AGENT ENGINEERING SERIES • VERSION 1.0 • NOVEMBER 2026

AI Agents + Graphify + Obsidian

The complete visual handbook to building a persistent, confidence-tagged knowledge graph across code, docs, papers, and diagrams—queried in milliseconds by AI agents via MCP and explored visually in Obsidian.

AST + Multimodal Extraction

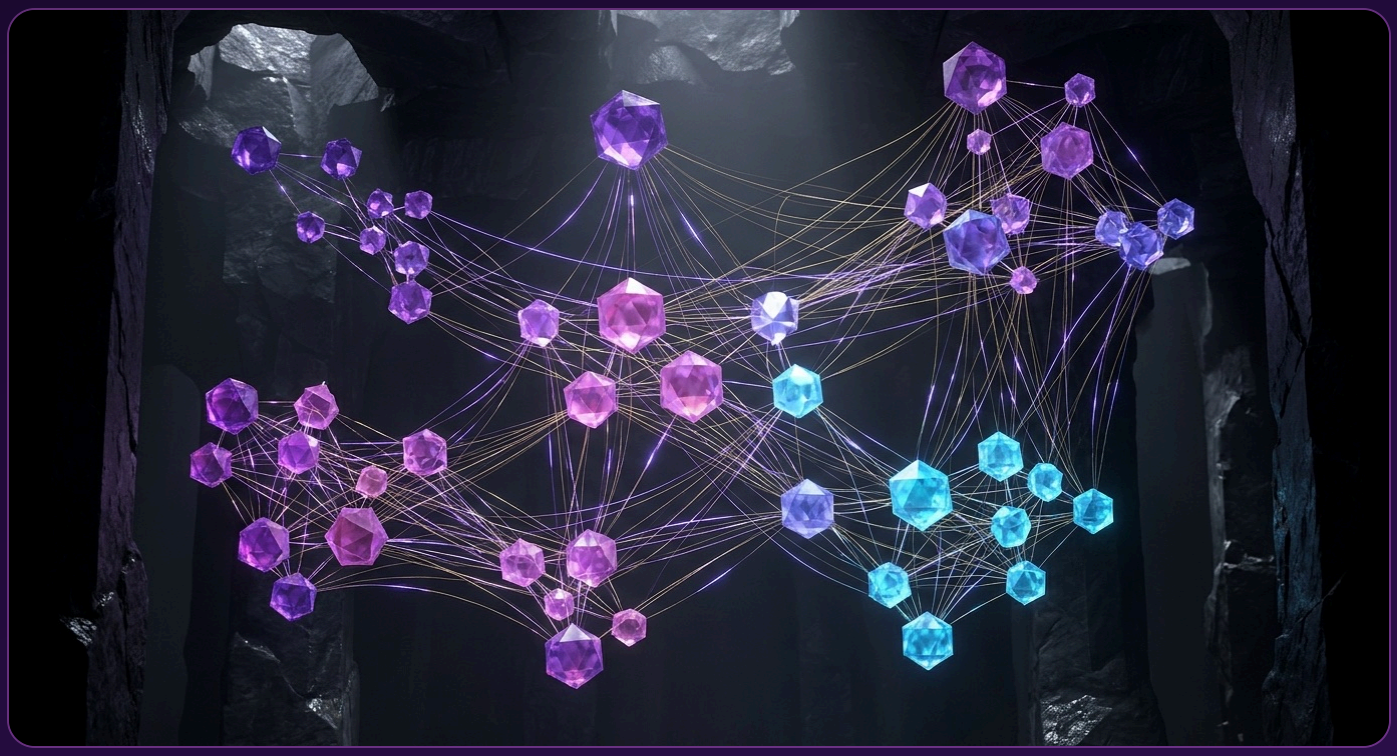
`EXTRACTED` / `INFERRED` Tags

`GRAPH_REPORT.md` & Leiden Clusters

Quarantine Vault Pattern

`graphify` & `graph-query-mcp`

Two-Way Obsidian MCP Loop



Structure Beats Blind Grep

Stop burning context windows on linear file scans; trace multi-hop call paths, God Nodes, and subsystem clusters in under 50ms.

One Map for Humans & Agents

Every build exports `graph.json` for instant MCP tool calls alongside a linked `obsidian/` vault you can walk by hand.

Epistemic Honesty Built In

Every edge carries an explicit `EXTRACTED`, `INFERRED`, or `AMBIGUOUS` tag so agents never confuse guesses with facts.

Why Grep & Vector Chunks Miss Architectural Structure

Without a structural map, an AI coding agent treats every architectural question like a blind scavenger hunt: `grep` tells it *where* a symbol appears, and chunked vector search finds paragraphs that *sound similar*—neither knows *how* five modules and two design docs actually connect.

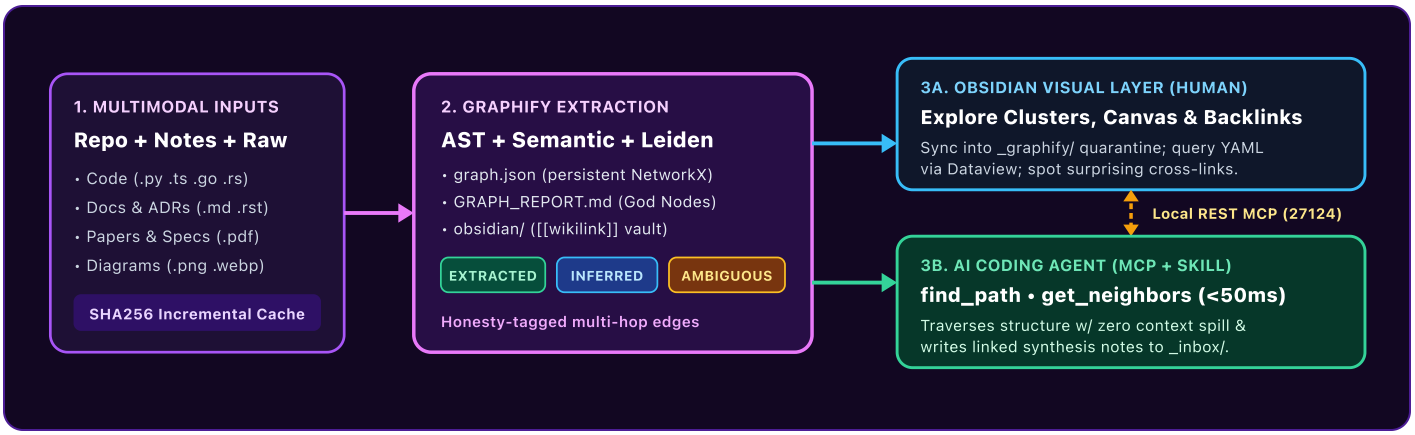
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Core Principle: Graph First, Files Second All

Three Tools, Three Jobs: One Shared Map

Graphify is the librarian: it parses code via `tree-sitter` and extracts concepts from Markdown, PDFs, and diagrams into an in-process `NetworkX` graph (`graph.json`, `GRAPH_REPORT.md`, and `graphify-out/obsidian/`)—no Neo4j server required. **Obsidian** is the visual map room where every node becomes a `[[wikilink]]` note and spatial Canvas. Your **AI Agent** (Claude Code, Cursor, Codex, Antigravity, Gemini CLI) is the researcher that queries the catalog via MCP before opening raw files.

Architecture: The Shared Human–Agent Knowledge Graph Loop



Built-In Hallucination Guardrail: Every Edge States Its Provenance

Graphify tags every relationship as `EXTRACTED` (proven directly in AST imports, function calls, or explicit citations), `INFERRED` (reasoned semantically by the model across docs/code), or `AMBIGUOUS` (conflicting signals surfaced deliberately). Teaching your agent to cite these tags separates hard dependency truth from plausible architectural hunches.

Installation, Extraction Modes & Decision Matrix

Graphify runs locally on Python `3.10+` (`NetworkX` + `tree-sitter` + `graspologic`) without external servers or Docker containers, and installs as a native skill across Claude Code, Cursor, Codex, Antigravity, Gemini CLI, Copilot CLI, OpenCode, and Aider.

1. Install `graphify` & Register the Agent Skill (60 Seconds)

PyPI Package Note: On PyPI the package is published as `graphifyy` (double `y`), while the CLI command and skill are `graphify` and `/graphify`. Prefer `pipx` or `uv` to avoid `externally-managed-environment` errors:

```
# Recommended isolated CLI install (pipx or Astral uv) + skill registration:
pipx install graphifyy && graphify install    # or: uv tool install graphifyy && graphify install
graphify --help                               # verify --update, --watch, --mcp, --wiki flags
# Fallback manual skill install (if installing skill directly without global CLI):
mkdir -p ~/.claude/skills/graphify && curl -fsSL \
  https://raw.githubusercontent.com/safishamsi/graphify/v1/skills/graphify/skill.md -o
~/.claude/skills/graphify/SKILL.md
```

2. Two Extraction Passes: Deterministic AST vs. Multimodal Semantic LLM

A Deterministic Code Pass ($0 LLM Cost)

Parses `.py`, `.ts`, `.js`, `.go`, `.rs`, `.java`, `.c`, `.cpp`, `.rb`, `.cs`, `.kt`, `.scala`, and `.php` locally via `tree-sitter` AST + call-graph resolution. Produces high-confidence `EXTRACTED` edges in seconds and runs 100% LLM-free inside `--watch` mode.

B Semantic & Vision Pass (Multimodal)

Extracts concepts, citations, and `INFERRED` bridges across `.md` / `.rst` notes, `.pdf` papers, and `.png` / `.jpg` / `.webp` whiteboard diagrams via vision + LLM. Add `--mode deep` for denser cross-domain inference, or pull external URLs via `/graphify add <url>`.

3. Memory Architecture Decision Matrix: Choosing the Right Tool

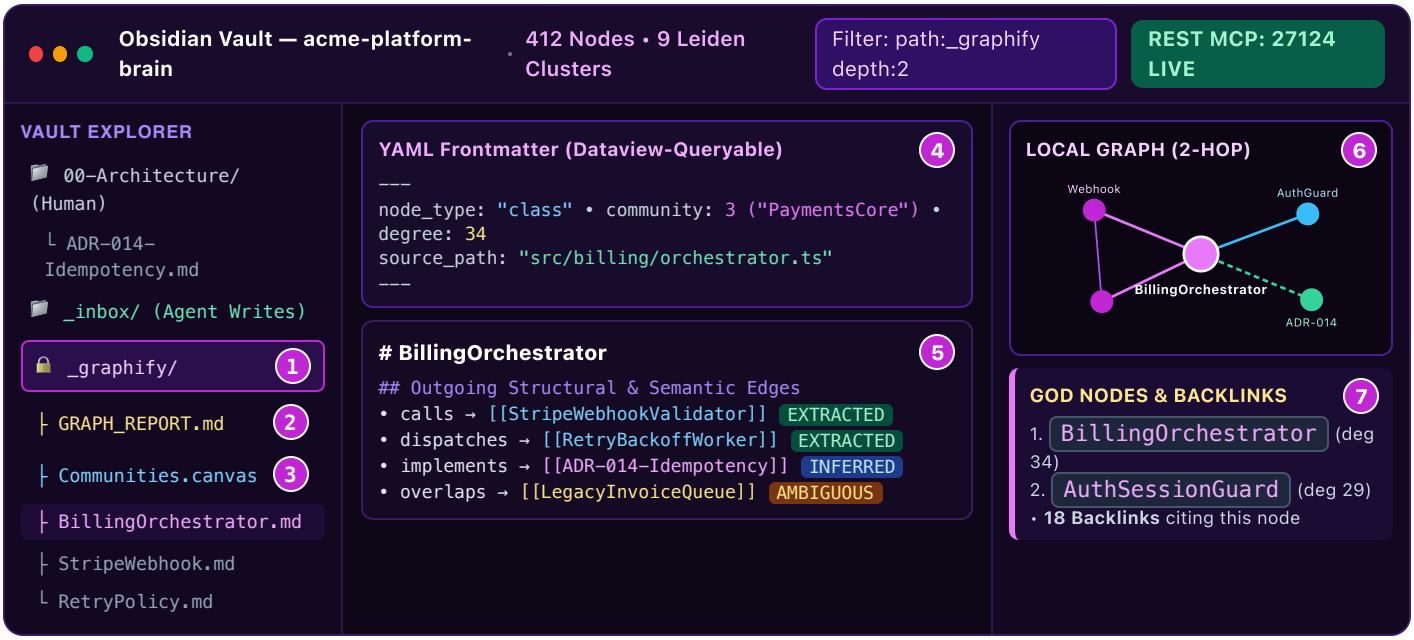
Memory Layer	Questions It Answers Best	Setup & Runtime Cost	Primary Blind Spot
Plain `AGENTS.md` / `CLAUDE.md`	Build/test commands, coding laws, and static folder map (≤300 lines)	Zero dependencies; loaded in every prompt prefix	Cannot map hundreds of live call chains or evolving note links
Vector RAG / Semantic Search	*"Find prose passages or snippets semantically similar to X"*	Embedding index + vector store; chunk updates	Chunking slices relationships; blind to 3-hop dependency paths
Graphify + Obsidian + MCP	*"What connects A to B?"*, blast radius, God Nodes & visual review	Local files only (`graph.json`); `<50ms` MCP queries	Stores topology, not full line-by-line bodies (read target file next)
Enterprise Graph DB (Neo4j)	Millions of live production records & multi-tenant Cypher analytics	Running DB server/container + schema ops	Heavyweight overkill for repo/vault scale (export later via `--neo4j`)

Smart First-Build Budgeting: Start Narrow, Then Rely on `--update`

First-time extraction over hundreds of PDFs or high-res screenshots consumes LLM tokens, whereas code AST parsing is nearly free. Benchmark quality and cost on one focused subfolder first (such as `./src` or a Karpathy-style `./raw` drop-folder), then use `--update` so the `graphify-out/cache/` SHA256 store skips every unchanged file forever after.

Annotated Tour: Obsidian + Graphify Knowledge Vault

Every build generates `graphify-out/obsidian/`—one Markdown note per node, YAML frontmatter, `[[wikilink]]` edges, and a spatial Canvas. Here is how human notes, quarantined graph snapshots, Leiden cluster colors, and God Nodes coexist safely.



Numbered Workspace Reference

1 **Quarantine Subfolder (`_graphify/`):** Holds the generated vault snapshot in one isolated, replaceable folder so refreshes never touch human notes.

2 **Headline Briefing (`GRAPH_REPORT.md`):** Summarizes God Nodes, surprising cross-type bridges, and 4–5 high-leverage starter questions.

3 **Community Canvas (`.canvas`):** Infinite 2D board laying out Leiden clusters spatially so subsystem architecture is obvious at a glance.

4 **YAML Frontmatter:** Stores `node_type`, `community`, `degree`, and `source_path` for live SQL-style **Dataview** tables.

5 **Confidence-Tagged `[[Wikilinks]]`:** Every edge becomes a clickable Obsidian link paired with its `EXTRACTED`, `INFERRED`, or `AMBIGUOUS` badge.

6 **2-Hop Local Graph:** Colors nodes by Leiden cluster (orchid = Payments, cyan = Auth, emerald = ADRs) without full-vault hairball clutter.

7 **God Nodes & Backlinks Sidebar:** Reveals highest-degree architectural bottlenecks alongside every note and agent summary linking back to the active node.

Three-Zone Folder Rule: Never Hand-Edit Inside `_graphify/`

Keep three clean ownership zones in one vault: **1) Human folders** (`00-Architecture/`, `Projects/`) edited only by you; **2) Agent drop-box** (`_inbox/`) where MCP agents write synthesis notes; and **3) Read-only snapshot** (`_graphify/`) replaced cleanly on every sync.

Building Your First Graph & Reading `GRAPH_REPORT.md`

Whether you point Graphify at a polyglot repository or Andrej Karpathy's `raw/` drop-folder of research papers, tweets, and screenshots, one command distills scattered files into six persistent artifacts inside `graphify-out/`.



1. MULTIMODAL SOURCE CORPUS: Code ASTs, Markdown notes, PDFs, diagrams & fetched URLs.

2. HYBRID GRAPHIFY PASS: `tree-sitter` + LLM/vision + Leiden community clustering.

3. PERSISTENT ARTIFACTS: `graph.json`, `GRAPH_REPORT.md` & `obsidian/` vault.

Essential Build & External Feed Commands

```
# 1. Graph current repo (or ./raw drop-folder)
/graphify .
/graphify ./raw --mode deep   # richer INFERRED links

# 2. Fast SHA256 incremental update
/graphify . --update

# 3. Pull external papers or threads straight in
/graphify add https://arxiv.org/abs/1706.03762
/graphify add https://x.com/karpathy/status/...

# 4. Optional wiki, SVG, Gephi & Neo4j exports
/graphify . --wiki --svg
```

Inside `graphify-out/`

- `GRAPH_REPORT.md`: Executive architecture briefing—**always read this file first**.
- `graph.json`: Persistent serialized graph queried weeks later with zero file re-reads.
- `obsidian/`: Turnkey vault with node notes, YAML frontmatter, `[[wikilinks]]`, and Canvas.
- `graph.html`: Zero-install interactive browser viewer (click, search, filter clusters).
- `wiki/`: Agent-crawlable Wikipedia-style articles + `index.md` (with `--wiki`).
- `cache/`: SHA256 hashes ensuring `--update` skips unchanged files.

How to Read `GRAPH_REPORT.md` in 90 Seconds

1 God Nodes

Lists highest-degree hubs that everything routes through (e.g., core domain models or central routers). Hand these 5 files to any new engineer or agent first.

2 Leiden Communities

Auto-detected clusters via `graspologic` Leiden partitioning expose your *true* coupling boundaries—even when legacy folder hierarchies say otherwise.

3 Surprising Bridges

Highlights highest-scoring cross-type edges (`code ↔ paper` or cross-module leaks) with plain-English explanations plus 4–5 tailored agent prompts.

Obsidian Setup & Safe Vault Merge Patterns

Because `graphify-out/obsidian/` is regenerated as a point-in-time snapshot whenever code or notes change, choosing your vault integration pattern upfront prevents accidental overwrites while making large graphs effortless to browse.

1. Pick One of Four Vault Integration Patterns Before Importing

Integration Pattern	How It Works on Disk	Best Fit & Safety Profile
1. Standalone Vault Zero-Touch Isolation	Obsidian → *Open folder as vault* → select `<repo>/graphify-out/obsidian/` directly.	**Safest 60-second start** for codebase exploration; zero contact with personal notes.
2. Quarantine Subfolder ★ Recommended Default	Sync `graphify-out/obsidian/` into `<MainVault>/_graphify/`. Filter Graph View with `path:_graphify`.	Unifies code/research graph with your daily Second Brain in one cleanly deletable folder.
3. Selective Harvest Curated Promotion	Review `_graphify/`, then copy or promote only proven, high-signal concept notes into permanent folders.	Ideal for noisy 1,000+ node graphs where only 30 core architectural concepts merit permanent notes.
4. Taxonomy Redistribution Advanced Merge	Agent or `vault-promote` workflow files nodes directly into PARA / ACE folders alongside human notes.	Use only after tuning extraction quality and backing up your vault in Git or Obsidian Sync.

2. Mastering Graph View Color Groups, 2-Hop Local Graph & Plugins

A Taming Graph View (Zero Plugins Needed)

- **Prefer Local Graph over Global:** Open any God Node, press `Cmd/Ctrl + P` → *Open local graph*, and set **Depth = 2** to inspect clean 2-hop blast radii.
- **Color Groups:** Under Graph View → *Groups*, assign distinct hues to `path:_graphify`, `path:00-Architecture`, `path:_inbox`, or Leiden tags (`tag:#community-1`).
- **Walk via Canvas & Backlinks:** Start on the exported `.canvas` community map, then step node-by-node through the right-hand **Backlinks** pane.

B The Only Community Plugins Worth Adding

- **Dataview (Essential):** Turns YAML frontmatter into live audit tables (e.g., list every `AMBIGUOUS` or `INFERRED` edge in Community 2).
- **Local REST API (Essential for Write-Back):** Hosts the localhost MCP endpoint so agents read/write vault notes directly.
- **Templater + Excalidraw (Optional):** Enforce YAML schemas on agent notes, and sketch architecture diagrams that Graphify's vision pass folds back into the graph!

Dataview Audit Snippet: Surface Uncertain Edges Instantly

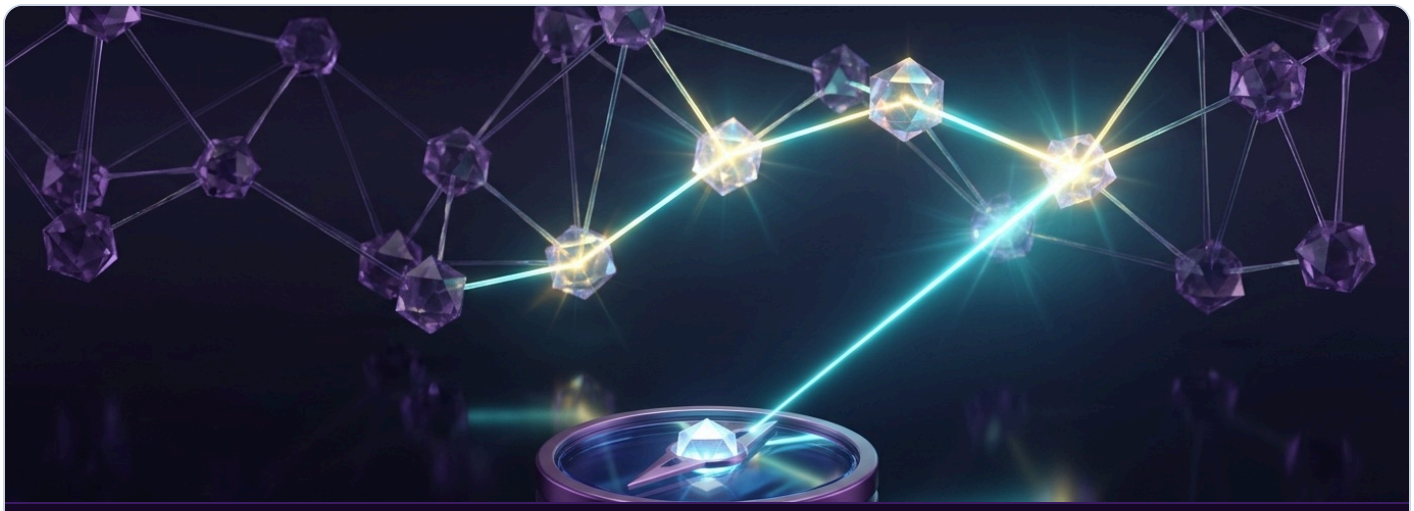
```
TABLE community, node_type, source_path FROM "_graphify"
WHERE contains(edge_confidence, "INFERRED") OR contains(edge_confidence, "AMBIGUOUS")
SORT degree DESC LIMIT 15
```

Snapshot Overwrite Trap: Promote Before You Annotate!

Re-syncing `graphify-out/obsidian/` into `_graphify/` overwrites every file inside that subfolder. Whenever you want to enrich a node with handwritten team context, move or copy that note *out* to a permanent folder first—Obsidian automatically updates `[[wikilinks]]` across your vault!

Three Levels of AI Agent Integration

A knowledge graph saves zero tokens if your coding agent forgets it exists and falls back to recursive `grep`. Wire your agent across three progressive levels—from interactive slash queries up to sub-50ms in-memory MCP traversal.



LEVEL 1 • SLASH SKILL: `/graphify query`, `path` & `explain` on demand.

LEVEL 2 • AGENTS.MD POINTER: 30-second rule making graph-first the default habit.

LEVEL 3 • LIVE MCP TOOLS: `find_path` & `get_neighbors` in `<50ms` RAM.

Level 2 Blueprint: High-Signal `AGENTS.md` / `CLAUDE.md` Graph Block

```
[1. ARTIFACT PATHS] Pre-built graph at graphify-out/graph.json (report: graphify-out/GRAPH_REPORT.md; vault: _graphify/).
[2. GRAPH-FIRST TRIGGER] Before grepping or reading >3 files for architecture, blast-radius, or "what connects X to Y" tasks, query the graph FIRST.
[3. TOOL PRECEDENCE] Prefer MCP tools (find_path, get_neighbors, god_nodes) or /graphify path; read raw source ONLY for narrowed target files.
[4. HONESTY CITATION] Cite EXTRACTED vs INFERRED vs AMBIGUOUS tags in plans; verify INFERRED/AMBIGUOUS links in code before editing.
[5. VAULT BOUNDARY] Never modify generated files inside _graphify/; write agent synthesis notes exclusively into _inbox/ with YAML frontmatter.
```

Level 3 Comparison: Built-In `graphify.serve` vs. `graph-query-mcp`

MCP Server	Registration & Environment	Callable Tools & Key Advantage
Built-In Graphify MCP Zero Extra Install	`claude mcp add graphify -- python -m graphify.serve /abs/path/graphify-out/graph.json` (or `/graphify ./ --mcp`)	`query_graph`, `get_node`, `get_neighbors`, `get_community`, `god_nodes`, `shortest_path`, `graph_stats`. Ships inside `graphifyy`.
`graph-query-mcp` Vault Companion	`/plugin marketplace add adelaidasofia/graph-query-mcp`; set `GRAPH_JSON_PATH` (+ `SECONDARY_GRAPH_JSON_PATH`; `MYCELIUM_NO_PING=1` opts out of install ping).	`search_nodes`, `find_path`, `get_neighbors`, `get_top_nodes`, `query_subgraph`, `get_community_members`. RAM pre-load (`<50ms`) + dual-vault scope!

Two-Way Obsidian Read/Write & Automated Freshness

Querying `graph.json` gives your agent structural X-ray vision; adding a direct Obsidian bridge closes the loop—letting agents file synthesis notes with `[[wikilinks]]` while Git hooks keep your graph honest on every commit.

1. Connecting Claude Code, Cursor & Codex Directly to Your Obsidian Vault

Install the **Local REST API** community plugin in Obsidian (`Settings → Community plugins → Browse`), enable it, and copy its Bearer key. It hosts a localhost-only MCP server at `https://127.0.0.1:27124/mcp/` scoped strictly to the currently open vault (or pair with Obsidian's 1.8+ CLI / filesystem MCP when headless):

```
# Register Obsidian's built-in Local REST API MCP server + verify active connections
claude mcp add --transport http obsidian https://127.0.0.1:27124/mcp/ \
  --header "Authorization: Bearer YOUR_OBSIDIAN_API_KEY"
claude mcp list
```

1 Direct Vault MCP Capabilities

Unlocks `vault_read`, `vault_write`, `vault_append`, surgical heading/YAML edits via `vault_patch`, `search_query`, and `command_execute`—allowing agents to create linked investigation summaries without touching raw source files.

2 Human vs. Agent Write Separation

Instruct agents to write new notes *only* into `_inbox/` with `author: agent` frontmatter and `[[wikilinks]]` pointing at `_graphify/` nodes. You review and promote keepers into permanent folders at your own pace.

2. A Stale Graph Is a Lying Graph: Four Automation Cadences

Automation Mode	Command / Trigger	Exact Behavior & Ideal Use Case
Incremental Update	`/graphify . --update`	Checks SHA256 hashes in `graphify-out/cache/`, re-extracts *only* modified files, and merges edges. Best after adding papers or notes.
Live Watch Daemon	`/graphify . --watch`	Code saves trigger instant **AST-only rebuilds ($0 LLM cost)**; doc/image edits prompt for `--update`. Ideal during multi-agent coding sprints.
Git Commit Hook	`graphify hook install`	Installs an editor-agnostic `post-commit` hook (coexists with Husky/existing hooks) so active repos stay fresh with zero background process.
Nightly Cron Sync	`crontab` + `rsync --delete`	Runs nightly `graphify --update --wiki` and mirrors `obsidian/` into `_graphify/` for large personal or team knowledge vaults.

The Compounding Knowledge Flywheel

Watch how the full loop compounds: you drop a design doc or merge a PR → `--update` refreshes `graph.json` → your agent answers a refactor question via `find_path` → writes a `[[wikilink]]` architectural note into `_inbox/` via `vault_write` → the next `--update` indexes that note right back into the graph!

5 Real-World Copy-Paste Graphify + Obsidian Recipes

Drop these five ready-to-run prompts, shell scripts, and JSON configs straight into Claude Code, Cursor, Antigravity, or your repository hooks to turn structural graph queries into an effortless daily reflex.

Recipe & Goal	When to Use It	Copy-Paste Prompt, Script, or Config
1. 60-Second Unfamiliar Repo Onboarding	Cloning a new codebase before reading raw files	Run `/graphify .`, then prompt: *"Read `graphify-out/GRAPH_REPORT.md` and query the graph MCP tools. List the top 5 God Nodes, summarize each Leiden community in one sentence, and call `find_path` from the HTTP entry router to persistence, citing `EXTRACTED` vs `INFERRED` tags."*
2. Safe Blast-Radius Pre-Refactor Check	Before modifying shared auth, billing, or core types	*"Do not edit files yet. Call `get_neighbors(node='AuthSessionGuard', max_hops=2)` and `get_community_members`. Separate hard `EXTRACTED` code callers from `INFERRED` spec/ADR links, flag any `AMBIGUOUS` edges, and write a blast-radius test plan to `_inbox/auth-refactor-plan.md`."*
3. Quarantine Subfolder Sync Script	Mirroring fresh builds into an existing Obsidian vault	`rsync -a --delete ./graphify-out/obsidian/ "$HOME/Vaults/Main/_graphify/"` Mirrors new/updated node notes and prunes deleted symbols inside `_graphify/` while leaving `00-Architecture/` and `_inbox/` 100% untouched.
4. Dual MCP Config (`.mcp.json`)	Wiring Claude Code or Cursor to Graph + Vault	`{"mcpServers": {"graphify": {"command": "python", "args": ["-m", "graphify.serve", "./graphify-out/graph.json"]}, "obsidian": {"url": "https://127.0.0.1:27124/mcp/", "headers": {"Authorization": "Bearer ${OBSIDIAN_KEY}"}}}}`
5. Post-Merge Incremental Git Hook	Auto-refreshing after `git pull` or branch merges	Save in `.git/hooks/post-merge` (`chmod +x`): `#!/usr/bin/env bash` `graphify . --update >/dev/null 2>&1 && [ -d "$VAULT/_graphify" ] && rsync -a --delete graphify-out/obsidian/ "$VAULT/_graphify/" &`

Bonus Pattern: `--wiki` for Subagents Without MCP

Running `/graphify ./raw --wiki` builds `graphify-out/wiki/index.md` plus crisp Markdown articles per Leiden community and God Node. Even lightweight cloud or sandboxed subagents without MCP access can browse your entire architecture via plain `read_file` calls!

Weekly Research & Meeting Synthesis Ritual

Drop PDFs, screenshots, and rough meeting notes into `raw/` all week. Every Friday run `/graphify ./raw --update`, inspect `GRAPH_REPORT.md`'s **Surprising Connections**, and ask your agent to draft a linked weekly synthesis note into `_inbox/`.

Token Economics, Vault Hygiene & Multi-Repo Scale

Knowing exactly how Graphify spends and saves tokens—and governing what enters Git versus local caches—lets you scale from a single weekend project up to federated microservice fleets and shared Architecture Decision Records (ADRs).

1. Honest Token Economics: Build Once, Query Cheaply

50–70%+ Exploration Cut

Instead of reading 20 candidate files (40k+ tokens) to trace a flow, an MCP call to `find_path` returns the exact 4-node chain in ~250 tokens (up to `71.5x` savings on 52-file multimodal benchmarks).

Savings Scale With Size

On a 6-file toy repo, reading files directly ties (~`1x`). Past 40–500+ files, PDFs, and ADRs, structural pruning compounds dramatically while keeping your agent's context window uncluttered.

Prune Noise Before Build

Exclude `node_modules/`, `.venv/`, `dist/`, `.next/`, lockfiles, and minified bundles so your graph reflects *your* architecture rather than 30,000 vendor AST nodes.

2. Repository & Vault `.gitignore` Governance

```
# .gitignore — ignore heavy caches & browser/vault snapshots; regenerate via git hook
graphify-out/cache/
graphify-out/obsidian/
graphify-out/graph.html
# Optional team choice: either gitignore graphify-out/graph.json (local hook rebuilds)
# OR commit lightweight graphify-out/GRAPH_REPORT.md so PR reviewers & cloud agents see God Nodes!
```

3. Scaling Across Microservices & Architecture Decision Records (ADRs)

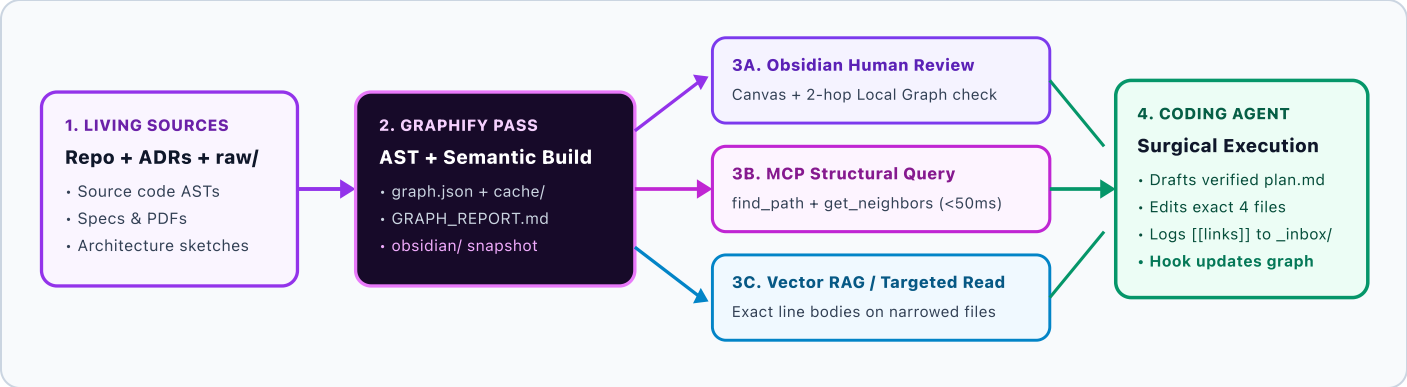
Multi-Repo / Team Pattern	Implementation Blueprint
1. Dual-Scope MCP Queries	Point `graph-query-mcp`'s `GRAPH_JSON_PATH` at your active service repo and `SECONDARY_GRAPH_JSON_PATH` at your shared platform/contracts vault so agents query local code and org-wide architecture side by side.
2. Federation Umbrella Workspace	Create a lightweight workspace directory containing symlinks to `services/*/src`, `proto/`, and `docs/adr/`. Running `/graphify . --update` surfaces cross-service RPC, Kafka topic, and webhook bridges that single-repo grep can never see.
3. Explicit ADR Anchor Naming	Inside Markdown ADRs (`docs/adr/014-idempotency.md`), name exact code identifiers (`BillingOrchestrator`, `StripeWebhookValidator`) so Graphify links *why a decision was made* directly to the classes enforcing it.

Zero Lock-In Guarantee: Reversible Teardown in 10 Seconds

Graphify never mutates your source files. Every artifact is cleanly removable in layers: delete `graphify-out/` and `_graphify/`, remove MCP entries with `claude mcp remove graphify`, and uninstall via `pipx uninstall graphifyy`—leaving your codebase and handwritten notes 100% untouched.

Cross-Tool Synergy: Structural + Semantic Memory Pipeline

Graphify does not replace specs or content search—it completes the engineering memory stack. Watch how Obsidian visual review, MCP topology traversal, and targeted file/RAG lookup combine on a cross-cutting feature.



End-to-End Synergy Walkthrough: Shipping a Cross-Module Webhook Upgrade

Pipeline Stage	Human & Agent Action	Failure Prevented
1. Build & Cluster	Run `/graphify . --update` and sync `_graphify/`. Leiden clustering groups billing, retry queues, and webhook handlers.	Surfaces an `INFERRED` link to `ADR-014-Idempotency.md` that contains zero matching function names for `grep`.
2. Visual Sanity Check	Open `BillingOrchestrator` in Obsidian's 2-hop Local Graph; spot a hidden edge to `LegacyInvoiceQueue`.	Catches an undocumented dual-write side effect in 20 seconds before a single line of code is planned.
3. Graph + Content Read	Agent calls `find_path` + `get_neighbors` (<50ms), narrows 1,400 repo files down to 4 exact files, and reads only those 4 files.	Saves ~45,000 exploration tokens, preserving crisp attention for drafting `spec.md` and running tests.
4. Write-Back & Hook	Agent passes tests, writes a linked summary via `vault_write` to `_inbox/`, and commits; `post-commit` refreshes `graph.json`.	Next engineer (or tomorrow's fresh agent session) inherits the updated dependency graph automatically.

Why Graph + Vector Beat Either Alone

Think of **Graphify** as the *highway map* (which modules depend on each other across multiple hops) and **Vector RAG / `read_file`** as *street view* (the exact prose or implementation lines inside a chosen node). Query structure first to pick the right 4 files, then read those files cleanly!

Troubleshooting Clinic & Pre-Flight Checklist

Keep this final page beside your terminal and Obsidian workspace. Every common Graphify + Obsidian snag—from tangled hairball graphs to overwritten notes and MCP connection hiccups—has a fast 10-second fix.

Top 7 Graphify + Obsidian Pitfalls (And 10-Second Structural Fixes)

Symptom You Observe	Root Cause & Immediate 10-Second Fix
1. Unreadable "hairball" in Obsidian Graph View	Viewing 2,000+ unfiltered nodes globally. Open a God Node, launch **Local Graph** (`Depth: 2`), filter by `path:_graphify -path:tests`, and color groups by Leiden community tag.
2. Handwritten edits in Obsidian vanished after sync	Edited notes inside the `_graphify/` snapshot folder. Restore instantly via `Settings → File recovery → Snapshots`, move curated notes outside `_graphify/`, and keep `_graphify/` read-only.
3. Broken `[[wikilinks]]` or ghost deleted nodes	*Use [[Wikilinks]]* is disabled in Obsidian or old files lingered after `cp -r`. Enable `[[Wikilinks]]` under `Settings → Files and links` and sync using `rsync -a --delete`.
4. Massive 30,000-node bloat & slow builds	Indexed `node_modules/`, `.venv/`, `dist/`, or build caches. Ensure dependencies are gitignored, delete `graphify-out/`, and run `/graphify ./src` on clean source/docs directories.
5. Agent cites deleted classes or stale `graph.json`	Switched branches or refactored without refreshing. Run `/graphify . --update` (fast SHA256 delta) and enable `graphify hook install` so commits rebuild automatically.
6. `pip install graphify` fails or `/graphify` missing	PyPI package is named `graphifyy` (double `y`) or skill wasn't registered. Run `pipx install graphifyy && graphify install` and verify `~/.claude/skills/graphify/SKILL.md`.
7. Obsidian MCP `Connection refused` / TLS error	Target vault must be **open in Obsidian** for Local REST API to listen on `27124`; trust its local self-signed cert or switch to localhost HTTP on port `27123`.

6-Point Pre-Flight Checklist: Before Starting Any Graph-Powered Session

- ☐ **1. Clean Input Scope:** `node_modules/`, `.venv/`, and build folders excluded; `graphify --help` verified.
- ☐ **2. Read `GRAPH_REPORT.md`:** Checked top God Nodes, Leiden clusters, and `AMBIGUOUS` edge warnings.
- ☐ **3. Quarantine Vault Sync:** Export mirrored via `rsync --delete` into read-only `_graphify/`; agent writes to `_inbox/`.
- ☐ **4. Graph-First `AGENTS.md`:** Pointer + `EXTRACTED` / `INFERRED` citation rule added to root canon.
- ☐ **5. MCP Servers Live:** `claude mcp list` confirms `graphify` / `graph-query-mcp` (+ optional Obsidian REST).
- ☐ **6. Freshness Armed:** `graphify hook install`, `--watch`, or `--update` keeping `graph.json` truthful!