Uploading Image Using Django with Firebase

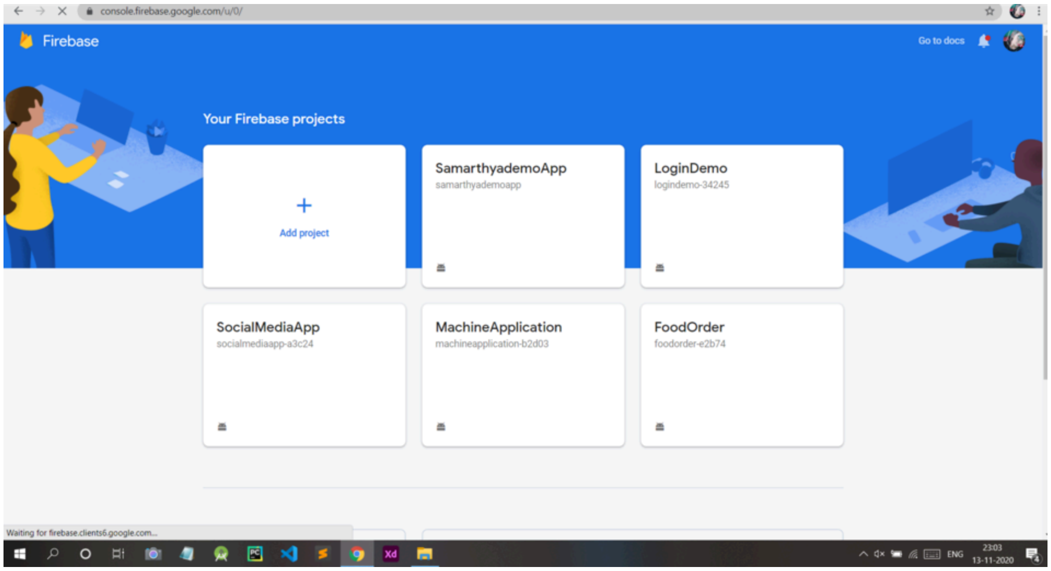
Last Updated : 23 Jun, 2021

Firebase is a product of Google which helps developers to build, manage, and grow their apps easily. It helps developers to build their apps faster and in a more secure way. No programming is required on the firebase side which makes it easy to use its features more efficiently. It provides cloud storage. It uses NoSQL for the storage of data.

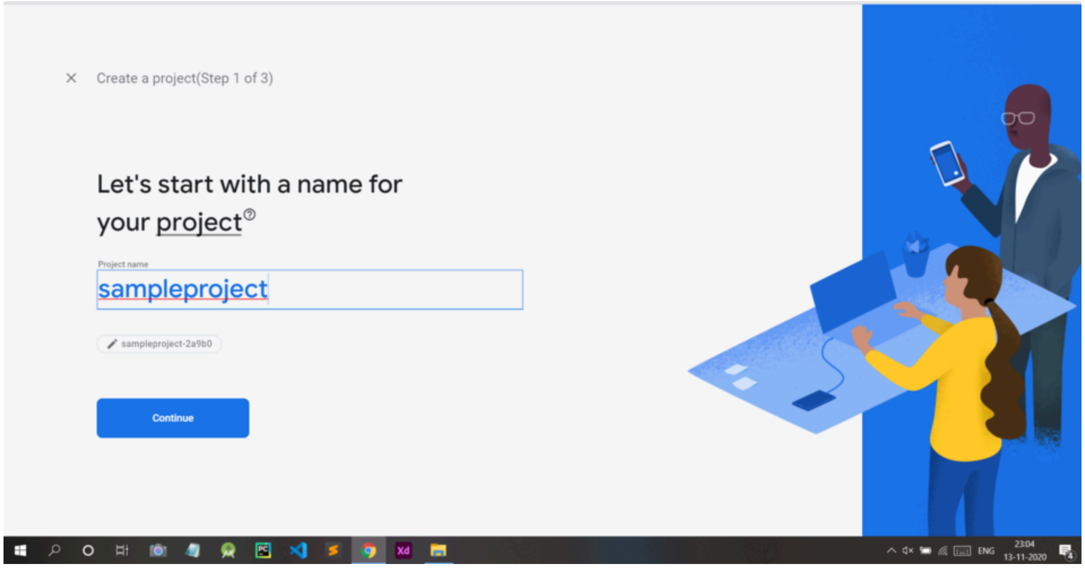
Here, We are going to learn How we can upload images using Django in firebase. While working with the database we may require to upload a pdf file also.

Step By Step Implementation

Step 1: Firstly, We are going to create a project on Firebase to connect our static web page. Visit the Firebase page for configuring your project. Visit the website and click the On Add Project button as shown below:



Step 2: Give a Name to your project and click on the Continue button.



Create a project(Step 1 of 3)

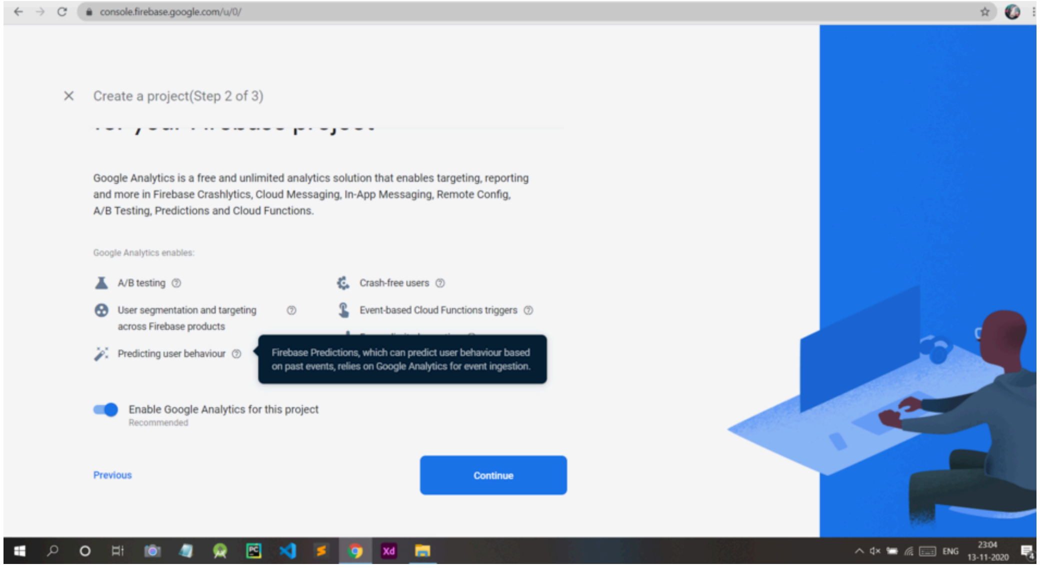
Let's start with a name for your project

Project name

sampleproject

sampleproject-2a9b0

Step 3: Now click on the Continue button.



console.firebase.google.com/u/0/

Create a project(Step 2 of 3)

Google Analytics is a free and unlimited analytics solution that enables targeting, reporting and more in Firebase Crashlytics, Cloud Messaging, In-App Messaging, Remote Config, A/B Testing, Predictions and Cloud Functions.

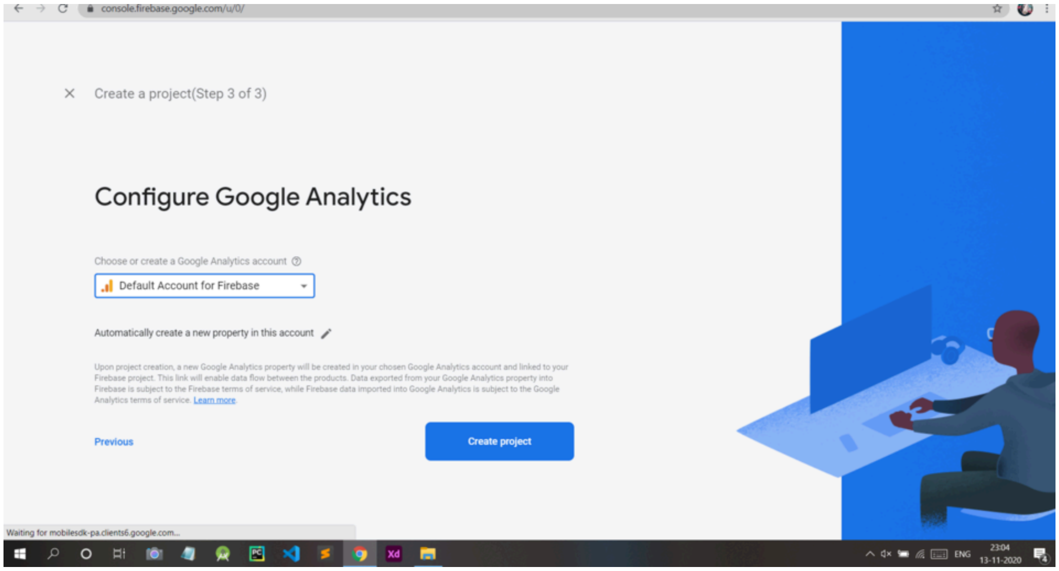
Google Analytics enables:

- A/B testing
- Crash-free users
- User segmentation and targeting across Firebase products
- Event-based Cloud Functions triggers
- Predicting user behaviour

Firebase Predictions, which can predict user behaviour based on past events, relies on Google Analytics for event ingestion.

Enable Google Analytics for this project
Recommended

Step 4: Now choose Default Account For Firebase and click on the Create Project button.



console.firebase.google.com/u/0/

Create a project(Step 3 of 3)

Configure Google Analytics

Choose or create a Google Analytics account

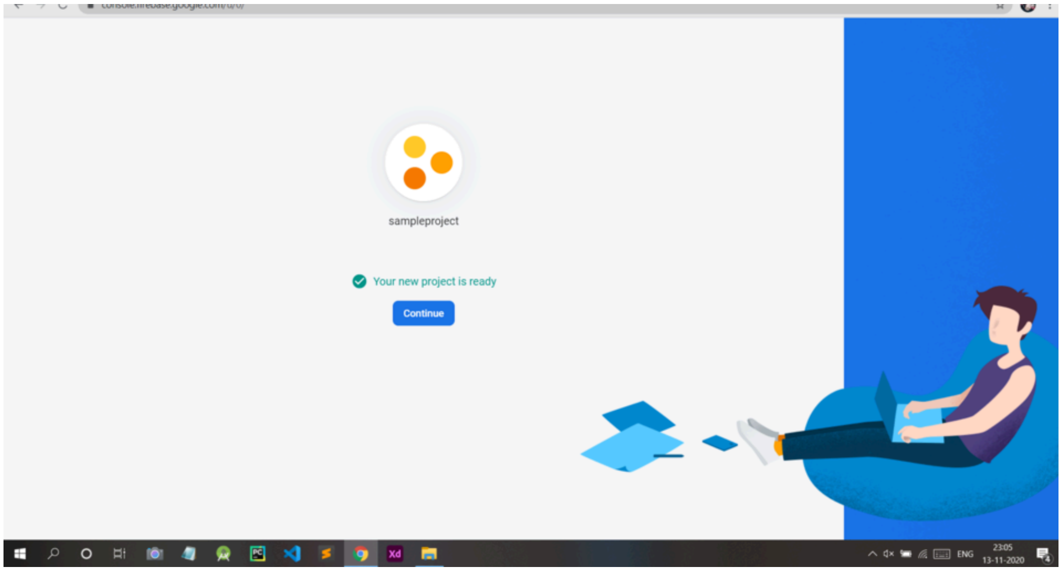
Default Account for Firebase

Automatically create a new property in this account

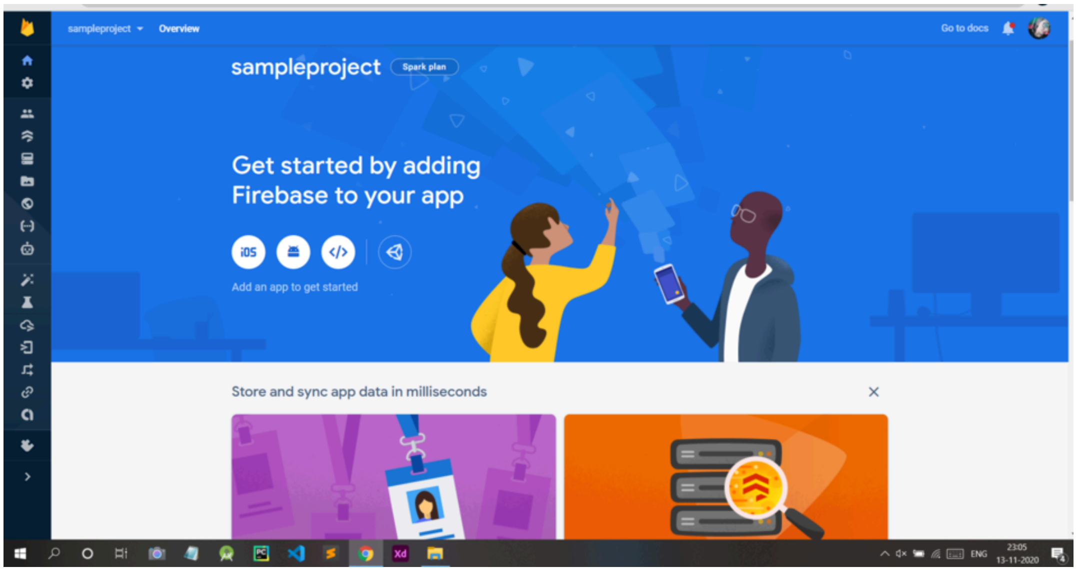
Upon project creation, a new Google Analytics property will be created in your chosen Google Analytics account and linked to your Firebase project. This link will enable data flow between the products. Data exported from your Google Analytics property into Firebase is subject to the Firebase terms of service, while Firebase data imported into Google Analytics is subject to the Google Analytics terms of service. Learn more.

Waiting for mobilesdk-pa.clients6.google.com...

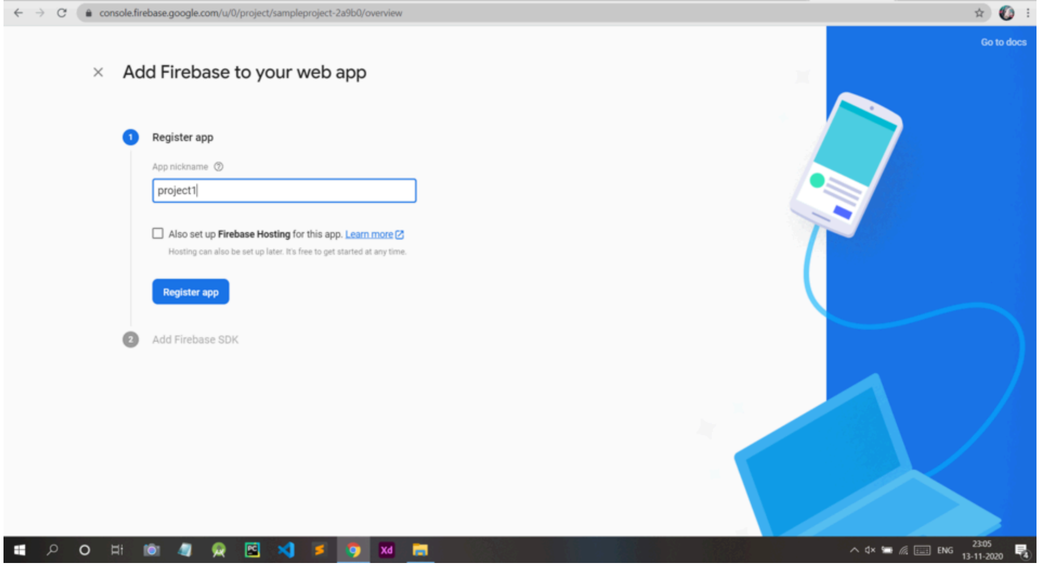
Step 5: Now your project is created, and you are now good to go.



Step 6: Now click on the 3rd icon that’s the Web button(</>).


sampleproject
Overview
Go to docs
sampleproject
Spark plan
Get started by adding Firebase to your app
iOS
</>
Add an app to get started
Store and sync app data in milliseconds

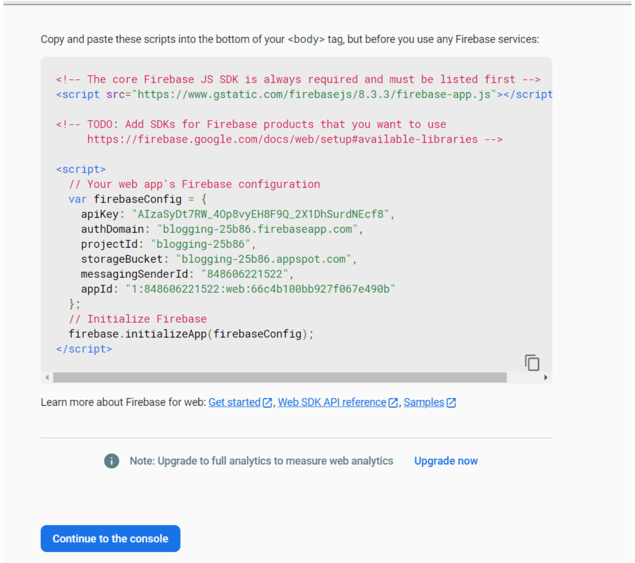
Step 7: Give a nickname to your web project and click on the Register App button.


console.firebase.google.com/u/0/project/sampleproject-2a9b0/overview
Go to docs
Add Firebase to your web app
1 Register app
App nickname
project1
Register app
2 Add Firebase SDK
ENG
23:05
13-11-2020

☐ Also set up **Firebase Hosting** for this app. Learn more

Hosting can also be set up later. It's free to get started at any time.

Step 8: Now you will see the configuration of your App like this. Copy this code somewhere as we will use it later.



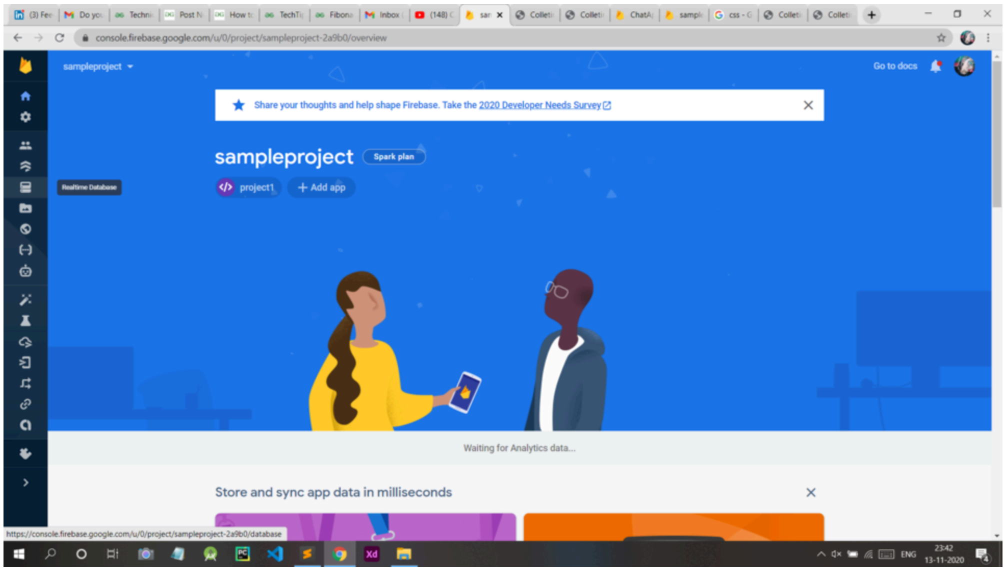
Copy and paste these scripts into the bottom of your <body> tag, but before you use any Firebase services:

```
<!-- The core Firebase JS SDK is always required and must be listed first -->
<script src="https://www.gstatic.com/firebasejs/8.3.3/firebase-app.js"></script

<!-- TODO: Add SDKs for Firebase products that you want to use
     https://firebase.google.com/docs/web/setup#available-libraries -->

<script>
  // Your web app's Firebase configuration
  var firebaseConfig = {
    apiKey: "AIzaSyDt7RW_4Op8vyEH8F9Q_2X1DhSurdNEcf8",
    authDomain: "blogging-25b86.firebaseapp.com",
    projectId: "blogging-25b86",
    storageBucket: "blogging-25b86.appspot.com",
    messagingSenderId: "848606221522",
    appId: "1:848606221522:web:66c4b100bb927f067e490b"
  };
  // Initialize Firebase
  firebase.initializeApp(firebaseConfig);
</script>
```

Learn more about Firebase for web: Get started, Web SDK API reference, Samples

Note: Upgrade to full analytics to measure web analytics Upgrade now

Step 9: Click On The Realtime Database button As Shown In Figure.

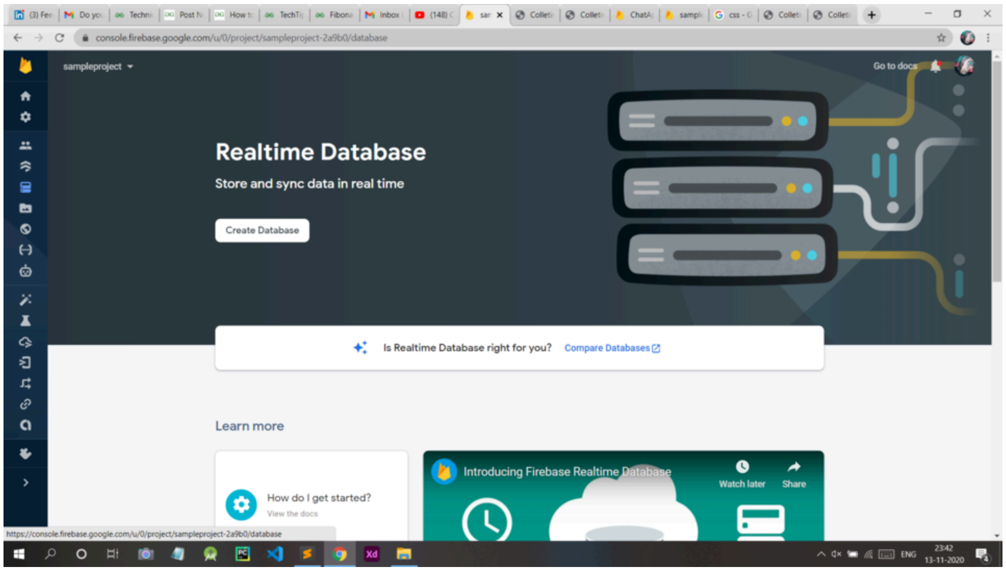

console.firebase.google.com/u/0/project/sampleproject-2a9b0/overview
sampleproject
Go to docs
Realtime Database
sampleproject
Spark plan
project1
+ Add app
https://console.firebase.google.com/u/0/project/sampleproject-2a9b0/database
ENG
23:42
13-11-2020

Share your thoughts and help shape Firebase. Take the 2020 Developer Needs Survey

Waiting for Analytics data...

Store and sync app data in milliseconds

Step 10: Now Click On Create Database.


console.firebase.google.com/u/0/project/sampleproject-2a9b0/database
sampleproject
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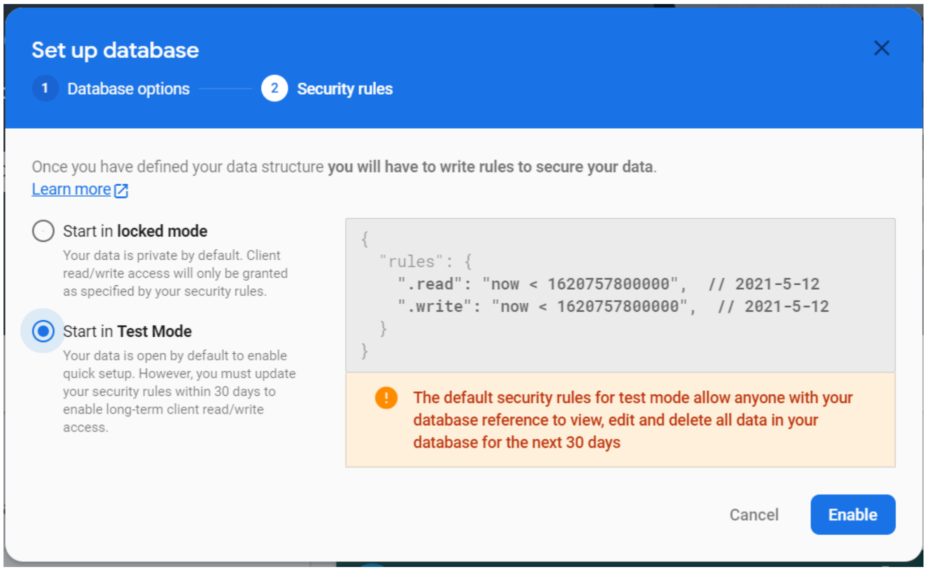
Step 11: Now Click On Test Mode and then Click On Enable.



Set up database

1 Database options — 2 Security rules

Once you have defined your data structure **you will have to write rules to secure your data**.
Learn more

○ Start in **locked mode**
Your data is private by default. Client read/write access will only be granted as specified by your security rules.

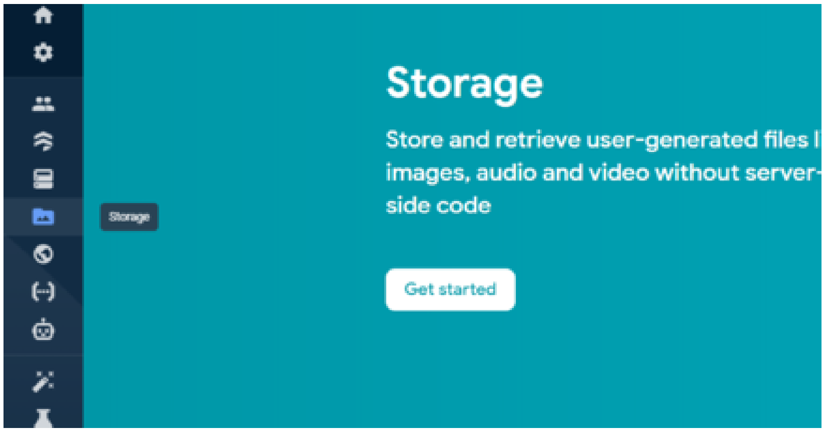
● Start in **Test Mode**
Your data is open by default to enable quick setup. However, you must update your security rules within 30 days to enable long-term client read/write access.

```
{
  "rules": {
    ".read": "now < 1620757800000",  // 2021-5-12
    ".write": "now < 1620757800000",  // 2021-5-12
  }
}
```

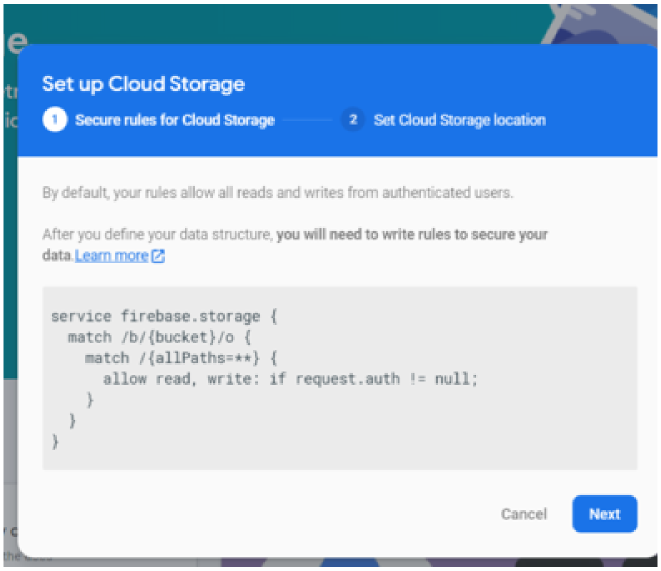
The default security rules for test mode allow anyone with your database reference to view, edit and delete all data in your database for the next 30 days

Cancel Enable

Step 12: Activate Firebase Storage. Click on the Storage button on the left and click on Get Started.


Storage
Storage
Store and retrieve user-generated files l
images, audio and video without server-
side code
Get started

After that this box will pop up. Click on Next.


Set up Cloud Storage

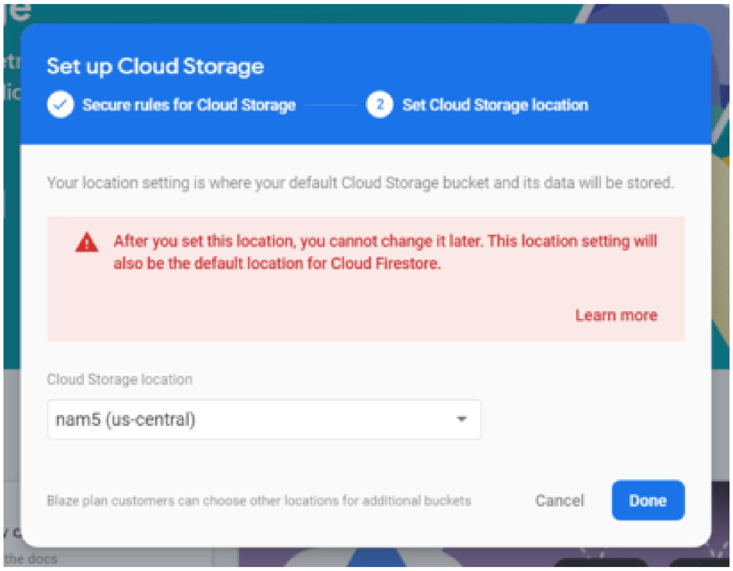
1 Secure rules for Cloud Storage
2 Set Cloud Storage location

By default, your rules allow all reads and writes from authenticated users.

After you define your data structure, **you will need to write rules to secure your** data. Learn more

```
service firebase.storage {
  match /b/{bucket}/o {
    match /{allPaths=**} {
      allow read, write: if request.auth != null;
    }
  }
}
```

Then click on Done.


Set up Cloud Storage

Your location setting is where your default Cloud Storage bucket and its data will be stored.

After you set this location, you cannot change it later. This location setting will also be the default location for Cloud Firestore.

Learn more

Cloud Storage location: nam5 (us-central)

Blaze plan customers can choose other locations for additional buckets

Creating a project in Django:

Use the below command to create a Django project:

```
$ django-admin startproject imageupload
```

Let’s verify your Django project works. Change into the outer *mysite* directory, if you haven’t already, and run the following commands:

```
$ python manage.py runserver
```

You’ll see the following output on the command line:

```
Performing system checks...
System check identified no issues (0 silenced).
You have unapplied migrations; your app may not work properly until they
are applied.
Run 'python manage.py migrate' to apply them.
April 09, 2021 - 15:50:53
Django version 3.2, using settings 'imageupload.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.
```

Integrating Firebase Database to Django Project:

Now, we hope that you have already created a project in Django. If not then refer to How to Create a Basic Project using MVT in Django? Since we are using firebase as a Database, We need to install ***pyrebase***. For this type the following command in terminal:

```
$pip install pyrebase4
```

Create a views.py file in your project directly. The Structure should be like this.

Step 13: Go to the **urls.py** file and create a path to move to the webpage to upload the image.

Python

```python
from django.contrib import admin
from django.urls import path
from . import views
urlpatterns = [

    path('check/',views.check,name="check"),

]
```

Step 14: Then move to views.py file and write the following function to render to html page.

Python

```
from django.shortcuts import render
import pyrebase

def check(request):
    return render(request,"check.html")
```

Step 15: Then we will move to **check.html** page and write the following code to upload the image in firebase. Comments are written inside to understand it better.

HTML

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Work</title>
    <style>
     body{
            background-image: url(https://images.unsplash.com/photo-1493723843671-
        }
        div{
        position:absolute;
        right:10px;
        top:5px;
        }
        input{
            margin-top:20px;
            height: 30px;
            width: 150px;
            padding: 12px 20px;
            border-radius: 5px;
            color: black;
        }
        input[type="submit"]{
            background-color: rgba(7, 179, 185, 0.753);
            color: rgb(255, 255, 255);
            border: none;
            border-radius: 5px;
        }
        button{
            background-color: rgba(7, 179, 185, 0.753);
            color: white;
            width: 150px;
            height: 30px;
            border: none;
            border-radius: 5px;
            opacity: 0.3;
        }
    </style>
</head>
<body>
<div>
<button type="button" onclick="location.href='{% url 'log' %}' ">Logout</button>
    </div>
<h2>Add Image</h2>
<form action="/postcreate/" method="post">
    {% csrf_token %}
    <br>
    Title:
    <input type="text" name="work" required><br><br>
    Type Something:
    <textarea rows="5" cols="40" name="progress" required></textarea>
    <br><br>
    Document Upload:
    <input type="file" name="files[]" id="files">
    <input type="hidden" name="url" id="url">
    <button type="button" onclick="uploadimage()">Upload</button><br><br>
    <input type="submit" value="Submit"><br><br>
</form>
</body>
<script src="https://www.gstatic.com/firebasejs/3.7.4/firebase.js"></script>
<script>
    var firebaseConfig = {
    apiKey: "",
    authDomain: "",
    databaseURL:  "",
    storageBucket:  "",
  };
  firebase.initializeApp(firebaseConfig);
  function uploadimage(){
  var storage = firebase.storage();
  var file=document.getElementById("files").files[0];
  var storageref=storage.ref();
  var thisref=storageref.child(file.name).put(file);
  thisref.on('state_changed',function(snapshot) {
  console.log('Done');

  }, function(error) {
  console.log('Error',error);
}, function() {
  // Uploaded completed successfully, now we can get the download URL
  thisref.snapshot.ref.getDownloadURL().then(function(downloadURL) {
    console.log('File available at', downloadURL);
    document.getElementById("url").value=downloadURL;
    alert('uploaded successfully');
  });
});
}
</script>
</html>
```

Now move to your project directory and run our project using the given command :

```
python manage.py runserver
```

Output:

Are you ready to elevate your web development skills from foundational knowledge to advanced expertise? Explore our **Mastering Django Framework - Beginner to Advanced Course** on GeeksforGeeks, designed for aspiring developers and experienced programmers. This comprehensive course covers everything you need to know about Django, from the basics to advanced

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