




# Azure Devops

# What is Azure DevOps

- ✓ Azure DevOps is set of modern services which is used to
    - ✓ Plan Smarter
    - ✓ Collaborate better
    - ✓ Ship faster
  - ✓ Azure DevOps provides all these features. You can use all of them or choose from them as per your need and role.
- 
- ✓ Azure DevOps was formerly known as **Visual Studio Team Services (VSTS)**.
  - ✓ Azure DevOps provides a set of integrated features that you can access through your web browser.

# Azure DevOps Services



**Boards**



**Repos**



**Pipeline**



**Test plans**



**Artifacts**



**Boards** : To Plan the work, we can write user stories, tasks, bugs , manage the progress

**Repos** : Manage the development code

**Pipelines** : All the CI and CD process will be managed under pipeline

**Test Plans** : All the test cases will be maintained

**Artifacts**: Repo to manage the artifacts

## VSTS to Azure DevOps

- ✓ On September 10, 2018, Microsoft renamed (Visual Studio Team Services) VSTS to Azure DevOps services.

# VSTS to Azure DevOps

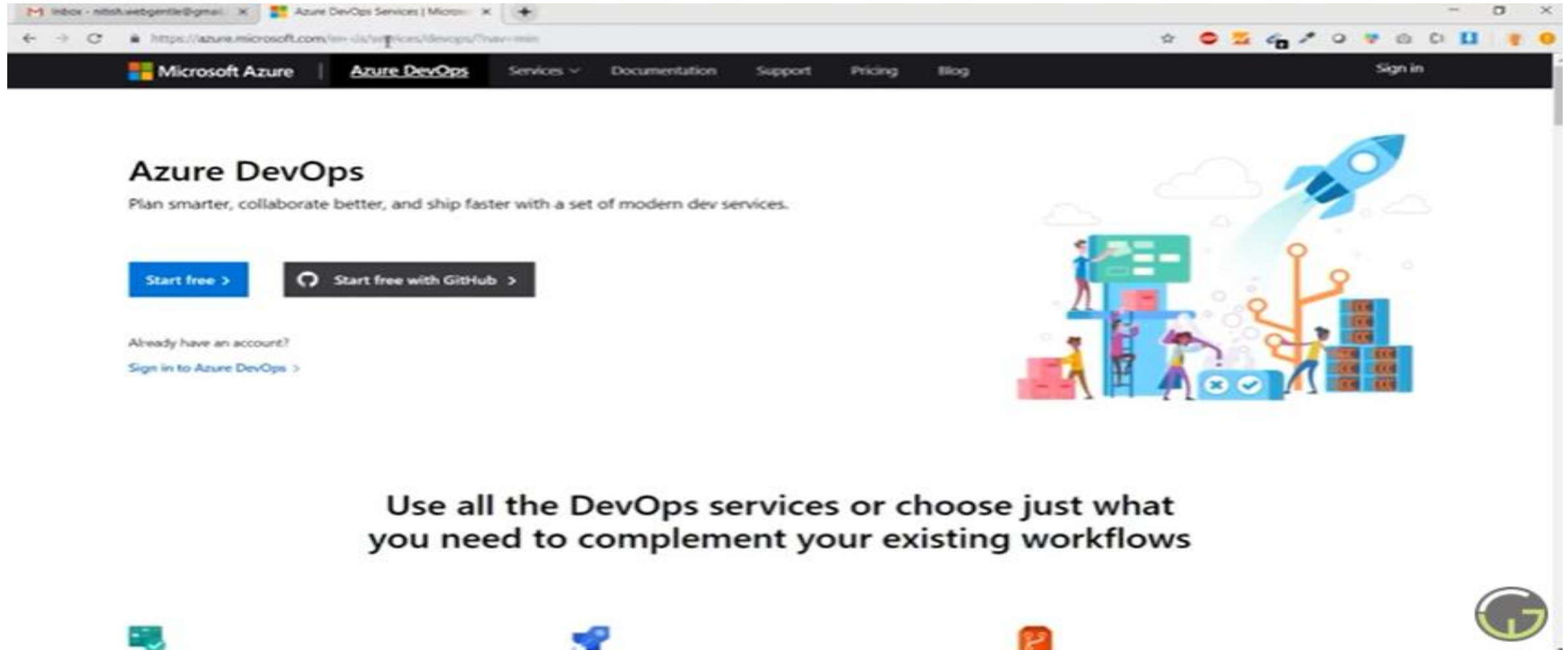
- ✓ On September 10, 2018, Microsoft renamed (Visual Studio Team Services) VSTS to Azure DevOps services.


| VSTS            | Azure DevOps Services |
|-----------------|-----------------------|
| Build & Release | Azure Pipelines       |
| Code            | Azure Repos           |
| Work            | Azure Boards          |
| Test            | Azure Test Plans      |
| Packages        | Azure Artifacts       |

# Azure DevOps portal

- ✓ Azure DevOps can be accessed using following website –  
<https://dev.azure.com>
- ✓ You can access this portal from any good browser like chrome, ie, firefox, safari etc...

# CREATE ACCOUNT






## Sign in


Email, phone, or Skype

No account? [Create one!](#)

[Can't access your account?](#)

Next

 Sign in with GitHub



← nitish.webgentle@gmail.com


## Create a password

Enter the password you would like to use with your account.

.....

☐ Show password

Next




## Create account

someone@example.com

Use a phone number instead

[Get a new email address](#)

Back Next



← nitish.webgentle@gmail.com

## Verify email

Enter the code we sent to: **nitish.webgentle@gmail.com**. If you didn't get the email, check your junk folder or [try again](#).

Enter code

☒ I would like information, tips, and offers about Microsoft products and services.

Choosing **Next** means that you agree to the [Privacy Statement](#) and [Microsoft Services Agreement](#).

Next



## Verify your email address Inbox X

**Microsoft account team** <account-security-noreply@accountprotection.microsoft.com>  
to me ▾

Microsoft account

# Verify your email address

To finish setting up your Microsoft account, we just need to make sure this email address is yours.

To verify your email address use this security code: **0569**

If you didn't request this code, you can safely ignore this email. Someone else might have typed your email address by mistake.

Thanks,  
The Microsoft account team



← nitish.webgentle@gmail.com

## Verify email

Enter the code we sent to  
**nitish.webgentle@gmail.com**. If you didn't get the  
email, check your junk folder or [try again](#).

0569

☒ I would like information, tips, and offers about  
Microsoft products and services.

Choosing **Next** means that you agree to the [Privacy Statement](#)  
and [Microsoft Services Agreement](#).

Next



← nitish.webgentle@gmail.com

## Create account

Before proceeding, we need to make sure a real  
person is creating this account.




New

Audio

Enter the characters you see

Next

 Azure DevOps

nitish.webgentle@gmail.com

## Get started with Azure DevOps

Choosing **Continue** means that you agree to our [Terms of Service](#), [Privacy Statement](#), and [Code of Conduct](#).

I will receive information, tips, and offers about Azure DevOps and other Microsoft products and services. [Privacy Statement](#).

Country/region \*


India

Continue

Verify your email address - nitish


Projects - Home


https://dev.azure.com/nitishwebgentle/?acquisitionId=209c3571-625e-4f30-8c3b-13dc068ef778&acquisition=true

 Azure DevOps

Search

My organizations

 nitishwebgentle





## Create a project to get started

Project name \*

Description

Visibility

 Public  
Anyone on the internet can view the project. Certain features like TFVC are not supported.

 Private  
Only people you give access to will be able to view this project.

# Organization on Azure DevOps portal


- ✓ In Azure DevOps there is a structure of your work.
- ✓ This structure depends on Organizations, Projects and Teams
- ✓ An organization is a mechanism for organizing and connecting groups of related projects.
- ✓ Each project must belong to an organization.
- ✓ To work with Azure DevOps you must have at least one Organization.

## Multiple Organizations

- ✓ If you have large number of projects in your company.
- ✓ We can treat an organization as an account, business units, sub-companies, group etc..
- ✓ Each organization will have its own URL.

Example – <https://dev.azure.com/{organization-name}>

# CREATE ORGANIZATION

 **Azure DevOps**

R

 rameshsivakumar26

New organization



SB

rameshsivakumar26

+ New project

 Filter projects

Projects

My work items

My pull requests

A

AzureDevopsDemo1

This is Demo for Azure Devops

# ORGANIZATION SETTINGS

Under organization, click on organization settings

← → ↺ 🔒 dev.azure.com/qentelli2019/\_settings/

**Azure DevOps** qentelli2019 / Settings / Overview 🔍 Search

## Organization Settings

qentelli2019

### General

- Overview
- Projects
- Users
- Billing
- Auditing
- Global notifications
- Usage
- Extensions
- Azure Active Directory

### Security


- Policies
- Permissions

### Boards

- Process

## Overview

**Name**



☒ Use the new URL: <https://dev.azure.com/qentelli2019/>  
[Learn more about URLs](#)

**Privacy URL**

[Learn more about the Privacy URL](#)

**Description**

**Time zone**

UTC ▼

**Region**

South India  
[Learn more about the Region](#)

ⓘ Changes made will affect all projects and members of the organization

https://dev.azure.com/qentelli2019

# What is a Project

- ✓ A project is a place where actual complete product development is done by team.
- ✓ A project provides a **repository for source code** and a place for a group of people to **plan, track progress, and collaborate** on building software solutions.
- ✓ All the data related to a software is stored under a project.
- ✓ Each project must have an organization.
- ✓ A project provides us all the main services of Azure DevOps.  
Repo, Boards, Pipeline, Test plan, Artifacts.
- ✓ By default a team with same name (project) is created when we create a new project.

# Project types

- ✓ In Azure DevOps we can create two type of projects.
  - ✓ Public projects
  - ✓ Private projects

## Public Project

- ✓ If we create a public project then –
  - ✓ Public projects are visible to everyone.
  - ✓ No login is required to get access of public project.
  - ✓ Each public project has a unique URL.
  - ✓ Public projects are mostly used for open source project development.
  - ✓ We can create unlimited number of public projects under one or more organizations.



# Private Project

- ✓ If we create a private project then –
  - ✓ Private projects are visible to limited users.
  - ✓ User must login into Azure DevOps to access the project.
  - ✓ Each private project has a unique URL.
  - ✓ Private projects are mostly used for non public software development.



# Create a project

Project name \*

sample-project

Description

testing purpose

Visibility



Public

Anyone on the internet can view the project. Certain features like TFVC are not supported.



Private

Only people you give access to will be able to view this project.

By creating this project, you agree to the Azure DevOps [code of conduct](#)

^ Advanced

Version control ?

Git




Work item process ?


Basic








+ Create project

 Azure DevOps

gentelli2019 / sample-project / Overview / Summary


 Search





S


sample-project


+


 Overview


 Summary


 Dashboards

 Wiki

 Boards

 Repos


 Pipelines


 Test Plans


Artifacts

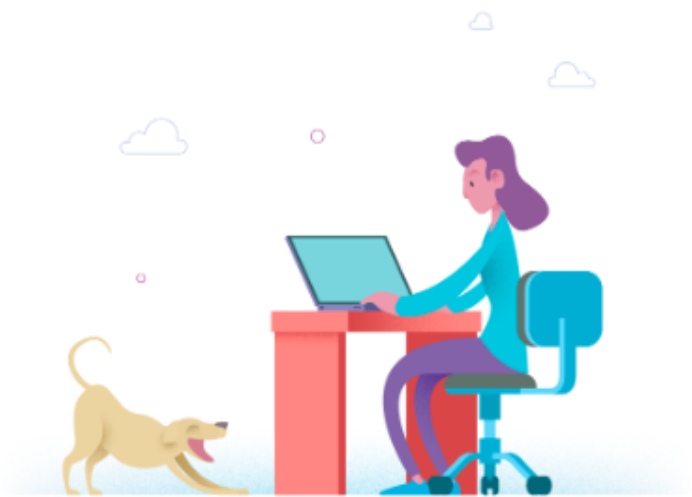
S

sample-project


 Public

 Invite





Project stats



No stats are available at this moment

Setup a service to see project activity.

Welcome to the project!

What service would you like to start with?

NIQ

© 2023 Nielsen Consumer LLC. All Rights Reserved.

# PROJECT SETTINGS

← → ↻ dev.azure.com/qentelli2019/sample-project/\_settings/

qentelli2019 / sample-project / Settings / Overview



## Project Settings

sample-project

### General



Overview



Teams

Permissions



Notifications



Service hooks



Dashboards



### Boards

Project configuration

Team configuration

GitHub connections



### Repos

Repositories

Cross-repo policies

## Project details

### Name

sample-project

### Description

### Process

Basic

### Visibility

Public

This determines who can view this project. [Learn more about project visibility.](#)

Save

# TEAM & USER MANAGEMENT

Inviting member into project : click on invite button and then add member

The screenshot displays the Azure DevOps interface for a project named 'sample-project'. The left sidebar shows the project navigation menu with options: Overview, Summary, Dashboards, Wiki, and Boards. The main content area shows the project overview with a user illustration and a 'Public' status. The 'Invite' button is highlighted in yellow. An 'Invite members to sample-project' dialog box is open, featuring a search bar for users, a dropdown for 'Add to team(s)' (currently set to 'sample-project Team'), and 'Cancel' and 'Add' buttons at the bottom.

Creating Team : Go to project settings and click on new team

qentelli2019 / sample-project / Settings / Teams

Search

SD

S

+

Project Settings

sample-project

General

Overview

Teams

Permissions

Notifications

Service hooks

Dashboards

Teams

Filter teams

Total 1

Name ↓

Description

Members

ST

sample-project Team

Default

The default project team.

1

Create a new team

Name

Team name

Members

Add members

Description

Add a description to your team this will appear in the team page

Administrators

SD Sankar Rao Dadi

+

The team creator is the default team administrator. You can add more team administrators.

Permissions

Cancel

Create

# User Management : Go to organization settings and select users

Organization Settin...  
rameshsivakumar26

Search Settings

General

Overview

Projects

Users

Billing

Auditing

Global notifications

Usage

Extensions

Azure Active Directory

Users

All usersGroup rules

Export users

Filter users

Access Level

Total 1

Name ↑

Access Level

Date Added

Summary

Add users

Last Accessed

SB

Sundarraaj Boobalan  
rameshsivakumar26@gmail.com

Basic

8/13/2021

9/7/2021

Go to right end and click on three dots(more) and select the required option

Add new users

Users

Sundarraaj Boobalan X +

Access level

Basic

Add to projects

AzureDevOpsDemo1

Azure DevOps Groups

Project Contributors

☒ Send email invites

# What is a Azure Boards

- ✓ Azure board is one of the main service of Azure DevOps which is used in a project to
  - ✓ Track the work with Kanban board
  - ✓ Work with backlog
  - ✓ Team dashboard
  - ✓ Reporting
- ✓ Azure board provide drag and drop feature to update Kanban board.
- ✓ Azure boards are fully compatible with scrum.



## Use of Azure Boards

- ✓ Azure boards are useful in -
- ✓ Managing and tracking work.
- ✓ It provides a clear picture of work done/doing by team member
- ✓ You can give access of board to you stakeholder allow him to see the progress of your development.
- ✓ You can manage scrum, sprint with azure boards.

# Azure board types

- ✓ There are four type of **work item process** while creating a new project.
- ✓ The type of board depends on these work item process.
- ✓ Each type provide different types of work item and work flow.

Create new project

Project name \*

Description

Visibility

Public  
Anyone on the internet can view the project. Certain features like TFVC are not supported.

Private  
Only people you give access to will be able to view this project.

Advanced

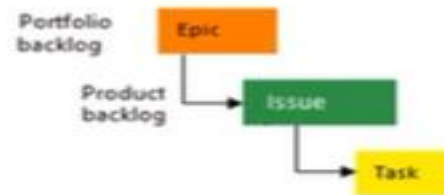
Version control ⓘ  
Git

Work item process ⓘ  
Basic



# Work items in Azure boards (basic)

- ✓ There are three work items in Azure board with basic process.
- ✓ Epic
- ✓ Issue
- ✓ Task



## WorkFlow

- ✓ Work flow is the process of updating work item progress.
- ✓ This is very basic work flow  
TODO -> InProgress -> Done



# AZURE BOARDS: Click on board and then select boards to go to Kanban board

The screenshot shows the Azure DevOps interface for a project named 'sample-project'. The left sidebar contains navigation links: Overview, Boards (highlighted), Work items, Backlogs, Sprints, and Queries. The main area displays the 'sample-project Team' Kanban board. The board has three columns: 'To Do' (with a 'New item' button), 'Doing' (labeled '0/5'), and 'Done'. The top navigation bar includes a search bar and user profile 'SD'. The breadcrumb trail is 'qentelli2019 / sample-project / Boards / Boards'. The board view is set to 'Board' with options for 'Analytics' and 'View as Backlog'. A toolbar on the right includes 'Issues', filters, and settings.

Create Epic : select epic then click on new item then add the item

This screenshot is similar to the first one but highlights the 'Epics' dropdown menu in the top right toolbar, which is used to create new epics. The browser address bar shows the URL: 'dev.azure.com/qentelli2019/sample-project/\_boards/board/t/sample-project%20Team/Epics/'. The rest of the interface, including the sidebar and Kanban board, remains the same as in the previous screenshot.

To Do
<

Doing
0/5

Done
<

+
New item

1 Membership

Unassigned

State

To Do

Create Issue : To create issue click on three dots of epic then select add issue

To Do
<

Doing
0/5

Done
<

+
New item

1 Membership

Unassigned

State

To Do

0/2



+ Add Issue







☐ login

☐ password change



For more details of the issue, click on issue item there we can assign member for the issue as


Create Issue : Select issue and then create issue by clicking new item, here we can find all the issues


sample-project Team  

Board Analytics |  View as Backlog  Issues    

To Do < Doing 0/5 Done <

 New item 

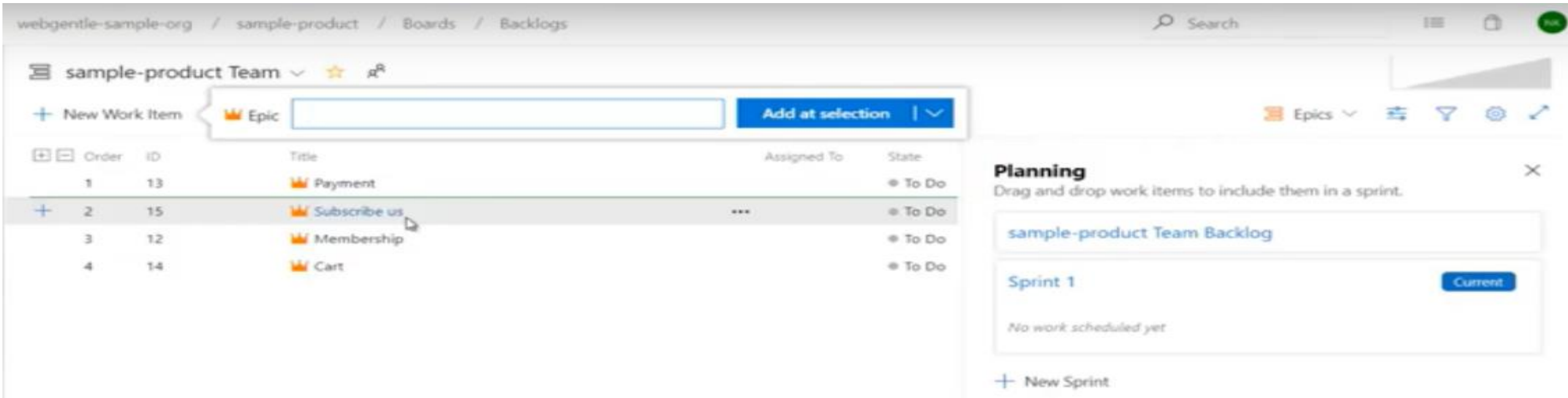
 2 login  
State ☐ To Do

 3 password change  
State ☐ To Do

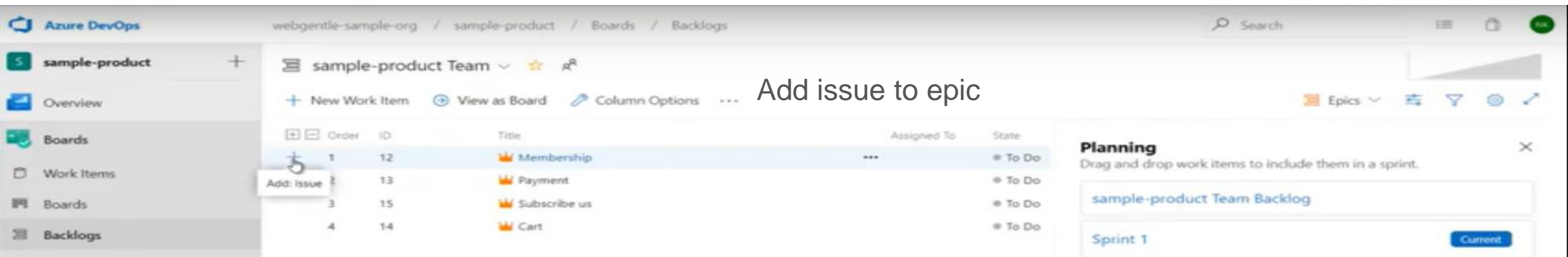
## What is a backlog

- ✓ A backlog is a collection of work items which will be used for future development.
- ✓ There are two types of backlog –
  - ✓ Product backlog
  - ✓ Sprint backlog
- ✓ Product backlog is an ordered list of everything that is known to be needed in the product.
- ✓ Sprint backlog is the collection of work items which are in TOTO state.

Create Backlog: click on backlog then select either epic or issue for the work item then add the items



Items can prioritize while creating by clicking on the dropdown(blue color) or after creation by drag and drop also items can be prioritize



Add issue to epic

Create Task : To create task , click on + symbol of issue and click on add task

sample-product Team

+ New Work Item

View as Board

Column Options

Epics

|  | Order | ID | Title        | Assigned To | State |
|--|-------|----|--------------|-------------|-------|
|  | 1     | 12 | Membership   |             | To Do |
|  |       | 16 | Login        |             | To Do |
|  |       | 17 | Signup       |             | To Do |
|  | 2     | 13 | Payment      |             | To Do |
|  | 3     | 15 | Subscribe us |             | To Do |

Planning

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

sample-product Team Backlog

Sprint 1

Planned Effort: -

Current

**AZURE SPRINT** : when basic work items are created automatically sprint will be created in The background

sample-project Team

No iteration dates

Set dates

Taskboard

Backlog

Capacity

Analytics

+ New Work Item

Column Options

Sprint 1

|  | Order | ID | Title           |
|--|-------|----|-----------------|
|  | 1     | 2  | login           |
|  | 2     | 3  | password change |

Planning

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

sample-project Team Backlog

Sprint 1

Planned Effort: -

2

Current

+ New Sprint

**Set Dates** : To setup dates click on set dates and add the dates, to know how the days are Calculating for sprint, click on settings there it will show what are days are it picking

**Add new sprint** : To add new sprint, click on new sprint and add it with the dates

**Add items to sprint**: To add items drag and drop the items to the specific sprint

## Query:

### **What is a query :**

A query is a combination of few logic which is applied on work items.

### **What do we need query :**

A query is a used to filter work items based on several logic.


Example –

- See work items assigned to only a particular user.
- See a list of all bugs which are currently in TODO state.



## Queries

Favorites All | [+ New query](#) [↑ Import Work Items](#)

 Filter by keywords



Title

Folder

Last modified by


▼ My favorites

No favorites yet! Favorite a query ★ to quickly access it here.

Since no item is assigned to any one query dashboard showing empty , assign an item to User and verify

## Queries

Favorites All | [+ New query](#) [📁 New folder](#) [↑ Import Work Items](#)

 Filter by keywords



Title

Last modified by

▼ My Queries

 Assigned to me

 Followed work items

▼ Shared Queries

 Sankar Rao Dadi updated 2 minut...

 Sankar Rao Dadi updated 2 minut...

Now click on assigned to me , there we can find an item which is assigned to the user



Queries > My Queries > Assigned to me

1 work item  
1 selected

Results | Editor | Charts | Run query | New | Save query | Rename | ... | 1 of 1 | Up | Down | Filter | Right | Link

| ID | Work Item... | Title | State | Assignee        | Comments   | Actions                 |
|----|--------------|-------|-------|-----------------|------------|-------------------------|
| 2  | Issue        | login | To Do | Sankar Rao Dadi | 0 comments | Save   Follow   Add tag |

**Followed work item :** If any item clicked on follow, those list will be displayed under followed items

ISSUE 3

3 password change

Unassigned | 0 comments | Add tag | Save & Close | Follow | Settings | Refresh | Undo | ...

State: To Do | Area: sample-project | Reason: Added to backlog | Iteration: sample-project\Sprint 1 | Updated by Sankar Rao Dadi: 1h ago

Details | History | Links (1) | Attachments

Description

Click to add Description

Planning

Priority: 2 | Effort:

Deployment

To track releases associated with this work item, go to Releases and turn on deployment status reporting for Boards

Queries > My Queries > Followed work items

1 work item  
1 selected

Results | Editor | Charts | Run query | New | Save query | Rename | ... | 1 of 1 | Up | Down | Filter | Right | Link

| ID | Work Item... | Title           | State | Assignee   | Comments   | Actions                 |
|----|--------------|-----------------|-------|------------|------------|-------------------------|
| 3  | Issue        | password change | To Do | Unassigned | 0 comments | Save   Follow   Add tag |

# AZURE REPOS :

The screenshot shows the Azure DevOps web interface. On the left is a sidebar with navigation links: Overview, Boards, Repos (selected), Files, Commits, Pushes, Branches, Tags, Pull requests, and Pipelines. The main content area is titled 'sample-project is empty. Add some code!'. It contains two sections: 'Clone to your computer' and 'Push an existing repository from command line'. The 'Clone to your computer' section has buttons for 'HTTPS' and 'SSH', a text input field with the URL 'https://qentelli2019@dev.azure.com/qentelli2019/sample-project/\_g', a 'Generate Git Credentials' button, and a 'Clone in VS Code' button. The 'Push an existing repository from command line' section has 'HTTPS' and 'SSH' buttons, a text input field with the command 'git remote add origin https://qentelli2019@dev.azure.com/qentelli2019/sample-project/\_git/sample-project', and a copy icon.

qentelli2019 / sample-project / Repos / Pull requests / sample-project

sample-project is empty. Add some code!

Clone to your computer

HTTPS SSH  OR Clone in VS Code

Generate Git Credentials

Having problems authenticating in Git? Be sure to get the latest version [Git for Windows](#) or our [plugins for IntelliJ](#), [Eclipse](#), [Android Studio](#) or [Windows command line](#).

Push an existing repository from command line

HTTPS SSH

With the project name one repo will be created, we can clone that repo into local and then Start working on the code and finally push it

Or on the repo itself we can do the changes and save it

Branches can also created local and then can push or on the dashboard go to branches and Create branch

Pull request can be created and add the reviewers , review the code and merge it

# Pipelines

- ✓ Pipeline in DevOps is a set of process (automated or can be triggered manually) which is used to make available your project code to users.
- ✓ Azure Pipelines is a cloud service that you can use to automatically build and test your code project and make it available to other users.

## Process in pipeline

- ✓ Pipeline in azure DevOps is designed as per project need.
- ✓ We can increase or decrease number of steps while designing the pipeline.



# Application type & Language

- ✓ Azure devops works with any programming language and any platform.
- ✓ Ex – .Net, .Net Core, Python, C#, Java, JavaScript, Angular, PHP, Ruby, C++ etc..

## Source Code

- ✓ Your project source code must be in a version control system.
- ✓ Azure Pipelines integrates with  
GitHub,  
GitHub Enterprise,  
Azure Repos Git & TFVC,  
Bitbucket Cloud,  
and Subversion.

# Deployment target

- ✓ Azure devops can be used to deploy your code on multiple targets.
- ✓ Example –
  - Container registries,
  - VM (Virtual machine),
  - Azure Service,
  - Any cloud target,
  - Any on-premises

# Pipeline pricing

- ✓ For public repo – Always Free
- ✓ For private repo – 30 hours free every month

## PUSH THE CODE AZURE REPOS :

Clone the code of azure repo into local

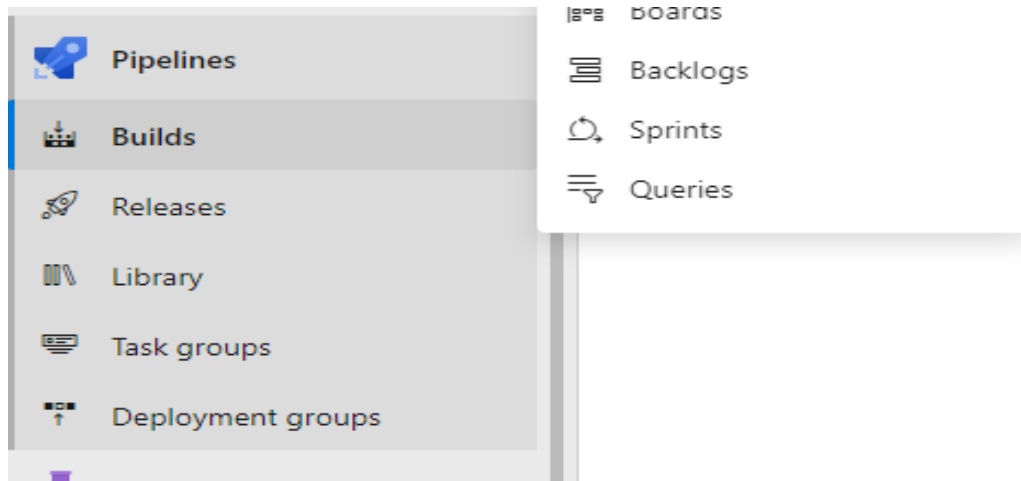
Create sample asp .net application : `dotnet new mvc` or using visual studio ide

Add the code `git add .`

Commit the code : `git commit -m "message"`

Push the code into azure repo : `git push` (provide azure cred)

## CREATE NEW BUILD PIPELINE USING YAML FILE:



## No build pipelines were found

Automate your build in a few easy steps with a new pipeline.

[New pipeline](#)

S

sample-project

+

Overview

Boards

Repos

Pipelines

Builds

Releases

Library

Task groups

Deployment groups

Test Plans

Artifacts

Project settings

<<

Connect

Select

Configure

Review

New pipeline

## Where is your code?



Azure Repos Git

YAML

Free private Git repositories, pull requests, and code search



Bitbucket Cloud

YAML

Hosted by Atlassian



GitHub

YAML

Home to the world's largest community of developers



GitHub Enterprise Server

YAML

The self-hosted version of GitHub Enterprise



Other Git

Any generic Git repository



Subversion

Centralized version control by Apache

Use the classic editor to create a pipeline without YAML.

Select the azure repo (code base)

Select the project

S

sample-project

+

Overview

Boards

Repos

Pipelines

Builds

✓ Connect

Select

Configure

Review


New pipeline

Select a repository

Filter by keywords

sample-project

×



sample-project

Configure template since it is dotnet application so select asp net core

✓ Connect


✓ Select

Configure

Review


New pipeline

Configure your pipeline




Starter pipeline

Start with a minimal pipeline that you can customize to build and deploy your code.




Existing Azure Pipelines YAML file

Select an Azure Pipelines YAML file in any branch of the repository.




.NET Desktop

Build and run tests for .NET Desktop or Windows classic desktop solutions.




Android

Build your Android project with Gradle.




Ant

Build your Java projects and run tests with Apache Ant.



ASP.NET

Build and test ASP.NET projects.



ASP.NET Core

Build and test ASP.NET Core projects targeting .NET Core.



# Review the YAML file and save and run

S

sample-project

+

Overview

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Library

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Deployment groups

Test Plans

Artifacts

✓ Connect

✓ Select

✓ Configure

Review

New pipeline

Review your pipeline YAML

Variables

Save and run

▼

sample-project / azure-pipelines.yml \*

Show assistant

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

# ASP.NET Core

# Build and test ASP.NET Core projects targeting .NET Core.

# Add steps that run tests, create a NuGet package, deploy, and more:

# <https://docs.microsoft.com/azure/devops/pipelines/languages/dotnet-core>

trigger:

- master

pool:

- vmImage: 'ubuntu-latest'

variables:

- buildConfiguration: 'Release'

steps:

- script: dotnet build --configuration \$(buildConfiguration)

- displayName: 'dotnet build \$(buildConfiguration)'

Save and run

×

Saving will commit azure-pipelines.yml to the repository.

Commit message

Set up CI with Azure Pipelines

Optional extended description

Add an optional description...

☒ Commit directly to the master branch

☐ Create a new branch for this commit

After saving file, job will be triggered and all the steps of yaml file will be executed

S

sample-project

+

Overview

Boards

Repos

**Pipelines**

Builds

Releases

Library

Task groups

Deployment groups

Test Plans

Artifacts

✓

#20200115.1: Set up CI with Azure Pipelines

Triggered today at 1:16 am for Sankar Rao Dadi sample-project master a69882f

Logs

Summary

Tests

Job

Pool: Azure Pipelines · Agent: Hosted Agent

✓ Prepare job · succeeded

✓ Initialize job · succeeded

✓ Checkout · succeeded

✓ dotnet build Release · succeeded

✓ Post-job: Checkout · succeeded

✓ Finalize Job · succeeded

✓ Report build status · succeeded

To download all the logs into local , click on all logs

S

sample-project

+

Overview

✓

#20200115.1: Set up CI with Azure Pipelines

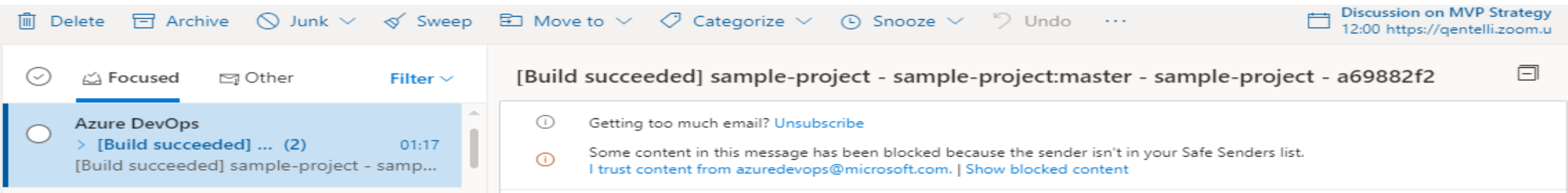
Triggered today at 1:16 am for Sankar Rao Dadi sample-project master a69882f

Release

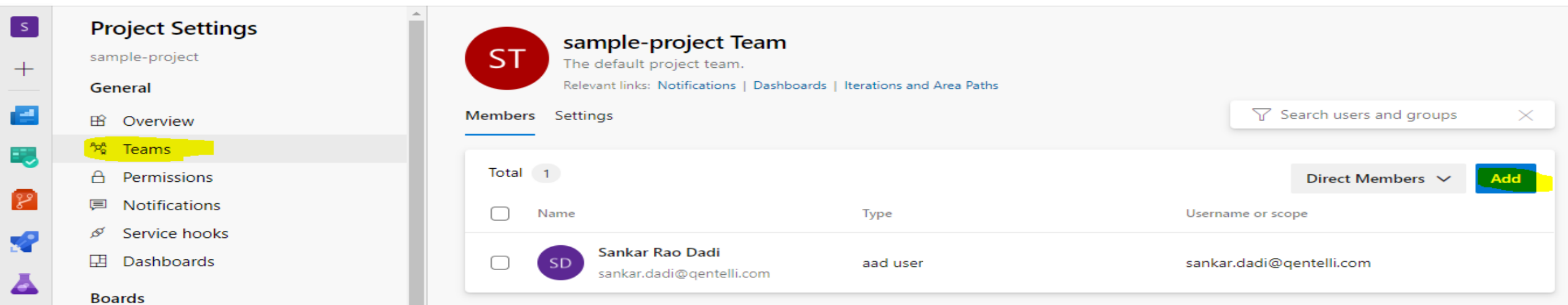
All logs

⋮

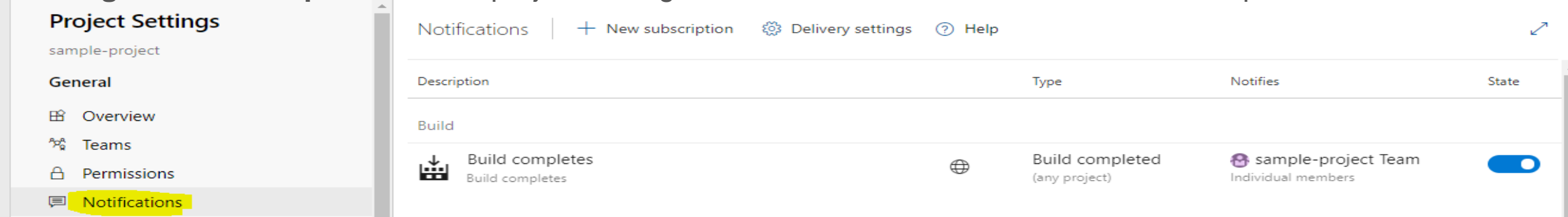
**Notifications:** By default email will be triggered to the owner if job success or failure



**Sending emails to other team members :** Go to project settings, select Teams and click on Add



**Creating New Subscription :** Go to project settings, select notifications n click on new subscriptions



# New subscription

| Category    | Template          |
|-------------|-------------------|
| Build       | A build completes |
| Code (Git)  | A build fails     |
| Code (TFVC) |                   |

# New subscription

| Description       | Subscriber          |
|-------------------|---------------------|
| A build completes | sample-project Team |

| Deliver to           | Address |
|----------------------|---------|
| Custom email address |         |

| Filter                                 |  |
|--|--|
| <input type="radio"/> Any team project | <input checked="" type="radio"/> A specific team project |
|  | sample-project   |


  


| Filter criteria  | Field  | Operator | Value     |
|--|--------|----------|-----------|
| <div><div><div>+</div><div>×</div><div></div></div><div>And/Or</div></div> | Status | =        | Succeeded |
| <a href="#">+ Add new clause</a>   |        |          |           |


Select Custom email under deliver to and provide the email addresses

Add the criteria , when build has to be trigger

# CREATE NEW BUILD PIPELINE USING CLASSIC EDITOR:

 Test Plans

 Artifacts

 Project settings


<<





Subversion  
Centralized version control by Apache


Use the classic editor to create a pipeline without YAML.


Select a source


 Azure Repos Git

 GitHub

 GitHub Enterprise Server

 Subversion

 Bitbucket Cloud

 Other Git

Repository

 sample-project


>

Default branch for manual and scheduled builds

 master

>

## Select a template

Or start with an  Empty job



Build, test, sign, and align an Android APK.



ASP.NET

Build and test an ASP.NET web application.



Azure Web App for ASP.NET

Build, package, test, and deploy an ASP.NET Azure Web App.

Next will be adding agent and tasks to the pipeline


In the sections we can have adding variables, triggers , options and retentions  
Of the pipeline

Tasks Variables Triggers Options Retention History |  Save & queue  Discard  Summary  Queue ...

Continuous integration



sample-project  
Disabled

 sample-project



Enable continuous integration

Scheduled

+ Add

No builds scheduled

Build completion

+ Add

Build when another build completes

Enable check box for CI

... > sample-project-ASP.NET-CI

Tasks

Variables

Triggers

Options

Retention

History

Save & queue

Discard

## Pipeline

Build pipeline



### Get sources

sample-project

master

### Agent job 1

Run on agent



#### Use NuGet 4.4.1

NuGet tool installer



#### NuGet restore

NuGet



#### Build solution

Visual Studio build



#### Test Assemblies

Visual Studio Test



#### Publish symbols path

Index sources and publish symbols

## Add tasks

All

Build



.NET

Build  
appl  
com



And

Sign



Ant

Build



Appl

Dist  
via \

Save and run , in the agent specifications we can choose required environment

sample-project

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Project settings

sample-project-ASP.NET-CI

TasksVariablesTriggersOptionsRetentionHistory

Save & queueDiscardSummaryQueue

PipelineBuild pipeline

Get sources

sample-projectmaster

Agent job 1Run on agent

Use NuGet 4.4.1NuGet tool installer

NuGet restoreNuGet

Build solutionVisual Studio build

Test AssembliesVisual Studio Test

Publish symbols pathIndex sources and publish symbols

Name \*sample-project-ASP.NET-CI

Agent pool \*Azure Pipelines

Agent Specification \*vs2017-win2016

ParametersUnlink all

Path to solution or packages.config \*sample-project.csproj

Artifact Name \*drop

02:05

16-01-2020



# Logs

S

sample-project

+

Overview

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Project settings

<<

Logs

Summary

Tests

✓

Prepare job

·

succeeded

✓

Initialize job

·

succeeded

✓

Checkout

·

succeeded

✓

Use NuGet 4.4.1

·

succeeded

✓

NuGet restore

·

succeeded

✓

Build solution

·

succeeded

✓

Test Assemblies

·

succeeded

1 warning

✓

Publish symbols path

·

succeeded

✓

Publish Artifact

·

succeeded

✓

Post-job: Checkout

·

succeeded

✓

Finalize Job

·

succeeded

✓

Report build status

·

succeeded

# CREATE DEPLOYMENT GROUP:

Create AWS instance with win os

Go to deployment group and click on add deployment group

S

sample-project

+

Overview

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Deployment groups

Groups

Available pools

+ New

Security

Help

Search deployment groups

Add a deployment group

Define a logical group of target machines for parallel deployment.

Add a deployment group

Learn more about deployment groups

Give the Deployment group name then copy the autogenerated power shell script  
And run in the newly created aws machine  
Scroll down and Select use personal access token

The screenshot shows the AWS CodeDeploy console for a project named 'sample-project'. The left sidebar contains navigation links: Overview, Boards, Repos, Pipelines, Builds, Releases, Library, Task groups, Deployment groups (selected), Test Plans, and Artifacts. The main content area is titled 'Deployment groups > Dev'. It has tabs for 'Details', 'Targets', 'Save', 'Share', 'Security', and 'Help'. The 'Details' tab is active, showing the 'Dev' deployment group. The 'Deployment group name' field contains 'Dev'. The 'Type of target to register' dropdown is set to 'Windows'. The 'Registration script (PowerShell)' field contains a script that checks for Windows PowerShell 3.0 and creates a folder structure for the agent. The 'Description' field is empty. The 'Deployment pool' section shows 'sample-project-Dev' with a 'Manage' link.

sample-project

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Deployment groups > Dev

Details Targets Save Share Security Help

Deployment group name

Dev

Description

Deployment pool

sample-project-Dev Manage

Type of target to register:

Windows

Registration script (PowerShell)

```
$ErrorActionPreference="Stop";If(-NOT ([Security.Principal.WindowsPrincipal] [Security.Principal.WindowsIdentity]::GetCurrent()).IsInRole([Security.Principal.WindowsBuiltInRole] "Administrator")){ throw "Run command in an administrator PowerShell prompt"};If($PSVersionTable.PSVersion -lt (New-Object System.Version("3.0"))){ throw "The minimum version of Windows PowerShell that is required by the script (3.0) does not match the currently running version of Windows PowerShell." };If(-NOT (Test-Path $env:SystemDrive\azagent)){mkdir $env:SystemDrive\azagent};cd $env:SystemDrive\azagent; for($i=1; $i -lt 100; $i++){ $destFolder="A"+$i.ToString();if(-NOT (Test-Path ($destFolder))) {mkdir $destFolder;cd $destFolder;break;}}; $agentZip="$PWD\agent.zip";$DefaultProxy=[System.Net.WebRequest]::DefaultWebProxy;$securityProtocol=@();$security[Net.ServicePointManager]::SecurityProtocol;$securityProtocol+= [Net.SecurityProtocolType]::Tls12; [Net.ServicePointManager]::SecurityProtocol=$securityProtocol;$WebClient
```

```
C:\azagent\A3>.\_diag\Agent_20200119_210055-4cc710g
Granting file permissions to 'NT AUTHORITY\SYSTEM'.
Service vstsagent.qentelli2019.sample-project-Dev.EC2AMAZ-DLDP690 successfully installed
Service vstsagent.qentelli2019.sample-project-Dev.EC2AMAZ-DLDP690 successfully set recovery option
Service vstsagent.qentelli2019.sample-project-Dev.EC2AMAZ-DLDP690 successfully set to delayed auto start
Service vstsagent.qentelli2019.sample-project-Dev.EC2AMAZ-DLDP690 successfully configured
Service vstsagent.qentelli2019.sample-project-Dev.EC2AMAZ-DLDP690 started successfully

PS C:\azagent\A3>
```

## Deployment groups

Groups

Available pools

+ New

Security

Help

Search deployment groups

Name

Target status

Deployment status

Dev

1 Online

1 Never deployed

## CREATE RELEASE PIPELINE:

S

sample-project

+

Overview

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### No release pipelines found

Automate your release process in a few easy steps with a new pipeline

New pipeline

# SELECT DEPLOYMENT TEMPLATE

Select a template

Or start with an  **Empty job**

 IIS 

virtual machines (VM) in a load-balanced set.

IIS

## IIS website and SQL database offline upgrade

Deployment Group: Upgrade ASP.NET or ASP.NET Core based websites. Upgrade a SQL database using SQL scripts executed when the web application is offline. Applicable for physical or virtual machines (VM) deployments.

IIS

## IIS website and SQL database online upgrade

Deployment Group: Upgrade ASP.NET or ASP.NET Core based websites. Upgrade a SQL database using SQL scripts executed when the web application is online. Applicable for physical or virtual machines (VM) deployments.

IIS

## IIS website and SQL database partially online upgrade

Deployment Group: Upgrade ASP.NET or ASP.NET Core based websites. Upgrade a SQL database using SQL scripts executed when the web application is online followed by SQL scripts executed when the web application is offline. Applicable for physical or virtual machines (VM) deployments.

IIS

## IIS website deployment

Deployment Group: Deploy an ASP.NET or ASP.NET Core web application to an IIS website on physical or virtual machines (VM).

**Apply**

## Stage

Dev



Delete



Move



Properties ^

Name and owners of the stage

Stage name

Dev

Stage owner



Sankar Rao Dadi



## ADD ARTIFACTS

All pipelines > New release pipeline



Save



Create release



Pipeline



Tasks



Variables

Retention

Options

History

Artifacts | + Add



Add an artifact



Schedule not set

Stages | + Add



Dev

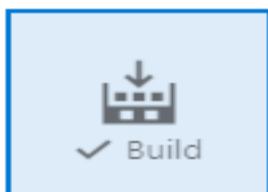
1 job, 2 tasks



Choose source type, project and project alias

## Add an artifact

Source type



5 more artifact types ▾

Project \* ⓘ

sample-project ▾

Source (build pipeline) \* ⓘ

sample-project-ASP.NET-CI ▾

Default version \* ⓘ


Latest ▾


Source alias \* ⓘ

\_sample-project-ASP.NET-CI


Click on schedule then enable continuous deployment

Artifacts | + Add

\_sample-project-ASP.NET-CI

 Schedule not set

Stages | + Add

 Dev  
1 job, 2 tasks

Continuous deployment trigger

Build: \_sample-project-ASP.NET-CI

☒ Enabled  
Creates a release every time a new build is available.

Build branch filters ⓘ  
No filters added.  

+ Add |


Pull request trigger

Build: \_sample-project-ASP.NET-CI

☐ Disabled

ⓘ Enabling this will create a release every time a selected artifact is available as part of a pull request workflow

Stages | + Add

 Dev  
1 job, 2 tasks

Click on jobs, tasks under stages



Select Dev,  
Enter website name  
Add new binding and delete default binding with port 80

All pipelines > **New release pipeline**

Pipeline

Tasks

Variables

Retention

Options

History

Dev

Deployment process

IIS Deployment

Some settings need attention

IIS

IIS Web App Manage

IIS web app manage

IIS

IIS Web App Deploy

IIS web app deploy

Stage name

Dev

Parameters | Unlink all

Configuration type \*  
IIS Website

Action \*  
Create Or Update

Website name \*  
mvc

☒ Add binding

Add bindings \*  
http/All Unassigned:81:

Select IIS Deployment,  
Select the deployment group which was created earlier  
Select allow script to access oauth token

[All pipelines](#) > [New release pipeline](#)

[Save](#) [Create release](#) ...

Pipeline

Tasks ▼

Variables

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Dev  
Deployment process

IIS Deployment  
Run on deployment group

IIS Web App Manage  
IIS web app manage

IIS Web App Deploy  
IIS web app deploy

Deployment group job ⓘ

Remove

Display name \*  
IIS Deployment

Deployment targets ^

Deployment group \* ⓘ  
Dev

Required tags ⓘ

1 matching targets in Dev deployment group

Targets to deploy to in parallel ⓘ  
☒ Multiple ☐ One target at a time

IIS Web App manage , enable iis

NIQ

Save and click on create releases

Display name \*

IIS Web App Manage

Enable IIS ⓘ

## Create a new release

New release pipeline

### Pipeline ^

Click on a stage to change its trigger from automated to manual.

 Dev

Stages for a trigger change from automated to manual. 

 Dev

 Dev

### Artifacts ^

Select the version for the artifact sources for this release

| Source alias               | Version    |  |
|----------------------------|------------|--|
| _sample-project-ASP.NET-CI | 20200115.3 |  |

Release description

Create

Cancel

[New release pipeline](#) > Release-2 > Dev > IIS Deployment

## Logs

Filter by keywords

Status

Start time

✓ EC2AMAZ-DLDP69O  
Succeeded

### EC2AMAZ-DLDP69O

Started: 1/16/2020, 3:07:40 AM

Target: EC2AMAZ-DLDP69O

6m 14s

|   |       |
|---|-------|
| ✓ Initialize job · succeeded  | <1s   |
| ✓ Download artifact - _sample-project-ASP.NET-CI - drop · succeeded | 2s    |
| ✓ IIS Web App Manage · succeeded                                    | 6m 2s |
| ✓ IIS Web App Deploy · succeeded                                    | 8s    |
| ✓ Finalize Job · succeeded  | <1s   |

Once after build is success, go to target machine open IIS, we can find the web site running  
With port 81

File View Help

**Connections**

- Start Page
- EC2AMAZ-DLDP69O (EC2AMAZ-DLDP69O)
  - Application Pools
  - Sites
    - Default Web Site
      - mvc

**EC2AMAZ-DLDP69O Home**

Filter: Go Show All Group by: Area

ASP.NET

- .NET
- .NET
- .NET Error
- .NET
- .NET Trust
- Application
- Connection

## Actions

### Manage Server

- Restart
- Start
- Stop

[View Application Pools](#)  
[View Sites](#)



# ASP.NET

ASP.NET is a free web framework for building great Web sites and Web applications using HTML, CSS and JavaScript.

[Learn more »](#)

## Getting started

ASP.NET MVC gives you a powerful, patterns-based way to build dynamic websites that enables a clean separation of concerns and gives you full control over markup for enjoyable, agile development.

[Learn more »](#)

## Get more libraries

NuGet is a free Visual Studio extension that makes it easy to add, remove, and update libraries and tools in Visual Studio projects.

[Learn more »](#)

## Web Hosting

You can easily find a web hosting company that offers the right mix of features and price for your applications.

[Learn more »](#)

# Multi stage deployment with approval process

All pipelines > pipelines > 🏠 New release pipeline

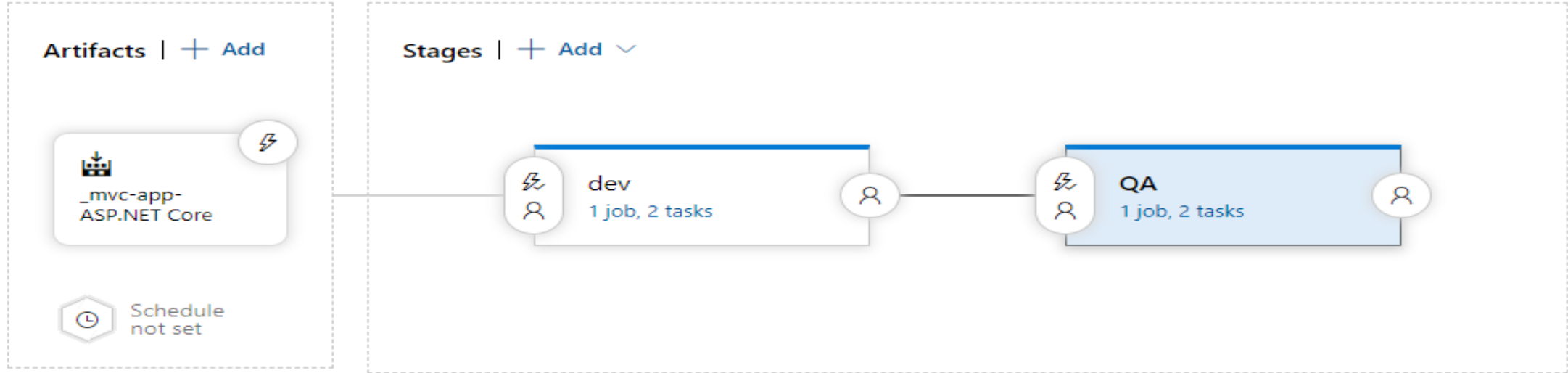
💾 Save 🚀 Create release ...

Pipeline Tasks ▾ Variables Retention Options History



Create new stage by clicking Add button beside of Stages

**Clone Stage** : Select the stage and click on Add and select clone stage option



Change the Web site name and binding port number for the new environment(QA)

M

mvc-app

+

Overview

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Project settings

<<

All pipelines > pipelines > New release pipeline

Save Create release ...

Pipeline Tasks Variables Retention Options History

Stages | + Add

dev  
1 job, 2 tasks

Pre-deployment conditions

QA

Triggers ^  
Define the trigger that will start deployment to this stage

Select trigger ⓘ

After release After stage Manual only

Stages ⓘ

dev

☐ Trigger even when the selected stages partially succeed ⓘ

Artifact filters ⓘ

Disabled

On the QA stage click on pre-deployment Conditions then choose approvals

Pre-deployment approvals ^

Enabled

Select the users who can approve or reject deployments to this stage

Approvers ⓘ

SD Sankar Rao Dadi X Search users and groups for approvers

Timeout ⓘ

30

Days



# Save and create new release

## Create a new release

New release pipeline

### Pipeline ^

Click on a stage to change its trigger from automated to manual.



Stages for a trigger change from automated to manual. 

### Artifacts ^

Select the version for the artifact sources for this release

| Source alias                      | Version    |   |
|-----------------------------------|------------|---|
| _mvc-app-ASP.NET Core (.NET Fr... | 20200116.2 |  |

CreateCancel

Once the Dev is deployed, QA will wait for approval , approve it , it will trigger qa

M

mvc-app

+

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New release pipeline > Release-2

Pipeline

Variables

History

+ Deploy

Cancel

Approve multiple

Refresh

Edit

...

Release

Manually triggered

by Sankar Rao Dadi

1/16/2020, 10:47 PM

Artifacts

\_mvc-app-ASP.NET Cor...

20200116.2

master

Stages

dev

Succeeded

on 1/16/2020, 10:48 PM

QA

Pending approval

On Sankar Rao Dadi

Approve

Release

Manually triggered

by Sankar Rao Dadi

1/16/2020, 10:47 PM

Artifacts

\_mvc-app-ASP.NET Cor...

20200116.2

master

Stages

dev

Succeeded

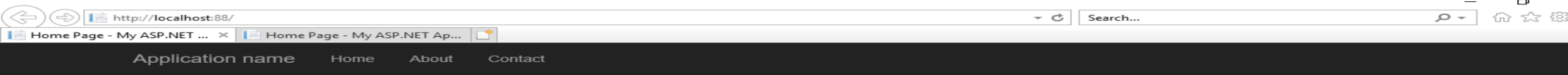
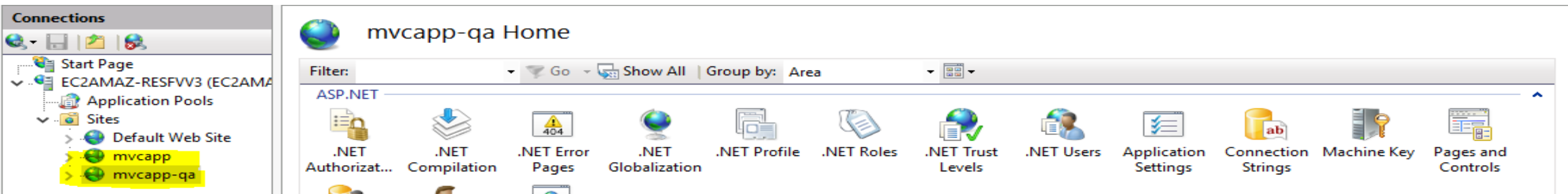
on 1/16/2020, 10:48 PM

QA

Succeeded

on 1/16/2020, 10:50 PM

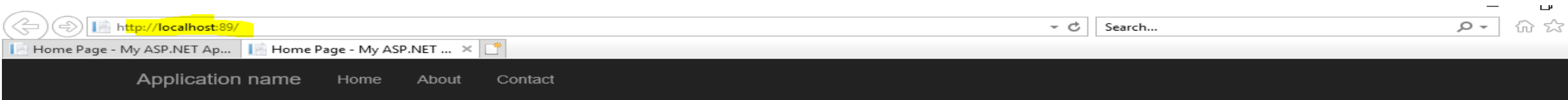
Two web sites will be created, one for dev with port 88 and another for qa with port 89



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[Learn more »](#)



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