonly></td>
```

```

</tr>
<tr>
<td><span class="style10"> Owner Name:- </span></td>
<td><input type="text" name="t3" value="<% oname %>" readonly></td>
</tr>
<tr>
<td><span class="style10">Change the File Content:-</span></td>
<td><textarea name="textarea" id="textarea" cols="50" rows="20"><%=
s2 %></textarea></td>
</tr>

<tr>
<td><div align="right">
<input type="submit" name="Submit" value="Attack">
</div></td>
<td><input type="reset" name="Submit2" value="Reset"></td>
</tr>
</table>

<%
}

else
{
    out.println("FILE NOT FOUND IN CLOUD");

    %><p><a href="attack11.jsp">Back</a></p>

    <%
}
    connection.close();
}

catch(Exception e)
{
    out.println(e.getMessage());
}

%>

</form>
</div>
</div>
</div>
<div class="article">
<h2>&nbsp;</h2>
<div class="clr"></div>
</div>

```

```

</div>
<div class="sidebar">
  <div class="gadget">
    <h2 class="star"><span>Sidebar</span> Menu</h2>
    <div class="clr"></div>
    <ul class="sb_menu">

      </ul>
    </div>
  </div>
  <div class="clr"></div>
</div>
<div class="fbg">
  <div class="fbg_resize">
    <div class="col c1">
      <h2>&nbsp;</h2>
    </div>
    <div class="col c2">
      <h2>&nbsp;</h2>
    </div>
    <div class="col c3">
      <h2>&nbsp;</h2>
    </div>
    <div class="clr"></div>
  </div>
</div>
<div class="footer">
  <div class="footer_resize">
    <p class="lf">&copy;.</p>
    <div style="clear:both;"></div>
  </div>
</div>
<div align=center></div>
</body>
</html>

```

Attackfeedback.jsp:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Feed Back</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>

```

```

<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>
<style type="text/css">
<!--
.style1 {color: #FF0000}
.style2 {color: #0000FF}
.style3 {
font-size: 24px;
color: #FF0000;
}
-->
</style>
</head>
<body>
<div class="main">
<div class="header">
<div class="header_resize">
<div class="logo">
<h1><a href="index.html" class="style3">A Secure Searchable Encryption
Framework for Privacy Critical Cloud Storage Services</a></h1>
</div>
<div class="searchform">
<form id="formsearch" name="formsearch" method="post" action="#">
<span>
<input name="editbox_search" class="editbox_search" id="editbox_search"
maxlength="80" value="Search our ste:" type="text" />
</span>
<input name="button_search" src="images/search.gif" class="button_search"
type="image" />
</form>
</div>
<div class="clr"></div>
<div class="slider">
<div id="coin-slider"> <a href="#"></a> <a href="#"></a> <a href="#"></a> </div>
<div class="clr"></div>
</div>
<div class="clr"></div>
<div class="menu_nav">
<ul>
<li ><a href="request1.jsp"><span>Request for SK</span></a></li>
<li ><a href="reqfile.jsp"><span>Request for File</span></a></li>
<li ><a href="SendTrust0.jsp"><span>Feedback about Cloud</span></a></li>
<li ><a href="attackfeedback.jsp"><span>Attack Feedback</span></a></li>
<li ><a href="index.html"><span>Logout</span></a></li>
</ul>

```

```

</div>
<div class="clr"></div>
</div>
</div>
<div class="content">
<div class="content_resize">
<div class="mainbar">
<div class="article">

<div class="mainbar">
<div class="article">
<p>&nbsp;</p>
<h2 class="style2">Attack Feedback</h2>
<br />
<form name="form1" method="post" action="attackfeedback1.jsp">
<table width="371" border="0" align="center">
<tr>
<td><span class="style2"><strong>Select the Cloud
Server</strong></span></td>
<td><label>
<select name="t1">
<option>--Select--</option>
<option>CS1</option>
<option>CS2</option>
<option>CS3</option>
<option>CS4</option>
</select>
</label></td>
</tr>
<tr>
<td>&nbsp;</td>
<td>&nbsp;</td>
</tr>
<tr>
<td>&nbsp;</td>
<td><label>
<input type="submit" name="Submit" value="Submit">
</label></td>
</tr>
</table>
</form>
</div>
</div>
</div>
<div class="article">
<h2>&nbsp;</h2>
<div class="clr"></div>
</div>
</div>
<div class="sidebar">

```

```

<div class="gadget">
  <h2 class="star">Menu Operations </h2>
  <div class="clr style2"></div>
  <ul class="sb_menu style1">
    <li class="style2"><a href="viewcloudrepu0.jsp">Find Reputation</a></li>
    <li class="style2"><a href="viewcloudtrust0.jsp">Find Trust
Worthy</a></li>
    <li class="style2"><a href="viewcloudcost0.jsp">Find Cost &
Memory</a></li>
    <li><span class="style2"><a href="viewcloudfiles0.jsp">View Cloud
Files</a></span></li>
  </ul>
  </div>
</div>
<div class="clr"></div>
</div>
</div>
<div class="fbg">
  <div class="fbg_resize">
    <div class="col c1">
      <h2>&nbsp;</h2>
    </div>
    <div class="col c2">
      <h2>&nbsp;</h2>
    </div>
    <div class="col c3">
      <h2>&nbsp;</h2>
    </div>
    <div class="clr"></div>
  </div>
</div>
<div class="footer">
  <div class="footer_resize">
    <div style="clear:both;"></div>
  </div>
</div>
<div align=center></div>
</body>
</html>

```

Cloudlogin.jsp:

```

<%@ include file="connect.jsp" %>
<%@ page import="java.util.Date" %>

<%

```

```

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

String Password=request.getParameter("password");
String cloud=request.getParameter("select5");
application.setAttribute("cname",cloud);

try
{
    String sql="SELECT * FROM cloud where username='"+username+"' and
password='"+Password+"' and cloud='"+cloud+"'";
    Statement stmt = connection.createStatement();
    ResultSet rs =stmt.executeQuery(sql);
    String utype="";
    if(rs.next())
    {
        response.sendRedirect("cloud_main.jsp");
    }
    else
    {
        response.sendRedirect("wronglogin.html");
    }
}

catch(Exception e)
{out.print(e);}
%>

```

Cloudmain.jsp:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Cloud Server Main</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>
<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>
<style type="text/css">
<!--
.style1 {
color: #FF0000;

```

```

font-weight: bold;
}
.style2 {
font-size: 24px;
color: #FF0000;
font-weight: bold;
}
-->
</style>
</head>
<body>
<div class="main">
<div class="header">
<div class="header_resize">
<div class="logo">
<h1><a href="index.html" class="style2">A Secure Searchable Encryption
Framework for Privacy Critical Cloud Storage Services</a></h1>
</div>
<div class="searchform">
<form id="formsearch" name="formsearch" method="post" action="#">
<span>
<input name="editbox_search" class="editbox_search" id="editbox_search"
maxlength="80" value="Search our ste:" type="text" />
</span>
<input name="button_search" src="images/search.gif" class="button_search"
type="image" />
</form>
</div>
<div class="clr"></div>
<div class="slider">
<div id="coin-slider"><a href="#"></a> <a href="#"></a> <a href="#"></a> </div>
<div class="clr"></div>
</div>
<div class="clr"></div>
<div class="menu_nav">
<ul>
<li class="active"><a href="cloud_main.jsp"><span>Home
Page</span></a></li>
<li class="active"><a href="listallfiles.jsp"><span>List All
Files</span></a></li>
<li class="active"><a href="listallusers.jsp"><span>List All
Users</span></a></li>
<li class="active"><a href="listallvms.jsp"><span>List All
VMs</span></a></li>
<li class="active"><a href="index.html"><span>Logout</span></a></li>
</ul>
</div>

```

```

<div class="clr"></div>
</div>
</div>
<div class="content">
<div class="content_resize">
<div class="mainbar">
<div class="article">

<div class="mainbar">
<div class="article">
<p></p>
<h2>Welcome to <%= application.getAttribute("cname")%></h2>
<p>&nbsp;</p>
<p align="justify" class="style1">In the Infrastructure as a Service (IaaS) paradigm of cloud computing, computational resources are available for rent. Although it offers a cost efficient solution to virtual network requirements, low trust on the rented computational resources prevents users from using it. To reduce the cost, computational resources are shared, i.e., there exists multi-tenancy. As the communication channels and other computational resources are shared, it creates security and privacy issues. A user may not identify a trustworthy co-tenant as the users are anonymous. The user depends on the Cloud Provider (CP) to assign trustworthy co-tenants. But, it is in the CP's interest that it gets maximum utilization of its resources. Hence, it allows maximum co-tenancy irrespective of the behaviours of users. In this paper, we propose a robust reputation management mechanism that encourages the CPs in a federated cloud to differentiate between good and malicious users and assign resources in such a way that they do not share resources. We show the correctness and the efficiency of the proposed reputation management system using analytical and experimental analysis.</p>
<div class="clr">
<p>&nbsp;</p>
<p>&nbsp;</p>
</div>

</div>
</div>
</div>
<div class="article">
<h2>&nbsp;</h2>
<div class="clr"></div>
</div>
</div>
<div class="clr"></div>
</div>
</div>
<div class="fbg">
<div class="fbg_resize">
<div class="col c1">
<h2>&nbsp;</h2>
</div>
<div class="col c2">

```

```

<h2>&nbsp;</h2>
</div>
<div class="col c3">
  <h2>&nbsp;</h2>
</div>
<div class="clr"></div>
</div>
</div>
<div class="footer">
  <div class="footer_resize">
    <div style="clear:both;"></div>
  </div>
</div>
<div align=center></div>
</body>
</html>

```

Connect.jsp:

```

<%@ page import="java.sql.*"%>
<%@ page import="java.util.*" %>
<%
Connection connection = null;
try {

  Class.forName("com.mysql.jdbc.Driver");
connection =
DriverManager.getConnection("jdbc:mysql://localhost:3306/robust","root","root");
  String sql="";

}

catch(Exception e)
{
System.out.println(e);
}
%>

```

Delete.jsp:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<%@ include file="connect.jsp" %>
<%@page import
="java.util.* , java.text.SimpleDateFormat,java.util.Date,java.io.FileInputStream,java.i
o.FileOutputStream,java.io.PrintStream"%>
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Delete File</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>
<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>

<style type="text/css">
<!--
.style1 {color: #0000FF}
.style2 {
font-size: 24px;
color: #FF0000;
font-weight: bold;
}
-->
</style>
</head>
<body>
<div class="main">
<div class="header">
<div class="header_resize">
<div class="logo">
<h1><a href="index.html" class="style2">A Secure Searchable Encryption
Framework for Privacy Critical Cloud Storage Services</a></h1>
</div>
<div class="searchform">
<form id="formsearch" name="formsearch" method="post" action="#">
<span>
<input name="editbox_search" class="editbox_search" id="editbox_search"
maxlength="80" value="Search our ste:" type="text" />
</span>
<input name="button_search" src="images/search.gif" class="button_search"
type="image" />
</form>
</div>
<div class="clr"></div>
<div class="slider">

```

```

<div id="coin-slider"> <a href="#"></a> <a href="#"></a> <a href="#"></a> </div>
    <div class="clr"></div>
</div>
<div class="clr"></div>
<div class="menu_nav">
    <ul>
        <li class="active" ><a href="user_main.jsp"><span>Home Page</span></a></li>
        <li class="active" ><a href="purchase.jsp"><span>Purchase VM</span></a></li>
        <li class="active" ><a href="sendfile.jsp"><span>Upload File</span></a></li>
        <li class="active" ><a href="Verify.jsp"><span>Verify</span></a></li>
        <li class="active" ><a href="index.html"><span>Logout</span></a></li>
    </ul>
</div>
<div class="clr"></div>
</div>
</div>
<div class="content">
    <div class="content_resize">
        <div class="mainbar">
            <div class="article">

                <div class="mainbar">
                    <div class="article">
                        <p>&nbsp;</p>
                        <h2 class="style1">Delete the File in Cloud </h2>
                        <p>&nbsp;</p>
                        <br />
                        <form action="Delete1.jsp" method="post" name="form1">
                            <table width="598" border="1" align="center">
                                <tr>
                                    <td width="286"><span class="style4"><strong>Select the Cloud:-</strong></span></td>
                                    <td width="356"> <select name="select5">
                                        <option>--Select--</option>
                                        <option>CS1</option>
                                        <option>CS2</option>
                                        <option>CS3</option>
                                        <option>CS4</option>
                                    </select> </td>
                                </tr>
                                <tr>
                                    <td><span class="style4"><strong>Enter the Filename:-</strong></span></td>

```

```

<td><input type="text" name="t1" /></td>
</tr>

<tr>
<td>&nbsp;</td>
<td>&nbsp;</td>
</tr>
<tr>
<td><div align="right">
<input type="submit" name="Submit" value="Submit">
</div></td>
<td><input type="reset" name="Submit2" value="Reset"></td>
</tr>
</table>
</form>
</div>
</div>
</div>
<div class="article">
<h2>&nbsp;</h2>
<div class="clr"></div>
</div>
</div>
<div class="sidebar">
<div class="gadget">
<h2 class="star">Menu Operations </h2>
<div class="clr"></div>
<ul class="sb_menu style1">
<li><a href="viewcloudrepu.jsp">Find Reputation</a></li>
<li><a href="viewcloudtrust.jsp">Find Trust Worthy</a></li>
<li><a href="viewcloudcost.jsp">Find Cost & Memory</a></li>
<li><a href="SendTrust.jsp">Send Trustworthiness of Cloud</a></li>
<li><a href="Delete.jsp">Delete</a></li>
<li><a href="viewcloudfiles.jsp">View Cloud Files</a></li>
</ul>
</div>
</div>
<div class="clr"></div>
</div>
</div>
<div class="fbg">
<div class="fbg_resize">
<div class="col c1">
<h2>&nbsp;</h2>
</div>
<div class="col c2">
<h2>&nbsp;</h2>
</div>
<div class="col c3">

```

```

<h2>&nbsp;</h2>
</div>
<div class="clr"></div>
</div>
</div>
<div class="footer">
  <div class="footer_resize">
    <p class="lf">&nbsp;</p>
    <div style="clear:both;"></div>
  </div>
</div>
<div align=center></div>
</body>
</html>

```

Index.html:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Home Page</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>
<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>
<style type="text/css">
<!--
.style1 {
font-size: 18px;
color: #FF0000;
font-weight: bold;
font-style: italic;
}
.style2 {
color: #FF0000;
font-weight: bold;
}
.style3 {color: #FF0000}
.style4 {color: #0000FF}
.style5 {color: #003300}
-->
</style>

```

```

</head>
<body>
<div class="main">
  <div class="header">
    <div class="header_resize">
      <div class="logo">
        <h1><a href="index.html"><span class="style1">A Secure Searchable  
Encryption Framework for Privacy Critical Cloud Storage Services</span></a></h1>
      </div>
      <div class="searchform">
        <form id="formsearch" name="formsearch" method="post" action="#">
          <span>
            <input name="editbox_search" class="editbox_search" id="editbox_search" maxlength="80" value="Search our ste:" type="text" />
          </span>
          <input name="button_search" src="images/search.gif" class="button_search" type="image" />
        </form>
      </div>
      <div class="clr"></div>
      <div class="slider">
        <div id="coin-slider"><a href="#"></a><a href="#"></a> <a href="#"></a> </div>
        <div class="clr"></div>
      </div>
      <div class="clr"></div>
      <div class="menu_nav">
        <ul>
          <li class="active"><a href="index.html"><span>Home Page</span></a></li>
          <li class="active"><a href="admin.html">Trust Manager</a></li>
          <li class="active"><a href="register.html"><span>Register</span></a></li>
          <li class="active"><a href="user.html"><span>USER</span></a></li>
          <li class="active"><a href="cloud.html"><span>CLOUD</span></a></li>
        </ul>
      </div>
      <div class="clr"></div>
    </div>
    <div class="content">
      <div class="content_resize">
        <div class="mainbar">
          <div class="article">
            <h2>A Secure Searchable Encryption Framework for Privacy Critical Cloud Storage Services</h2>
            <p class="infopost"><a href="#" class="com">ments<span>11</span></a></p>
          </div>
        </div>
      </div>
    </div>
  </div>
</body>

```

```

<div class="clr"></div>
<div class="img"></div>
<div class="post_content">
    <p align="justify" class="style2">In the Infrastructure as a Service (IaaS)
paradigm of cloud computing, computational resources are available for rent.
Although it offers a cost efficient solution to virtual network requirements, low trust
on the rented computational resources prevents users from using it. To reduce the cost,
computational resources are shared, i.e., there exists multi-tenancy. As the
communication channels and other computational resources are shared, it creates
security and privacy issues. A user may not identify a trustworthy co-tenant as the
users are anonymous. The user depends on the Cloud Provider (CP) to assign
trustworthy co-tenants. But, it is in the CP's interest that it gets maximum utilization
of its resources. Hence, it allows maximum co-tenancy irrespective of the behaviours
of users. In this paper, we propose a robust reputation management mechanism that
encourages the CPs in a federated cloud to differentiate between good and malicious
users and assign resources in such a way that they do not share resources. We show
the correctness and the efficiency of the proposed reputation management system
using analytical and experimental analysis.</p>
    </div>
    <div class="clr"></div>
</div>
</div>
<div class="sidebar">
    <div class="gadget">
        <h2 class="star"><span>Cloud computing</span></h2>
        <div class="clr"></div>
        <ul class="sb_menu"><li class="style2">Virtual network embedding,<br />
            Federated cloud,<br />
            Reputation,<br />
            Trust, Multi-tenancy</li>
        </ul>
    </div>
    <div class="gadget">
        <h2 class="star">&nbsp;</h2>
    </div>
</div>
<div class="clr"></div>
</div>
</div>
<div class="fbg">
    <div class="fbg_resize">
        <div class="col c1">
            <h2>&nbsp;</h2>
        </div>
        <div class="col c2">
            <h2>&nbsp;</h2>
        </div>
        <div class="col c3">
            <h2>&nbsp;</h2>
        </div>
    </div>

```

```

</div>
<div class="clr"></div>
</div>
</div>
<div class="footer">
  <div class="footer_resize">
    <div style="clear:both;"></div>
  </div>
</div>
</body>
</html>

```

Listallcollusion.jsp:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<%@ include file="connect.jsp" %>
<%@page import =
"java.util.* , java.text.SimpleDateFormat,java.util.Date,java.io.FileInputStream,java.i
o.FileOutputStream,java.io.PrintStream" %>
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Attackes</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>
<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>
<style type="text/css">
<!--
.style1 {
color: #FF0000;
font-weight: bold;
}
.style2 {
font-size: 24px;
color: #FF0000;
font-weight: bold;
}
-->
</style>
</head>
<body>
<div class="main">
  <div class="header">

```

```

<div class="header_resize">
  <div class="logo">
    <h1><a href="index.html" class="style2">A Secure Searchable Encryption
Framework for Privacy Critical Cloud Storage Services</a></h1>
  </div>
  <div class="searchform">
    <form id="formsearch" name="formsearch" method="post" action="#">
      <span>
        <input name="editbox_search" class="editbox_search" id="editbox_search"
maxlength="80" value="Search our ste:" type="text" />
      </span>
      <input name="button_search" src="images/search.gif" class="button_search"
type="image" />
    </form>
  </div>
  <div class="clr"></div>
  <div class="slider">
    <div id="coin-slider"> <a href="#"></a> <a href="#"></a> <a href="#"></a> </div>
    <div class="clr"></div>
  </div>
  <div class="clr"></div>
  <div class="menu_nav">
    <ul>
      <li class="active"><a href="admin_main.jsp"><span>Home
Page</span></a></li>
      <li class="active" ><a href="listallcollusion.jsp"><span>Collusion
Attacks</span></a></li>
      <li class="active" ><a href="listallsybil.jsp"><span>Sybil
Attacks</span></a></li>
      <li class="active" ><a href="viewuserservice.jsp"><span>Uers on
Services</span></a></li>
      <li class="active" ><a href="index.html"><span>Logout</span></a></li>
    </ul>
  </div>
  <div class="clr"></div>
</div>
<div class="content">
  <div class="content_resize">
    <div class="mainbar">
      <div class="article">

        <div class="mainbar">
          <div class="article">
            <p>&nbsp;</p>
            <h2>View Collusion Attacks </h2>

```

```

        <br />
    <table width="924" border="1" align="center">
<tr>
    <td width="241" bgcolor="#FFFF00"><div align="center" class="style1"><span
class="style3">Oname </span></div></td>
    <td width="168" bgcolor="#FFFF00"><div align="center" class="style1"><span
class="style3">Cloud </span></div></td>
    <td width="109" bgcolor="#FFFF00"><div align="center" class="style1"><span
class="style3">Changed Feedback</span></div></td>
    <td width="154" bgcolor="#FFFF00"><div align="center" class="style1"><span
class="style3">Feedback ID</span></div></td>
    <td width="102" bgcolor="#FFFF00"><div align="center" class="style1"><span
class="style3">Attacker IP</span></div></td>
    <td width="124" bgcolor="#FFFF00"><div align="center" class="style1"><span
class="style3">Attacker Name </span></div></td>
    <td width="124" bgcolor="#FFFF00"><div align="center" class="style1"><span
class="style3">Date & Time </span></div></td>
<td width="124" bgcolor="#FFFF00"><div align="center" class="style1"><span
class="style3">Recovery </span></div></td>
</tr>

<%

```

```

String s1="",s2="",s3="",s4="",s5="",s6="",s7="",s8="",s9,s10,s11,s12,s13;
int i=0,j=0;
```

```

try
{
    String query="select * from Attackers1 ";
    Statement st=connection.createStatement();
    ResultSet rs=st.executeQuery(query);
while ( rs.next() )
{
    s1=rs.getString(1);
    s2=rs.getString(2);
    s3=rs.getString(3);
    i=rs.getInt(4);
    s5=rs.getString(5);
    s6=rs.getString(6);
    s7=rs.getString(7);

%>
```

```

<tr>
    <td><div align="center"><%=s1%></div></td>
    <td><div align="center"><%=s2%></div></td>
```

```

<td><div align="center"><%=s3%></div></td>
<td><div align="center"><%=i%></div></td>
<td><div align="center"><%=s5%></div></td>
<td><div align="center"><%=s6%></div></td>
<td><div align="center"><%=s7%></div></td>
<td><div align="center"><a href="Recovery.jsp?uid=<%=i%>"> Recover
Feedback &nbsp;</a></div></td>
</tr>

<%
}

    connection.close();
}

catch(Exception e)
{
    out.println(e.getMessage());
}

%>
</table>
</div>
</div>
</div>
<div class="article">
<h2>&nbsp;</h2>
<div class="clr"></div>
</div>
</div>
<div class="clr"></div>
</div>
</div>
</div>
<div class="fbg">
<div class="fbg_resize">
<div class="col c1">
<h2>&nbsp;</h2>
</div>
<div class="col c2">
<h2>&nbsp;</h2>
</div>
<div class="col c3">
<h2>&nbsp;</h2>
</div>
<div class="clr"></div>
</div>
</div>
<div class="footer">
<div class="footer_resize">
<p class="lf">&nbsp;</p>

```

```

<div style="clear:both;"></div>
</div>
</div>
</div align=center></div>
</body>
</html>

```

Listallsybil.jsp:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<%@ include file="connect.jsp" %>
<%@page import
="java.util.* ,java.text.SimpleDateFormat,java.util.Date,java.io.FileInputStream,java.i
o.FileOutputStream,java.io.PrintStream"%>
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>List all files</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>
<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>
<style type="text/css">
<!--
.style2 {color: #FF0000; font-weight: bold; }
.style4 {
font-size: 24px;
color: #FF0000;
font-weight: bold;
}
.style5 {font-size: 18px}
.style6 {color: #FF0000; font-weight: bold; font-size: 18px; }
-->
</style>
</head>
<body>
<div class="main">
<div class="header">
<div class="header_resize">
<div class="logo">
<h1><a href="index.html" class="style4">A Secure Searchable Encryption
Framework for Privacy Critical Cloud Storage Services</a></h1>
</div>

```

```

<div class="searchform">
    <form id="formsearch" name="formsearch" method="post" action="#">
        <span>
            <input name="editbox_search" class="editbox_search" id="editbox_search" maxlength="80" value="Search our ste:" type="text" />
        </span>
        <input name="button_search" src="images/search.gif" class="button_search" type="image" />
    </form>
</div>
<div class="clr"></div>
<div class="slider">
    <div id="coin-slider"> <a href="#"></a> <a href="#"></a> <a href="#"></a> </div>
    <div class="clr"></div>
</div>
<div class="clr"></div>
<div class="menu_nav">
    <ul>
        <li class="active"><a href="cloud_main.jsp"><span>Home Page</span></a></li>
        <li class="active"><a href="listallfiles.jsp"><span>List All Files</span></a></li>
        <li class="active"><a href="listallusers.jsp"><span>List All Users</span></a></li>
        <li class="active"><a href="listallvms.jsp"><span>List All VMs</span></a></li>
        <li class="active"><a href="index.html"><span>Logout</span></a></li>
    </ul>
</div>
<div class="clr"></div>
</div>
<div class="content">
    <div class="content_resize">
        <div class="mainbar">
            <div class="article">

                <div class="mainbar">
                    <div class="article">
                        <p>&nbsp;</p>
                        <h2>View Cloud Files</h2>
                        <br />
                        <table width="924" border="1" align="center">
                            <tr>
                                <td width="241" bgcolor="#FFFF00"><div align="center" class="style2 style5">Owner </div></td>

```

```

<td width="168" bgcolor="#FFFF00"><div align="center" class="style6">Cloud
</div></td>
<td width="109" bgcolor="#FFFF00"><div align="center" class="style6">File
Name</div></td>
<td width="154" bgcolor="#FFFF00"><div align="center"
class="style6">MAC</div></td>
<td width="102" bgcolor="#FFFF00"><div align="center" class="style6">Public
Key</div></td>
<td width="124" bgcolor="#FFFF00"><div align="center" class="style6">Private
Key </div></td>
<td width="124" bgcolor="#FFFF00"><div align="center" class="style6">Date &
Time </div></td>
</tr>

<%

```

```

String s1="",s2="",s3="",s4="",s5="",s6="",s7="",s8="",s9,s10,s11,s12,s13;
int i=0,j=0;
```

```

try
{
    String cname=(String)application.getAttribute("cname");
    String query="select * from cfiles where cname='"+cname+"' ";
    Statement st=connection.createStatement();
    ResultSet rs=st.executeQuery(query);
while ( rs.next() )
{
    i=rs.getInt(1);
    s2=rs.getString(2);
    s3=rs.getString(3);
    s4=rs.getString(4);
    s5=rs.getString(5);
    s6=rs.getString(6);
    s7=rs.getString(7);

    s10=rs.getString(10);
%>
```

```

<tr>
    <td><div align="center"><%=s2%></div></td>
    <td><div align="center"><%=s3%></div></td>
    <td><div align="center"><%=s4%></div></td>
    <td><div align="center"><%=s5%></div></td>
    <td><div align="center"><%=s6%></div></td>
    <td><div align="center"><%=s7%></div></td>
    <td><div align="center"><%=s10%></div></td>
```

```
</tr>

<%>

}

    connection.close();
}

catch(Exception e)
{
    out.println(e.getMessage());
}

%>
</table>
</div>
</div>
</div>
<div class="article">
    <h2>&nbsp;</h2>
    <div class="clr"></div>
</div>
</div>
<div class="clr"></div>
</div>
</div>
</div>
<div class="fbg">
    <div class="fbg_resize">
        <div class="col c1">
            <h2>&nbsp;</h2>
        </div>
        <div class="col c2">
            <h2>&nbsp;</h2>
        </div>
        <div class="col c3">
            <h2>&nbsp;</h2>
        </div>
        <div class="clr"></div>
    </div>
</div>
<div class="footer">
    <div class="footer_resize">
        <div style="clear:both;"></div>
    </div>
</div>
</div>
<div align=center></div>
</body>
</html>
```

Purchase.jsp :

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<%@ include file="connect.jsp" %>
<%@page import =
"java.util.* , java.text.SimpleDateFormat,java.util.Date,java.io.FileInputStream,java.
io.FileOutputStream,java.io.PrintStream"%>
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Purchase</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>
<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>

<style type="text/css">
<!--
.style1 {
    font-size: 24px;
    color: #FF0000;
    font-weight: bold;
}
-->
</style>
</head>
<body>
<div class="main">
<div class="header">
    <div class="header_resize">
        <div class="logo">
            <h1><a href="index.html" class="style1">A Secure Searchable Encryption
Framework for Privacy Critical Cloud Storage Services</a></h1>
        </div>
        <div class="searchform">
            <form id="formsearch" name="formsearch" method="post" action="#">
                <span>
                    <input name="editbox_search" class="editbox_search" id="editbox_search"
maxlength="80" value="Search our ste:" type="text" />
                </span>
                <input name="button_search" src="images/search.gif" class="button_search"
type="image" />
            </form>
        </div>
    </div>
</div>
```

```

<div class="clr"></div>
<div class="slider">
    <div id="coin-slider"> <a href="#"></a> <a href="#"></a> <a href="#"></a> </div>
    <div class="clr"></div>
</div>
<div class="clr"></div>
<div class="menu_nav">
    <ul>
        <li class="active"><a href="user_main.jsp"><span>Home Page</span></a></li>
        <li class="active" ><a href="purchase.jsp"><span>Purchase VM</span></a></li>
        <li class="active"><a href="sendfile.jsp"><span>Upload File</span></a></li>
        <li class="active"><a href="Verify.jsp"><span>Verify</span></a></li>
        <li class="active"><a href="index.html"><span>Logout</span></a></li>
    </ul>
</div>
<div class="clr"></div>
</div>
</div>
<div class="content">
    <div class="content_resize">
        <div class="mainbar">
            <div class="article">

                <div class="mainbar">
                    <div class="article">
                        <p>&nbsp;</p>
                        <h2>Purchase the VM </h2>
                        <p>&nbsp;</p>
                        <br />
                        <form action="purchase1.jsp" method="post" name="form1">
                            <table width="598" border="1" align="center">
                                <tr>
                                    <td width="286"><span class="style4"><strong>Select the Cloud:-</strong></span></td>
                                    <td width="356"> <select name="select5">
                                        <option>--Select--</option>
                                        <option>CS1</option>
                                        <option>CS2</option>
                                        <option>CS3</option>
                                        <option>CS4</option>
                                    </select>    </td>
                            </tr>
                        </table>
                    </div>
                </div>
            </div>
        </div>
    </div>
</div>

```

```

<tr>
<td><span class="style4"><strong>Select the Memory:-</strong></span></td>
<td><select name="select6">
<option>--Select--</option>
<option>100</option>
<option>1000</option>
<option>10000</option>
<option>100000</option>
</select> </td>
</tr>

<tr>
<td>&nbsp;</td>
<td>&nbsp;</td>
</tr>
<tr>
<td><div align="right">
<input type="submit" name="Submit" value="Submit">
</div></td>
<td><input type="reset" name="Submit2" value="Reset"></td>
</tr>
</table>
</form>
</div>
</div>
</div>
<div class="article">
<h2>&nbsp;</h2>
<div class="clr"></div>
</div>
</div>
<div class="sidebar">
<div class="gadget">
<h2 class="star"><span>Sidebar</span> Menu</h2>
<div class="clr"></div>
<ul class="sb_menu">
<li><a href="viewcloudrepu.jsp">Find Reputation</a></li>
<li><a href="viewcloudtrust.jsp">Find Trust Worthy</a></li>
<li><a href="viewcloudcost.jsp">Find Cost & Memory</a></li>
<li><a href="SendTrust.jsp">Send Trustworthiness of Cloud</a></li>
<li><a href="Delete.jsp">Delete</a></li>
<li><a href="viewcloudfiles.jsp">View Cloud Files</a></li>
</ul>
</div>
</div>
<div class="clr"></div>
</div>
</div>

```

```

<div class="fbg">
  <div class="fbg_resize">
    <div class="col c1">
      <h2>&nbsp;</h2>
    </div>
    <div class="col c2">
      <h2>&nbsp;</h2>
    </div>
    <div class="col c3">
      <h2>&nbsp;</h2>
    </div>
    <div class="clr"></div>
  </div>
</div>
<div class="footer">
  <div class="footer_resize">
    <p class="lf">&nbsp;</p>
    <p class="rf">&nbsp;</p>
    <div style="clear:both;"></div>
  </div>
</div>
<div align=center></div>
</body>
</html>

```

Register.html:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Register</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>
<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>
<style type="text/css">
<!--
.style1 {
  font-size: 24px;
  color: #FF0000;
  font-weight: bold;
}
-->
</style>

```

```

</head>
<body>
<div class="main">
  <div class="header">
    <div class="header_resize">
      <div class="logo">
        <h1><a href="index.html" class="style1">A Secure Searchable Encryption
Framework for Privacy Critical Cloud Storage Services</a></h1>
      </div>
      <div class="searchform">
        <form id="formsearch" name="formsearch" method="post" action="#">
          <span>
            <input name="editbox_search" class="editbox_search" id="editbox_search"
maxlength="80" value="Search our site:" type="text" />
          </span>
          <input name="button_search" src="images/search.gif" class="button_search"
type="image" />
        </form>
      </div>
      <div class="clr"></div>
      <div class="slider">
        <div id="coin-slider"> <a href="#"></a> <a href="#"></a> <a href="#"></a> </div>
        <div class="clr"></div>
      </div>
      <div class="clr"></div>
      <div class="menu_nav">
        <ul>
          <li class="active"><a href="index.html"><span>Home Page</span></a></li>
          <li class="active"><a href="admin.html"><span>Trust
Manager</span></a></li>
          <li class="active"><a href="register.html"><span>Register</span></a></li>
          <li class="active"><a href="user.html"><span>USER</span></a></li>
          <li class="active"><a
href="cloud.html"><span>CLOUD</span></a></li>
        </ul>
      </div>
      <div class="clr"></div>
    </div>
    <div class="content">
      <div class="content_resize">
        <div class="mainbar">
          <div class="article">
            <h2>User Registration</h2>
            <div class="clr"></div>
            <form name="s" method="post" enctype="multipart/form-data"
action="upload2.jsp" >

```

```

<ol>
  <li>
    <label for="name">Name (required)</label>
    <input type="text" id="name" name="name" style="width:25%">
  </li>
  <li>
    <label for="name">Password (required)</label>
    <input type="password" id="pwd" name="pwd" style="width:25%">
  </li>
  <li>
    <label for="message">DOB(dd/mm/yyyy)</label>
    <input type="text" id="dob" name="dob" style="width:25%">
  </li>
  <li>
    <label for="email">Email Address (required)</label>
    <input type="text" id="email" name="email" style="width:25%">
  </li>

  <li>
    <label for="message">Mobile NO(10 Digits)</label>
    <input type="text" id="mob" name="mob" style="width:25%">
  </li>
  <li>
    <label for="message">Location</label>
    <input type="text" id="cap" name="cap" style="width:25%">
  </li>

  <li>
    <label for="message">Select User Type</label>
    <select name="utype" id="utype">
      <option selected="selected" >--Select--</option>
      <option>Data Owner</option>
      <option>Cloud Consumer</option>
    </select>
  </li>
  <li>
    <label for="message">Select Services</label>
    <select name="stype" id="stype">
      <option selected="selected" >--Select--</option>
      <option>SaaS</option>
      <option>Paas</option>
      <option>Iaas</option>
    </select>
  </li>
  <li>
    <label for="message">Select Cloud</label>
    <select name="t1" id="t1">
      <option>--Select--</option>
      <option>CS1</option>
      <option>CS2</option>
    </select>
  </li>

```

```

        <option>CS3</option>
        <option>CS4</option>
    </select>
    </li>
    <li>
        <label for="message">Choose Photo:<span>*</span></label>
        <input type="file" id="photo" name="photo" style="width:25%" />
    </li>

<li>
    <input type="image" name="imageField" id="imageField"
src="images/submit.gif" class="send" />
    <div class="clr"></div>
</li>
</ol>
<p><a href="index.html">Back</a></p>
</form>
</div>
</div>
<div class="sidebar">
    <div class="gadget">
        <h2 class="star"><span>Index Terms </span></h2>
        <div class="clr"></div>
        <ul class="sb_menu"><li>Cloud computing,<a href="#"></a></li>
            <li><a href="#">trust management,</a></li>
            <li><a href="#">reputation,</a></li>
            <li><a href="#">credibility,</a></li>
            <li><a href="#">credentials,</a></li>
            <li><a href="#">security, </a></li>
            <li><a href="#">privacy,</a></li>
        </ul>
    </div>
    <div class="gadget">
        <h2 class="star">&ampnbsp</h2>
        <div class="clr"></div>
        <ul class="ex_menu"><li></li>
        </ul>
    </div>
</div>
<div class="clr"></div>
</div>
</div>
<div class="fbg">
    <div class="fbg_resize">
        <div class="col c1">
            <h2>&ampnbsp</h2>
        </div>
        <div class="col c2">

```

```

<h2>&nbsp;</h2>
</div>
<div class="col c3">
<h2>&nbsp;</h2>
</div>
<div class="clr"></div>
</div>
</div>
<div class="footer">
<div class="footer_resize">
<p class="lf">.</p>
<div style="clear:both;"></div>
</div>
</div>
</div>
<div align=center></div>
</body>
</html>

```

RequestFile.jsp:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Reg File</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>
<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>
<style type="text/css">
<!--
.style1 {
    font-size: 24px;
    color: #FF0000;
    font-weight: bold;
}
-->
</style>
</head>
<body>
<div class="main">
<div class="header">
<div class="header_resize">
<div class="logo">

```

```
<h1><a href="index.html" class="style1">A Secure Searchable Encryption  
Framework for Privacy Critical Cloud Storage Services</a></h1>  
</div>  
<div class="searchform">  
  <form id="formsearch" name="formsearch" method="post" action="#">  
    <span>  
      <input name="editbox_search" class="editbox_search" id="editbox_search" maxlength="80" value="Search our ste:" type="text" />  
    </span>  
    <input name="button_search" src="images/search.gif" class="button_search" type="image" />  
  </form>  
</div>  
<div class="clr"></div>  
<div class="slider">  
  <div id="coin-slider"> <a href="#"></a> <a href="#"></a> <a href="#"></a> </div>  
  <div class="clr"></div>  
</div>  
<div class="clr"></div>  
<div class="menu_nav">  
  <ul>  
    <li  
      class="active"><a href="request1.jsp"><span>Request for SK</span></a></li>  
    <li  
      class="active"><a href="reqfile.jsp"><span>Request for File</span></a></li>  
    <li  
      class="active"><a href="SendTrust0.jsp"><span>Feedback about Cloud</span></a></li>  
    <li  
      class="active"><a href="attackfeedback.jsp"><span>Attack Feedback</span></a></li>  
    <li  
      class="active"><a href="index.html"><span>Logout</span></a></li>  
  </ul>  
</div>  
  <div class="clr"></div>  
</div>  
<div class="content">  
  <div class="content_resize">  
    <div class="mainbar">  
      <div class="article">  
        <div class="mainbar">  
          <div class="article">  
            <p>&nbsp;</p>
```

```

<h2>View Cloud Files </h2>
<br />
<form name="form1" method="post" action="reqfile1.jsp">
  <table width="371" border="0" align="center">
<tr>
  <td><strong>Select the Cloud Server</strong></td>
  <td><label>
    <select name="t1">
      <option>--Select--</option>
      <option>CS1</option>
      <option>CS2</option>
      <option>CS3</option>
      <option>CS4</option>
    </select>
  </label></td>
</tr>
<tr>
  <td><strong>Enter the File Name </strong></td>
  <td><input type="text" name="t2" /></td>
</tr>
<tr>
  <td><strong>Enter the Owner Name </strong></td>
  <td><input type="text" name="t3" /></td>
</tr>
  <tr>
    <td><strong>Enter the SK </strong></td>
    <td><input type="text" name="t4" /></td>
  </tr>
<tr>
  <td>&nbsp;</td>
  <td>&nbsp;</td>
</tr>
<tr>
  <td>&nbsp;</td>
  <td><label>
    <input type="submit" name="Submit" value="Submit">
  </label></td>
</tr>
</table>
  </form>
</div>
</div>
</div>
<div class="article">
  <h2>&nbsp;</h2>
  <div class="clr"></div>
</div>
</div>
<div class="sidebar">
  <div class="gadget">

```

```

<h2 class="star"><span>Sidebar</span> Menu</h2>
<div class="clr"></div>
<ul class="sb_menu">
    <li><a href="viewcloudrepu0.jsp">Find Reputation</a></li>
    <li><a href="viewcloudtrust0.jsp">Find Trust Worthy</a></li>
    <li><a href="viewcloudcost0.jsp">Find Cost & Memory</a></li>
    <li><a href="viewcloudfiles0.jsp">View Cloud Files</a></li>
</ul>
</div>
</div>
<div class="clr"></div>
</div>
</div>
<div class="fbg">
    <div class="fbg_resize">
        <div class="col c1">
            <h2>&nbsp;</h2>
        </div>
        <div class="col c2">
            <h2>&nbsp;</h2>
        </div>
        <div class="col c3">
            <h2>&nbsp;</h2>
        </div>
        <div class="clr"></div>
    </div>
</div>
<div class="footer">
    <div class="footer_resize">
        <p class="lf"><a href="#"></a>.</p>
        <p class="rf">&nbsp;</p>
        <div style="clear:both;"></div>
    </div>
</div>
</body>
</html>

```

SendFile.jsp:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<%@ include file="connect.jsp" %>
<%@page import =
"java.util.* , java.text.SimpleDateFormat,java.util.Date,java.io.FileInputStream,java.
io.FileOutputStream,java.io.PrintStream" %>
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Send File</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />

```

```

<link href="css/style.css" rel="stylesheet" type="text/css" />
<link rel="stylesheet" type="text/css" href="css/coin-slider.css" />
<script type="text/javascript" src="js/cufon-yui.js"></script>
<script type="text/javascript" src="js/cufon-quicksand.js"></script>
<script type="text/javascript" src="js/jquery-1.4.2.min.js"></script>
<script type="text/javascript" src="js/script.js"></script>
<script type="text/javascript" src="js/coin-slider.min.js"></script>
<script language="javascript" type='text/javascript'>

function loadFileAsText()
{
    var fileToLoad = document.getElementById("file").files[0];

    var fileReader = new FileReader();
    fileReader.onload = function(fileLoadedEvent)
    {
        var textFromFileLoaded = fileLoadedEvent.target.result;
        document.getElementById("textarea").value = textFromFileLoaded;
    };
    fileReader.readAsText(fileToLoad, "UTF-8");
}
</script>
<style type="text/css">
<!--
.style1 {color: #FF0000;
.style2 {
    font-size: 24px;
    color: #FF0000;
}
-->
</style>
</head>
<body>
<div class="main">
    <div class="header">
        <div class="header_resize">
            <div class="logo">
                <h1><a href="index.html" class="style2">A Secure Searchable Encryption
Framework for Privacy Critical Cloud Storage Services</a></h1>
            </div>
            <div class="searchform">
                <form id="formsearch" name="formsearch" method="post" action="#">
                    <span>
                        <input name="editbox_search" class="editbox_search" id="editbox_search"
maxlength="80" value="Search our ste:" type="text" />
                    </span>
                    <input name="button_search" src="images/search.gif" class="button_search"
type="image" />
                </form>
            </div>
        </div>
    </div>
</body>

```

```

<div class="clr"></div>
<div class="slider">
    <div id="coin-slider"> <a href="#"></a> <a href="#"></a> <a href="#"></a> </div>
    <div class="clr"></div>
</div>
<div class="clr"></div>
<div class="menu_nav">
    <ul>
        <li class="active"><a href="user_main.jsp"><span>Home
Page</span></a></li>
        <li class="active"><a href="purchase.jsp"><span>Purchase
VM</span></a></li>
        <li class="active"><a href="sendfile.jsp"><span>Upload File</span></a></li>
        <li class="active"><a href="Verify.jsp"><span>Verify</span></a></li>
        <li class="active"><a
href="index.html"><span>Logout</span></a></li>
    </ul>
</div>
<div class="clr"></div>
</div>
</div>
<div class="content">
    <div class="content_resize">
        <div class="mainbar">
            <div class="article">

                <div class="mainbar">
                    <div class="article">
<p>&nbsp;</p>
<h2>Upload File to Cloud </h2>
<p>&nbsp;</p>
<br />
<form action="sendfile1.jsp" method="post" name="form1">
<table width="598" border="1" align="center">
<tr>
<td width="286"><span class="style4"><strong>Select the Cloud:-</strong></span></td>
<td width="356"> <select name="select5">
<option>--Select--</option>
<option>CS1</option>
<option>CS2</option>
<option>CS3</option>
<option>CS4</option>
</select> </td>
</tr>
</table>
</form>
            </div>
        </div>
    </div>
</div>

```

```

<tr>
    <td><span class="style4"><strong>Browse the File:-</strong></span></td>
    <td><input type="file" name="file" id="file"
onChange="loadFileAsText()"></td>
</tr>
<tr>
    <td><span class="style4"><strong>Your File Content:-</strong></span></td>
    <td><textarea name="textarea" id="textarea" cols="50"
rows="15"></textarea></td>
</tr>

<tr>
    <td>&nbsp;</td>
    <td>&nbsp;</td>
</tr>
<tr>
    <td><div align="right">
        <input type="submit" name="Submit" value="Encrypt">
    </div></td>
    <td><input type="reset" name="Submit2" value="Reset"></td>
</tr>
</table>
</form>
</div>
</div>
</div>
<div class="article">
    <h2>&nbsp;</h2>
    <div class="clr"></div>
</div>
</div>
<div class="sidebar">
    <div class="gadget">
        <h2 class="star"><span>Sidebar</span> Menu</h2>
        <div class="clr"></div>
        <ul class="style1">
            <li class="style1"><a href="viewcloudrepu.jsp">Find Reputation</a></li>
            <li class="style1"><a href="viewcloudtrust.jsp">Find Trust Worthy</a></li>
            <li class="style1"><a href="viewcloudcost.jsp">Find Cost &
Memory</a></li>
            <li class="style1"><a href="SendTrust.jsp">Send Trustworthiness of
Cloud</a></li>
            <li class="style1"><a href="Delete.jsp">Delete</a></li>
            <li><a href="viewcloudfiles.jsp">View Cloud Files</a></li>
        </ul>
    </div>
</div>
<div class="clr"></div>
</div>

```

```

</div>
<div class="fbg">
  <div class="fbg_resize">
    <div class="col c1">
      <h2>&nbsp;</h2>
    </div>
    <div class="col c2">
      <h2>&nbsp;</h2>
    </div>
    <div class="col c3">
      <h2>&nbsp;</h2>
    </div>
    <div class="clr"></div>
  </div>
</div>
<div class="footer">
  <div class="footer_resize">
    <div style="clear:both;"></div>
  </div>
</div>
<div align=center></div>
</body>
</html>

```

UserLogin.jsp

```

<%@ include file="connect.jsp" %>
<%@ page import="java.util.Date" %>

<%
String username=request.getParameter("username");

String Password=request.getParameter("password");
String otype=request.getParameter("select5");
String ctype=request.getParameter("select6");
application.setAttribute("uname",username);

try
{
    String sql="SELECT * FROM user where uname='"+username+"' and
    pwd='"+Password+"' and utype='"+otype+"' and cname='"+ctype+"' ";
    Statement stmt = connection.createStatement();
    ResultSet rs =stmt.executeQuery(sql);
    String utype="";
    if(otype.equalsIgnoreCase("Data Owner"))

```

```
{  
    if(rs.next())  
    {  
        response.sendRedirect("user_main.jsp");  
    }  
    else  
    {  
        response.sendRedirect("wronglogin.html");  
    }  
}  
else if(otype.equalsIgnoreCase("Cloud Consumer"))  
{  
    if(rs.next())  
    {  
        response.sendRedirect("user_main1.jsp");  
    }  
    else  
    {  
        response.sendRedirect("wronglogin.html");  
    }  
}  
  
}  
  
catch(Exception e)  
{out.print(e);}  
%>
```

1.HOME PAGE

The screenshot shows the homepage of CloudX™. At the top, a banner reads "A Secure Searchable Encryption Framework for Privacy Critical Cloud Storage Services". Below the banner, a main heading says "Deploy an Efficient Cloud Quickly and Painlessly". To the right, there's a graphic of a cloud containing a lock and an SSD, with a computer monitor below it. A search bar at the top right says "Search our site". Below the main heading is a navigation bar with tabs: HOME PAGE, TRUST MANAGER, REGISTER, USER, and CLOUD. The "HOME PAGE" tab is highlighted. On the left, there's a sidebar with the same banner text and a sub-section titled "Cloud communications can save money and keep employees on task." On the right, there's a section titled "Cloud computing" with sub-points: Virtual network embedding, Federated cloud, Reputation, and Trust. Multi-tenancy.

2.USER REGISTRATION:

A Secure Searchable Encryption Framework for Privacy Critical Cloud Storage Services

Search our site:

HOME PAGE TRUST MANAGER REGISTER USER CLOUD

User Registration

Name (required)

Password (required)

DOB(dd/mm/yyyy)

Email Address (required)

Mobile NO(10 Digits)

Location

Select User Type

Select Services

Select Cloud

Choose Photo * No f... sort

[Back](#)

Index Terms

Cloud computing, trust management, reputation, credibility, credentials, security, privacy.

3.USER LOGIN:

LOGGED

HOME PAGE TRUST MANAGER REGISTER USER CLOUD

LOGIN

User Login Details

Name (required)

Password (required)

Select the User Type

Select the Cloud Server

4.TRUST MANAGER LOGIN:

TMS Login Details

Name (required)

Password (required)

Sidebar Menu

- [Home](#)
- [TemplateInfo](#)
- [Style Demo](#)
- [Blog](#)
- [Archives](#)
- [Web Templates](#)

5.LIST OF POSITIVE FEEDBACKS:

View All +VE FEEDBACK

Owner Name	Cloud Name	Feedback	Date & Time
srividya0103	CS1	cloud is not safe	28/05/2021
prathima	CS1	files are safe	28/05/2021
srividya0103	CS1	it is very safe for secret information	28/05/2021
prathima	CS1	cloud is very good	29/05/2021
prathima	CS1	cloud is good and bad	29/05/2021
srividya0103	CS1	cloud is safe and	29/05/2021
prathima	CS1	safest	29/05/2021
srividya0103	CS1	cs1 cloud server is very safe for files	30/05/2021
prathima0103	CS1	files are safe	30/05/2021

6.LIST OF NEGATIVE FEEDBACKS:

The screenshot shows a web application interface. At the top, there is a green header bar with several menu items: 'HOME PAGE', 'COLLUSION ATTACKS', 'SYBIL ATTACKS', 'OVERS ON SERVICES', and 'LOGOUT'. Below the header, the main content area has a title 'View All -VE FEEDBACK' followed by a table displaying two rows of data. The table has four columns: 'Owner Name', 'Cloud Name', 'Feedback', and 'Date & Time'. The data in the table is as follows:

Owner Name	Cloud Name	Feedback	Date & Time
sivvidya0103	CS1	cloud is bad	29/05/2021
prathma	CS1	cloud is good and bad	29/05/2021

7. VIEW USERS:

The screenshot shows a top navigation bar with a search input field and a magnifying glass icon. Below it is a decorative banner featuring various icons related to technology and security, such as a laptop, envelope, padlock, and globe. The main content area has a green header bar with the following navigation links: HOME PAGE, COLLUSION ATTACKS, SYBIL ATTACKS, USERS ON SERVICES, and LOGOUT.

View Users on Services

User Image	User Name	DOB	E-Mail	Mobile	Location	User Type	Service Type	Cloud
	vidya	01/03/1999	vaddi.srividya0103@gmail.com	86888906095	500017	Data Owner	SaaS	CS1
	srividya	01/03/1999	vaddi.srividya0103@gmail.com	86888906095	hyderabad	Data Owner	SaaS	CS1
	vidya	01/03/1999	admin@gmail.com	86888906098	500017	Cloud Consumer	SaaS	CS1
	user1	01/03/1999	vidya@gmail.com	86888906098	hyderabad	Data Owner	SaaS	CS1
	user2	10/04/2000	srividya@gmail.com	86888900250	hyderabad	Cloud Consumer	SaaS	CS1
	prathima	01/03/1999	prathima@gmail.com	7895845745	hyderabad	Cloud Consumer	SaaS	CS1
	srividya	01/03/1999	admin@gmail.com	86888906098	hyderabad	Data Owner	SaaS	CS2
	prathima0103	10/04/2000	prathima1@gmail.com	86888906098	hyderabad	Cloud Consumer	SaaS	CS2
	aishwarya	01/04/1999	aish@gmail.com	7895845745	hyderabad	Data Owner	SaaS	CS2

8.COLLUSION ATTACK:

The screenshot shows a web application interface with a green header bar. The header contains navigation links: HOME PAGE, COLLUSION ATTACKS (which is the active tab), SYBIL ATTACKS, UERS ON SERVICES, and LOGOUT. Below the header, the title "View Collusion Attacks" is displayed. A table lists one record of a collusion attack:

Oname	Cloud	Changed Feedback	Feedback ID	Attacker IP	Attacker Name	Date & Time	Recover Feedback
prathima0103	CS1	cloud is not safe	6	192.168.0.5	192.168.0.5	30/05/2021 16:19:09	Recover Feedback

9.SYBIL ATTACK:

The screenshot shows a web application interface with a green header bar. The header contains navigation links: HOME PAGE, COLLUSION ATTACKS, SYBIL ATTACKS (which is the active tab), UERS ON SERVICES, and LOGOUT. Below the header, the title "View Sybil Attacks" is displayed. A table lists five records of sybil attacks:

Oname	Cloud	Reason	Attacker IP	Attacker Name	Date & Time
prathima	CS1	Downloading File to the Cloud	192.168.0.5	192.168.0.5	28/05/2021 21:05:08
prathima	CS1	Downloading File to the Cloud	192.168.0.5	192.168.0.5	28/05/2021 21:05:26
prathima	CS1	Downloading File to the Cloud	192.168.0.5	192.168.0.5	28/05/2021 21:08:25
prathima0103	CS1	Downloading File to the Cloud	192.168.0.5	192.168.0.5	29/05/2021 16:10:13
srividya0103	CS1	Feedbacking about the Cloud	192.168.0.5	192.168.0.5	29/05/2021 18:20:09

10.DATA OWNER MODULE:



Welcome to sridhya0103



Menu Operations

- Find Reputation
- Find Trust Worthy
- Find Cost & Memory
- Send Trustworthiness of Cloud
- Delete
- View Cloud Files

In the Infrastructure as a Service (IaaS) paradigm of cloud computing, computational resources are available for rent. Although it offers a cost efficient solution to virtual network requirements, low trust on the rented computational resources prevents users from using it. To reduce the cost, computational resources are shared, i.e., there exists multi-tenancy. As the communication channels and other computational resources are shared, it creates security and privacy issues. A user may not identify a trustworthy co-tenant as the users are anonymous. The user depends on the Cloud Provider (CP) to assign trustworthy co-tenants. But, it is in the CP's interest that it gets maximum utilization of its resources. Hence, it allows maximum co-tenancy irrespective of the behaviours of users. In this paper, we propose a robust reputation management mechanism that encourages the CPs in a federated cloud to differentiate between good and malicious users and assign resources in such a way that they do not share resources. We show the correctness and the efficiency of the proposed reputation management system using analytical and experimental analysis.

11.PURCHASE VM:

HOME PAGE PURCHASE VM UPLOAD FILE VERIFY LOGOUT

Purchase the VM

Select the Cloud:-

Select the Memory:-

Sidebar Menu

- Find Reputation
- Find Trust Worthy
- Find Cost & Memory
- Send Trustworthiness of Cloud
- Delete
- View Cloud Files

12.FILE UPLOAD:

A Secure Searchable Encryption Framework for Privacy Critical Cloud Storage Services



Search our site:

HOME PAGE PURCHASE VM UPLOAD FILE VERIFY LOGOUT

Upload File to Cloud

Cloud Server:-

File Name:-

File Content:-
Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. It is a general-purpose programming language intended to let application developers write once, Java code runs almost everywhere. Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. It is a general-purpose programming language intended to let application developers write once, Java code runs almost everywhere.

MAC Key:-

Encrypted File:-
Sent 29SpcyBh1GhpZgtbQvZ2aws10hjYXNlJNjhc2hLc9vY=mp1Y30tB337u7w507w0gc17v231bbklpmcmgbGfuz7w72lgd6hhdUBpcy8Kx0g2251C9b9b1BoYXZ11Gfz1G2Idy8pXBs2w1bmcRhd1lvh1Bx1k8c1p1U81n1Bv0vCz14v+1v2z1754gSNqkRhd1lvh1Bx1k8c1p1U81n1Bv0vCz14v+1v2z1754gGFZ3VhZ2uNgw5025v2h0q68gbjGv1GfGxpy2F0w0u1G81dwsh3B1crnrgd3pdkdkgp25j2sxvXzXz1gkNCm9gYSBoaidOLnx1dmw1s1CB1DfGzcy11YXNlZ2w027q2wM0wL9sywAv0dVkrIMBy2Dy1p1U81n1Bv0vCz14v+1v2z1754gXyQp0Xh0jw0u2w0qgkRhd1lvh1Bx1k8c1p1U81n1Bv0vCz14v+1v2z1754gF1233hry0y0nZxqsdhbdVt1Bx1k8c1p1U81n1Bv0vCz14v+1v2z1754gXz1w3jwv7ADwCY0ggrc211bg1u1f1atG1z7sf6z27wzKXhbc1axDwv3N1L1hbyBzdyYx1ta6n1Gchbnd1Yw111GludGvuZOwktHrvT0g1L1Bh1hWldhd1v1bKzZ1b96wzXzj2ThdyaXR11g9uY20sSmF2VS8pcyBh1GhpZgtbQvZ2aws1GrsDQgmic3+XttYafz2hQs1O9iaamV9dc1vcml1bnR12cBwca9hcnfTb4luzy0

Sidebar Menu

- Find Reputation
- Find Trust Worthy
- Find Cost & Memory
- Send Trustworthiness of Cloud
- Delete
- View Cloud Files

13.FILE VERIFY

The screenshot shows a web application for file verification. At the top, there's a blue header bar with icons for file operations like upload, download, and search. Below it is a green navigation bar with links: HOME PAGE, PURCHASE VM, UPLOAD FILE, VERIFY (which is highlighted in yellow), and LOGOUT. The main content area has a title "Verify the File in Cloud". It contains a form with two dropdown menus: "Select the Cloud:-" (set to CS1) and "Enter the Filename:-" (set to abc.txt). There are also "Submit" and "Reset" buttons. To the right of the form is a sidebar menu titled "Sidebar Menu" with options: Find Reputation, Find Trust Worthy, Find Cost & Memory, Send Trustworthiness of Cloud, Delete, and View Cloud Files.

14.CLOUD CONSUMER MODULE:

The screenshot shows the Cloud Consumer Module interface. At the top, there's a blue header bar with icons for file operations like upload, download, and search. Below it is a green navigation bar with links: REQUEST FOR SK, REQUEST FOR FILE, FEEDBACK ABOUT CLOUD, ATTACK FEEDBACK, and LOGOUT. The main content area has a title "Welcome to prathima". It features a cartoon illustration of a person writing with a pencil. To the right of the illustration is a sidebar menu titled "Sidebar Menu" with options: Find Reputation, Find Trust Worthy, Find Cost & Memory, and View Cloud Files.

15.ATTACK FEEDBACK:

The screenshot shows a web application interface. At the top, there's a banner with the text "Web Hosting Solutions" and logos for Linux and Microsoft Windows. Below the banner is a navigation menu with links: REQUEST FOR SK, REQUEST FOR FILE, FEEDBACK ABOUT CLOUD, ATTACK FEEDBACK, and LOGOUT. The main content area is titled "Attack Feedback" and contains a table with one row of data:

Owner	Cloud	Feedback	Date & Time	Attack
srividya0103	CS1	cloud is not safe	28/05/2021	Attack

To the right of the main content is a "Sidebar Menu" with the following options: Find Reputation, Find Trust Worthy, Find Cost & Memory, and View Cloud Files.

16.REQUEST FOR SECRET KEY:

The screenshot shows the same web application interface as the previous one. The navigation menu includes REQUEST FOR SK, REQUEST FOR FILE, FEEDBACK ABOUT CLOUD, ATTACK FEEDBACK, and LOGOUT. The main content area is titled "Request For Secret Key" and contains a form with fields: "Select the Cloud Server" (dropdown menu), "Enter the File Name" (text input), and "Enter the Owner Name" (text input). A "Submit" button is located below the form. To the right of the form is a "Sidebar Menu" with the same four options as before: Find Reputation, Find Trust Worthy, Find Cost & Memory, and View Cloud Files.

17.REQUEST FOR FILE:

The screenshot shows the CloudX homepage. At the top, there is a banner with the text "Deploy an Efficient Cloud Quickly and Painlessly" and a "CloudX™" logo. Below the banner is a green navigation bar with five items: "REQUEST FOR SK", "REQUEST FOR FILE", "FEEDBACK ABOUT CLOUD", "ATTACK FEEDBACK", and "LOGOUT". The main content area has a title "View Cloud Files" and a form for searching files. The sidebar menu on the right includes links like "Find Reputation", "Find Trust Worthy", "Find Cost & Memory", and "View Cloud Files".

18.CLOUD LOGIN:

The screenshot shows the "Cloud Login Details" page. It features a navigation bar with tabs: "HOME PAGE", "TRUST MANAGER", "REGISTER", "USER", and "CLOUD". Below the navigation bar is a "Menu Operations" section with a "Home" link. The main form for logging in requires "Name (required)" and "Password (required)". It also includes a dropdown menu for "Select the Cloud" and a "submit" button. A large green rectangular area is visible below the login form.

19.FILES IN CLOUD:

The screenshot shows the DriveHQ web interface. At the top, there's a navigation bar with links like 'DriveHQ Start Menu', 'My Storage', 'Group Admin', 'Manage Shares', 'Drive Mapping, Backup & Sync Tools', 'Manage Drop Boxes', and 'FTPS/FTP Hosting'. On the right, there are social media icons and a user profile 'srividya vaddi'. Below the header is a toolbar with icons for Up, Upload, Download, Zip Download, Share, Publish, New Folder, New File, Copy, Cut, Delete, Paste, and Upgrade.

The main area displays a file list titled 'Folder Path: clouddata'. The list includes two files: 'acds.txt' and 'abc.txt'. The table has columns for Name, Action, Create Time, Modify Time, and Size. Both files were created on 5/30/2021 at 7:42:56 PM and modified on 5/30/2021 at 7:42:55 PM, with a size of 20 KB each.

On the left sidebar, under 'DriveHQ Root', there are sections for 'My Storage' (clouddata, GroupRead, GroupWrite, My Documents, My Pictures, Recycle Bin, wwwhome), 'DriveHQShare' (srividya vaddi, webmaster), and 'My Profile'. A blue button labeled 'Upgrade to Business/Enterprise Plan' is visible. A note at the bottom left says 'FTP is for business only.'

At the bottom of the page, there's a summary table with the following details:

Folder Name:	clouddata	Create Time:	5/15/2021 7:41:37 PM	Modify Time:	5/30/2021 7:42:56 PM	Folder Size:	40 KB	Folder(s) / File(s):	2	Free Space:	5.00 GB
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Below the summary table, it says 'Loaded 1 Page(s) - 2 Record(s) / Total: 1 Page(s) - 2 Record(s)'.

5.3 TEST CASES

TestCase No.	Test Scenario	Expected Result	Actual Result	Output
TC01	Check whether the home page is working	o/p as expected	as expected	Pass
TC02	Check all logins are valid	Login is validated	As expected	Pass
TC03	Check whether Trust Manager is able to handle all features	Able to view attacks, feedbacks	As expected	Pass
TC03	Check whether Data Owner is able to handle all features	Able to add files , encrypt files, purchase vm, give feedback	As expected	Pass
Tc04	Check whether Cloud Consumer is able to handle all features	Able to request Secret key, file, attack on feedbacks, give feedback	As Expected	Pass
TC05	Check whether files are getting uploaded in DriveHq	Able to upload files	As expected	Pass
TC06	Check whether the expected output is achieved	Output as expected	As expected	Pass

6.CONCLUSION

Our project concludes with the working of a novel searchable symmetric encryption framework, with high level of privacy, efficient search for data consumer, uploading files for Data owner and low client storage with actual deployments on real time cloud DriveHQ . The construction of this project is simple yet efficient and meets the needs of cloud infrastructure and personal usage. The files which are being uploaded by the data owner are encrypted using Advanced Encryption Framework (AES). The files uploaded in the cloud can be accessed by the authorized data consumers only when the name of the file and name of the owner are known. Trust Manager ensures safety of the cloud and prevents collision attacks and sybil attacks. We fully implemented our framework and evaluated its performance on Mysql Database and DriveHQ.

7.FUTURE WORK

Some ideas and features that can be considered as a future work for this project are as follows:

- Providing a secure environment from other multiple attacks apart from the existing collusion and sybil attacks.
- Usage of better encryption algorithms to provide efficient encryption.
- Another improvisation would be improved infrastructure and user friendly interface.
- Implementation of IaaS and PaaS cloud services.

8. REFERENCES

- [1] A Secure Searchable Encryption Framework for Privacy-Critical Cloud Storage Services Thang Hoang, Attila A. Yavuz, Member, IEEE and Jorge Guajardo
- [2] R. Curtmola, J. Garay, S. Kamara, and R. Ostrovsky, “Searchable symmetric encryption: improved definitions and efficient constructions,” in Proc. 13th ACM Conf. Comput. Commun. security, ser. CCS ’06. ACM, 2006, pp. 79–88.
- [3] E. Stefanov, C. Papamanthou, and E. Shi, “Practical dynamic searchable encryption with small leakage,” in 21st Annu. Network and Distributed System Security Symp. — NDSS 2014. The Internet Soc., February 23-26, 2014.