"Any development process requires a reliable means of build and delivery, 'DevOps' in the modern terminology."

In this session we will look at...

- What is DevOps?

- Why DevOps is important?

- The key factors in successful adoption

- How Azure DevOps can help in this process.

Author: Nho Luong
Skill: DevOps Engineer Lead

What is DevOps?

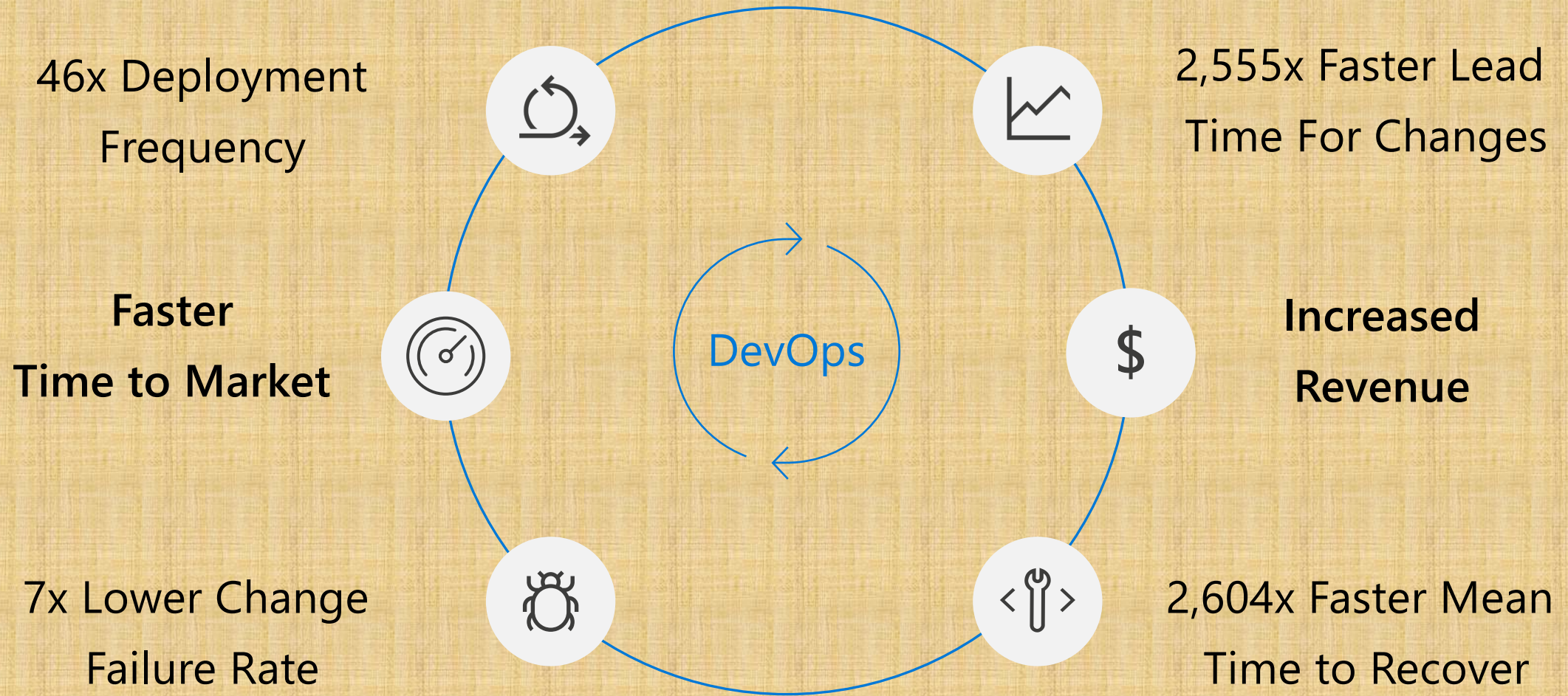People. Process. Products.

"

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

Donovan Brown
Senior **DevOps** Program Manager on Microsoft's US Developer Division team

Build & Test

Deploy

Develop

Continuous Delivery

Operate

Plan & Track

Monitor & Learn

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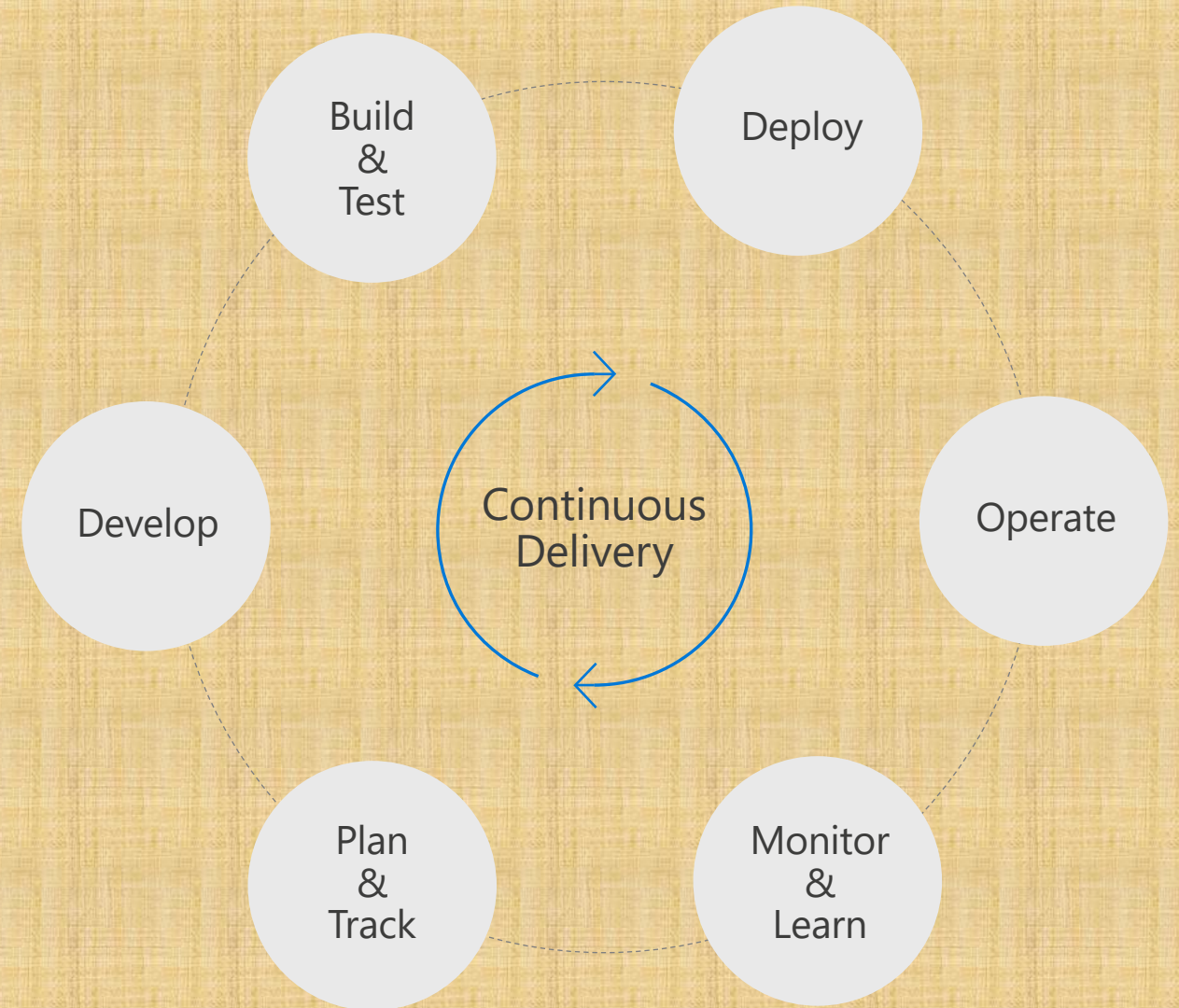
What technologies do I need to support DevOps?

DevOps brings together people, processes, and technology, automating software delivery to provide continuous value to your users.
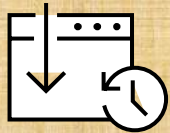
Continuous Integration (CI)

- 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.
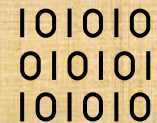
Continuous Deployment (CD)

- 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.

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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

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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

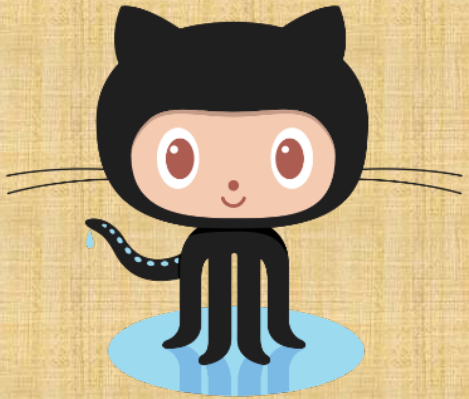Author: Nho Luong
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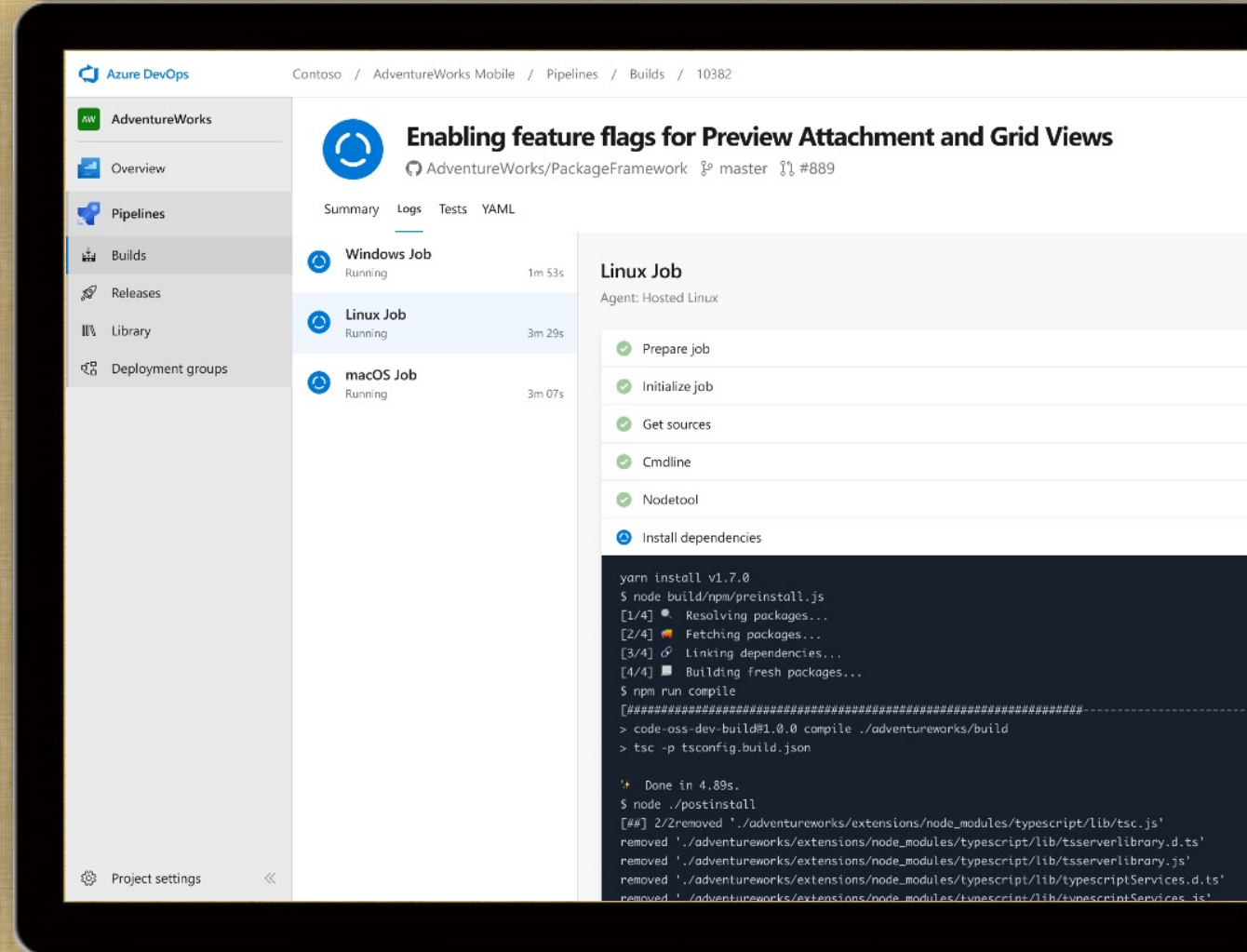
Azure Pipelines

Free **unlimited** build minutes for public projects

Up to 10 free parallel jobs across Windows, Linux and macOS

Microsoft ❤️ Open Source

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Integrated with GitHub

Azure Pipelines available now to any developer from the GitHub Marketplace

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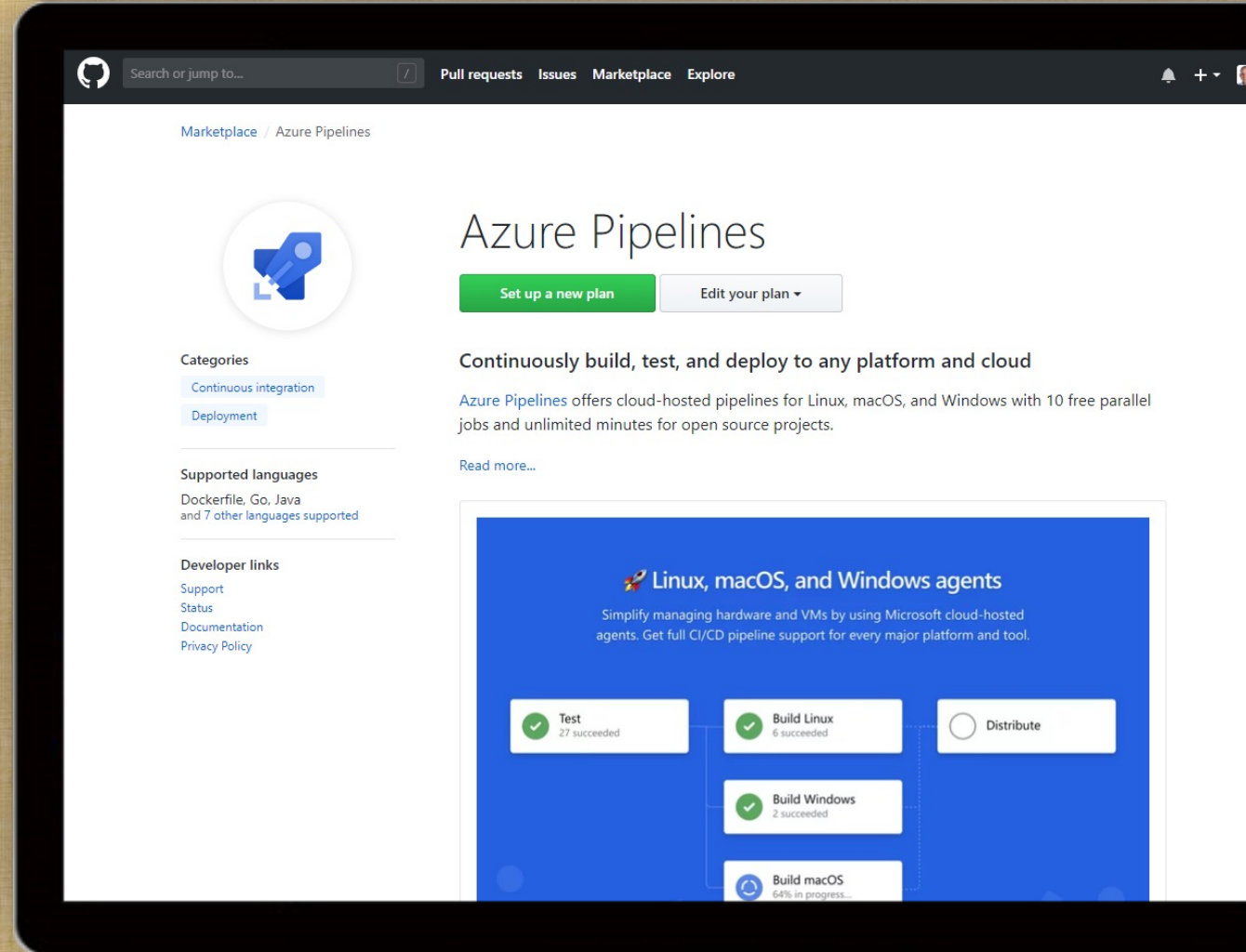
Demo

Building an Azure DevOps Pipeline extension, with tasks written in PowerShell & Typescript, then deploying and testing in the Azure DevOps Marketplace

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Summary

- Azure DevOps Pipelines are
  - Any Platform
  - Any Language
- Can help provide a robust DevOps build and release model
- Free for OSS projects

- Azure DevOps https://azure.com/devops
- CI/CD is via public projects on https://github.com/nholuongut/azure-devops-demo

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Thank You

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