



AI Development and Agentic DevOps

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Software development is increasingly complex

Demands to deliver **complex AI apps** and agents with **speed and scale**

Need to evaluate and test a **massive volume and diversity of AI models**

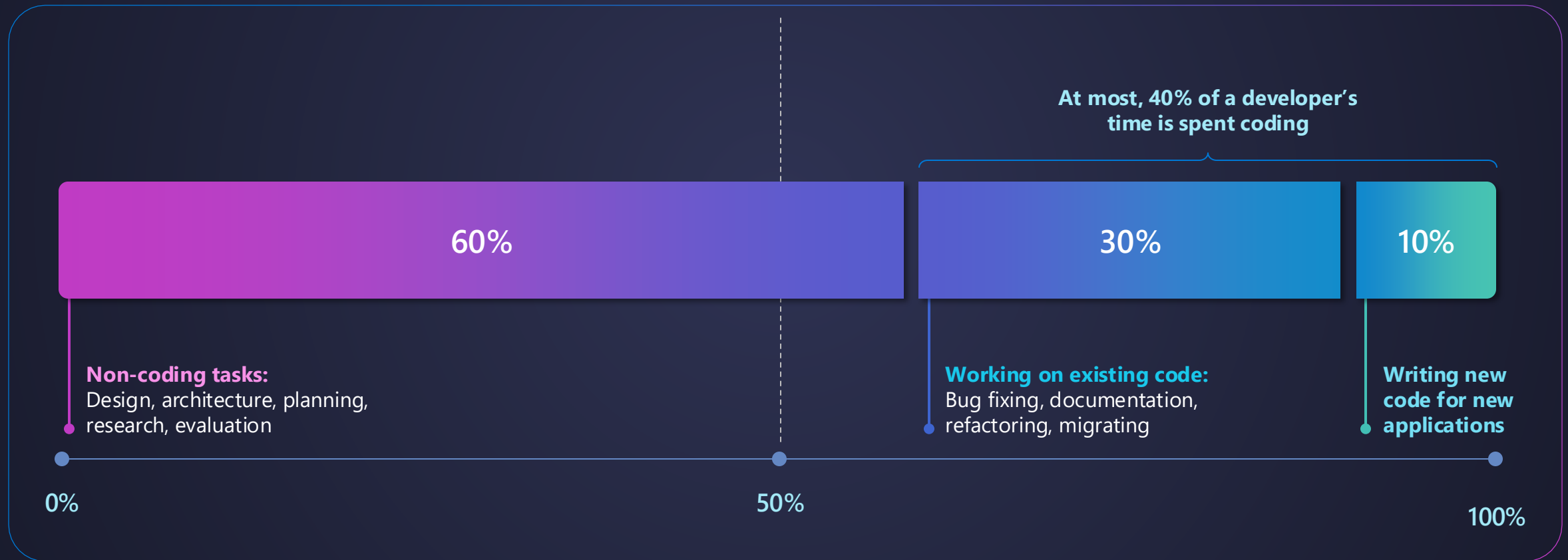
Requirements to **learn new skills** and quickly evolving **AI technologies**

Backlog of **low-value, complex, time-consuming tasks**, migrations, and tests

Decades of technical debt, continuous support, maintenance of production apps

Developers spend a lot of time on noncoding tasks

Writing new code takes only a fraction of a developer's time



[Emerging Tech: AI Developer Tools Must Span SDLC Phases to Deliver Value](#), Gartner

Microsoft is transforming the developer experience



Evolve the developer experience **from AI-infused to AI-native**



Increase productivity with **AI extended across the software lifecycle**



Accelerate delivery of AI apps and agents with AI platform services

Evolving DevOps

DevOps

“Union of **people, process, and technology** to enable continuous delivery of value to end users.”

DevSecOps

“Union of **people, process, and technology with security** as a shared responsibility to enable continuous delivery of value to end users.”

Agentic DevOps

AI-powered agents operating as a member of your dev team to **automate, optimize, and accelerate every stage** of the software development lifecycle.

Agentic DevOps

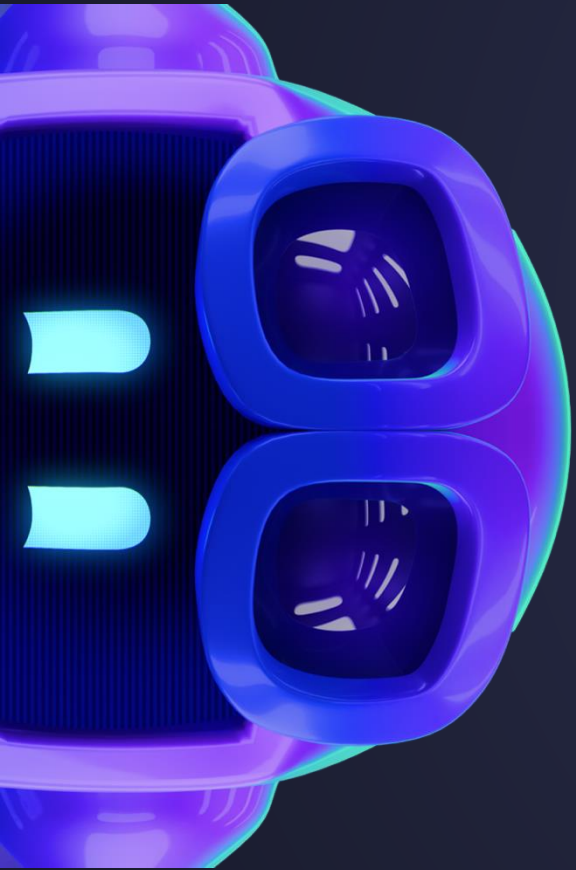
AI-powered agents operating as a member of your dev and ops teams, automating, optimizing, and accelerating every stage of the software lifecycle.

Autonomous and semi-autonomous agents work together to solve routine and complex tasks, bringing apps to market faster, increasing code quality and security, removing repetitive development tasks, reducing technical debt and reframing the economics of operating, maintaining and modernizing apps in production.

Through Agentic DevOps, developers orchestrate a series of agentic services, with the freedom to focus on higher value creative work, while operators can proactively identify, mitigate and resolve issues in production.

GitHub Copilot is built for developer experience

Automate the mundane and empower developers to focus on what matters



Experiences

Sense making (summarization, code understanding)

Writing code

Writing tests, documentation

Debugging code

Reviewing code

Fixing bugs and vulnerabilities

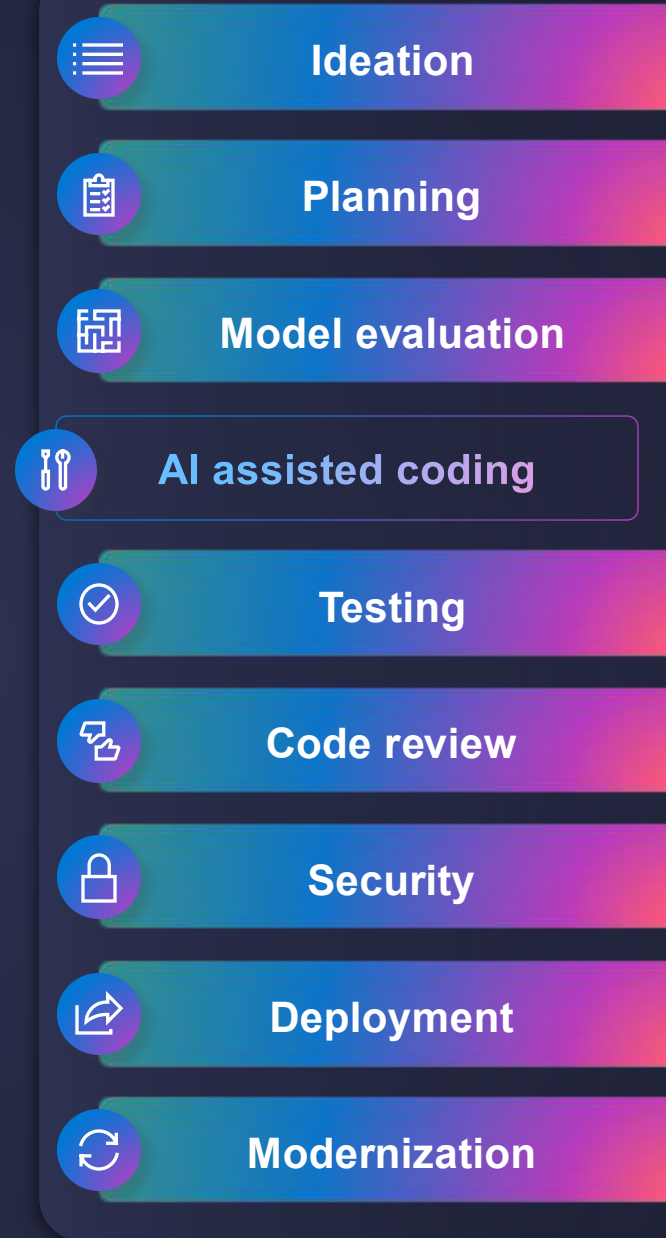
Upgrading dependencies

Code modernization, refactoring

Updating stakeholders

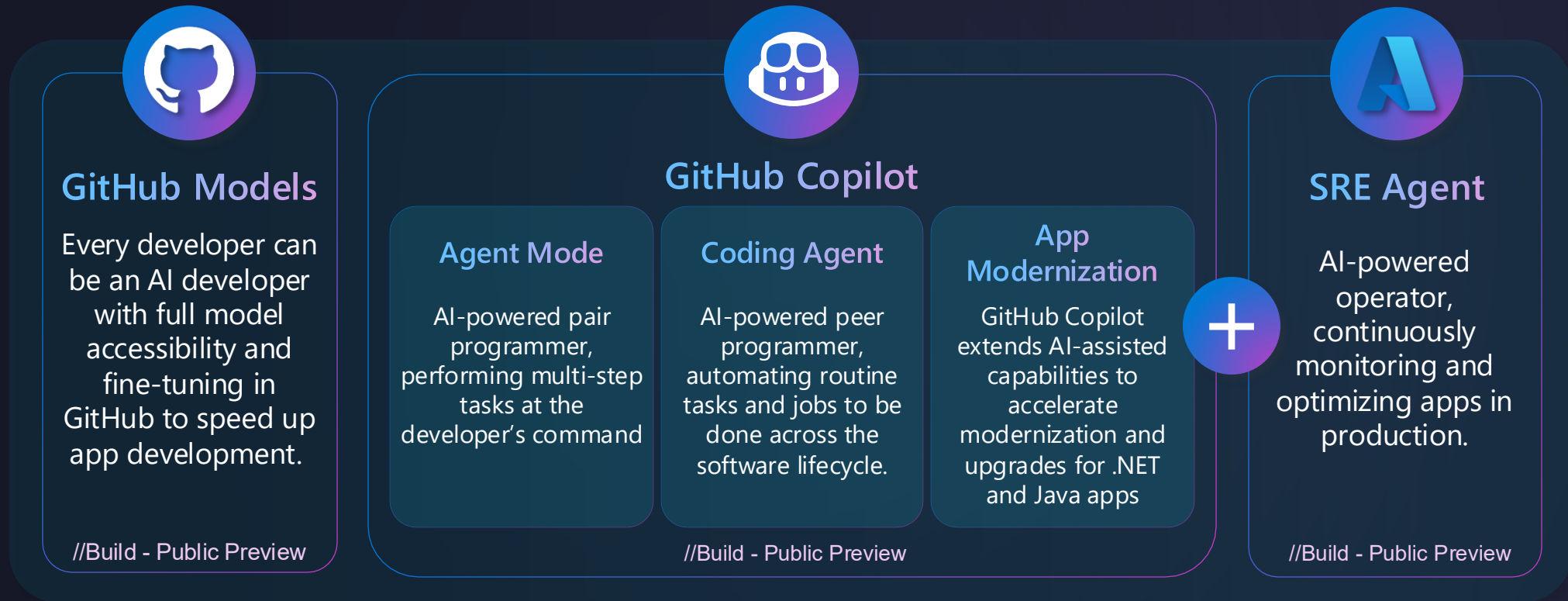
The next evolution of GitHub Copilot

New agents help solve real-world problems throughout the software lifecycle



Agentic DevOps

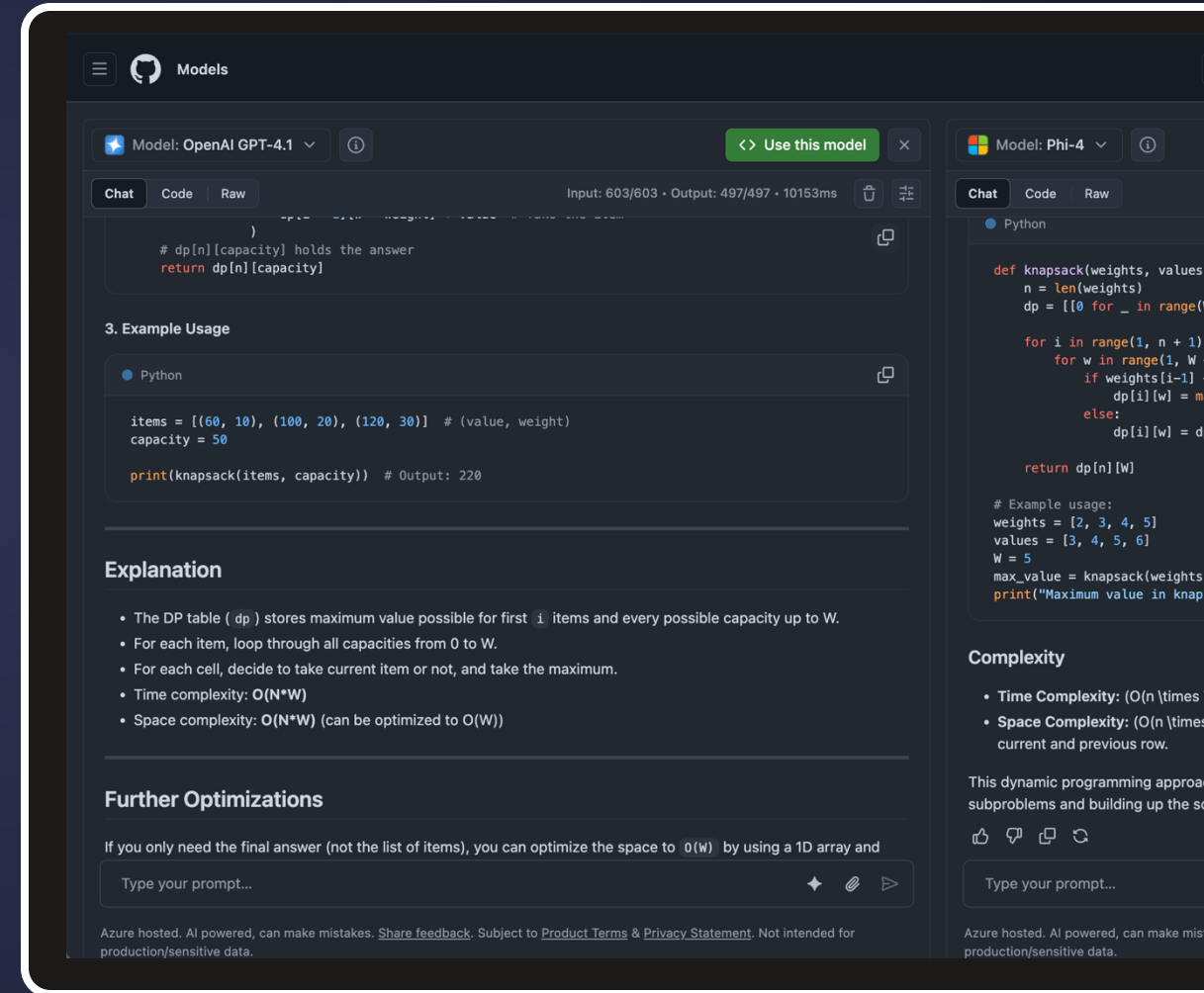
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GitHub Models

AI development natively embedded
in the GitHub experience

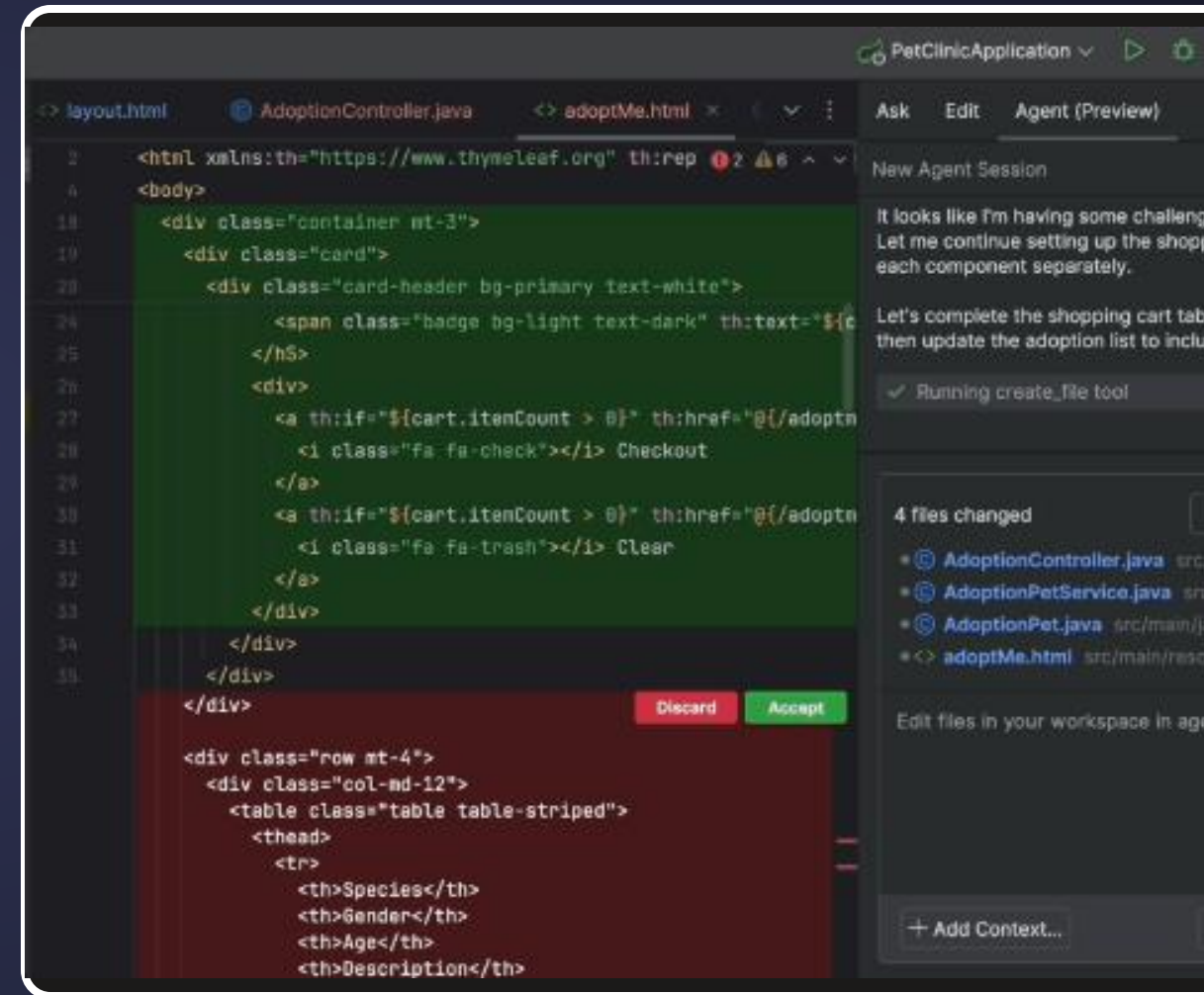
- **Side-by-side** evaluation of a curated list Azure AI foundry models native in the GitHub experience
- **Prompt engineering** at scale to store, version, and manage prompts as code
- **Streamlined**, one-click deployments through Azure integrations



Agent Mode

Supercharge the AI-assisted coding experience directly in your IDE

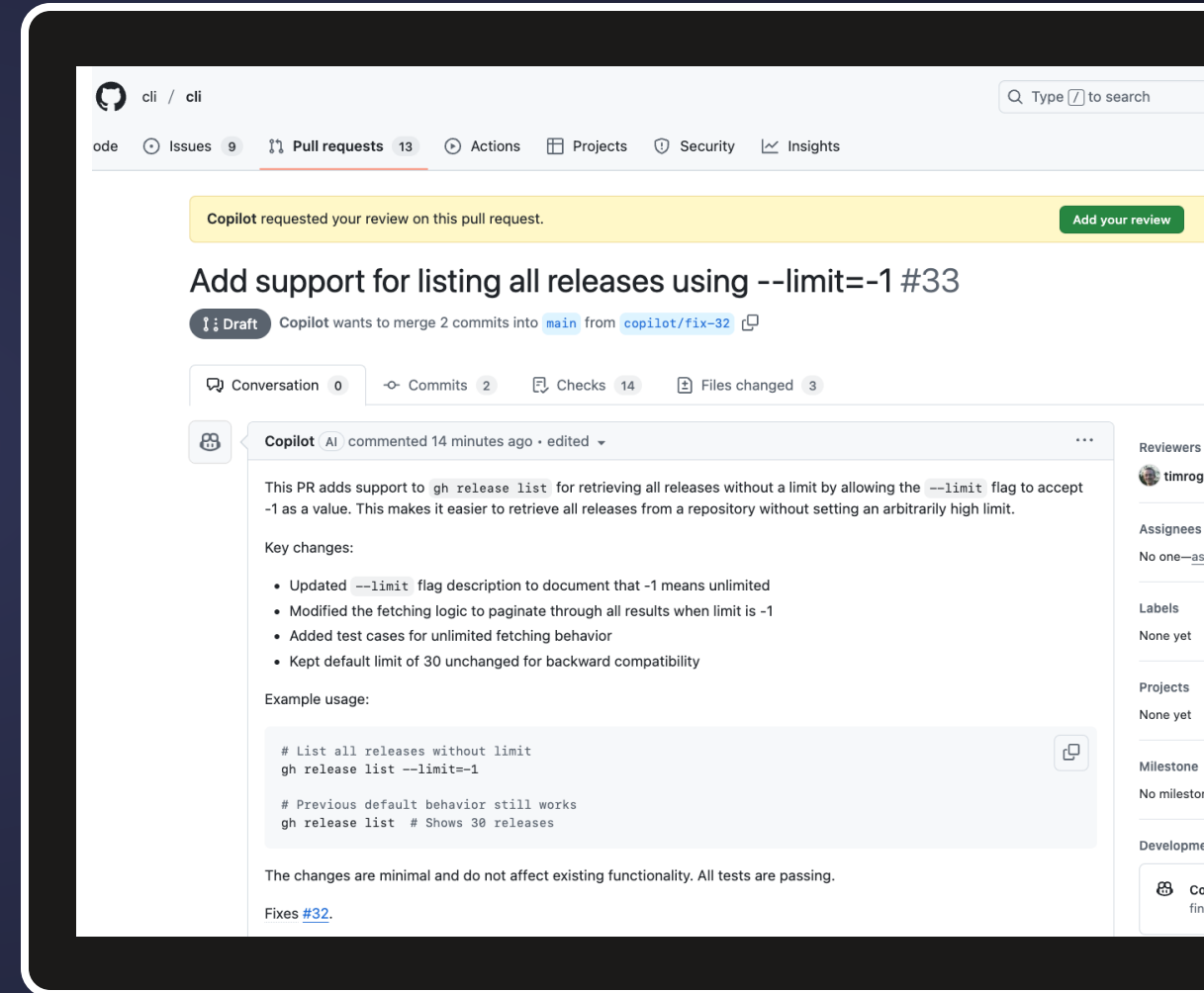
- Expand your AI capabilities beyond autocomplete by assigning multi-step coding tasks directly from your IDE
- Leverage an AI-powered peer programmer that can build new features, refactor legacy code, and heal itself when things break
- Analyze a codebase, edit files, run tests, fix errors, and suggest terminal commands—all from a single prompt
- Use agent mode in the IDE of your choice with support for Visual Studio and Visual Studio Code, and public preview support for Xcode, Eclipse, and JetBrains



Coding Agent

Agentic capability in GitHub to enhance team productivity like an AI teammate

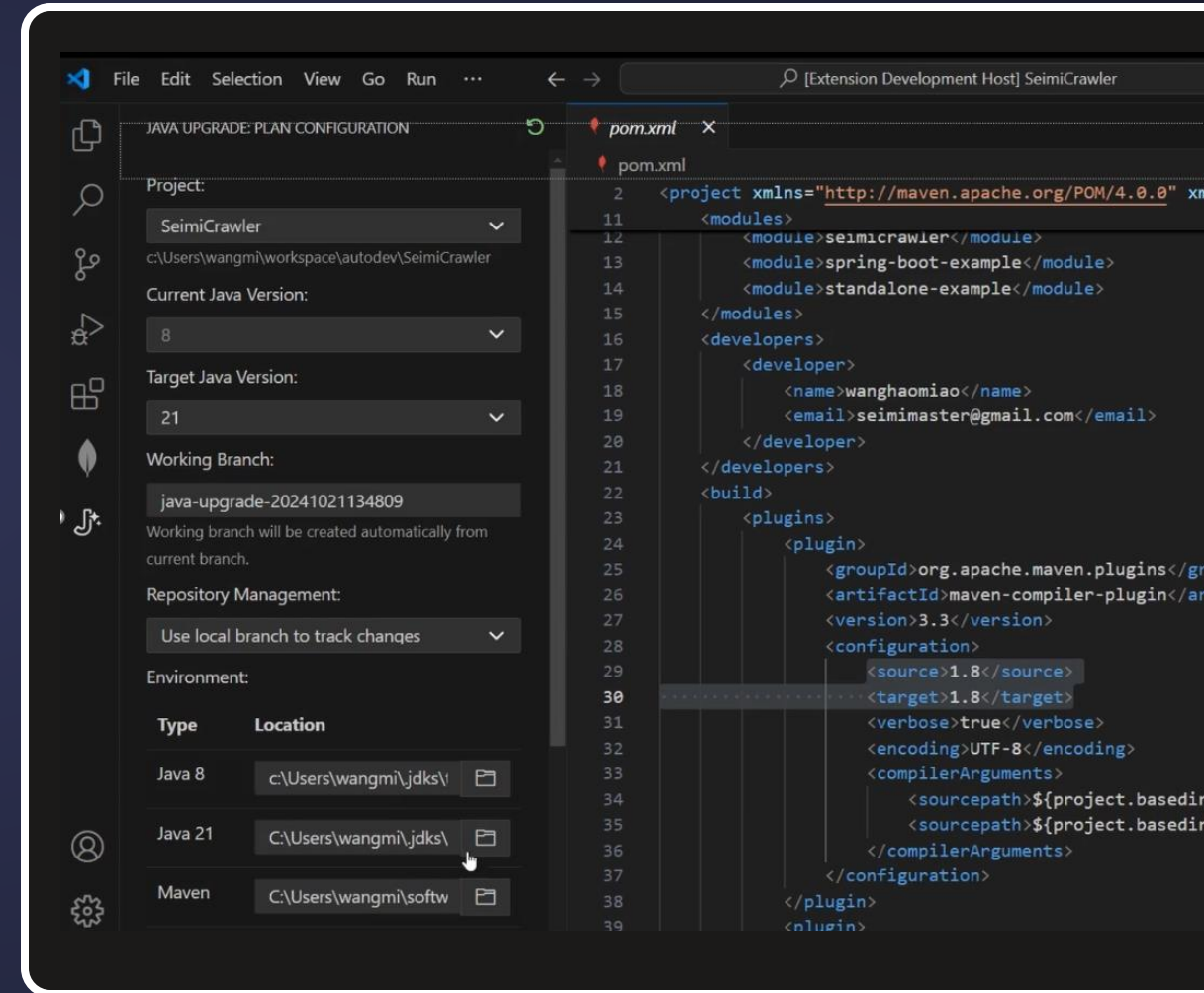
- Assign issues to GitHub Copilot and get back pull requests, automatically validated with tests and linters
- Stay in control by working with Copilot just like any other developer and iterating through pull request reviews
- Tailor Copilot to your needs by customizing its dev environment, adding custom instructions, and providing external context through MCP servers



App Modernization

Modernize Java and .NET apps faster than ever with AI agents

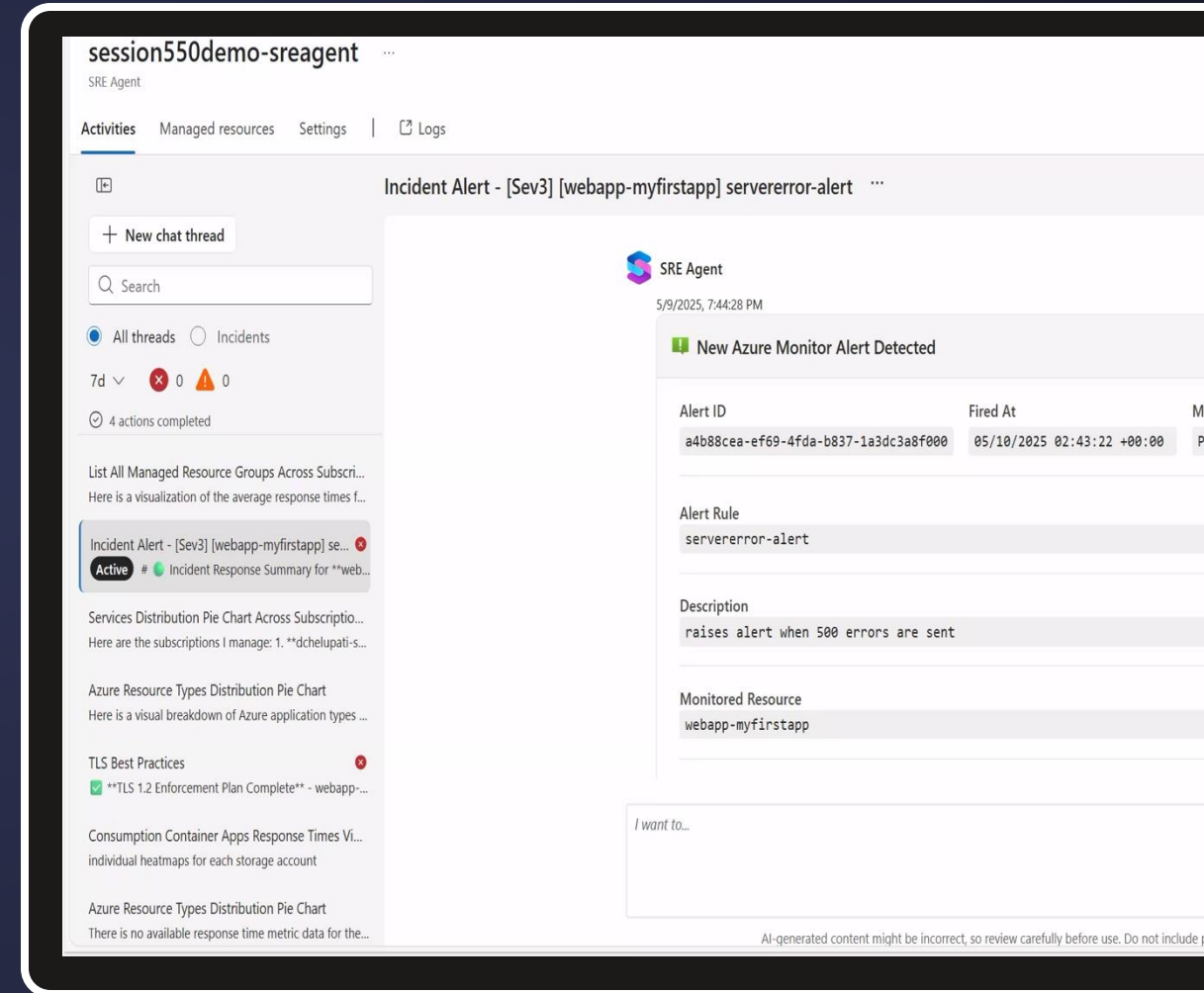
- **Quickly upgrade** Java or .NET versions and associated frameworks with AI agents to increase app performance
- **Perform end-to-end code assessment and remediation** for apps to migrate to Azure
- **Use AI agents to auto remediate** code change and bug fixes for moving to Azure app platform services
- **Stay in control** with developer guidance, leverage organizational knowledge/best practices, and validate



SRE Agent

AI-powered incident management and resource optimization in production

- **Automatic incident management** reduces the number of pager alerts for human SREs
- **Proactive diagnosis and mitigation** to improve application uptime, protecting revenue and reputation
- **Automated deployments** and autonomous rollbacks across large-scale environments help scale your ops without scaling the costs
- **Continuous monitoring** of health and performance of Azure resources, so talent can focus on high-value projects



Agentic DevOps



AI-Native Software Delivery

Maturity Index



Developer Productivity

Level 0	Limited to no AI adoption or usage.
Level 1 (occasional)	Task specific AI usage.
Level 2 (chat)	AI is an assistant for completing repetitive tasks
Level 3 (Agent)	AI is a trusted partner to act as a copilot in the SDLC
Level 4 (Multi-Agent)	AI is a strategic advisor, diagnosing, and implementing multiple tasks.



DevOps Lifecycle

Level 0	Manual Testing & App rollback
Level 1 (Prompt as Code)	Prompts as versioned as code, Automated Testing in CI/CD
Level 2 (Production experimentation)	CI/CD-Centric Model evaluation, / experimentation
Level 3 (Security and Safety)	AI-Red team, threat simulators, CI/CD centric model evaluation, experimentation
Level 4 (Enterprise scale)	Enterprise-wide agentic implementation, Experimentation, Model Safety / Testing



Application Platform

Level 0	Traditional application
Level 1 (chatbot)	Simple prompt / chat experience
Level 2 (chatbot w/ RAG)	Enhanced accuracy/training to create a custom experience
Level 3 (Agent)	Application pattern that enables AI to perform tasks
Level 4 (Multi-Agent)	AI can interface across multiple systems to complete even more complicated tasks

Learn more about Agentic DevOps today



Read the latest Agentic DevOps blog



Check out the [Agentic DevOps infographic](#)



Read the [Agentic DevOps whitepaper](#)



| Thank You