Microsoft

TLV **Cloud Workshops**

Boost Yourself Up To The Cloud

DevOps on Azure

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Microsoft

Introducing Azure DevOps

Azure Boards

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

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.

Azure Repos

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

Azure Test Plans

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

Azure Artifacts

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

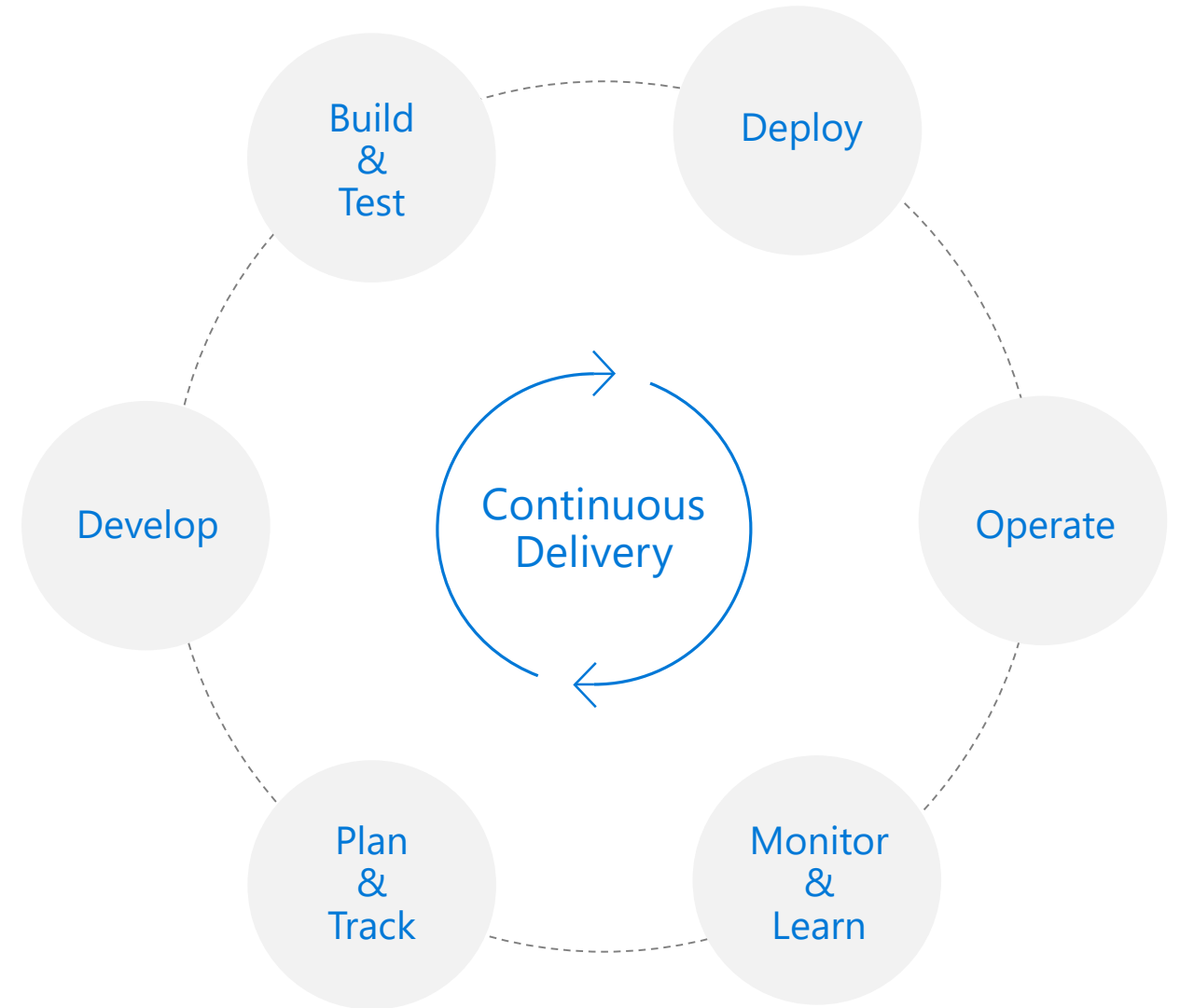https://azure.com/devops
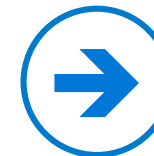
Demo

DevOps Project

What is DevOps?

People. Process. Products.

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

@DonovanBrown

Build & Test

Deploy

Develop

Continuous Delivery

Operate

Plan & Track

Monitor & Learn

Key DevOps Practices

Infrastructure as Code	**Continuous Integration**	**Continuous Deployment**
Automated Testing	**Release Management**	**Performance Monitoring**
Availability Monitoring	**Load Testing & Auto Scale**	**Automated Recovery (Rollback & Roll Forward)**

https://blogs.msdn.microsoft.com/devops/2018/04/19/release-flow-how-we-do-branching-on-the-vsts-team/
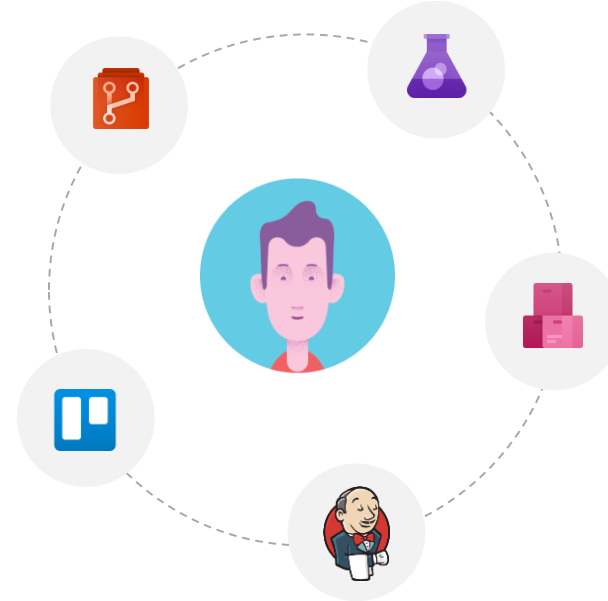
Azure DevOps: Choose what you love
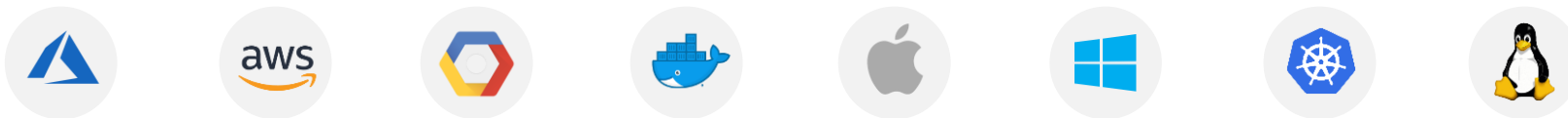
Any Language, Any Platform

Azure DevOps lets developers choose the tools and languages that are right for them
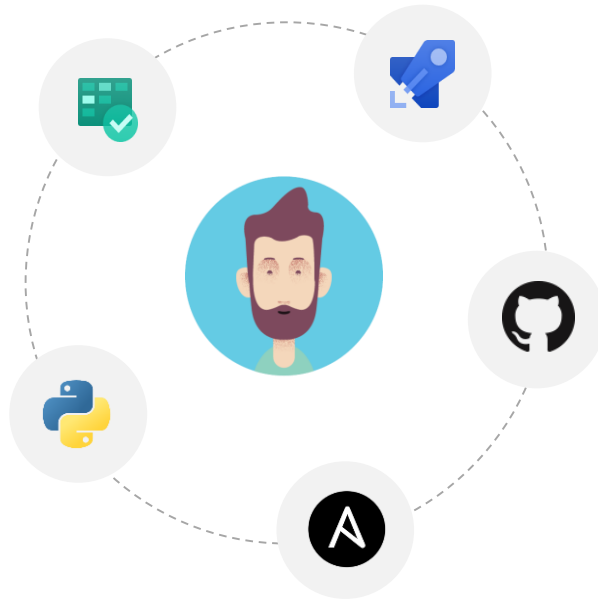
Mix and match to create workflows with tools from Microsoft, open source or your favorite 3rd party tools

Target any cloud, on-prem or both and deploy to the servers you need

Azure Boards

Track work with Kanban boards, backlogs, team dashboards, and custom reporting

Connected from idea to release

Track all your ideas at every development stage and keep your team aligned with all code changes linked directly to work items.
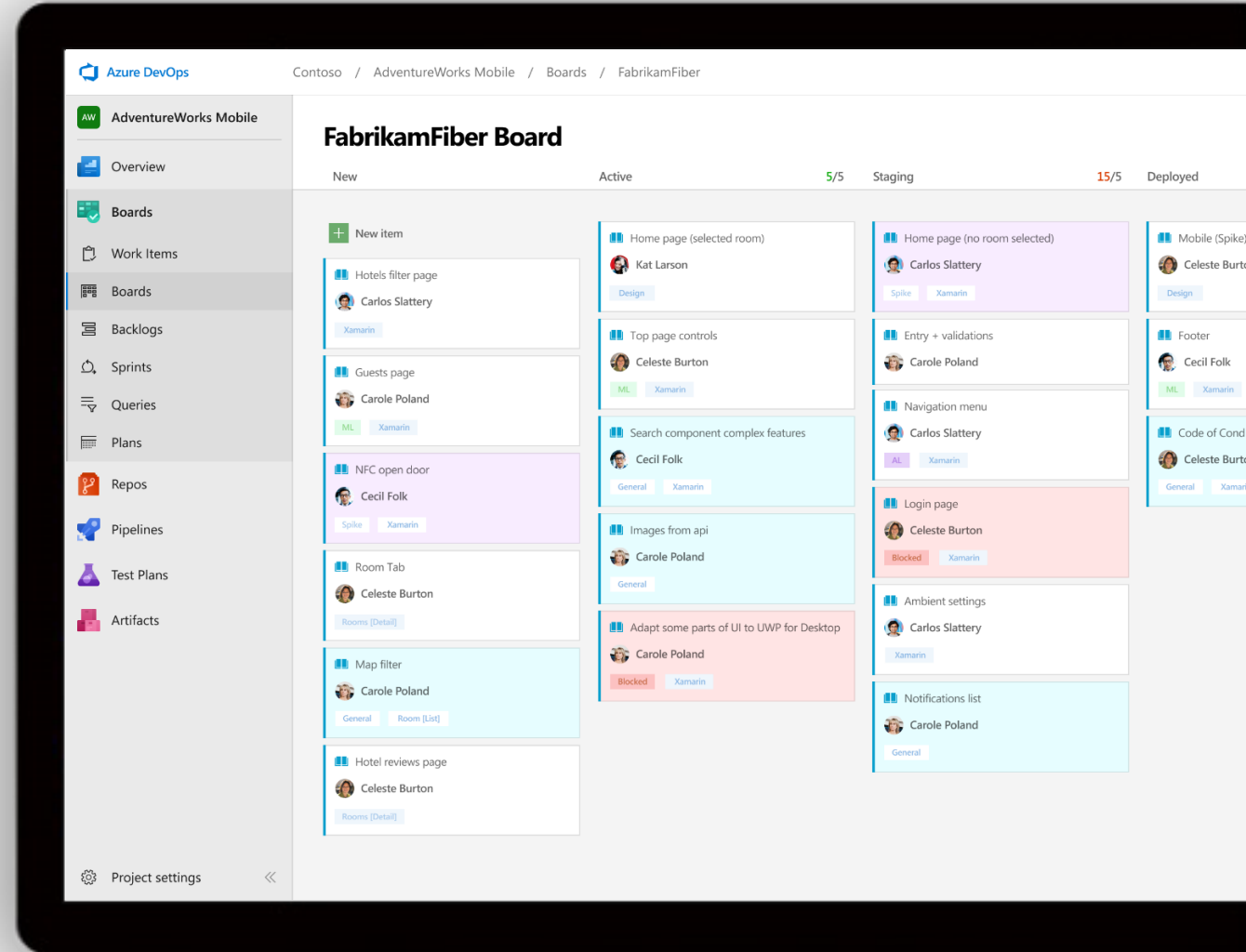
Scrum ready

Use built-in scrum boards and planning tools to help your teams run sprints, stand-ups, and planning meetings.

Project insights

Gain new insights into the health and status of your project with powerful analytics tools and dashboard widgets.

https://azure.com/devops

Demo

Azure Boards

Azure Pipelines

Cloud-hosted pipelines for Linux, Windows and macOS, with unlimited minutes for open source

Any language, any platform, any cloud
Build, test, and deploy Node.js, Python, Java, PHP, Ruby, C/C++, .NET, Android, and iOS apps. Run in parallel on Linux, macOS, and Windows. Deploy to Azure, AWS, GCP or on-premises

Extensible
Explore and implement a wide range of community-built build, test, and deployment tasks, along with hundreds of extensions from Slack to SonarCloud. Support for YAML, reporting and more
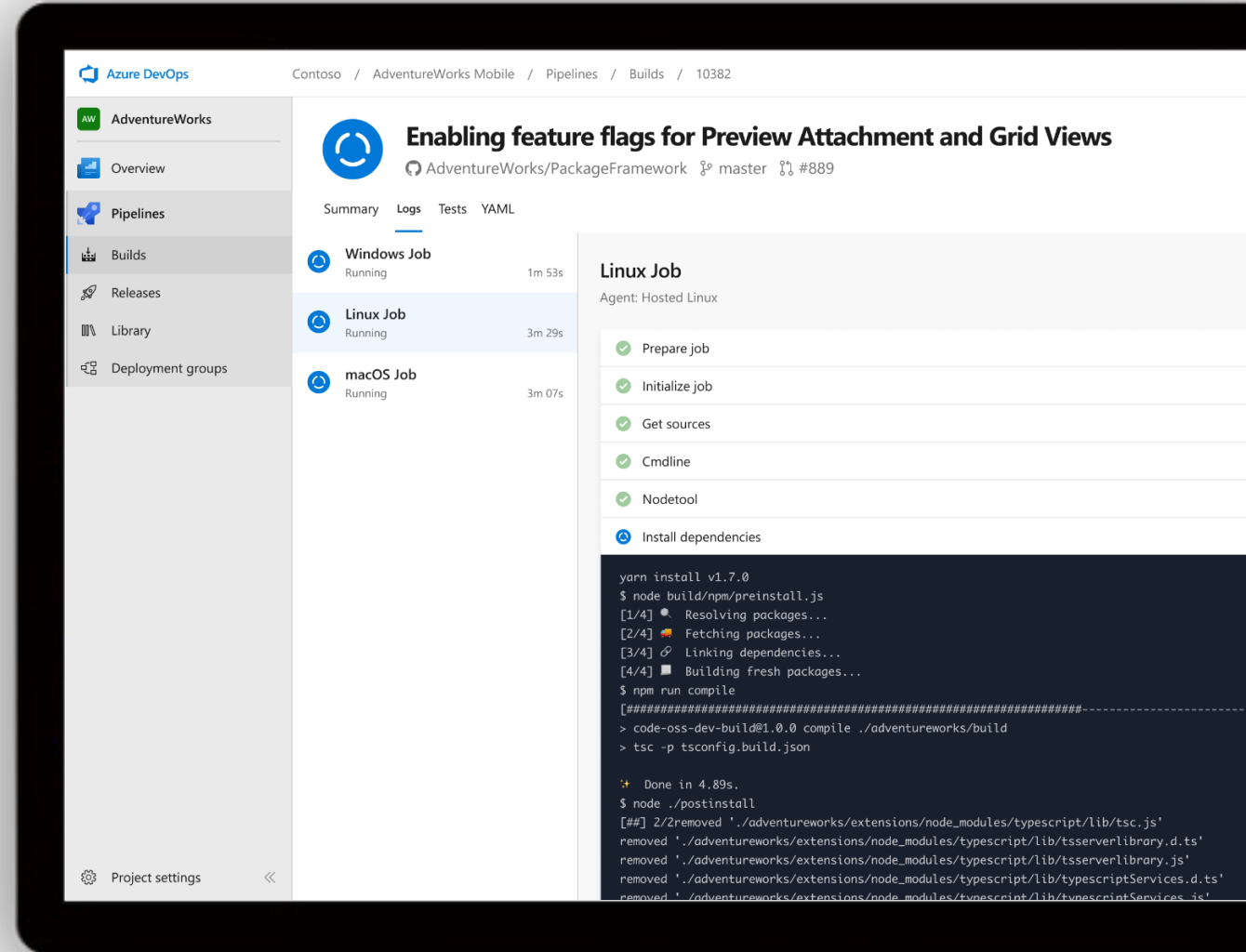
Containers and Kubernetes
Easily build and push images to container registries like Docker Hub and Azure Container Registry. Deploy containers to individual hosts or Kubernetes.

Best-in-class for open source
Ensure fast continuous integration/continuous delivery (CI/CD) pipelines for every open source project. Get unlimited build minutes for all open source projects with up to 10 free parallel jobs across Linux, macOS and Windows

https://azure.com/pipelines

Azure DevOps

Contoso / AdventureWorks Mobile / Pipelines / Builds / 10382

AdventureWorks
Overview
Pipelines
Builds
Releases
Library
Deployment groups

Enabling feature flags for Preview Attachment and Grid Views
AdventureWorks/PackageFramework master #889

Summary Logs Tests YAML

Windows Job
Running   1m 53s

Linux Job
Running   3m 29s

macOS Job
Running   3m 07s

Linux Job
Agent: Hosted Linux

✓ Prepare job
✓ Initialize job
✓ Get sources
✓ Cmdline
✓ Nodetool
● Install dependencies

```
yarn install v1.7.0
$ node build/npm/preinstall.js
[1/4] 🔍  Resolving packages...
[2/4] 🚚  Fetching packages...
[3/4] 🔗  Linking dependencies...
[4/4] 📦  Building fresh packages...
$ npm run compile

[#############################################################--------------------]
> code-oss-dev-build@1.0.0 compile ./adventureworks/build
> tsc -p tsconfig.build.json

✨  Done in 4.89s.
$ node ./postinstall
[##] 2/2removed './adventureworks/extensions/node_modules/typescript/lib/tsc.js'
removed './adventureworks/extensions/node_modules/typescript/lib/tsserverlibrary.d.ts'
removed './adventureworks/extensions/node_modules/typescript/lib/tsserverlibrary.js'
removed './adventureworks/extensions/node_modules/typescript/lib/typescriptServices.d.ts'
removed './adventureworks/extensions/node_modules/typescript/lib/typescriptServices.js'
```

Project settings

Demo

GitHub integration with Azure Pipelines

Azure Repos

Unlimited private Git repo hosting and support for TFVC that scales from a hobby project to the world's largest Git repositories

Works with your Git client

Securely connect with and push code into your Git repos from any IDE, editor, or Git client.

Web hooks and API integration

Add validations and extensions from the marketplace or build your own using web hooks and REST APIs.

Semantic code search

Quickly find what you're looking for with code-aware search that understands classes and variables.

https://azure.com/devops
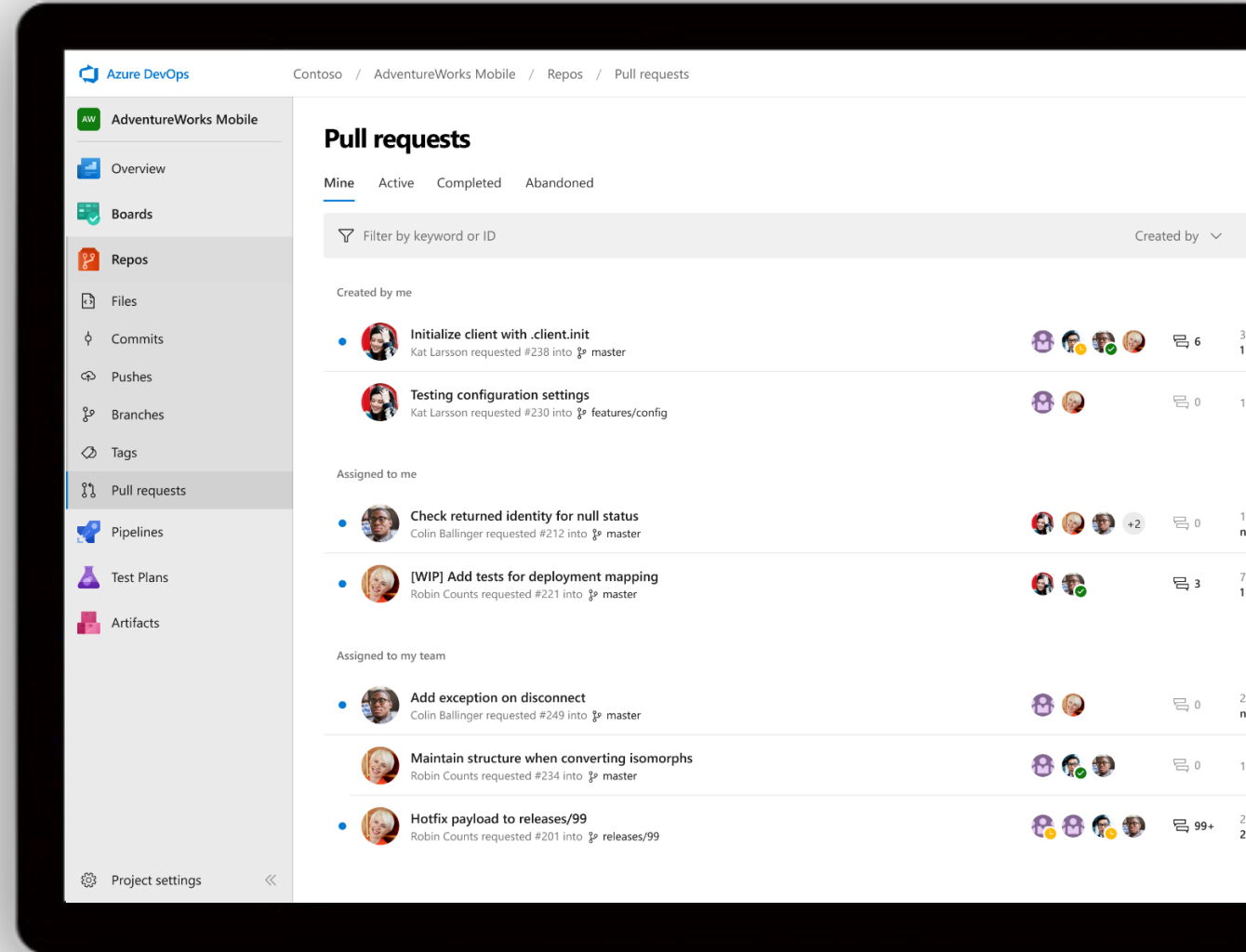
Azure Test Plans

Get end-to-end traceability. Run tests and log defects from your browser. Track and assess quality throughout your testing lifecycle.

Capture rich data

Capture rich scenario data as you execute tests to make discovered defects actionable. Explore user stories without test cases or test steps. You can create test cases directly from your exploratory test sessions.

Test across web and desktop

Test your application where it lives. Complete scripted tests across desktop or web scenarios. Test on-premises application from the cloud and vice-versa.

Get end-to-end traceability

Leverage the same test tools across your engineers and user acceptance testing stakeholders. Pay for the tools only when you need them.

https://azure.com/devops
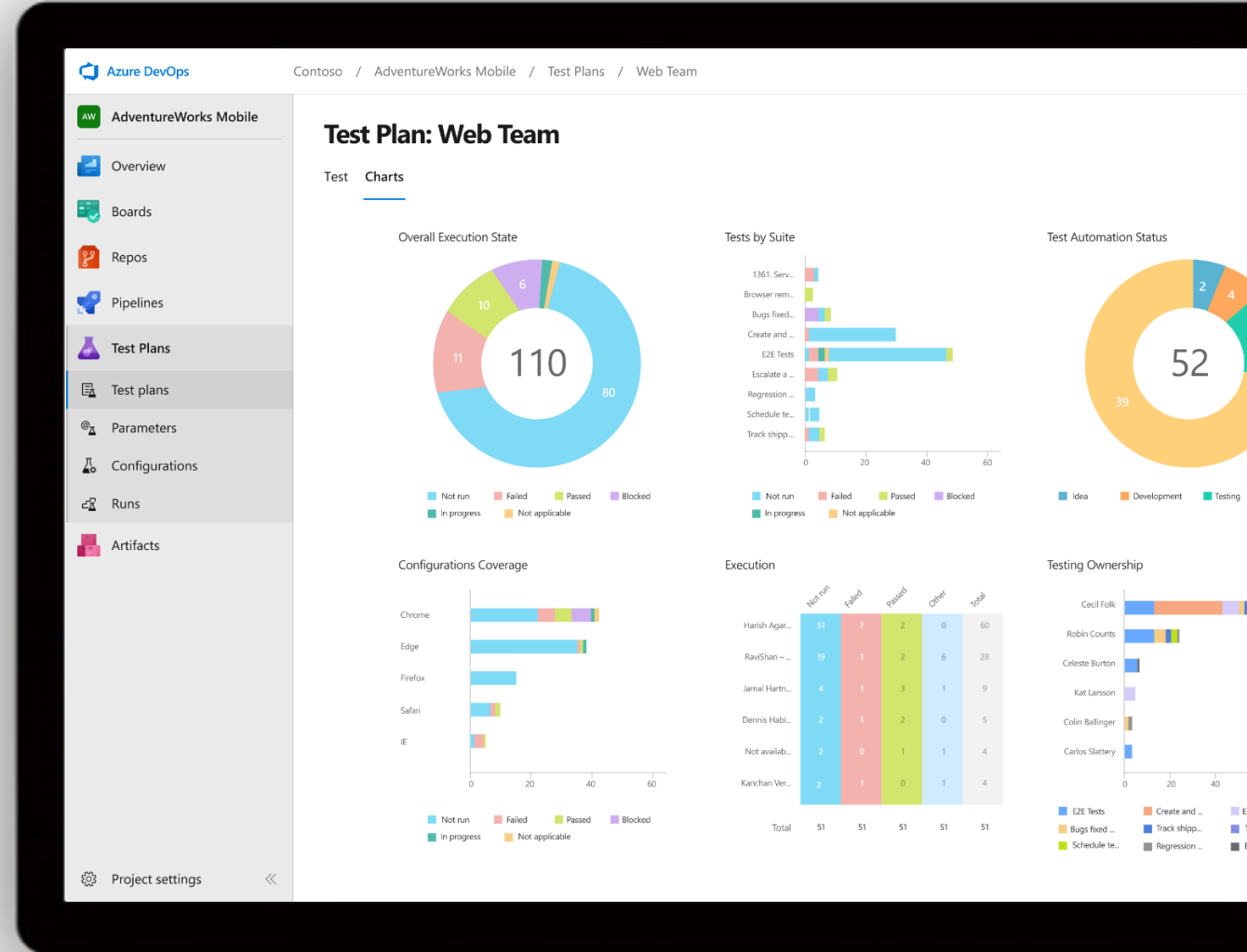
Azure Artifacts

Create and share Maven, npm, and NuGet package feeds from public and private sources – fully integrated into CI/CD pipelines

Manage all package types

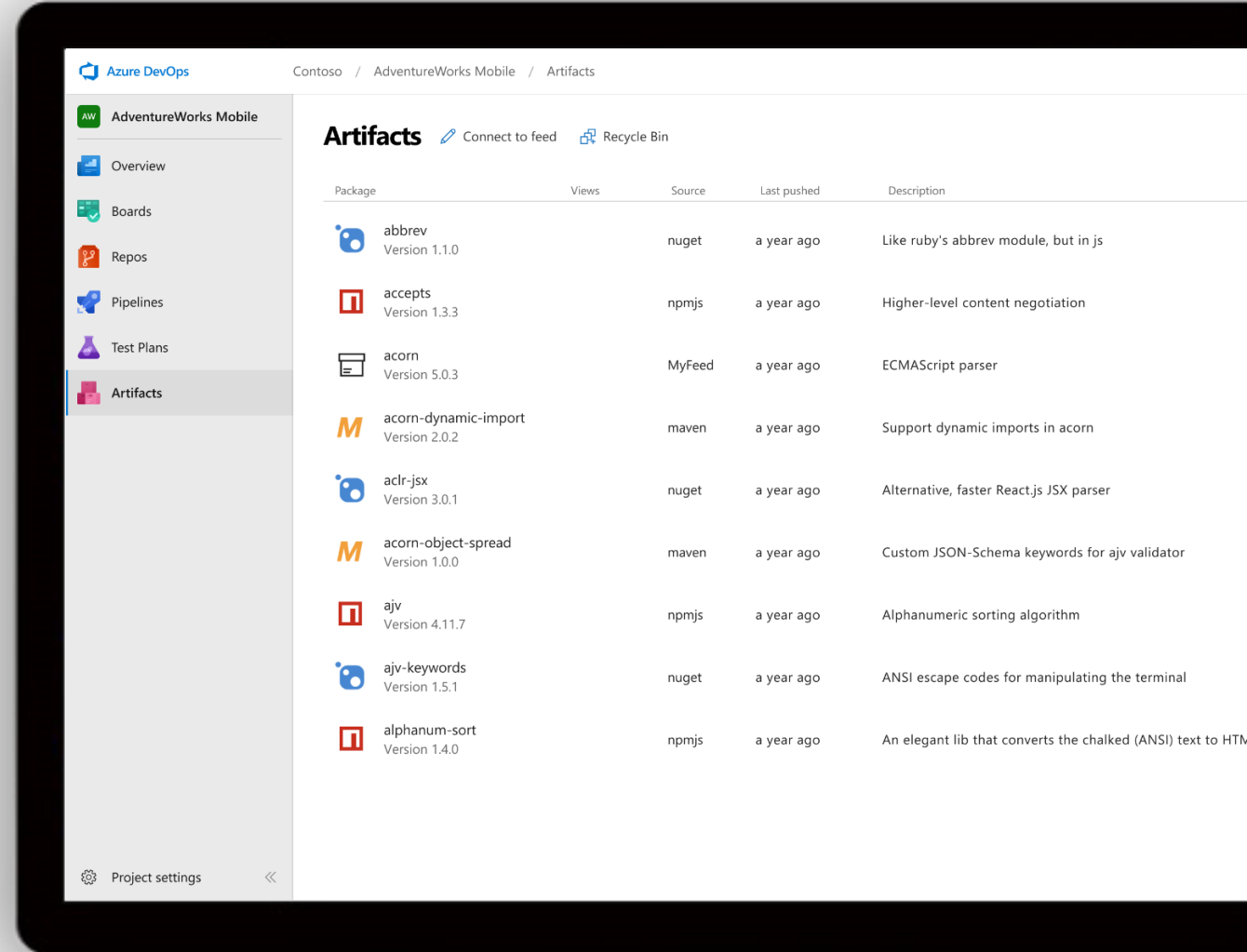Get universal artifact management for Maven, npm, and NuGet.

Add packages to any pipeline

Share packages, and use built-in CI/CD, versioning, and testing.

Share code efficiently

Easily share code across small teams and large enterprises.

https://azure.com/devops

Demo

CI/CD pipeline examples

Azure DevOps

Better together

Azure Boards   **Azure Repos**   **Azure Pipelines**   **Azure Test Plans**   **Azure Artifacts**

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

| Fully Integrated with end to end traceability | Scalable to any team and project size | Highly available, multi region, hybrid cloud & on-prem | Customer Support | Consistent admin and access control |

https://azure.com/devops

DevOps at Microsoft

Azure DevOps is the toolchain of choice for Microsoft internal engineering with over 90,000 internal users

➔ https://aka.ms/DevOpsAtMicrosoft

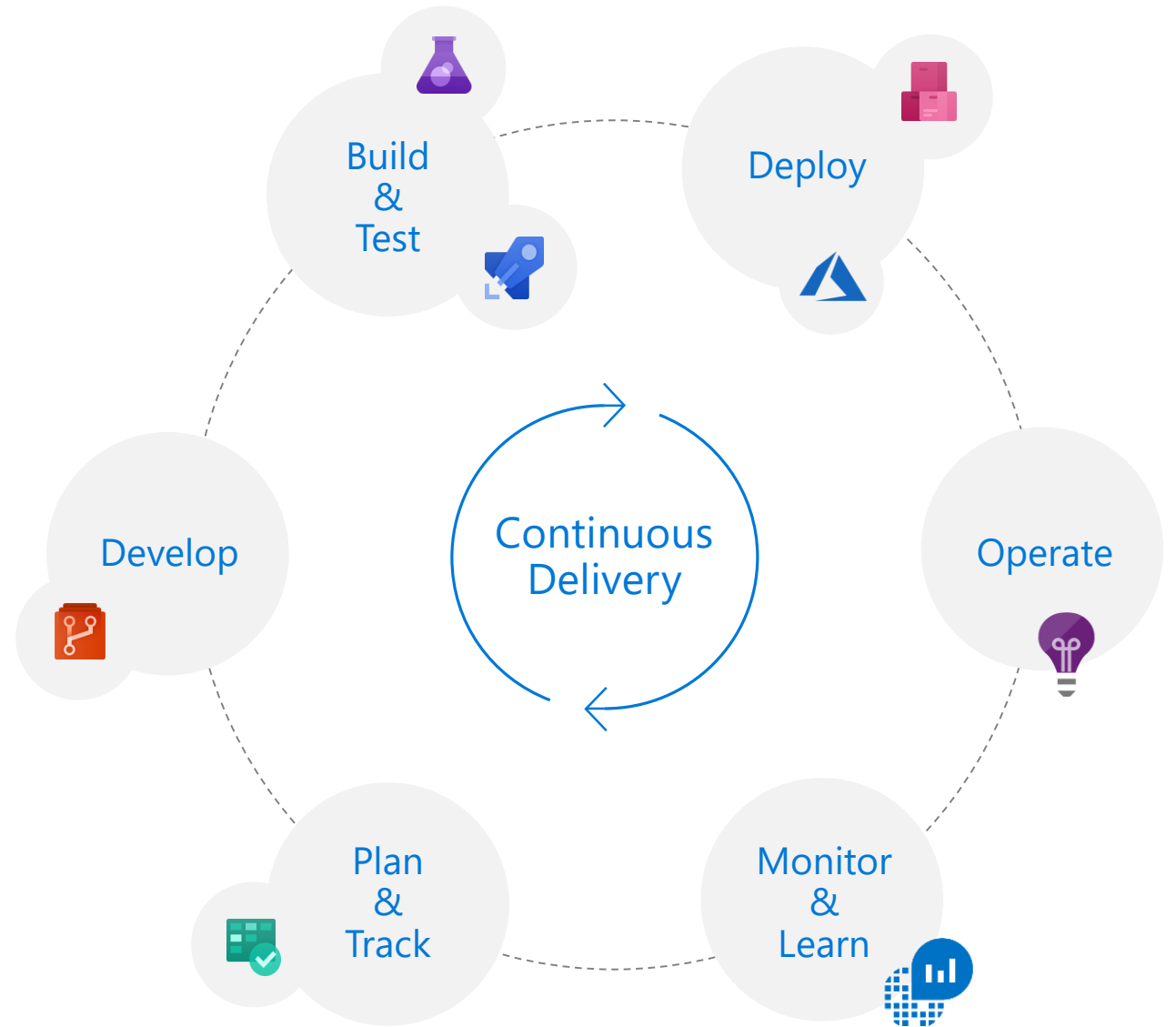|			
372k Pull Requests per month	**4.4m** Builds per month	**5m** Work items viewed per day	**78,000** Deployments per day
2m Git commits per month	**500m** Test executions per day	**500k** Work items updated per day	

Key Takeaway

1. Azure DevOps is an enterprise ready product
2. Any language, Any platform
3. Just give it a try, it's simple
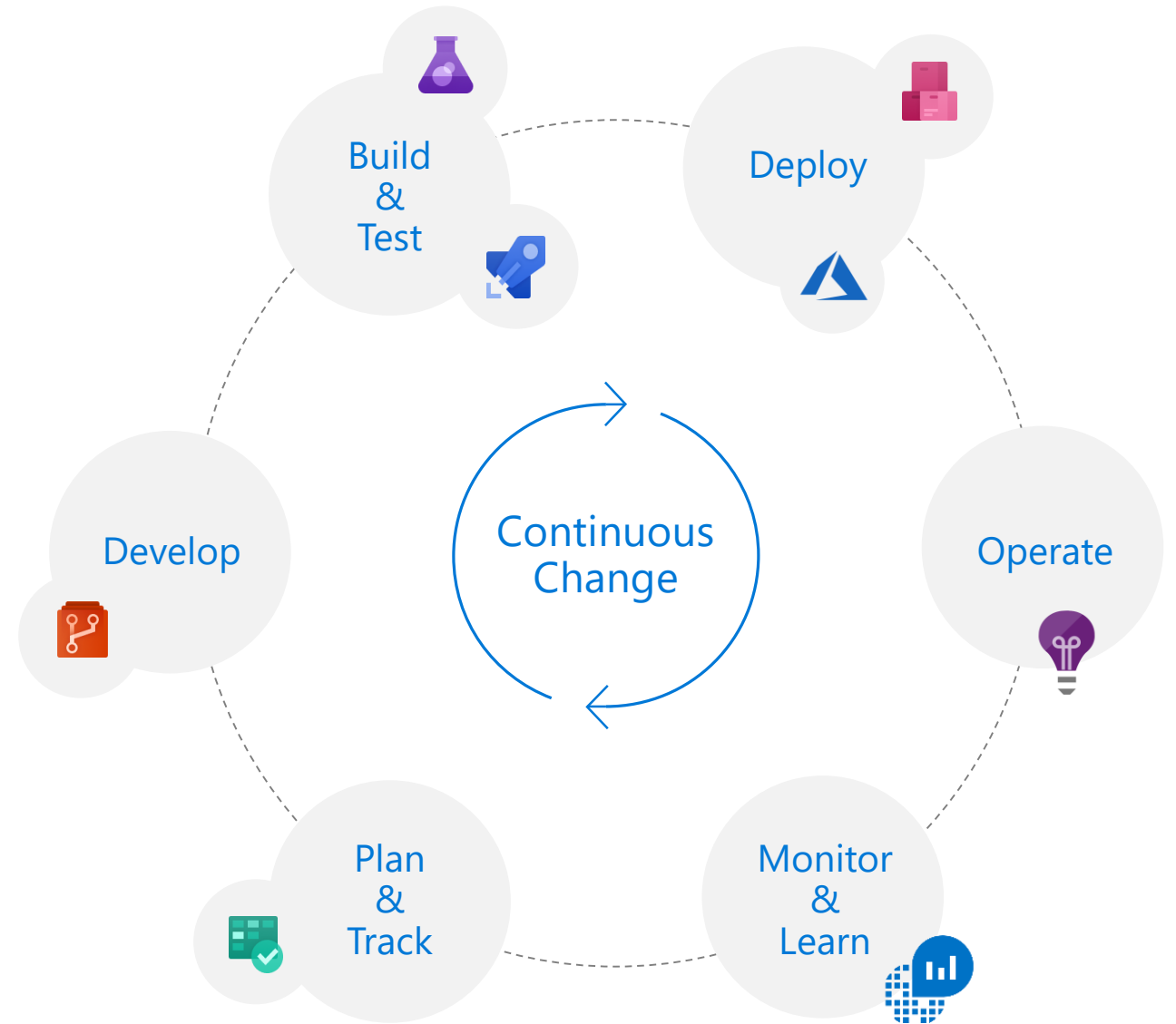   https://dev.azure.com

Key Takeaway

> "To improve is to change; to be perfect is to change often. "

@Winston Churchill

Build & Test

Deploy

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Continuous Change

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Monitor & Learn

Thank You | תודה
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Microsoft Azure