



NEWS NEST

AN ANDROID APP FOR KEEPING UP WITH THE LATEST HEADLINES

PROJECT BASED EXPERIENTIAL LEARNING PROGRAM

OUR TEAM

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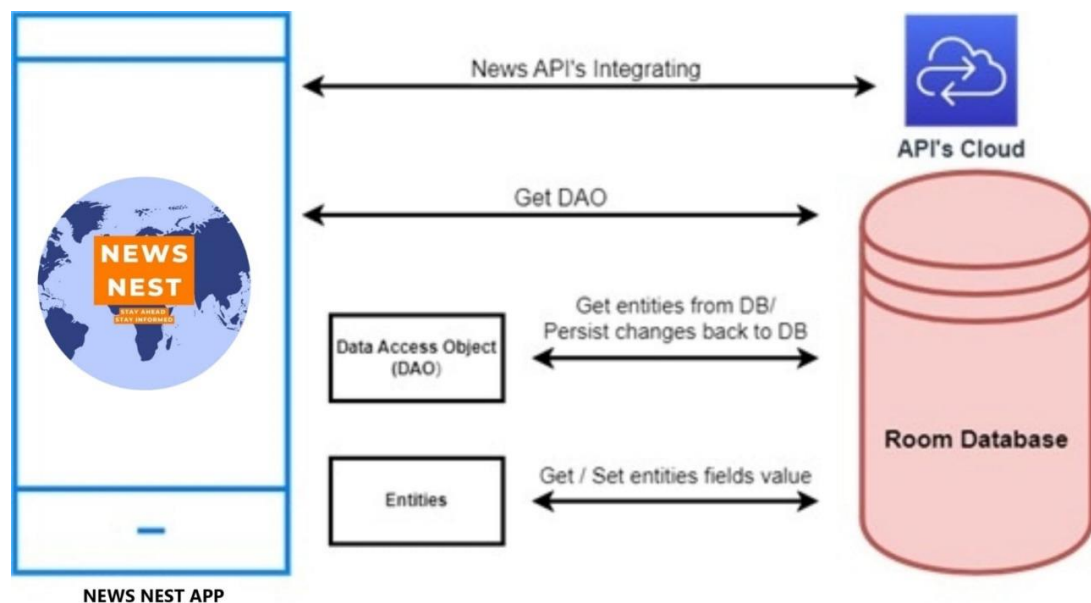
ALLU DEVA SAI VISHNU VARDHAN

NEWS NEST

AN ANDROID APPLICATION FOR KEEPING UP WITH THE LATEST HEADLINES

The app's main feature is displaying a list of news articles, each with a title, image, and brief description. Users can scroll through the list of articles and tap on an article to view more details. The app uses the Jetpack Compose UI toolkit to build the UI and it uses the coil library to load images. The app fetches data from a remote server using Retrofit library and demonstrates how to use the Jetpack Compose UI toolkit for Android development.

ARCHITECTURE



Learning Outcomes :

By end of this project:

- You'll be able to work on ANDROID STUDIO and build an APP.
- You'll be able to integrate the database accordingly.
- You'll be able to integrate the NewsAPI's accordingly.

Project Workflow:

- Users register into the application.
- After registration, user logs into the application.
- User enters into the main page.
- User sees top and latest headlines in news cards.
- User clicks on news card to see the news article image, news title and news content in short and sweet manner.
- User can see **READ FULL ARTICLE** Button at the bottom of news content if user wants to read the complete article, they would be redirected to a payment page for the article and if they wish to pay, they are redirected to the complete news article.
- User can buy subscriptions from our **PREMIUM PLANS** in the main page's hamburger menu and if they wish to pay, they can read any number of complete news articles up to a speculated period. There is also a free trail for a week for them to get the experience of our premium plans.
- Suppose if a user forgot their password and is unable to login, they can click on the **RETRIEVE ACCOUNT** and retrieve their password by entering their **USERNAME** & registered **E-MAIL**.
- If are still unable to recover they can reset the password using either their registered **E-MAIL** or **USERNAME**.

Tasks:

- 1.Required initial steps
- 2.Creating a new project
- 3.Adding required dependencies
- 4.Adding permissions
- 5.Creating the database classes
- 6.Creating API Service and required classes for integrating API
- 7.Building application UI and connecting to database
- 8.Modifying AndroidManifest.xml
- 9.Running the application

Task 1 :

Required initial steps :

INSTALL and SETUP ANDROID STUDIO

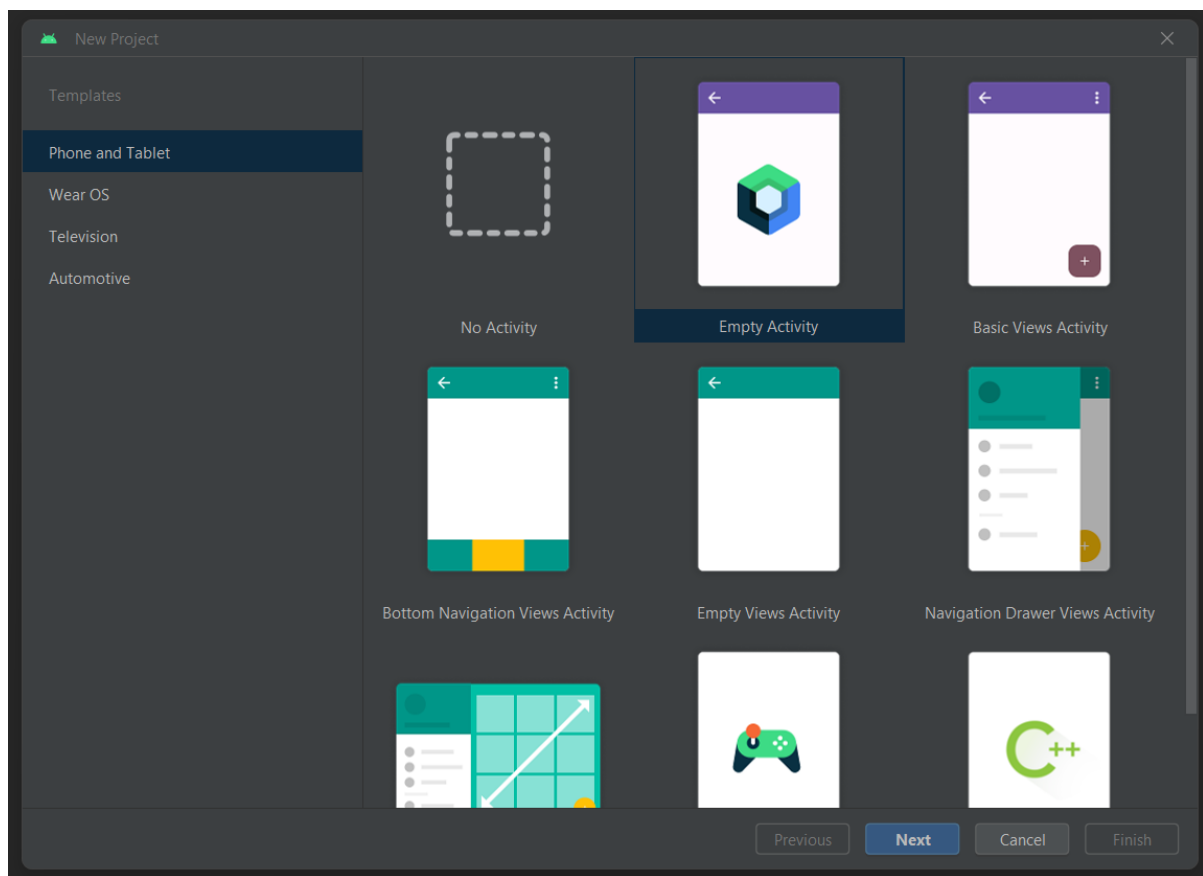
<https://developer.android.com/studio/install>

Task 2 :

Creating a new project.

Step 1 : Android studio > File > New > New Project > Empty Compose Activity

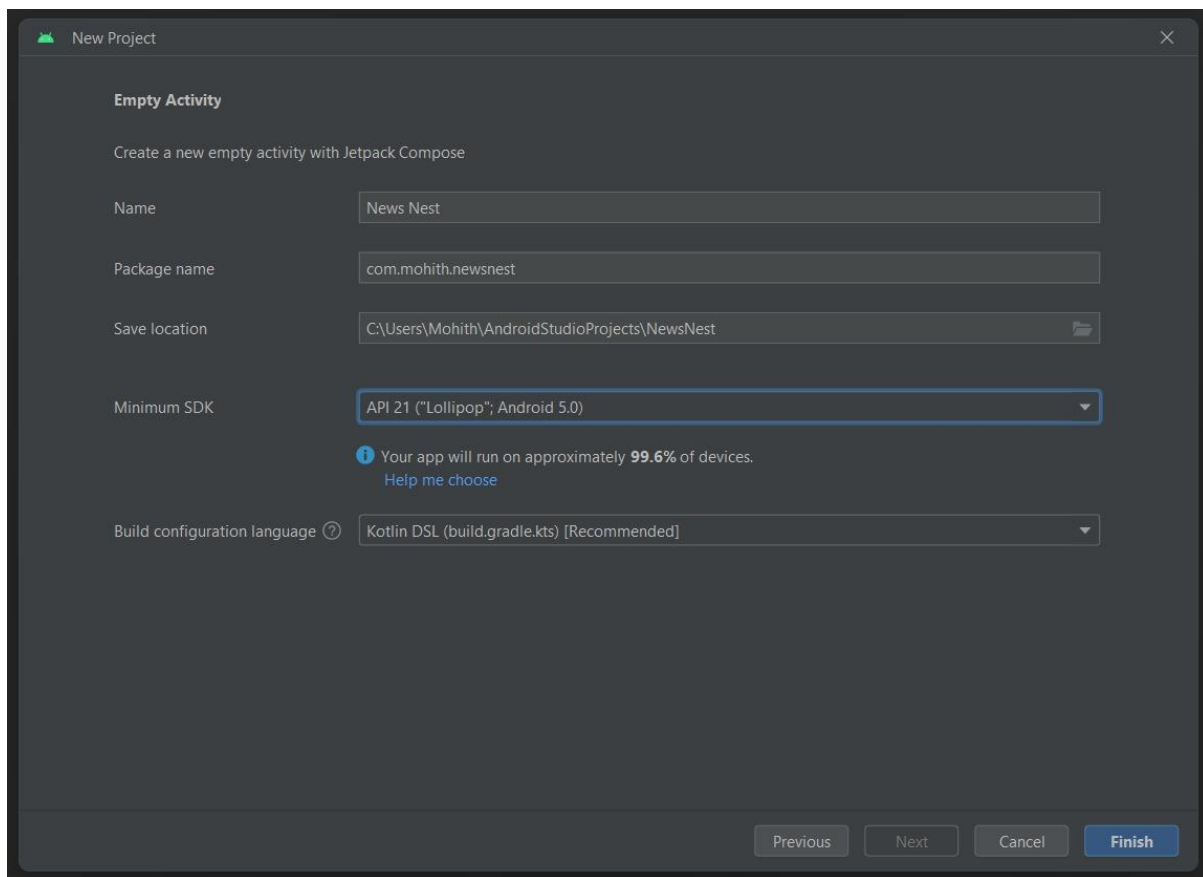
Step 2 : Click on **Next** button



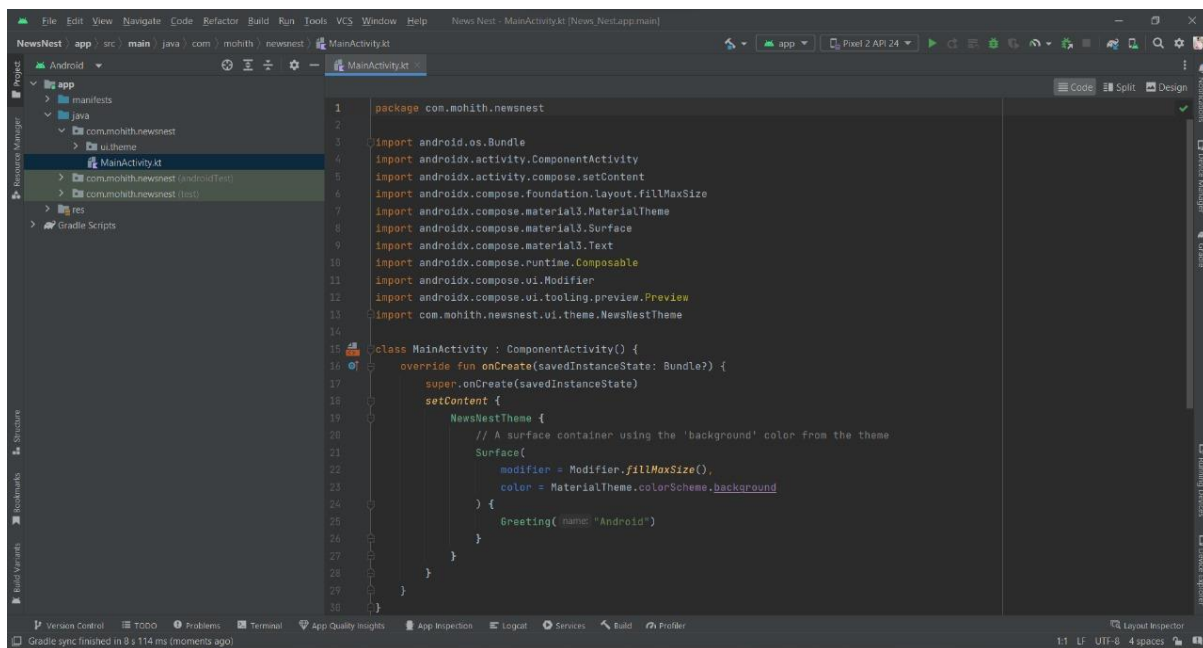
Step 3 : Give name (Ours was News Nest) to the new project.

Step 4 : Give the Minimum SDK value.

Step 5 : Click Finish.



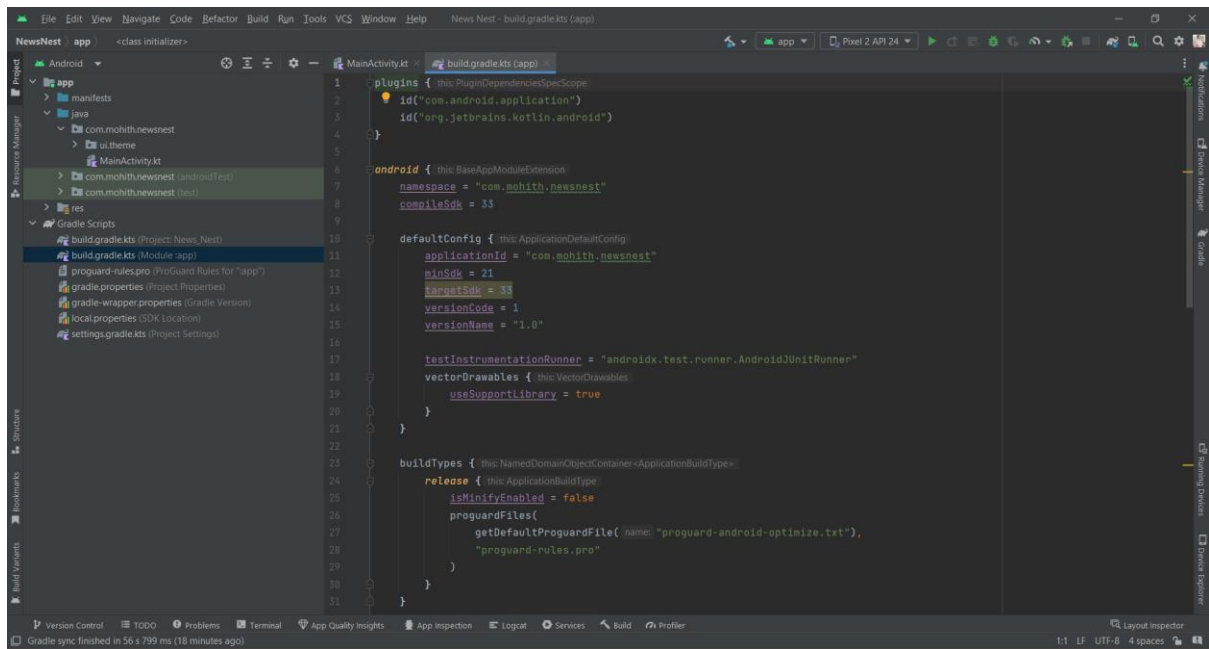
FILE MainActivity.kt



Task 3 :

Adding required dependencies.

Step 1 : GOTO Gradle scripts > build.gradle.kts (Module :app)



Step 2 : Adding required dependencies.

```
// Self-Implementation

//Navigation Dependencies
implementation("androidx.navigation:navigation-compose:2.7.5")
implementation("androidx.navigation:navigation-runtime-ktx:2.7.5")
implementation("androidx.lifecycle:lifecycle-viewmodel-compose:2.6.2")

// Room Database Dependencies
implementation("androidx.room:room-common:2.6.0")
implementation("androidx.room:room-ktx:2.6.0")

// Work Manager Dependencies
implementation("androidx.work:work-runtime-ktx:2.8.1")

// Retrofit Dependencies
implementation("com.squareup.retrofit2:retrofit:2.9.0")
implementation("com.squareup.okhttp3:okhttp:5.0.0-alpha.2")
implementation("com.squareup.retrofit2:converter-gson:2.9.0")

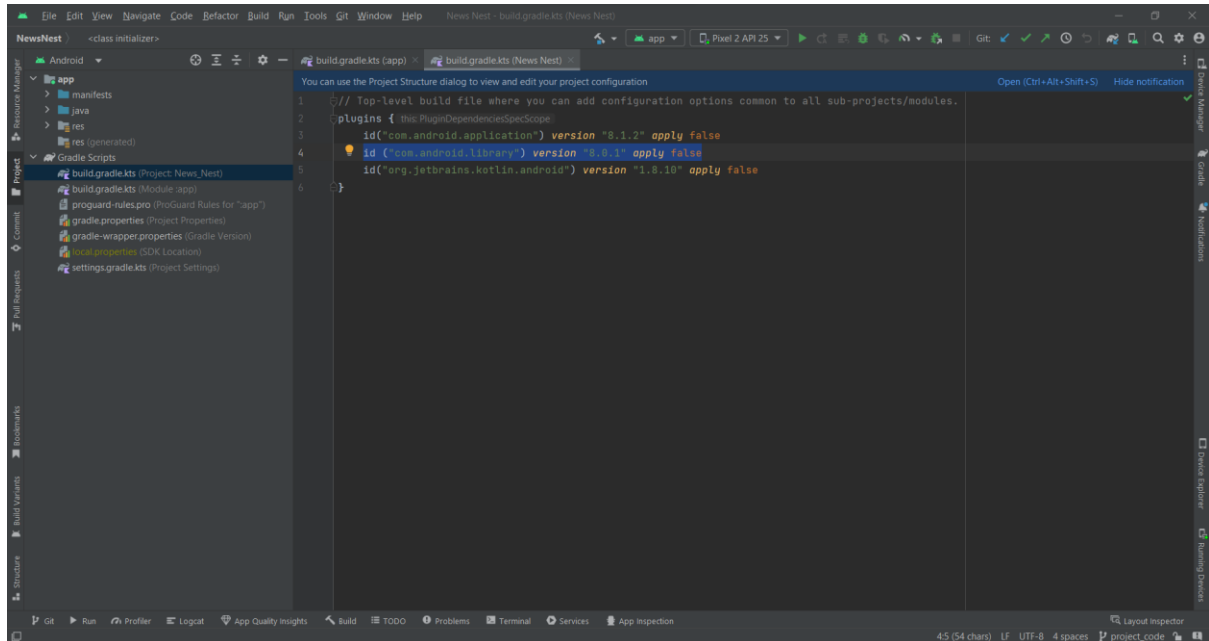
// Coil Dependencies
implementation("io.coil-kt:coil-compose:1.4.0")

// Firebase Dependencies
implementation("com.google.firebase:firebase-messaging:23.3.1")
```

Step 3 : Click on **Sync** now.

Step 4 : GOTO Gradle scripts > build.gradle.kts (Project: News_Nest)

Step 5 : ADD id ("com.android.library") version "8.0.1" apply false.



Step 6 : Click on **Sync** now.

Task 4 :

Adding PERMISSIONS.

Step 1: OPEN AndroidManifest.xml.

Step 2: ADD **Required Permissions**.

```
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.ACCESS_WIFI_STATE" />
<uses-permission android:name="android.permission.WAKE_LOCK" />
<uses-permission android:name="android.permission.POST_NOTIFICATIONS" />
```

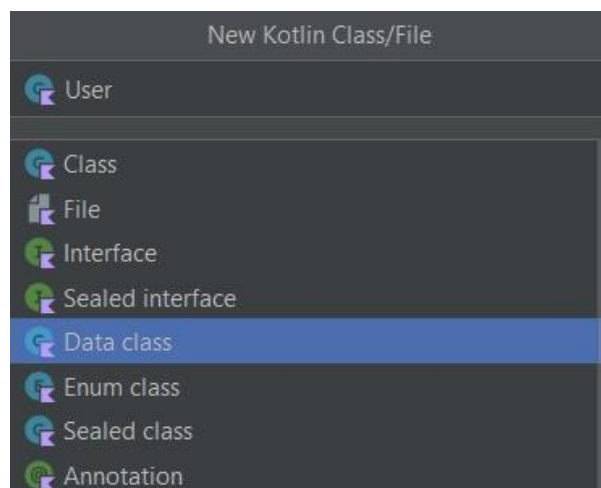
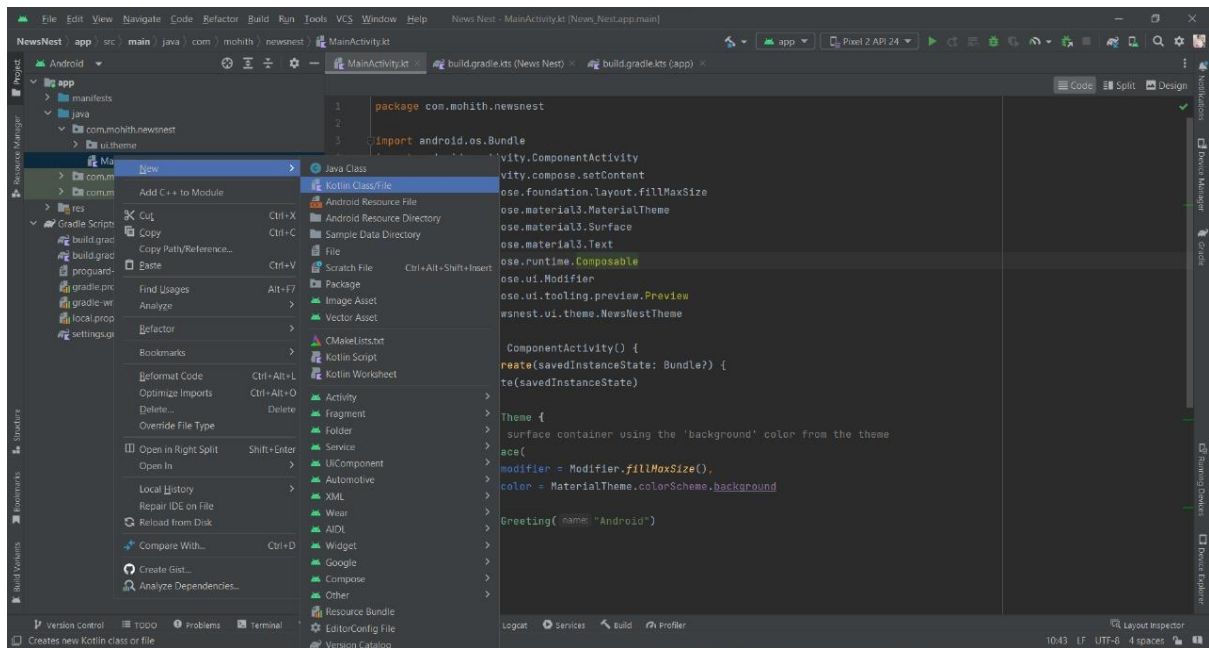
Task 5 :

Creating the database classes.

- To learn more about Database follow this link:

<https://gorillalogic.com/blog/android-room-tutorial-simplifying-how-you-work-with-app-da-ta/>

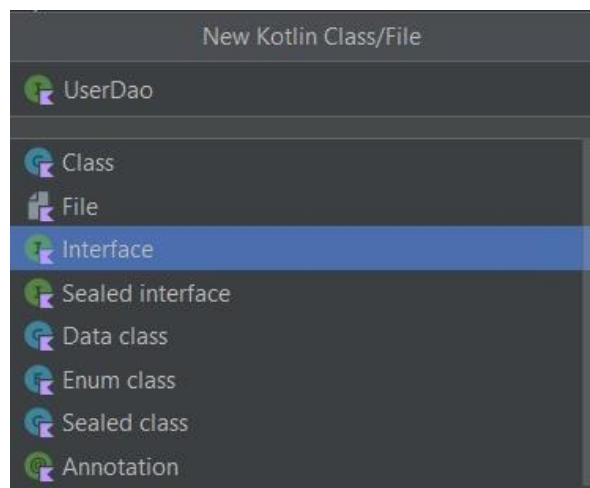
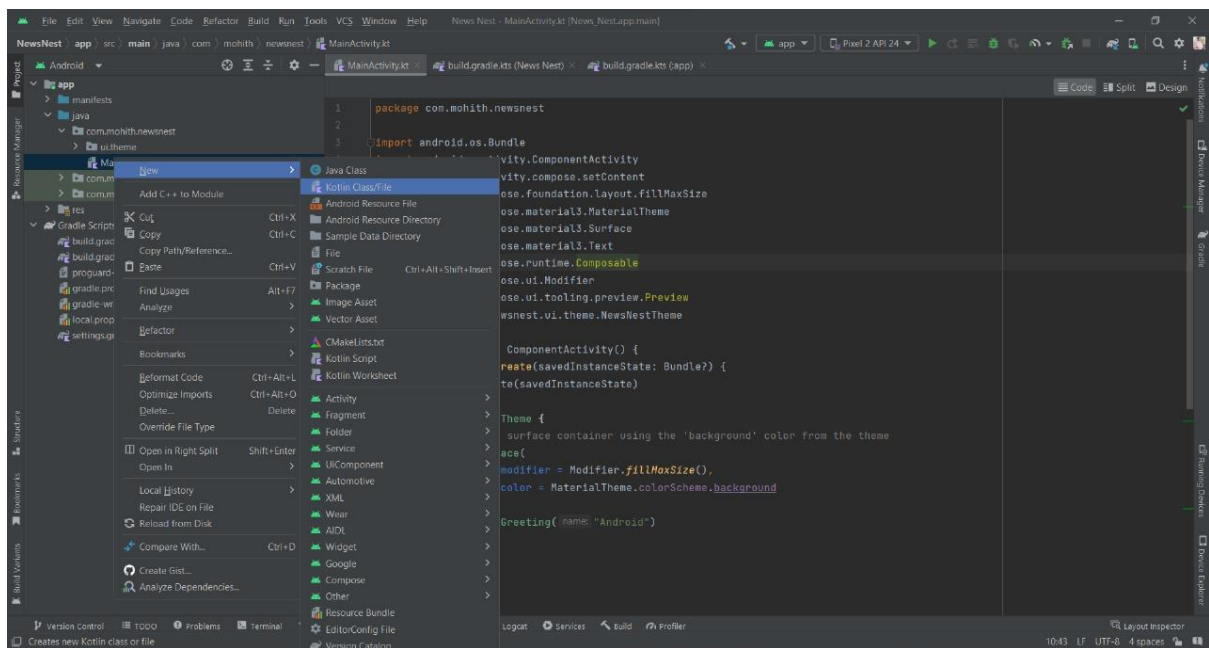
Step 1 : Create User DATA CLASS.



User DATA CLASS CODE :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/User.kt>

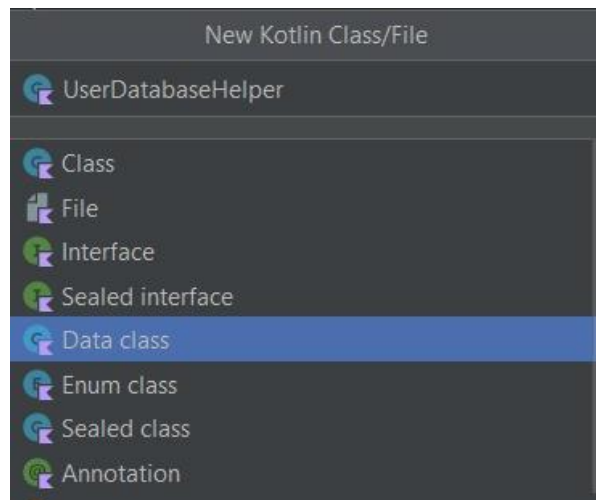
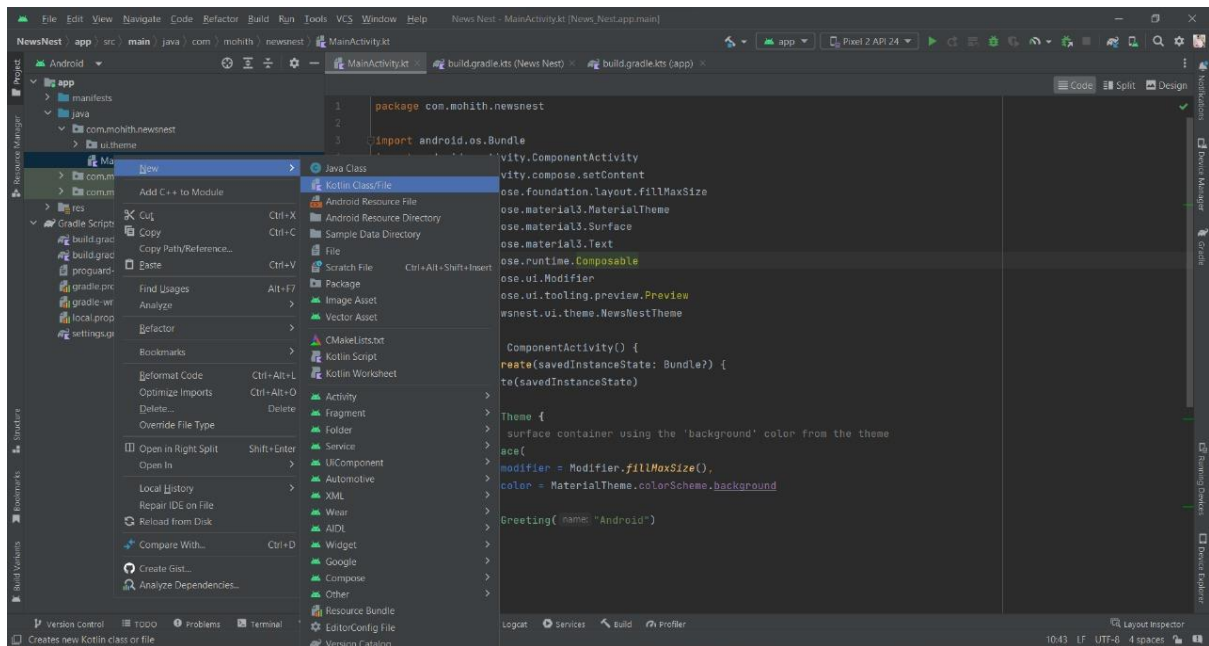
Step 2 : Create an UserDao INTERFACE.



UserDao INTERFACE CODE :

<https://github.com/smartinternz02/Sl-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/UserDao.kt>

Step 3 : Create an UserDatabaseHelper DATA CLASS.



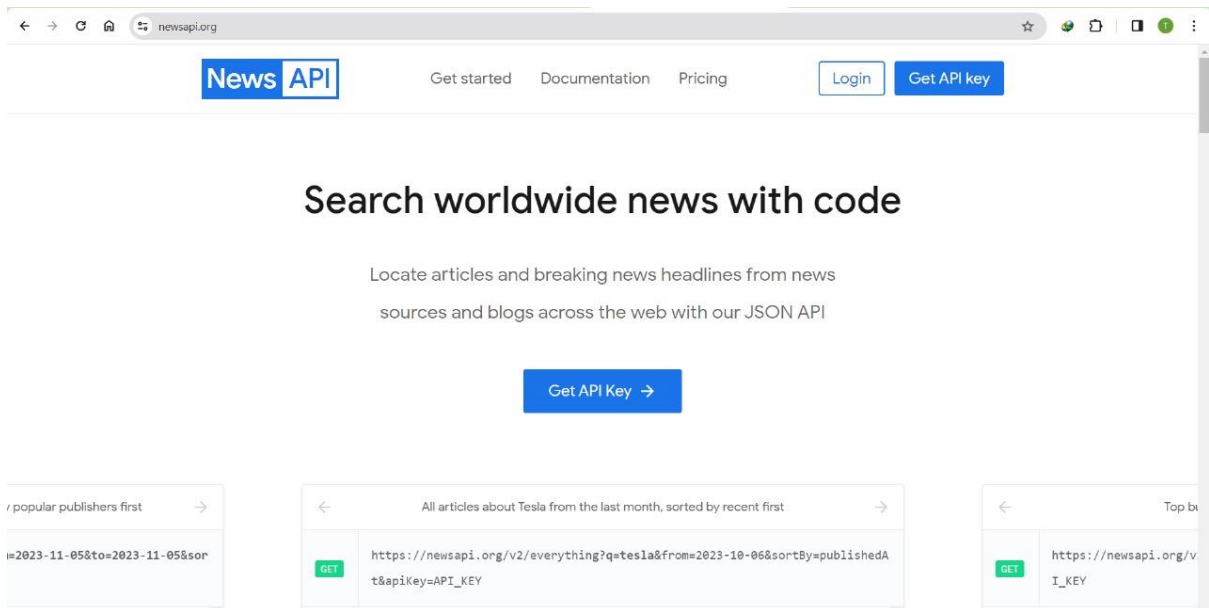
UserDatabaseHelper DATA CLASS CODE :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/UserDatabaseHelper.kt>

Task 6 :

Creating API Service and required classes for integrating with NewsAPI.

Step 1 : Create a API key for the required API.



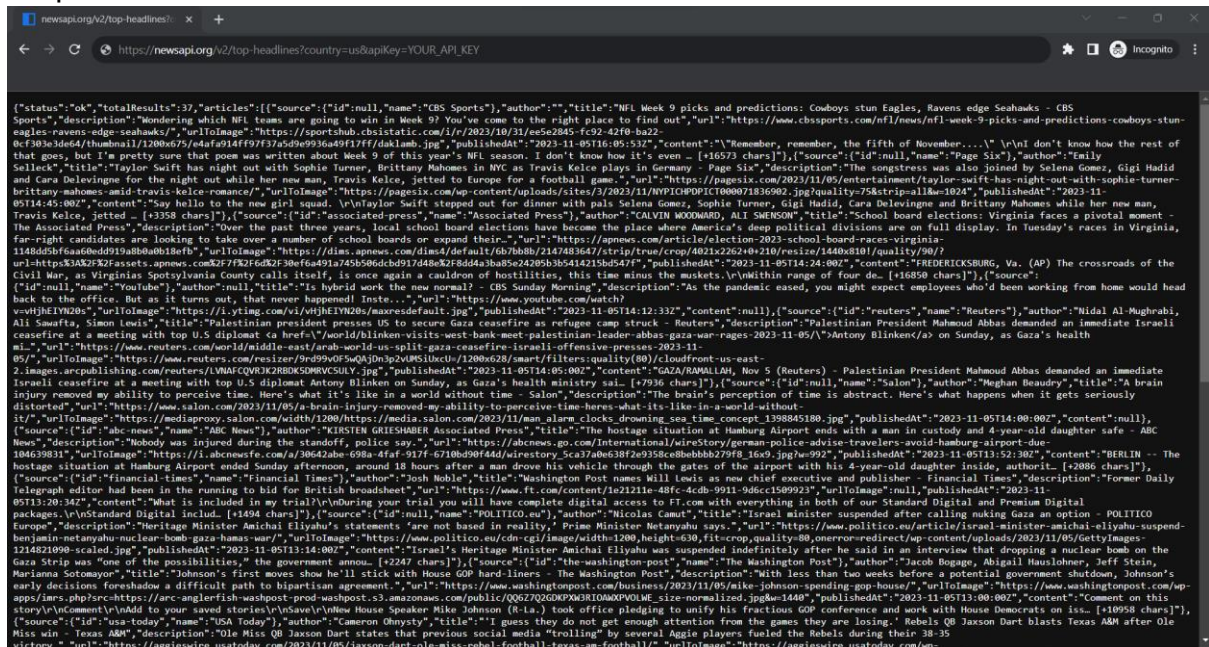
Step 2 : LOGIN and get your API KEY.

Step 3 : GOTO Documentation section and Top Headlines section within Documentation section.

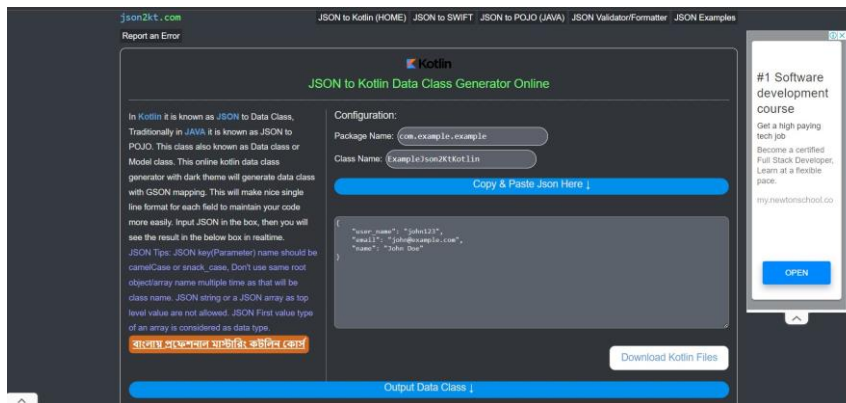
Step 4 : COPY LINK

https://newsapi.org/v2/top-headlines?country=us&apiKey=YOUR_API_KEY

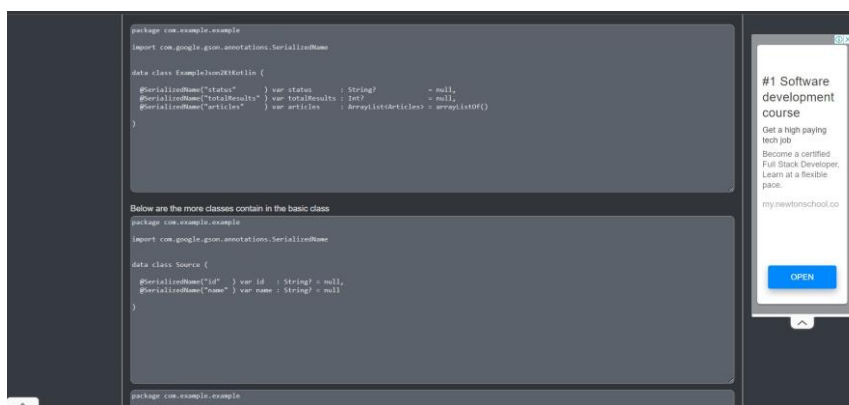
Step 5 : CHECK the link on browser.



Step 6 : Copy and paste the complete JSON file to json2kt.com.



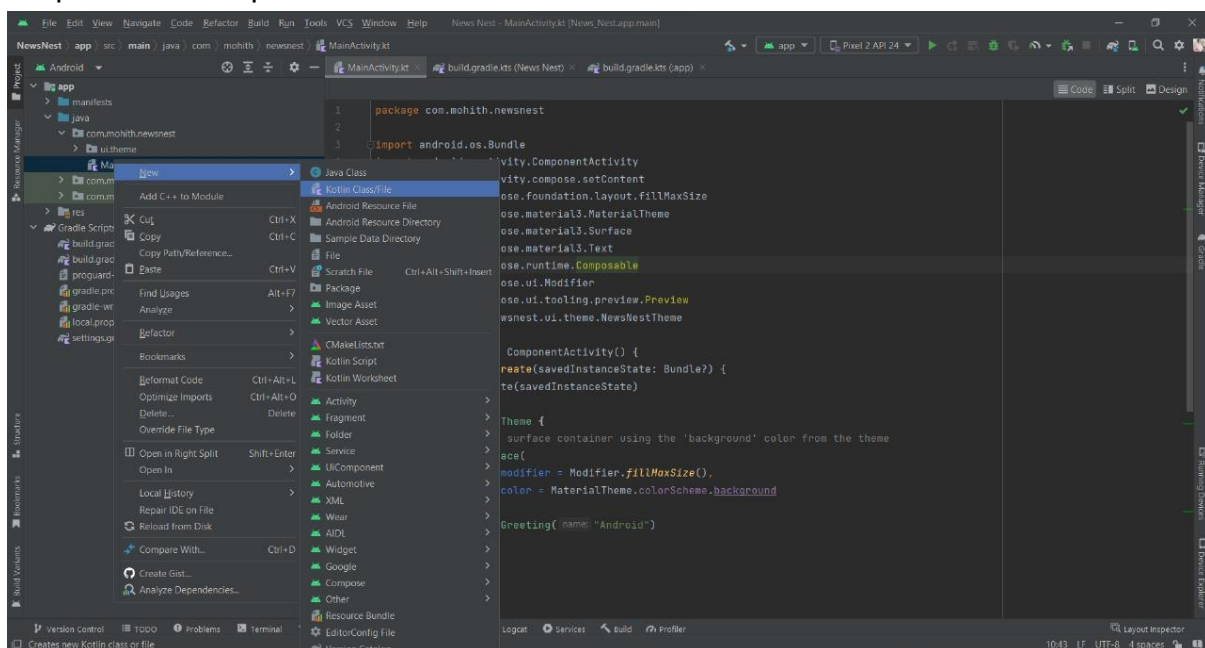
Step 7 : Click on Output DATA CLASS.

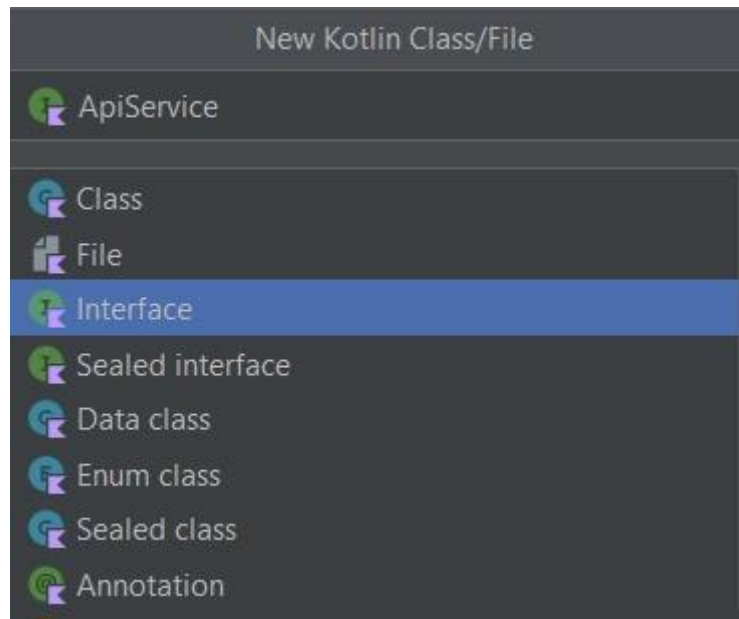


Step 8 : Now use this classes in ANDROID STUDIO.

DATABASE FOR NEWS INTEGRATION INTO PROJECT

Step 9 : Create ApiService INTERFACE.

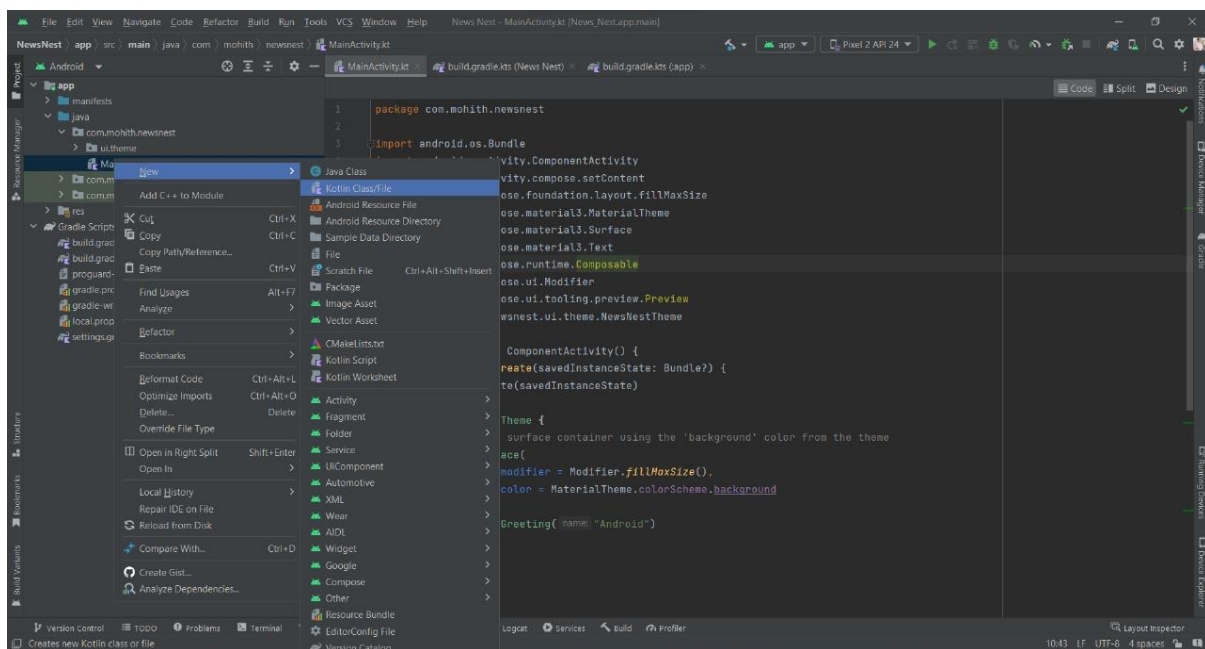


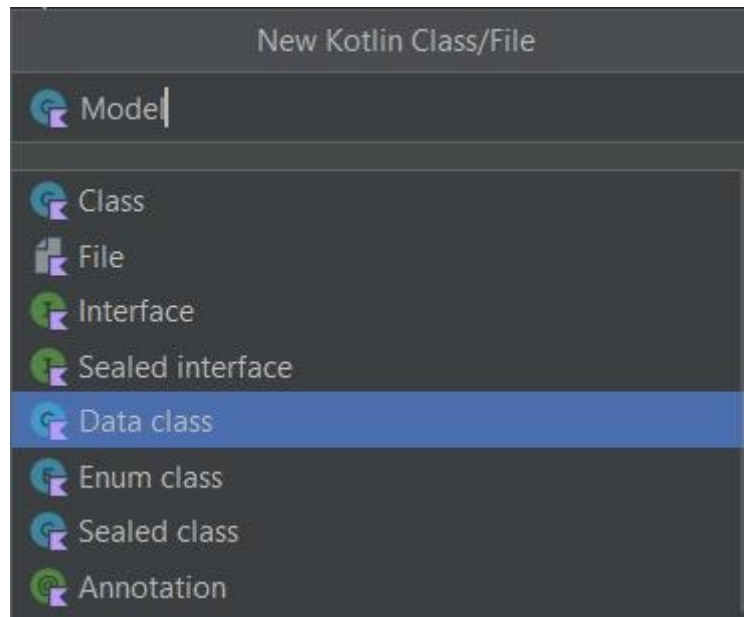


ApiService INTERFACE CODE :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/ApiService.kt>

Step 10 : Create Model DATA CLASS.

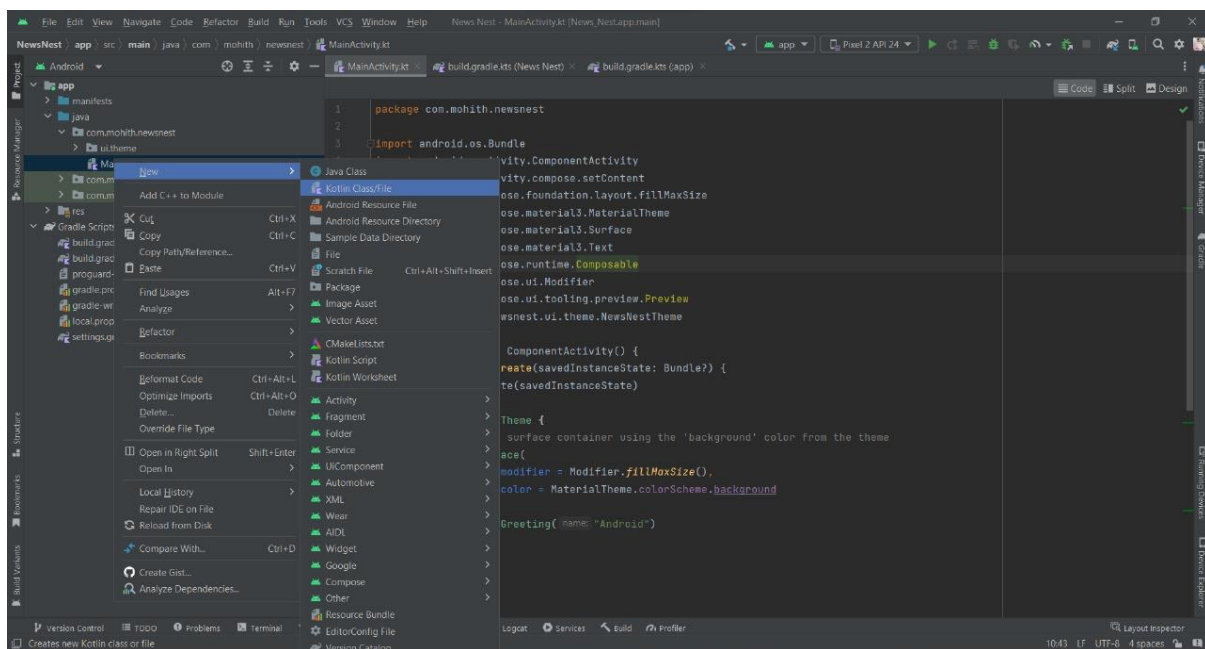


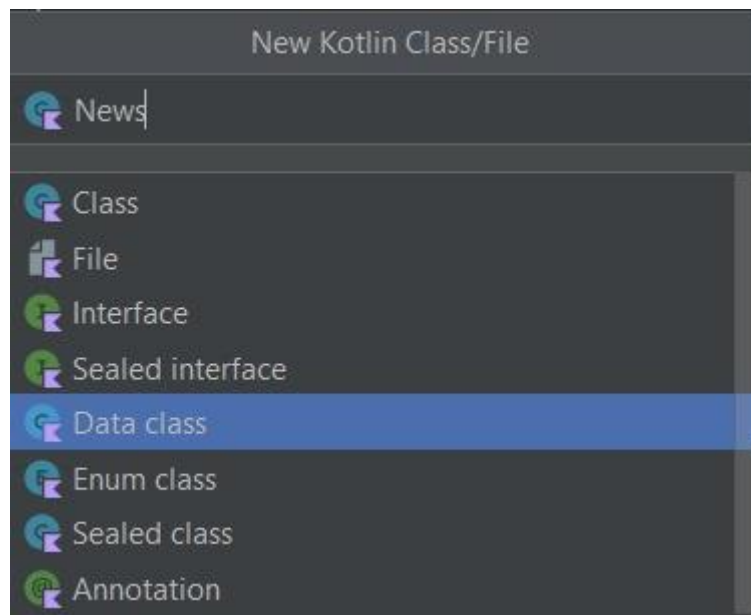


Model DATA CLASS CODE :

<https://github.com/smartinternz02/Sl-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/Model.kt>

Step 11 : Create News DATA CLASS.

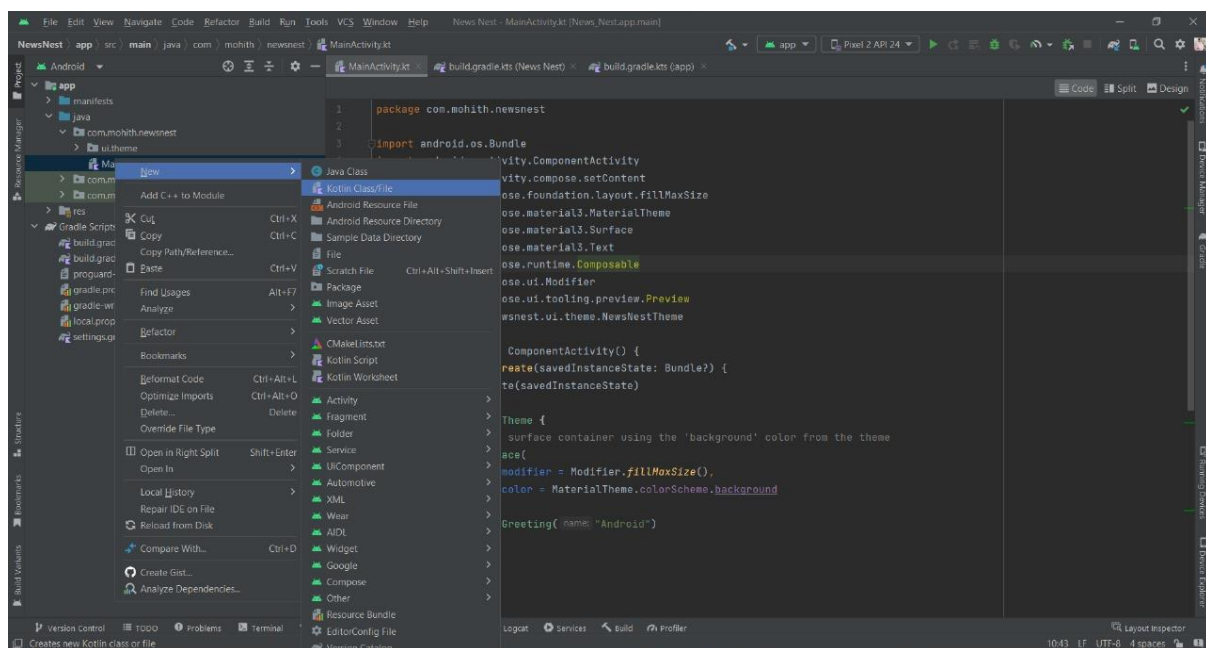


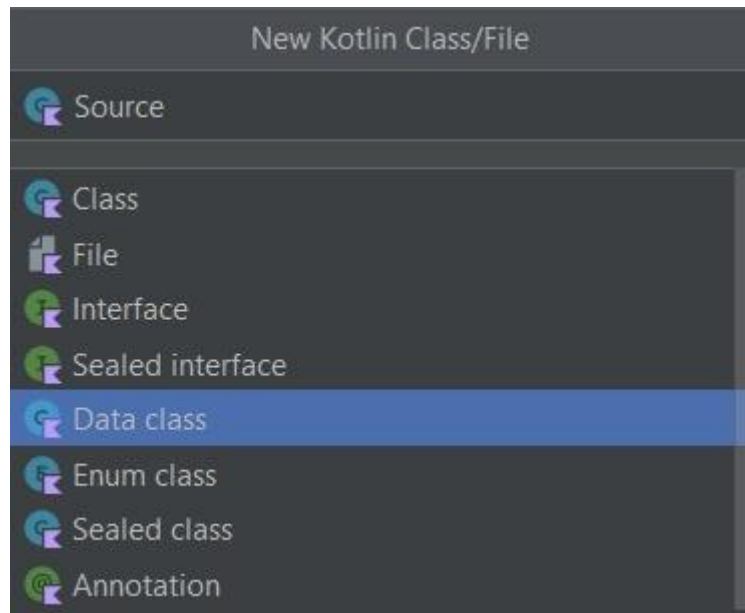


News DATA CLASS CODE :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/News.kt>

Step 12 : Create Source DATA CLASS.

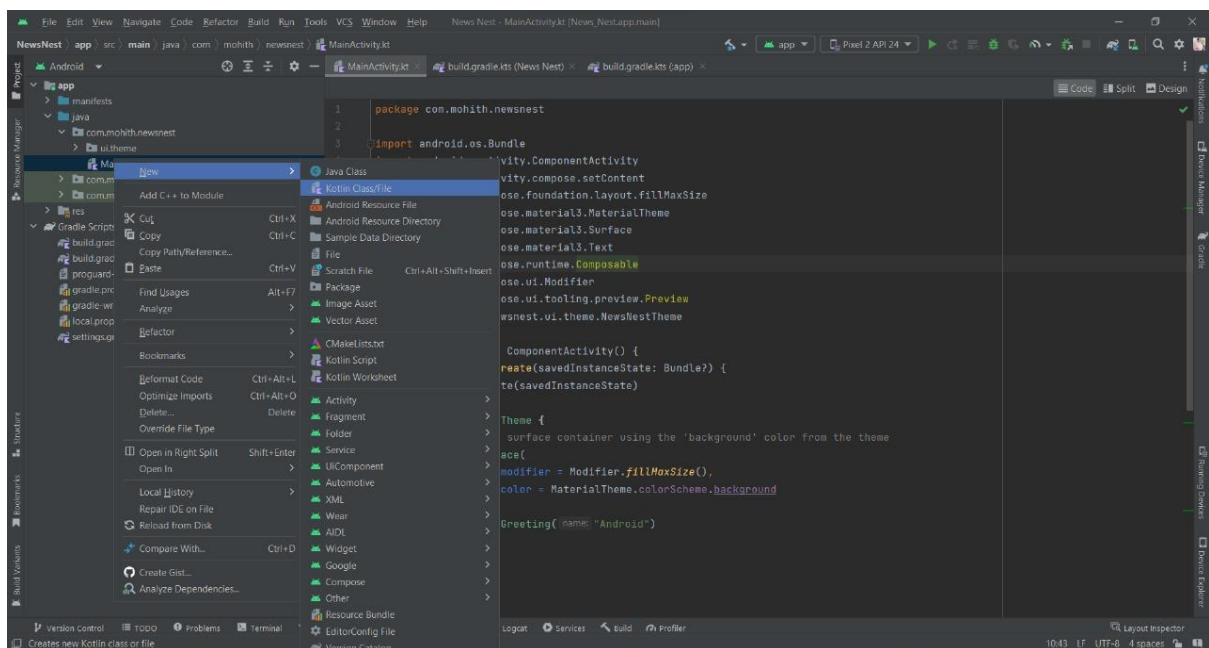


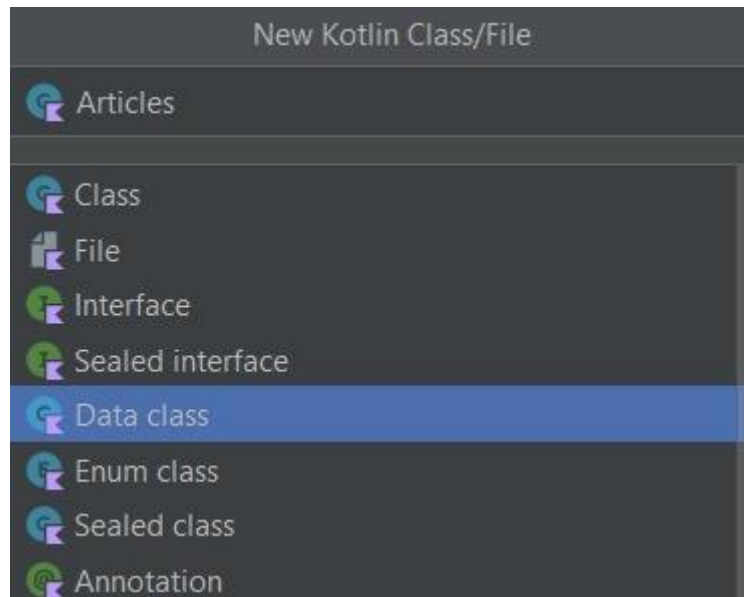


Source DATA CLASS CODE :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/Source.kt>

Step 13 : Create Articles DATA CLASS.

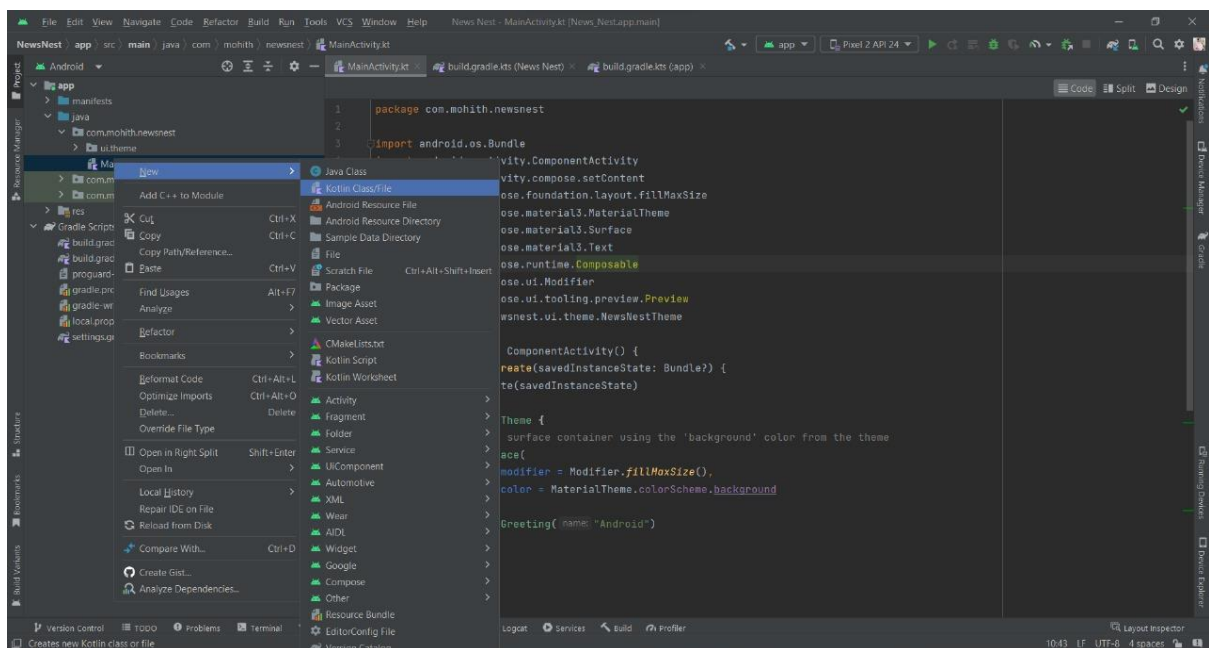


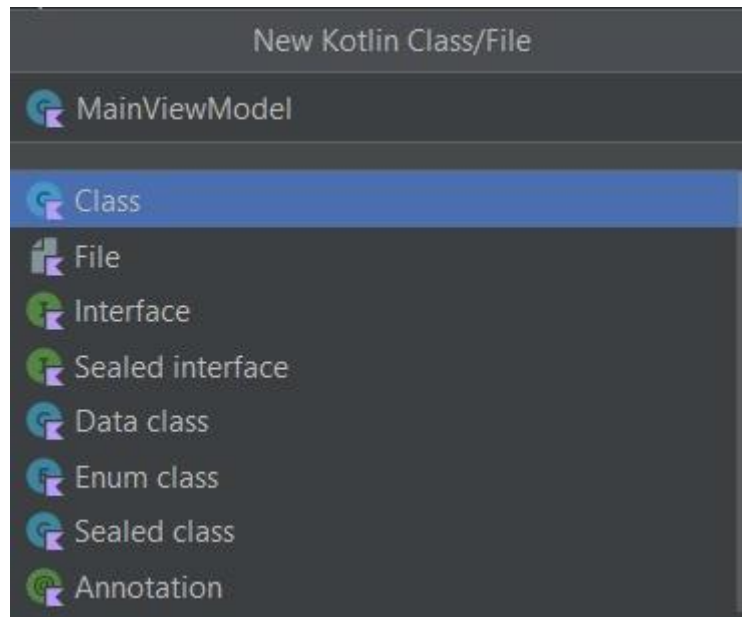


Articles DATA CLASS CODE :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/Articles.kt>

Step 14 : Create MainViewModel CLASS.





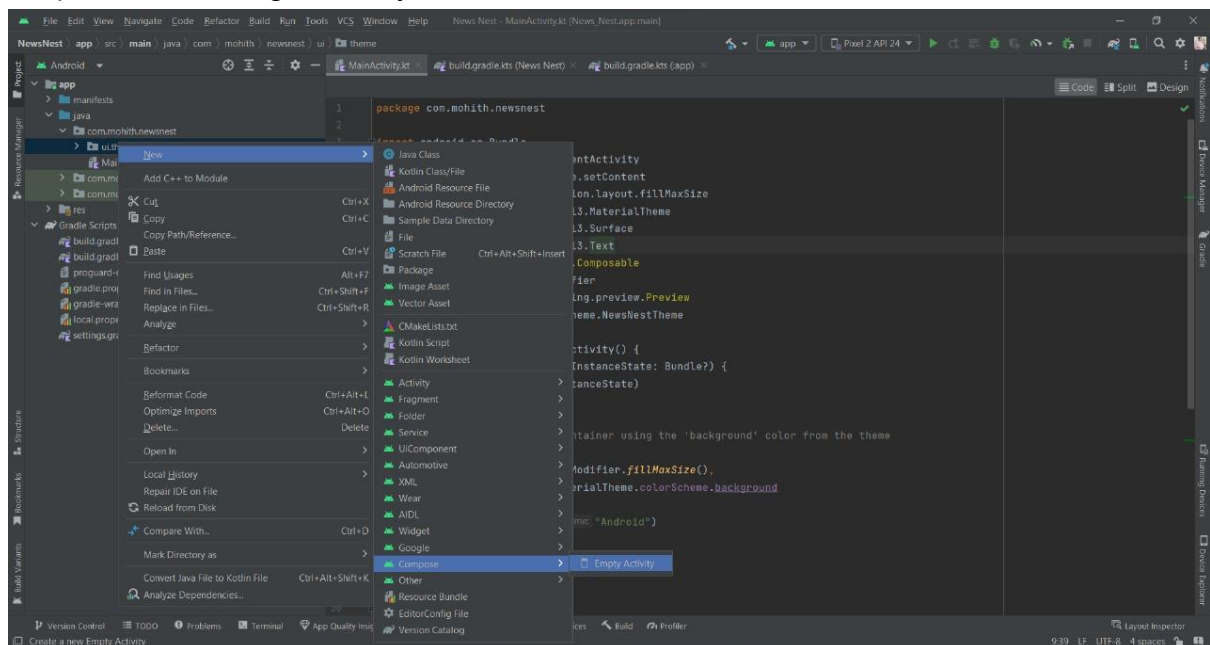
MainViewModel CLASS CODE :

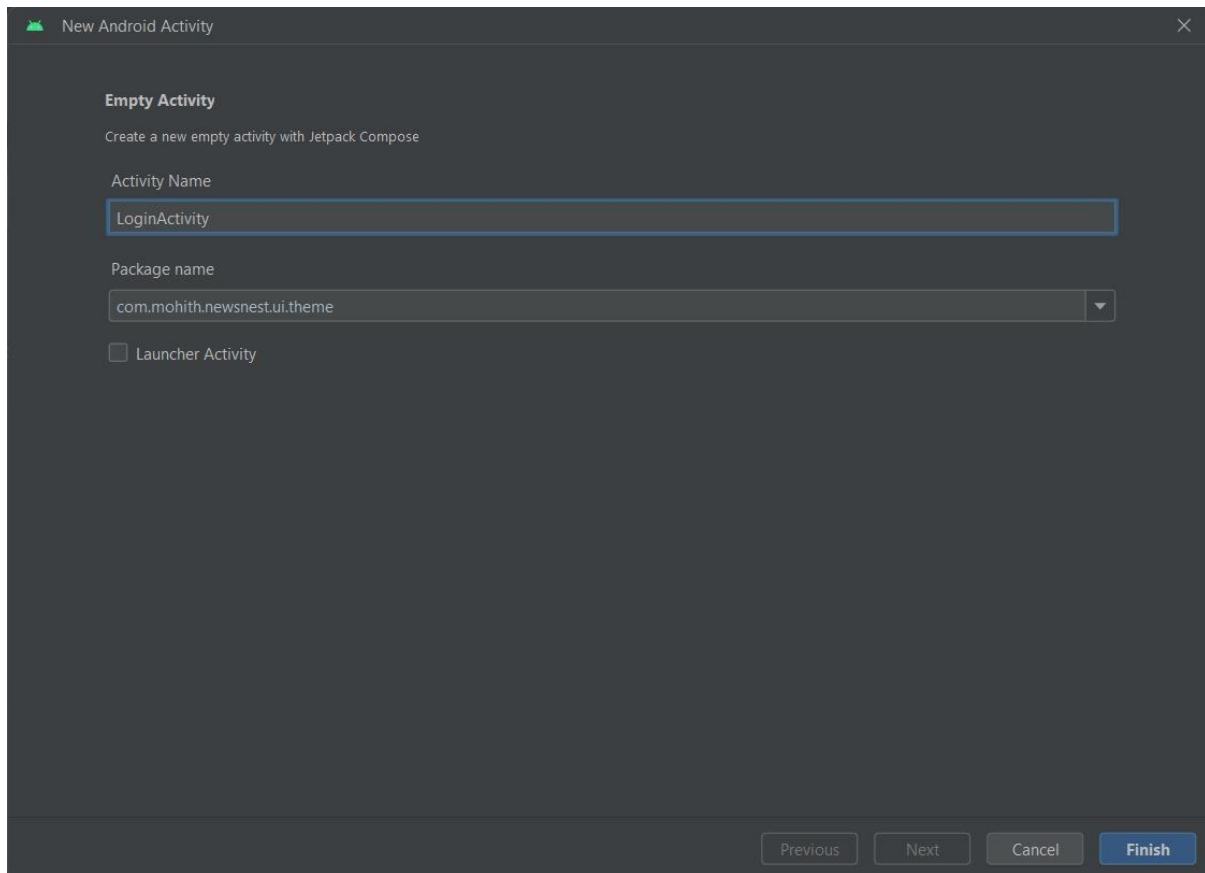
<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/MainViewModel.kt>

Task 7 :

Building application UI and connecting to database.

Step 1 : Create LoginActivity.kt FILE and connect with database.





COMPLETE LoginActivity.kt CODE :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/LoginActivity.kt>

SIMILARLY CREATE THE FOLLOWING FILES AND CONNECT WITH DATABASE

COMPLETE RegistrationActivity.kt CODE :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/RegistrationActivity.kt>

COMPLETE MainActivity.kt CODE :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/MainActivity.kt>

COMPLETE AccountRetrievalActivity.kt CODE :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/AccountRetrievalActivity.kt>

COMPLETE DisplayNews.kt CODE :

<https://github.com/smartinternz02/Sl-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/DisplayNews.kt>

COMPLETE PaymentReadFullArticle.kt CODE :

<https://github.com/smartinternz02/Sl-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/PaymentReadFullArticle.kt>

COMPLETE PremiumPlans.kt CODE :

<https://github.com/smartinternz02/Sl-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/PremiumPlans.kt>

COMPLETE ResetPwdByEmailActivity.kt CODE :

<https://github.com/smartinternz02/Sl-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/ResetPwdByEmailActivity.kt>

COMPLETE ResetPwdByUNActivity.kt CODE :

<https://github.com/smartinternz02/Sl-GuidedProject-587987-1696931398/blob/main/app/src/main/java/com/example/newsnest/ResetPwdByUNActivity.kt>

Before creating UI we need to add some images in **drawable** and fonts in **font** which are in **res**

RES DIRECTORY LINK :

<https://github.com/smartinternz02/Sl-GuidedProject-587987-1696931398/tree/main/app/src/main/res>

Step 2 : LINK each activity and its UI with other activities wherever required.

Task 8 :

Modifying AndroidManifest.xml

Step 1 : When we run the APP we will get the MainActivity.kt FILE as our first screen, but we want LoginActivity.kt FILE. So, we need to change in AndroidManifest.xml manifest FILE.

Step 2 : DO the OTHER REQUIRED CHANGES in AndroidManifest.xml manifest FILE.

COMPLETE AndroidManifest.xml CODE :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398/blob/main/app/src/main/AndroidManifest.xml>

Task 9 :

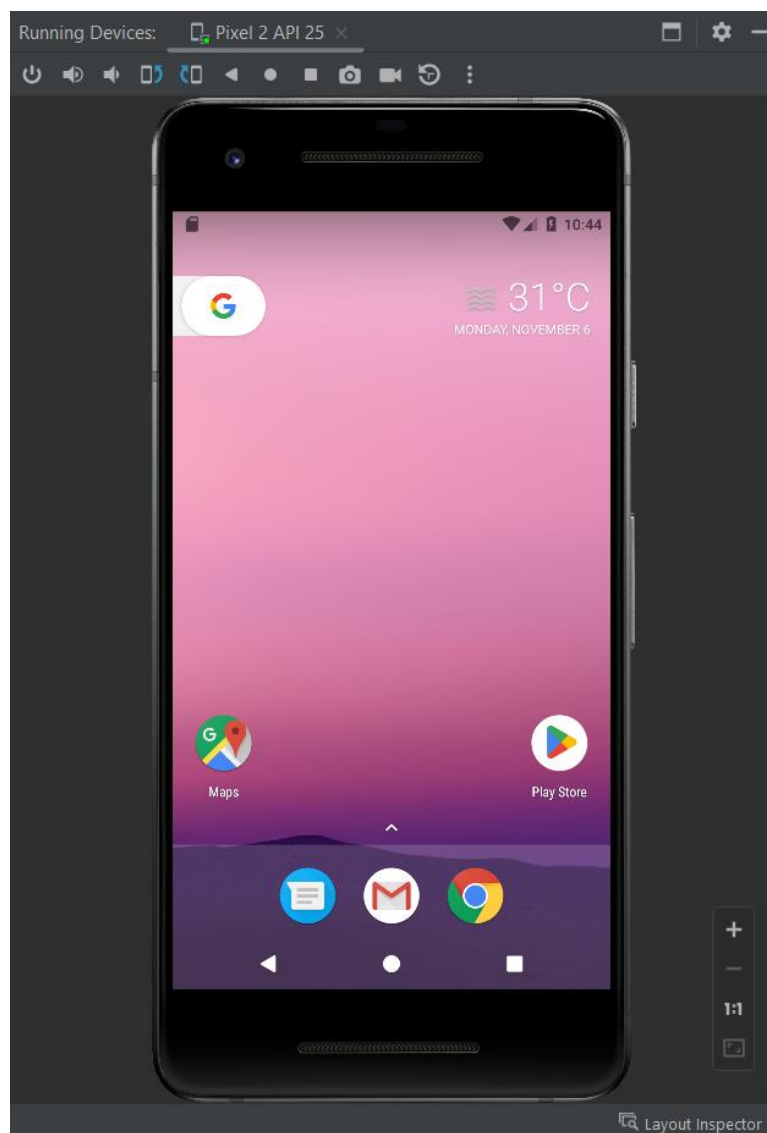
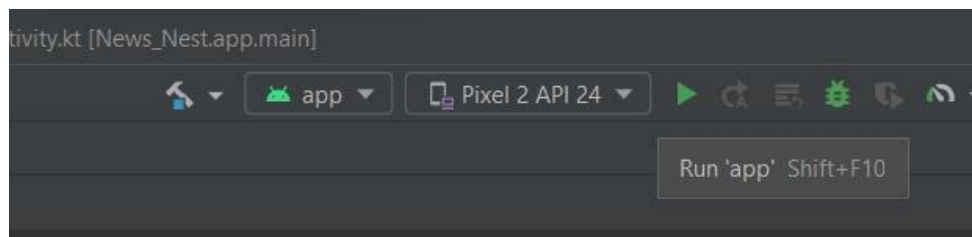
Running the application.

Step 1: Run your app on a hardware device virtual android emulator.

HARDWARE DEVICE <https://developer.android.com/studio/run/device>

ANDROID EMULATOR <https://developer.android.com/studio/run/emulator>

Step 2: Run your app on virtual android emulator or hardware device.



COMPLETE PROJECT LINK :

<https://github.com/smartinternz02/SI-GuidedProject-587987-1696931398>

FINAL OUTPUTS OF THE APPLICATION

LOGIN PAGE



LOGIN



USERNAME



PASSWORD

LOGIN

JOIN THE NEWS COMMUNITY [REGISTER NOW](#)

FORGOT YOUR PASSWORD ? [RETRIEVE ACCOUNT](#)

REGISTRATION PAGE

22:52

0.49 KB/S 59%



REGISTER NOW



USERNAME



PASSWORD



E-MAIL

REGISTER

HAVE AN ACCOUNT ? [LOGIN](#)

ACCOUNT RETRIEVAL PAGE

22:53

0.32 KB/S 59%

ACCOUNT RETRIEVAL



USERNAME



E-MAIL

RETRIEVE ACCOUNT

STILL UNABLE TO RECOVER ?

[RESET PASSWORD WITH E-MAIL](#)

[RESET PASSWORD WITH USERNAME](#)


RESET PASSWORD BY E-MAIL PAGE


22:53


0.32 KB/S

59%

RESET PASSWORD
WITH E-MAIL

 E-MAIL

 NEW PASSWORD

 CONFIRM NEW PASSWORD

RESET PASSWORD

RESET PASSWORD BY USERNAME PAGE

22:53

13.0 KB/S   59%

RESET PASSWORD WITH USERNAME



USERNAME



NEW PASSWORD



CONFIRM NEW PASSWORD

RESET PASSWORD

22:53

47.0 KB/S 59%



News Nest



TOP HEADLINES

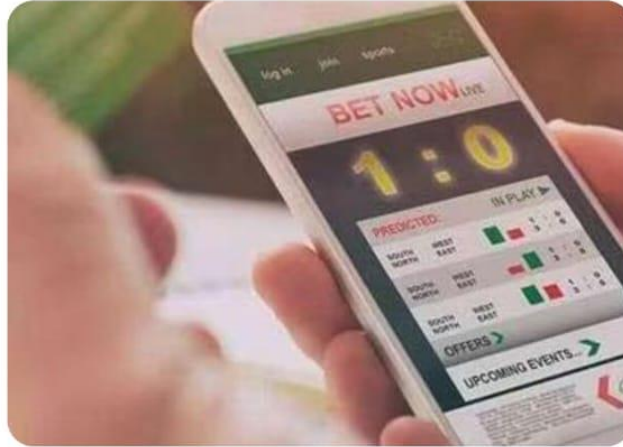


Mahadev app among 22 illegal online betting platforms blocked by MeitY | Mint - Mint



'Could be due to old age': Akhilesh on Kamal Nath amid SP-Cong seat feud - Hindustan Times





Mahadev app among 22 illegal online betting platforms blocked by MeitY | Mint - Mint

The action follows investigations conducted by the Enforcement Directorate against an illegal betting app syndicate and subsequent raids on Mahadev Book in Chhattisgarh, revealing the app's unlawful operations.

[READ FULL ARTICLE](#)

22:53

0.53 KB/S 59%

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our in-depth news article!

ONLY ₹ 10

22:54

16.0 KB/S 59%



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