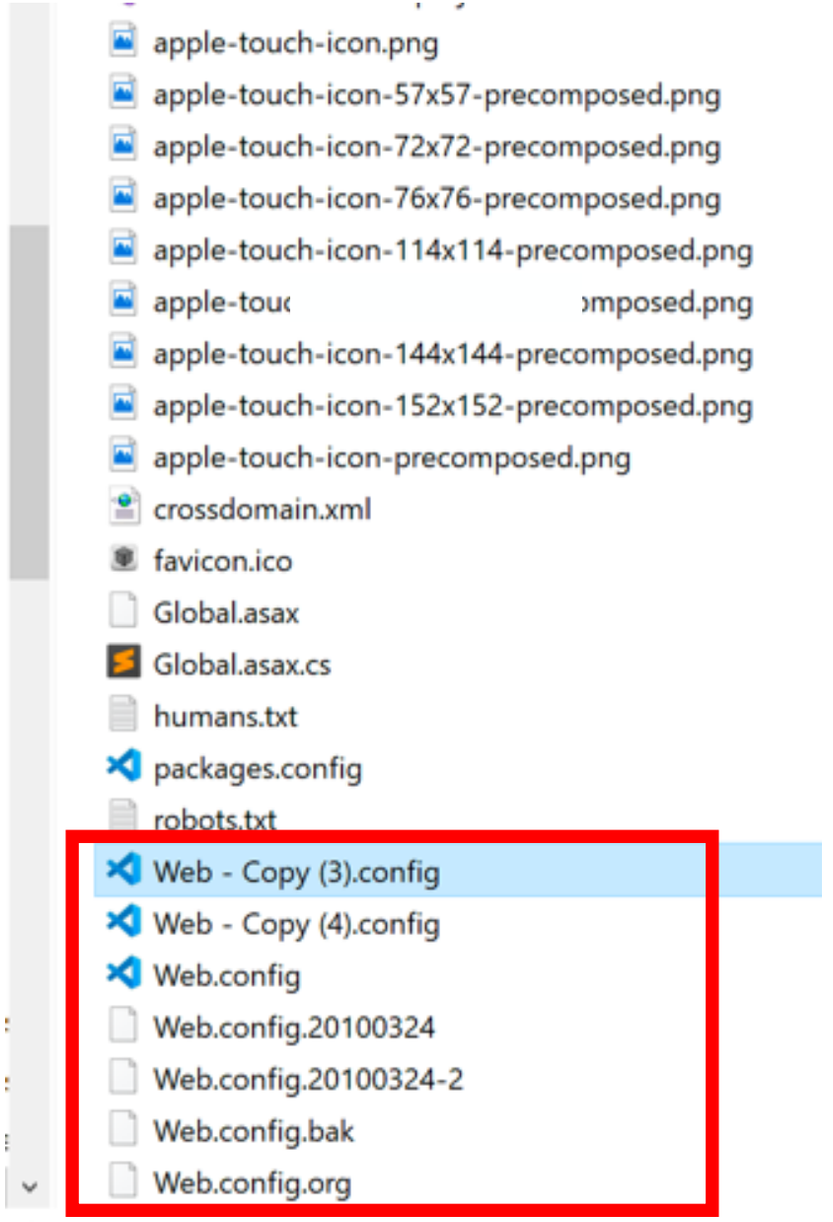
Microsoft

게임 개발 워크플로우 뽀개기
코드부터 배포, 모니터링까지

Jihye Eom (Customer Success Engineer @ Microsoft)
Justin Yoo (Senior Cloud Advocate @ Microsoft)


옛날 옛날에...

Microsoft


apple-touch-icon.png
apple-touch-icon-57x57-precomposed.png
apple-touch-icon-72x72-precomposed.png
apple-touch-icon-76x76-precomposed.png
apple-touch-icon-114x114-precomposed.png
apple-touc
mposed.png
apple-touch-icon-144x144-precomposed.png
apple-touch-icon-152x152-precomposed.png
apple-touch-icon-precomposed.png
crossdomain.xml
favicon.ico
Global.asax
Global.asax.cs
humans.txt
packages.config
robots.txt
Web - Copy (3).config
Web - Copy (4).config
Web.config
Web.config.20100324
Web.config.20100324-2
Web.config.bak
Web.config.org

Microsoft

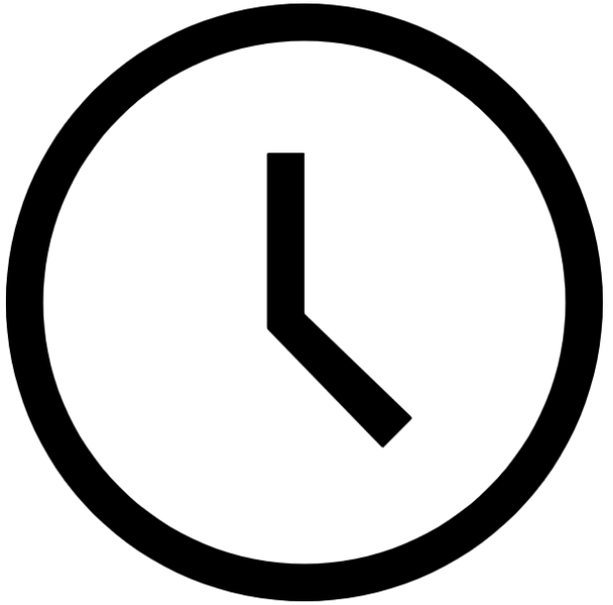
지속적인 배포

어떻게 하면 배포 시간을
최소화할 수 있을까?

Microsoft

PowerShell 스크립트 도입

Microsoft



120 분

20 분

Microsoft

당신의 워크플로우는 어떤가요?

Microsoft

우리의 현실

Microsoft

일단 코딩부터 시작할까요?

Microsoft

개발은 코딩부터 *시작* 하지 않아요.

Microsoft

개발은 코딩부터 *시작* 하지 않습니다.

요구사항 분석

설계

기획

코딩

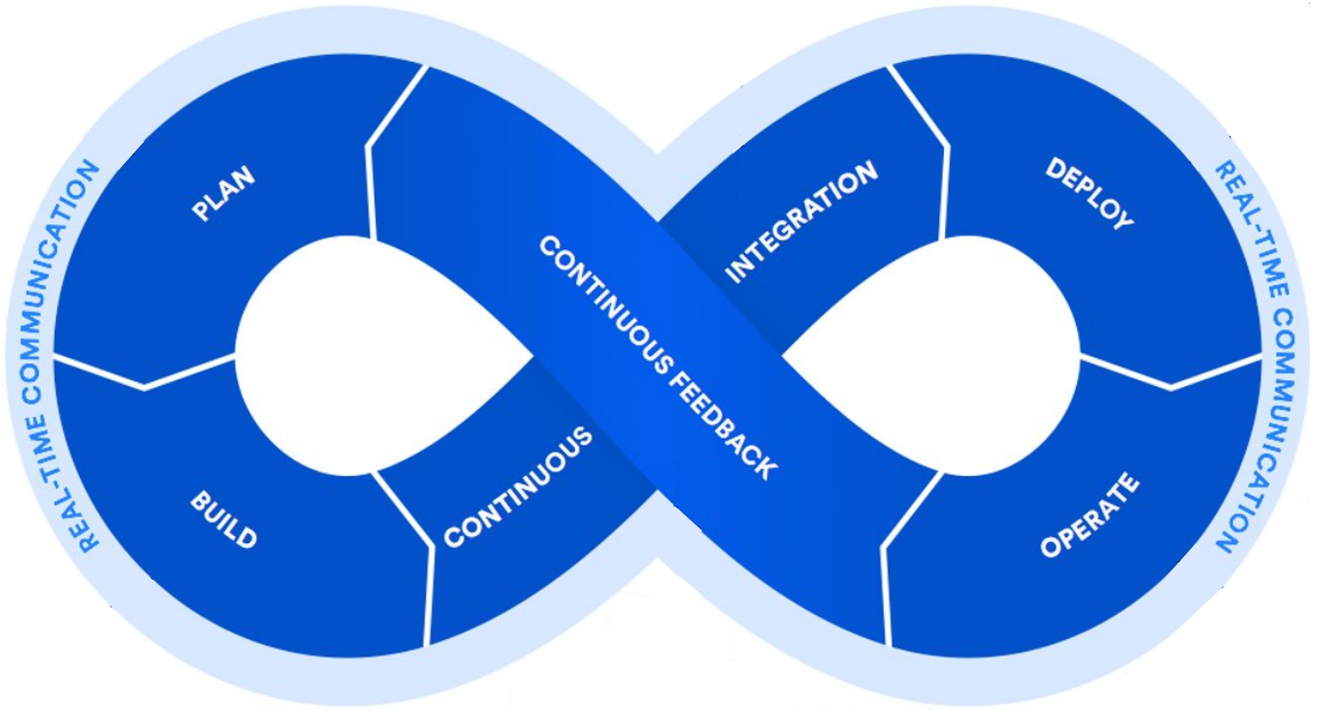
Microsoft

코딩만 했다고 개발이 *끝나지도* 않아요.

Microsoft

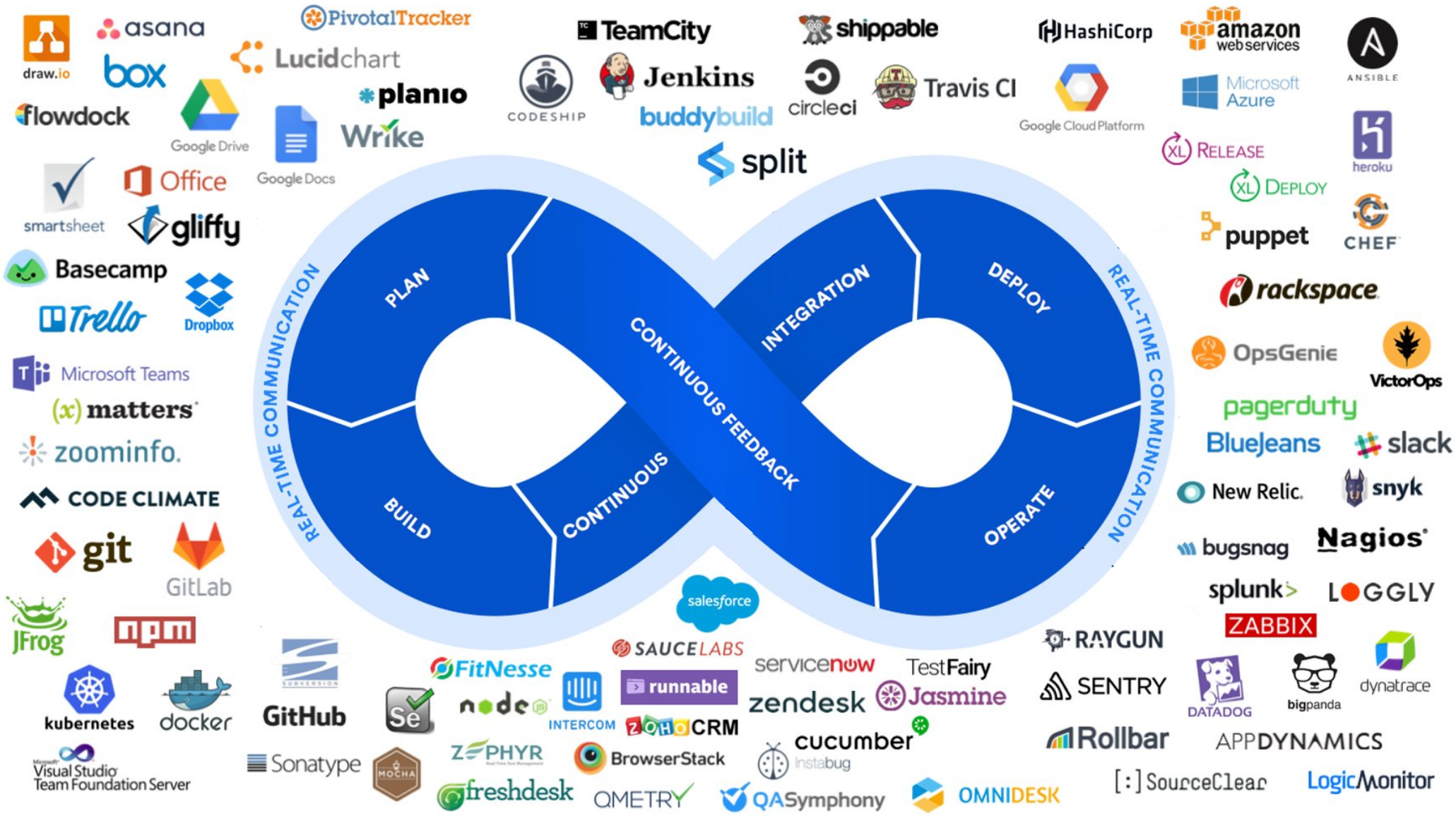
코딩만 했다고 개발이 *끝나지도* 않아요.

Microsoft


PLAN
BUILD
CONTINUOUS
INTEGRATION
DEPLOY
OPERATE
CONTINUOUS FEEDBACK
REAL-TIME COMMUNICATION
REAL-TIME COMMUNICATION

Microsoft

source: https://twitter.com/PeerIGN



source: https://www.osolabs.com/blog/devops-tools-of-the-trade/

Microsoft

source: https://twitter.com/PeerIGN

Microsoft

좀 더 나은 방법?

Microsoft

DevOps를 도입한 프로 일잘러들의 성과는?

Microsoft

208x

자주

코드 배포

106x

빠른

커밋-배포 기간

2604x

빠른

장애 처리 시간

7x

적은

실패율

source: 2019 Accelerate State of DevOps Report by DORA

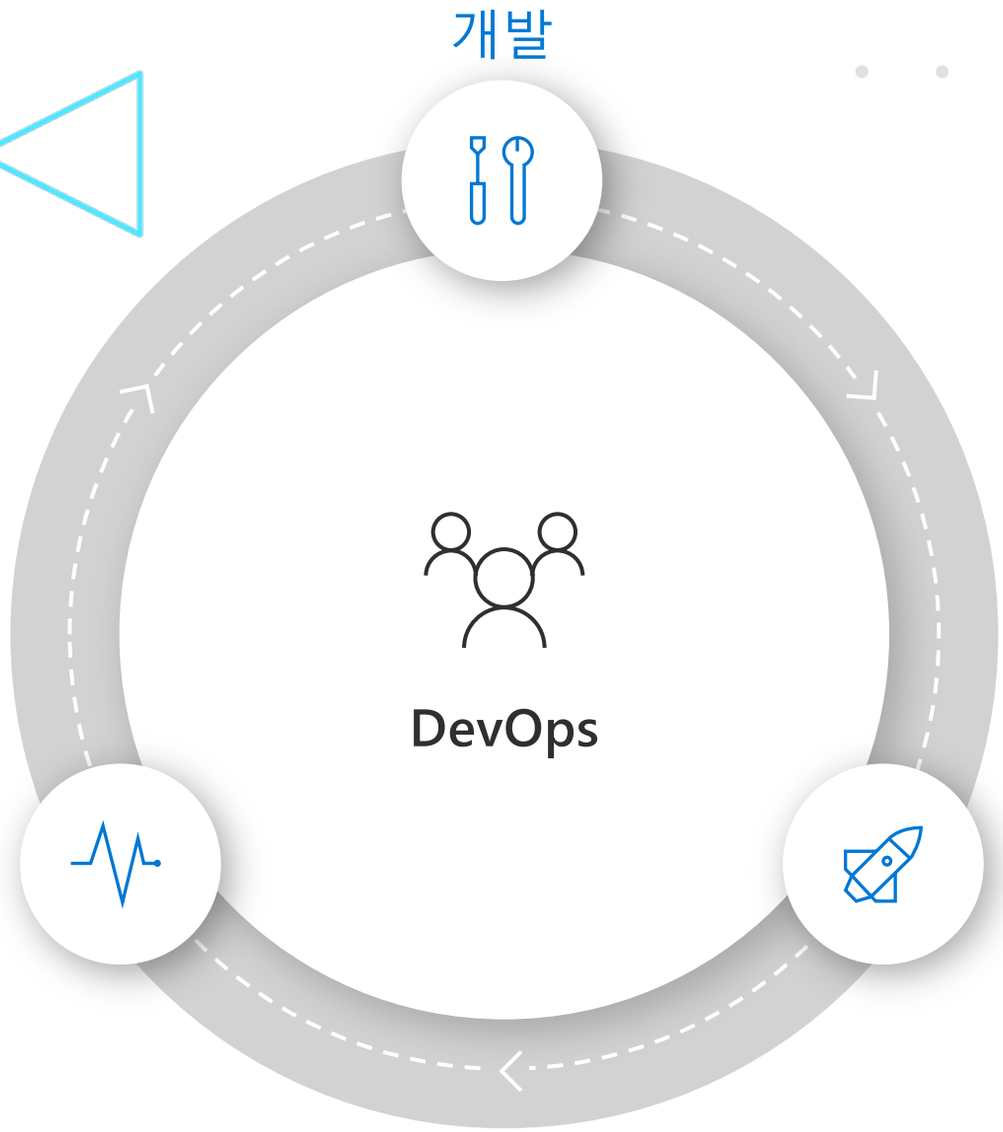
Microsoft

~~fair dinkum~~은 워크플로우를 어떻게 개선했나

fairdin.com

Microsoft

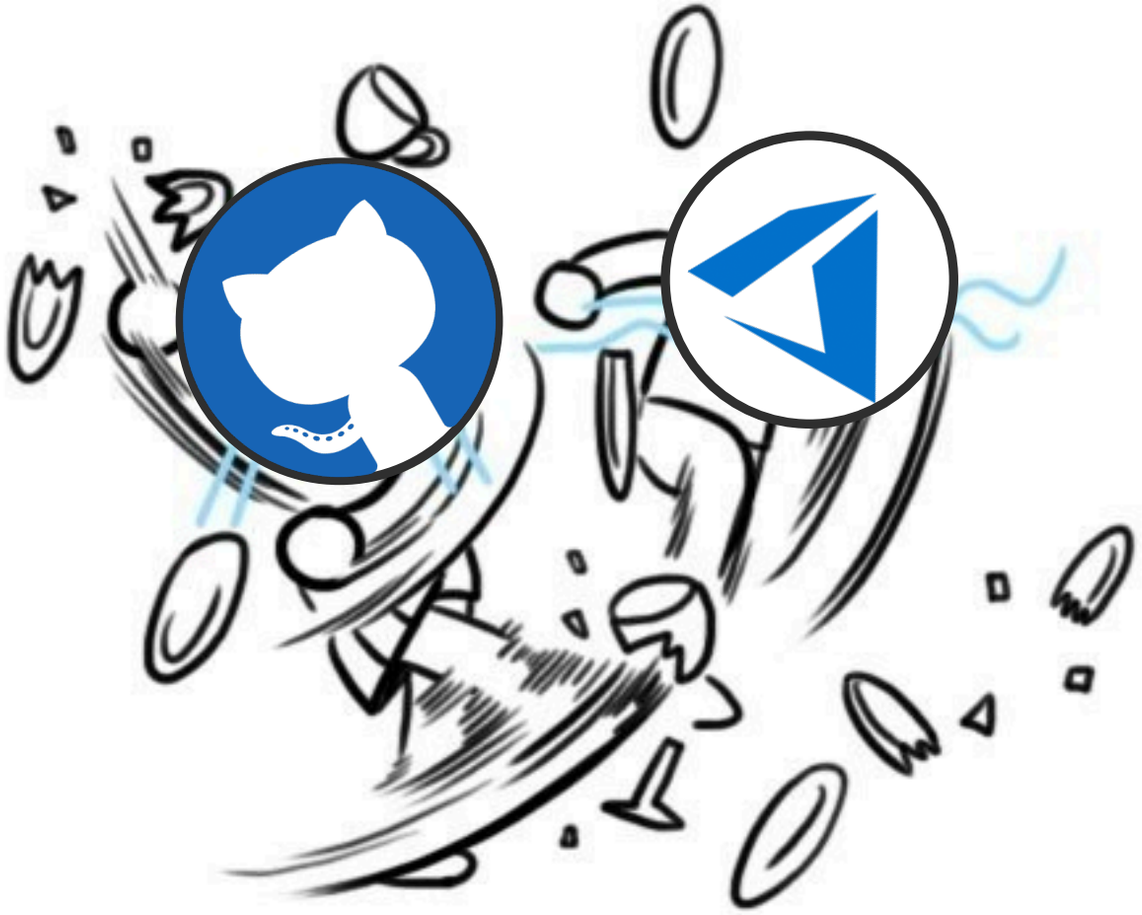
AGENDA



Microsoft

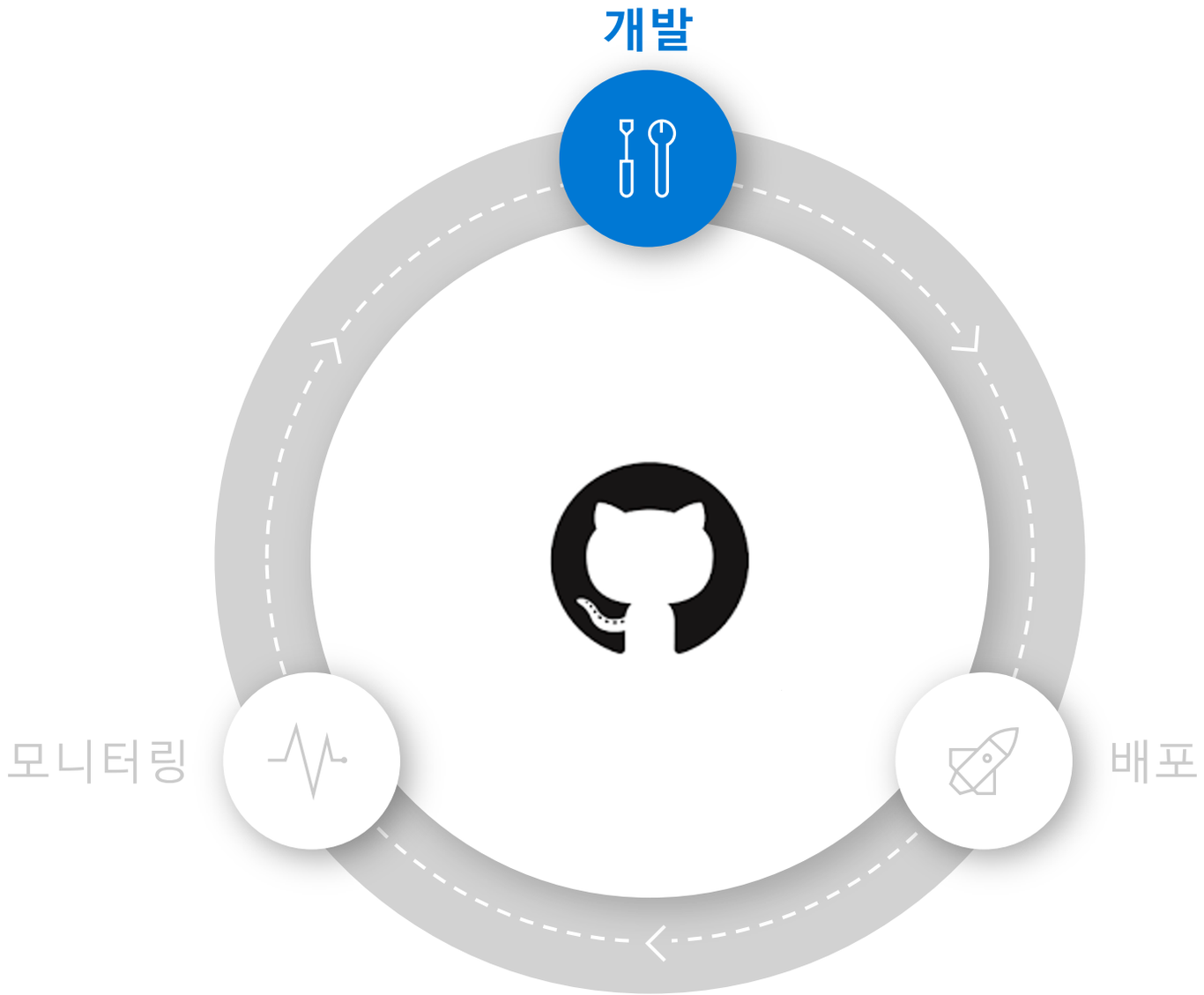
최고 개발자 플랫폼

Microsoft



너무좋아! 지구뿌셔!!

Microsoft



Microsoft

빌드 자동화 워크플로우를 좀 더 단순화시킬 수 있을까요?

GitHub Actions

자체 제공하는 CI/CD 파이프라인

Microsoft

GitHub 저장소와 완벽하게 통합되었습니다.

커밋할 때 마다 빌드가 돌아갑니다.

자체 제공 파이프라인 사용

Microsoft

커밋할 때 마다 빌드가 돌아갑니다.

사설 파이프라인 사용



Microsoft

GitHub 이벤트 트리거를 통해 실행됩니다.

무료

첫 2000 분

Microsoft

커뮤니티와 함께하는 GitHub 액션

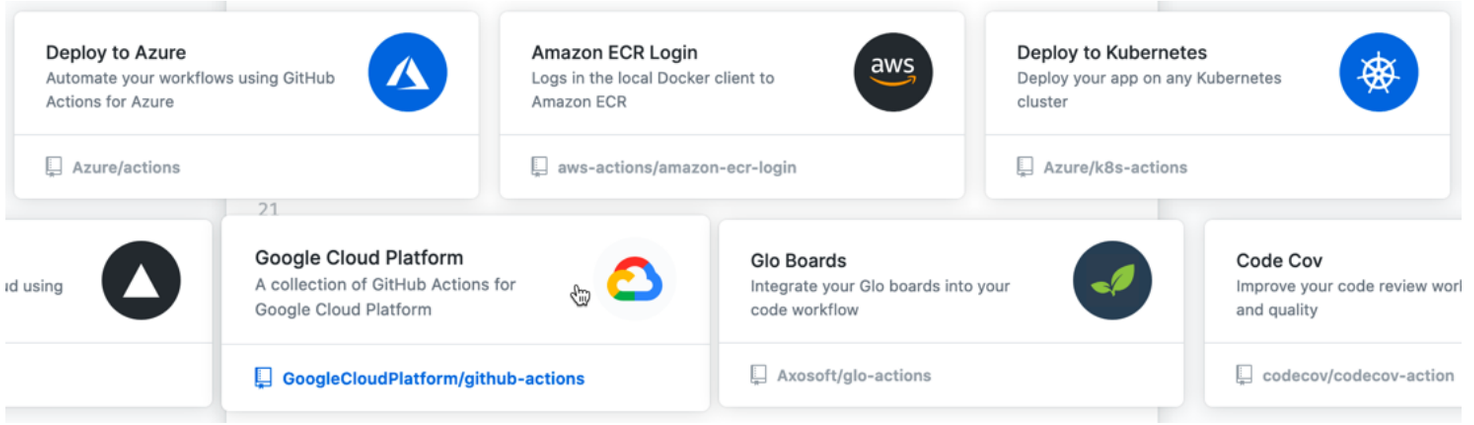
Unity - Builder
By webbertakken
Build Unity projects for different platforms
63 stars

Build Number Generator
By einaregilsson
Generate sequential build numbers for workflow runs
67 stars

Microsoft Teams (Generic)
By aliencube
Send a message to the designated channel in Microsoft Teams
7 stars

Microsoft

플랫폼, 언어, 클라우드 상관없이 작동합니다.



Microsoft

빌드 매트릭스

UnicornDash / .github / workflows / main.yaml Cancel

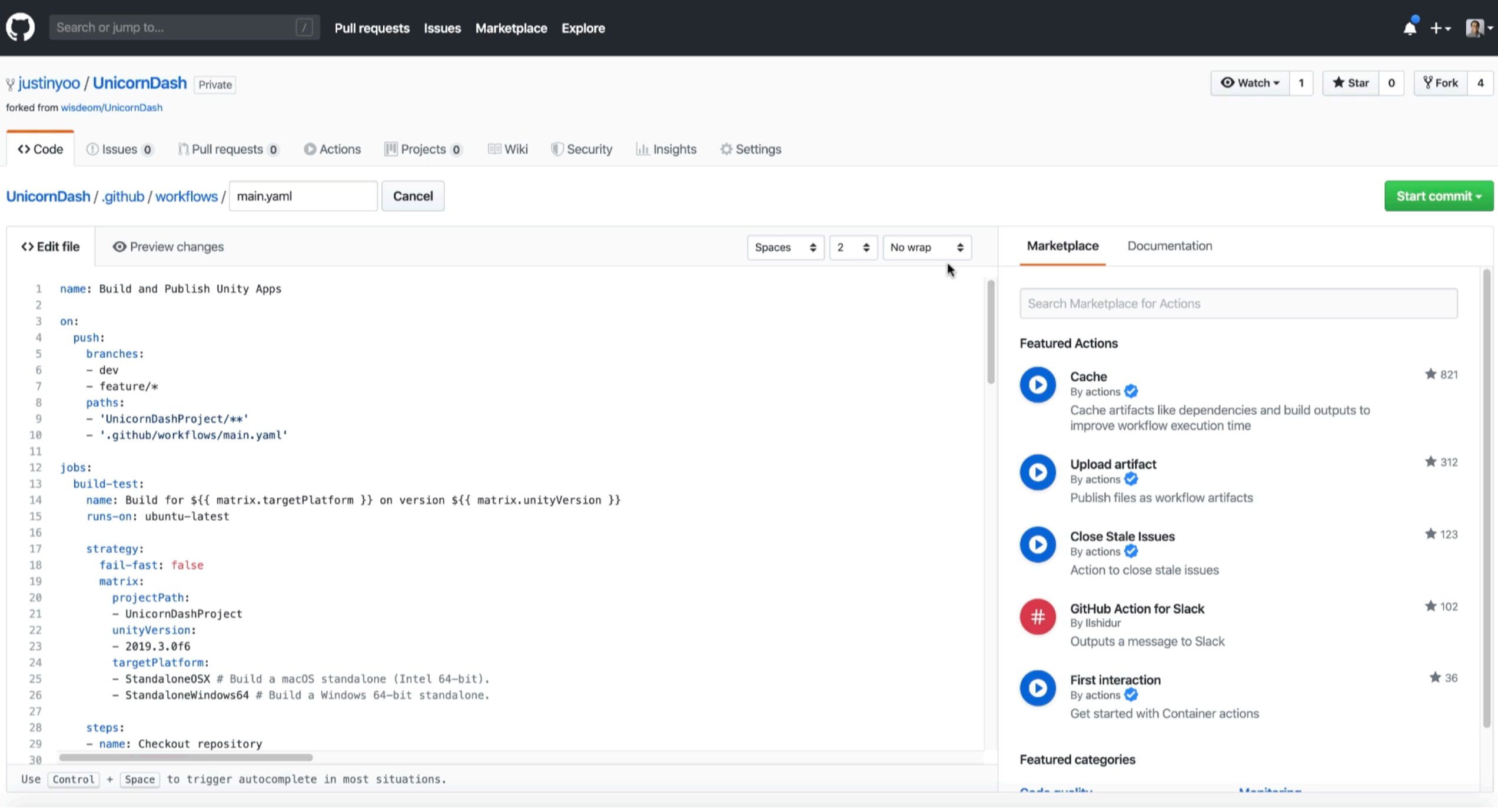
<> Edit file Preview changes

```
16
17      strategy:
18        fail-fast: false
19        matrix:
20          projectPath:
21          - UnicornDashProject
22          unityVersion:
23          - 2019.3.0f6
24          - 2018.4.16f1
25          targetPlatform:
26          - StandaloneOSX # Build a macOS standalone (Intel 64-bit).
27          - StandaloneWindows64 # Build a Windows 64-bit standalone.
28          - iOS # Build an iOS player.
29          - Android # Build an Android .apk standalone app.
```

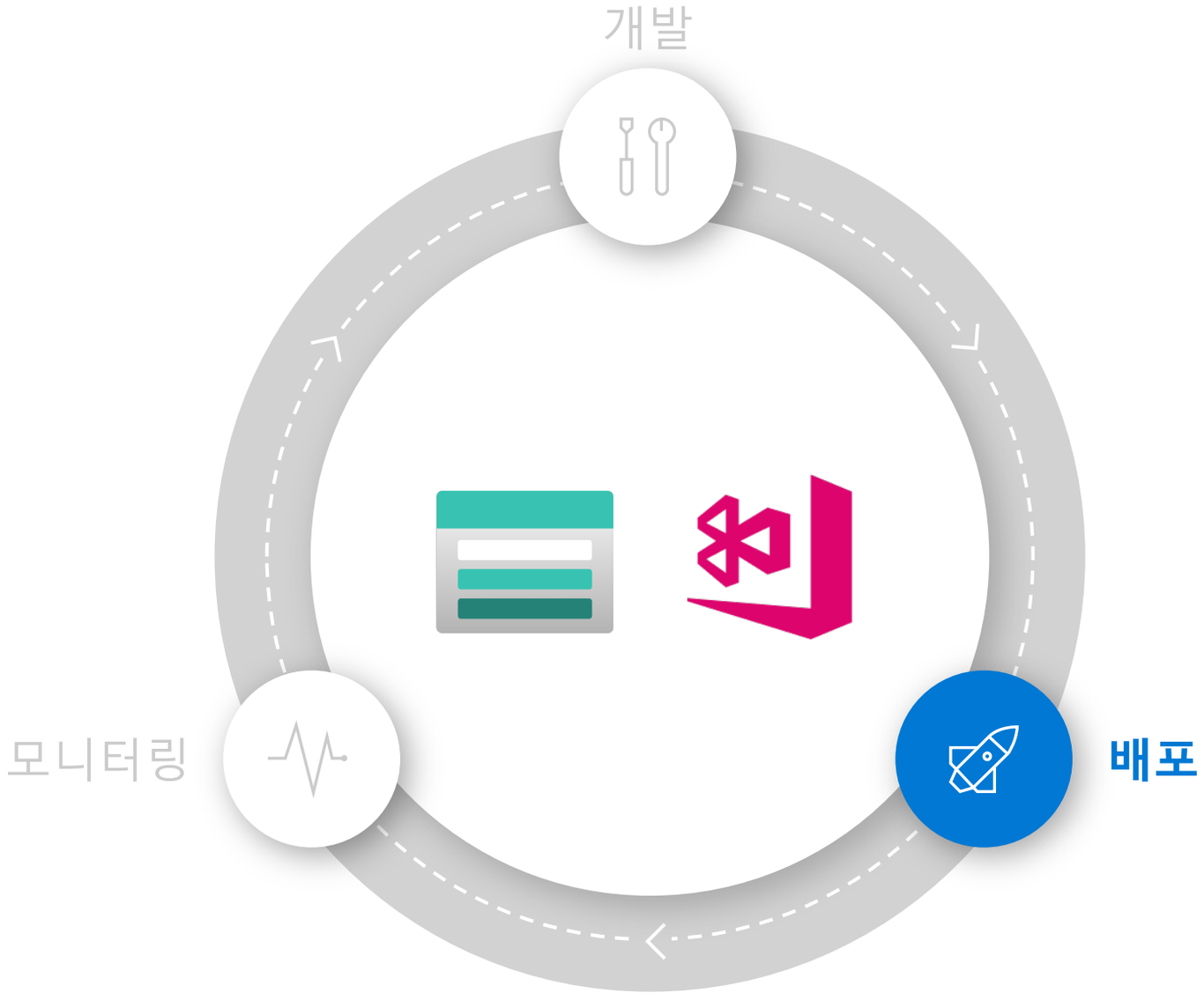
Microsoft

지속적인 통합

Demo


Search or jump to...
Pull requests
Issues
Marketplace
Explore
justinyoo / UnicornDash
Private
forked from wisdeom/UnicornDash
Watch 1
Star 0
Fork 4
Code
Issues 0
Pull requests 0
Actions
Projects 0
Wiki
Security
Insights
Settings
UnicornDash / .github / workflows / main.yaml
Cancel
Start commit
Edit file
Preview changes
Spaces
2
No wrap
1 name: Build and Publish Unity Apps
2
3 on:
4 push:
5 branches:
6 - dev
7 - feature/*
8 paths:
9 - 'UnicornDashProject/**'
10 - '.github/workflows/main.yaml'
11
12 jobs:
13 build-test:
14 name: Build for ${{ matrix.targetPlatform }} on version ${{ matrix.unityVersion }}
15 runs-on: ubuntu-latest
16
17 strategy:
18 fail-fast: false
19 matrix:
20 projectPath:
21 - UnicornDashProject
22 unityVersion:
23 - 2019.3.0f6
24 targetPlatform:
25 - StandaloneOSX # Build a macOS standalone (Intel 64-bit).
26 - StandaloneWindows64 # Build a Windows 64-bit standalone.
27
28 steps:
29 - name: Checkout repository
30
Use Control + Space to trigger autocomplete in most situations.
Marketplace
Documentation
Search Marketplace for Actions
Featured Actions
Cache
By actions
Cache artifacts like dependencies and build outputs to improve workflow execution time
821
Upload artifact
By actions
Publish files as workflow artifacts
312
Close Stale Issues
By actions
Action to close stale issues
123
GitHub Action for Slack
By Ilshidur
Outputs a message to Slack
102
First interaction
By actions
Get started with Container actions
36
Featured categories

Microsoft



Microsoft

배포 과정을 완전히 자동화할 수 있을까요?

Microsoft

GitHub 액션을 통해 더 자주 배포합니다.

Microsoft

GitHub 액션으로 어디든지 배포합니다.




Microsoft

지속적인 배포

Demo

```
        name: Build
        path: compressed


  publish-to-blob:
    name: Publish apps to Blob Storage
    needs: build-test
    runs-on: ubuntu-latest
    steps:
    - name: Generate build number
      id: buildnumber
      uses: einaregilsson/build-number@v2
      with:
        token: ${{ secrets.GITHUB_TOKEN }}

    - name: Download artifacts
      uses: actions/download-artifact@v1
      with:
        name: Build
        path: build

    - name: List artifacts
      shell: bash
      run: |
        ls -al build

    - name: Login to Azure
      uses: Azure/login@v1
      with:
        creds: ${{ secrets.AZURE_CREDENTIALS }}
    - name: Get secrets from Key Vault
      uses: Azure/get-keyvault-secrets@v1
      id: kvsecrets
      with:
        keyvault: ${{ secrets.AZURE_KEYVAULT_NAME }}
        secrets: 'StorageAccountName,BlobContainerName,TeamsWebhookUri,ApprovalTargetUri,ApprovalTargetAuthKey'

    - name: Publish artifacts
      uses: Azure/cli@v1
      with:
        azcliversion: latest
        inlineScript: |
          az storage blob upload-batch -s build -d ${{ steps.kvsecrets.outputs.BlobContainerName }}/${{ steps.buildnumber.outpu

    - name: Send a message to Microsoft Teams
```

Microsoft

만약 배포 전 승인 절차를 넣고 싶다면요?

Microsoft

자체 승인 기능은 없습니다. 😭

Microsoft

하지만 커스텀 액션이 출동하면 어떨까?

좀 더 유연한 승인 절차가 가능해집니다.

Microsoft

지속적인 제공

Demo

```
91          name: Build
92          path: build
93
94      - name: List artifacts
95        shell: bash
96        run: |
97          ls -al build
98
99      - name: Login to Azure
100       uses: Azure/login@v1
101       with:
102         creds: ${{ secrets.AZURE_CREDENTIALS }}
103     - name: Get secrets from Key Vault
104       uses: Azure/get-keyvault-secrets@v1
105       id: kvsecrets
106       with:
107         keyvault: ${{ secrets.AZURE_KEYVAULT_NAME }}
108         secrets: 'StorageAccountName,BlobContainerName,TeamsWebhookUri,ApprovalTargetUri,ApprovalTargetAuthKey'
109
110     - name: Publish artifacts
111       uses: Azure/cli@v1
112       with:
113         azcliversion: latest
114         inlineScript: |
115           az storage blob upload-batch -s build -d ${{ steps.kvsecrets.outputs.BlobContainerName }}/${{ steps.buildnumber.outpu
116
117     - name: Send a message to Microsoft Teams
118       uses: aliencube/microsoft-teams-actions@v0.8.0
119       with:
120         webhook_uri: ${{ steps.kvsecrets.outputs.TeamsWebhookUri }}
121         title: ''
122         summary: 'Artifacts version ${{ steps.buildnumber.outputs.build_number }} have been published to Azure Blob Storage'
123         text: ''
124         theme_color: ''
125         sections: '[{ "activityImage": "https://github.githubassets.com/images/modules/logos_page/GitHub-Mark.png", "activityTi
126         actions: '[{ "@type": "HttpPOST", "name": "Distribute to App Center", "target": "${{ steps.kvsecrets.outputs.ApprovalTa
```

Microsoft

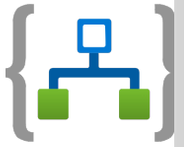
Microsoft

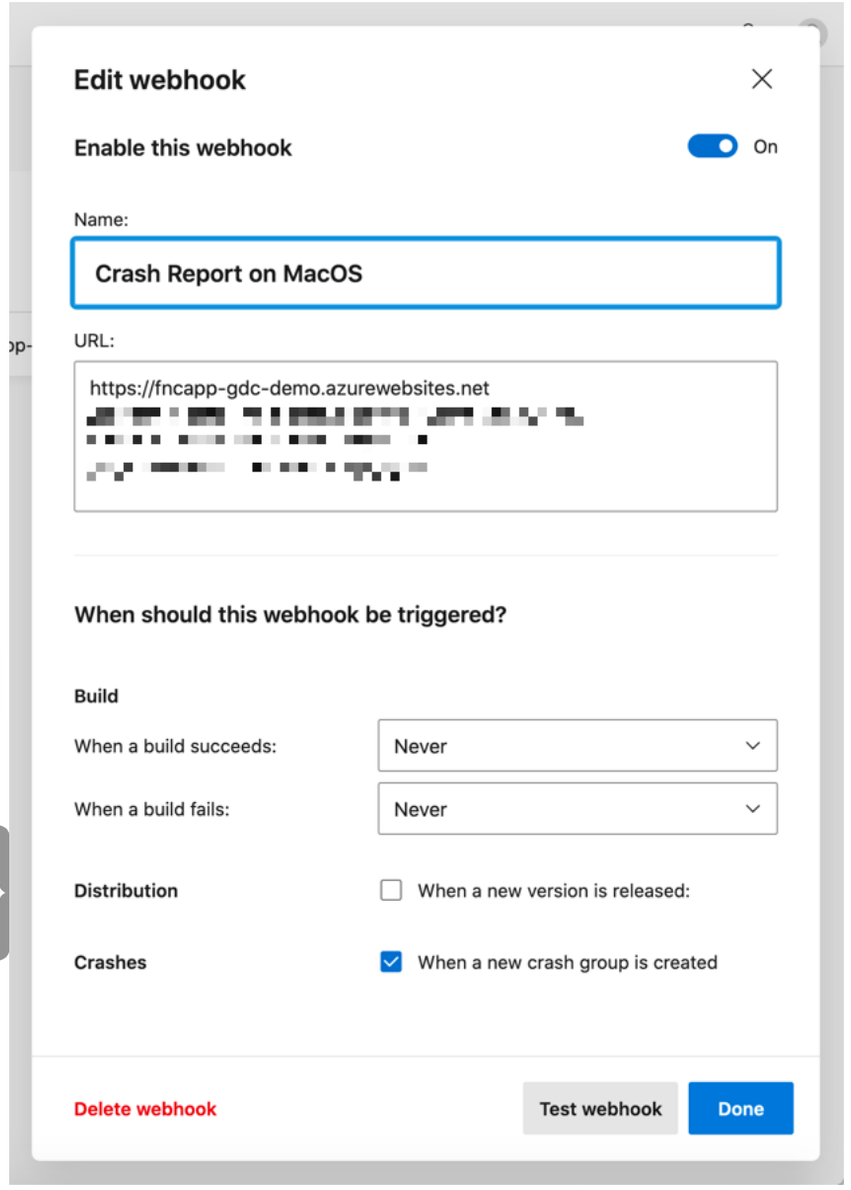
지속적으로 앱의 성능을 모니터링하여 선제적으로 이슈를 처리할 수 있을까요?

Microsoft

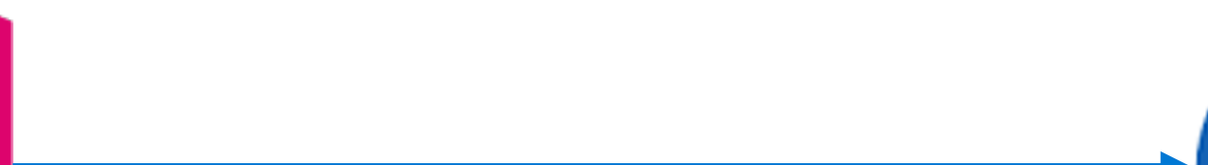
애저로 확장합니다.

선제적 모니터링 및 App Center와 통합 분석을 위





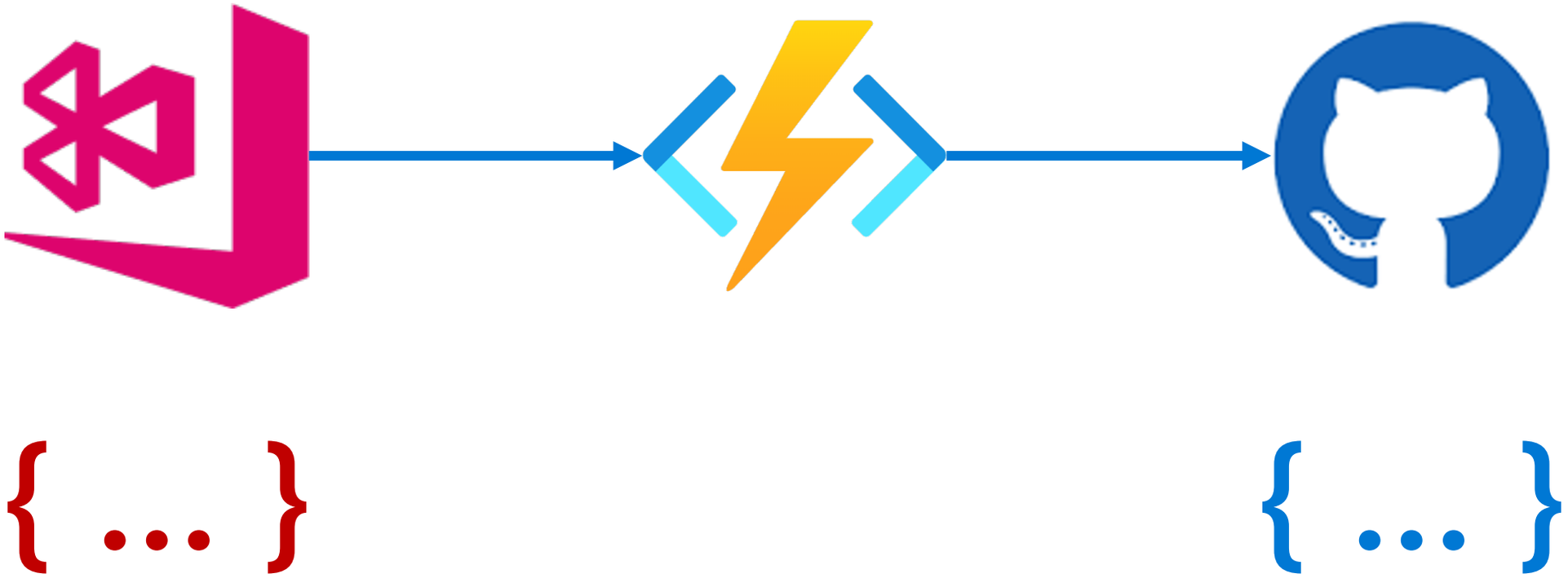
Microsoft



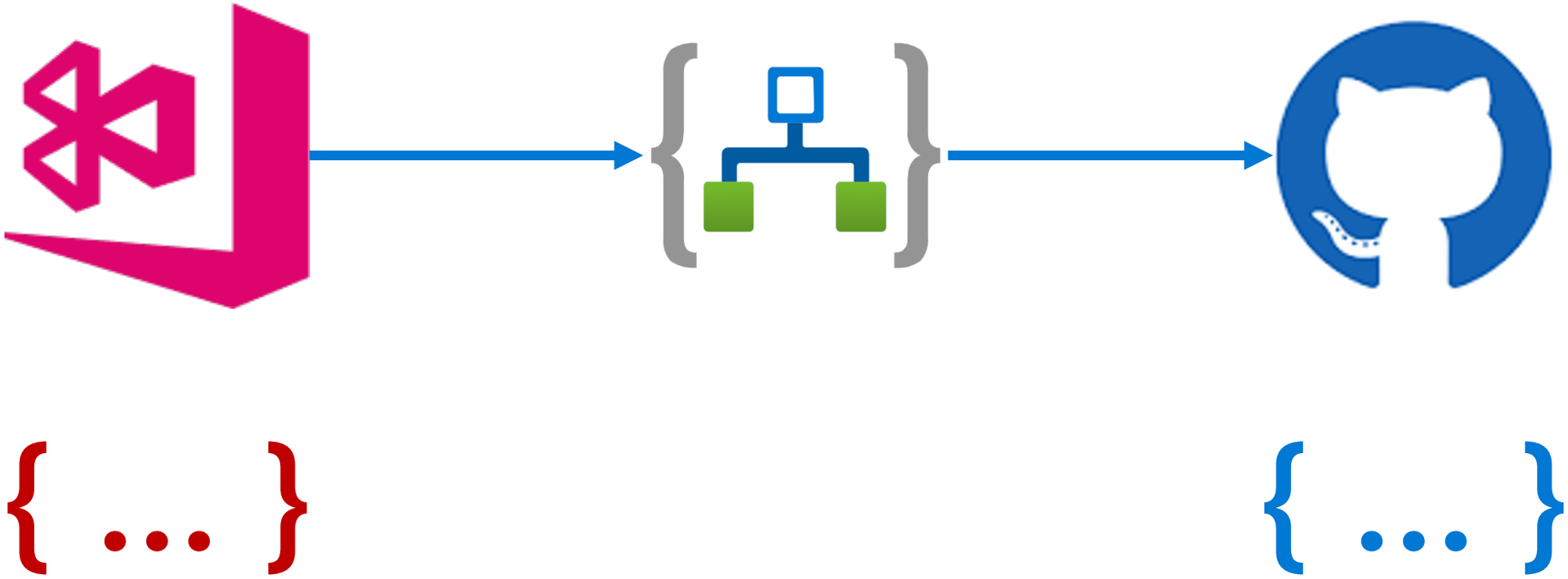
{ … }

{ … }

Microsoft



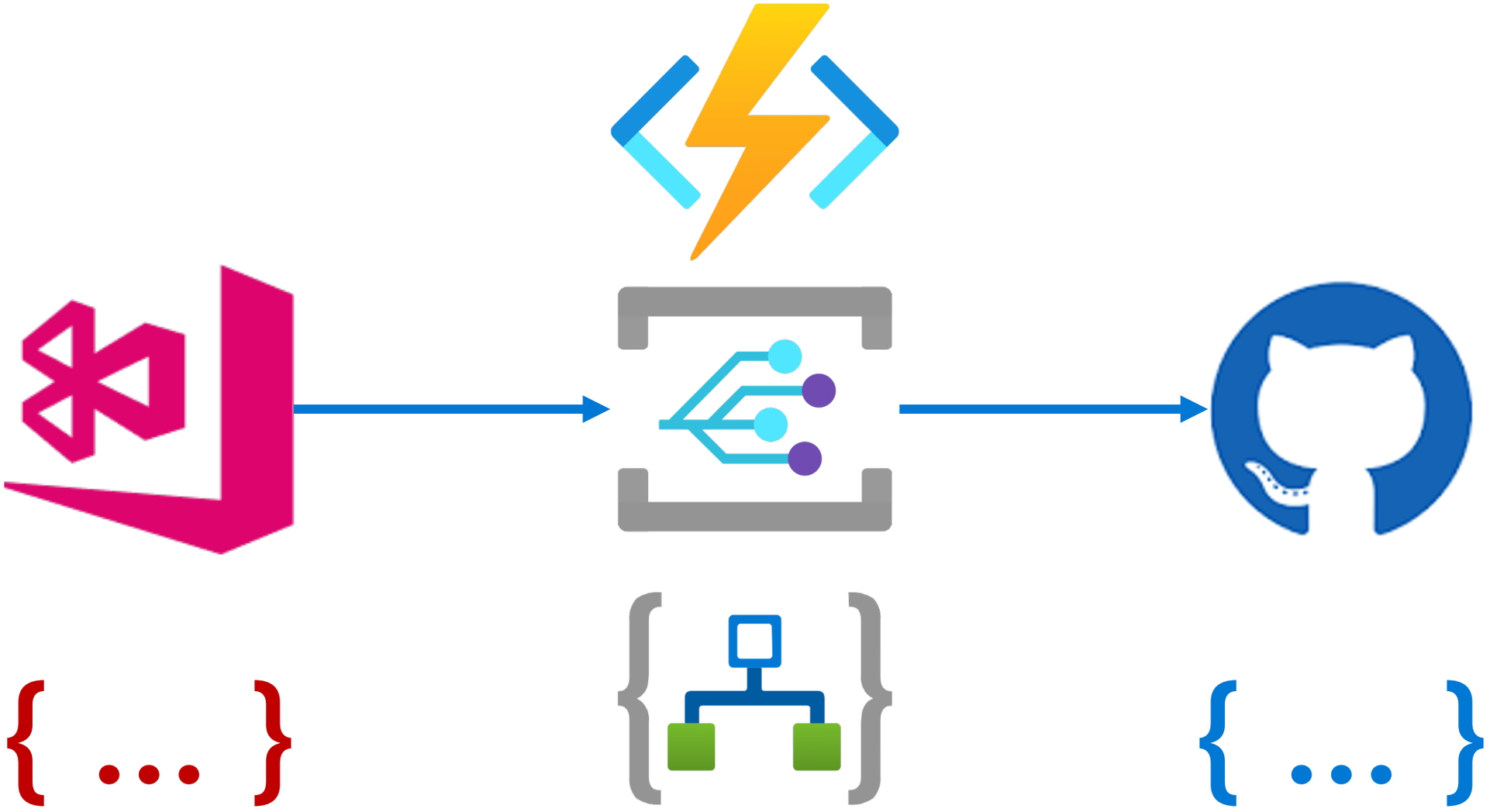
Microsoft



{ … }

{ … }

Microsoft



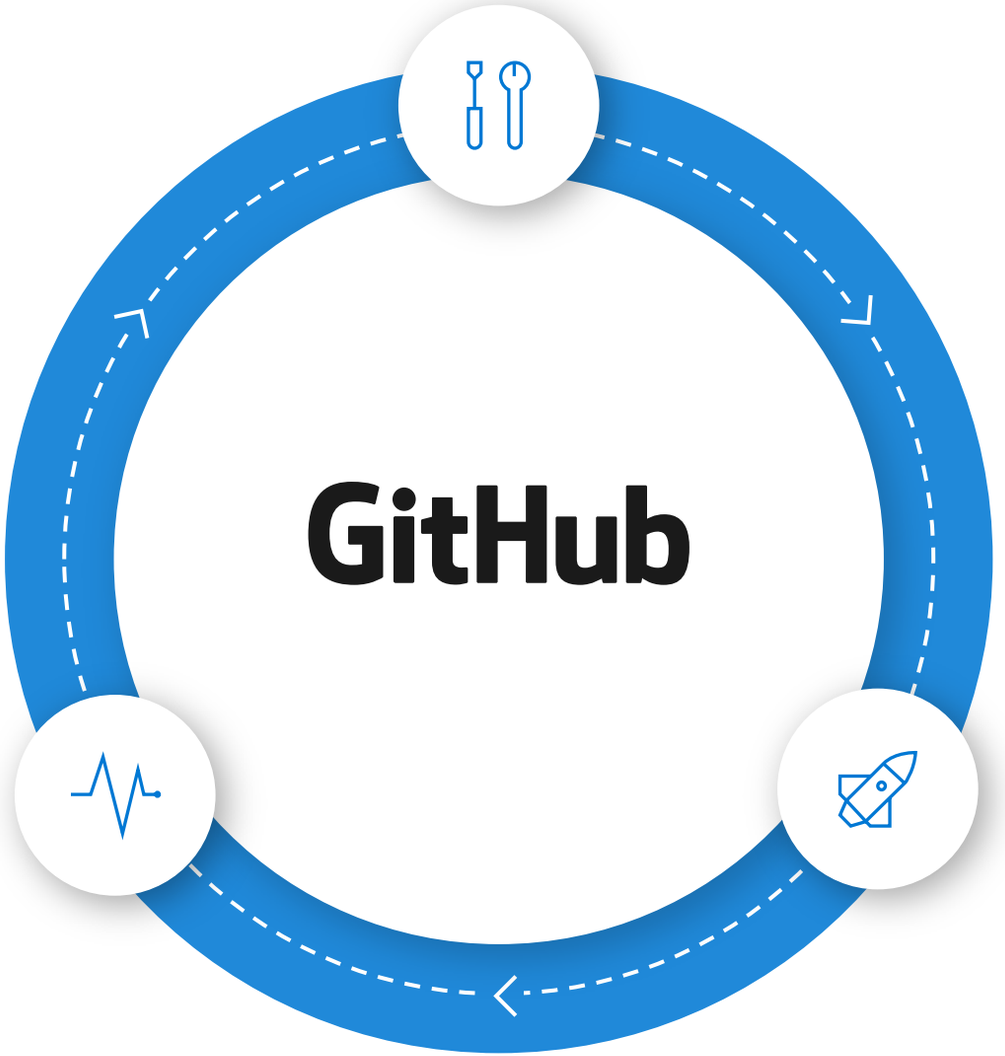
Microsoft

LiveOps 모니터링

Demo

Microsoft

여러분이 할 수 있는 것



Microsoft Azure

Core Infrastructure

- Compute
- Security
- Storage
- Management
- Networking

Advanced Workloads

- Web + Mobile
- Internet of Things
- Microservices
- Containers
- Serverless
- Identity
- Data + Analytics
- Artificial Intelligence
- Cognitive Services
- High Performance Computing

Azure Stack + Hybrid

Microsoft

Microsoft Learn

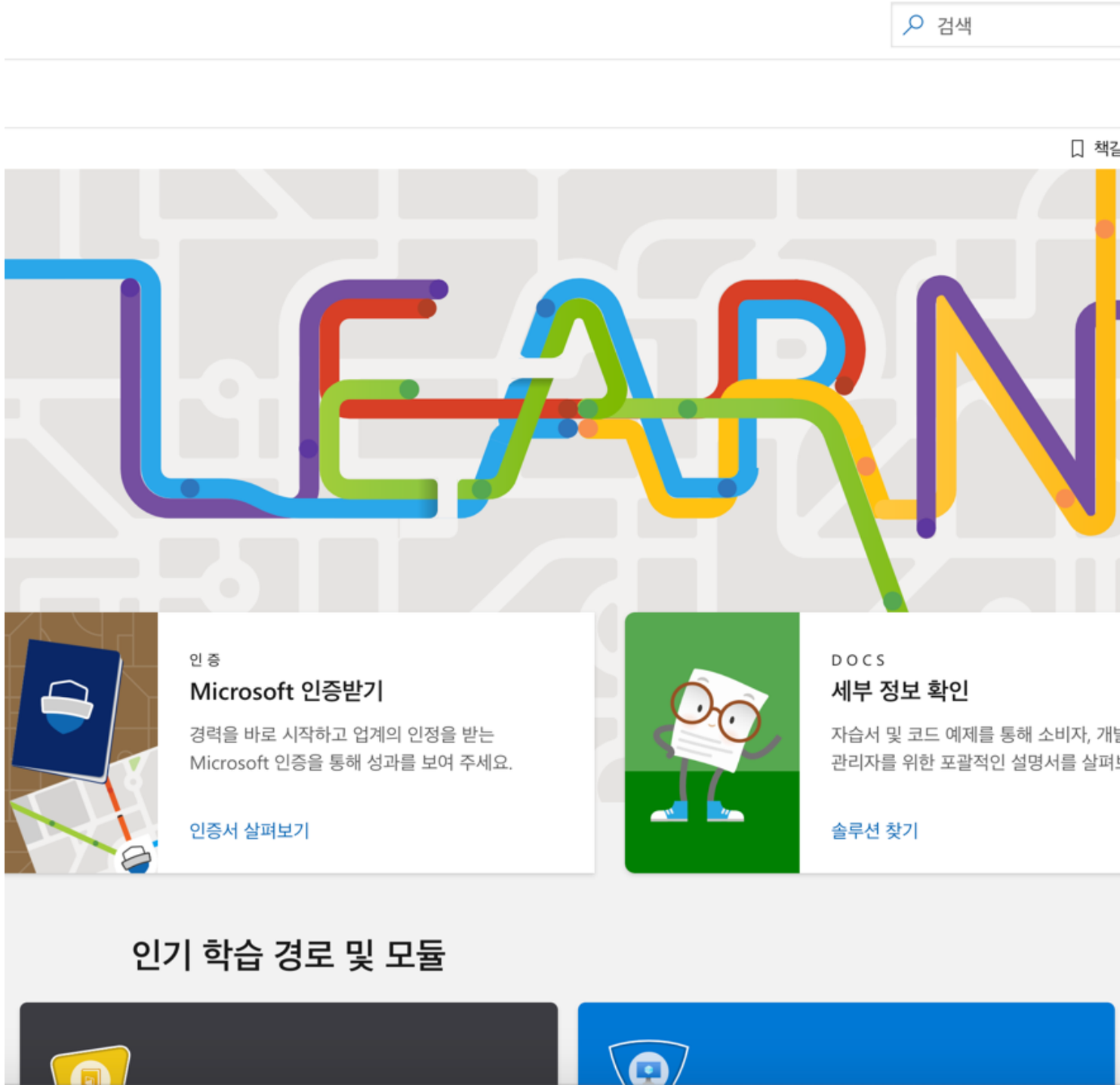
연습 문제 등 실습 제공

교육 영상 제공

자신에게 맞는 일정으로 학습

aka.ms/gdc/learn

aka.ms/gdc/learn/monitoring



Microsoft

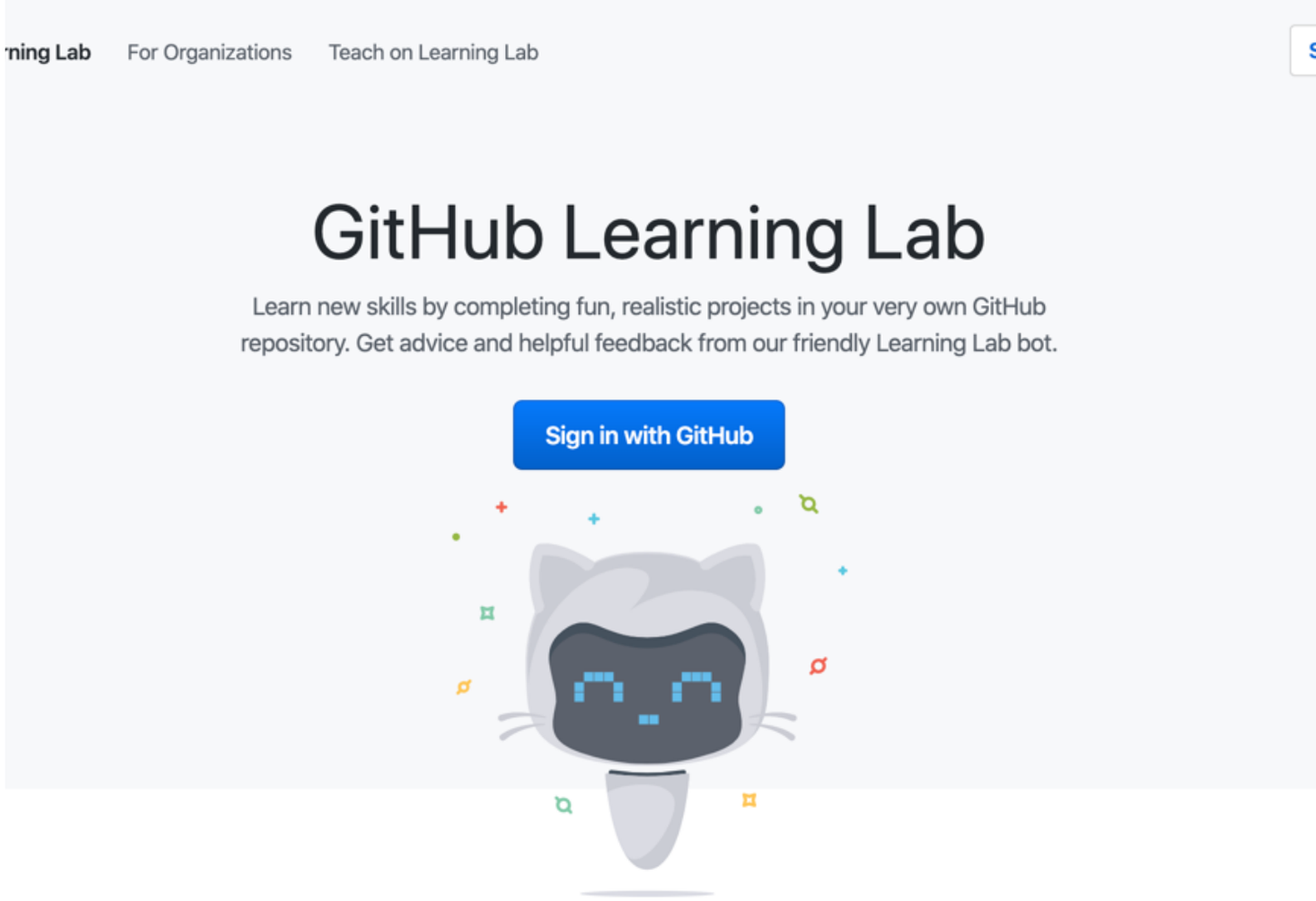
GitHub Learning Lab

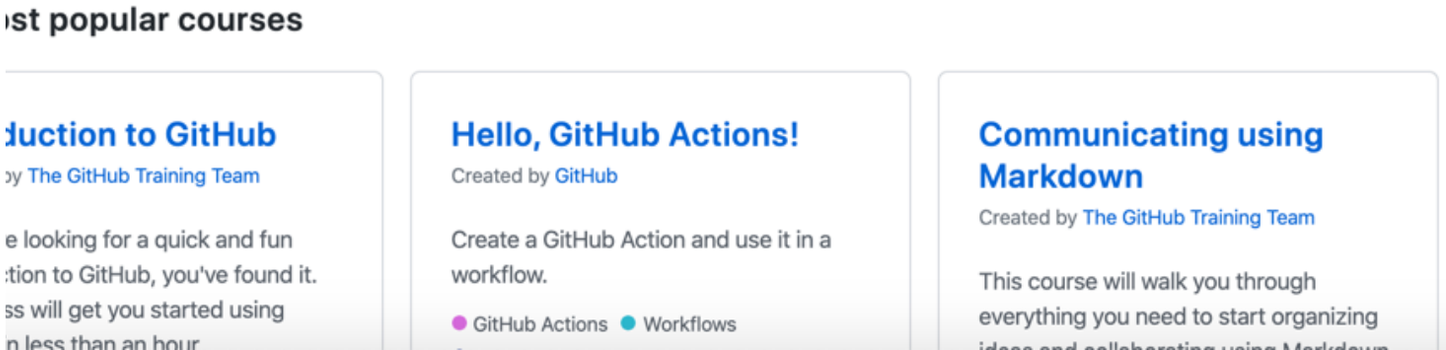
러닝 봇 제공

내 코드 저장소 활용

재미있고 현실적인 과제 실습

aka.ms/gdc/learn/lab





Microsoft

@wisdeom

@justinchronicle

THANK YOU