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LangGraph Notes

Notes, roadmaps and practice material, curated by the Uncodemy trainer team.



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Quick answer



LangGraph is a framework for building stateful, multi-step agent workflows as graphs of nodes and edges, with shared state, conditional routing, persistence and support for human approval. Check its documentation for the version you use, because the library evolves.



Clear concepts

Short, plain-language explanations



Hands-on practice

Examples and exercises to try yourself



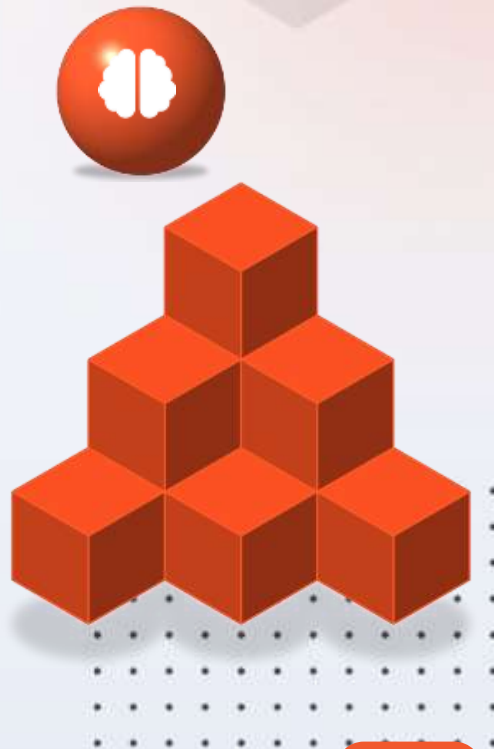
Job-focused prep

Questions and checklists for interviews

What is LangGraph?



LangGraph models an agent workflow as a graph. Each node is a step, such as calling a model or running a tool. Edges decide which step comes next, and a shared state object carries information between steps. Because graphs can loop and branch, they suit agents that need to try, check and retry, which a straight chain handles poorly.



Core concepts

Concept	Meaning
State	Shared data passed between nodes and updated as the workflow runs
Node	A step: usually a function that reads and updates state
Edge	A connection that sets which node runs next
Conditional edge	Routing that depends on the state, for example 'call a tool or finish'
Cycle	A loop in the graph, used for plan-act-observe patterns
Persistence (checkpointing)	Saving state so a run can resume or be inspected
Human-in-the-loop	Pausing for a person to approve or edit before continuing

Design tips



Keep the state small and well defined.



Add a step limit to every cycle.



Pause for approval before risky actions.



Log state at each node to debug.



Start with a simple graph and add branches only as needed.



Common mistakes



Unbounded loops.



Putting everything in state.



Skipping evaluation because the graph looks neat.



Following outdated examples: check the current documentation.

How to use these PDFs



STEP 1

Read the roadmap

Start at the stage that matches your level.



STEP 2

Practise each topic

Try it yourself instead of only reading.



STEP 3

Revise key concepts

Use the tables before an interview or exam.



STEP 4

Move to the next stage

Go on when you can explain this one in your own words.

Your LangGraph Notes PDF set



2–3 PDF files, each its own download



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PDF 1



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PDF 3

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Frequently asked questions



What is LangGraph used for?

LangGraph is used to build stateful, multi-step AI agent workflows as graphs, with branching, loops, persistence and human approval steps.



What is the difference between LangChain and LangGraph?

LangChain offers general building blocks for LLM applications. LangGraph focuses on controlling agent workflows as graphs with shared state.



What is state in LangGraph?

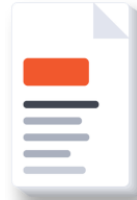
State is the shared data that flows between nodes. Each node reads it, updates it and passes it to the next step.

Related UnCodemy PDF resources



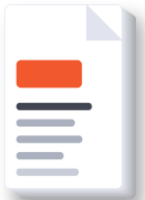
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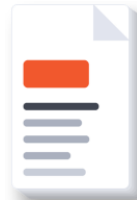
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