# DOCS CHATBOT

## Deployment Steps

### Instructions

Please, follow the steps and instruction for a successful deployment of this app.

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Contents

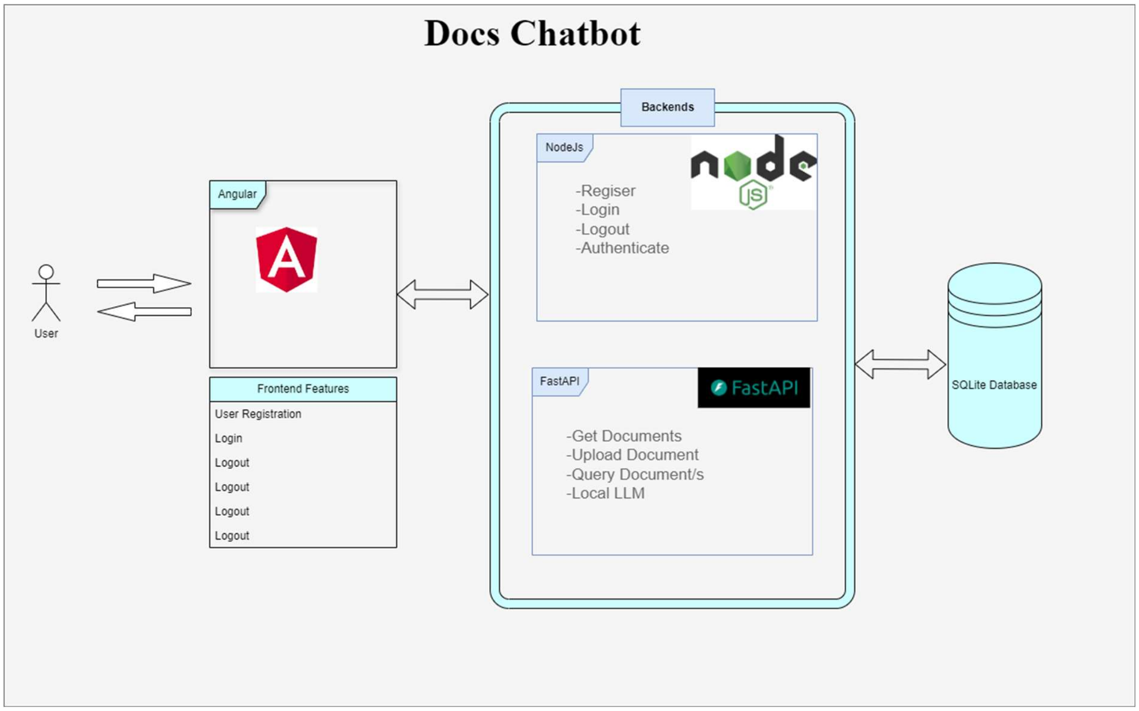
# 1. Revision History

| Date | Author | Remarks | Version |
|---|---|---|---|
| 23/11/2024 | Balasubramaniam Ramasamy | Initial Version | 1.0 |
| | | | |

# 2. Overview

Hello, welcome to Docs Chatbot.

The system architecture:



## a. Frontend: Angular application

## b. Backend 1: FastAPI (Python-based API for handling document uploads, queries, and embeddings)

## c. Backend 2: Node.js (Authentication and user management)

## d. Database: SQLite (for development) or any production-grade DB (e.g., PostgreSQL, MySQL)

# 3. Prerequisites

List software, tools, and environment setups required:

### System Requirements:

OS: Linux/Windows/MacOS (recommend Linux for production)

RAM: At least 4 GB for local, 8+ GB for production

### Tools:

Angular CLI: npm install -g @angular/cli

Node.js: Version >= 20.0

Python: Version >= 3.10

Npm: Version >= 10.0

Database:

SQLite (for development) or PostgreSQL/MySQL for production

Package managers:

npm (for Node.js and Angular)

pip or pipenv (for Python)

### Servers:

Nginx or Apache (optional, for serving Angular and acting as reverse proxy)

Gunicorn or uvicorn for serving FastAPI

## 4. Frontend Deployment

### Install Dependencies:

Clone the repository: git clone https://github.com/balasubramaniam-ramasamy/docs-chatbot

Navigate to the project folder: cd frontend

Install dependencies: npm install

### Build the Angular App:

Development: ng serve

Production: ng build --prod --output-path=dist

### Serve the Angular App:

For development: Use ng serve (default runs on http://localhost:4200).

For production:

Copy the contents of dist to your server.

Configure Nginx or Apache to serve the static files from dist.

### Environment Configuration:

Use environment.ts and environment.prod.ts for API URLs and environment-specific settings.

Sample Nginx Configuration:

nginx

Copy code

```
server {
  listen 80;
  server_name your-domain.com;

  root /var/www/your-angular-app/dist;
  index index.html;

  location / {
    try_files $uri /index.html;
  }
}
```

## 5. FastAPI Backend Deployment

### Clone the Repository:

git clone https://github.com/balasubramaniam-ramasamy/docs-chatbot/

```
cd backend-fastapi
```

## Set Up Virtual Environment:

bash

Copy code

```
python -m venv venv
source venv/bin/activate
pip install -r requirements.txt
```

***Note:*** *You can also use conda to setup environment and run FastAPI*

## Environment Variables:

Create .env file with:

env

Copy code

```
DATABASE_URL=sqlite:///./database.sqlite
SECRET_KEY=your-secret-key
```

## Database Migration:

Use alembic or SQLAlchemy for migrations:

bash

Copy code

```
alembic upgrade head
```

## Run FastAPI:

### Development:

bash

Copy code

```
uvicorn main:app --reload --host 0.0.0.0 --port 8000
```

### Production (with Gunicorn):

bash

Copy code

```
gunicorn -k uvicorn.workers.UvicornWorker main:app --bind 0.0.0.0:8000
```

### Serving with Nginx (Optional): Configure Nginx as a reverse proxy to FastAPI:

nginx

Copy code

```
server {
  listen 80;
  server_name your-domain.com;

  location / {
    proxy_pass http://127.0.0.1:8000;
    proxy_set_header Host $host;
    proxy_set_header X-Real-IP $remote_addr;
  }
}
```

## 6. Node.js Backend Deployment

### Clone the Repository:

```
git clone https://github.com/balasubramaniam-ramasamy/docs-chatbot

cd backend-nodejs
```

### Install Dependencies:

```
npm install
```

## Environment Variables:

Create .env file with:

env

Copy code

```
PORT=3000
DATABASE_URL=sqlite:///./auth-database.sqlite
JWT_SECRET=your-secret-key
```

## Run the App:

### Development:

bash

Copy code

```
npm run dev
```

### Production:

bash

Copy code

```
npm start
```

### Serve with Nginx (Optional): Configure Nginx as a reverse proxy:

nginx

Copy code

```
server {
  listen 80;
  server_name your-domain.com;

  location /auth {
    proxy_pass http://127.0.0.1:3000;
    proxy_set_header Host $host;
    proxy_set_header X-Real-IP $remote_addr;
  }
}
```

## 7. Database Setup

### SQLite:

Auto-created for both FastAPI and Node.js if used as sqlite:///./database/database.sqlite.

No further setup required.

### PostgreSQL/MySQL (for production):

Create databases for FastAPI and Node.js.

Update the DATABASE_URL in .env files:

env

Copy code

```
DATABASE_URL=postgresql://user:password@localhost/dbname
```

## 8. Testing

### Frontend:

**Unit Tests:** ng test

**End-to-End Tests:** ng e2e

### Backend:

**FastAPI:** Use pytest to run tests:

bash

Copy code

```
pytest
```

**Node.js:** Use jest or mocha to run tests:

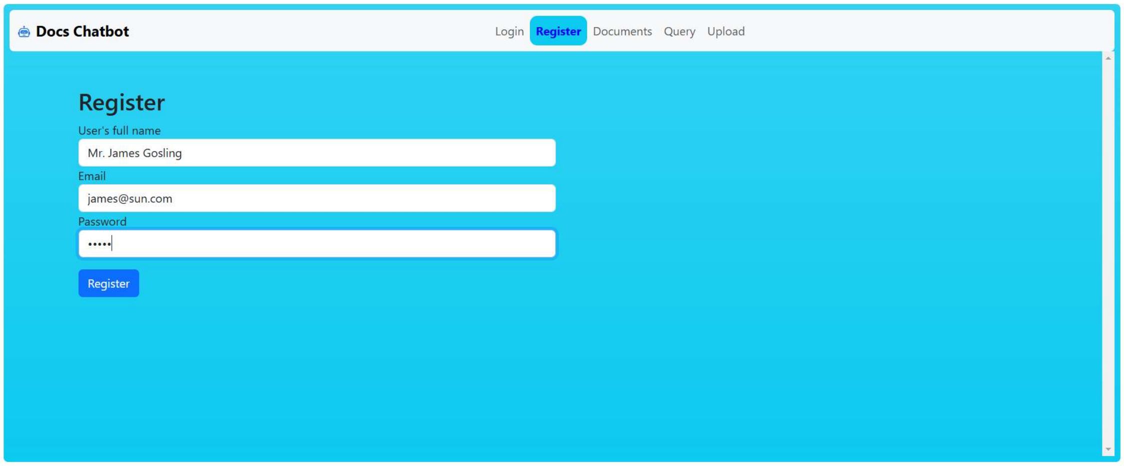
bash

Copy code

```
npm test
```

# 9. Snapshots for Verification UI and Functional Verification

## a. Register Screen



Register

User's full name

Mr. James Gosling

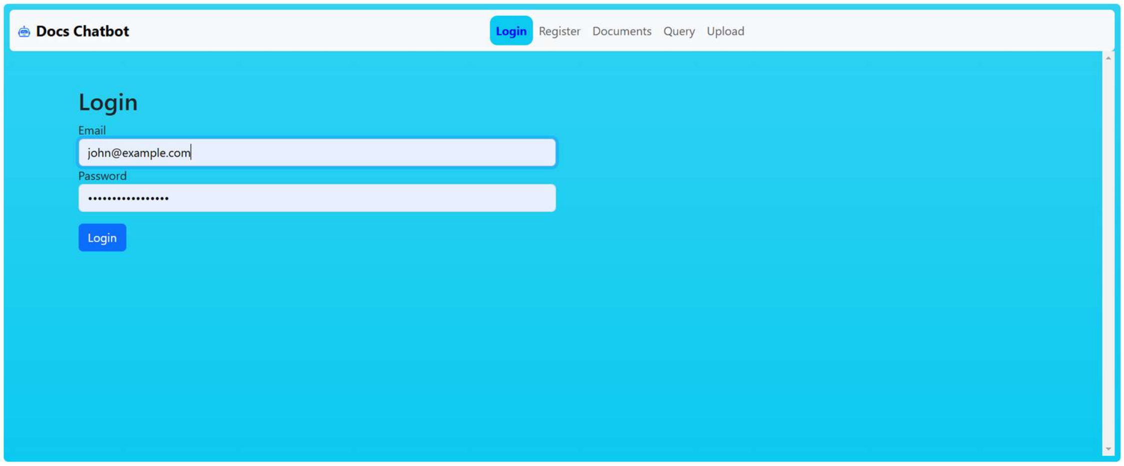
Email

james@sun.com

Password

•••••

## b. Login Screen



Login

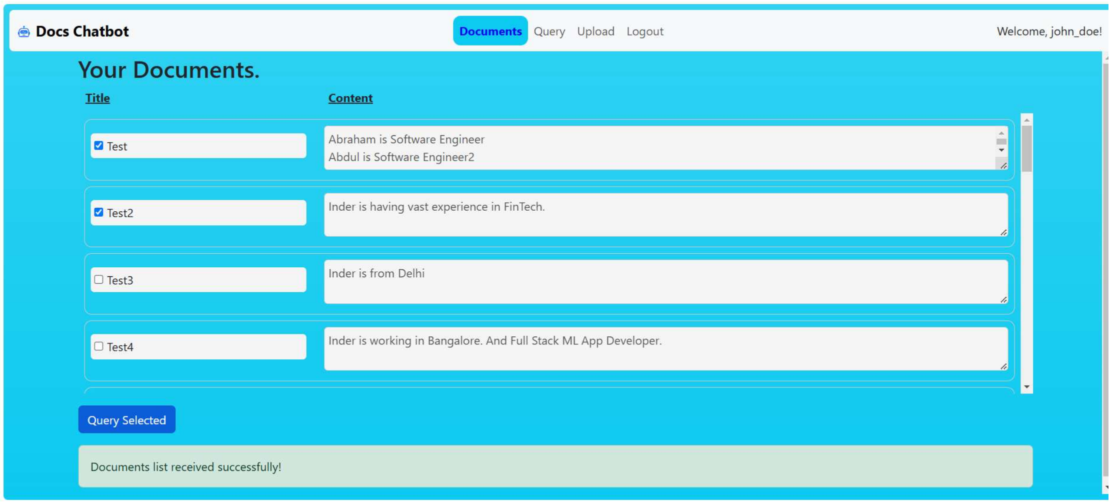
Email

john@example.com

Password

•••••••••••••••••

## c. Documents Screen

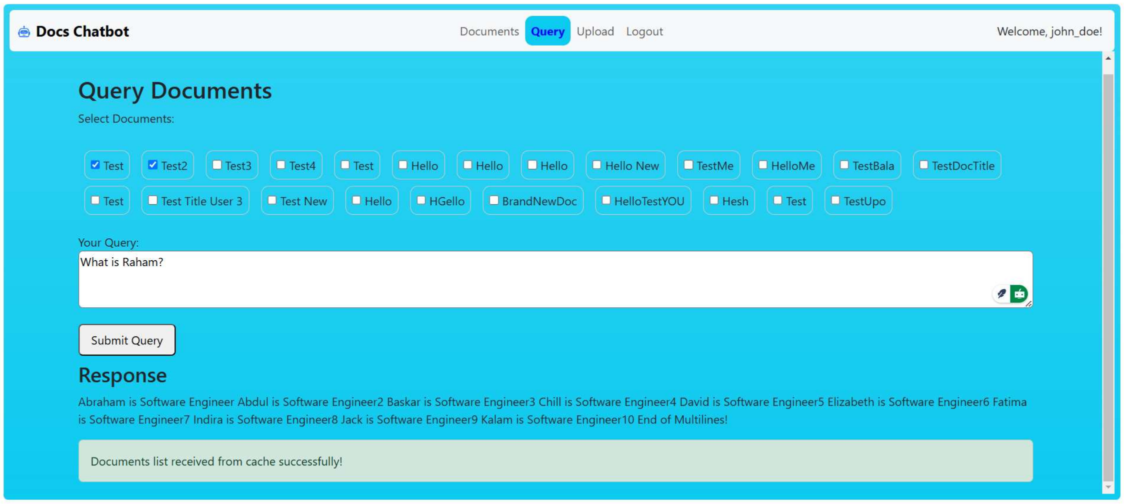


### Your Documents.

| Title | Content |
|---|---|
| ☑ Test | Abraham is Software Engineer<br>Abdul is Software Engineer2 |
| ☑ Test2 | Inder is having vast experience in FinTech. |
| ☐ Test3 | Inder is from Delhi |
| ☐ Test4 | Inder is working in Bangalore. And Full Stack ML App Developer. |

Documents list received successfully!

## d. Query Screen



### Query Documents

Select Documents:

☑ Test ☑ Test2 ☐ Test3 ☐ Test4 ☐ Test ☐ Hello ☐ Hello ☐ Hello ☐ Hello New ☐ TestMe ☐ HelloMe ☐ TestBala ☐ TestDocTitle

☐ Test ☐ Test Title User 3 ☐ Test New ☐ Hello ☐ HGello ☐ BrandNewDoc ☐ HelloTestYOU ☐ Hesh ☐ Test ☐ TestUpo

Your Query:

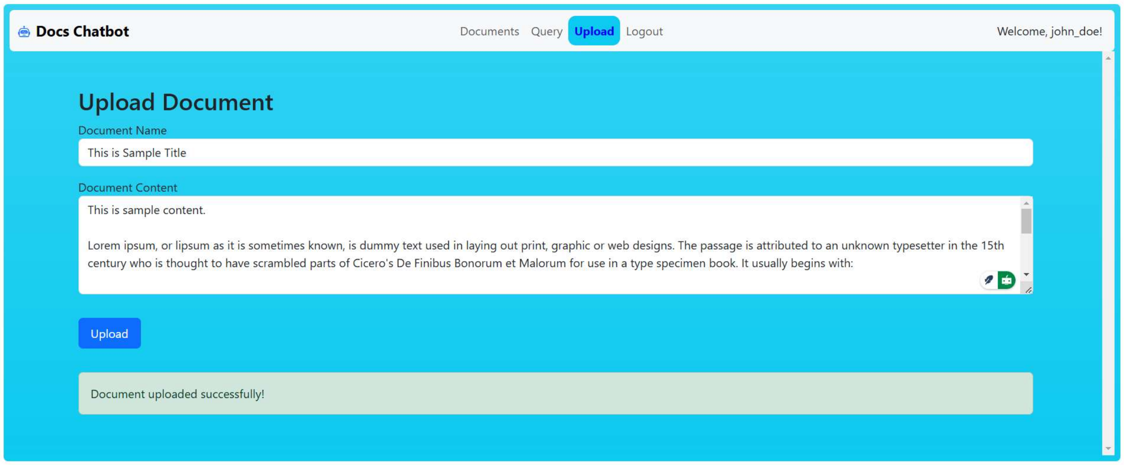
What is Raham?

### Response

Abraham is Software Engineer Abdul is Software Engineer2 Baskar is Software Engineer3 Chill is Software Engineer4 David is Software Engineer5 Elizabeth is Software Engineer6 Fatima is Software Engineer7 Indira is Software Engineer8 Jack is Software Engineer9 Kalam is Software Engineer10 End of Multilines!

Documents list received from cache successfully!

## e. Document Upload Screen



### Upload Document

Document Name

This is Sample Title

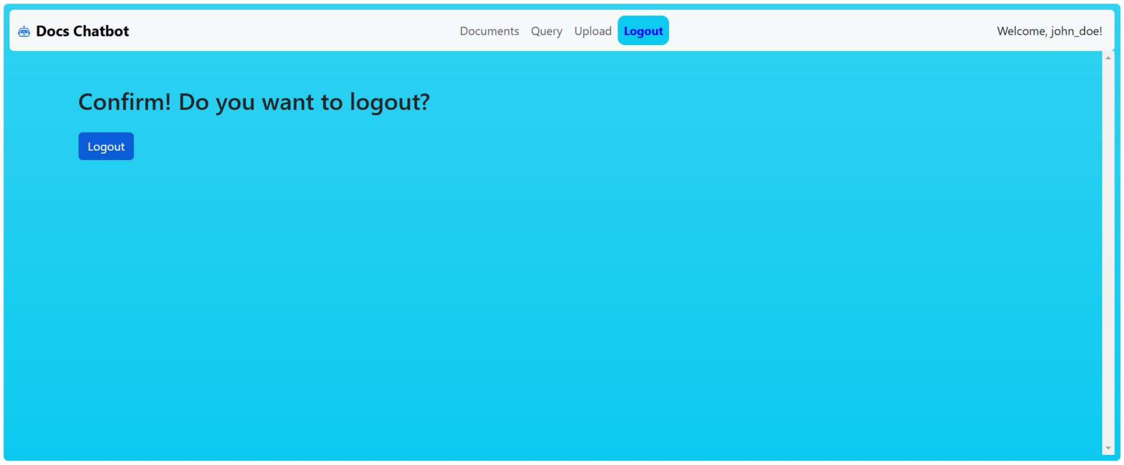
Document Content

This is sample content.

Lorem ipsum, or lipsum as it is sometimes known, is dummy text used in laying out print, graphic or web designs. The passage is attributed to an unknown typesetter in the 15th century who is thought to have scrambled parts of Cicero's De Finibus Bonorum et Malorum for use in a type specimen book. It usually begins with:

Document uploaded successfully!

### f. Logout Screen



Confirm! Do you want to logout?

## 10. Monitoring and Maintenance

Use tools like PM2 (for Node.js) and supervisord (for Python FastAPI) to keep backend services running.

Set up logging:

FastAPI: Use Python's logging module.

Node.js: Use a logger like winston.

Monitor server health with tools like UptimeRobot or Prometheus.

## 11. Common Issues and Debugging

### CORS Errors:

Ensure CORS is enabled in both FastAPI and Node.js.

### Database Connection Issues:

Verify DATABASE_URL and database permissions.

### Static File Issues:

Ensure Nginx or Apache is correctly serving Angular files.

By following these steps, you ensure a smooth deployment of the Angular frontend and backend services, making the application production-ready.

## 12. README’s

There are four readme files. Please, check them individually and update them if needed.

The folders are:

1. .\docs-chatbot\README.md
2. .\docs-chatbot\frontend\README.md
3. .\docs-chatbot\backend-nodejs\README.md
4. .\docs-chatbot\backend-fastapi\README.md

# 13. Support

In case of any help needed, please, feel free to create an issue in GitHub against the respective repository.