Microsoft

January 30, 2019 — 8:30 AM - 5:00 PM | Detroit, Michigan

Azure Dev Day

Learn, architect, and develop solutions on Azure

#AzureDevDays

for developers, by developers

Learn.

Connect.

Explore.

Microsoft

Azure DevOps Services

Randy Pagels
Azure Technical Specialist – App Dev

Learn.

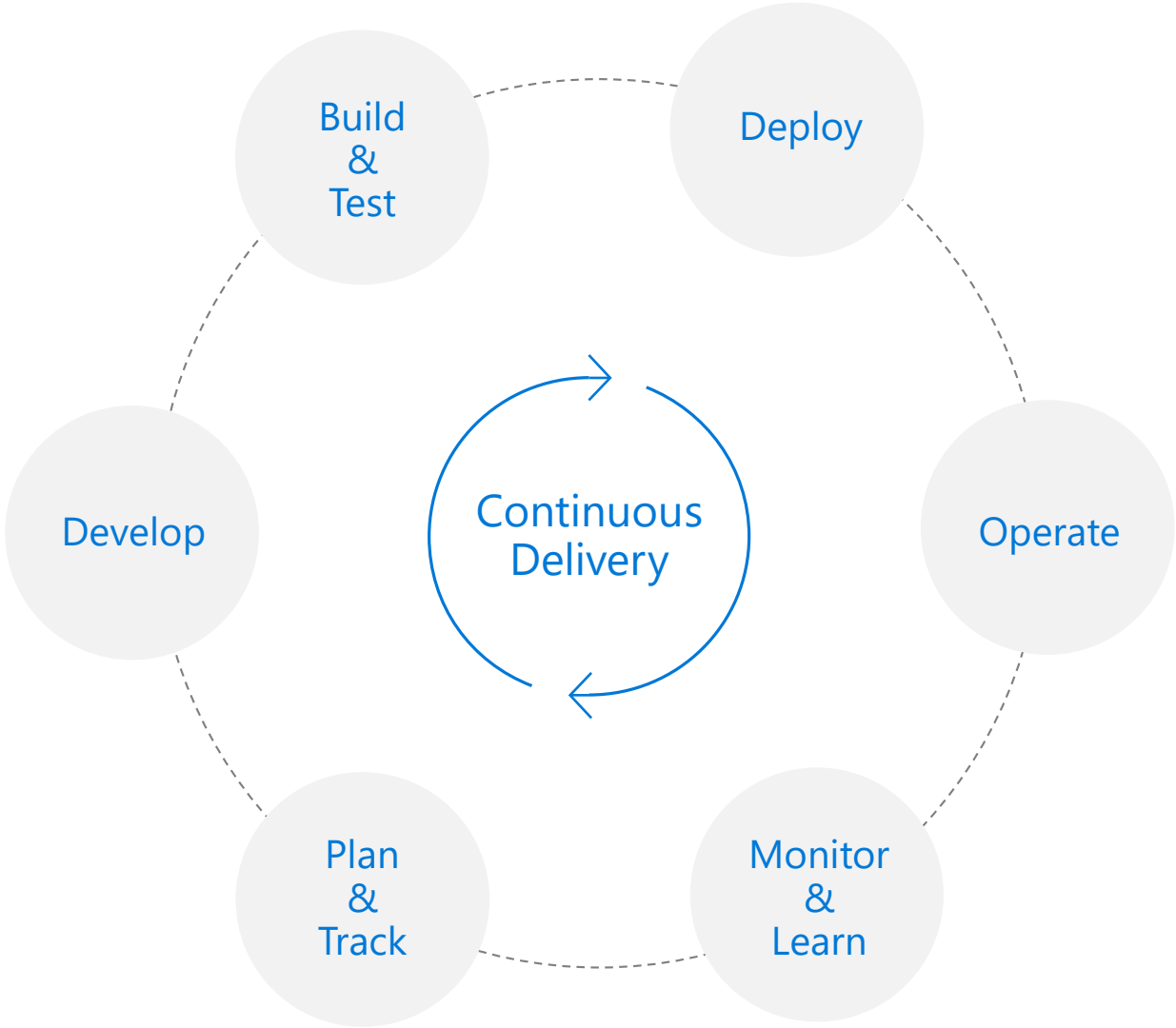
Connect.

Explore.

What is DevOps?

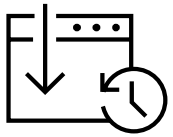
People. Process. Products.

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



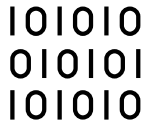
What technologies do I need to support DevOps?

DevOps brings together people, processes, and products, 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 Pipeliens 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.

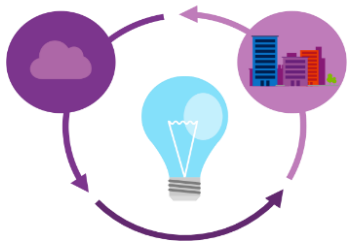
Business Needs

Drive innovation

Reach and engage

Accelerate time-to-market while reducing costs

What needs to change to address those needs?



Shorten cycle times and deliver value faster

Improve **quality** and availability

Optimize resources and eliminate waste

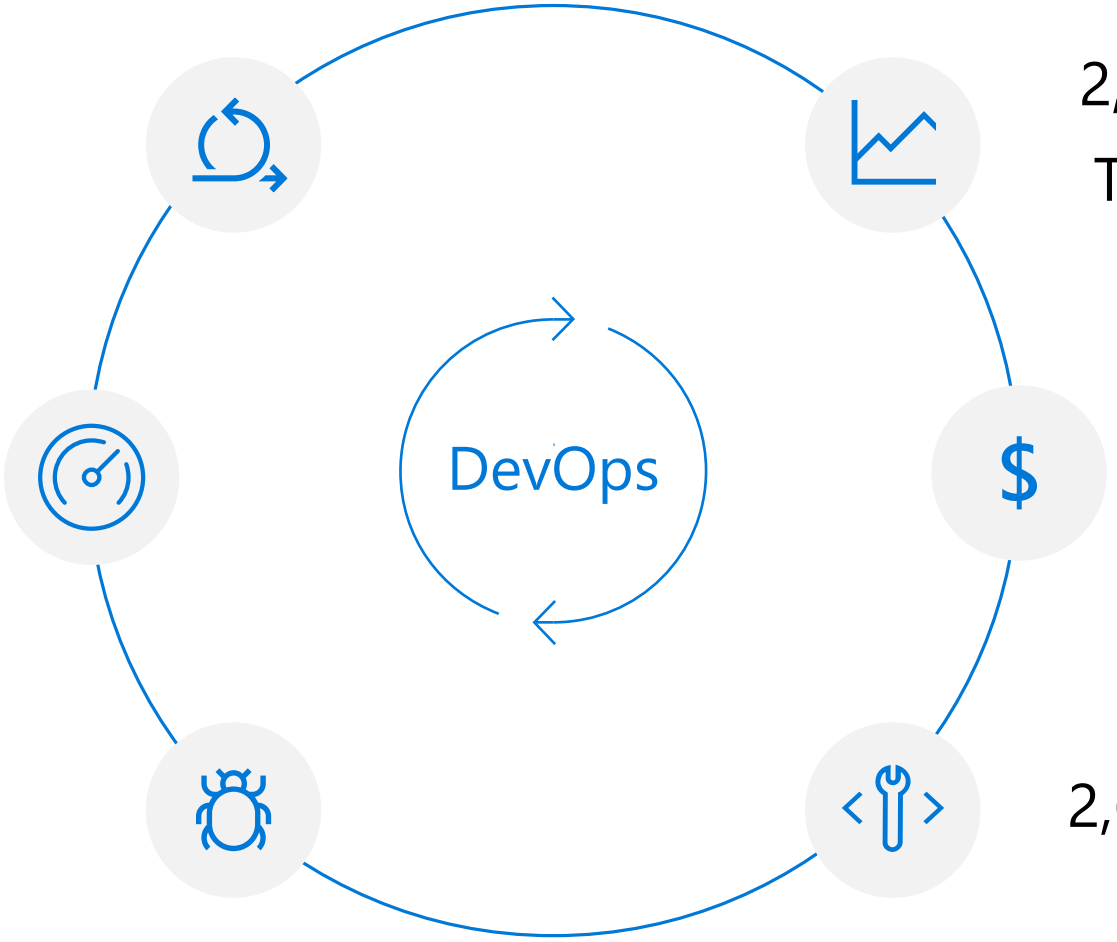
Deliver **innovation and great customer experience** through experimentation

High Performance DevOps Companies Achieve…

46x Deployment Frequency

Faster Time to Market

7x Lower Change Failure Rate



2,555x Faster Lead Time For Changes

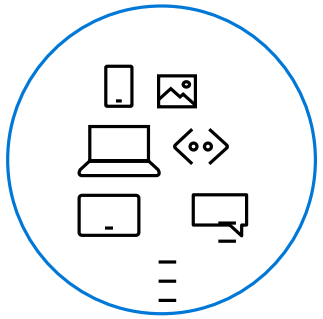
Increased Revenue

2,604x Faster Mean Time to Recover

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

How Microsoft can help

Microsoft Azure is a powerful and flexible foundation for past, present, and future apps – easily build, manage, and deploy any application and any stack on a massive, global network using your favorite tools and frameworks.

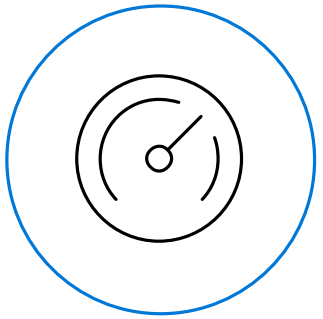


Flexible

Choice of IaaS, PaaS, public cloud or hybrid.

Mirror or modernize app infrastructure with VMs, containers, microservices or serverless.

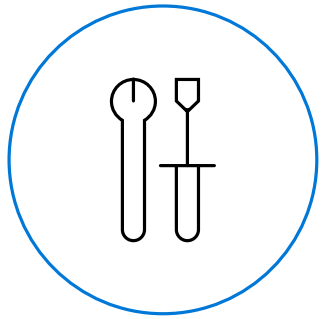
Supports all stages of the app modernization journey – from lift-and-shift to Cloud-Native.



Powerful

Instantly improve the performance, scalability and resiliency of your apps by moving them to the cloud.

Increase business agility with Cloud-Native capabilities and built-in DevOps for continuous innovation.



Open

Bring your stack, we bring a cloud that runs any app, on any platform, and any language.

Build applications using the language and tools of your choice - Azure supports what you already use and love so you can get up and running fast – just bring code.

Azure DevOps Services

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

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.

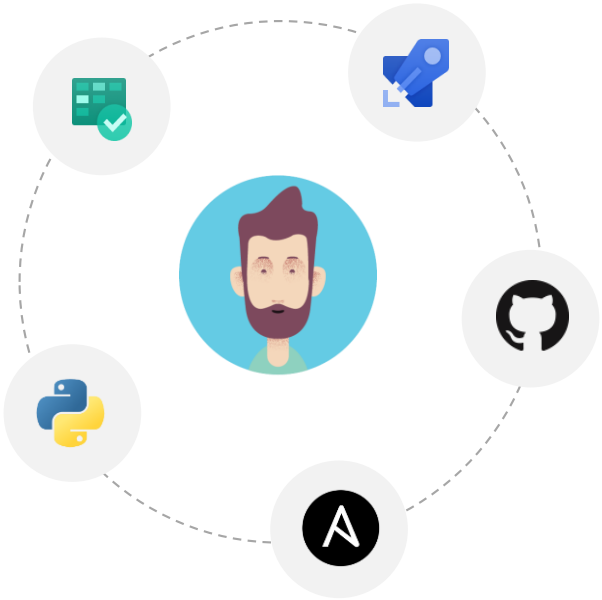
Azure Lab Services

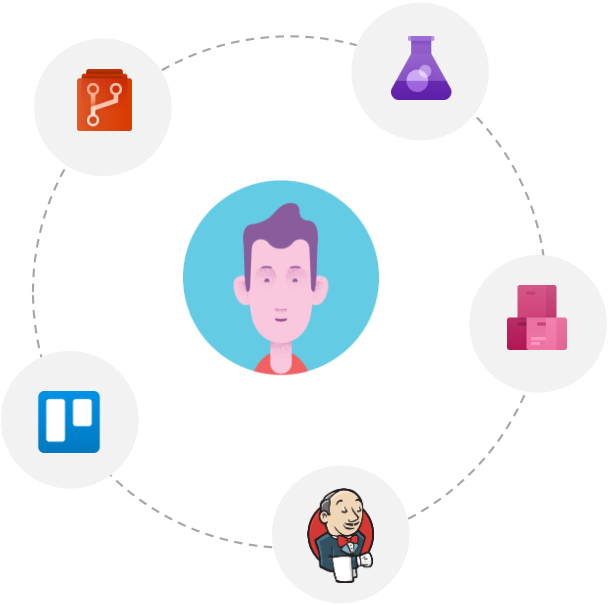
Self-service DevTest Environments

Azure DevOps: Choose what you love

Any Language, Any Platform

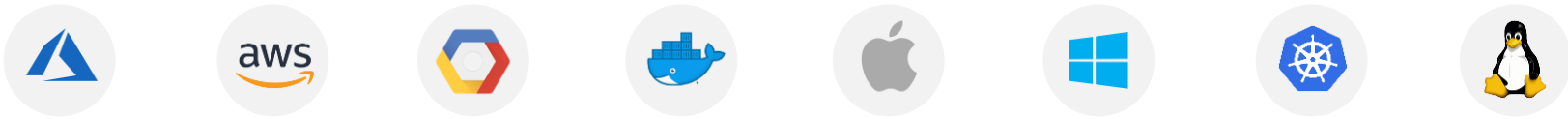
Azure DevOps lets developers choose the tools and languages that are right for them



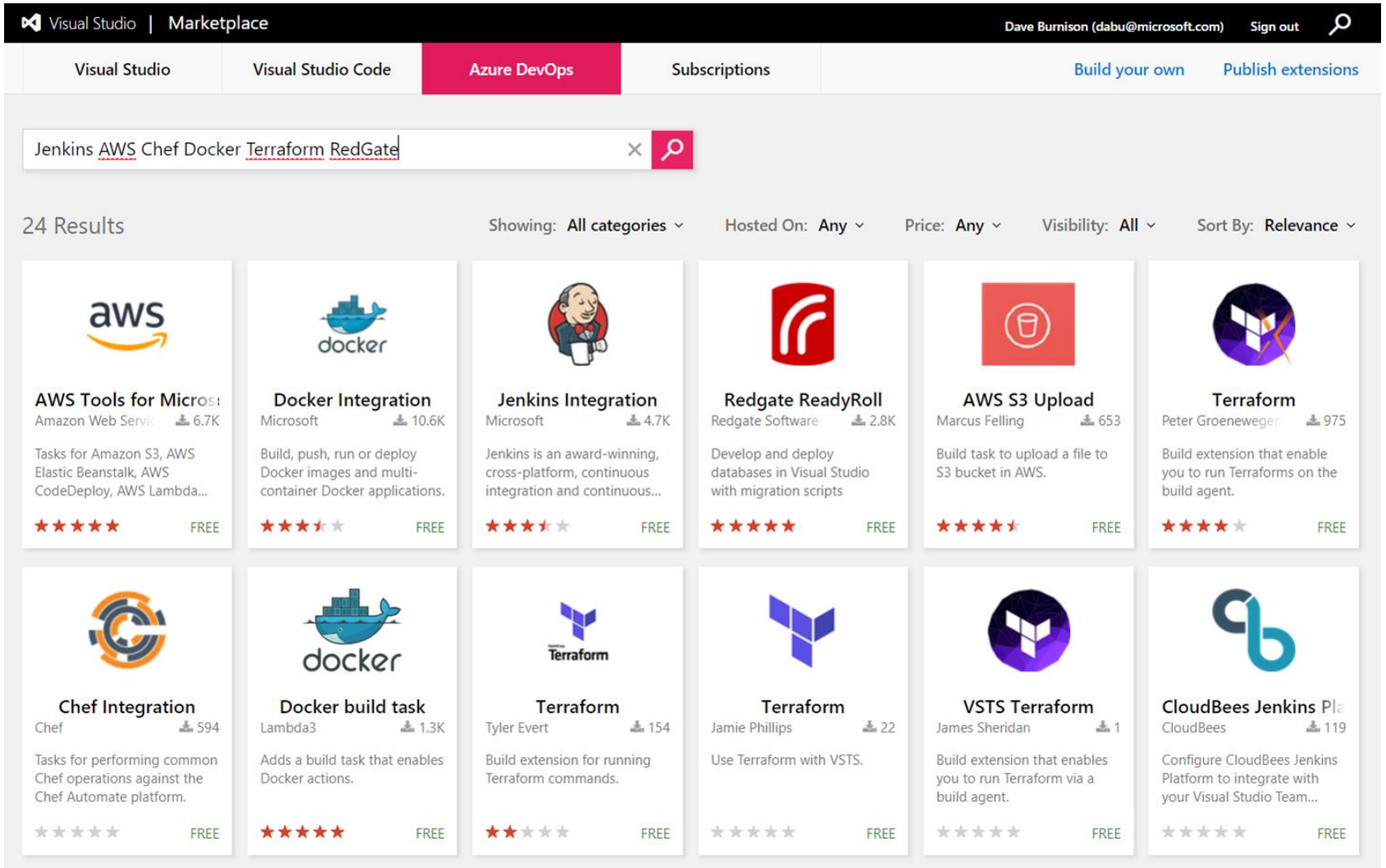


Mix and match to create workflows with tools from Microsoft, open source or your favorite 3rd party tools

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

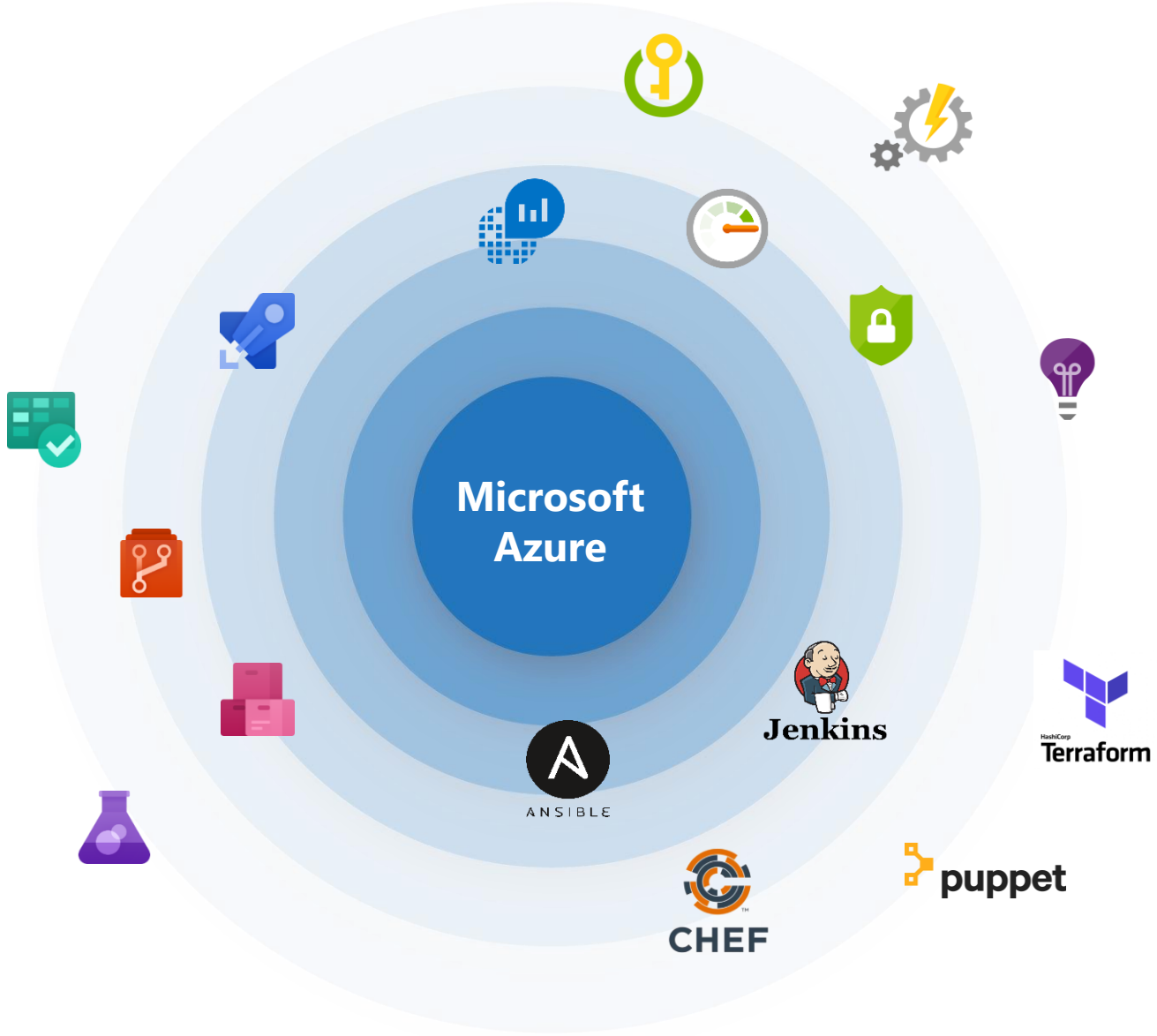


Get 3rd Party Extensions in the Azure DevOps Marketplace



https://marketplace.visualstudio.com/azuredevops

Broadening the Azure Ecosystem



Demo

Azure DevOps Services

Azure Boards

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

Connected from idea to release

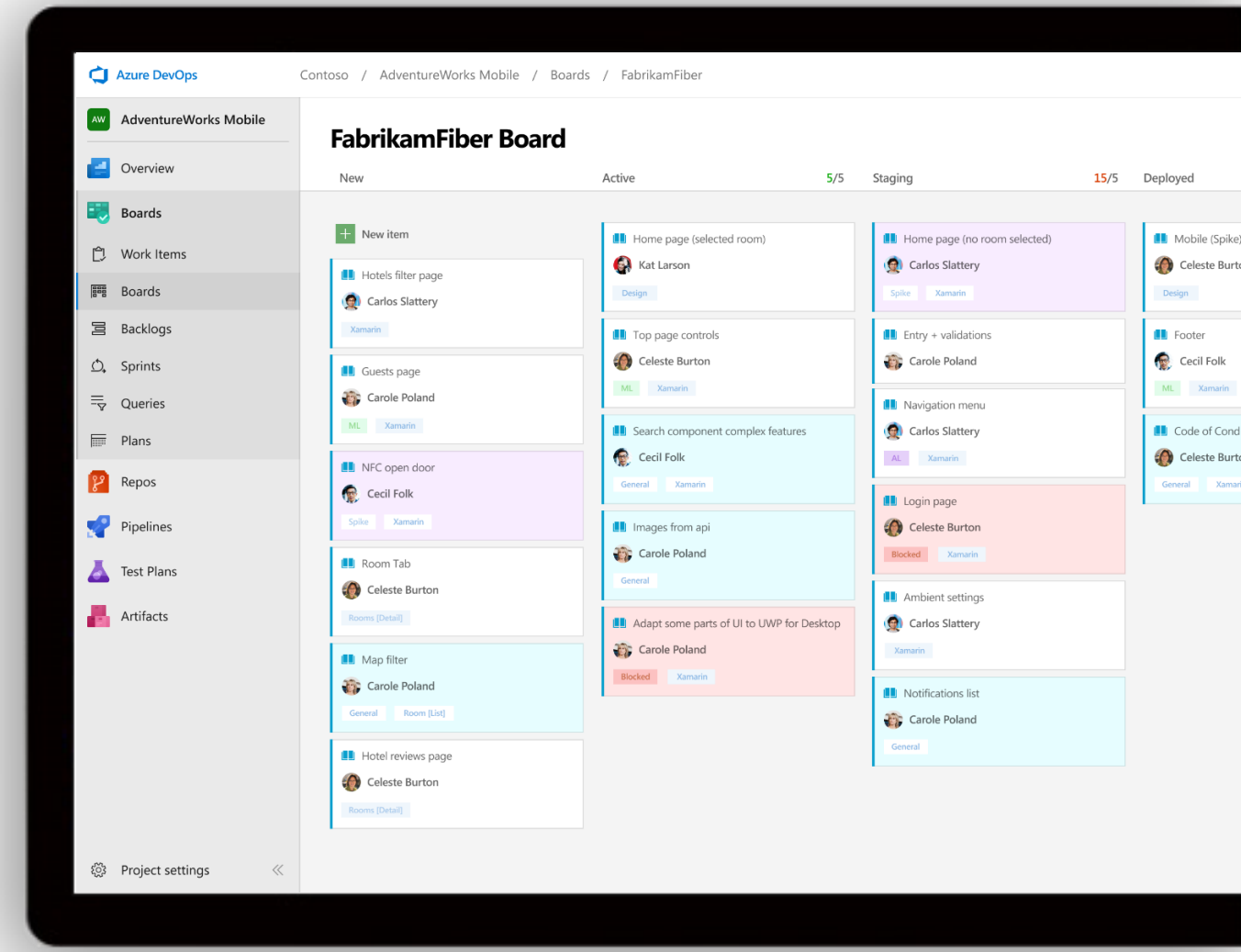
Track all your ideas at every development stage and keep your team aligned with all code changes linked directly to work items.

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

Azure Pipelines

Cloud-hosted pipelines for Linux, Windows and macOS.

Any language, any platform, any cloud

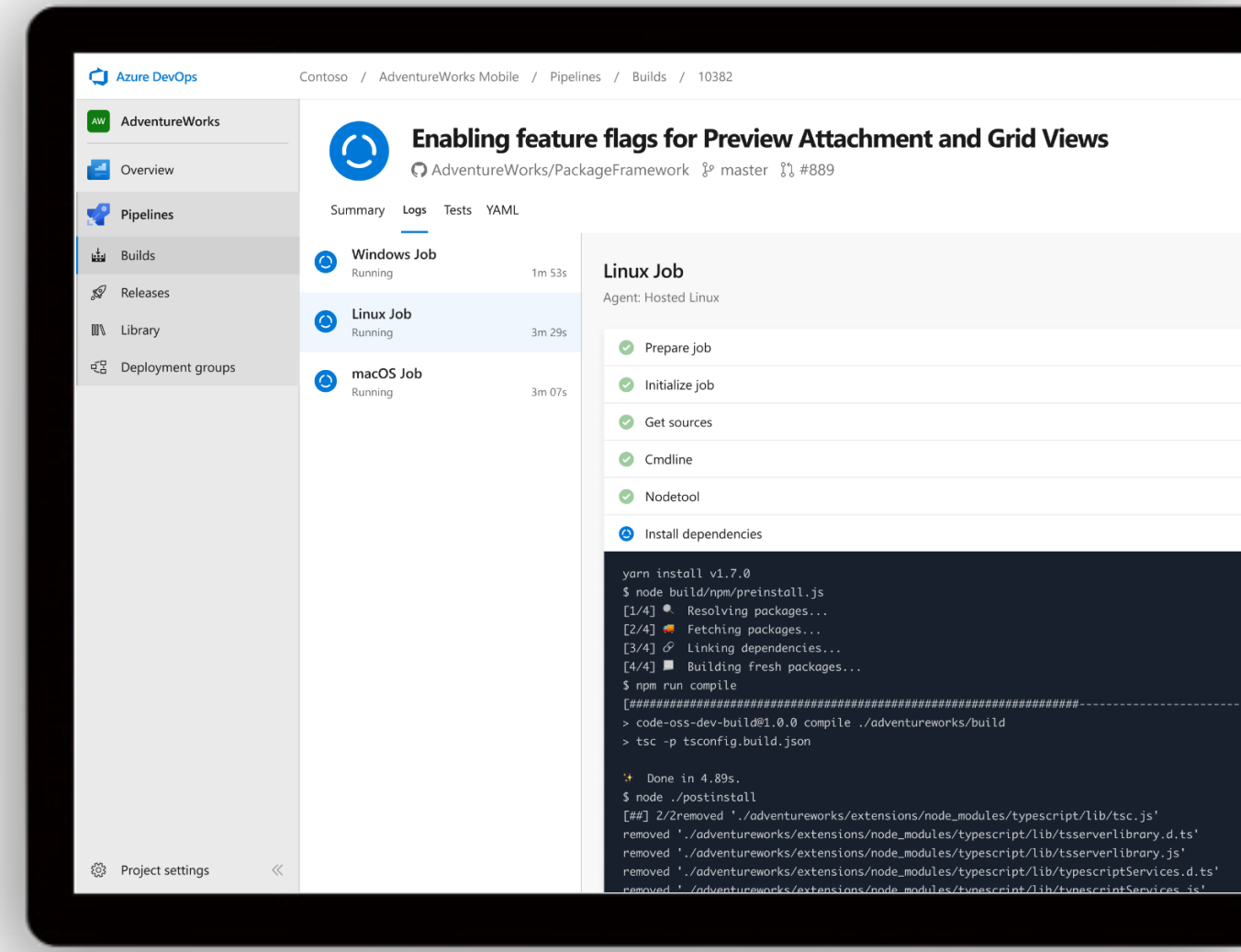
Build, test, and deploy Node.js, Python, Java, PHP, Ruby, C/C++, .NET, Android, and iOS apps. Run in parallel on Linux, macOS, and Windows. Deploy to Azure, AWS, GCP or on-premises

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.



https://azure.com/pipelines

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

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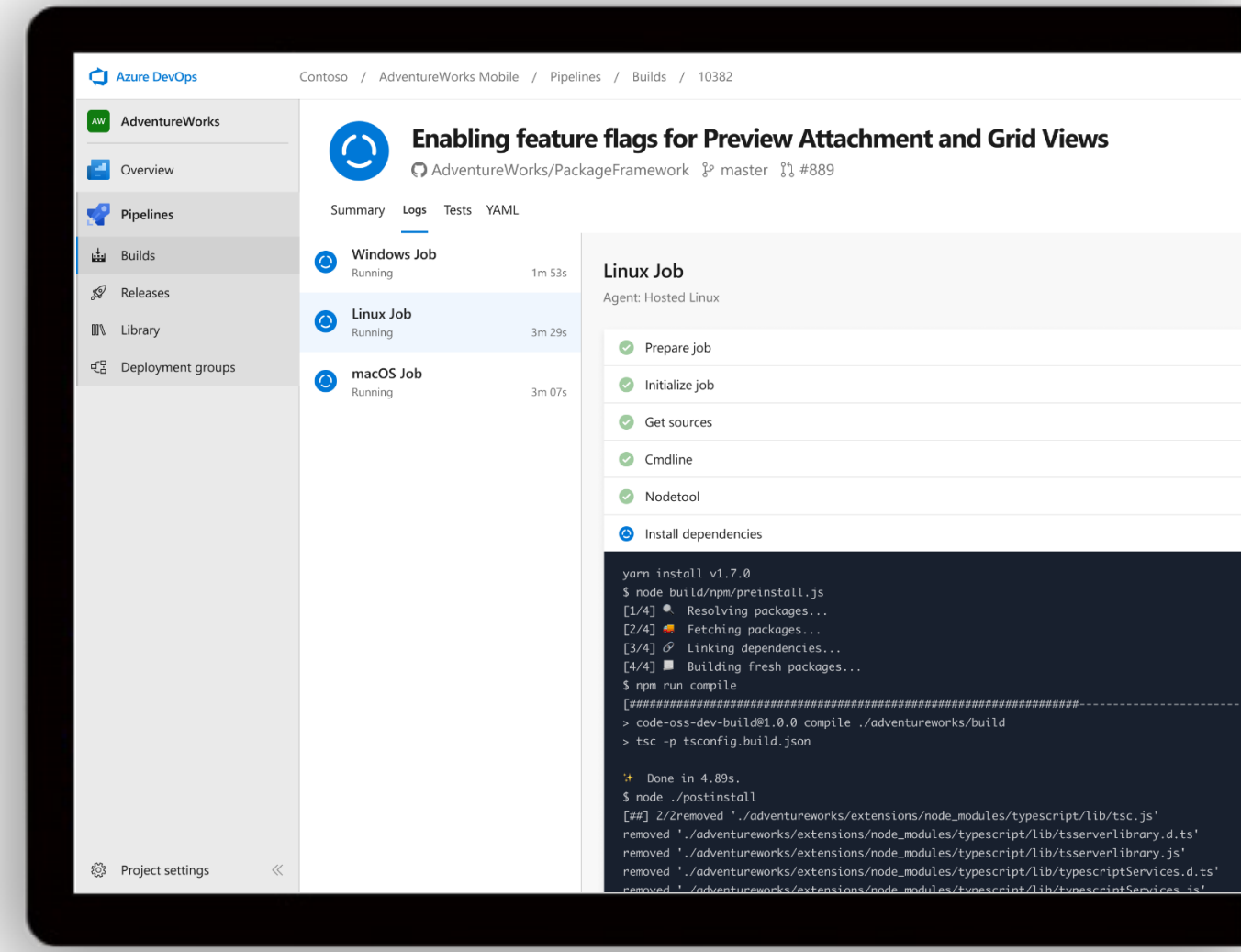
Best-in-class for open source

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

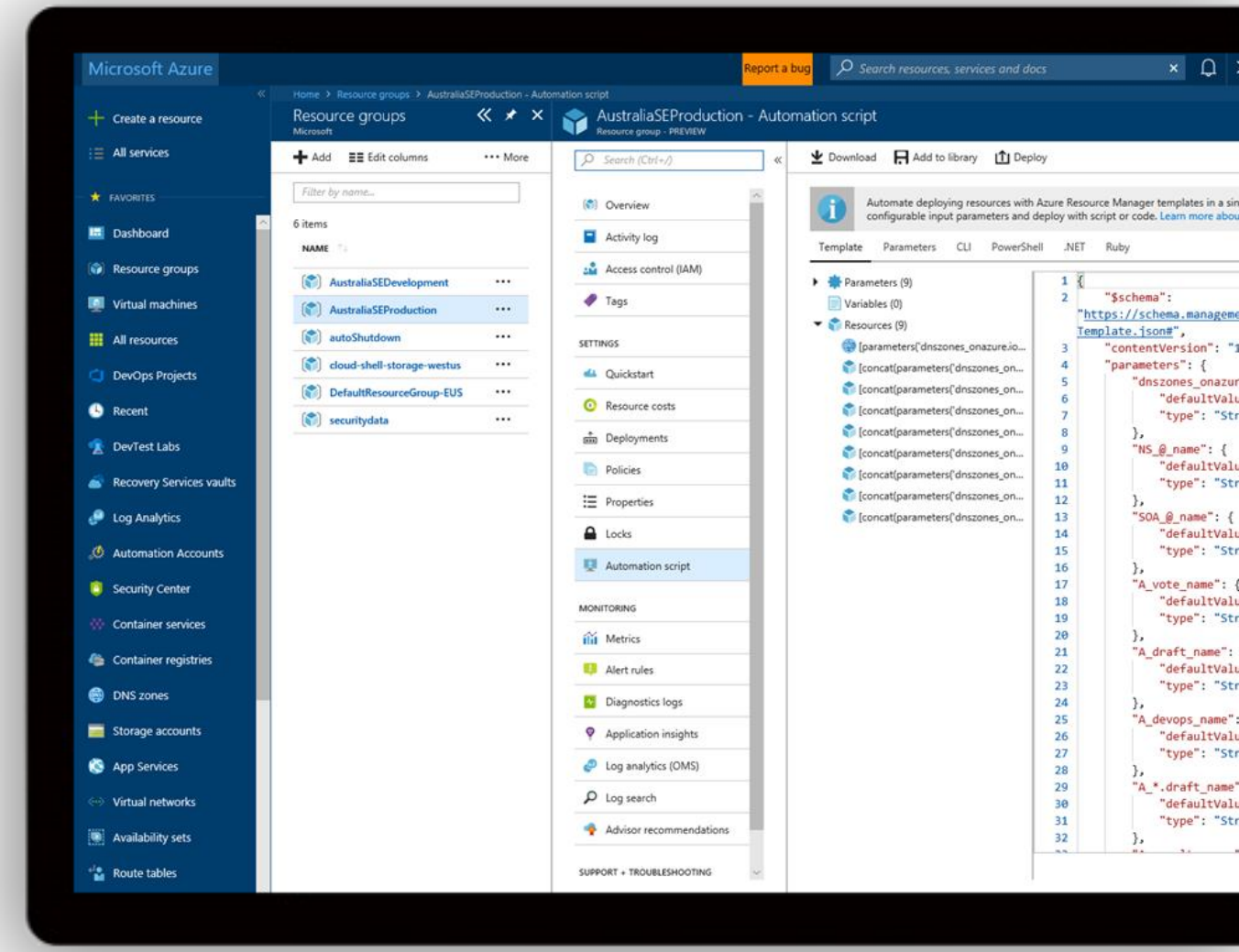
Deploy Repeatedly & Reliably

Azure Resource Manager & DevOps Tool Integrations

Infrastructure as Code, built-in with Azure Resource Manager

Use Azure Automation & Config to automate repetitive tasks

Support for DevOps tool integrations and OSS tooling such as Terraform, Ansible & Chef



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

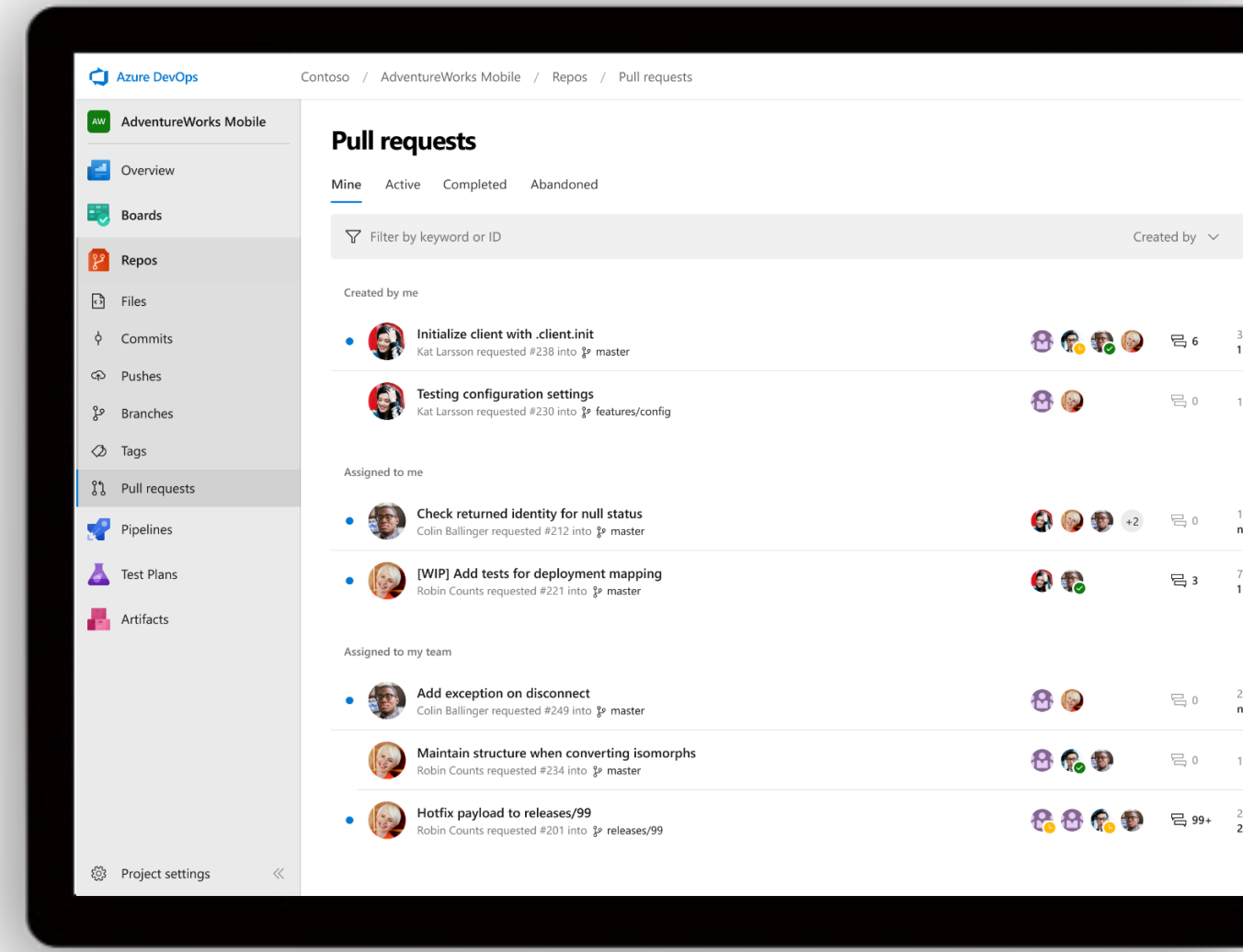
Securely connect with and push code into your Git repos from any IDE, editor, or Git client.

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

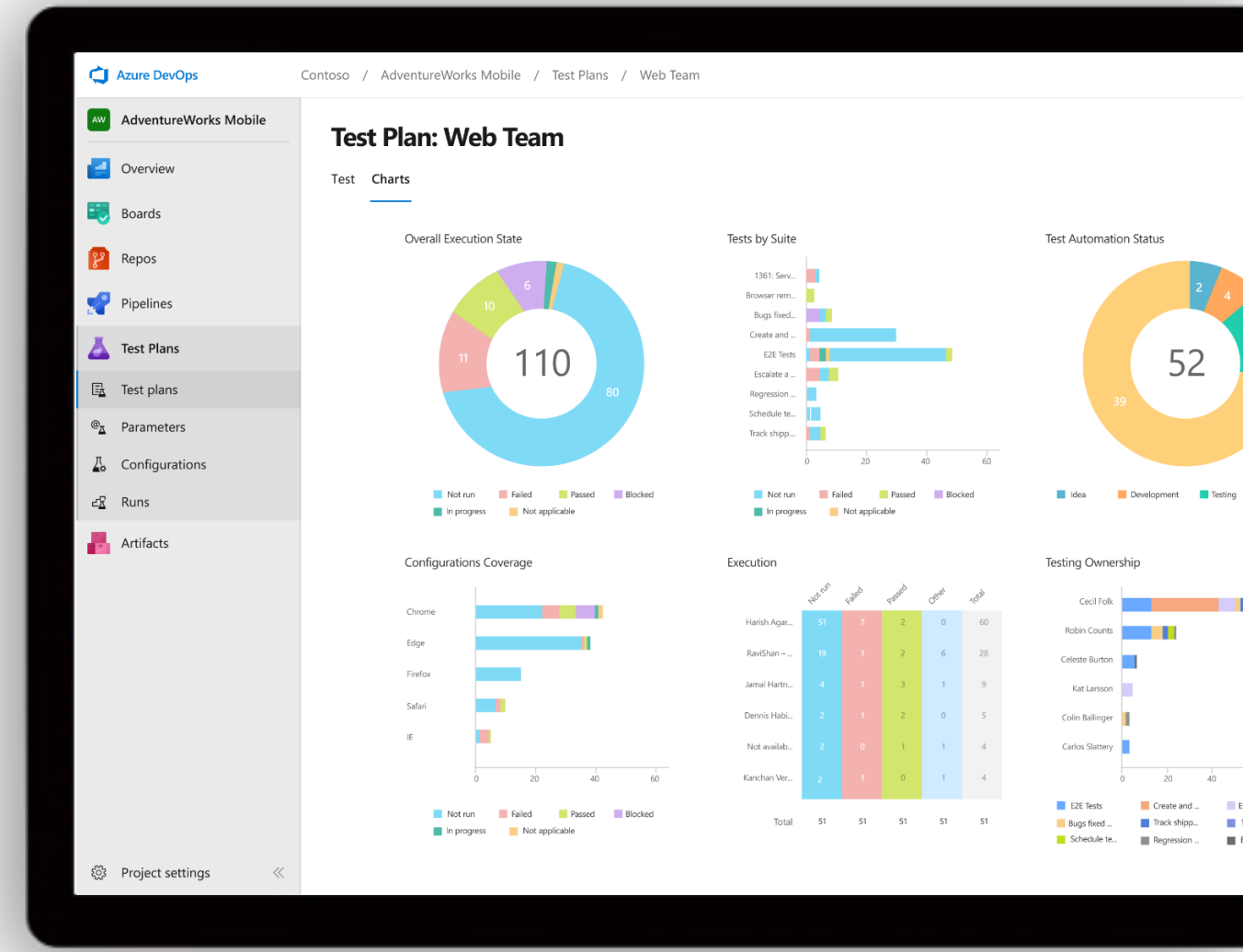
Capture rich scenario data as you execute tests to make discovered defects actionable. Explore user stories without test cases or test steps. You can create test cases directly from your exploratory test sessions.

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

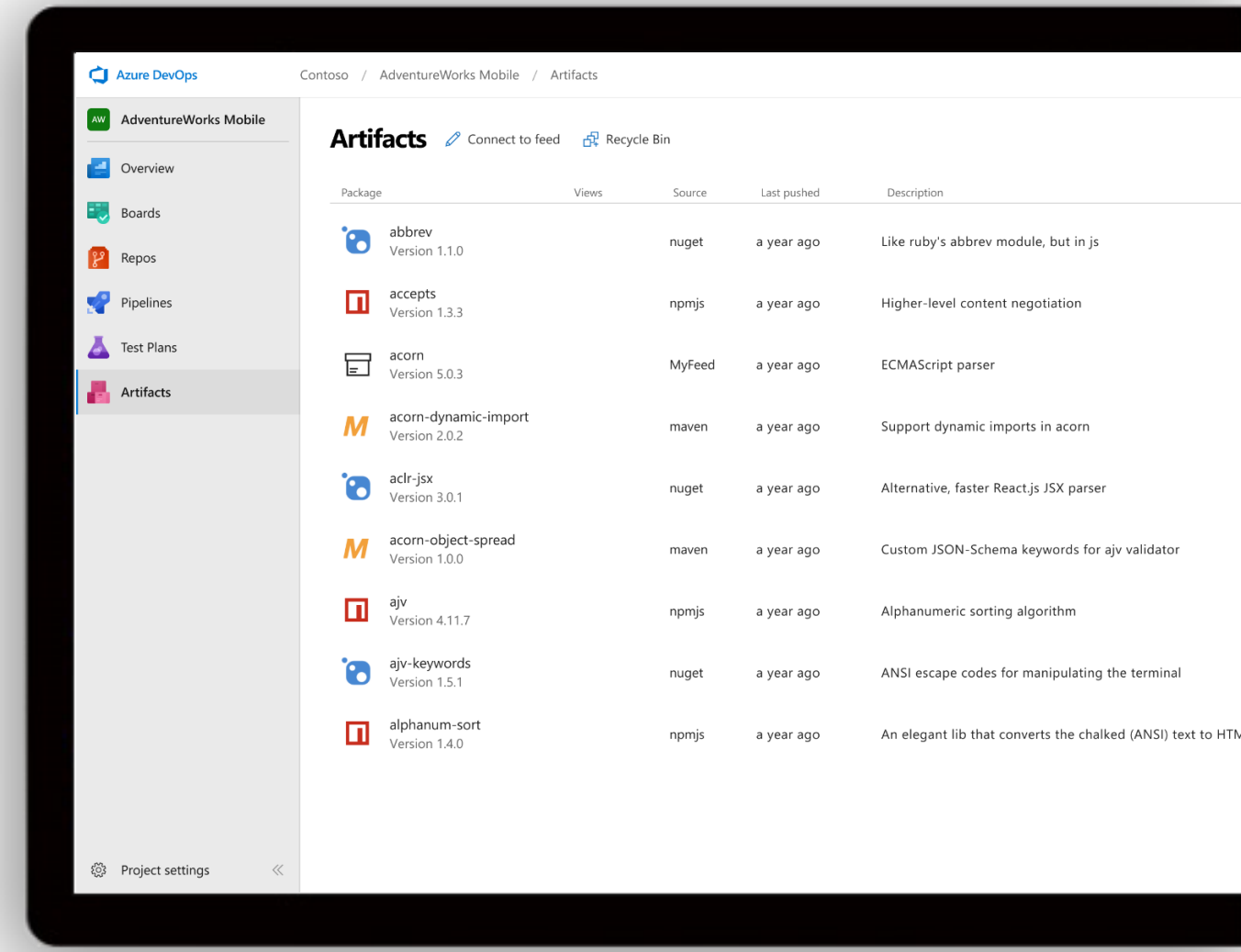
Get universal artifact management for Maven, npm, and NuGet.

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.

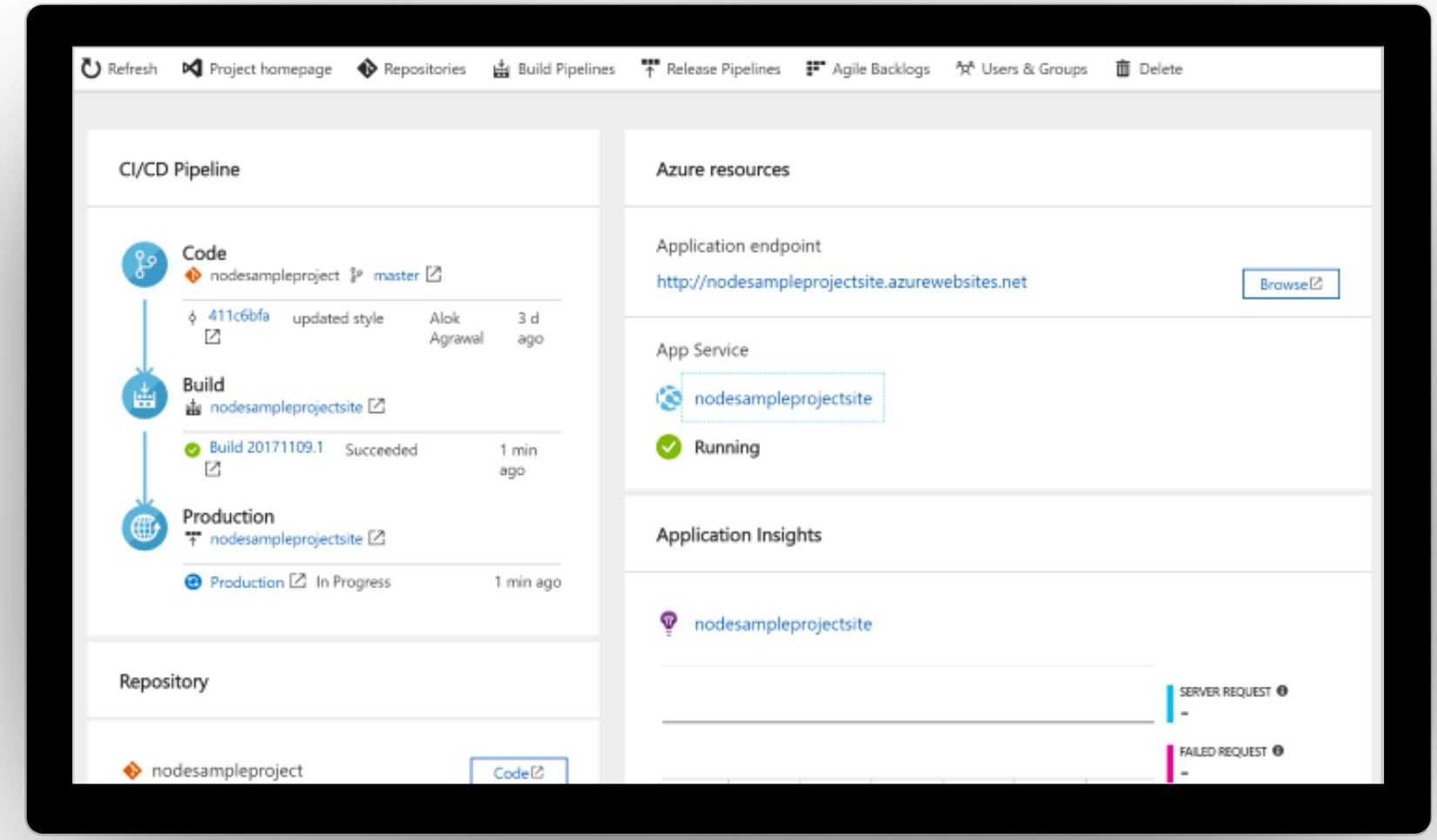


https://azure.com/devops

DevOps Pipelines in Minutes

Azure DevOps Projects

- Create a full DevOps pipeline with 3 easy steps from the Azure Portal
- Start with a Git repo and any source language
- Web apps, Kubernates, soon VMs and more.
- Customize, extend and scale when needed.



https://docs.microsoft.com/en-us/azure/devops-project/

Azure DevOps Services Pricing

Open Source Projects

Free

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

Small Teams

Free

Start free with up to 5 users

- **Azure Pipelines:** Run 1 Microsoft-hosted job for 1,800 minutes per month and 1 self-hosted job for any amount of time
- **Azure Boards:** Work item tracking and Kanban boards
- **Azure Repos:** Unlimited public Git repos
- **Azure Artifacts**: package management
- Unlimited stakeholders

Teams of any size

Starts at $6

per user, per month for Boards & Repos*

Easy pricing that grows with your team

- **Azure Pipelines:** Run 1 Microsoft-hosted job for 1,800 minutes per month and 1 self-hosted job for any amount of time
- **Azure Boards:** Work item tracking and Kanban boards
- **Azure Repos:** Unlimited public Git repos
- **Azure Artifacts**: package management
- Unlimited stakeholders
- Boards & Repos included for Visual Studio subscribers

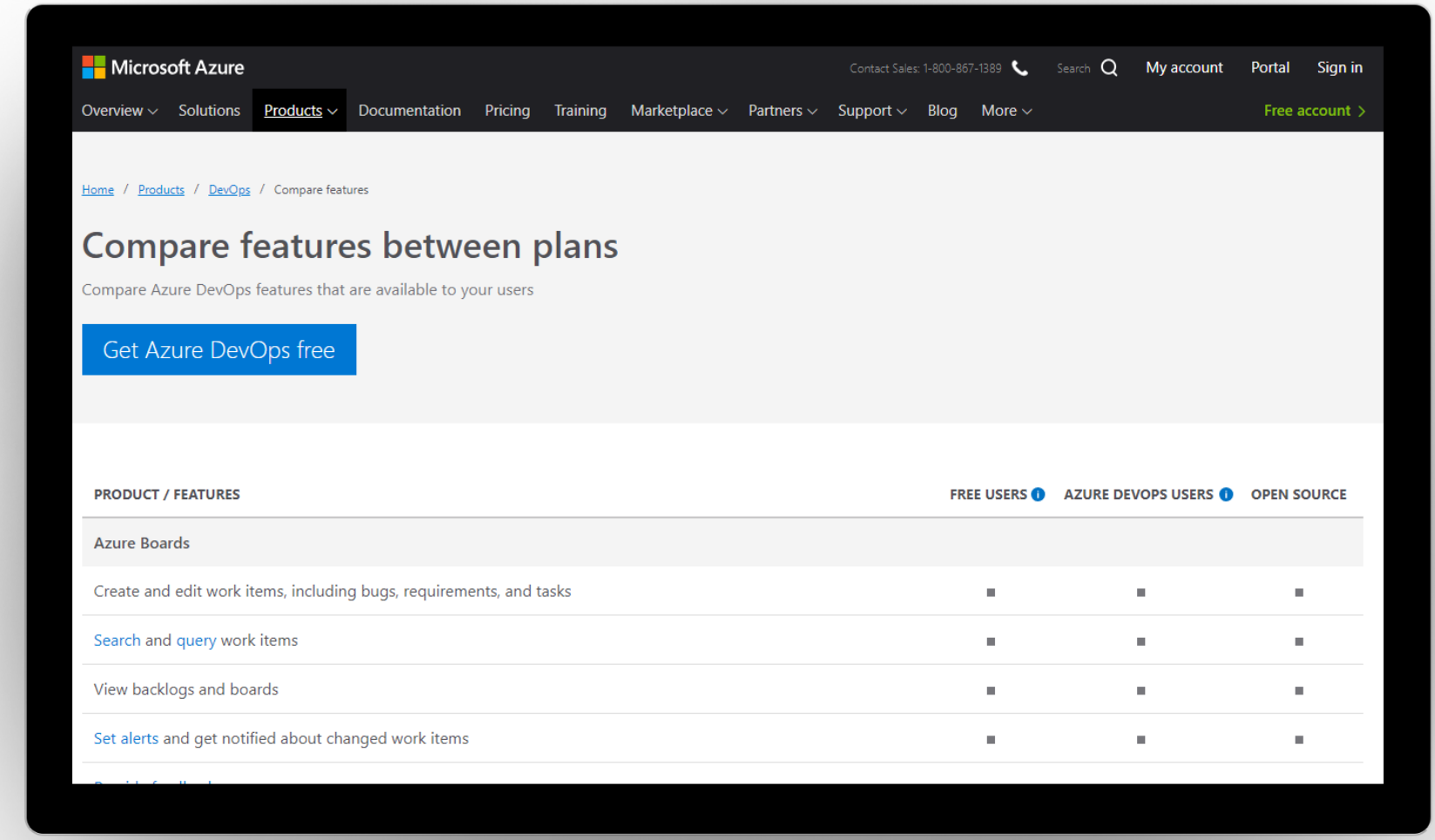
https://azure.microsoft.com/en-us/pricing/details/devops/azure-devops-services/

* 5 Boards & Repos users and 5 Artifacts users free. Pipelines with unlimited minutes, Test Plans users and additional Artifacts users also available. Please see the Azure pricing calculator for details.

Compare Features Between Plans

Compare Azure DevOps features that are available to your users

- See what you can do for *FREE* as a **Stakeholder**
- Determine if you need to purchase an **Azure DevOps User** license
- See what you can do for *FREE* for **Open Source** projects (aka **Public Projects**)



https://Azure.Microsoft.com/en-us/Services/DevOps/Compare-Features

Azure DevOps Services Benefits for Visual Studio Subscribers

Visual Studio Professional	Visual Studio Test Professional & MSDN Platforms	Visual Studio Enterprise
• Basic Features	• Basic Features • Test Manager	• Basic Features • Test Manager • Artifacts (Package Management) • 1 Concurrent Job of Self-Hosted CI/CD

https://docs.microsoft.com/en-us/visualstudio/subscriptions/vs-azure-devops

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 pipelines across Windows, Linux and macOS

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

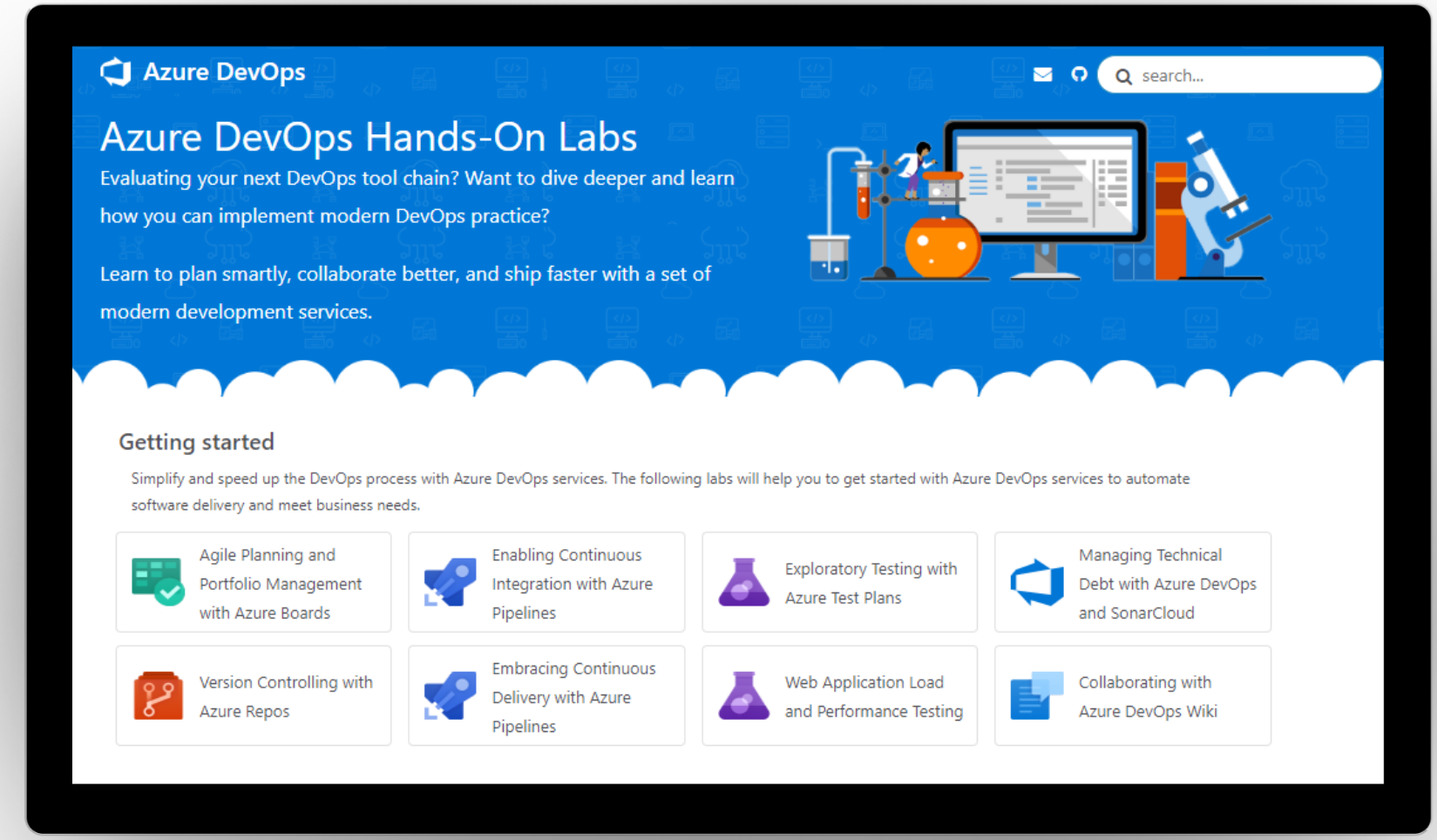
https://azure.com/devops

Resources

Azure DevOps Hands-On Labs

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

- Get Hands On Experience with Azure DevOps Services – Learn how you can plan better, code together and ship faster with Azure DevOps Services.
- Getting started - These labs will help you to get started with Azure DevOps services to automate software delivery and meet business needs.
- Deep Dive into Azure DevOps - Learn how to integrate with popular OSS and 3rd party tools and services. Use the tools and languages you know.

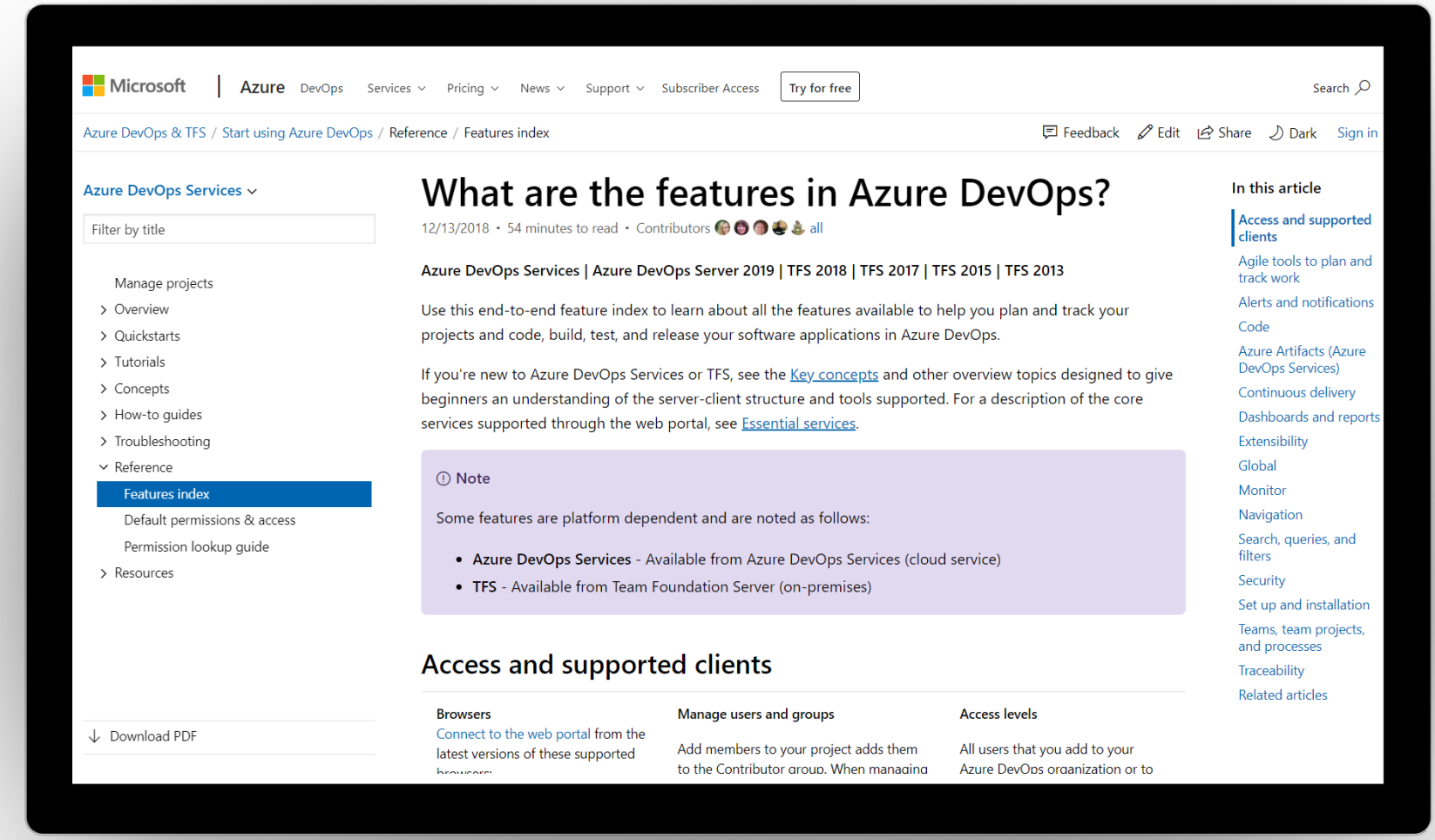


https://www.AzureDevOpsLabs.com

Documentation - Azure DevOps Feature Index

Use this end-to-end feature index to learn about all the features available in Azure DevOps

- If you're new to Azure DevOps Services or TFS, see the Key concepts
- For a description of the core services supported through the web portal, see Essential services
- If you only save one Favorite in your browser related to Azure DevOps, this is the link to save as a favorite!

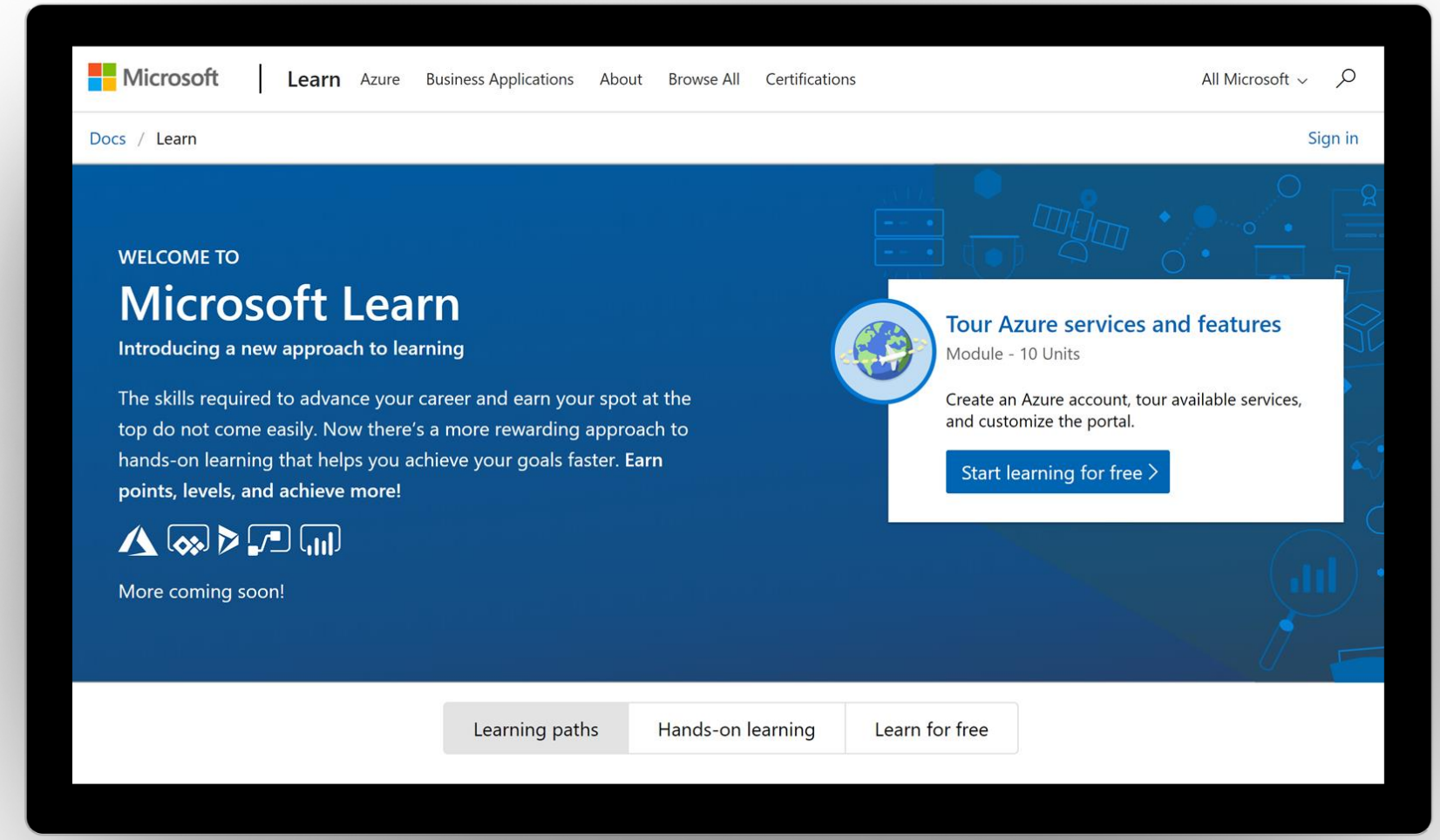


https://Docs.Microsoft.com/en-us/Azure/DevOps/User-Guide/ALM-DevOps-Features

Microsoft Learn

Build your skills fast with free, interactive tutorials at Microsoft Learn, a new training experience for technical users.

- Step-by-step training to fit your schedule
- Interactive coding environments for hands-on experience
- Earn achievements and recognition for your Azure skills
- We provide free Azure sandboxes, free virtual machines, etc. so there is nothing to setup ahead of time

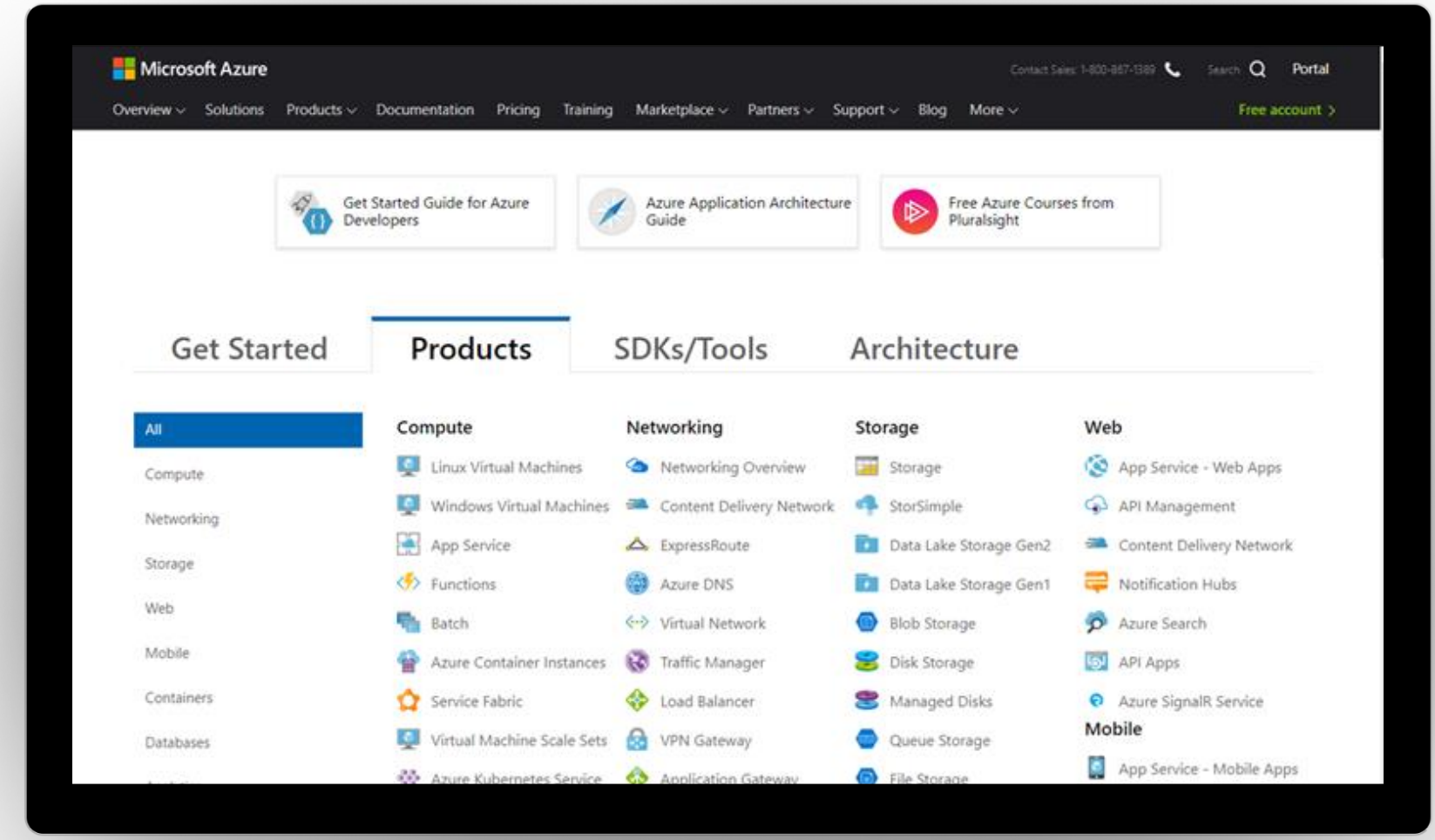


http://www.Microsoft.com/Learn

Documentation - Azure Services Index

Use this end-to-end index to learn about all the services available in Azure

- Use this end-to-end feature index to learn about all Azure services.
- If you only save one Favorite in your browser related to Azure, this is the link to save as a favorite!
- Most topics contain **Quickstarts** and **Tutorials** allowing you to gain hands-on experience quickly

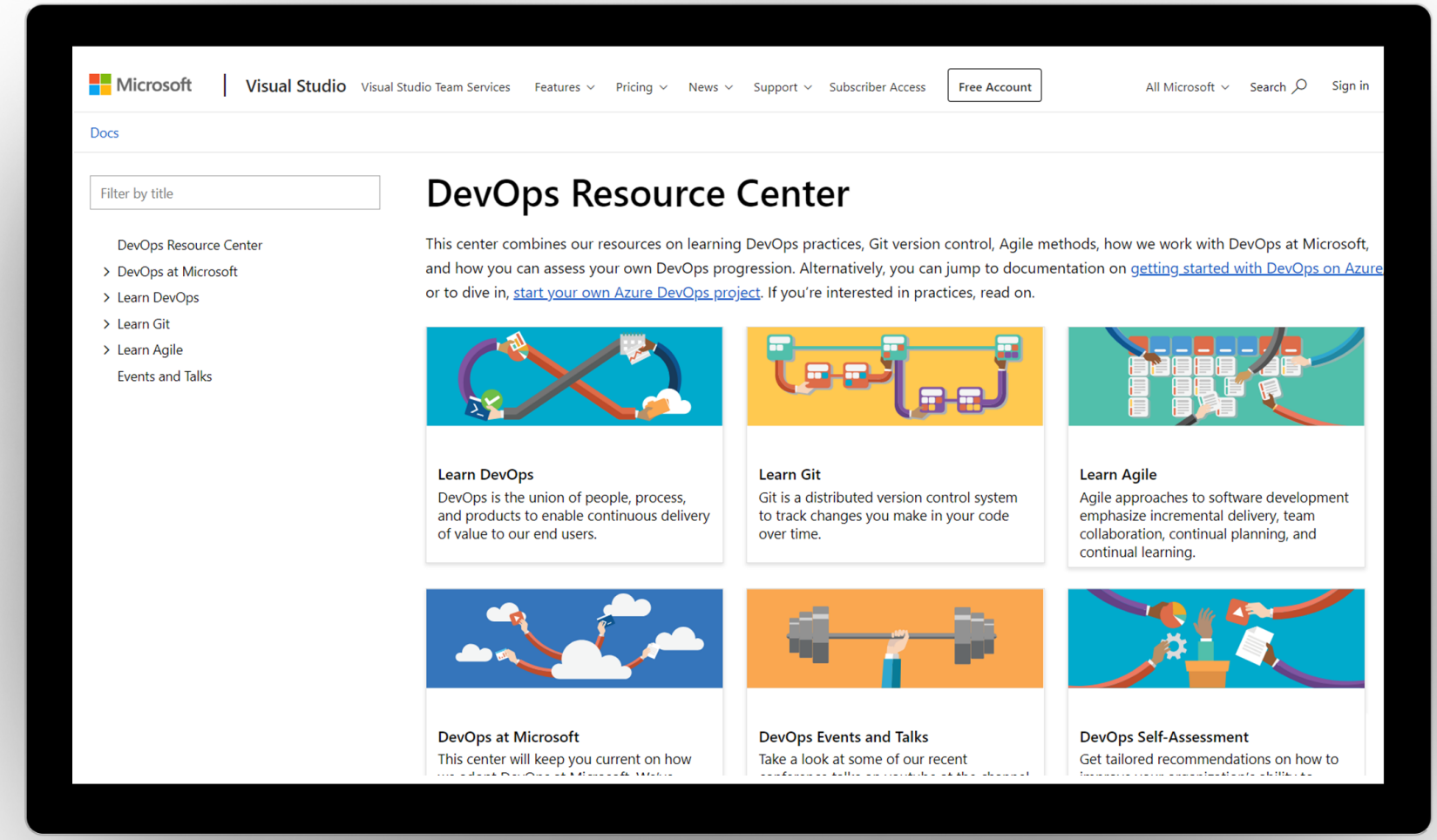


https://docs.microsoft.com/en-us/Azure/#pivot=products&panel=all

Learn DevOps in the DevOps Resource Center

This center combines our resources on learning DevOps practices, Git version control, Agile methods, how we work with DevOps at Microsoft, and how you can assess your own DevOps progression

- **Learn DevOps -** DevOps is the union of people, process, and products to enable continuous delivery of value to our end users
- **DevOps at Microsoft -** This center will keep you current on how we adopt DevOps at Microsoft
- **DevOps Self-Assessment -** Get tailored recommendations on how to improve your organization's ability to develop and deliver value to customers, pivot when necessary, and beat competitors to market

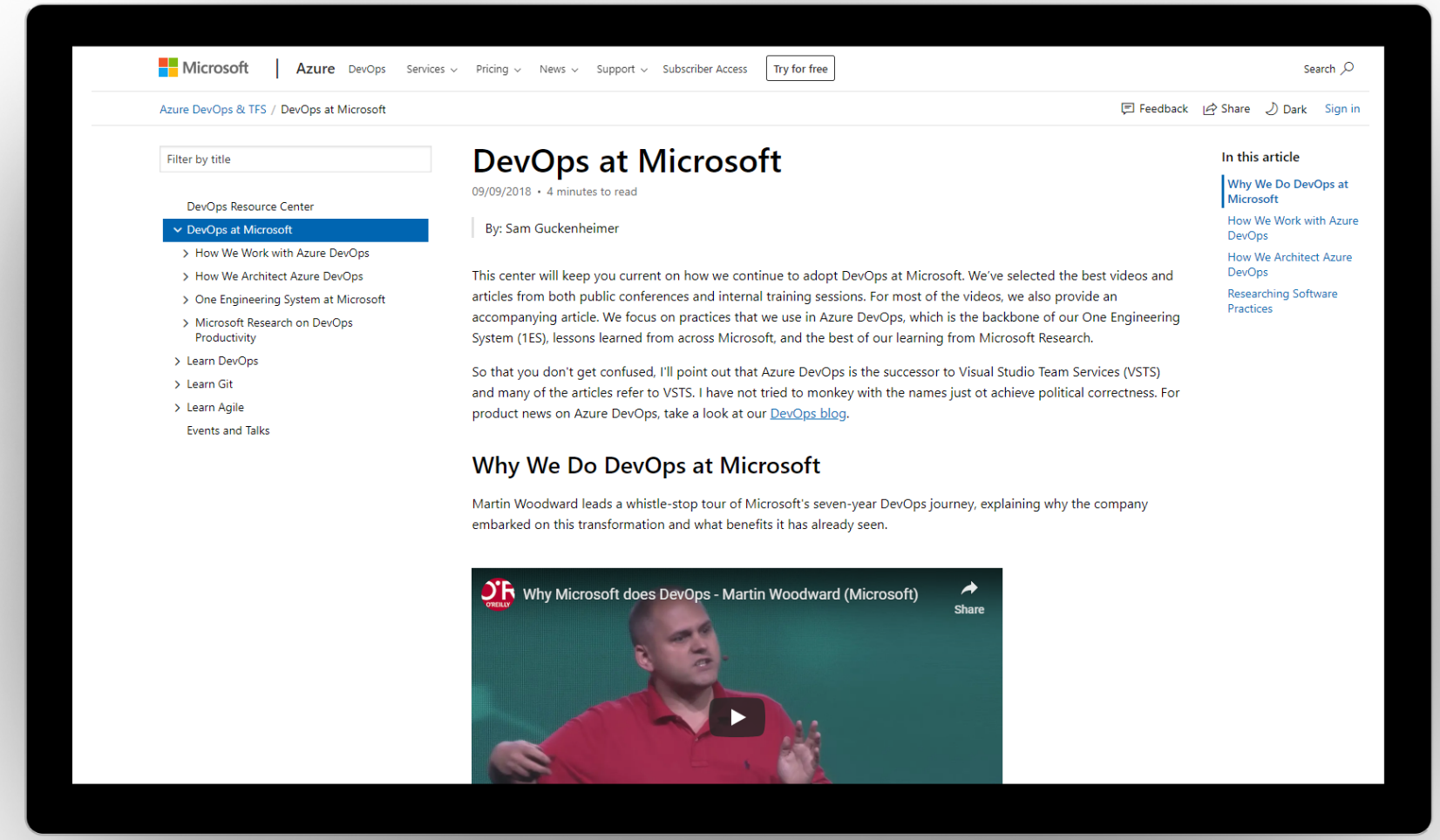


http://aka.ms/DevOps

DevOps at Microsoft

Learn from our DevOps journey and share our lessons learned with your team

- Create a series of "Lunch & Learn" sessions. Watch a video and have a follow up discussion with your team
- Or, treat it like a book club, i.e. have everyone watch a video and read the related narrative, then discuss it over lunch
- Either way, discuss with your team what is/is not applicable to your company, (or, what should be applicable in the future!)

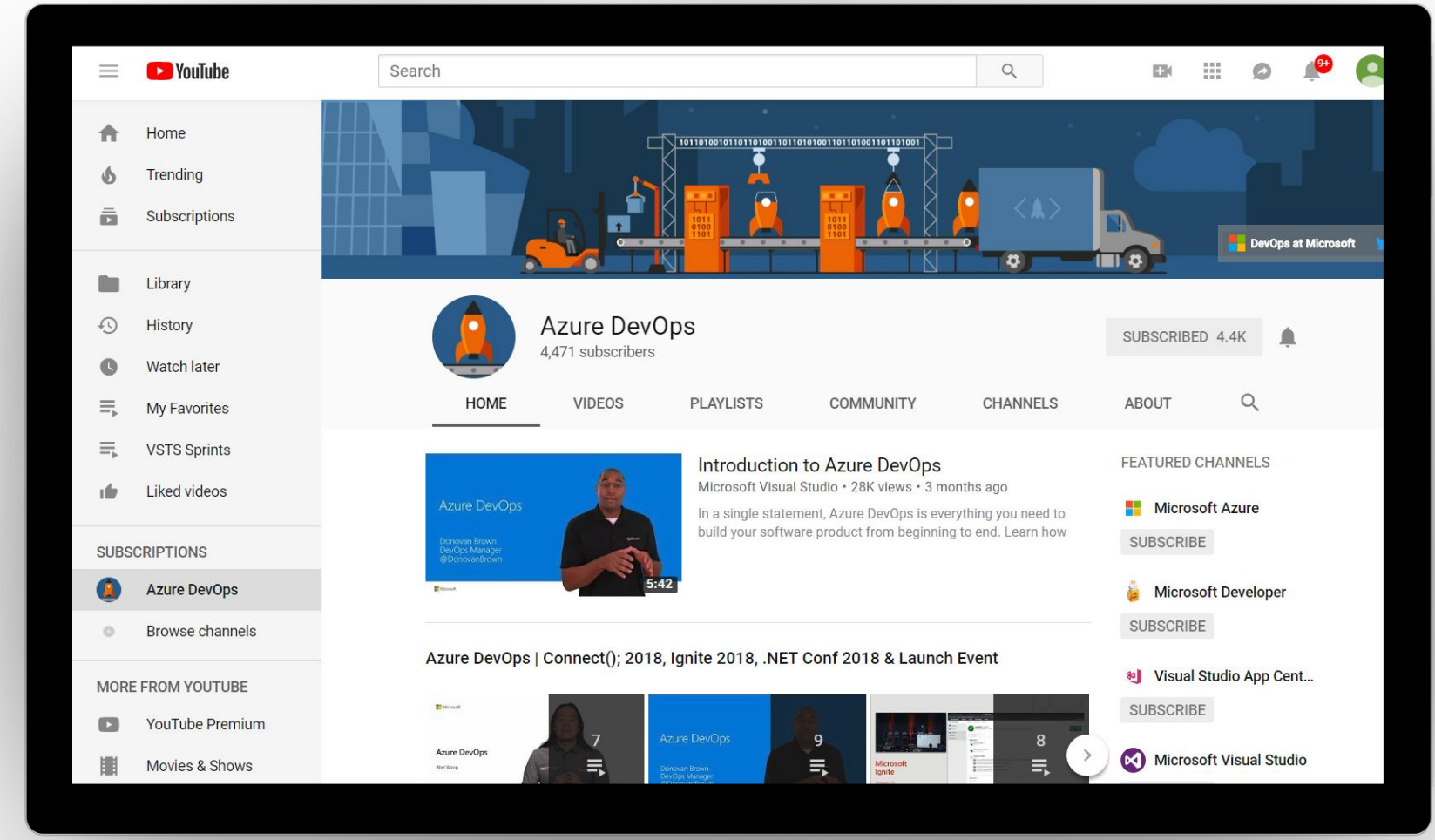


http://aka.ms/DevOpsAtMicrosoft

"DevOps at Microsoft" YouTube channel

Learn more about Azure DevOps through videos

- Events - Keynotes and break out sessions from events such as Connect(); Ignite, .NET Conf and //Build
- DevOps Interviews (Channel 9 Shows) - DevOps Interviews from around Microsoft and the community hosted by Microsoft's Donovan Brown
- DevOps Labs (Channel 9 Shows) - Damian Brady goes deep into various DevOps Pipelines topics
- DevOps On Azure - OSS Projects, Jenkins, Terraform & more



https://www.youtube.com/channel/UC-ikyViYMM69joIAv7dlMsA

Azure DevOps Podcast

The Azure DevOps Podcast is a show for developers and devops professionals shipping software using Microsoft technologies.

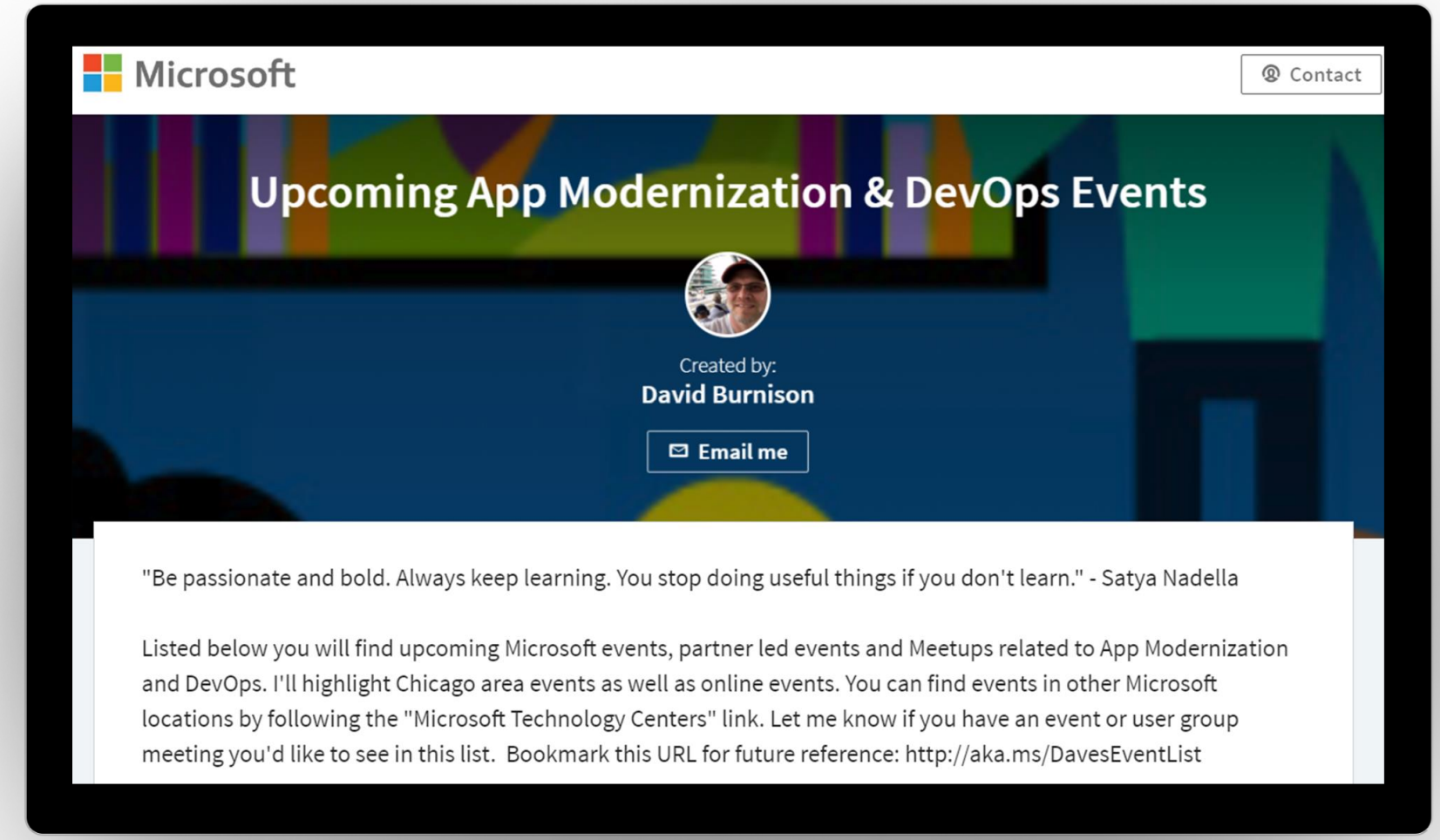
- Each show brings you interviews with industry experts sharing better methods & success stories.
- Listen in to learn how to increase quality, ship quickly, and operate well.
- Hosted by Jeffrey Palermo and sponsored by Clear Measure, Inc.

http://AzureDevOpsPodcast.Clear-Measure.com

Upcoming App Modernization & DevOps Events

Microsoft events, partner led events and Meetups related to App Modernization and DevOps

- I highlight Chicago area events as well as online live and on-demand events
- You can find events in other Microsoft locations by following the "Microsoft Technology Centers" link
- Let me know if you have an event or user group meeting you'd like to see in this list
- Bookmark this URL for future reference: http://aka.ms/DavesEventList



http://aka.ms/DavesEventList

Thank You!