

# Azure DevOps: The Big Picture

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UNDERSTANDING CONTINUOUS DELIVERY AND DEVOPS  
WITH AZURE DEVOPS

# Outline



## Why & what

- Traditional IT
- Continuous delivery
- DevOps

## How

- Azure devops tools
  - Boards
  - Repos
  - Pipelines
  - Test plans
  - Artifacts

## Better together

## Summary

# Why?

We need a toolset that can help us provide insides in a **holistic way** on all the steps involved **building and running** software.

Secure, traceable, reliable, easy to use and no maintenance on the tools yourself!

# Traditional vs. Modern Software Delivery

## Traditional

**Waterfall** approach

**Different teams** or organizational units for requirements, development, test and operations

**Clear separation** between business and IT (demand/supply)

Release software **2 or 3 times a year**

**Budget/cost driven**

## Modern


**Agile**, often scrum approach

**Multidisciplinary teams** where all disciplines work together on small piece to deliver

Business, development and operations **in one team**

Release **multiple times a day**

**Value stream driven**




Our highest priority is to satisfy the customer through early and continuous delivery of valuable software

-- 1<sup>st</sup> principle behind agile manifesto



# Continuous Delivery

Continuous delivery is all about creating a repeatable and reliable process for delivering software in order to deliver high value software to our customers fast!



DevOps is the union of people, process, and products to enable continuous delivery of value to our end users.

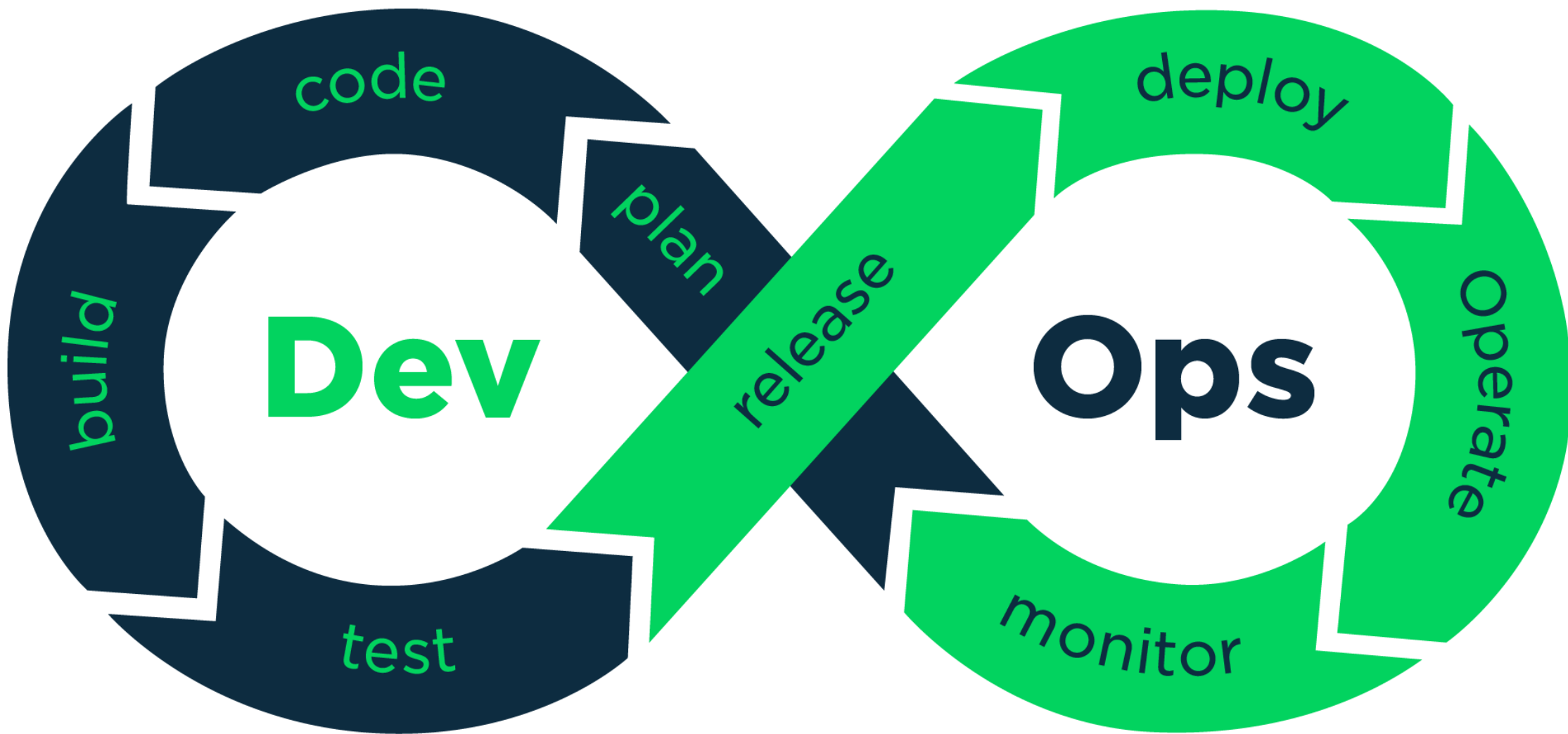
-- Donovan Brown

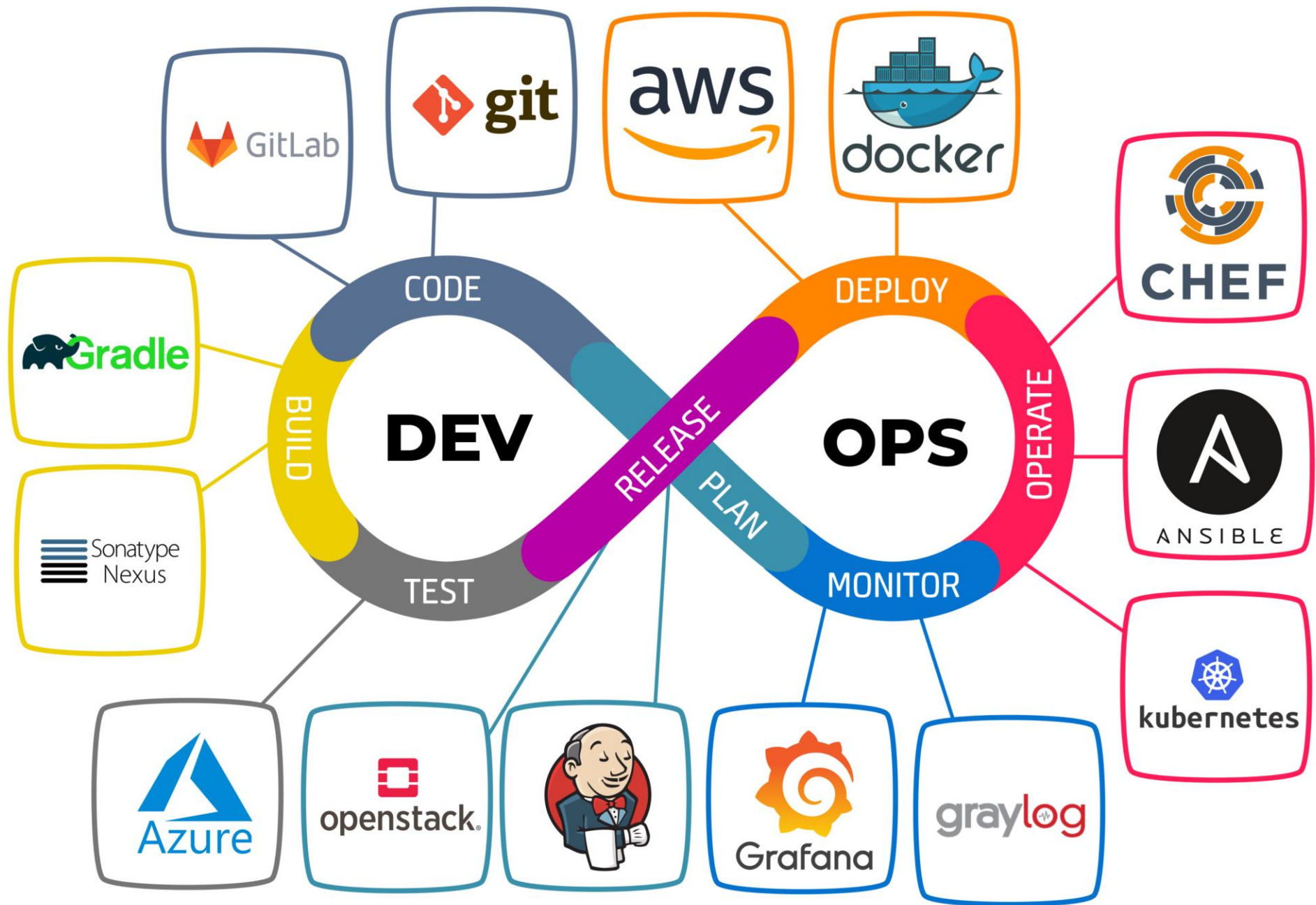


*Awesome, but how do we do this?*

In a secure and compliant way?







# Meet the Azure DevOps Tools



Boards



Repos



Pipelines



Test Plans



Artifacts



Azure Repos



Azure Boards



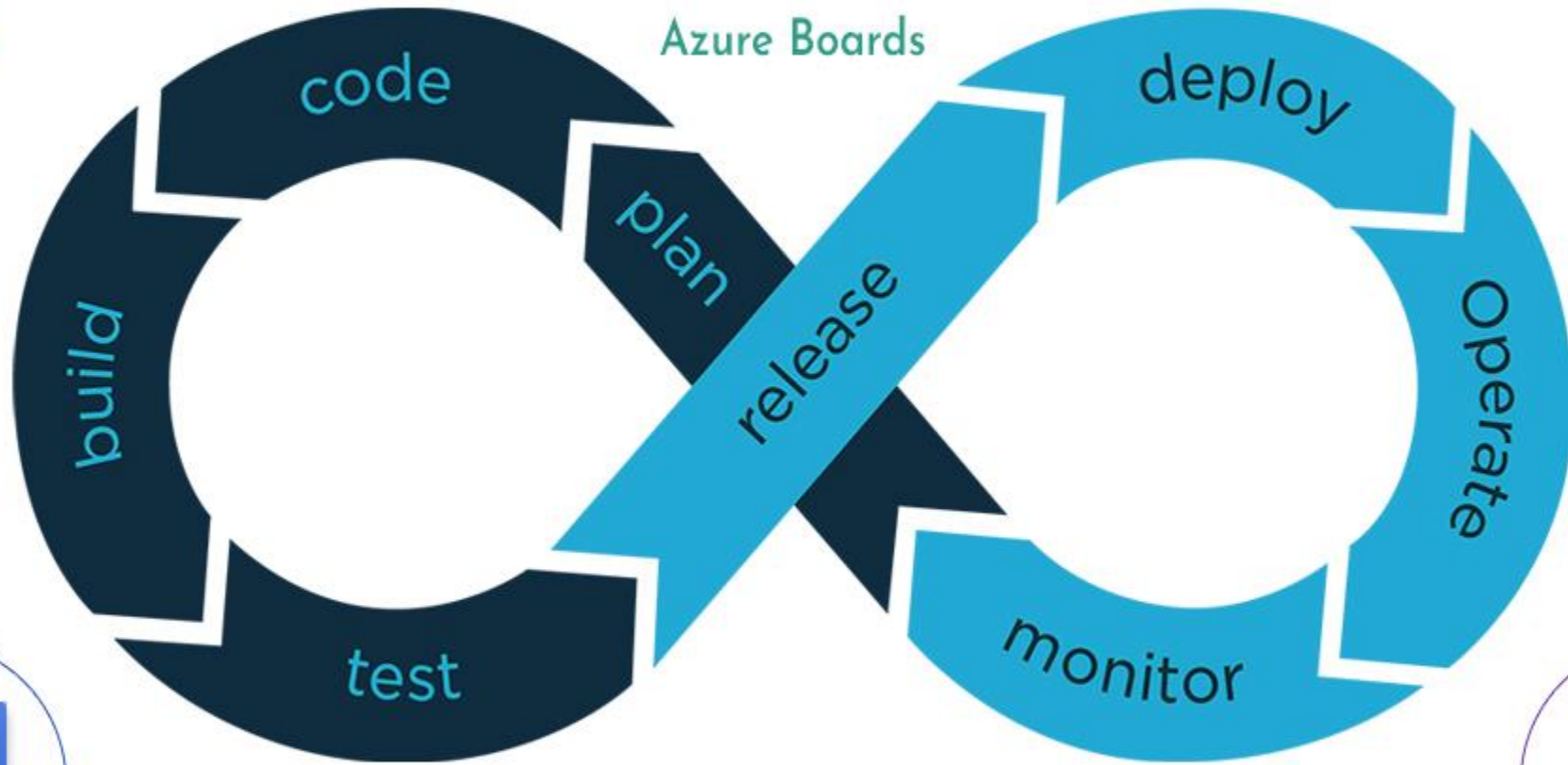
Azure Artifacts



Azure Pipeline



Azure Test Plans





Azure Boards



Azure Repos



Azure Pipelines



Azure Test Plans



Azure Artifacts

An end-to-end solution for organizations looking for an enterprise-grade toolchain

## Azure DevOps Components

Fully Integrated  
with end to  
end traceability

Scalable to  
any team  
& project size

Highly available,  
multi region,  
hybrid cloud &  
on-prem

Customer  
Support

Consistent  
admin &  
access control



## Azure Boards

Deliver value to your users faster using proven agile tools to plan, track, and discuss work across your teams.

[Learn more >](#)



## Azure Test Plans

Test and ship with confidence using manual and exploratory testing tools.

[Learn more >](#)



## Azure Pipelines

Build, test, and deploy with CI/CD that works with any language, platform, and cloud. Connect to GitHub or any other Git provider and deploy continuously.

[Learn more >](#)



## Azure Artifacts

Create, host, and share packages with your team, and add artifacts to your CI/CD pipelines with a single click.

[Learn more >](#)



## Azure Repos

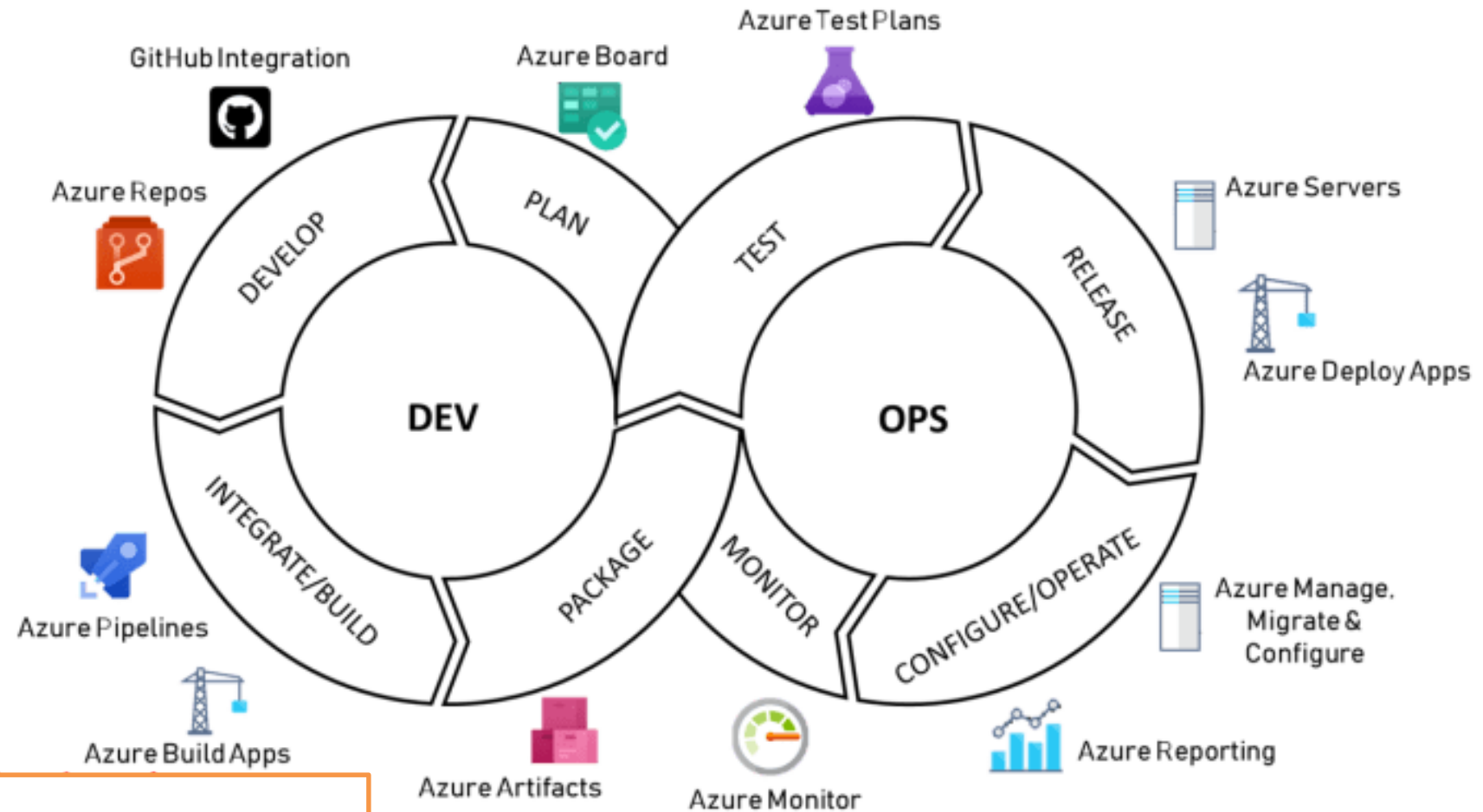
Get unlimited, cloud-hosted private Git repos and collaborate to build better code with pull requests and advanced file management.

[Learn more >](#)

## Extensions Marketplace

Access extensions from Slack to SonarCloud to 1,000 other apps and services—built by the community.

[Learn more >](#)



## Azure DevOps Components





Azure AD



Azure  
DevOps

Organisations

Contoso A

Contoso B

Projects

Project 1

Project 2

Project 1

Project 2

Repositorys

Repo 1

Repo 1

Repo 2

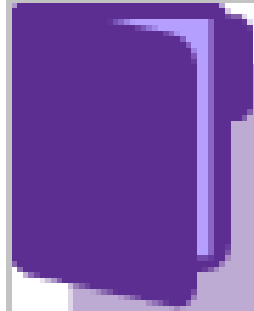
Repo 1

Repo 2

Repo 3

Repo 1





## Organization/Collection



### Project 1

Project 1 Team

Team A

Team B

Team C



### Project 2

Project 2 Team

Team D

Team E

Team F

...



# Azure DevOps

Organization

Project



Pipeline 1



Pipeline 2



Organization

Project



Project



Project



Organization

Project



Project



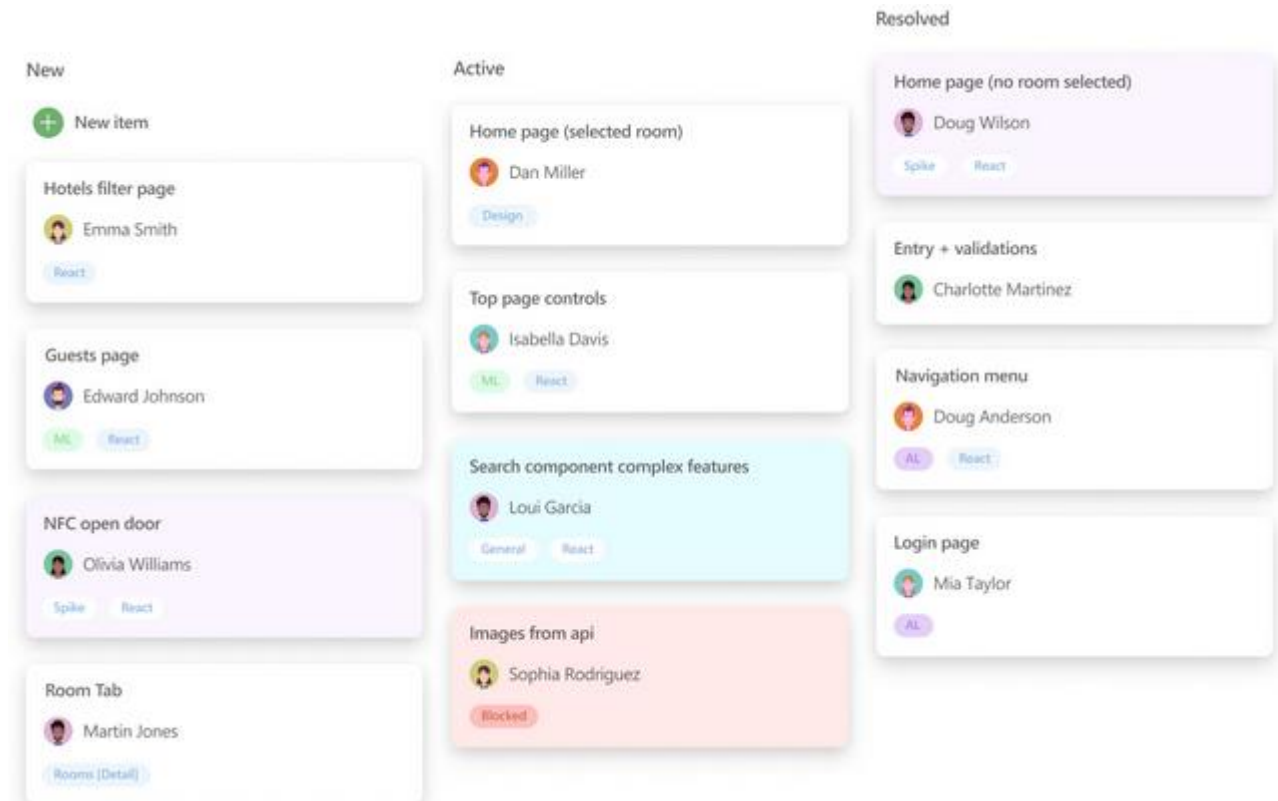
Project



# Azure Boards

## Agile planning tools

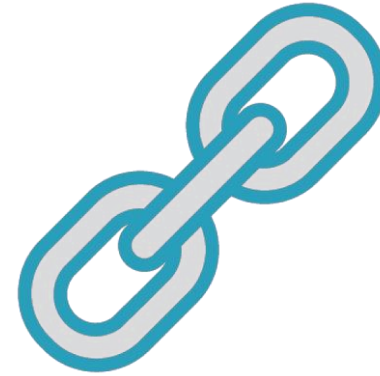
Track work with configurable Kanban boards, interactive backlogs, and powerful planning tools. Unparalleled traceability and reporting make Boards the perfect home for all your ideas—big and small.



# Boards



Work Items



Traceability



Planning



Kanban



Backlog



Sprint



## Unlimited free private repos

Get flexible, powerful Git hosting with effective code reviews and unlimited free repositories for all your ideas—from a one-person project to the world's largest repository.

```
251 export interface SaveInfoBannerProps {  
252     saveInfo: SaveInfo;  
253     versionSpec: VersionSpec;  
254     interface CommitLinkProps {  
255         url: string;  
256         ///////////////////////////////////////////////////  
257         text: string;  
258         tooltip: string;  
259         prefixMessage: string;  
260     }  
261 }
```

```
251 export interface SaveInfoBannerProps {  
252     saveInfo: SaveInfo;  
253     versionSpec: VersionSpec;  
254     interface CommitLinkProps {  
255         url: string;  
256         + targetHubId: string;  
257         text: string;  
258         tooltip: string;  
259         prefixMessage: string;  
260     }  
261 }
```



Liam Parker

@Chloe Clark `const CommitLink = ({ prefixMessage, url, tooltip, text }:`

Chloe Clark



Can we try what we did in [User Story 567435](#)



Liam Parker

Yeah, that would be a better pattern, I'll make the change in my next update



1

Chloe Clark



Awesome!

# Repos



TFVC

Git

Pull requests

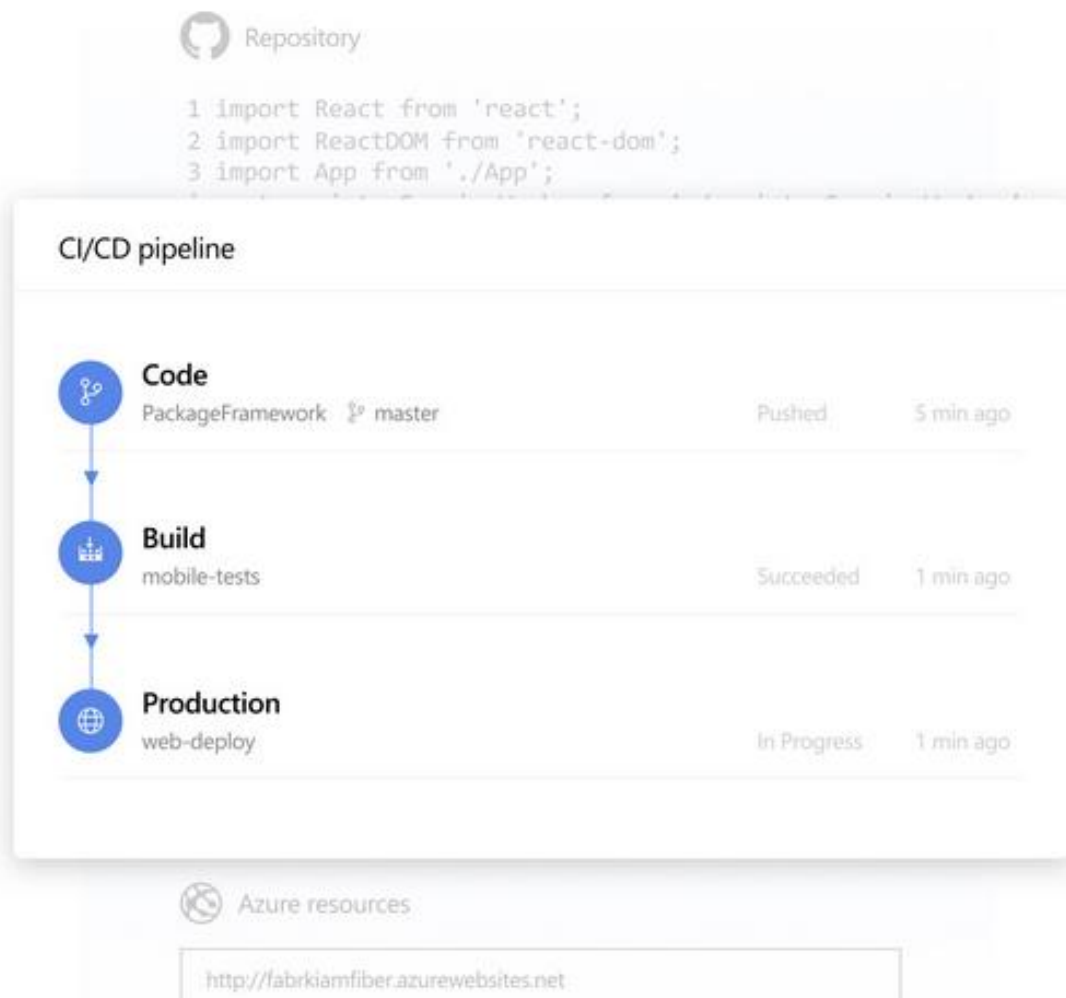
Branch policies

Hooks for CI/CD

# Azure Pipelines

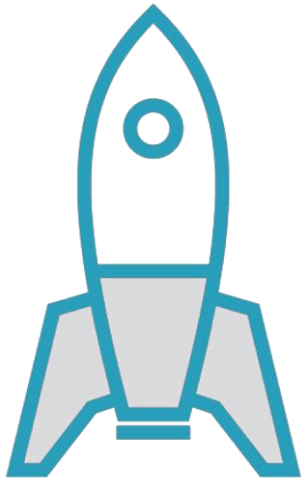
## CI/CD for any platform

Build, test, and deploy in any language, to any cloud—or on-premises. Run in parallel on Linux, macOS, and Windows, and deploy containers to individual hosts or [Kubernetes](#).





# Pipelines



Build automation

Continuous integration

Deployment automation

Continuous delivery

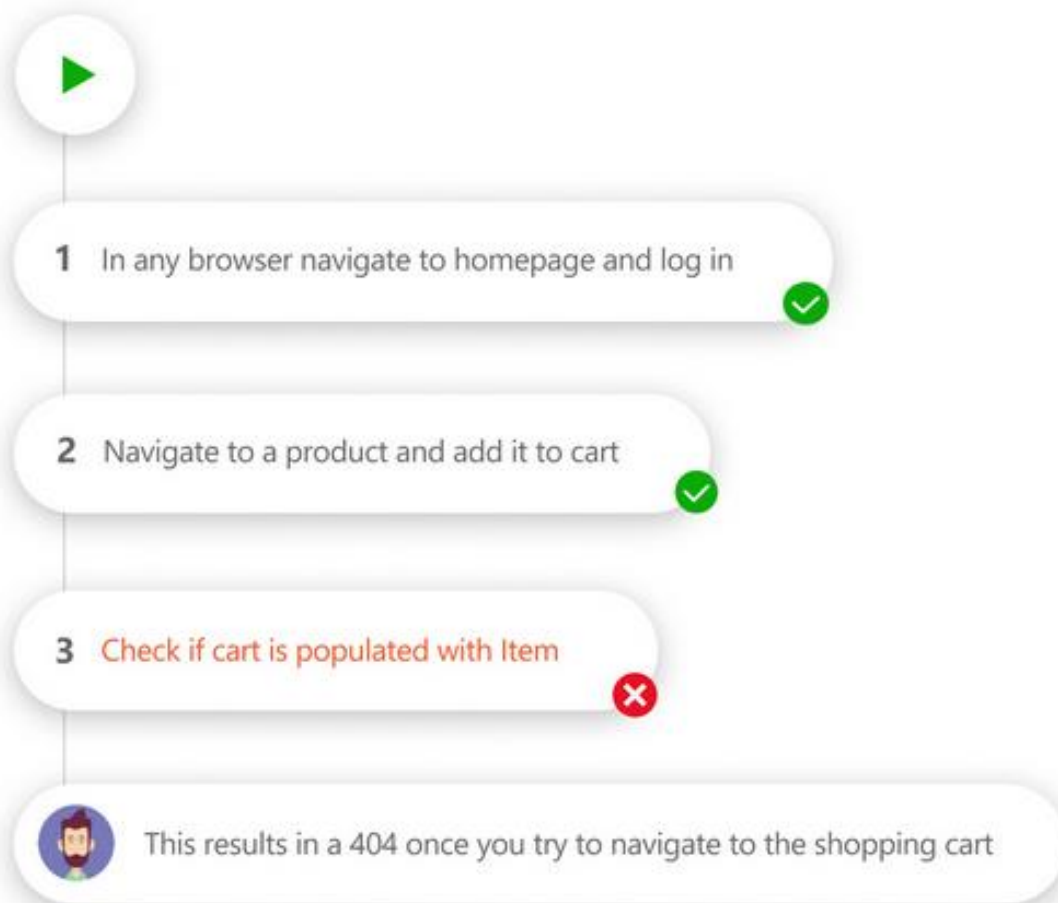
Traceability and compliance

Hooks for other products

# Azure Test Plans

## Manual and exploratory testing

Test often and release with confidence. Improve your overall code quality with manual and exploratory testing tools for your apps.



# Test Plans



Planned and exploratory testing solution

Capture rich data

Test across web and desktop

Get end-to-end traceability



# Azure Artifacts

## Universal package repository

Share Maven, npm, NuGet, and Python packages from public and private sources with your entire team.

Integrate package sharing into your CI/CD pipelines in a way that's simple and scalable.



AdventureWorks.Framework

Version 1.1.0



adv-lib

Version 1.3.3



advworks-build-tools

Version 5.0.3



com.adworks.app

Version 2.0.2



adventure-classifier-model

Version 2.2

# Artifacts



Package management

NuGet

NPM

Artifact repo

Track usage of external packages

Traceability



Timetracker



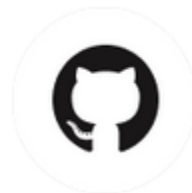
Docker  
Integration



Slack  
Integration



Sentry




GitHub  
Integration


## Extensions Marketplace

Access 1,000+ extensions or create your own.


[View all extensions >](#)




**Timetracker**

7pace  17.1K


★★★★★ **FREE TRIAL**




**Azure Cost Insights**

Kees Schollaart  5.2K


★★★★★ **FREE**




**Visual Studio IntelliCode**

Microsoft  2.3K


★★★★★ **FREE**




**Code Quality NDepend**

ndepend  2.1K


★★★★★ **FREE TRIAL**




**Bravo Notes**

Agile Extensions  1K

★★★★★ **FREE TRIAL**




**Azure Boards Slack app**

Microsoft  119


★★★★★ **FREE**

Most Popular


[See more >](#)




**Code Search**

Microsoft  158K


★★★★★ **FREE**




**Azure DevOps Open in VS Code**

Microsoft DevLabs  145K


★★★★★ **FREE**




**Test & Feedback**

Microsoft  131K


★★★★★ **FREE**




**SARIF SAST Scans Tab**

Microsoft DevLabs  125K


★★★★★ **FREE**




**Replace Tokens**

Guillaume Rouchon  67.5K

★★★★★ **FREE**




**SonarQube**


SonarSource  66.5K

★★★★★ **FREE**


Trending [this week](#) ▾




**Azure Boards Microsoft Teams**

Microsoft  319


★★★★★ **FREE**




**Azure Pipelines Microsoft Teams**

Microsoft  225


★★★★★ **FREE**




**DevOpsSmartBoard**

Canarys Automation  241


★★★★★ **FREE TRIAL**




**PR Metrics**

Microsoft DevLabs  129


★★★★★ **FREE**




**Bicep Tasks**

Raül Piracés  279

★★★★★ **FREE**

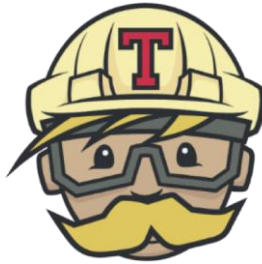


**FlowViz**

Agile Extensions  492

★★★★★ **FREE**

# Better Together



GitHub



TeamCity



XebiaLabs

DEPLOY



Octopus Deploy



Bitbucket



GitLab

# Better Together

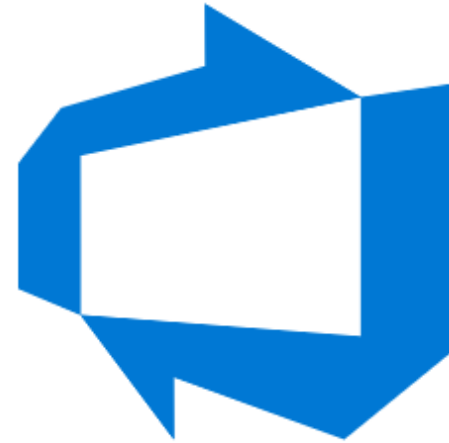
Full traceability out of  
the box

Hosted SaaS solution

Always up to date

No maintenance of own  
build machines

Hosted in various  
regions world wide



# Azure DevOps



# Summary



## Why & what

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- Continuous delivery
- DevOps

## How

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  - Boards
  - Repos
  - Pipelines
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