**Project 5: CommandHub – All-in-One Command & Tool Platform Using Streamlit**

**✅ Project Objective:**

To build a **web-based control panel** using **Streamlit** that allows users to execute various system commands (like file operations, Docker/Kubernetes commands, Git tasks, etc.) from a central interface — **without opening a terminal**.

**🧰 Tools & Technologies Used:**

* **Python**
* **Streamlit** (to build the UI)
* **subprocess / os module** (to execute system commands)
* **Docker** (optional, for running Docker commands)
* **Git CLI** (for Git integration)
* **Linux Commands** (for system management)

**⚙️ Use Cases / Features:**

* 📁 **File Explorer:** List, create, rename, delete files or directories
* 🐳 **Docker Manager:** Start/stop containers, list images, remove containers
* 🌐 **Internet Tools:** Ping a website, get IP info
* 🧪 **Git Commands:** Clone, pull, push, and check logs
* 💾 **Custom Commands:** Execute any safe Linux command securely from the web

**🧱 Code Flow Explanation:**

**1. Import Required Libraries**

python

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import streamlit as st

import subprocess

import os

**2. Create Sidebar Menu**

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menu = st.sidebar.selectbox("Choose Option", ["File Manager", "Docker", "Git", "Terminal"])

**3. File Manager Feature Example**

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if menu == "File Manager":

if st.button("List Files"):

files = os.listdir()

st.write(files)

**4. Docker Commands Example**

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if menu == "Docker":

if st.button("List Containers"):

result = subprocess.getoutput("docker ps -a")

st.text(result)

**5. Custom Terminal Execution**

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if menu == "Terminal":

command = st.text\_input("Enter Command:")

if st.button("Execute"):

output = subprocess.getoutput(command)

st.code(output)

**🖥️ Output / Results:**

* A modern dashboard-like UI that allows safe execution of many system-level commands.
* Real-time feedback is shown on the screen using Streamlit.
* Works on any device (web browser based).

**💡 Benefits:**

* No need to open terminal or memorize commands
* Makes DevOps tasks faster and more accessible
* Great for remote server management via browser
* Beginner-friendly and expandable