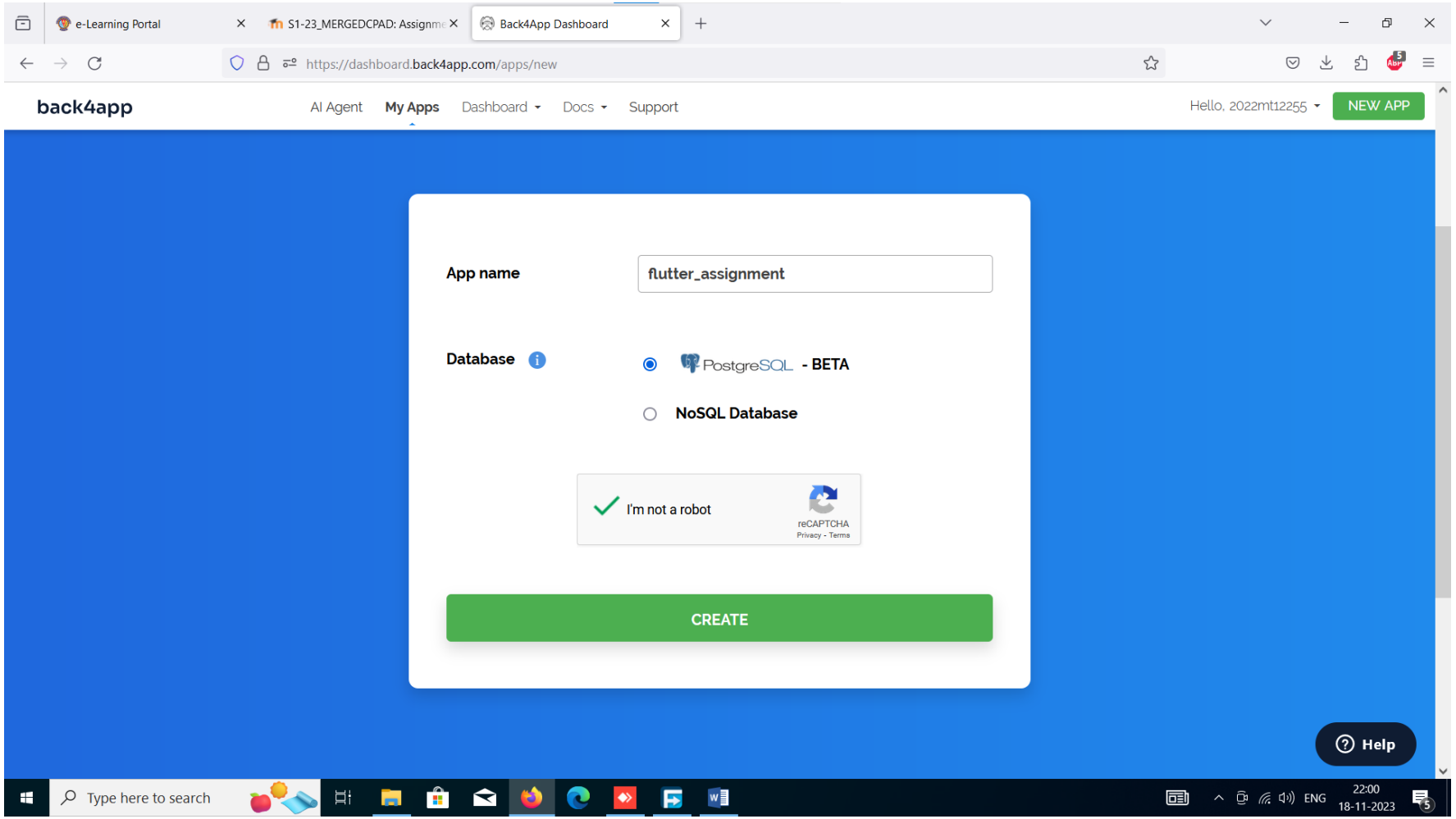
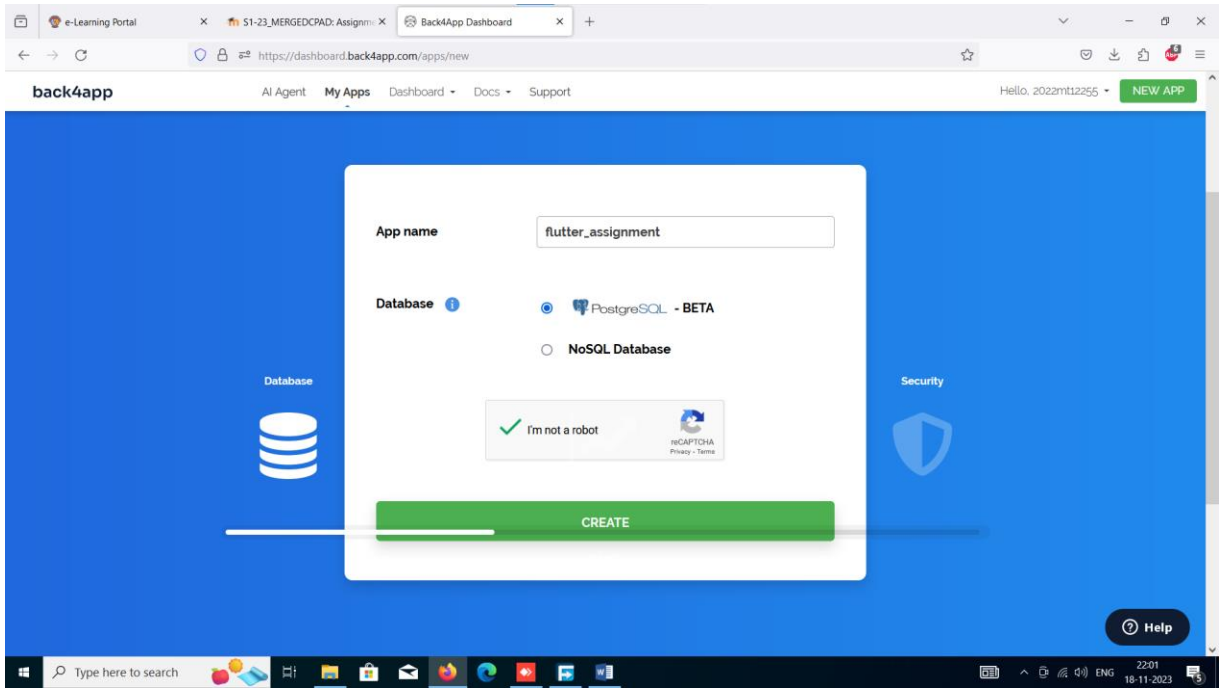
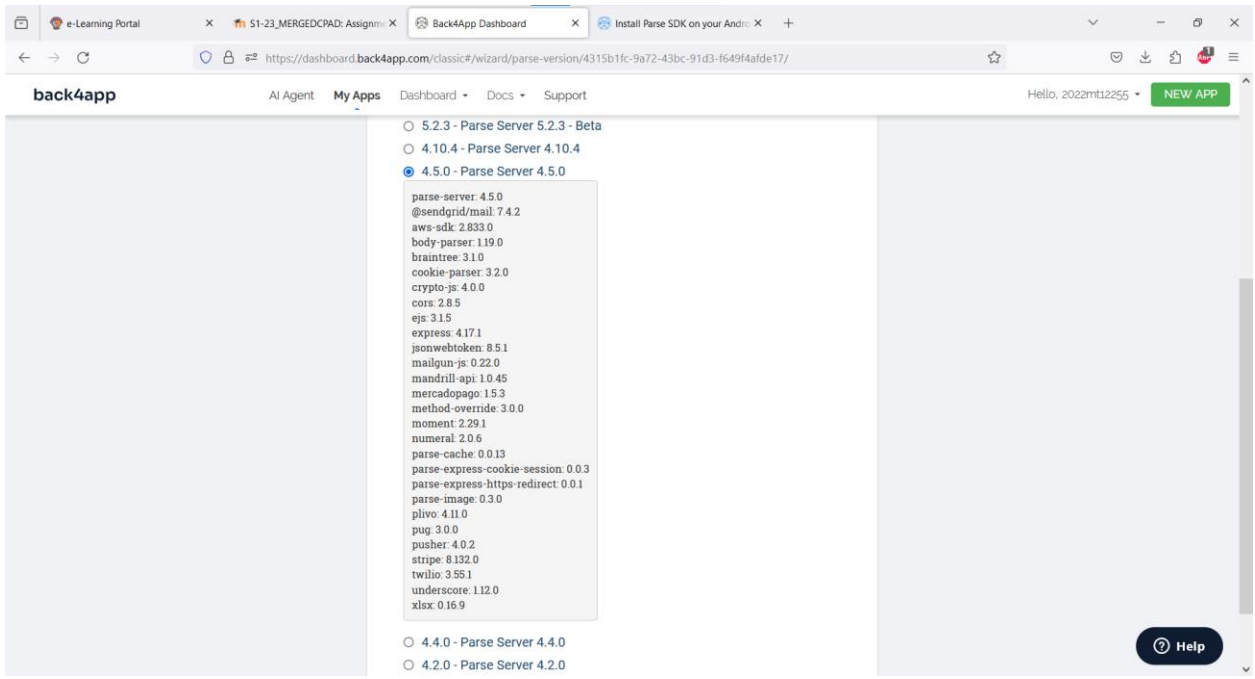
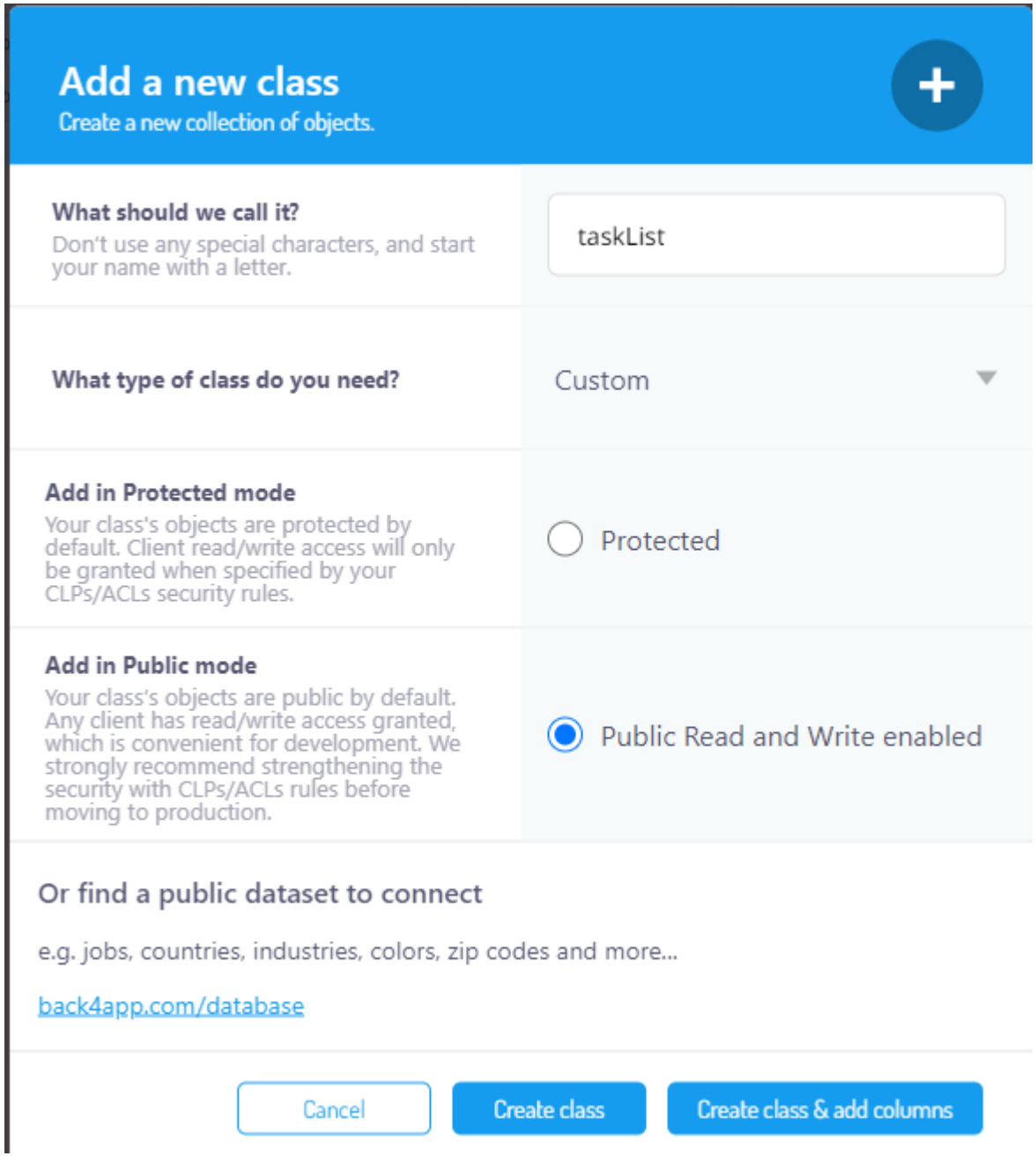
Step 1: Set Up Back4App

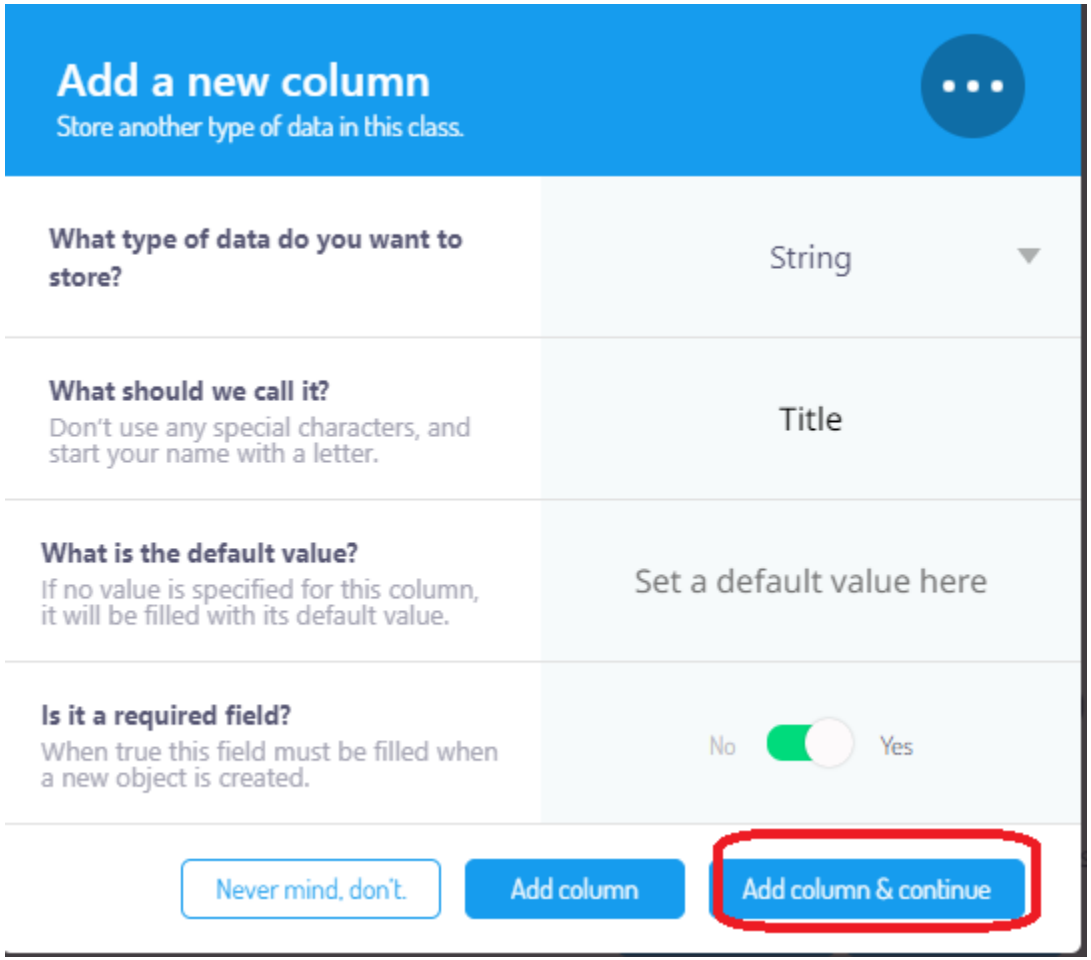


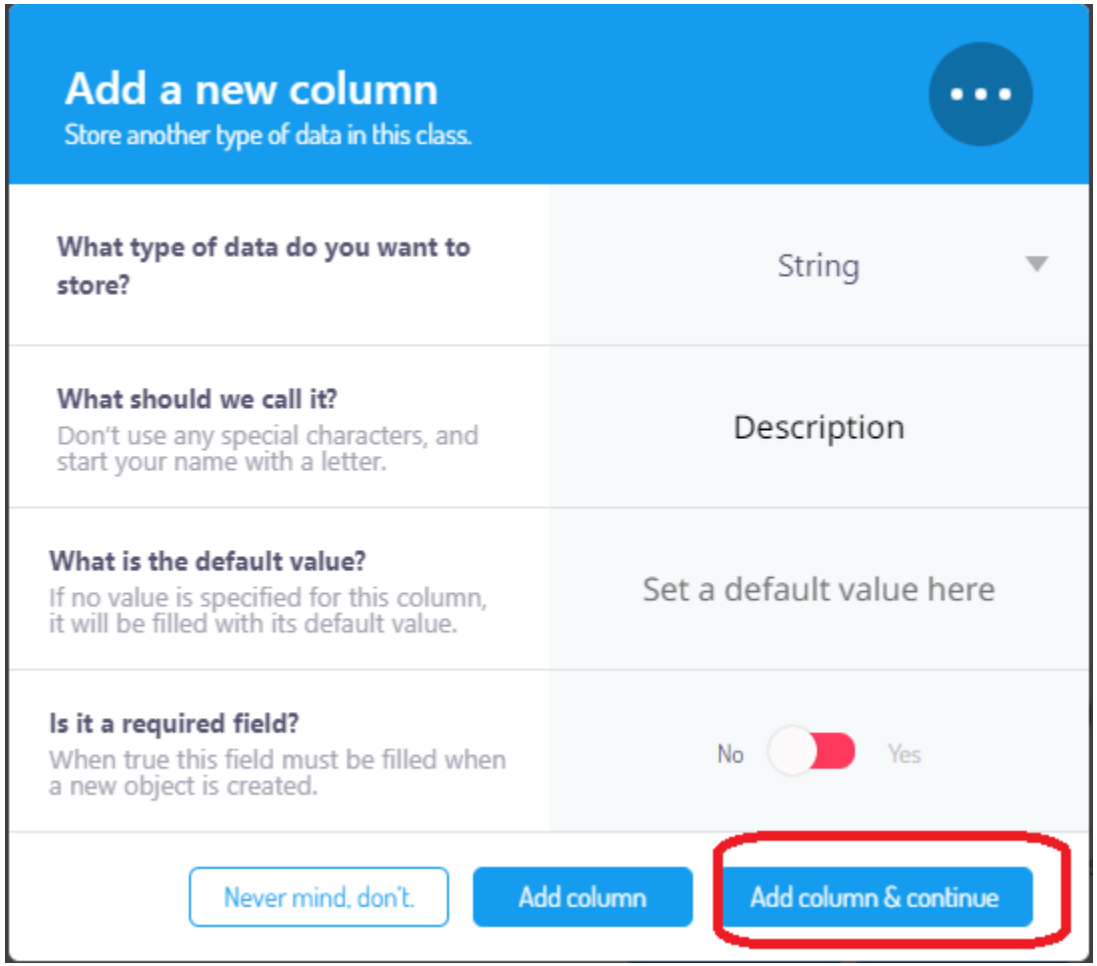

e-Learning Portal
S1-23_MERGEDCPAD: Assignm
Back4App Dashboard
https://dashboard.back4app.com/apps/new
back4app
AI Agent
My Apps
Dashboard
Docs
Support
Hello, 2022mt12255
NEW APP
App name
flutter_assignment
Database
PostgreSQL - BETA
NoSQL Database
Database
Security
I'm not a robot
reCAPTCHA
Privacy - Terms
CREATE
Help
Type here to search
ENG
22:01
18-11-2023

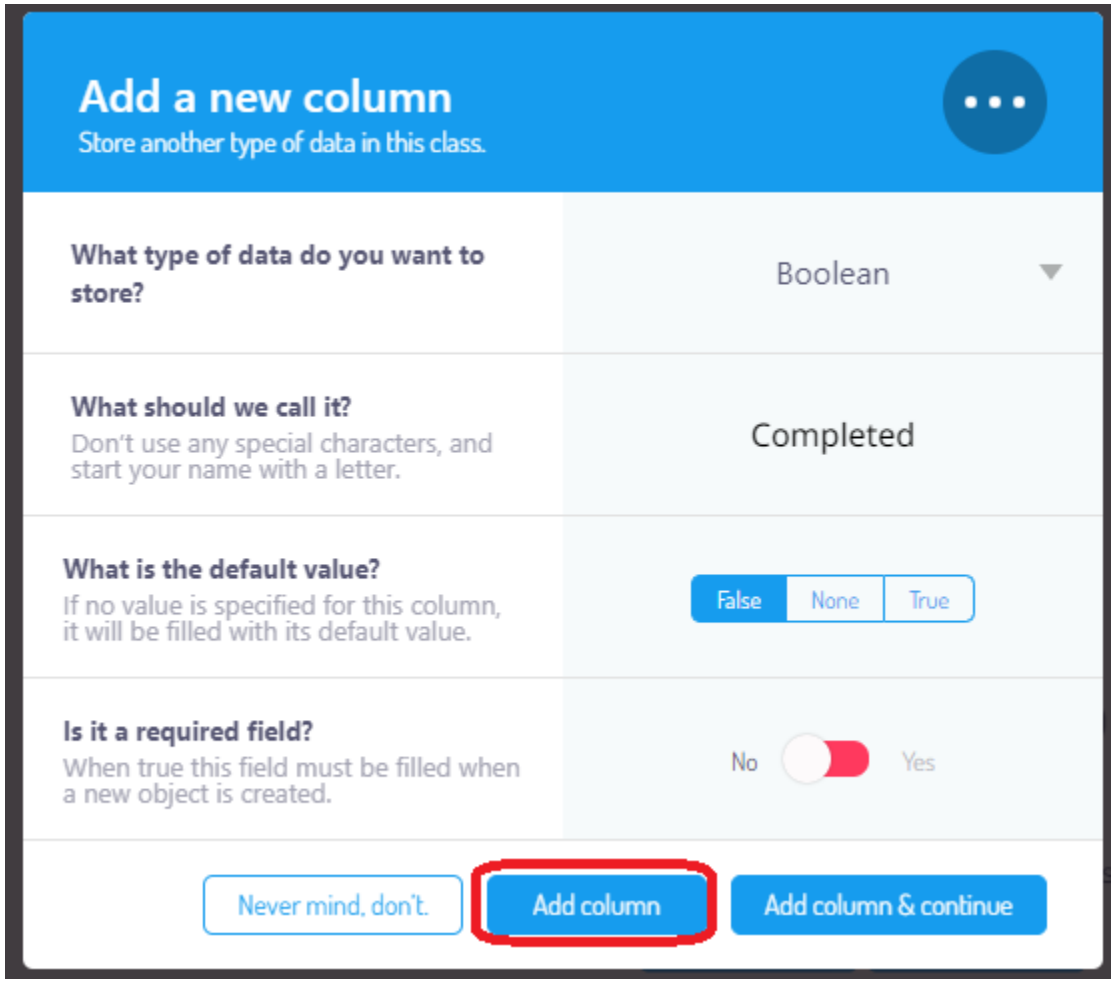

e-Learning Portal
S1-23_MERGEDCPAD: Assignm
Back4App Dashboard
Install Parse SDK on your Andro
https://dashboard.back4app.com/classic#/wizard/parse-version/4315b1fc-9a72-43bc-91d3-f649f4afde17/
back4app
AI Agent
My Apps
Dashboard
Docs
Support
Hello, 2022mt12255
NEW APP
5.2.3 - Parse Server 5.2.3 - Beta
4.10.4 - Parse Server 4.10.4
4.5.0 - Parse Server 4.5.0
parse-server: 4.5.0
@sendgrid/mail: 7.4.2
aws-sdk: 2.833.0
body-parser: 1.19.0
braintree: 3.1.0
cookie-parser: 3.2.0
crypto-js: 4.0.0
cors: 2.8.5
ejs: 3.1.5
express: 4.17.1
jsonwebtoken: 8.5.1
mailgun-js: 0.22.0
mandrill-api: 1.0.45
mercadopago: 1.5.3
method-override: 3.0.0
moment: 2.29.1
numeral: 2.0.6
parse-cache: 0.0.13
parse-express-cookie-session: 0.0.3
parse-express-https-redirect: 0.0.1
parse-image: 0.3.0
plivo: 4.11.0
pug: 3.0.0
pusher: 4.0.2
stripe: 8.132.0
twilio: 3.55.1
underscore: 1.12.0
xlsx: 0.16.9
4.4.0 - Parse Server 4.4.0
4.2.0 - Parse Server 4.2.0
Help

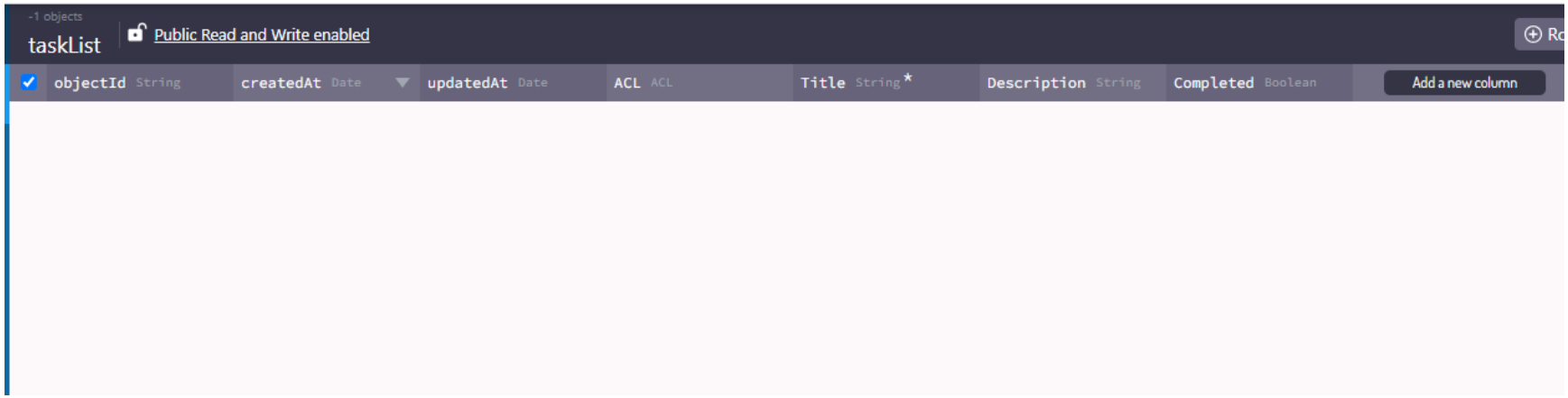
Create a class in Back4App named Task with columns title (String) and description (String).



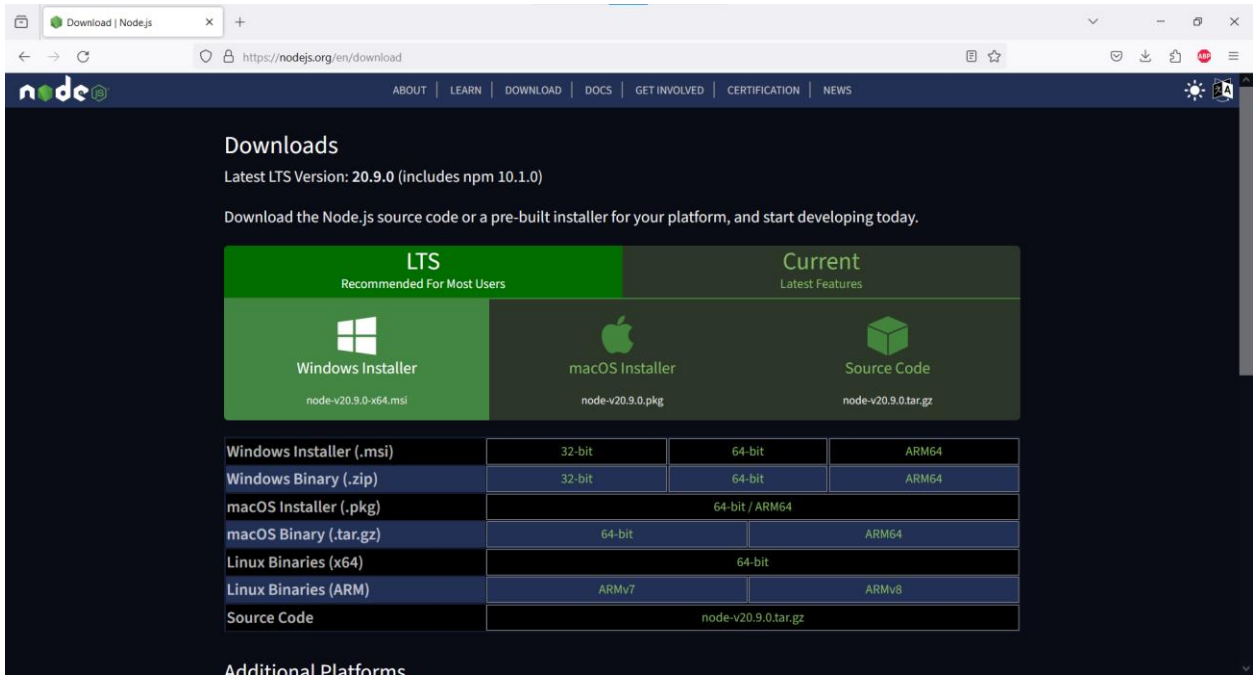

Add a new column
Store another type of data in this class.
What type of data do you want to store?
String
What should we call it?
Don't use any special characters, and start your name with a letter.
Title
What is the default value?
If no value is specified for this column, it will be filled with its default value.
Set a default value here
Is it a required field?
When true this field must be filled when a new object is created.
No
Yes
Never mind, don't.
Add column
Add column & continue

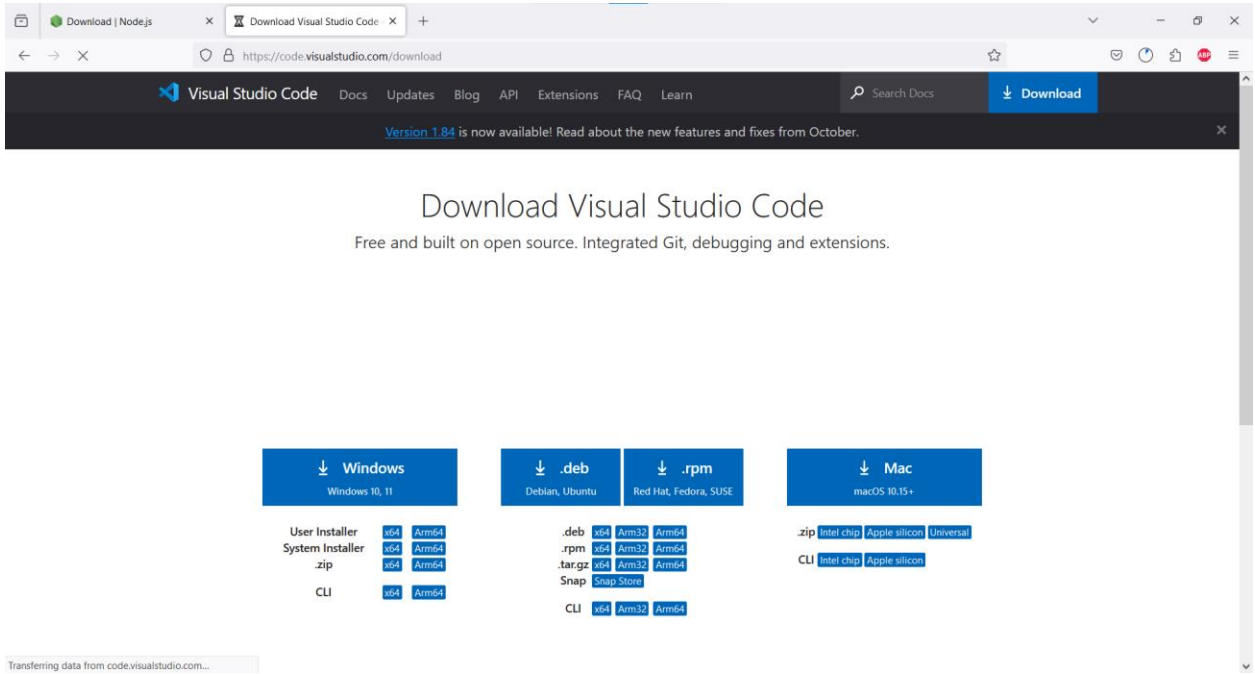

Add a new column
Store another type of data in this class.
What type of data do you want to store?
String
What should we call it?
Don't use any special characters, and start your name with a letter.
Description
What is the default value?
If no value is specified for this column, it will be filled with its default value.
Set a default value here
Is it a required field?
When true this field must be filled when a new object is created.
No
Yes
Never mind, don't.
Add column
Add column & continue

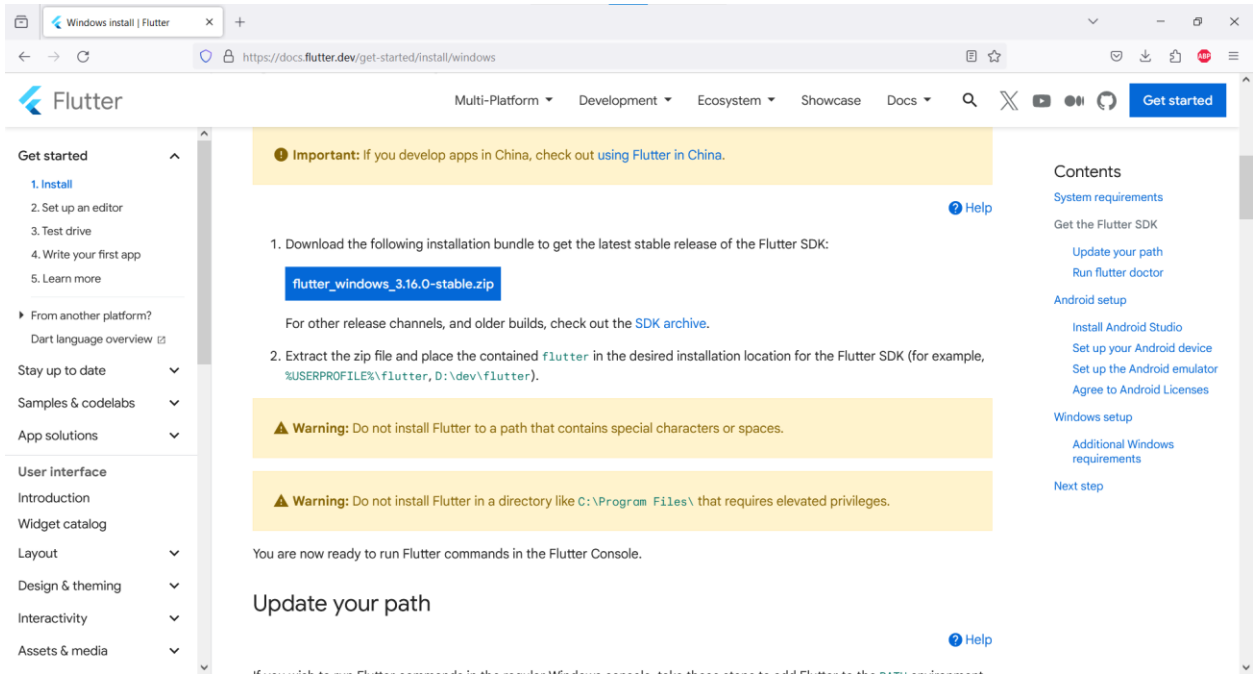

Add a new column
Store another type of data in this class.
What type of data do you want to store?
Boolean
What should we call it?
Don't use any special characters, and start your name with a letter.
Completed
What is the default value?
If no value is specified for this column, it will be filled with its default value.
False
None
True
Is it a required field?
When true this field must be filled when a new object is created.
No
Yes
Never mind, don't.
Add column
Add column & continue

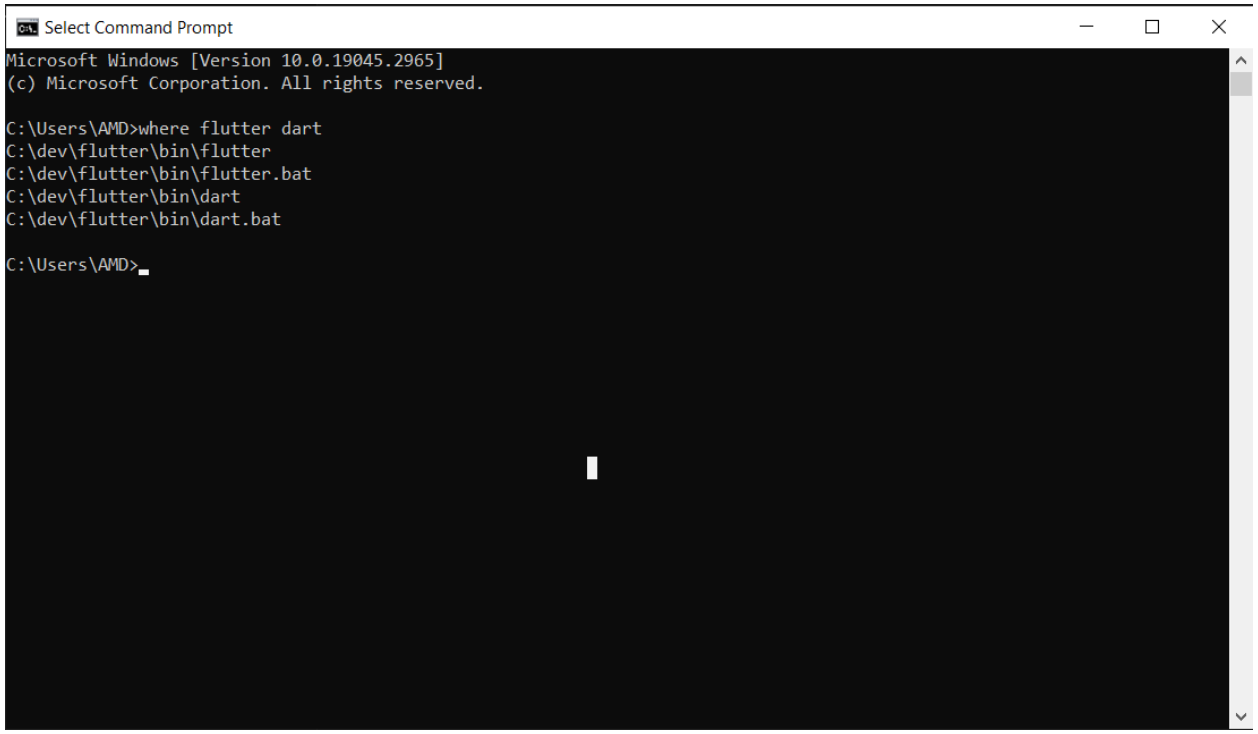

-1 objects
taskList
Public Read and Write enabled
objectId String
createdAt Date
updatedAt Date
ACL ACL
Title String *
Description String
Completed Boolean
Add a new column

Step 2: Flutter Setup



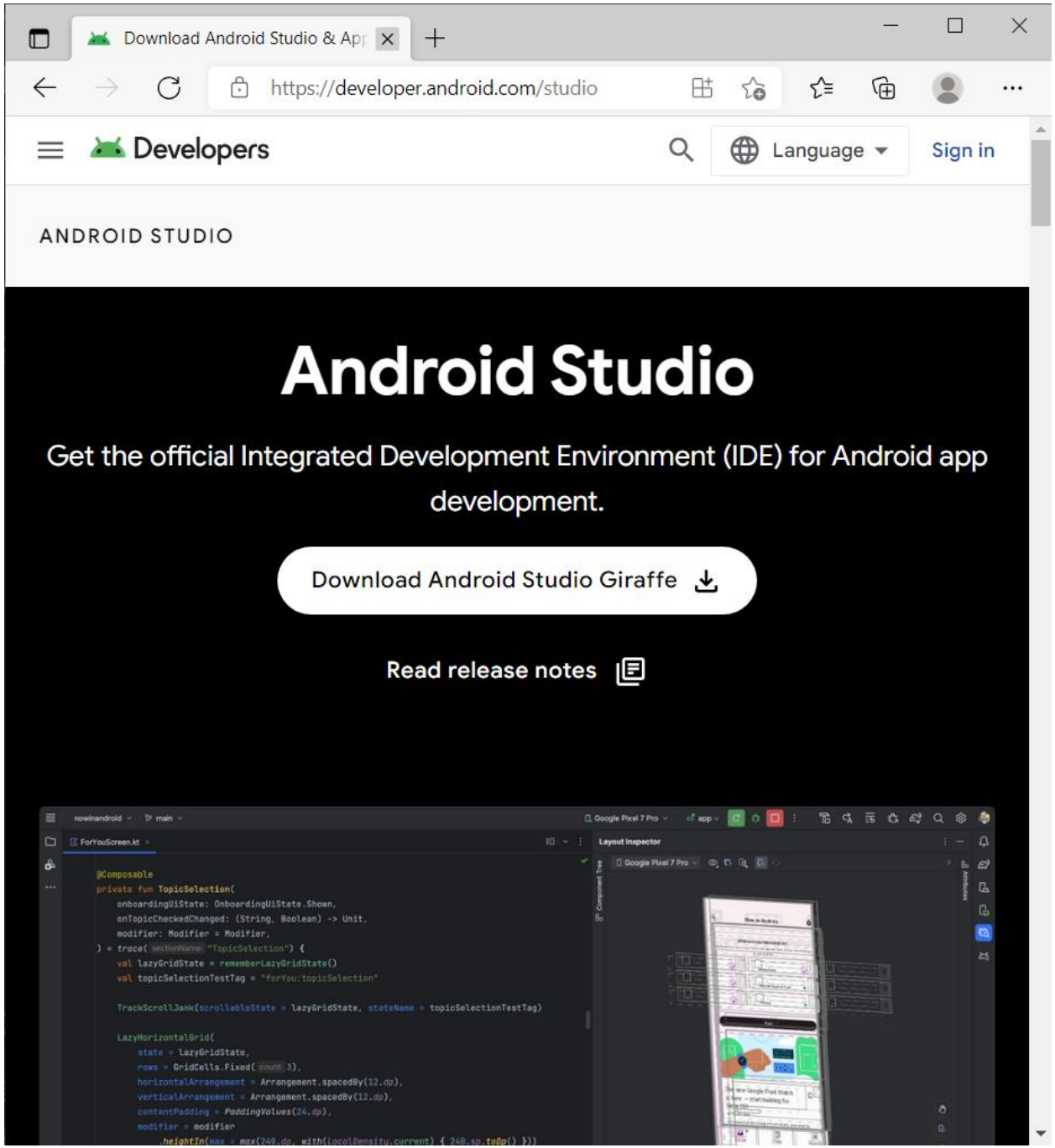


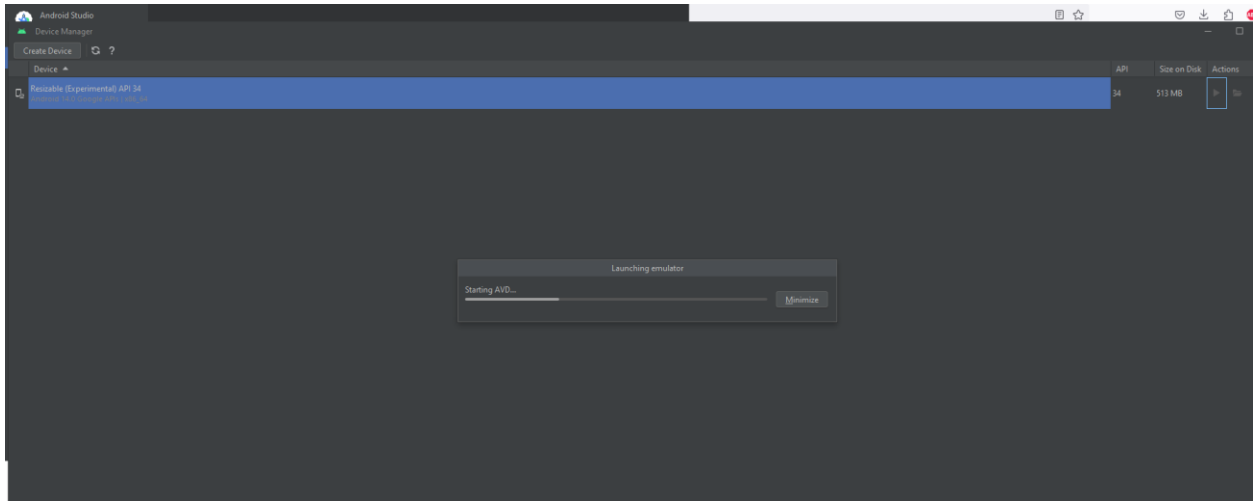

Windows install | Flutter
https://docs.flutter.dev/get-started/install/windows
Flutter
Multi-Platform
Development
Ecosystem
Showcase
Docs
Get started
Get started
1. Install
2. Set up an editor
3. Test drive
4. Write your first app
5. Learn more
From another platform?
Dart language overview
Stay up to date
Samples & codelabs
App solutions
User interface
Introduction
Widget catalog
Layout
Design & theming
Interactivity
Assets & media
Important: If you develop apps in China, check out using Flutter in China.
Help
1. Download the following installation bundle to get the latest stable release of the Flutter SDK:
flutter_windows_3.16.0-stable.zip
For other release channels, and older builds, check out the SDK archive.
2. Extract the zip file and place the contained flutter in the desired installation location for the Flutter SDK (for example, %USERPROFILE%\flutter, D:\dev\flutter).
Warning: Do not install Flutter to a path that contains special characters or spaces.
Warning: Do not install Flutter in a directory like C:\Program Files\ that requires elevated privileges.
You are now ready to run Flutter commands in the Flutter Console.
Update your path
Help
Contents
System requirements
Get the Flutter SDK
Update your path
Run flutter doctor
Android setup
Install Android Studio
Set up your Android device
Set up the Android emulator
Agree to Android Licenses
Windows setup
Additional Windows requirements
Next step



Running “flutter doctor” in Vscode Terminal :

```
PS F:\Data Management IOT\Assignment\flutter_app> flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[√] Flutter (Channel stable, 3.16.0, on Microsoft Windows [Version 10.0.19045.2965], locale en-IN)
[√] Windows Version (Installed version of Windows is version 10 or higher)
[X] Android toolchain - develop for Android devices
    X Unable to locate Android SDK.
      Install Android Studio from: https://developer.android.com/studio/index.html
      On first launch it will assist you in installing the Android SDK components.
      (or visit https://flutter.dev/docs/get-started/install/windows#android-setup for detailed instructions).
      If the Android SDK has been installed to a custom location, please use
      `flutter config --android-sdk` to update to that location.

[X] Chrome - develop for the web (Cannot find Chrome executable at .\Google\Chrome\Application\chrome.exe)
    ! Cannot find Chrome. Try setting CHROME_EXECUTABLE to a Chrome executable.
[X] Visual Studio - develop Windows apps
    X Visual Studio not installed; this is necessary to develop Windows apps.
      Download at https://visualstudio.microsoft.com/downloads/.
      Please install the "Desktop development with C++" workload, including all of its default components
[!] Android Studio (not installed)
[√] VS Code (version 1.84.2)
[√] Connected device (2 available)
[√] Network resources

! Doctor found issues in 4 categories.
```

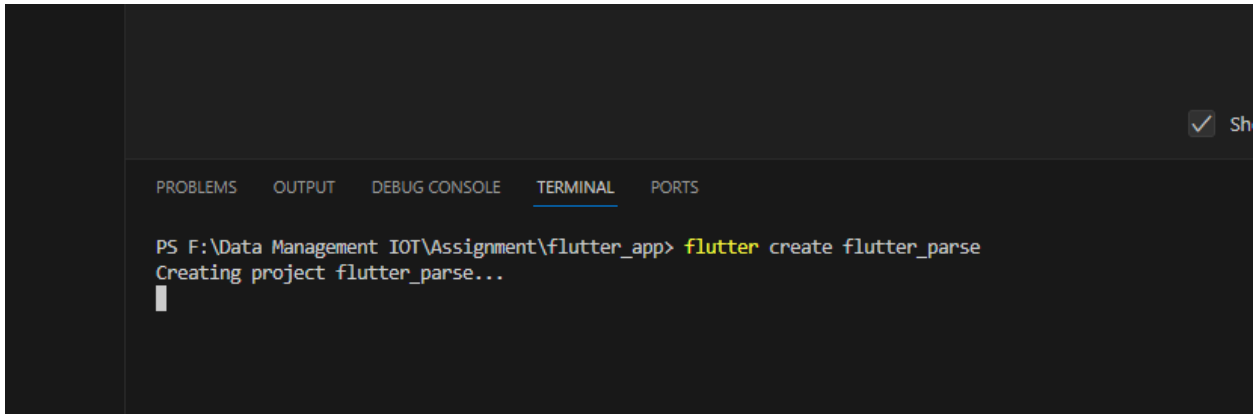

Download Android Studio & App
https://developer.android.com/studio
Developers
Language
Sign in
ANDROID STUDIO
Android Studio
Get the official Integrated Development Environment (IDE) for Android app development.
Download Android Studio Giraffe
Read release notes

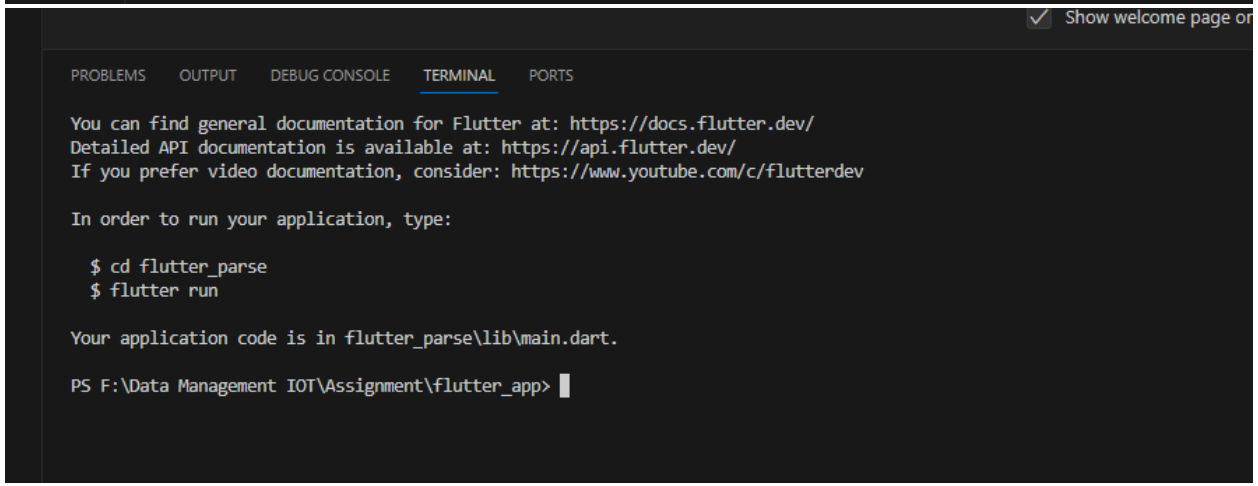


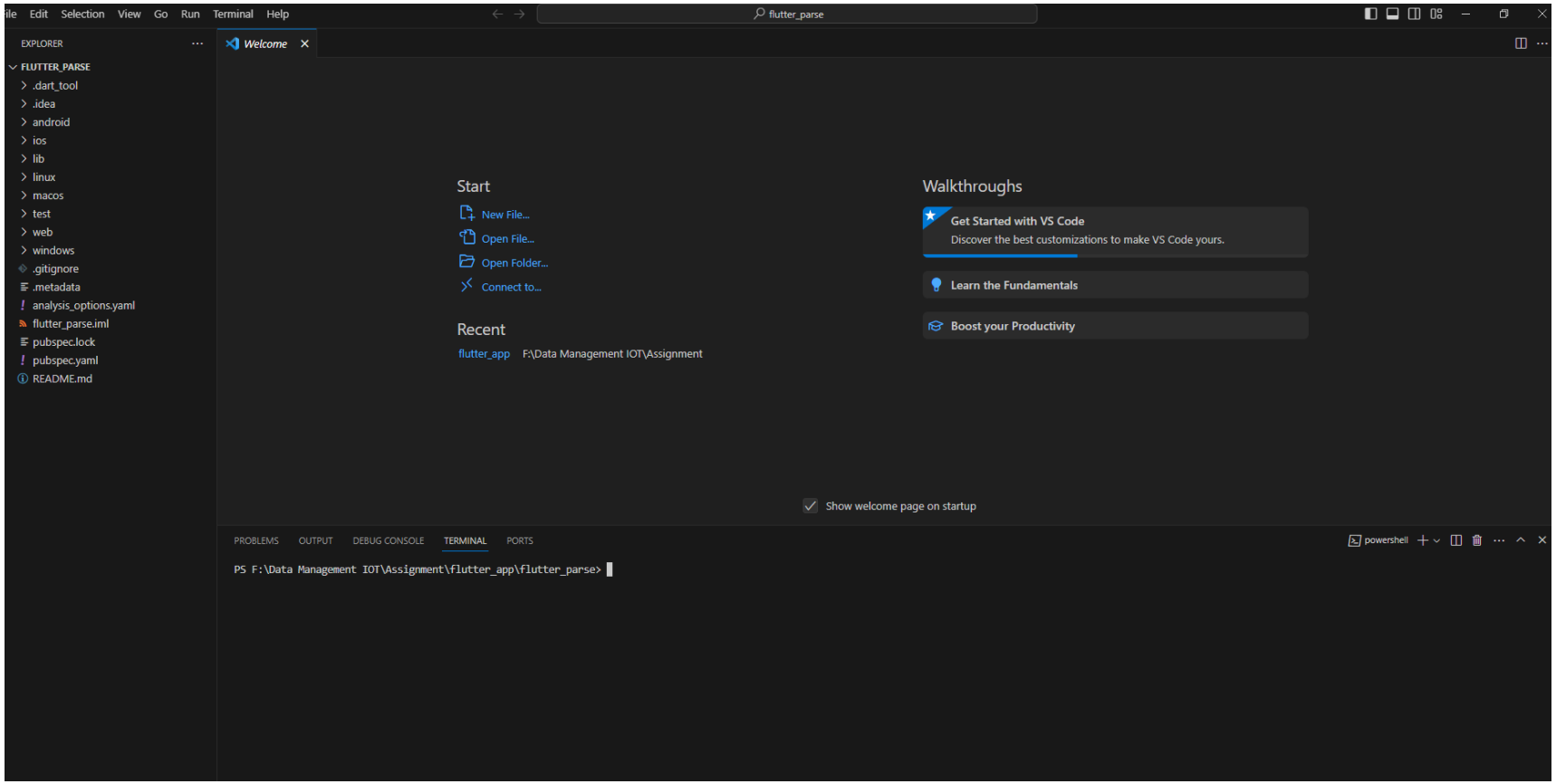
After resolving the issues…

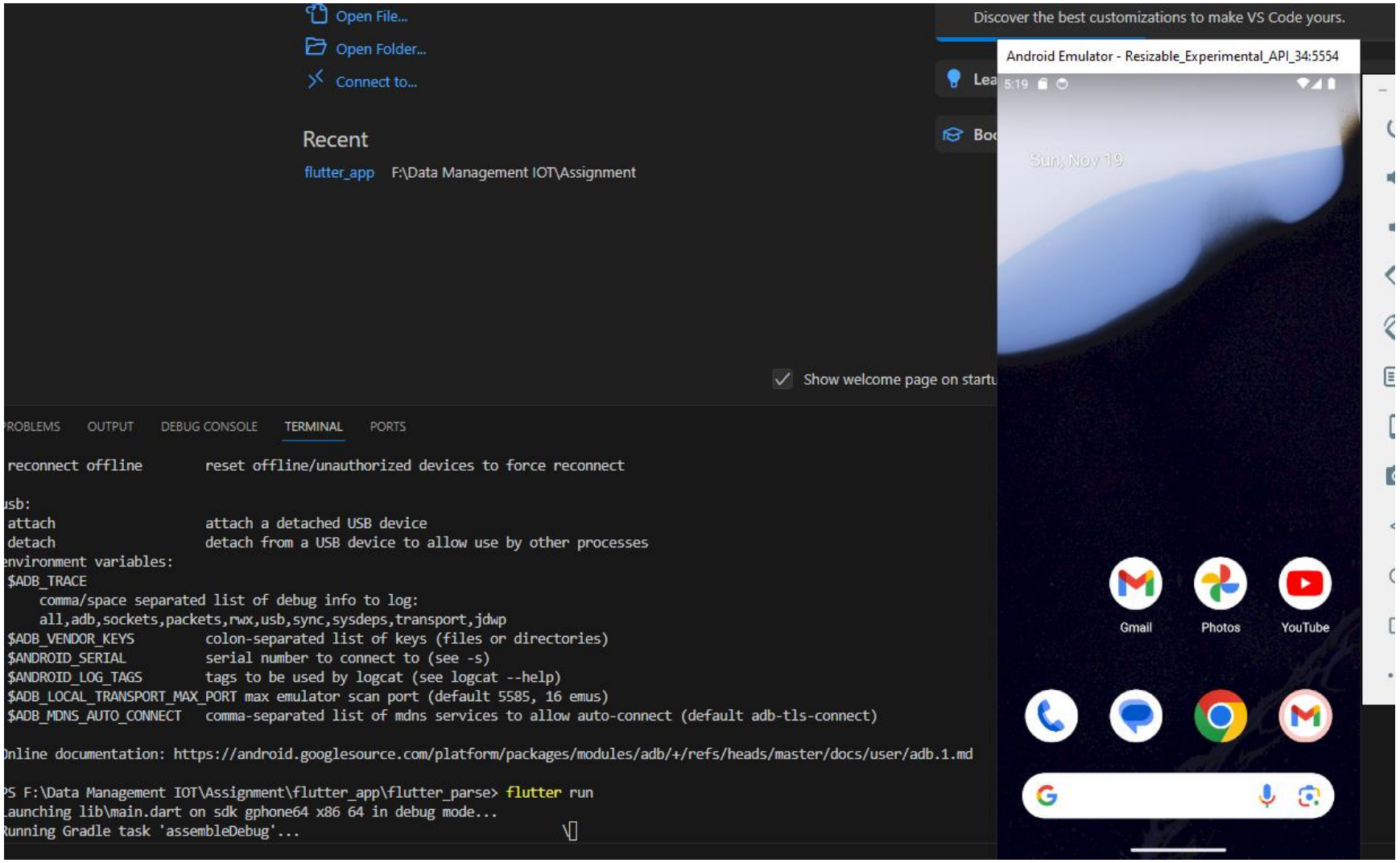
```
PS F:\Data Management IOT\Assignment\flutter_app> flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[√] Flutter (Channel stable, 3.16.0, on Microsoft Windows [Version 10.0.19045.2965], locale en-IN)
[√] Windows Version (Installed version of Windows is version 10 or higher)
[√] Android toolchain - develop for Android devices (Android SDK version 34.0.0)
[√] Chrome - develop for the web
[√] Visual Studio - develop Windows apps (Visual Studio Community 2022 17.8.0)
[√] Android Studio (version 2022.3)
[√] VS Code (version 1.84.2)
[√] Connected device (3 available)
[√] Network resources

• No issues found!
PS F:\Data Management IOT\Assignment\flutter_app>
```

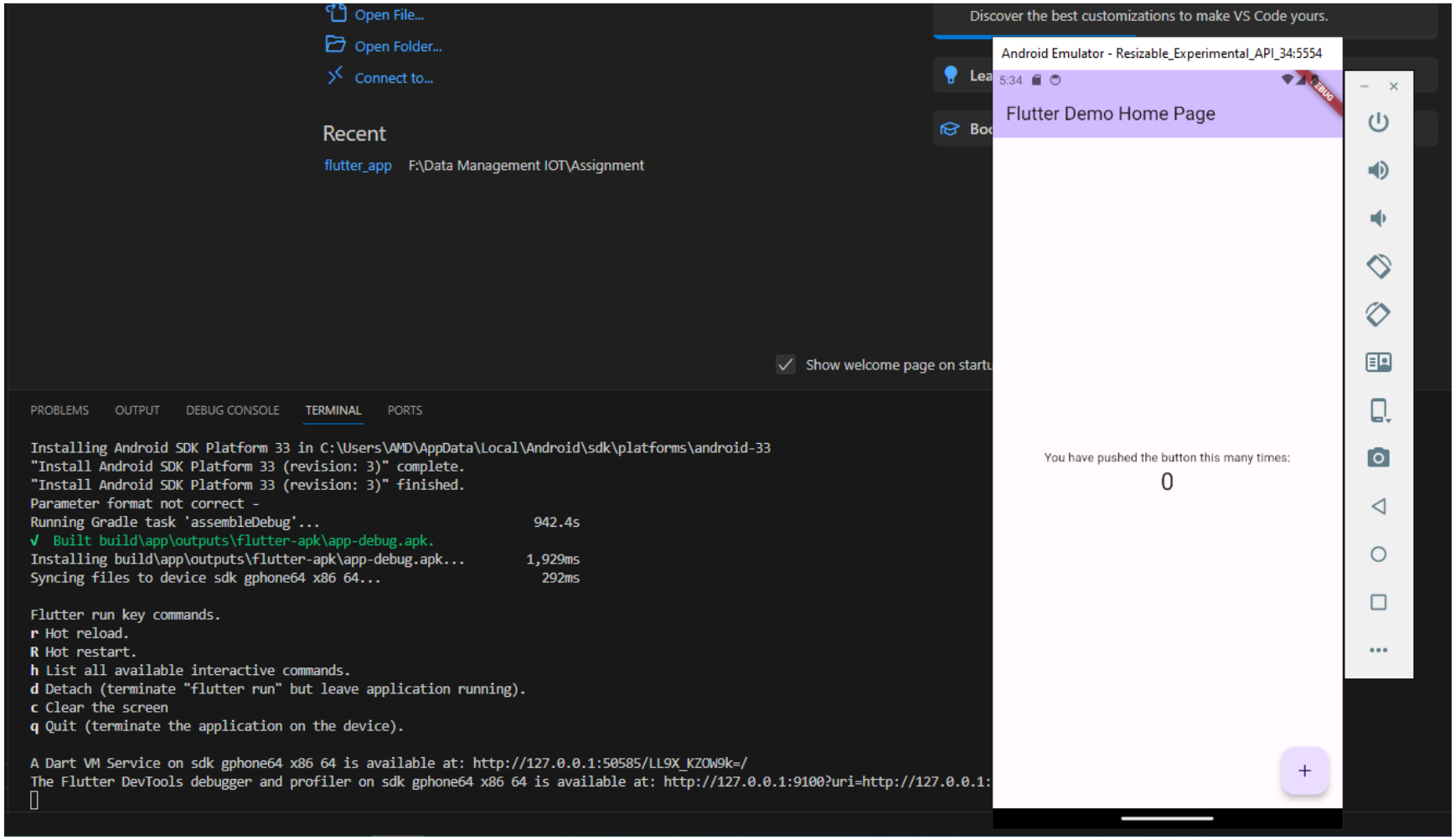
Create a new Flutter project.


Sh
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS F:\Data Management IOT\Assignment\flutter_app> flutter create flutter_parse
Creating project flutter_parse...


Show welcome page on
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
You can find general documentation for Flutter at: https://docs.flutter.dev/
Detailed API documentation is available at: https://api.flutter.dev/
If you prefer video documentation, consider: https://www.youtube.com/c/flutterdev
In order to run your application, type:
$ cd flutter_parse
$ flutter run
Your application code is in flutter_parse\lib\main.dart.
PS F:\Data Management IOT\Assignment\flutter_app>


File Edit Selection View Go Run Terminal Help
flutter_parse
EXPLORER
FLUTTER_PARSE
.dart_tool
.idea
android
ios
lib
linux
macos
test
web
windows
.gitignore
.metadata
analysis_options.yaml
flutter_parse.iml
pubspec.lock
pubspec.yaml
README.md
Welcome
Start
New File...
Open File...
Open Folder...
Connect to...
Recent
flutter_app F:\Data Management IOT\Assignment
Walkthroughs
Get Started with VS Code
Discover the best customizations to make VS Code yours.
Learn the Fundamentals
Boost your Productivity
Show welcome page on startup
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
powershell
PS F:\Data Management IOT\Assignment\flutter_app\flutter_parse>


Open File...
Open Folder...
Connect to...
Recent
flutter_app F:\Data Management IOT\Assignment
Discover the best customizations to make VS Code yours.
Show welcome page on startu
Android Emulator - Resizable_Experimental_API_34:5554
5:19
Sun, Nov 19
Gmail
Photos
YouTube
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
reconnect offline reset offline/unauthorized devices to force reconnect
usb:
attach attach a detached USB device
detach detach from a USB device to allow use by other processes
environment variables:
$ADB_TRACE
comma/space separated list of debug info to log:
all,adb,sockets,packets,rwx,usb,sync,sysdeps,transport,jdwp
$ADB_VENDOR_KEYS colon-separated list of keys (files or directories)
$ANDROID_SERIAL serial number to connect to (see -s)
$ANDROID_LOG_TAGS tags to be used by logcat (see logcat --help)
$ADB_LOCAL_TRANSPORT_MAX_PORT max emulator scan port (default 5585, 16 emus)
$ADB_MDNS_AUTO_CONNECT comma-separated list of mdns services to allow auto-connect (default adb-tls-connect)
Online documentation: https://android.googlesource.com/platform/packages/modules/adb/+/refs/heads/master/docs/user/adb.1.md
PS F:\Data Management IOT\Assignment\flutter_app\flutter_parse> flutter run
Launching lib\main.dart on sdk gphone64 x86 64 in debug mode...
Running Gradle task 'assembleDebug'...

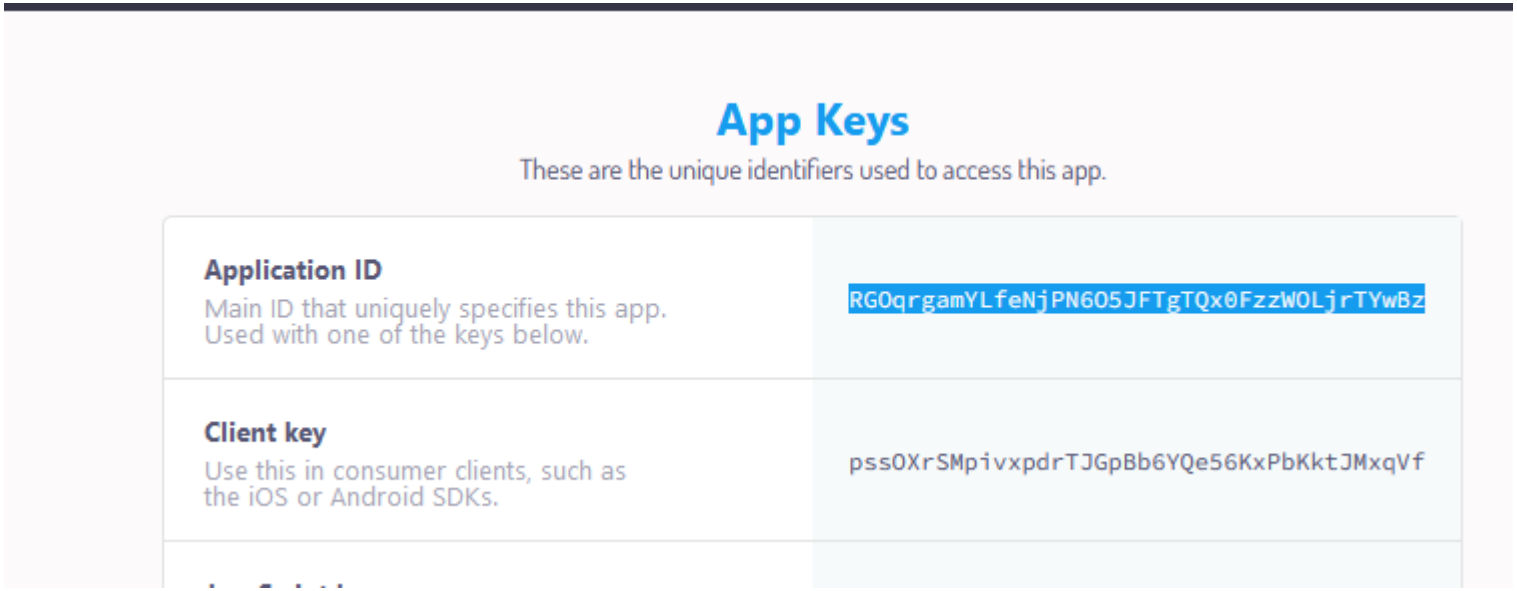


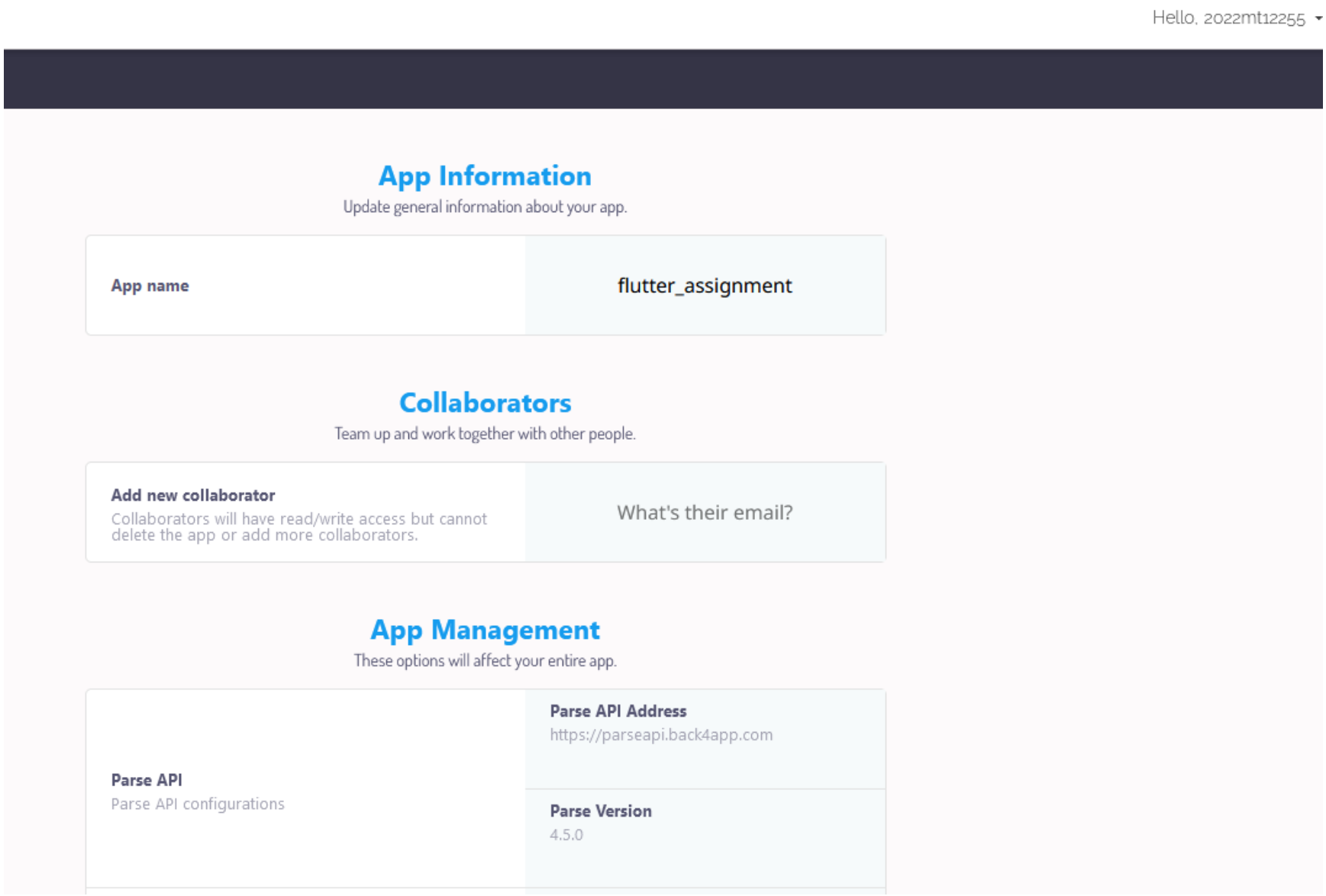
Add the required dependencies to your pubspec.yaml file.

- `flutter pub add parse_server_sdk_flutter`

```yaml
# versions available, run `flutter pub outdated`.
dependencies:
  flutter:
    sdk: flutter



  # The following adds the Cupertino Icons font to your application.
  # Use with the CupertinoIcons class for iOS style icons.
  cupertino_icons: ^1.0.2
  parse_server_sdk_flutter: ^7.0.0

dev_dependencies:
  flutter_test:
    sdk: flutter
```

Initialize the Parse SDK in your Flutter app.

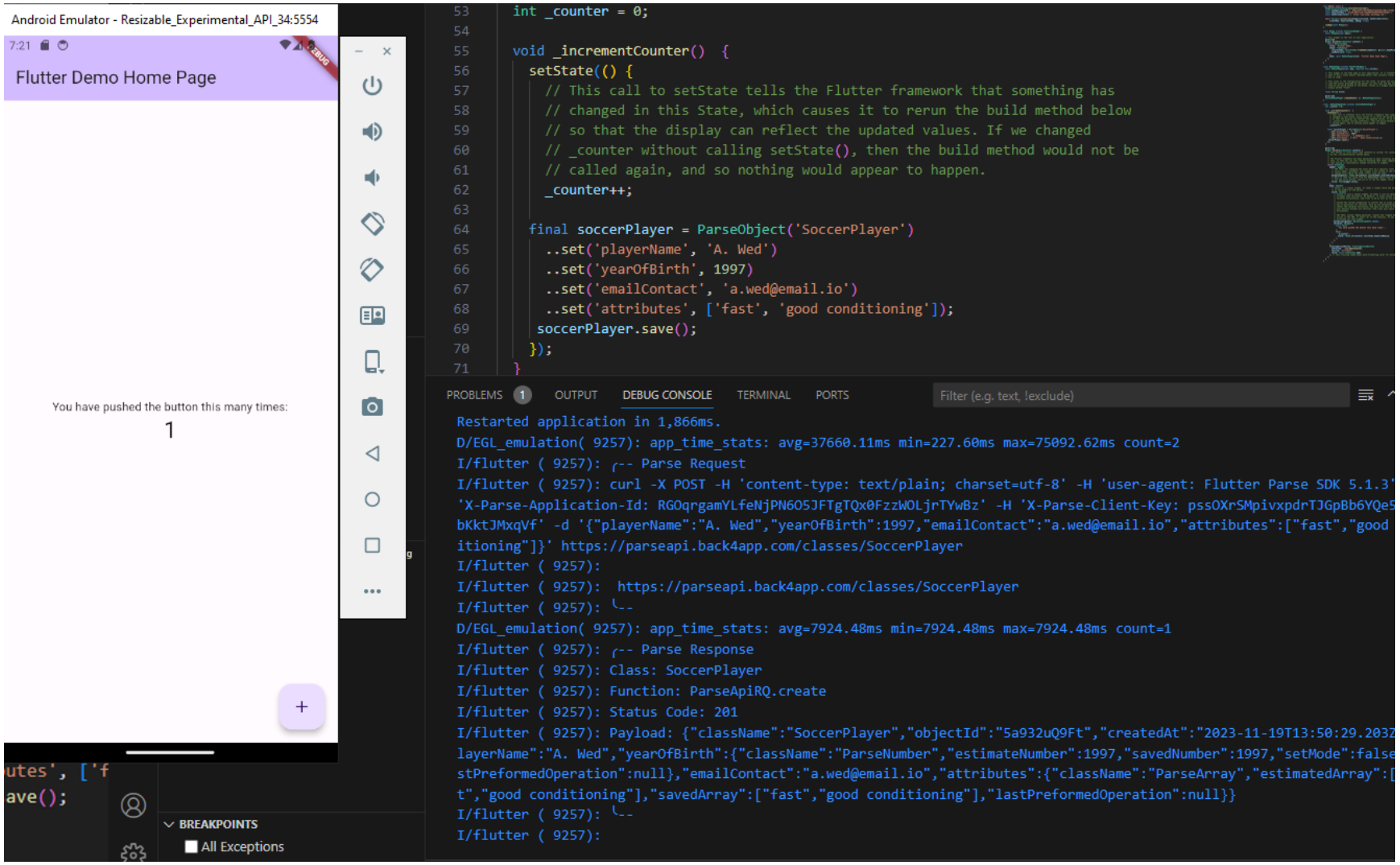




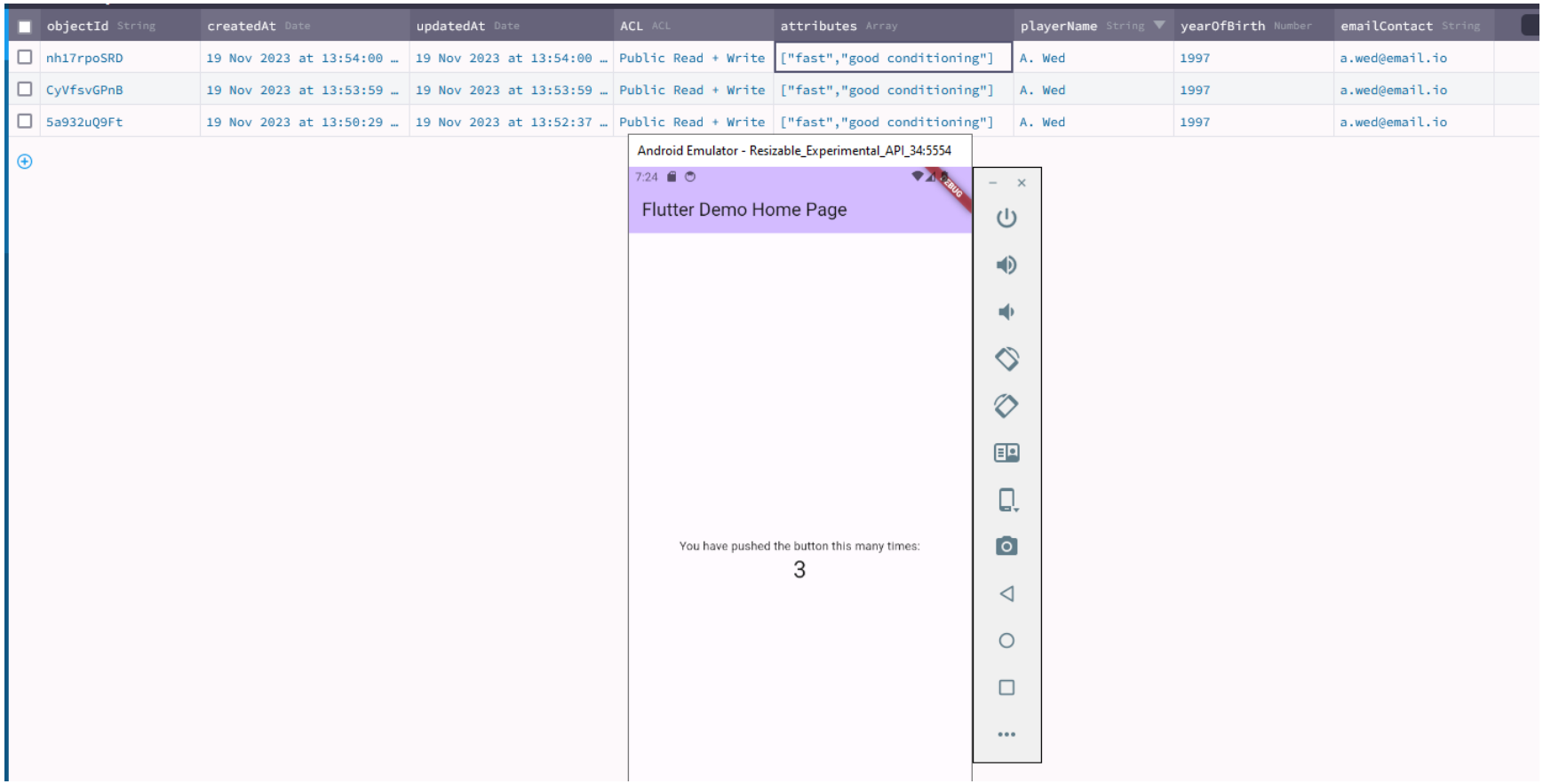
Integration check using soccerplayer Class example to test of sending data upon button click:

```dart
import 'dart:async';
import 'package:flutter/material.dart';
import 'package:parse_server_sdk_flutter/parse_server_sdk_flutter.dart';

Run | Debug | Profile
void main() async {
  WidgetsFlutterBinding.ensureInitialized();
  const keyApplicationId = 'RGOqrgamYLfeNjPN6O5JFTgTQx0FzzWOLjrTYwBz';
  const keyClientKey = 'pssOXrSMpivxpdrTJGpBb6YQe56KxPbKktJMxqVf';
  const keyParseServerUrl = 'https://parseapi.back4app.com';

  await Parse().initialize(keyApplicationId, keyParseServerUrl,
      clientKey: keyClientKey, debug: true);

  runApp(const MyApp());
}
```

```dart
void _incrementCounter()  {
  setState(() {
    // This call to setState tells the Flutter framework that something has
    // changed in this State, which causes it to rerun the build method below
    // so that the display can reflect the updated values. If we changed
    // _counter without calling setState(), then the build method would not be
    // called again, and so nothing would appear to happen.
    _counter++;

  final soccerPlayer = ParseObject('SoccerPlayer')
    ..set('playerName', 'A. Wed')
    ..set('yearOfBirth', 1997)
    ..set('emailContact', 'a.wed@email.io')
    ..set('attributes', ['fast', 'good conditioning']);
   soccerPlayer.save();
  });
}
```


Android Emulator - Resizable_Experimental_API_34:5554
7:21
Flutter Demo Home Page
You have pushed the button this many times:
1
int _counter = 0;
void _incrementCounter() {
setState(() {
// This call to setState tells the Flutter framework that something has
// changed in this State, which causes it to rerun the build method below
// so that the display can reflect the updated values. If we changed
// _counter without calling setState(), then the build method would not be
// called again, and so nothing would appear to happen.
_counter++;
final soccerPlayer = ParseObject('SoccerPlayer')
..set('playerName', 'A. Wed')
..set('yearOfBirth', 1997)
..set('emailContact', 'a.wed@email.io')
..set('attributes', ['fast', 'good conditioning']);
soccerPlayer.save();
});
}
PROBLEMS 1
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Filter (e.g. text, !exclude)
Restarted application in 1,866ms.
D/EGL_emulation(9257): app_time_stats: avg=37660.11ms min=227.60ms max=75092.62ms count=2
I/flutter (9257): ┌-- Parse Request
I/flutter (9257): curl -X POST -H 'content-type: text/plain; charset=utf-8' -H 'user-agent: Flutter Parse SDK 5.1.3'
'X-Parse-Application-Id: RGOqrgamYLfeNjPN6O5JFTgTQx0FzzWOLjrTYwBz' -H 'X-Parse-Client-Key: pssOXrSMpivxpdrTJGpBb6YQe5
bKktJMxqVf' -d '{"playerName":"A. Wed","yearOfBirth":1997,"emailContact":"a.wed@email.io","attributes":["fast","good
itioning"]}' https://parseapi.back4app.com/classes/SoccerPlayer
I/flutter (9257):
I/flutter (9257): https://parseapi.back4app.com/classes/SoccerPlayer
I/flutter (9257): └--
D/EGL_emulation(9257): app_time_stats: avg=7924.48ms min=7924.48ms max=7924.48ms count=1
I/flutter (9257): ┌-- Parse Response
I/flutter (9257): Class: SoccerPlayer
I/flutter (9257): Function: ParseApiRQ.create
I/flutter (9257): Status Code: 201
I/flutter (9257): Payload: {"className":"SoccerPlayer","objectId":"5a932uQ9Ft","createdAt":"2023-11-19T13:50:29.203Z
layerName":"A. Wed","yearOfBirth":{"className":"ParseNumber","estimateNumber":1997,"savedNumber":1997,"setMode":false
stPreformedOperation":null},"emailContact":"a.wed@email.io","attributes":{"className":"ParseArray","estimatedArray":[
t","good conditioning"],"savedArray":["fast","good conditioning"],"lastPreformedOperation":null}}
I/flutter (9257): └--
I/flutter (9257):
BREAKPOINTS
All Exceptions

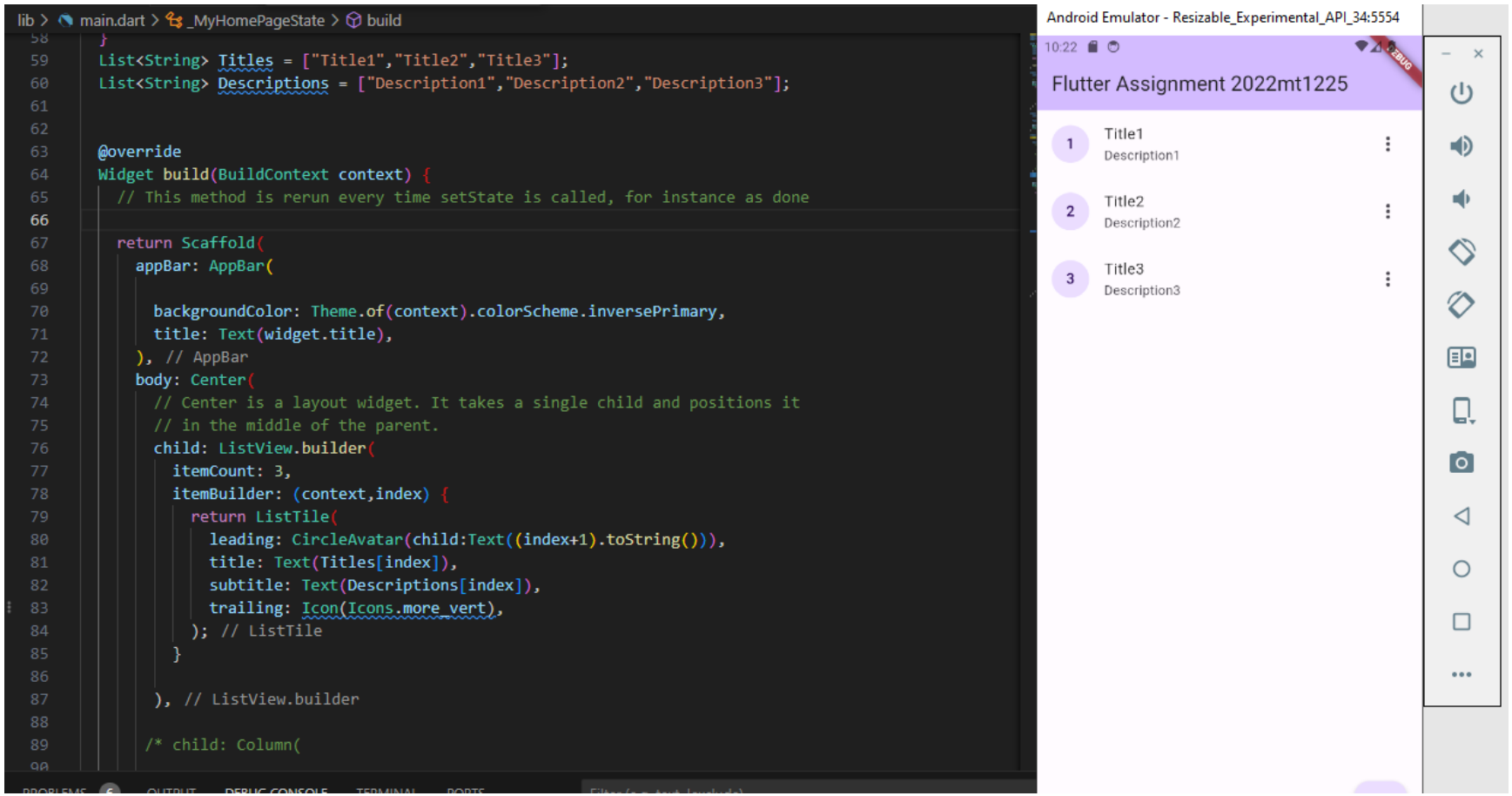
back4app
AI Agent
My Apps
Dashboard
Docs
Support
Hello, 2022mt12255
NEW APP
flutter_assignment
Database
Browser
Create a class
Role
User
SoccerPlayer
Index Manager
Blockchain
NEW
Cloud Code
API
SoccerPlayer
Public Read and Write enabled
Row
Column
objectId String
createdAt Date
updatedAt Date
ACL ACL
attributes Array
playerName String
yearOfBirth Number
emailContact String
Add a new column
5a932uQ9Ft
19 Nov 2023 at 13:…
19 Nov 2023 at 13:…
Public Read + Write
["fast","good conditioning"]
A. Wed
1997
a.wed@email.io


objectId String
createdAt Date
updatedAt Date
ACL ACL
attributes Array
playerName String
yearOfBirth Number
emailContact String
nh17rpoSRD
19 Nov 2023 at 13:54:00 …
19 Nov 2023 at 13:54:00 …
Public Read + Write
["fast","good conditioning"]
A. Wed
1997
a.wed@email.io
CyVfsvGPnB
19 Nov 2023 at 13:53:59 …
19 Nov 2023 at 13:53:59 …
Public Read + Write
["fast","good conditioning"]
A. Wed
1997
a.wed@email.io
5a932uQ9Ft
19 Nov 2023 at 13:50:29 …
19 Nov 2023 at 13:52:37 …
Public Read + Write
["fast","good conditioning"]
A. Wed
1997
a.wed@email.io
Android Emulator - Resizable_Experimental_API_34:5554
7:24
DEBUG
Flutter Demo Home Page
You have pushed the button this many times:
3

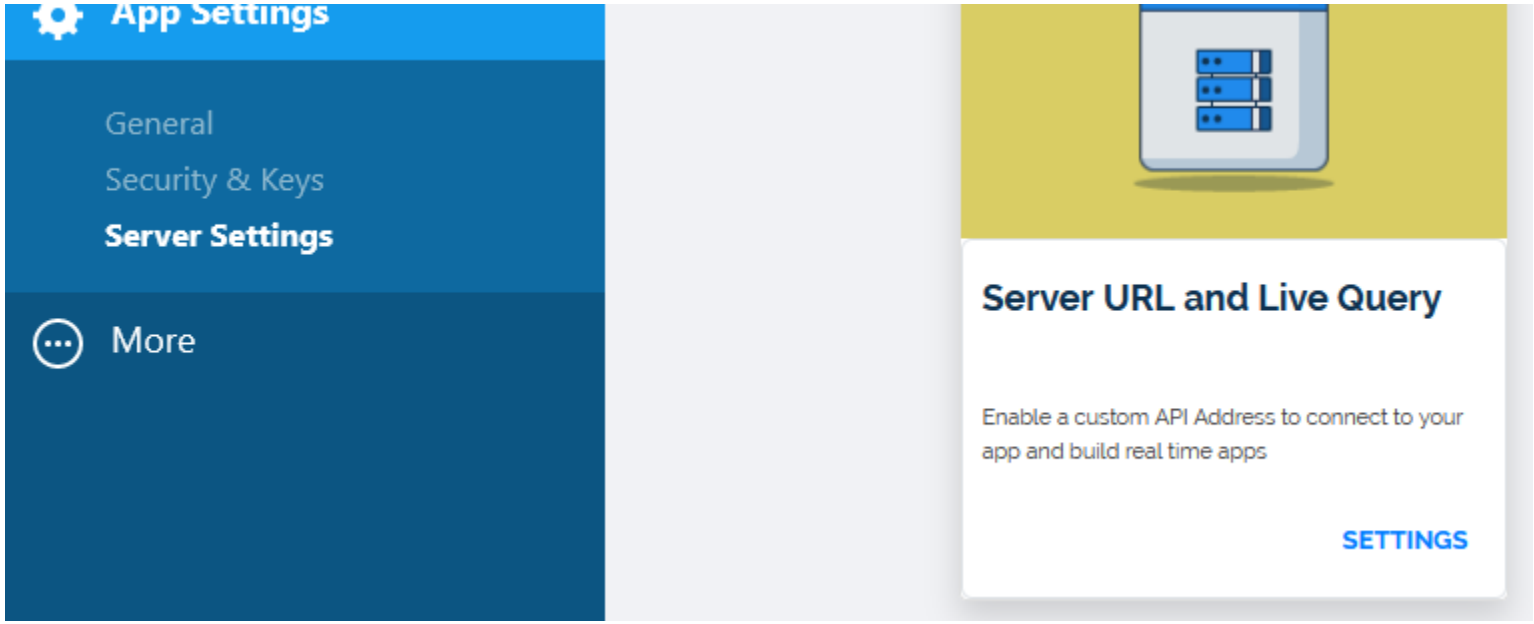
Step 3: Task List

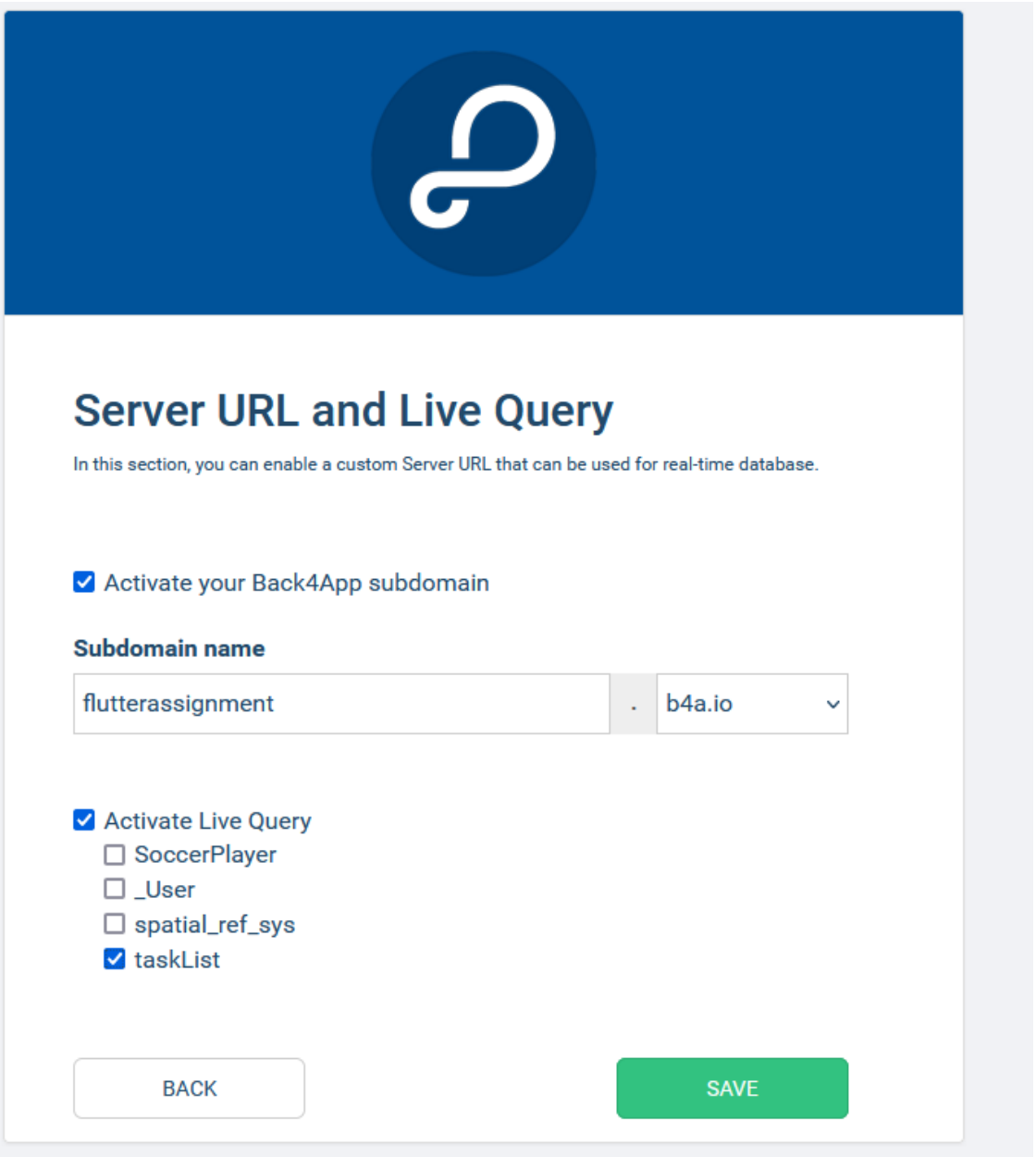
Create a screen in your Flutter app to display a list of tasks.

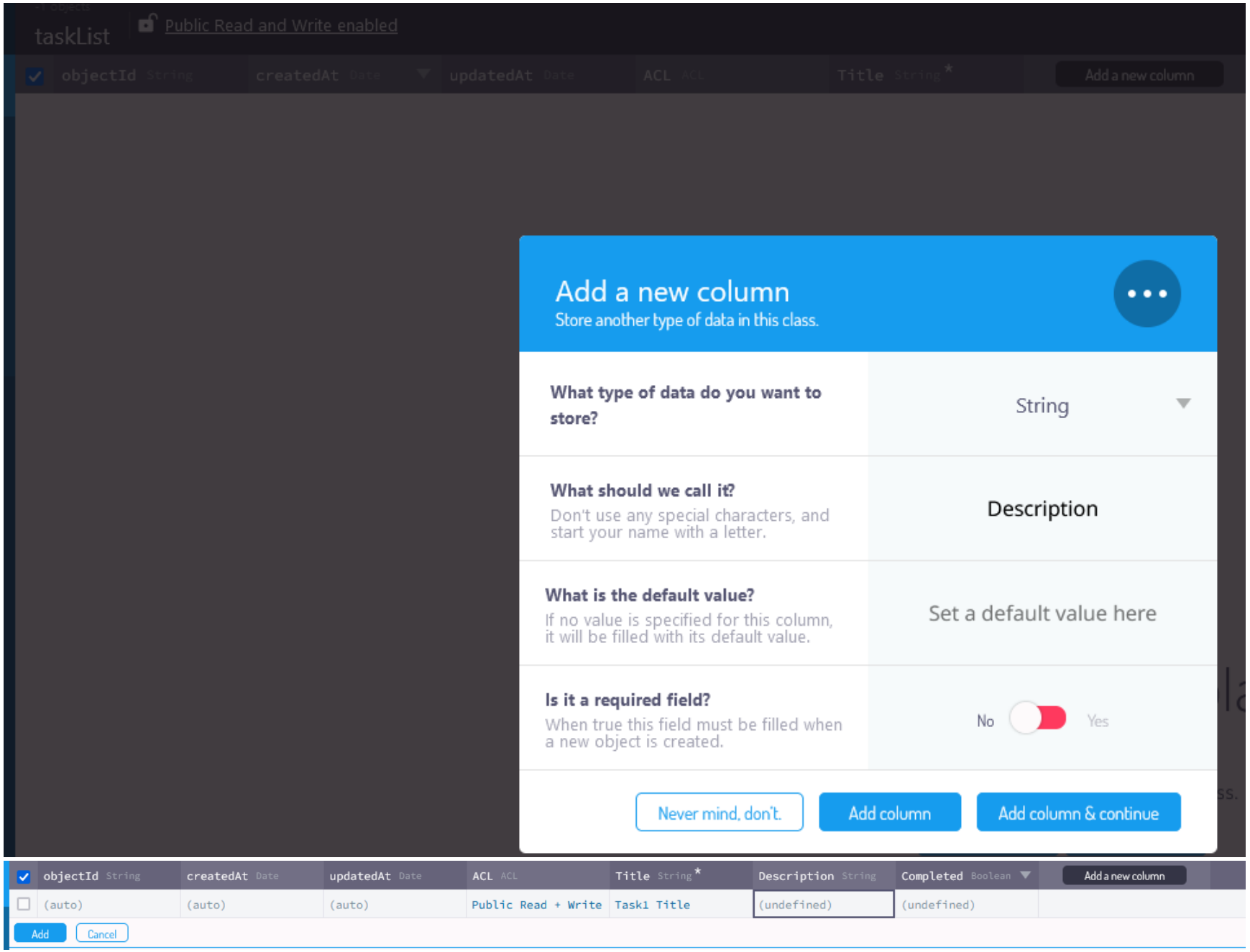
Using static data :



Implement a function to fetch tasks from Back4App using the Back4App API.




Server URL and Live Query
In this section, you can enable a custom Server URL that can be used for real-time database.
Activate your Back4App subdomain
Subdomain name
flutterassignment
.
b4a.io
Activate Live Query
SoccerPlayer
_User
spatial_ref_sys
taskList
BACK
SAVE


taskList
Public Read and Write enabled
objectId String
createdAt Date
updatedAt Date
ACL ACL
Title String*
Add a new column
Add a new column
Store another type of data in this class.
What type of data do you want to store?
String
What should we call it?
Don't use any special characters, and start your name with a letter.
Description
What is the default value?
If no value is specified for this column, it will be filled with its default value.
Set a default value here
Is it a required field?
When true this field must be filled when a new object is created.
No
Yes
Never mind, don't.
Add column
Add column & continue
objectId String
createdAt Date
updatedAt Date
ACL ACL
Title String*
Description String
Completed Boolean
Add a new column
(auto)
(auto)
(auto)
Public Read + Write
Task1 Title
(undefined)
(undefined)
Add
Cancel

taskList | Public Read and Write enabled

objectId String	createdAt Date	updatedAt Date	ACL ACL	Title String*	Description String	Completed Boolean
30KFWlJwZ6	20 Nov 2023 at 02:…	20 Nov 2023 at 02:…	Public Read + Write	Task2 Title	Task2 Description	True
zhcyGbBWL1	20 Nov 2023 at 02:…	20 Nov 2023 at 02:…	Public Read + Write	Task1 Title	(undefined)	False

Display the tasks in a list view with titles and descriptions.

```
Run | Debug | Profile
void main() async {
  WidgetsFlutterBinding.ensureInitialized();
  const keyApplicationId = 'RGOqrgamYLfeNjPN6O5JFTgTQx0FzzWOLjrTYwBz';
  const keyClientKey = 'pssOXrSMpivxpdrTJGpBb6YQe56KxPbKktJMxqVf';
  const keyParseServerUrl = 'https://parseapi.back4app.com';

  await Parse().initialize(keyApplicationId, keyParseServerUrl,
      clientKey: keyClientKey,
      liveQueryUrl: 'https://flutterassignment.b4a.io',
      debug: true);

  runApp(const MyApp());
}
```

```dart
class _MyHomePageState extends State<MyHomePage> {
  TextEditingController taskTitleController = TextEditingController();
  TextEditingController taskDescController = TextEditingController();
  TextEditingController taskeditTitleController = TextEditingController();
  TextEditingController taskeditDescController = TextEditingController();

  final todoController = TextEditingController();
  List<ParseObject> taskList = [];
  final QueryBuilder<ParseObject> queryTodo =
      QueryBuilder<ParseObject>(ParseObject('taskList'))
        ..orderByAscending('createdAt');

  StreamController<List<ParseObject>> streamController = StreamController();

  final LiveQuery liveQuery = LiveQuery(debug: true);
  late Subscription<ParseObject> subscription;
```

```dart
@override
void initState() {
  super.initState();
  getTodoList();
  startLiveQuery();
}

void startLiveQuery() async {
  subscription = await liveQuery.client.subscribe(queryTodo);

  subscription.on(LiveQueryEvent.create, (value) {
    debugPrint('*** CREATE ***: $value ');
    taskList.add(value);
    streamController.add(taskList);
  });

  subscription.on(LiveQueryEvent.update, (value) {
    debugPrint('*** UPDATE ***: $value ');
    taskList[taskList
        .indexWhere((element) => element.objectId == value.objectId)] = value;
    streamController.add(taskList);
  });

  subscription.on(LiveQueryEvent.delete, (value) {
    debugPrint('*** DELETE ***: $value ');
    taskList.removeWhere((element) => element.objectId == value.objectId);
    streamController.add(taskList);
  });
}

void cancelLiveQuery() async {
  liveQuery.client.unSubscribe(subscription);
}
```

```dart
void getTodoList() async {
  final ParseResponse apiResponse = await queryTodo.query();

  if (apiResponse.success && apiResponse.results != null) {
    taskList.addAll(apiResponse.results as List<ParseObject>);
    streamController.add(apiResponse.results as List<ParseObject>);
  } else {
    taskList.clear();
    streamController.add([]);
  }
}
```

Wait till data gets loaded to prevent rendering before getting task list from back4ap

```
body: Column(
  children: <Widget>[
    Expanded(
      child: StreamBuilder<List<ParseObject>>(
          stream: streamController.stream,
          builder: (context, snapshot) {
            switch (snapshot.connectionState) {
              case ConnectionState.none:
              case ConnectionState.waiting:
                return const Center(
                  child: SizedBox(
                      width: 100,
                      height: 100,
                      child: CircularProgressIndicator()), // SizedBox
                ); // Center
              default:
                if (snapshot.hasError) {
                  return const Center(
                    child: Text("Error..."),
                  ); // Center
                }
                if (!snapshot.hasData) {
                  return const Center(
                    child: Text("No Data..."),
                  ); // Center
                } else {
                  return ListView.builder(
                      itemCount: snapshot.data!.length,
                      itemBuilder: (context, index) {
                        final tiledata = snapshot.data![index];
                        return ListTile(
                          onTap: () async {
                            showDialog(
                                context: context,
```

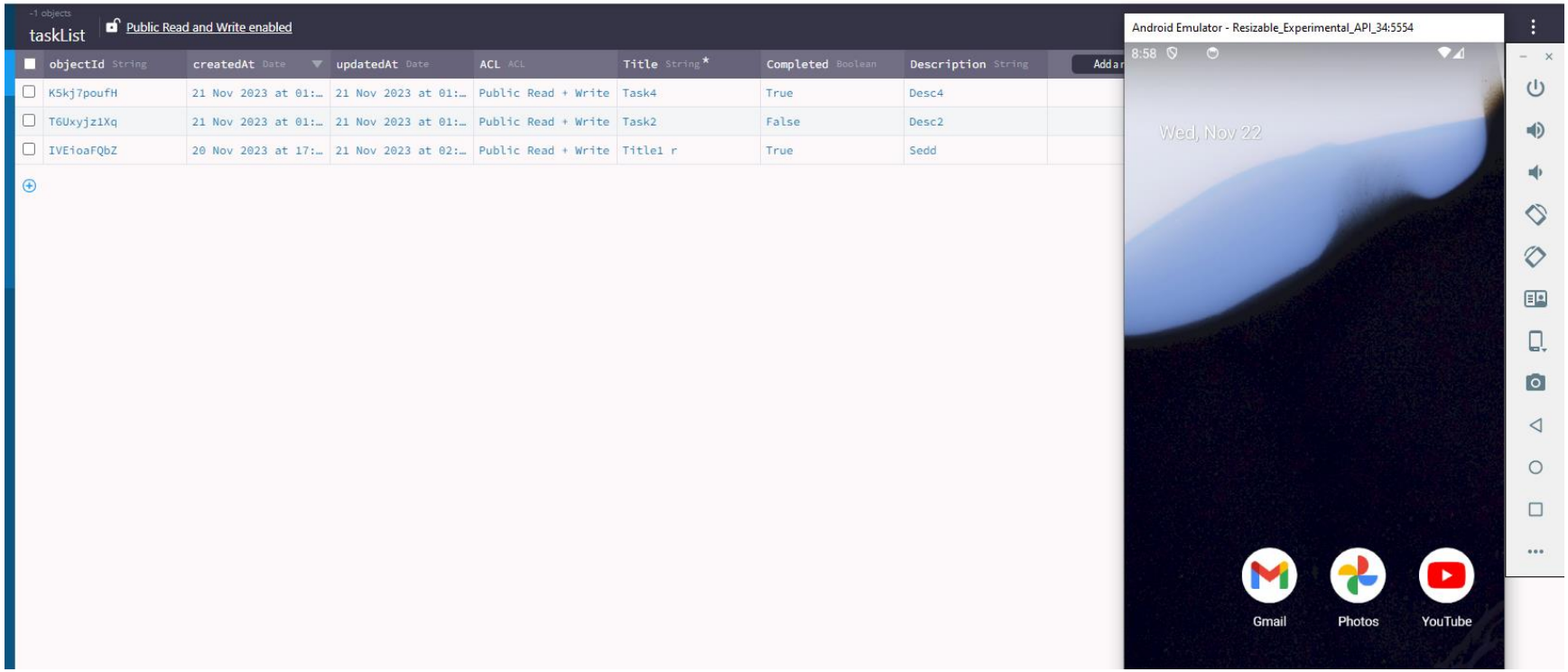
List tile with Circle Avatar, Title Description and Trailing icons .

```
203                     } else {
204                       return ListView.builder(
205                           itemCount: snapshot.data!.length,
206                           itemBuilder: (context, index) {
207                             final tiledata = snapshot.data![index];
208                             return ListTile(
209                               onTap: () async {
210 >                               showDialog( ···
212 >                                   builder: (context) => AlertDialog( // AlertDialog ···
222                               },
223 >                             leading: CircleAvatar( // CircleAvatar ···
229
230 >                             title: Text(tiledata.get<String>('Title')!, // Text ···
236
237 >                             subtitle: Text( // Text ···
246
247 >                             trailing: Row( ···
249 >                                 children: [ // Row ···
357                             ); // ListTile
358                           }); // ListView.builder
```

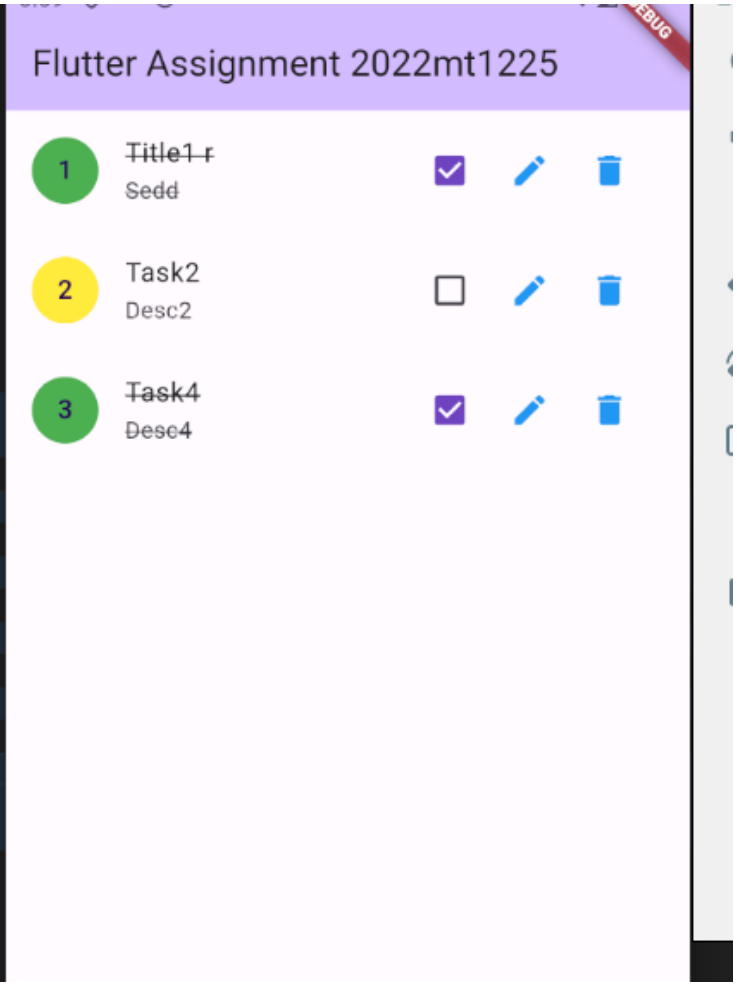
Trailing icons (checkbox for done, edit and delete)

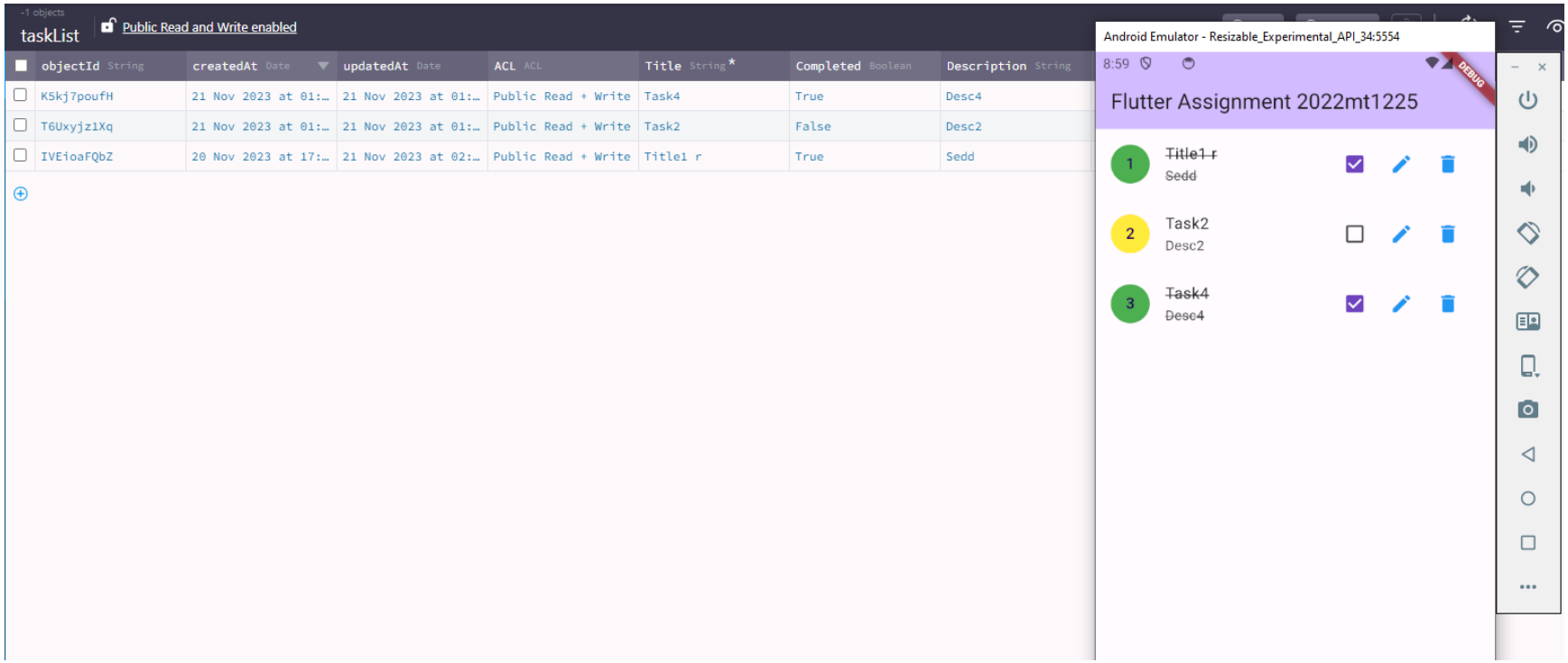
```
>                           trailing: Row( ···
                                children: [
>                               Checkbox( // Checkbox ···
>                               IconButton( // IconButton ···
>                               IconButton( // IconButton ···
                                ]), // Row
                          ); // ListTile
```

View…


-1 objects
taskList
Public Read and Write enabled
objectId String
createdAt Date
updatedAt Date
ACL ACL
Title String*
Completed Boolean
Description String
K5kj7poufH
21 Nov 2023 at 01:…
21 Nov 2023 at 01:…
Public Read + Write
Task4
True
Desc4
T6Uxyjz1Xq
21 Nov 2023 at 01:…
21 Nov 2023 at 01:…
Public Read + Write
Task2
False
Desc2
IVEioaFQbZ
20 Nov 2023 at 17:…
21 Nov 2023 at 02:…
Public Read + Write
Title1 r
True
Sedd
Android Emulator - Resizable_Experimental_API_34:5554
8:58
Wed, Nov 22
Gmail
Photos
YouTube

```dart
}
if (!snapshot.hasData) {
  return const Center(
    child: Text("No Data..."),
  ); // Center
} else {
  return ListView.builder(
      itemCount: snapshot.data!.length,
      itemBuilder: (context, index) {
        final tiledata = snapshot.data![index];
        return ListTile(
          onTap: () async {
            showDialog( ···
                builder: (context) => AlertDialog( // AlertDialog ···
          },
          leading: CircleAvatar( // CircleAvatar ···

          title: Text(tiledata.get<String>('Title')!, // Text ···

          subtitle: Text( // Text ···

          trailing: Row( ···
              children: [
                Checkbox( // Checkbox ···
                IconButton( // IconButton ···
                IconButton( // IconButton ···
              ]), // Row
        ); // ListTile
      }); // ListView.builder
}
```





Step 4: Task Creation (10 points)

Create a screen for adding new tasks.

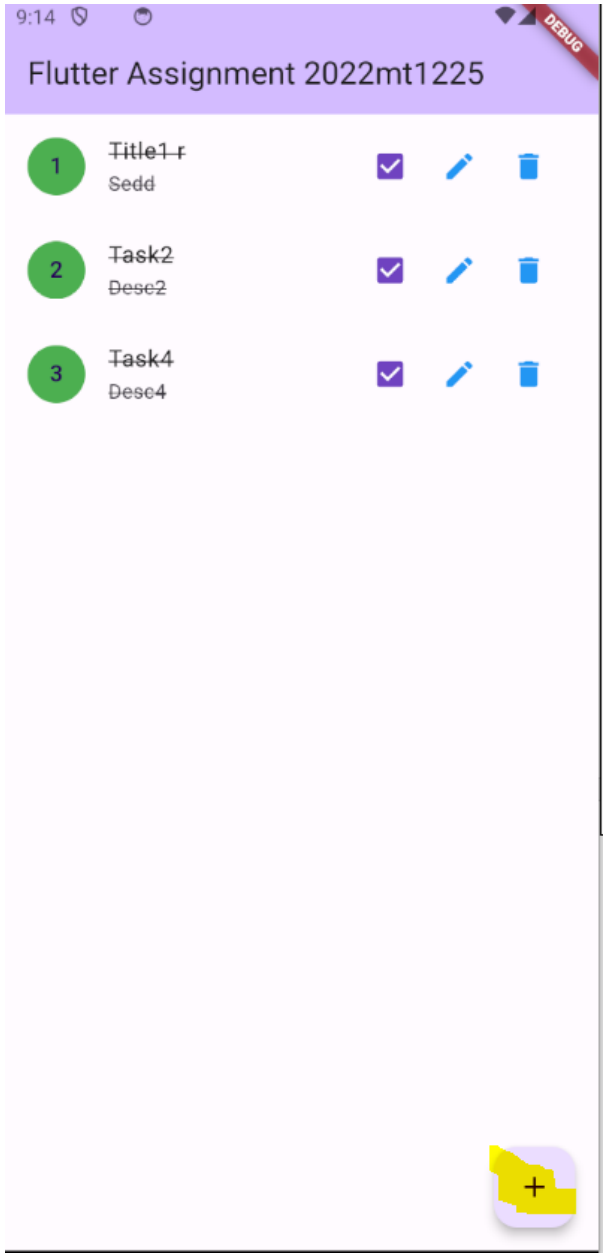
Add Task button code.

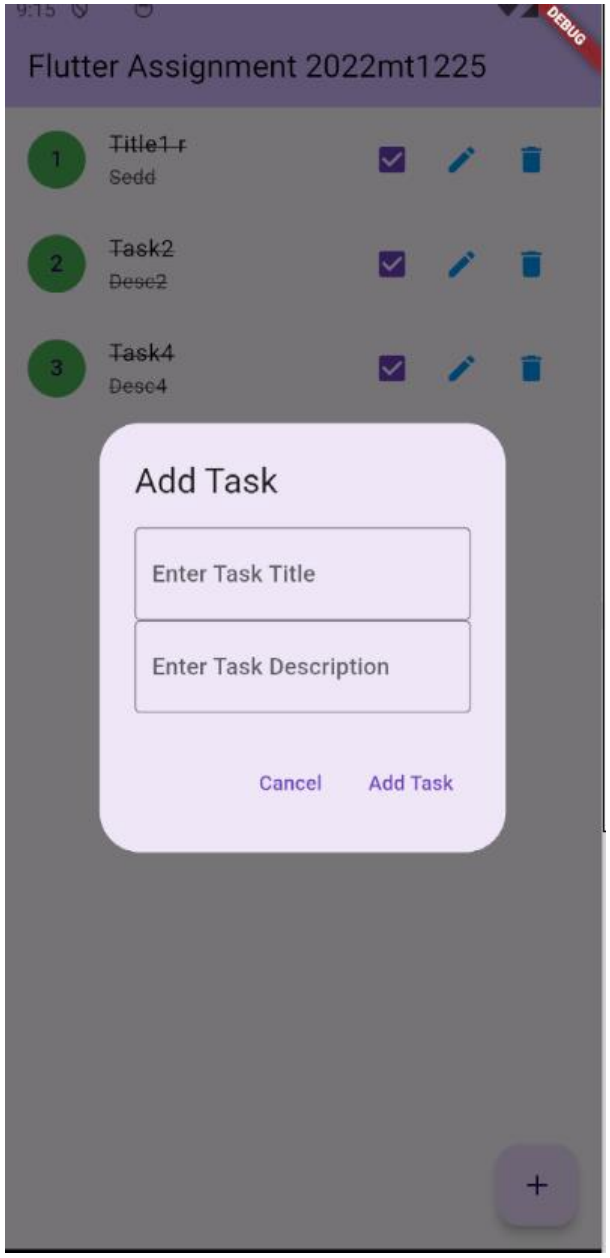
lib > main.dart

```dart
floatingActionButton: FloatingActionButton(
  onPressed: () {
    showDialog(
      context: context,
      builder: (context) => AlertDialog(
        title: const Text('Add Task'),
        content:
            Column(mainAxisSize: MainAxisSize.min, children: <Widget>[
          TextFormField(
            controller: taskTitleController,
            decoration: const InputDecoration(
              border: OutlineInputBorder(),
              hintText: 'Enter Task Title',
            ), // InputDecoration
          ), // TextFormField
          TextFormField(
            controller: taskDescController,
            decoration: const InputDecoration(
              border: OutlineInputBorder(),
              hintText: 'Enter Task Description',
            ), // InputDecoration
          ), // TextFormField
        ]), // <Widget>[] // Column
        actions: [
          TextButton(
              onPressed: () async {
                const snackBar = SnackBar(
                  content: Text("Cancelled"),
                  duration: Duration(seconds: 2),
                ); // SnackBar
                ScaffoldMessenger.of(context)
                  ..removeCurrentSnackBar()
                  ..showSnackBar(snackBar);
                Navigator.pop(context, true);
                //});
              },
              child: const Text('Cancel')), // TextButton
          TextButton(
              onPressed: () async {
                addToDo();
                Navigator.pop(context, true);
                //});
              },
              child: const Text('Add Task')), // TextButton
        ],
      ), // AlertDialog
    );
  },
```

```dart
void addToDo() async {
  if (taskTitleController.text.trim().isEmpty) {
    ScaffoldMessenger.of(context).showSnackBar(const SnackBar(
      content: Text("Title can not be blank"),
      duration: Duration(seconds: 2),
    )); // SnackBar
    return;
  }
  await saveTask(taskTitleController.text, taskDescController.text);
  ScaffoldMessenger.of(context).showSnackBar(const SnackBar(
    content: Text("Task added"),
    duration: Duration(seconds: 2),
  )); // SnackBar
  taskTitleController.clear();
  taskDescController.clear();
}
```

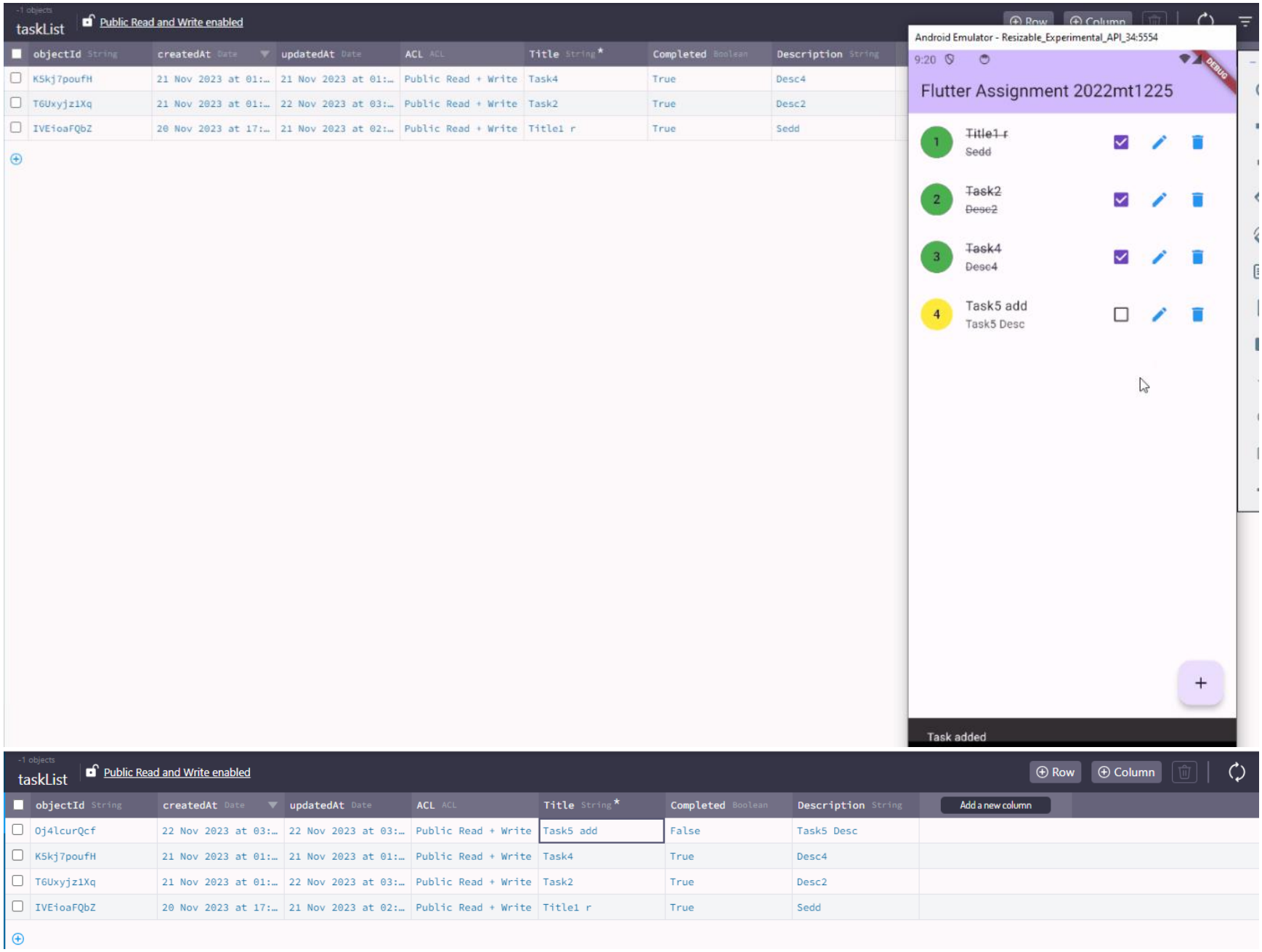
```dart
Future<void> saveTask(String title, String description) async {
  final todo = ParseObject('taskList')
    ..set('Title', title)
    ..set('Description', description)
    ..set('Completed', false);
  await todo.save();
}
```


9:14
DEBUG
Flutter Assignment 2022mt1225
1
Title1 r
Sedd
2
Task2
Dese2
3
Task4
Desc4
+

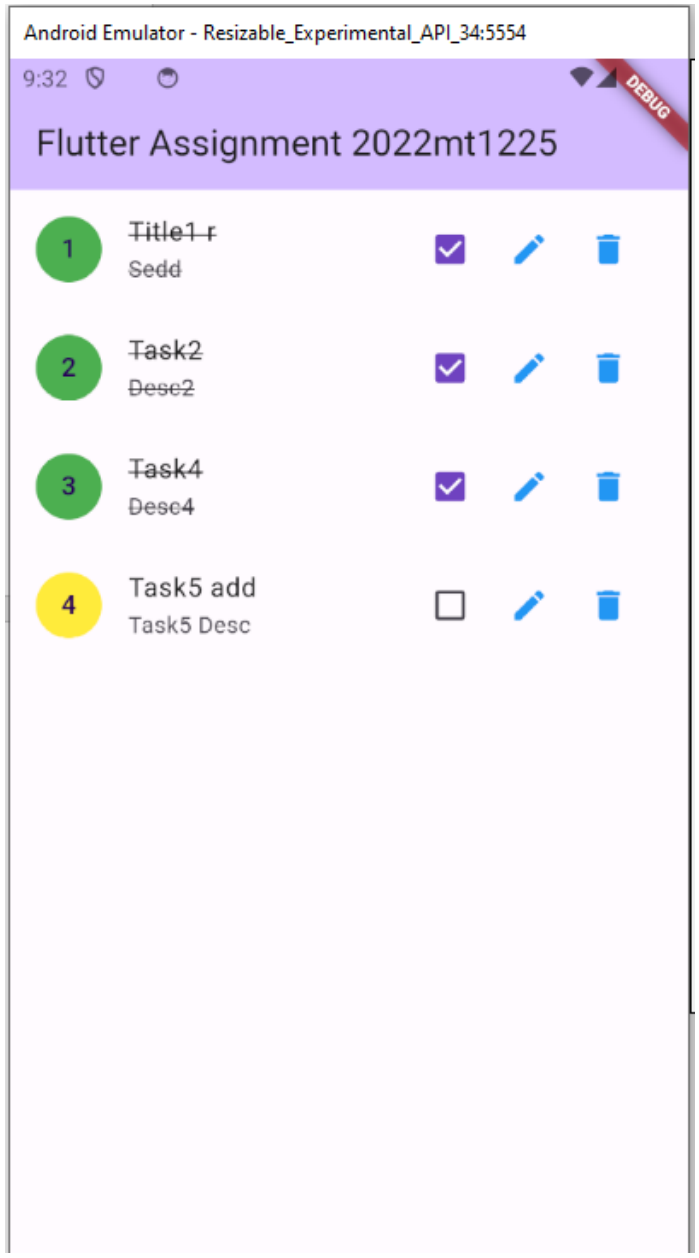


Implement functionality to create and save tasks to Back4App.

```dart
void addToDo() async {
  if (taskTitleController.text.trim().isEmpty) {
    ScaffoldMessenger.of(context).showSnackBar(const SnackBar(
      content: Text("Title can not be blank"),
      duration: Duration(seconds: 2),
    )); // SnackBar
    return;
  }
  await saveTask(taskTitleController.text, taskDescController.text);
  ScaffoldMessenger.of(context).showSnackBar(const SnackBar(
    content: Text("Task added"),
    duration: Duration(seconds: 2),
  )); // SnackBar
  taskTitleController.clear();
  taskDescController.clear();
}
```



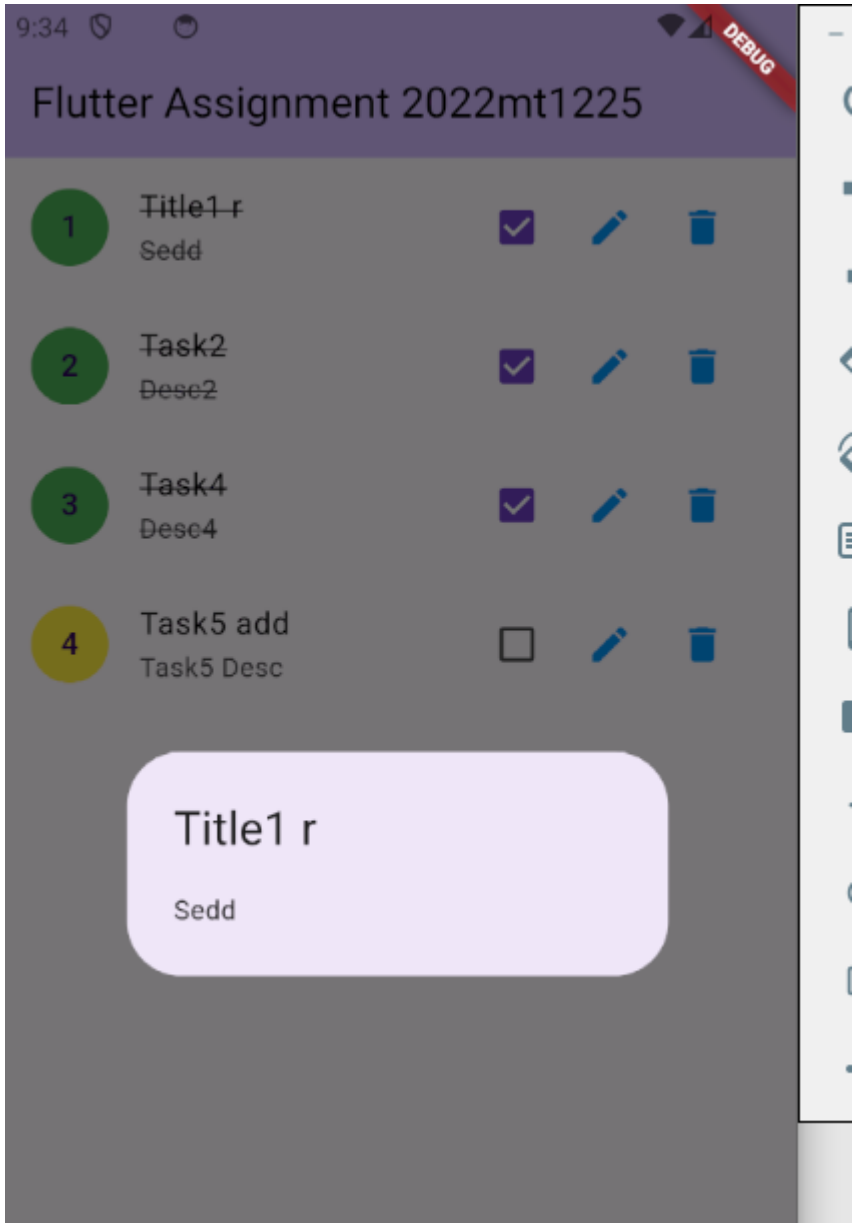
Verify that newly created tasks appear in the task list.



Step 5: Task Details

Add a feature to view task details when a task is tapped in the task list. Display the title and description of the selected task.

```
return ListTile(
  onTap: () async {
    showDialog(
        context: context,
        builder: (context) => AlertDialog(
              title: Text(
                  tiledata.get<String>('Title')!), // Text
              content: Text(tiledata.get<String>(
                          'Description') ==
                      null
                  ? ''
                  : tiledata.get<String>(
                      'Description')!), // Text
            )); // AlertDialog
  },
```



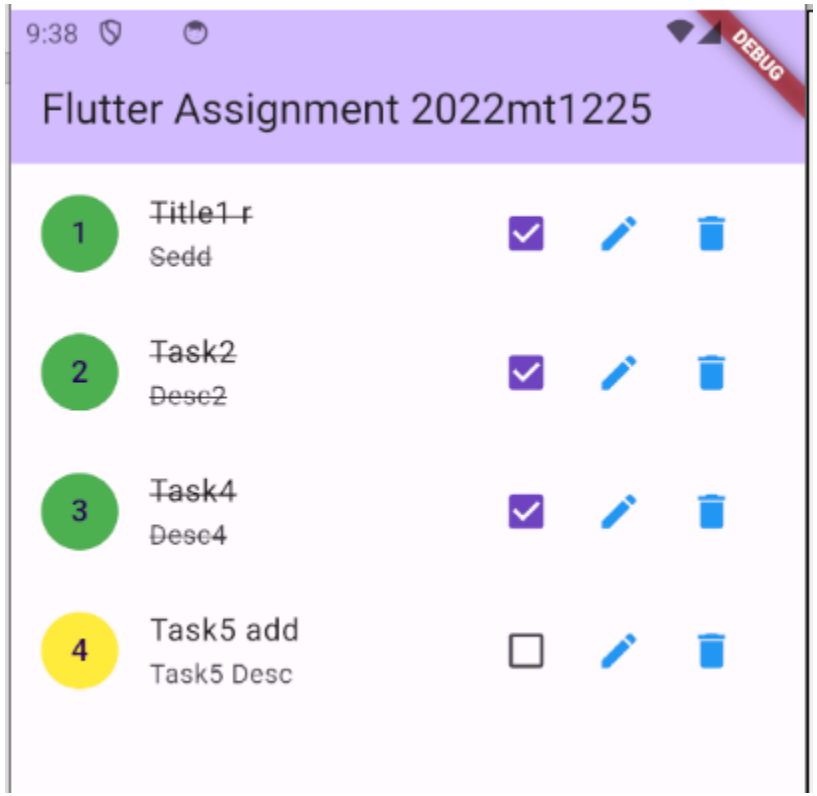
Step 6: Bonus Features

Add a feature to edit and update existing tasks.

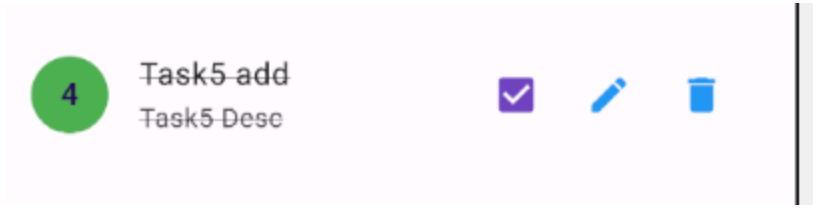
Update Task Completed Status:

```
children: [
  Checkbox(
      value:
          tiledata.get<bool>('Completed'),
      onChanged: (value) async {
        await updateDone(
            tiledata.objectId!, value!);
      }), // Checkbox
```

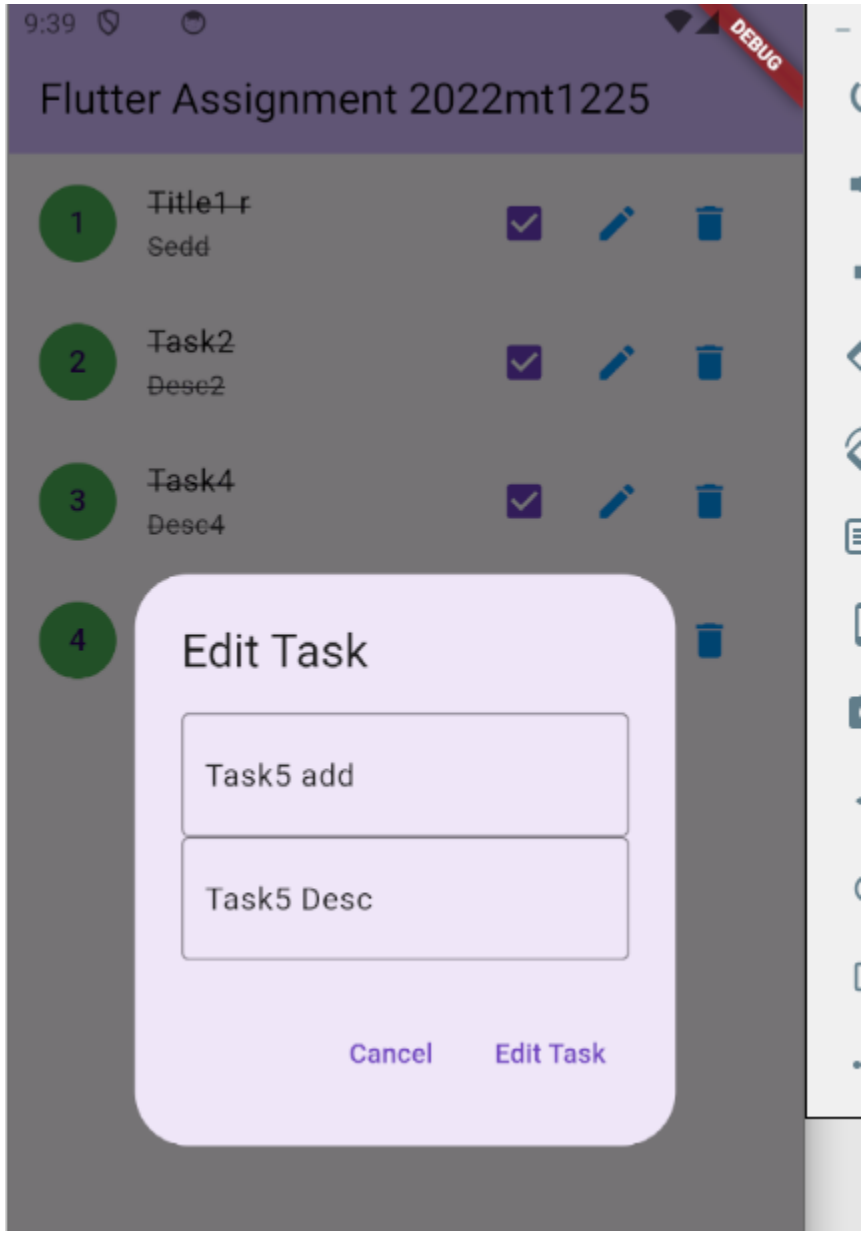
```
Future<void> updateDone(String id, bool completedFlag) async {
  var todo = ParseObject('taskList')
    ..objectId = id
    ..set('Completed', completedFlag);
  await todo.save();
}
```

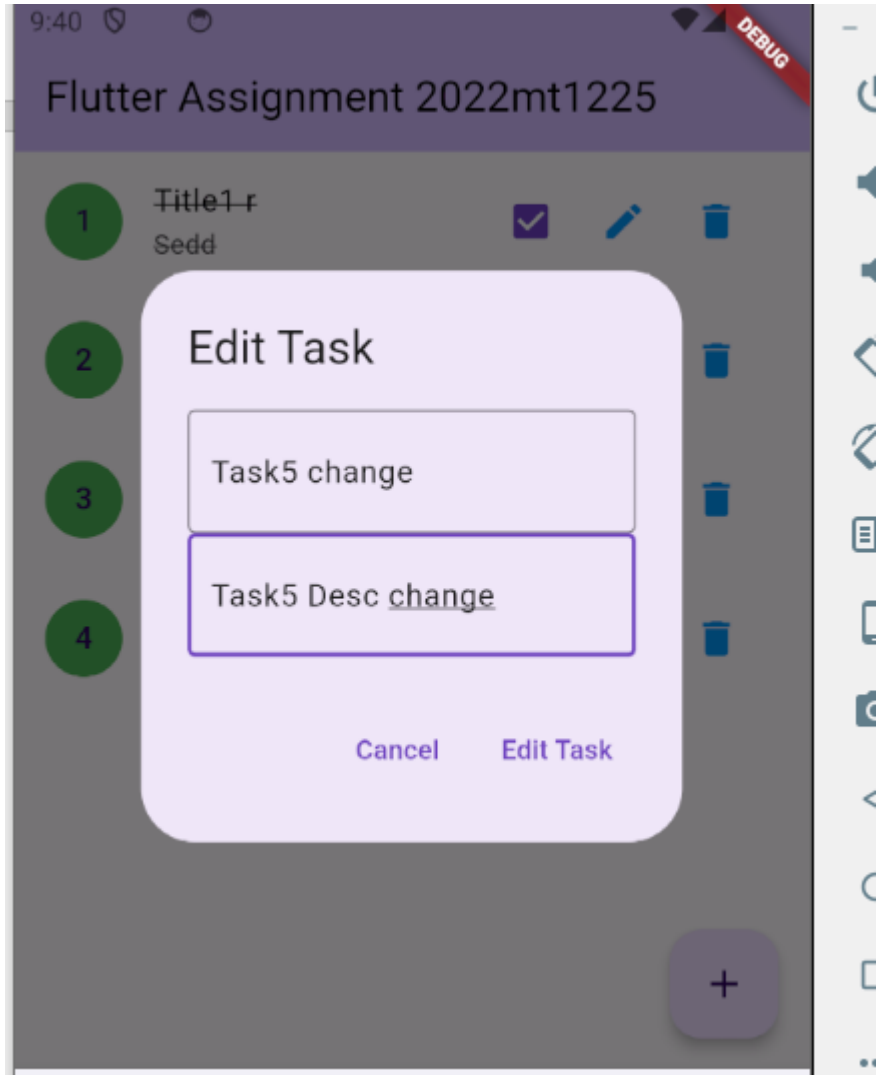


Upon checkbox click

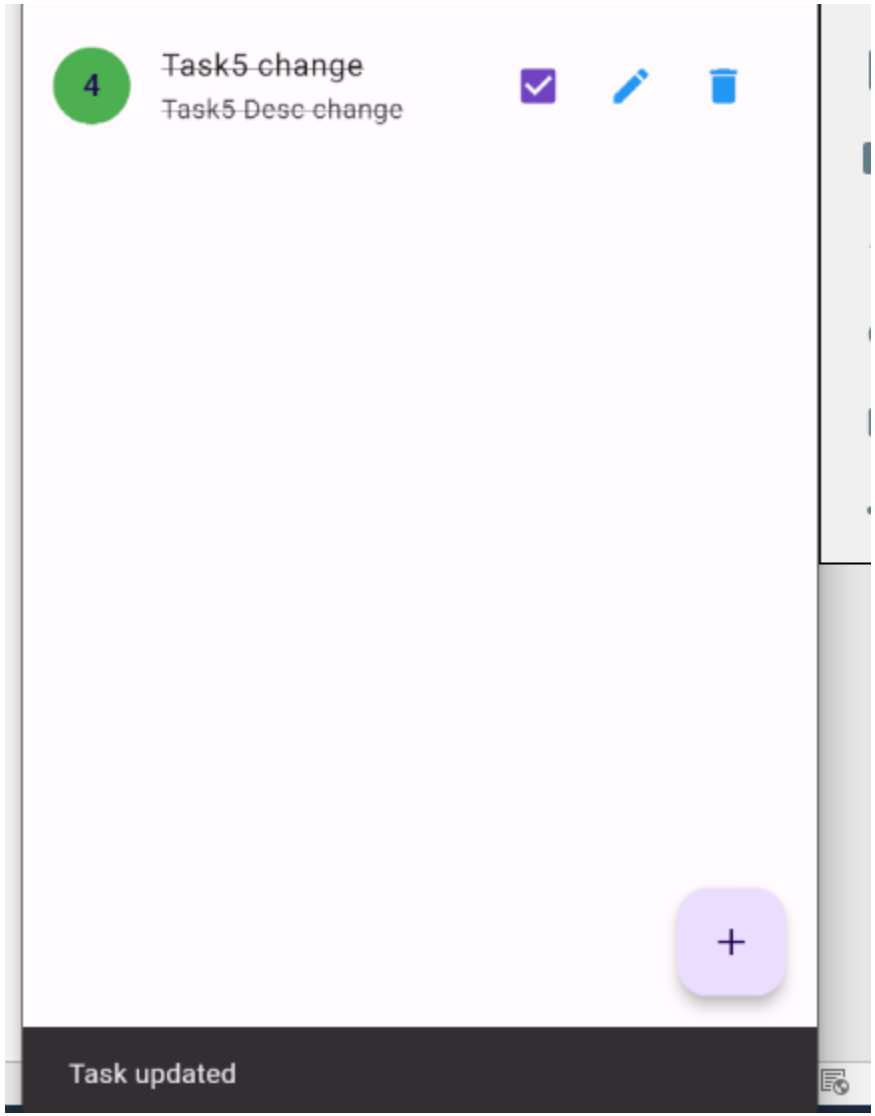


Upon edit button click


9:39
DEBUG
Flutter Assignment 2022mt1225
1
Title1 r
Sedd
2
Task2
Desc2
3
Task4
Desc4
4
Edit Task
Task5 add
Task5 Desc
Cancel
Edit Task



After clicking on edit Task



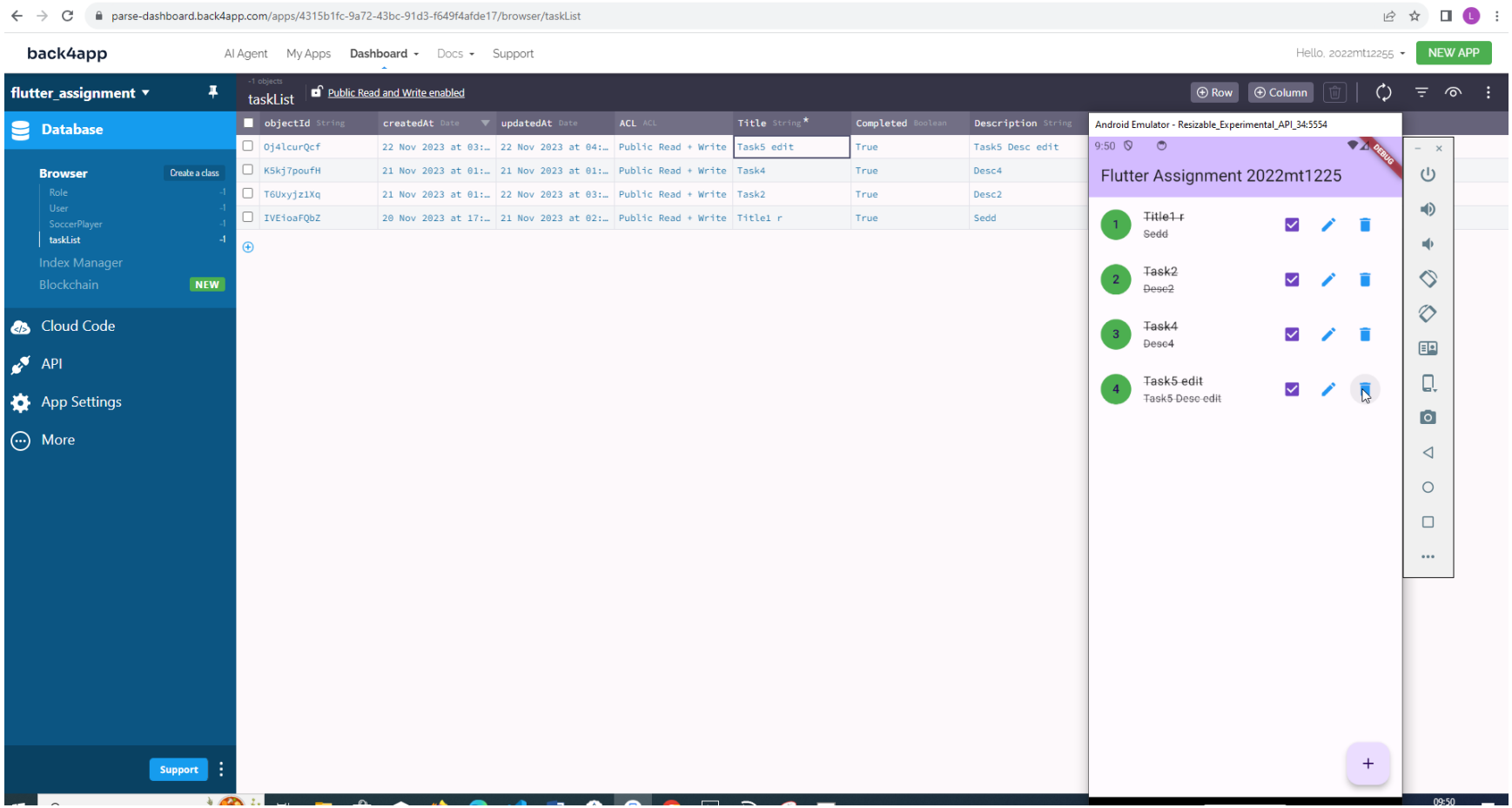
Reload on back4app

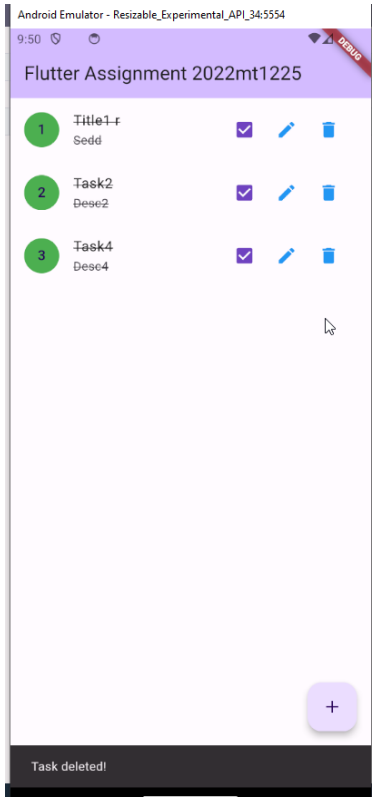
objectId String	createdAt Date	updatedAt Date	ACL ACL	Title String *	Completed Boolean	Description String
Oj4lcurQcf	22 Nov 2023 at 03:…	22 Nov 2023 at 04:…	Public Read + Write	Task5 change	True	Task5 Desc change
K5kj7poufH	21 Nov 2023 at 01:…	21 Nov 2023 at 01:…	Public Read + Write	Task4	True	Desc4
T6Uxyjz1Xq	21 Nov 2023 at 01:…	22 Nov 2023 at 03:…	Public Read + Write	Task2	True	Desc2
IVEioaFQbZ	20 Nov 2023 at 17:…	21 Nov 2023 at 02:…	Public Read + Write	Title1 r	True	Sedd

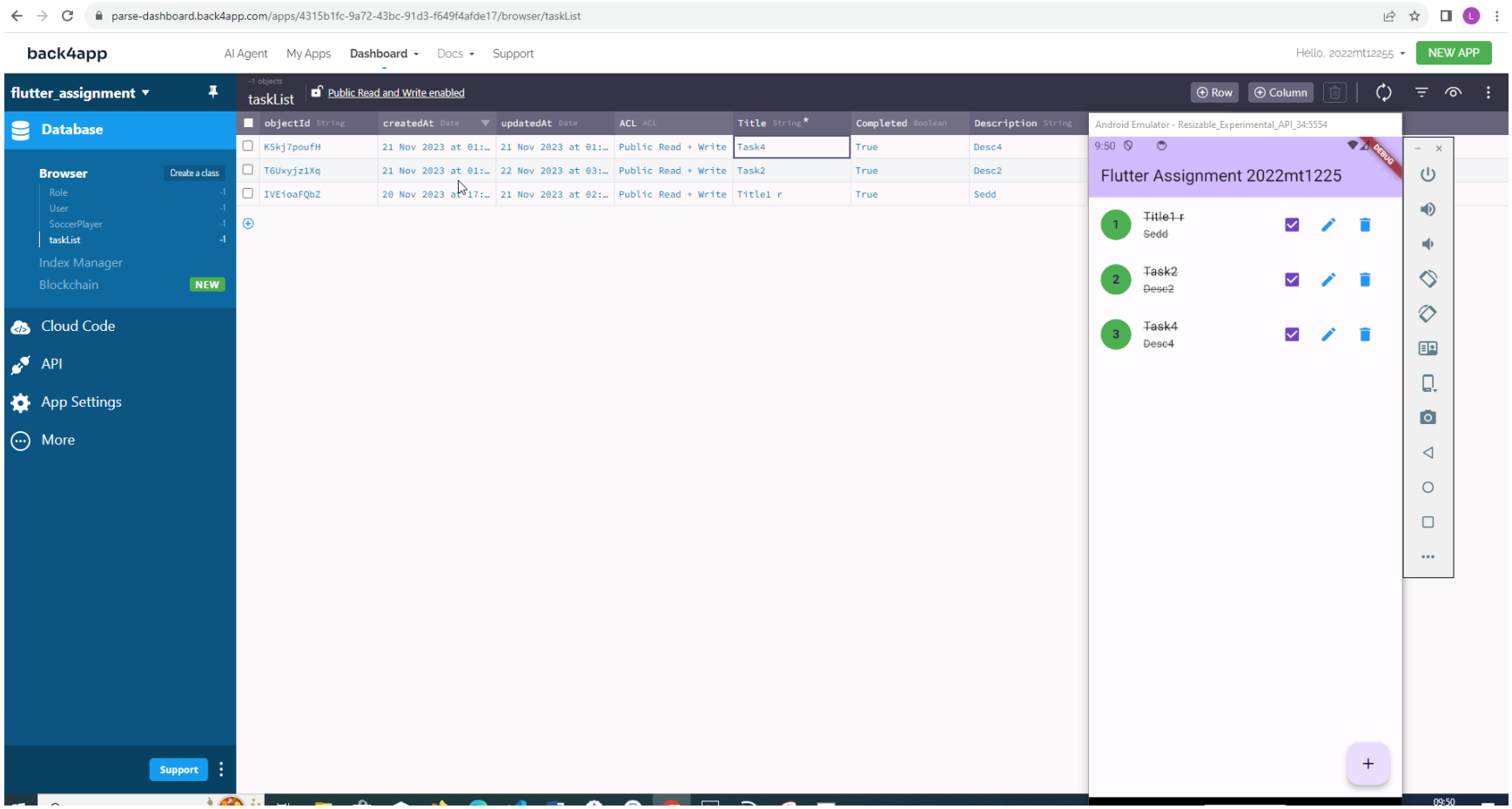
Implement a feature for task deletion.

```
IconButton(
  icon: const Icon(
    Icons.delete,
    color: Colors.blue,
  ), // Icon
  onPressed: () async {
    await deleteTodo(tiledata.objectId!);
    //setState(() {
    const snackBar = SnackBar(
      content: Text("Task deleted!"),
      duration: Duration(seconds: 2),
    ); // SnackBar
    ScaffoldMessenger.of(context)
      ..removeCurrentSnackBar()
      ..showSnackBar(snackBar);
    //});
  },
) // IconButton
```

```
Future<void> deleteTodo(String id) async {
  var todo = ParseObject('taskList')..objectId = id;
  await todo.delete();
}
```


parse-dashboard.back4app.com/apps/4315b1fc-9a72-43bc-91d3-f649f4afde17/browser/taskList
back4app
AI Agent
My Apps
Dashboard
Docs
Support
Hello, 2022mt12255
NEW APP
flutter_assignment
Database
Browser
Create a class
Role
User
SoccerPlayer
taskList
Index Manager
Blockchain
NEW
Cloud Code
API
App Settings
More
Support
taskList
Public Read and Write enabled
Row
Column
objectId String
createdAt Date
updatedAt Date
ACL ACL
Title String*
Completed Boolean
Description String
Oj4lcurQcf
22 Nov 2023 at 03:...
22 Nov 2023 at 04:...
Public Read + Write
Task5 edit
True
Task5 Desc edit
K5kj7poufH
21 Nov 2023 at 01:...
21 Nov 2023 at 01:...
Public Read + Write
Task4
True
Desc4
T6Uxyjz1Xq
21 Nov 2023 at 01:...
22 Nov 2023 at 03:...
Public Read + Write
Task2
True
Desc2
IVEioaFQbZ
20 Nov 2023 at 17:...
21 Nov 2023 at 02:...
Public Read + Write
Title1 r
True
Sedd
Android Emulator - Resizable_Experimental_API_34:5554
9:50
DEBUG
Flutter Assignment 2022mt1225
1
Title1 r
Sedd
2
Task2
Desc2
3
Task4
Desc4
4
Task5 edit
Task5 Desc edit

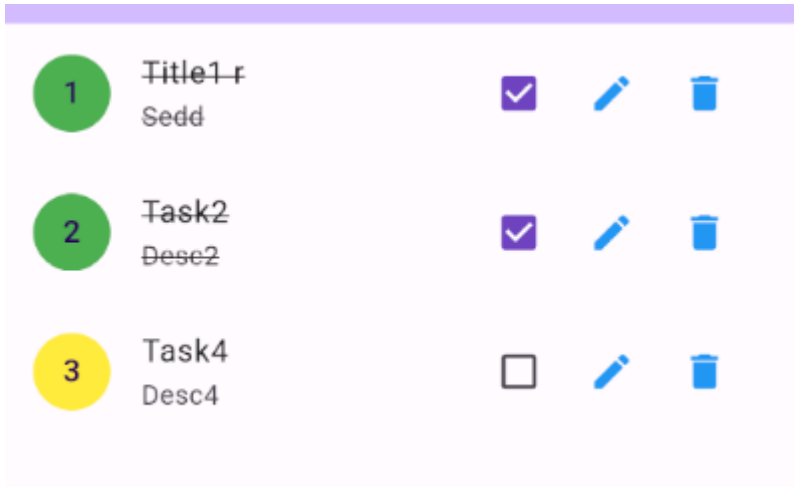

Android Emulator - Resizable_Experimental_API_34:5554
9:50
DEBUG
Flutter Assignment 2022mt1225
1
Title1 r
Sedd
2
Task2
Desc2
3
Task4
Desc4
+
Task deleted!



Add any additional features or enhancements you like.
Mark Task As complete.

```
        trailing: Row(···
            children: [
              Checkbox(
                  value:
                      tiledata.get<bool>('Completed'),
                  onChanged: (value) async {
                    await updateDone(
                        tiledata.objectId!, value!);
                  }), // Checkbox
```

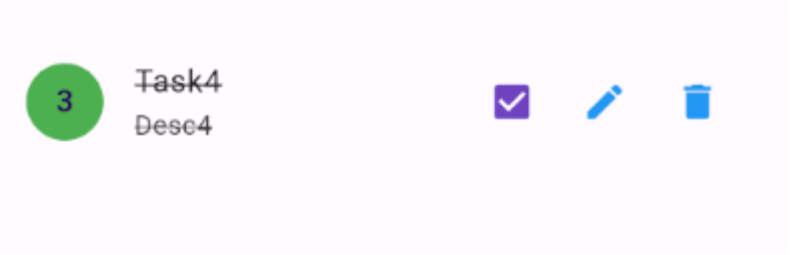
```
Future<void> updateDone(String id, bool completedFlag) async {
  var todo = ParseObject('taskList')
    ..objectId = id
    ..set('Completed', completedFlag);
  await todo.save();
}
```



taskList | Public Read and Write enabled

objectId String	createdAt Date	updatedAt Date	ACL ACL	Title String*	Completed Boolean	Description String
K5kj7poufH	21 Nov 2023 at 01:…	22 Nov 2023 at 04:…	Public Read + Write	Task4	False	Desc4
T6Uxyjz1Xq	21 Nov 2023 at 01:…	22 Nov 2023 at 03:…	Public Read + Write	Task2	True	Desc2
IVEioaFQbZ	20 Nov 2023 at 17:…	21 Nov 2023 at 02:…	Public Read + Write	Title1 r	True	Sedd

On checking checkbox of app.



objectId String	createdAt Date	updatedAt Date	ACL ACL	Title String*	Completed Boolean	Description String
K5kj7poufH	21 Nov 2023 at 01:…	22 Nov 2023 at 04:…	Public Read + Write	Task4	True	Desc4
T6Uxyjz1Xq	21 Nov 2023 at 01:…	22 Nov 2023 at 03:…	Public Read + Write	Task2	True	Desc2
IVEioaFQbZ	20 Nov 2023 at 17:…	21 Nov 2023 at 02:…	Public Read + Write	Title1 r	True	Sedd

Background of Avatar based on task completion status.

```
leading: CircleAvatar(
    child: Text((index + 1).toString()),
    backgroundColor:
        tiledata.get<bool>('Completed')!
            ? Colors.green
            : Colors.yellow), // CircleAvatar
```