

QUESTION ANSWER MODEL

This application helps you to upload, download, update, and delete PDF files and find relevant answers from the pdf with the help of a language model.

- Follow these steps to run this application and Start the FastAPI server:

→ To start the FastAPI server, you need to run this command:

```
uvicorn main:app --reload
```

→ To access the application you need to click on this url (Uvicorn running on)

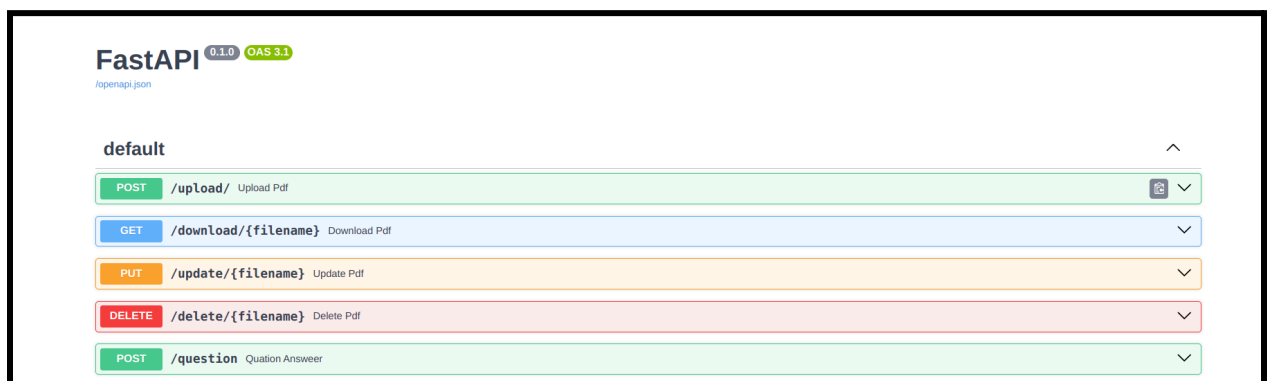
```
http://127.0.0.1:8000.
```

→ API documentation will be available at this url (Swagger url)

```
http://127.0.0.1:8000/docs#/
```

- All API Routes

This are the all API routes present in this application.



- **API Routes**

```
@app.post("/upload/")
```

→ This API helps you upload a PDF file to a given directory path and database in embedding form of data.

- **Requested parameter:**

→ You can choose a file from your system to upload to the database.

The screenshot shows a REST client interface with the 'Parameters' tab selected. The 'Request body' is set to 'multipart/form-data'. A file named 'Cat.pdf' is selected for upload. The 'Execute' button is visible.

- **Response :**

→ After successfully executing the API, the file uploaded successfully in the database.

The screenshot shows the 'Responses' tab of a REST client. It displays the 'Curl' command used for the request, the 'Request URL' as 'http://127.0.0.1:8000/upload/', and the 'Server response' which is a 200 status code with a JSON response body:

```
{  "filename": "Cat.pdf",  "message": "File uploaded successfully"}
```

. The 'Response headers' are also visible, showing 'content-length: 61', 'content-type: application/json', 'date: Wed, 04 Sep 2024 07:49:21 GMT', and 'server: uvicorn'.

```
@app.get("/download/{filename}")
```

→ This API helps you download PDF files from a given directory path and database.

- Requested parameter:

→ Enter the file name that you want to download from the database.

Name	Description
filename * required	Cat.pdf
string (path)	

Execute

- Response :

→ After successfully executing the API, you get a download link. After clicking in this, your file is successfully downloaded in your system.

Responses

Curl

```
curl -X 'GET' \
  'http://127.0.0.1:8080/download/Cat.pdf' \
  -H 'accept: application/json'
```

Request URL

```
http://127.0.0.1:8080/download/Cat.pdf
```

Server response

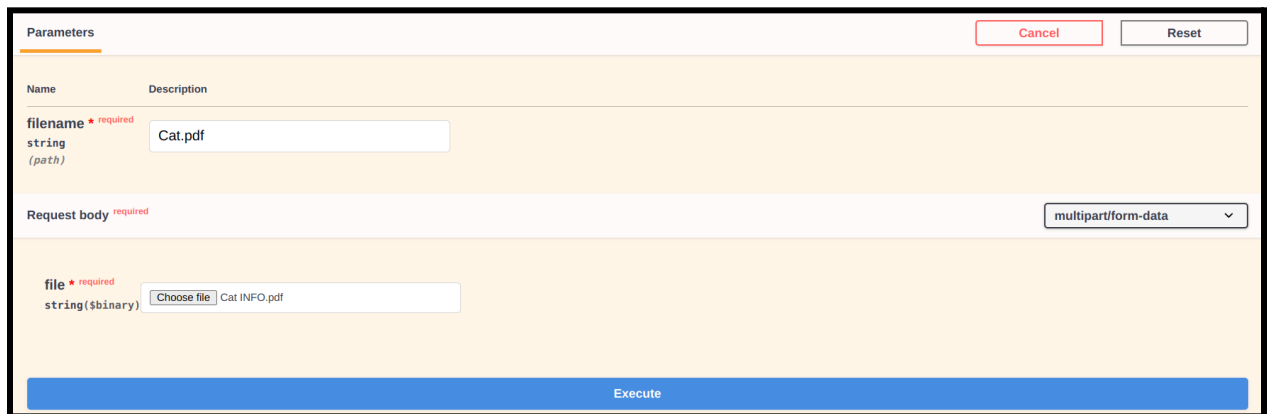
Code	Details
200	<p>Response body</p> <p>Download file</p> <p>Response headers</p> <pre>content-disposition: attachment; filename="Cat.pdf" content-length: 2098395 content-type: application/pdf date: Wed, 04 Sep 2024 08:01:36 GMT etag: "8300bb7f1caf5ccd5ffe8c9fbfedbee05" last-modified: Wed, 04 Sep 2024 07:49:22 GMT server: uvicorn</pre>

```
@app.put("/update/{filename}")
```

→ This API helps you update a PDF file's uploaded data and in the database in embedding data

- Requested parameter:

→ Enter the file name that you want to update and select the file that you want to replace data with.



The screenshot shows a web interface for defining API parameters. It has a 'Parameters' tab at the top with 'Cancel' and 'Reset' buttons. Below is a table with 'Name' and 'Description' columns. The first row is for 'filename', marked as 'required', with a text input containing 'Cat.pdf' and a description of 'string (path)'. The second section is 'Request body', also 'required', with a dropdown menu set to 'multipart/form-data'. Below this is a 'file' field, marked 'required', with a 'Choose file' button and a text input containing 'Cat INFO.pdf' and a description of 'string(\$binary)'. At the bottom is a large blue 'Execute' button.

- Response :

→ After successfully executing the API, your pdf data will be updated.



The screenshot shows the 'Responses' section of the API tool. It includes a 'Curl' section with a pre-filled curl command: `curl -X 'PUT' \ 'http://127.0.0.1:8000/update/Cat.pdf' \ -H 'accept: application/json' \ -H 'Content-Type: multipart/form-data' \ -F 'file=@Cat INFO.pdf;type=application/pdf'`. Below is the 'Request URL' field with `http://127.0.0.1:8000/update/Cat.pdf`. The 'Server response' section shows a 'Code' of 200 and a 'Details' tab. The 'Response body' is displayed as a JSON object: `{ "status": "success", "message": "Embeddings for Cat.pdf updated successfully." }`. There are 'Copy' and 'Download' buttons next to the response body. The 'Response headers' section shows: `content-length: 77, content-type: application/json, date: Wed, 04 Sep 2024 08:09:43 GMT, server: uvicorn`.

```
@app.delete("/delete/{filename}")
```

→ This API helps you delete a PDF file's from path and database.

- Requested parameter:

→ Enter file name wich you wana delete from path and database.

The screenshot shows a REST client interface for a DELETE endpoint. The URL is `/delete/{filename}` with the description "Delete Pdf". Under the "Parameters" tab, there is a table with two columns: "Name" and "Description". A single parameter is listed: "filename" with a red asterisk and "required" label, type "string", and description "(path)". The value "Cat.pdf" is entered in the input field. A blue "Execute" button is at the bottom, and a red "Cancel" button is in the top right corner.

Name	Description
filename * required	
string	
(path)	

- Response :

→ After successfully executing the API, your pdf file will be deleted successfully.

The screenshot shows the "Responses" tab of the REST client. It displays the cURL command used: `curl -X 'DELETE' \ 'http://127.0.0.1:8000/delete/Cat.pdf' \ -H 'accept: application/json'`. The request URL is `http://127.0.0.1:8000/delete/Cat.pdf`. The server response is shown with a status code of 200. The response body is `{ "message": "File deleted successfully" }`. The response headers are: `content-length: 39`, `content-type: application/json`, `date: Wed, 04 Sep 2024 08:23:28 GMT`, and `server: uvicorn`. There are icons for copying and downloading the response body and headers.

Responses

Curl

```
curl -X 'DELETE' \ 'http://127.0.0.1:8000/delete/Cat.pdf' \ -H 'accept: application/json'
```

Request URL

```
http://127.0.0.1:8000/delete/Cat.pdf
```

Server response

Code	Details
200	<p>Response body</p> <pre>{ "message": "File deleted successfully" }</pre> <p>Response headers</p> <pre>content-length: 39 content-type: application/json date: Wed, 04 Sep 2024 08:23:28 GMT server: uvicorn</pre>

```
@app.post("/question", response_model=QuestionResponse)
```

→ This API helps you get answers to questions using the stored embeddings, and those answers are relevant content of the uploaded PDFs. And you can also search for answers within a specific PDF or across all stored PDFs.

- Requested parameter:

→ Here you can ask the question whichever user wants.

Request body required application/json

```
{
  "question": "Tell me about cat?",
  "filename": ""
}
```

Execute

- Response :

→ After successfully executing the API, if the question is related to the uploaded pdf content, you get an answer successfully; if not, throw an error message.

Responses

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/question' \
  -H 'accept: application/json' \
  -H 'Content-Type: application/json' \
  -d '{
    "question": "Tell me about cat?",
    "filename": ""
  }'
```

Request URL

<http://127.0.0.1:8000/question>

Server response

Code Details

200

Response body

```
{
  "filename": "Cat INFO.pdf",
  "score": 0.6439477205276489,
  "content": "CAT\nThe cat (Felis catus), also referred to as domestic cat or house cat, is a small domesticated\ncarnivorous mammal. It is the only domesticated species of the family Felidae. Advances in\narchaeology and genetics have shown that the domestication of the cat occurred in the Near\nEast around 7500 BC. It is commonly kept as a house pet and farm cat, but also ranges freely\nas a feral cat avoiding human contact. Valued by humans for companionship and its ability to kill\nvermin, the cat's retractable claws are adapted to killing small prey like mice and rats. It has a\nstrong, flexible body, quick reflexes, and sharp teeth, and its night vision and sense of smell are\nwell developed. It is a social species, but a solitary hunter and a crepuscular predator. Cat\ncommunication includes vocalizations like meowing, purring, trilling, hissing, growling, and\ngrunting as well as cat body language. It can hear sounds too faint or too high in frequency for\nhuman ears, such as those made by small mammals. It secretes and perceives pheromones.\nFemale domestic cats can have kittens from spring to late autumn in temperate zones and\nthroughout the year in equatorial regions, with litter sizes often ranging from two to five kittens.\nDomestic cats are bred and shown at events as registered pedigree cats, a hobby known as\ncat fancy. Animal population control of cats may be achieved by spaying and neutering, but their\nproliferation and the abandonment of pets has resulted in large numbers of feral cats worldwide,\ncontributing to the extinction of bird, mammal, and reptile species.\nAs of 2017, the domestic cat was the second most popular pet in the United States, with 95.6\nmillion cats owned and around 42 million households owning at least one cat. In the United\nKingdom, 26% of adults have a cat, with an estimated population of 10.9 million pet cats as of\n2020. As of 2021, there were an estimated 220 million owned and 480 million stray cats in the\nworld."
}
```

Download

- Requested parameter:

→ Now if the user wants to search for an answer from a specific pdf, add the pdf name on filename.

Request body required

application/json

```
{  "question": "Tell me about cat?",  "filename": "Cat.pdf"}  
```

Execute

- Response :

→ After successfully executing the API, if the question is related to the specific mention uploaded pdf, you get an answer successfully; if not, throw an error message.

Responses

Curl

```
curl -X 'POST' \  'http://127.0.0.1:8080/question' \  -H 'accept: application/json' \  -H 'Content-Type: application/json' \  -d '{  "question": "Tell me about cat?",  "filename": "Cat.pdf"}'
```

Request URL

```
http://127.0.0.1:8080/question
```

Server response

Code	Details
200	<div><div>Response body</div><div><pre>"filename": "Cat.pdf", "score": 0.8458294537399292, "content": "DANVEER SINGH YADAV\nAssistant Professor \nLivestock Production Management\nCollege of Veterinary Science & A. H. (NDVSU), MHOW\nCat is in fact a pet, which doe sn't require any special\nattention. Hence it is easier to maintain cats than\ndogs.\nThey also don't need any training as their learning is\nlimited for their own requiremen t.\nLife span 10-14 years.\nLong hair cat\n1. Angora\n2. Barman's\n3. Persian\n4. Canvas\n5. Chinchilla\n6. Cream\n7. Tabby\n8. Japanese bob tail\nShort hair cats\n1. Abyssinians\n2. Siamese\n3. American short hair\n4. Russian blue\n5. Manx\n6. Rex\n7. British blue\nPopular breeds of Cats\nAngora cat\nFrance\nAngora smallest cat\nwith bl ue or amber\ncolour eyes.\nCharacteristic\nfufure is presence\nof tufts in between\nthe toes.\nAbyssinian\nBritain\nThe cat is intelligent\nand\ndoes\nnot\nlike\nconfineme nt\nJapanese Bob Tail\nLonger hind limbs than\nfront\nbut\nlittle\nbit\nangled toward front.\nThis\nis\nntreated\nfor\nGood Luck\nBob Tail\nPersian\nDerived\nfrom\nAngor a.\nThey\nhave long flowing\nsilkly coat.\nSiamese\nIntelligent and much\npopular.\nEyes are usually blue and\nalmond.\nTabby\nThe\nbreed\nis\nmost\npopular\nall\nover\nthe\nworld.\nStrips from\nM\nnon\nfore\nncard\nwhich\nsuggest\nprophet\nMohammad.\nLeopard cat\nEast India\nleopard-like\nspots and having\nsize of a domestic\ncat\nRusty-s potted Cat\nSouthern India\nThis\nworld's\nsmallest\nwild cat is grey in color\nwith rusty spots over the\nback and thigh.\nHimalayan Cat\nOrigin: USA\nHimalayan cats are having\nshort legs and round body.\nThey\nare\nhaving\ndifferent\ntypes of coats like Blue point,\nLilac point and cream point.\nThere\nface\ntypes\ncan\nbe\ndivided into tw o types: doll-\nface and the peke-faced.\nBombay Cat\nOrigin: United States\nThis social breed cat is\nblack in color with short\nhair. They are having\nyellow eyes and glos sy\ncoats.\nBengal Cat\nOrigin: United States\nBengal cats are a hybrid\nof the Asian Leopard Cat\nand domestic cats.\nThey have two basic fur\npatterns: common spotted\npa ttern\nand\nswirly\nmarbled.\nCat Breeding\nCats get matured at the age 5 to 6 months.\nThe gestation period is 60 to 65 days\n(litter size 3-7\nkittens at a time), yearly c at can produce three litters.\nHousing of cat\nIn real sence, cats don't require any elaborate or\nseparate housing. Because it is clean and nearly\ncomplete pet.\nSuch a pl ace should be provided with warm basket\nhaving half-covered top.\nHousing can be broadly classified into two groups.\n1. Indoor\n2. outdoor\nCat Management\nShort hair cats don't require grooming because they\nclean their coat by licking. But it is advisable to\npractice combing once a day, which avoids falling of\nhairs home.\nIf it is not possibl e to train cats as that of dog for\nvarious commands, sports or work, however they\ncan be instructed and made obedient for toilet\nmanners.\nFeeding of cats\nCat cannot dige st dry food in large amount.\nNormal food is 1/2 cup of milk and 80 gm of cooked\nmeat and some biscuits.\nCats can not synthesize vitamin-A, green vegetable\nlike carrot can fulfill this need.\nThey daily food requirement is around 25 gm/kg of\nBW.\nOn an average cat weighs 4-5kg hence require\nabout 110 to 115 g of food daily.\nNeed adequate w ater, in absence of which they may\ndevelop severe constipation leading to hard fecal\nstones and kidney damage.\nFeeding of kitten\nMother's milk up to 7 - 8 weeks of ag e.\nAfter this offered cow's milk glucose or dried milk powder.\nFostering\nKitten should be fed every 3-4 hours with feeding bottle.\nRubbing of kitten's belly, after su cking the milk helps in\nstimulating digestive system for digestion as well as\nurination and passing of stools.\nVices in cats\n1. Fly/bird catching : In spite of good feedin g cats kill\nbirds. Some cats develop habit of catching flies.\n2. Spraying : Mostly un-castrated toms spray their urine\nto mark the territory.\n3. Caprophagia : This vice m ay be due to imbalanced\nfeeding, deficiency\nof\nphosphorous\nor\nworm\ninfestation.\n4. Shouting : gurgling or marking loud noise at the time\nof estrous or\nmabalisn : Eating of own kittens. Separation of\nkittens soon after queening and close watch is\nremedy to control the vice.\n"</pre></div></div>