GOVERNMENT OF INDIA

**MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP**

DIRECTORATE GENERAL OF TRAINING

**NATIONAL SKILL TRAINING INSTITUTE**

NSTI (W) Saltlake,Kolkata-700091

# CERTIFICATE

This is to certify that following trainees have completed their project titled

**"NSTI Smart Cloud Campus"**

**For IBM Program – IT, Networking and Cloud (Technical Diploma)**

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| IBM Faculty | ADIT Director | Head Of Office/Principal | Section In-charge |

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I am highly indebted to the teacher in charge “Miss Arpita Roy” ( Edunet Foundation)For her able guidance and constant supervision as well as providing necessary information regarding the project & also for her support in completing the project.

I would also like to extend my gratitude to our principal sir of NSTI (W)Saltlake Kolkata - “SRI G.C RAMAMURTHY “ & Section in charge of Adv. Diploma in cloud computing and networking - “MR. SARBOJIT NEOGI “ for providing golden opportunity of this project.

I am really thankful to my peer group ,who helped us a lot in finalizing the project within the limited time frame.

DATE:25/06/2021

SANJUKTA DUTTA
NATIONAL SKILL TRAINING INSTITUTE(W)
SALTLAKE ,KOLKATA.

# ABSTRACT

Online applications are playing an important role in our day to day life from online shopping to ticket booking which is saving time and helping ineffective management of resources. As of now, there are few applications for online E-Notebook systems. In this project java based web application is designed, which as features for online taking note in E_notebook and user can add ,update,delete,and show his/her notes respectively. The project is designed with modules user,register page,login and log out add notes ,show notes, delete notes. The beest part of the project here we can learn about how to host a dynamic webpage on IBM cloud . data is managed in a centralized database using the MySQL workbench database and cloud platform.

# INDEX

# CHAPTER 1

# INTRODUCTION

**1.1 Overview**

**1.2 Feature**

**1.3 Advantages**

**1.4 Scope**

**1.5 Future Work**

# 1.1 Overview

For the Cloud Enterprise Developer (em_2) project , in our college we want to develop a dynamic webpage using JAVA Sarvlet,JSPwhich helps in uploading, updating the required information in any form and host it on cloud platform of IBM CLOUD (Bluemix) and at local tomcat server.

This provides accessibility, privacy and is user-friendly as well. new information can be added as per requirement.

## 1.2 Feature

Features of IBM Bluemix:

Bluemix provides the following features:

- A range of services that enable you to build and extend web and mobile apps fast
- Processing power for you to deliver app changes continuously
- Fit-for-purpose programming models and services
- Manageability of services and applications
- Optimized and elastic workloads
- Continuous availability

Bluemix abstracts and hides most of the complexities that are associated with hosting and managing cloud-based applications. As an application developer user can focus on developing their application without having to manage the infrastructure that is required to host it. For mobile applications user can use the pre-built services that are provided by Bluemix. For web applications user can upload their application to Bluemix and indicate how many instances that user want to run. Then Bluemix takes care of the rest. After users applications are deployed user can easily scale them up or down when the usage or load of the apps change.

Developer can use Bluemix to quickly develop applications in the most popular programming languages. User can develop mobile apps in iOS Android and HTML with JavaScript. For web applications & can use languages such as Ruby PHP and Java.

Bluemix also provides middleware services for developer applications to use. Bluemix acts on the application's behalf when it provisions new service instances and then binds those services to the application. This process enables the application to perform its real job which leaves the management of the services to the infrastructure.

## Features Of Ibm Cloud Foundary:

- IBM Cloud Foundry app runtimes features Choose your own language IBM Cloud Foundry includes runtimes for Java. Node.js, PHP, Python, Ruby, Swift and Go; plus, Cloud Foundry community build packs are also available. Combined with DevOps services, the application runtimes enable a delivery pipeline that automates much of the iterative development process.
- Fault tolerant Runtimes facilitate developing applications as stateless processes that quickly: start and stop, replicate if an instance fails, and duplicate if sustained or increased performance requires.

- Extend apps with services Runtimes link IBM Cloud services to applications as endpoints, giving any instance of an application embedded knowledge of how to manage relevant calls and data. In fact, runtimes manage all linked resources this way: SDKs, APIs (whether made available as cloud services or exposed from within a traditional enterprise as custom services), and also applications themselves when used as resources by other applications.

## Features of JSP:

Java Server Pages or JSP technology allows us to combine the static HTML with the Java code, which makes a webpage dynamic. Hence, a JSP page consists of two parts -

1. Static content, comprising of regular HTML.
2. Dynamic content, comprising of Java code.

Adding the static content(HTML) to a JSP page doesn't need anything special, but in order to add the dynamic content to a JSP page, we need to use the special JSP tags(which you will study later). Like this, JSP allows us to separate the dynamic logic of a webpage from its static presentation logic.

## Features of Mysql Workbench:

## Below are the features of MySQL Workbench:

- Designing database:-

It provides us with lot many features that can be used for designing and modeling such as complex ER models can be created, reverse and forward engineering can be done and also the provision to change and document management can be done easily that can be used by the administrators, developers, and architects to design their database.

- Development:-

The SQL queries can be created and optimized and then further executed using the visual tools provided by the MySQL workbench. Other features that help and make the task of query designing and execution simpler include autocompletion, highlighting of syntax using different colors, provision of execution history of queries, and reuse of snippets of SQL. Various database connections can be stored and managed by the connection panel for databases including MySQL fabric. The schema and objects of the database can be accessed instantly with the help of the object browser.

- Administration:-

The visual console is provided in MySQL workbench that can be used by database administrators and developers to get a look at the entire database environment. Other tools that are available can prove helpful in server configuration, user administration, auditing the data for inspection, getting a look at the health of the database and backup, and restoration of the data. All of this can be done by using visual tools.

- Dashboard for performance analysis:-

The performance of the database applications can be analyzed and improved by using the tool suite provided by the MySQL workbench. It helps to find out the IO hotspots and the queries and statements of SQL that will consume a lot of time and resources. The performance indicators can be viewed and analyzed using the performance dashboard of the workbench. Other points and places where the queries can be optimized are also suggested and explained visually in the workbench. All these features of the workbench can be used o improve the performance of your database application. Most of the crux of application that involves database data retrieval and storage is based on query execution and its performance.

- Migration of data to and from the database:-

Workbench tool provides us with solutions and features that can be used to migrate the data from and to different platforms such as Sybase ASE, Microsoft Access, PostgreSQL, Microsoft SQL Server, and other objects, data, relational database's tables to MySQL. The existing applications can be easily converted to work on any other platform such as Windows, Linux, etc by the Database administrators with the use of workbench. The data can also be migrated from the older version of MySQL to the newer version using the workbench.

## Features of JDBC

Following are the new features of JDBC:

- **Makes JDBC calls:** While using JDBC Java applications can make JDBC calls these calls submit SQL statements to the driver which in turn accesses the data from the database.
- **Portability:** JDBC provides wide level portability.
- Using JDBC you can request any type of queries from the database.
- You can use JDBC with different Java applications such like Java Applets, Java Servlets, Java Server Pages (JSPs). Enterprise JavaBeans (EJBs). To communicate with database.
- JDBC provides support for advanced datatypes such as BLOB, CLOB etc.
- Using JDBC you can set save points for database and layer you can rollback to desired save point.
- Using JDBC you can send multiple updates to database and this is known as batch updating.

## 1.3 Advantages:

- Accessible outside the laboratory. Reduces need to re-write experimental procedures that are used regularly.
- Add and view data files.
- Ability to record other relevant material.
- Flexible and customizable.

## 1.4 Scope:

For the Cloud Enterprise Developer (em_2) project , in our college we want to develop a dynamic webpage using JAVA Sarvlet,JSPwhich helps in uploading, updating the required information in any form and host it on cloud platform of IBM CLOUD (Bluemix) and at local tomcat server.

This provides accessibility, privacy and is user-friendly as well. new information can be added as per requirement.

Now a day's cloud computing plays major role in reducing the infrastructural costs to the organizations by providing services like data storage, applications and development platforms , servers and virtual desktops. this project, we see technical feasibility and Financially Feasibility of cloud computing clearly ,which is explained the cloud computing services, costs that incurred for industries for arranging their own infrastructure and at the same time how they benefitted by using cloud services in terms of costs, security, and time and it help to store our data virtually. In this project we are able to store our data in cloud and locally by using MySQl workbench.

## 1.5 Future Work:

This is the leading concept right now. It's replacing traditional paper notebook make user saving time on Add note, Show note, Delete note. Provide a clear understanding of the e-notebook website which is hosted at Ibm cloud and it's functionality allow for the correct software to developed for the end-user & will be used for the development future stage of the project. I have tried to provide full user satisfaction & I am working on it.

# CHAPTER 2

# SERVICES AND TOOLS REQUIRED

**2.1 Services Used**

**2.1.1 IBM Bluemix**

**2.1.2 Cloud Foundry**

**2.2 Tools and Software's used**

**2.2.1 Eclipse IDE oxygen 3**

**2.2.2 Java Database Connectivity**

**2.2.3 JSP**

**2.2.4 Servlet**

**2.2.5 Mysql Workbench**

**2.2.6 HTML & CSS**

**2.3 Search Engine**

**2.4 Local Server**

**2.5 Hardware's Used**

# Services Used

## IBM Bluemix:

- IBM Bluemix is a cloud Platform as a service (PaaS) :

  Developed by IBM. It supports several programming languages and services as well as integrated DevOps to build, run, deploy and manage applications on the cloud. Bluemix is based on Cloud Foundry open technology and runs on Soft Layer infrastructure. Bluemix supports several programming languages including Java, Node.js, Go, PHP, Swift, Python, Ruby Sinatra, Ruby on Rails and can be extended to support other languages such as Scala through the use of build packs.

- Container Orchestration using Kubernetes:

  IBM Bluemix includes IBM's container-orchestration offering, IBM Kubernetes Service, that is built using open source from the Kubernetes project. This system, equivalent to Amazon Web Services EKS, Microsoft Azure AKS, or Google Cloud GKE, aims to provide a platform for automating deployment, scaling, and operations of application containers across clusters of hosts.

- Serverless using Apache OpenWhisk:

  IBM Bluemix includes IBM's Function as a Service (FaaS) system, or Serverless computing offering, that is built using open source from the Apache OpenWhisk incubator project largely credited to IBM for seeding. This system, equivalent to Amazon Lambda, Microsoft Azure Functions, Oracle Cloud Fn or Google Cloud Functions, allows calling of a specific function in response to an event without requiring any resource management from the developer.

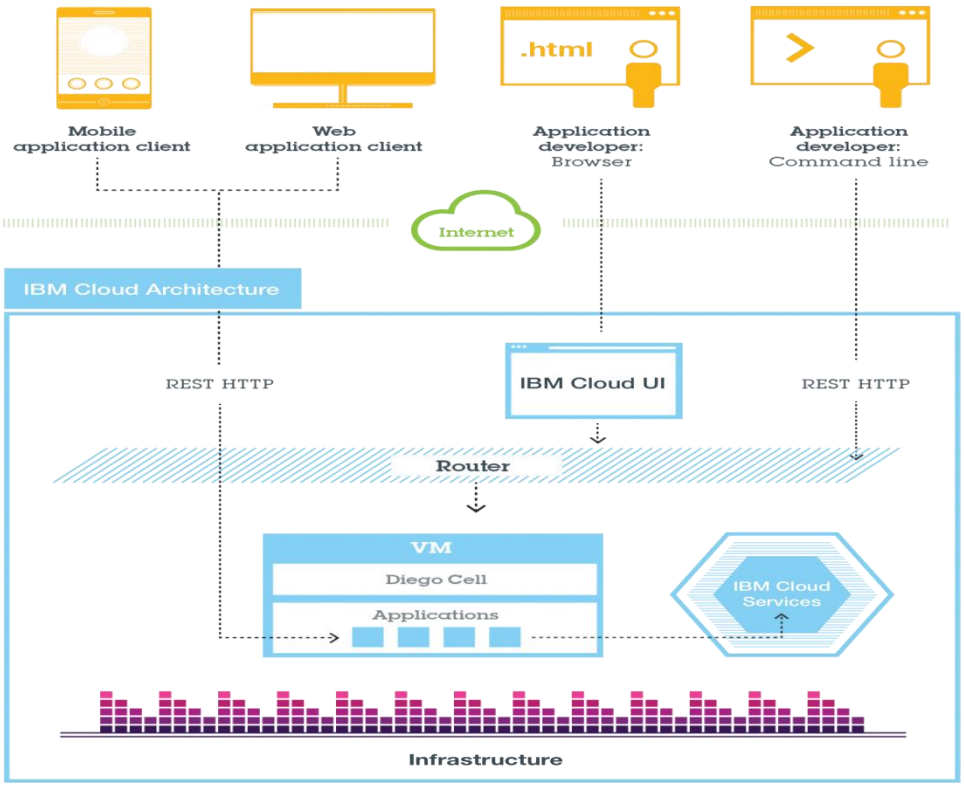
# Cloud Foundry

## Cloud Foundry architecture in IBM Cloud:

In general, you don't have to worry about the operating system and infrastructure layers when running apps on IBM Cloud in Cloud Foundry. Layers such as root file systems and middleware components are abstracted so that you can focus on your application code. However, you can learn more about these layers if you need specifics on where your app is running. See Viewing IBM Cloud infrastructure layers for details. As a developer, you can interact with the IBM Cloud infrastructure by using a browser-based user interface. You can also use a Cloud Foundry command line interface, called cf, to deploy web apps.

Clients--which can be mobile apps, apps that run externally, apps that are built on IBM Cloud, or developers that are using browsers--interact with the IBM Cloud-hosted apps. Clients use REST or HTTP APIs to route requests through IBM Cloud to one of the app instances or the composite services.

The following figure shows the high-level Cloud Foundry architecture on IBM Cloud.



# Tools & Software Used

## Eclipse IDE oxygen 3/ March 2018

Eclipse is one of the most popular IDEs used for Java development. Currently standing at version 4.7.3 (Oxygen), it can be used on a variety of platforms including Linux, Mac, and Windows. One of the main features of Eclipse is its built-in incremental compiler. It identifies errors as you type, which can be very useful. Eclipse provides various packages of the IDE catering to Java EE, Java, C++, and PHP developers, allowing you to use the comfort of the IDE for multiple languages.

When you talk about server support, Eclipse comfortably supports most of the Java servers, including JBoss, WildFly, and Tomcat. Moreover, it has great plugin support, making it capable of supporting over a hundred programming languages and almost twice as many frameworks. Eclipse supports fairly straightforward debugging, both locally and remotely.

On the documentation front, Eclipse has a great amount of documentation and great product support. Last but not the least, it’s free and open source.

## Advantages Of Eclipse:

Eclipse has some great features like code completion, syntax checking, and great support for refactoring your applications. On the downside, however, Eclipse can sometimes be a plugin-nightmare. Various plugins require different versions of the same plugin running for different reasons.

## Java Database Connectivity:

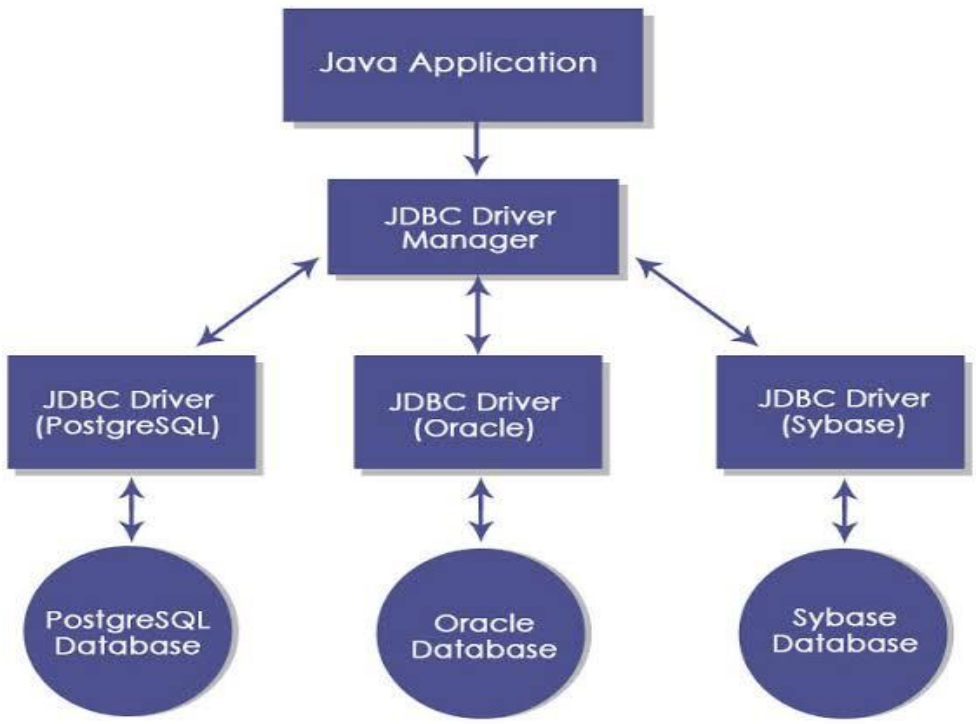
JDBC API is a Java API that can access any kind of tabular data, especially data stored in a Relational Database. JDBC works with Java on a variety of platforms, such as Windows, Mac OS, and the various versions of UNIX.

## Applications of JDBC:

Fundamentally, JDBC is a specification that provides a complete set of interfaces that allows for portable access to an underlying database. Java can be used to write different types of executables, such as -

- Java Applications
- Java Applets
- Java Servlets
- Java Server Pages (JSPs)
- Enterprise JavaBeans (EJBs).

All of these different executables are able to use a JDBC driver to access a database, and take advantage of the stored data.
JDBC provides the same capabilities as ODBC, allowing Java programs to contain database-independent code.



## 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. This tutorial will teach you how to use Java Server Pages to develop your web applications in simple and easy steps.

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.

## Applications of JSP:

As mentioned before, JSP is one of the most widely used language over the web. I'm going to list few of them here:

- ☞ JSP vs. Active Server Pages (ASP).
- ☞ JSP vs. Pure Servlets.
- ☞ JSP vs. Server-Side Includes (SSI).
- ☞ JSP vs. JavaScript.
- ☞ JSP vs. Static HTML.

## Servlet:

Servlet is a server-side Java program module that handles client requests and implements the servlet interface. Servlets can respond to any type of request, and they are commonly used to extend the applications hosted by web servers. In this figure you can see, a client sends a request to the server and the server generates the response, analyses it and sends the response back to the client.

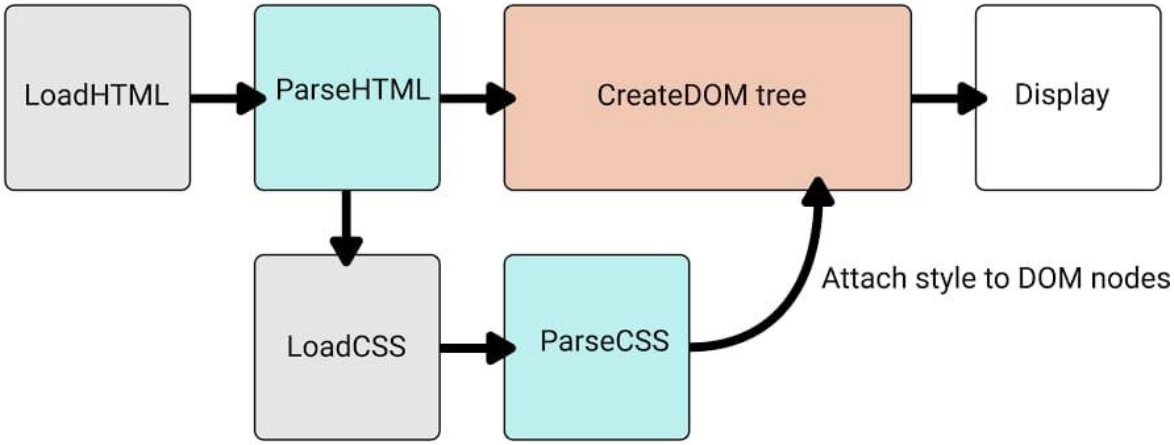
## Mysql Workbench:

MySQL Workbench is a visual database design tool that integrates SQL development, administration, database design, creation and maintenance into a single integrated development environment for the MySQL database system. It is the successor to DBDesigner 4 from fabFORCE.net, and replaces the previous package of software, MySQL GUI Tools Bundle.

## HTML & CSS

The HyperText Markup Language, or HTML is the standard markup language for documents designed to be displayed in a web browser. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.HTML elements are the building blocks of HTML pages.

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML.CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.CSS is designed to enable the separation of presentation and content, including layout, colors, and font. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics.




## Application of HTML & CSS:

HTML (the Hypertext Markup Language) and CSS (Cascading Style Sheets) are two of the core technologies for building Web pages. HTML provides the structure of the page, CSS the (visual and aural) layout, for a variety of devices. Along with graphics and scripting, HTML and CSS are the basis of building Web pages and Web Applications.

**Search Engine:** For my project I have used as Google chrome search engine. Google Chrome is a cross-platform web browser developed by Google. It was first released in 2008 for Microsoft Windows built with free software components from Apple WebKit and Mozilla Firefox .

## Local Server: Tomcat 8.5/ 9.0

Apache Tomcat (called "Tomcat" for short) is a free and open-source implementation of the Java Servlet, Java Server Pages, Java Expression Language and Web Socket technologies. Tomcat provides a "pure Java" HTTP web server environment in which Java code can run.

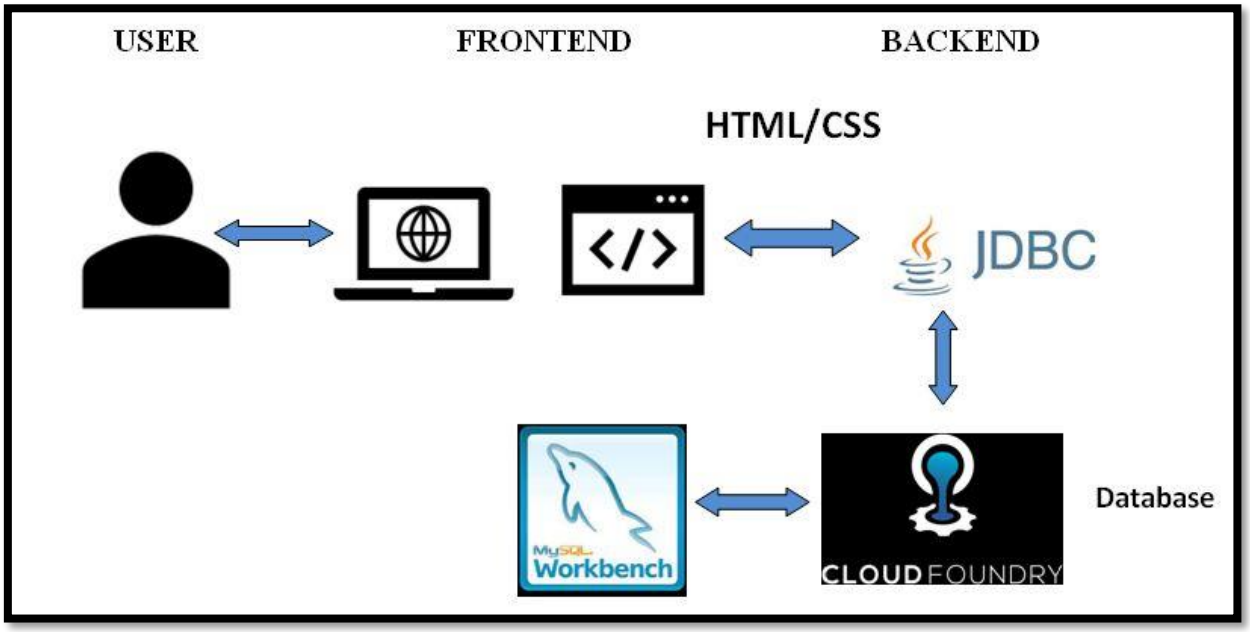
## Hardware's Used:

Operating System: Windows 10 pro
Computer Processor: Intel core i3 & RAM: 4GB

# CHAPTER 3

# PROJECT ARCHITECTURE

## 3.1 Architecture:



# CHAPTER 4

# ARCHITECTURE BLOCKS DETAIL WORKING

## 4.1 Modules Description

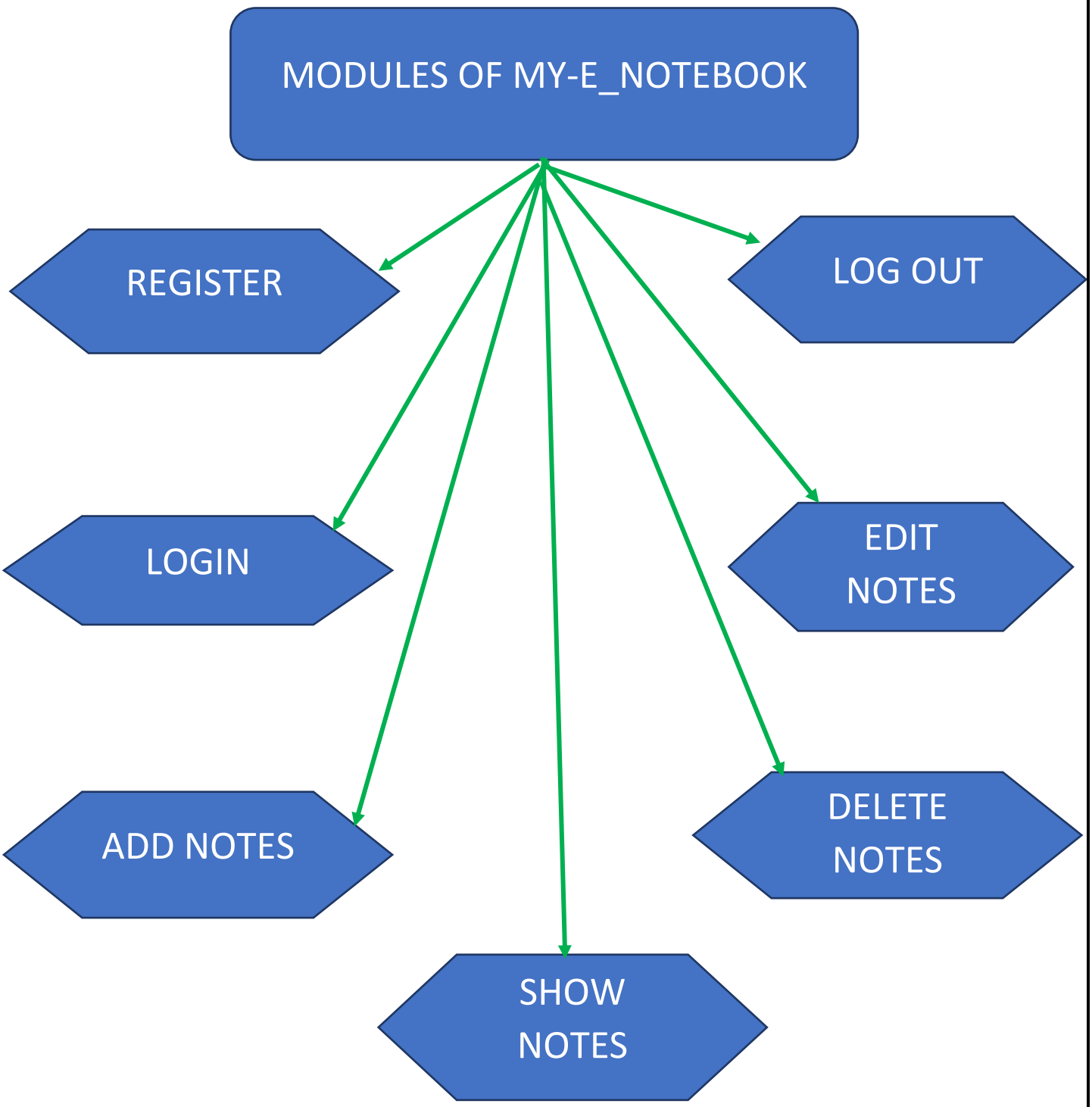
## 4.2 Use case Diagram

## 4.3 Sequence Diagram

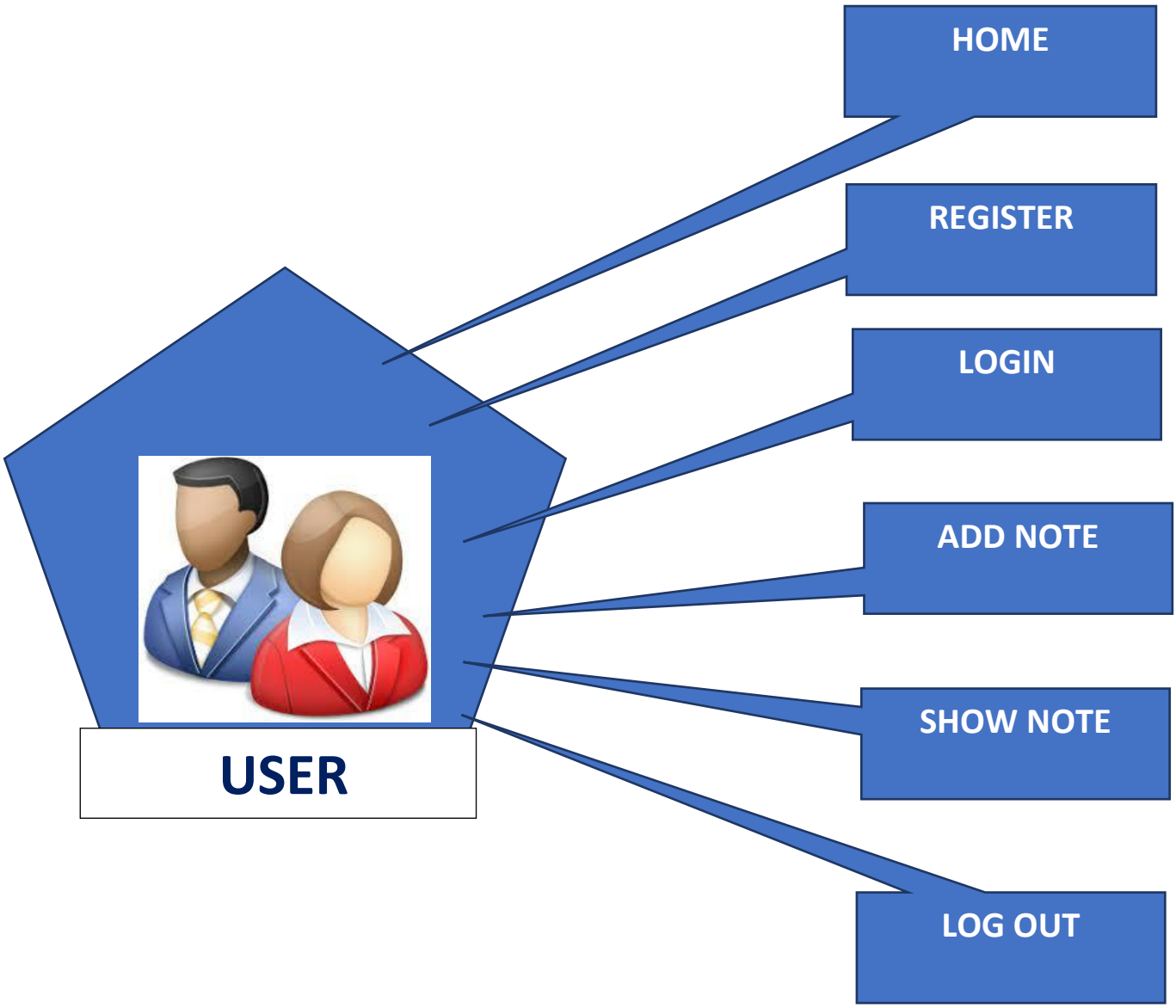
## 4.4 Entity Relationship Diagram (ERD)

# Modules

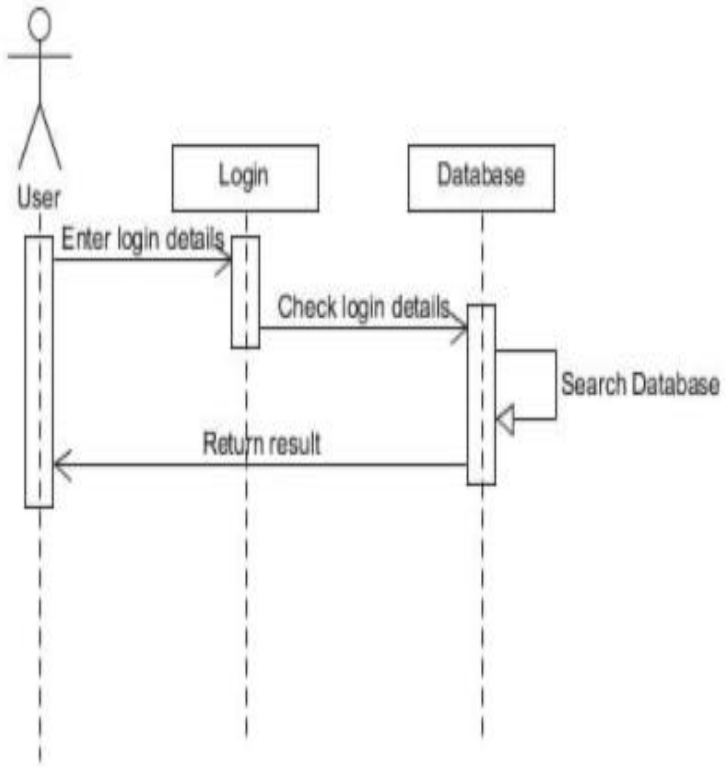
This JAVA dynamic cloud based webpage project consists of 7 major modules .



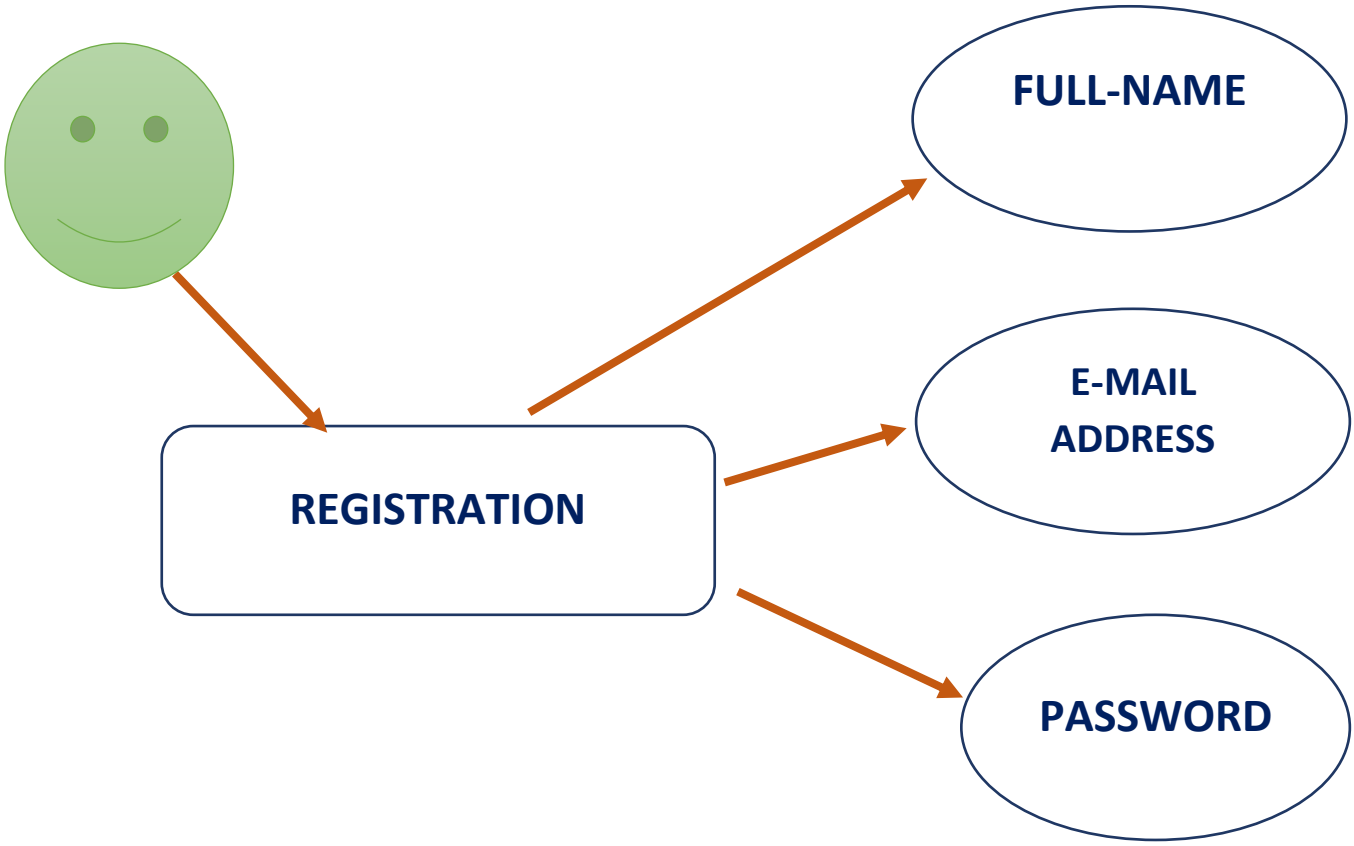
# Use Case Diagram:



# Sequence Diagram:



# Entity Relationship Diagram (ERD):



# CHAPTER 5

# PROJECT BUDGET

| Sr. No | Cloud Services and Coding Cost | Single Price (Rs) | Total |
|---|---|---|---|
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| | | | |
| | | | |
| | | Total | N.A. |

# CHAPTER 6

# ENTERPRISE PRODUCTS APPLIED

## 6.1 Enterprise Products Used in Projects

1. IDE :ECLIPSE(OXYGEN)

   (Eclipse is a Java-based application and, as such, requires a Java Runtime Environment or Java Development Kit (JRE or JDK) in order to run.)

   Cloud Platform :IBM Cloud (https://www.ibm.com)
   IBM Cloud Blemix as a service, IBM CLOUD credentials.

2. FRONT END:

   HTML, CSS, Bootstrap 4,Font Awesome.

3.BackEnd :

   Java Server Pages (JSP), JSP Servlet,Java Database Connectivity (JDBC),MySQL Workbench.Oracle.

4.Tomcat Server: 8.5/9.0

5.Tools & Hardware Used:

Operating System: Windows 10 pro.

Computer Processor: Intel core i3 & RAM: 4GB.

7. Search Engine/Browser: Chrome.

# CHAPTER 7

# ENTERPRISE PRODUCTS DETAILS

**7.1 Eclipse IDE Oxygen 3 March 2018.**

**7.2 Java Database Connectivity (JDBC).**

**7.3 IBM Bluemix.**

**7.4 Cloud Foundary.**

**7.5 Mysql Workbench.**

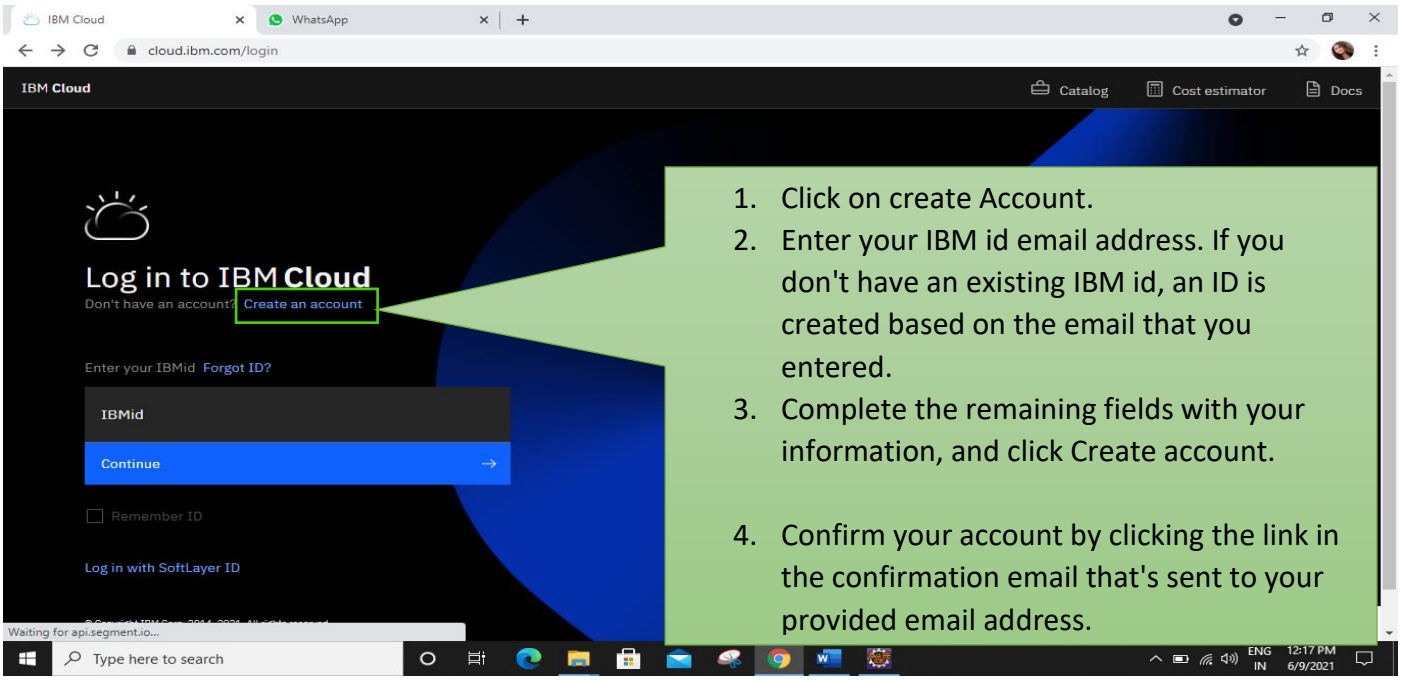
# CHAPTER 8

## Detailed Procedure to Deploy Java Application at IBM Cloud Using IBM Bluemix

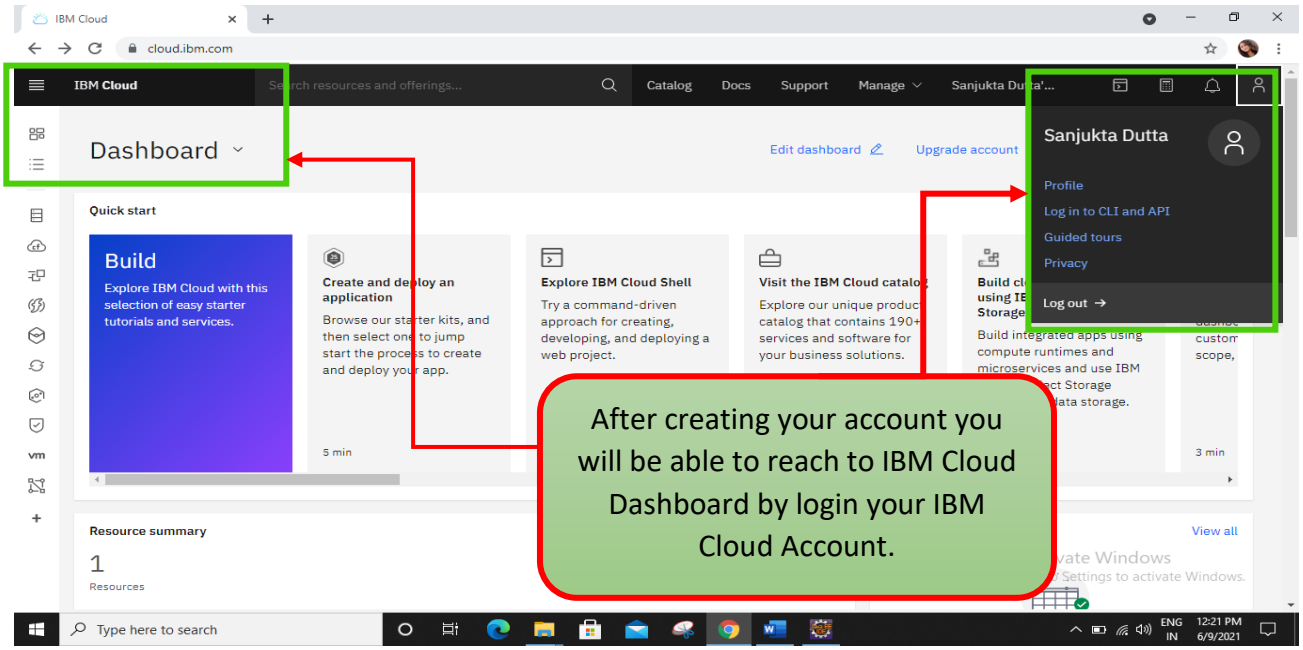
TO CREATE E-NOTE BOOK USING JAVA/JSP, SARVLET AND HOST IT ON IBM CLOUD:-

First you need create an IBM cloud Light Version ID. If you already have then log in to it.

To create a credential visit to :https://www.cloud.ibm.com(just follow few simple steps and you are able to create your own light Version ID in IBM Cloud )

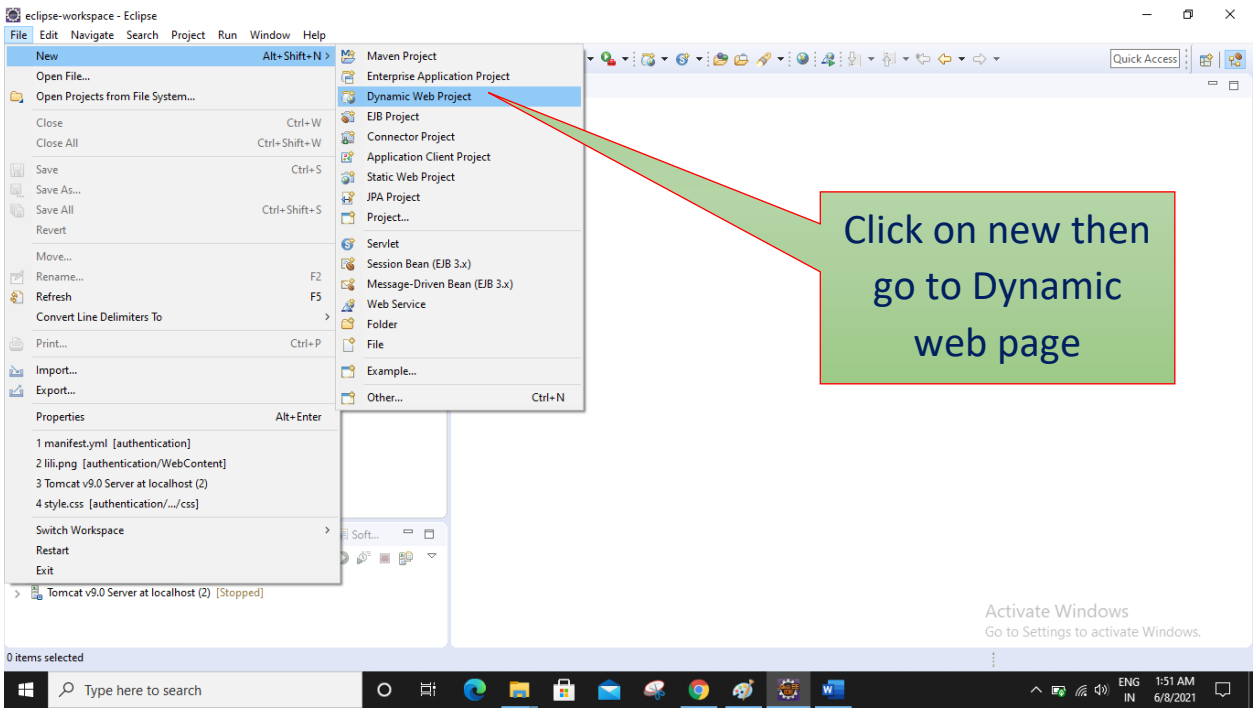


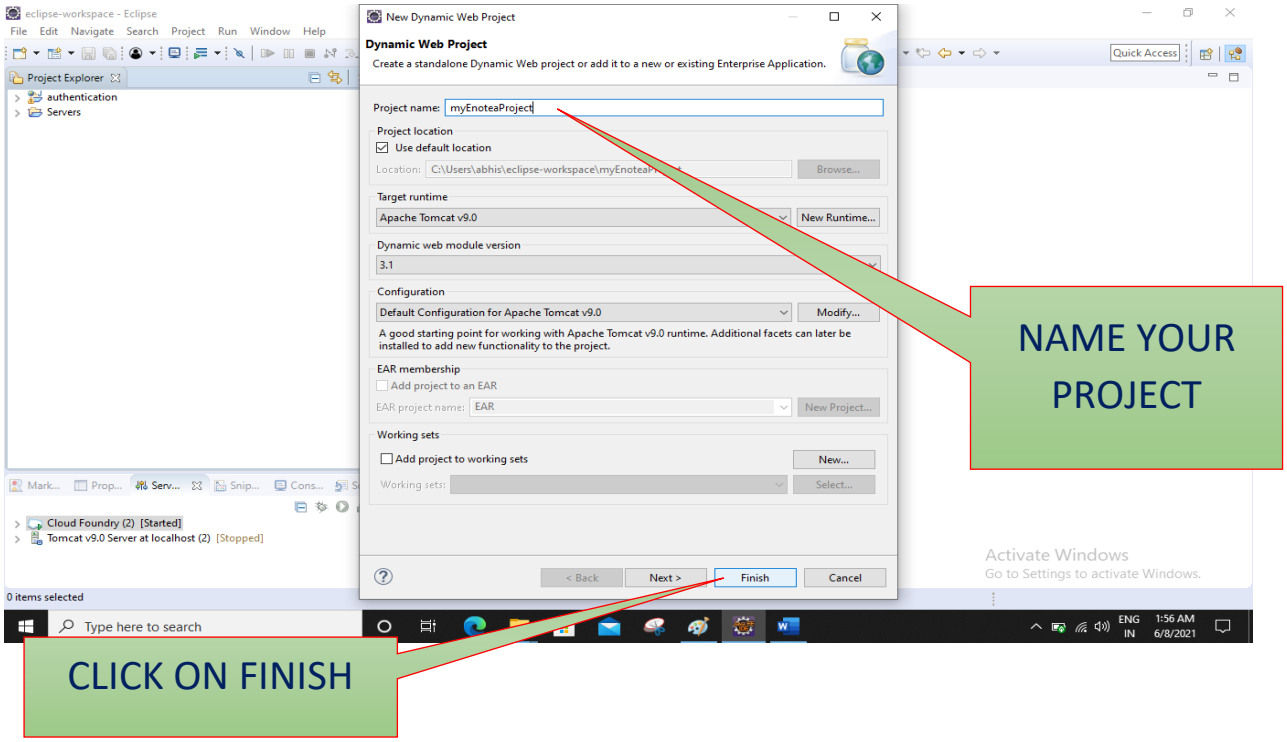
# IBM CLOUD USER DASHBOARD



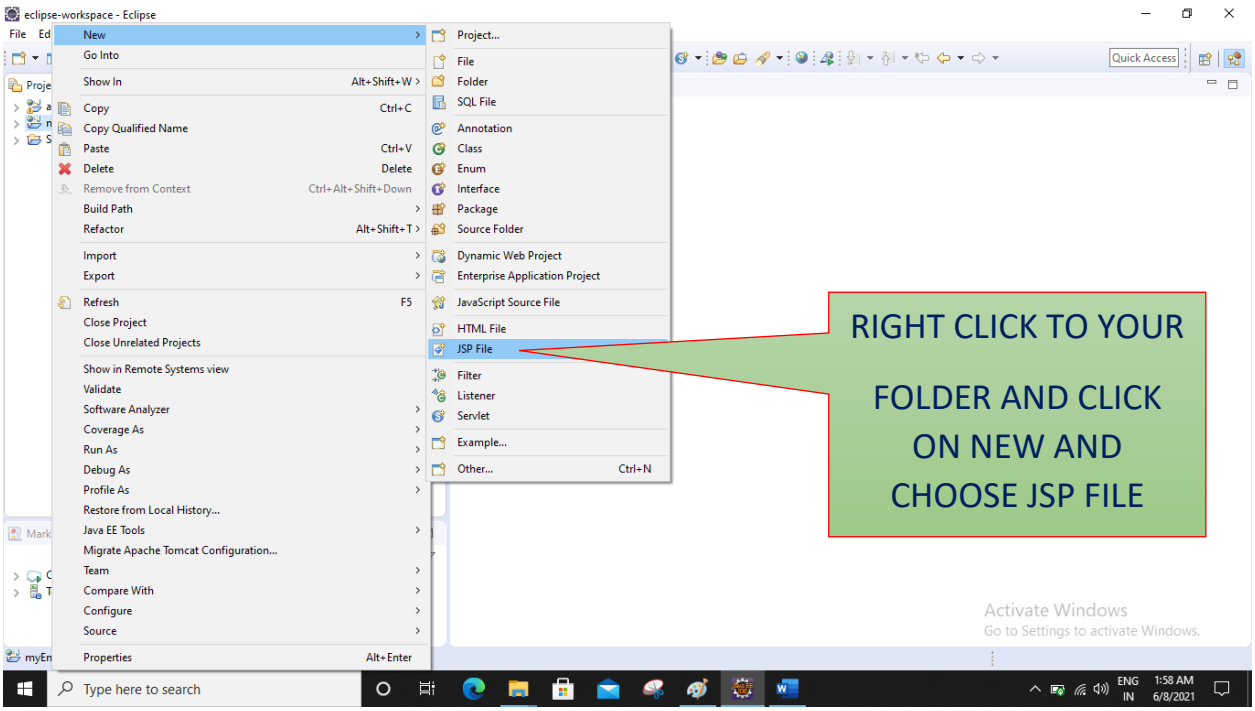
Open eclipse IDE (oxygen version)

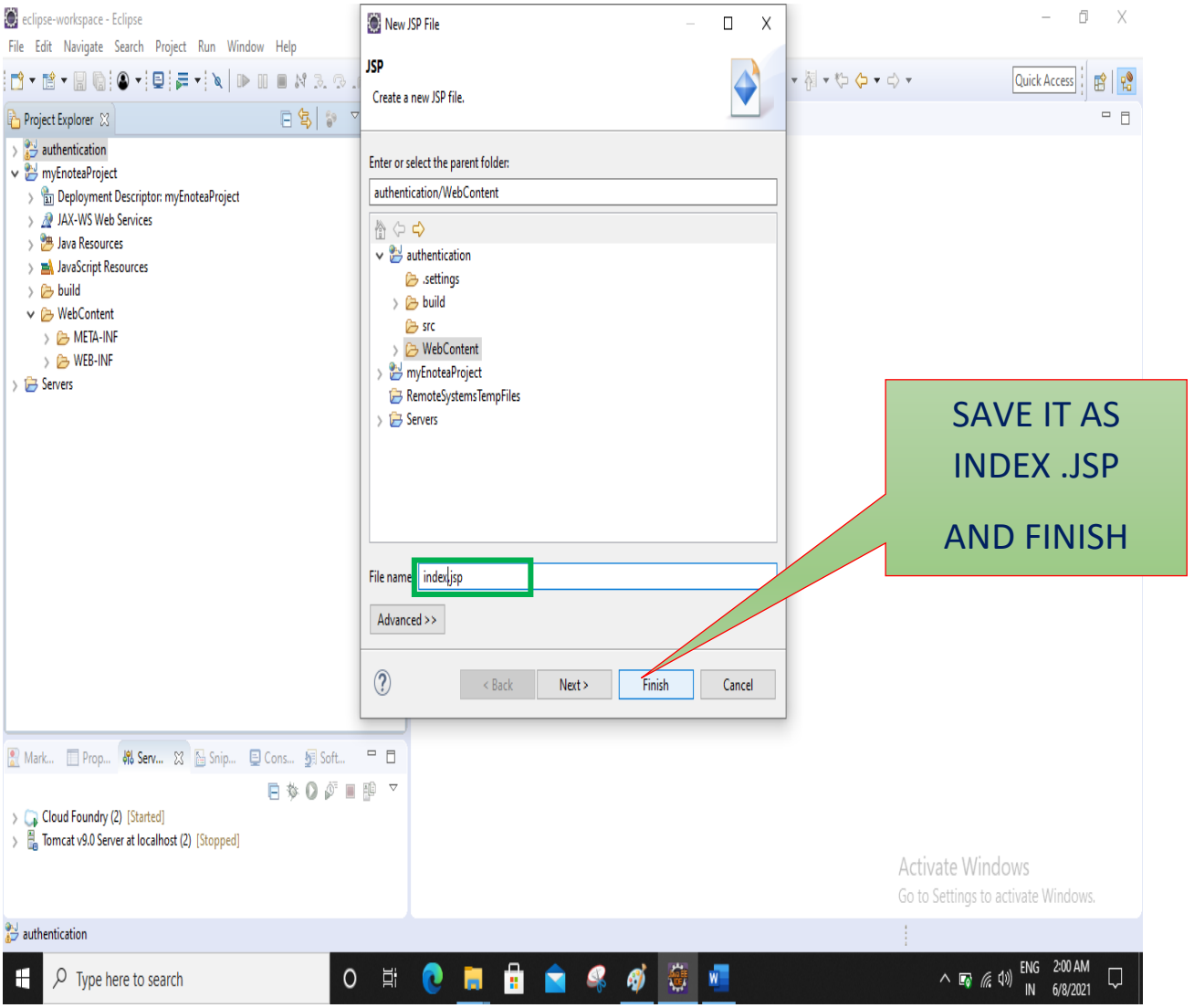
PROCEDURE TO CREATE DYNAMIC WEBPAGE IN ECLIPSE IDE:





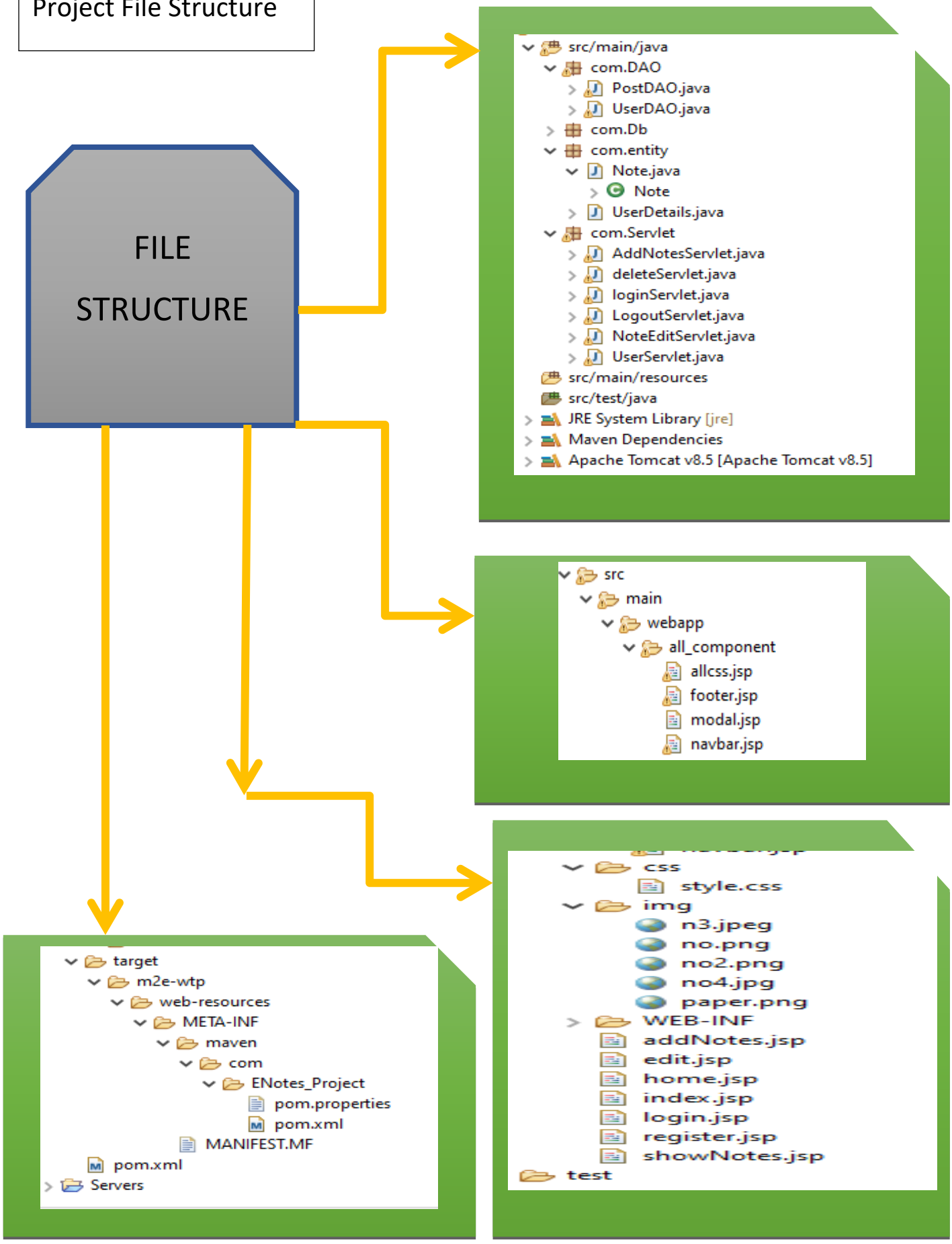

PRECEDURE TO CREATE JSP FILE IN ECLIPSE:



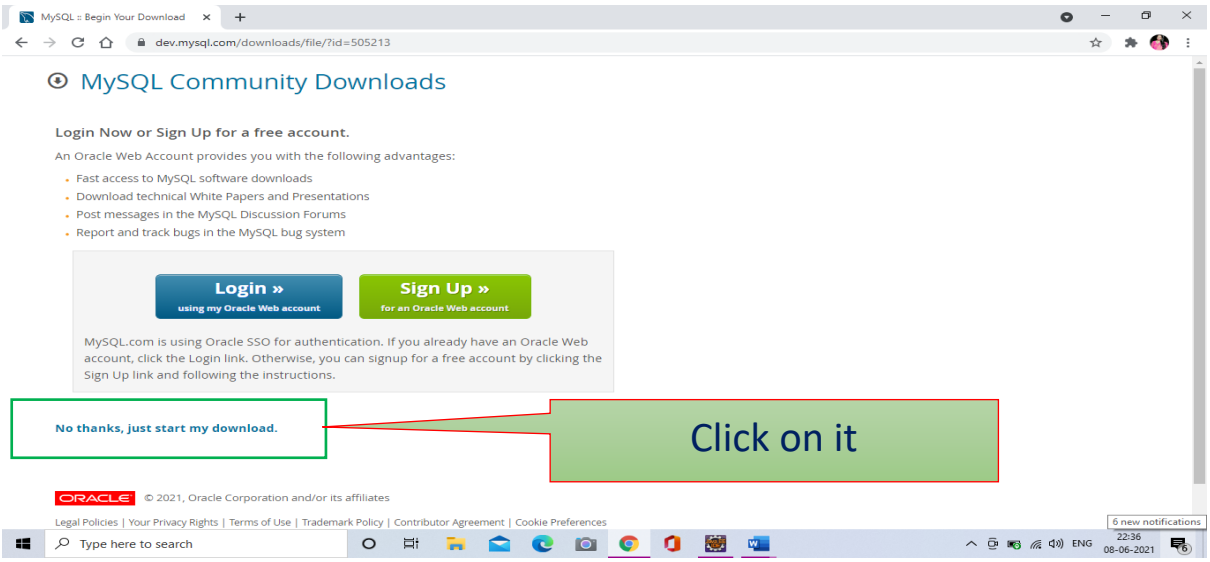



NOTE: Follow this step and create few jsp file for the project and save jsp file with different names. Only one index.jsp file will be there in the project folder.

Project File Structure



# LINK WITH MySQL WORKBENCH :

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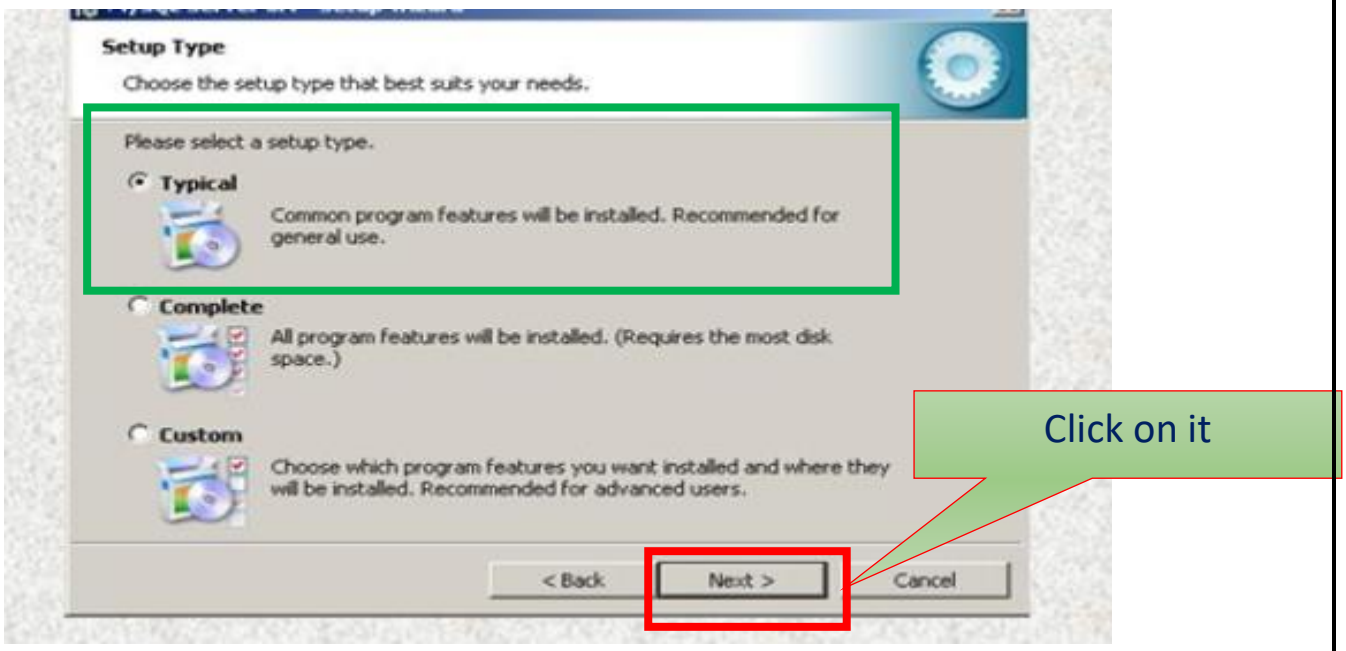
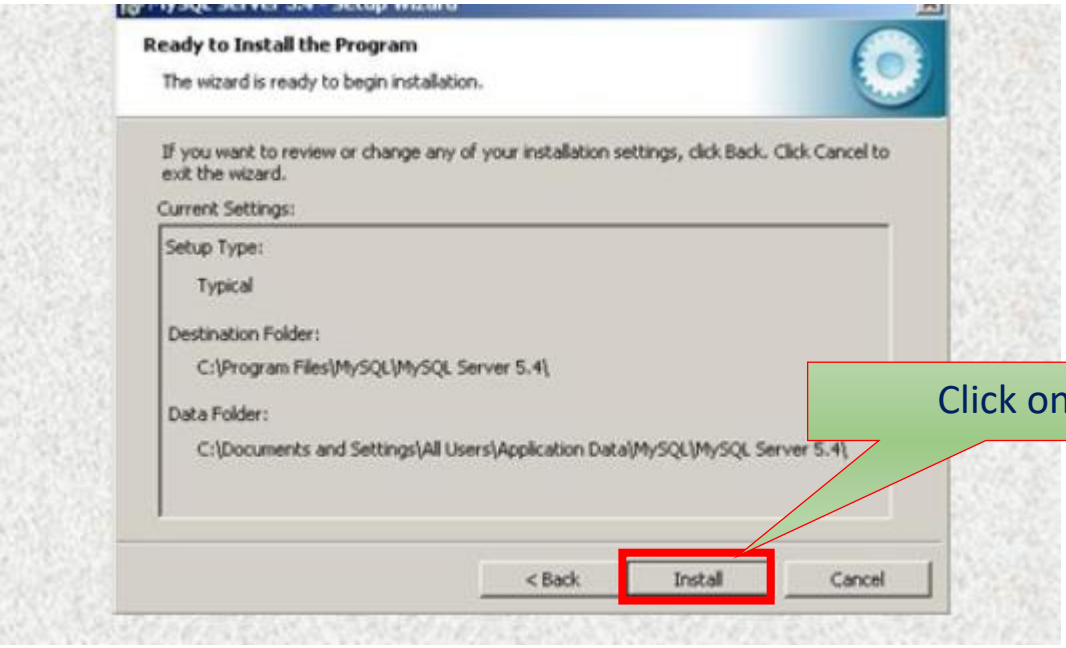
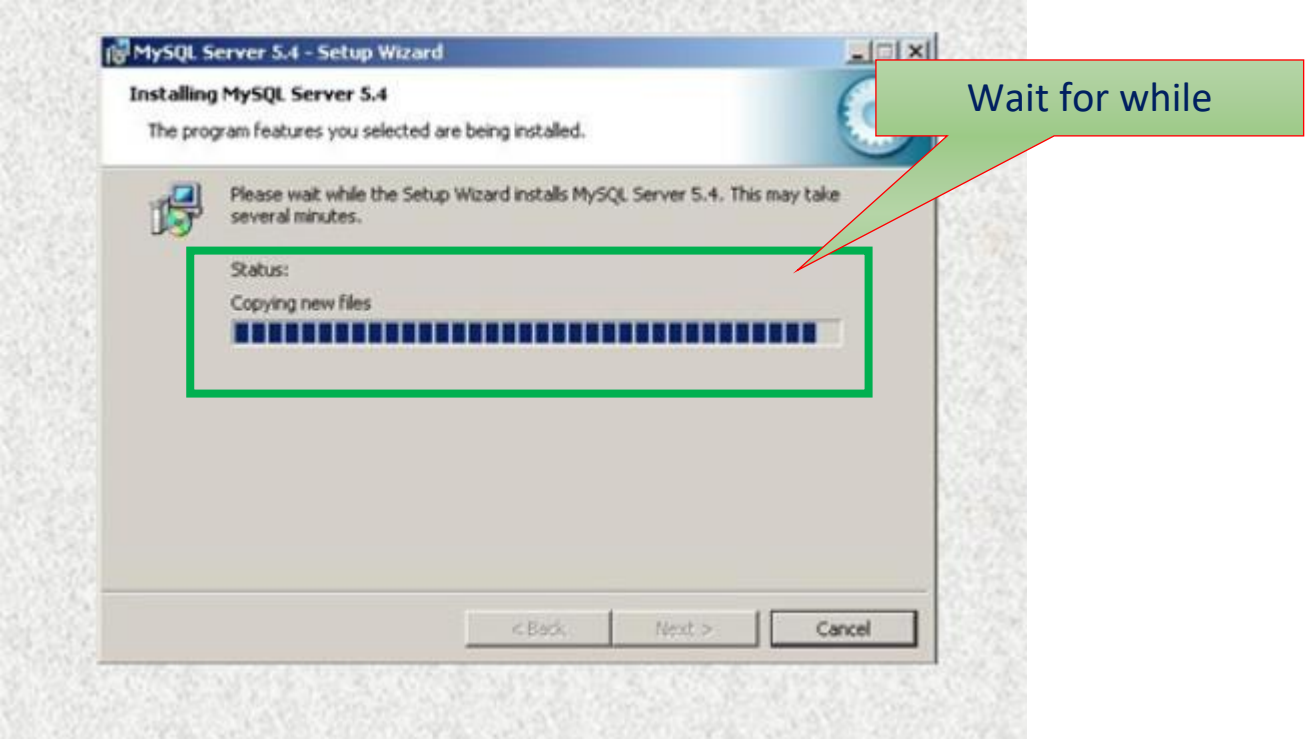
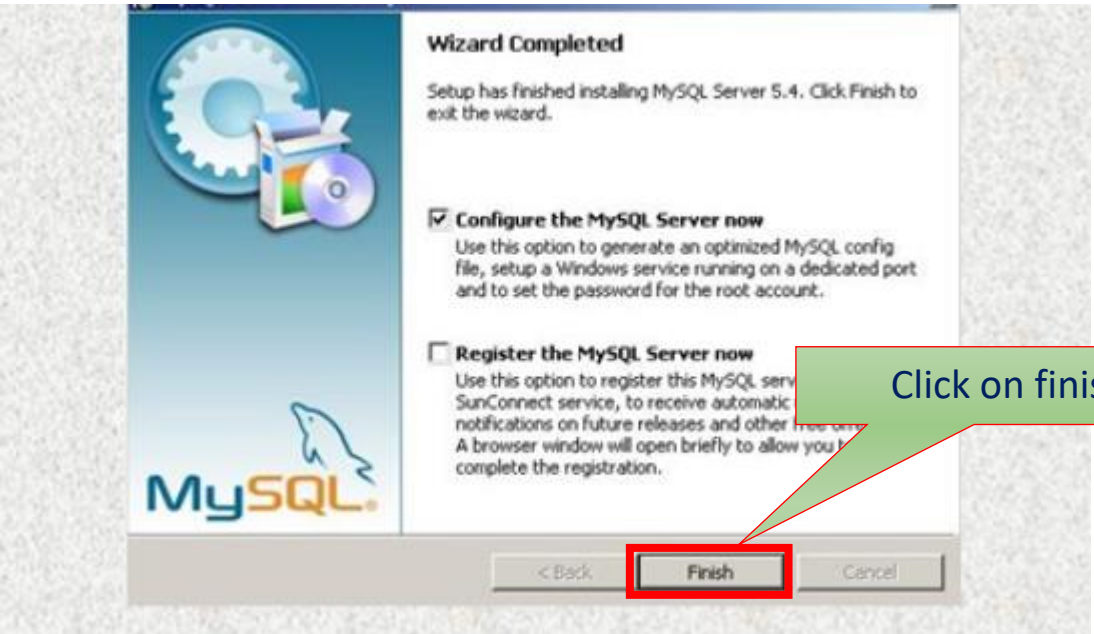
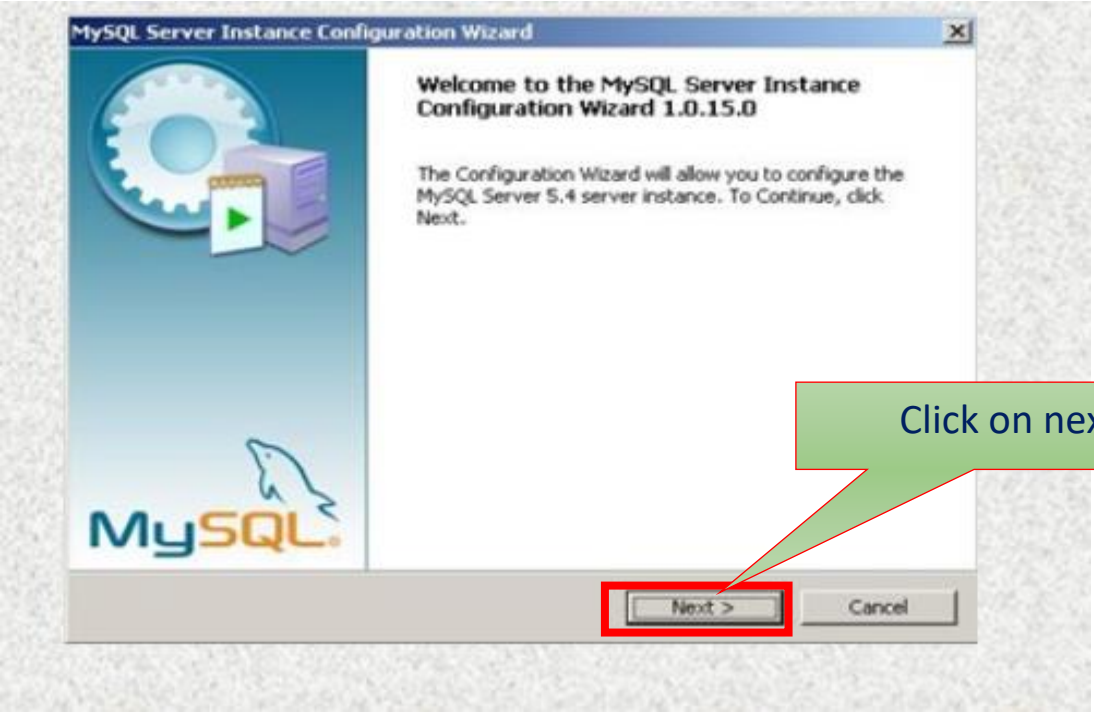


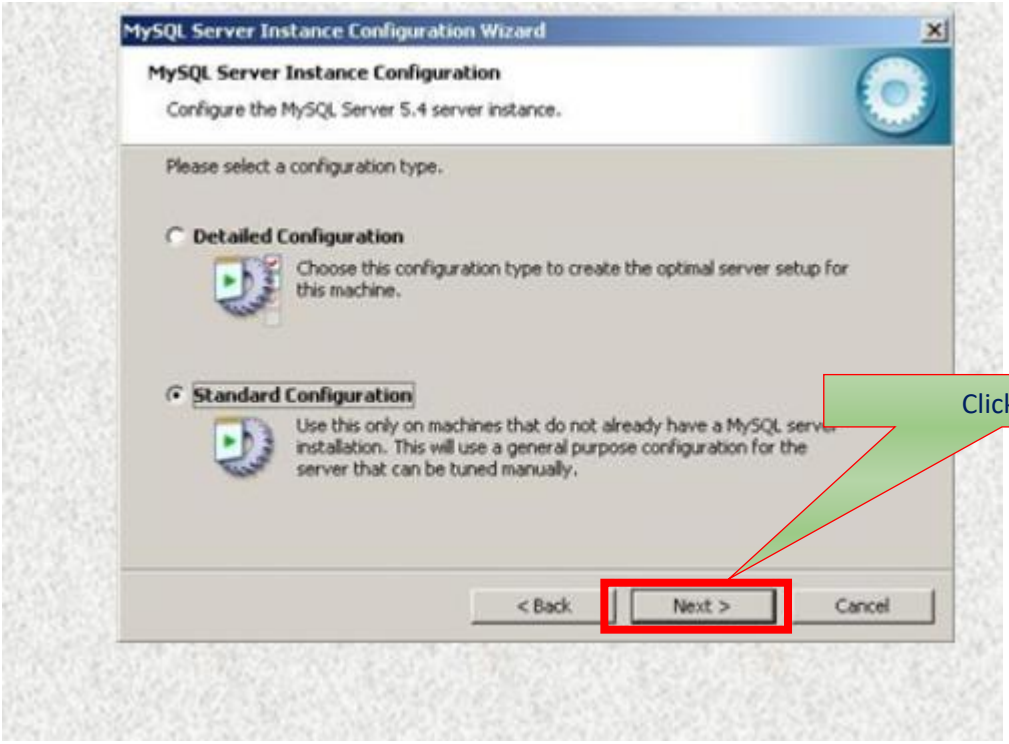

Ready to Install the Program
The wizard is ready to begin installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
Current Settings:
Setup Type:
Typical
Destination Folder:
C:\Program Files\MySQL\MySQL Server 5.4\
Data Folder:
C:\Documents and Settings\All Users\Application Data\MySQL\MySQL Server 5.4\
< Back
Install
Cancel
Click on it

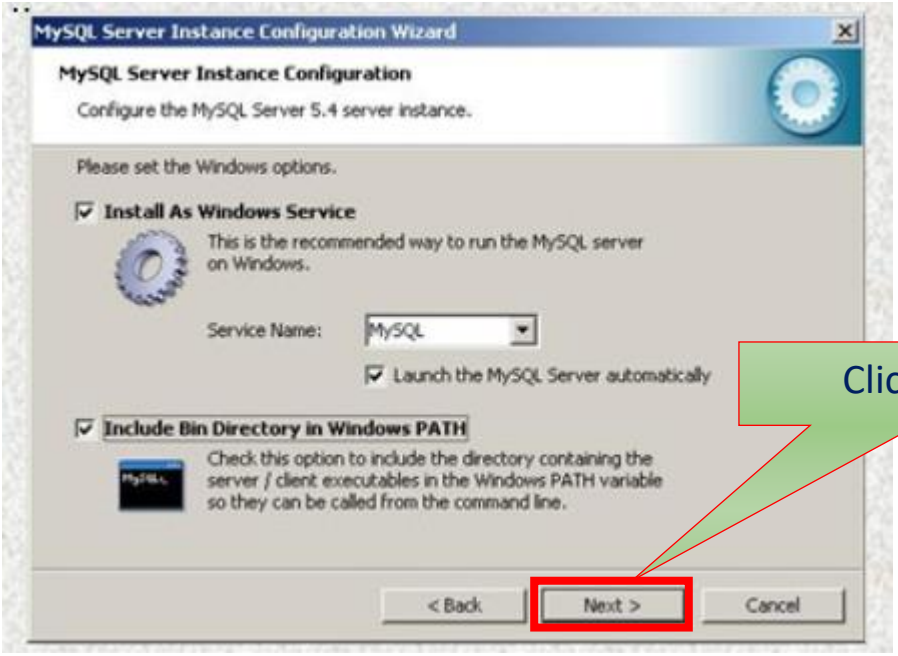

MySQL Server 5.4 - Setup Wizard
Installing MySQL Server 5.4
The program features you selected are being installed.
Please wait while the Setup Wizard installs MySQL Server 5.4. This may take several minutes.
Status:
Copying new files
< Back
Next >
Cancel
Wait for while


MySQL Enterprise
The MySQL Enterprise Monitor Service
• Quickly identifies your most expensive SQL code across all your servers.
• MySQL Advisors and 125+ Best Practice Rules ensure security and performance.
• Alerts and Expert Advice on how to fix problems and tune for peak performance.
Click on next
More ...
< Back
Next >
Cancel
MySQL Enterprise
A MySQL Enterprise subscription is the most comprehensive offering of MySQL database software, services, and support to ensure your business achieves the highest levels of reliability, security, and uptime.
An Enterprise Subscription includes:
1. The MySQL Enterprise Server - The most reliable, secure, and up-to-date version of the world's most popular open source database.
2. MySQL Enterprise Monitor Service - An automated
assistant.
3. MySQL Production Support - Technical and consultative
you need it, along with service packs, hot-fixes, and more.
Click on next
More ...
< Back
Next >
Cancel

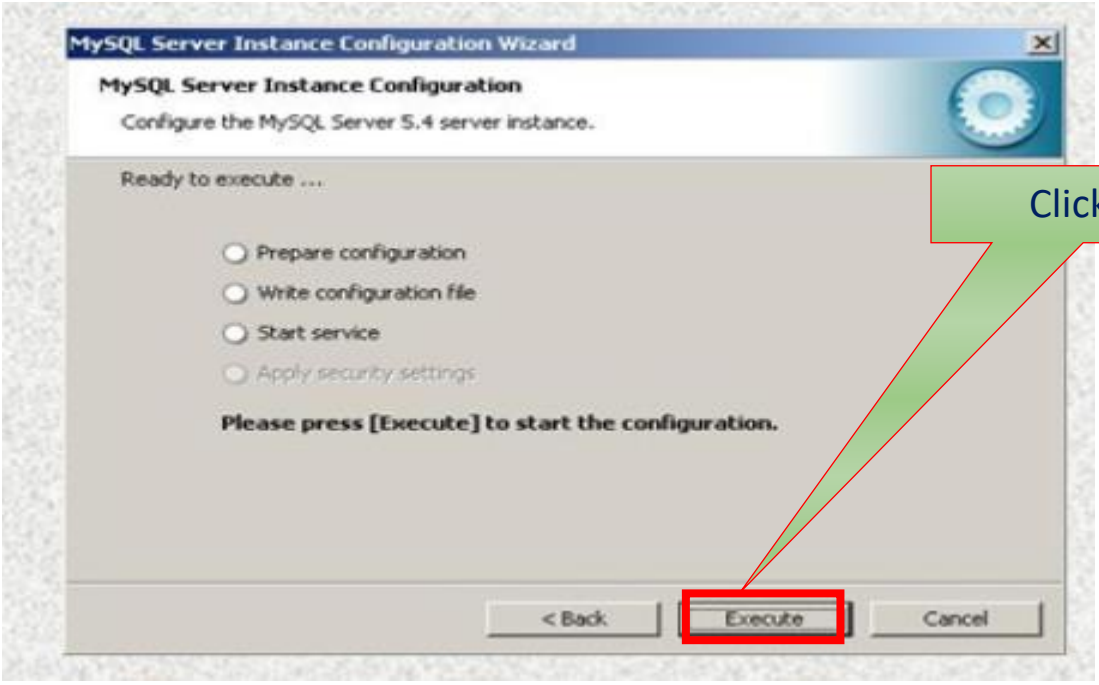

Wizard Completed
Setup has finished installing MySQL Server 5.4. Click Finish to exit the wizard.
Configure the MySQL Server now
Use this option to generate an optimized MySQL config file, setup a Windows service running on a dedicated port and to set the password for the root account.
Register the MySQL Server now
Use this option to register this MySQL serv
SunConnect service, to receive automatic
notifications on future releases and other
A browser window will open briefly to allow you
complete the registration.
MySQL
< Back
Finish
Cancel
Click on finish

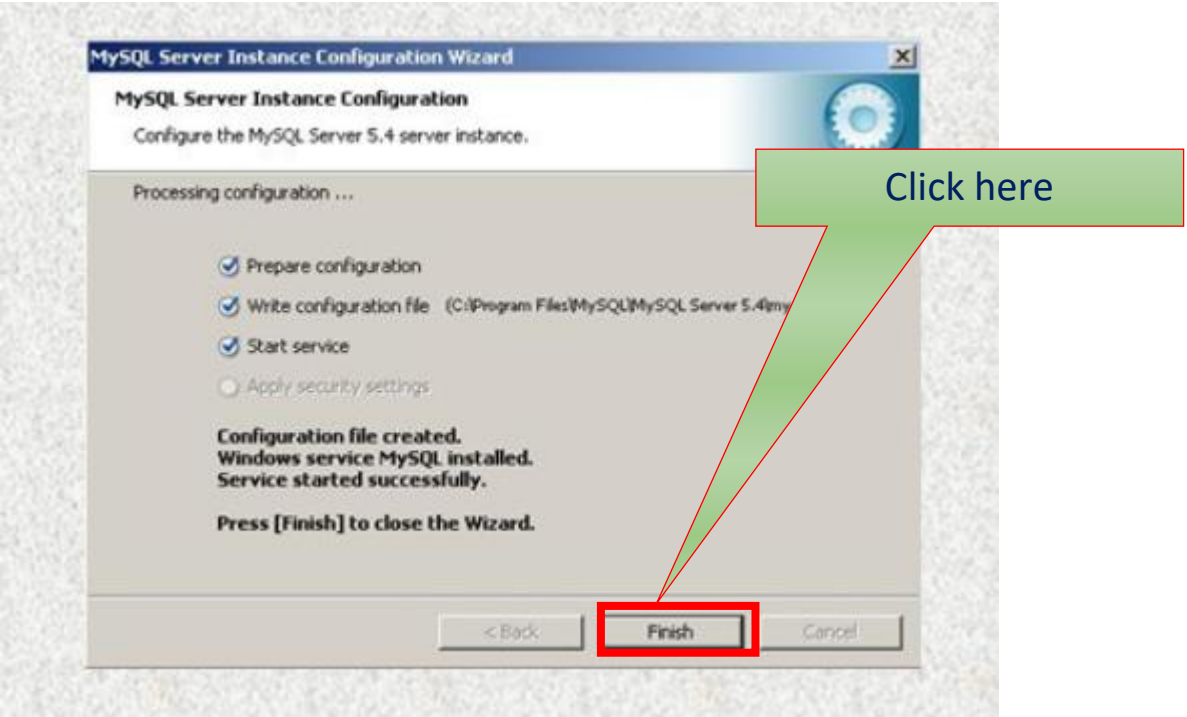

MySQL Server Instance Configuration Wizard
Welcome to the MySQL Server Instance Configuration Wizard 1.0.15.0
The Configuration Wizard will allow you to configure the MySQL Server 5.4 server instance. To Continue, click Next.
MySQL
Next >
Cancel
Click on next


MySQL Server Instance Configuration Wizard
MySQL Server Instance Configuration
Configure the MySQL Server 5.4 server instance.
Please select a configuration type.
Detailed Configuration
Choose this configuration type to create the optimal server setup for this machine.
Standard Configuration
Use this only on machines that do not already have a MySQL server installation. This will use a general purpose configuration for the server that can be tuned manually.
Click on next
< Back
Next >
Cancel


MySQL Server Instance Configuration Wizard
MySQL Server Instance Configuration
Configure the MySQL Server 5.4 server instance.
Please set the Windows options.
Install As Windows Service
This is the recommended way to run the MySQL server on Windows.
Service Name:
MySQL
Launch the MySQL Server automatically
Include Bin Directory in Windows PATH
Check this option to include the directory containing the server / client executables in the Windows PATH variable so they can be called from the command line.
Click on next
< Back
Next >
Cancel

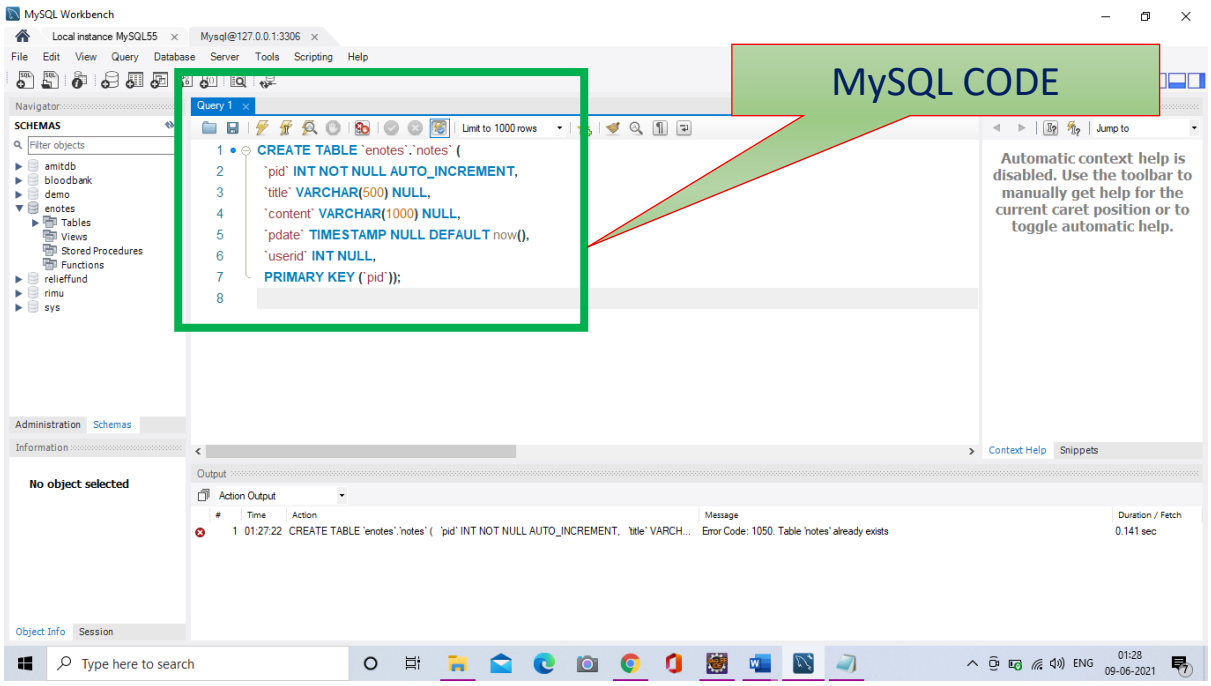

MySQL Server Instance Configuration Wizard
MySQL Server Instance Configuration
Configure the MySQL Server 5.4 server instance.
Please set the security options.
Modify Security Settings
Current root password:
New root password:
Confirm:
Enter the current password.
Enter the root password
Retype the passwo
Enable root access from remot chines
Create An Anonymous Account
This option will create an anonymous account on this s er. Please note that this can lead to an insecure system.
< Back
Next >
Cancel
Click on next


MySQL Server Instance Configuration Wizard
MySQL Server Instance Configuration
Configure the MySQL Server 5.4 server instance.
Ready to execute ...
Prepare configuration
Write configuration file
Start service
Apply security settings
Please press [Execute] to start the configuration.
< Back
Execute
Cancel
Click here

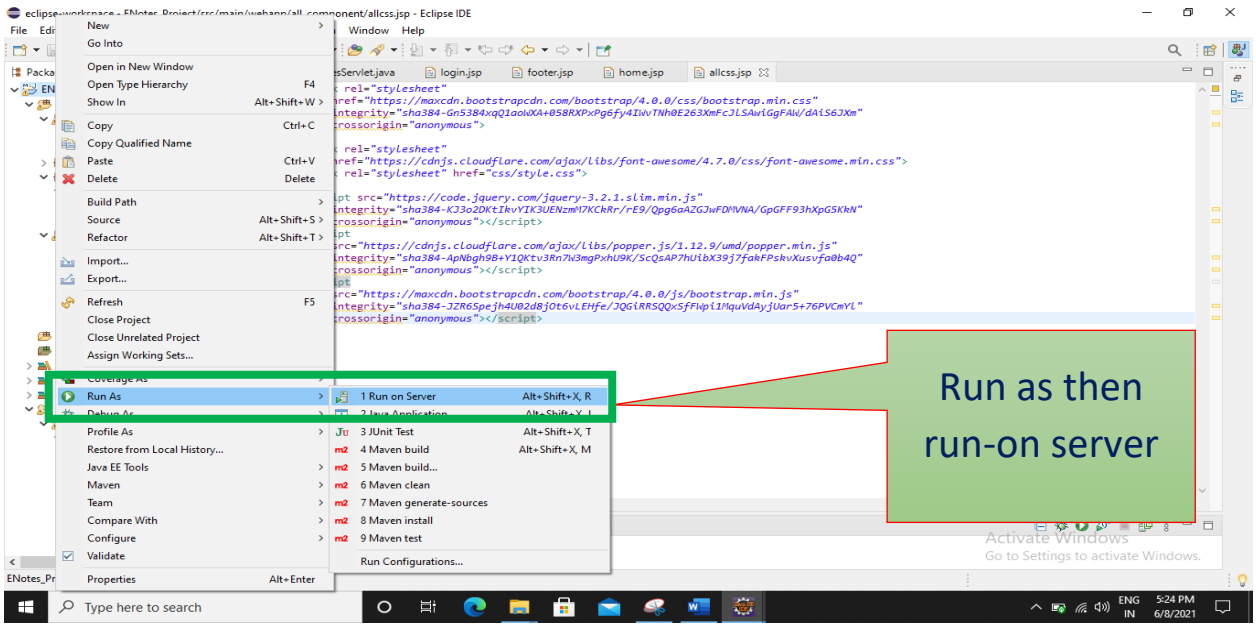

MySQL Server Instance Configuration Wizard
MySQL Server Instance Configuration
Configure the MySQL Server 5.4 server instance.
Processing configuration ...
Prepare configuration
Write configuration file
Start service
Apply security settings
Configuration file created.
Windows service MySQL installed.
Service started successfully.
Press [Finish] to close the Wizard.
< Back
Finish
Cancel
Click here

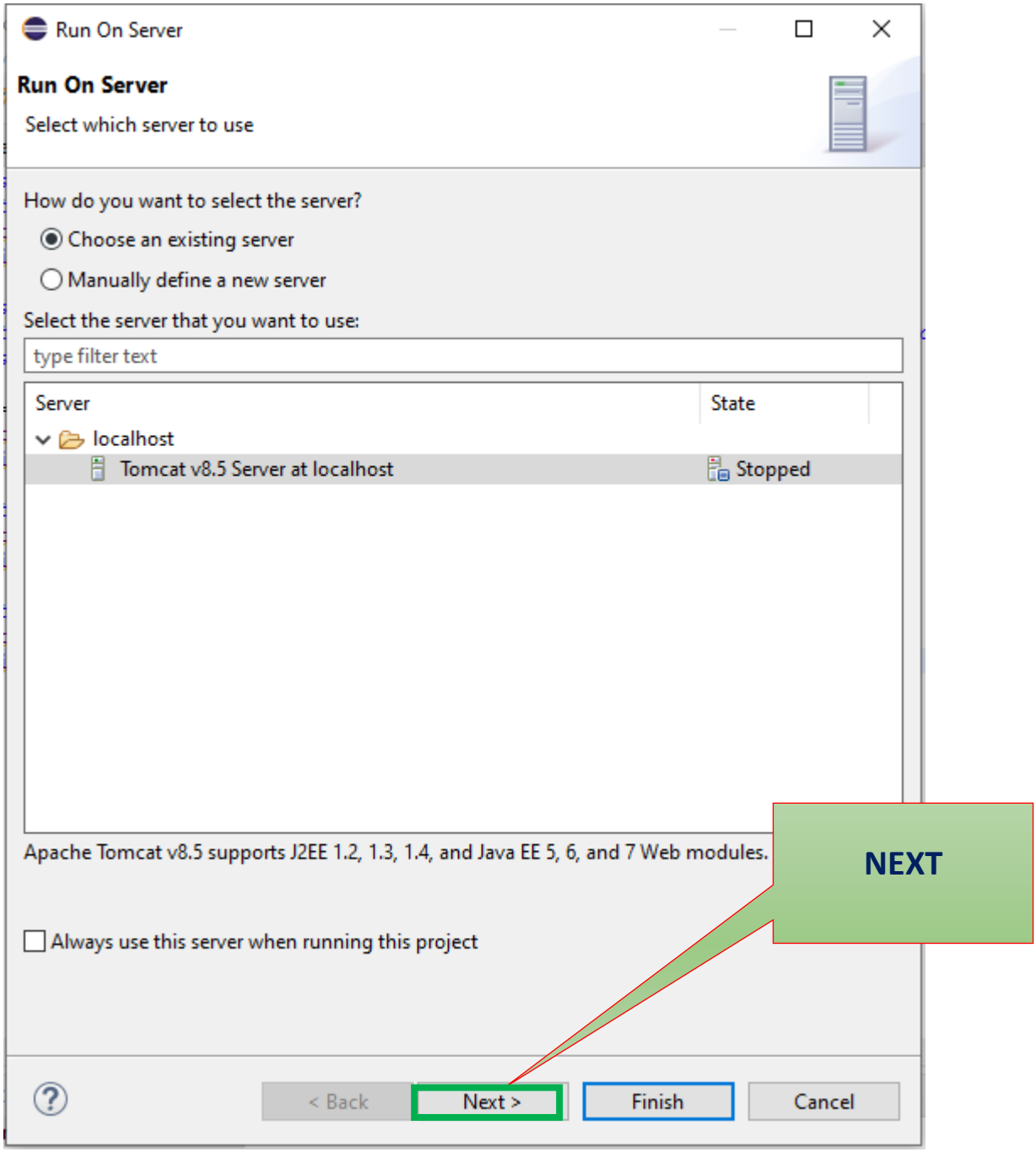

D:\Program Files\Xampp\mysql\bin\mysql.exe
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 2
Server version: 5.4.1-beta-community MySQL Community Server (GPL)
Type 'help;' or '\h' for help. Type '\c' to clear the buffer.
mysql>

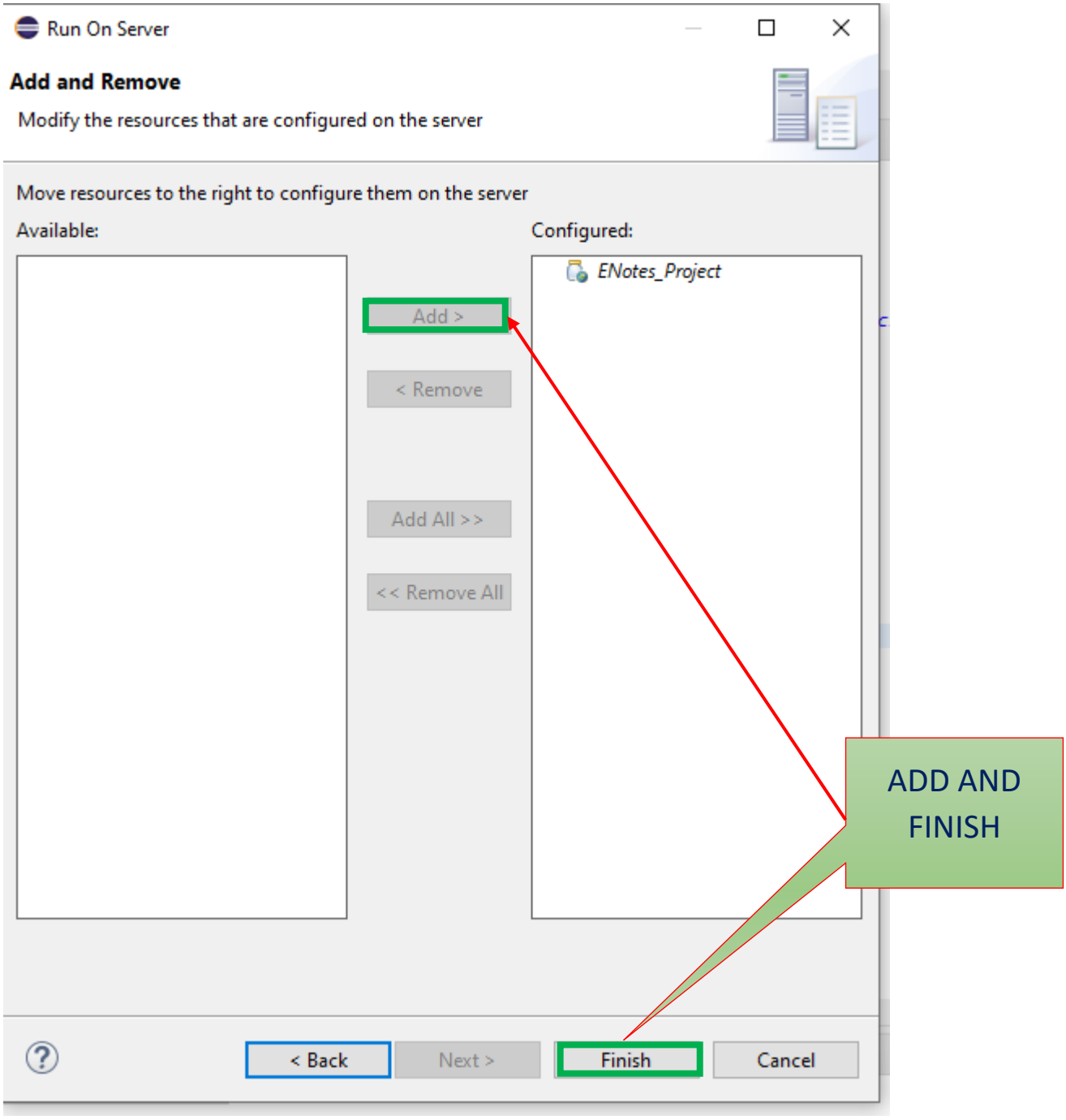
# MYSQL CODE:



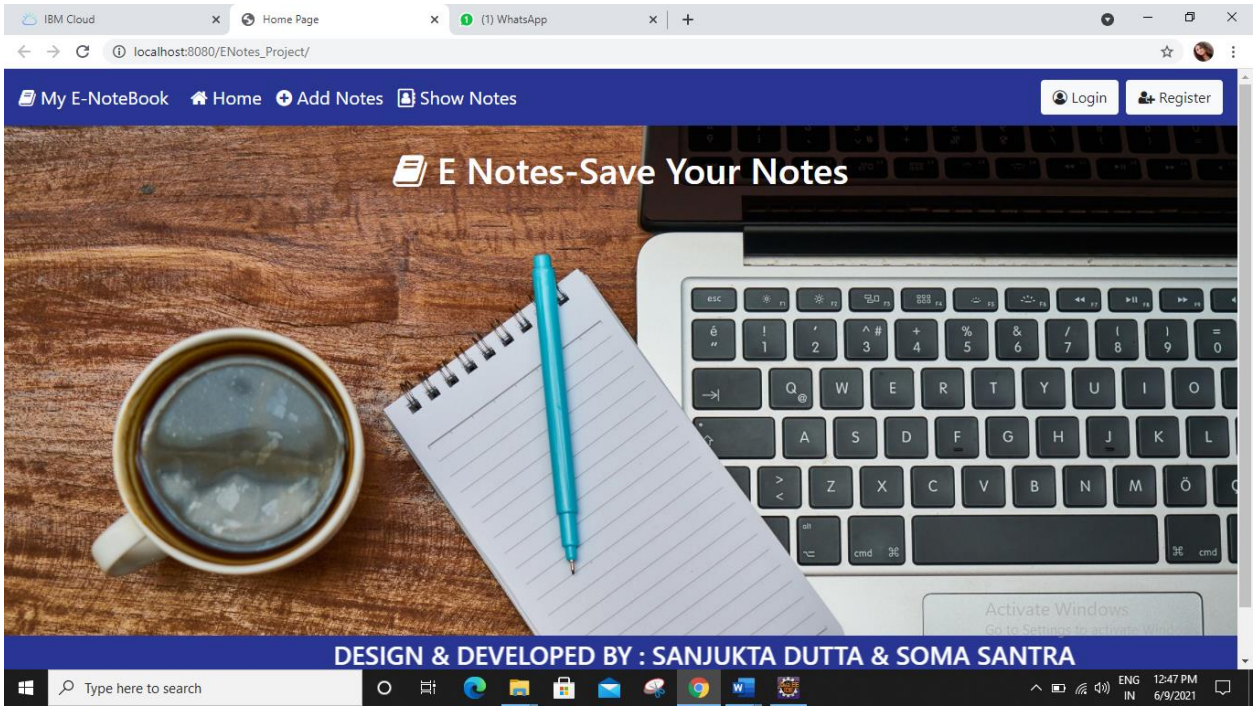

For our project I am using Tomcat 8.5/9.0 Server at local host Using Eclipse IDE By following the steps below:



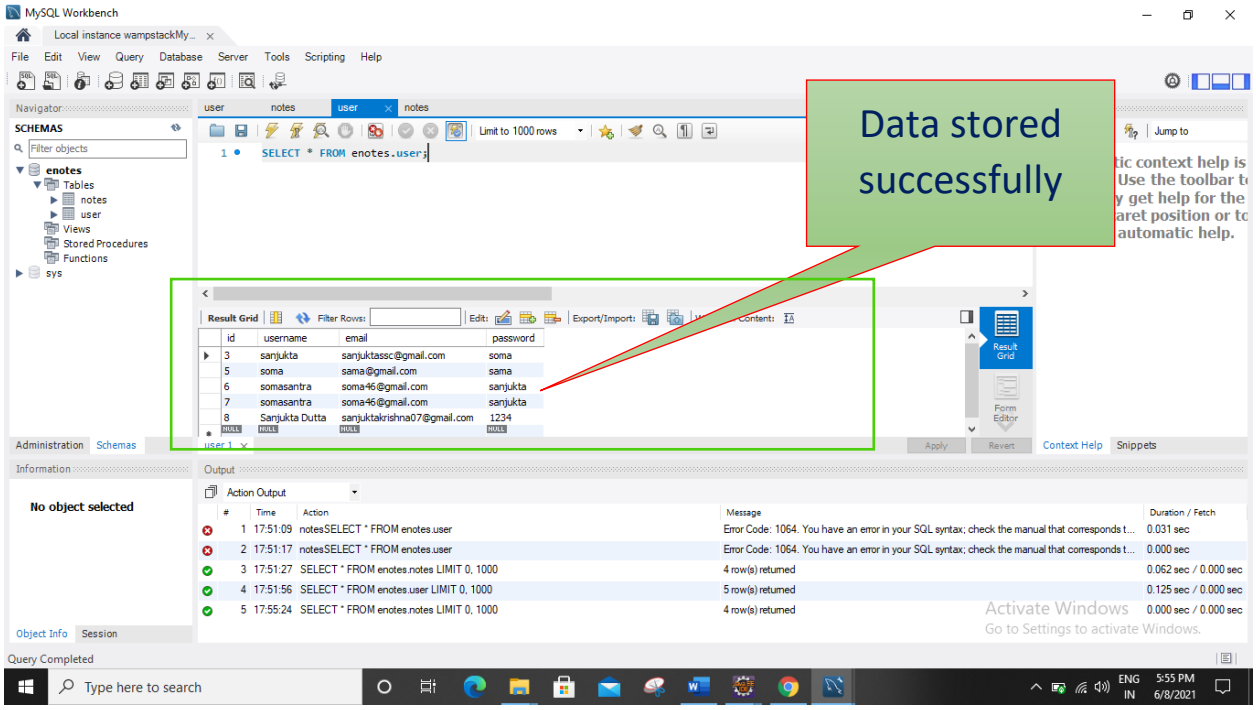

Run On Server
Run On Server
Select which server to use
How do you want to select the server?
Choose an existing server
Manually define a new server
Select the server that you want to use:
type filter text
Server
State
localhost
Tomcat v8.5 Server at localhost
Stopped
Apache Tomcat v8.5 supports J2EE 1.2, 1.3, 1.4, and Java EE 5, 6, and 7 Web modules.
Always use this server when running this project
< Back
Next >
Finish
Cancel
NEXT

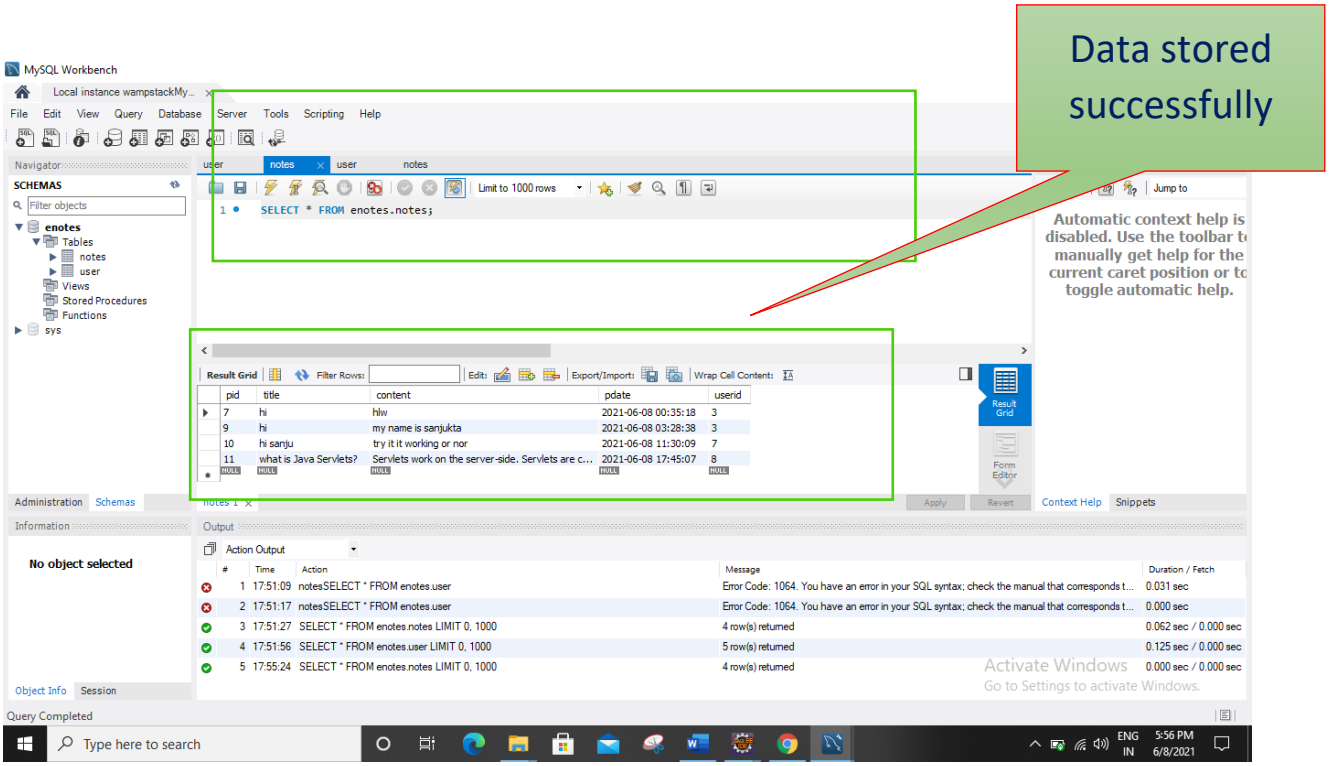

Run On Server
Add and Remove
Modify the resources that are configured on the server
Move resources to the right to configure them on the server
Available:
Configured:
ENotes_Project
Add >
< Remove
Add All >>
<< Remove All
< Back
Next >
Finish
Cancel
ADD AND FINISH

PROJECT IS SUCCESSFULLY RUNNING ON THE LOCAL TOMCAT SERVER

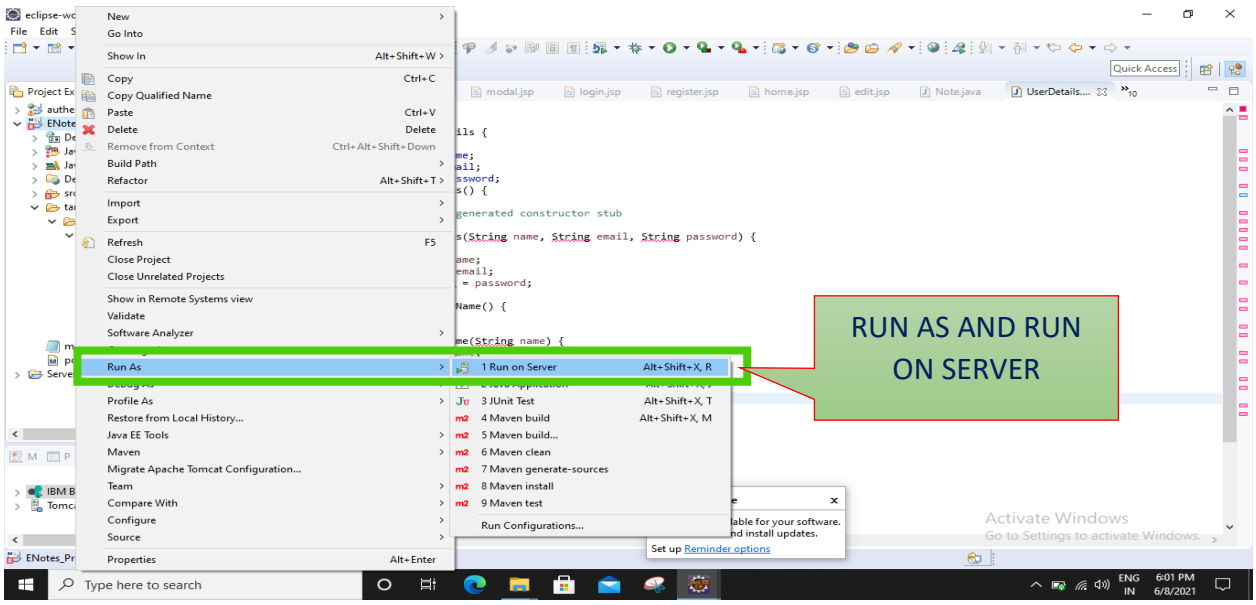


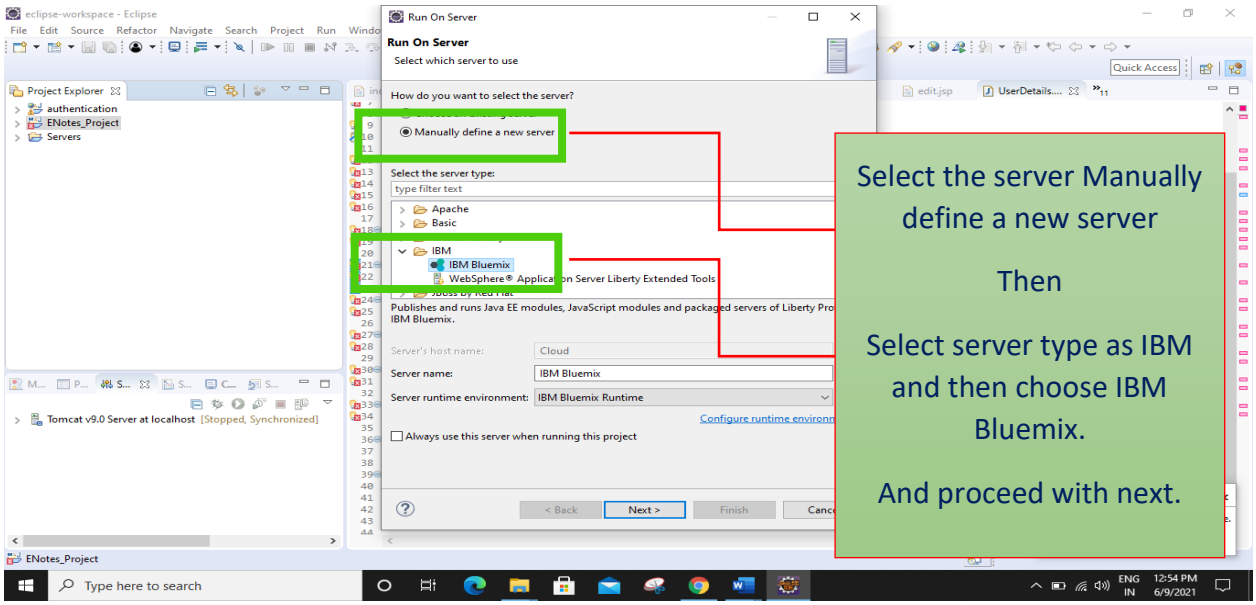
After the open MySQL Workbench: Check your data stored or not in database.

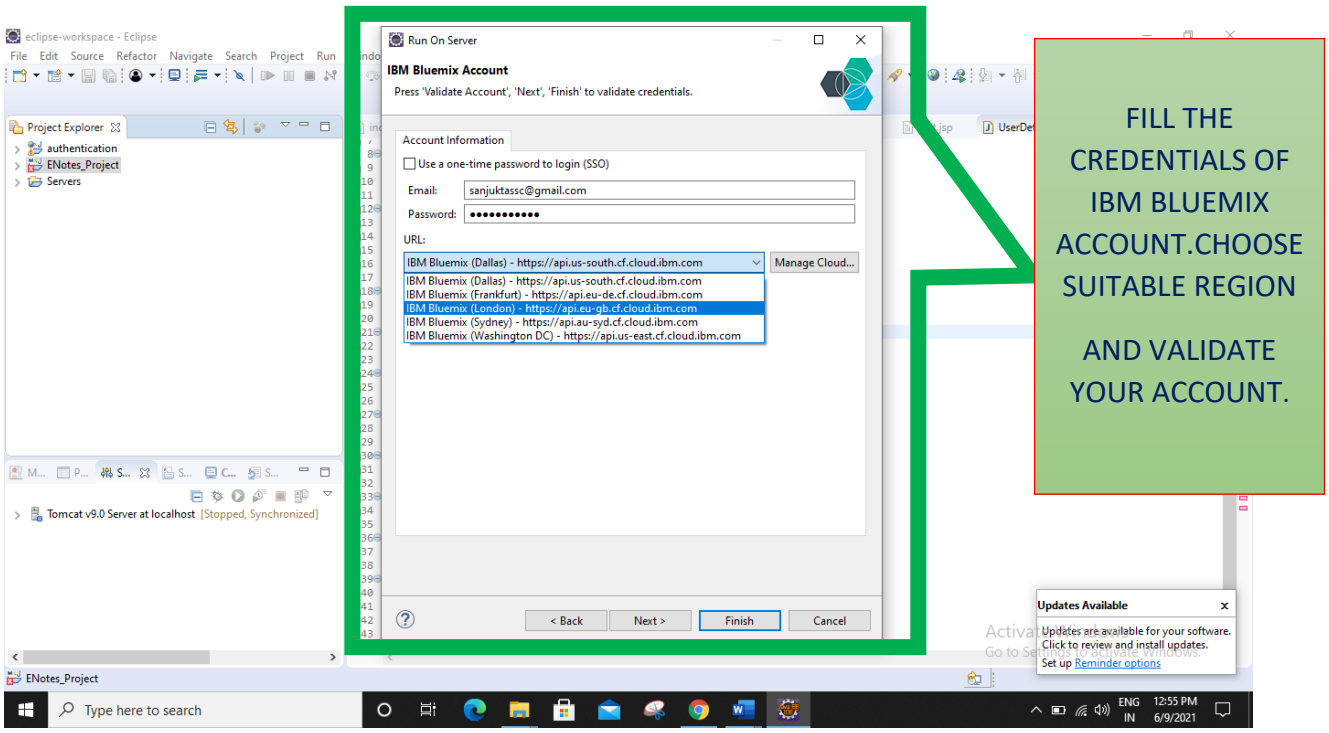


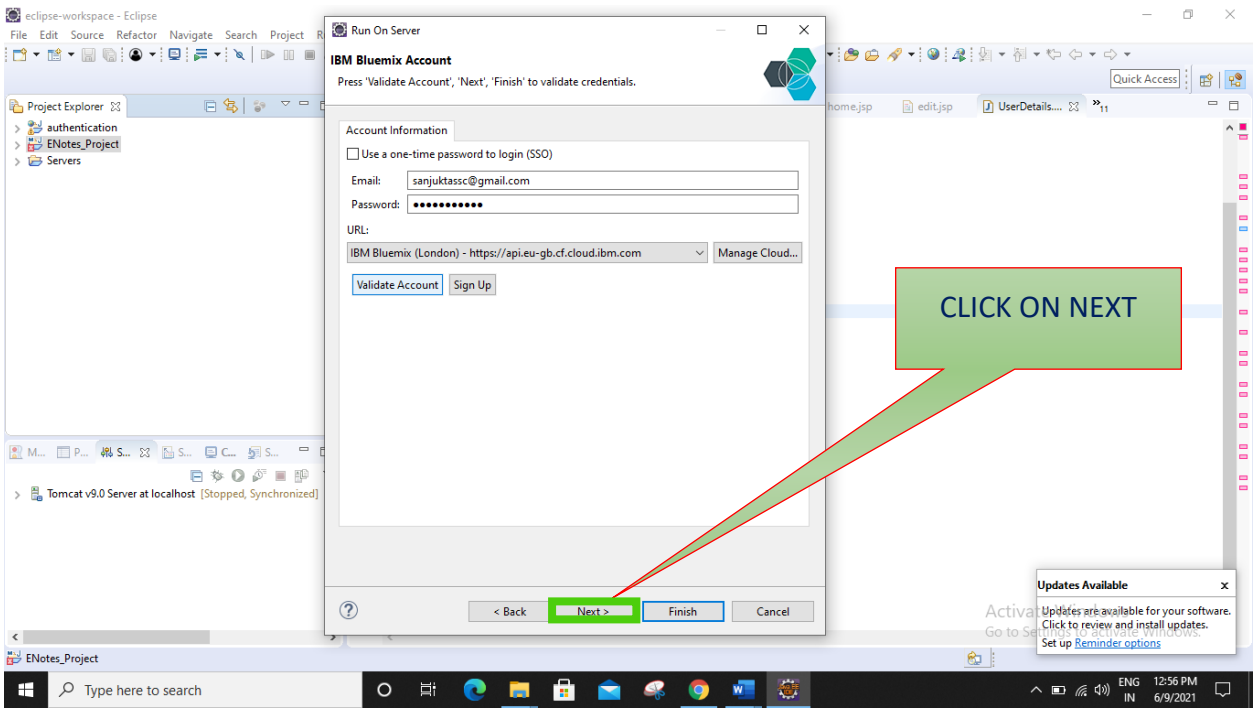

Data stored successfully
MySQL Workbench
SELECT * FROM enotes.notes;
Result Grid
pid title content pdate userid
7 hi hlw 2021-06-08 00:35:18 3
9 hi my name is sanjukta 2021-06-08 03:28:38 3
10 hi sanju try it it working or nor 2021-06-08 11:30:09 7
11 what is Java Servlets? Servlets work on the server-side. Servlets are c... 2021-06-08 17:45:07 8
No object selected
Action Output
1 17:51:09 notesSELECT * FROM enotes.user Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds t... 0.031 sec
2 17:51:17 notesSELECT * FROM enotes.user Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds t... 0.000 sec
3 17:51:27 SELECT * FROM enotes.notes LIMIT 0, 1000 4 row(s) returned 0.062 sec / 0.000 sec
4 17:51:56 SELECT * FROM enotes.user LIMIT 0, 1000 5 row(s) returned 0.125 sec / 0.000 sec
5 17:55:24 SELECT * FROM enotes.notes LIMIT 0, 1000 4 row(s) returned 0.000 sec / 0.000 sec
Query Completed
Type here to search

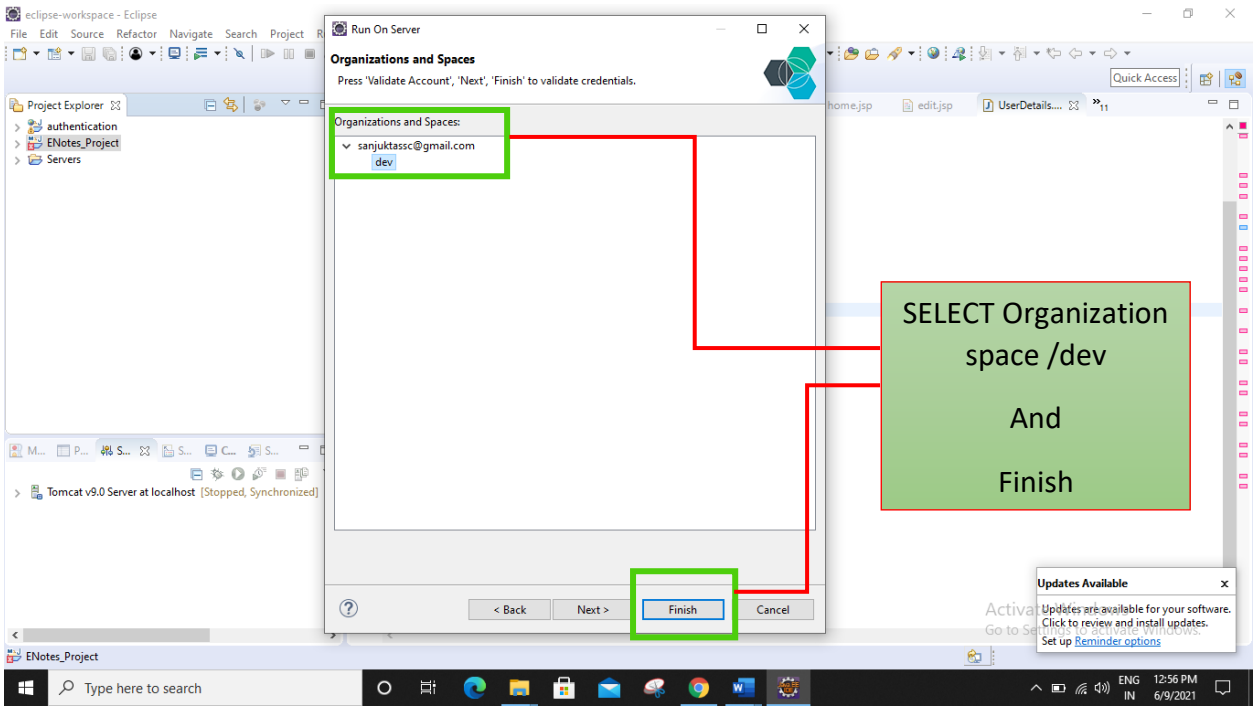
NOW WE ARE PLANNING TO DEPLOY OUR PROJECT ON IBM COUD



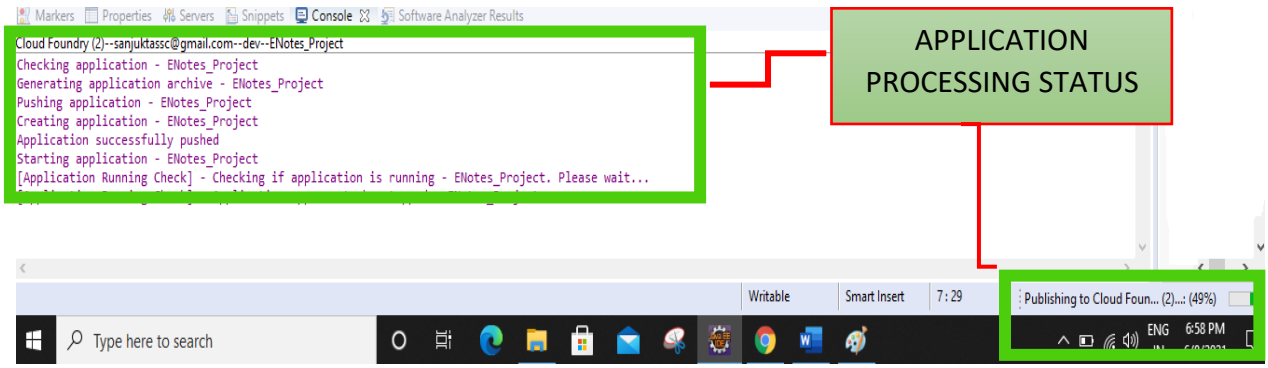




Run On Server
IBM Bluemix Account
Press 'Validate Account', 'Next', 'Finish' to validate credentials.
Account Information
Use a one-time password to login (SSO)
Email: sanjuktassc@gmail.com
Password: ••••••••••
URL:
IBM Bluemix (Dallas) - https://api.us-south.cf.cloud.ibm.com
Manage Cloud...
IBM Bluemix (Dallas) - https://api.us-south.cf.cloud.ibm.com
IBM Bluemix (Frankfurt) - https://api.eu-de.cf.cloud.ibm.com
IBM Bluemix (London) - https://api.eu-gb.cf.cloud.ibm.com
IBM Bluemix (Sydney) - https://api.au-syd.cf.cloud.ibm.com
IBM Bluemix (Washington DC) - https://api.us-east.cf.cloud.ibm.com
< Back
Next >
Finish
Cancel
FILL THE CREDENTIALS OF IBM BLUEMIX ACCOUNT.CHOOSE SUITABLE REGION
AND VALIDATE YOUR ACCOUNT.
Updates Available
Updates are available for your software. Click to review and install updates.
Set up Reminder options

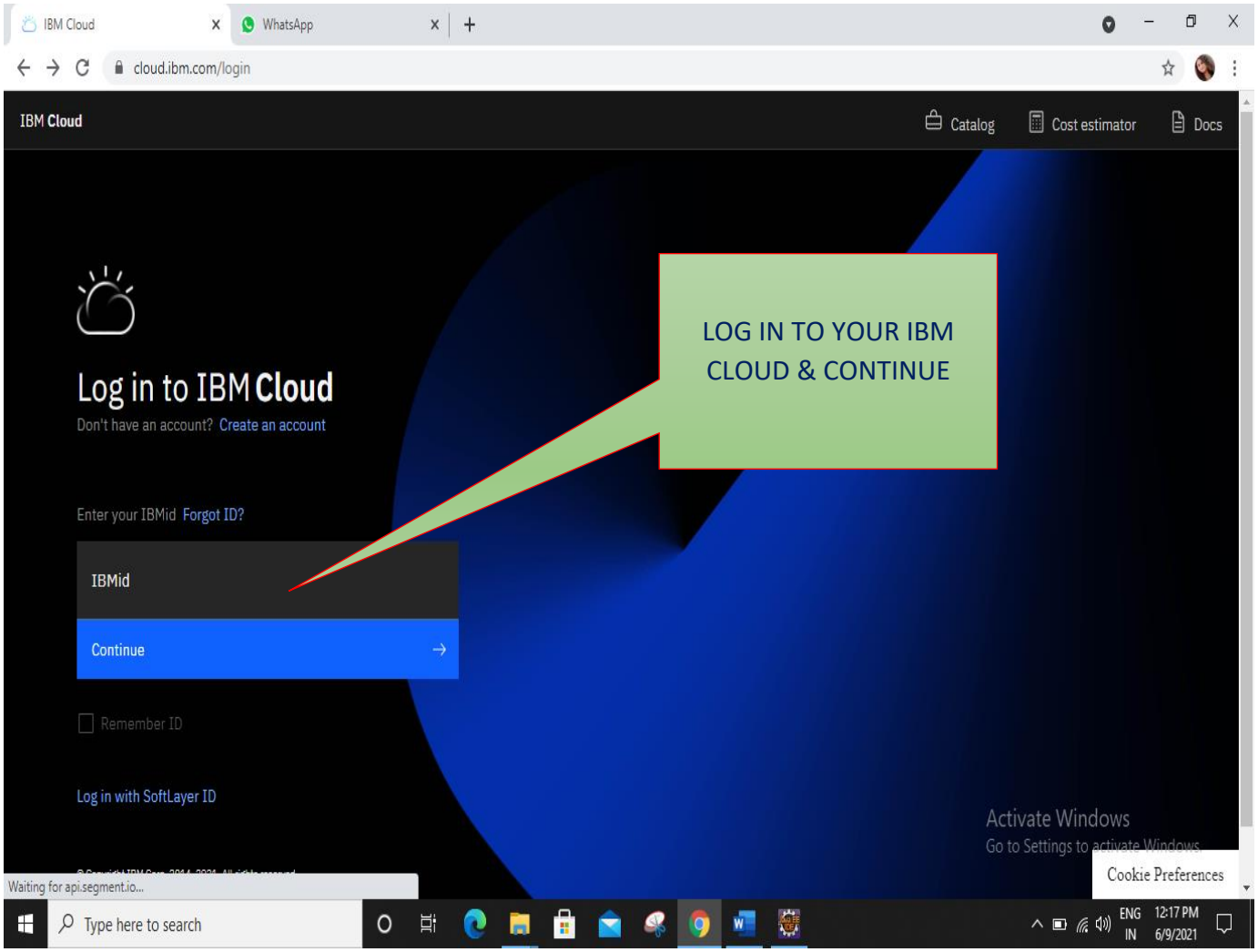

Run On Server
IBM Bluemix Account
Press 'Validate Account', 'Next', 'Finish' to validate credentials.
Account Information
Use a one-time password to login (SSO)
Email: sanjuktassc@gmail.com
Password: ••••••••••
URL:
IBM Bluemix (London) - https://api.eu-gb.cf.cloud.ibm.com
Manage Cloud...
Validate Account
Sign Up
< Back
Next >
Finish
Cancel
CLICK ON NEXT
Updates Available
Updates are available for your software. Click to review and install updates.
Set up Reminder options



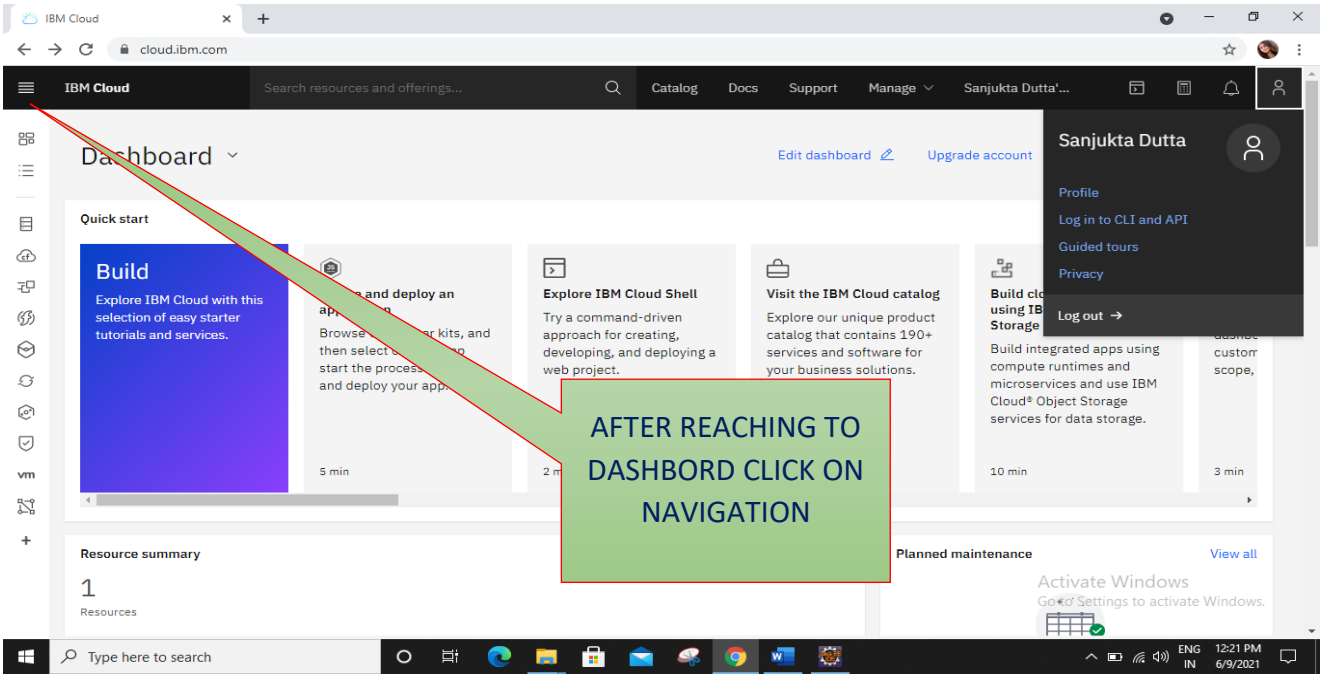

NOW YOU CAN CHECK ON CONSOLE THAT YOUR APPLICATION STATUS ON ECLIPSE IDE:

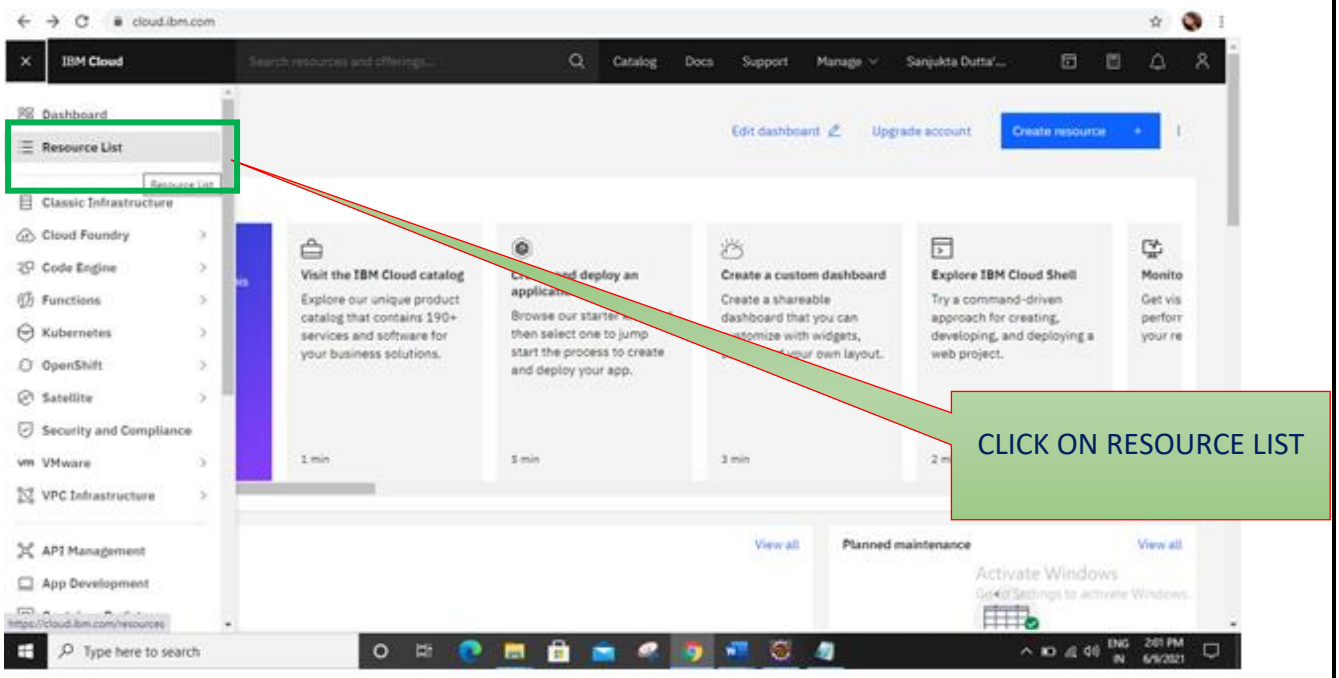


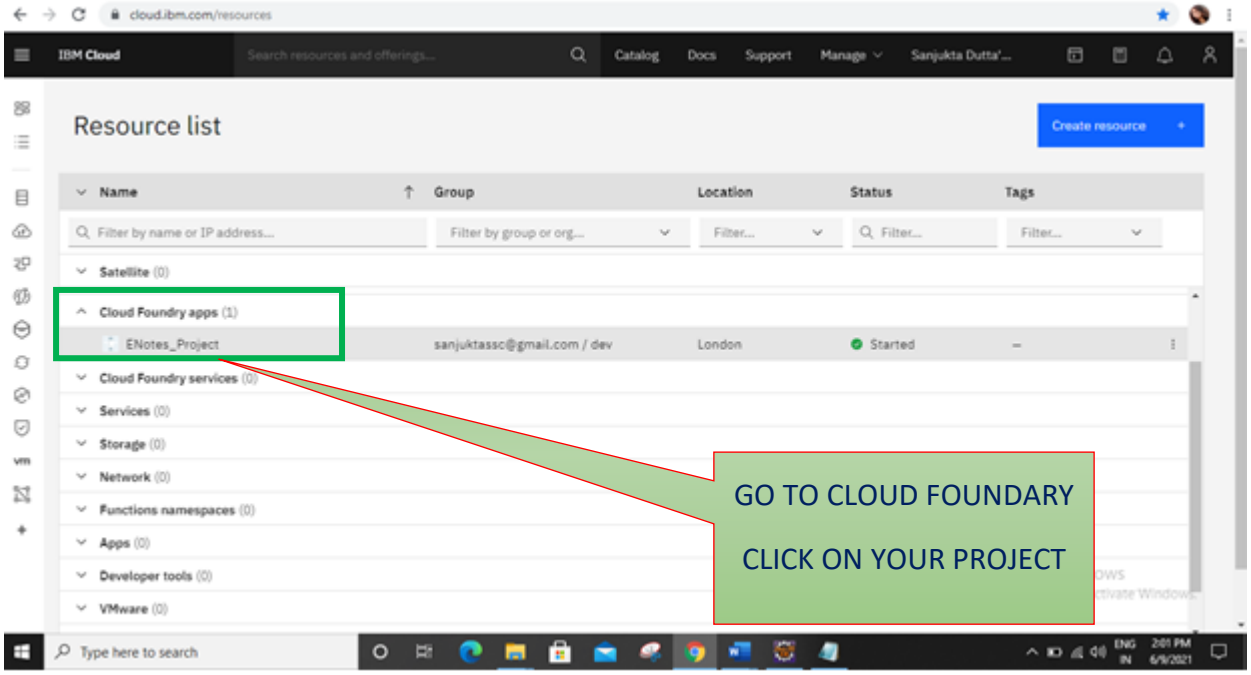

To Check your project you can login your IBMCLOUD Account :https://www.cloud.ibm.com

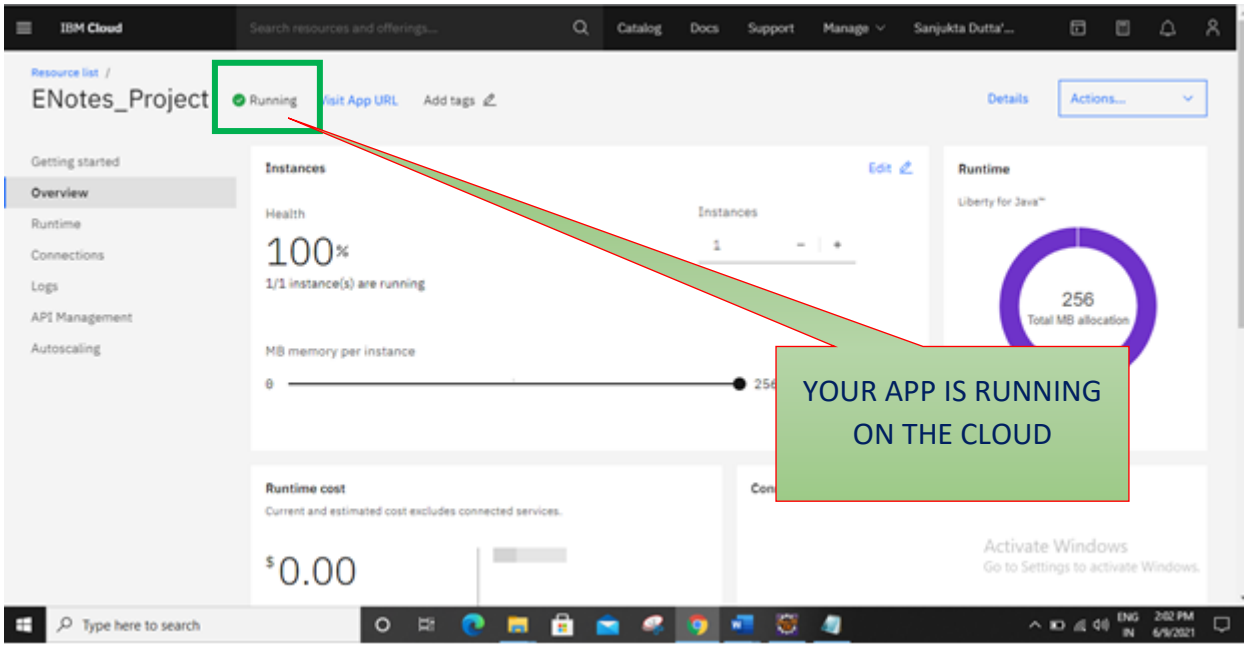

IBM Cloud
WhatsApp
cloud.ibm.com/login
IBM Cloud
Catalog
Cost estimator
Docs
Log in to IBM Cloud
Don't have an account? Create an account
Enter your IBMid Forgot ID?
IBMid
Continue
Remember ID
Log in with SoftLayer ID
LOG IN TO YOUR IBM CLOUD & CONTINUE
Activate Windows
Go to Settings to activate Windows.
Cookie Preferences
Waiting for api.segment.io...
Type here to search
ENG
IN
12:17 PM
6/9/2021

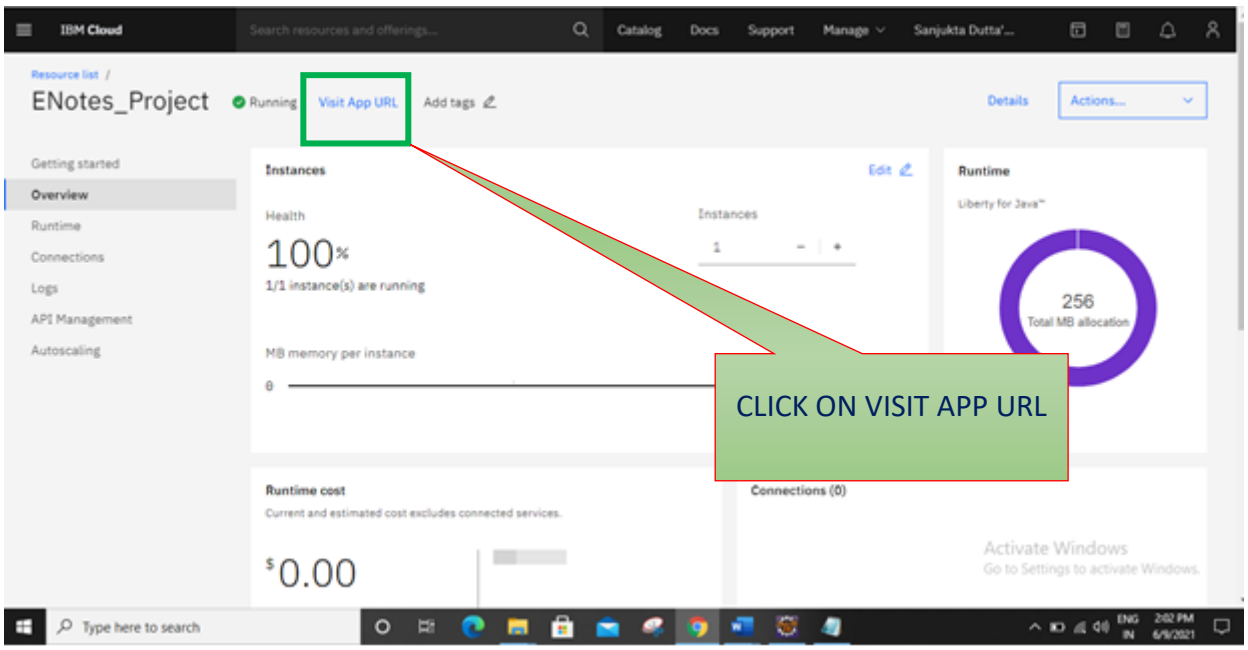
# IBM CLOUD USER DASHBOARD

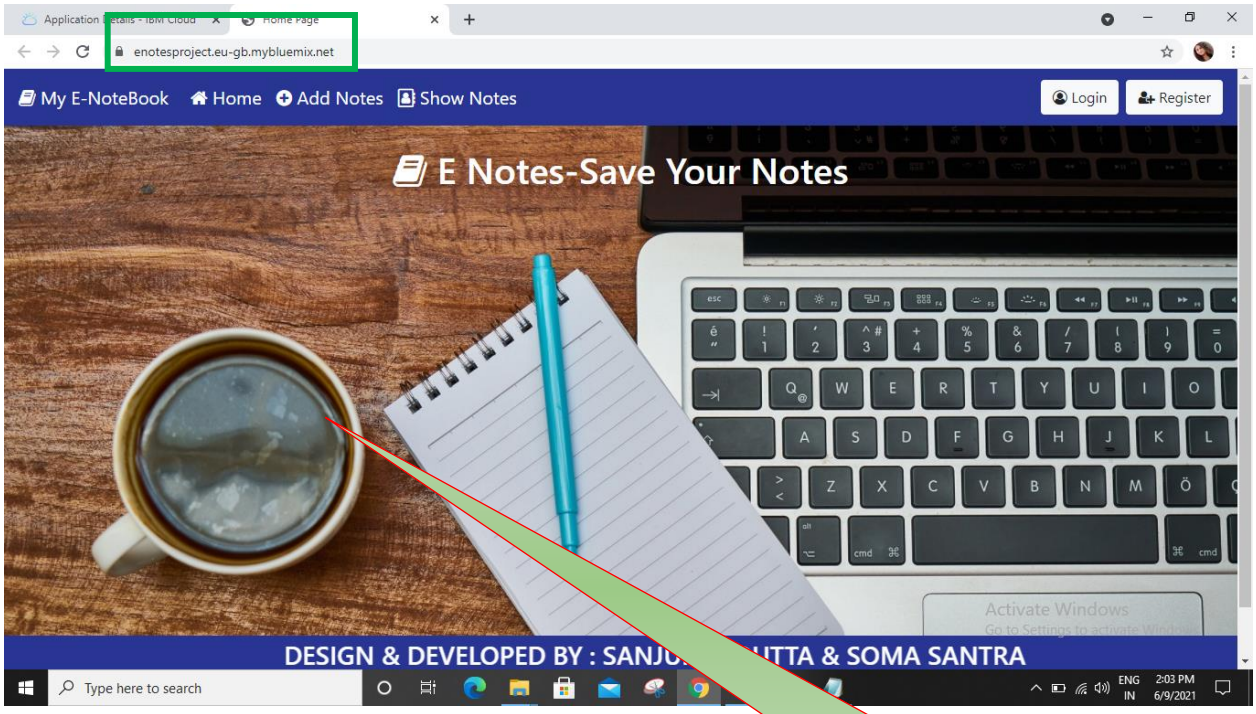



IBM Cloud
Catalog
Docs
Support
Manage
Dashboard
Resource List
Classic Infrastructure
Cloud Foundry
Code Engine
Functions
Kubernetes
OpenShift
Satellite
Security and Compliance
VMware
VPC Infrastructure
API Management
App Development
Edit dashboard
Upgrade account
Create resource
Visit the IBM Cloud catalog
Explore our unique product catalog that contains 190+ services and software for your business solutions.
Create a custom dashboard
Explore IBM Cloud Shell
Try a command-driven approach for creating, developing, and deploying a web project.
Planned maintenance
View all
CLICK ON RESOURCE LIST


IBM Cloud
Catalog
Docs
Support
Manage
Resource list
Create resource
Name
Group
Location
Status
Tags
Satellite (0)
Cloud Foundry apps (1)
ENotes_Project
sanjuktassc@gmail.com / dev
London
Started
Cloud Foundry services (0)
Services (0)
Storage (0)
Network (0)
Functions namespaces (0)
Apps (0)
Developer tools (0)
VMware (0)
GO TO CLOUD FOUNDARY
CLICK ON YOUR PROJECT


IBM Cloud
Search resources and offerings...
Catalog
Docs
Support
Manage
Sanjukta Dutta'...
Resource list /
ENotes_Project
Running
Visit App URL
Add tags
Details
Actions...
Getting started
Overview
Runtime
Connections
Logs
API Management
Autoscaling
Instances
Edit
Health
100%
1/1 instance(s) are running
Instances
1
MB memory per instance
0
Runtime
Liberty for Java™
256
Total MB allocation
Runtime cost
Current and estimated cost excludes connected services.
$0.00
YOUR APP IS RUNNING ON THE CLOUD
Activate Windows
Go to Settings to activate Windows.
Type here to search


IBM Cloud
Search resources and offerings...
Catalog
Docs
Support
Manage
Sanjukta Dutta'...
Resource list /
ENotes_Project
Running
Visit App URL
Add tags
Details
Actions...
Getting started
Overview
Runtime
Connections
Logs
API Management
Autoscaling
Instances
Edit
Health
100%
1/1 instance(s) are running
Instances
1
MB memory per instance
0
Runtime
Liberty for Java™
256
Total MB allocation
CLICK ON VISIT APP URL
Runtime cost
Current and estimated cost excludes connected services.
$0.00
Connections (0)
Activate Windows
Go to Settings to activate Windows.
Type here to search




CONGRATULATIONS!

YOUR APP IS SUCCESSFULLY HOSTED ON IBM CLOUD

# Challenge Description

1. This challenge requires you to build a fully functional webpage for a E_-Note book. The User should be able to Register and login into the application using the ID created. Without a login ID, user not able to add note.

2. A running web application remotely (on a cloud), for hosting this application or use this application on IBM Cloud ID Credentials is must and a strong internet connectivity needed.

3.This web application build on JAVA language. So, on that particular language strong command is also one of the important requirements.

4.For Deployment of this project we have used light version IBM Cloud credential so space limit is one of the issue, we have tried to make our project simple and light so that it can be pushed on the cloud easily.

# Learnings

1. After completing this challenge, you should have a thorough understanding of
2. Creating a real-world web-based application and how to host it on cloud platform(remotely).
3. Advanced Java concepts: Servlets, JSP's, and web design tools such as HTML, CSS,bootstrap-4.
4. Data Management using databases such as Oracle, MySQL, etc.

# Code

Index.jsp file

```
<%@pageimport="java.sql.Connection"%>
<%@pageimport="com.Db.DBConnect"%>
<%@pagelanguage="java"contentType="text/html; charset=ISO-
8859-1"
      pageEncoding="ISO-8859-1"%>
<!DOCTYPEhtml>
<html>
<head>
<styletype="text/css">
.back-img {
      background: url("img/no4.jpg");
      width: 100%;
      height: 85vh;
      background-repeat: no-repeat;
      background-size: cover;
}
</style>

<metacharset="ISO-8859-1">
<title>Home Page</title>
<%@includefile="all_component/allcss.jsp"%>
</head>
<body>
      <%@includefile="all_component/navbar.jsp"%>

      <divclass="container-fluid back-img">
            <divclass="text-center">
                  <h1class="text-white p-4">
                        <marquee><iclass="fa fa-book"aria-
hidden="true"></i> E Notes-Save Your
                        Notes</marquee>
                  </h1>

            </div>
      </div>

      <%@includefile="all_component/footer.jsp"%>

</body>
</html>
```

Login.jsp file

```
<%@pagelanguage="java"contentType="text/html; charset=ISO-8859-1"
      pageEncoding="ISO-8859-1"%>
<!DOCTYPEhtml>
<html>
<head>
<metacharset="ISO-8859-1">
<title>Login Page</title>
<%@includefile="all_component/allcss.jsp"%>
</head>
<bodystyle="background-color: #f7f7f7;">

      <%@includefile="all_component/navbar.jsp"%>
      <divclass="continer-fluid">
      <divclass="row p-5">
      <divclass="col-md-4 offset-md-4">
      <divclass="card">
      <divclass="card-body">
      <divclass="text-center">
      <iclass="fa fa-user-plus fa-2x"aria-hidden="true"></i>
      <h5>Login Page</h5>
      </div>

<%String errorMsg = (String) session.getAttribute("Login-error");
if (errorMsg != null)
{
%<pclass="text-danger text-center"><%=errorMsg%></p>
<%session.removeAttribute("Login-error");}
%>

<%
String lgMsg = (String) session.getAttribute("logoutMsg");if (lgMsg
!= null)
 {%>
<pclass="text-success text-center"><%=lgMsg%></p>
```

```
<%session.removeAttribute("logoutMsg");}%>

<formaction="loginServlet"method="post">
<divclass="form-group">
<label>Enter Email</label><inputtype="email"
required="required"class="form-control"
id="exampleInputEmail1"aria-describedby="emailHelp"
name="uemail">
</div>
<divclass="form-group">
<labelfor="exampleInputPassword1">Enter Password</label><input
required="required"type="password"class="form-control"
id="exampleInputPassword1"name="upassword"></div>
<buttontype="submit"
class="btn btn-primary badge-pill btn-block">Login</button>
</form>
</div></div></div></div></div>
<divstyle="margin-top: 70px;">
            <%@includefile="all_component/footer.jsp"%>
      </div>
</body>
</html>
```

Register.jsp

```
<%@pagelanguage="java"contentType="text/html; charset=ISO-8859-1"
      pageEncoding="ISO-8859-1"%>
<!DOCTYPEhtml>
<html>
<head>
<metacharset="ISO-8859-1">
<title>Register page</title>
<%@includefile="all_component/allcss.jsp"%>

</head>
<bodystyle="background-color: #f7f7f7;">
<%@includefile="all_component/navbar.jsp"%>
<divclass="continer-fluid">
<divclass="row p-4">
<divclass="col-md-4 offset-md-4"><divclass="card">
<divclass="card-body"><divclass="text-center">
<iclass="fa fa-user-plus fa-2x"aria-hidden="true"></i>
<h5>Registration</h5></div>
<%String regMsg = (String) session.getAttribute("reg-sucess");
if (regMsg != null) {%>
<pclass="text-success"><%=regMsg%>
Login <ahref="login.jsp">Click Here</a></p>
<%session.removeAttribute("reg-sucess");
}%>
```

```
<%
String FailedMsg = (String) session.getAttribute("failed-msg");
if (FailedMsg != null) {%>
<pclass="text-danger"><%=FailedMsg%></p>
<%session.removeAttribute("failed-msg");}%>
<formaction="UserServlet"method="post">
<divclass="form-group">
<label>Enter Full Name</label><inputtype="text"
required="required"class="form-control"
id="exampleInputEmail1"aria-describedby="emailHelp"
name="fname">
</div>
<divclass="form-group">
<label>Enter Email</label><inputtype="email"
required="required"class="form-control"
id="exampleInputEmail1"aria-describedby="emailHelp"
name="uemail">
</div>
<divclass="form-group">
<labelfor="exampleInputPassword1">Enter Password</label><input
required="required"type="password"class="form-control"
id="exampleInputPassword1"name="upassword"></div>
<buttontype="submit"
class="btn btn-primary badge-pill btn-block">Register</button></form>
</div></div></div></div></div>
     <divstyle="margin-top: 50px;">
          <%@includefile="all_component/footer.jsp"%></div>
</body>
</html>
```

home.jsp

```
<%@pagelanguage="java"contentType="text/html; charset=ISO-8859-1"
      pageEncoding="ISO-8859-1"%>

<%
UserDetails user2 = (UserDetails) session.getAttribute("userD");

if (user2 == null) {
      response.sendRedirect("login.jsp");
      session.setAttribute("Login-error", "Please Login..");
}
%>
<!DOCTYPEhtml>
<html>
<head>
<metacharset="ISO-8859-1">
<title>HOME</title>
<%@includefile="all_component/allcss.jsp"%>
</head>
<body>
      <%@includefile="all_component/navbar.jsp"%>
      <divclass="container-fluid p-0">

            <divclass="card py-5">
                  <divclass="card-body text-center">
                        <imgalt=""src="img/paper.png"class="img-fluid
mx-auto"
                              style="max-width: 300px;">
                        <h1>START TAKING YOUR NOTES</h1>
                        <ahref="addNotes.jsp"class="btn btn-outline-
primary">Start
                        Here</a>

                  </div>

            </div>
      </div>
      <%@includefile="all_component/footer.jsp"%>
</body>
</html>
```

edit.jsp

```
<inputtype="hidden"value="<%=noteid%>"name="noteid">
                                    <divclass="form-group">

<labelfor="exampleInputEmail1">Enter Title</label><input
type="text"class="form-control"id="exampleInputEmail1"
           aria-describedby="emailHelp"name="title"required="required"

      value="<%=p.getTitle()%>"/></div>

<divclass="form-group">
<labelfor="exampleInputEmail1">Enter Content</label>
<textarearows="9"cols=""class="form-control"name="content"
required="required"><%=p.getContent()%></textarea></div>


<divclass="container text-center">
                                          <buttontype="submit"class="btn
btn-primary">Update
Notes</button>
                                    </div>
                               </form>
                          </div>
                     </div>


           </div>

      </div>

      <divstyle="margin-top: 50px;">
<%@includefile="all_component/footer.jsp"%>
</div>
</body>
</html>
```

addNote.jsp

```
<%@pagelanguage="java"contentType="text/html; charset=ISO-8859-1"
      pageEncoding="ISO-8859-1"%>
<%
UserDetails user1 = (UserDetails) session.getAttribute("userD");

if (user1 == null) {
      response.sendRedirect("login.jsp");
      session.setAttribute("Login-error", "Please Login..");
}
%>
<!DOCTYPEhtml>
<html>
<head>
<metacharset="ISO-8859-1">
<title>Add Notes</title>
<%@includefile="all_component/allcss.jsp"%>
</head>
<bodystyle="background-color: #f7f7f7;">

      <%@includefile="all_component/navbar.jsp"%>
      <divclass="container-fluid">
            <%
            String updateMsg = (String) session.getAttribute("updateMsg");
            String errorMsg = (String) session.getAttribute("errorMsg");
            if (updateMsg != null) {
            %>
<divclass="alert alert-success"role="alert"><%=updateMsg%></div>
            <%
            session.removeAttribute("updateMsg");
            }

            if (errorMsg != null) {
            %>

<divclass="alert alert-danger"role="alert"><%=errorMsg%></div>

            <%
            session.removeAttribute("errorMsg");
            }
            %><h1class="text-center">Add Your Notes</h1>

<divclass="container">
<divclass="row">
<divclass="col-md-12">
<formaction="AddNotesServlet"method="post">
<divclass="form-group">
```

```
<%
UserDetails us = (UserDetails) session.getAttribute("userD");
if (us != null) {
%><inputtype="hidden"value="<%=us.getId()%>"name="uid">
<%
}
%>


                                        <labelfor="exampleInputEmail1">Enter
Title</label><input
                                              type="text"class="form-
control"id="exampleInputEmail1"
                                              aria-
describedby="emailHelp"name="title"required="required">
                                  </div>

                                  <divclass="form-group">
                                        <labelfor="exampleInputEmail1">Enter
Content</label>
                                        <textarearows="9"cols=""class="form-
control"name="content"
                                              required="required"></textarea>

                                  </div>


                                  <divclass="container text-center">
                                        <buttontype="submit"class="btn btn-
primary">Add Notes</button>
                                  </div>
                            </form>
                      </div>
                </div>


           </div>

      </div>

      <divstyle="margin-top: 60px;">
            <%@includefile="all_component/footer.jsp"%>
      </div>

</body>
</html>
```

Css/style.jsp

```
.bg-custom{
	background:#283593!important;
	font-size:40px;


}

.navbar.nav-item.nav-link{
	font-size:20px;
	color:white;
}


.navbar-custom.nav-item:hover.nav-link{
	background:white;
	color:black;
	border-radius:10px;
}


.div-color{
	background-image:linear-
gradient(torighttop,#ed6700,#ec9000,#e5b500,#d9d828,
		#c8f95a);
	height:500px;
}
```

```
<linkrel="stylesheet"
      href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/boo
tstrap.min.css"
      integrity="sha384-
Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/dAiS6JXm"
      crossorigin="anonymous">

<linkrel="stylesheet"
      href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.min.css">
<linkrel="stylesheet"href="css/style.css">

<scriptsrc="https://code.jquery.com/jquery-3.2.1.slim.min.js"
      integrity="sha384-
KJ3o2DKtIkvYIK3UENzmM7KCkRr/rE9/Qpg6aAZGJwFDMVNA/GpGFF93hXpG5KkN"
      crossorigin="anonymous"></script>
<script
      src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/
umd/popper.min.js"
      integrity="sha384-
ApNbgh9B+Y1QKtv3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakFPskvXusvfa0b4Q"
      crossorigin="anonymous"></script>
<script
      src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/boots
trap.min.js"
      integrity="sha384-
JZR6Spejh4U02d8jOt6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjUar5+76PVCmYl"
      crossorigin="anonymous"></script>
```

all-component/footer.jsp

```
<div class="container-fluid p-1 bg-custom">

     <p class="text-center text-white"><marquee><h3>DESIGN & DEVELOPED
BY : SANJUKTA DUTTA & SOMA SANTRA </h3></marquee></p>>
</div>
```

all_component/navbar.jsp

```
<%@pageimport="com.entity.UserDetails"%>
<navclass="navbar navbar-expand-lg navbar-dark bg-custom navbar-custom">
      <aclass="navbar-brand"href="index.jsp"><iclass="fa fa-book"
            aria-hidden="true"></i> My E-NoteBook</a>
      <buttonclass="navbar-toggler"type="button"data-toggle="collapse"
            data-target="#navbarSupportedContent"
            aria-controls="navbarSupportedContent"aria-expanded="false"
            aria-label="Toggle navigation">
            <spanclass="navbar-toggler-icon"></span></button>
<divclass="collapse navbar-collapse"id="navbarSupportedContent">
            <ulclass="navbar-nav mr-auto">
                  <liclass="nav-item active"><aclass="nav-
link"href="home.jsp"><i
                              class="fa fa-home"aria-hidden="true"></i> Home
<span
                              class="sr-only">(current)</span></a></li>
                  <liclass="nav-item"><aclass="nav-
link"href="addNotes.jsp"><i
                              class="fa fa-plus-circle"aria-
hidden="true"></i> Add Notes</a></li>

                  <liclass="nav-item"><aclass="nav-
link"href="showNotes.jsp"><i
                              class="fa fa-address-book-o"aria-
hidden="true"></i> Show Notes</a></li>
            </ul>
<%
UserDetails user = (UserDetails) session.getAttribute("userD");
if (user != null) {
            %>
<ahref=""class="btn btn-light my-2 my-sm-0 mr-2"data-toggle="modal"
                  data-target="#exampleModal"type="submit"><i
                  class="fa fa-user-circle-o"aria-
hidden="true"></i><%=user.getName()%></a>
<adata-toggle="modal"data-target="#exampleModalCenter"
                  class="btn btn-light my-2 my-sm-0"type="submit"><i
                  class="fa fa-user-plus"aria-hidden="true"></i> Logout</a>
```

```
<!-- Logout Model -->
           <divclass="modal fade"id="exampleModalCenter"tabindex="-1"
                role="dialog"aria-labelledby="exampleModalCenterTitle"
                aria-hidden="true">
                <divclaass="modal-dialog model-dialog-
centered"role="document">
<divclass="model-content">
<divclass="model-header">
<h5class="model-title"id="exampleModelLongTitle"></h5>
<buttontype="button"class="close"data-dismiss="model"
aria-label="Close">
<spanaria-hidden="true">&times;</span>
</button>
</div>
<divclass="model-body text-center">
<h5class="text-center text-success">Do You want
logout</h5<ahref="LogoutServlet"class="btn btn-primary text-
white">Logout</a>
                                    <buttontype="button"class="btn btn-
danger"data-dismiss="model">Close</button>
                               </div>
                          </div>
                </div>
           </div>
           <!-- end logout model  -->
```

```
<!-- Modal -->
          <divclass="modal fade"id="exampleModal"tabindex="-
1"role="dialog"
                aria-labelledby="exampleModalLabel"aria-hidden="true">
<divclass="modal-dialog"role="document">
<divclass="modal-content">
<divclass="modal-header">
<h5class="modal-title"id="exampleModalLabel">Model title</h5>
<buttontype="button"class="close"data-dismiss="modal"
aria-label="Close">
<spanaria-hidden="true">&times;</span>
</button>
</div>
<divclass="modal-body">
<divclass="container text-center">
<iclass="fa fa-user fa-3x"></i><h5></h5>
<tableclass="table">
<tbody><tr>
<th>User Id</th>
<td><%=user.getId()%></td>
</tr>
<tr>
<th>Full Name</th>
<td><%=user.getName()%></td>
</tr>
```

```
<tr>

<th>Email Id</th>

      <td><%=user.getEmail()%></td>
                                                        </tr>
                                                    </tbody>
                                                </table>
                                                <div>

      <buttontype="button"class="btn btn-primary"
                                                            data-
dismiss="modal">Close</button>
                                                </div>
                                            </div>
                                        </div>
                                    </div>
                                </div>
                            </div>
                            <%
                            } else {
                            %>
                            <ahref="login.jsp"class="btn btn-light my-2 my-sm-0
mr-2"
                                type="submit"><iclass="fa fa-user-circle-o"aria-
hidden="true"></i>
                                Login</a><ahref="register.jsp"class="btn btn-
light my-2 my-sm-0"
                                type="submit"><iclass="fa fa-user-plus"aria-
hidden="true"></i>
                                Register</a>
                            <%
                            }
                            %>


      </div>


</nav>
```

manifest.yml

```
Manifest-Version: 1.0
Built-By: DELL
Build-Jdk: 1.8.0_291
Created-By: Maven Integration for Eclipse
```

Pom.xml file

```
<projectxmlns="http://maven.apache.org/POM/4.0.0"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/maven-v4_0_0.xsd">
      <modelVersion>4.0.0</modelVersion>
      <groupId>com</groupId>
      <artifactId>ENotes_Project</artifactId>
      <packaging>war</packaging>
      <version>0.0.1-SNAPSHOT</version>
      <name>ENotes_Project MavenWebapp</name>
      <url>http://maven.apache.org</url>
      <dependencies>

<!-- https://mvnrepository.com/artifact/mysql/mysql-connector-java -->
<dependency>
<groupId>mysql</groupId>
<artifactId>mysql-connector-java</artifactId>
<version>8.0.17</version>
</dependency>
<!-- https://mvnrepository.com/artifact/javax.servlet/javax.servlet-api -->
<dependency>
<groupId>javax.servlet</groupId>
<artifactId>javax.servlet-api</artifactId>
<version>4.0.1</version>
<scope>provided</scope>
</dependency>
<dependency>
<groupId>junit</groupId>
<artifactId>junit</artifactId>
<version>3.8.1</version>
<scope>test</scope></dependency>
<!-- https://mvnrepository.com/artifact/javax.mail/javax.mail-api -->
<dependency>
<groupId>com.sun.mail</groupId>
<artifactId>javax.mail</artifactId><version>1.6.2</version>
</dependency>
<!-- https://mvnrepository.com/artifact/javax.activation/activation -->
<dependency><groupId>javax.activation</groupId>
<artifactId>activation</artifactId><version>1.1.1</version>
</dependency>
</dependencies>
<build>
<finalName>ENotes_Project</finalName>
</build>
</project>
```

## Src/main/java/com/DAO/PostDAO.java file

```
package com.DAO;


import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.util.ArrayList;
import java.util.List;

import com.entity.Note;
import com.entity.UserDetails;

public class PostDAO {

	private Connection conn;

	public PostDAO(Connection conn) {
		super();
		this.conn = conn;
	}

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

		return f;
	}
```

```
public boolean AddNotes(String ti, String co, int ui) {
        boolean f = false;
        try {
    String qu = "insert into notes(title,content,userid) values(?,?,?)";

            PreparedStatement ps = conn.prepareStatement(qu);
            ps.setString(1, ti);
            ps.setString(2, co);
            ps.setInt(3, ui);

            int i = ps.executeUpdate();
            if (i == 1) {
                f = true;
            }
```

```
publicList<Note> getData(intid) {
            List<Note>list = newArrayList<Note>();
            Note po= null;
            try {

                  Stringqu = "select * from notes where userid=? order by
pid DESC";
                  PreparedStatementps = conn.prepareStatement(qu);
                  ps.setInt(1, id);

                  ResultSetrs = ps.executeQuery();
                  while (rs.next()) {
                        po=new Note();
                        po.setId(rs.getInt(1));
                        po.setTitle(rs.getString(2));
                        po.setContent(rs.getString(3));
                        po.setPdate(rs.getTimestamp(4));
                        list.add(po);
                  }
```

```
} catch (Exceptione) {
                e.printStackTrace();
            }

            returnlist;
      }

      public Note getDataById(intnoteId)
      {
            Note p=null;
            try {
                  Stringqu="select * from notes where pid=?";

                  PreparedStatementps=conn.prepareStatement(qu);
                  ps.setInt(1, noteId);

                  ResultSetrs=ps.executeQuery();

                  if(rs.next())
                  {
                        p=new Note();
                        p.setId(rs.getInt(1));
                        p.setTitle(rs.getString(2));
                        p.setContent(rs.getString(3));
                  }
```

```
} catch (Exceptione) {
                e.printStackTrace();
          }


          returnp;
     }

     publicboolean PostUpdate(intnid,Stringti,Stringco)
     {
          booleanf=false;

          try {
               Stringqu="update notes set title=?,content=? where pid=?";
               PreparedStatementps=conn.prepareStatement(qu);
               ps.setString(1, ti);
               ps.setString(2,co);
               ps.setInt(3, nid);
               inti=ps.executeUpdate();

               if(i==1)
               {
                    f=true;
               }

          } catch (Exceptione) {
               e.printStackTrace();
          }
```

```
returnf;
	}

	publicboolean DeleteNotes(intnid)
	{
		booleanf=false;

		try {

			Stringqu="delete from notes where pid=?";
			PreparedStatementps=conn.prepareStatement(qu);
			ps.setInt(1, nid);
			intx=ps.executeUpdate();
			if(x==1)
			{
				f=true;
			}

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


		returnf;
	}


}
```

Src/main/java/com/DAO/UserDAO.java file

```
package com.DAO;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import com.entity.UserDetails;
public class UserDAO {
        private Connection conn;
public UserDAO(Connection conn) {
                super();
                this.conn = conn;
        }
public boolean addUser(UserDetails us)
        {
boolean f=false;
try {
String query="insert into user(username,email,password) values(?,?,?)";
PreparedStatement ps=conn.prepareStatement(query);
ps.setString(1, us.getName());
ps.setString(2, us.getEmail());
ps.setString(3, us.getPassword());
int i=ps.executeUpdate();
if(i==1)
{ f=true;
}
} catch (Exception e) {
e.printStackTrace();
                }
```

```
returnf;
	}

	public UserDetails loginUser(UserDetails us)
	{
		UserDetails user=null;
		try {
			Stringquery="select * from user where email=? and
password=?";

			PreparedStatementps=conn.prepareStatement(query);
			ps.setString(1, us.getEmail());
			ps.setString(2,us.getPassword());
			ResultSetrs=ps.executeQuery();

			while(rs.next())
			{
				user=new UserDetails();
				user.setId(rs.getInt("id"));
				user.setName(rs.getString("username"));
				user.setEmail(rs.getString("email"));
				user.setPassword("password");

			}

		}


}
```

```
catch (Exceptione) {
                e.printStackTrace();
          }
          returnuser;
     }

     publicboolean findEmail(Stringem)
     {
          booleanf=true;
          try {
                Stringquery="select * from user where email=?";

                PreparedStatementps=conn.prepareStatement(query);
                ps.setString(1,em);
                ResultSetrs=ps.executeQuery();
                while(rs.next())
                {
                      f=false;
                }

          } catch (Exceptione) {
                e.printStackTrace();
          }
          returnf;
     }
```

```
package com.Db;

import java.sql.Connection;
import java.sql.DriverManager;

public class DBConnect {

	private static Connection conn;
	public static Connection getConn()
	{
		try {

			if(conn==null)
			{
				Class.forName("com.mysql.cj.jdbc.Driver");

	conn=DriverManager.getConnection("jdbc:mysql://localhost:3306/enotes","root","r
oot");

			}


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

Src/main/java/com/entity /Note.java file

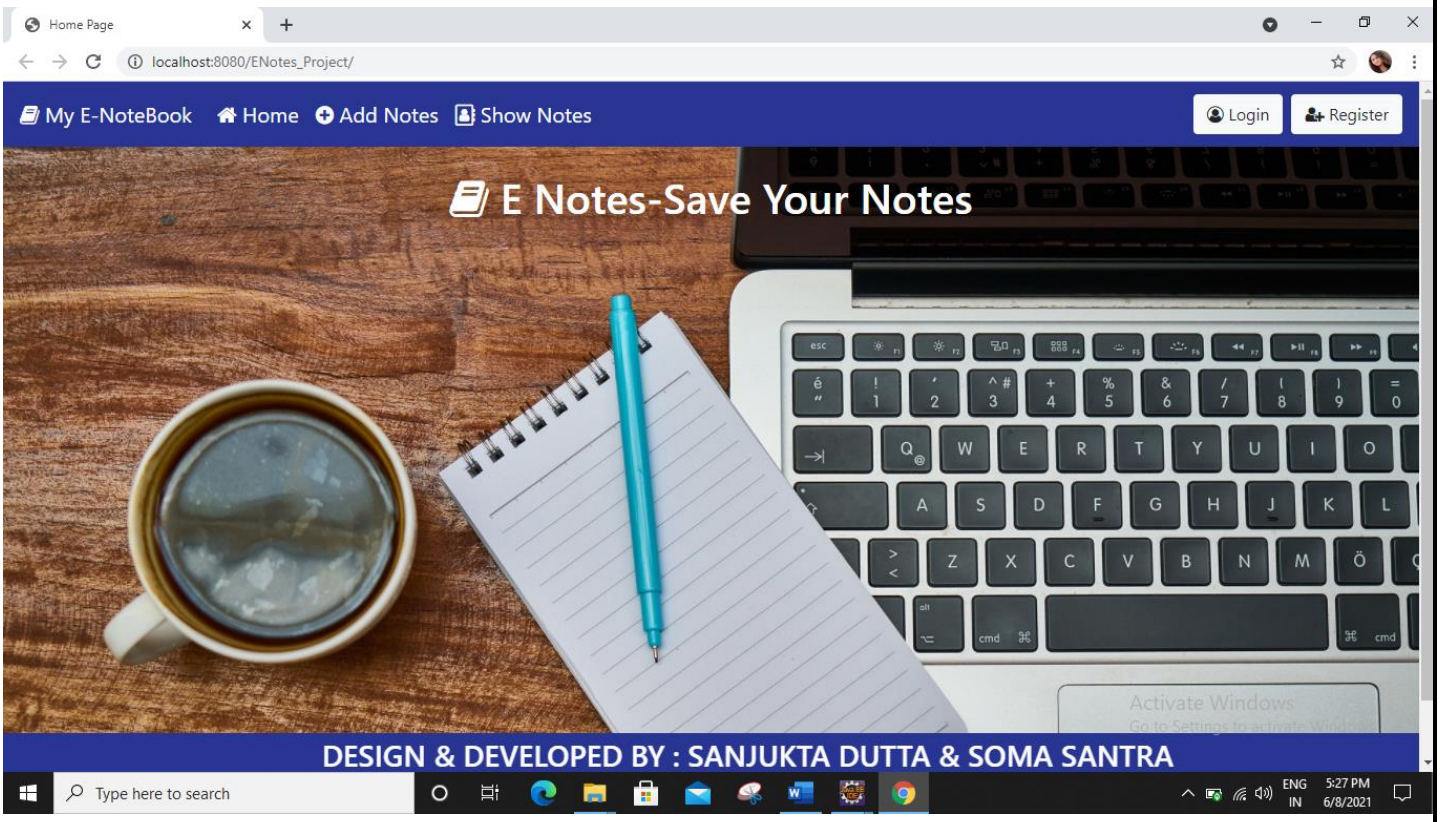
```
package com.entity;

importjava.util.Date;

publicclass Note {
	privateintid;
	privateStringtitle;
	privateStringcontent;
	privateDatepdate;
	private UserDetails user;
	public Note(intid, Stringtitle, Stringcontent, Datepdate, UserDetails
user) {
		super();
		this.id = id;
		this.title = title;
		this.content = content;
		this.pdate = pdate;
		this.user = user;
	}
	public Note() {
		super();
		// TODO Auto-generated constructor stub
	}
	publicint getId() {
		returnid;
	}publicvoid setId(intid) {
		this.id = id;
	}
	publicString getTitle() {
		returntitle;
	}
	publicvoid setTitle(Stringtitle) {
		this.title = title;
	}
	publicString getContent() {
		returncontent;
	}
	publicvoid setContent(Stringcontent) {
		this.content = content;
	}
	publicDate getPdate() {
		returnpdate;
	}
	publicvoid setPdate(Datepdate) {
		this.pdate = pdate;
	}
	public UserDetails getUser() {
		returnuser;
	}
	publicvoid setUser(UserDetails user) {
		this.user = user;
	} }
```

Src/main/java/com/entity/UserDetails.java

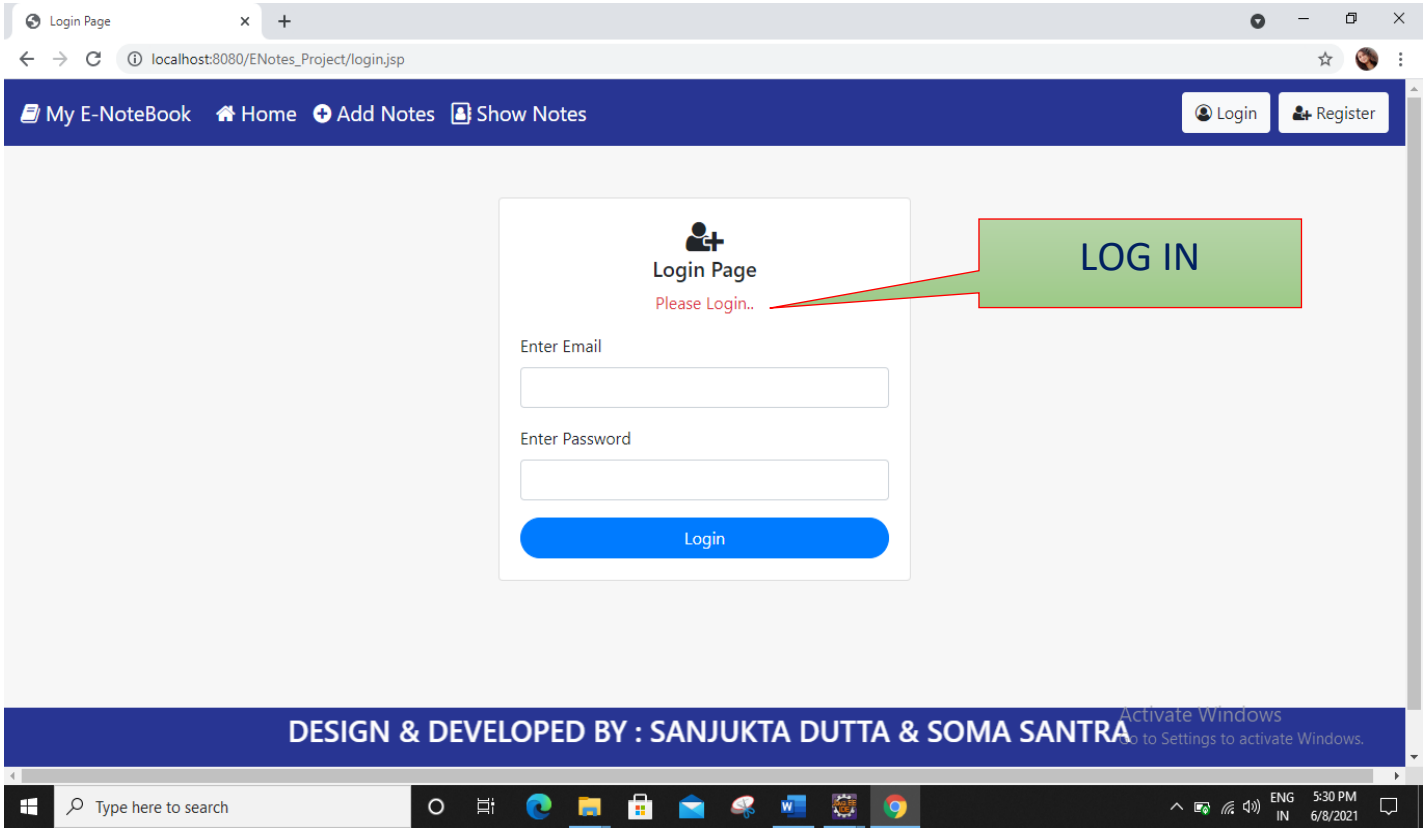
```
package com.entity;

publicclass UserDetails {
	privateintid;
	privateStringname;
	privateStringemail;
	privateStringpassword;
	public UserDetails() {
		super();
		// TODO Auto-generated constructor stub
	}
	public UserDetails(Stringname, Stringemail, Stringpassword) {
		super();
		this.name = name;
		this.email = email;
		this.password = password;
	}
	publicString getName() {
		returnname;
	}
	publicvoid setName(Stringname) {
		this.name = name;
	}
	publicString getEmail() {
		returnemail;
	}
	publicvoid setEmail(Stringemail) {
		this.email = email;
	}
	publicString getPassword() {
		returnpassword;
	}
	publicvoid setPassword(Stringpassword) {
		this.password = password;
	}
	publicint getId() {
		returnid;
	}
	publicvoid setId(intid) {
		this.id = id;
	}
```

# PROJECT SCREENSHOTS

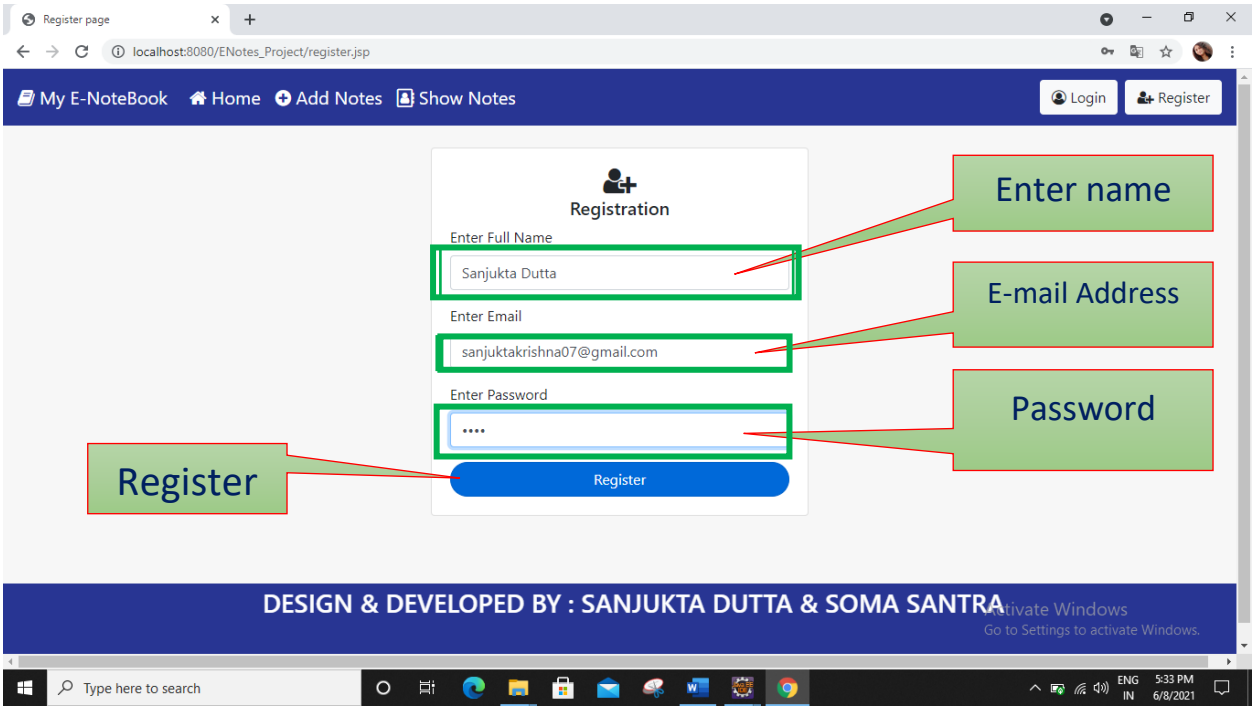
## HOME PAGE:

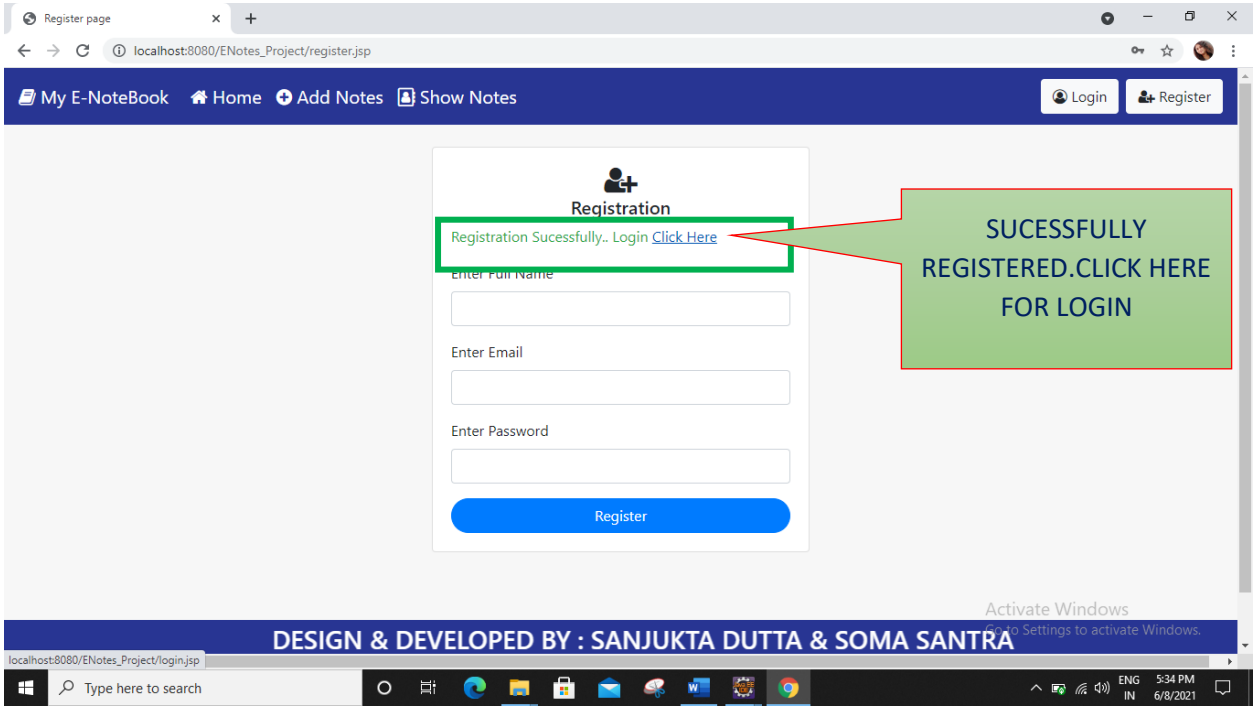


LOG IN PAGE:


Login Page
localhost:8080/ENotes_Project/login.jsp
My E-NoteBook
Home
Add Notes
Show Notes
Login
Register
Login Page
Please Login..
LOG IN
Enter Email
Enter Password
Login
DESIGN & DEVELOPED BY : SANJUKTA DUTTA & SOMA SANTRA
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
IN
5:30 PM
6/8/2021

REGISTRATION PAGE:



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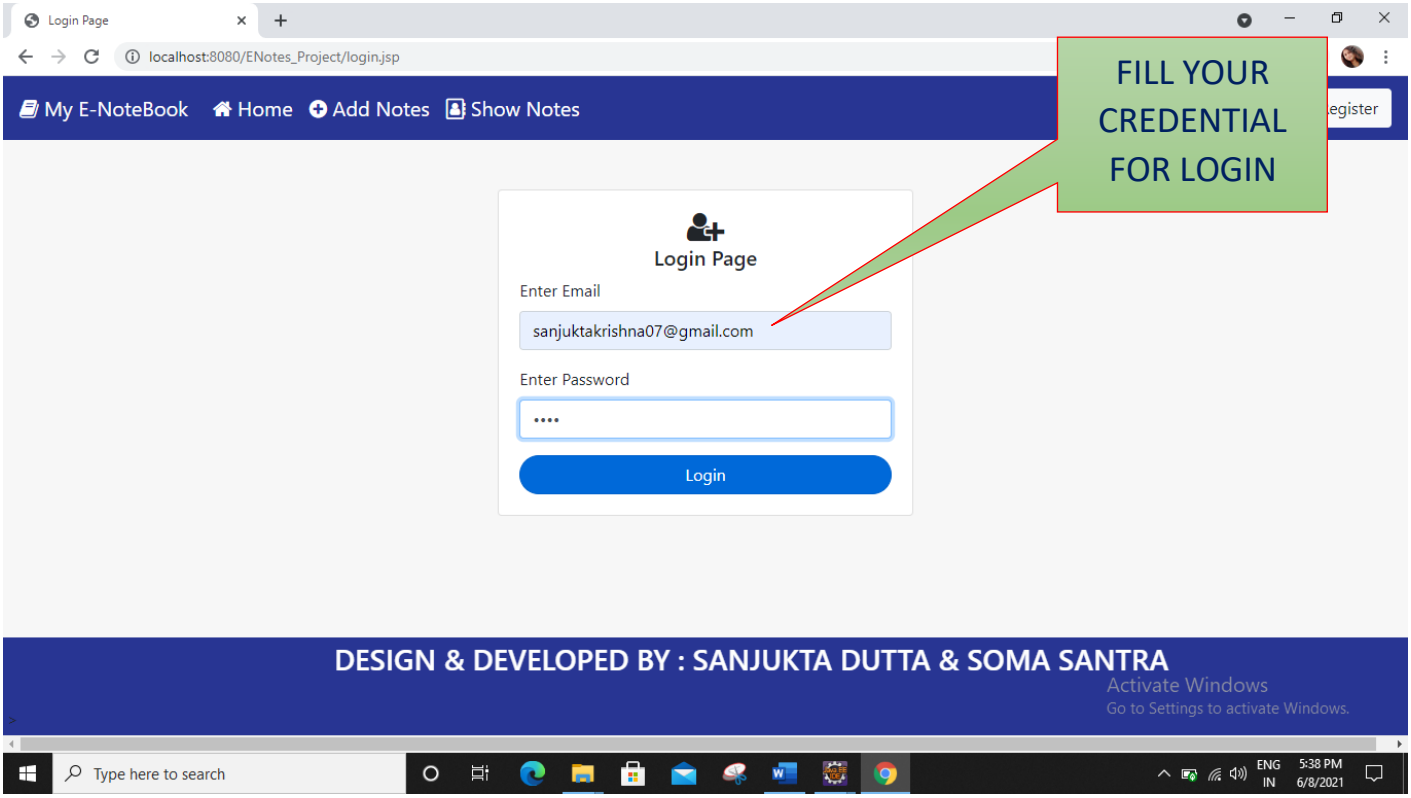
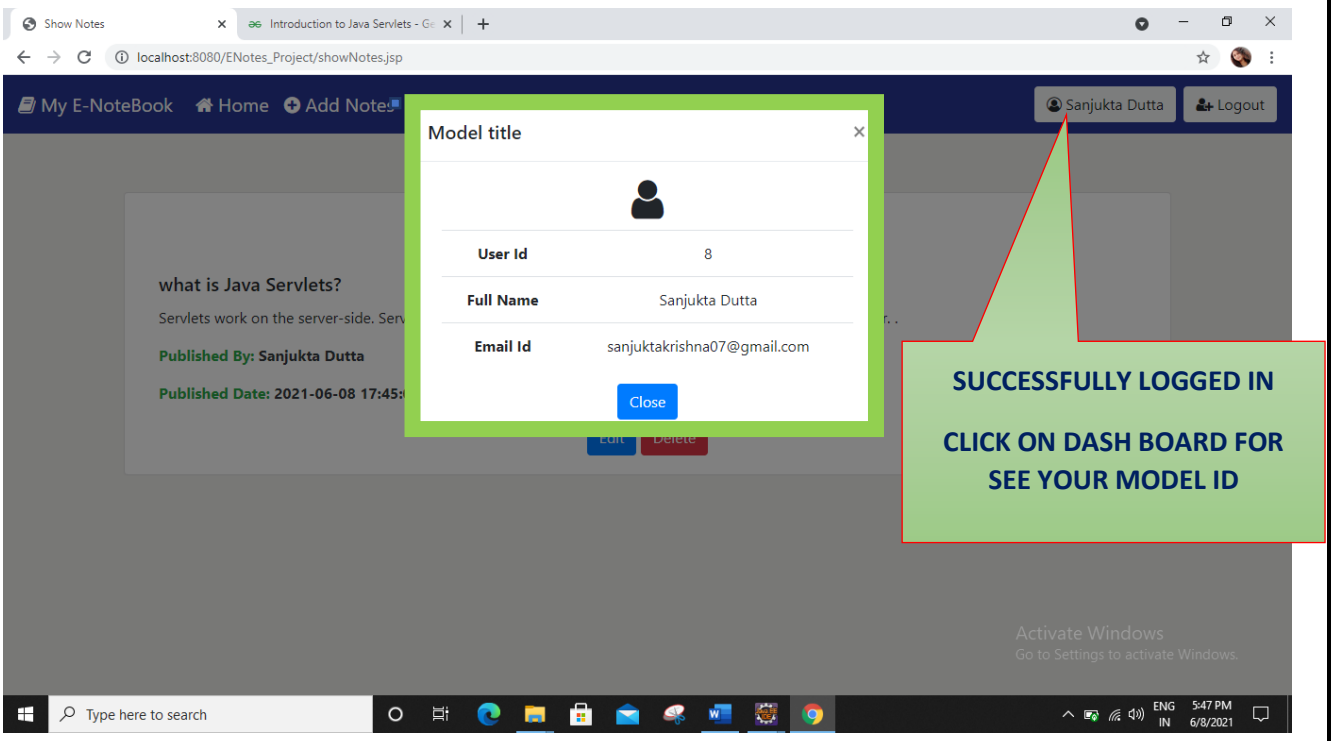
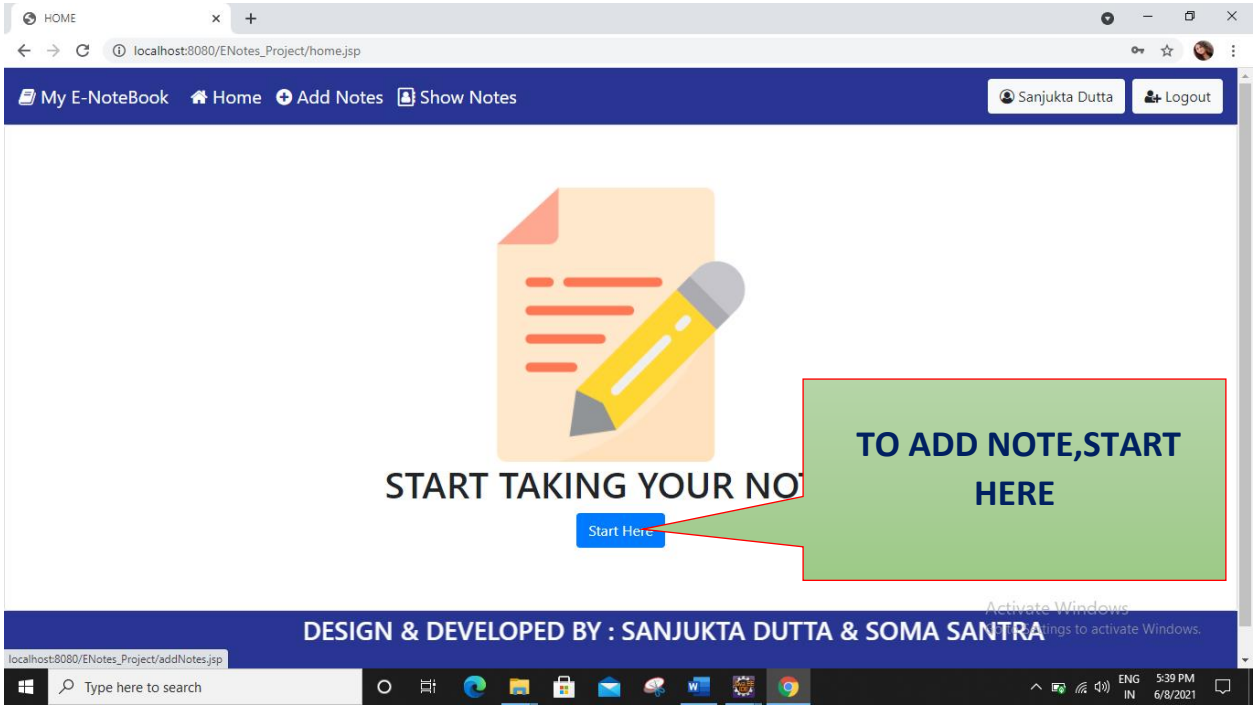

Login Page
localhost:8080/ENotes_Project/login.jsp
My E-NoteBook
Home
Add Notes
Show Notes
FILL YOUR CREDENTIAL FOR LOGIN
Login Page
Enter Email
sanjuktakrishna07@gmail.com
Enter Password
Login
DESIGN & DEVELOPED BY : SANJUKTA DUTTA & SOMA SANTRA
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
IN
5:38 PM
6/8/2021

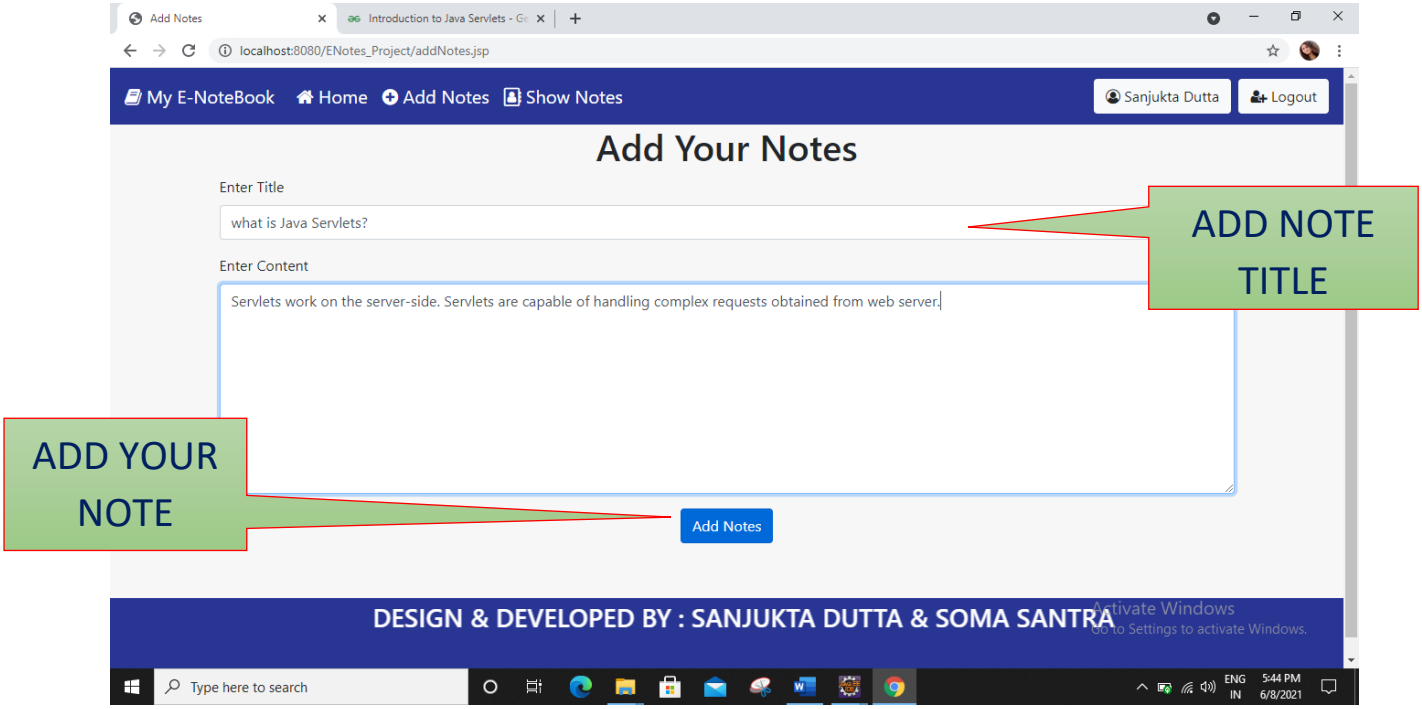
# USER MODEL TITLE PAGE

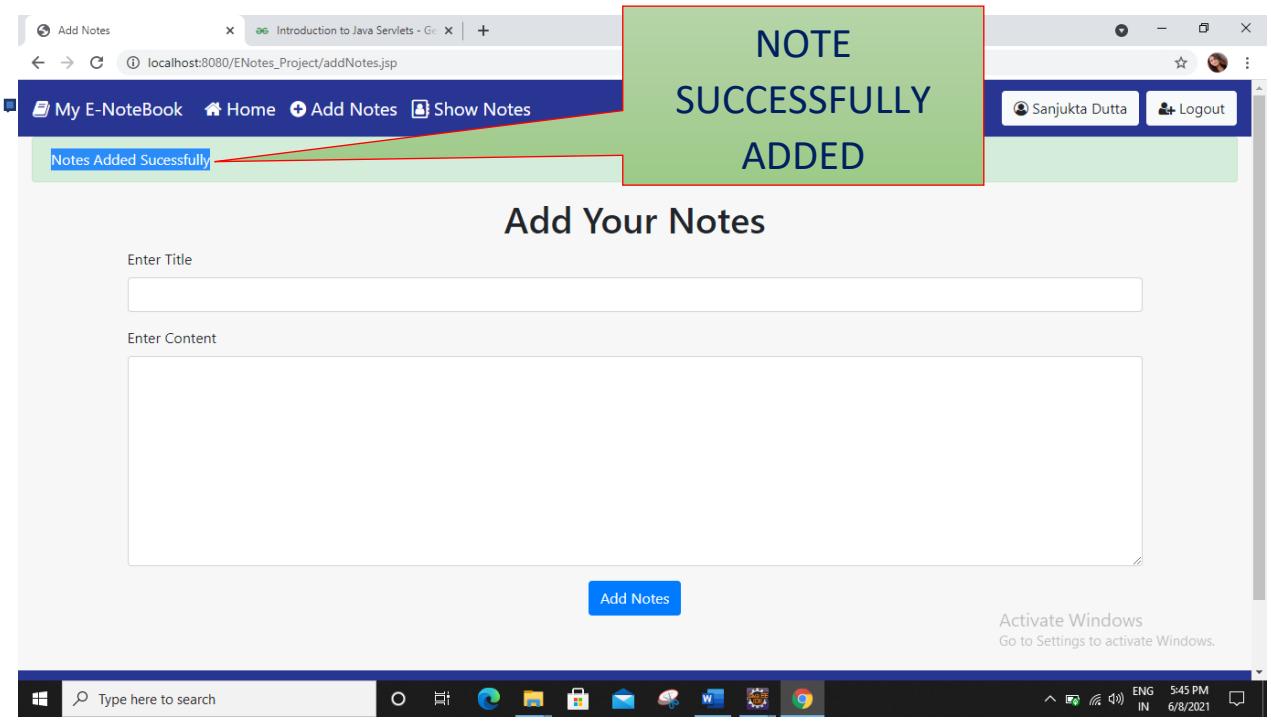


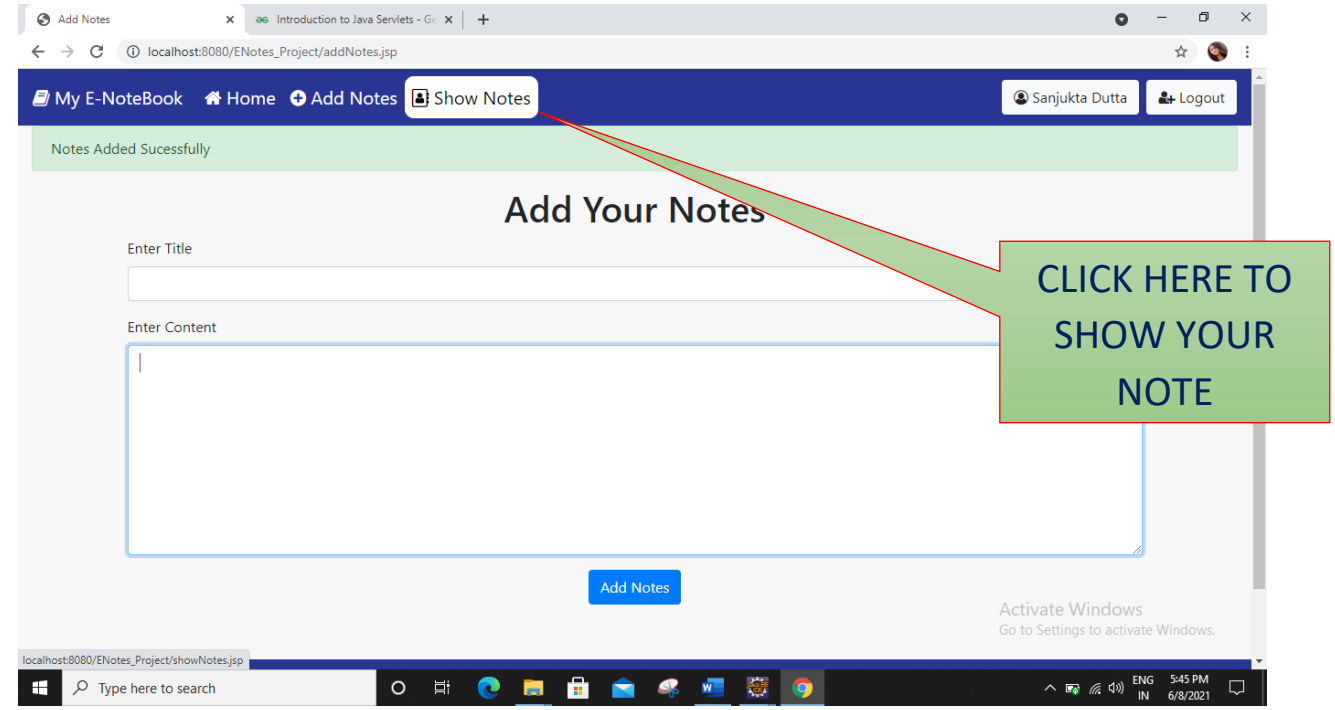
USER DASHBOARD PAGE



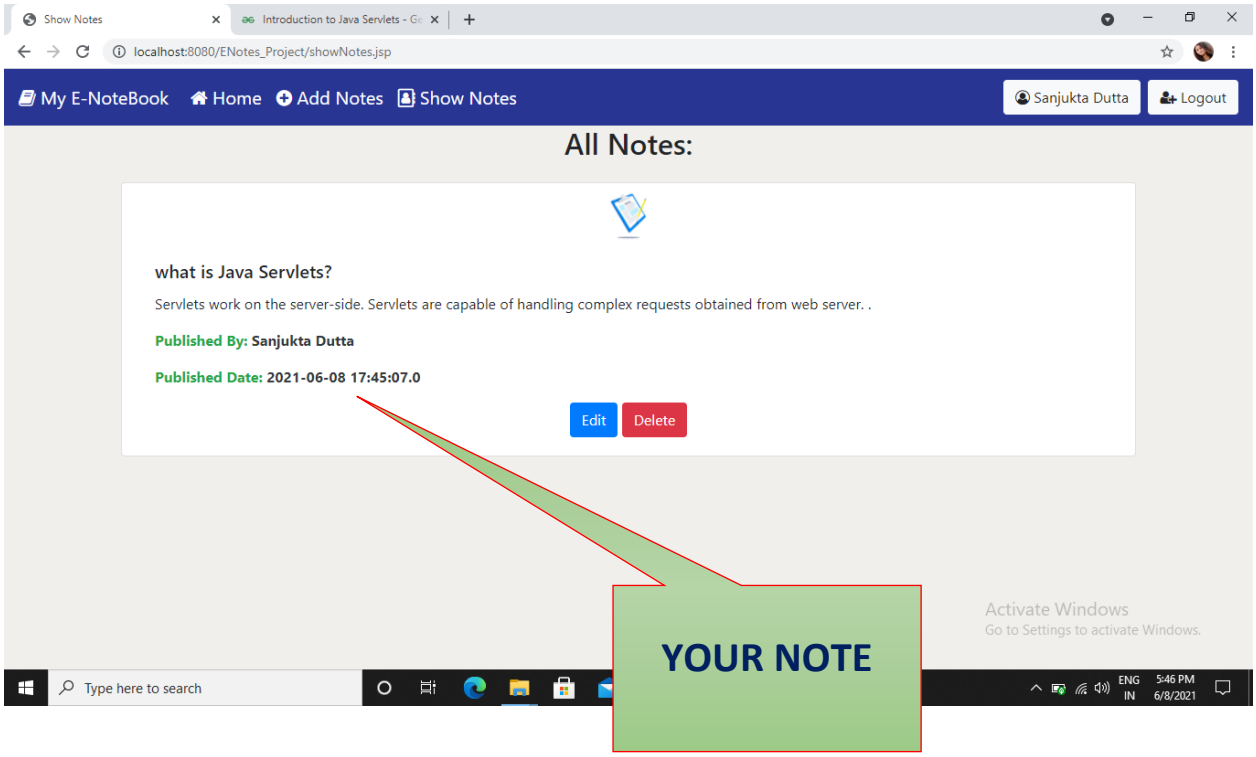
# ADD NOTE PAGE

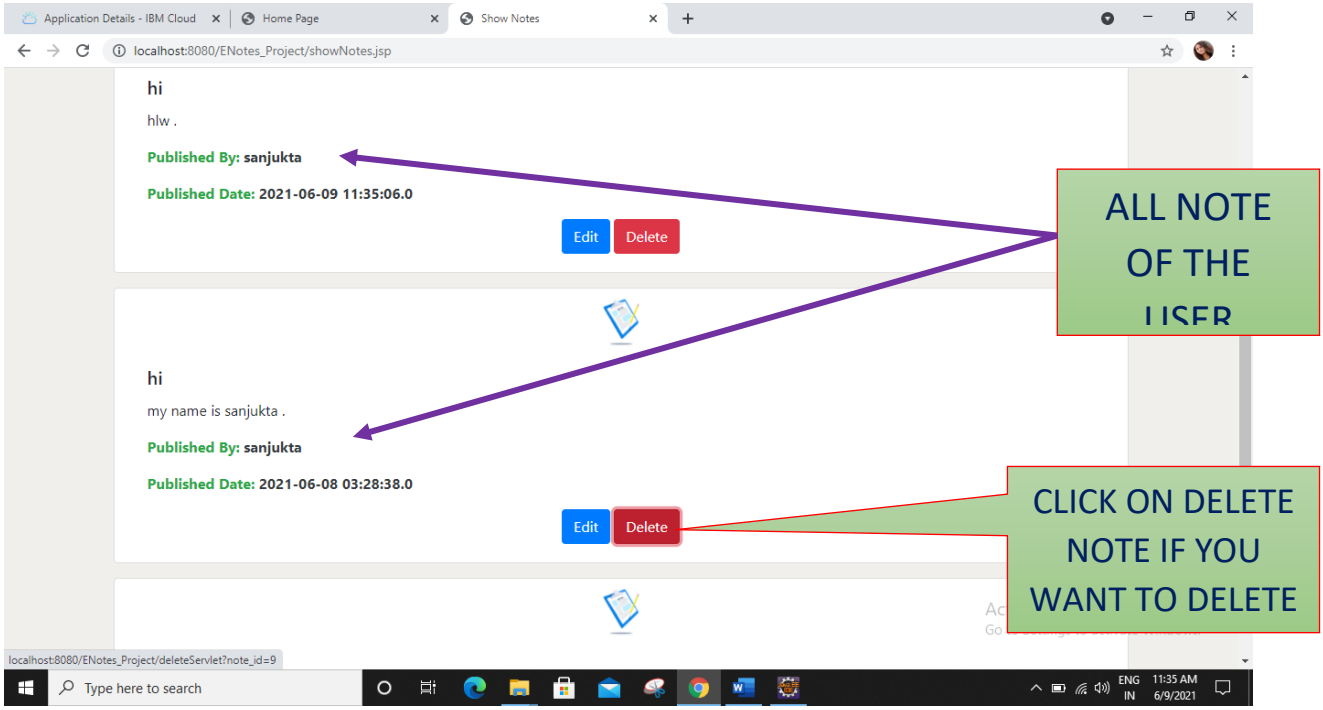


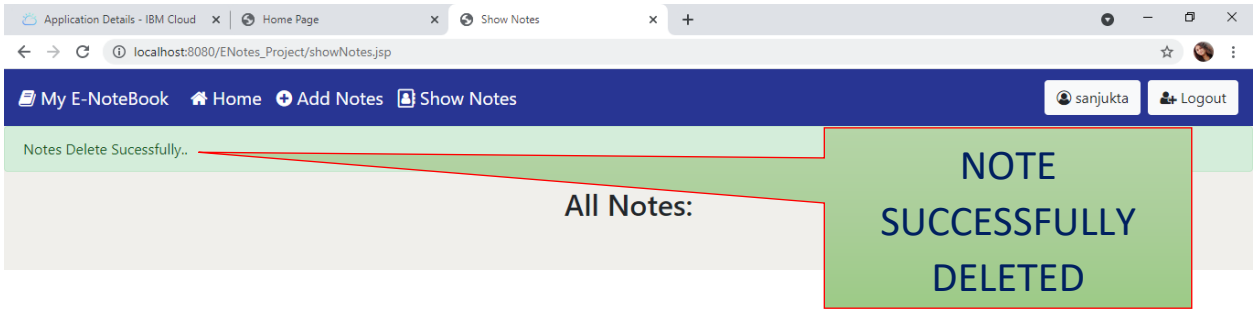

NOTE SUCCESSFULLY ADDED
Add Notes
Introduction to Java Servlets - Ge
localhost:8080/ENotes_Project/addNotes.jsp
My E-NoteBook
Home
Add Notes
Show Notes
Sanjukta Dutta
Logout
Notes Added Sucessfully
Add Your Notes
Enter Title
Enter Content
Add Notes
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
IN
5:45 PM
6/8/2021


Add Notes
Introduction to Java Servlets - Ge
localhost:8080/ENotes_Project/addNotes.jsp
My E-NoteBook
Home
Add Notes
Show Notes
Sanjukta Dutta
Logout
Notes Added Sucessfully
Add Your Notes
Enter Title
Enter Content
CLICK HERE TO SHOW YOUR NOTE
Add Notes
Activate Windows
Go to Settings to activate Windows.
localhost:8080/ENotes_Project/showNotes.jsp
Type here to search
ENG
IN
5:45 PM
6/8/2021

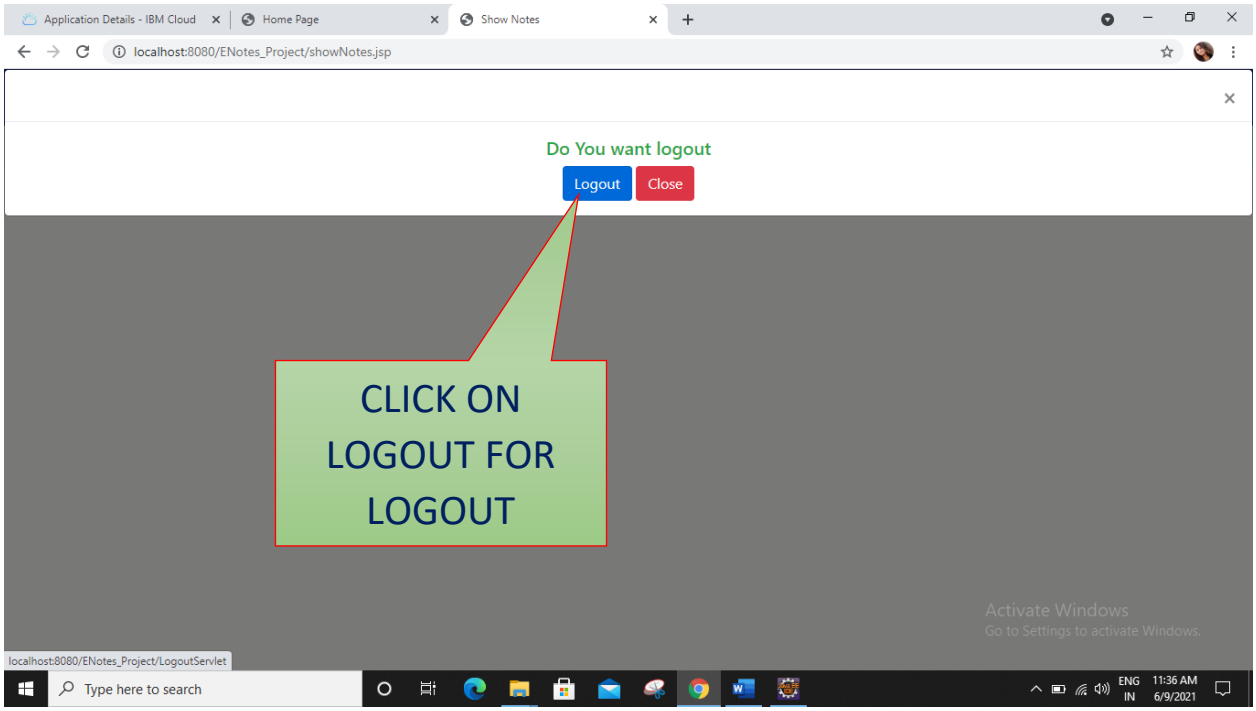
# SHOW NOTE PAGE

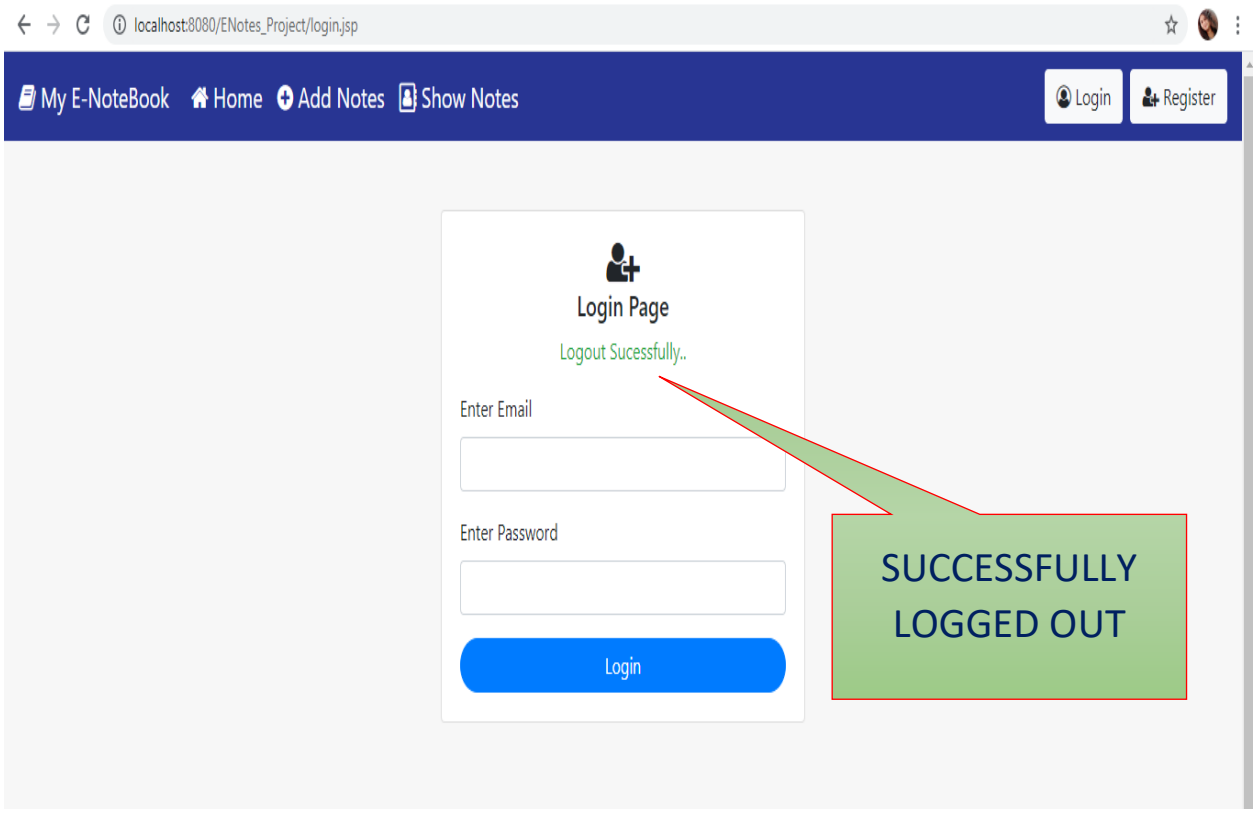



Application Details - IBM Cloud
Home Page
Show Notes
localhost:8080/ENotes_Project/showNotes.jsp
My E-NoteBook
Home
Add Notes
Show Notes
sanjukta
Logout
Notes Delete Sucessfully..
All Notes:
NOTE SUCCESSFULLY DELETED

LOG OUT PAGE


Application Details - IBM Cloud
Home Page
Show Notes
localhost:8080/ENotes_Project/showNotes.jsp
Do You want logout
Logout
Close
CLICK ON LOGOUT FOR LOGOUT
Activate Windows
Go to Settings to activate Windows.
localhost:8080/ENotes_Project/LogoutServlet
Type here to search
ENG
IN
11:36 AM
6/9/2021


localhost:8080/ENotes_Project/login.jsp
My E-NoteBook
Home
Add Notes
Show Notes
Login
Register
Login Page
Logout Sucessfully..
Enter Email
Enter Password
Login
SUCCESSFULLY LOGGED OUT

# Conclusion

Finally, after completing our project on cloud hosting it is concluded that the numerous benefits that cloud computing offers to organizations, a fair case can be made that cloud computing is increasingly becoming the new normal. Cloud computing is helping the society to cope with future problems such as managing big data, cyber-security and quality control. In addition to this, emerging technologies such as Artificial Intelligence, distributed ledger technology, and many other capabilities are becoming available as services through cloud computing.

Cloud computing is perhaps the most flamboyant technological innovation of the 21st century. This is because it has seen the fastest adoption into the mainstream than any other technology in the domain.

IF we talk about on the context of IBM Cloud, this cloud platform provides us so many benefits like Flexibility

Efficiency, Strategic value, Flexibility, Efficiency, Strategic value, Infrastructure and workloads, Speed and productivity, Risk exposure

IBM Bluemix is a cloud platform as a service developed by IBM. It supports several programming languages and services as well as integrated DevOps to build, run, deploy and manage applications on the cloud. So, we haven’t faced any issue with programming language structure and we are able to deploy our java project within few minutes and it provide us a great experience that how to host your project effectively on the cloud.

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# Thank You..