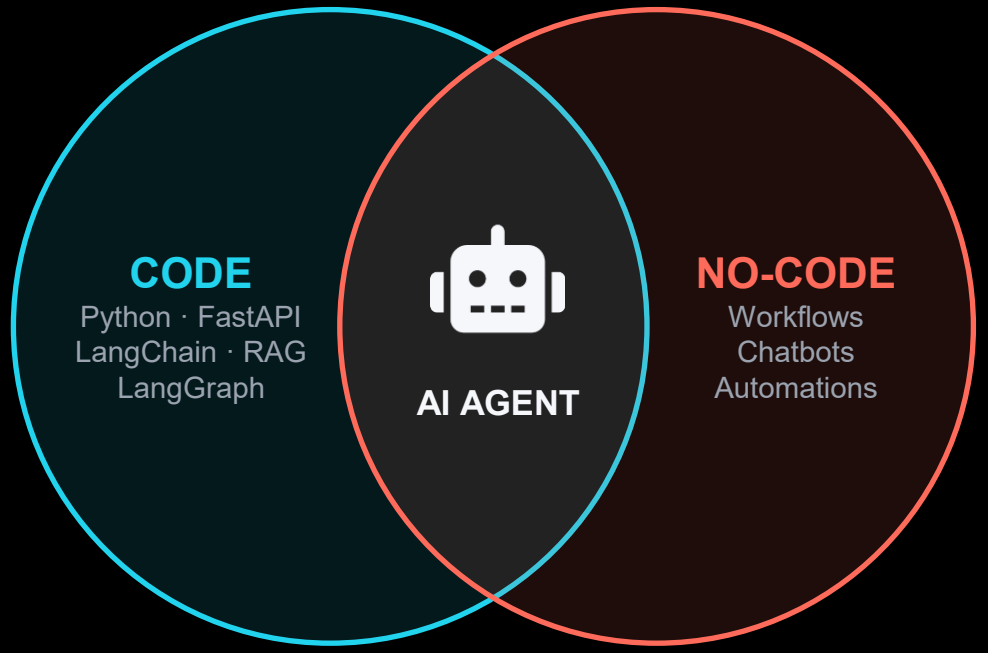
THE iSCALE COHORT

DUAL LEARNING TRACK

Build AI Agent Code & No Code

Master production-grade AI agents — from core Python and FastAPI to LangChain, RAG, LangGraph, and visual No-Code automations.



Course Validity
6 Months Access

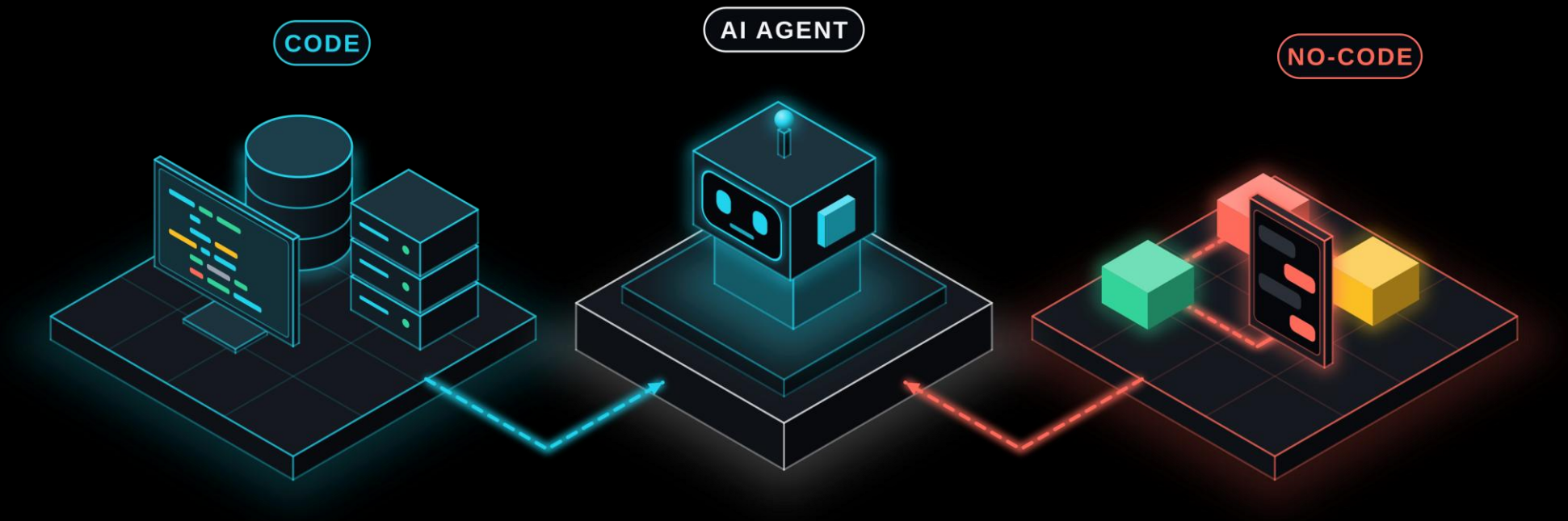
Monthly Live Session
By Swati Mam

Curriculum Upgrades
Free New Topic Updates

THE BIG PICTURE

One Agent, Two Ways to Build

Code and no-code tracks converge on the same outcome — production-ready AI agents



Code Track

Python → FastAPI → LangChain → RAG → LangGraph. Build agents from scratch.

The AI Agent

Reasons, uses tools, remembers context and acts — the centre of both tracks.

No-Code Track

Visual workflows, WhatsApp bots, email and booking agents — zero programming.

PROGRAM FEATURES

Why Join This Cohort?

A complete end-to-end framework for AI engineering



Full Stack AI Track

Python, FastAPI, LangChain, and vector RAG architectures — build agents from code up.



No-Code AI Track

Automated workflows, WhatsApp bots, and booking agents — no programming required.



Live Mentorship

A monthly live class with Swati Mam and industry expert for guidance.

10+

Subject Modules

150+

In-Depth Lectures

75+

Hours Hands-On

10+

AI Agents Projects

SUBJECT ARCHITECTURE

10 Main Subject Modules

CODE TRACK

01
BASIC PYTHON

Phase 1 · Python

02
PYTHON FOUNDATION

Phase 1 · Python

03
ADVANCE PYTHON

Phase 1 · Python

04
FASTAPI FUNDAMENTALS

Phase 2 · Backend

05
ADVANCE FASTAPI

Phase 2 · Backend

06
LLM & LANGCHAIN ORCHESTRATION

Phase 3 · Agents

07
RETRIEVAL-AUGMENTED GENERATION (RAG)

Phase 3 · Agents

08
LLM & LANGGRAPH ORCHESTRATION

Phase 4 · Orchestration

NO-CODE TRACK

09
NO-CODE AI AUTOMATION & WORKFLOW INTEGRATION

Phase 5 · No-Code

10
NO-CODE AI AGENTS & REAL-WORLD APPLICATIONS

Phase 5 · No-Code

LEARNING PATH

Your 5-Phase Climb

Each phase is a platform for the next — from first line of Python to deployed agents

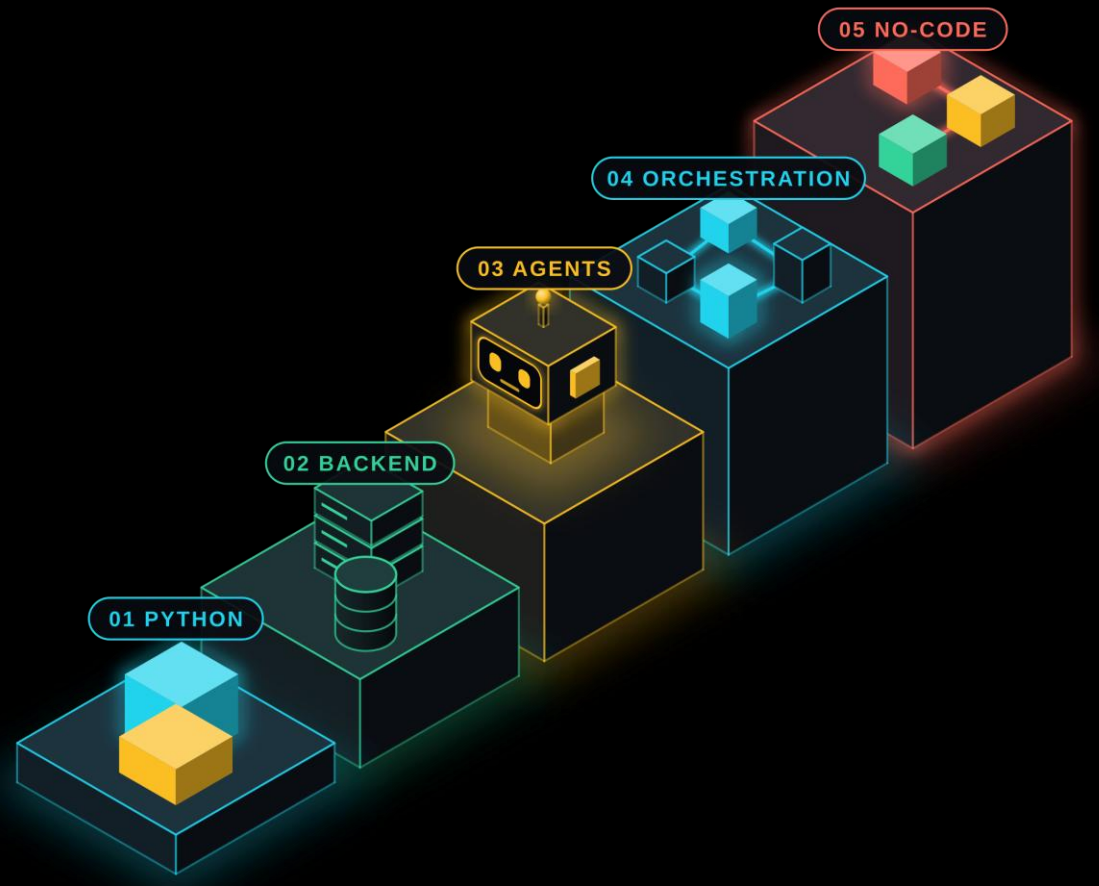
01 — Python
Modules 01–03 · basics, data structures, OOP

02 — Backend
Modules 04–05 · FastAPI, PostgreSQL, async

03 — Agents
Modules 06–07 · LangChain agents & RAG

04 — Orchestration
Module 08 · GenAI theory & LangGraph

05 — No-Code
Modules 09–10 · workflows & real-world agents



PHASE 1 · CODE CORE

Python Engineering Core

MODULE 01

Basic Python

- **Setup** — Jupyter Notebook, IDE & installation
- **Operators** — arithmetic, assignment, logical, comparison, bitwise
- **Built-ins** — round, divmod, isinstance, pow, len, min/max, sorted
- **Conditionals** — if, if-else, if-elif-else, nested if
- **Loops** — while, for & range, break/continue, nested
- **Functions** — docstrings, arguments, return

MODULE 02

Python Foundation

- **Strings** — indexing, slicing, methods, type conversion
- **Lists** — append, extend, insert, pop, reverse
- **Tuples** — nesting, unpacking, tuple() constructor
- **Sets** — union, intersection & difference updates, subset checks
- **Dictionaries** — fromkeys, setdefault, pop, nested dicts
- **Practice** — an assignment for every data type

MODULE 03

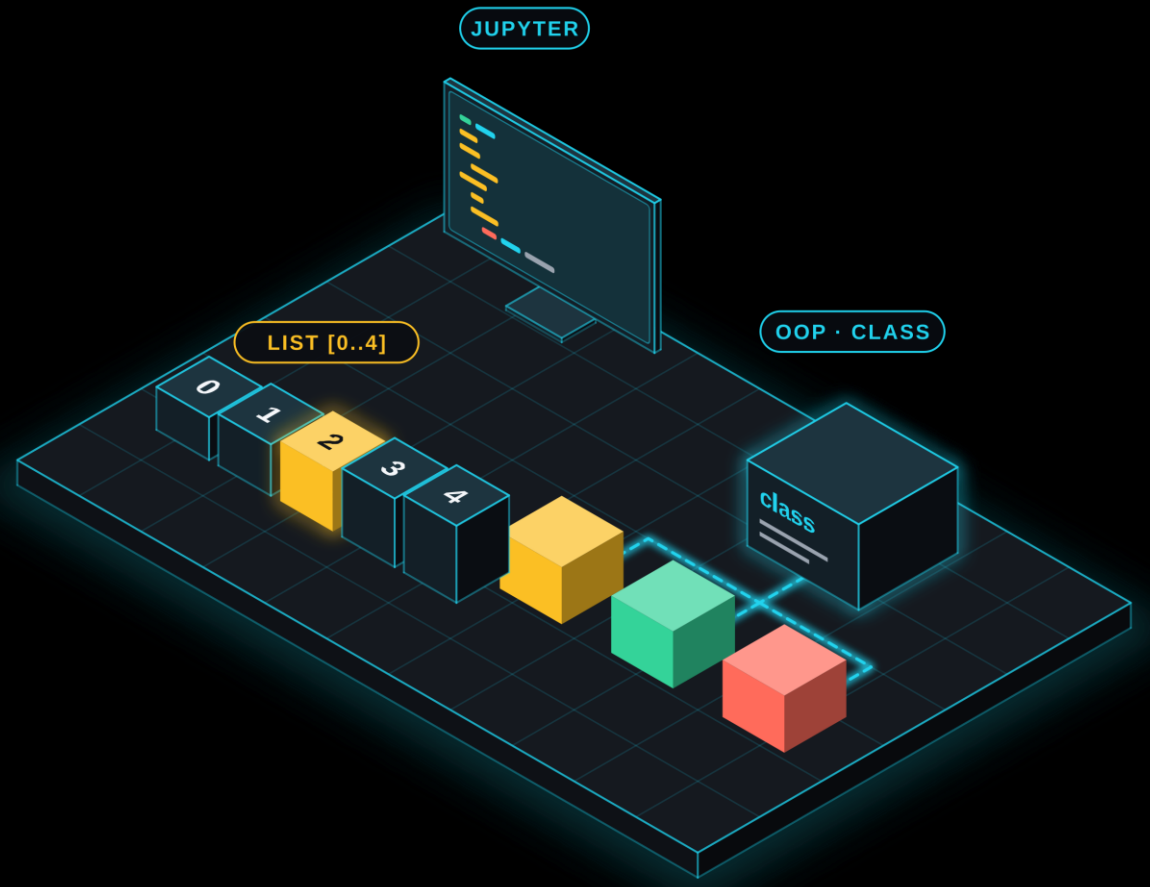
Advance Python

- **OOP** — classes, objects, polymorphism & encapsulation
- **Inheritance** — single, multilevel, multiple, hierarchical
- **Abstraction** — abstract classes & decorators
- **Methods** — class, static & dunder methods
- **Properties** — getters, setters & deleters
- **File Handling** — read/write, buffered I/O, file methods
- **Debugging** — logging & the debugger

PHASE 1 · VISUALISED

Python, Block by Block

How the three Python modules fit together — write code, organise data, model real things



01 — Write & Run

Jupyter, operators, conditionals, loops and functions — the grammar of Python.

02 — Organise Data

Strings, lists, tuples, sets and dictionaries — indexed, sliced and practised.

03 — Model with OOP

One class, many objects — inheritance, abstraction, properties and dunder methods.

PHASE 2 · BACKEND ARCHITECTURE

FastAPI & Database Engineering

MODULE 04

FastAPI Fundamentals

- FastAPI fundamentals & web server concepts
- Routing mechanisms & data transmission
- HTTP & Pydantic — quick reference
- Your first FastAPI application (4-part build)
- FastAPI with PostgreSQL
- SQLAlchemy: Engine, SessionMaker & Session
- Declarative Base & database setup
- Dependency injection & SQLAlchemy queries

MODULE 05

Advance FastAPI

- FastAPI application with PostgreSQL (6-part build)
- Introduction to asynchronous Python
- await and the event loop
- sleep and gather

```python
async def main():
    await asyncio.gather(
        fetch_users(), fetch_orders()
    )
```

PHASE 2 · VISUALISED

Anatomy of a FastAPI Backend

Follow one request from the client all the way to PostgreSQL — and back

1

Client Request

An HTTP call such as GET /users hits your API.

2

FastAPI + Pydantic

Routes the call and validates data automatically.

3

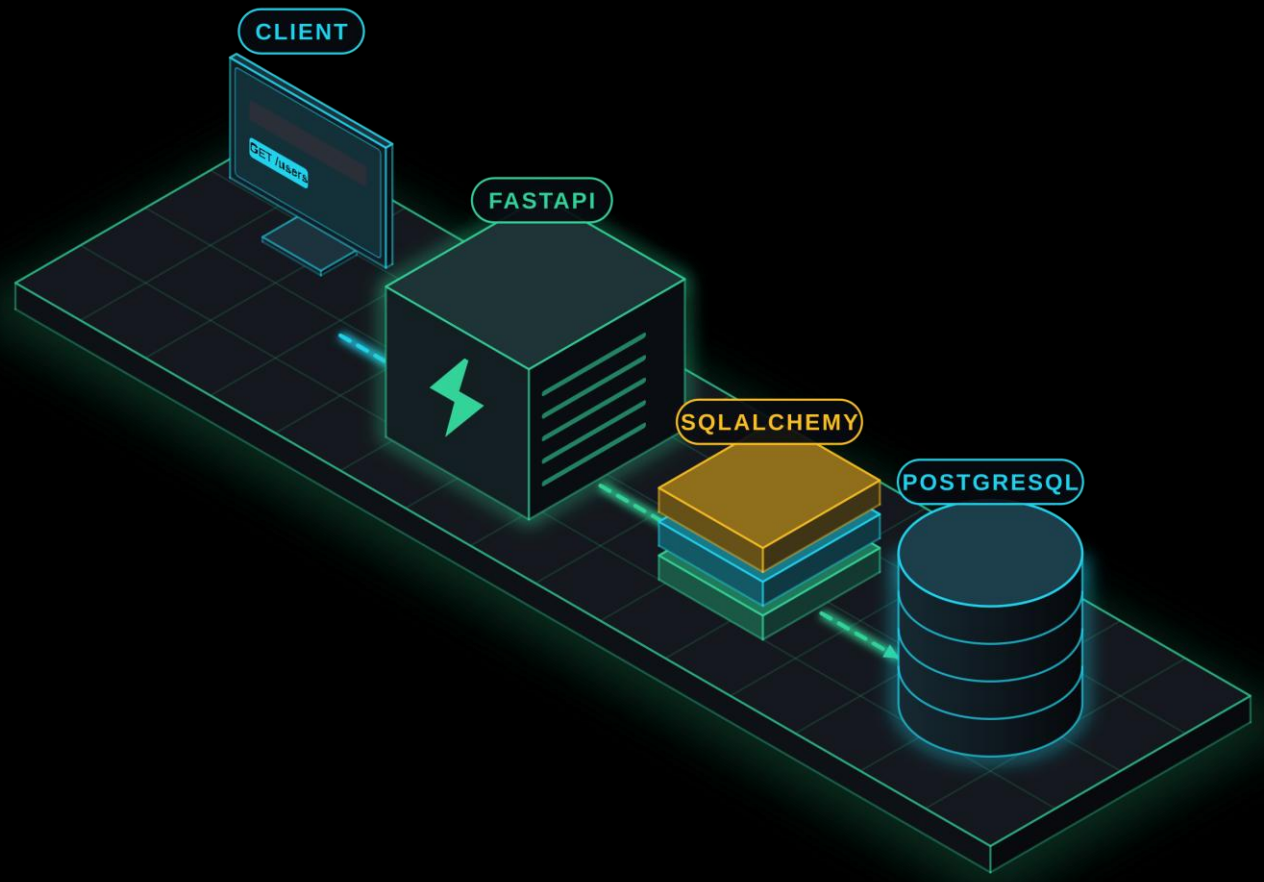
SQLAlchemy Session

Engine, session and ORM models query the database.

4

PostgreSQL

Persists data; async I/O keeps the server responsive.



PHASE 3 · AGENTIC ORCHESTRATION

LLM & LangChain Orchestration

Module 06 — from agent fundamentals to production-ready reliability



STEP 1

Foundations

- Introduction to Agentic AI
- Types of AI agents



STEP 2

Build

- Building AI agents with LangChain — Part 1
- Building AI agents with LangChain — Part 2



STEP 3

Tools

- Creating custom tools
- Using pre-built tools



STEP 4

Memory & Output

- Agent memory
- Structured output & response formats



STEP 5

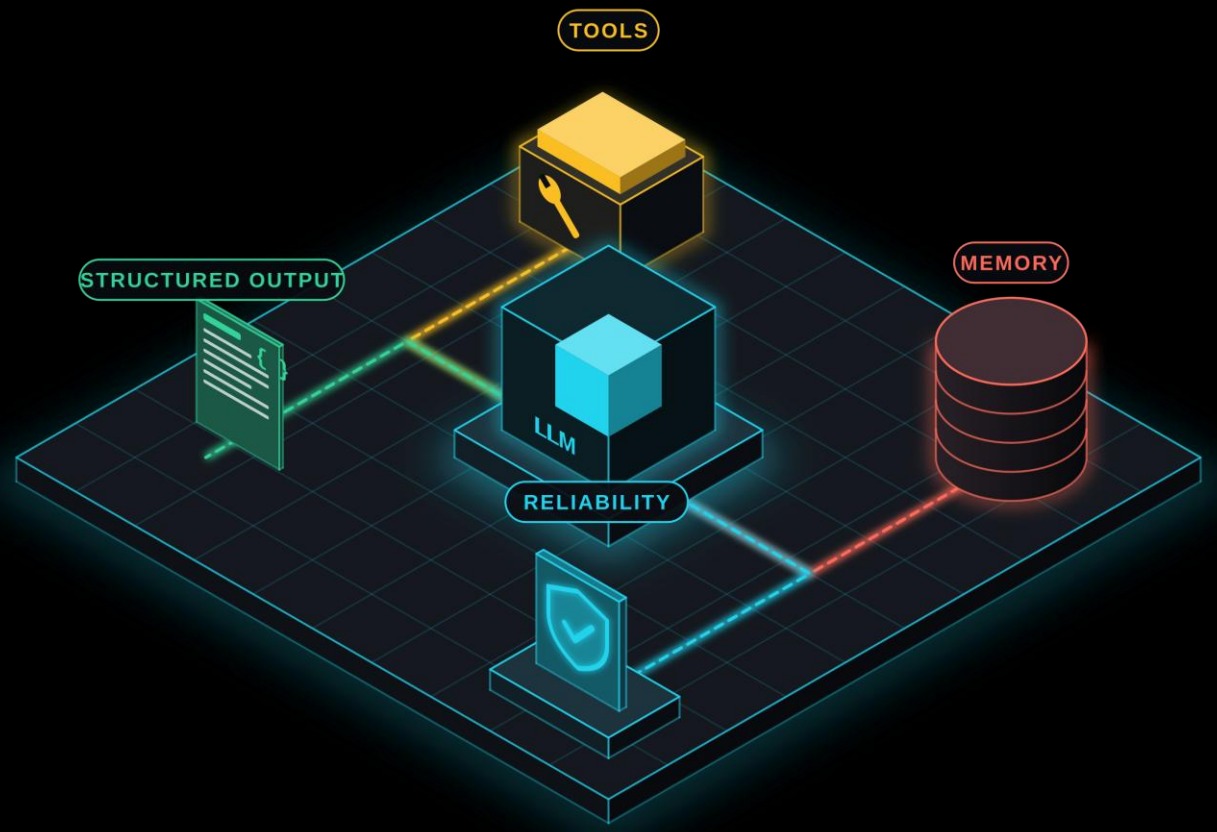
Reliability

- Callbacks & observability
- Error handling
- Retries & fallback strategies

MODULE 06 · VISUALISED

Inside a LangChain Agent

The LLM reasons at the core; four capabilities turn it into a dependable agent



01

Tools

Custom and pre-built tools let the agent search, calculate and act.

02

Memory

Conversation memory keeps context across turns.

03

Structured Output

Typed response formats other code can trust.

04

Reliability

Callbacks, error handling, retries and fallbacks.

PHASE 3 · AGENTIC ORCHESTRATION

Retrieval-Augmented Generation (RAG)

Module 07 — the full retrieval pipeline, step by step



Understand
What RAG is and why agents need it

Load & Ingest
Data loading & document ingestion

Chunk
Document chunking — Parts 1 & 2

Embed
Turning text into embeddings

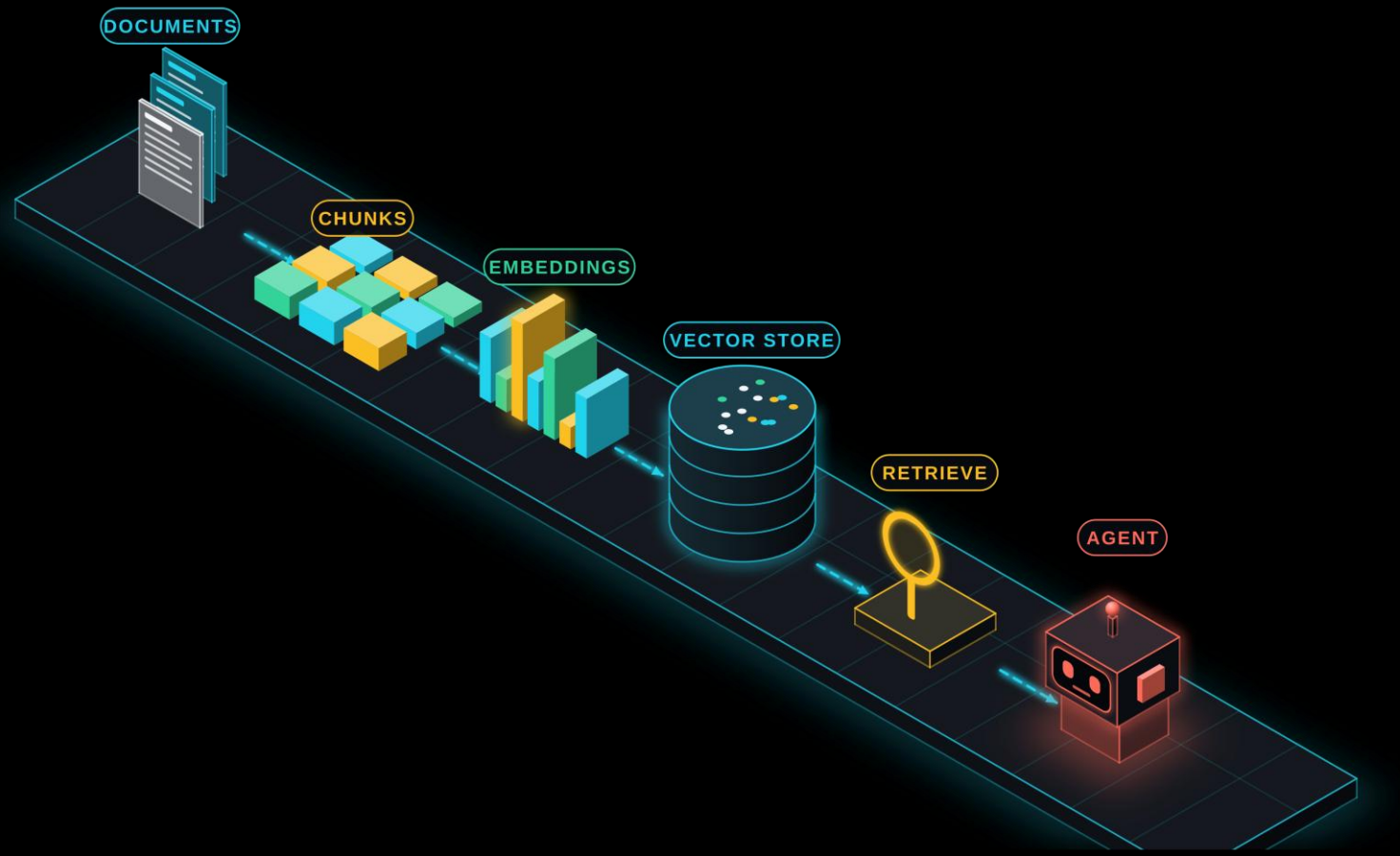
Store & Retrieve
Vector stores & similarity retrieval

Connect
Connecting RAG with AI agents

Why it matters RAG lets an agent answer from your own documents and data — not just what the model memorised — which is the backbone of knowledge-base chatbots and document assistants.

The RAG Production Line

Six stations turn raw documents into grounded, trustworthy answers



1. **Documents**
   PDFs, pages & data are loaded
2. **Chunks**
   Split into searchable pieces
3. **Embeddings**
   Text becomes number vectors
4. **Vector Store**
   Vectors indexed for similarity
5. **Retrieve**
   Top matches found per question
6. **Agent**
   Answers grounded in your data

PHASE 4 · ORCHESTRATION

LLM & LangGraph Orchestration

Module 08 — how generative models work, then how to orchestrate them

GENERATIVE AI FOUNDATIONS

- **What is Generative AI**
  Models that create new content
- **RNN**
  Processing sequences step by step
- **LSTM**
  Gated memory for longer context
- **Transformers**
  Attention — the engine behind LLMs



LangGraph

Graph-based, stateful agent workflows



RAG

Retrieval inside orchestrated workflows



DataStax

Cloud vector database for agent data

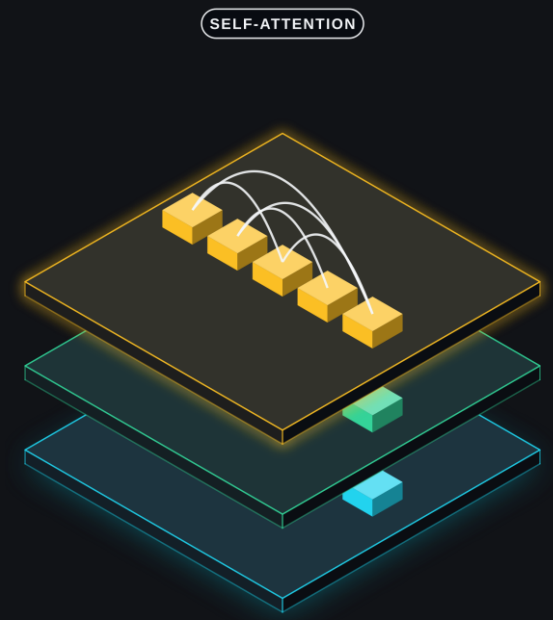


LangFlow

Visual drag-and-drop agent flow builder

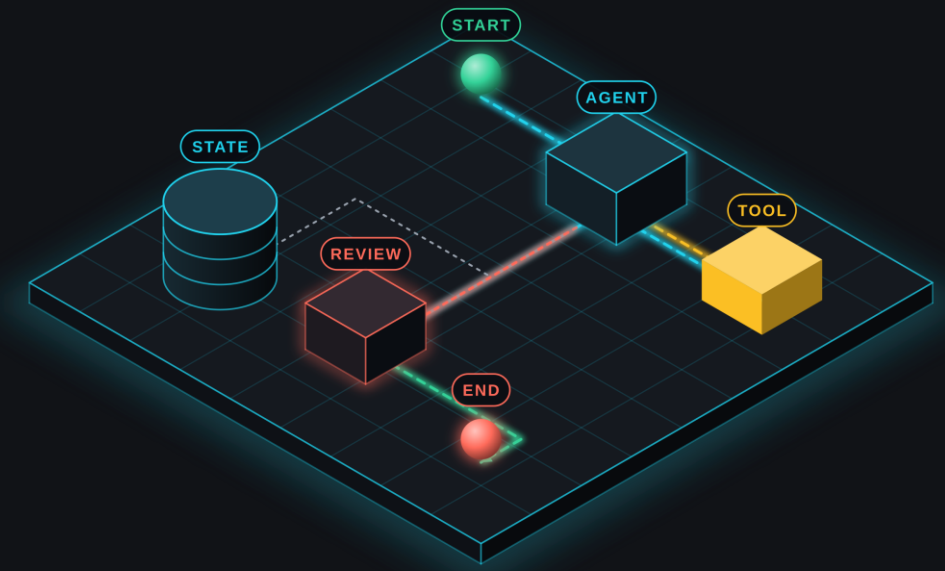
From How LLMs Think to How Agents Flow

Transformer attention powers the model; LangGraph orchestrates it as a stateful graph



Transformers & Self-Attention

Stacked layers where each token attends to every other — the leap beyond RNNs and LSTMs.



LangGraph: Stateful Workflows

Nodes are steps, edges route the flow, loops allow review, and shared state remembers.

PHASE 5 · NO-CODE TRACK

No-Code AI Automation & Workflow Integration

Module 09 — automations and chatbots built without writing code

Data & Integrations

- Handling a bulk dataset & creating a dashboard
- Connecting APIs & live data sources to AI tools

Agents & Email

- Building your first AI agent without code
- Automating email drafts, replies & inbox triage

Document Processing

- Automating document processing & form handling — a 3-part series

AI Chatbots

- Connecting a knowledge base to an AI chatbot
- WhatsApp-integrated chatbot (Parts 1–2)
- Handling user queries & conversation context
- Appointment booking AI chatbot

PHASE 5 · VISUALISED

How a No-Code Workflow Runs

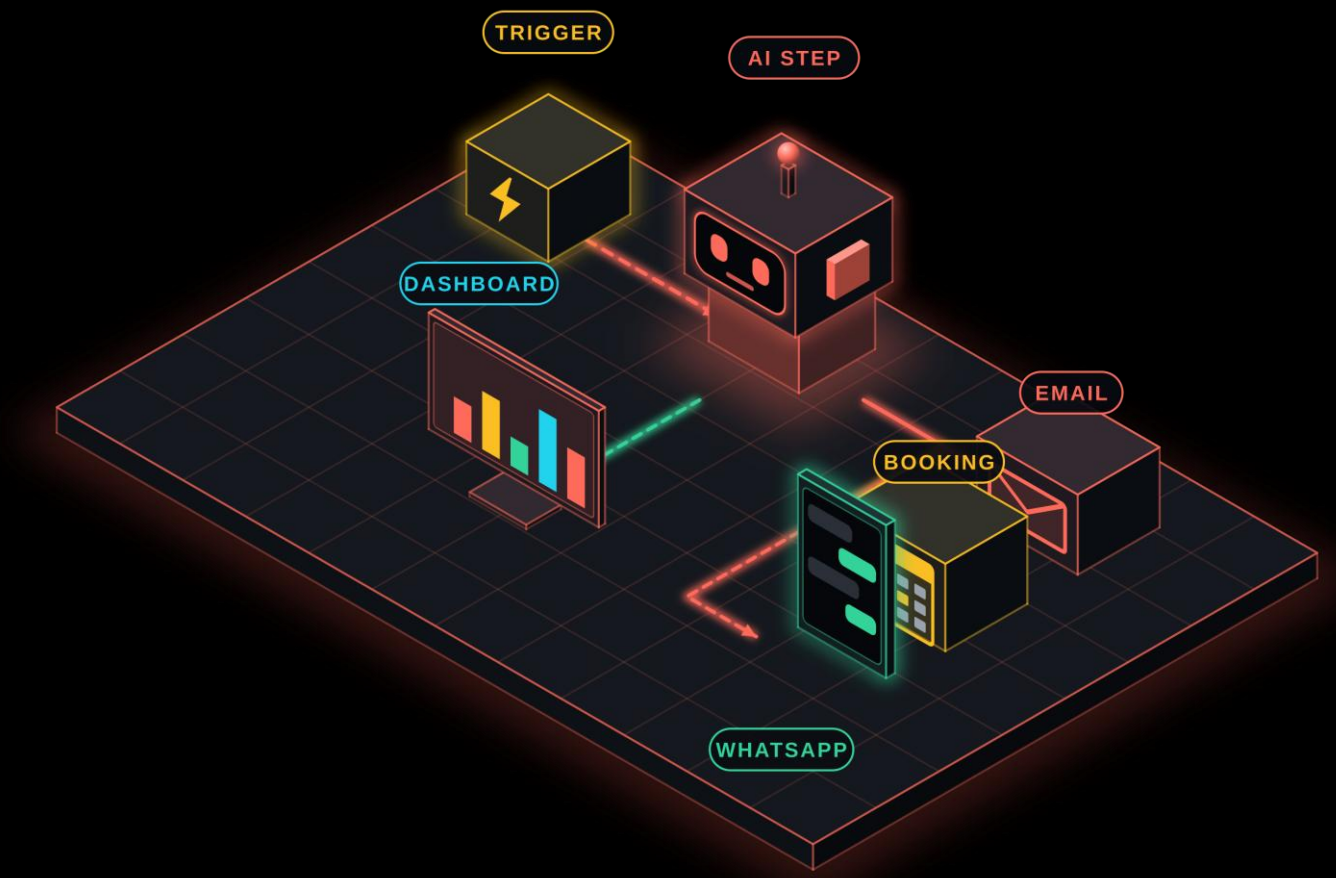
Trigger → AI decision → automated actions across the tools your business already uses

1 — Trigger
A new message, form, email or webhook starts the flow.

2 — AI Step
The agent reads, classifies and decides what to do.

3 — Actions
Reply on WhatsApp, draft emails, book appointments.

4 — Dashboard
Results land in a live dashboard for tracking.



OUTCOMES

What You'll Build

Real projects from both tracks — code and no-code

CODE TRACK

- Async FastAPI + PostgreSQL backend
- LangChain agent with custom tools & memory
- RAG pipeline over your own documents
- Stateful LangGraph agent workflow

NO-CODE TRACK

- WhatsApp-integrated AI chatbot
- Appointment booking AI chatbot
- Email drafting & inbox triage automation
- Document & form processing workflow

MODULE 10 · NO-CODE AI AGENTS & REAL-WORLD APPLICATIONS applies these no-code skills to real-world AI agent use cases.

PROJECT GALLERY

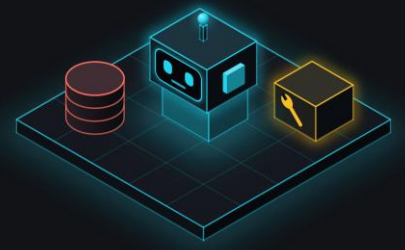
Eight Projects, Eight Portfolio Pieces

Every project below is built end to end during the cohort



CODE TRACK

FastAPI + PostgreSQL



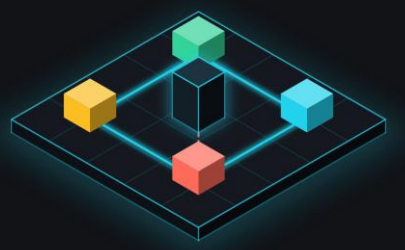
CODE TRACK

LangChain Tool Agent



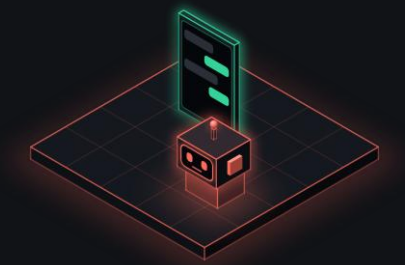
CODE TRACK

RAG Document Q&A



CODE TRACK

LangGraph Workflow



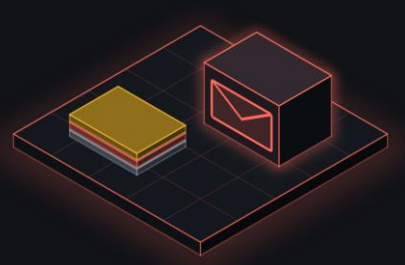
NO-CODE TRACK

WhatsApp AI Chatbot



NO-CODE TRACK

Appointment Booking Bot



NO-CODE TRACK

Email & Inbox Triage



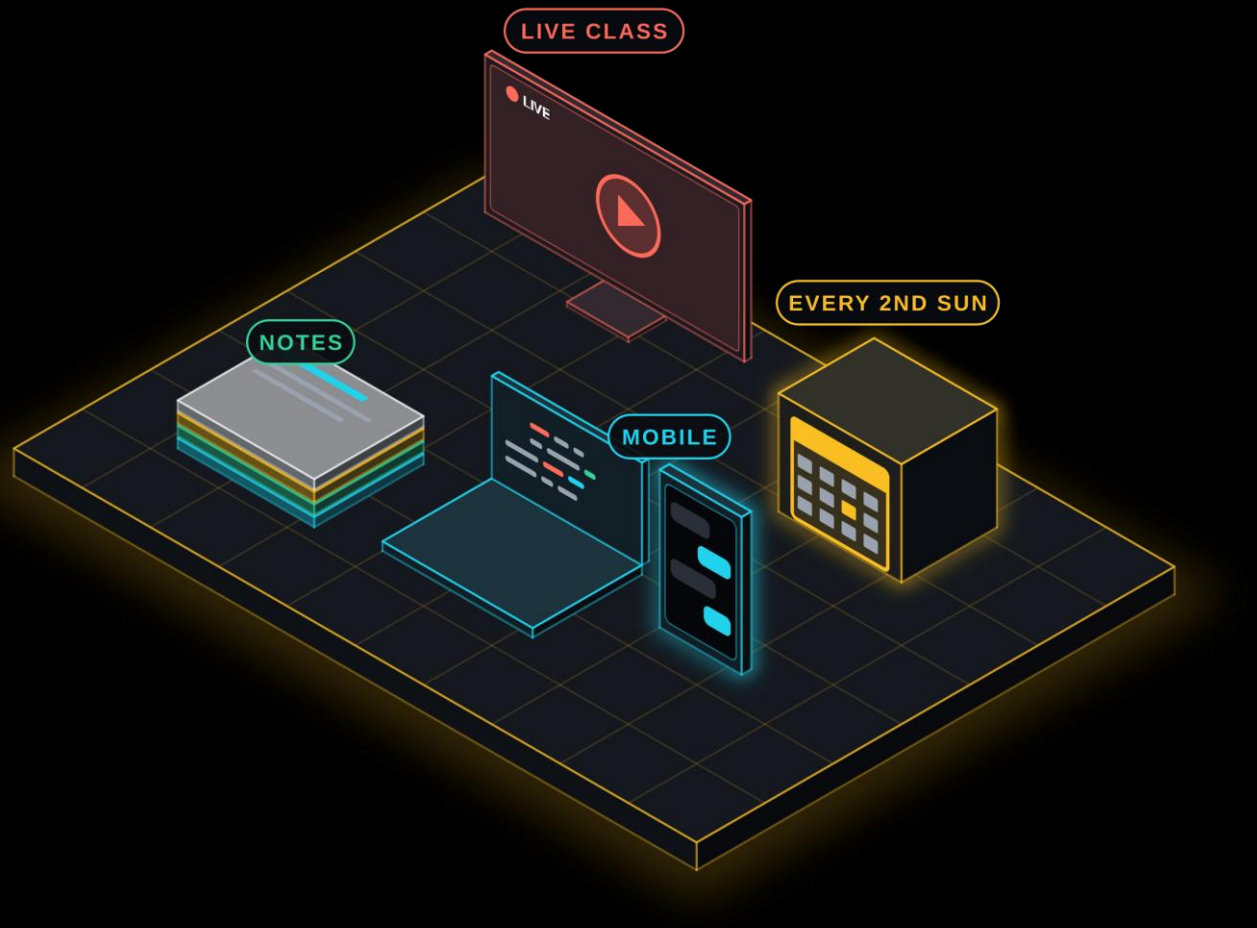
NO-CODE TRACK

Document Processing

YOUR LEARNING SETUP

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Live guidance once a month, self-paced lectures and notes the rest of the time



01

Live Monthly Class

Swati Mam · every 2nd Sunday at 4:00 PM for guidance and doubts.

02

Any Device, 24x7

Stream recordings on laptop or mobile whenever it suits you.

03

Notes & Hinglish

Downloadable notes, bilingual delivery, beginner friendly.

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Conducted by Swati Mam — every 2nd Sunday @ 4:00 PM (Tentative)



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Zero Extra Upgrade Fees



Downloadable Notes



Bilingual (Hinglish)



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Live Sessions with Swati Mam