Task Manager API Roadmap (FastAPI + PostgreSQL + Postman)

Goal: Build an internship-ready backend API with JWT auth, CRUD tasks, filtering, tests, docs, and a shareable Postman

Milestone 0 — Repo + baseline (30–60 min)
- Create GitHub repo, add .gitignore, setup venv + dependencies
- Create basic FastAPI app and run with uvicorn
- Install Postman and create a workspace for the project
Done when: App runs locally and /docs is accessible; Postman workspace exists

Milestone 1 — DB + Models (1–2 hours)
- Setup PostgreSQL locally or Docker
- Configure DATABASE_URL via .env
- Implement SQLAlchemy session
- Models: User(id, email, hashed_password, created_at)
Task(id, title, description, status, priority, due_date, owner_id, created_at, updated_at)
Done when: DB connects and tables exist

Milestone 2 — Auth (JWT) + Postman Auth Flow (2–3 hours)
- Password hashing (bcrypt)
- POST /auth/signup and POST /auth/login (returns access token)
- GET /auth/me protected endpoint
- Postman: create an Environment with variables:
base_url = http://127.0.0.1:8000
access_token (empty at first)
- Postman: after Login request, save token into access_token using Tests script
Done when: Login works; Postman can call /auth/me using Authorization Bearer token

Milestone 3 — Task CRUD + Postman Collection (3–5 hours)
- Implement protected endpoints:
POST /tasks, GET /tasks, GET /tasks/{id}, PATCH /tasks/{id}, DELETE /tasks/{id}
- Postman: create a Collection named 'Task Manager API'
- Add folders: Auth, Tasks
- Use {{base_url}} and {{access_token}} in requests
Done when: Every endpoint can be tested from Postman (not only Swagger)

Milestone 4 — Filters + Pagination + Postman examples (2–3 hours)
- Add filters: status, priority, due_before
- Add sorting and pagination: sort, limit, offset
- Postman: add ready-to-run example requests (e.g., status=done&limit=10)
Done when: Filter/pagination behavior is verified from Postman

Milestone 5 — Testing (2–4 hours)
- Setup pytest + TestClient/httpx
- Tests: auth flow, CRUD, ownership checks, filtering
Done when: pytest passes with 6–10 meaningful tests

Milestone 6 — Documentation + sharing (1–2 hours)
- Write README: setup, run, example curl requests, API features
- Add .env.example
- Export Postman Collection (v2.1 JSON) and commit it under /postman/
- Optionally export Postman Environment (without secrets) for reviewers
Done when: Recruiter can import Postman collection and test APIs quickly

Milestone 7 — Docker (optional, 2–3 hours)
- Dockerfile + docker-compose.yml (API + Postgres)
- docker compose up --build
Done when: Full stack runs with one command

Suggested timeline:
Day 1: Milestones 0–2
Day 2: Milestones 3–4
Day 3: Milestones 5–6
Day 4: Milestone 7 (optional)

CV bullet suggestion:
Task Manager API | Python, FastAPI, PostgreSQL
- Built JWT-based authentication and protected REST endpoints
- Implemented task CRUD with ownership rules, filtering, sorting, and pagination
- Created and shared a Postman collection for API testing and demonstration
- Wrote automated tests with pytest and documented API with Swagger/OpenAPI