

Configuration Manual

MSc Research Project
Cloud Computing

Niketan Bothe
Student ID: 20180837

School of Computing
National College of Ireland

Supervisor: prof. Aqeel Kazmi

National College of Ireland
Project Submission Sheet
School of Computing



Student Name:	Niketan Bothe
Student ID:	20180837
Programme:	Cloud Computing
Year:	2022-2023
Module:	MSc Research Project
Supervisor:	prof. Aqeel Kazmi
Submission Due Date:	15/12/2022
Project Title:	Configuration Manual
Word Count:	627
Page Count:	21

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:	NiketanB
Date:	14th December 2022

PLEASE READ THE FOLLOWING INSTRUCTIONS AND CHECKLIST:

Attach a completed copy of this sheet to each project (including multiple copies).	<input type="checkbox"/>
Attach a Moodle submission receipt of the online project submission , to each project (including multiple copies).	<input type="checkbox"/>
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.	<input type="checkbox"/>

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

Niketan Bothe
20180837

1 Overview

In this manual each and every step is shown for project configuration. All the code is available in zip file which include Frontend, backend setup code. Overall backend software is installed on cloud server(AWS EC2). In this report there is configuration for both the first section will explain about the developer configuration in which explain each and every step of code setup. The another section is all about execution of application setup. Lets look into it.

2 Installation Requirement

This application can be implement on basic requirement which shown in below table 1

Component	Requirement
OS	Windows10/11
CPU	8
RAM	8GB
Storage	100GB

Table 1: System Requirement

3 FrontEnd Implimentation

Front end is developed in Apache NetBeans 15 IDE by visiting <https://archive.apache.org/dist/netbeans/netbeans-installers/15/Apache-NetBeans-15-bin-windows-x64.exe>.

- Install the downloaded software in windows with following steps
 1. installation window 1

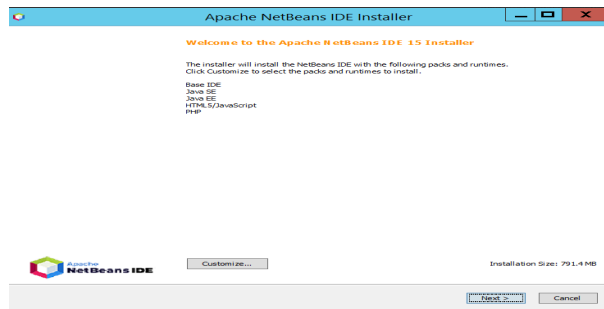


Figure 1: Installation window

- finish the installation and there is a welcome window 2

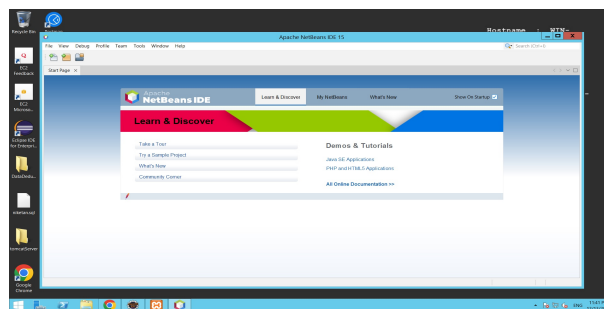


Figure 2: Welcome Window

3. click on file and open the project which is available in code zip. Filename- NiketanDesktop.3 4

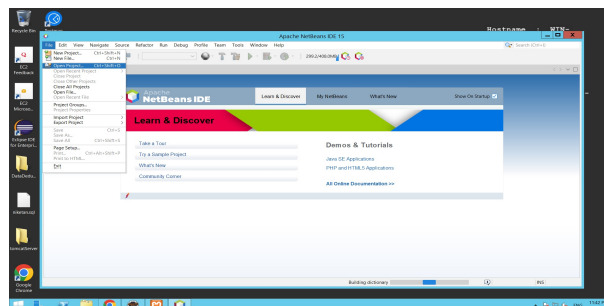


Figure 3: Open Project

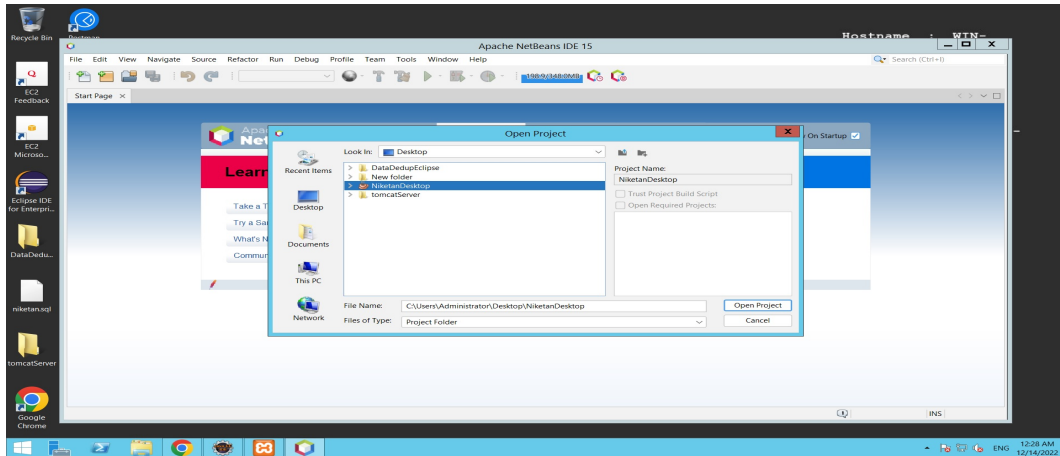


Figure 4: Select Project

4. For API configuration click on source packages - transaction - Constants.java
5. current server ip is serverip = "http://3.250.130.15:8080 on line 23 specify the server public IP for eg., if your server Ip is 4.253.130.15

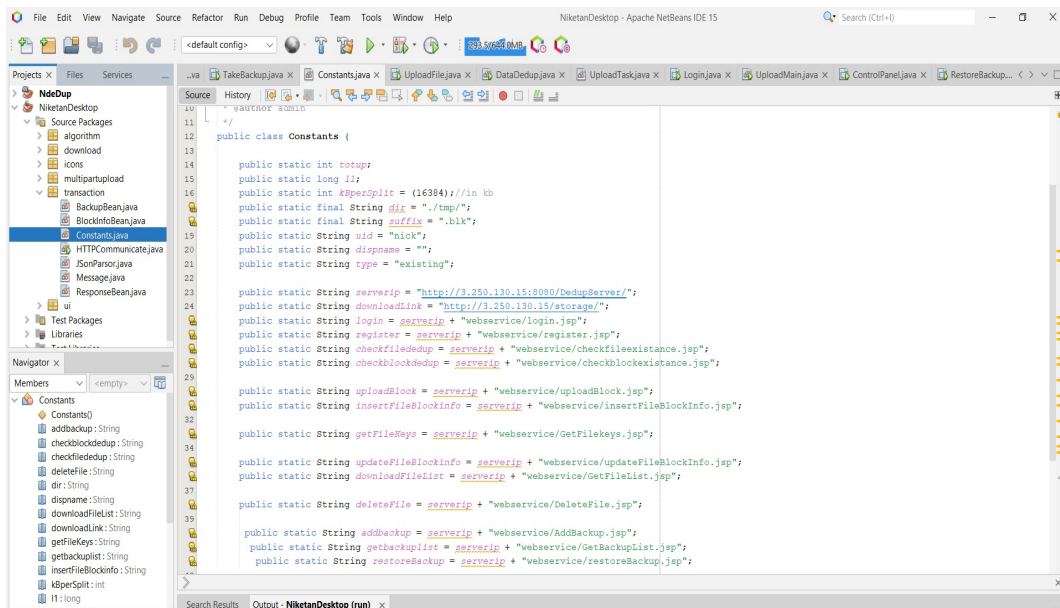


Figure 5: Configuration API

5. now go to file source packages - ui - Login.java right click on it and click on run file.67

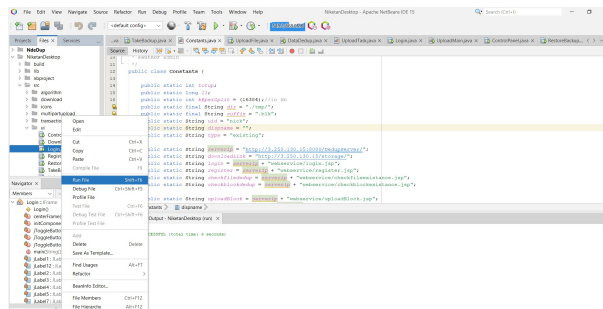


Figure 6: Run File

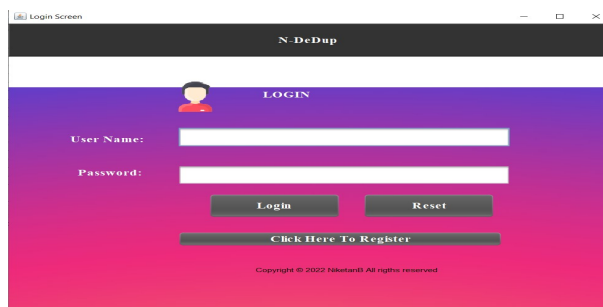


Figure 7: Login Screen

6. Now Download JDK in local machine <https://www.oracle.com/ie/java/technologies/javase/jdk12-archive-downloads.html#license-lightbox>
7. Install the JDK 8

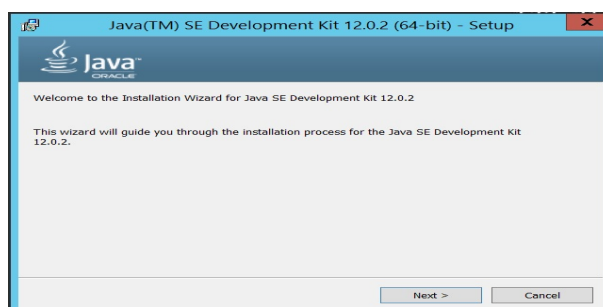


Figure 8: Install

8. select path where to install JDK 9
9. Install the JDK 8
10. Now Check whether jdk is installed or not so just go in CMD terminal and hit command "JAVAC", it will display all the packages and instructions related to java.10

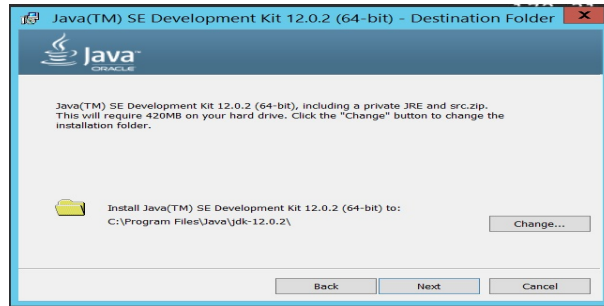


Figure 9: Installation path

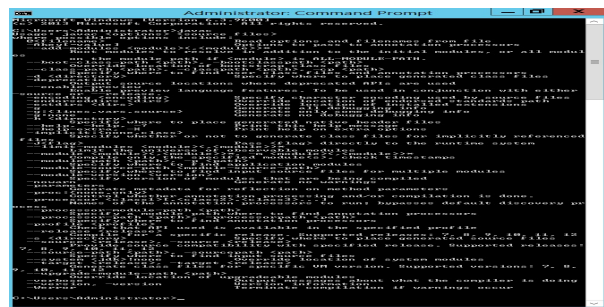


Figure 10: JDK Version

4 Cloud configuration

All the backend configuration is done at AWS EC2 instance on windows Server In this section will go through EC2 instance configuration. for better understanding can also visit *Step 1: Launch a Windows Server Amazon EC2 instance - AWS CodeDeploy* — docs.aws.amazon.com (n.d.)

1. Login into AWS Console, On the home page in services there is EC2 option click on it.¹¹

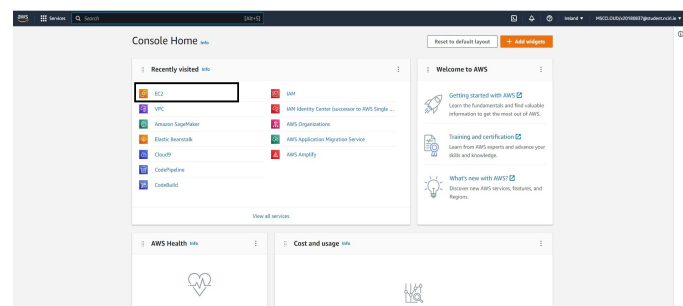


Figure 11: AWS Console Window

2. Now this time create the instance by clicking on "Launch Instance".¹²

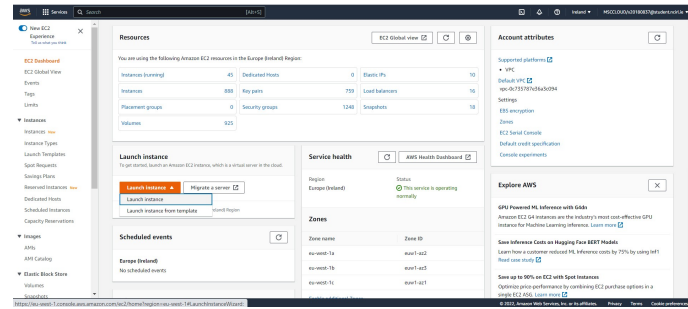


Figure 12: Create Instance

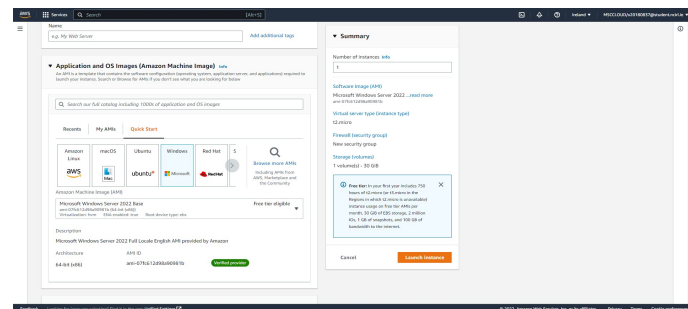


Figure 13: Instance Configuration

3. There is configuration page for configuration,13

- give the instance name,
- In application and OS image select Windows server
- In Instance Type Select any tier(For this implementation there is t2.2xLarge tier is used).
- Create the Key-pair by click on create pair option with selected option shown in 14. Keep the .pem file in safe place which can be use for instance login.

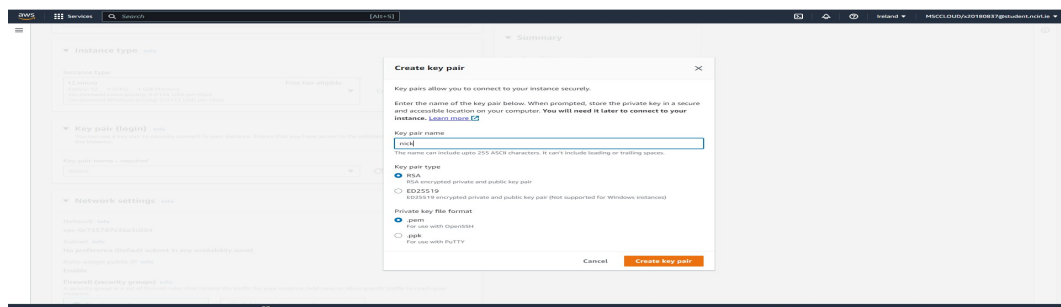


Figure 14: Create Key Pair

- In firewall setting check "Allow HTTPS traffic from the internet" and "Allow HTTP traffic from the internet".

- Configuration Storage Provide atleast 100GB and Launch instance. It will take few minutes to get setup. Meanwhile click on instance ID15.

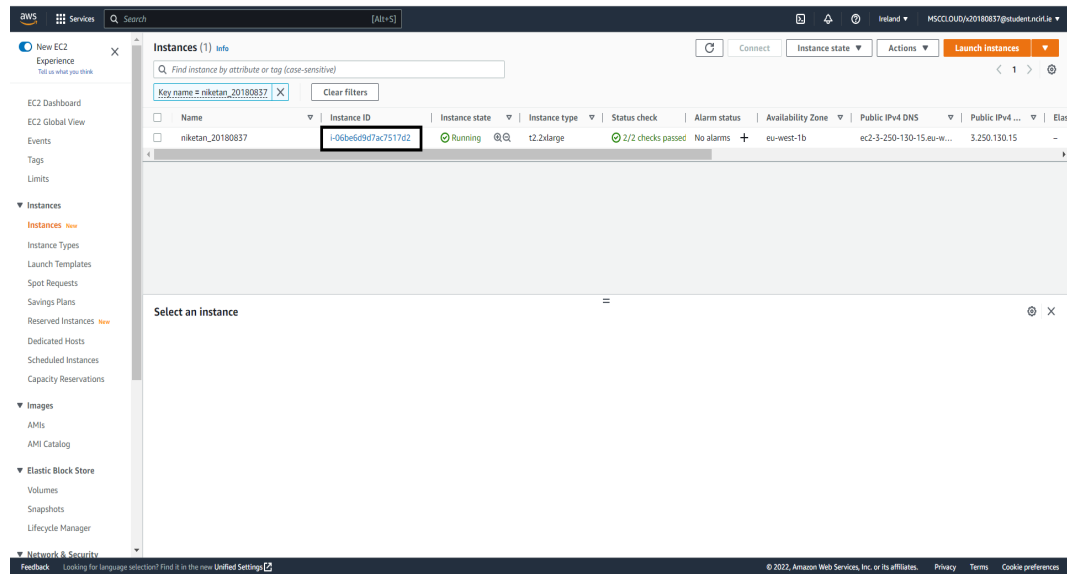


Figure 15: InstanceID

- There is instance Configuration which is requested in above step now click on "Security".16

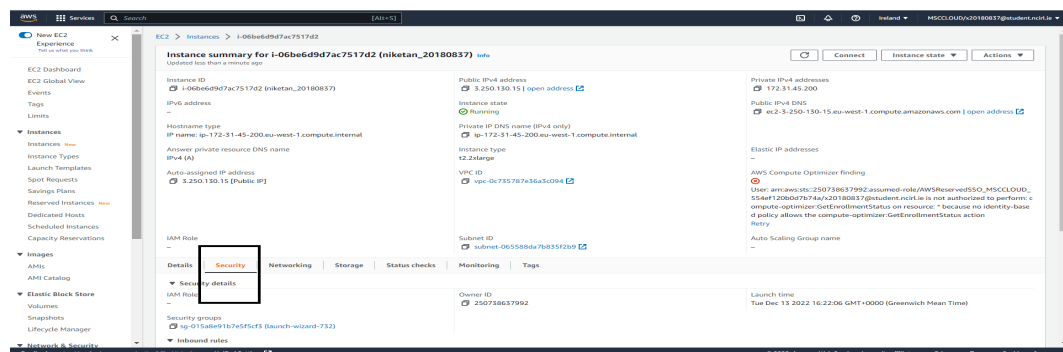


Figure 16: Security Group

- Now click on security Group "sg-015a8e91b7e5f5cf3" to add the rules.
- There is inbound rule, select Edit rule17

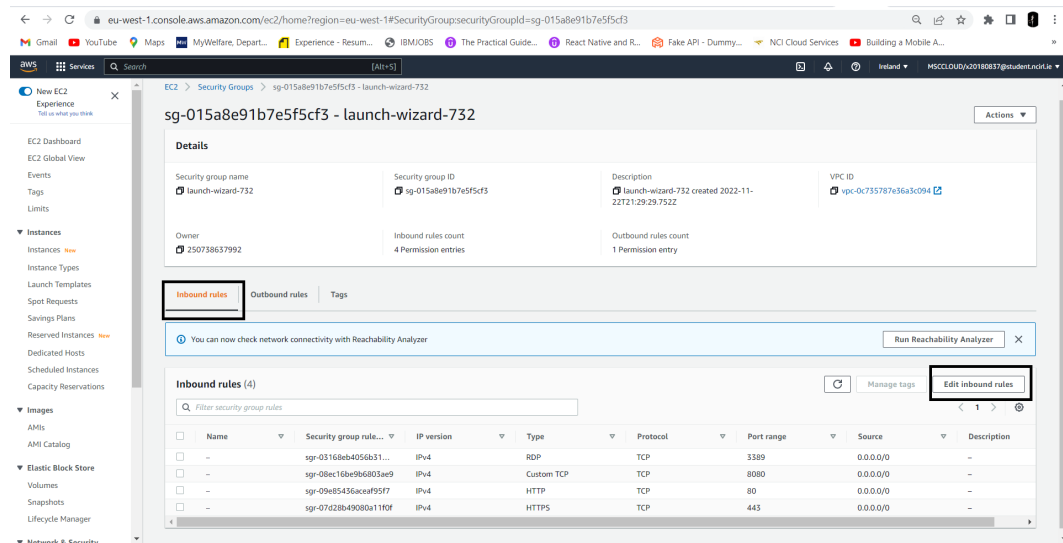


Figure 17: Edit Inbound rules

- select port range option and put "8080" with search option keep "0.0.0.0/0" then click on save rules. 18 This inbound rule will open the port request for 8080 where we are going to run tomcat server on AWS.

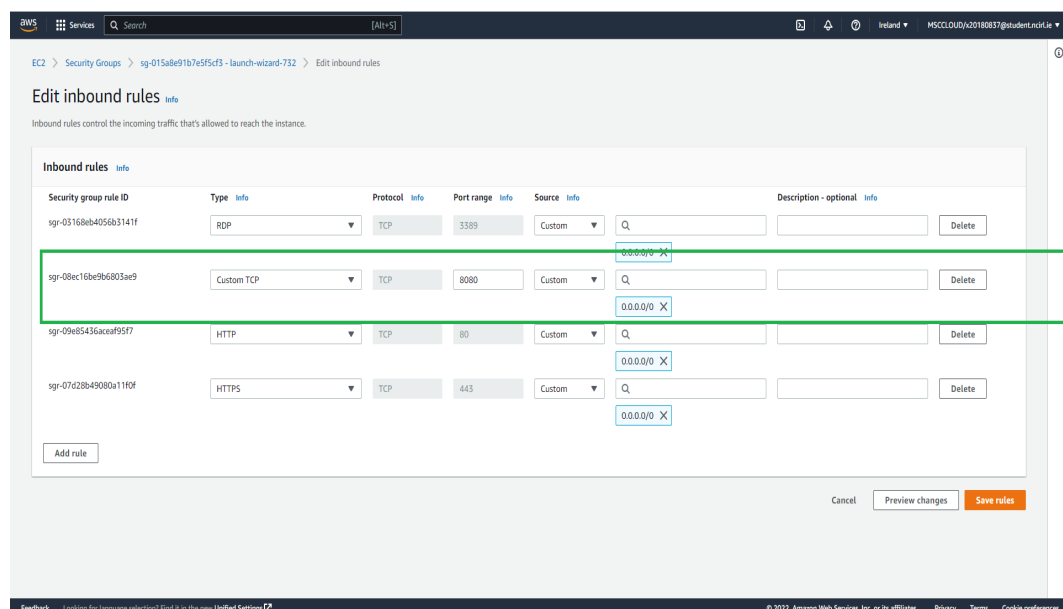


Figure 18: 8080 rules

- Now AWS Remote Desktop connection is ready to use click on instance and click on connect instance.

- Select RDP click on Download remote desktop file option.19

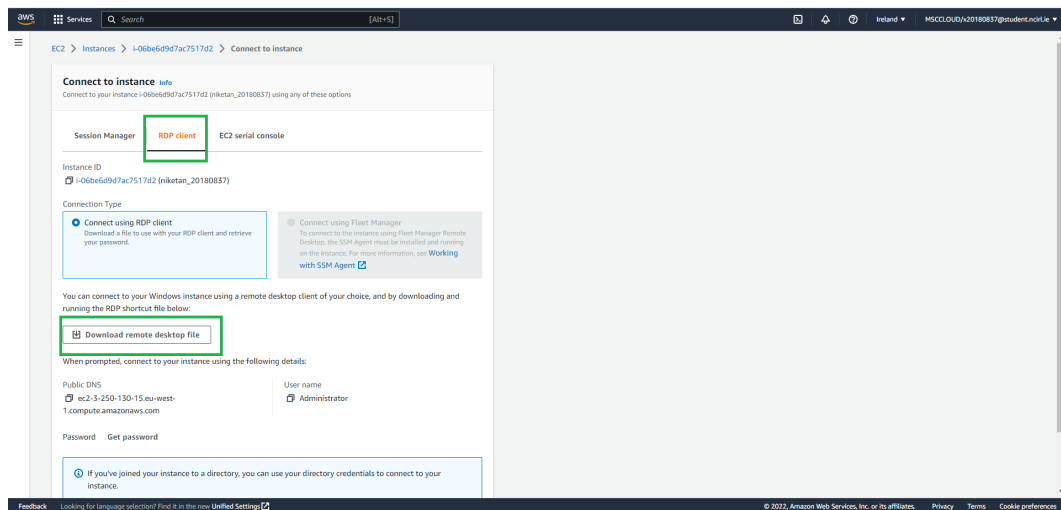


Figure 19: Remote Login

- Remote Desktop will get download in the local system now click on get password in the password section.
- click on upload private key file 20. select ".pem" file which is created while creating the instance. click on Decrypt password

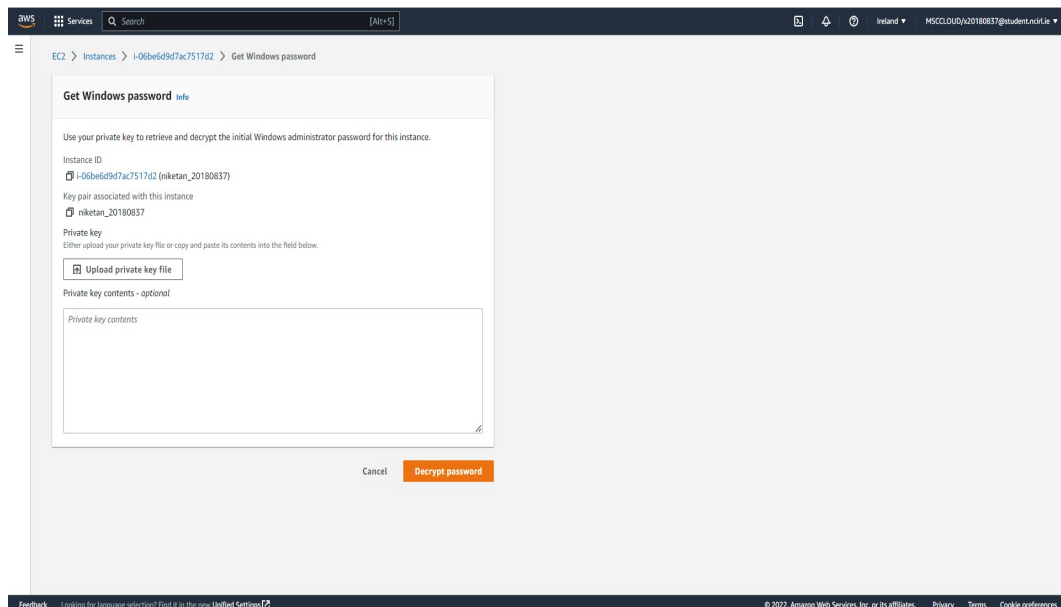


Figure 20: Remote Login

- now copy the password and open the Remote desktop.

- It will ask password for login just paste the password which is already copied in last step and paste it while login21. click ok.

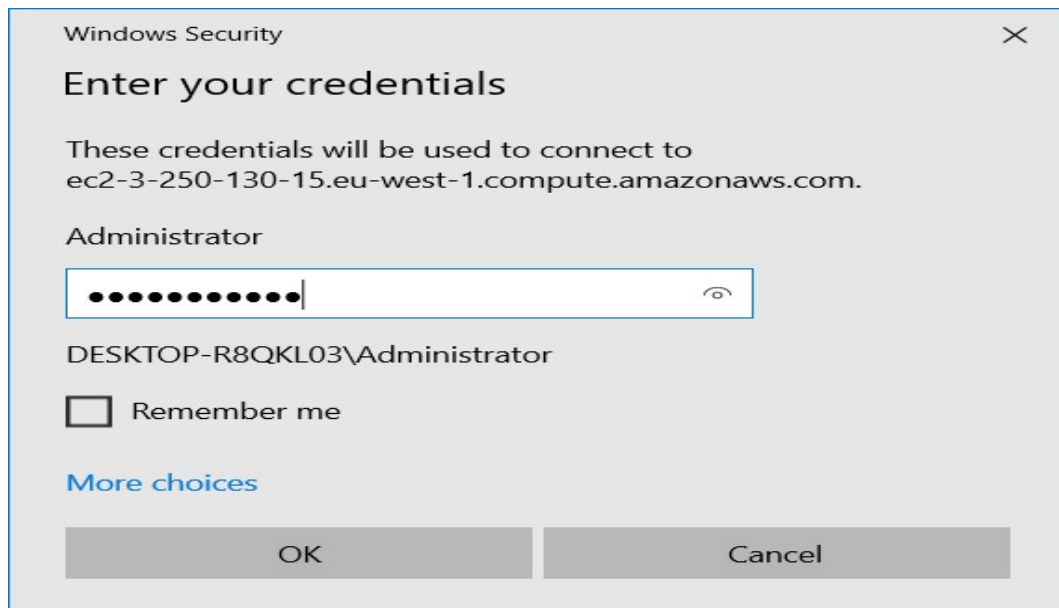


Figure 21: Remote Desktop login

Now we are ready to use AWS EC2 instance. lets configure back end in next section.

5 Backend Configuration

In this section there is backend configuration is explain step by step For application development Eclipse JEE Neon is used. Environment is establish using apache tomcat-7 and MySQL 8.1.

Backend process is implimented on AWS Ec2 platform

1. Visit the site and download eclipse with https://www.eclipse.org/downloads/download.php?file=/oomph/epp/2022-12/R/eclipse-inst-jre-win64.exe&mirror_id=17
2. Install the IDE and select the second option "Eclipse IDE for Enterprise java and web Developers" 22



Figure 22: Eclipse IDE Installation

3. select the path where you want to install the IDE and click ok

4. after installation open IDE. It will ask you for project path or create project just refer the code zip file and select the file "DedupServer" and open the project23.

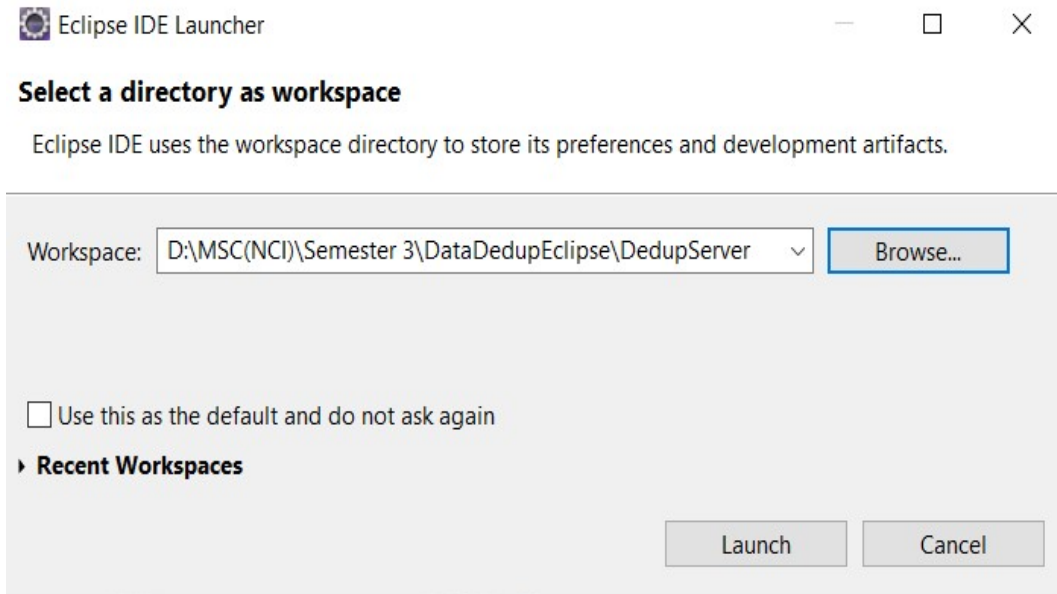


Figure 23: Open Project

5. Now right click on project and select run on server24

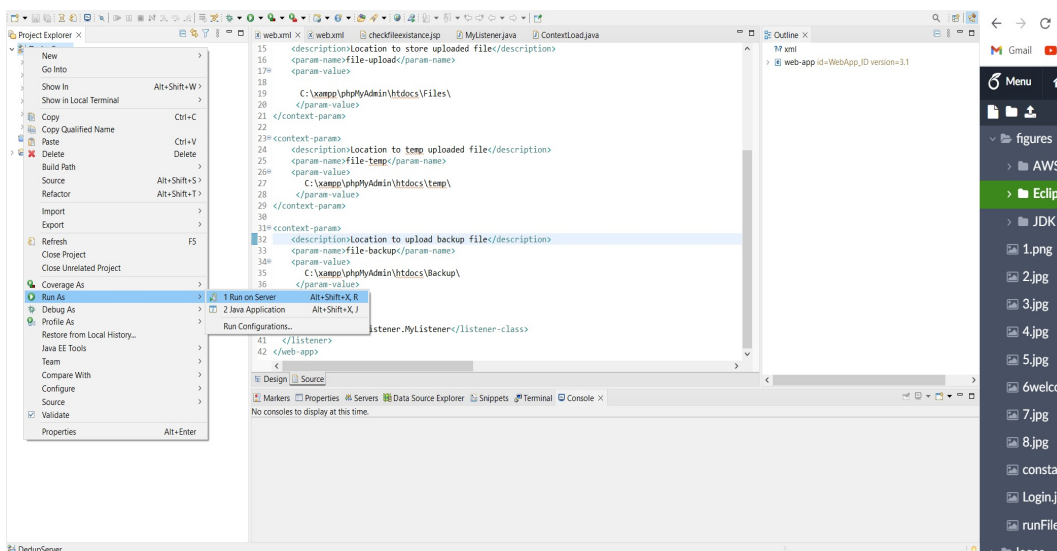


Figure 24: Run Project

6. Now select the server tomcat and click on finish server will get start 25

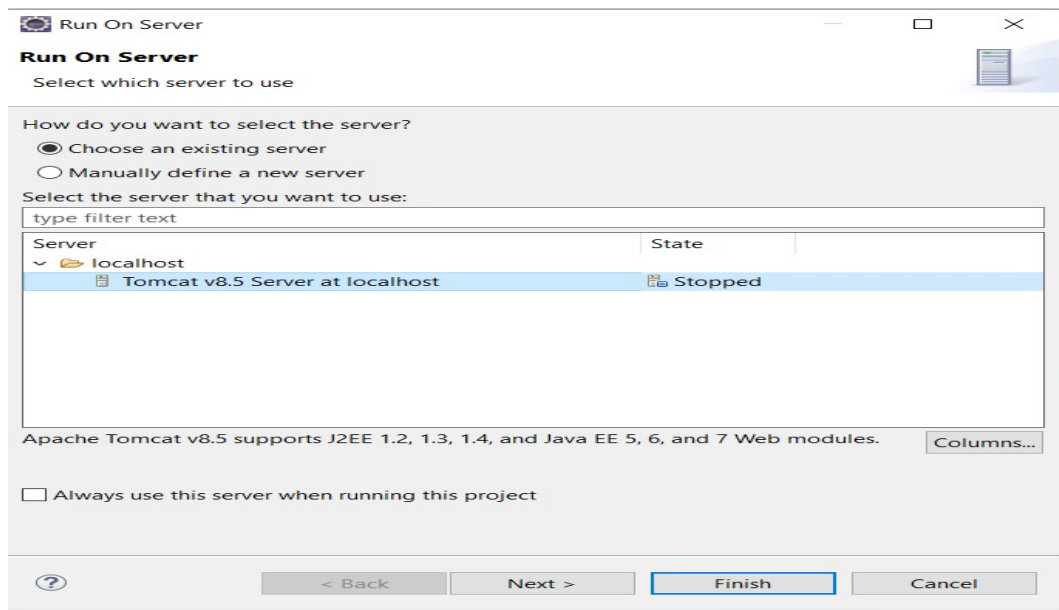


Figure 25: Run server

7. Now lets setup MySQL so that we can save the entries and which will be helpful to keep the track of blocks map.
8. lets go through the download link of XAMP <https://sourceforge.net/projects/xampp/files/XAMPP%20Windows/8.1.12/xampp-windows-x64-8.1.12-0-VS16-installer.exe>
9. install the xamp
10. open Xamp control pannel and click on start in front of MySQL and Apache

11. Now select the server tomcat and click on finish server will get start 26

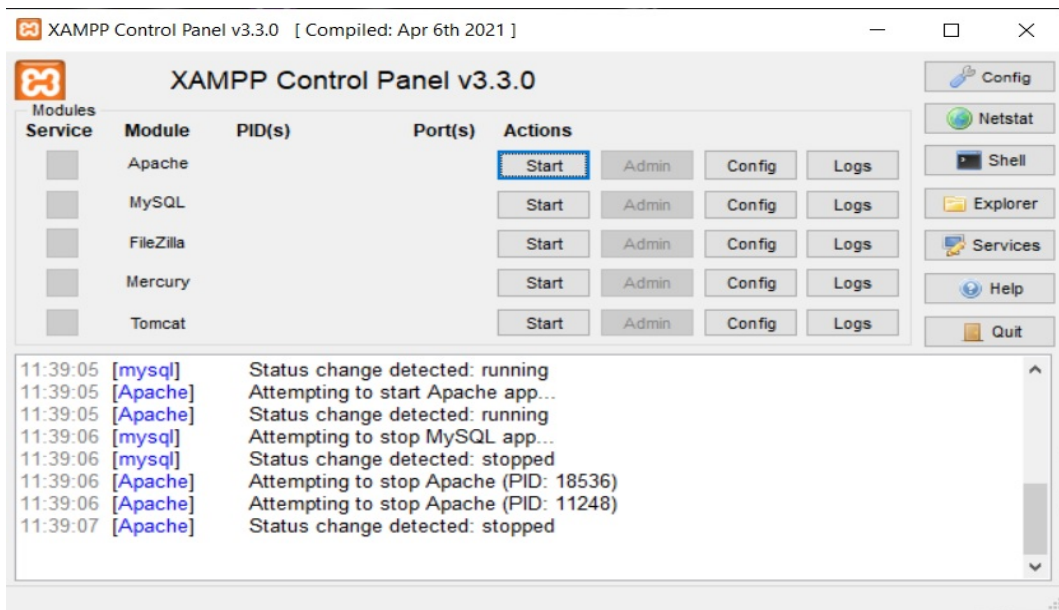


Figure 26: Xamp control panel

12. after starting both the server click on admin of MySql 27

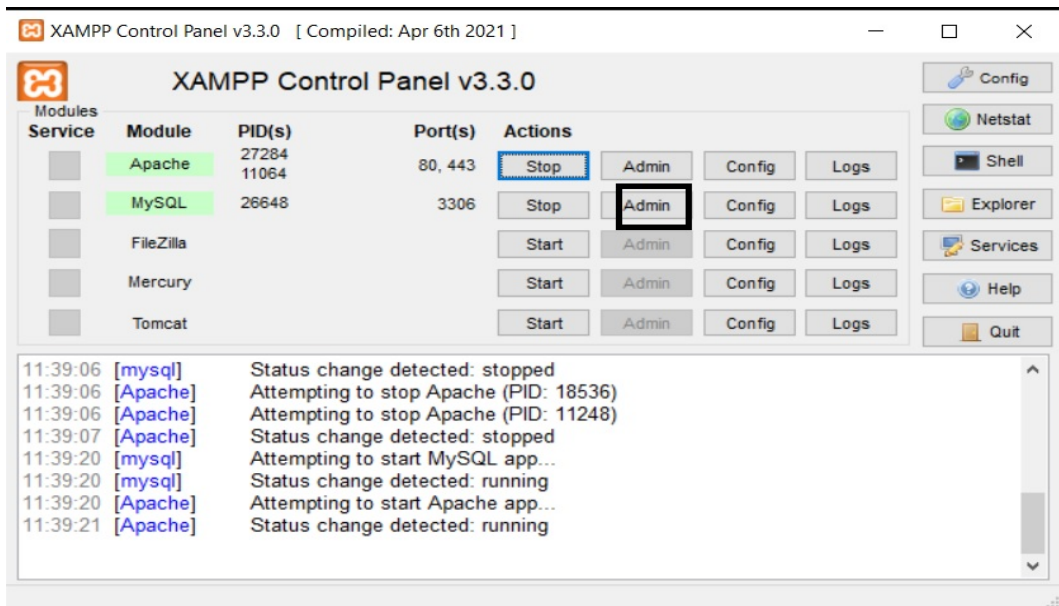


Figure 27: admin pannel navigation

13. there will be phpmyadmin control pannel click on new database to create the database 28

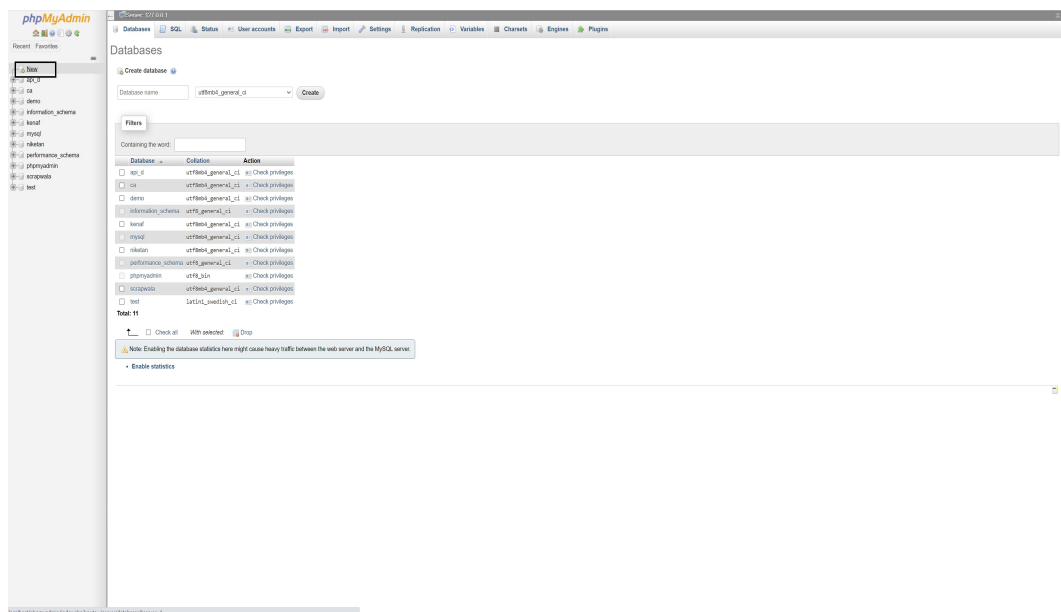


Figure 28: admin control panel

14. insert the name for database in the api there is connection of database with the name "niketan" so just make the database with same name 29

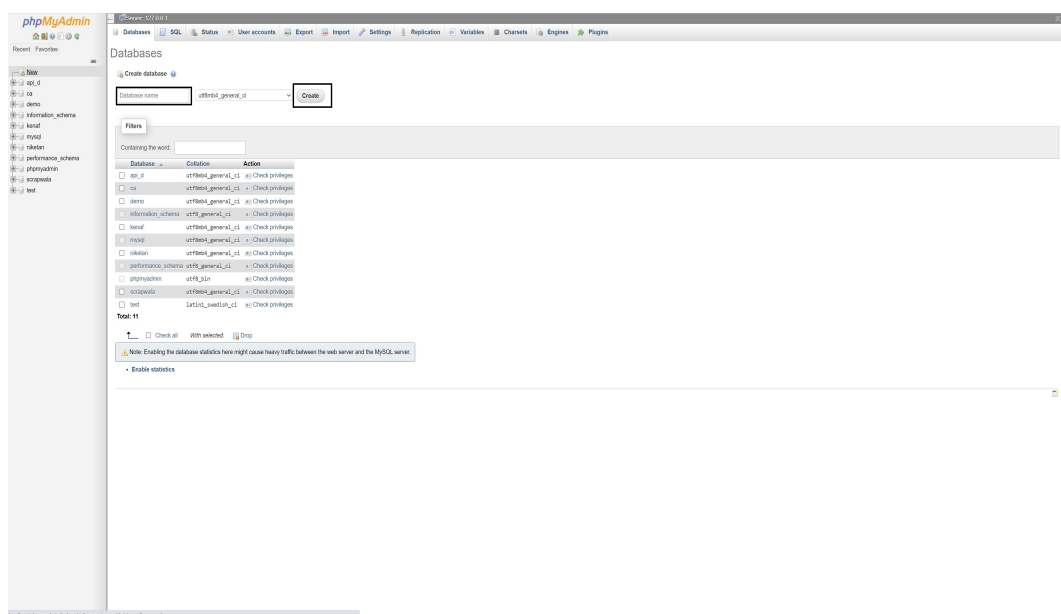


Figure 29: creating Database

15. now import the SQL file in that database so that there is no need to create new tables and new structure 30

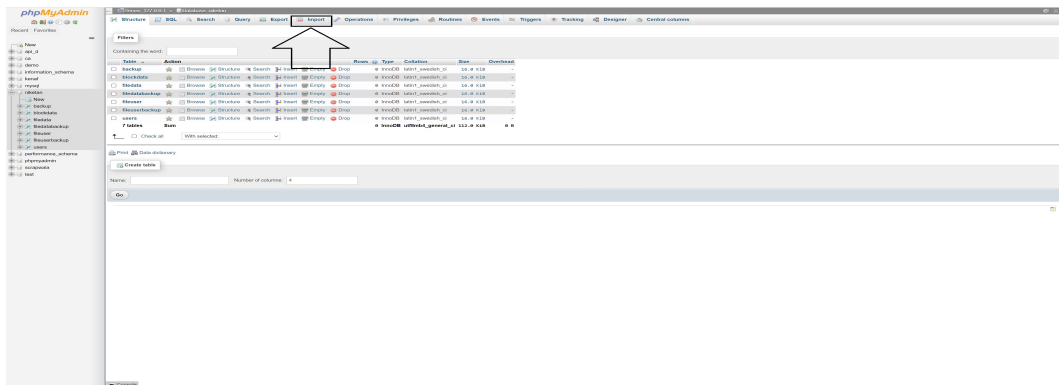


Figure 30: creating Database

16. just after import just click on choose file and select SQL file which is available in code zip open "niketan.sql". click on import 31

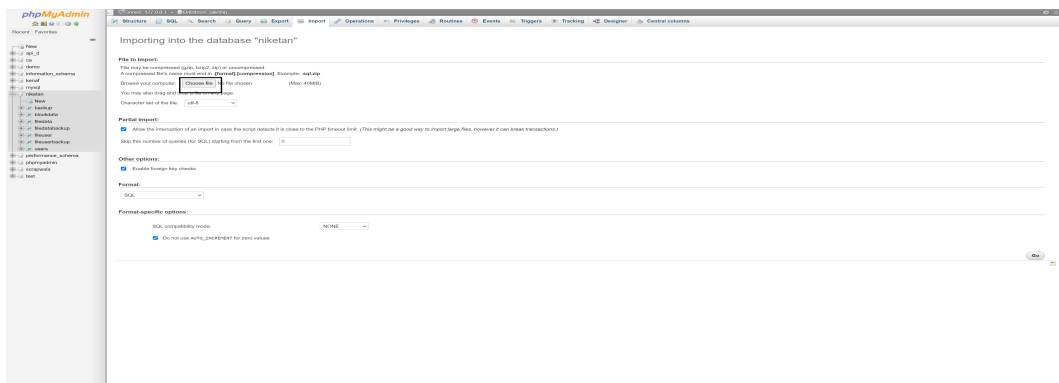


Figure 31: import table

17. now backend is also setup so everything is setup just make sure JDK is also install on cloud or AWS EC2 the step is also mention on the first part

6 Execution Configuration

1. In this section will look how user can setup this application for the organization or personal use so There will be executable file which will be present in zip file with the name niketanDesktop.exe user need to install that application on local machine.
2. Before installing the application make sure machine is setup with JRE
3. after the local installation user have to install the server application on the cloud server. which can also be get from DedupServer.exe apart from that user have to setup xamp in that so that server can get run properly.
4. Now when user will run the application from local machine then there will be login window.³²

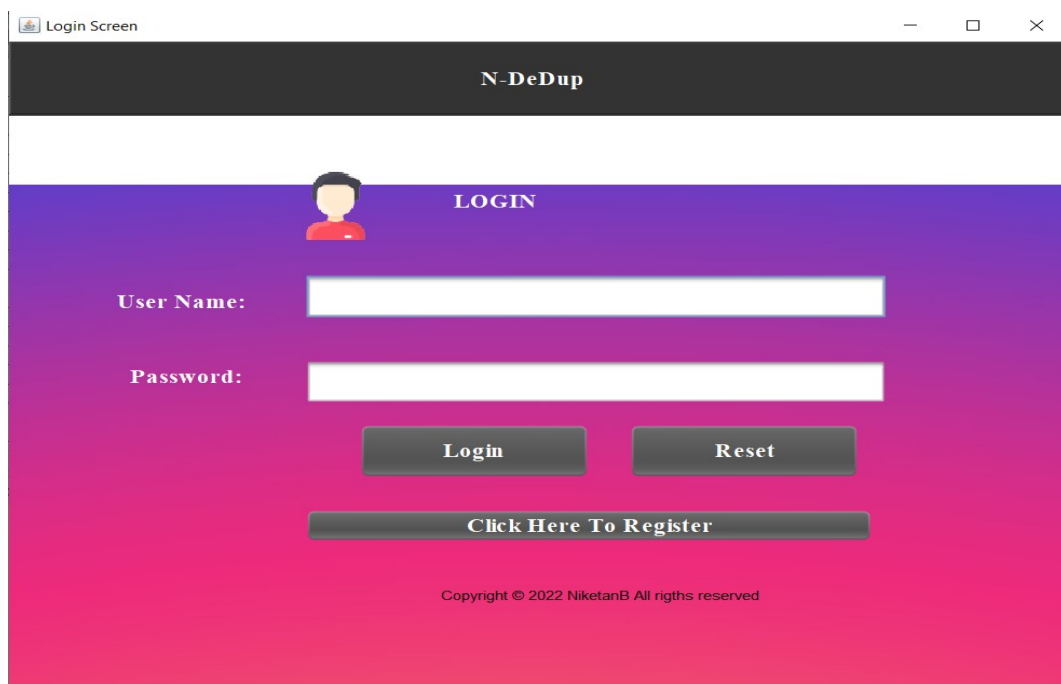


Figure 32: login window

5. user have to register first before login after login user will get control panel 33

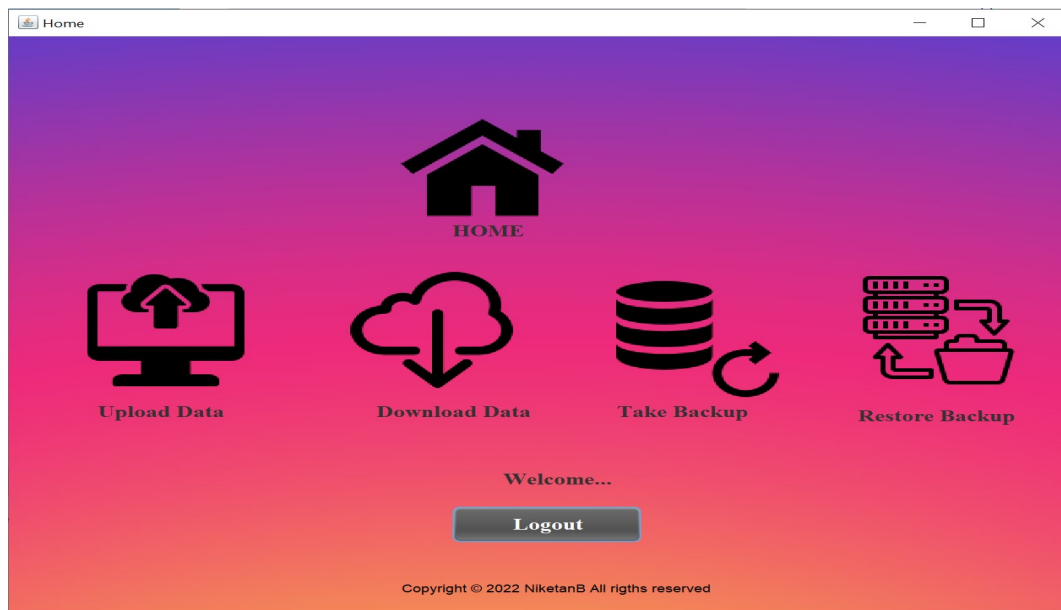


Figure 33: Home

6. Lets consider each and every scenario there is a different options

- Upload data :- in this section user can upload the data on the cloud³⁴ when user select add single file option user can upload single file, after selecting a file user have to hit the upload button at that time there will be the pop up "please wait". when file get update user can see upload time of file.

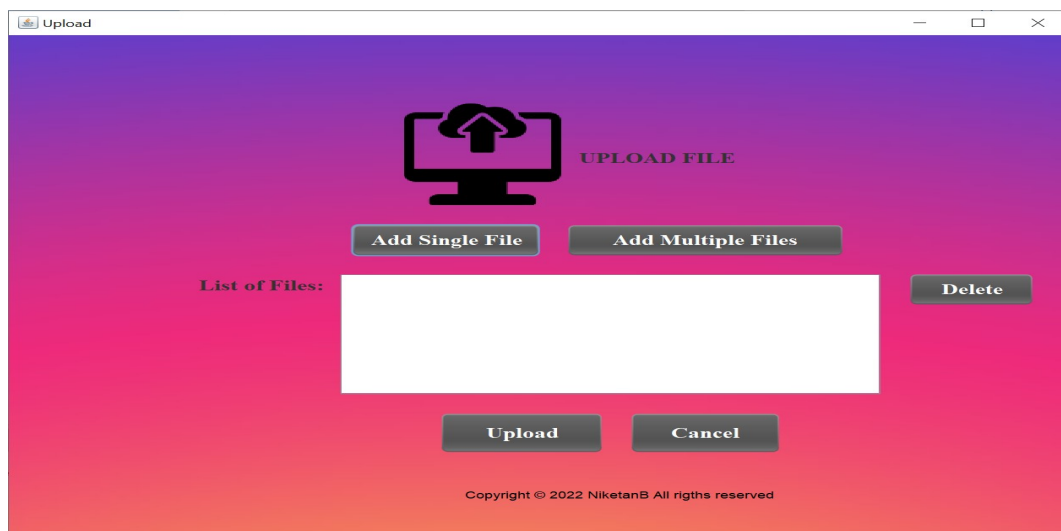


Figure 34: upload

- in the download section user can view uploaded files and proceed for download the data³⁵

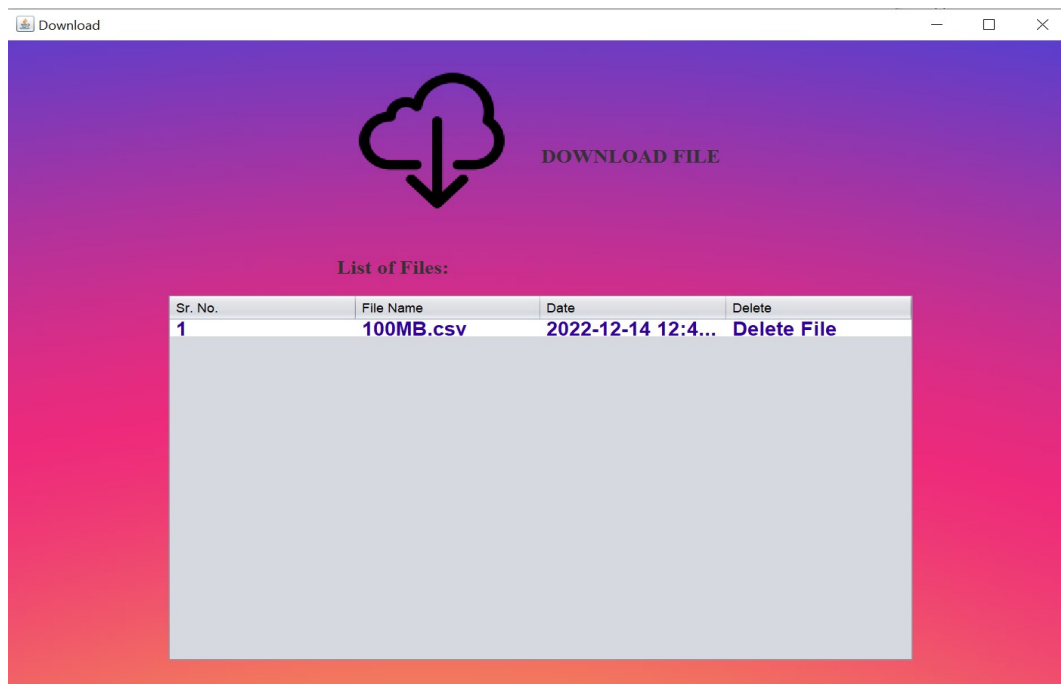


Figure 35: download

- There is a backup option on which user can take the backup of file and restore later.³⁶

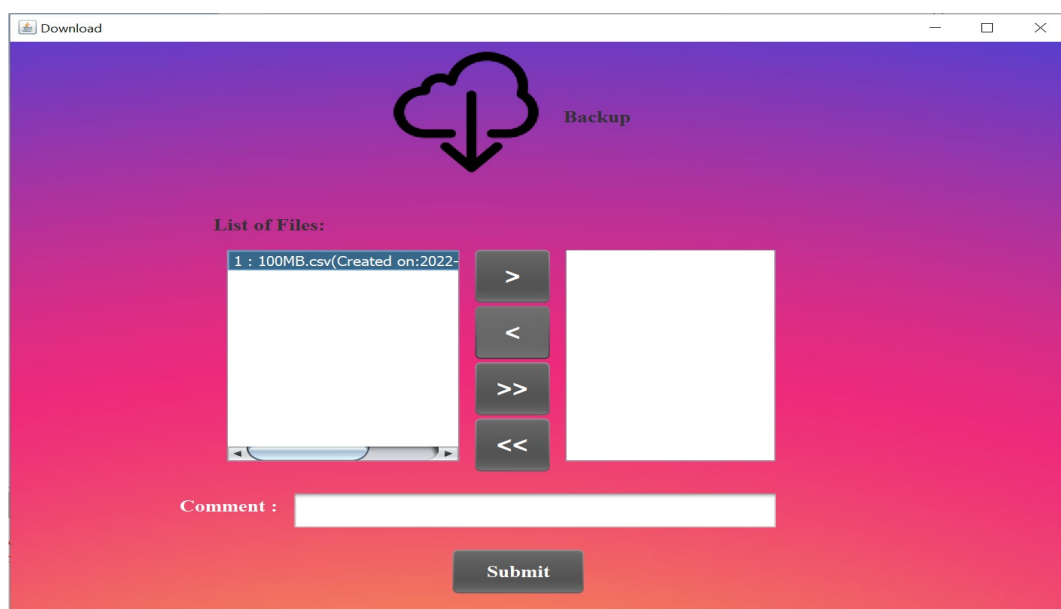


Figure 36: backup

- After backup if there is a loss of file in local machine than it can be recover from restore section by just visiting to restore option.37.

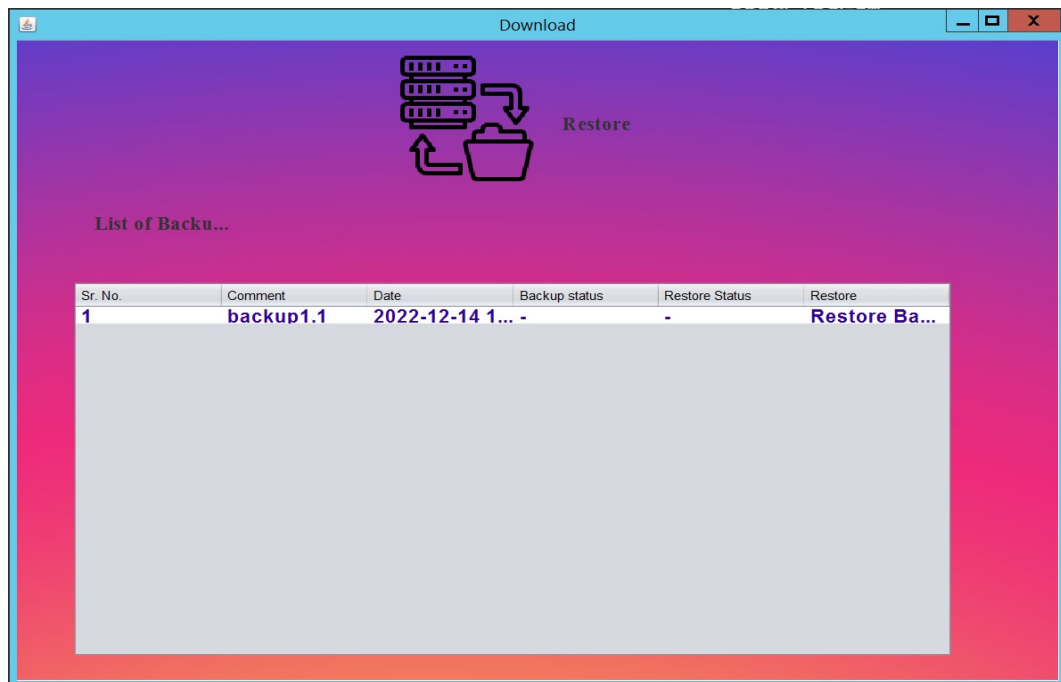


Figure 37: Restore

This is overall manual which contain project setup configuration and execution setup manual.

References

Step 1: Launch a Windows Server Amazon EC2 instance - AWS CodeDeploy — *docs.aws.amazon.com* (n.d.). <https://docs.aws.amazon.com/codedeploy/latest/userguide/tutorials-windows-launch-instance.html>. [Accessed 14-Dec-2022].