Project Title: Personal Blogging Platform using Gradio + SQL

Objective:

Build a blogging platform with Gradio as the front-end and SQLite as the database. Users can create, view, and search blog posts, learning how Python connects to SQL and how a frontend interacts with backend logic.

Skills Used:

• Python – Logic for adding/viewing posts

• SQL (SQLite) – Store posts, retrieve posts, search posts

• Gradio – Frontend UI

• CRUD Concepts – Create, Read, Update, Delete

• Data Validation – Check empty inputs and avoid duplicates

System Architecture:

User → Gradio Interface → Python Functions → SQL Database

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Show posts ← Retrieve from SQL

Features (Phase-wise):

Phase 1 – Basic Blogging UI

• Input: Title + Content

• Button: “Add Post”

• Show all saved posts in a table

Phase 2 – Add SQL Database (SQLite)

• Store posts using SQL

• Table: id | title | content | created_at

• Use INSERT and SELECT queries

Phase 3 – View & Search Posts

• View all posts

• Search by title or keyword

• Use SQL LIKE and WHERE

Phase 4 – Edit & Delete Posts

• Edit selected post

• Delete post using ID

• Learn basic API concepts

Database Structure:

id (PK) – INTEGER

title – TEXT

content – TEXT

created_at – DATETIME

Tech Stack:

Frontend: Gradio

Backend Logic: Python

Database: SQLite

Optional Upgrade: Flask, Streamlit

Learning Outcomes:

• How backend communicates with frontend

• How Python connects with SQL

• What CRUD operations are

• How to validate/sanitize inputs

• Understanding project/file structure

Future Expansion:

• User login system (authentication)

• Comments system (foreign keys in SQL)

• Image uploads

• Deploy on Render/HuggingFace

• Flask/Django backend migration

Final Description:

“Build a simple blogging platform using Gradio as the user interface and SQLite as the database. Users should be able to create new posts, save them to the database, view posts, and search them using keywords. This teaches how real applications use SQL with Python and introduces basic backend concepts.”