



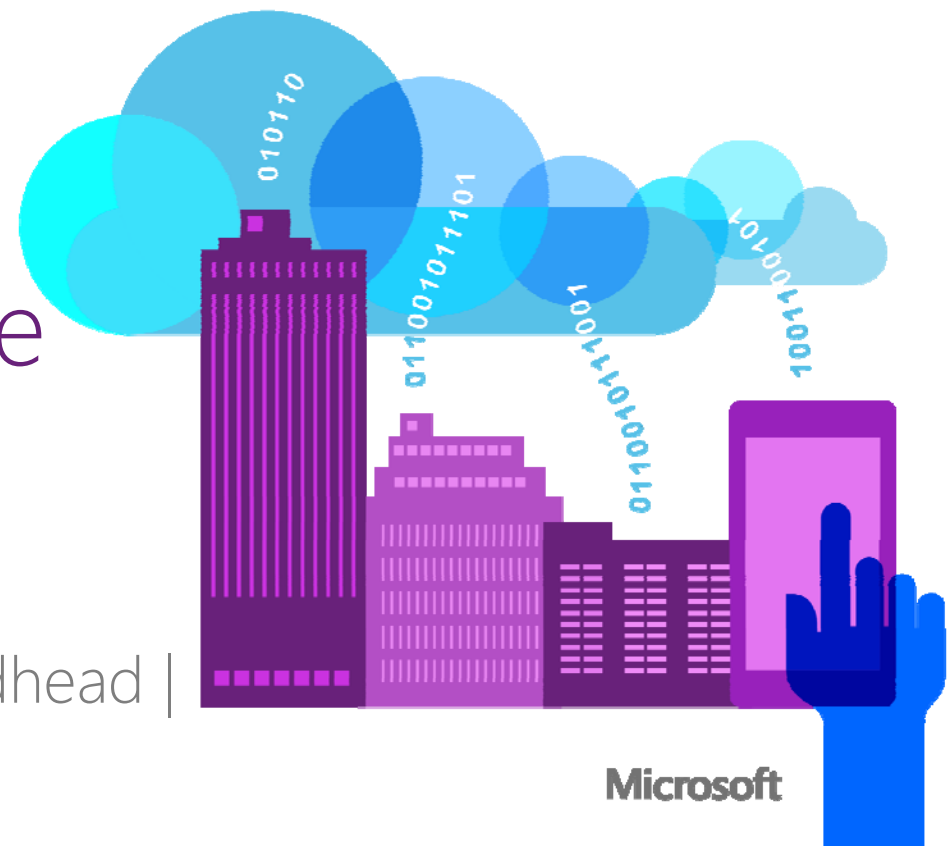
# TFS/VSTS, Visual Studio 2015 – DevOps and Azure

Abel Wang

sr. developer technology specialist

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<http://abelsquidhead.com>



# Who am I?

- Abel Wang | @AbelSquidHead

- Senior Technology Solutions Professional
- Blog at [abelsquidhead.com](http://abelsquidhead.com)
- [abel.wang@microsoft.com](mailto:abel.wang@microsoft.com)

- Work

- Writing code for over 20 years
- Process Consultant/Certified Scrum Master
- ALM Ranger
- VSTS Team
- DevOps, General App Dev  
Visual Studio, Azure

- Fun Stuff

- Rock star in his own mind
- Training for the Great Wall Marathon



# Presenter Introduction

## Abel Wang

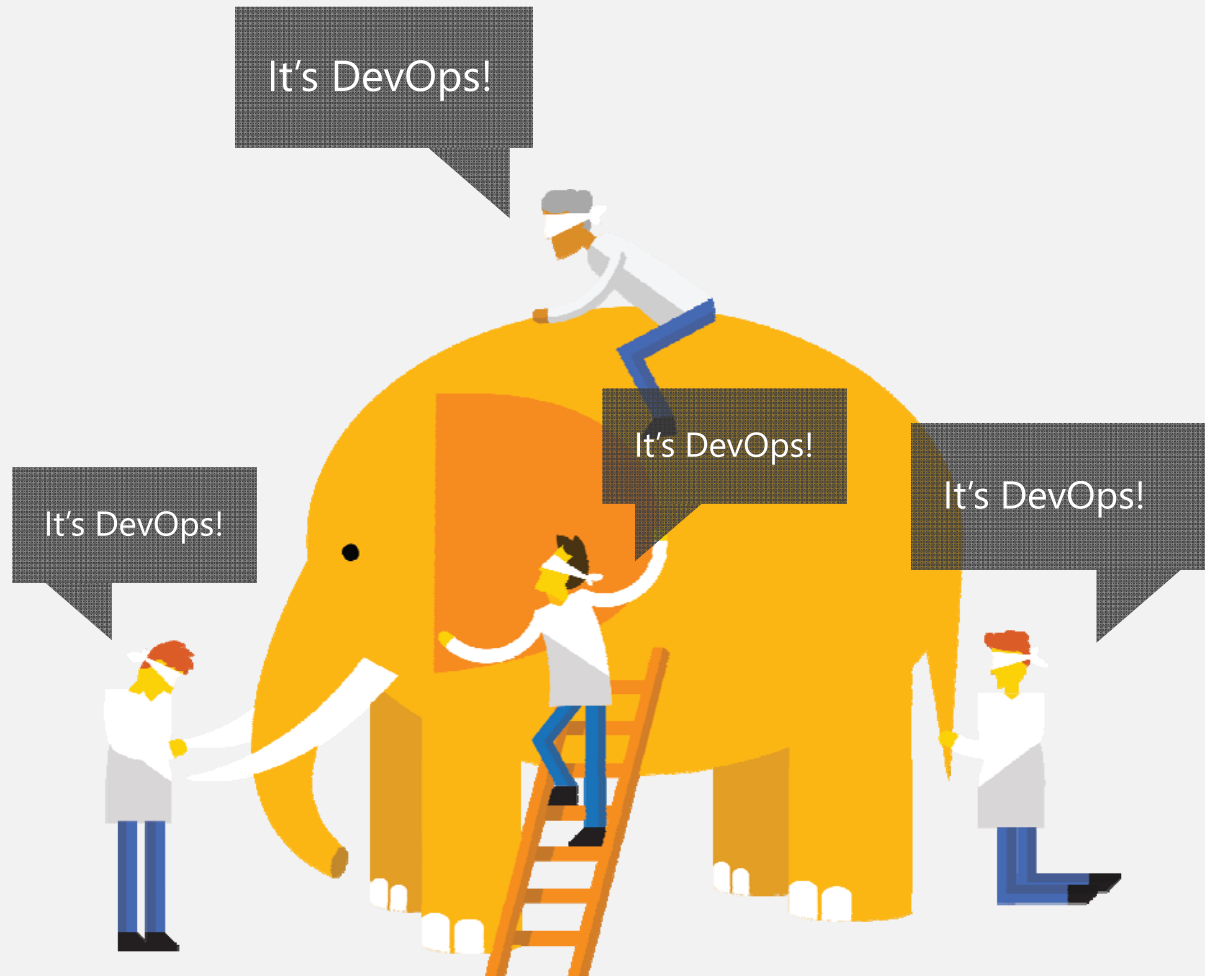
- Sr. Developer Technology Specialist
- 20 years of experience in IT, Mission Critical Design and Architecture, Product Development, Support & Consulting
- Process Consultant, Certified Scrum Master, ALM Ranger, VSTS Team
- Beloved by TSA agents around the USA
- Focus on:
  - DevOps/Application Lifecycle Management – [DevOps/ALM](#)
  - General Application Development
  - Visual Studio Tooling
  - Azure
- Email: [abel.wang@microsoft.com](mailto:abel.wang@microsoft.com)
- Blog: <http://abelsquidhead.com>
- Twitter: @abelsquidhead

# What is DevOps?

“DevOps is development and operations **collaboration**”

“DevOps is using **automation**”

“DevOps is **small** deployments”

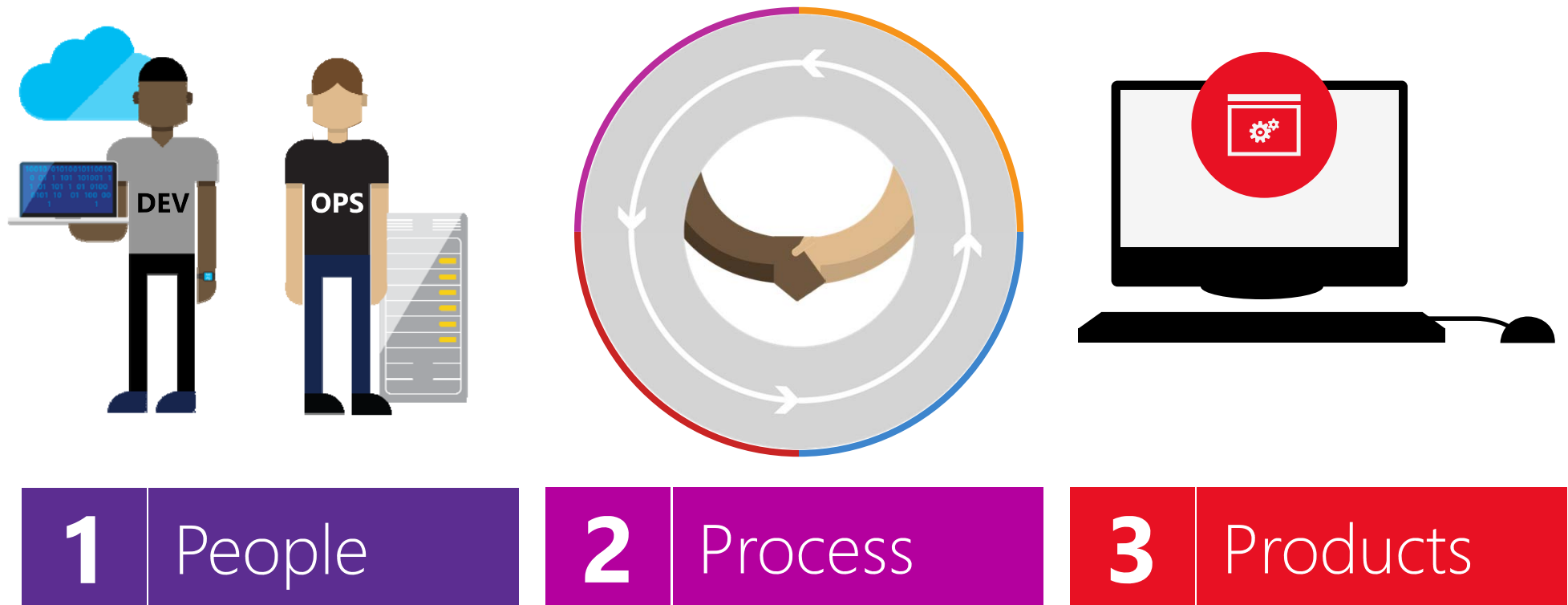


“DevOps is treating your **infrastructure as code**”

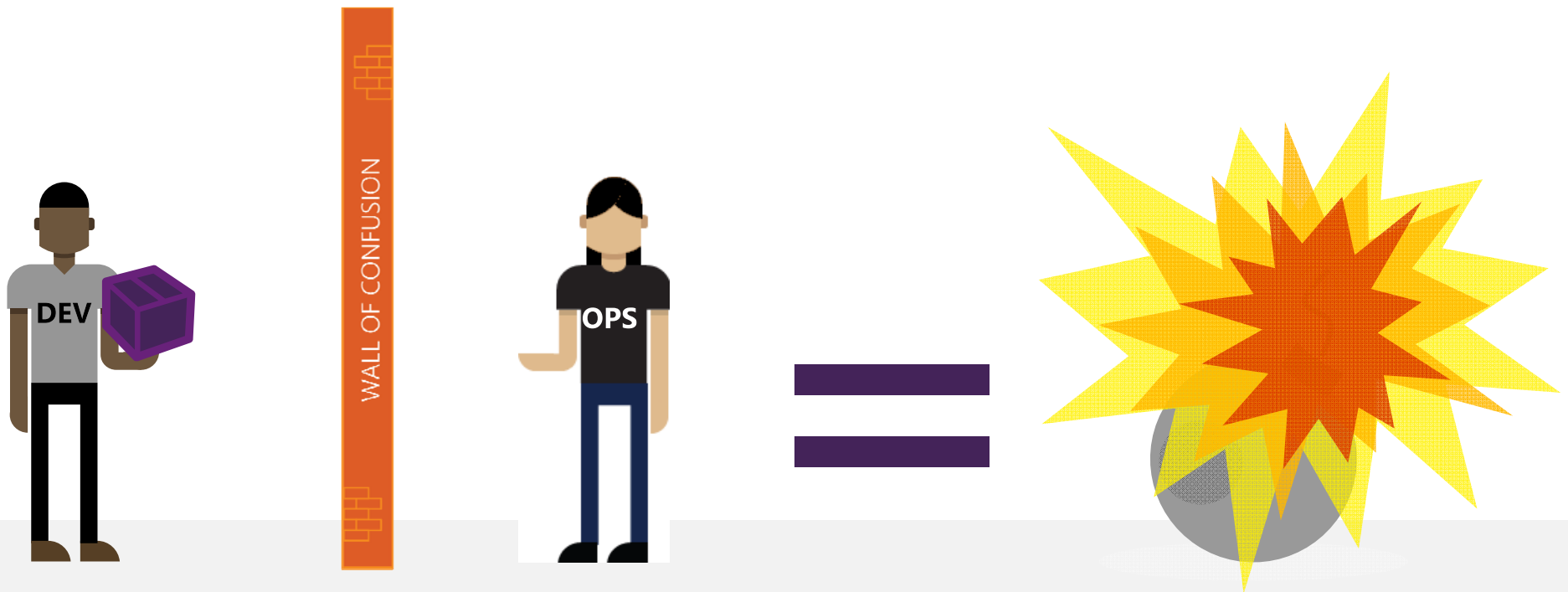
“DevOps is feature **switches**”

“**Kanban** for Ops?”

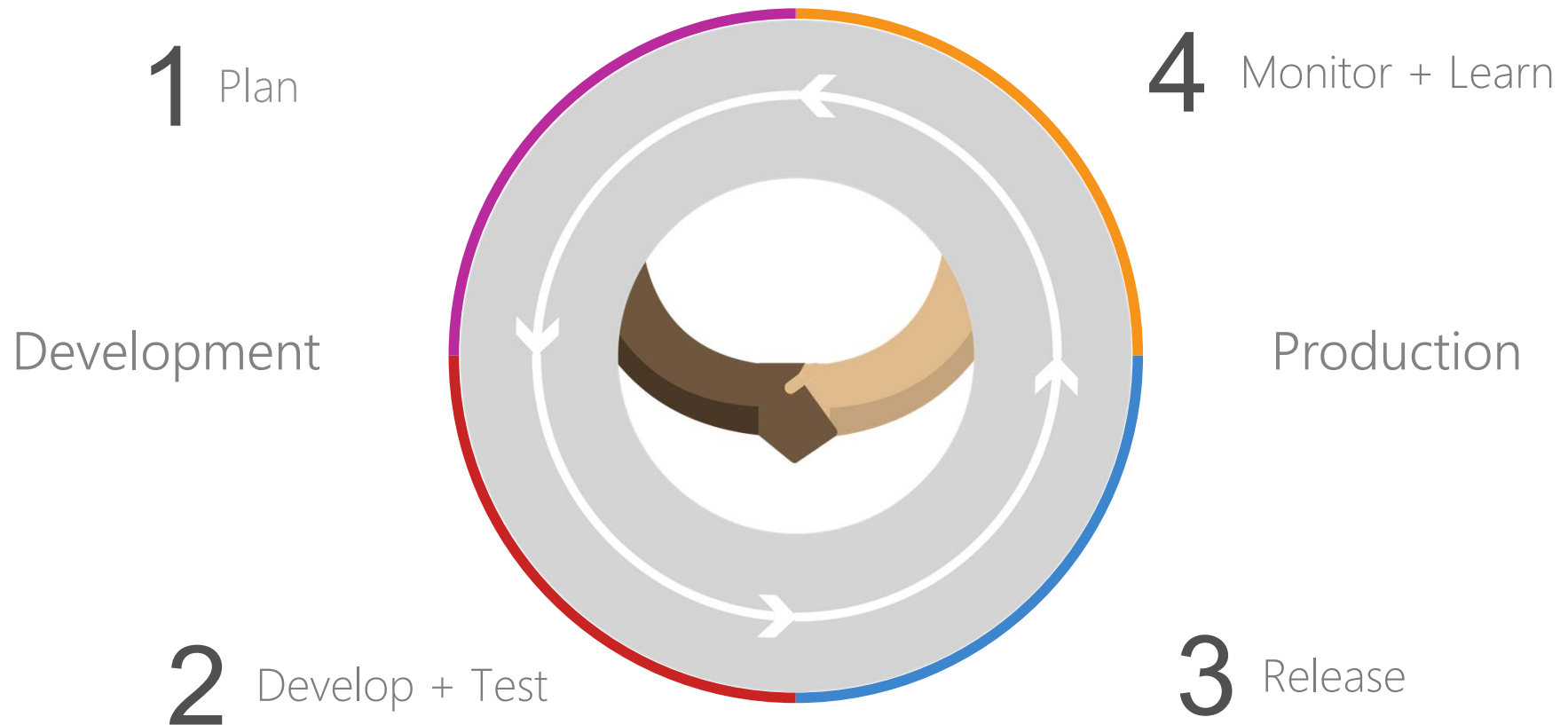
# DevOps: the three stage conversation



# People

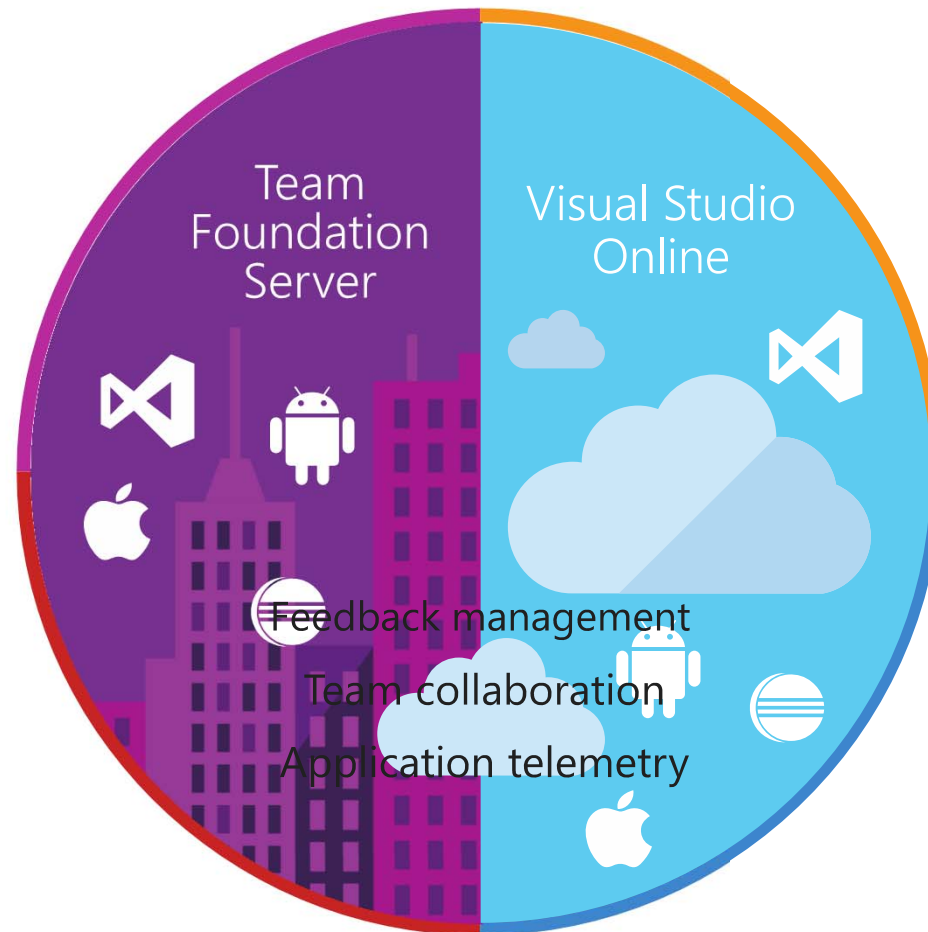


# Process



# Tooling

TFS/VSTS  
+ Azure





# What is Team Foundation Server?

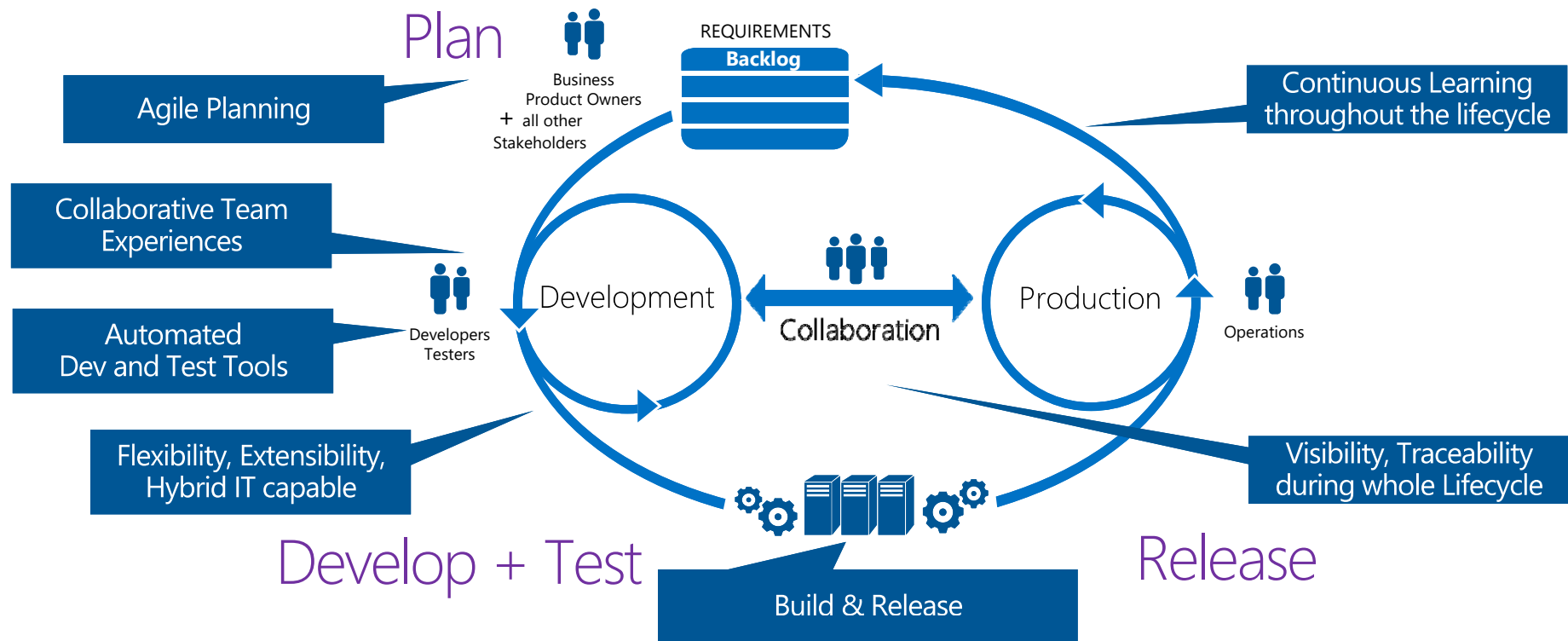
It's a source control system!

- Wrong. It is FAR more than a source control system.
- Tool to help manage all aspects of creating software. From application inception to application sun setting.
- DevOps Collaboration Hub

## Key Functional Areas

- Agile Planning & Management/Work Item Tracking
- Version Control
- Build Management & Automation
- Testing
- Release Management
- Application Monitoring

# Enabling Value Delivery



# Cross Platform Build System

The screenshot displays the Microsoft Visual Studio Build system interface in a web browser. The address bar shows the URL: `abelsquidhead.visualstudio.com/MicrosoftStuff/MercuryHealth/_build?definitionId=24&a=simple-process`. The page title is "Microsoft Visual Studio".

The interface is divided into several sections:

- Navigation Bar:** Includes "Team Services", "MicrosoftStuff", and "MercuryHealth". A search bar and user profile "Abel" are also present.
- Explorer:** Located on the left, it shows a list of build definitions under "My favorites" and "Team favorites". The "Build definitions" section is expanded, showing a list of definitions including "MercuryWebBuild", "MercuryWebBuildCIPullRequest", "UIAutomationBuild", and "UIAutomationBuild.PullRequest".
- Definitions / MercuryWebBuild | Builds:** The main content area shows the configuration for the "MercuryWebBuild" definition. It includes tabs for "Build", "Options", "Repository", "Variables", "Triggers", "General", "Retention", and "History".
- Build Configuration:** The "Build" tab is active, showing the configuration for the build step "Build solution src/MercuryHealth.sln". The configuration includes:
  - Solution:** `src/MercuryHealth.sln`
  - MSBuild Arguments:** `/p:DeployOnBuild=true /p:WebPublishMethod`
  - Platform:** `$(BuildPlatform)`
  - Configuration:** `$(BuildConfiguration)`
  - Clean:** ☐
  - Visual Studio Version:** `Visual Studio 2015`
- Advanced:** A section for advanced build options, including "Control Options" with checkboxes for "Enabled", "Continue on error", and "Always run".

# Build Reports

Microsoft Visual Studio

Build 20160525.1

MercuryWebBuild / Build 20160525.1

Queue new build... Download all logs as zip

**Build Succeeded**

Build 20160525.1

Ran for 94 seconds (DevOpsDemoPool), completed 22.6 hours ago

**Summary** Timeline Artifacts Tests

**Build details**

Definition: MercuryWebBuild (edit)  
Source: refs/heads/master  
Source version: Commit 22c20902  
Requested by: [DefaultCollection]Project Collection Service Accounts on behalf of Abel  
Queued: Wednesday, May 25, 2016 5:41 PM  
Started: Wednesday, May 25, 2016 5:41 PM  
Finished: Wednesday, May 25, 2016 5:42 PM

**Issues**

Build

- The 'Restore NuGet Packages' option is deprecated. To restore NuGet packages in your build, add a NuGet Installer task to your build definition.
- src\MercuryHealth.Web\Controllers\HomeController.cs (19, 24): The field 'HomeController.testString' is assigned but its value is never used
- src\MercuryHealth.Web\Helpers.cs (122, 22): Mark 'HandleErrorAttribute' as sealed.
- src\MercuryHealth.Web\Models\AccountViewModels.cs (86, 18): Use 'nameof>Password' instead of specifying the program element name.
- src\MercuryHealth.Web\Models\AccountViewModels.cs (105, 18): Use 'nameof>Password' instead of specifying the program element name.
- src\MercuryHealth.Web\Models\FoodLogEntryRepository.cs (17, 30): Field db should be disposed.
- src\MercuryHealth.Web\Models\ManageViewModels.cs (38, 18): Use 'nameof(NewPassword)' instead of specifying the program element name.
- src\MercuryHealth.Web\Models\ManageViewModels.cs (57, 18): Use 'nameof(NewPassword)' instead of specifying the program element name.
- src\MercuryHealth.Web\Models\ManageViewModels.cs (57, 18): Use 'nameof(NewPassword)' instead of specifying the program element name.

**Test Results**

Total tests: 14 (+0)  
Passed (n): 14  
Failed (f): 0  
Others (o): 0

Pass percentage: 100% (+0%)  
Run duration: 2s 33ms (+37ms)

**Code Coverage**

Blocks: 9.42%  
Lines: 10.20%

Download Code Coverage Results

Blocks: 33.55%  
Lines: 33.52%

Download Code Coverage Results

**Tags**

Microsoft Visual Studio

Build 20160525.1

MercuryWebBuild / Build 20160525.1

Queue new build... Download all logs as zip

**Build Succeeded**

Build 20160525.1

Ran for 94 seconds (DevOpsDemoPool), completed 22.6 hours ago

**Summary** Timeline Artifacts Tests

The field 'HomeController.testString' is assigned but its value is never used

- src\MercuryHealth.Web\Helpers.cs (122, 22): Mark 'HandleErrorAttribute' as sealed.
- src\MercuryHealth.Web\Models\AccountViewModels.cs (86, 18): Use 'nameof>Password' instead of specifying the program element name.
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- src\MercuryHealth.Web\Models\ManageViewModels.cs (38, 18): Use 'nameof(NewPassword)' instead of specifying the program element name.
- src\MercuryHealth.Web\Models\ManageViewModels.cs (57, 18): Use 'nameof(NewPassword)' instead of specifying the program element name.
- src\MercuryHealth.Web\Controllers\HomeController.cs (20, 38): Field db should be disposed.
- src\MercuryHealth.Web\Controllers\MemberProfileController.cs (21, 18): Field db should be disposed.

**Download Code Coverage Results**

Blocks: 33.55%  
Lines: 33.52%

**Download Code Coverage Results**

Blocks: 33.55%  
Lines: 33.52%

**Tags**

**Deployments**

Dev deployed with MercuryHealthRelease-192

QA

BlueGreen

Prod

**Associated work items**

Bug 361 Food item should not have a color field

Current state is Committed. Currently assigned to Abel <xanderparks@hotmail.com>

**Associated changes**

Commit 22c2090 Authored by Abel

PR 213 Merge Bug361 to master

- removed color from db schema, removed color from web code

Abel [edit]

# Release Management

The screenshot displays the Azure DevOps Release Management web interface. The browser address bar shows the URL: `abelsquidhead.visualstudio.com/MicrosoftStuff/MercuryHealth/_apps/hub/ms-vs-releaseManagement-web.hub-explorer?definitionId=28_a=environments-editor`. The interface includes a top navigation bar with links to Team Services, Microsoft Stuff, and MercuryHealth. Below this is a breadcrumb trail: HOME > CODE > WORK > BUILD > TEST > RELEASE. The main content area is titled 'Definition: Mercury Health Deployment' and includes tabs for Environments, Artifacts, Variables, Triggers, General, and History. The 'Environments' tab is active, showing a list of environments on the left: Dev (6/6 tasks enabled), QA (5/5 tasks enabled), BlueGreen (4/4 tasks enabled), and Prod (1/1 tasks enabled). The 'Add tasks' section in the center lists tasks for the 'Azure Deployment: AbelMercuryHealthWeb' environment, including 'dacpacDeployTask', 'ConfigTokenizer', 'Add release annotation to Application Insights res', 'Run Selenium UI Tests', and 'Run Coded UI Tests'. The right-hand pane shows the configuration for the 'Azure Deployment: AbelMercuryHealthWeb' task, with fields for Azure Subscription, Web App Name, Web App Location, Slot, Web Deploy Package, Set DoNotDelete flag, and Additional Arguments. The 'Control Options' section at the bottom right includes checkboxes for 'Enabled', 'Continue on error', and 'Always run'.

Mercury Health Deploy X CMMI - Visual Studio Te X

abelsquidhead.visualstudio.com/MicrosoftStuff/MercuryHealth/\_apps/hub/ms-vs-releaseManagement-web.hub-explorer?definitionId=28\_a=environments-editor

Dashboard - Star Wars | Code.org Learn | Code.org GitHub - Where

Team Services / MicrosoftStuff / MercuryHealth

HOME CODE WORK BUILD TEST RELEASE

Explorer

Go here for help getting started with Release Management.

Definition: Mercury Health Deployment | Releases

Environments Artifacts Variables Triggers General History

Save Release

Add environment Add tasks

**Dev** 6 / 6 tasks enabled  
1 |

**QA** 5 / 5 tasks enabled  
2 |

**BlueGreen** 4 / 4 tasks enabled  
2 |

**Prod** 1 / 1 tasks enabled  
2 |

**Azure Deployment: AbelMercuryHealthWeb**  
Azure Web App Deployment

dacpacDeployTask  
Dacpac Deploy

ConfigTokenizer  
Configuration Tokenizer

Add release annotation to Application Insights res  
Release Annotation

Run Selenium UI Tests  
Visual Studio Test

Run Coded UI Tests  
Visual Studio Test

**Azure Deployment: AbelMercuryHealthWeb**

Azure Subscription Microsoft Internal Subscription 1 Manage

Web App Name AbelMercuryHealthWeb

Web App Location North Central US

Slot dev

Web Deploy Package \$(Agent.ReleaseDirectory)\MercuryWebBuild\\*.\*

Set DoNotDelete flag

Additional Arguments

**Control Options**

Enabled ☒

Continue on error ☐

Always run ☐

More Information

# Release Management Summary

The screenshot displays the Visual Studio Release Management web interface. The browser address bar shows the URL: `abelsquidhead.visualstudio.com/MicrosoftStuff/MercuryHealth/_apps/hub/ms.vss-releaseManagement-web.hub-explorer?releaseId=287&a=release-summary`. The page title is "Mercury Health Deployment / MercuryHealthRelease-189".

**Summary**

Triggered by MercuryWebBuild 20160523.1.  
Continuous integration requested for Abel 3 days ago  
MercuryWebBuild / 20160523.1 (Build) refs/heads/master

**Environments**

Environment	Actions	Deployment status	Started	Duration
Dev	***	SUCCEEDED	3 days ago	00:06:35
QA	***	FAILED	3 days ago	00:06:09
BlueGreen	***	NOT DEPLOYED		
Prod	***	NOT DEPLOYED		

**Issues**

Errors (3)

- VSTest Test Run failed with exit code: 1
- Your loadtest has crossed the permissible 3 threshold violations with 4 violations
- Load test has failed. Please check error messages to fix the problem.

Warnings (7)

**Work items**

- 361 Food item should not have a color field Committed
- 362 Change the schema of db in dbproj To Do
- 363 add field in the food item model To Do
- 364 add field in create food item view In Progress

**Test results**

Test run	Environment	Results	Date
1,464:Coded UI Dev UI...	Dev	All 3 tests passed	Monday
1,463:Selenium Dev UI T...	Dev	All 8 tests passed	Monday
1,465:QA UI Tests (All)	QA	8 of 10 passed	Monday

# Release Management Testing Effort

The screenshot displays the VSTS interface for a release named 'MercuryHealthRelease-188'. The 'Tests' tab is selected, showing a summary of 21 tests with a 90.48% pass rate and a run duration of 1m 11s. The tests are grouped by 'Test run' and 'Outcome'. The 'Add2ndDonutTest' is highlighted as failed. The right-hand pane provides a detailed view of this failure, including the error message and stack trace.

**Mercury Health Deployment / MercuryHealthRelease-188**

Summary Environments Artifacts Variables General Commits Work items **Tests** Logs History

Deploy Save Abandon Send Email

Environment All

Total tests: 21 (19 Passed, 2 Failed, 0 Others) Pass percentage: 90.48% Run duration: 1m 11s

Group by Test run Outcome All

Test	Duration
3/3 Passed - Coded UI Dev UI Tests	0:00:16
BrowseToCreateFoodLogEntryTest	0:00:05
BrowseToHomePageTest	0:00:05
BrowseToNutritionPageTest	0:00:05
8/10 Passed - QA UI Tests (All)	0:00:54
Add1stDonutTest	0:00:03
Add2ndDonutTest	0:00:03
BrowseToCreateExerciseEntryTest	0:00:00
BrowseToCreateFoodLogEntryTest	0:00:01
BrowseToExercisePageTest	0:00:05
BrowseToHomePageTest	0:00:24
BrowseToMyMetricsPageTest	0:00:02
BrowseToNutritionPageTest	0:00:04

**Add2ndDonutTest**  
Failed on ABELDEVOPSDemo Console log  
Duration 0:00:03.118, 6 days ago

**Error message**

Assert.Fail failed. Verify food failed: Assert.AreEqual failed. Expected:<2>, Actual:<1>. The food is in the table the wrong number of times.

**Stack trace**

at MercuryHealth.AutomatedTest.Pages.NutritionPage.VerifyFoodInt  
at MercuryHealth.AutomatedTest.MercuryHealthAppTests.Add2ndDonut1

**Attachments (1)**

Name	Size
Standard Console Output log	1K

**Bugs (3)**

ID	Title
2055	Add2ndDonutTest Failed i
2258	Add2ndDonutTest Failed i
2265	Add2ndDonutTest Failed i

# Microsoft ALM/DevOps Hub

