

Azure DevOps Tools Assignment

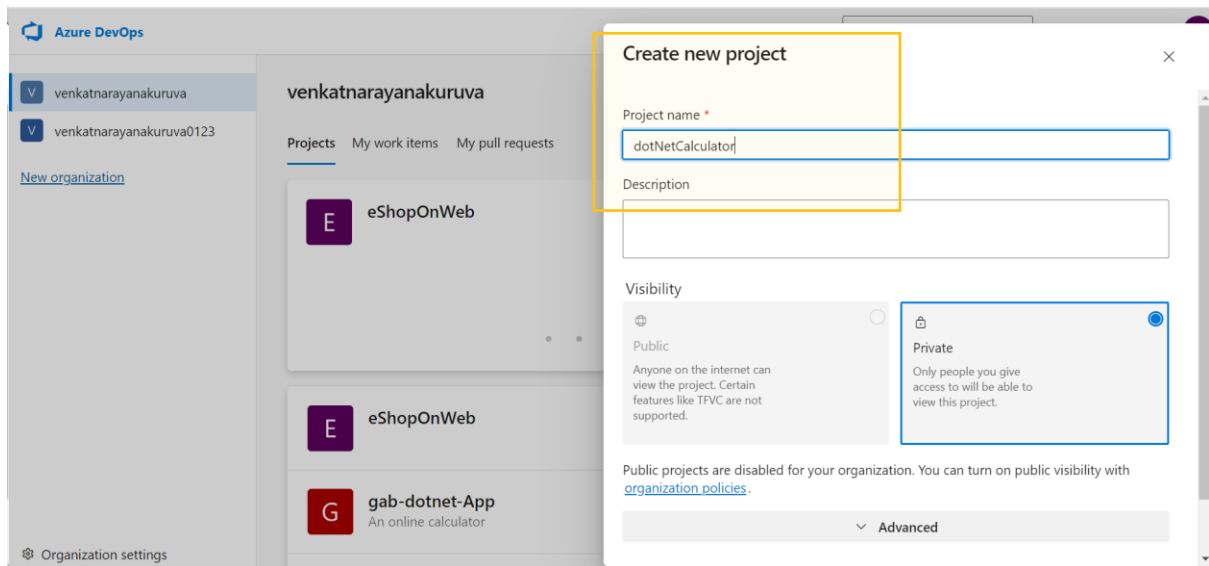
Problem Statement:

You are assigned to create a software development life cycle for an application your company has created. The company wants you to use Azure for the infrastructure part and GitHub and Azure DevOps for the pipeline part.

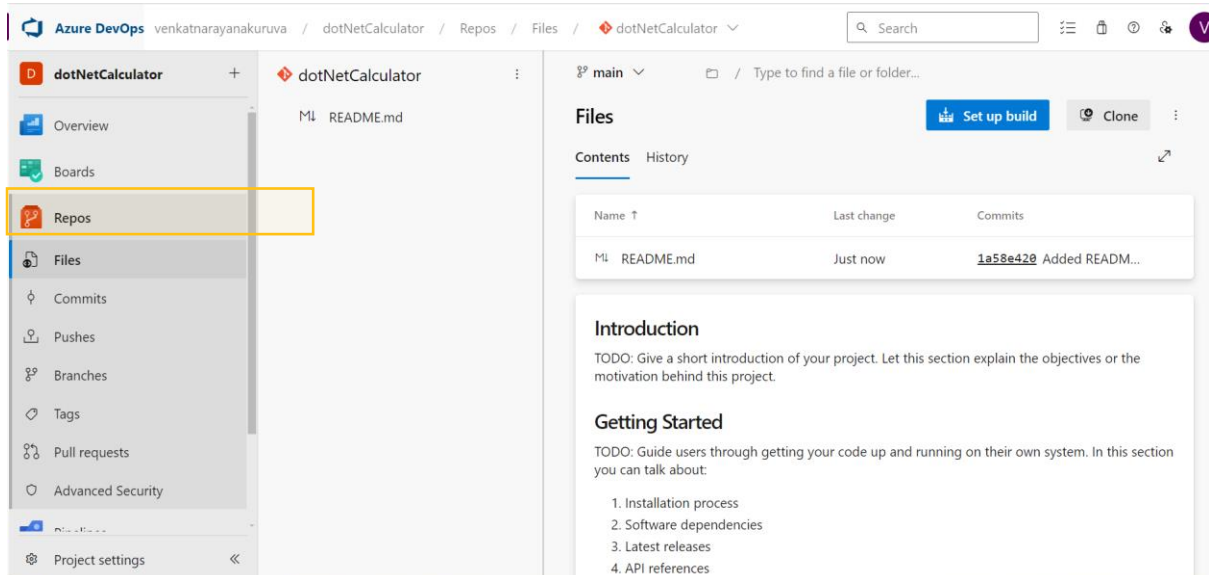
Operations to Be Performed:

1. Create an Azure DevOps organization and name it accordingly
 2. Create an Azure DevOps project but remove Azure Repos as you are asked to use GitHub instead
 3. Create an application with any language you prefer; for instance, you can create a Node.js application
 4. Push the code of the application into a GitHub repository
 5. Integrate your GitHub repository with the Azure DevOps project created
 6. Create a CI/CD pipeline using Azure pipelines and keep the GitHub repository as the source
 - a. The Build part should install all the required software of your application.
 - b. The Release part should push your website into an Azure App Service. So, before attempting this step, you need to create an Azure App Service accordingly.
 - c. The Release part should have two stages, QA and Production.
 - d. Production should be manually accepted only when QA is successful.
 7. Use Azure Test Plans to create a manual test plan and test according to your
- Note:** The application can be of any language, or it can even be a sample application

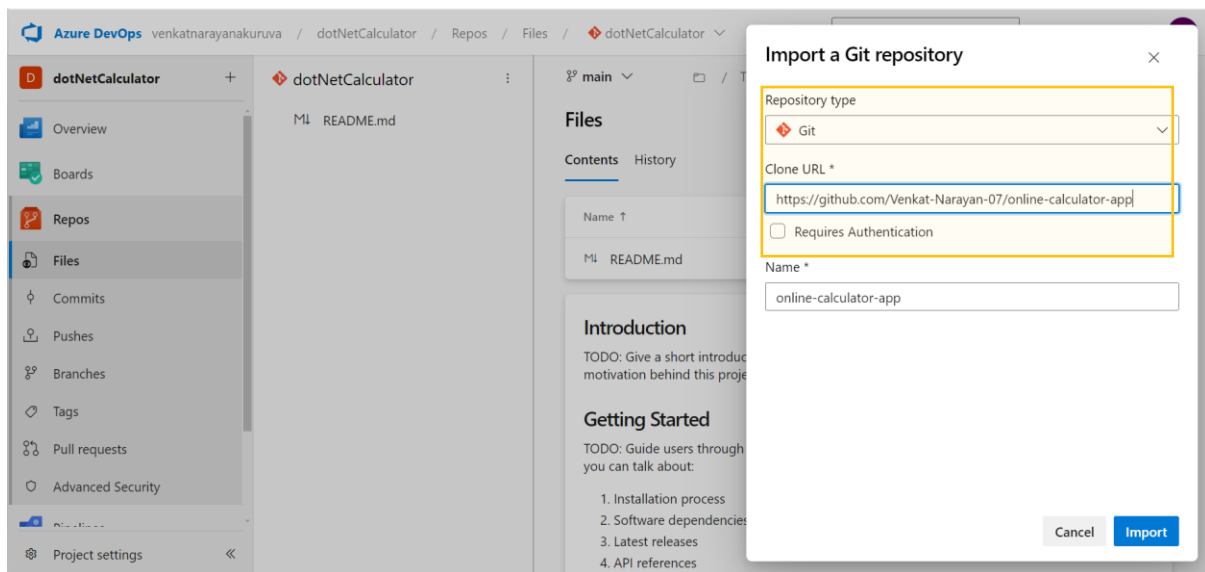
- Navaigated azure devops portal and created a new project



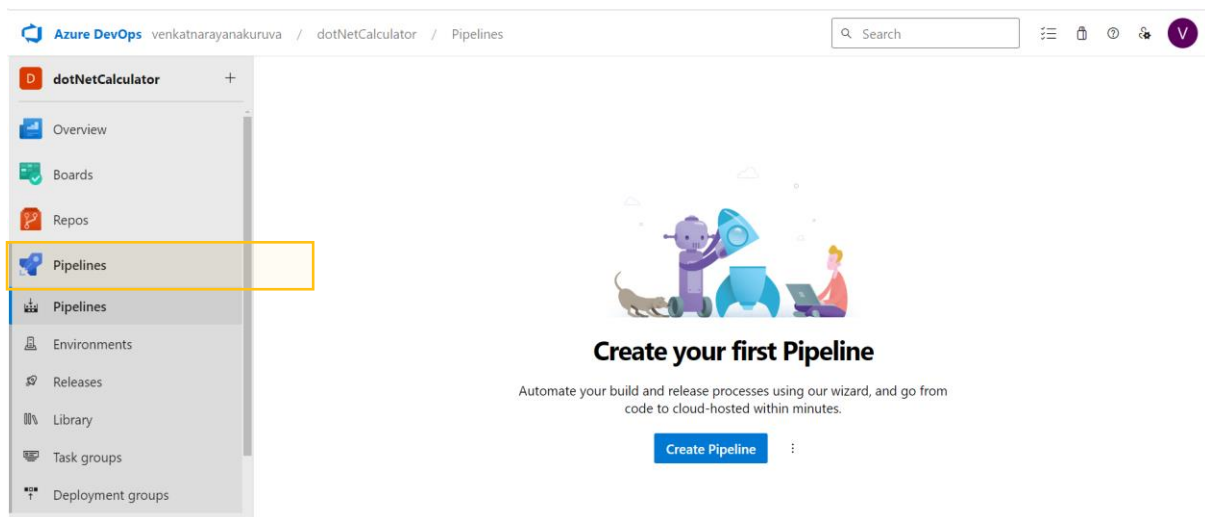
- Opened azure repos and initiated a repository



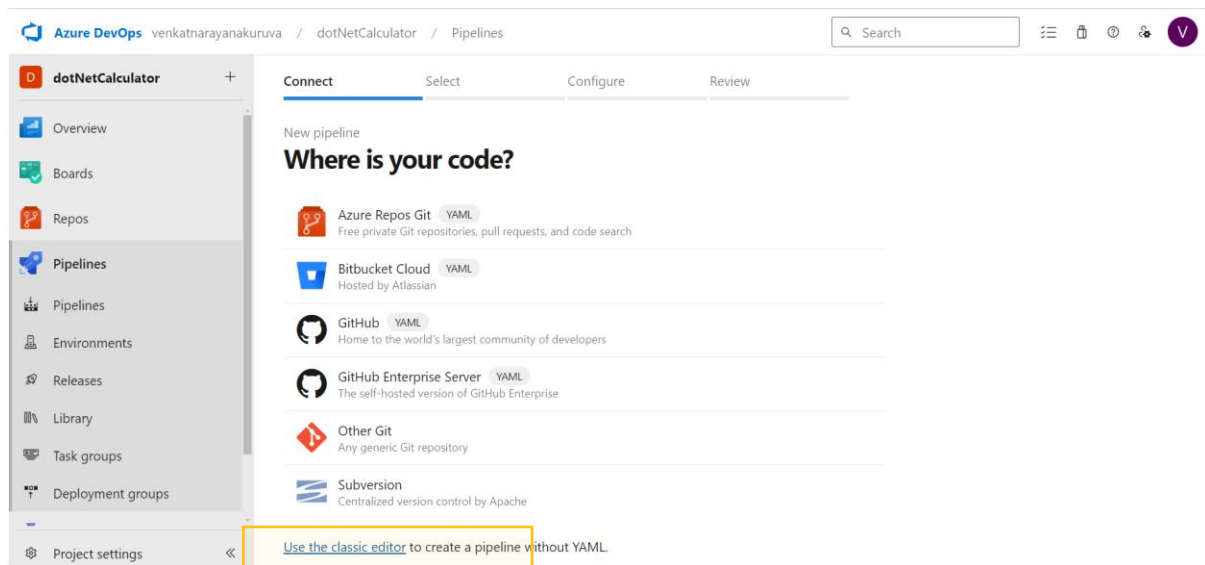
Then imported the repository to az repos



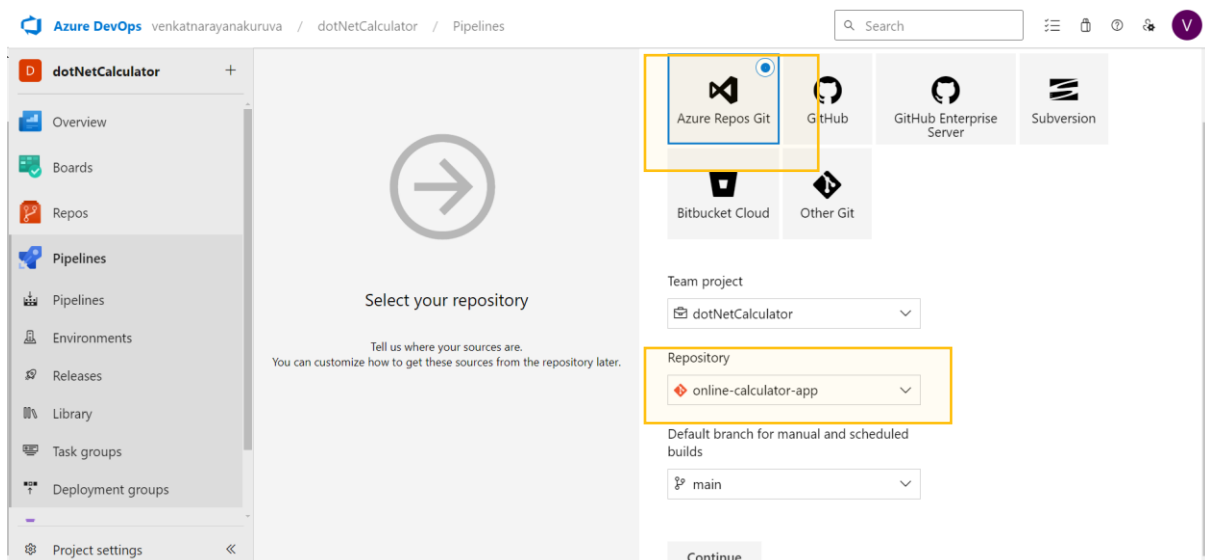
Then navigated to azure pipelines and created a new pipeline



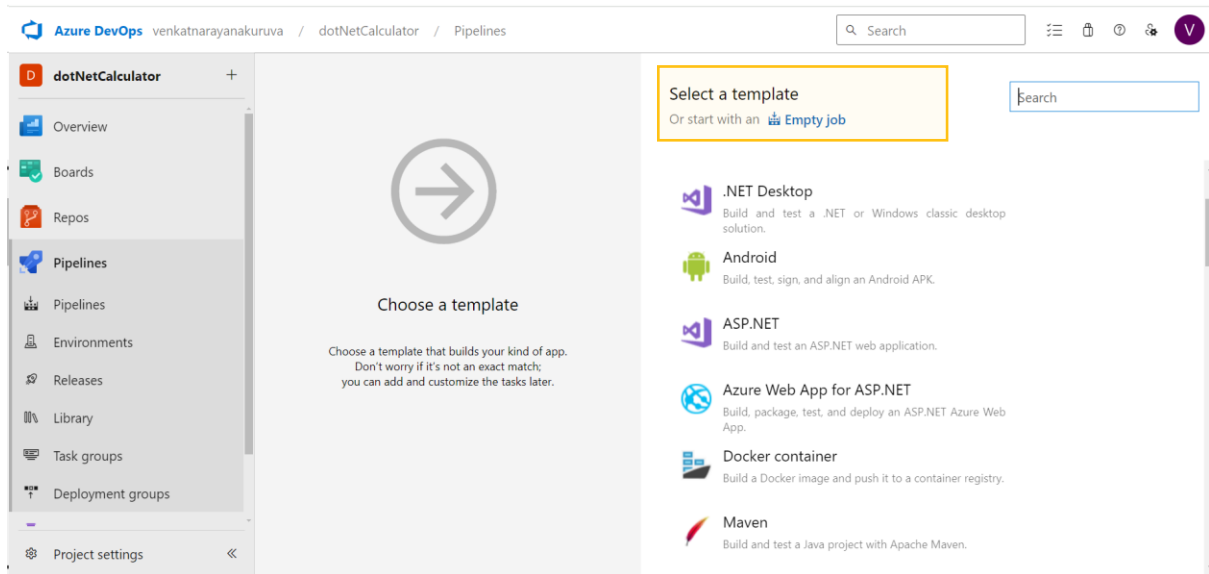
Used classic editor to create a pipeline



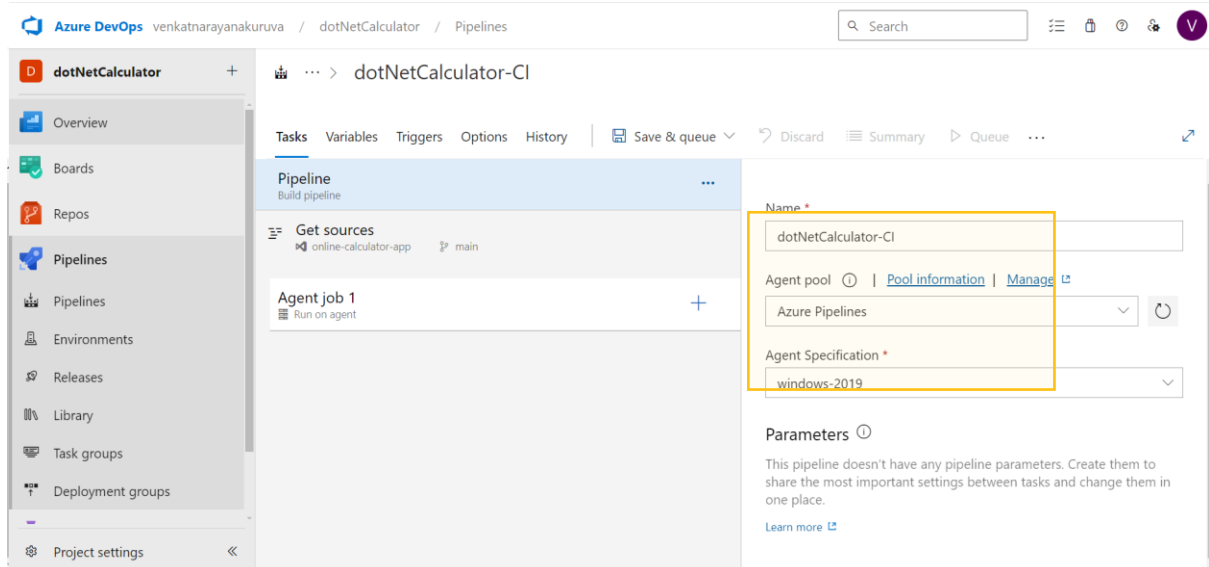
Then selected az repo as repo



Then selected a empty job



Configured windows 2019 as a agent



Added 2 .Net core tasks. One is to build the code and another is to publish the built code

And added another task “publish pipeline artifacts” to publish the artifacts resulted in build process

Azure DevOps | venkatnaranakuruva / dotNetCalculator / Pipelines

dotNetCalculator

Overview
Boards
Repos
Pipelines
Environments
Releases
Library
Task groups
Deployment groups
Project settings

dotNetCalculator-CI

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

Pipeline Build pipeline

Get sources online-calculator-app main

Agent job 1 Run on agent

dotnet build .NET Core

dotnet publish .NET Core

Publish Pipeline Artifact Publish Pipeline Artifacts

.NET Core Link settings View YAML

Task version 2.*

Display name * dotnet build

Command * build

Path to project(s) or solution(s)

Arguments

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Publish Pipeline Artifact Publish Pipeline Artifacts

.NET Core Link settings View YAML

Task version 2.*

Display name * dotnet publish

Command * publish

☒ Publish web projects

Arguments

☒ Zip published projects

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Pipeline Build pipeline

Get sources online-calculator-app main

Agent job 1 Run on agent

dotnet build .NET Core

dotnet publish .NET Core

Publish Pipeline Artifact Publish Pipeline Artifacts

Publish Pipeline Artifacts Link settings View YAML Remove

Task version 1.*

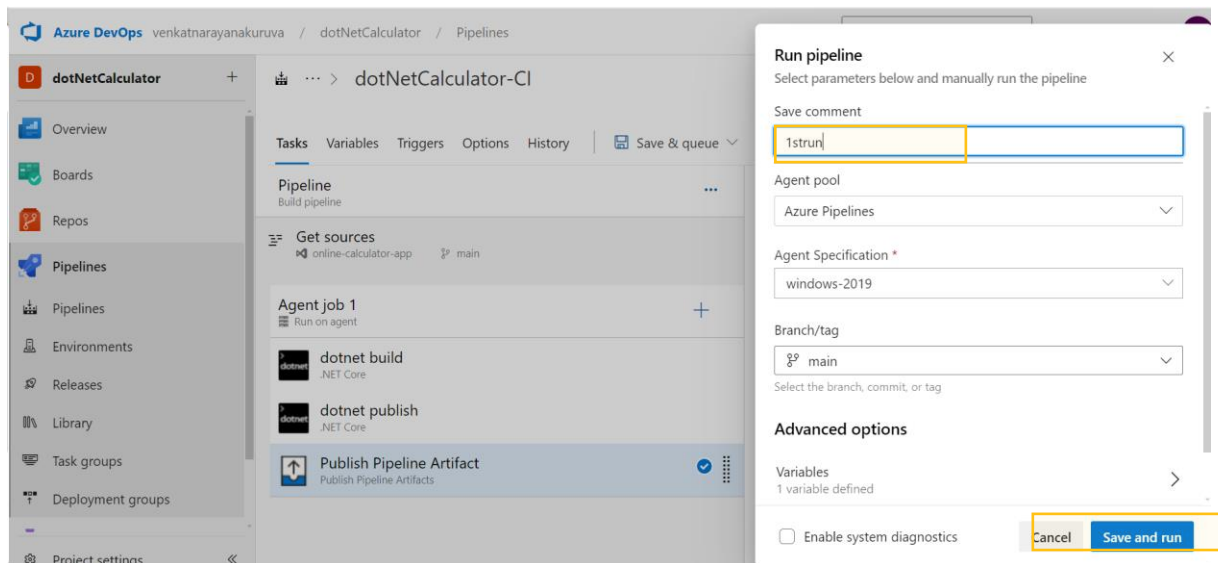
Display name * Publish Pipeline Artifact

File or directory path * \$(Pipeline.Workspace)

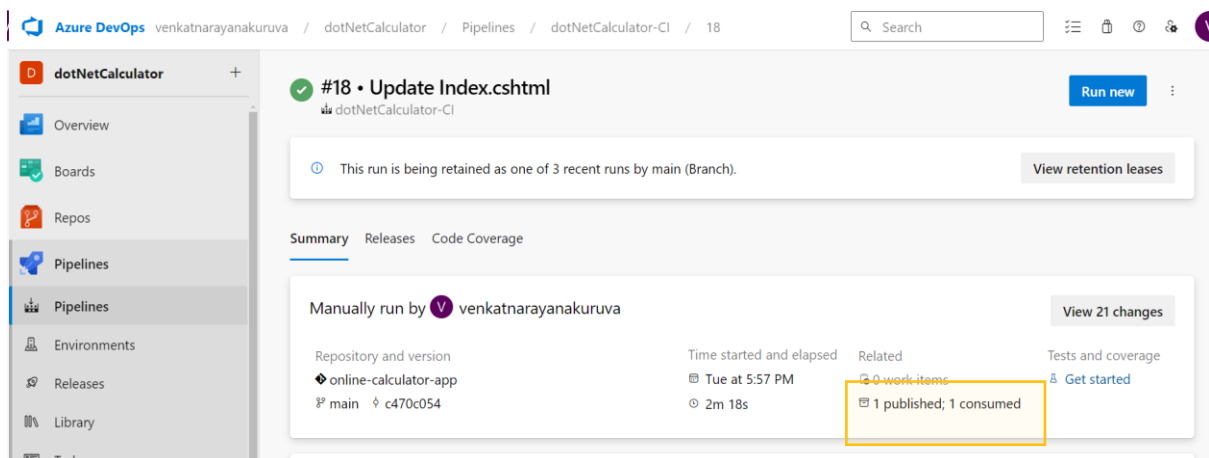
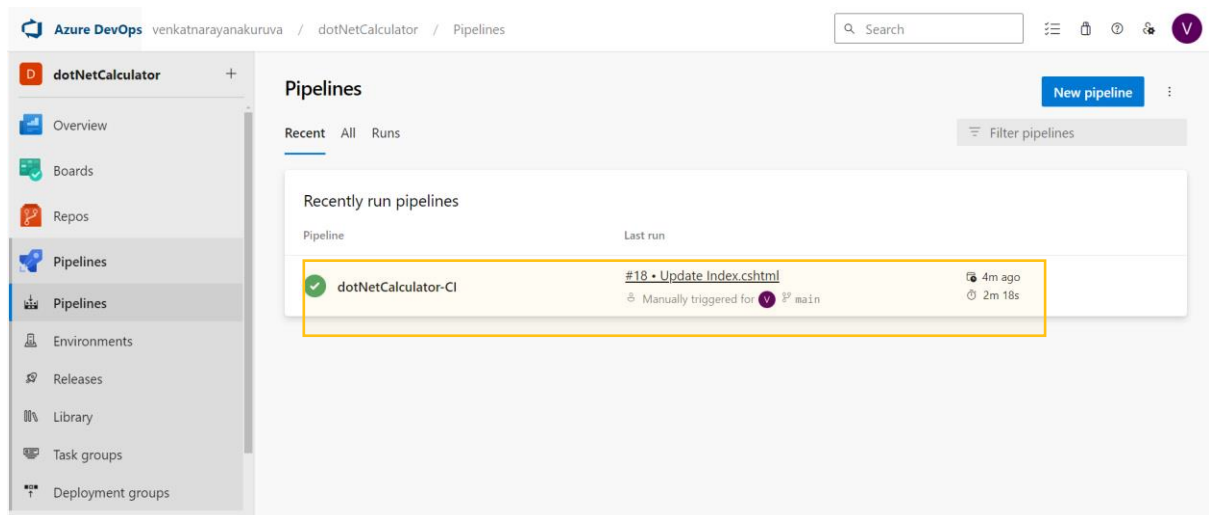
Artifact name

Artifact publish location *

Then saved the changes and ran the pipeline



Build pipeline is succeeded



Navigated to azure portal and created a appservice with .Net 8 runstalk for production

[Home](#) > [App Services](#) >
Create Web App ...

Subscription * ⓘ
Resource Group * ⓘ
[Create new](#)

Pay-As-You-Go
16apr24

Instance Details
Name *
Publish *
Runtime stack *
Operating System *
Region *

dotnetcalculator
Code
.NET 8 (LTS)
Linux
East US

Not finding your App Service Plan? Try a different region or select your App Service Environment.

Pricing plans
App Service plan pricing tier determines the location, features, cost and compute resources associated with your app.
[Learn more](#)
Windows Plan (East US) * ⓘ
Pricing plan

(New) ASP-16apr24-ac43
Free F1 (Shared infrastructure)
[Explore pricing plans](#)

Zone redundancy
An App Service plan can be deployed as a zone redundant service in the regions that support it. This is a deployment time only decision. You can't make an App Service plan zone redundant after it has been deployed [Learn more](#)
Zone redundancy

Enabled: Your App Service plan and the apps in it will be zone redundant. The minimum App Service plan instance count will be three.

Disabled: Your App Service Plan and the apps in it will not be zone redundant. The minimum App Service plan instance count will be one.

Review + create

< Previous

Next : Deployment >

[Home](#) >
webapp19apr24 Web App

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Microsoft Defender for Cloud

Events (preview)

Deployment

Deployment slots

Deployment Center

Performance

Essentials

Resource group (move)
webapp19apr24_group

Status
Running

Location (move)
East US

Subscription (move)
Pay-As-You-Go

Subscription ID
a0a30499-8e4f-491b-b9ff-1a61d1cc7694

Tags (edit)
Add tags

Default domain
webapp19apr24.azurewebsites.net

App Service Plan
ASP-webapp19apr24group-a014

Operating System
Windows

Health Check
Not Configured


[JSON View](#)



Your web app is running and waiting for your content

Your web app is live, but we don't have your content yet. If you've already deployed, it could take up to 5 minutes for your content to show up, so come back soon.



 Supporting Node.js, Java, .NET and more

- Similarly another app service is created for QA stage

Microsoft Azure Search resources, services, and docs (G+/I) venkatnaranakuruva... DEFAULT DIRECTORY

Home > **qastage** Web App

Search << Browse Stop Swap Restart Delete Refresh Download publish profile Reset publish profile Share to mobile >>>

Overview

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Microsoft Defender for Cloud
- Events (preview)

Deployment

- Deployment slots
- Deployment Center

Performance

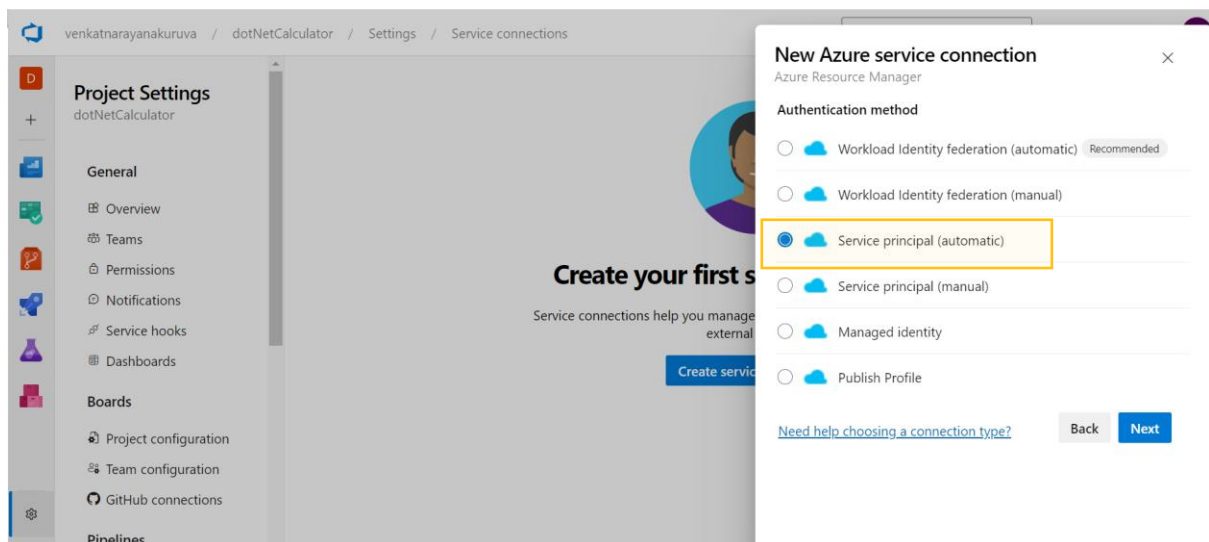
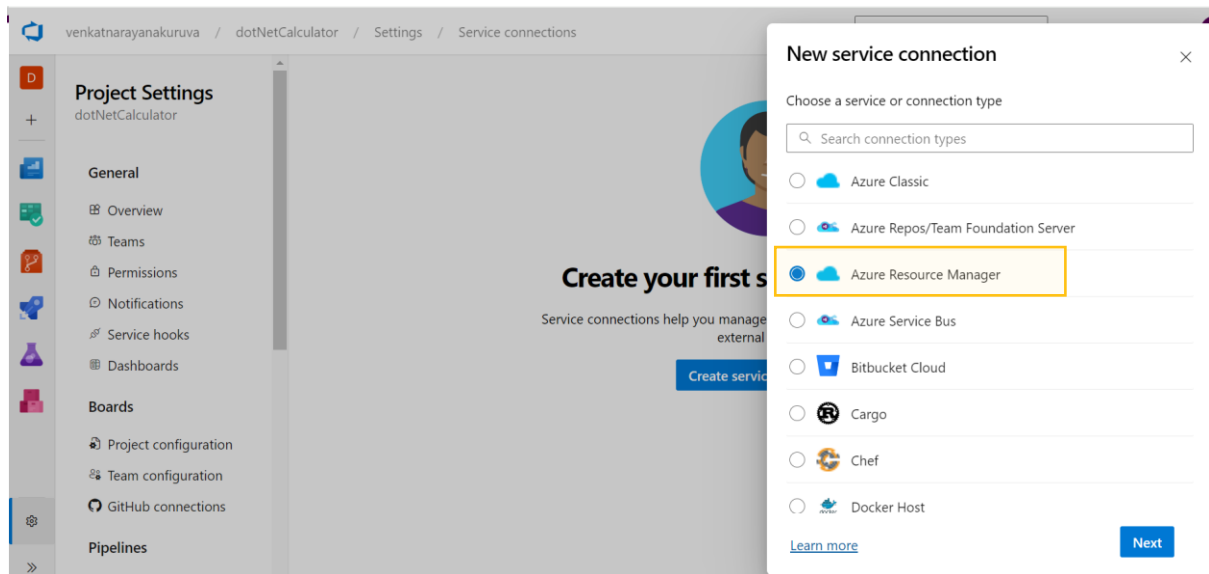
- Load Testing (Preview)

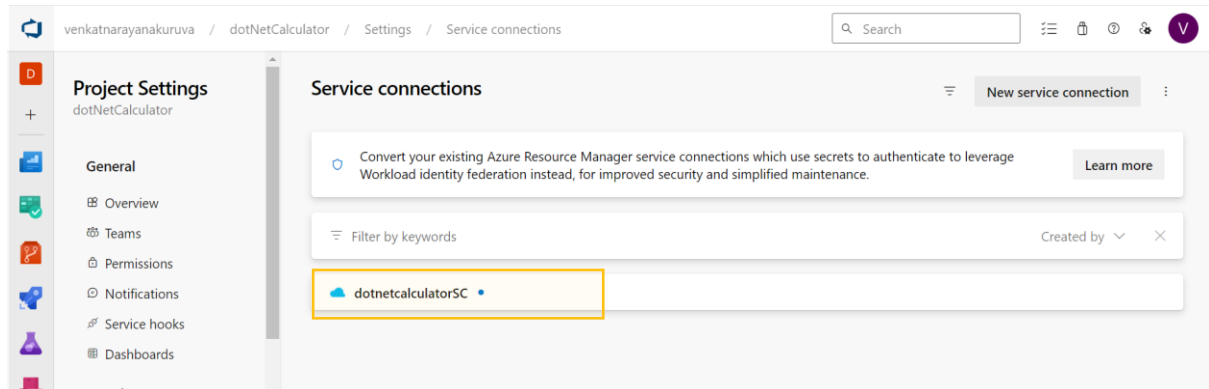
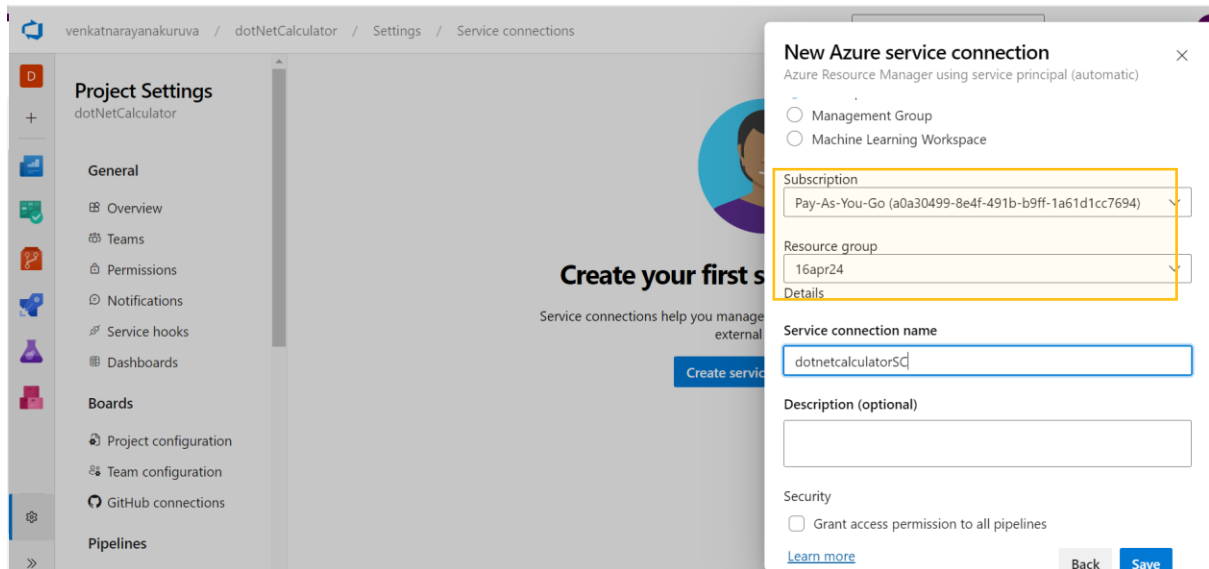
Essentials

Resource group (move)	Default domain
webapp19apr24_group	qastage.azurewebsites.net
Status	App Service Plan
Running	ASP-webapp19apr24group-a014
Location (move)	Operating System
East US	Windows
Subscription (move)	Health Check
Pay-As-You-Go	Not Configured
Subscription ID	
a0a30499-8e4f-491b-b9ff-1a61d1cc7694	
Tags (edit)	
Add tags	

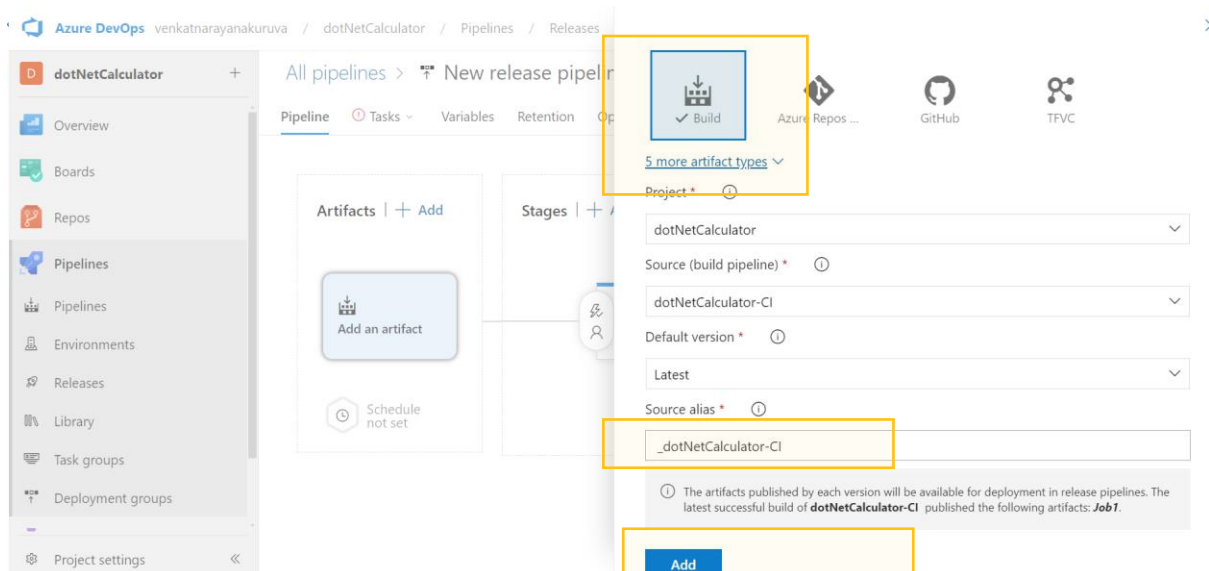
Properties Monitoring Logs Capabilities Notifications Recommendations

Then again cameback to azure devops portal and created a service connection to authenticate azure portal and azure devops portal

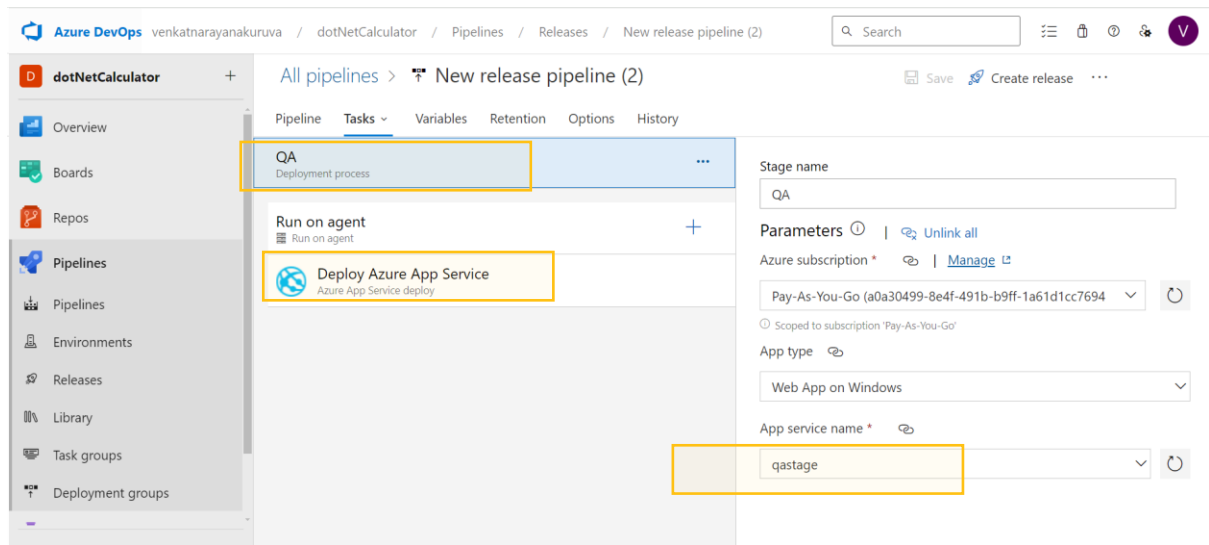




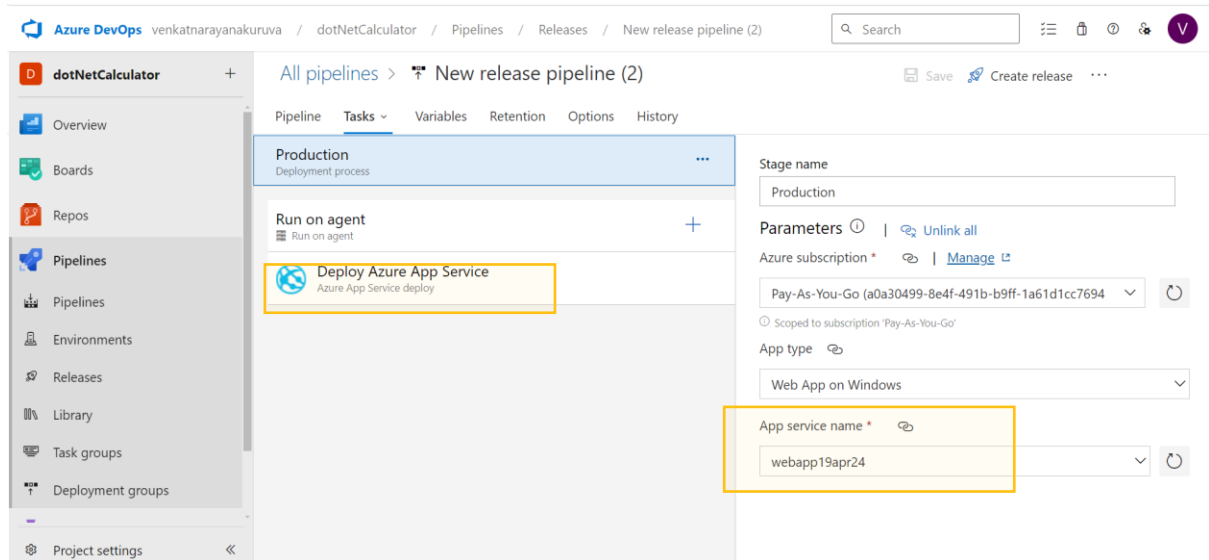
- Then opened pipelines and created a new release pipeline
- Selected the artifacts generated in build pipeline



- QA stage is configured to deploy the code into qastage app service



Production stage is configured to deploy the code to webapp19apr24 app service



- The pipeline is saved and release is created

- The QA stage is success and the pipeline is waiting for the manual deployment into the production stage

The screenshot displays the Azure DevOps interface for a release pipeline named 'New release pipeline (2) > Release-3'. The left sidebar shows the project structure with 'dotNetCalculator' selected. The main area shows the release details, including a 'Manually triggered' event by 'venkatnarayanakuru...' on 4/19/2024 at 5:24 PM. The 'Artifacts' section lists '_dotNetCalculator-CI' with version '18' and 'main' branch. The 'Stages' section shows two stages: 'QA' (Succeeded on 4/19/2024 at 5:25 PM) and 'Production' (Not deployed). The browser address bar shows 'qastage.azurewebsites.net' and the page title is 'calculator Home Privacy'.

Calculator

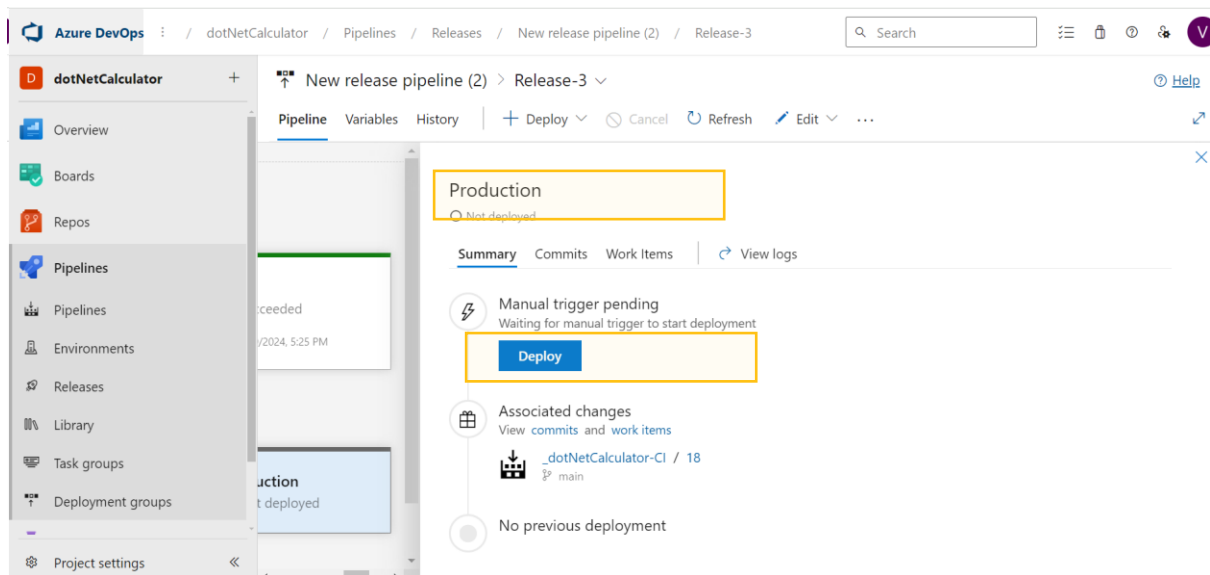
First Value

Second Value

add sub mul divi

Result

© 2023 - calculator - Privacy



Production stage is also succeeded

