



HOW TO DEPLOY .NET CORE APPS IN AZURE KUBERNETES USING AZURE DEVOPS

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-
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AGENDA

DevOps Starter

Why we need DevOps Starter

Docker Containerization

Azure Kubernetes

CI/CD Pipeline for .Net Core app with DevOps Starter

Deploy the .Net Core App in Azure Kubernetes

DEVOPS STARTER

- Sets up everything you need for developing, deploying, and monitoring your application.
- Monitor code commits, builds, and deployments, all from a single view in the Azure portal.
- Quickly deploy your application to Azure
- Automate the setup of a CI/CD pipeline

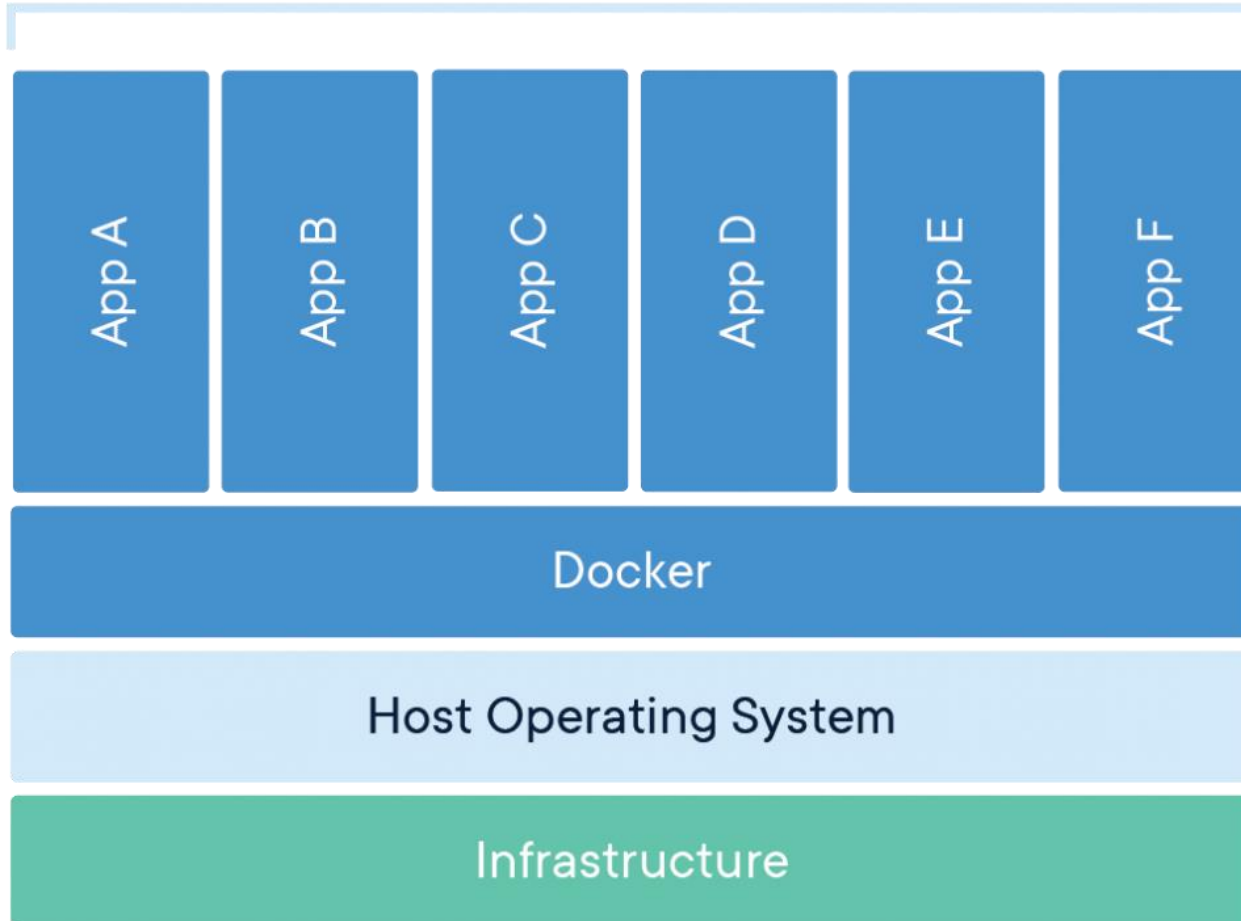
WHY WE NEED DEVOPS STARTER?

- Customize your build and release pipeline
- Use pull requests to manage your code flow and keep your quality high
- Test and build each commit before you merge your code to raise the quality bar
- Track your backlog and issues right along with your application

DOCKER CONTAINERIZATION

- A standardized unit of software
- Package Software into Standardized Units for Development, Shipment and Deployment.
- **Platform** addresses the global architectural requirements for your application portfolio including infrastructure, networking, storage, logging, monitoring, etc.
- **Pipeline** builds a unified, secure and automated end-to-end application delivery pipeline.
- **Application evaluation** examines your complete application portfolio and its attributes to help you prioritize candidates for containerization, maintenance and refactoring

Containerized Applications



CONTAINERIZED
APPLICATIONS

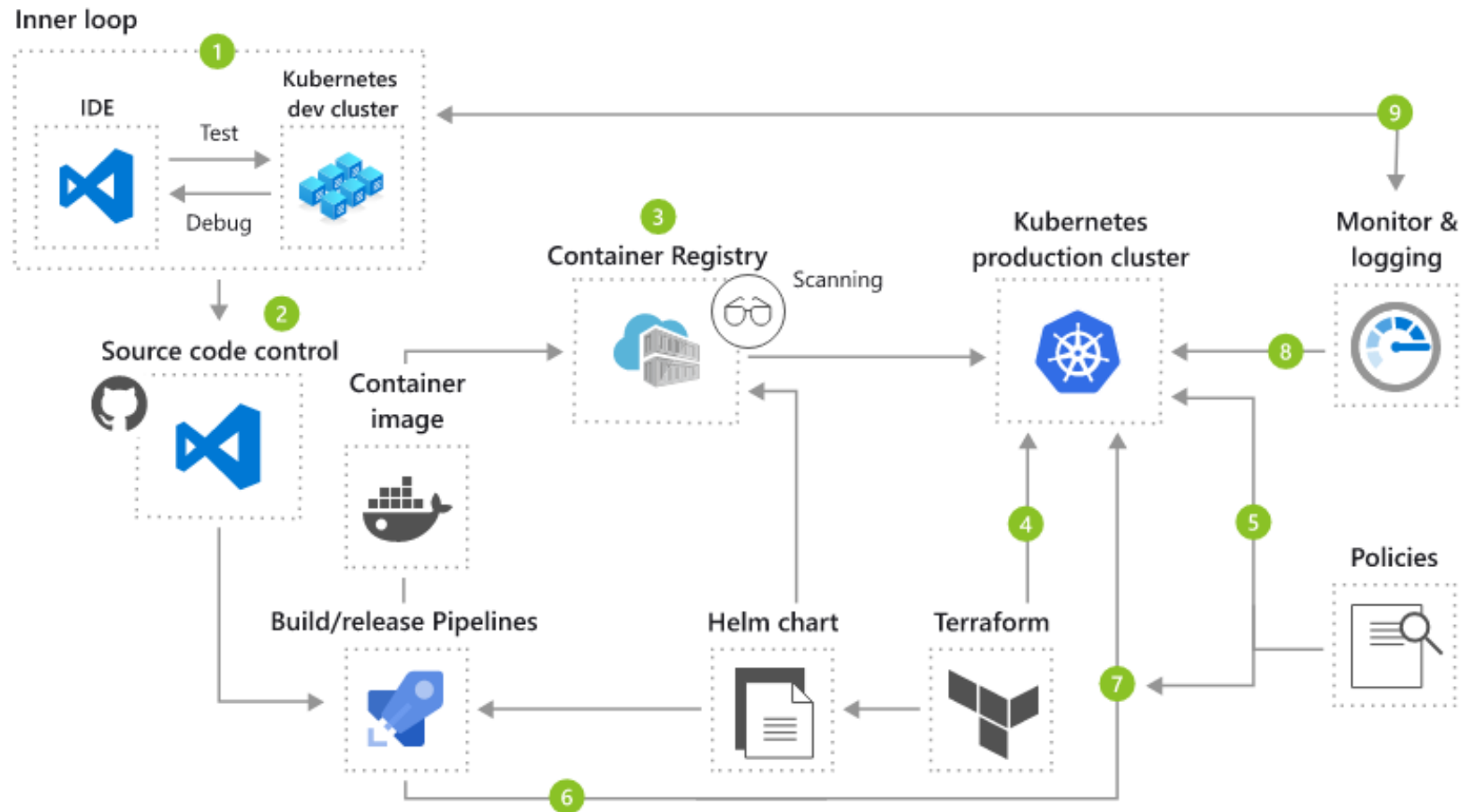
AZURE KUBERNETES (AKS)

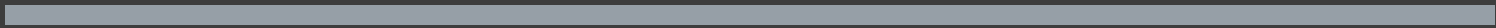
- Build, deliver and scale containerized apps.
- Removes the complexity of managing multiple containers deployed across multiple server.
- Implement your container-based applications in a portable, scalable and extensible way.
- Manages load Balancing.
- Manages Resource allocation and scaling.
- Self-healing of application.

KUBERNETES WITH DEVOPS

- Deliver code faster with CI/CD
- Manage resources effectively with infrastructure as code
- Accelerate the feedback loop with constant monitoring
- Balance speed and security with DevOps

DEVOPS WORKFLOW WITH KUBERNETES





DEMO

DevOps Starter

Services

Azure DevOps

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DevOps Projects

Create










Launch an app running in Azure in a few quick steps

Everything you need, created and ready to go: code repository, CI/CD pipeline, and the necessary Azure resources.

New to DevOps Projects?

[Check out our tutorials](#)

Start fresh with a new application

 .NET  New Web App using ASP.NET or ASP.NET Core, or a new IoT app	 Node.js New Web app using Node.js, Express.js or Sails.js, or a new IoT app	 PHP New Web app using Laravel or Symfony
 Java New Web App using Spring or JSF, or a new IoT app	 Static Website New static website using HTML, CSS, and JavaScript	 Python New Web App using Bottle, Django, or Flask, or a new IoT app

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DevOps Projects


Create



Choose an application framework

 ASP.NET Open source web framework for building modern web apps and services	 ASP.NET Core  Cross-platform, open-source framework for building modern web apps and services	 Simple IoT A fully managed service that delivers cloud intelligence locally on cross-platform IoT devices
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Add a database ☐

 SQL Database
A relational database-as-a service using the Microsoft SQL Server Engine

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✓

✓

4

RuntimeFrameworkServiceCreate

Almost there!

Ready to deploy ASP.NET Core app to Azure Kubernetes Service.

Project name *

aksdemo3 ✓

Azure DevOps Organization *

demodeployaks ▼

Subscription * ⓘ

Demo Subscription - B ▼

Create new or use existing cluster ⓘ

☒ Create New ☐ Use Existing

Cluster name ⓘ

aksdemo3 ✓

Location ⓘ

East US ▼

Node Virtual Machine Size ⓘ

Standard_DS2_v2

[Change size](#)

Node count: 3

Previous

Done

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demoaks

DevOps Projects

Refresh

Project homepage

Repositories

Build pipelines

CI/CD pipeline

Code

demoaks

2a0bb430

Updated Index.cshtml

Jayakumar B

9 h ago

Build

demoaks - CI

Build 20200602.2

Succeeded

9 h ago

dev

demoaks - CD

Release-3

Succeeded

8 h ago

Azure resources

Services

NAME	NAMESPACE	EXTERNAL ENDPOINT
sampleapp	dev06c1	52.188.153.178:80

Kubernetes Service



demoaks



Succeeded



Kubernetes Version 1.14.7

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Success!



Azure DevOps Project has been successfully setup
Your ASP.NET CORE app is up and running on Azure

Get started right away

Clone your code repository and start developing your application on IDE of your choice

Continuous Delivery

View your CI/CD pipeline on Azure Devops and customize it as per your needs

Azure DevOps Project

Learn more about all you can do with Azure DevOps project by visiting the documentation

D

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+

Overview

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Pipeline	Last run
<div><div>✓</div><div>demoaks - CI</div></div>	<div>#20200602.1 • First commit</div> <div><div>Other build reason</div><div><div>👤</div>master</div></div> <div><div>🕒 12m ago</div><div>🕒 2m 48s</div></div>

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Success!



Welcome to Menaka Web Portal

Your ASP.NET CORE app is up and running on Azure

Get started right away

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[Learn more »](#)

Continuous Delivery


View your CI/CD pipeline on Azure DevOps and customize it as per your needs



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










Azure DevOps Project

Learn more about all you can do with Azure DevOps project by visiting the documentation

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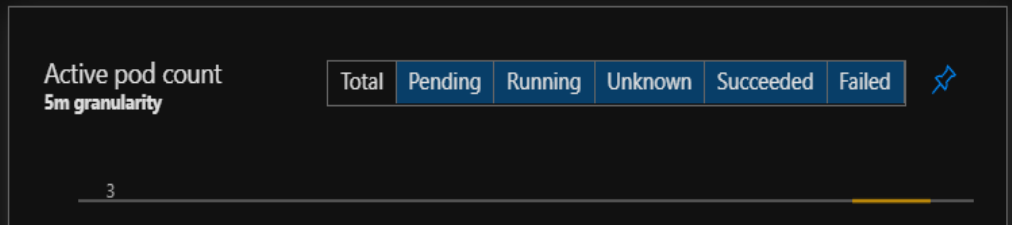
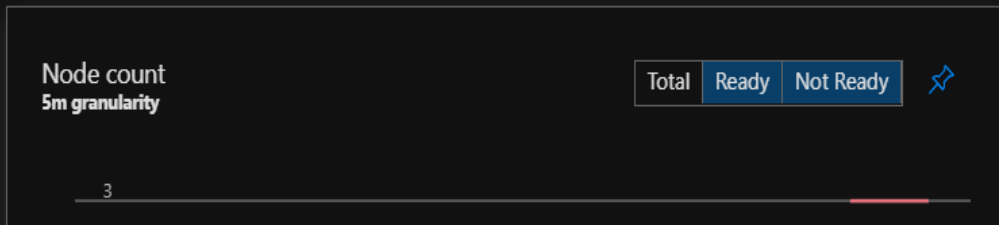
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-  Overview
-  Activity log
-  Access control (IAM)
-  Tags
-  Diagnose and solve problems
-  Security
- Settings**
-  Node pools
-  Upgrade
-  Scale
-  Networking
-  Dev Spaces
-  Deployment center (preview)
-  Policies (preview)
-  Properties
-  Locks

 Health feature is moving to limited preview. Learn more about how to join limited preview [here](#) ×

[What's new](#) | **Cluster** | [Health \(Preview\)](#) | [Nodes](#) | [Controllers](#) | [Containers](#) | [Deployments \(Preview\)](#)





THANK YOU



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