



2019
NT KONFERENCA
21. - 23. MAJ 2019

#ntk19

AZURE DEVOPS TOOLS FOR EFFICIENT CLOUD BASED DEVOPS

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Agilist IT
INFORMATION TECHNOLOGIES
Zagreb, Croatia



Agenda

Azure DevOps Overview

Azure Boards

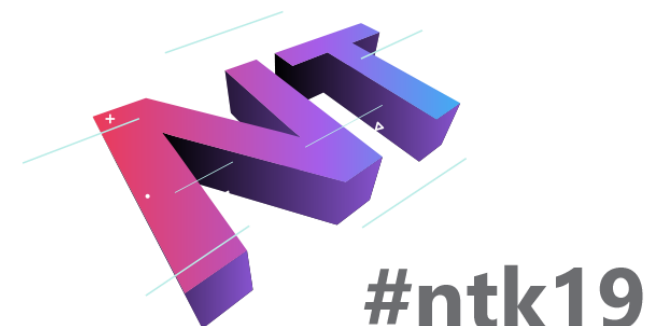
Azure Repos and GitHub

Azure Pipelines

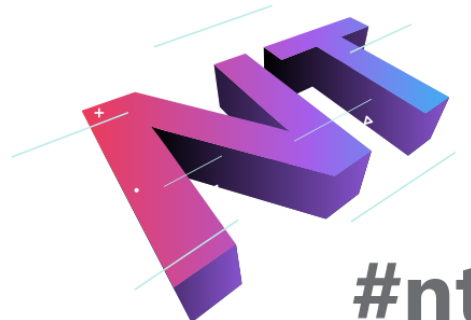
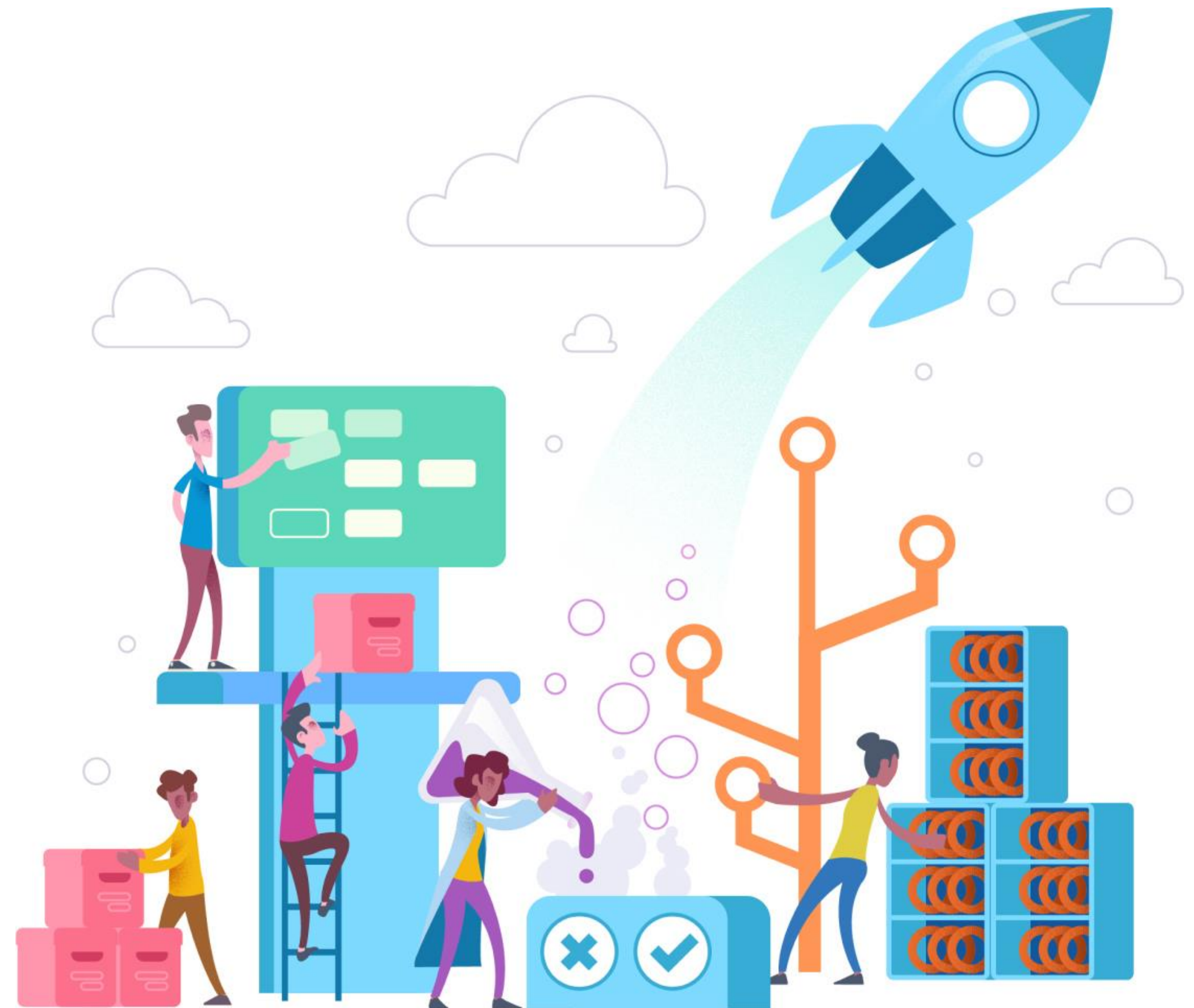
Azure Test Plans and Azure Artifacts

Migration TFS → Azure DevOps and Pricing

Azure DevOps Ecosystem



AZURE DEVOPS OVERVIEW



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Azure DevOps

<https://azure.com/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.



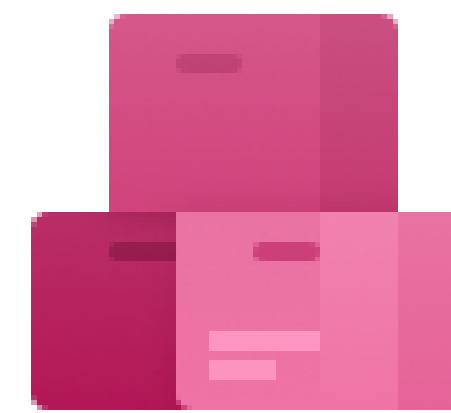
Azure Repos

Get unlimited, cloud-hosted **private Git repos** and collaborate to build better code with **pull requests** and advanced file management.



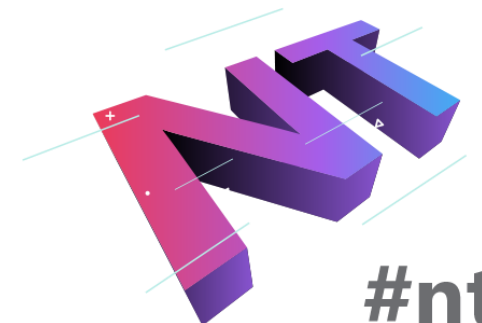
Azure Test Plans

Test and ship with confidence using **manual and exploratory testing tools**.



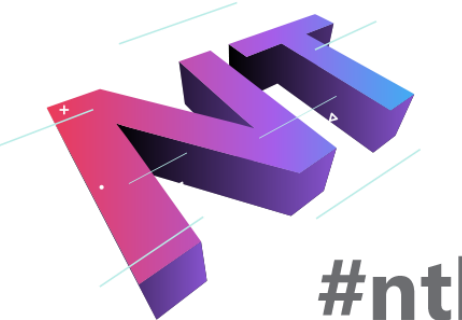
Azure Artifacts

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



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AZURE BOARDS



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Azure Boards

Manage work

Collaborate with your Team

Plan, track, and discuss
work across your teams

Kanban Boards

Scrum Boards

Backlogs

Scrum Ready

Kanban Ready

Azure DevOps

Contoso / AdventureWorks Mobile / Boards / FabrikamFiber

AW AdventureWorks

Overview

Boards

Work Items

Boards

Backlogs

Sprints

Queries

Plans

Repos

Pipelines

Test Plans

Artifacts

FabrikamFiber Board

New Active 5/5 Staging

+ New item

Hotels filter page
Carlos Slattery
Xamarin

Guests page
Carole Poland
ML Xamarin

NFC open door
Cecil Folk
Spike Xamarin

Room Tab
Celeste Burton
Rooms [Detail]

Map filter
Carole Poland

Home page (selected room)
Kat Larson
Design

Top page controls
Celeste Burton
ML Xamarin

Search component complex feat
Cecil Folk
General Xamarin

Images from api
Carole Poland
General

Adapt some parts of UI to UWP
Carole Poland
Blocked Xamarin

Home p
Carlos
Spike X

Entry +
Carole
Xamarin

Navigat
Carlos
AL X

Login p
Celest
Blocked

Ambien
Carlos
Xamarin

Notif

Azure DevOps

DevOpsShow / PartsUnlimited / Boards / Backlogs

Search

PartsUnlimited

Overview

Boards

Work Items

Boards

Backlogs

Sprints

Queries

Plans

Repos

PartsUnlimited Team

New Work Item

View as board

Backlog items

Order	Work Item Type	Title
1	Product Backl...	As a customer, I would like to have
2	Product Backl...	Provide tentative duration for ship
3	Bug	Sel_IE_Navigate Failed in 2488
4	Product Backl...	Recommended products must be
5	Product Backl...	As a customer, I would like to stor
6	Product Backl...	As tester, I need to test the websit
7	Product Backl...	As a customer, I would like to have
8	Product Backl...	As a admin, I should be able to up
9	Product Backl...	As a customer, I would like to s
10	Product Backl...	Notify the user about any chang
11	Product Backl...	As a customer, I would like to p

Planning

Drag and drop them in a sprin

Backlog

Sprint 2

9/23/2018 - 10/14/2018

15 working days

No work scheduled yet

Azure DevOps

DevOpsShow / PartsUnlimited / Boards / Sprints

Search

PartsUnlimited

Overview

Boards

Work Items

Boards

Backlogs

Sprints

Queries

Plans

PartsUnlimited Team

Taskboard

Backlog

Capacity

New Work Item

Sprint 3

October 15 - November 5

16 work days

Order	Work It...	Title
2	Product...	As a customer, I would
	Task	Wish entry form
	Task	Test wish list entry f
	Task	Plausi checks for a v
3	Product...	Provide tentative dura
	Task	Duration entry form
	Task	process tentative d
	Task	Test entry form

Planning

Drag and drop work items to include them in a sprint.

Backlog

Sprint 2

Current

9/23/2018 - 10/14/2018

15 working days

No work scheduled yet

Sprint 3

10/15/2018 - 11/5/2018

16 working days

Product Backlogs

Sprint Backlogs

Capacity Planning

Charts

Dashboards - Visibility for Teams and Stakeholders

Important info at a glance

Easy-to-read, easy to access, real-time

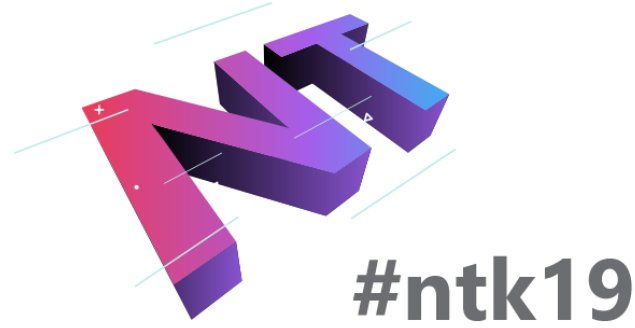
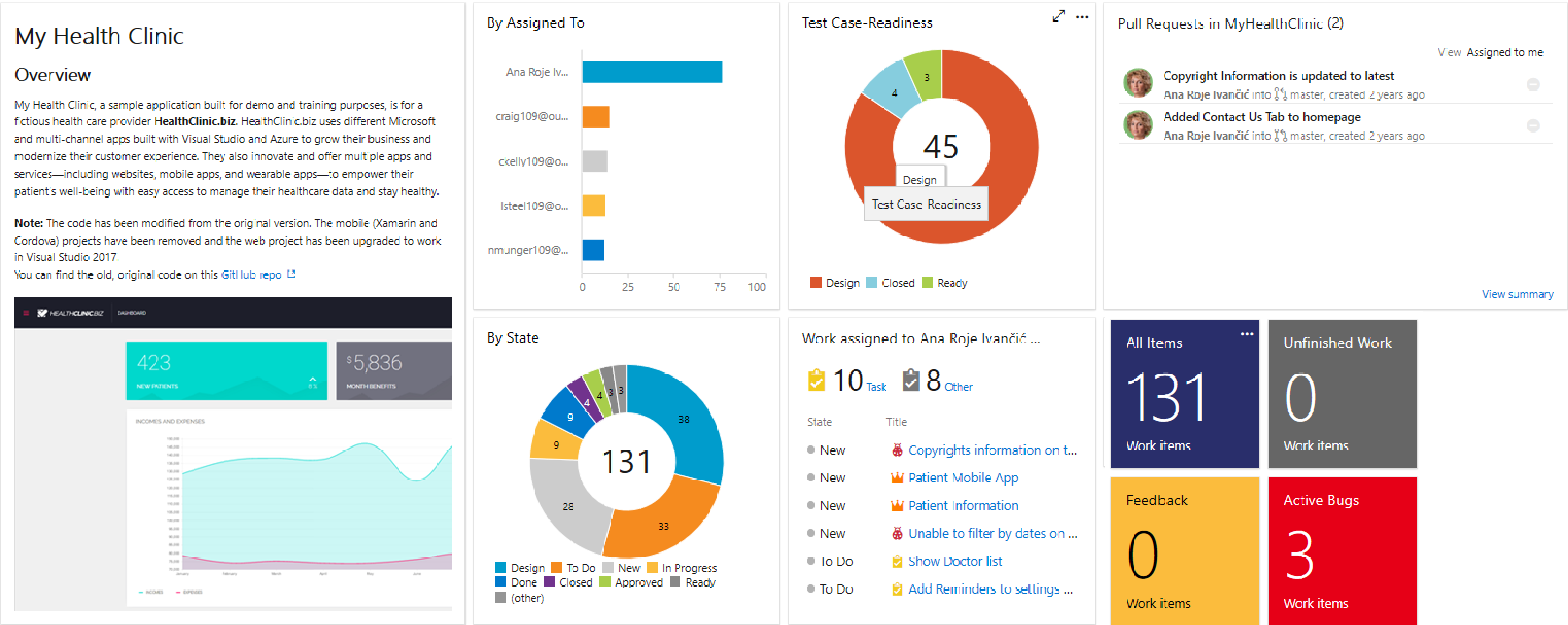
Multiple team dashboards

Configurable

Pin widgets from built-in catalog

Get widgets from Marketplace

Pin custom work item charts



Analytics Service

Built-in reporting platform

Generally available

Optimized for fast read-access and server-based aggregations

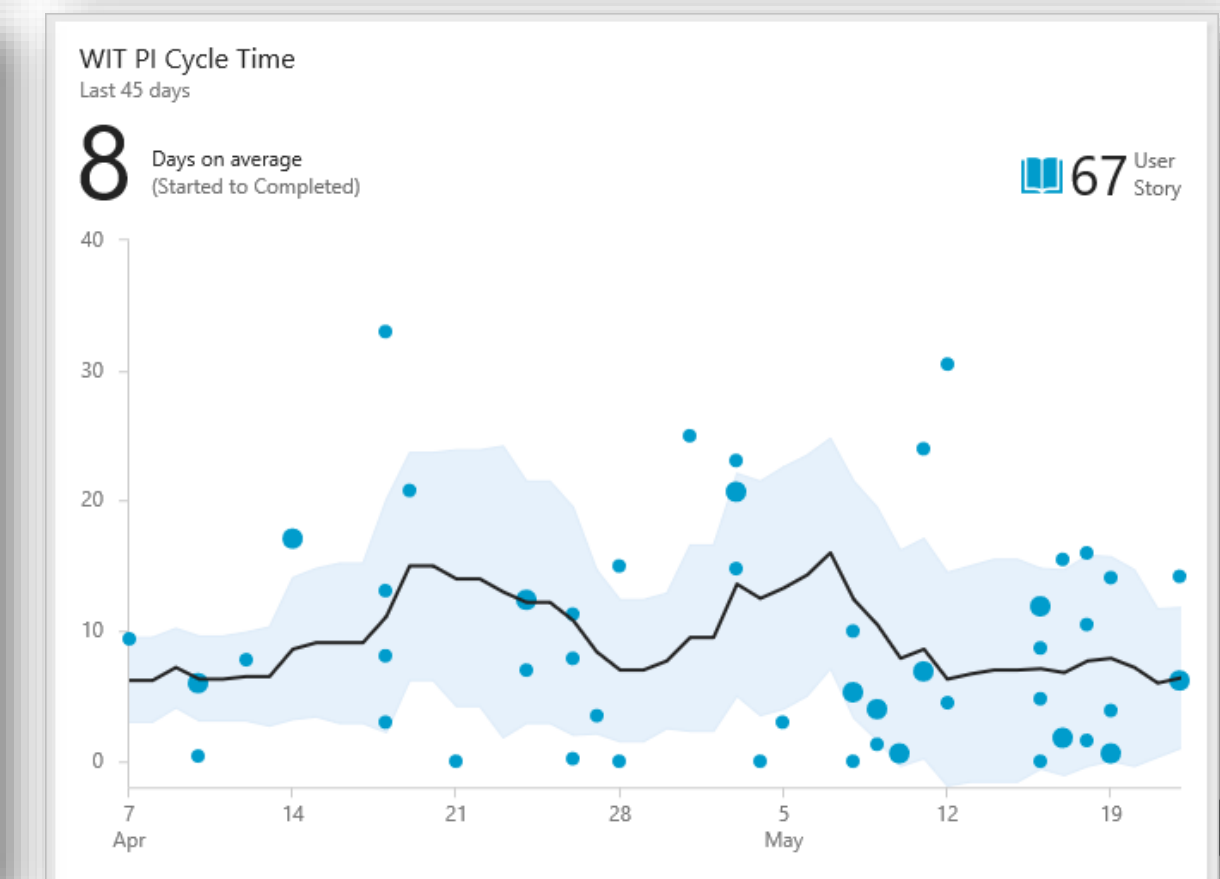
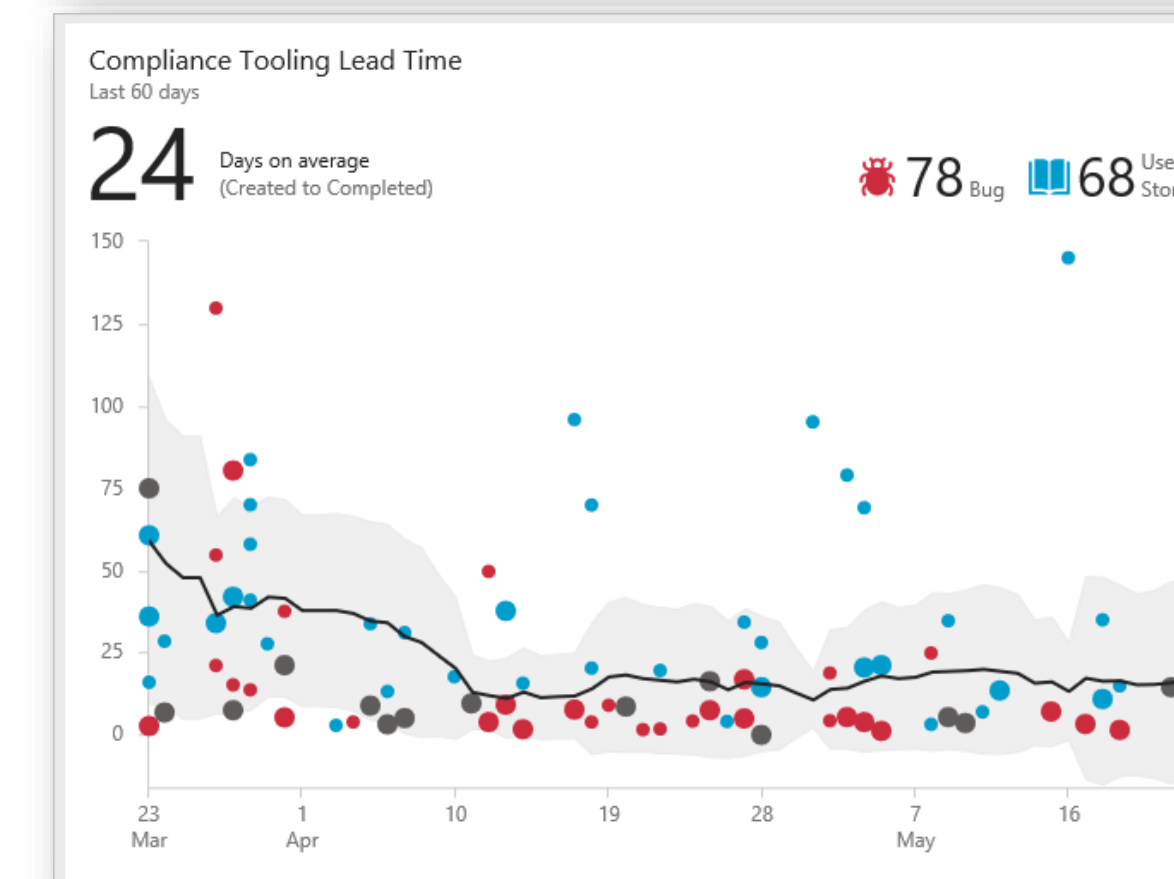
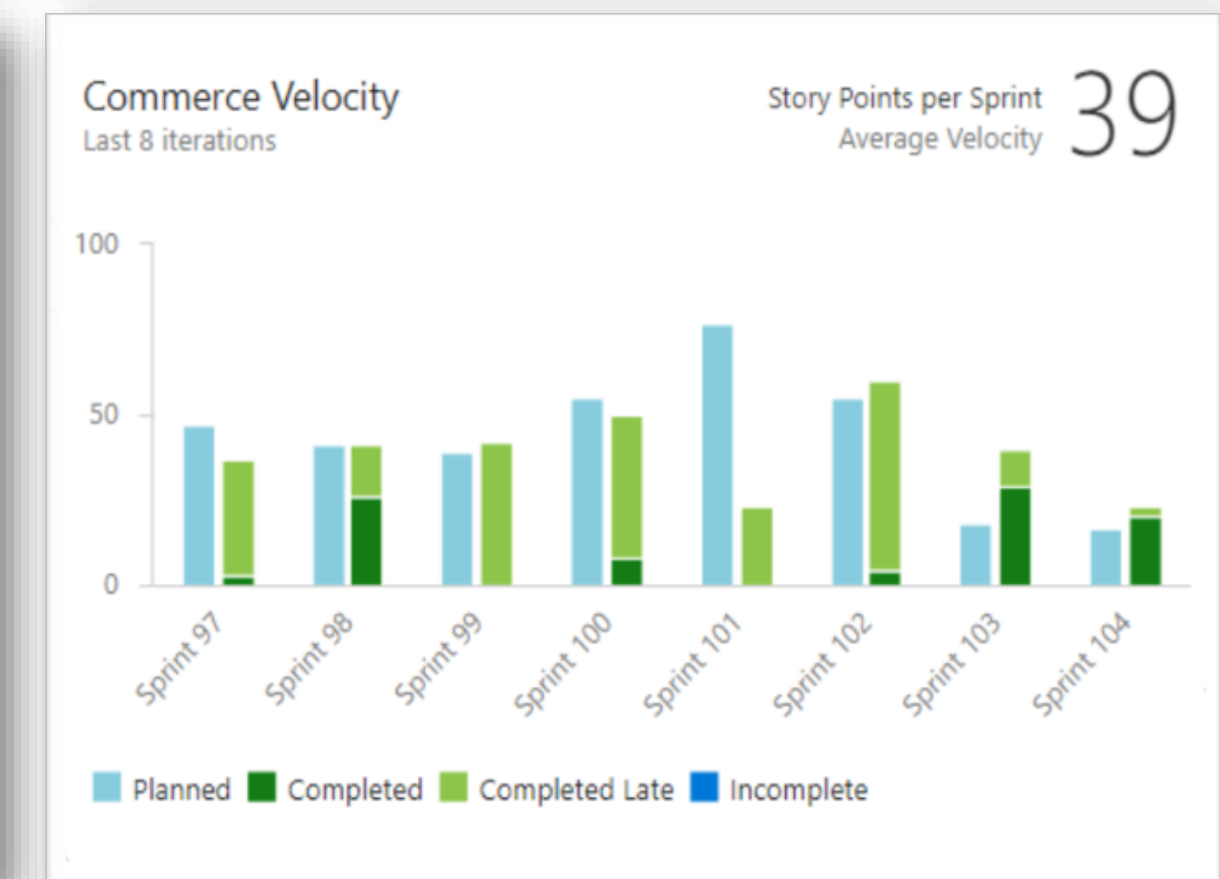
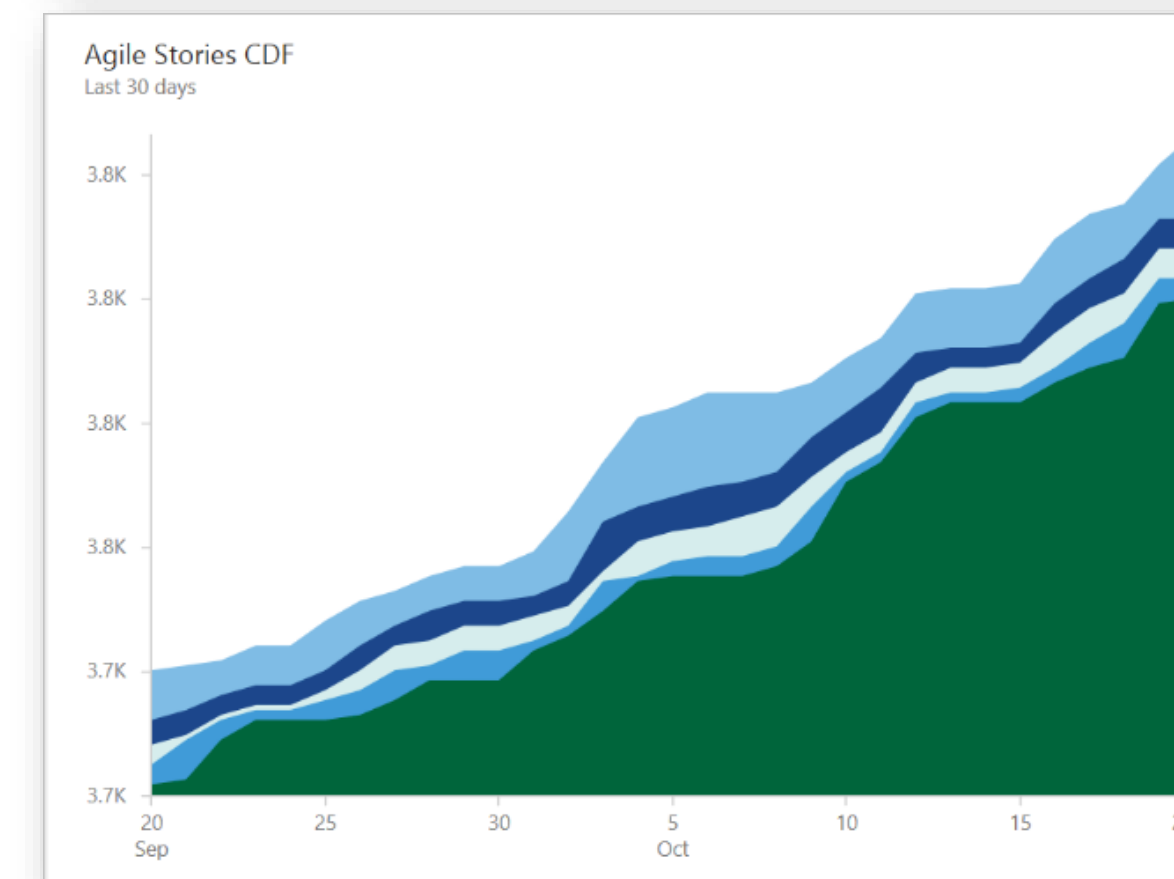
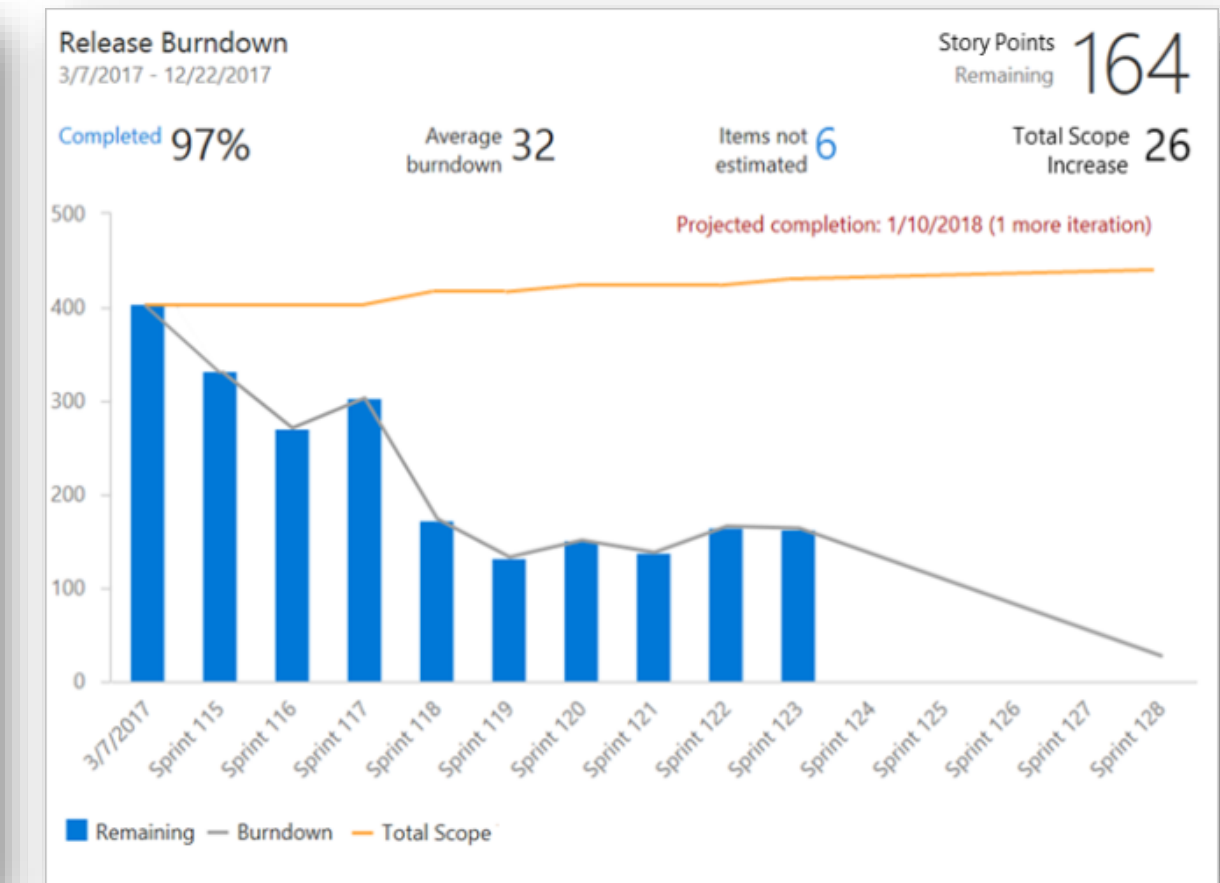
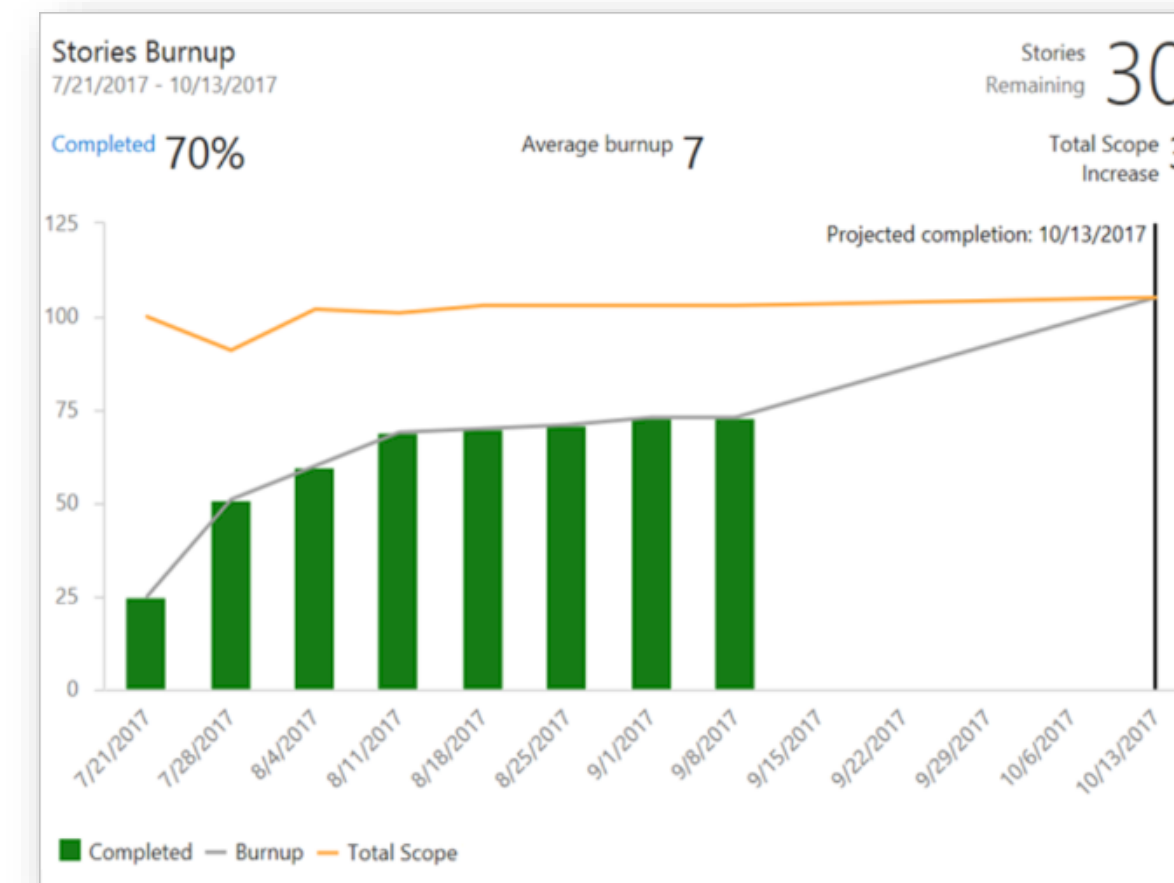
Boards and Pipelines data only

Analytics Widgets

Ready to use on dashboards

Power BI integration

OData feed (in preview)



Team Collaboration: Wiki, Search, Notifications

Wiki – Simplified information sharing

One main Wiki per Team project (provisioned)

Multiple (published) code Wikis (Azure Repos)

Rich markdown, hierarchical pages, tables

@mention users/groups, Embedded WIs with status and WI Query results

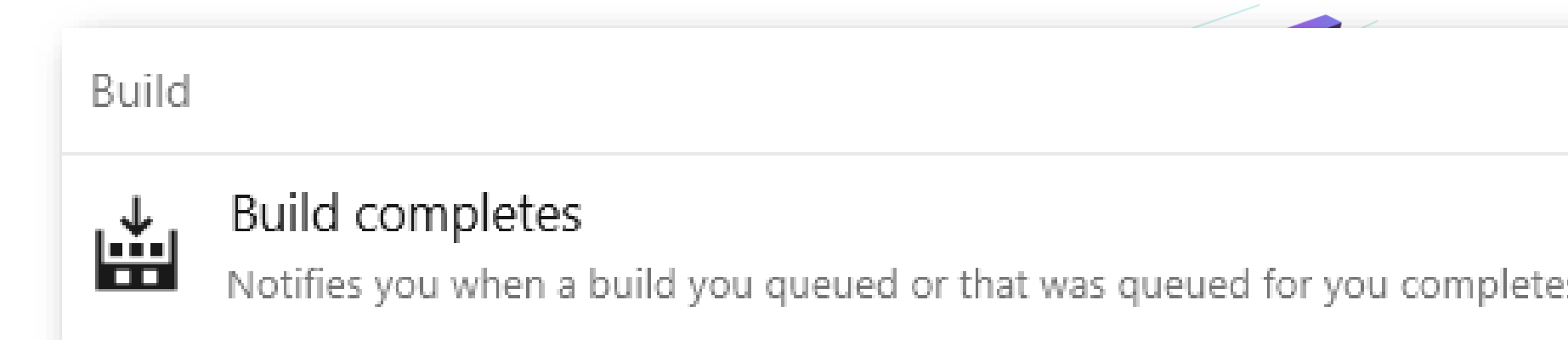
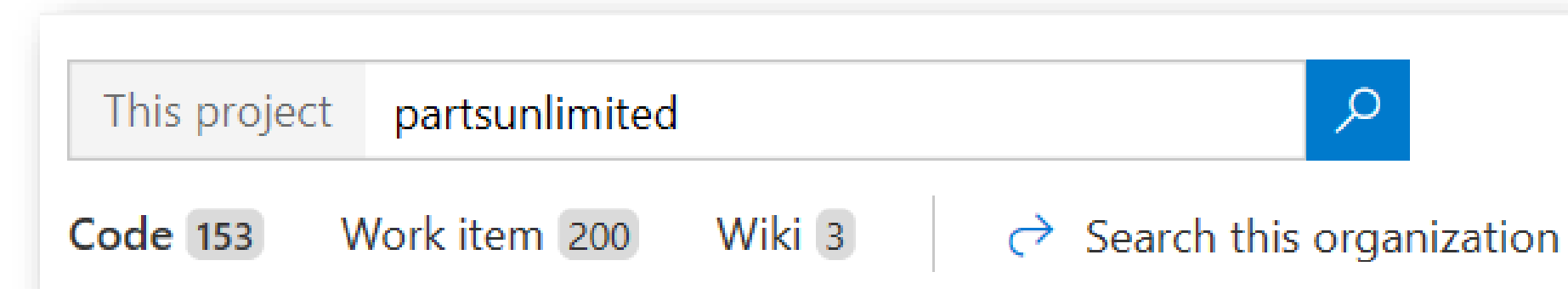
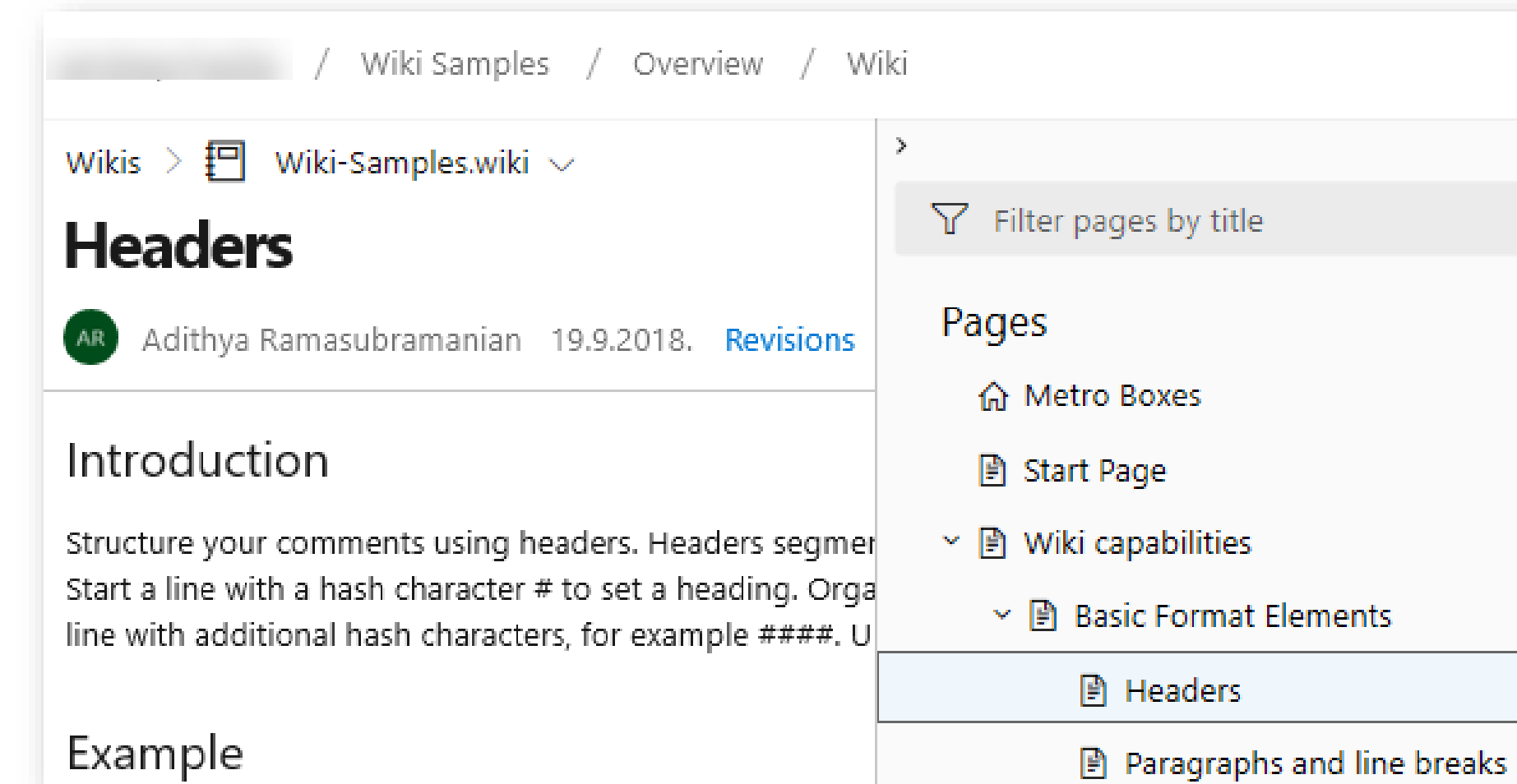
Search – Powerful full text search with filtering options

Code, Work items, Wiki

Notifications – Get notified about important events

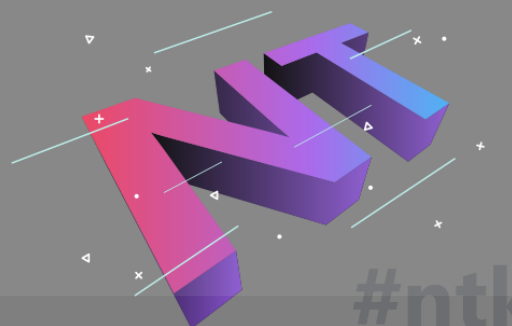
Pull Requests, Build and Release, Changes to work items

Integrate with Slack, Microsoft Teams



DEMO

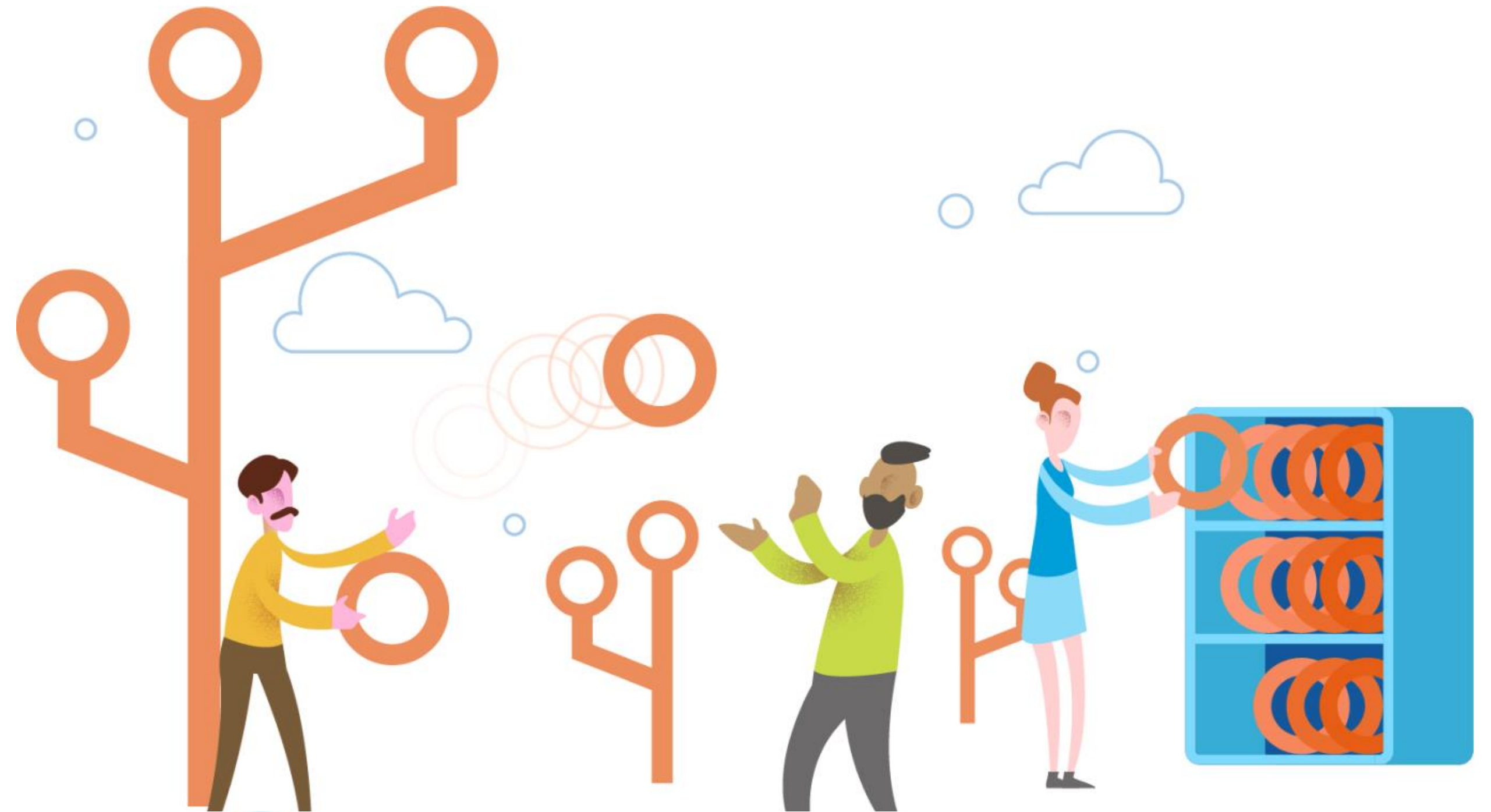
OVERVIEW
AZURE BOARDS
DASHBOARDS, WIKIS, SEARCH



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AZURE REPOS

AZURE ARTIFACTS





Azure Repos

Git or TFVC repos

Public (OSS) or private

Unlimited Git repos

Work with Git clients

Scalable

Semantic Code Search



Azure DevOps

Contoso / AdventureWorks Mobile / Repos / Pull requests



AdventureWorks



Overview



Boards



Repos



Files



Commits



Pushes



Branches



Tags



Pull requests



Pipelines



Test Plans



Artifacts

Pull requests

Mine

Active

Completed

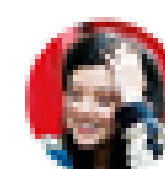
Abandoned



Filter by keyword or ID

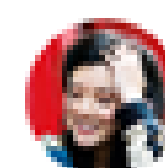
Created

Created by me



Initialize client with .client.init

Kat Larsson requested #238 into master



Testing configuration settings

Kat Larsson requested #230 into features/config



Assigned to me



Check returned identity for null status

Colin Ballinger requested #212 into master



+2

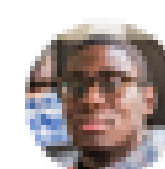


[WIP] Add tests for deployment mapping

Robin Counts requested #221 into master



Assigned to my team



Add exception on disconnect

Colin Ballinger requested #249 into master



Maintain structure when converting isomorphs

Robin Counts requested #234 into master



Hotfix payload to releases/99





Azure Repos - Pull Requests

Branch Policies

Reviewer signoffs

Linked work items

Comment resolution

Successful CI builds

with passing tests

Threaded discussion

Azure DevOps interface showing a Pull Request for the repository FabrikamFiberGit. The pull request is titled "Commenting the experiments" and is in the "ACTIVE" state. It shows a commit by Ognjen Bajić into the master branch. The pull request has a description: "Effort to **improve comments** in the code and some **correctness** ...". The interface includes a sidebar with navigation options: Overview, Boards, Repos (selected), Files, Commits, Pushes, Branches, Tags, Pull requests (selected), Pipelines, and Test Plans. The main area displays a threaded discussion with comments and actions. The right sidebar shows Policies (Required: 1 of 2 reviewers approved, Work items linked, Not all comments resolved, Build succeeded), Work Items (1284 Demo Task), and Reviewers (FabrikamFiberGit Team via Ana Roje Ivančić, Ana Roje Ivančić Approved, Ognjen Bajic).

teamcompanion / FabrikamFiber / FabrikamFiberGit

Search

FabrikamFiberGit

30 ACTIVE Commenting the experiments

Ognjen Bajić Ognj... into master Approve Set auto-complete

Overview Files Updates Commits

Effort to **improve comments** in the code and some **correctness** ...

Show everything

Add a comment...

Ognjen Bajić declined to review 10/13/2018

Ognjen Bajic reset their vote 10/12/2018

Approved by Ognjen Bajic 10/12/2018

Ognjen Bajic reset their vote 10/12/2018

Ognjen Bajic joined as a reviewer 10/12/2018

Policies

Required

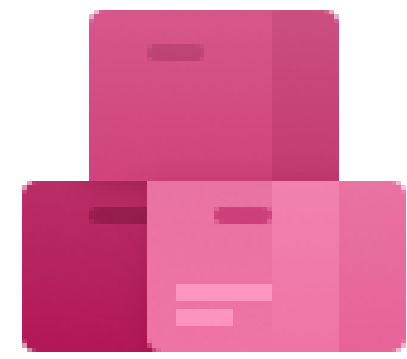
- 1 of 2 reviewers approved
- Work items linked
- Not all comments resolved
- Build succeeded

Work Items

1284 Demo Task

Reviewers

- FabrikamFiberGit Team via Ana Roje Ivančić
- Ana Roje Ivančić Approved
- Ognjen Bajic



Azure Artifacts

Create and share package feeds from public and private sources

Maven, npm, NuGet, Python and universal packages

Fully integrated into CI/CD pipelines

Best-in-class NuGet server

Keep OSS dependencies safe with upstream sources

Azure DevOps

Contoso / AdventureWorks Mobile / Artifacts

AW AdventureWorks

Overview

Boards

Repos

Pipelines

Test Plans

Artifacts

Artifacts

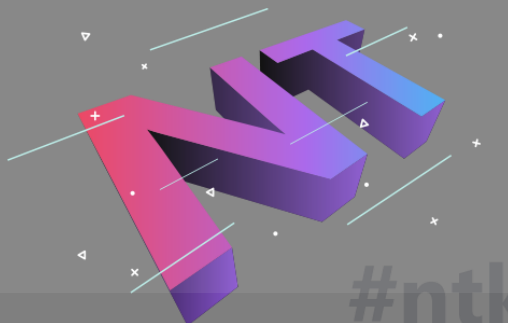
Connect to feed

Recycle Bin

Package	Views	Source	Last pushed	Description
abbrev Version 1.1.0		nuget	a year ago	Like ruby
accepts Version 1.3.3		npmjs	a year ago	Higher-l
acorn Version 5.0.3		MyFeed	a year ago	ECMASc
acorn-dynamic-import Version 2.0.2		maven	a year ago	Support
acir-jsx Version 3.0.1		nuget	a year ago	Alternat
acorn-object-spread Version 1.0.0		maven	a year ago	Custom
ajv Version 4.11.7		npmjs	a year ago	Alphanu
ajv-keywords Version 1.5.1		nuget	a year ago	ANSI esc
alphanum-sort		npmjs	a year ago	An al

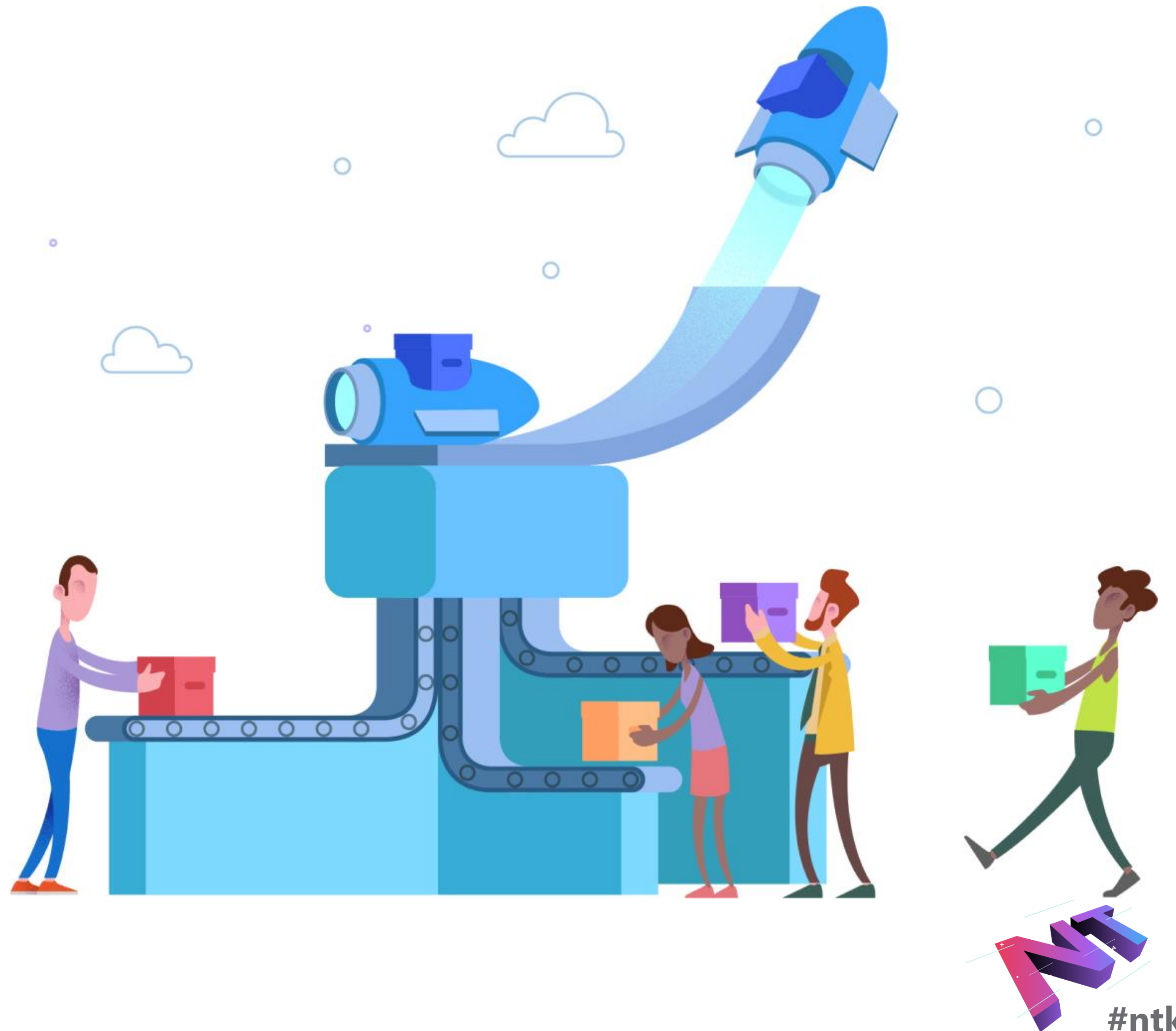
DEMO

GIT PULL REQUEST



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AZURE PIPELINES





Azure Pipelines

<https://azure.com/pipelines>

Fast automated CI/CD cloud-hosted pipelines

Continuously build, test, and deploy

Any language, any platform, any cloud

Run in parallel on Linux, Windows and MacOS

Build Node.js, Python, Java, PHP, Ruby, C/C++, .NET, Android, and iOS apps

Deploy to Azure, AWS, GCP or on-premises

Native support for Containers and Kubernetes

Extensible

YAML based multistage pipelines

AW AdventureWorks

- Overview
- Pipelines
- Builds
- Releases
- Library
- Deployment groups



Enabling feature flags

AdventureWorks/PackageFramework

Summary Logs Tests YAML

Windows Job	Running	1m 53s
Linux Job	Running	3m 29s
macOS Job	Running	3m 07s

Linux Job

Agent: Hosted Linux

- ✓ Prepare job
- ✓ Initialize job
- ✓ Get sources
- ✓ Cmdline
- ✓ Nodetool
- ⌚ Install dependencies

```
yarn install v1.7
$ node build/npm/
[1/4] 🔍 Resolving
[2/4] 📦 Fetching
[3/4] 🔗 Linking
[4/4] 🏗 Building
$ npm run compile
[#####]
> code-oss-dev-bu
```



Azure Pipelines for Private Projects

Microsoft-hosted CI/CD

1 free parallel job (pipeline) with up to 1800 mins/mo (1h/day)

Buy unlimited paid jobs for 40\$/mo from Marketplace

Self-hosted CI/CD

1 free unlimited job (pipeline) for each self-hosted build agent (on-prem or cloud)

1 parallel job for each VS Enterprise license

Buy unlimited paid jobs for 15\$/mo from Marketplace

Private projects



Microsoft-hosted ⓘ

[View in-progress jobs](#)

Free tier

1 parallel job up to 1800 mins/mo

Currently 0/1800 minutes are consumed

[Purchase parallel jobs](#)



Self-hosted ⓘ

[View in-progress jobs](#)

3

Parallel jobs

Free parallel jobs

1

Visual Studio Enterprise subscribers ⓘ

2

Monthly purchases

0

[Change](#)



Account



Billing



Quantity



Review



Done

Select Quantity

Paid pipelines ⓘ

Total cost

- 2 +

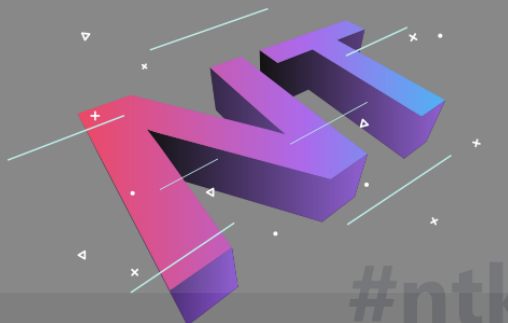
\$80/month

ⓘ We will prorate your first charge. Then we will charge you on the 1st of each month. [Learn more.](#)

[Continue](#)

DEMO

AZURE PIPELINES



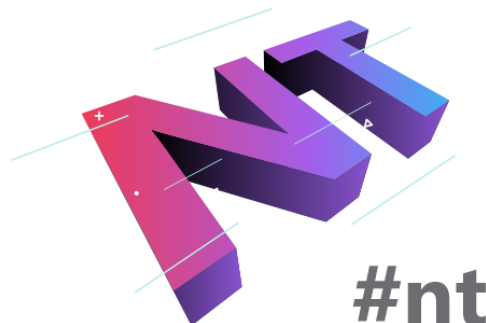
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GIT HUB
INTEGRATION

AZURE DEVOPS
PUBLIC PROJECTS



GitHub



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Open Source & Azure Pipelines & Azure Boards

GitHub integrated with
Azure Pipelines and
Azure Boards

Available from GitHub
Marketplace

Leverage CI/CD in
Azure Pipelines

Link GitHub commits
and pull requests to
work items in Azure
Boards (using #ID)

The screenshot shows the Azure Pipelines page in the GitHub Marketplace. At the top, it says 'Marketplace / Azure Pipelines' with the Azure logo. Below is a green button 'Set up a plan'. The text describes Azure Pipelines as a cloud-hosted CI/CD service for Linux, macOS, and Windows, offering 10 free parallel jobs and unlimited minutes for open source projects. A 'Read more...' link is provided. At the bottom, a blue box titled 'Linux, macOS, and Windows agents' explains that they simplify managing hardware and VMs. Below this, a pipeline diagram shows four stages: 'Test' (27 succeeded), 'Build Linux' (6 succeeded), 'Build Windows' (2 succeeded), and 'Build macOS' (64% in progress...), all leading to a 'Distribute' stage.

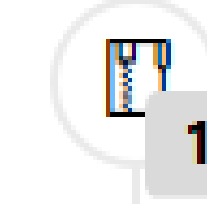
Progression



0

Deployments

No deployments were found for this build.



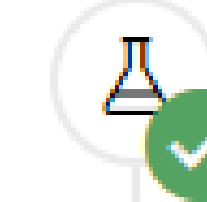
1

Build artifacts published ^



drop

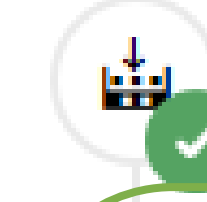
File container



✓

Tests succeeded v

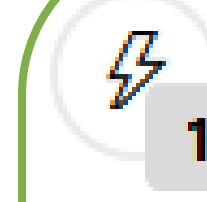
100% passed [\(100% pass rate in the last 14 days\)](#)



✓

Build pipeline succeeded

0 error(s) / 0 warning(s)



1

Associated changes

1 commit(s)



fixed AB#1936

arojei authored 8c94a57 saturday

Linked work items



GH Bug

Bug 1936 · Assigned to Ognjen Bajic



Azure Pipelines for Public Projects

Public GitHub Repos

Public Azure DevOps projects

Microsoft-hosted CI/CD

Windows, Linux and MacOS

Up to 10 free parallel jobs with unlimited build minutes

Self-hosted CI/CD

Unlimited jobs shared among unlimited number of self-hosted build agents (on-prem or cloud)

Pricing and setup

Free

\$0

Free for public and private repositories

Add parallel jobs

Add parallel jobs for private repositories

\$40

per parallel job
/ month

Azure Pipelines

Free

Free for public and private repositories

- ✓ Linux, macOS, and Windows
- ✓ 10 free parallel jobs for public repositories
- ✓ Unlimited minutes for public repositories
- ✓ 1 free parallel job for private repositories (1,800 minutes per month)

[Install it for free](#)

Next: Confirm your installation location.

Public projects **Free**



Microsoft-hosted ⓘ

[View in-progress jobs](#)

10

Parallel jobs



Self-hosted ⓘ

[View in-progress jobs](#)

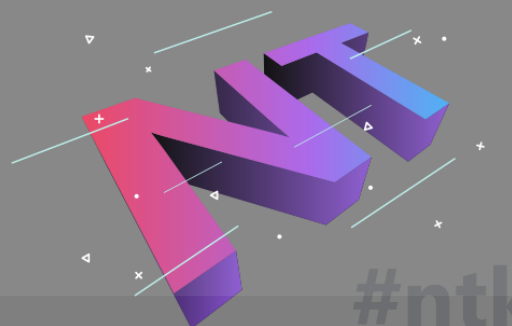
Unlimited

Parallel jobs

DEMO

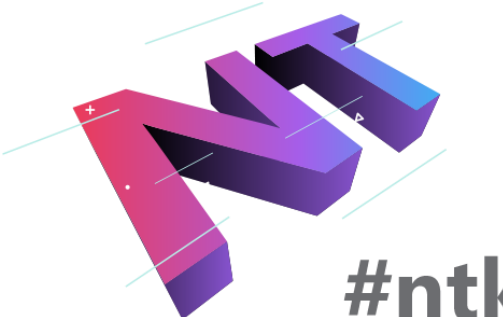
GIT HUB INTEGRATION
WITH PIPELINES AND BOARDS

AZURE DEVOPS PUBLIC
PROJECTS



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AZURE TEST PLANS



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Azure Test Plans

Manual and exploratory testing toolkit

Test across web and desktop

End-to-end traceability

AdventureWorks Mobile

Overview

Boards

Repos

Pipelines

Test Plans

Test plans

Parameters

Configurations

Runs

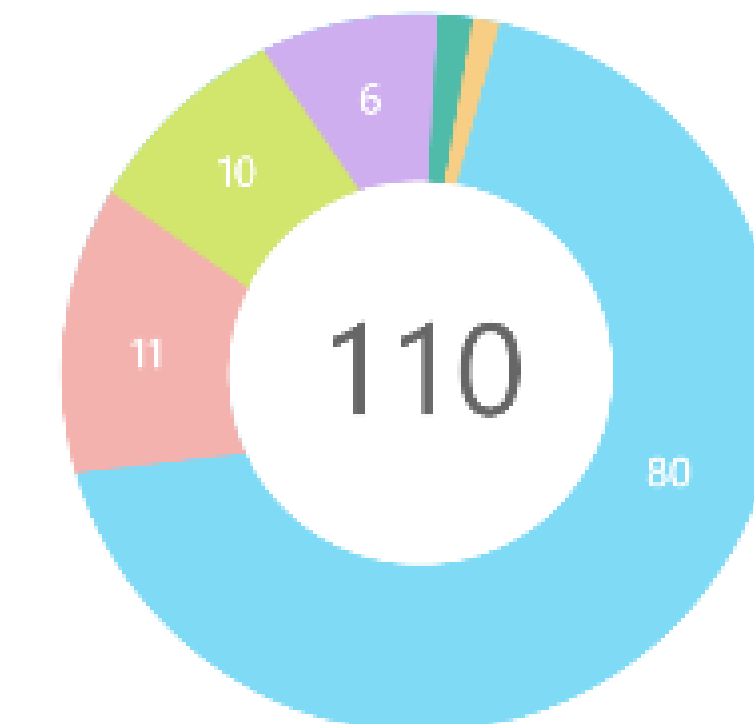
Artifacts

Project settings

Test Plan: Web Team

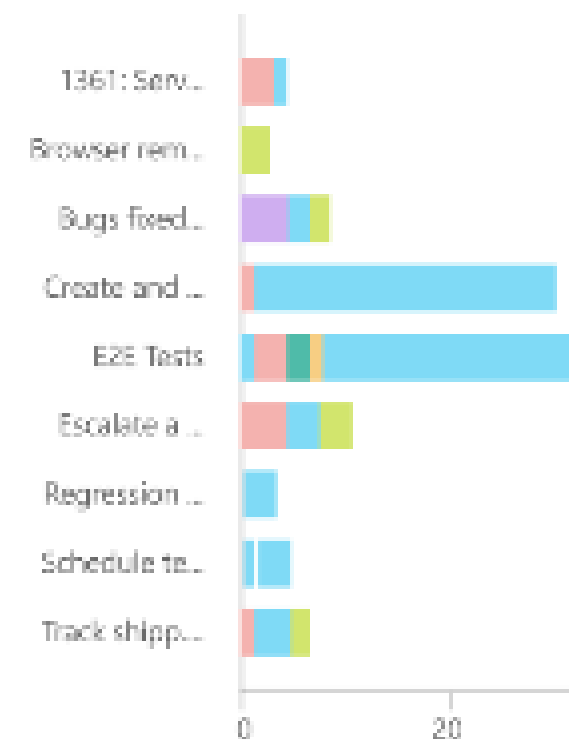
Test Charts

Overall Execution State



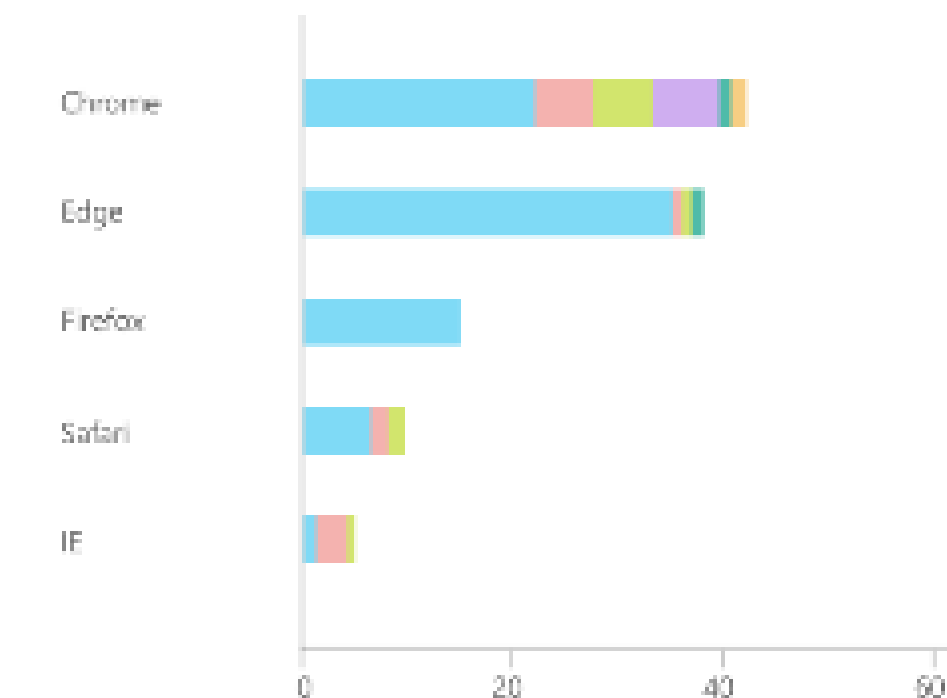
Not run Failed Passed Blocked
In progress Not applicable

Tests by Suite



Not run Failed Passed
In progress Not applicable

Configurations Coverage



Not run Failed Passed Blocked
In progress Not applicable

Execution

	Not run	Failed	Passed
Harish Agar...	51	7	0
RaviShan - ...	19	1	0
Jamal Hartn...	4	1	0
Dennis Habi...	2	1	0
Not availab...	2	0	0
Kandhan Ver...	2	1	0

Total 51 51 0



Azure Test Plans: Planned Manual Testing

Plan, execute, and track scripted tests across web and desktop

Test Plans, Cases, Steps, Parameters

Manage test matrixes (configurations)

Create linked Bugs

Test from Kanban boards

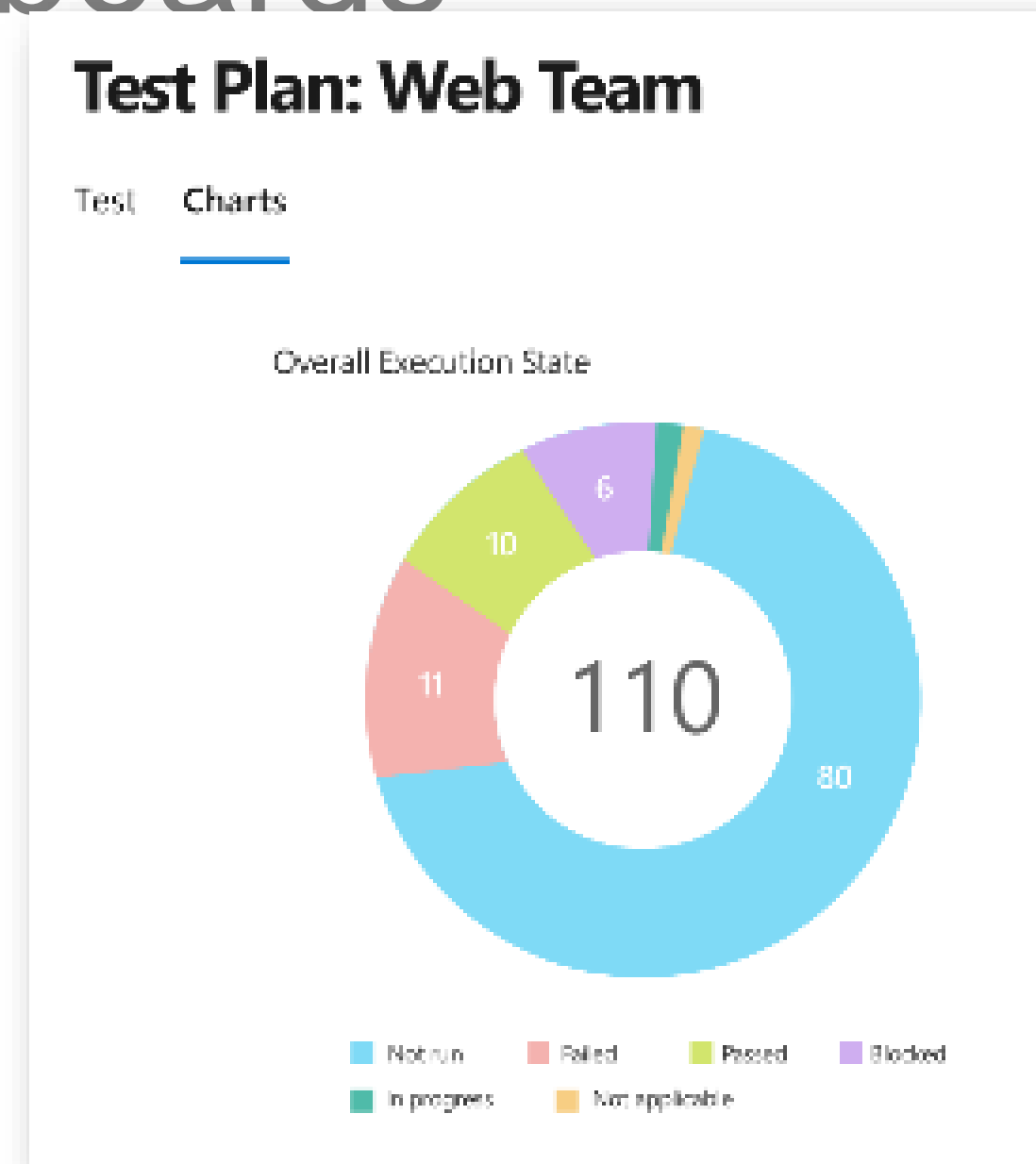
Rich reporting

Fabrikam Fiber: Spr...

Test suite 3714 : Change initial view (Suite ID: 3051)
Requirement ID: 3714

+ New Add existing X [Icons] Run

Outcome	ID	Title	Configu...
Active	3717	Change colors on initial view	Windows
Active	3719	Change initial page size	Windows
Active	3721	Incorrect settings give warning mess...	Windows
Active	3720	Change layout of initial view	Windows



152 Customer welcome page

Raisa Pokrovskaya

0/3 0/3

+ Add Test

- Change colors on initial view
- Change initial page size
- Log in with email

Microsoft Test Runner - Windows In...

Save and close Create bug +

3717: Change colors on initial view

- Open the home page for the web site
EXPECTED RESULT
Home page is displayed
- Click settings icon
EXPECTED RESULT
Settings page is displayed
- Change the default template to modern and click submit
EXPECTED RESULT
The home page is displayed with the modern look



Azure Test Plans: Ad-Hoc Exploratory Testing

Capture rich scenario data

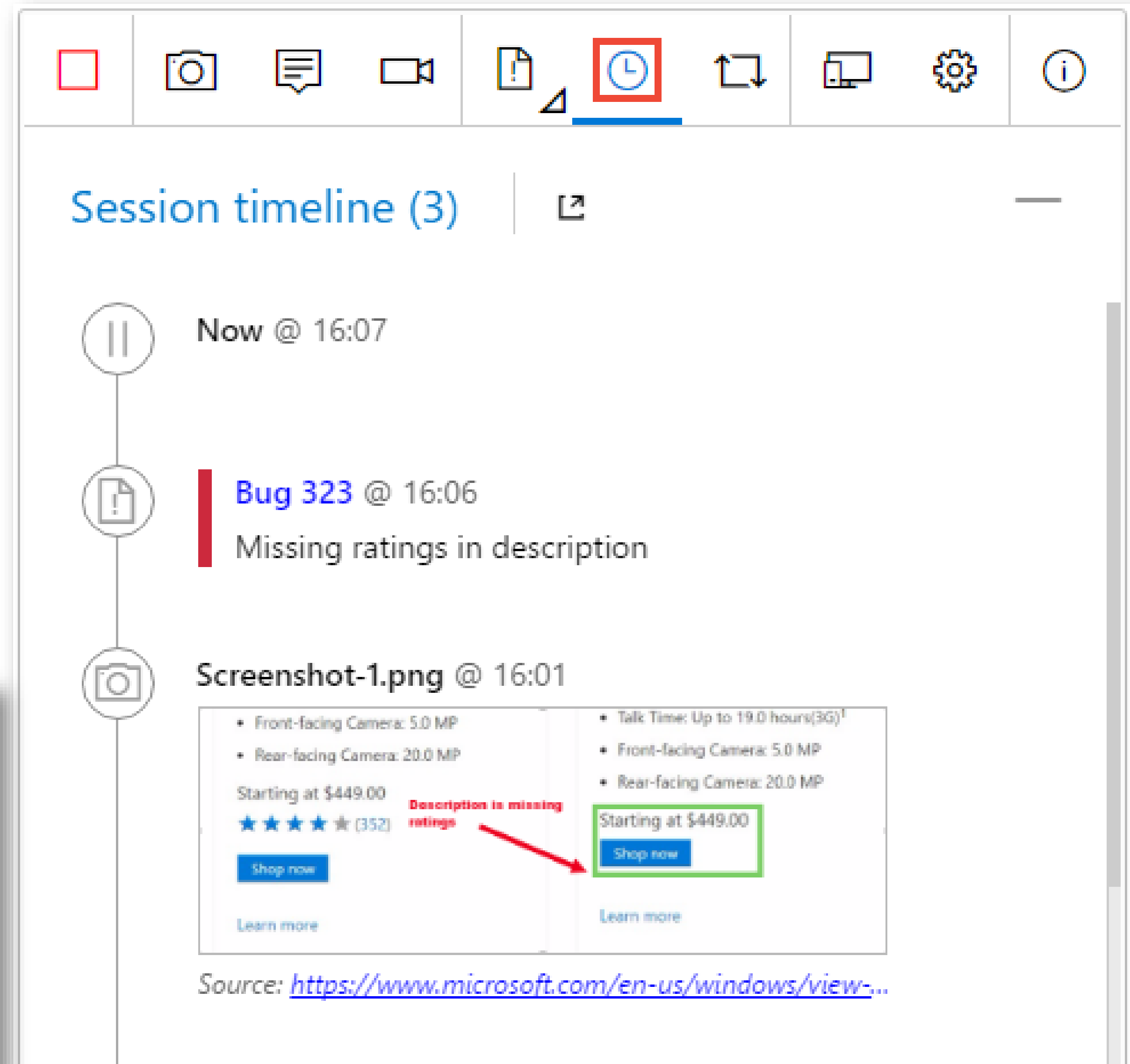
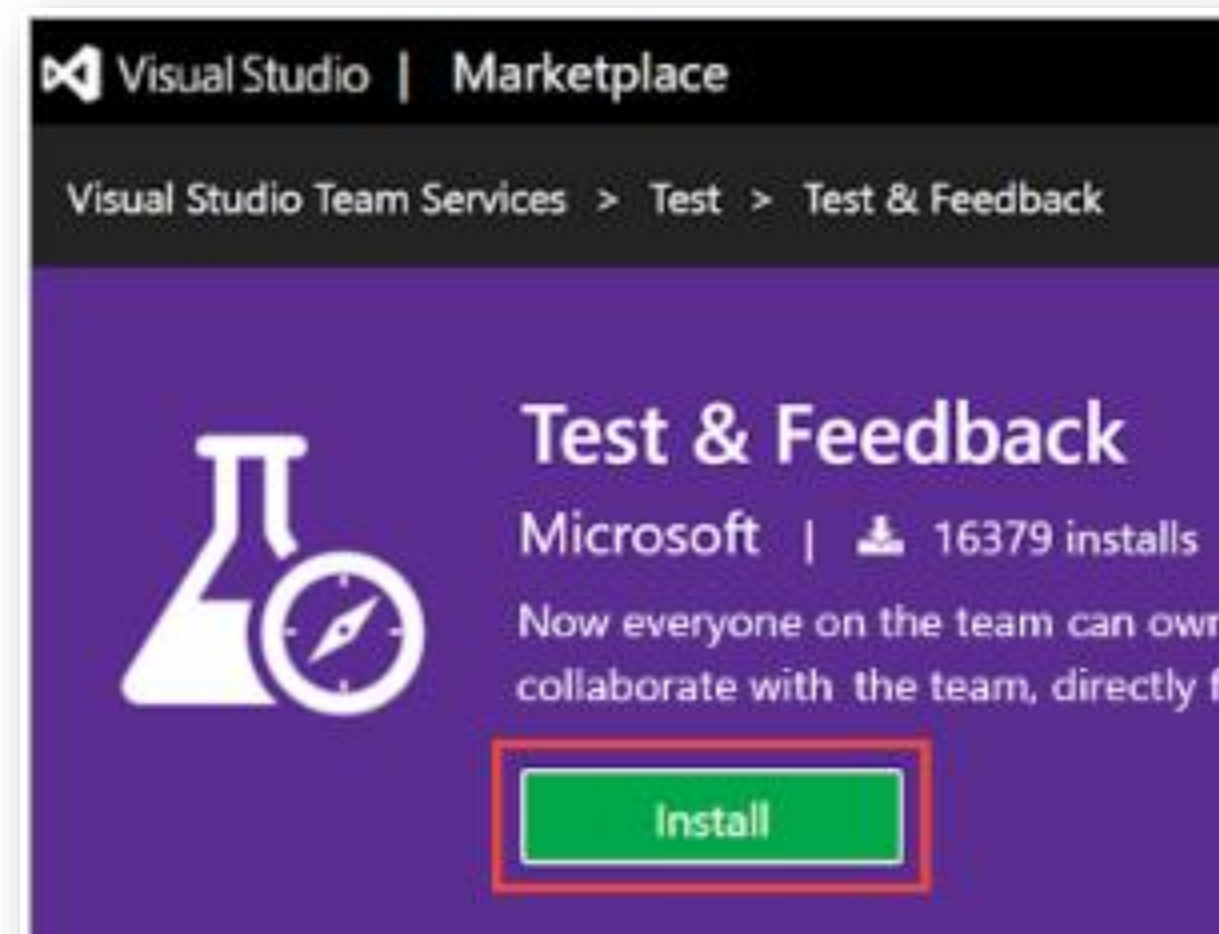
For web: Test & Feedback extension

For desktop: Microsoft Test Manager

Design and execute tests
simultaneously

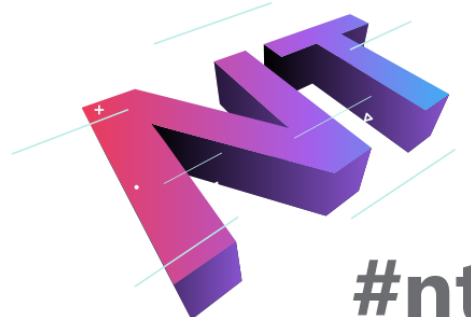
Create test cases and bugs

Explore work item



MIGRATION FROM ON-PREM

PRICING



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Migrating from TFS to Azure DevOps

Move from Team Foundation Server to Azure DevOps and bring your data along

Benefits of Cloud Hosted Azure DevOps Services

Global availability

Hosted and maintained by Microsoft with 99.9% uptime guarantee and 24x7 support

Immediate access to latest features

TFS Import Service

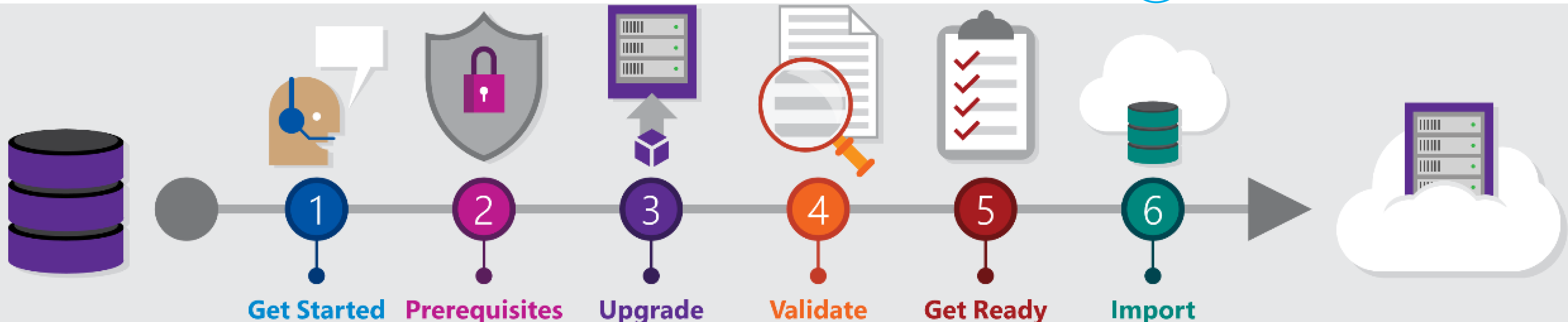
Fully supported high fidelity migration path

Trusted by many large enterprises

Now faster and easier to use

Simplified deployment to Azure

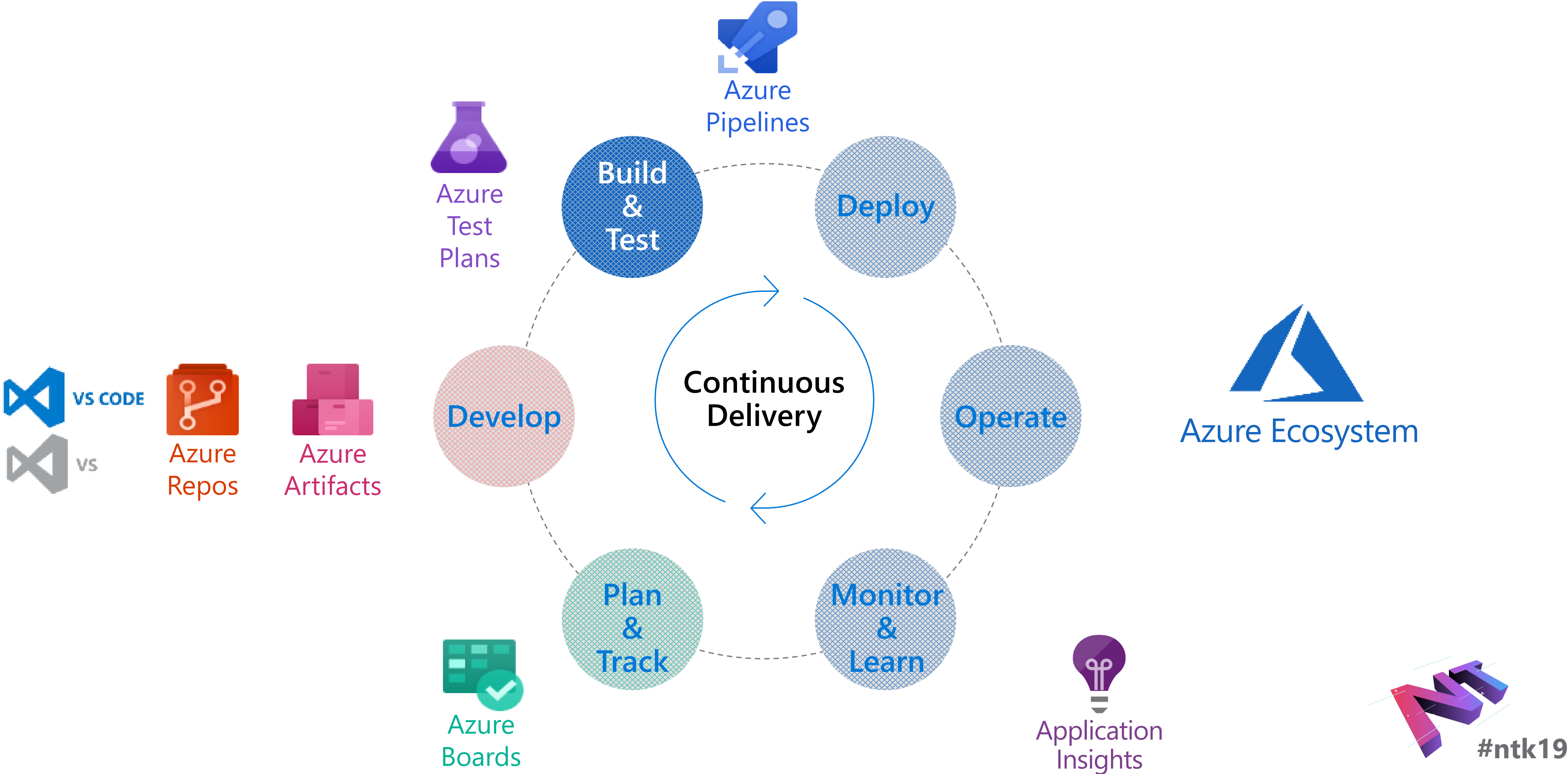
 <https://aka.ms/tfsimport>



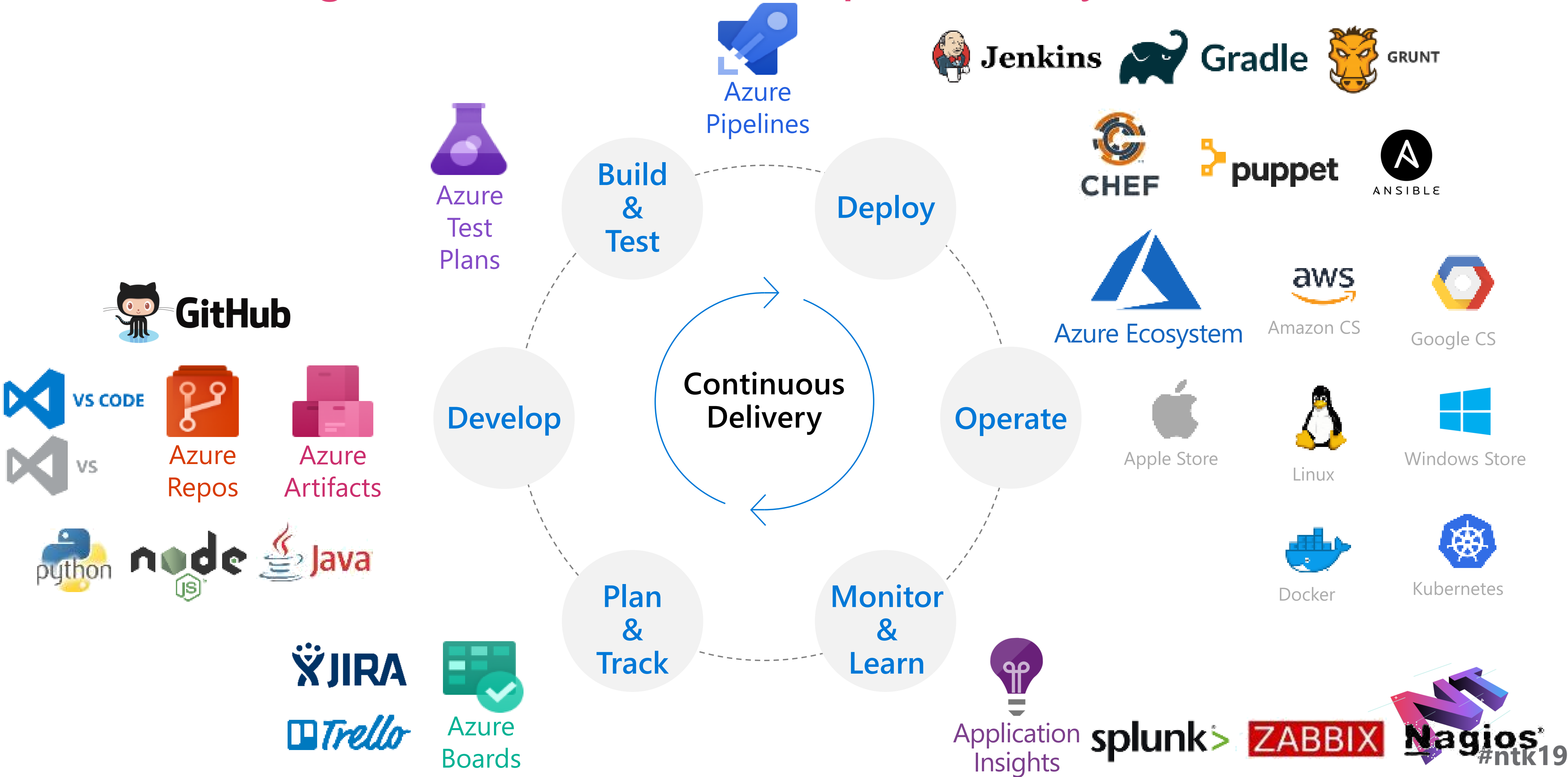
Azure DevOps Services Pricing

	Open Source Projects	Small Teams	Teams of any size
	Free Unlimited users and build time	Free Start free with up to 5 users	Starts at \$6 per user/month Pricing that grows with your team
Azure Pipelines	10 parallel jobs with unlimited minutes for CI/CD	Run 1 Microsoft-hosted job for 1,800 minutes per month Run 1 self-hosted job with unlimited minutes	
Azure Boards	Work Item Tracking and Kanban boards		
Azure Repos	Unlimited public Git repos	Unlimited private Git repos	
Azure Artifacts	Azure Artifacts: 2GB free then starting at \$2 per GB		
	-	Unlimited stakeholders Visual Studio subscribers included free	

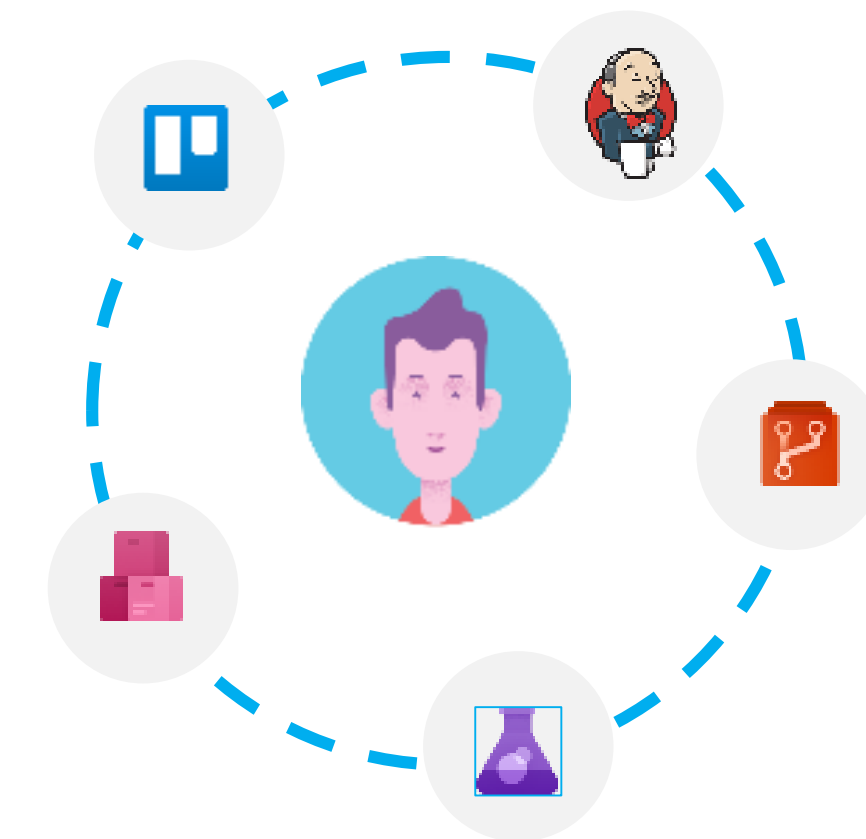
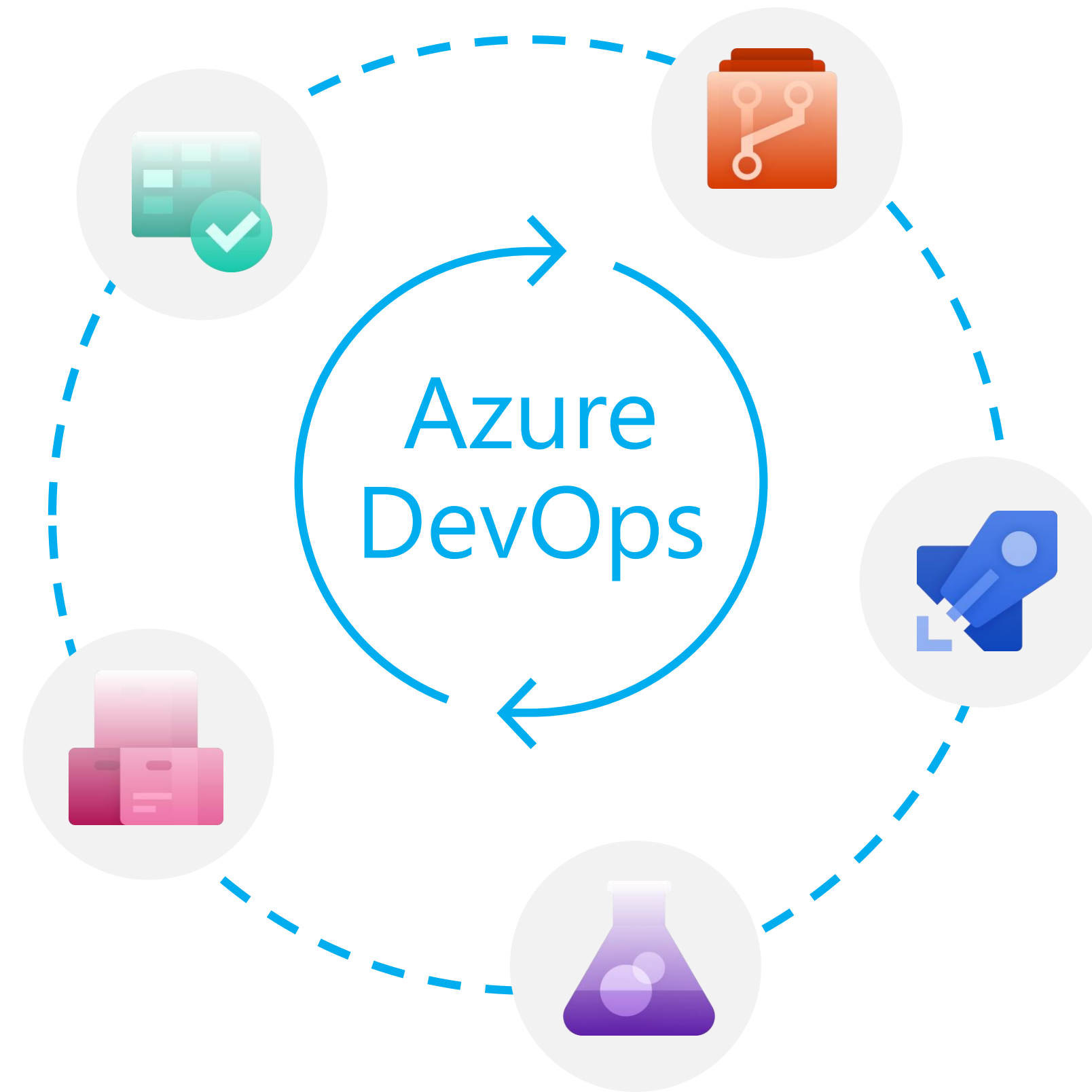
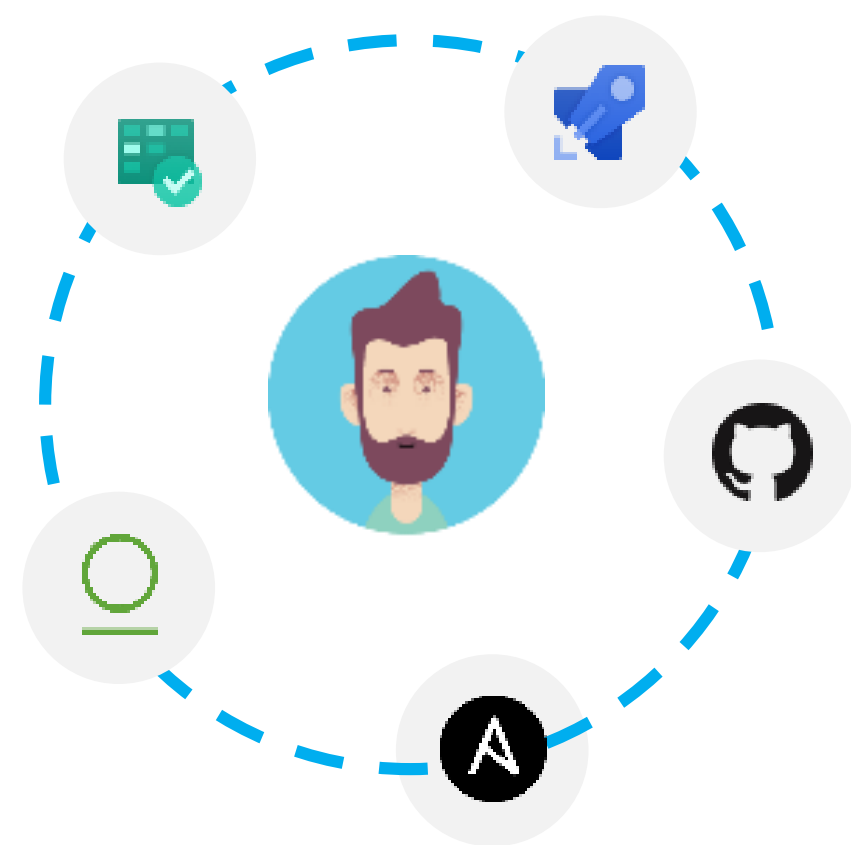
Azure DevOps Ecosystem



Broadening the Azure DevOps Ecosystem



Questions ?



Ognjen Bajić, obajic@agilist.hr

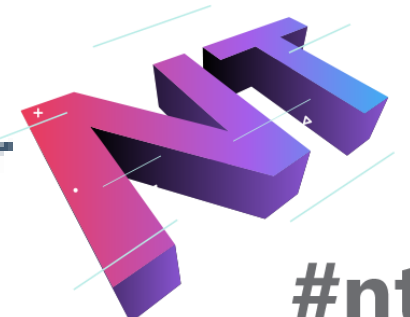
Ana Roje Ivančić, arojeivancic@agilist.hr

Agilist IT, Zagreb, Croatia

Microsoft MVP for Developer Technologies
Professional Scrum Trainer (PST) for Scrum.org

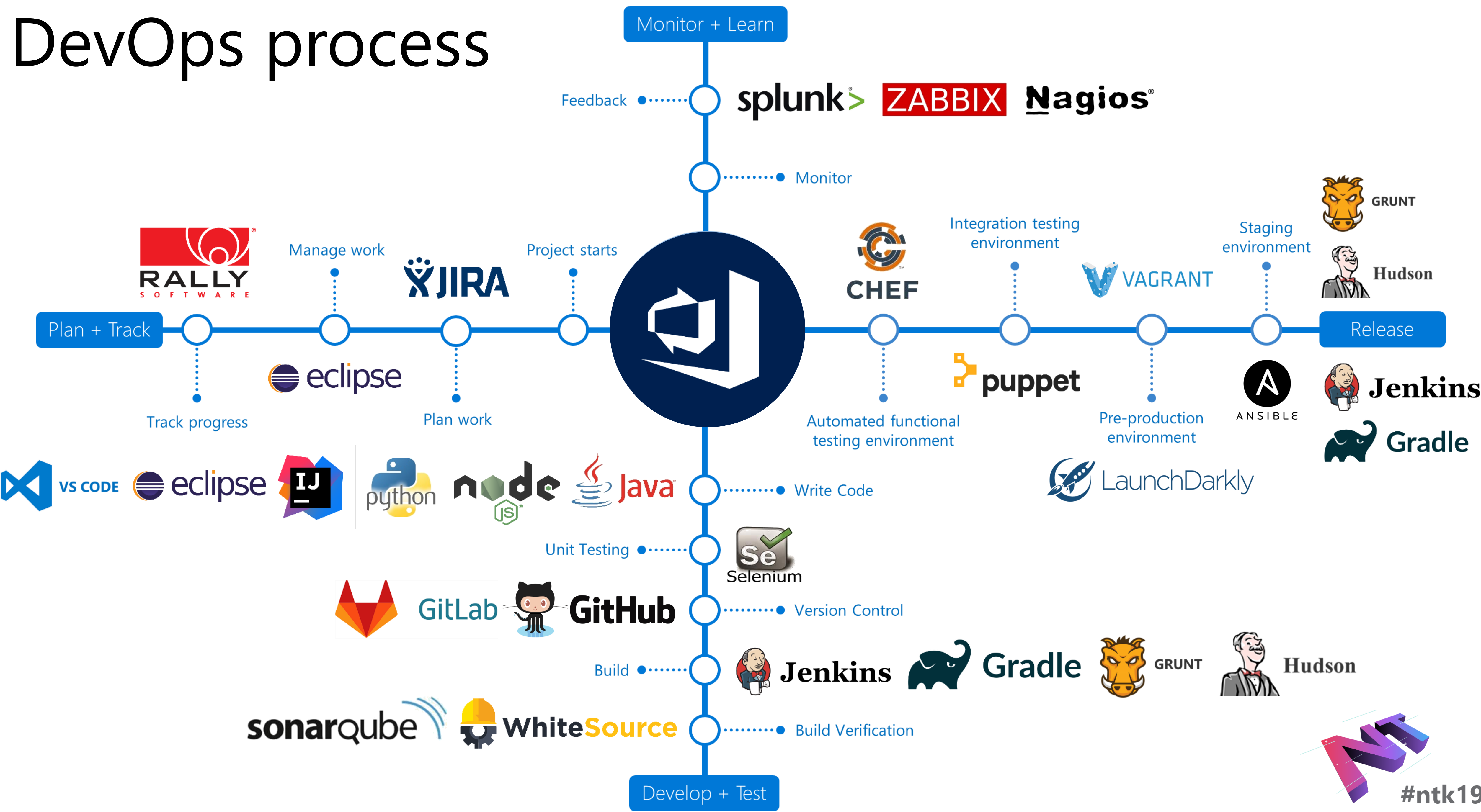


Professional Scrum Trainer
Scrum.org



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DevOps process



Solution components + capabilities



Visual Studio Team Services

- Tracking Work

- Work Items - <https://docs.microsoft.com/en-us/vsts/work/work-items/index>
- Backlogs - <https://docs.microsoft.com/en-us/vsts/work/backlogs/index>
- Kanban - <https://docs.microsoft.com/en-us/vsts/work/kanban/index>
- Scrum - <https://docs.microsoft.com/en-us/vsts/work/scrum/index>
- Queries - <https://docs.microsoft.com/en-us/vsts/work/track/index>
- Customization - <https://docs.microsoft.com/en-us/vsts/work/customize/index>
- Agile at Scale - <https://docs.microsoft.com/en-us/vsts/work/scale/index>

- Source Code Management

- Git Repositories - <https://docs.microsoft.com/en-us/vsts/git/index>
- Pull Requests - <https://docs.microsoft.com/en-us/vsts/git/tutorial/pullrequest>
- Forks - <https://docs.microsoft.com/en-us/vsts/git/concepts/forks>
- Branch Policies - <https://docs.microsoft.com/en-us/vsts/git/branch-policies>
- TFVC - <https://docs.microsoft.com/en-us/vsts/tfvc/index>

- Continuous Integration and Delivery

- Build & Release - <https://docs.microsoft.com/en-us/vsts/build-release/index>
- Continuous Testing - <https://docs.microsoft.com/en-us/vsts/build-release/test/index>
- Deploy to Azure - <https://docs.microsoft.com/en-us/vsts/deploy-azure/index>
- Package Management - <https://docs.microsoft.com/en-us/vsts/package/index>
- Library Assets - <https://docs.microsoft.com/en-us/vsts/build-release/concepts/library/index>
- Hosted and Private Agents - <https://docs.microsoft.com/en-us/vsts/build-release/concepts/agents/agents>
- Task Reference - <https://docs.microsoft.com/en-us/vsts/build-release/tasks/>

- Extensibility

- Discover Extensions - <https://docs.microsoft.com/en-us/vsts/marketplace/overview>



Solution components + capabilities



Visual Studio Team Services (cont'd)

- Extensibility (cont'd)

- Develop Extensions - <https://docs.microsoft.com/en-us/vsts/extend/index>
- Build Apps - <https://docs.microsoft.com/en-us/vsts/integrate/index>
- Service Hooks - <https://docs.microsoft.com/en-us/vsts/service-hooks/index>
- Analytics - <https://docs.microsoft.com/en-us/vsts/report/extend-analytics/index>
- REST APIs - <https://docs.microsoft.com/en-us/rest/api/vsts/>
- TypeScript APIs - <https://www.visualstudio.com/docs/integrate/extensions/reference/client/core-sdk>

- Collaboration

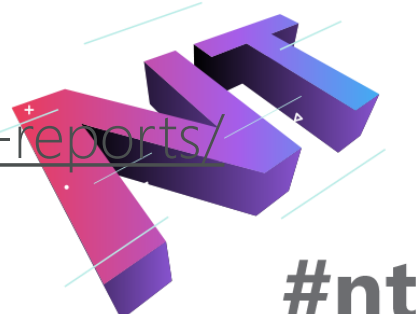
- Notifications - <https://docs.microsoft.com/en-us/vsts/notifications/index>
- ReadMes & Wikis - <https://docs.microsoft.com/en-us/vsts/collaborate/index>
- Search - <https://docs.microsoft.com/en-us/vsts/search/index>
- Feedback - <https://docs.microsoft.com/en-us/vsts/feedback/index>

- Testing

- Unit Testing - <https://docs.microsoft.com/en-us/visualstudio/test/unit-test-your-code>
- Continuous Testing - <https://docs.microsoft.com/en-us/vsts/build-release/test/index>
- Exploratory & Manual Testing - <https://docs.microsoft.com/en-us/vsts/manual-test/index>
- Load Testing - <https://docs.microsoft.com/en-us/vsts/load-test/index>

- Reporting

- Dashboards - <https://docs.microsoft.com/en-us/vsts/report/dashboards/index>
- Analytics - <https://docs.microsoft.com/en-us/vsts/report/analytics/index>
- Power BI - <https://docs.microsoft.com/en-us/vsts/report/powerbi/index>
- SQL Server Reporting (TFS) - <https://docs.microsoft.com/en-us/vsts/report/sql-reports/>



Solution components + capabilities



Azure Application Insights

- Quickstarts

- .net - <https://docs.microsoft.com/en-us/azure/application-insights/quick-monitor-portal>
- .net Core - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-dotnetcore-quick-start>
- Node.js - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-nodejs-quick-start>
- Java - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-java-quick-start>
- Mobile - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-mobile-center-quickstart>

- Monitor Azure

- Azure Web Apps - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-azure-web-apps>
- Azure Cloud Services - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-cloudservices>

- Monitor ASP.net apps

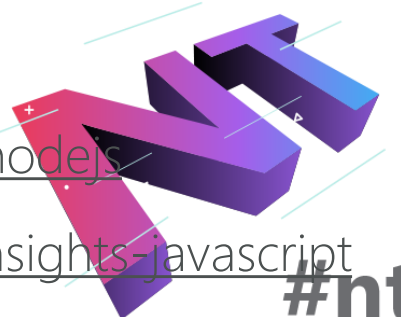
- Web Apps - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-asp-net>
- Windows Services - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-windows-services>
- Desktop - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-windows-desktop>
- ASP.net Core - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-asp-net-core>

- Monitor Java apps

- Web Apps - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-java-get-started>
- Runtime - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-java-live>
- Docker Apps - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-docker>

- Monitor node.js apps

- Monitor node.js - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-nodejs>
- Monitor JavaScript - <https://docs.microsoft.com/en-us/azure/application-insights/app-insights-javascript>

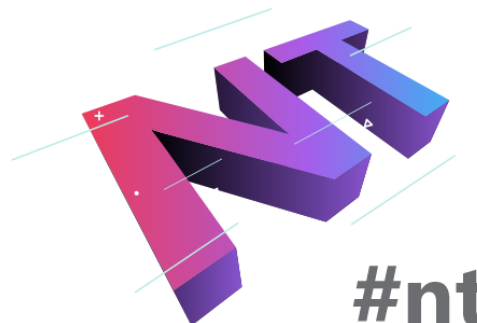


Solution components + capabilities



Azure Dev/Test Labs

- Get started
 - Create a lab - <https://docs.microsoft.com/en-us/azure/devtest-lab/devtest-lab-create-lab>
 - Create your first VM - <https://docs.microsoft.com/en-us/azure/devtest-lab/devtest-lab-create-first-vm>
 - Set policies - <https://docs.microsoft.com/en-us/azure/devtest-lab/devtest-lab-get-started-with-lab-policies>
- Guidance
 - Download complete Dev/Test manual as PDF:
<https://docs.microsoft.com/pdfstore/en-us/Azure.azure-documents/live/devtest-lab.pdf>



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Azure DevOps Services Pricing

Open Source Projects	Small Teams	Teams of any size
<p>Free</p> <p>Unlimited users and build time</p> <ul style="list-style-type: none">•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	<p>Free</p> <p>Start free with up to 5 users</p> <ul style="list-style-type: none">•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 private Git repos•Azure Artifacts: Package management•Load testing (20,000 VUMs/month)•Unlimited stakeholders	<p>Starts at \$6 per user/month*</p> <p>Pricing that grows with your team</p> <ul style="list-style-type: none">•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 private Git repos•Azure Artifacts: Package management•Load testing (20,000 VUMs/month)•Unlimited stakeholders•Visual Studio subscribers included free

* 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.



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