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Uploading file using API in Django Rest Framework

Uploading files to the server is one of the common tasks nowadays. In this tutorial, we will see how can we upload a file using the Django-rest framework.

First, let's create a virtual environment for our Django project.

```
virtualenv -p python3.6 env
```

</>

Activate the virtual environment.

```
source env/bin/activate
```

</>

install django and django-restframework

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```
(env) $ pip install django==1.11.29
(env) $ pip install.djangorestframework
```

</>

Start a new django project with the name 'fileupload'

```
(env) $ django-admin startproject fileupload
```

</>

Move into the new project directory and create a new app called 'file_app'

```
(env) $ cd fileupload
(env) $ python manage.py startapp file_app
```

</>

So, we have created our project and also an app. Let's set up our project for the main part.

Update 'INSTALLED_APPS' in settings.py file:

```
INSTALLED_APPS = [
    - - - - -
    - - - - -
    - - - - -
    'rest_framework',
    'file_app',
]
```

</>

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In settings.py add the path to the directory where you would want to store the uploaded files. Add the below line at the end of settings.py file:

```
MEDIA_URL = '/media/'
MEDIA_ROOT = os.path.join(BASE_DIR, "media")
```

Add the media url and the 'file_app' urls.py in the project's urls.py file. The final urls.py will be:

```
from django.conf.urls import url, include
from django.contrib import admin
from django.conf import settings
from django.conf.urls.static import static

urlpatterns = [
    url(r'^admin/', admin.site.urls),
    url(r'^file/', include('file_app.urls')),
]

if settings.DEBUG:
    urlpatterns += static(settings.MEDIA_URL, document_root=
```

Now, everything is set up. Let's start coding.
We will start by creating models for our app.

in file_app/models.py

```
from django.db import models

class File(models.Model):
    file = models.FileField(blank=False, null=False)
    remark = models.CharField(max_length=20)
    timestamp = models.DateTimeField(auto_now_add=True)
```

Create a new file as 'serializers.py' in-app directory (i.e. in 'file_app') and add the following code there:

```
from rest_framework import serializers
from .models import File

class FileSerializer(serializers.ModelSerializer):
    class Meta():
        model = File
        fields = ('file', 'remark', 'timestamp')
```

Let's edit the views.py and add the following code there:

```
from rest_framework.views import APIView
from rest_framework.parsers import MultiPartParser, FormParser
from rest_framework.response import Response
from rest_framework import status
from .serializers import FileSerializer

class FileView(APIView):
    parser_classes = (MultiPartParser, FormParser)
```

```
def post(self, request, *args, **kwargs):
    file_serializer = FileSerializer(data=request.data)
    if file_serializer.is_valid():
        file_serializer.save()
        return Response(file_serializer.data, status=status.HTTP_201_CREATED)
    else:
        return Response(file_serializer.errors, status=status.HTTP_400_BAD_REQUEST)
```

Now, let's create the file_app/urls.py file and add the following code:

```
from django.conf.urls import url
from .views import FileView

urlpatterns = [
    url(r'^upload/$', FileView.as_view(), name='file-upload')
]
```

That's it. Now you can upload the file from frontend using this api.
Let's try this out.

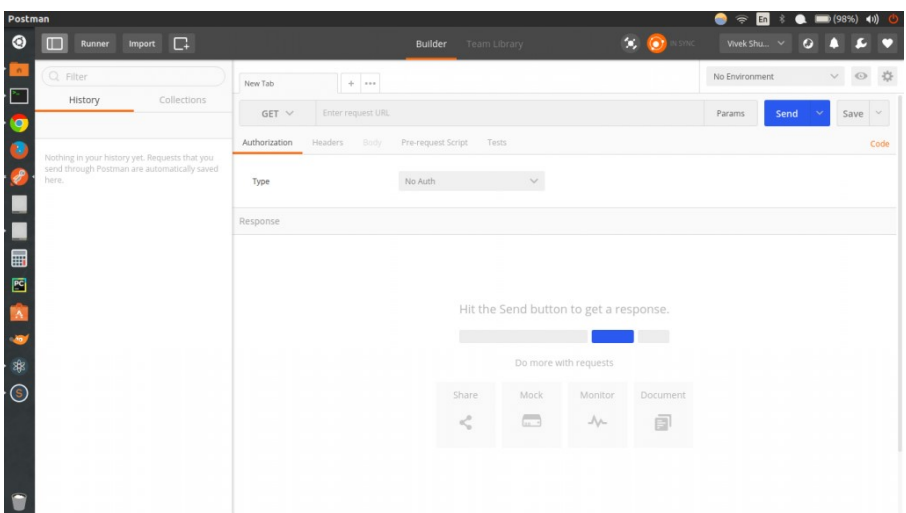
Prepare the database for the test:

```
(env) $ python manage.py makemigrations
(env) $ python manage.py migrate
```

And run the server

```
(env) $ python manage.py runserver
```

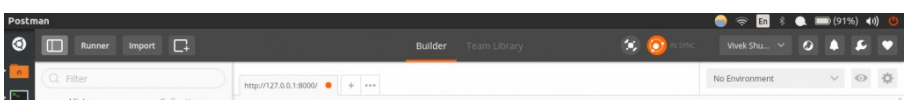
Open [Postman](#) app:

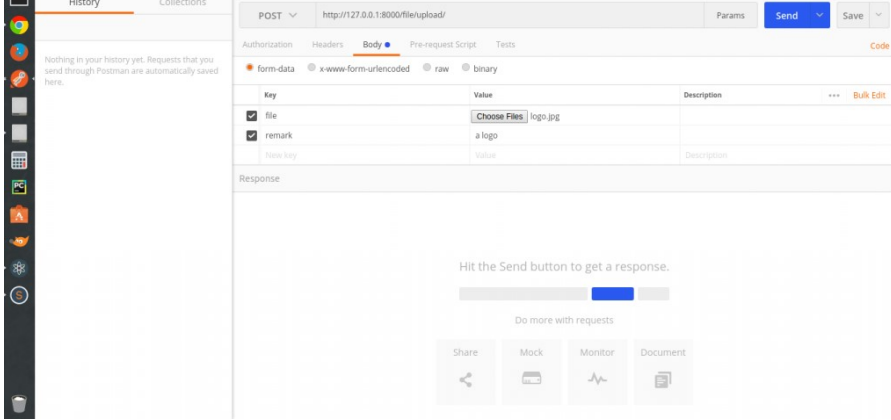


enter the url in url field and set the method to POST which is at the left of the url field. Go to Body section and make sure that 'form-data' is checked.

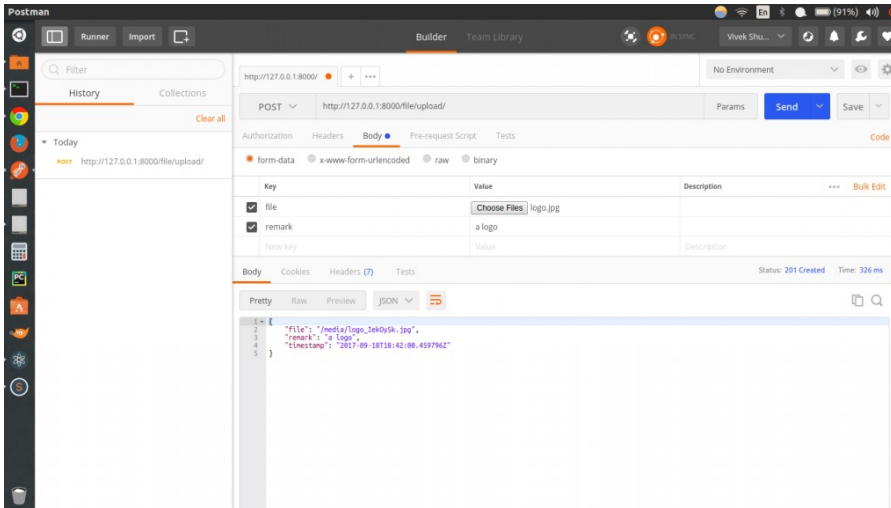
In the key field write 'file', which should match the name of your model field name. In this case it is 'file'. So, I am writing 'file'. Then from drop-down select 'File' instead of 'Text'. In value field browse the file and select it.

Repeat the process for remark section. Check it from image below:





Now click send, your file will be uploaded and you will get file data in response:



That's it.

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renuka tamboli JANUARY 4, 2018

ImportError at /file

No module named urls

Request Method: GET

Request URL: <http://127.0.0.1:8000/file>

Django Version: 1.8

Exception Type: ImportError

Exception Value:

No module named urls

Exception Location: C:\Users\xxxx\Anaconda2\lib\site-packages\rest_framework\compat.py in , line 26

Python Executable: C:\Users\xxxx\Anaconda2\python.exe

Python Version: 2.7.13

Python Path:

['C:\\Users\\xxxx\\Desktop\\fileupload',

```
'C:\\Users\\xxxx\\Anaconda2\\python27.zip',  
'C:\\Users\\xxxx\\Anaconda2\\DLLs',  
'C:\\Users\\xxxx\\Anaconda2\\lib',  
'C:\\Users\\xxxx\\Anaconda2\\lib\\plat-win',  
'C:\\Users\\xxxx\\Anaconda2\\lib\\lib-tk',  
'C:\\Users\\xxxx\\Anaconda2',  
'C:\\Users\\xxxx\\Anaconda2\\lib\\site-packages',  
'C:\\Users\\xxxx\\Anaconda2\\lib\\site-packages\\Sphinx-1.5.1-py2.7.egg',  
'C:\\Users\\xxxx\\Anaconda2\\lib\\site-packages\\win32',  
'C:\\Users\\xxxx\\Anaconda2\\lib\\site-packages\\win32\\lib',  
'C:\\Users\\xxxx\\Anaconda2\\lib\\site-packages\\Pythonwin',  
'C:\\Users\\xxxx\\Anaconda2\\lib\\site-packages\\setuptools-27.2.0-py2.7.egg']
```

i got this error ..please help me

[Reply](#)

Vivek JANUARY 4, 2018



The best way to debug an error is to follow up the error log.
i.e. in your case see at line 2 of the error log, it says “No module named urls”,
this case please check your urls.py for any import error.
The import should be: “from django.conf.urls import url”
P.S.: There is very little I can do from the given error log, if possible
please share views.py and urls.py using [github gist](#)

[Reply](#)

Shalini OCTOBER 25, 2018

A server error occurred. Please contact the administrator.

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[Reply](#)

Romando SEPTEMBER 1, 2018

I have the same exception, “No module named urls”

But going further, the error is in this line: from
rest_framework.views import APIView

[Reply](#)

Arthur Reinhart SEPTEMBER 1, 2018

—I got this exception—:

```
from django.urls import ( # noqa  
    ImportError: No module named urls
```

— In this code —

try:

```
from django.urls import ( # noqa  
    URLPattern,  
    URLResolver,  
)  
except ImportError:  
    # Will be removed in Django 2.0  
    from django.urls import ( # noqa ...  
        RegexURLPattern as URLPattern,  
        RegexURLResolver as URLResolver,  
    )
```

```
def get_original_route(urlpattern):
```

[Reply](#)

Victor Ngaruiya Maina JANUARY 16, 2021

Hello can someone help me out here, I am trying to add this code to my already existing project to allow for file uploads from the frontend but somehow after implementing the code above, I am unable to the URL for the file upload on my list of API's. could someone know what the problem might be.

[Reply](#)

M P MARCH 13, 2018

Thanks for the tutorial, very helpful!

To make it a little clearer, right before the last code snippet you could say "Now, let's create the file_app/urls.py file and add the following code:"

[Reply](#)

Vivek MARCH 13, 2018

Done.Thanks for the suggestion, really appreciate it.

[Reply](#)

Divyesh Patel MARCH 27, 2018

amazing...thanx for sharing this..pls let me know which desktop environment u set up..which are the configurations...coz i love it

[Reply](#)

Vivek MARCH 27, 2018

Thanks.

This is ubuntu 16.04 and on top it I am using Flatabulous theme. You can get it from here:

<https://github.com/anmoljagetia/Flatabulous>

[Reply](#)

Loc Vu MAY 1, 2018

I want to use requests lib to write a script instead of postman.

Here's my code :

```
“`
```

```
...
```

```
headers = {'Content-Type': 'application/json;', 'Authorization': token}
```

```
url = "http://127.0.0.1:8000/file/upload/"
```

```
fin = open('get-pip.py', 'rb')
```

```
files = {'file': fin}
```

```
try:
```

```
r = requests.post(url, data={'file':fin , 'remark': 'test_file'}, headers=headers)
```

```
print(r.status_code)
```

```
finally:
```

```
fin.close()
```

```
“`
```

I get a return code of 401

```
“`
```

```
[01/May/2018 03:02:33] "POST /file/upload/ HTTP/1.1" 415 69
```

```
“`
```

Can you help me fix it , tks

[Reply](#)

ujjwal MAY 22, 2018

Thanks for the tutorial ,very helpfull

[Reply](#)

Vivek MAY 31, 2018

Glad I could help.

[Reply](#)

Akhil Sreenivasulu MAY 31, 2018

Hi Vivek,

Thanks for posting this nicely.

I tried this, and its working fine with one file upload.

while I am trying to upload multiple files at a time, its taking only second file.

Can you please help me out for uploading multiple files.

[Reply](#)

Albin David JANUARY 29, 2019

Same problem for me also

[Reply](#)

farheen shaikh JUNE 18, 2018

Hi Vivek,

How to handle image filenames with spaces, eg. (fruitapplemango.jpg)is like (fruitapple mango.jpg)

[Reply](#)

farheen shaikh JUNE 18, 2018

Hi Vivek,

Thanks for the post.

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How to save filename with space, If the filename "fruitapplemango.jpg" I have is having a space in middle like "fruitapple mango.jpg"

[Reply](#)

Jabalnur Lazim JULY 16, 2018

Hi sir, I implemented your tutorials on uploading files in my api applications. I made some minor changes and successfully got response where the file is being uploaded. It says like this,

"http://127.0.0.1:8080/media/WWW.YTS.AG_1ZlloHZ.jpg".

But when I checked the media directly, there is no file where actually uploaded there.

Can you please help me with this?

Thanks in advance.

[Reply](#)

Vivek JULY 22, 2018

Hi Jabalnur,

Can you see the image when you go to the above URL ?

[Reply](#)

Pallav Parikh JULY 22, 2018

In serializer:

instead of,

class Meta():

model = File

```
fields = ('file', 'remark', 'timestamp')
```

use:

```
class Meta:
```

```
model = File
```

```
fields = '__all__'
```

[Reply](#)

Vivek JULY 22, 2018



Hi Pallav,

Yeah, we can use '__all__' to include all the fields in model serializer, but it's good practice/habit to explicitly write them. When you work on bigger models, you want the control of the data going in and out. Then again it also comes to personal preference. Thanks for your comment.

[Reply](#)

nithin JULY 31, 2018

TypeError at /fileupload/

__init__() takes 1 positional argument but 2 were given

im getting this error.what should i do?

[Reply](#)

Vivek AUGUST 3, 2018



Need more info.

can you post your urls.py for the file upload view

[Reply](#)

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hisham OCTOBER 17, 2018

first of all, thank you for this tutorial, it works fine on postman when using form-data. But when I'm trying to write json as "application/json" I got this error:

"The submitted data was not a file. Check the encoding type on the form."

how to upload image using raw -> application/json not form-data?

many thanks,

[Reply](#)

Vivek OCTOBER 27, 2018



To upload the file using application/json, you've to encode the file in Base64, which will increase data size by 33%. You can refer below link to encode the file to Base64.

<https://stackoverflow.com/a/36281449/4954635>

You also have to decode the image data in the backend.

[Reply](#)

Karim Bouchaaboun JANUARY 3, 2019

Tks for the tutorial.

Unfortunately I'm having this error:

““

Using the URLconf defined in fileupload.urls, Django tried these URL patterns, in this order:

^admin/

^file/

^mediaV(?P.*)*\$

The empty path didn't match any of these.

44 ^

Any hint ?

[Reply](#)

sneha dalal APRIL 1, 2019

Hi vivek i have used your code and its working fine. Its very easy to understand can u plz post a code for multiple file upload

[Reply](#)

celso MAY 8, 2019

what about the get request any solution for this tutorial

[Reply](#)

SAJJAD JULY 31, 2019

I have some other fields that are foreinkeys and use this file uploader with android section .

any body know how I should get other foreinkeys to save

[Reply](#)

C.P. Maurya SEPTEMBER 11, 2019

write views.py like this:

```
class FileUploadView(generics.ListCreateAPIView):
```

```
    queryset = FileUpload.objects.all()
```

```
    serializer_class = FileUploadSerializer
```

automatically CREATE all fields and you also GET all fields.

And Your views.py is very complicated.

[Reply](#)

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C.P. Maurya SEPTEMBER 11, 2019

Thanks for the post.

[Reply](#)

HyeSung JANUARY 16, 2020

How do I get log table whenever I download the uploaded file?

[Reply](#)

Deepthi Pisupati SEPTEMBER 23, 2020

I'm getting the following error:

File "C:\fileupload\file_app\urls.py", line 5

```
url(r'^upload/, FileView.as_view(), name='file-upload'),
```

^

SyntaxError: invalid syntax

What is the error??

[Reply](#)

Vivek SEPTEMBER 24, 2020



Hi, sorry my bad, I updated the code a few days ago maybe in that this mishap happened. I've fixed the code. Basically, the regular expression quotes were not closed.

[Reply](#)

Deepthi Pisupati SEPTEMBER 23, 2020

Using the URLconf defined in fileupload.urls, Django tried these URL patterns, in this order:

^admin/

^file/

^media/(?P.*\$)

The empty path didn't match any of these.

Got this error.

[Reply](#)

Vivek SEPTEMBER 24, 2020



try the above solution, maybe it is related.

[Reply](#)

Alona NOVEMBER 16, 2020

Thank you very much for this tutorial!

[Reply](#)

Rudra Gupta NOVEMBER 18, 2020

Awesome man, Thank you so much.

[Reply](#)

deepthi reddy DECEMBER 21, 2020

Thanks alot for helping

but the problem I've faced is , I'm able to upload file from postman but when I try to upload from api it doesn't show the option for file upload.

Please help me

[Reply](#)

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