Azure DevOps: The Big Picture

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	Modern
Waterfall approach	Agile, often scrum approach
Different teams or organizational units for requirements, development, test and operations	Multidisciplinary teams where all disciplines work together on small piece to deliver
Clear separation between business and IT (demand/supply)	Business, development and operations in one team
Release software 2 or 3 times a year	Release multiple times a day
Budget/cost driven	Value stream driven

> Our highest priority is to satisfy the customer through early and continuous delivery of valuable software
>
> -- 1st 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!
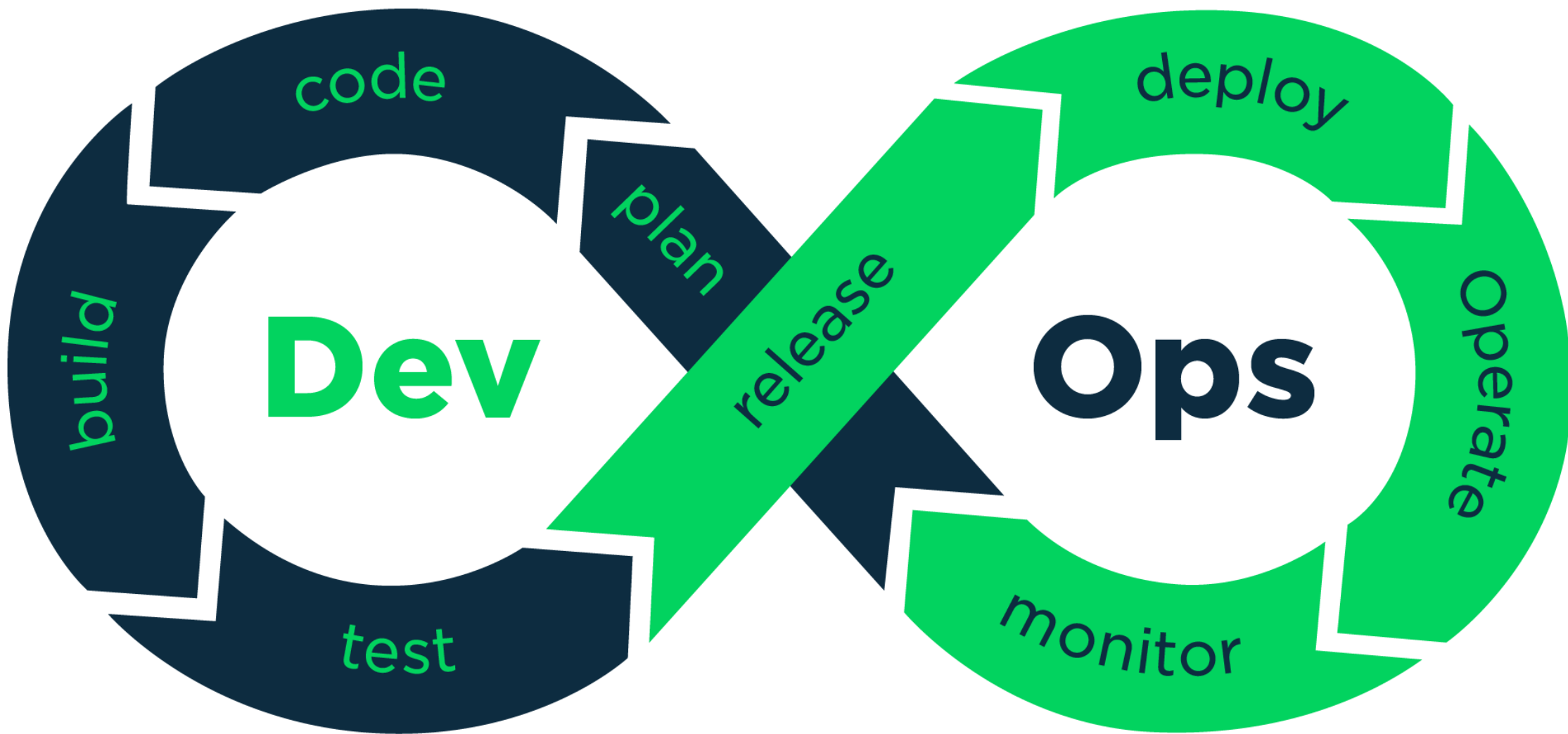
DevOps is the union of people, process, and products to enable continuous delivery of value to our end users.
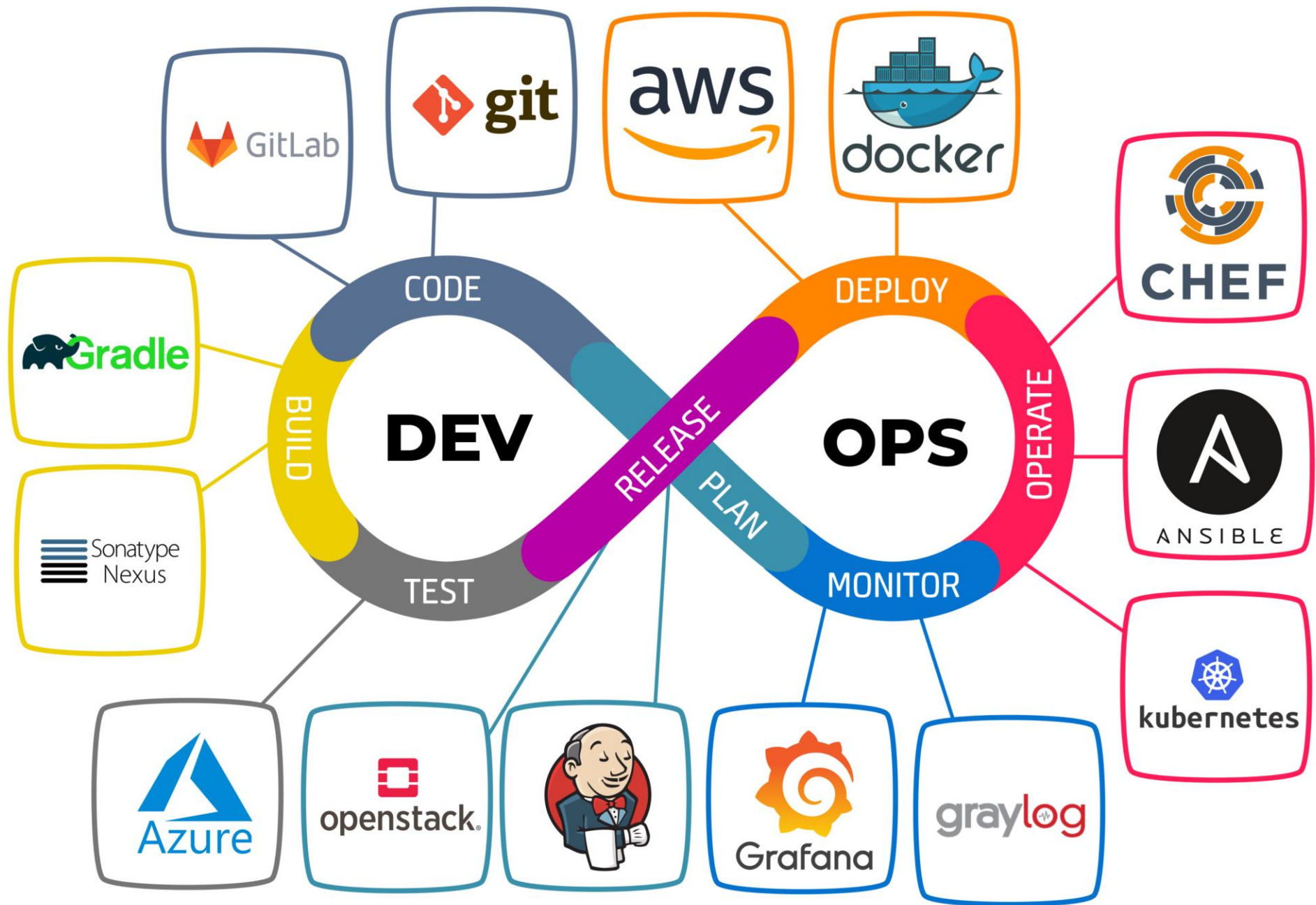
-- Donovan Brown

Awesome, but how do we do this?

In a secure and compliant way?

Meet the Azure DevOps Tools

Boards

Repos
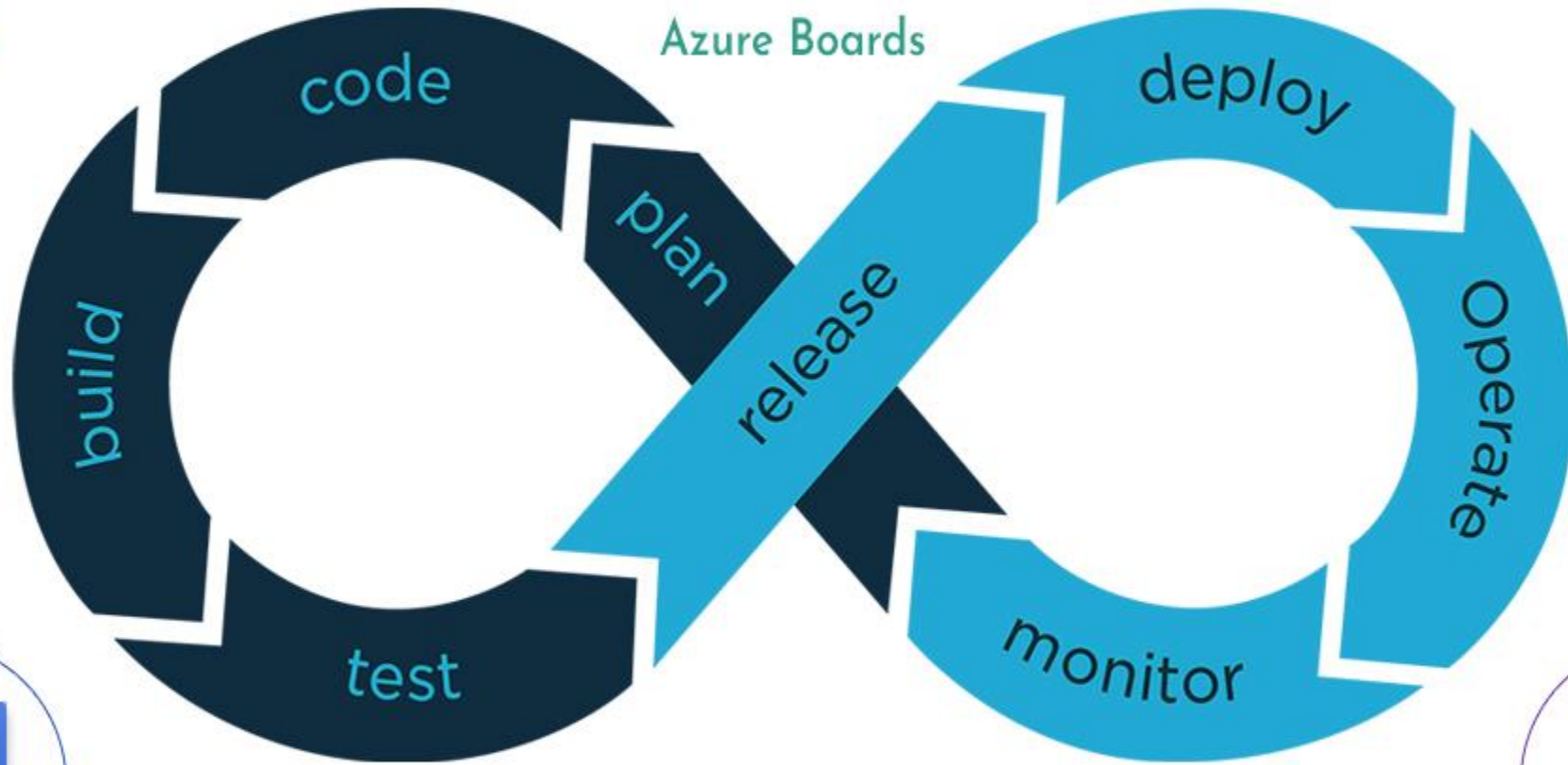
Pipelines

Test Plans

Artifacts

Azure Boards

Azure Repos

Azure Artifacts

Azure Pipeline

Azure Test Plans

code
plan
build
test
release
deploy
Operate
monitor

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 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 Repos

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

Learn more >

Azure Test Plans

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

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 >

Extensions Marketplace

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

Learn more >
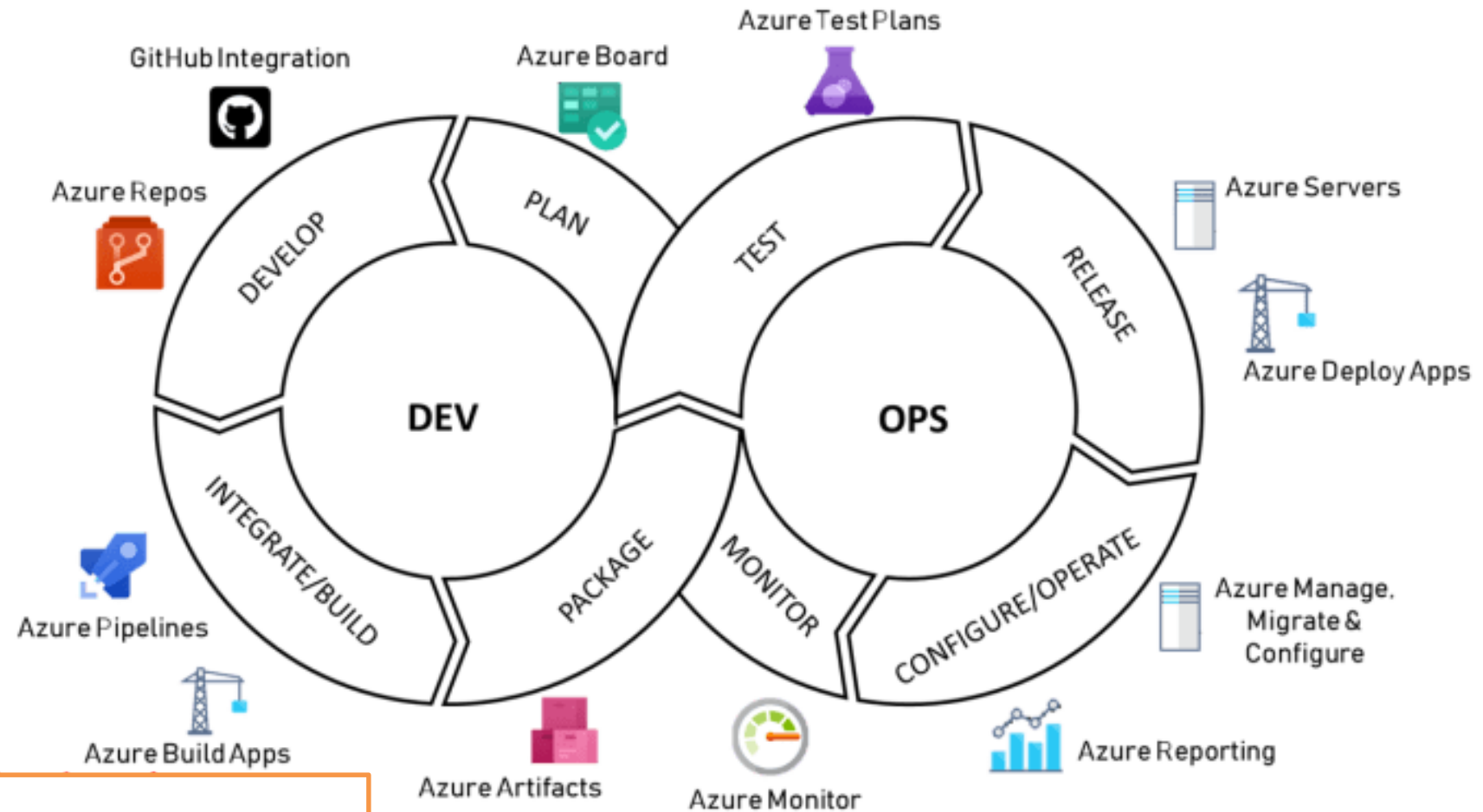
Azure DevOps Components
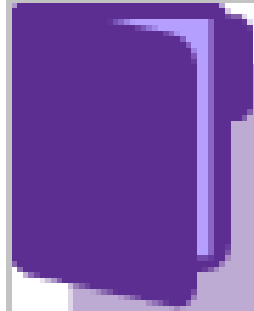
Organization/Collection

Project 1

Project 1 Team
Team A
Team B
Team C

Project 2

Project 2 Team
Team D
Team E
Team F

...

Azure DevOps
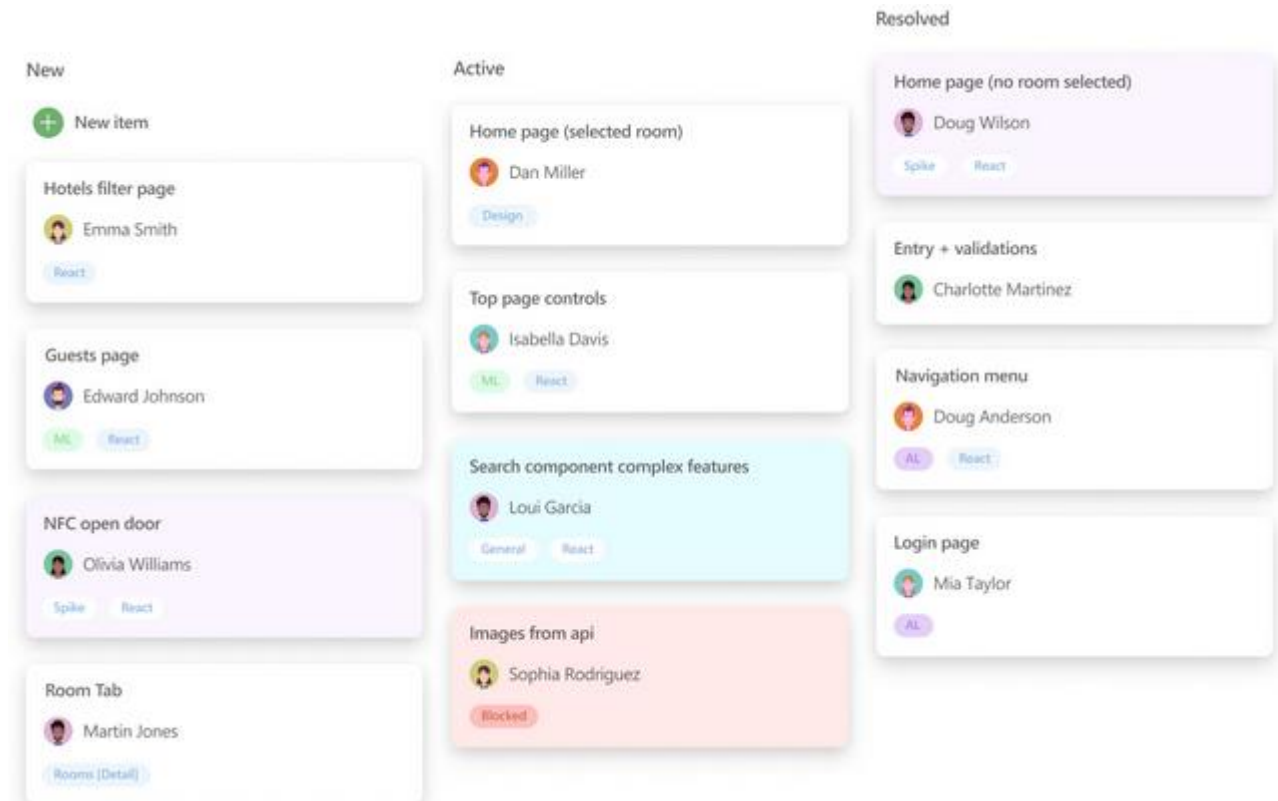
Organization

Project

🚀 Pipeline 1
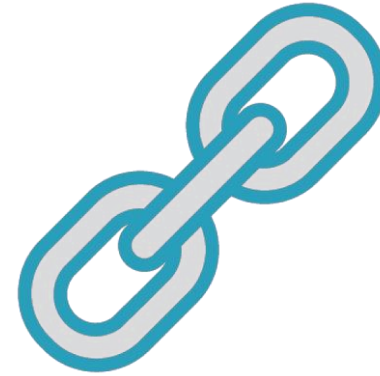
🚀 Pipeline 2

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.

New

⊕ New item

Hotels filter page
👤 Emma Smith
React

Guests page
👤 Edward Johnson
ML React

NFC open door
👤 Olivia Williams
Spike React

Room Tab
👤 Martin Jones
Rooms (Detail)

Active

Home page (selected room)
👤 Dan Miller
Design

Top page controls
👤 Isabella Davis
ML React

Search component complex features
👤 Loui Garcia
General React

Images from api
👤 Sophia Rodriguez
Blocked

Resolved

Home page (no room selected)
👤 Doug Wilson
Spike React

Entry + validations
👤 Charlotte Martinez

Navigation menu
👤 Doug Anderson
AL React

Login page
👤 Mia Taylor
AL

Boards

Work Items

Traceability

Planning

Kanban

Backlog

Sprint

Azure Repos

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

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**.

Repository

```
1 import React from 'react';
2 import ReactDOM from 'react-dom';
3 import App from './App';
```

CI/CD pipeline

Code
PackageFramework master   Pushed   5 min ago

Build
mobile-tests   Succeeded   1 min ago

Production
web-deploy   In Progress   1 min ago

Azure resources

http://fabrkiamfiber.azurewebsites.net
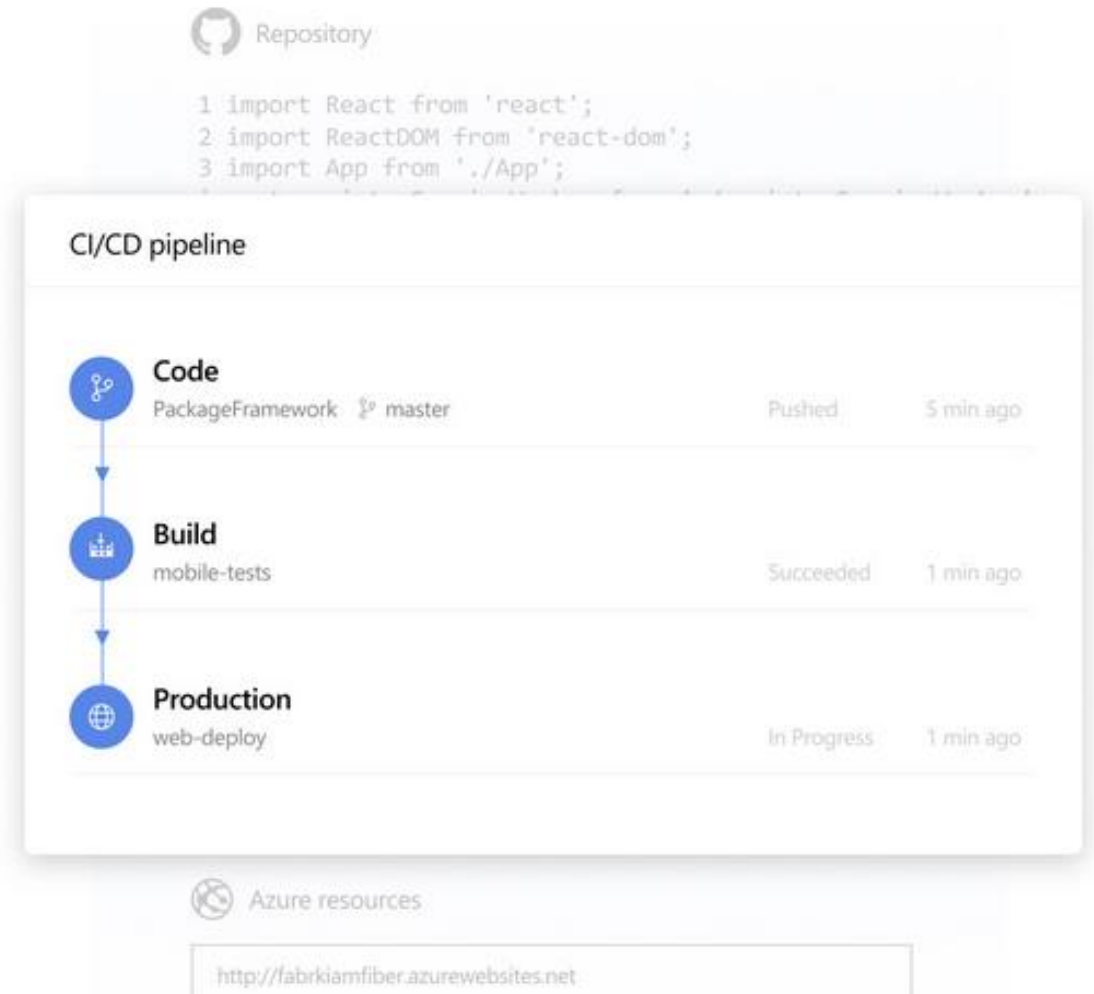
Pipelines
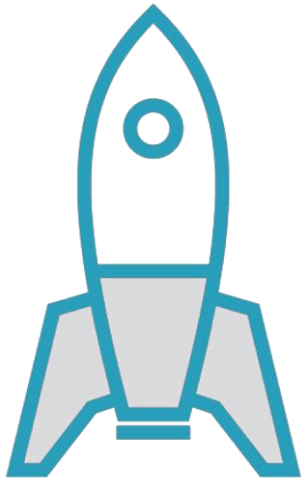
Build automation

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.

▶

1 In any browser navigate to homepage and log in ✓

2 Navigate to a product and add it to cart ✓

3 Check if cart is populated with Item ✗

This results in a 404 once you try to navigate to the shopping cart
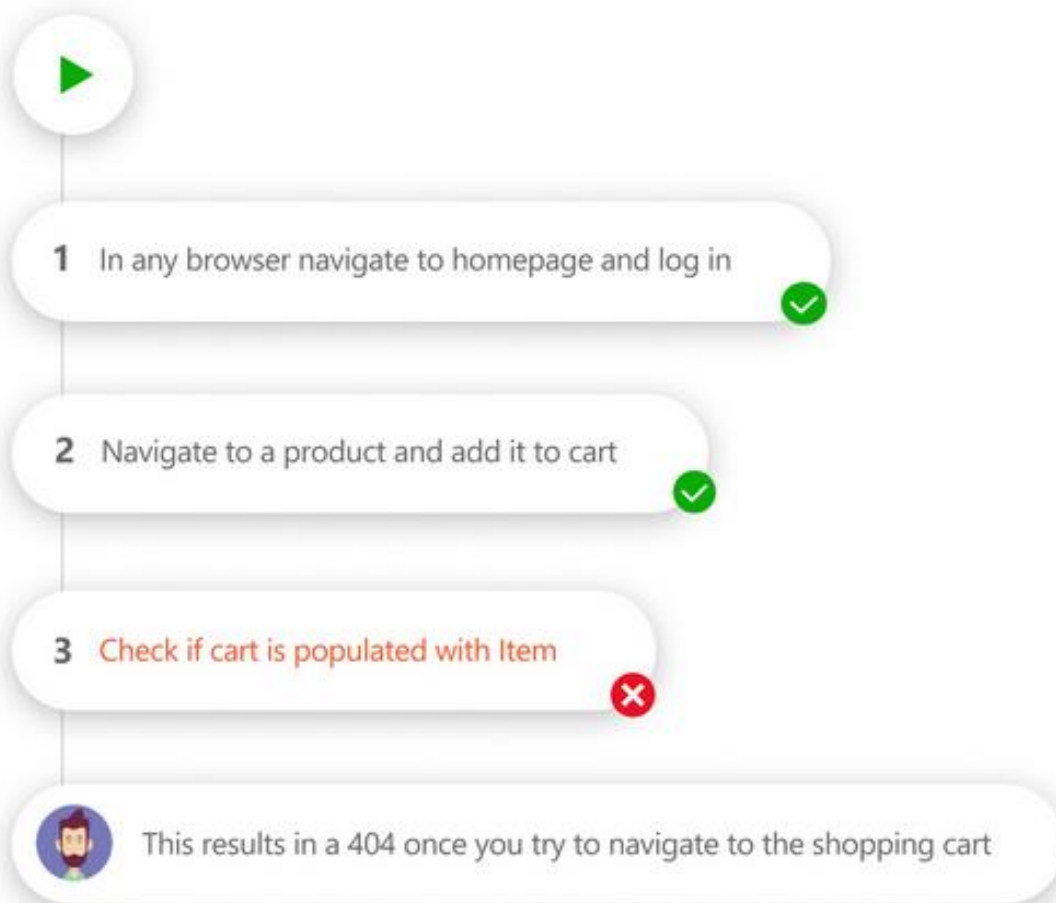
Test Plans

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

Extensions Marketplace

Access 1,000+ extensions or create your own.

Timetracker

Docker Integration

Slack Integration

Sentry

GitHub Integration

Timetracker	**Azure Cost Insights**	**Visual Studio IntelliCo**	**Code Quality NDepen**	**Bravo Notes**	**Azure Boards Slack** ap
7pace	Kees Schollaart	Microsoft	ndepend	Agile Extensions	Microsoft
⬇17.1K	⬇5.2K	⬇2.3K	⬇2.1K	⬇1K	⬇119
★★★★☆ FREE TRIAL	★★★★☆ FREE	★★★☆☆ FREE	★★★★★ FREE TRIAL	★★★★★ FREE TRIAL	★★★☆☆ FREE

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Code Search	**Azure DevOps Open** i	**Test & Feedback**	**SARIF SAST Scans Tab**	**Replace Tokens**	**SonarQube**
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⬇158K	⬇145K	⬇131K	⬇125K	⬇67.5K	⬇66.5K
★★★★☆ FREE	★★☆☆☆ FREE	★★★★☆ FREE	★★★★★ FREE	★★★★☆ FREE	★★★☆☆ FREE

Trending this week ⌄

Azure Boards Micros	**Azure Pipelines Micro**	**DevOpSmartBoard**	**PR Metrics**	**Bicep Tasks**	**FlowViz**
Microsoft	Microsoft	Canarys Automatio	Microsoft DevLabs	Raúl Piracés	Agile Extensions
⬇319	⬇225	⬇241	⬇129	⬇279	⬇492
★★★★☆ FREE	★★★★★ FREE	★★★★★ FREE TRIAL	★★★★★ FREE	★★★★★ FREE	★★★★☆ FREE

Better Together
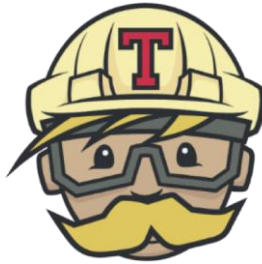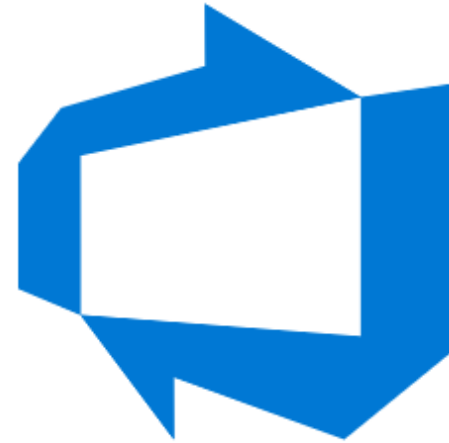
Better Together

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
- Traditional IT
- Continuous delivery
- DevOps

How
- Azure devops tools
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  - Repos
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