



Microsoft Discovery Day

借助微软开发平台提升开发创新效率

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Principal Solution Specialist GBB
微软全球黑带解决方案专家

FY24

软件开发正在 发生变化



时间至关重要，开发的速度比以往任何时候都快



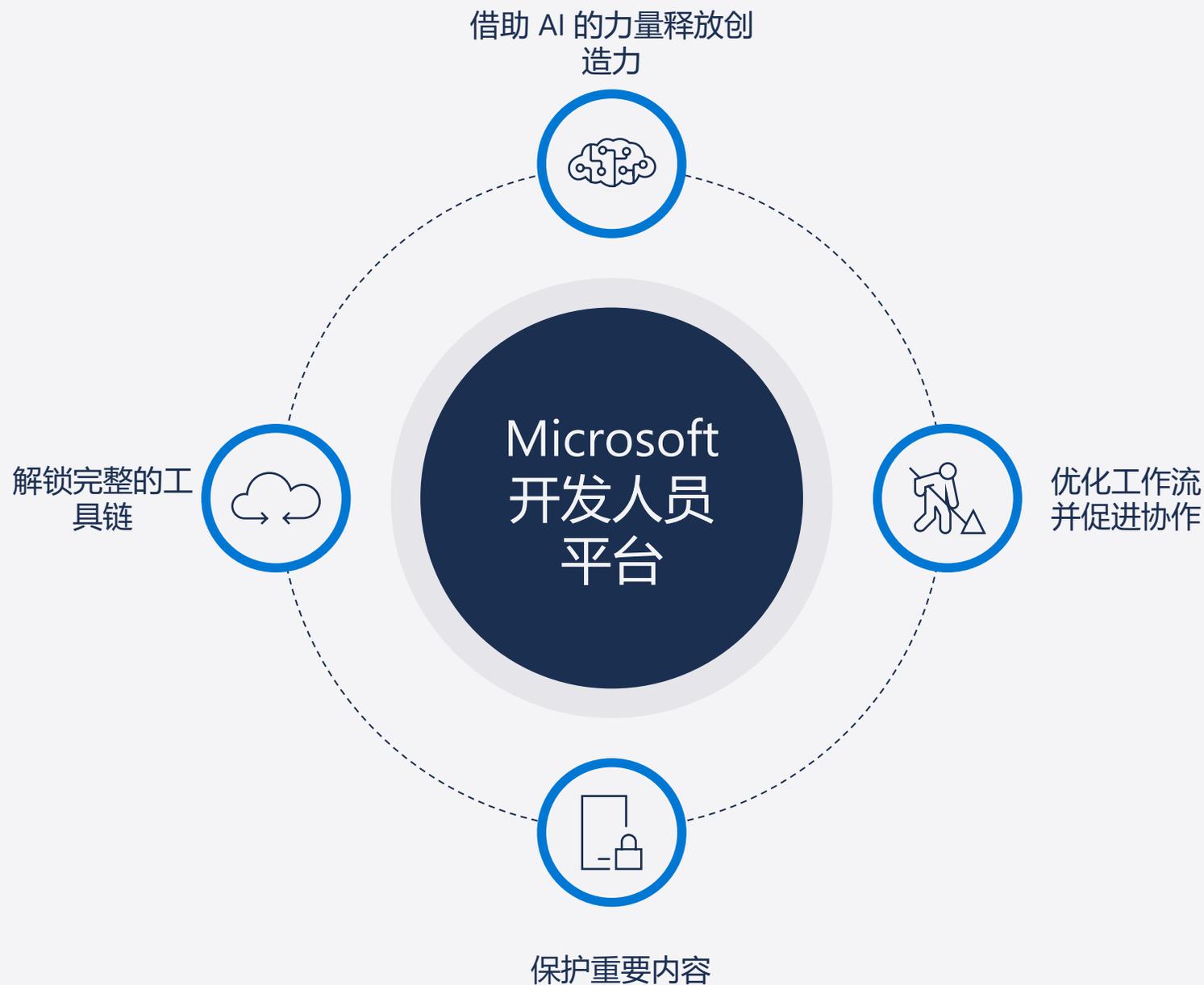
人工智能和机器学习正在转变创新模式



安全威胁和漏洞越来越多，安全和研发的协同越来越关键

AI 新时代：开发和创新效率将大幅提升

Microsoft 开发人员平台



Agenda

Times are approximate and will be fluid with the class. This is a multilevel course.

借助微软开发平台提升开发创新效率

借助Open AI优化开发人员体验 (20min)

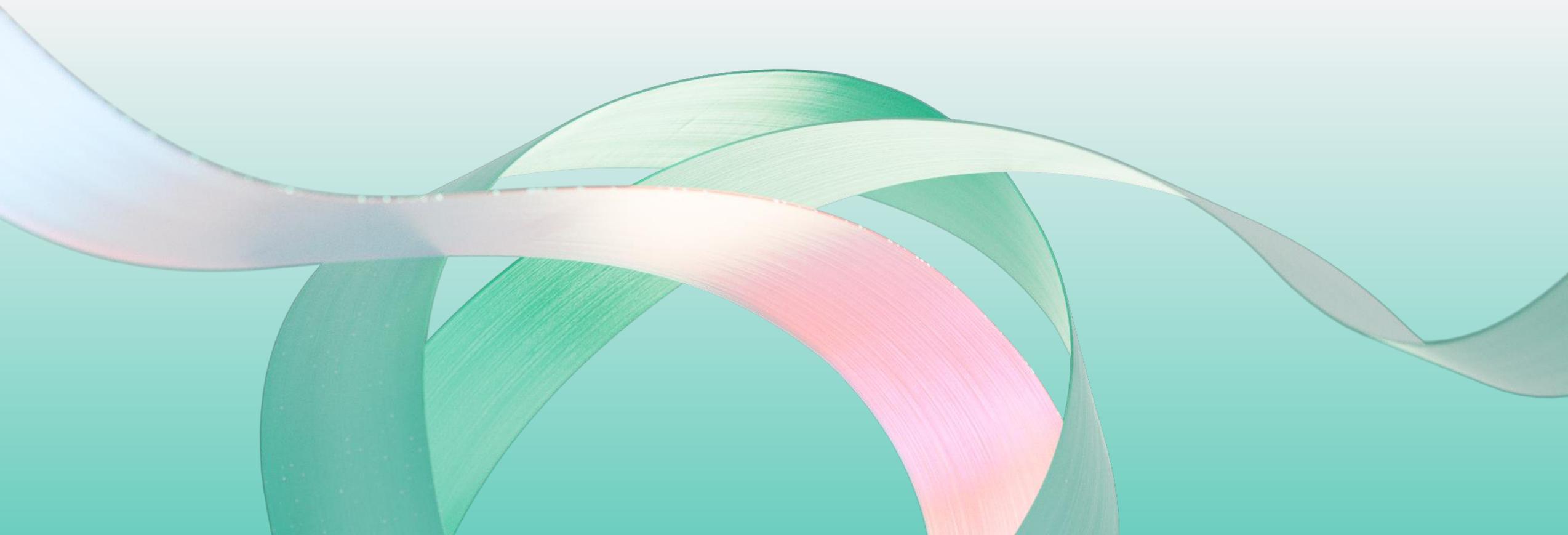
借助Azure AI服务更快地构建自己的Copilot (15min)

安全开发和协同 (15min)

Closing

1

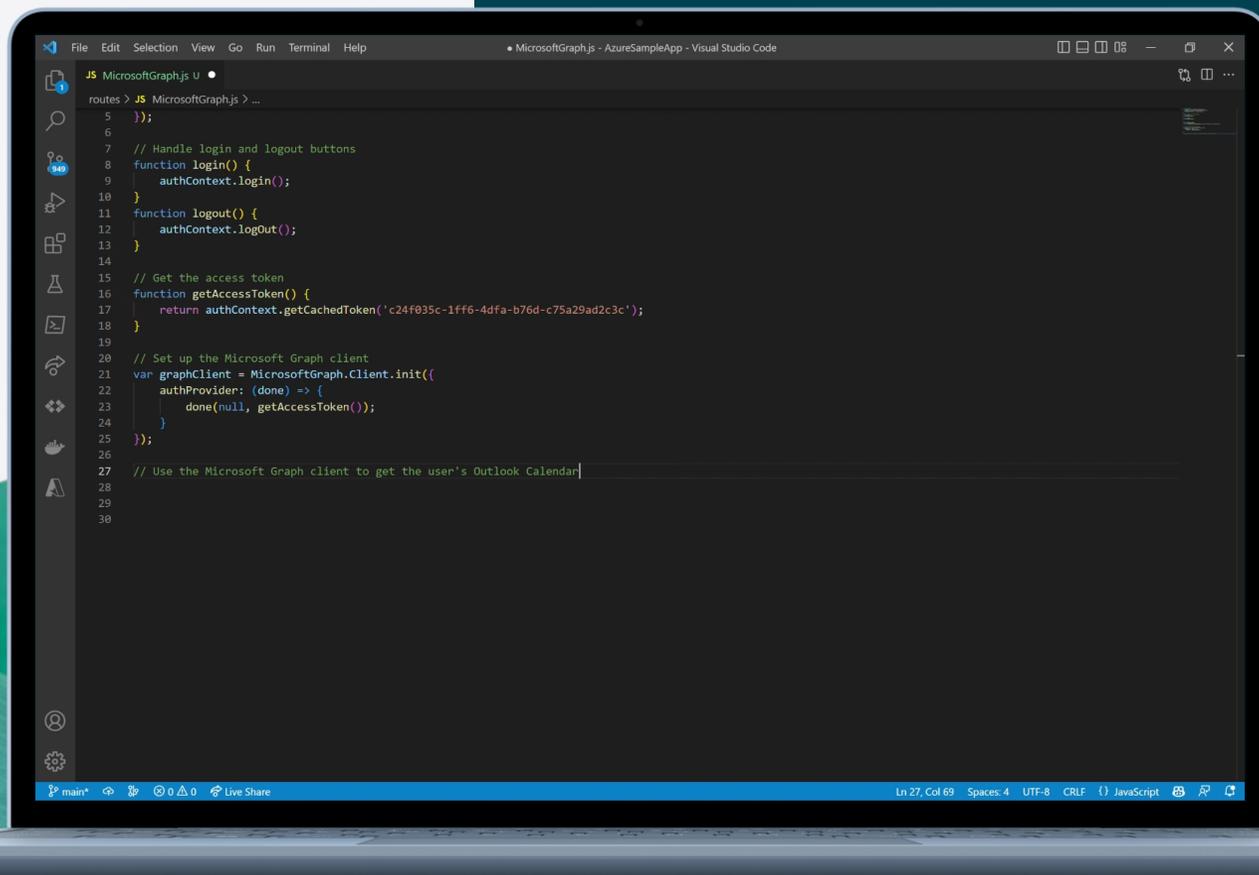
借助 Open AI 优化开发人员体验





“这是我见过的最不可思议的机器学习应用程序。”

Mike Krieger, Instagram 联合创始人





提供符合项目上下文的代码建议。



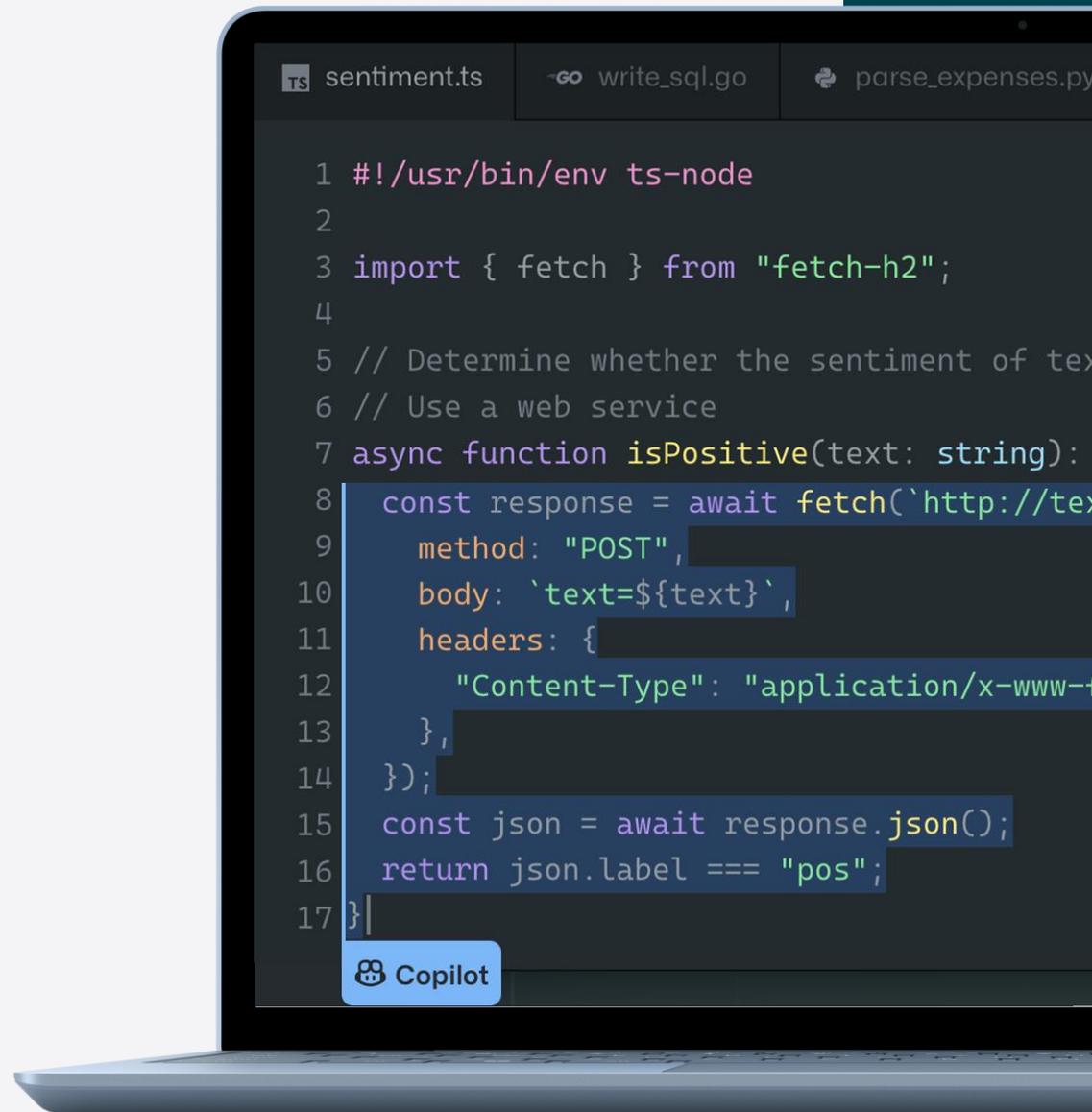
将注释转换为代码



自动填充重复代码



显示替代方案





46%

46% 的新代码现在由
AI 编写

75%

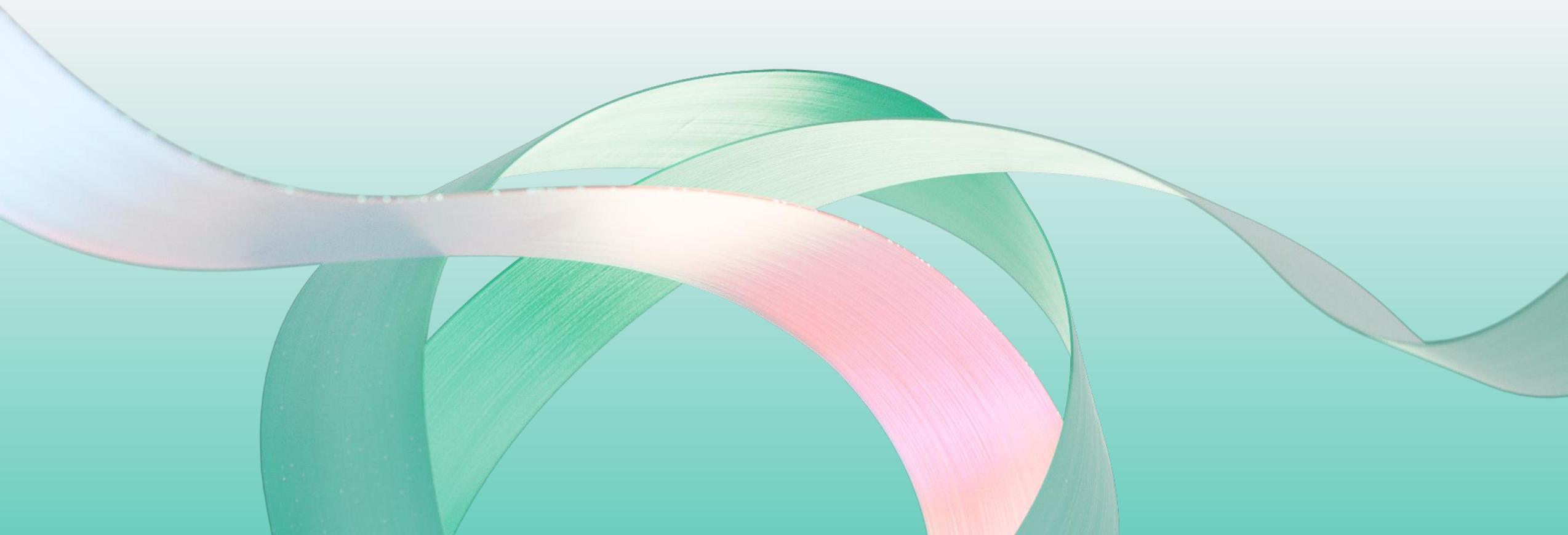
75% 的开发人员表示他们更专
注于处理能给人带来满足感的
工作

96%

96% 的开发人员可以更快
地完成重复性任务

2

借助Azure AI服务更快地
构建自己的Copilot

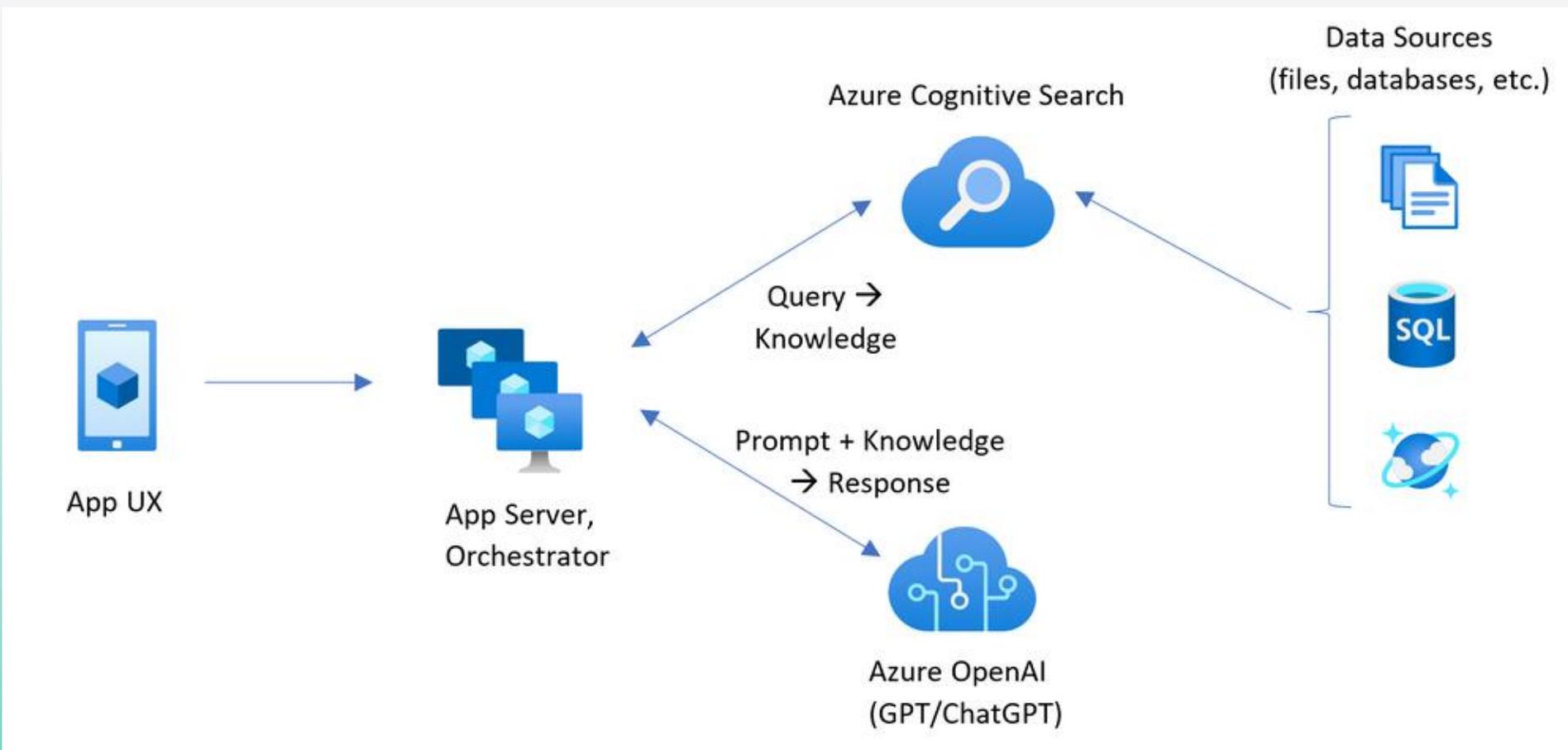


Copilot 堆栈



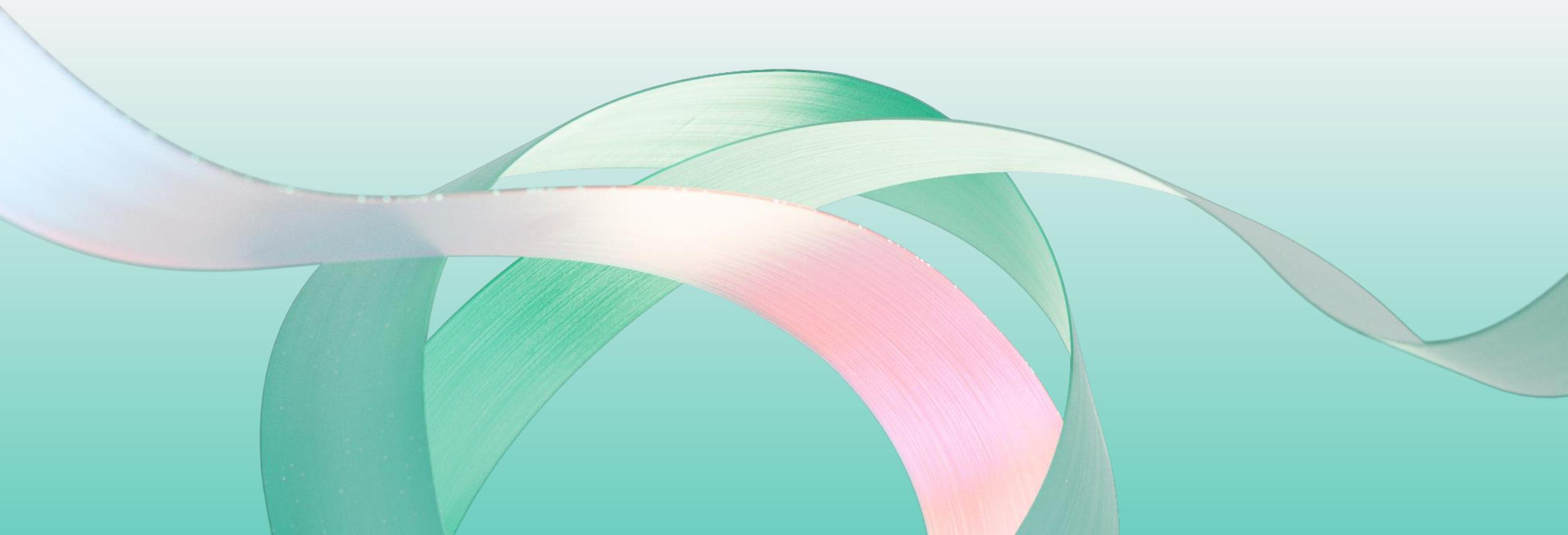
演示：基于Copilot Stack构建企业知识库智能检索

使用服务：Azure OpenAI + Azure AI Search + Document Intelligence + App Service + Azure Blob Storage



3

安全地进行开发和部署



软件安全开发

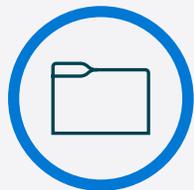
GitHub



Azure



保护你的开发环境



将安全性嵌入到开发人员工作流程中

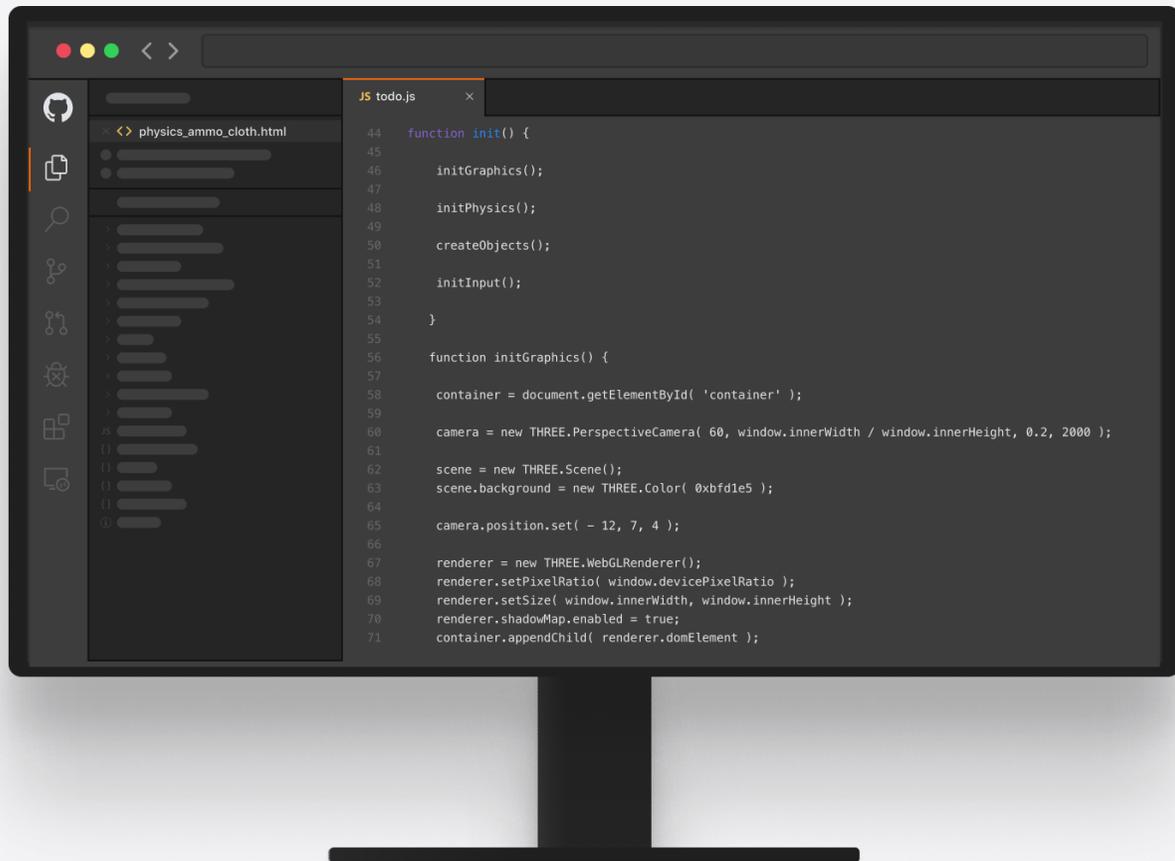


通过自动化保护软件部署



促进团队之间的协作

GitHub Advanced Security



开发人员优先的社区驱动型方法



依赖项扫描

- 针对新漏洞的警报和安全更新
- 引入新依赖项时进行集成审查



代码扫描

- 可扩展的代码扫描框架
- 在开发人员 workflow 中集成
- 由行业领先的 CodeQL 引擎提供支持

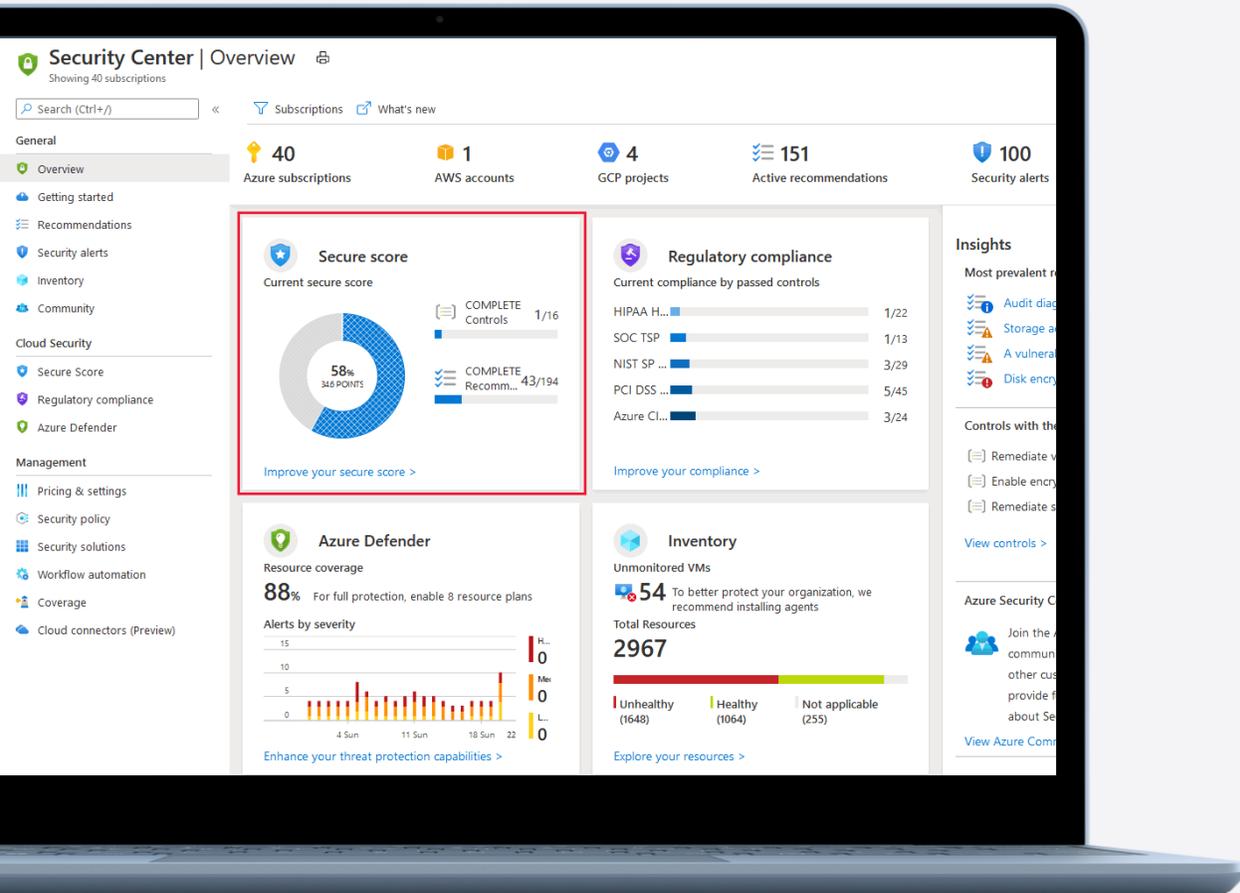


机密扫描

- 扫描公共和专用存储库中泄露的机密
- 编写自定义模式或依赖 100 多种默认模式

Microsoft Defender for Cloud

针对混合云工作负载进行安全状况管理和威胁防护



改善云工作负载的安全状况



利用 Azure Defender 保护混合云工作负载



简化安全管理

相得益彰

GitHub 和 Azure DevOps 上的 GitHub Advanced Security

开发人员优先。社区驱动。

-  代码安全性
-  依赖关系安全性
-  嵌入式机密保护
-  开发人员代码修复



Defender for Cloud

统一多种管道的 DevOps 安全性

多管道 DevOps 安全管理



基础结构即代码安全性



代码到云的情境化



自动化 workflows



Microsoft 在开发效率和创新领域的发展



20 世纪 90 年代

我们每隔几年以 CD 的形式交付软件。



如今

我们每周就会在云端交付服务
引领行业的创新速度和质量

成效

提高了敏捷性，可以更频繁地交付服务
提供更优质、更安全的产品
驱动和引领新技术变革
持续为用户赋能，为股东创造回报



Thank you



使用 Dev Box 打造一站式 Azure OpenAI 应用 开发环境

Yiyu Liu
Principal Software Engineering Manager
Dev Div China

基于Azure OpenAI应用的 开发环境需求



搭建现代化的
开发测试环境



加速开发者的
工作体验和效率



提供符合IT管理要求的
自动化服务

一个典型的开发人员工作站和应用运行环境搭建的过程

Developer workstation →

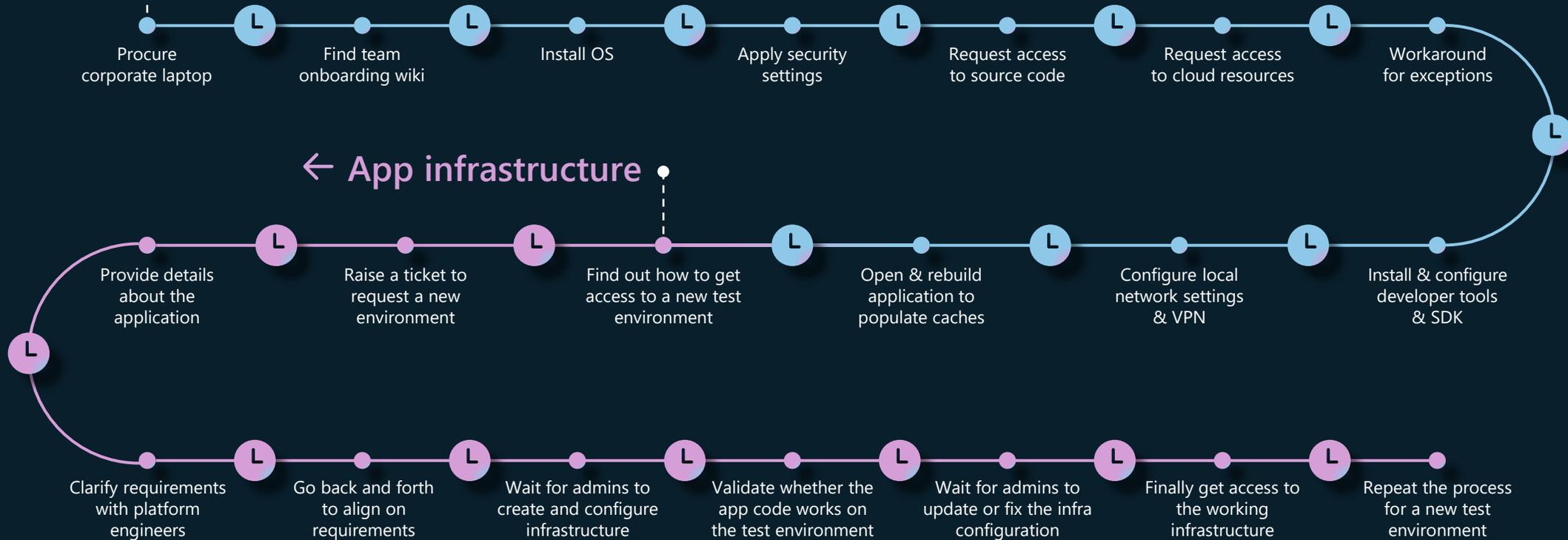
Prerequisites

Ensure that your machine has installed the following items:

- **Python 3+**
 - Important: Python and the pip package manager must be installed on your machine.
 - Important: Ensure you can run `python --version` and `python --help`. On Linux, run `apt install python-is-python3` to link `python` to `python3`.
- **Node.js**
- **Git**
- **Powershell 7+ (pwsh)** - For Windows users only.
 - Important: Ensure you can run `pwsh.exe` from the command line. On Windows, run `Upgrade-PowerShell` to upgrade PowerShell.

NOTE: Your Azure Account must have **Microsoft Azure User Access Administrator** or **Owner**.

- **Dev Center, Project and Catalog**
 - Important: Ensure the user is assigned role "Developer" on the Dev Center.
- **Azure CLI** and **Azure CLI extension for Dev Center**
- Clone the application and data [repo](#)



主要可能的问题

工作站

-  工具链复杂度、安全合规流程
-  版本和配置冲突
-  计算资源的性能瓶颈

应用运行云环境

-  服务器环境搭建复杂度
-  缺少开发人员自服务方式
-  部署时间过长

兼顾 开发团队和开发平台团队的需求

开发团队



Agility



Collaboration



Performance



Productivity

平台团队

Security



Governance



Standardization

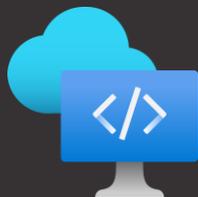


Cost management



一站式基于Azure OpenAI应用 开发环境

Microsoft Dev Box



Azure OpenAI app development
workstation



Azure Deployment Environments



IaC intelligent app deployment
env with Azure OpenAI services.

Dev Center

Microsoft Dev Box

为开发团队需求和效率、符合企业安全规范的云端
工作站



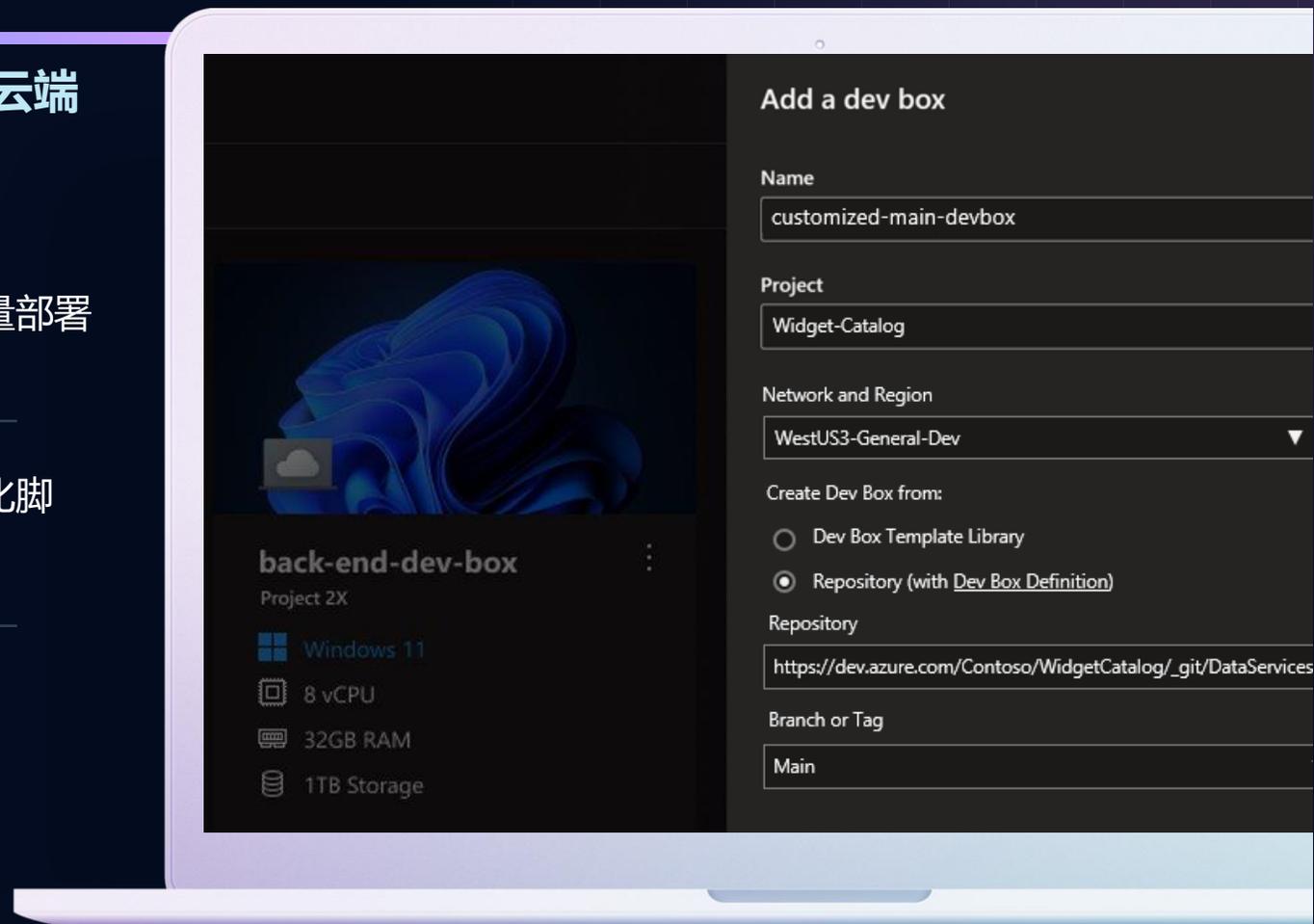
一键部署: 团队门户、配置清单、一键开启、批量部署



项目定制: 根据项目需求定制软件、代码、定制化脚本配置清单, 人员访问控制



IT管理: 集中管理每台工作站以及网络的安全、合规以及成本。



Private preview

Config-as-code Dev Box Customizations

Microsoft Dev Box 并非传统 VDI

YAML文件定义 Dev Box

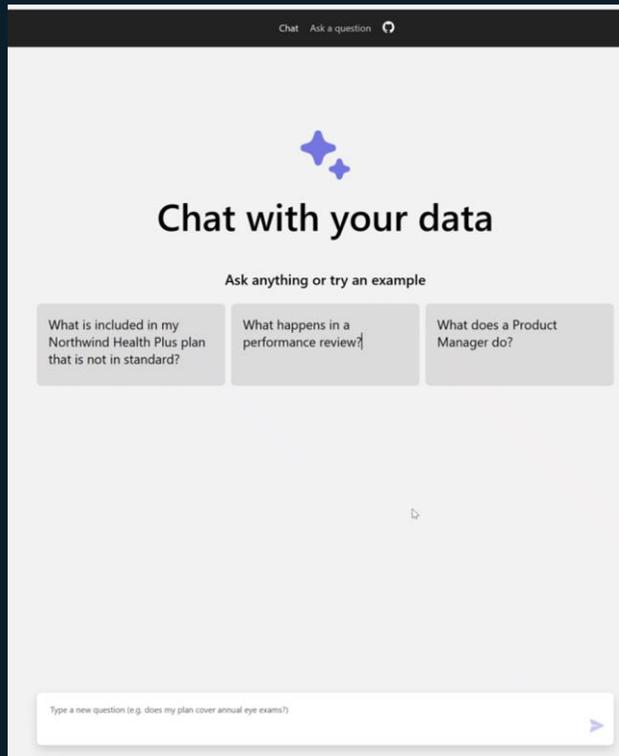
软件清单、配置项和应用代码



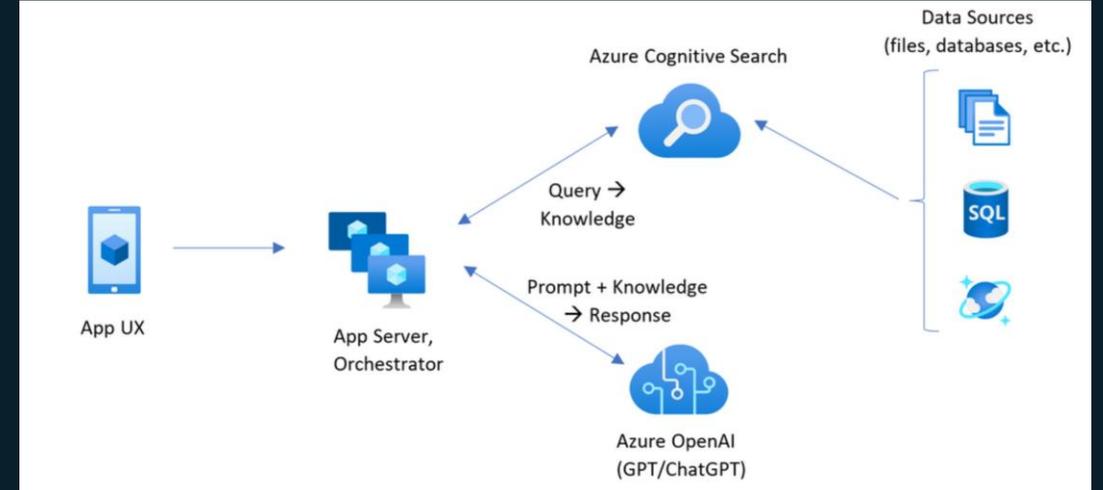
Sign up for the private preview:
aka.ms/devbox/preview/customizations

```
File Edit Selection View Go Run ... devbox.yaml - Visual Studio Code
! devbox.yaml M
C:\> src > dev-box-customizations > dotnet-podcasts > ! devbox.yaml
1 name: dotnet-podcasts
2 image: /visualstudioplustools_vs-2022-ent-general-win11-m365-gen2/versions/1.0.0
3 hostInformation: general_a_16c64gb1028ssd_v1
4 supportsHibernation: true
5
6 setupTasks:
7   - task: install-by-uri
8     inputs:
9       uri: 'https://community.chocolatey.org/install.ps1'
10  - task: choco
11    inputs:
12      package: vscode
13  - task: choco
14    inputs:
15      package: dotnet
16  - task: choco
17    inputs:
18      package: docker-desktop
19  - task: choco
20    inputs:
21      package: perfview
22  - task: powershell
23    inputs:
24      command: mkdir C:\\src
25  - task: gitclone
26    inputs:
27      repo: https://github.com/microsoft/dotnet-podcasts.git
28      workingDirectory: c:\\src
29  - task: powershell
30    inputs:
31      workingDirectory: c:\\src\\dotnet-podcasts
32      command: cd c:\\src\\dotnet-podcasts; docker-compose up
33
```

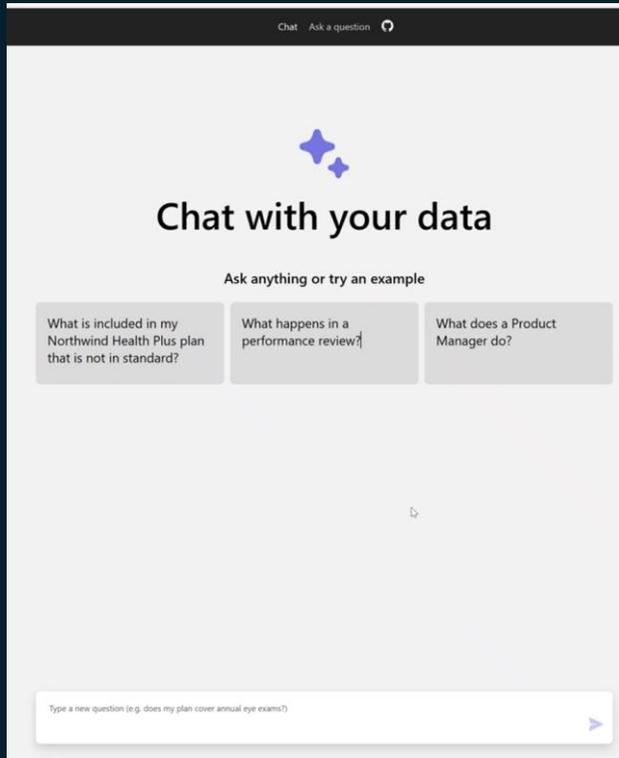
应用架构 - 使用Azure OpenAI对企业数据进行智能问答



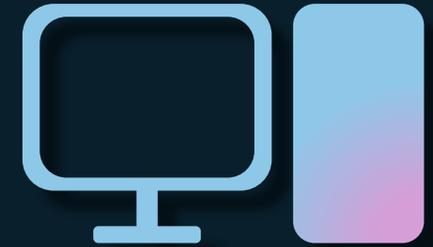
■ .devcontainer	Improvements to VS Code and Vite debug experience (#786)	2 months ago
■ github	Bump the github-actions group with 2 updates (#1047)	4 days ago
■ .vscode	Add exclude files (#876)	2 months ago
■ app	[Bugfix] Change the If condition for GPT-V to check USE_GPTV to fix n...	3 days ago
■ assets	Existing resources, tenant id, codespaces/linux support (#25)	9 months ago
■ data	Integrate GPT4-vision support (#1056)	4 days ago
■ docs	Explain the vision tabs (#1067)	2 days ago
■ infra	Automate Login Setup (#891)	4 days ago
■ scripts	[Bugfix] Use default font when a specific font cannot be found (#1069)	3 days ago
■ tests	[Bugfix] Change the If condition for GPT-V to check USE_GPTV to fix n...	3 days ago
📁 gitattributes	Support windows by using uvicorn without extras (#815)	2 months ago
📁 gitignore	Integrate GPT4-vision support (#1056)	4 days ago
📁 pre-commit-config.yaml	Run prettier on files and add to precommit/Ci (#834)	2 months ago
📁 CHANGELOG.md	CHANGELOG.md committed	10 months ago
📁 CONTRIBUTING.md	Handle errors better especially for streaming (#884)	2 months ago
📁 LICENSE	Initial commit	10 months ago
📁 LICENSE.md	LICENSE.md committed	10 months ago
📁 LoginAndAcSetup.md	Automate Login Setup (#891)	4 days ago
📁 README.md	Update README.md openai link (#1035)	4 days ago



[GitHub - Azure-Samples/azure-search-openai-demo](#): A sample app for the Retrieval-Augmented Generation pattern running in Azure, using Azure AI Search for retrieval and Azure OpenAI large language models to power ChatGPT-style and Q&A experiences.



```
Base102Box
File Edit Selection View Go Run Terminal Help
EXPLORER
AZURE-SEARCH-OPENAI...
  .devcontainer
  .github
  .vscode
  app
    backend
      .azure
      approaches
      backend_env
      data
      static
      app.py
      langchainadapters.py
      lookuptool.py
      requirements.txt
      text.py
    frontend
  start.ps1
  start.sh
  assets
  data
  docs
  infra
  notebooks
  scripts
  .gitattributes
  .gitignore
  deploy.ps1
  deploy2.ps1
  ...
  app.py
  prepdocs.ps1
  ...
  app > backend > app.py > ...
1 import os
2 import mimetypes
3 import time
4 import logging
5 import openai
6 from flask import Flask, request, jsonify
7 from azure.identity import DefaultAzureCredential
8 from azure.search.documents import SearchClient
9 from approaches.retrieve_then_read import RetrieveThenReadApproach
10 from approaches.read_retrieve_read import ReadRetrieveReadApproach
11 from approaches.read_decompose_ask import ReadDecomposeAsk
12 from approaches.chat_read_retrieve_read import ChatReadRetrieveReadApproach
13 from azure.storage.blob import BlobServiceClient
14
15 # Replace these with your own values, either in environment variables or directly here
16 AZURE_STORAGE_ACCOUNT = os.environ.get("AZURE_STORAGE_ACCOUNT") or "mystorageaccount"
17 AZURE_STORAGE_CONTAINER = os.environ.get("AZURE_STORAGE_CONTAINER") or "content"
18 AZURE_SEARCH_SERVICE = os.environ.get("AZURE_SEARCH_SERVICE") or "gptkb"
19 AZURE_SEARCH_INDEX = os.environ.get("AZURE_SEARCH_INDEX") or "gptkbindex"
20 AZURE_OPENAI_SERVICE = os.environ.get("AZURE_OPENAI_SERVICE") or "myopenai"
21 AZURE_OPENAI_GPT_DEPLOYMENT = os.environ.get("AZURE_OPENAI_GPT_DEPLOYMENT") or "davinci"
22 AZURE_OPENAI_CHATGPT_DEPLOYMENT = os.environ.get("AZURE_OPENAI_CHATGPT_DEPLOYMENT") or "chat"
23
24 KB_FIELDS_CONTENT = os.environ.get("KB_FIELDS_CONTENT") or "content"
25 KB_FIELDS_CATEGORY = os.environ.get("KB_FIELDS_CATEGORY") or "category"
26 KB_FIELDS_SOURCEPAGE = os.environ.get("KB_FIELDS_SOURCEPAGE") or "sourcepage"
27
28 # Use the current user identity to authenticate with Azure OpenAI, Cognitive Search and Blob Storage
29 # just use 'az login' locally, and managed identity when deployed on Azure). If you need to use
30 # keys for each service
31 # If you encounter a blocking error during a DefaultAzureCredential resolution, you can exclude
32 azure_credential = DefaultAzureCredential()
33
```



Demo

Public preview

INTRODUCING

Dev Box quick-create templates

Platform engineers can experience more streamlined
Dev Box setup with **the quick create template**

→ Get started today at: aka.ms/devbox/learn/quick-create-templates

Windows Subsystem for Linux (WSL)



Support Linux development on Dev Boxes by using WSL



Devs can use Windows tools side by side with Linux dev environment



(Coming soon) Windows Defender for WSL for enterprise security needs

Public preview

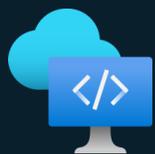
INTRODUCING

Dev Box-compatible images with Docker Desktop



→ Try at: aka.ms/devbox/preview/docker-desktop

重塑开发者工作站



Microsoft Dev Box

- ✓ 8-32 vCPU/32-128GB memory/
512-2TB storage/GB network
- ✓ Anywhere access
- ✓ Self-serve project scoped dev boxes
- ✓ Pre-built built and custom images
- ✓ Hibernation

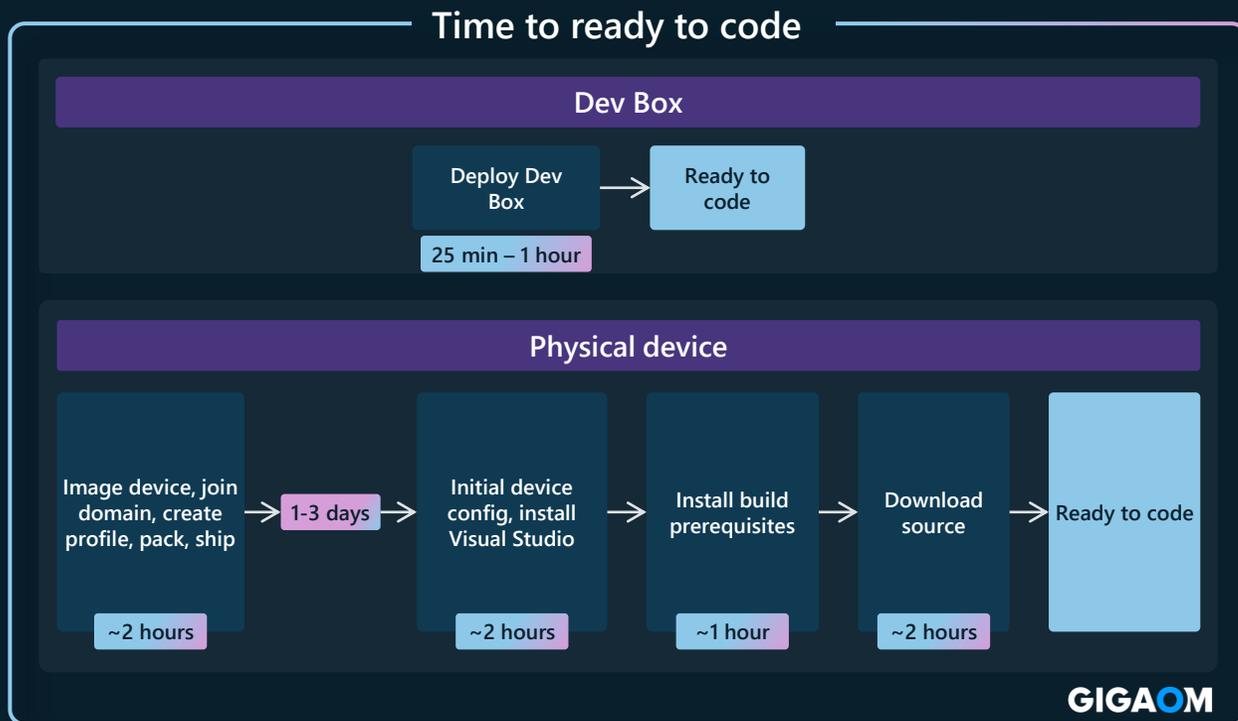


Visual Studio 2022 Optimized for Dev Box

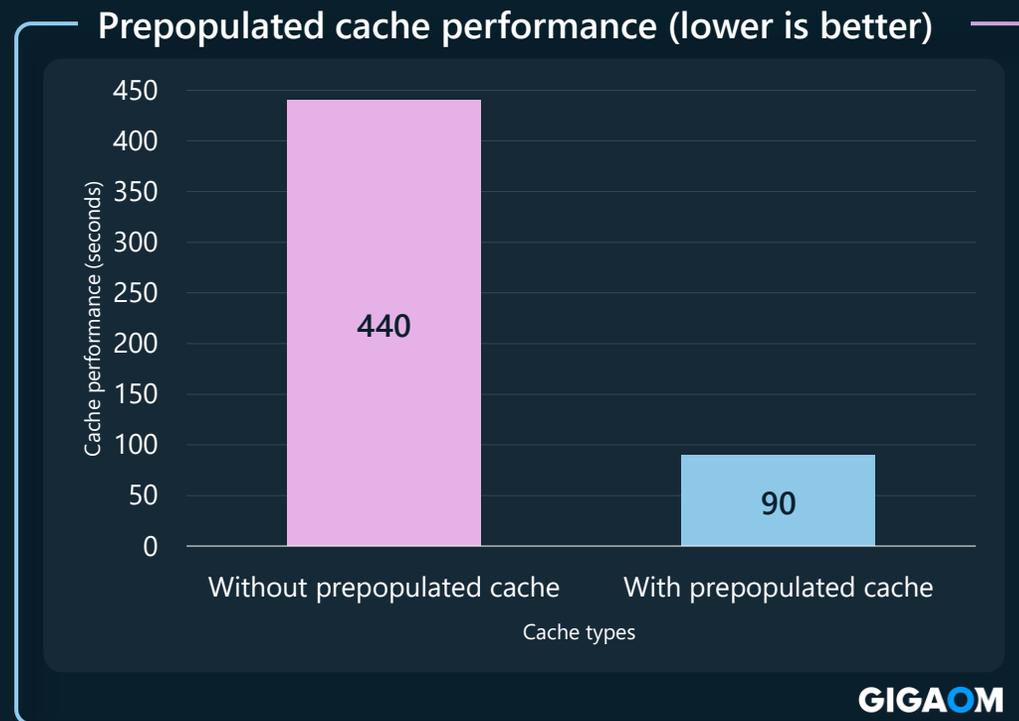
- ✓ IDE and GCM single-sign-on
- ✓ Config as code for settings and extensions Preview
- ✓ Prepopulated Caches Preview
- ✓ Detect and default to Dev Drives
- ✓ VS 2022 and 2019 pre-built images
- ✓ Winget packages for VS
- ✓ Intune policies for VS

提升开发者工作效率

Microsoft Dev Box



“Compared to a physical device...
Dev Box **sharply reduces [setup] time on task.**”¹



“Configuring Visual Studio Cache
pre-population **saves an astonishing
70%-plus on the time to open [the project].**”¹

1. GigaOM 2023, “Can Cloud-Based Developer Workstations Change Software Development Paradigms?” This is preliminary content. The report is not yet published.

Generally available

INTRODUCING

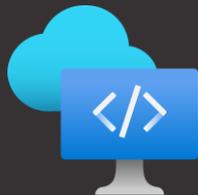
Dev Box managed networks

Platform engineers can experience more streamlined
Dev Box setup with **simplified networking**

→ Get started today at: aka.ms/devbox/learn/hosted-networks

一站式基于Azure OpenAI应用 开发环境

Microsoft Dev Box



开发者效率, 高性能, IT治理合规

AOAI的开发工作站



Azure Deployment Environments



有丰富IaC 模板、生命周期和权限管理

AOAI应用的部署环境

Dev Center



Thank you