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Microsoft Just Quietly Released Amplifier — Here's Why It Might Change How You Automate AI

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Jannis



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Exploring how Amplifier connects AI agents, memory, and workflows into a compounding automation layer.

Microsoft quietly pushed **Amplifier** to GitHub. A full system for **building and coordinating AI agents that learn from context over time**. Let's look at what's actually in the repository, how to set it up and what works right now.

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Microsoft Amplifier

Automate with AI Agents

Hi, this is Jannis.

Amplifier is an early-stage research framework designed to explore how specialized agents, memory, and workflows can combine into self-improving automation.

The creators describe it as a **“coordinated and accelerated development system.”** In practice, it’s an orchestration framework that manages multiple **AI agents** working on related tasks while maintaining **persistent knowledge** between runs.

The idea on how to keep context and scoped knowledge for each agent sounds interesting. Each agent has a descriptive name. From *Zen Architect* to *Bug Hunter* to *Security Guardian*. Each one is built for a different workflow domain. These are like modular experts that share a common knowledge base.

Instead of re-prompting from scratch every time, Amplifier stores insights, documents, and reasoning artifacts so that future runs start smarter.

The repo structure makes this clear:

```
agents/  
  zen-architect/
```

```
bug-hunter/  
secu  
knowled  
workflo  
cli/
```

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Setting It Up Locally

The setup is straightforward if you're comfortable with modern dev stacks. You'll need:

- **Python 3.11+**
- **Node.js 18+**
- **pnpm** for package management

Clone the repo and bootstrap the environment:

```
git clone https://github.com/microsoft/amplifier.git  
cd amplifier  
pnpm install  
pnpm run build
```

For Python tasks:

```
python -m venv venv  
source venv/bin/activate  
pip install -r requirements.txt
```

Running `pnpm start` launches the command-line interface. The system then prompts you to choose or define an agent and workflow. Amplifier initializes its workspace under `/amplifier/knowledge`, which becomes the persistent memory for all agents.

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It's meant to show what an "AI coordination kernel" could look like — an early vision of tools that connect reasoning, context, and automation.

Current State: Works Best with Claude

The README points out that **knowledge extraction currently performs best in the Claude environment**, meaning Amplifier has been tuned primarily for **Anthropic models**. That's because the framework relies on conversational context and long-form memory — capabilities that Claude handles with high consistency.

You can still experiment with other providers by adjusting your environment variables, but some of the persistent knowledge features and summarization steps are clearly optimized for Claude's API.

In practical terms, that means you can feed Amplifier a collection of files or documents, and its knowledge engine will chunk, summarize, and store those references in its database for reuse in subsequent workflows.

How The Agents Work

Every Amplifier agent has:

- A **specialized goal** (e.g., architecture design, debugging, security review)
- A **prompting strategy** (predefined system and user templates)
- Access to **persistent memory**

- Integration with the central workflow engine

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When you loads relevant knowledge, and executes its steps through the workflow runner.

Here's a simplified example from the *Zen Architect* agent configuration:

```
{
  "name": "zen-architect",
  "purpose": "Design and refine system architectures",
  "methods": [
    "analyze_requirements",
    "propose_structure",
    "evaluate_tradeoffs"
  ]
}
```

During execution, Amplifier creates **parallel work-trees** — separate reasoning branches that explore multiple approaches to the same problem. This is one of its most interesting features. Instead of returning a single deterministic answer, it lets multiple solutions evolve concurrently and compares them based on reasoning trails.

That process mirrors what experienced developers already do manually: test alternative solutions, compare pros and cons, and refine.

Building a Practical Workflow

The README includes a set of sample workflows you can study and modify. A typical use case looks like this:

Goal: Summarize a set of research papers and generate a design brief based on their insights.

1. **Load data:** Place your `.txt` or `.pdf` files into `/knowledge/sources/`.
2. **Run the knowledge extraction task:**

pnpm run

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Amplifier parses and chunks your documents, then summarizes them through Claude.

3. Launch an agent to use that knowledge:

```
pnpm run amplify agent zen-architect
```

The agent queries the new knowledge base and generates an architecture plan grounded in what it learned from the documents.

The memory component is visible under `/knowledge/data/``, where JSON files store structured representations of extracted facts and prior runs.

The entire process takes between 10–30 seconds per document, depending on size and model latency. That’s slow for production, but fast enough for experimentation — especially when you consider that each run deepens the system’s internal knowledge network.

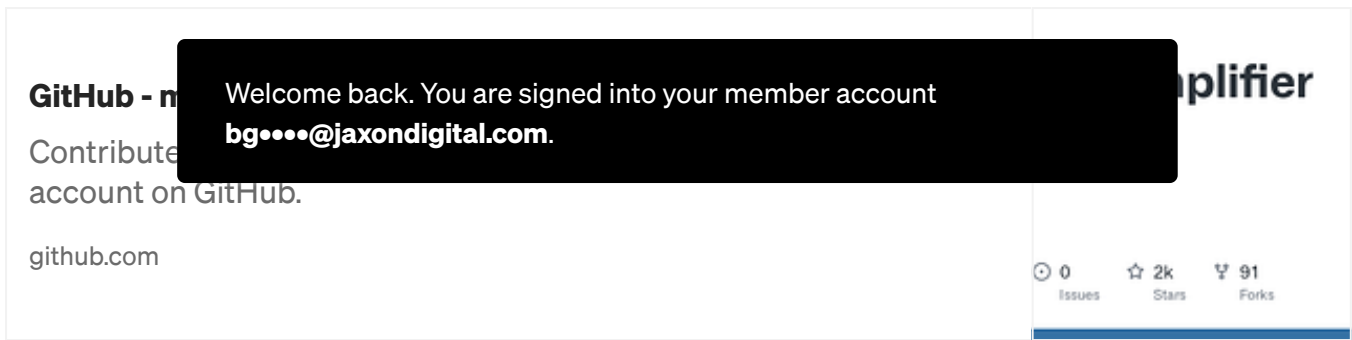
It’s not meant for app production or continuous deployment yet. But it already gives a tangible feel for what persistent, context-aware automation could look like.

How This Fits in Microsoft’s AI Ecosystem

The repository’s design suggests that Microsoft is exploring how to connect multiple reasoning agents into one adaptive system. Imagine combining documentation assistants, bug finders, and research summarizers into a unified pipeline that learns continuously.

While Amplifier is still raw, it extends the same philosophy you see in Claude Skills or MCP servers — a world where automation doesn’t restart from zero every time but builds on accumulated understanding.

For now, Amplifier is explicitly marked as experimental. It’s not accepting external contributions, and its maintainers caution users to test it “at your own risk.”



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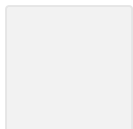
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Microsoft

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A journal of real-world experiments, tools, and thinking around Anthropic's Model Context Protocol (MCP)—now established as an open standard for large language model (LLM) context integration.



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Written by Jannis

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Product Owner in global telecom, lifelong tech tinkerer, and Mac user. Sharing hands-on hacks, real stories, and the tools that make work (and life) smarter.

Responses (1)



Bgerby

What are your thoughts?



Vishal Goyal
1 day ago



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C:\amplifier>pnpm

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