

# Task Manager API

Final project for the backend course. Its a simple REST API built with FastAPI that lets you manage tasks. Nothing fancy, tasks get saved to a plain text file so they dont disappear when you restart the server.

---

## Project structure

```
fastapi-tasks/  
├── main.py  
├── helpers.py  
├── tasks.txt  
├── requirements.txt  
├── render.yaml  
├── static/  
│   └── index.html  
└── README.md
```

---

## Running it locally

Clone the repo and go into the folder:

```
bash  
  
git clone https://github.com/YOUR_USERNAME/YOUR_REPO_NAME  
cd YOUR_REPO_NAME
```

Install the packages:

```
bash  
  
pip install -r requirements.txt
```

Start the server:

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

Now open your browser:

- <http://127.0.0.1:8000> for the frontend
- <http://127.0.0.1:8000/docs> for Swagger UI where you can test all the endpoints

---

## Endpoints

Method	URL	What it does
GET	/	check if the api is up
GET	/tasks	get all tasks
GET	/tasks?completed=true	filter tasks
GET	/tasks/{id}	get one task
POST	/tasks	create a task
PUT	/tasks/{id}	update a task
DELETE	/tasks/{id}	delete one task
DELETE	/tasks	delete everything
GET	/tasks/stats	total, done, pending, percentage

Quick example with curl:

```
bash
curl -X POST http://127.0.0.1:8000/tasks \
  -H "Content-Type: application/json" \
  -d '{"title": "Learn FastAPI", "description": "watch the tutorials"}'
```

---

## How the data gets saved

Every task is one line in tasks.txt, stored as JSON. Looks like this:

```
{"id": 1, "title": "Learn FastAPI", "description": "watch the tutorials", "completed": false}
{"id": 2, "title": "Buy groceries", "description": "milk", "completed": true}
```

Its called JSON Lines format. Easy to read, easy to parse, no database needed.

---

## Deploying on Render

1. Push the code to a public GitHub repo

2. Create a free account on [render.com](https://render.com)
3. New -> Web Service -> connect your repo
4. It picks up `render.yaml` on its own and configures everything
5. Hit deploy and wait a minute

One thing to know: the free tier on Render doesn't keep files between deploys, so `tasks.txt` gets wiped each time you redeploy. If you want the data to actually stick around you need to hook up a database.

---

## Stack

- FastAPI
- Pydantic
- Uvicorn
- plain HTML/JS for the frontend