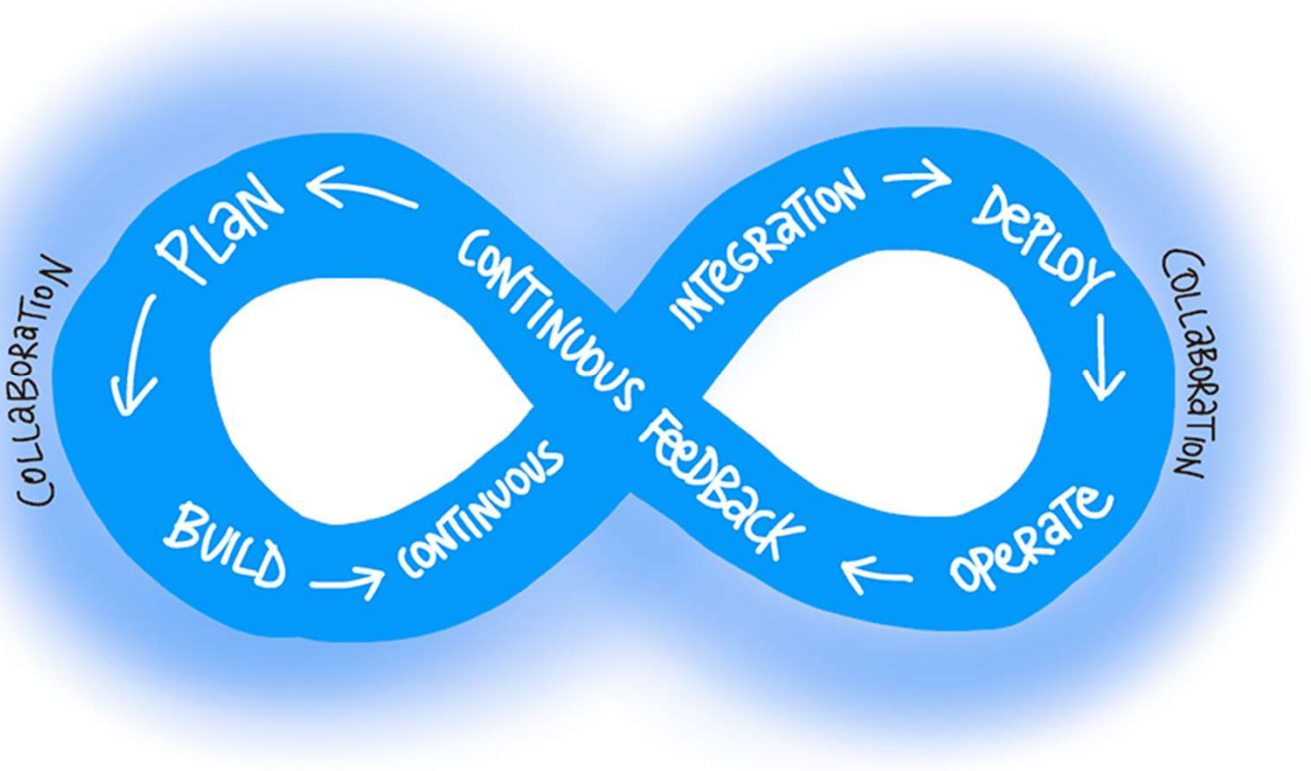
DevOps strategy

Duration: 1-2 Hours including labs

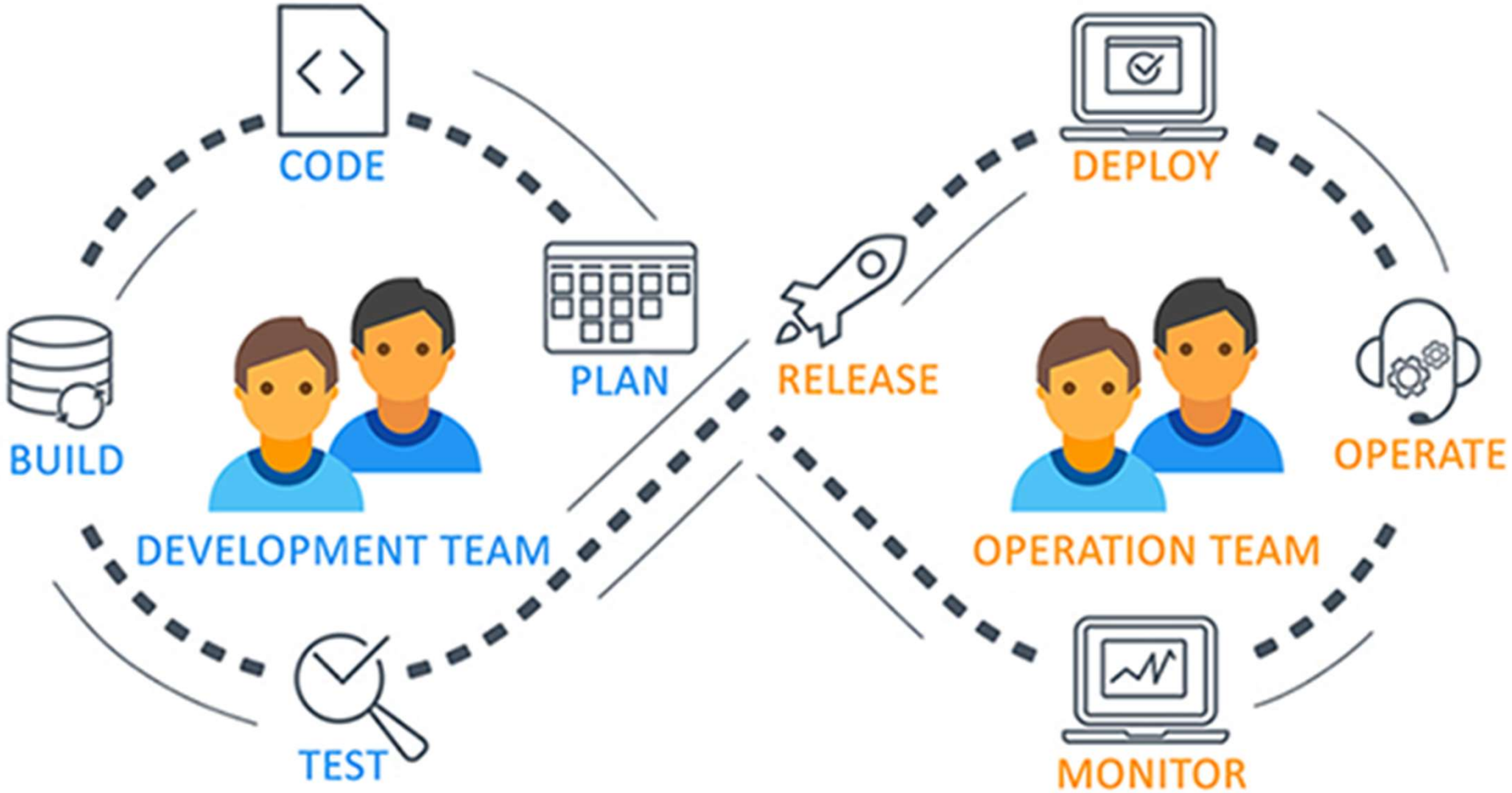
What is DevOps?

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

– Donovan Brown, [What is DevOps?]



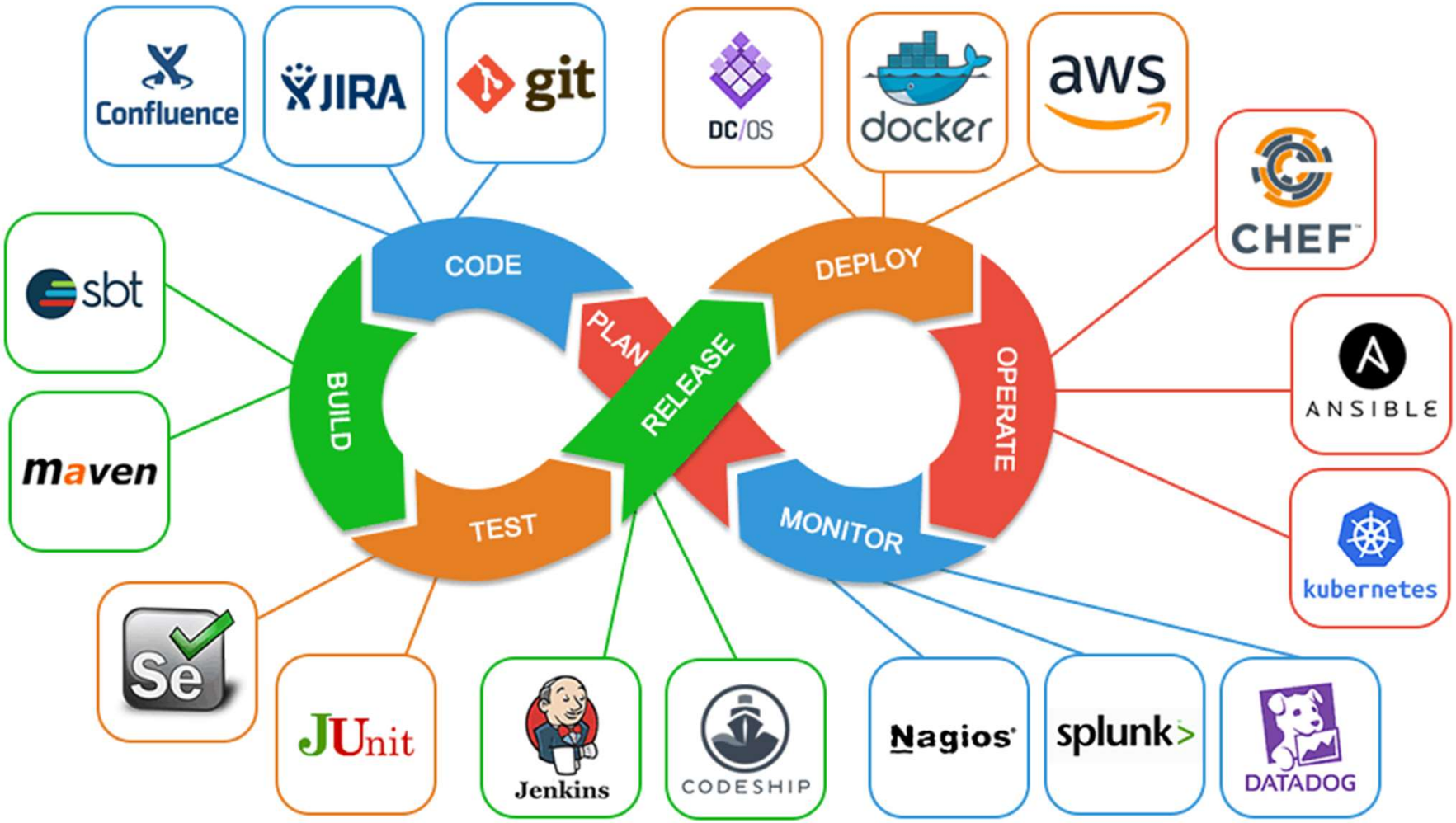
What is DevOps and Its use case?



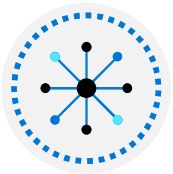
Migration and consolidation strategy

- Analyze Existing Artifact and Container Repositories
- Analyze Existing Test Management Tools
- Analyze Existing Work Management Tools
- Recommend Migration and Integration Strategies for
  - Artifact Repositories
  - Source Control
  - Test Management and
  - Work Management

Migration and consolidation strategy



Migrate or integrate existing work management tools



Both Azure DevOps and GitHub can be integrated with a wide variety of existing work management tools:

- Trello integration tooling is a free, flexible, and visual way to organize anything with anyone.
- Solidify offers a tool for Jira to Azure DevOps migration.
- Third party organizations offer commercial tooling to assist with migrating other work management tools like Aha, BugZilla, ClearQuest.

Migrate or integrate existing test management tools

Azure Test Plans are used to track sprints and milestones. There is a Test & Feedback extension available in the Visual Studio Marketplace.

Other tools:

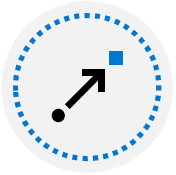
Apache JMeter is open-source software written in Java and designed to load test functional behavior and measure performance.

Pester is a tool that can be used to automate the testing of PowerShell code.

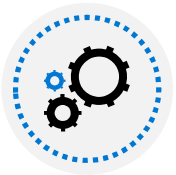
SoapUI provides another testing framework for SOAP and REST testing.

If you are using Microsoft Test Manager, you should plan to migrate to Azure Test Plans

Identify project metrics and key performance indicators (KPIs)



Faster outcomes – Deployment frequency, deployment speed, deployment size, and lead time



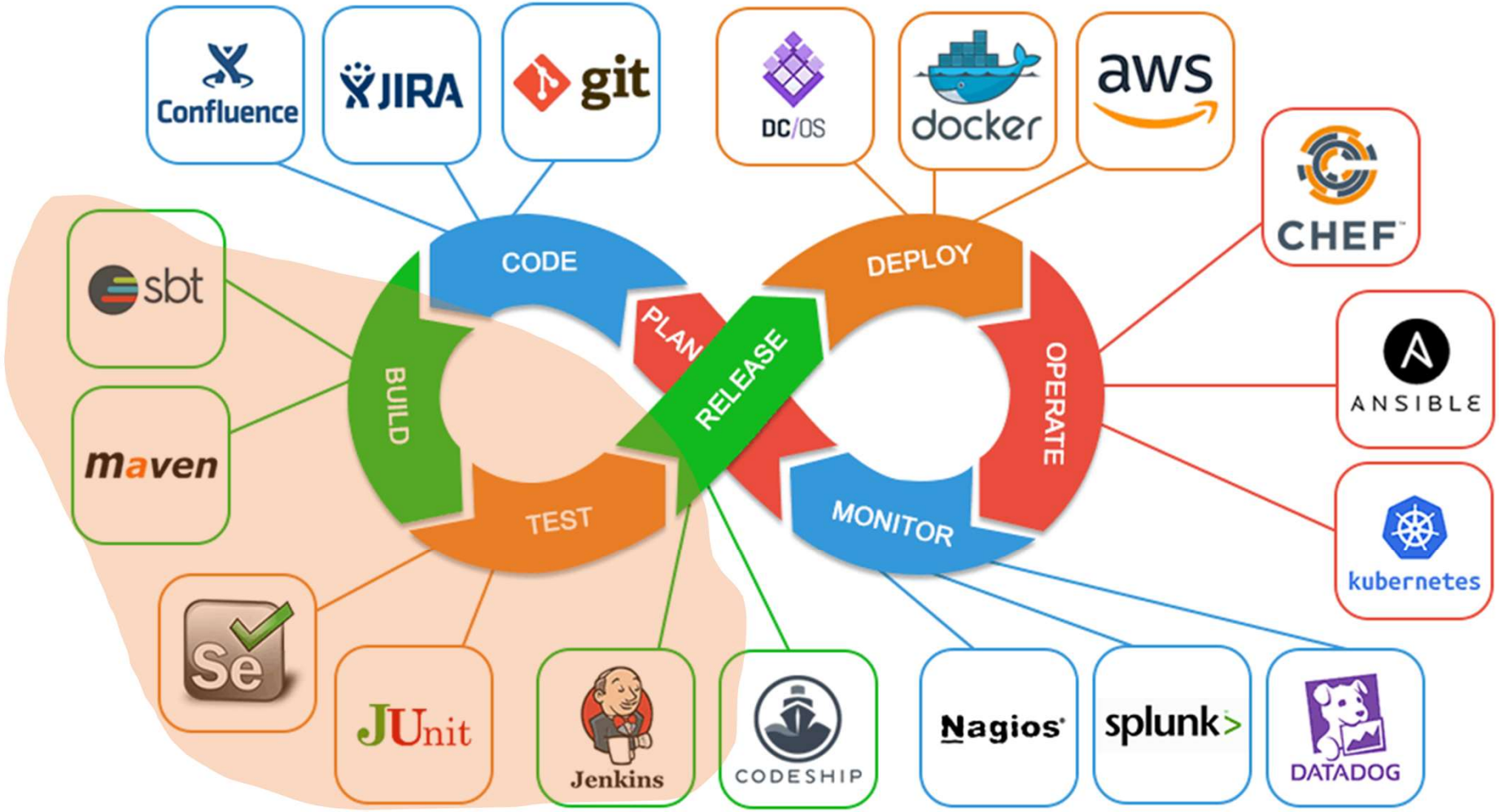
Efficiency – Server to admin ratio, staff member to customers ratio, application usage, and application performance

Quality and security – Deployment failure rates, application failure rates, mean time to recover, bug report rates, test pass rates, defect escape rate, availability, service level agreement (SLA) achievement, and mean time to detection

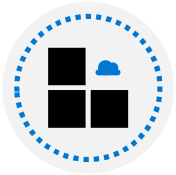
Culture – Employee morale and retention rates

Goals must be specific, measurable, and time-bound

Secure development process



Tool integration strategy



Azure DevOps Services uses either a Microsoft account or Azure Active Directory, to protect and secure your data

For non-Microsoft tools like Git, NuGet, or Xcode you can use personal access tokens

Azure DevOps is pre-configured with default security groups and permissions

You can also configure app access policies and conditional access policies

Application configuration and secrets

- Demonstration: 20-30 Minutes

  - Azure App Settings
  - Azure Key Vault

Repository Management/Branch Management

- Demonstration: 20-30 Minutes

  - Create the New repository
  - Create the Master branch
  - Create the Own Branches based on the developer requirement
  - Branch merging
  - Import Repository from Outside of the Azure DevOps to Azure DevOps
  - Creating Pull requests And Accepting Pull Requests

Lab: Create Azure App service

- Deploy a sample app using App Service
- Understand Blue/Green deployment
- Create Deployment Slot
- Swap the slots

Lab: GitHub Actions

- What is GitHub Actions?
- Create Workflow to build Python project on Push
- Test Workflow

Lab: Create Azure Pipeline

- Create Build Pipeline to build git project
- Create release pipeline
- Connect Azure Devops to Azure Portal using Service connections
- Deploy to Azure Web App using release pipeline
- Introduction to deployment gates
- Swap the slots after approval using deployment gates

Lab: Azure Test Plans

- Test Cases Build
- Build alerts Configuration

Lab: Azure Artifacts

- Managing Artifacts
- Universal package Repository

Thanks