

UNIVERSITY PARTNER



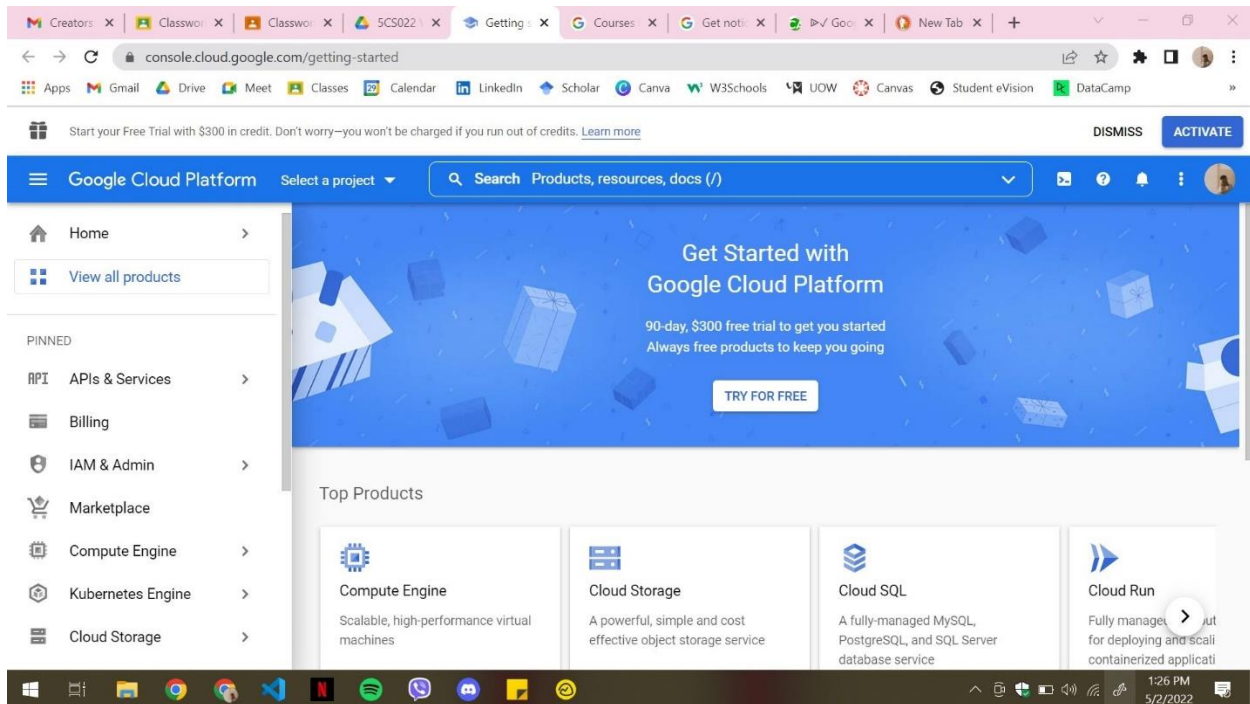
DISTRIBUTE AND CLOUD SYSTEMS PROGRAMMING (5CS022)

WORKSHOP 10

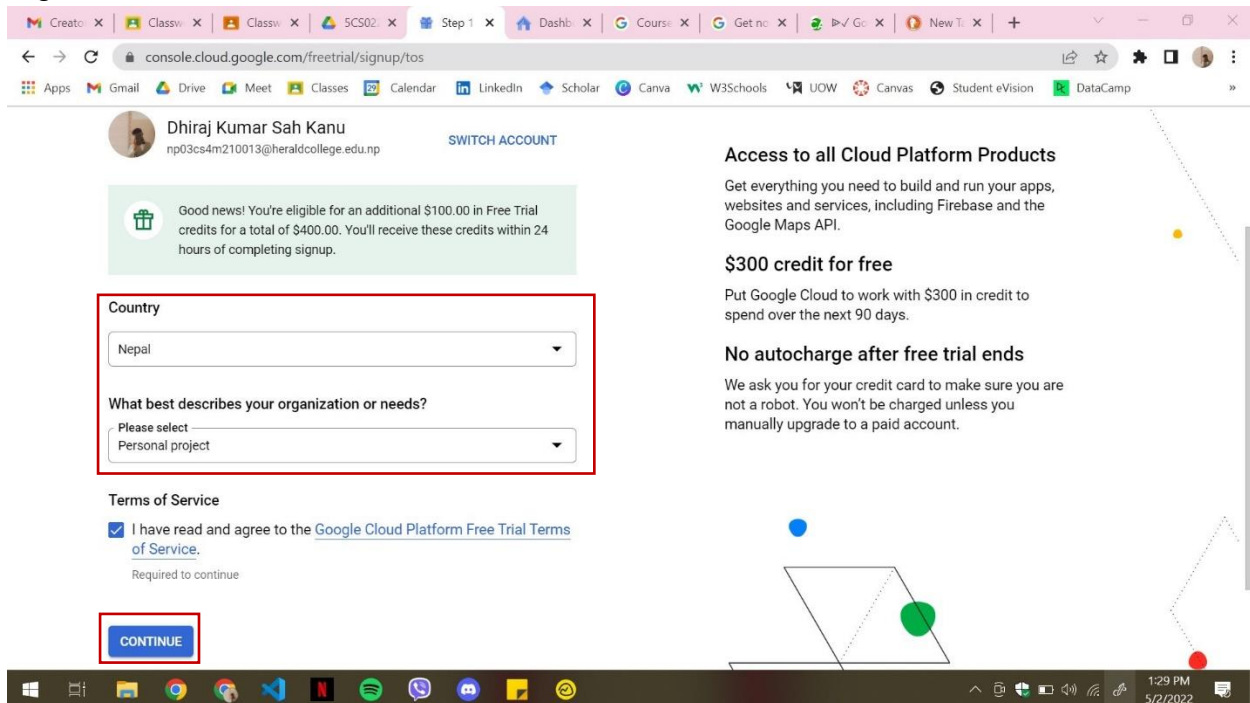
Student Id	: 2065697
Student Name	: Dhiraj Kumar Sah Kanu
Group	: L5CG12
Submitted on	: May 14, 2022

Step 1: Logging in to Google Cloud Platform

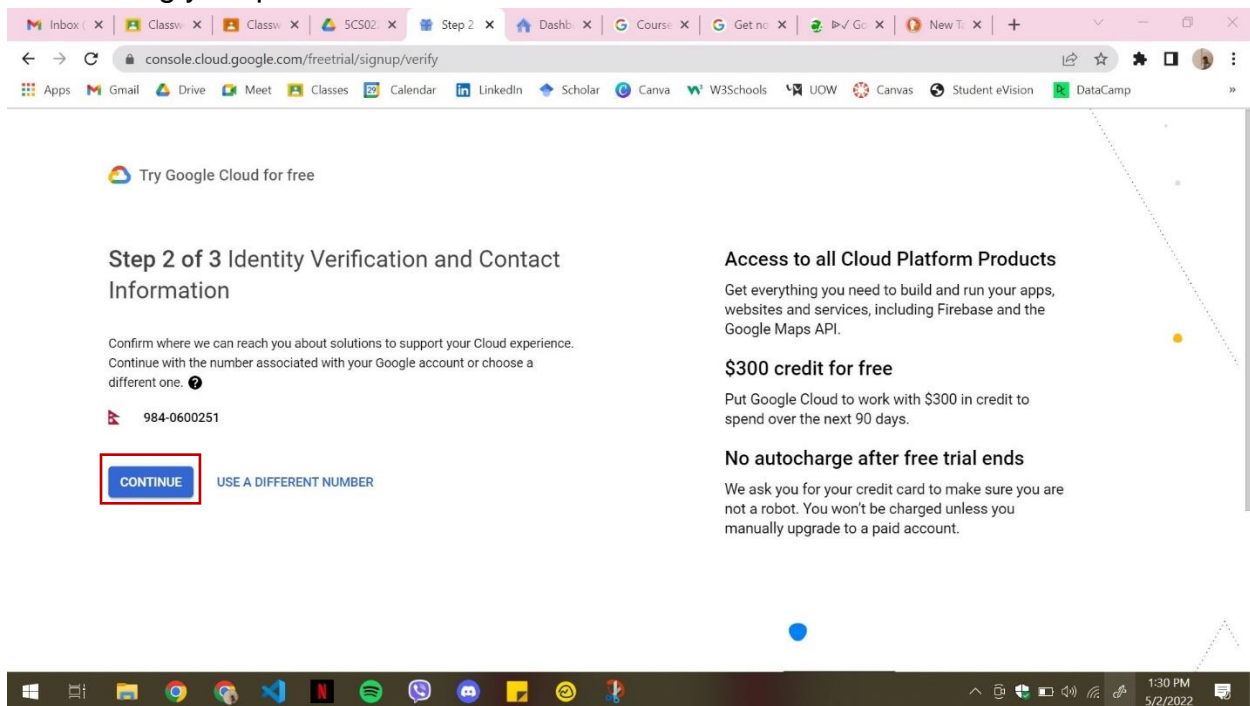
First, you need to follow the link: <http://console.cloud.google.com> this will lead you to the page below.



Here, select the country and then select the option for 'what best describes your organization or need?' and then click on continue.

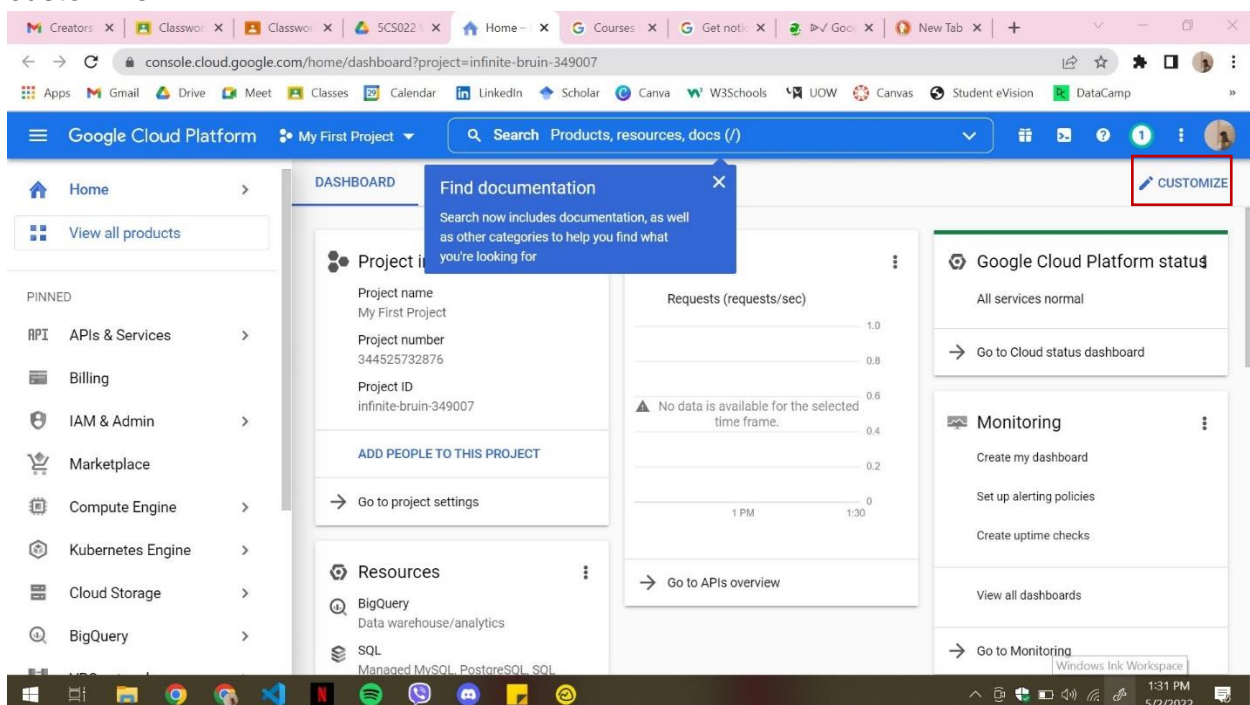


The, you will be asked the verification identity and contact information. Click on continue after adding your phone number.

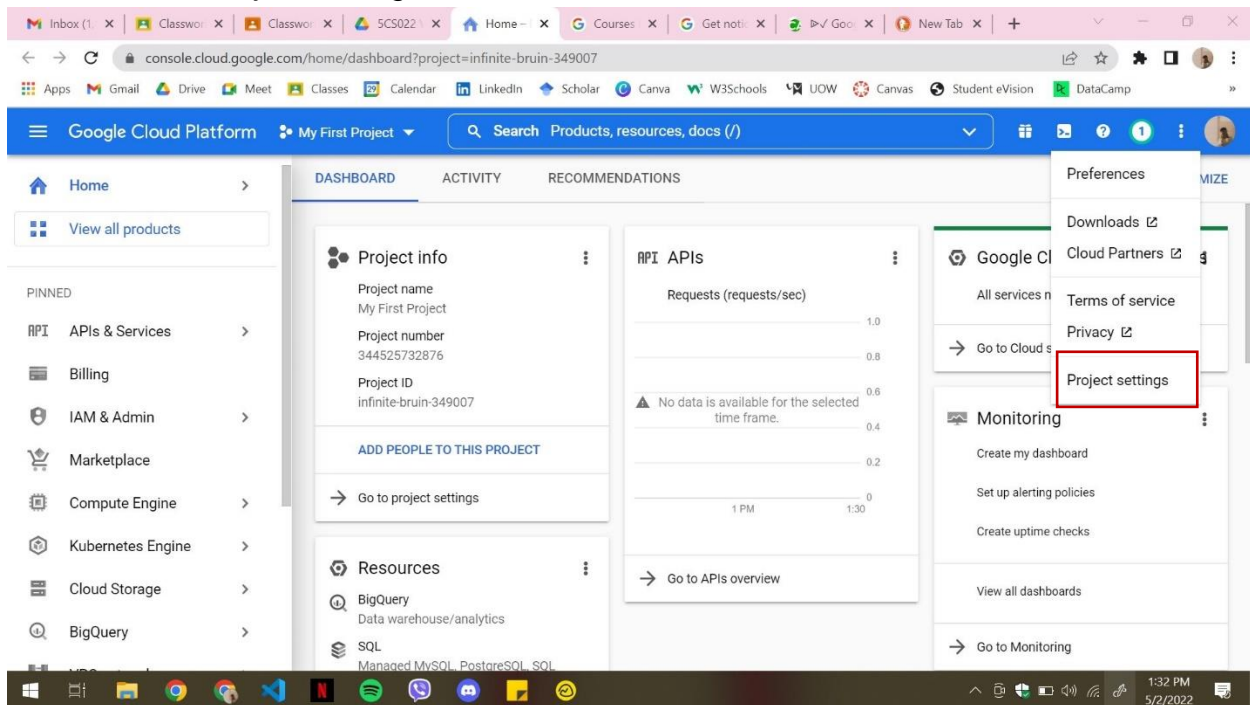


Step 2: Creating a Project

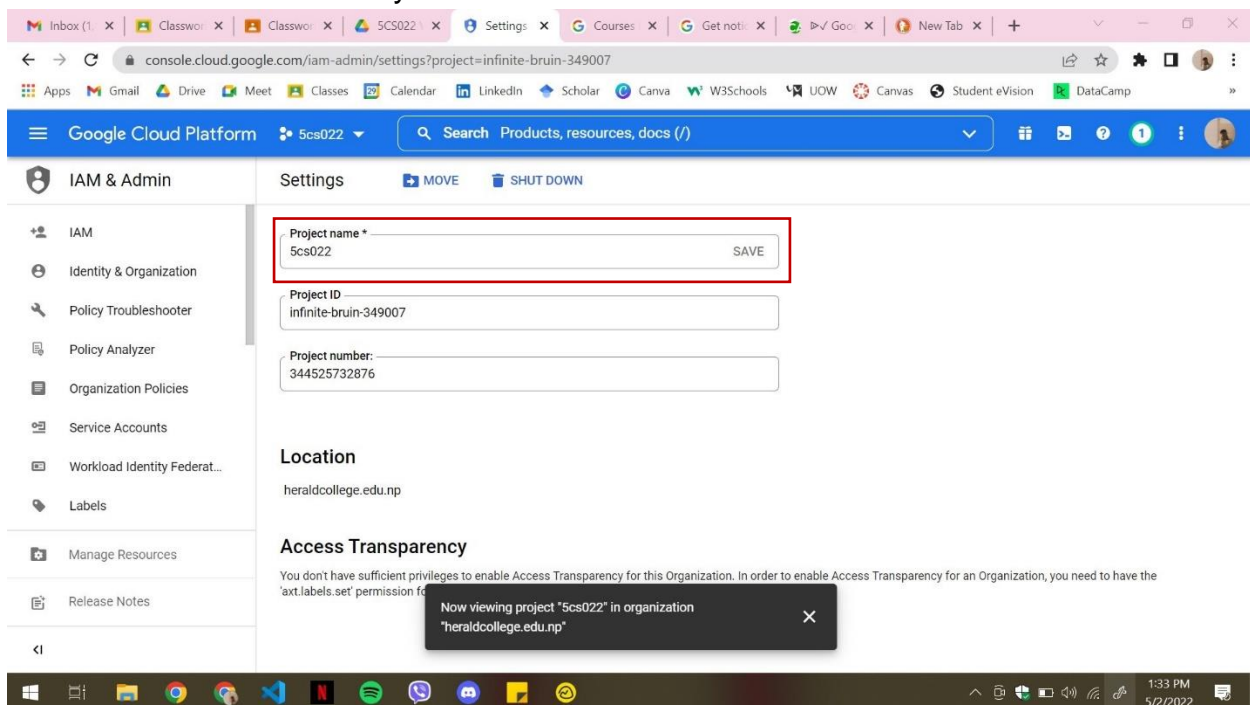
Now, you will be redirected to the home page of Google Cloud Platform. Here click on customize.



Now, click on Project setting.

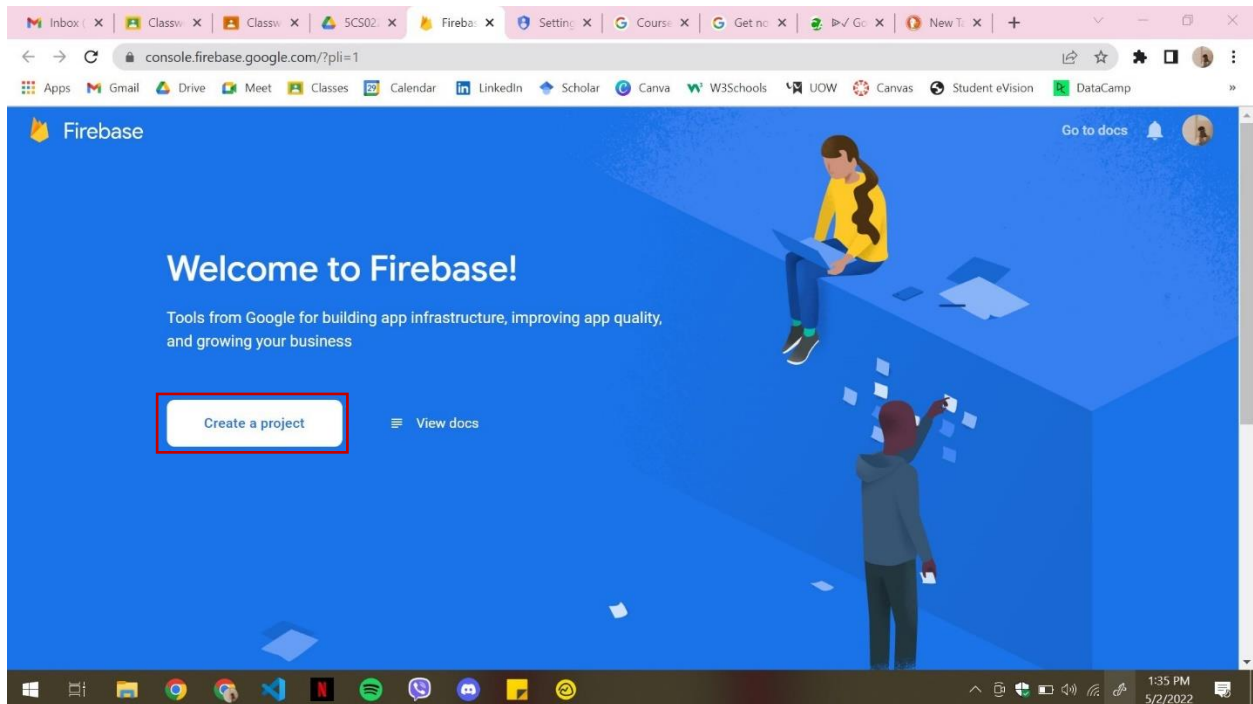


Here, enter "5cs022" in the Project Name box and then click on save, the project ID and number will be automatically created.

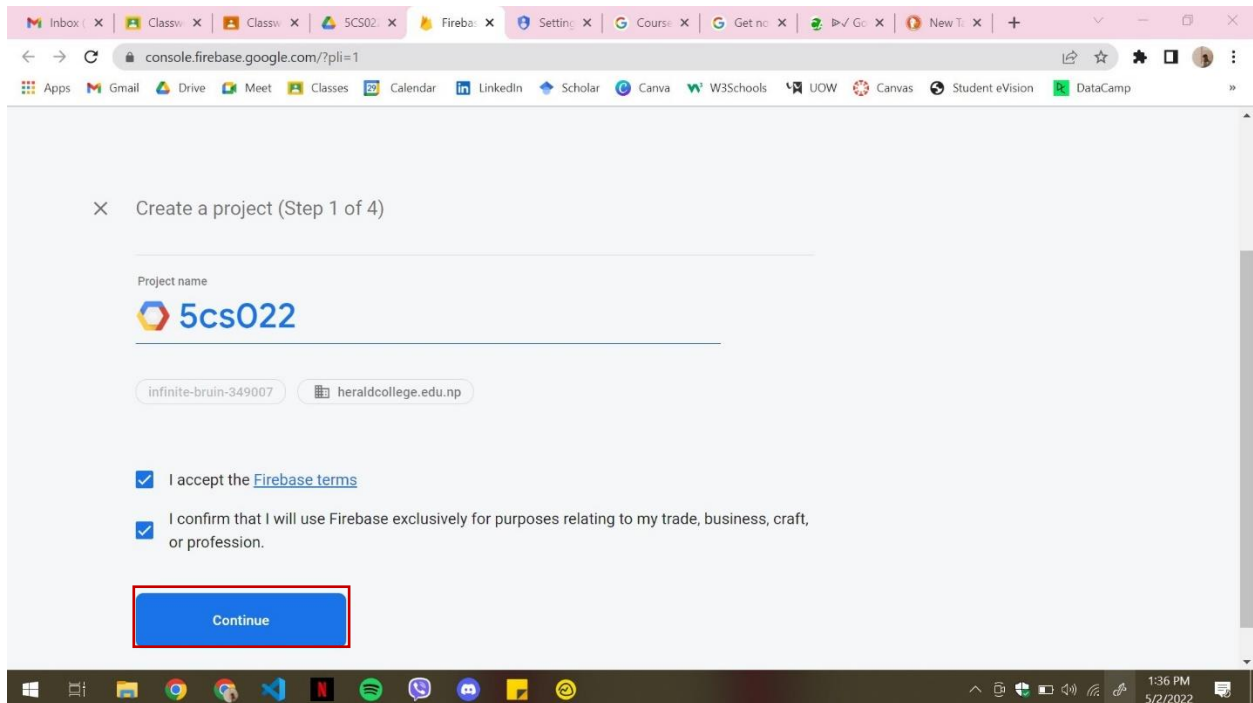


Step 3: Accessing Firebase

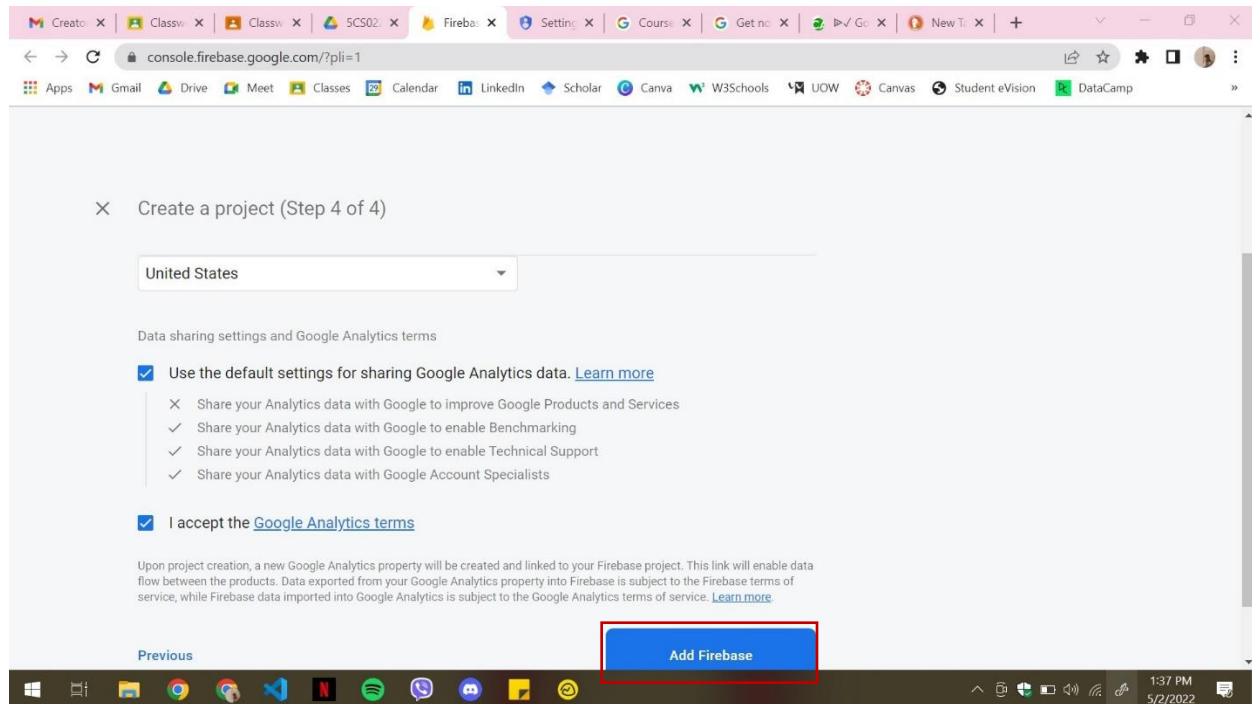
Likewise, go to your web browser and go to Google Firebase or follow the link: <https://console.firebase.google.com/?pli=1> . Now click on Create a project.



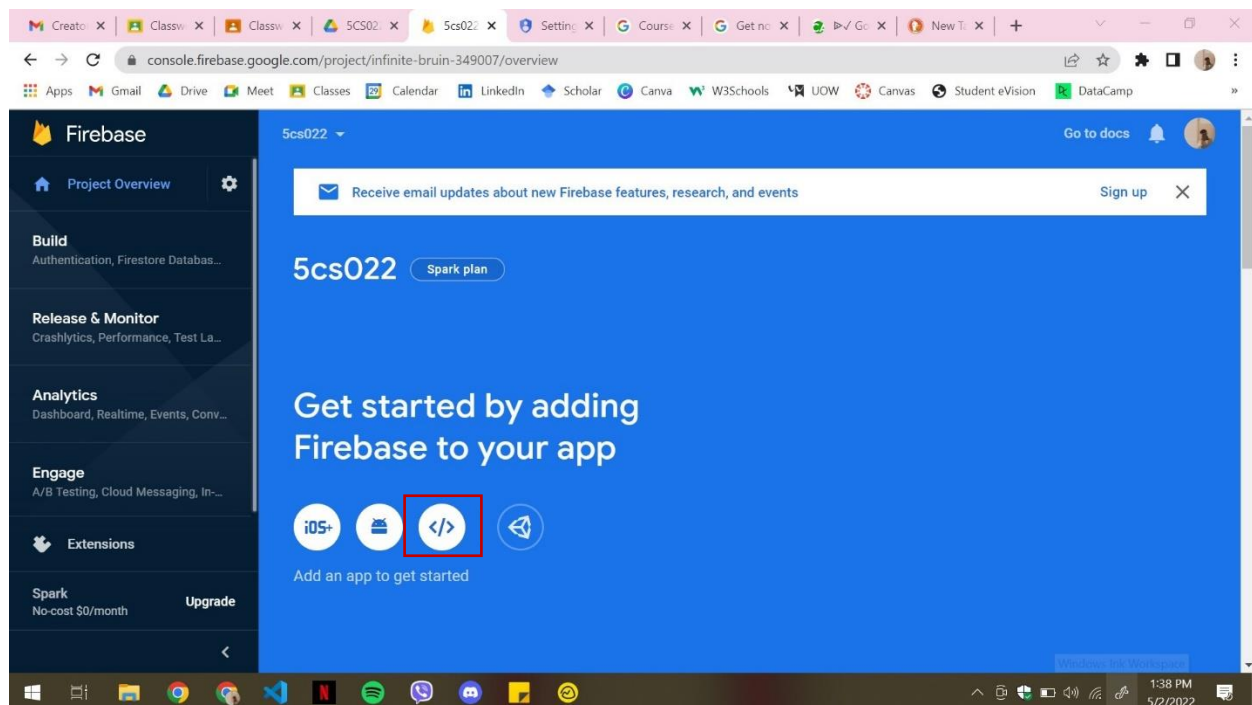
On the following screen, select your project from earlier, accept the conditions and then click on continue.



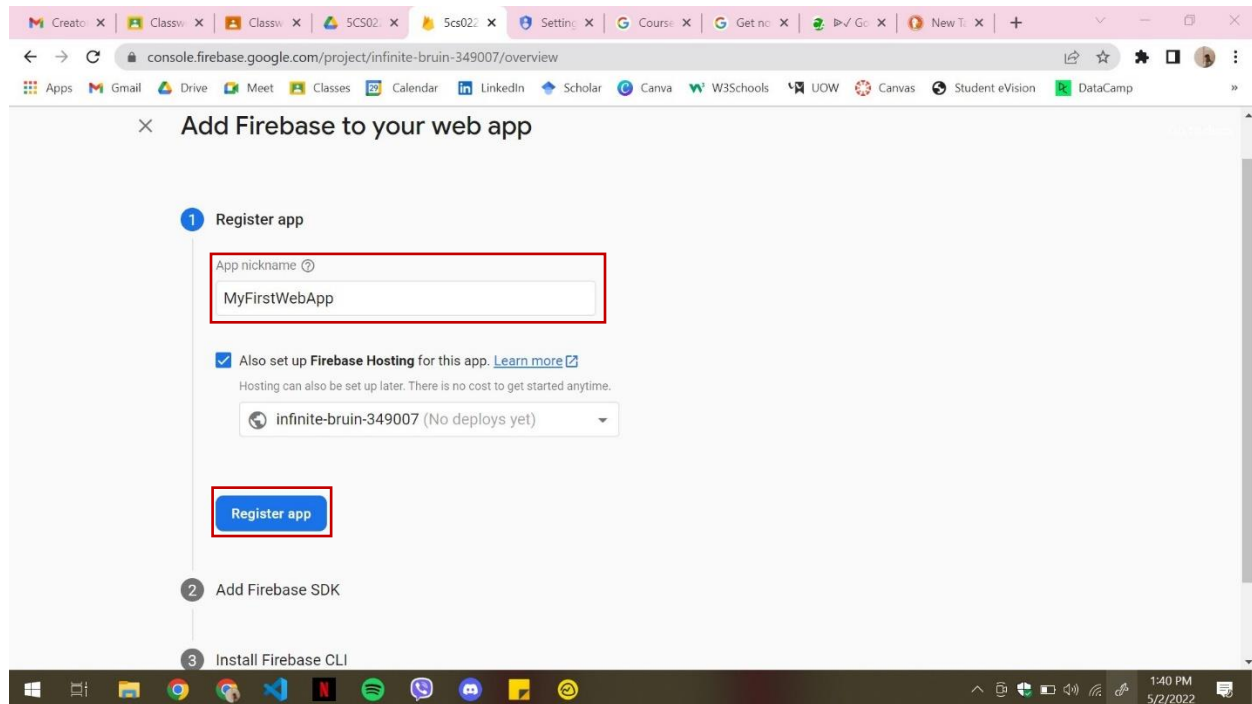
You need to click the continue button multiple times. Then at last you have to select the Location and and click on Add Firebase.



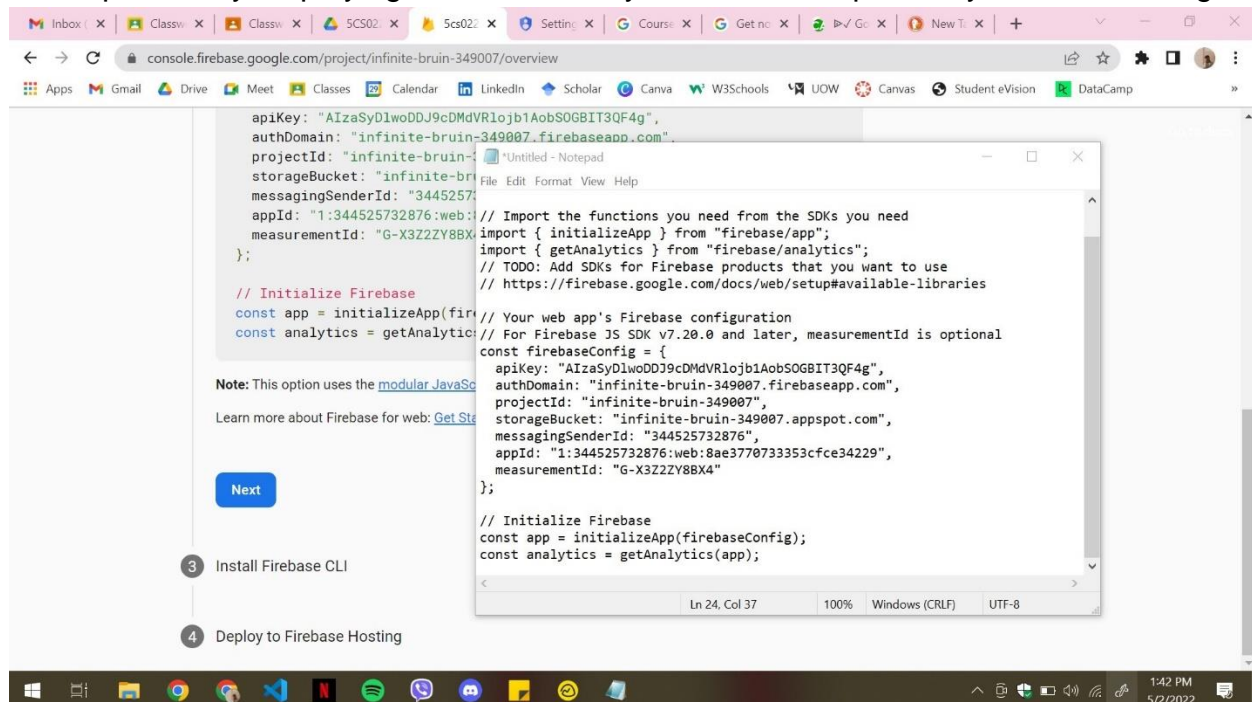
After that, the firebase gets added and then you can the click on web to enable Web API.



After that, you need to give your web app a name and then can then click on Register App

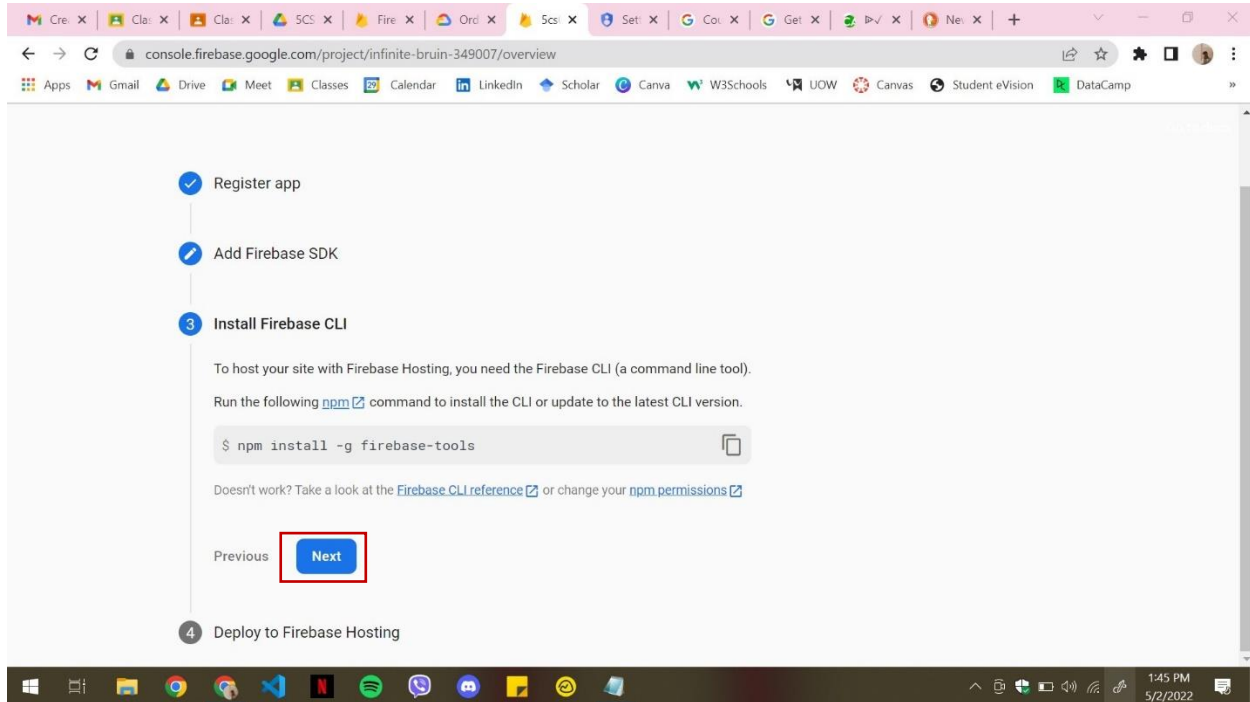


Then, in order to integrate Firebase to our web project, you must link the two. It is accomplished by employing a number of keys. You can keep the keys for future usage.

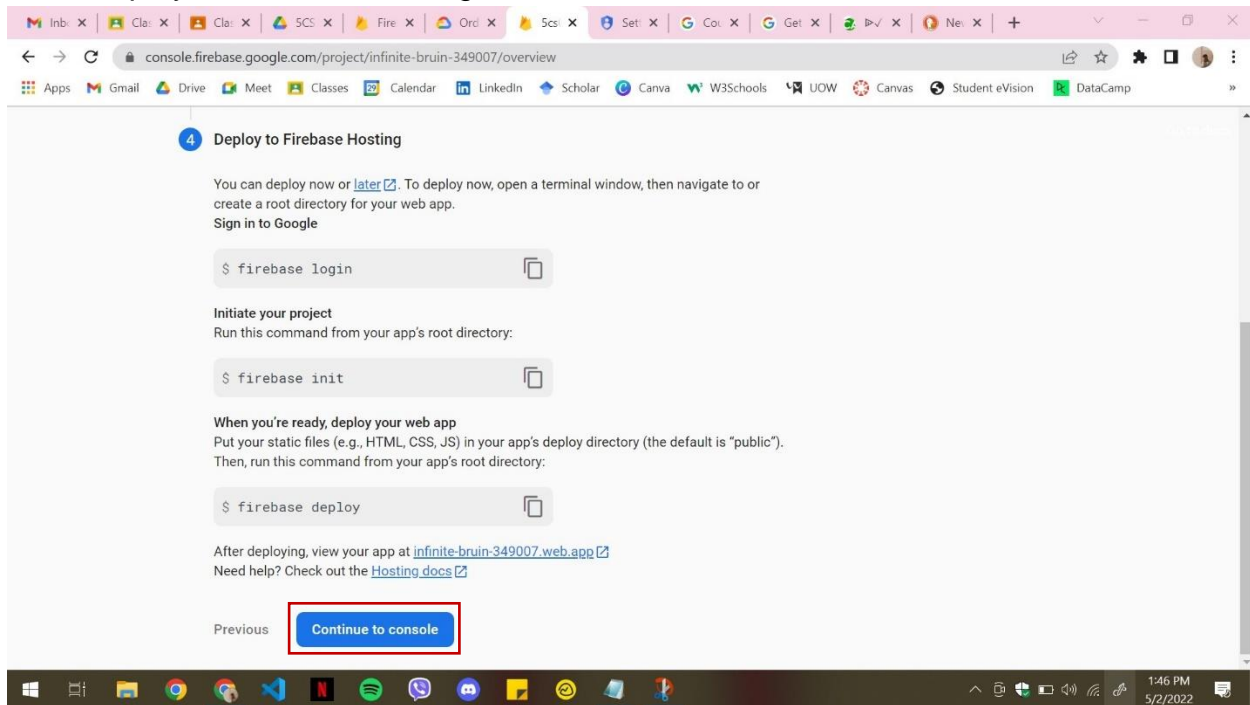


Step 3: Establishing Firestore

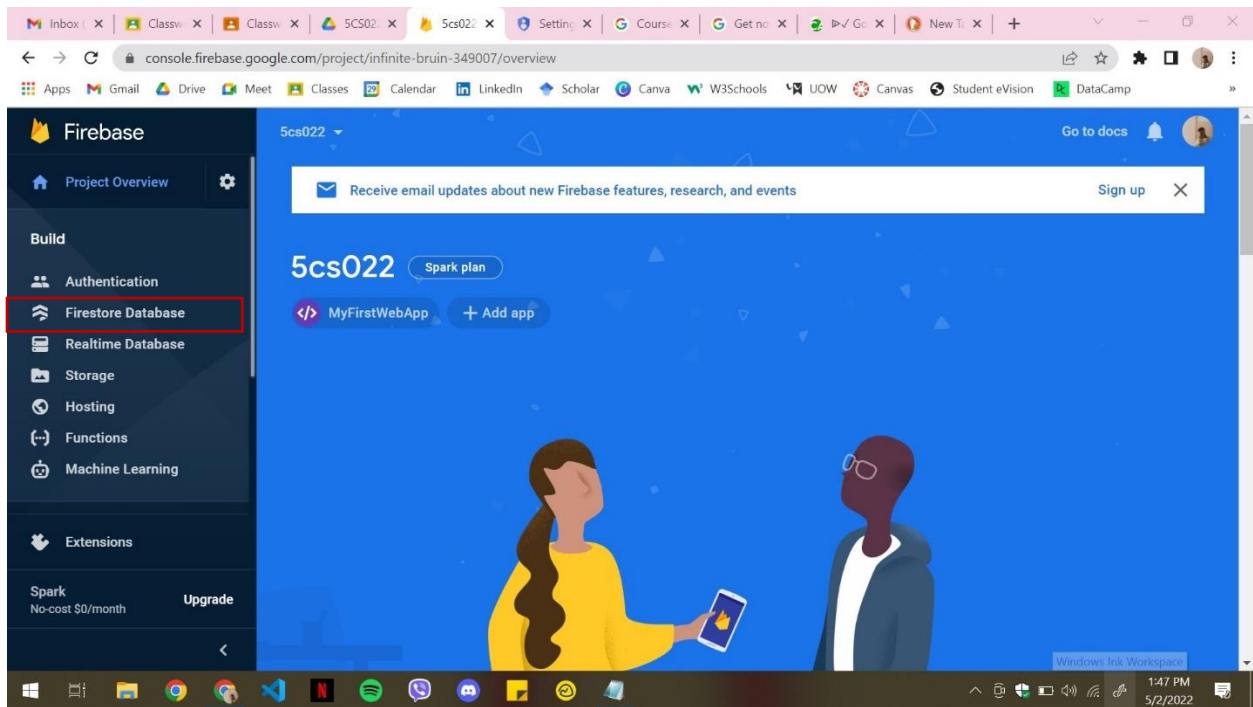
Now you need to establish a Firestore, which is a NoSQL database that stores data in the form of documents. Here, register the app and then add Firebase SDK then install Firebase CLI. And click on next.



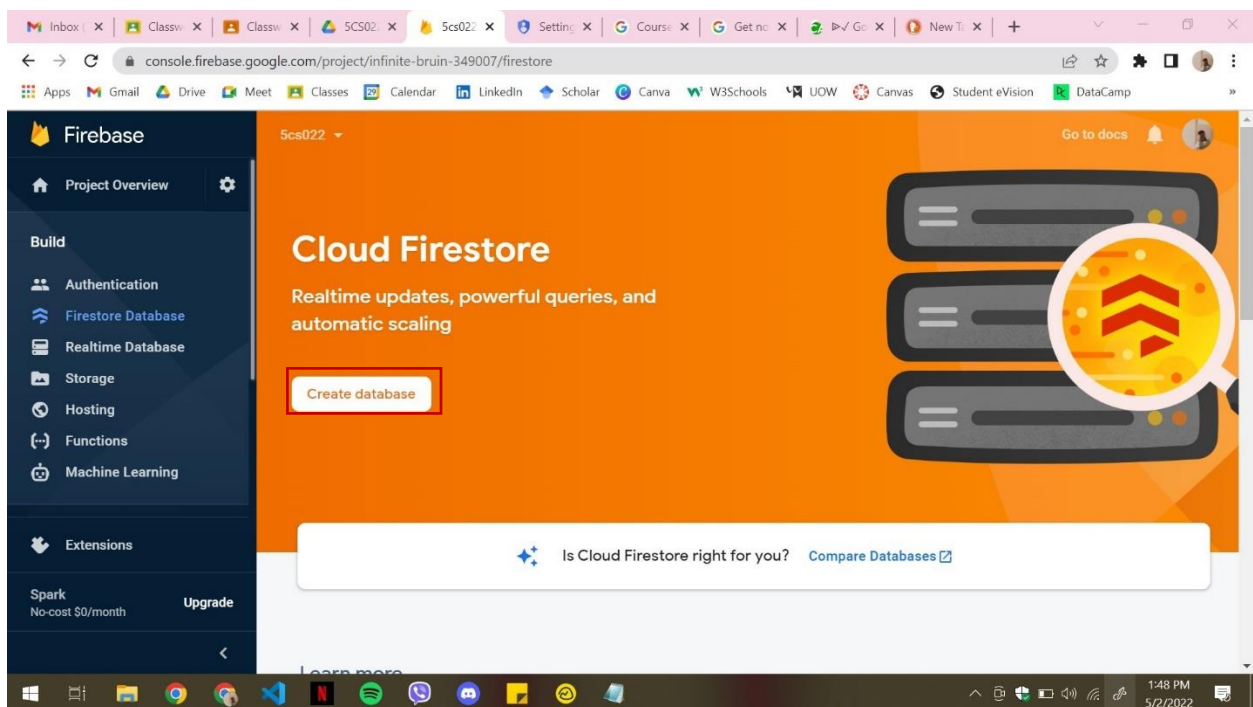
Now, Deploy to Firebase Hosting and click on Continue to console.



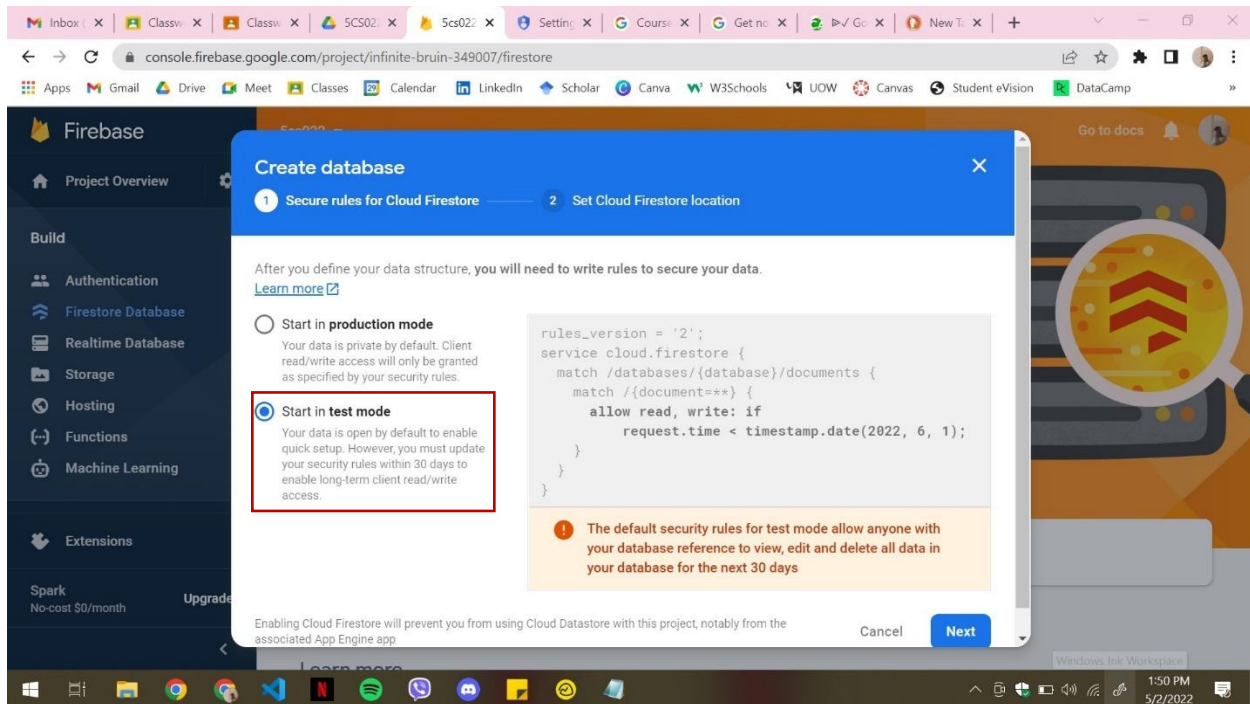
You will be redirected to the Project Overview page of the Firebase. Here, click on Firebase Database.



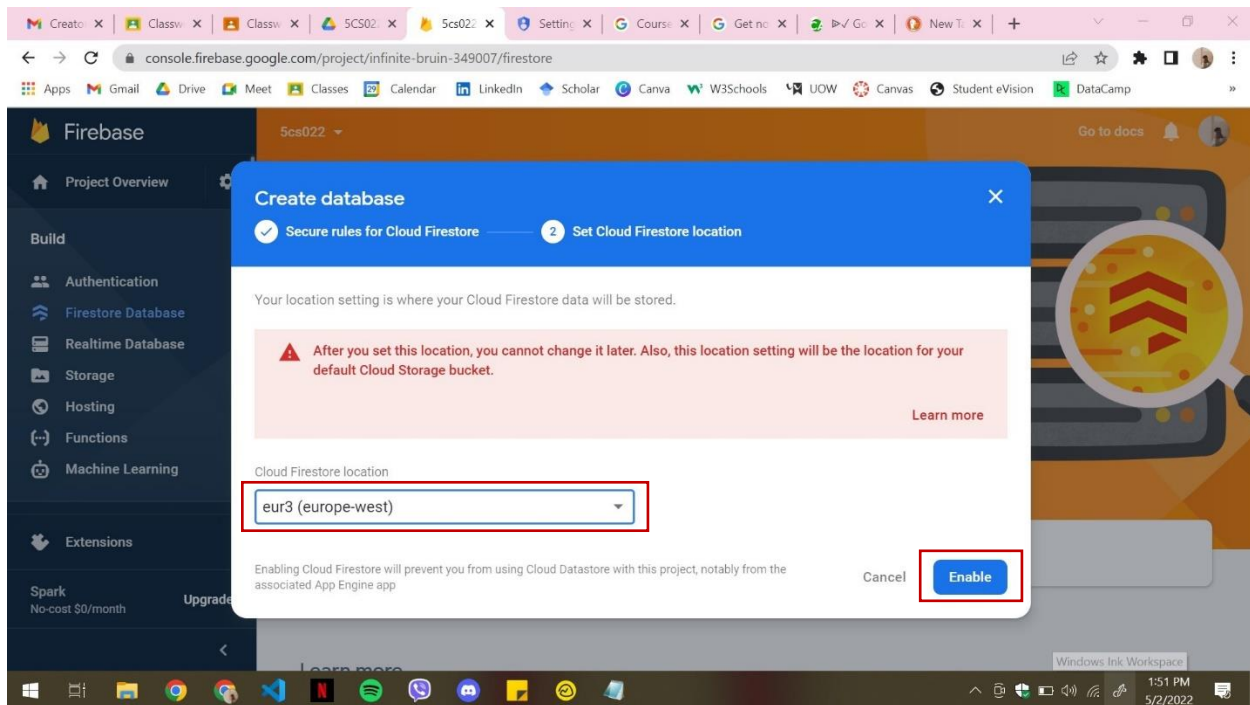
Now click on create database.



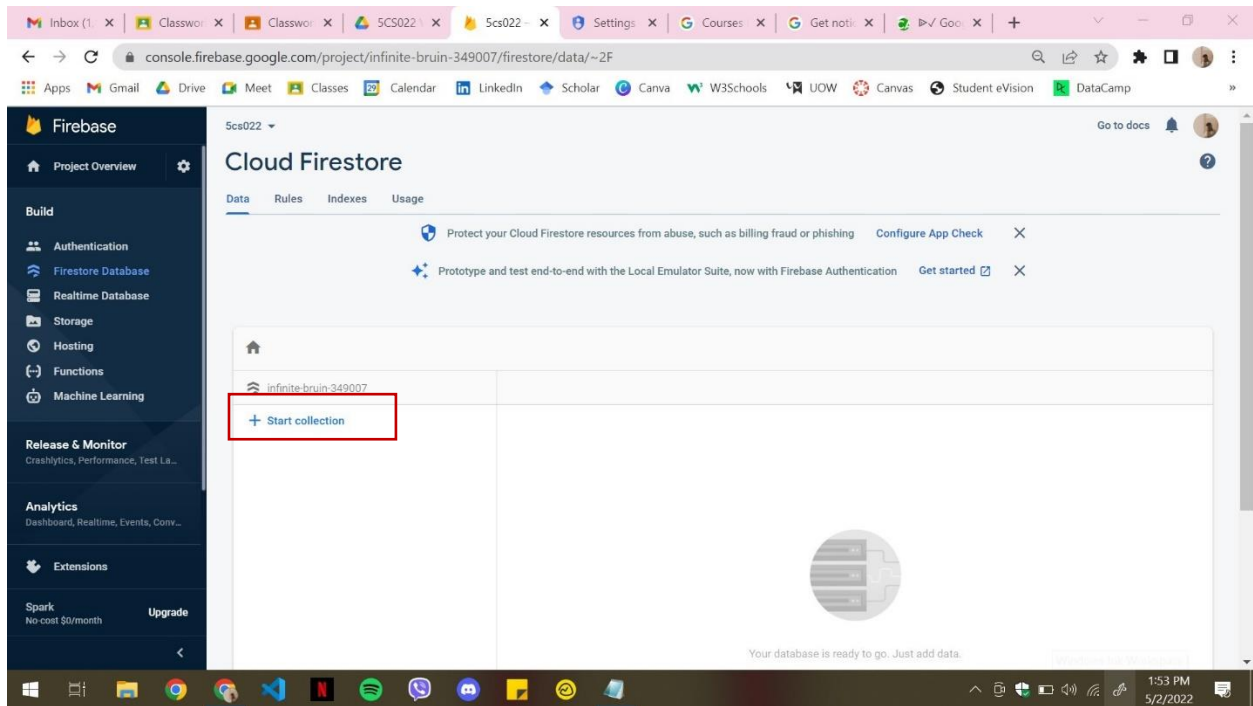
A dialogue box will popup, here pick "Start in test mode," which provides for quick data access with little security concerns.



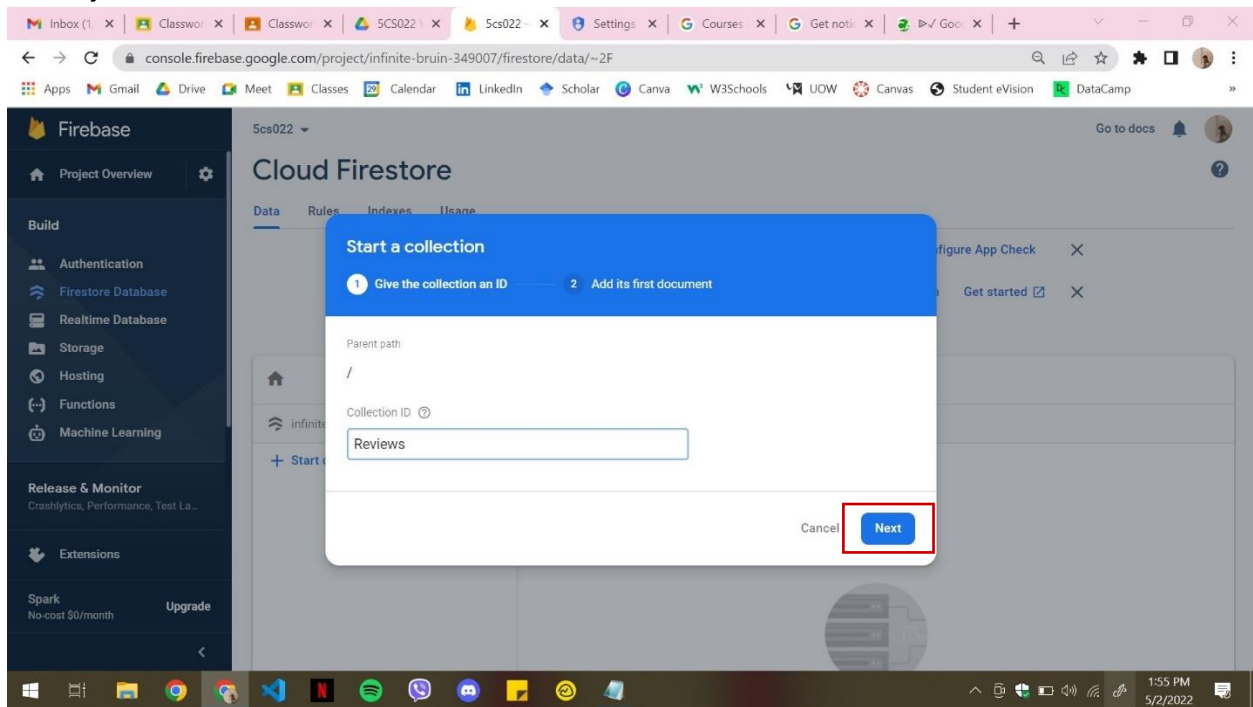
Now, set the cloud firestore location and then click on enable.



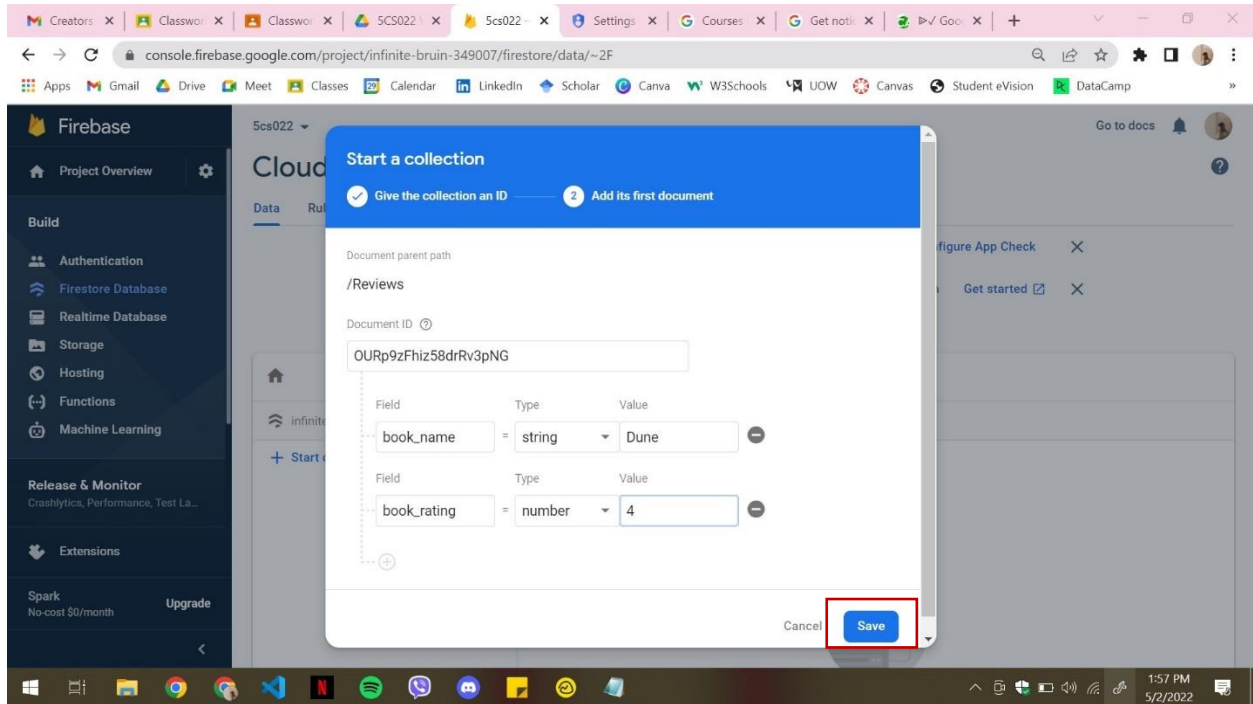
You then get a dashboard where you need to select on +Start collection to create a new collection.



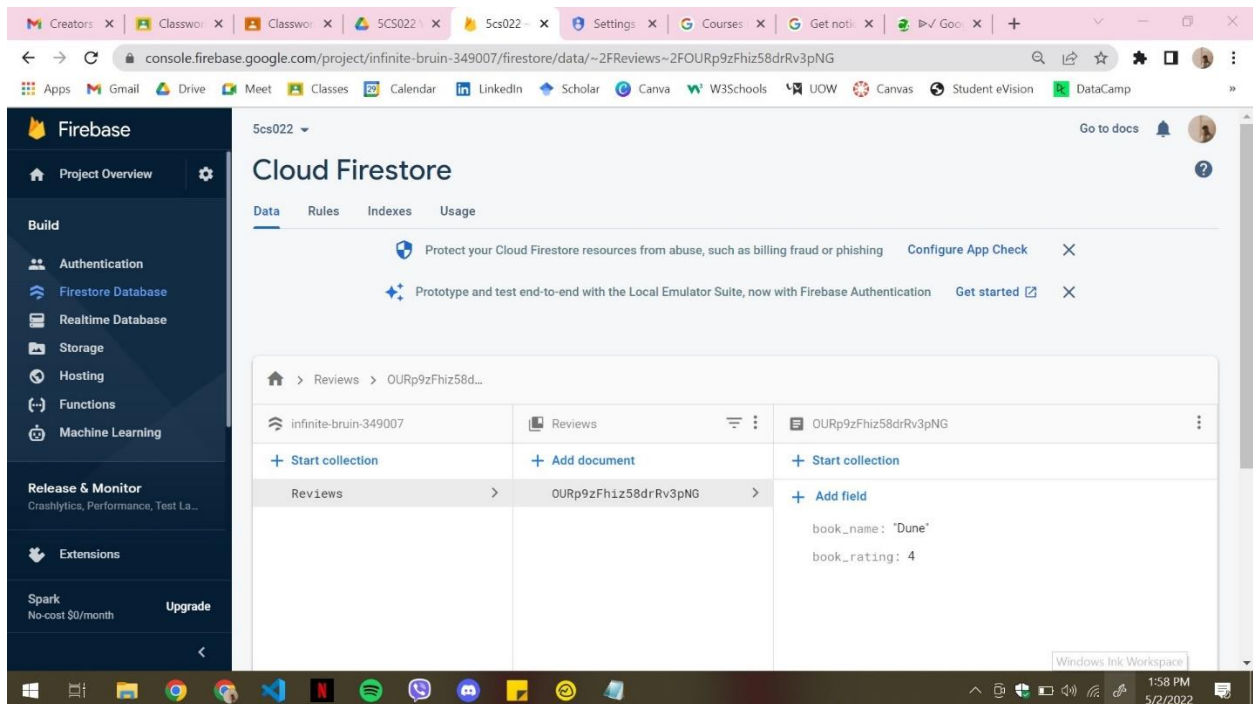
Then you need to name the Collection ID and click on next.



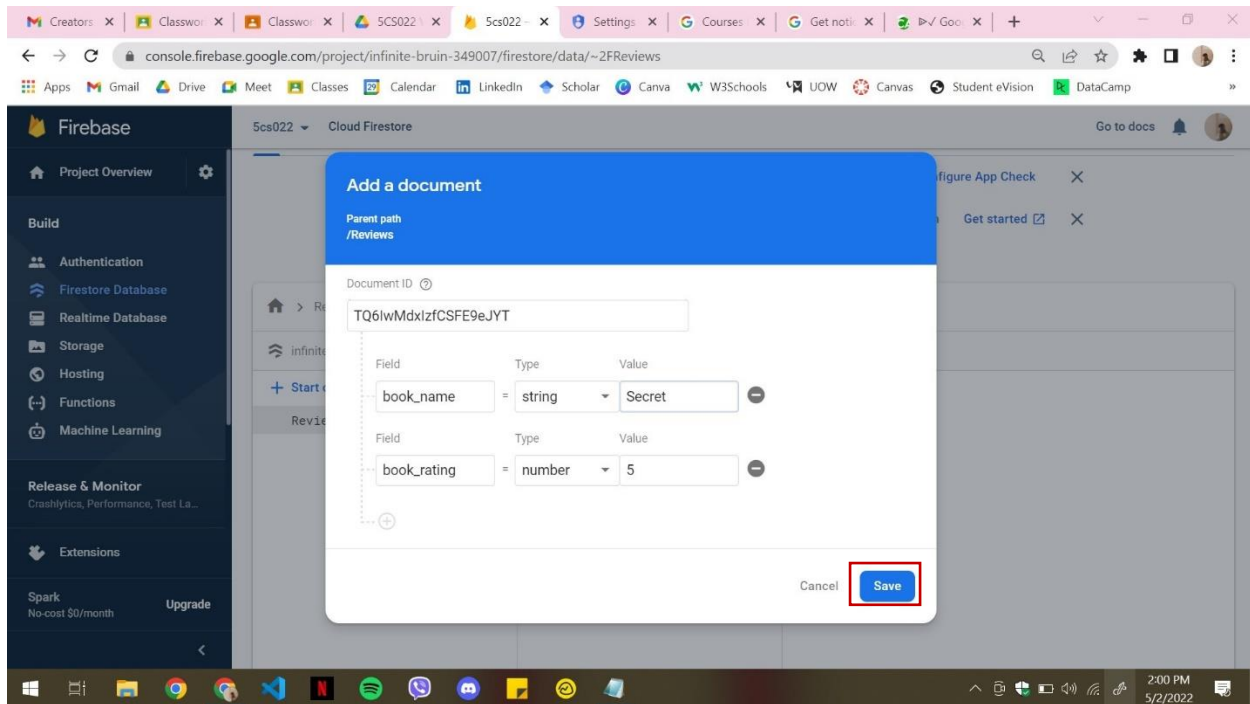
Here you need to insert required field and values and click on save button.



Then the dashboard will look something like this. Here you have created the data for the database.

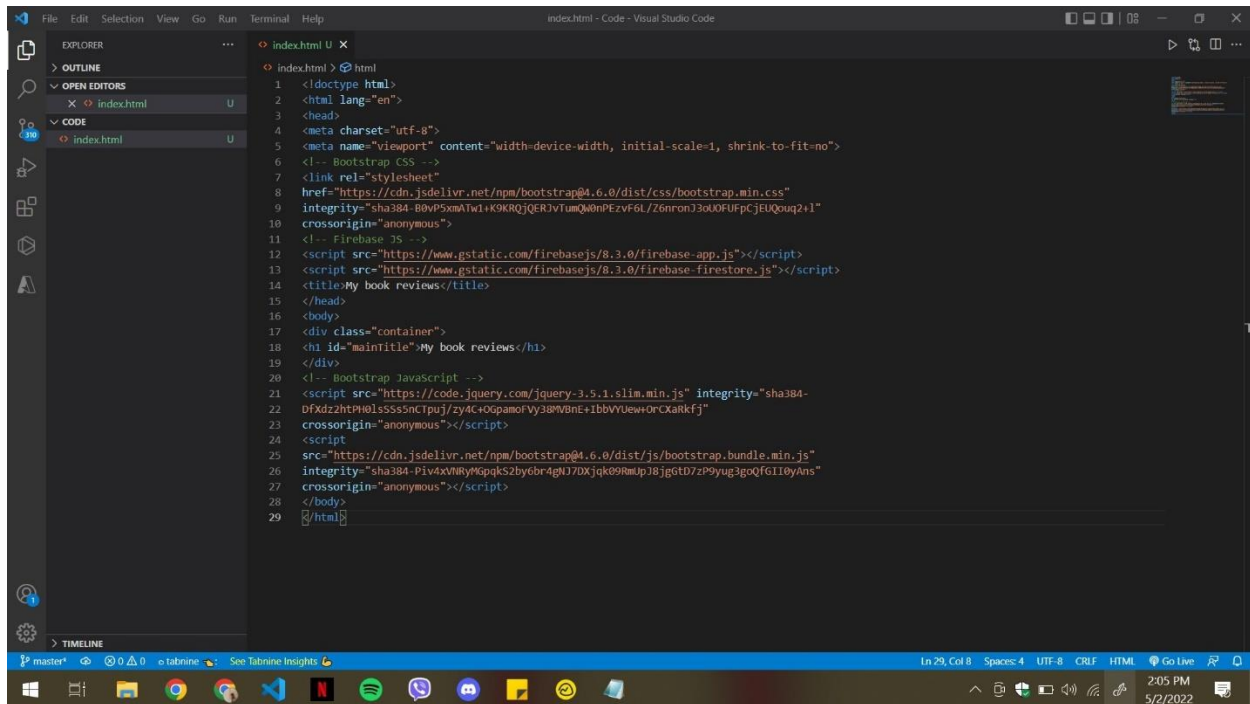


Here I have added few more book names i.e. the data and then clicking on save button.



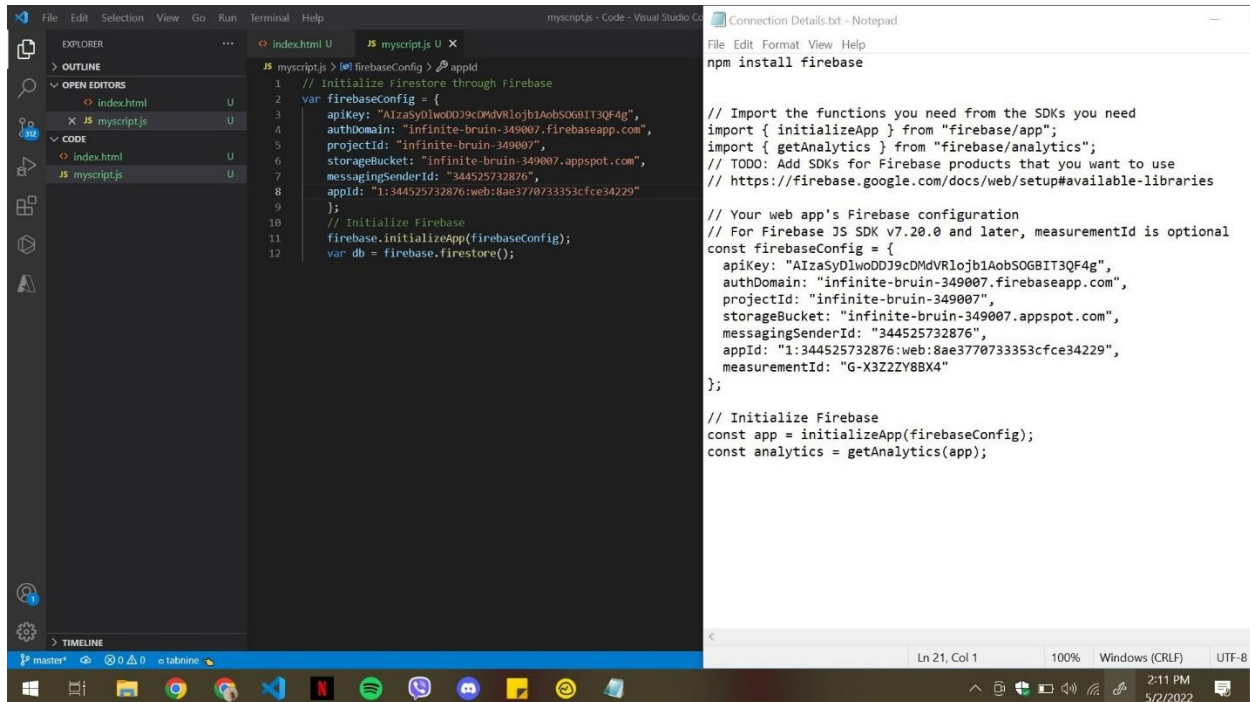
Step 4: Accessing your data from JavaScript

To access the data first you need to create a new HTML file and inserted the provided code.



The code in the line 17 and 18 are responsible for making a connection between HTML page and the Firebase server. Alongside that, you need to include CDNs for Bootstrap and JQuery.

Next, you need to create a JS file named `myscript.js` and write code there to make a connection between our app and the server.



The screenshot shows two windows. The main window is Visual Studio Code with the file `myscript.js` open. The code in the file is as follows:

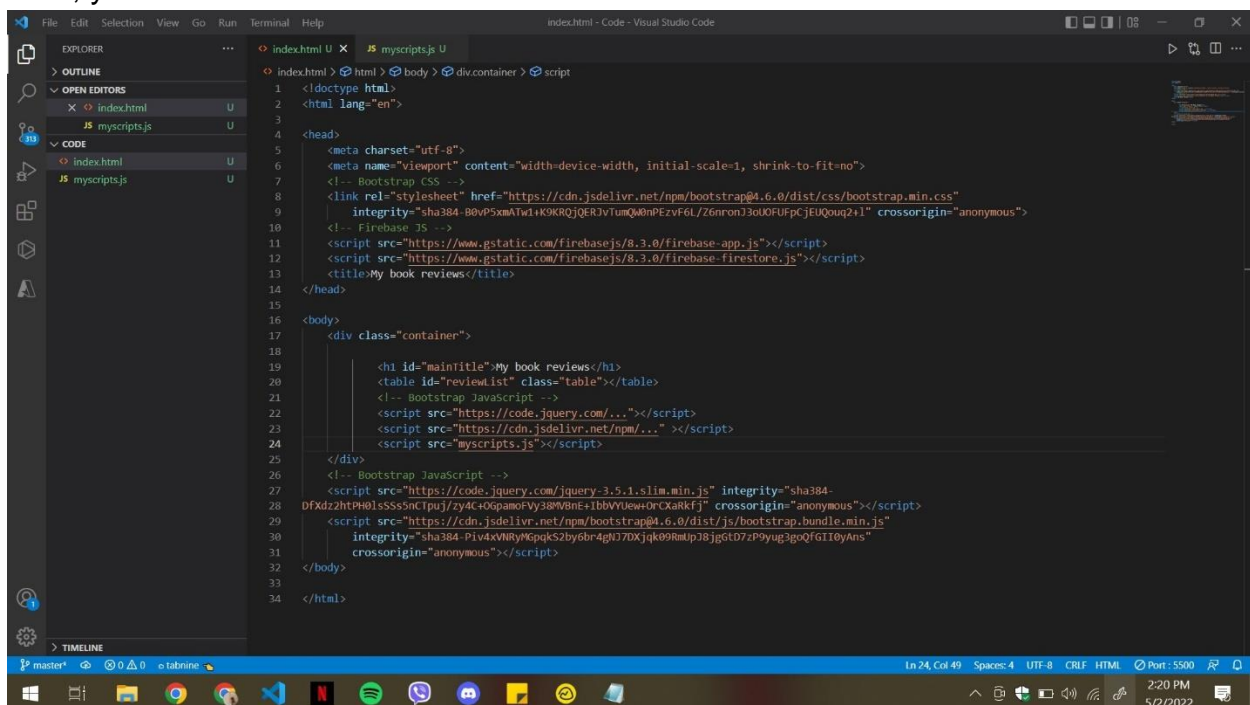
```
1 // Initialize Firestore through Firebase
2 var firebaseConfig = {
3   apiKey: "AIzaSyDlwoDDJ9cDMdVRlojb1AobSOG8IT3QF4g",
4   authDomain: "infinite-bruin-349007.firebaseio.com",
5   projectId: "infinite-bruin-349007",
6   storageBucket: "infinite-bruin-349007.appspot.com",
7   messagingSenderId: "344525732876",
8   appId: "1:344525732876:web:8ae3770733353cfce34229"
9 };
10 // Initialize Firebase
11 firebase.initializeApp(firebaseConfig);
12 var db = firebase.firestore();
```

The second window is a Notepad titled `Connection Details.txt` showing the command to install the Firebase SDK:

```
npm install firebase
```

Below this command, there is a detailed comment block explaining the configuration and the initialization of the Firebase app and analytics.

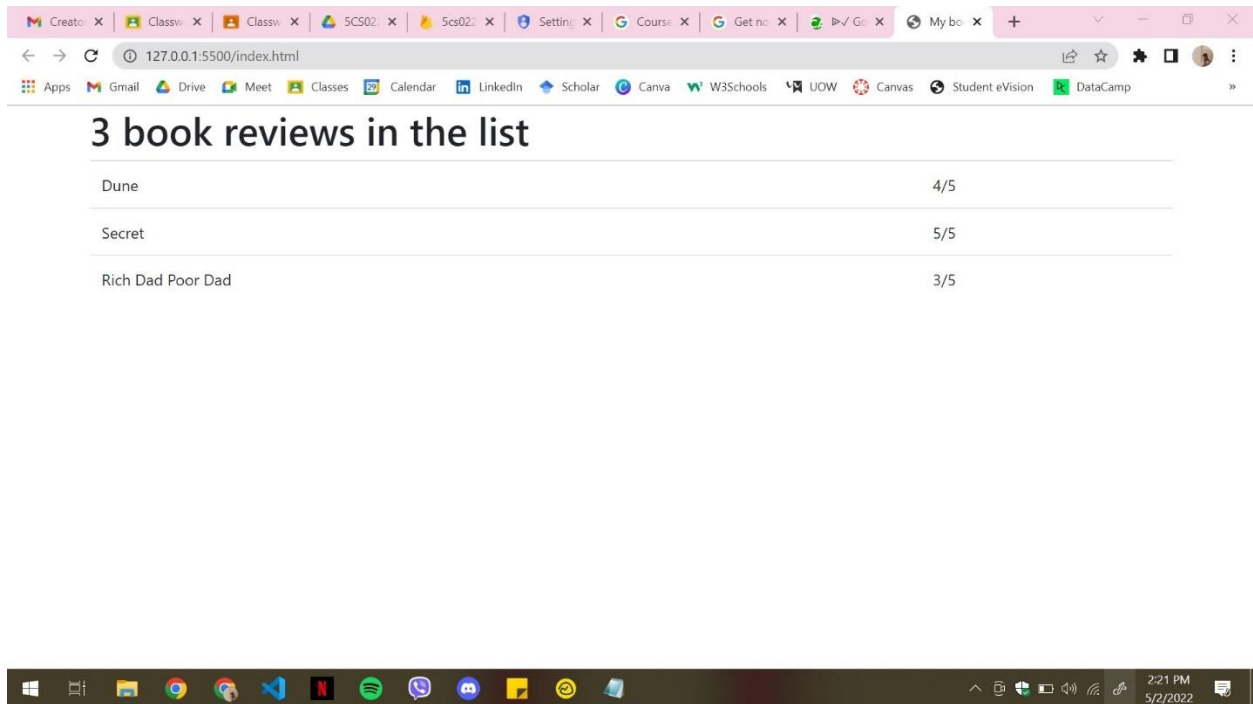
Next, you should add more lines of code in the same file like this.



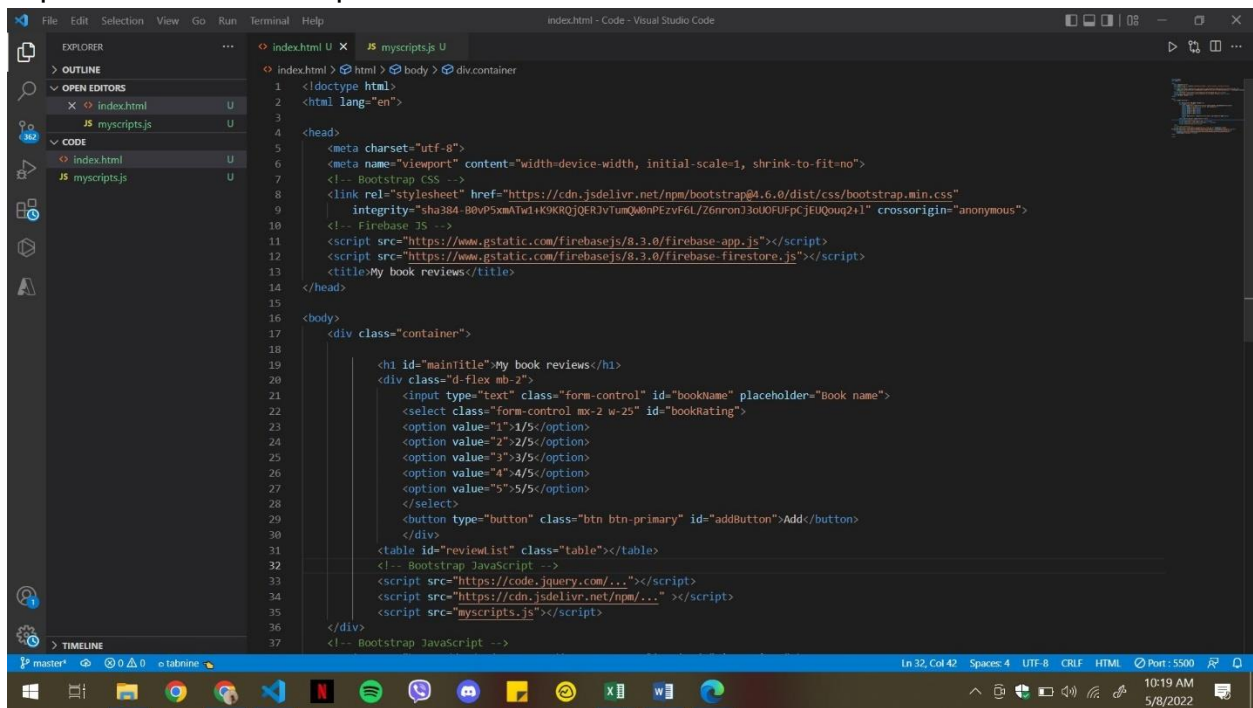
The screenshot shows Visual Studio Code with the file `index.html` open. The code in the file is as follows:

```
1 <!doctype html>
2 <html lang="en">
3
4 <head>
5   <meta charset="utf-8">
6   <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
7   <!-- Bootstrap CSS -->
8   <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.0/dist/css/bootstrap.min.css"
9     integrity="sha384-B0vP5xmATw1k9KQJQER3VtunQmNPEZv6LZ6nron33oUOFUPpCJEUQouq211" crossorigin="anonymous">
10   <!-- Firebase JS -->
11   <script src="https://www.gstatic.com/firebasejs/8.3.0/firebase-app.js"></script>
12   <script src="https://www.gstatic.com/firebasejs/8.3.0/firebase-firestore.js"></script>
13   <title>My book reviews</title>
14 </head>
15
16 <body>
17   <div class="container">
18     <h1 id="mainTitle">My book reviews</h1>
19     <table id="reviewList" class="table"></table>
20     <!-- Bootstrap JavaScript -->
21     <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
22     <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.0/dist/js/bootstrap.bundle.min.js"
23       integrity="sha384-Piv4xVNRyMGpKqS2by6br4pH7DXJqk9Rmlup38jg6tD7zP9yug3goQfG118yAns"
24       crossorigin="anonymous"></script>
25   </div>
26   <!-- Bootstrap JavaScript -->
27   <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-
28     DFxdz2htPH0LS5S5nCTpUj/zy4C+OqpmoFVy38MVBne+IbbVYUew+OrCXaRkfj" crossorigin="anonymous"></script>
29   <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.0/dist/js/bootstrap.bundle.min.js"
30     integrity="sha384-Piv4xVNRyMGpKqS2by6br4pH7DXJqk9Rmlup38jg6tD7zP9yug3goQfG118yAns"
31     crossorigin="anonymous"></script>
32 </body>
33
34 </html>
```

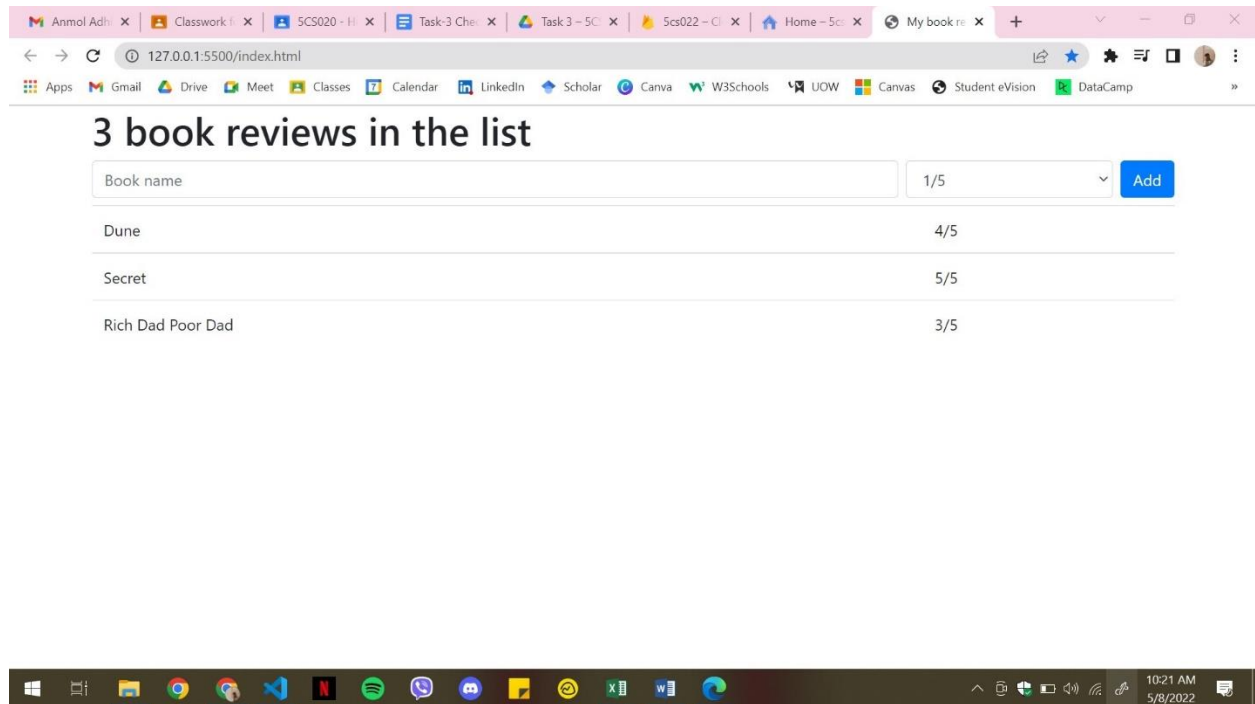
After doing so, all the book reviews get shown in the table in the web page.



To provide the ability to enter data into our database directly from the web page, we first implemented several input fields.



Now to add new book reviews, you need to insert data in the fields and pressed Add.



3 book reviews in the list

Book name	1/5	Add
Dune	4/5	
Secret	5/5	
Rich Dad Poor Dad	3/5	

10:21 AM 5/8/2022