GitHub Agentic Workflows

Repository automation, running the coding agents you know and love, with strong guardrails in GitHub Actions.

Quick Start with CLI → Creating Workflows →

Imagine a world where improvements to your repositories are automatically delivered as pull requests each morning, ready for you to review. Issues are automatically triaged, CI failures analyzed, documentation maintained, test coverage improved and compliance monitored - all defined via simple markdown files.

GitHub Agentic Workflows deliver this: repository automation, running the coding agents you know and love, in GitHub Actions, with strong guardrails and security-first design principles.

Use GitHub Copilot, Claude by Anthropic or OpenAI Codex for event-triggered, recurring and scheduled jobs to improve, document and analyze your repository. GitHub Agentic Workflows are designed to augment your existing, deterministic CI/CD with Continuous AI capabilities

GitHub Agentic Workflows has been developed by GitHub Next and Microsoft Research with guardrails in mind. Agentic workflows run with minimal permissions by default, with explicit allowlisting for write operations and sandboxed execution to help keep your repository safe.

Key Features

Automated Markdown Workflows

Write automation in markdown instead of complex YAML

AI-Powered Decision Making

Workflows that understand context and adapt to situations

GitHub Integration

Deep integration with Actions, Issues, PRs, Discussions, and repository management

Safety First

Sandboxed execution with minimal permissions and safe output processing

Multiple AI Engines

Support for Copilot, Claude, Codex, and custom AI processors

Continuous AI

Guardrails Built-In

Workflows run with read-only permissions by default. Write operations require explicit approval through sanitized safe outputs (pre-approved GitHub operations), with sandboxed execution, tool allowlisting, and network isolation ensuring AI agents operate within controlled boundaries.

Example: Daily Issues Report

How they work:

1. **Write** - Create a `.md` file with your automation instructions in natural language
2. **Compile** - Run `gh aw compile` to transform it into a GitHub Actions workflow with guardrails (`.lock.yml`)
3. **Run** - GitHub Actions executes your workflow automatically based on your triggers

Here's a simple workflow that runs daily to create an upbeat status report:

```
---
on:
  schedule: daily
permissions:
  contents: read
  issues: read
  pull-requests: read
safe-outputs:
  create-issue:
    title-prefix: "[team-status] "
    labels: [report, daily-status]
    close-older-issues: true
---

## Daily Issues Report

Create an upbeat daily status report for the team as a GitHub issue.
```

The `gh aw` cli converts this into a GitHub Actions Workflow (.yml) that runs an AI agent (Copilot, Claude, Codex, ...) in a containerized environment on a schedule or manually.

The AI coding agent reads your repository context, analyzes issues, generates visualizations, and creates reports - all defined in natural language rather than complex code.

Gallery

Continuous Improvement

Daily code simplification, refactoring, and style improvements

Continuous Refactoring

Continuous Documentation

Continuous documentation maintenance and consistency

Issue & PR Management

Automated triage, labeling, and project coordination

Metrics & Analytics

Daily reports, trend analysis, and workflow health monitoring

Continuous Scanning & Compliance

Scanning, alert triage, and compliance monitoring

Quality & Testing

CI failure diagnosis, test improvements, and quality checks

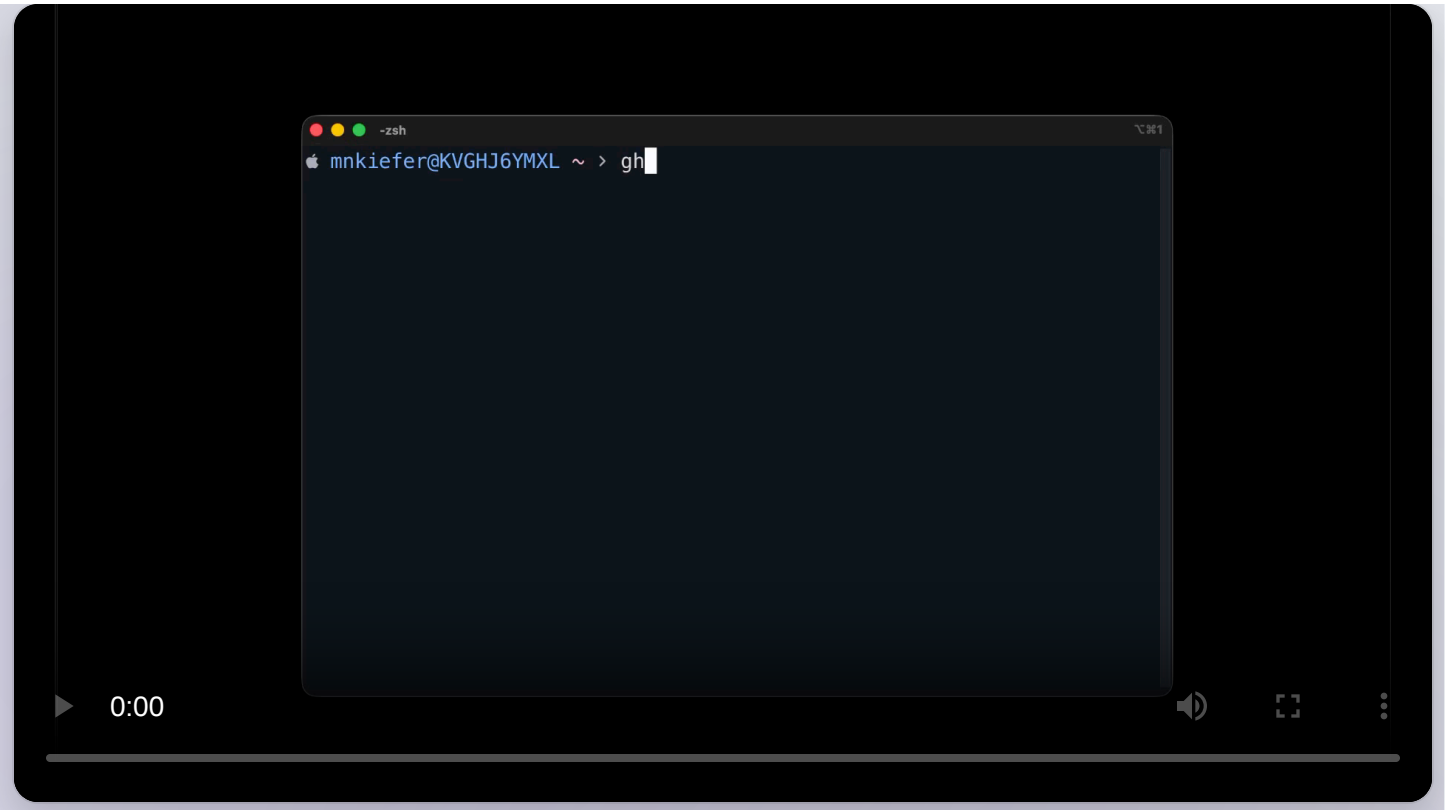
Multi-Repository

Feature sync and cross-repo tracking workflows

Scheduled Workflows

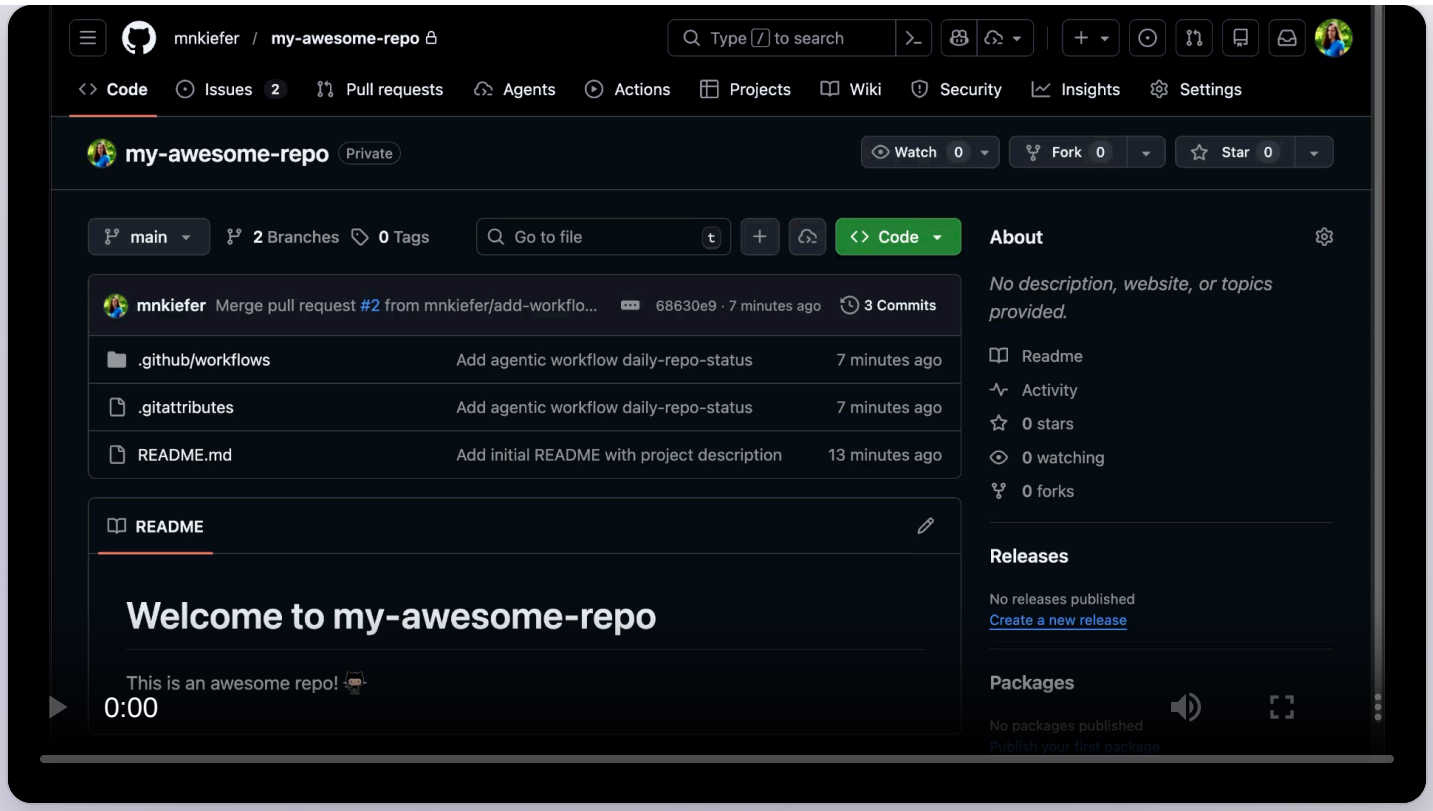
DailyOps, research, and automated maintenance

Getting Started



Install the extension, add a sample workflow, and trigger your first run - all from the command line in minutes.

Creating Workflows



Create custom agentic workflows directly from the GitHub web interface using natural language.

> **Note**
>
> GitHub Agentic Workflows is in early development and may change significantly. Using agentic workflows requires careful attention to security considerations and careful human supervision, and even then things can still go wrong. Use it with caution, and at your own risk.

Made with ♡ by **GitHub Next** & **Microsoft Research**

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