



Getting started with **Azure DevOps**

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Cincy Deliver
July 26, 2019

Who is Chad Green



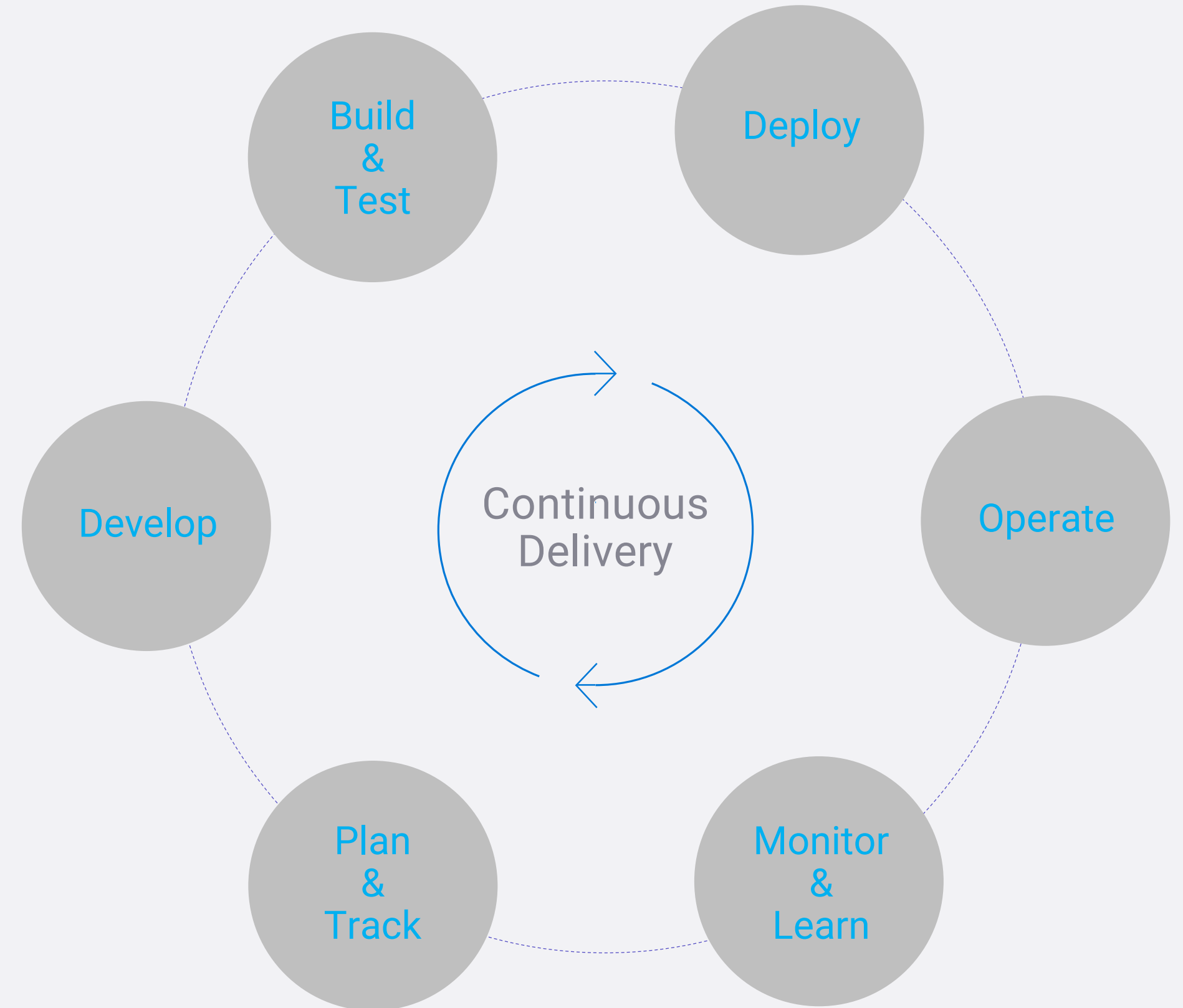
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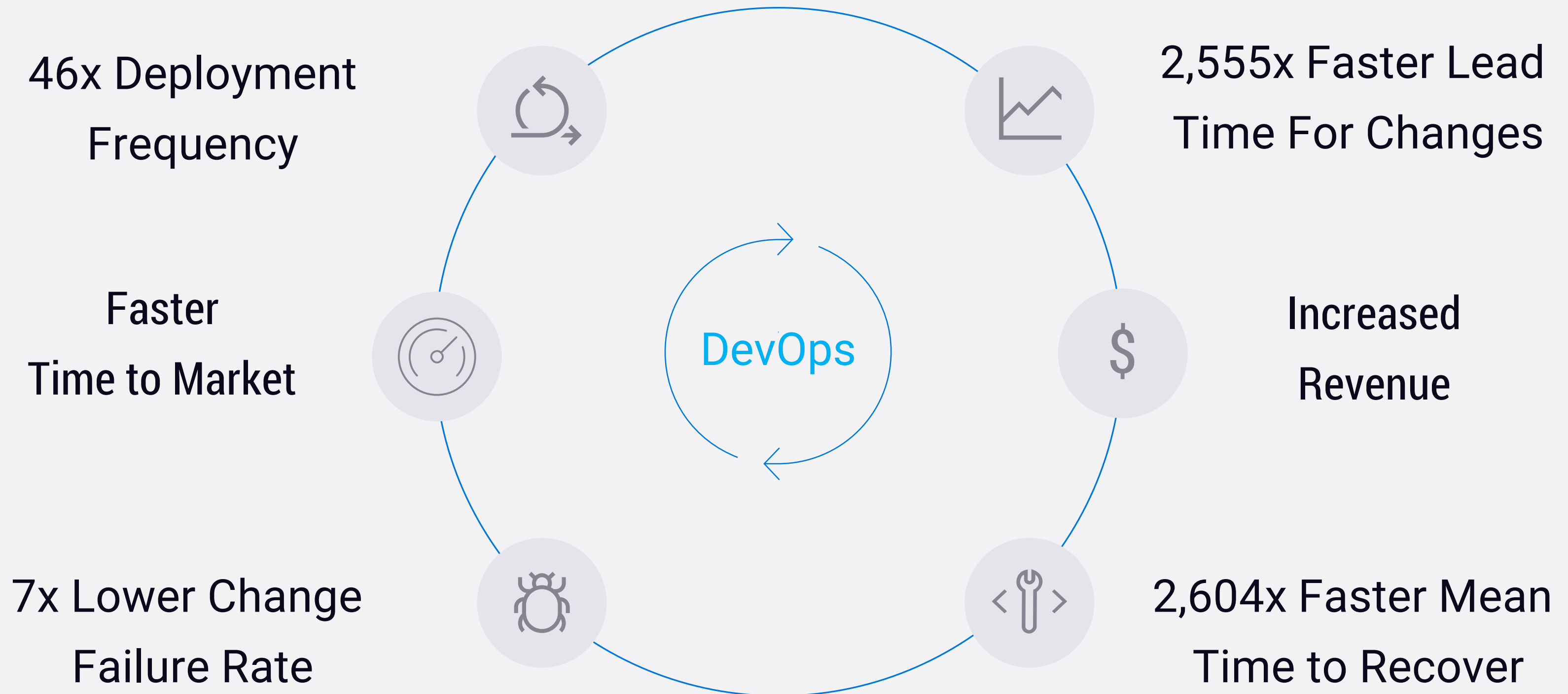
What is DevOps?

People. Process. Products.

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



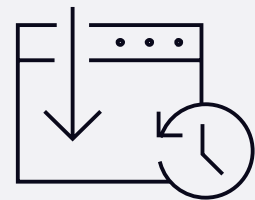
High Performance DevOps Companies Achieve...



Source: 2018 Accelerate: State of DevOps: Strategies for a New Economy." N. Forsgren, J. Humble, G. Kim. DevOps Research and Assessment (DORA)

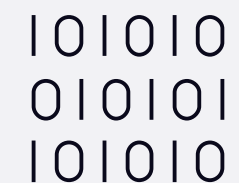
What core technologies do I need to deploy & learn faster?

DevOps brings together people, processes, and technology, automating software delivery to provide continuous value to your users. Using Azure DevOps, you can deliver software faster and more reliably - no matter how big your IT department or what tools you're using.



Continuous Integration (CI)

- Improve software development quality and speed.
- When you use Azure Pipelines or Jenkins to build apps in the cloud and deploy to Azure, each time you commit code, it's automatically built and tested and bugs are detected faster.



Continuous Deployment (CD)

- By combining continuous integration and infrastructure as code (IaC), you'll achieve identical deployments and the confidence to deploy to production at any time.
- With continuous deployment, you can automate the entire process from code commit to production if your CI/CD tests are successful.



Continuous Learning & Monitoring

- With Azure Application Insights you can identify how your applications are performing and test if the recent deployment made things better or worse.
- Using CI/CD practices, paired with monitoring tools, you'll be able to safely deliver features to your customers as soon as they're ready.

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.



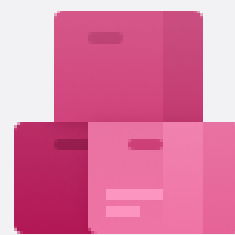
Azure Repos

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.



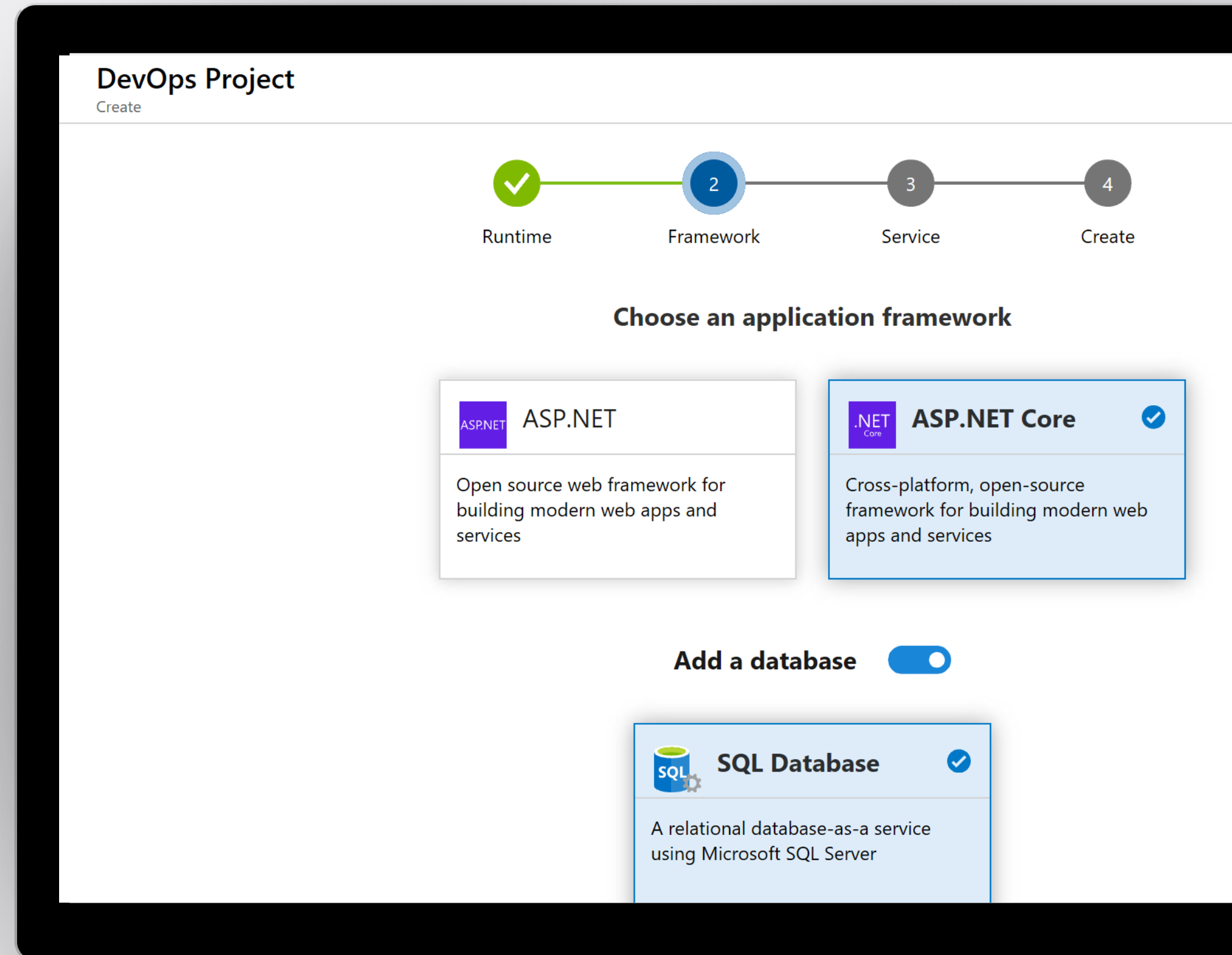
Azure Artifacts

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

DevOps Pipelines in Minutes

Azure DevOps Projects

- ➔ Continuous Create a full ASP.NET DevOps pipeline with 4 easy steps from the Azure Portal
- ➔ Start with a Git repo, web app and pre-configured pipeline
- ➔ Customize, extend and scale when needed.





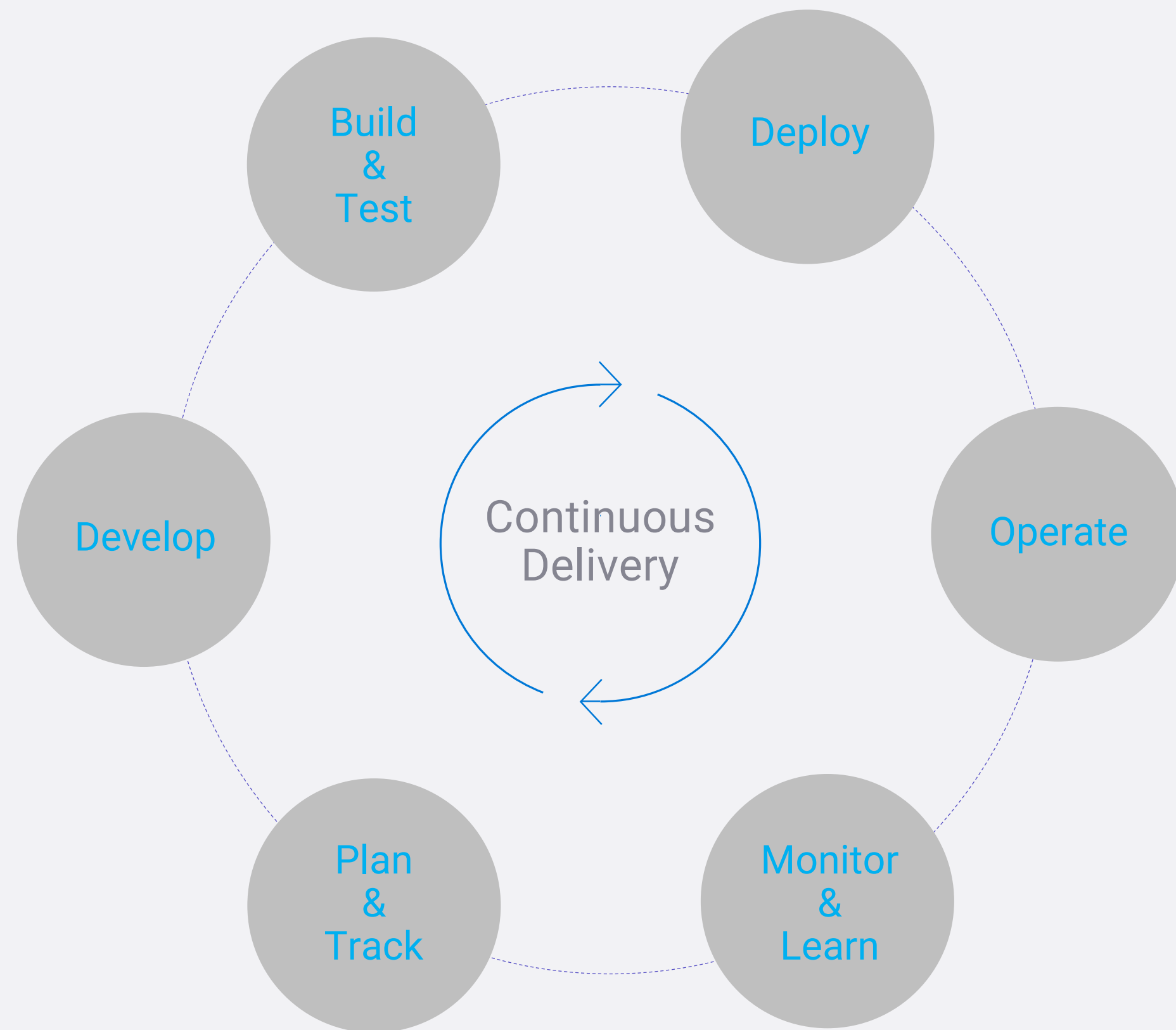
Demo: Azure DevOps Projects

Getting Started with Azure DevOps

Iteratively Removing Impediments

Find the pain points in your DevOps process and improve a bit, reassess, and improve again.

Lots of small incremental improvements add up.



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.



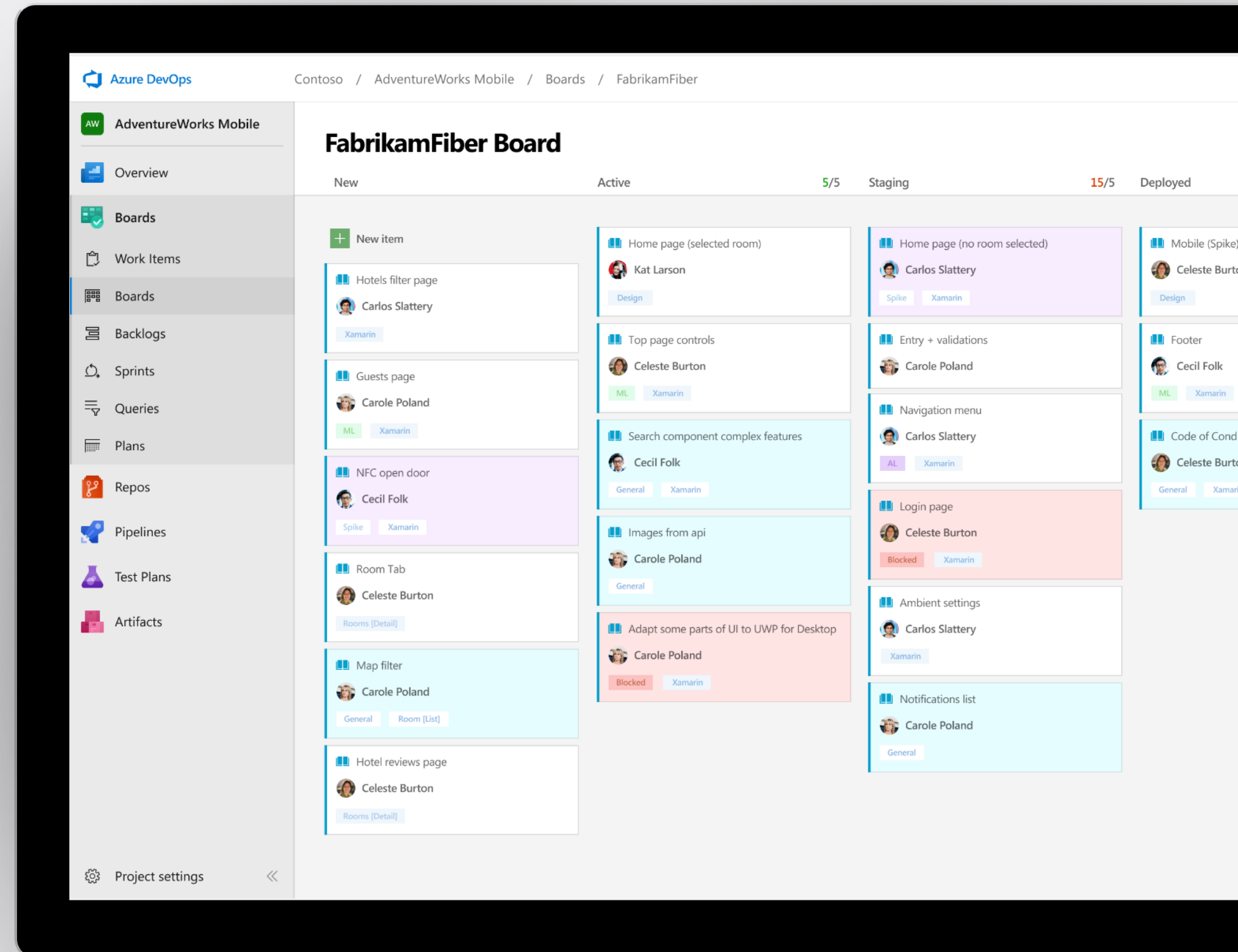
Scrum Ready

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.



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.



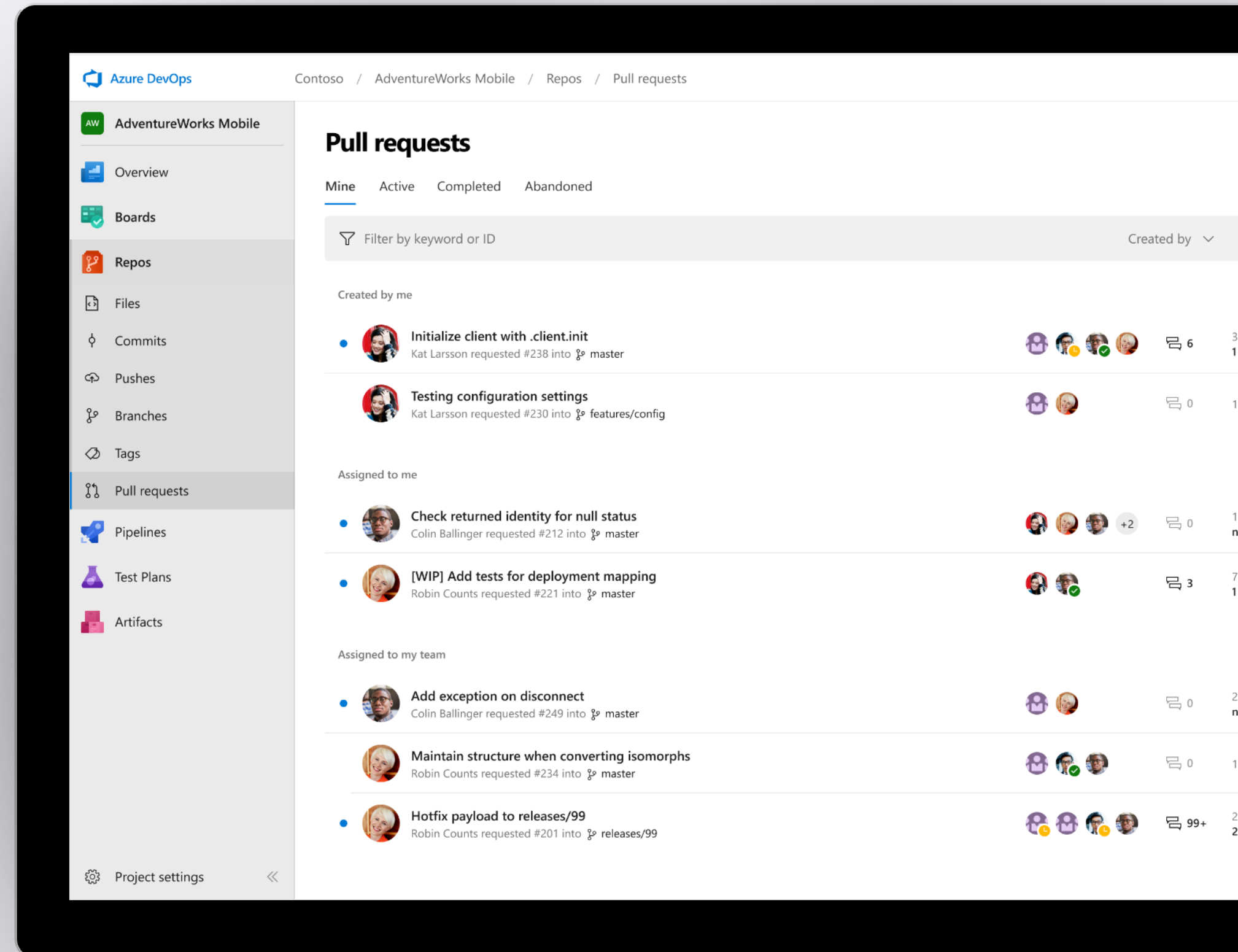
Web Hooks and API integration

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.



Azure Pipelines

Cloud-hosted pipelines for Windows, 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



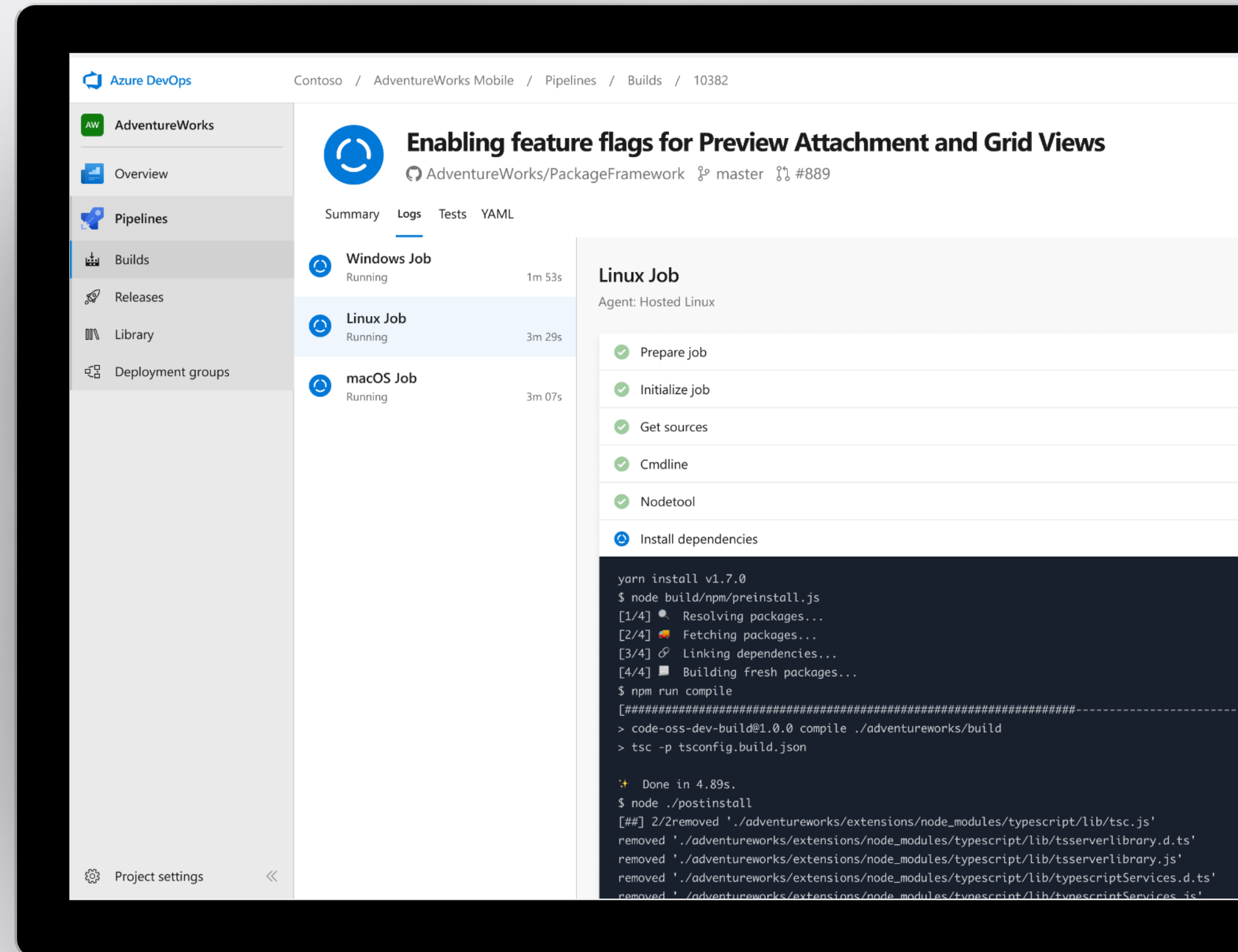
Containers and Kubernetes

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

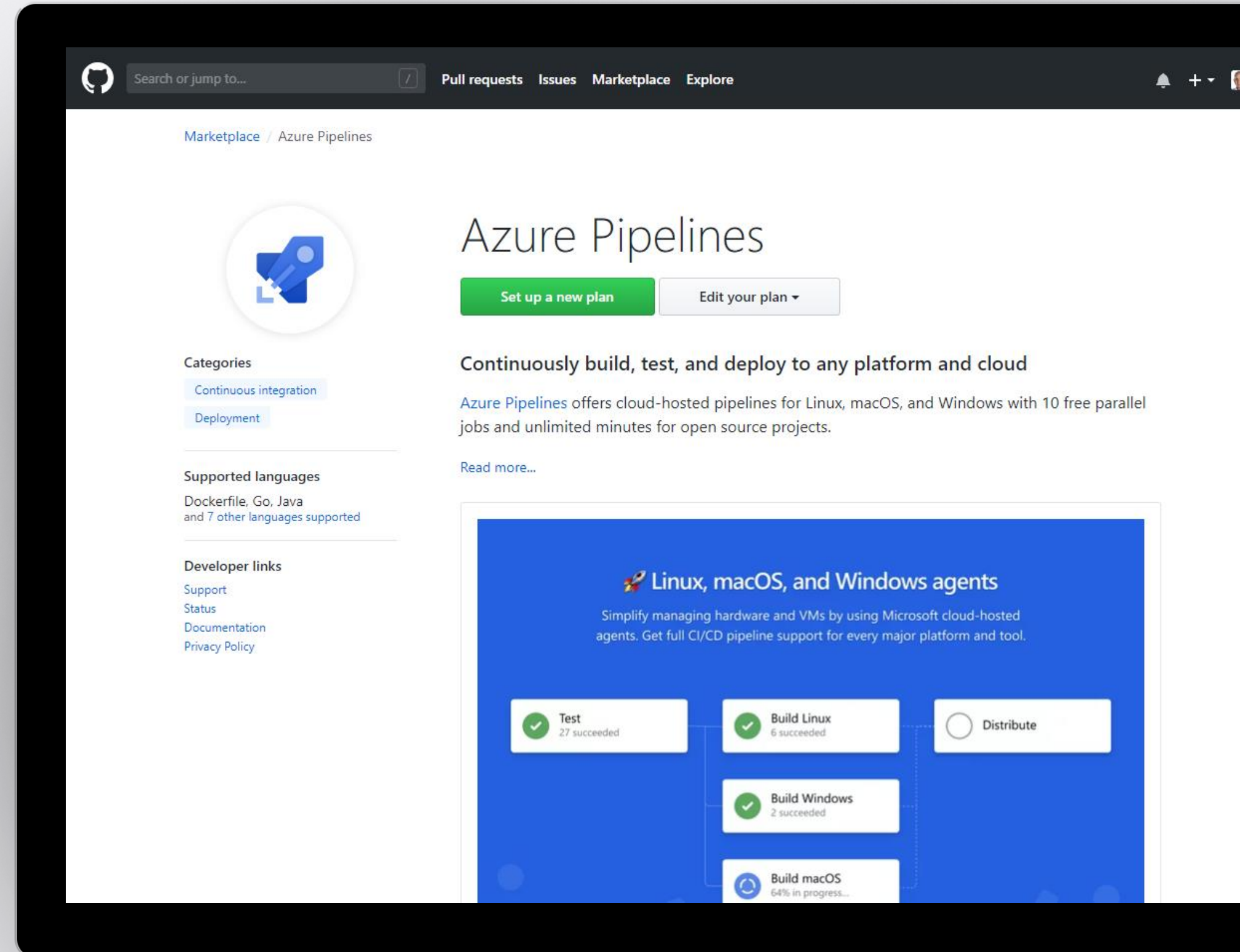
Ensure fast continuous integration/continuous delivery (CI/CD) pipelines for every open source project. Get unlimited build minutes for all open source projects with up to 10 free parallel jobs across Linux, macOS and Windows



Integrated with GitHub

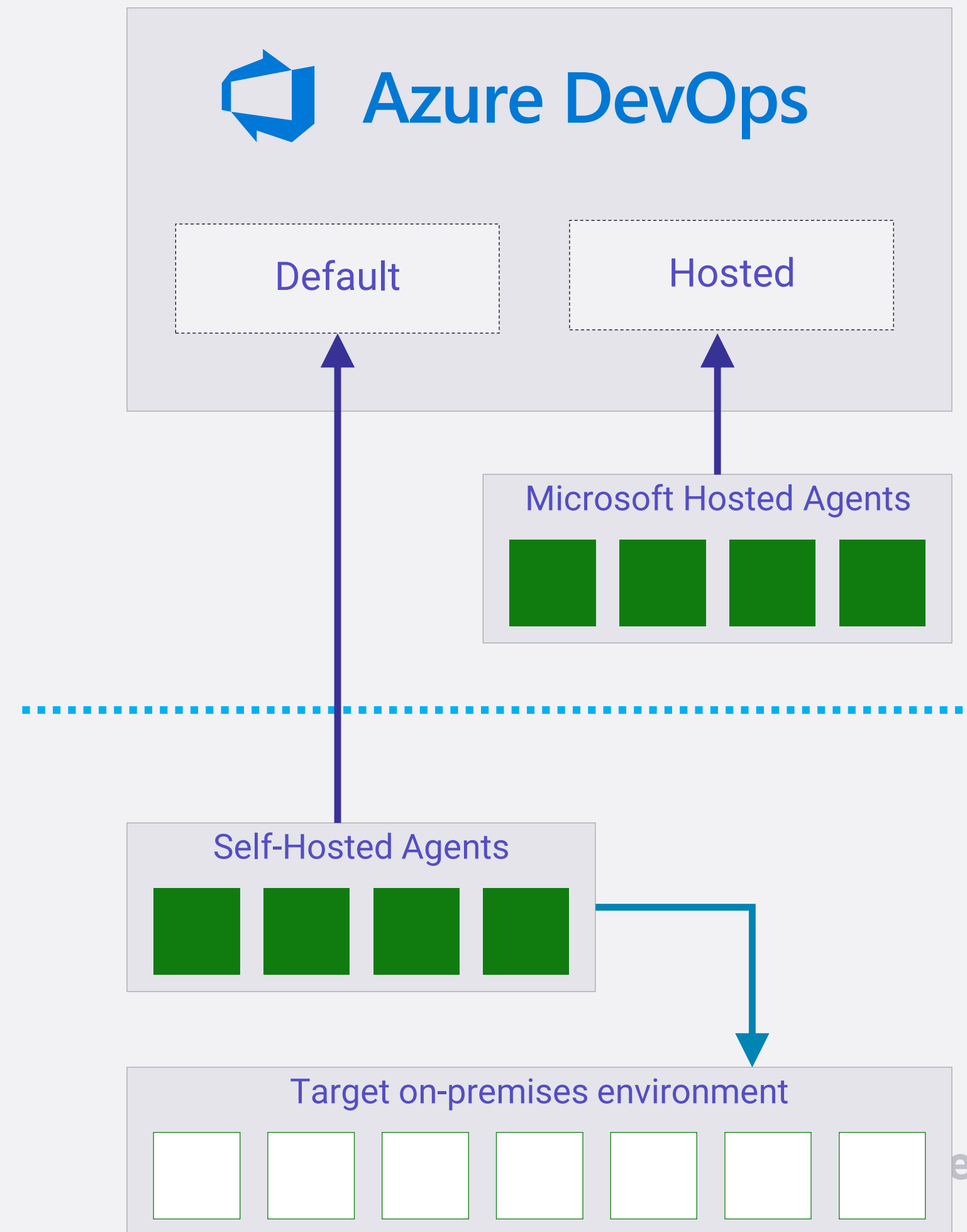


- Azure Pipelines available now to any developer from the GitHub Marketplace



Self-Hosted Agents

- Ideal if you require custom build prerequisites, control vendor license keys, etc.
- Can create in cloud or on-prem
- Can also deploy to on-prem servers from Azure DevOps
- Can use deployment groups to dynamically provision to target deployment group types



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.



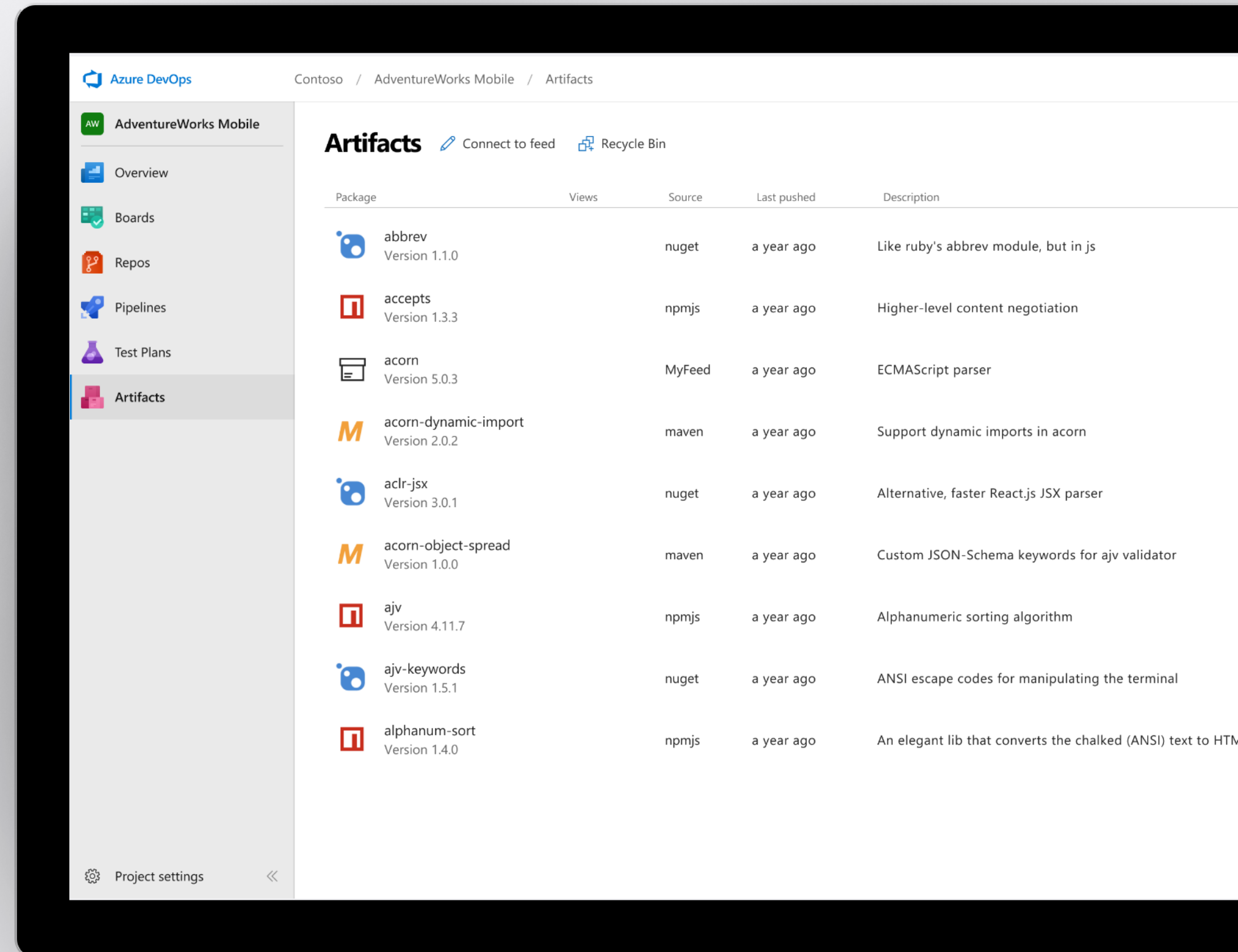
Add packages to any pipeline

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



Share code efficiently

Easily share code across small teams and large enterprises.



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.



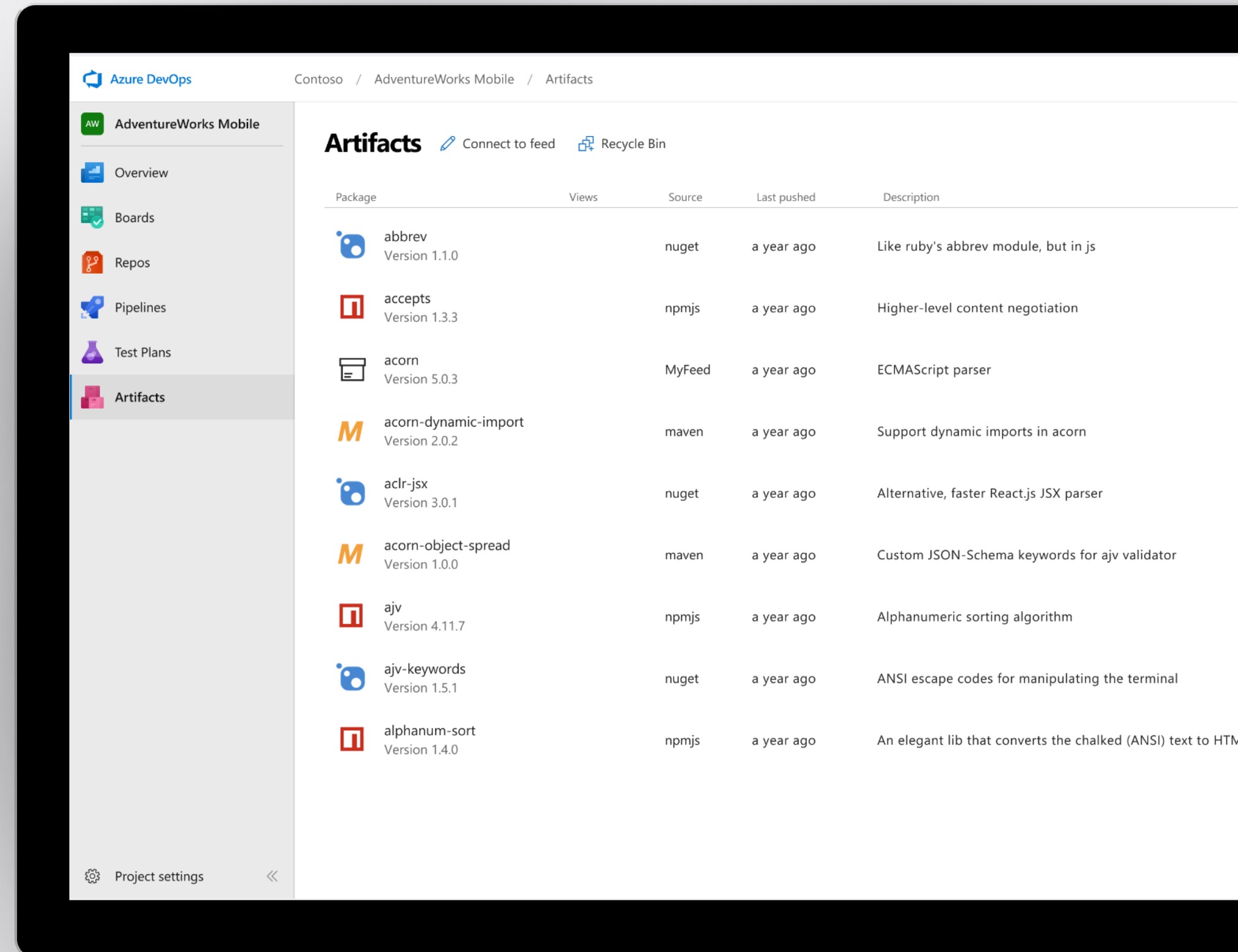
Test across web and desktop

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.



Smarter Insights, Faster

Azure Monitor, Security Center, Application Insights, and Log Analytics

→ Continuous Pre-defined solutions with smart thresholds

→ Visualize data in intuitive and customizable dashboards

→ Separate the signal from the noise and accelerate root-cause analysis

→ Integrate your existing processes & tools like Service Now



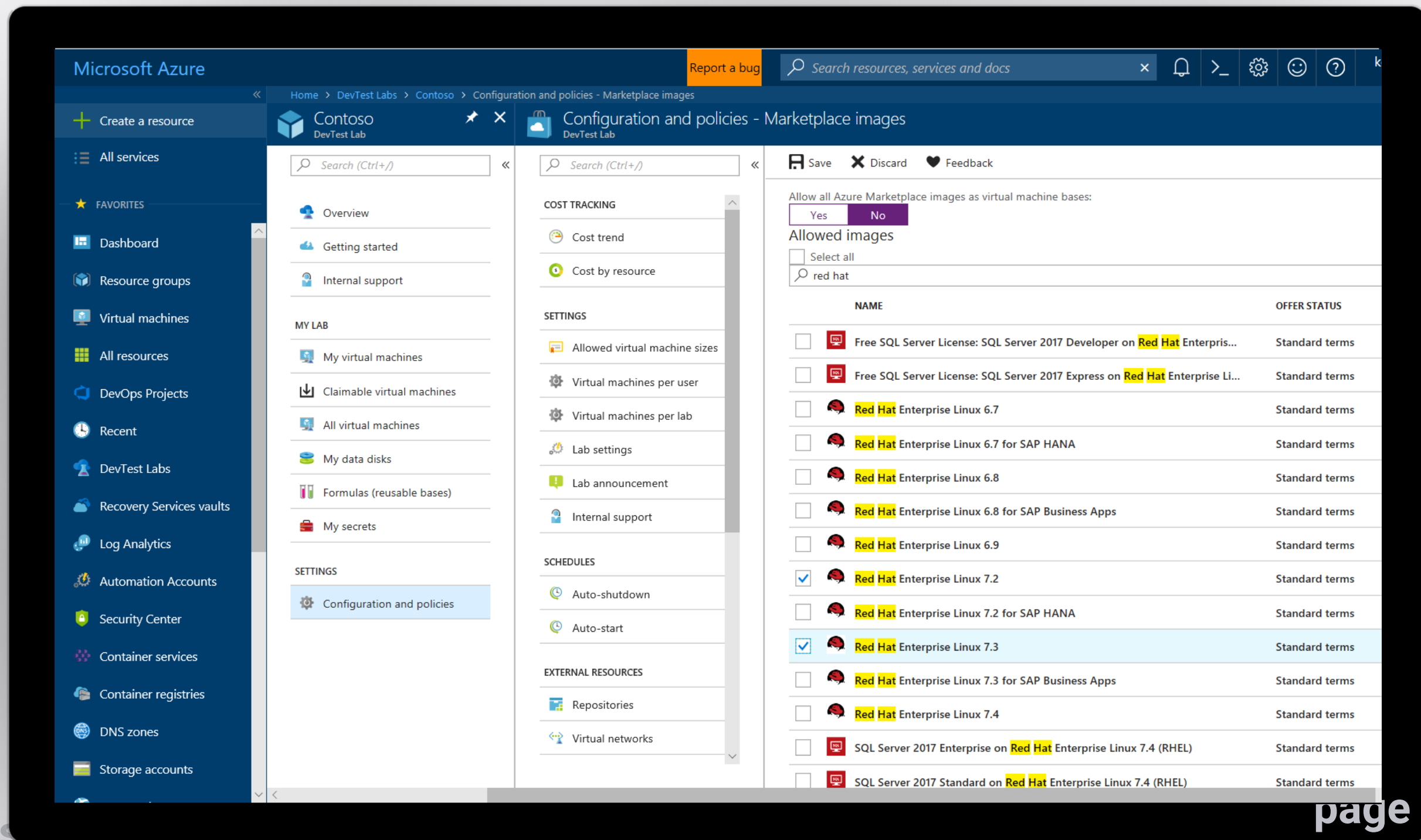
Infrastructure and Configuration as Code

Azure Resource Manager, Automation, and 3rd Party Integrations

→ Infrastructure as Code, built-in

→ Azure Config & Automation

→ Support for 3rd party and OSS tooling such as Terraform, Ansible, Chef, Puppet, and SaltStack



Self-Service Dev/Test Environments

Azure Lab Services

- Simplify cloud environment management for developers and testers
- Enforce policies and control costs with full visibility
- Use templates, custom images, and formulas to reproduce environments
- Orchestrate with Azure Pipelines or integrate using REST API

The screenshot displays the Microsoft Azure portal interface for configuring marketplace images in a DevTest Lab. The left sidebar shows the navigation menu with options like 'Create a resource', 'All services', and 'DevTest Labs'. The main content area is titled 'Configuration and policies - Marketplace images' and includes sections for 'COST TRACKING', 'SETTINGS', 'SCHEDULES', and 'EXTERNAL RESOURCES'. The 'SETTINGS' section is expanded to show 'Allowed virtual machine sizes', 'Virtual machines per user', 'Virtual machines per lab', 'Lab settings', and 'Lab announcement'. The 'Lab settings' section is further expanded to show 'Allow all Azure Marketplace images as virtual machine bases' (set to 'No') and 'Allowed images'. A search bar contains 'red hat', and a table lists various Red Hat Linux images with their offer statuses.

NAME	OFFER STATUS
<input type="checkbox"/> Free SQL Server License: SQL Server 2017 Developer on Red Hat Enterpris...	Standard terms
<input type="checkbox"/> Free SQL Server License: SQL Server 2017 Express on Red Hat Enterprise Li...	Standard terms
<input type="checkbox"/> Red Hat Enterprise Linux 6.7	Standard terms
<input type="checkbox"/> Red Hat Enterprise Linux 6.7 for SAP HANA	Standard terms
<input type="checkbox"/> Red Hat Enterprise Linux 6.8	Standard terms
<input type="checkbox"/> Red Hat Enterprise Linux 6.8 for SAP Business Apps	Standard terms
<input type="checkbox"/> Red Hat Enterprise Linux 6.9	Standard terms
<input checked="" type="checkbox"/> Red Hat Enterprise Linux 7.2	Standard terms
<input type="checkbox"/> Red Hat Enterprise Linux 7.2 for SAP HANA	Standard terms
<input checked="" type="checkbox"/> Red Hat Enterprise Linux 7.3	Standard terms
<input type="checkbox"/> Red Hat Enterprise Linux 7.3 for SAP Business Apps	Standard terms
<input type="checkbox"/> Red Hat Enterprise Linux 7.4	Standard terms
<input type="checkbox"/> SQL Server 2017 Enterprise on Red Hat Enterprise Linux 7.4 (RHEL)	Standard terms
<input type="checkbox"/> SQL Server 2017 Standard on Red Hat Enterprise Linux 7.4 (RHEL)	Standard terms

Azure DevOps Hands-On Labs

- 12 Getting Started labs that help get started with Azure DevOps services to automate software delivery and meets business needs
- 24 Deep Dive labs working with popular open source and third-party tools and services
- www.azuredevopslabs.com

Azure DevOps

Azure DevOps Hands-On Labs

Evaluating your next DevOps tool chain? Want to dive deeper and learn how you can implement modern DevOps practice?

Learn to plan smartly, collaborate better, and ship faster with a set of modern development services.

[Sign up for free now](#)

Azure DevOps | Team Foundation Server

Getting started

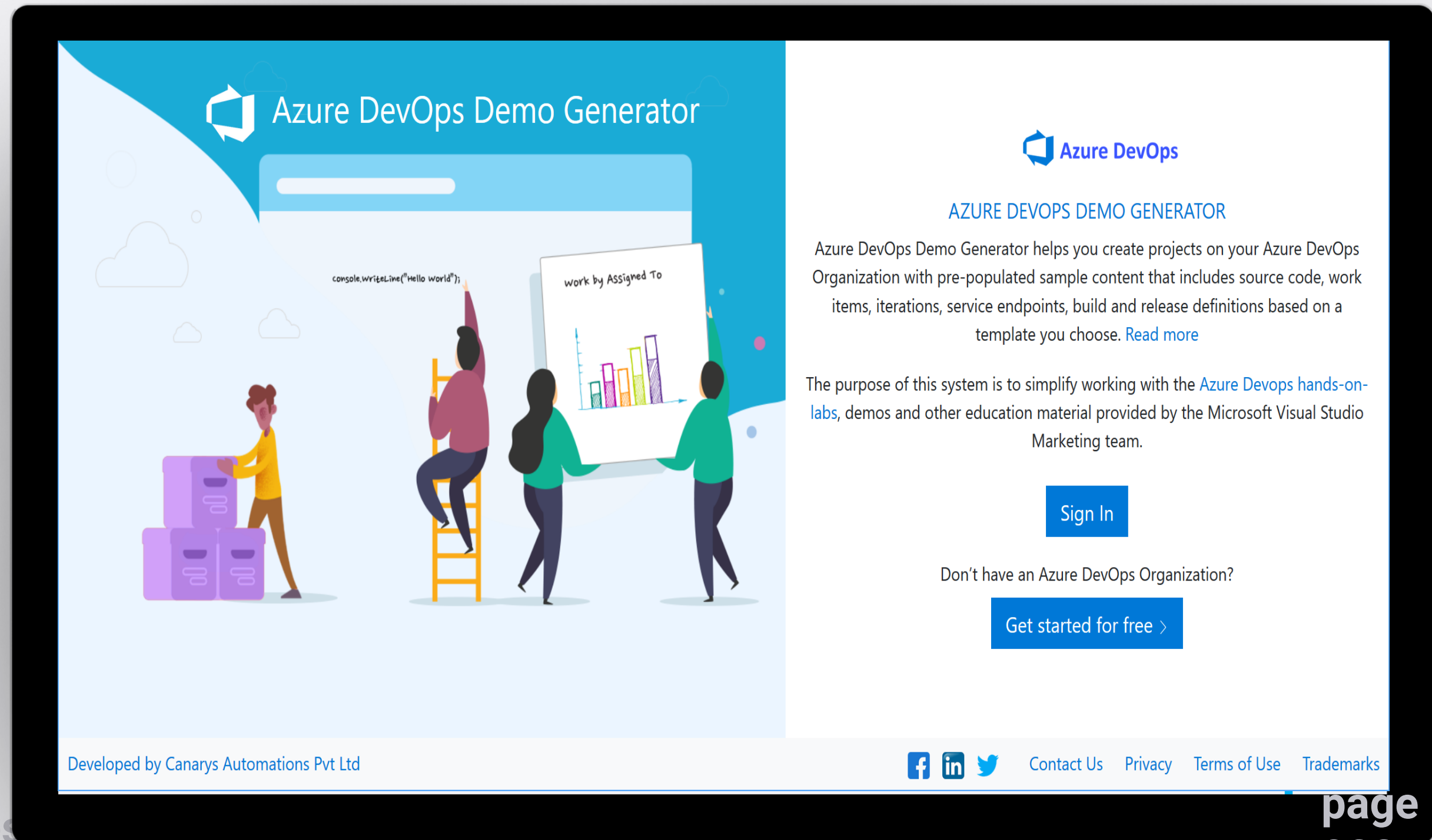
Simplify and speed up the DevOps process with Azure DevOps services. The following labs will help you to get started with Azure DevOps services to automate software delivery and meet business needs.

- Agile Planning and Portfolio Management with Azure Boards
- Enabling Continuous Integration with Azure Pipelines
- Exploratory Testing with Azure Test Plans
- Managing Technical Debt with Azure DevOps and SonarCloud
- Version Controlling with Azure Repos
- Embracing Continuous Delivery with Azure Pipelines
- Web Application Load and Performance Testing
- Collaborating with Azure DevOps Wiki

[Got a moment](#)

Azure DevOps Demo Generator

- Helps provision projects with pre-populated sample content
- Includes source code, work items, iterations, service connections, build, and release pipelines
- azuredevopsdemogenerator.azurewebsites.net



Azure DevOps Demo Generator

Azure DevOps

AZURE DEVOPS DEMO GENERATOR

Azure DevOps Demo Generator helps you create projects on your Azure DevOps Organization with pre-populated sample content that includes source code, work items, iterations, service endpoints, build and release definitions based on a template you choose. [Read more](#)

The purpose of this system is to simplify working with the [Azure DevOps hands-on-labs](#), demos and other education material provided by the Microsoft Visual Studio Marketing team.

[Sign In](#)

Don't have an Azure DevOps Organization?

[Get started for free >](#)

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Free

Open Source Projects

Unlimited users and build time

- **Azure Pipelines:** 10 parallel jobs with unlimited minutes for CI/CD
- **Azure Boards:** Work item tracking and Kanban boards
- **Azure Repos:** Unlimited public Git repos

Free

Small Teams

Start free with up to 5 users

- **Azure Pipelines:** 1 hosted job with 1,800 minutes per month for CI/CD and 1 self-hosted job
- **Azure Boards:** Work item tracking and Kanban boards
- **Azure Repos:** Unlimited private Git repos
- **Azure Artifacts:** Package management (2-Gb free)
- **Load Testing:** 20,000 VUMs/month
- Unlimited Stakeholders

Starting at

\$30

per month

Teams of any size

- **Azure Pipelines:** 1 hosted job with 1,800 minutes per month for CI/CD and 1 self-hosted job
- **Azure Boards:** Work item tracking and Kanban boards
- **Azure Repos:** Unlimited private Git repos
- **Azure Artifacts:** Package management (2-Gb free)
- **Load Testing:** 20,000 VUMs/month
- Unlimited Stakeholders

Azure Test Plans

\$52/month

Plan, track, and execute tests from one place

- Testing planning, tracking, and execution
- Browser-based tests with annotation
- Rich-client test execution
- User acceptance testing
- Centralized reporting

Azure Artifacts

2-Gb Free, then starting at \$2/Gb

Private, hosted package management from Microsoft

- Best-in-class NuGet server
- Private Maven and npm repositories
- Automatic versioning
- Continuous integration
- Sophisticated access controls

Other Extensions

Free and Paid

Access 1000+ extensions or create your own

- Slack integration
- Docker integration
- Analytics
- Test and feedback
- Code search

Visual Studio Subscriber Benefits

Azure DevOps included with subscriptions

Visual Studio subscribers get free access to Azure DevOps.

Subscribers get access to any number of accounts and do not count against your 5 free users.

Visual Studio Professional

Basic Features

Visual Studio Enterprise

Basic Features
Package Management
Test Manager
1 concurrent job or self-hosted CI/CD

Azure DevOps



Azure Boards



Azure Repos



Azure Pipelines



Azure Test Plans



Azure Artifacts



Plan smarter, collaborate better, and ship faster with a set of modern dev services



Any developer, any platform, any cloud. Full support for hybrid cloud, on-premises & containers.



Use all the Azure DevOps services or choose just what you need to complement your existing workflows



Best in class builds for open source. Free unlimited build minutes for public projects and up to 10 free concurrent jobs across Windows, Linux and macOS



Get started for free for small teams, scales to support the largest enterprises

Start free today



<https://azure.com/devops>

ure DevOps

thank you.

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