project\_root/

├── launcher.py # Main entry point: dispatches CLI / API / UI

├── run\_ui.bat # Runs UI mode (frontend + backend)

├── venv/ # Virtual environment

├── api/

│ ├── \_\_init\_\_.py

│ ├── main.py # FastAPI app definition (app = FastAPI())

│ ├── run\_server.py # Launches FastAPI via uvicorn

│ ├── models.py # Pydantic models for questions and responses

├── cli/

│ ├── \_\_init\_\_.py

│ ├── python\_quiz\_chatbot.py # CLI logic

├── utils/

│ ├── \_\_init\_\_.py

│ ├── run\_ui.py # Launches API + frontend server, opens browser

├── frontend/

│ ├── index.html # UI client

├── tests/

│ ├── \_\_init\_\_.py

│ ├── test\_api.py # API test suite

│ ├── verify\_app.py # Setup verification logic

├── README.md