



OxyGent: Making Multi-Agent Systems Modular, Observable, and Evolvable via Oxy Abstraction

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Atomic Orchestration,
Infinite Extensibility

An open-source framework for building modular, observable, and self-improving multi-agent systems.

Why OxyGent?

- Problem**
Agents, tools, LLMs
→ different lifecycles, no runtime swap,
static DAGs break in dynamic environments.
- Oxy: The LEGO brick for AI**
node: agent / tool / LLM / flow
Every node = same Oxy primitive.
Same lifecycle:
_pre_process → _execute → _post_process.
- What You Gain**
Substitutability:
swap agent ↔ tool ↔ model at runtime
No hardcoded DAGs:
permissions drive dynamic execution graphs
Built-in observability:
AOP at every joinpoint

Evidence

59.14

GAIA Benchmark (July 2025)

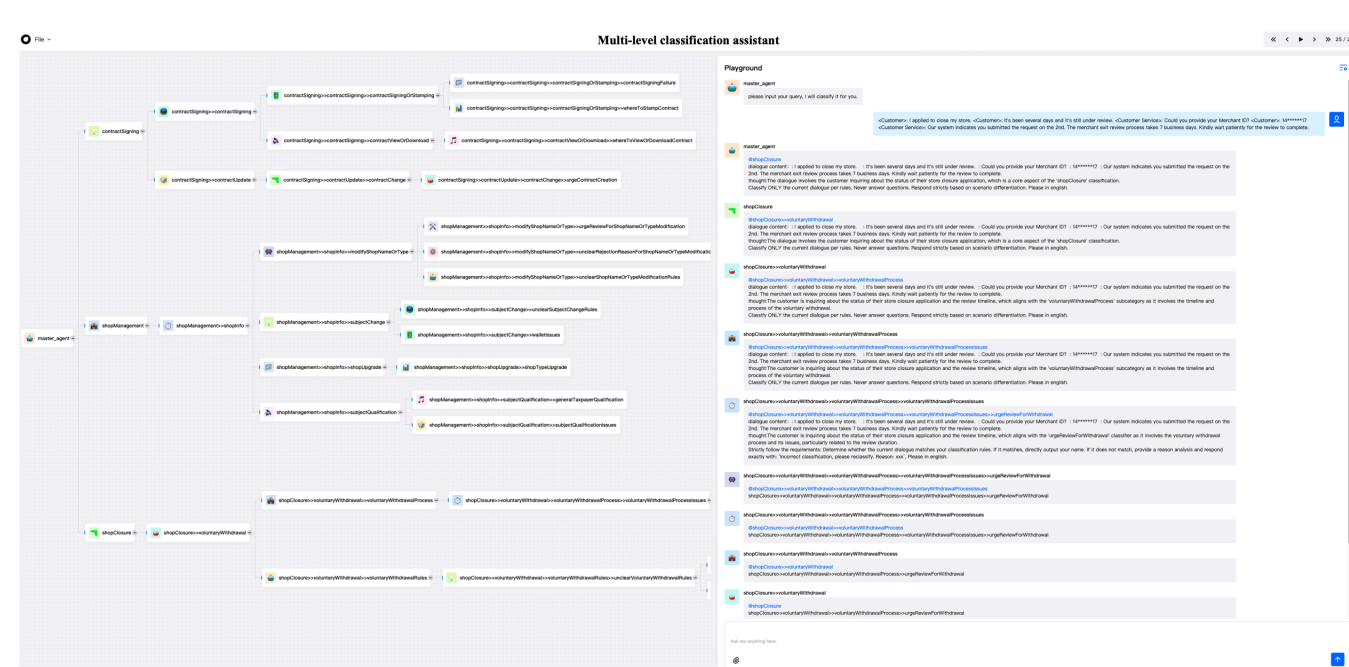
2nd open-source globally, Only behind OWL++ (60.8%)

Industrial Applications – Battle-tested at Scale

1 E-Commerce Classification

2K+ agents

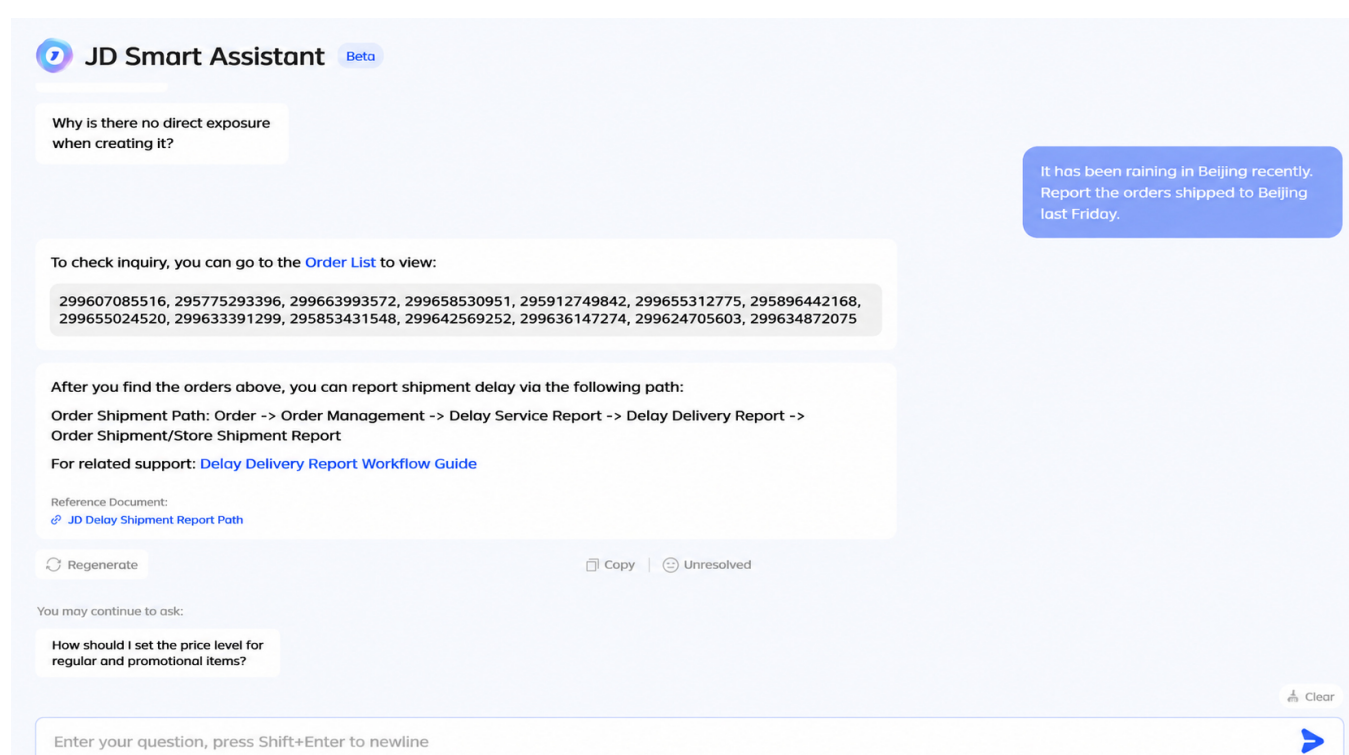
- 2,400 labels
- 85.6% accuracy (+24.3%)



2 JD Merchant Assistant

1M+ merchants

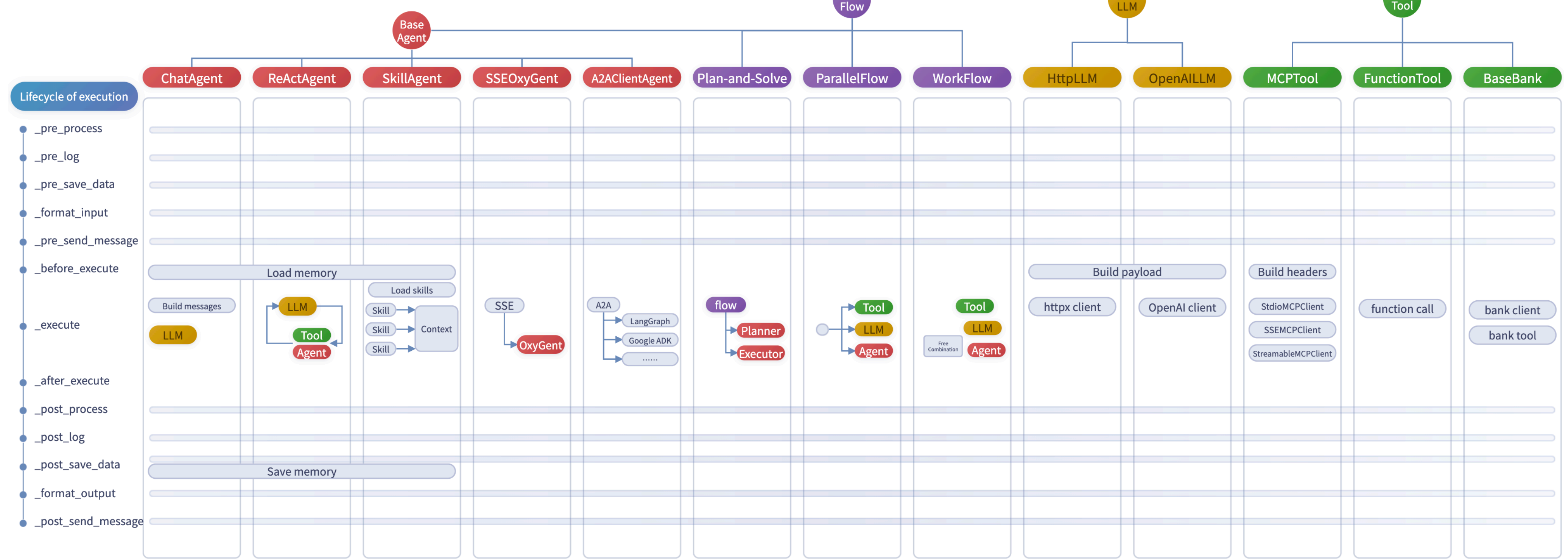
24/7 multi-agent ops (pricing, orders, marketing)



OxyGent at a Glance – Three Pillars

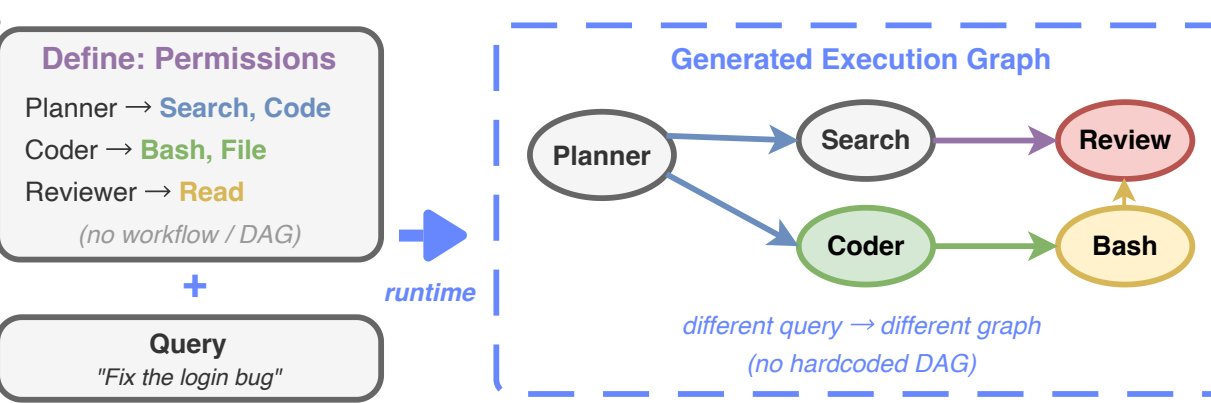
1 Atomic Oxy Abstraction

- LEGO-like assembly • Hot-swappable • 4-layer data scoping



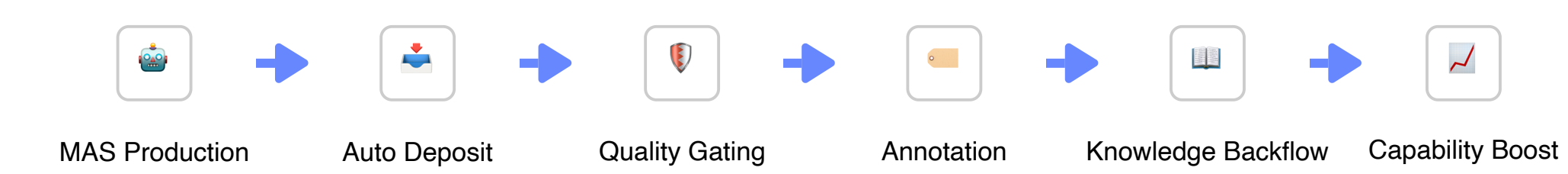
2 Permission-Driven Dynamic Planning

- Permission-driven graphs
- Self-organizing agents
- Live call visualization



3 OxyBank Evolution

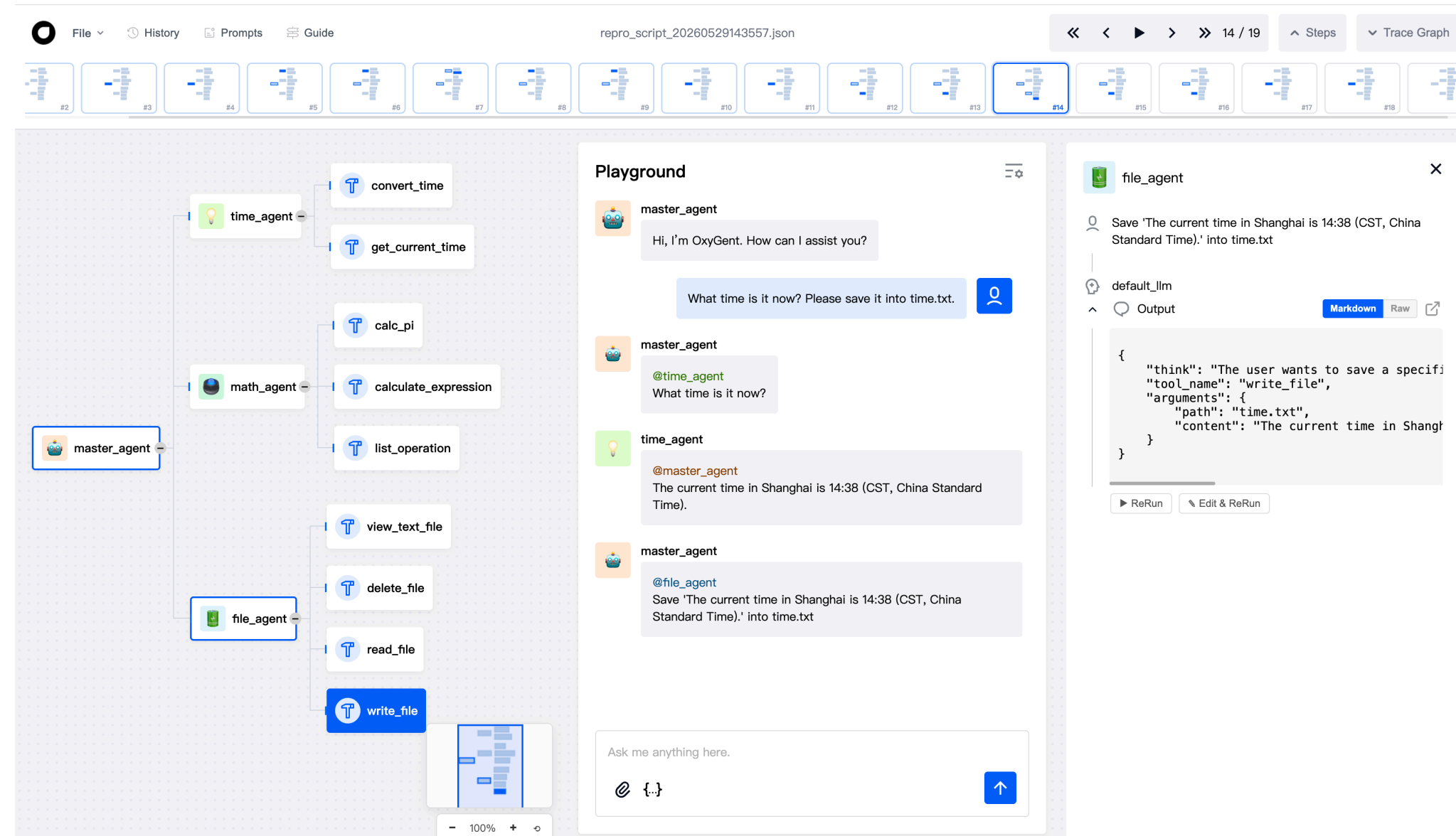
- Traces → auto-annotation → SFT/RL
- Multi-layered quality gating
- Improve while you sleep



OxyGent: Visualize & Interact

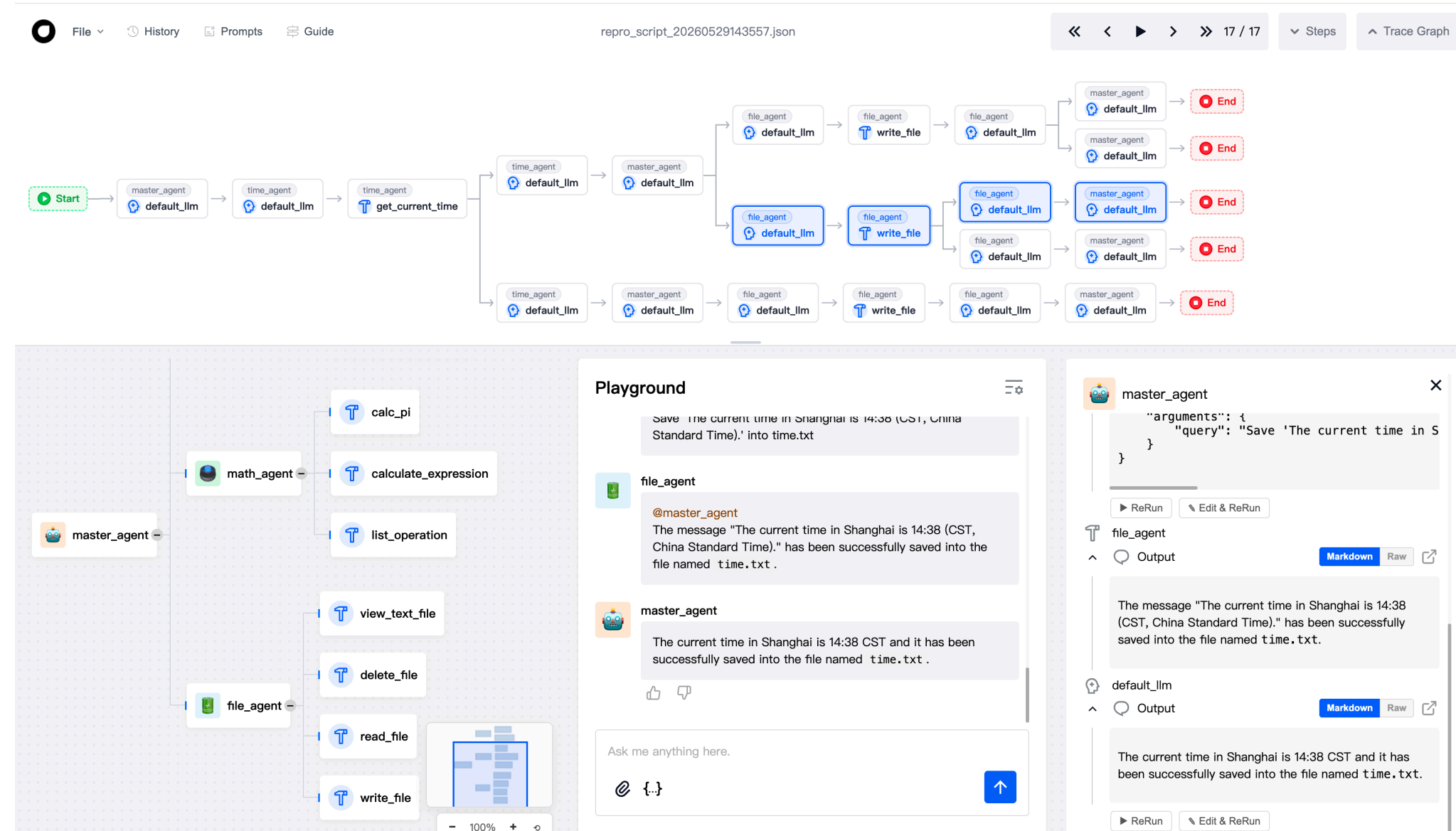
Live Execution Graph

See the runtime scheduling path from permissions – live topology



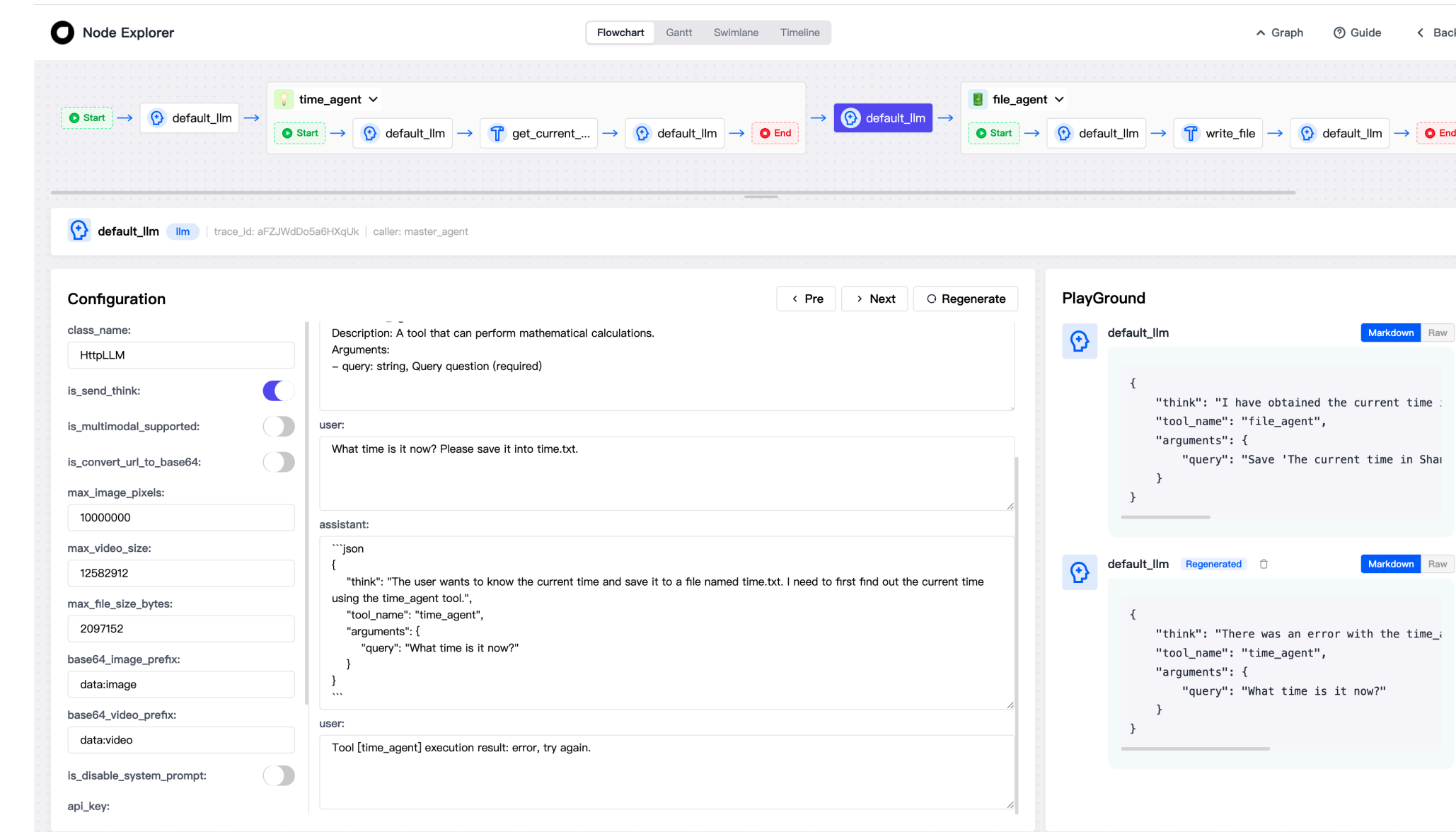
Cognitive Tracing

Full decision trace – compare, rollback, regenerate



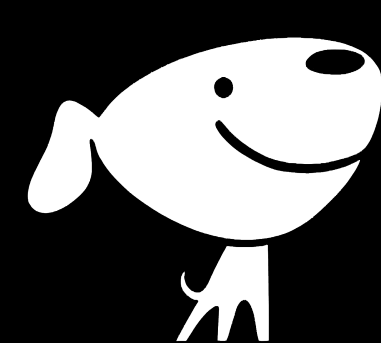
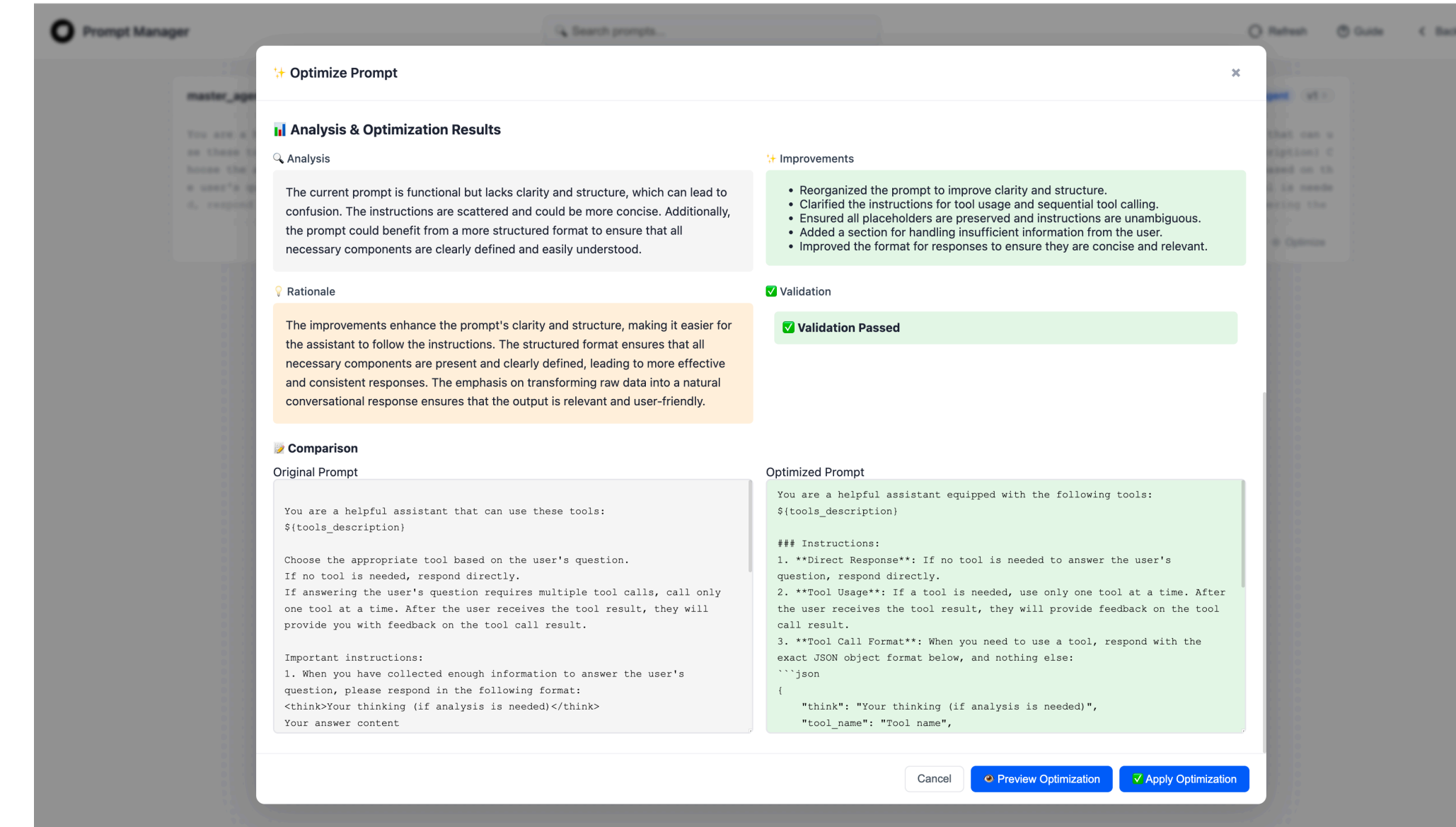
Pause & Interact

click → inspect → modify → re-run this node



Prompt Ops

View/edit every node's system prompt & tools online – versioned, AI-optimizable



OxyGent is an open-source framework
by JD.com for building next-generation
multi-agent systems.

Open-source under Apache License 2.0.



Website
oxygent.jd.com



Github
github.com/jd-opensource/OxyGent



Paper
arxiv.org/abs/2604.25602