

GROUP 16 - CASA

TEAM MEMBERS:

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Introduction

CASA is a house and apartment search application designed to simplify the process of finding your dream home. One of the key challenges we addressed in developing CASA was enabling users to search unstructured property data in natural language and receive meaningful search results containing homes that match their preferences.

For example, consider the following unstructured property data: "This is a beautiful 5 bedroom 4 bathroom house for sale in the city of Carrollton in zip code 75007 with the primary bedroom on the first floor."

Assuming that the property description contains valid and accurate data. The user should be able to search with a search query like this. I am looking for a 5 bed 4 bath house of sale in Carrollton with master bed on ground floor

CASA's intelligent search system parses and understands such natural language queries, allowing users to search for homes based on specific criteria like the number of bedrooms, bathrooms, location, and features. By leveraging advanced algorithms, CASA delivers accurate and relevant search results, helping users find homes that meet their unique preferences and needs.

Features

- 1. Ability to search:** Users can search for homes based on specific criteria such as number of bedrooms, bathrooms, location, and features. CASA's intelligent search system parses natural language queries to deliver accurate and relevant search results.
- 2. Show the homes in Google Maps:** CASA provides an integrated Google Maps feature that displays the location of homes listed in the search results. Users can visualize the geographical distribution of available homes and explore their surroundings directly within the application.
- 3. Ease of Access:** Many UI changes are made to the homepage to make it more Intuitive and with subtle animations.
 - Glowing Search bar indicating the power of the natural language search
 - Making the search process much simpler and without the need for annoying checkboxes or cluttered UI which needs some familiarity to get started.

Installation

To install and deploy the project, follow these steps:

1. Clone the repository: `git clone https://github.com/Nithish-kumar-11/Group16-CASA.git`
2. Navigate to the project directory: `cd Group16-CASA`
3. Create the database: `CREATE DATABASE csce5430_db;`
4. Create a user with username and password: `CREATE USER 'local_user'@'localhost' IDENTIFIED BY 'password';`
5. Build the project: `▶ gradle build`
6. Run the project: `▶ gradle run`

Screenshots

GitHub Repo

The screenshot shows the GitHub repository page for 'Group16-CASA'. At the top, there's a header with navigation icons, a search bar, and a 'Relaunch to update' button. Below the header, the repository name 'Nithish-kumar-11 / Group16-CASA' is displayed, along with links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, and Insights. The main content area shows the repository structure: 'main' branch (1 commit), '1 Branch', '0 Tags'. It lists three commits: 'Add files via upload' by Nithish-kumar-11 (498fd08, 53 minutes ago), 'Add files via upload' by csce5430 (53 minutes ago), and 'Initial commit' (3 weeks ago). Below the commits is a 'README' section containing the text 'Group16-CASA'. To the right of the code area, there's an 'About' section with a note 'No description, website, or topics provided.', followed by 'Readme', 'Activity', 'Stars', 'Watching', 'Forks', and a 'Report repository' link. Further down are sections for 'Releases' (no releases published) and 'Packages' (no packages published). A 'Suggested workflows' section at the bottom suggests 'Scala' and 'Java with Ant'.

Project Structure

CSCE-5430-main 2 [CSCE-5430-main] ~/Downloads

... .idea

.gitignore

.name

misc.xml

modules.xml

workspace.xml

CSCE-5430-main

.settings

bin

src

main

java

csce5430

controller

model

repository

util

Csce5430Application.java

Project > **resources**

eclipse-workspace - csce-5430/src/main/resources/application.properties - Eclipse IDE

File Edit Navigate Search Project Run Window Help

New Alt+Shift+N > irchQueryParser.java README.md Property.java SearchQueryParser.java AppController.class application.properties

Open File... Ctrl+S

Open Projects from File System... Ctrl+Shift+W

Recent Files Ctrl+Shift+S

Close Editor Ctrl+W

Close All Editors Ctrl+Shift+W

Save Ctrl+S

Save As... Ctrl+Shift+S

Save All Ctrl+Shift+S

Revert

Move... F2

Rename... F2

Refresh F5

Convert Line Delimiters To

Print... Ctrl+P

Import... Import

Export...

Properties Alt+Enter

Switch Workspace

Restart

Exit

Csce5430Application.java

- resources
- templates
- application.properties

target pom.xml README.md

2024-04-18 22:02:07.749 INFO 17704 --- [restartedMain] csce5430.Csce5430Application : Starting Csce5430Application using Java 21.0.1 on DI

2024-04-18 22:02:07.749 INFO 17704 --- [restartedMain] csce5430.Csce5430Application : No active profile set, falling back to default profi

2024-04-18 22:02:07.834 INFO 17704 --- [restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA repositories in DEFAU

2024-04-18 22:02:07.836 INFO 17704 --- [restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 1 ms. Fc

2024-04-18 22:02:07.881 INFO 17704 --- [restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8080 (http)

2024-04-18 22:02:07.882 INFO 17704 --- [restartedMain] o.apache.catalina.core.StandardService : Starting service [Tomcat]

2024-04-18 22:02:07.892 INFO 17704 --- [restartedMain] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.48]

2024-04-18 22:02:07.898 INFO 17704 --- [restartedMain] w.s.c.ServletWebServerApplicationContext : Initializing Spring embedded WebApplicationContext

2024-04-18 22:02:07.914 INFO 17704 --- [restartedMain] o.hibernate.jpa.internal.util.LogHelper : HHH000204: Processing PersistenceUnitInfo [name: de]

2024-04-18 22:02:07.917 INFO 17704 --- [restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-10 - Starting...

2024-04-18 22:02:07.927 INFO 17704 --- [restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-10 - Start completed.

2024-04-18 22:02:07.937 INFO 17704 --- [restartedMain] org.hibernate.dialect.Dialect : HHH000400: Using dialect: org.hibernate.dialect.MyS

2024-04-18 22:02:07.937 INFO 17704 --- [restartedMain] o.h.e.t.j.p.i.JtaPlatformInitiator : HHH000490: Using JtaPlatform implementation: [org.hi

2024-04-18 22:02:07.970 WARN 17704 --- [restartedMain] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence

2024-04-18 22:02:08.008 INFO 17704 --- [restartedMain] o.s.b.d.a.OptionalLiveReloadServer : JpaBaseConfiguration\$JpaWebConfiguration : spring.jpa.open-in-view is enabled by default. There

2024-04-18 22:02:08.014 INFO 17704 --- [restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : LiveReload server is running on port 35729

2024-04-18 22:02:08.016 INFO 17704 --- [restartedMain] csce5430.Csce5430Application : Tomcat started on port(s): 8080 (http) with context

2024-04-18 22:02:08.017 INFO 17704 --- [restartedMain] csce5430.Csce5430Application : Started Csce5430Application in 0.279 seconds (JVM ri

2024-04-18 22:02:08.017 INFO 17704 --- [restartedMain] .ConditionEvaluationDeltaLoggingListener : Condition evaluation unchanged

File Edit Navigate Search Project Run Window Help

Project Explorer X

CSCE-5430-main

- src/main/java
 - csce5430
 - csce5430.controller
 - AppController.java
 - AppController
- src/main/resources
- JRE System Library [jdk-21]
- Maven Dependencies
- src
 - main
 - java
 - csce5430
 - controller
 - model
 - repository
 - util
 - Csce5430Application.java
 - resources
 - templates
 - application.properties
- target pom.xml README.md

1.spring.jpa.hibernate.ddl-auto=update

2.spring.datasource.url= jdbc:mysql://3(MYSQL_HOST=localhost):3306/csce5200_db

3.spring.datasource.username=csce5200

4.spring.datasource.password=csce5200

5#spring.datasource.url

6#spring.jpa.show-sql: true

7

Select

Import existing Maven projects

Select an import wizard:

type filter text

Existing Maven Projects

- Install or deploy an artifact to a Maven repository
- Materialize Maven Binary Project
- Materialize Maven Projects from SCM

Oomph

Plug-in Development

Run/Debug

Tasks

Team

2024-04-18 22:02:07.749 INFO 17704 --- [restartedMain] org.apache.catalina.core.StandardEngine : Starting Csce5430Application using Java 21.0.1 on DI

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2024-04-18 22:02:07.970 WARN 17704 --- [restartedMain] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence

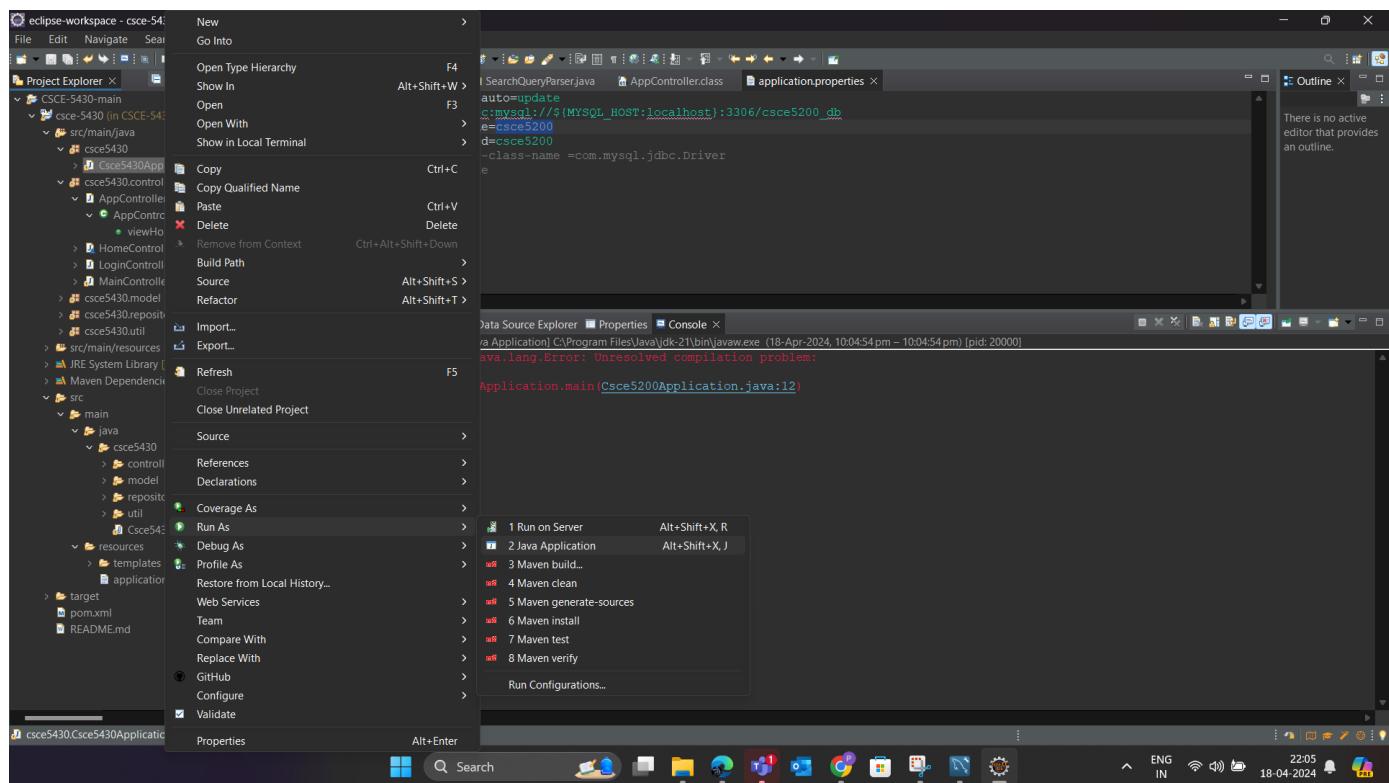
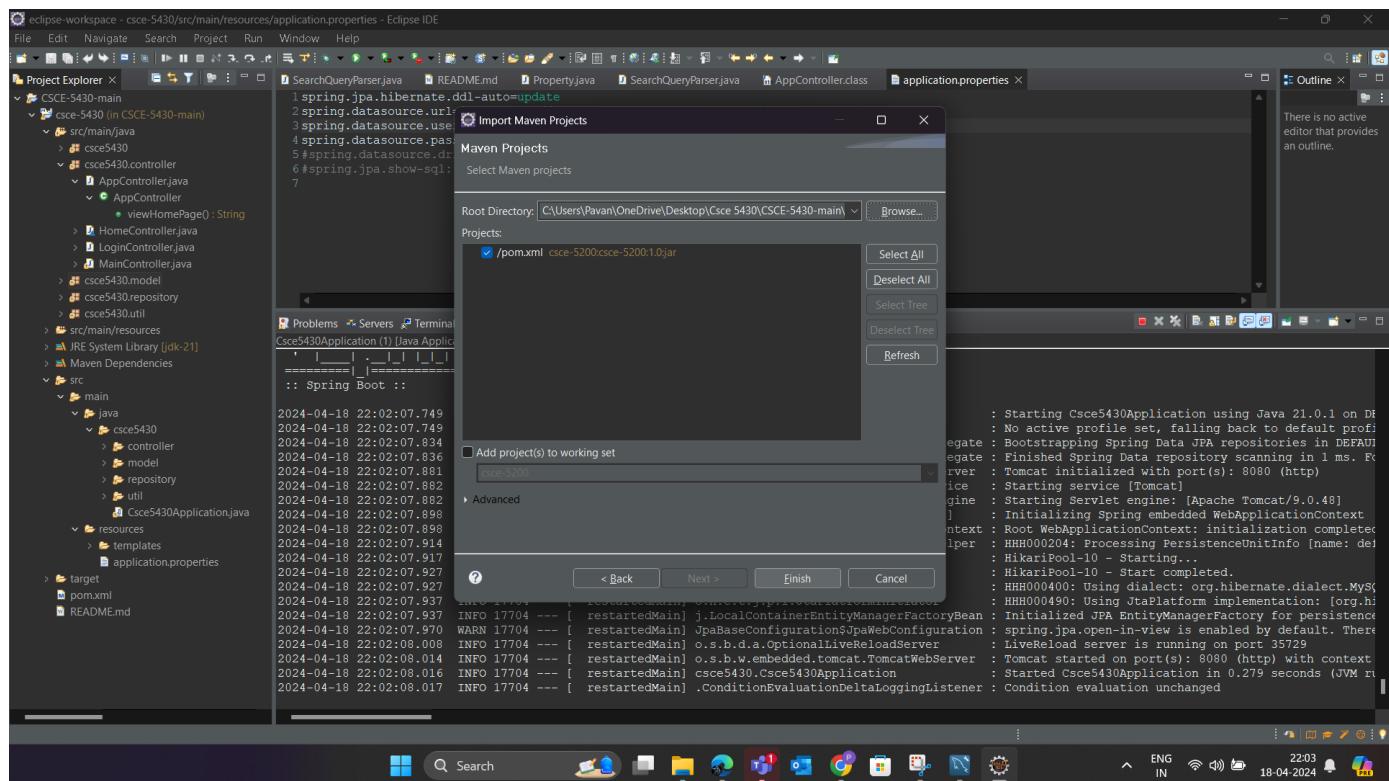
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2024-04-18 22:02:08.017 INFO 17704 --- [restartedMain] .ConditionEvaluationDeltaLoggingListener : Condition evaluation unchanged



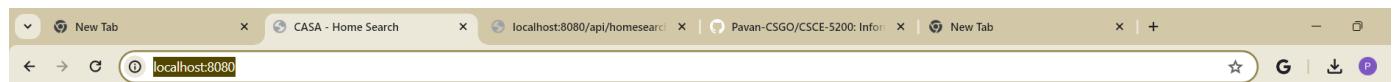
The screenshot shows the Eclipse IDE interface with the following details:

- Project Explorer:** Displays the project structure for "CSCE-5430-main".
- application.properties:** Content of the application properties file.
- Java Console:** Shows the log output from the application startup.

```
spring.jpa.hibernate.ddl-auto=update
spring.datasource.url=jdbc:mysql://(MySQL_HOST:localhost):3306/csce5200_db
spring.datasource.username=csce5200
spring.datasource.password=csce5200
#spring.datasource.driver-class-name =com.mysql.jdbc.Driver
spring.jpa.show-sql: true

```

```
2024-04-18 22:06:04.328 INFO 1504 --- [ restartedMain] csce5430.Csce5430Application : Starting Csce5430Application using Java 21.0.1 on DESKTOP-1D9F5C9
2024-04-18 22:06:04.331 INFO 1504 --- [ restartedMain] csce5430.Csce5430Application : No active profile set, falling back to default profile: dev
2024-04-18 22:06:04.424 INFO 1504 --- [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : Devtools property defaults active! Set 'spring.devtools.restart.enabled=true' for additional web related logging consider setting 'spring.devtools.restart.enabled=true'
2024-04-18 22:06:04.425 INFO 1504 --- [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : Bootstrapping Spring Data repository scanning in DEFAUL
2024-04-18 22:06:05.156 INFO 1504 --- [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 6 ms. For
2024-04-18 22:06:05.177 INFO 1504 --- [ restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data repository scanning in 6 ms. For
2024-04-18 22:06:05.975 INFO 1504 --- [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8080 (http)
2024-04-18 22:06:05.988 INFO 1504 --- [ restartedMain] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-04-18 22:06:05.988 INFO 1504 --- [ restartedMain] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.48]
2024-04-18 22:06:06.060 INFO 1504 --- [ restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2024-04-18 22:06:06.060 INFO 1504 --- [ restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed
2024-04-18 22:06:06.250 INFO 1504 --- [ restartedMain] o.h.b.internal.util.LogHelper : HHH000204: Processing PersistenceUnitInfo [name: defa
2024-04-18 22:06:06.250 INFO 1504 --- [ restartedMain] o.h.b.Version : HHH000412: Hibernate ORM core version 5.4.32.Final
2024-04-18 22:06:06.340 INFO 1504 --- [ restartedMain] o.h.b.annotations.common.Version : HCANN000001: Hibernate Commons Annotations (5.1.2.Fir
2024-04-18 22:06:06.413 INFO 1504 --- [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
2024-04-18 22:06:06.740 INFO 1504 --- [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start completed.
2024-04-18 22:06:06.763 INFO 1504 --- [ restartedMain] org.hibernate.dialect.Dialect : HHH000400: Using dialect: org.hibernate.dialect.MySQL
2024-04-18 22:06:07.085 INFO 1504 --- [ restartedMain] o.h.e.t.j.p.i.JtaPlatformInitiator : HHH000490: Using JtaPlatform implementation: [org.hib
2024-04-18 22:06:07.098 INFO 1504 --- [ restartedMain] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence
2024-04-18 22:06:07.218 WARN 1504 --- [ restartedMain] JpaBaseConfiguration$JpaWebConfiguration : spring.jpa.open-in-view is enabled by default. There
2024-04-18 22:06:07.541 INFO 1504 --- [ restartedMain] o.s.b.d.a.OptionalLiveReloadServer : LiveReload server is running on port 35729
2024-04-18 22:06:07.568 INFO 1504 --- [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context p
2024-04-18 22:06:07.576 INFO 1504 --- [ restartedMain] csce5430.Csce5430Application : Started Csce5430Application in 3.677 seconds (JVM ru
```



Home Page

Enter your search query

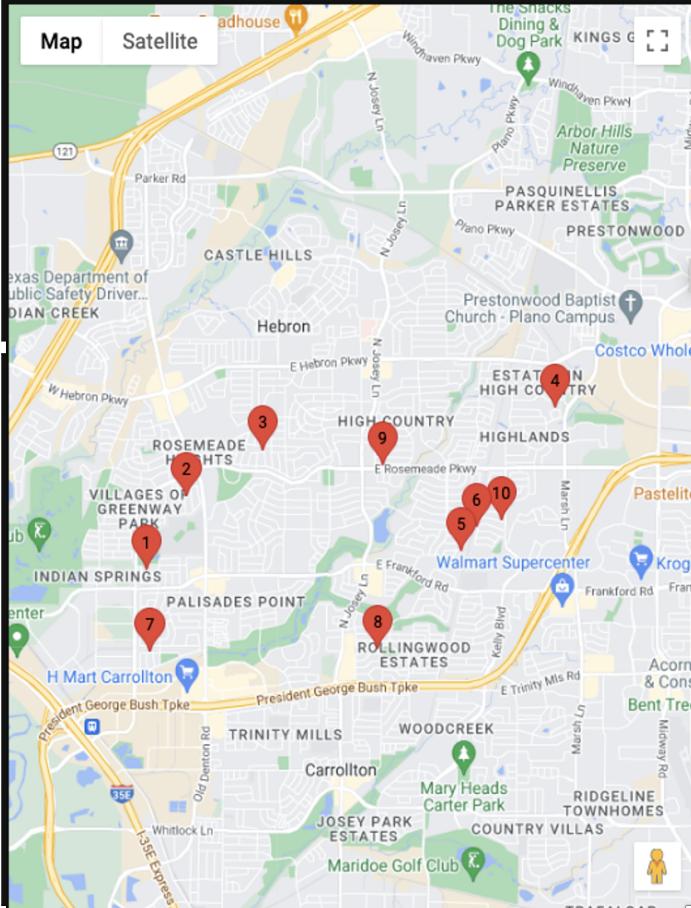
Search

**YOUR
ADVERTISEMENT
COULD BE
HERE**

Search

I am looking for 4 bed 3 bath house for Sale in carrollton with master on the ground floor

Search



Address: 3117 Glenmere Court Carrollton, TX 75007

Description: This is a 4 bedroom 4 bathroom house of sale in the city of Carrollton in zipcode 75007 with primary bedroom on first floor

Address: 2305 Sheffield Square Carrollton, TX 75007

Description: This is a 4 bedroom 4 bathroom house of sale in the city of Carrollton in zipcode 75007 with primary bedroom on first floor

No Spacing [3622 Field Stone Drive Carrollton, TX 75007](#)

Description: This is a 4 bedroom 4 bathroom house of sale in the city of Carrollton in zipcode 75007 with primary bedroom on first floor

Address: 1210 Dentonshire Drive Carrollton, TX 75007

Description: This is a 4 bedroom 4 bathroom house of sale in the city of Carrollton in zipcode 75007 with primary bedroom on first floor

Address: 1018 Kentwood Lane Carrollton, TX 75007

Description: This is a 4 bedroom 3 bathroom house of sale in the city of Carrollton in zipcode 75007 with primary bedroom on first floor

Address: 3739 Remington Drive Carrollton, TX 75007

Description: This is a 4 bedroom 3 bathroom house of sale in the city of Carrollton in zipcode 75007 with primary bedroom on first floor

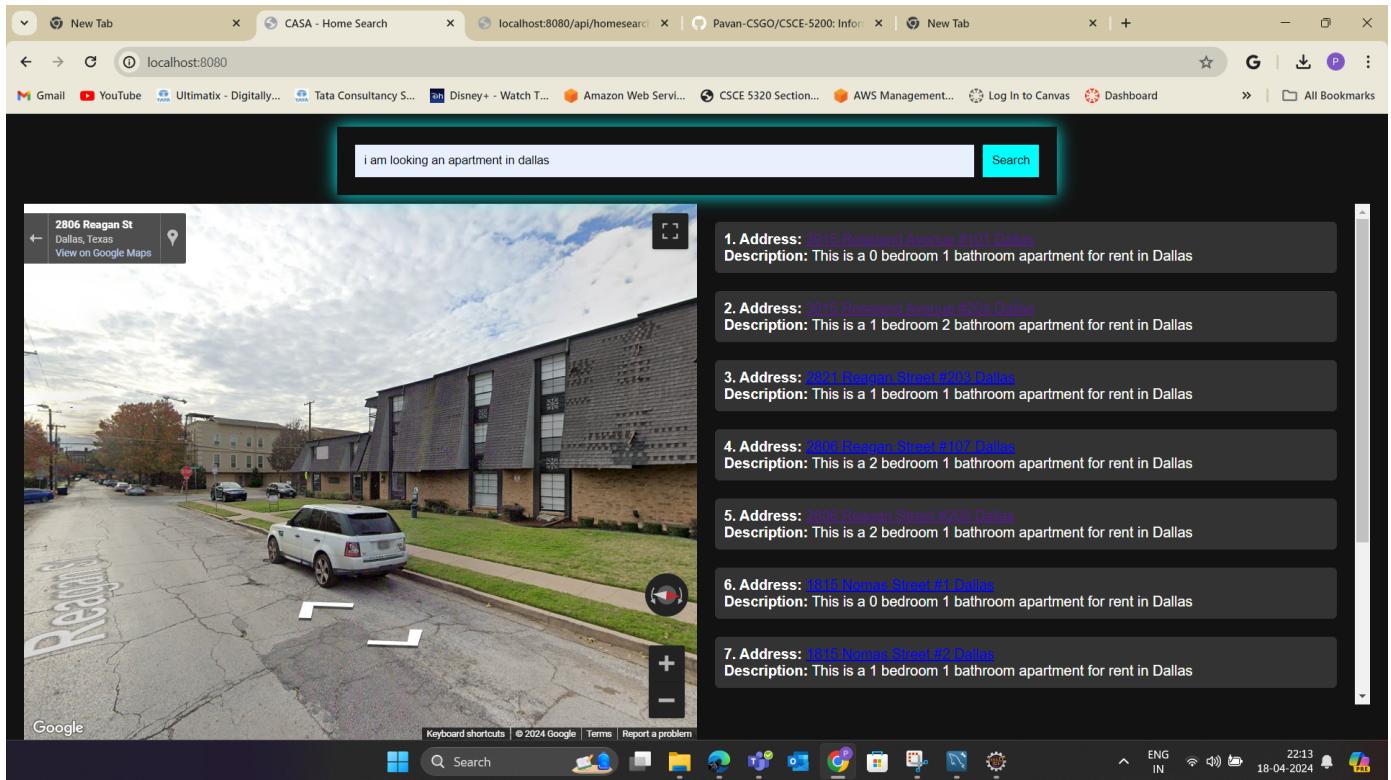
Address: 2828 Elk Grove Road Carrollton, TX 75007

Description: This is a 4 bedroom 2 bathroom house of sale in the city of Carrollton in zipcode 75007 with primary bedroom on first floor

Address: 3304 Sam Rayburn Run Carrollton, TX 75007

Description: This is a 4 bedroom 2 bathroom house of sale in the city of Carrollton in zipcode 75007 with primary bedroom on first floor

Result Page



Database

You will need this DB created within the mysql schema CREATE TABLE property (`ML_ID` int DEFAULT NULL, `Address` text, `Subdivision_Name` text, `SqFt` text, `Beds_Total` int DEFAULT NULL, `Bath_Total` int DEFAULT NULL, `Current_Price` text, `property_description` text, `full_address` text, `id` varchar(255) NOT NULL, `mls_id` varchar(255) DEFAULT NULL, `sq_ft` varchar(255) DEFAULT NULL, FULLTEXT KEY `property_description` (`property_description`)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci DB connection and configurations are `spring.jpa.hibernate.ddl-auto=update`
`spring.datasource.url=jdbc:mysql://${MYSQL_HOST}:3306/csce5200_db` `spring.datasource.username=your user name` `spring.datasource.password=your pass`

| Name | Engine | Version | Row Format | Rows | Avg Row Length | Data Length | Max Data Length | Index Length | Data Free | Auto Incr... |
|--------------------|--------|---------|------------|------|----------------|-------------|-----------------|--------------|-----------|--------------|
| dictionary | InnoDB | 10 | Dynamic | 10 | 1638 | 16.0 kB | 0.0 bytes | 16.0 kB | 0.0 bytes | 0 |
| hibernate_sequence | InnoDB | 10 | Dynamic | 0 | 0 | 16.0 kB | 0.0 bytes | 0.0 bytes | 0.0 bytes | 0 |
| property | InnoDB | 10 | Dynamic | 234 | 350 | 80.0 kB | 0.0 bytes | 16.0 kB | 0.0 bytes | 0 |
| user | InnoDB | 10 | Dynamic | 0 | 0 | 16.0 kB | 0.0 bytes | 0.0 bytes | 0.0 bytes | 0 |

| Table | Column | Type | Default Value | Nullable | Character Set | Collation | Privileges | Extra |
|--------------------|----------------------|--------------|---------------|----------|---------------|------------------|---------------------------------|-------|
| dictionary | id | varchar(255) | | NO | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| dictionary | word | varchar(255) | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| dictionary | words | varchar(255) | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| dictionary | keyword | varchar(255) | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| hibernate_sequence | next_val | bigint | | YES | | | select,insert,update,references | |
| property | SEQ_Num | int | | YES | | | select,insert,update,references | |
| property | MLS_ID | int | | YES | | | select,insert,update,references | |
| property | Address | text | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| property | Subdivision_Name | text | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| property | square_feet | text | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| property | Beds_Total | int | | YES | | | select,insert,update,references | |
| property | Bath_Total | int | | YES | | | select,insert,update,references | |
| property | Current_Price | text | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| property | property_description | text | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| property | full_address | text | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| user | id | varchar(255) | | NO | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| user | email | varchar(255) | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| user | first_name | varchar(255) | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| user | last_name | varchar(255) | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| user | password | varchar(255) | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| user | role | varchar(255) | | YES | utf8mb4 | utf8mb4_0900_... | select,insert,update,references | |
| user | score | int | | YES | | | select,insert,update,references | |

| Table | Name | Unique | Index... | Index Comment | Column | Seq In Index | Packed | Collat... | Car... |
|------------|----------------------|--------|----------|---------------|---------------------|--------------|--------|-----------|--------|
| dictionary | PRIMARY | Yes | BTREE | | id | 1 | A | 10 | |
| dictionary | words | No | FULLT... | | words | 1 | | 10 | |
| property | property_description | No | FULLT... | | property_descrip... | 1 | | 254 | |
| user | PRIMARY | Yes | BTREE | | id | 1 | A | 0 | |

eclipse-workspace - Eclipse IDE 2024-04-18 23-05-40.mp4