

(TR-103) PROMPT ENGINEERING –

Training Day 14 Report:

What is Langflow?

Langflow is a visual development tool built on top of LangChain. It allows users to design modular LLM-based applications such as chatbots, assistants, and document analyzers without writing backend code. With drag-and-drop components, users can build chains, agents, and tools, manage prompt flows, and integrate file loaders, memory, and retrievers. Langflow supports multiple LLMs, including OpenAI GPT, Google Gemini, and Anthropic Claude.

Setting Up Langflow

Steps to set up Langflow locally included:

- Installing Python and dependencies.
- Creating a virtual environment.
- Installing Langflow using `pip install langflow` or cloning from GitHub.
- Running the app with `langflow run`.
- Accessing the interface at `localhost:7860`.
- We also configured LLM API keys (like OpenAI or Gemini) inside the Langflow UI for building flows.

Tasks Assigned Using Langflow

1. Build a Simple FAQ Bot

- Used a prompt + LLM block to answer common questions.
- Implemented single-turn prompt-response logic.

2. Add File Loader + Retriever to Create a Document Bot

- Uploaded PDFs with the File Loader.
- Applied chunking and indexing using FAISS or Chroma retrievers.
- Connected retrievers with LLM to answer document-based questions.

3. Integrate Memory for Multi-Turn Conversations

- Added memory components for storing previous conversation history.
- Enabled context-aware interactions for follow-up responses.

4. Use Agents with Tools

- Built agents that could call tools like Wikipedia Search and Calculator.
- Implemented the ReAct (Reason + Act) pattern, where the agent dynamically chose tools based on user prompts.