Configuration Manual

MSc Research Project
Cloud Computing

Husna Mehwish
X21168385

School of Computing
National College of Ireland

Supervisor: Aqeel Kazmi

Student Name:	Husna Mehwish
Student ID:	x21168385
Programme:	Cloud Computing
Year:	2022
Module:	MSc Research project
Supervisor:	Aqeel Kazmi
Submission Due Date:	15/12/2022
Project Title:	Configuration Manual
Word Count:	1414
Page Count:	8

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.

ALL internet material must be referenced in the bibliography section. Students are required to use the Referencing Standard specified in the report template. To use other author's written or electronic work is illegal (plagiarism) and may result in disciplinary action.

Signature:	**Husna mehwish**
Date:	15th December 2022

PLEASE READ THE FOLLOWING INSTRUCTIONS AND CHECKLIST

Attach a completed copy of this sheet to each project (including multiple copies)	□
Attach a Moodle submission receipt of the online project submission, to each project (including multiple copies).	□
You must ensure that you retain a HARD COPY of the project, both for your own reference and in case a project is lost or mislaid. It is not sufficient to keep a copy on computer.	□

Assignments that are submitted to the Programme Coordinator Office must be placed into the assignment box located outside the office.

Office Use Only	
Signature:	
Date:	
Penalty Applied (if applicable):	

Configuration Manual

Husna Mehwish
Student ID: x21168385

1   Introduction:

The system aims to reduce the problem for search over encrypted cloud multimedia data. To execute the study on "Smart search over encrypted cloud multimedia data", the following software and hardware was needed:

2   Software requirements:

2.1   Software requirements:

- Operating system: windows 10
- Apache Netbeans: 8.2
- MySQL: 8.0.21
- Eclipse IDE: 2022-12
- Word-net
- Apache Tomcat: Version 7

2.2   Hardware requirements:

For client side:
- Processor: Intel(R) Core(TM) i7-8550U CPU @ 1.80GHz   1.99 GHz
- Memory: 8.0 GB
- System type: 64-bit operating system, x64-based processor

For server side:
- Operating system: Windows server 2012
- CPU: Intel(R) Xeon(R) CPU E5-2686 v4 @ 2.30GHz
- RAM: 8.0 GB
- System type:64-bit operating system, x64-based processor

2.3   Cloud Setup:

Server setup:
- Ec2 t2 medium/large
- Operating system: Windows 2012
- RAM : 32.0 GB

Client setup:
- Processor: Intel(R) Core(TM) i7-8550U CPU @ 1.80GHz   1.99 GHz
- Memory: 16.0 GB

3   Prerequisite:

We have created a client-server application with Java. The configuration details are as follows:
- **Server side:**

Any system can host the server side of an application, which will be hosted on an EC2 t2*2xlarge instance running on Amazon EC2. We used Amazon Ec2 because it has fast storage which gives good performance (Daher et al., 2018).Windows server installation and configuration instructions were provided for Windows server[1]. An Amazon t2.2xlarge server with an Intel E5 processor was used for testing. This high-performance device is primarily designed to provide businesses with the reliable performance required to manage workloads on any scale.

The Eclipse for Apache can be used for server-side code debugging.

JDK 11 must be set up to install the Eclipse. Installing a JDK score of 11 or higher in our IDE is recommended. If you do not already have it, Eclipse should also be installed. Install Tomcat using Eclipse[2].which was done previously, and then proceed to the next step

The database for the system was stored in MySQL. PHPMyAdmin and a lamp server were set up on the server. The database can be viewed, changed, and backed up with ease thanks to PHPMyAdmin's GUI-based access.

Using the import project features in the Eclipse environment, a server-side project can be created. Once Tomcat has started, you can import this software into it and install it.

Choose the run-Run-on server file from the Eclipse menu to launch the server. Open your server and install our application Either manually completes this task or utilizes one of the built-in wizards. Either manually complete this task or utilize one of the built-in wizards.

- **Client side:**

To build the client application, Netbeans 8.2 is installed. First, JDK 11 is installed, and Netbeans 8.2, on top of it.This app can be personalized by first importing the Eclipse project and then making an executable Jar file. The runtime environment needed for execution is Java. Before running the .jar file ensures that you have a JRE installed in your system.

4   Installation:

4.1   For development:

4.1.1-   Installation of Java Environment:

Step one: Download Java[3] .
Step two: Downloaded JDK and JRE.

4.1.2-   Installation of Apache netBeans:

Step one: Download Apache netBeans[4]
Step two: After the download completion, double click to install the apache netbeans.
Step three: check all the instructions written on installation wizard.

4.1.3-   Installation of Eclipse IDE:

Step one: Download Eclipse[5]

---

[1] Connect to your Windows instance - Amazon Elastic Compute Cloud
[2] Step by Step Guide to Setup and Install Apache Tomcat Server in Eclipse Development Environment (IDE) • Crunchify
[3] Download Java for Windows
[4] Downloading Apache NetBeans 15
[5] Eclipse Downloads | The Eclipse Foundation

Step two: After the download completion, double click to install the apache netbeans.
Step three: check all the instructions written on installation wizard.

4.2 For Run time:

4.2.1- Installation of word net:

Step one: Download word net[6].
Step two: After download completion, double-click to install it.

4.2.2- Tomcat installation:

Step 1: Download Apache Tomcat 8[7]
Step 2: After download completion, double-click to install it
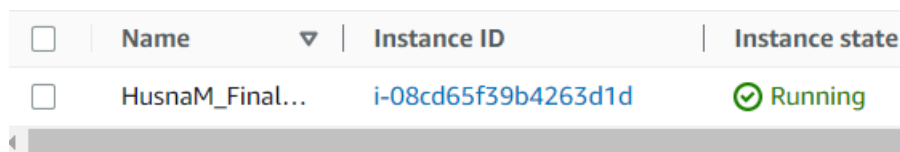Step 3: check all the instructions written on installation wizard.

4.2.3- MySQL installation:

Step 1: Download the MySQL[8]
Step 2: After download completion, double-click to install it
Step 3: Select Developer Mode ,then click execute and then finish it..

5 Configuration:

5.1 Configuration of remote desktop:

To start your instance, please create and launch it in the Amazon EC2 management console. After you start it, make sure to save your private key in a safe place. If you want to stop the instance while you're away, make sure to change the shutdown policy.

☐	Name	▽	Instance ID		Instance state
☐	HusnaM_Final...		i-08cd65f39b4263d1d		⊘ Running

Figure 1: EC2 Instance Running

Now select the AWS instance and click on connect

---

[6] WordNet (free) download (freedownloadmanager.org)
[7] https://tomcat.apache.org/download-80.cgi
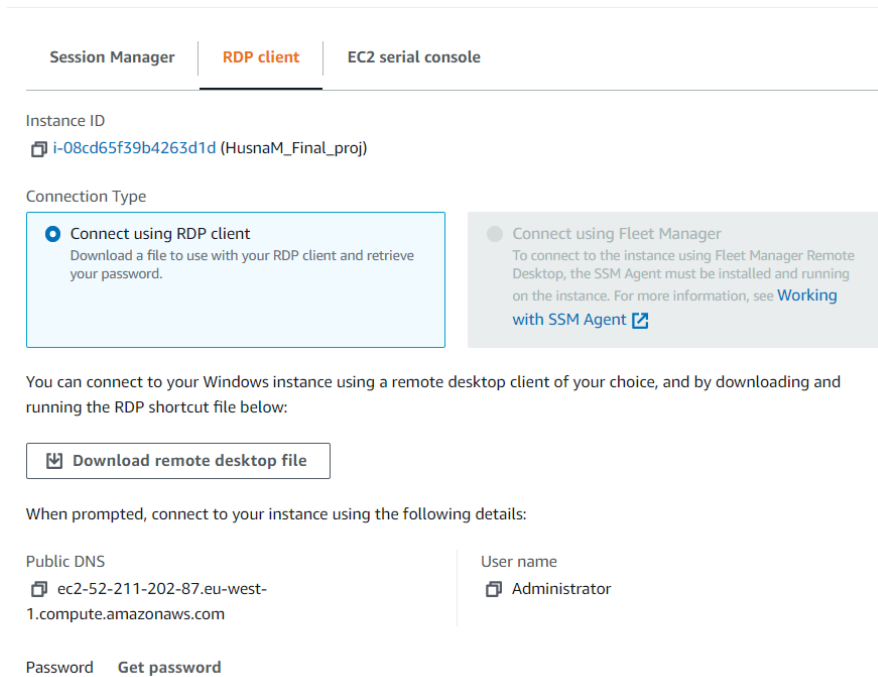[8] https://dev.mysql.com/downloads/windows/installer/8.0.html

Figure 2: Remote desktop for server

It will show you the page where your instance is connected and now we need to create a remote desktop. To do this, please click the RDP client button. To download the remote desktop file, click on the *Download * button. Coming with necessary password and private key files to decrypt, please click on the "*Decrypt *" button and you'll see your password. Once you have decrypted the remote desktop file, open it up and enter your decrypted password so you can access it.

6 System Execution:

To begin, click simply . jar file. It launches a graphical user interface to communicate with the server. The details of the user interface are as follows.

1- User registration:

You can create an account on the system by registering any email address. You will need a unique username and password to sign up. Password length should be greater than five. We ask for your name, email and phone number when you register.

Smart Search Over Encrypted Cloud Multimedia Data

REGISTER

*Name	husna
*Email_ID	husna@qmail.com
*Userna...	husna
*Password	******

Register   Cancel

Figure 3: Registration

2- Login screen:

In this screen when the users adds its authentication then he can enter the system. When you do, press "login" and it will move to the next module.

LOGIN

Username: Husna

Password: ******

Login   Cancel

New user Registration

Figure 4: Login

3- Control panel:

You are now displayed with the home screen. This is the screen that comes up after a successful login and has options for you to navigate according to your needs.
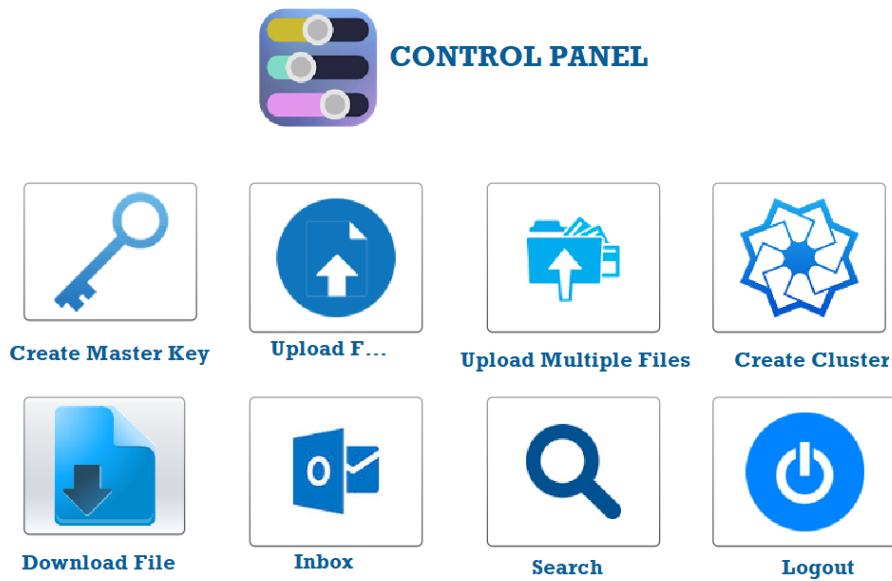
CONTROL PANEL

Create Master Key	Upload F…	Upload Multiple Files	Create Cluster
Download File	Inbox	Search	Logout

Figure 5: Control panel

In this screen you can choose any option which you want. If you want to upload any file then first you need to create the folder and master key. Then you can upload the files in that folder by using the same key for the folder. You can upload multiple files as well. After uploading you can create clusters for the folders. For downloading any file you need the secret key for the folder that file is placed in. You can search for the documents by adding queries in the server. For the inbox, only the files shared with you will be seen. If there is no file shared with you then your inbox will stay empty.

References:

Daher, Z. and Hajjdiab, H., 2018. Cloud storage comparative analysis amazon simple storage vs. Microsoft azure blob storage. *International Journal of Machine Learning and Computing*, *8*(1), pp.85-9.

Miao, Y., Zheng, W., Jia, X., Liu, X., Choo, K.K.R. and Deng, R., 2022. Ranked Keyword Search over Encrypted Cloud Data Through Machine Learning Method. *IEEE Transactions on Services Computing*.