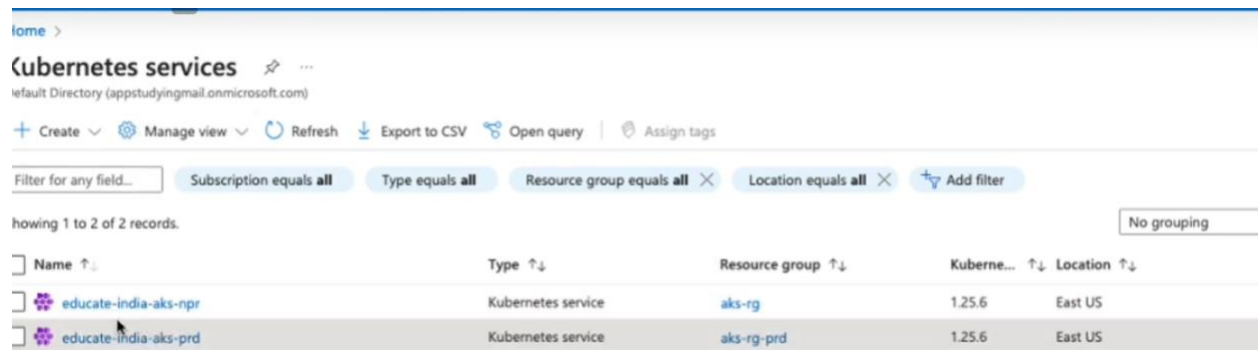


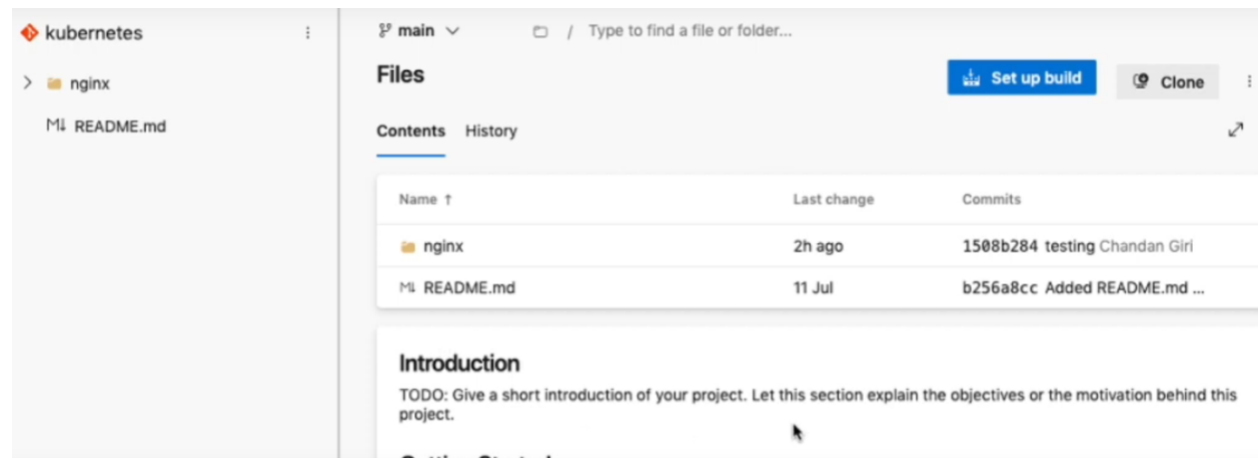
Helm Deployment using Azure DevOps

We'll create a Helm pipeline with Azure DevOps using yaml file and will add Helm related tasks there so our target is to create a multi-stage pipeline that can use a single Azure chart and can deploy to multiple env. We'll target to deploy dev and prod env.

Create 2 clusters and pushed nginx chart Helm chart to Azure devops



Name	Type	Resource group	Kubernetes version	Location
educate-india-aks-npr	Kubernetes service	aks-rg	1.25.6	East US
educate-india-aks-prd	Kubernetes service	aks-rg-prd	1.25.6	East US



Files

Contents History

Name	Last change	Commits
nginx	2h ago	1508b284 testing Chandan Giri
README.md	11 Jul	b256a8cc Added README.md ...

Introduction

TODO: Give a short introduction of your project. Let this section explain the objectives or the motivation behind this project.

Getting Started

kubernetes

nginx

charts

templates

.helmignore

Chart.lock

Chart.yaml

README.md

values-dev.yaml

values-prod.yaml

values.schema.json

README.md

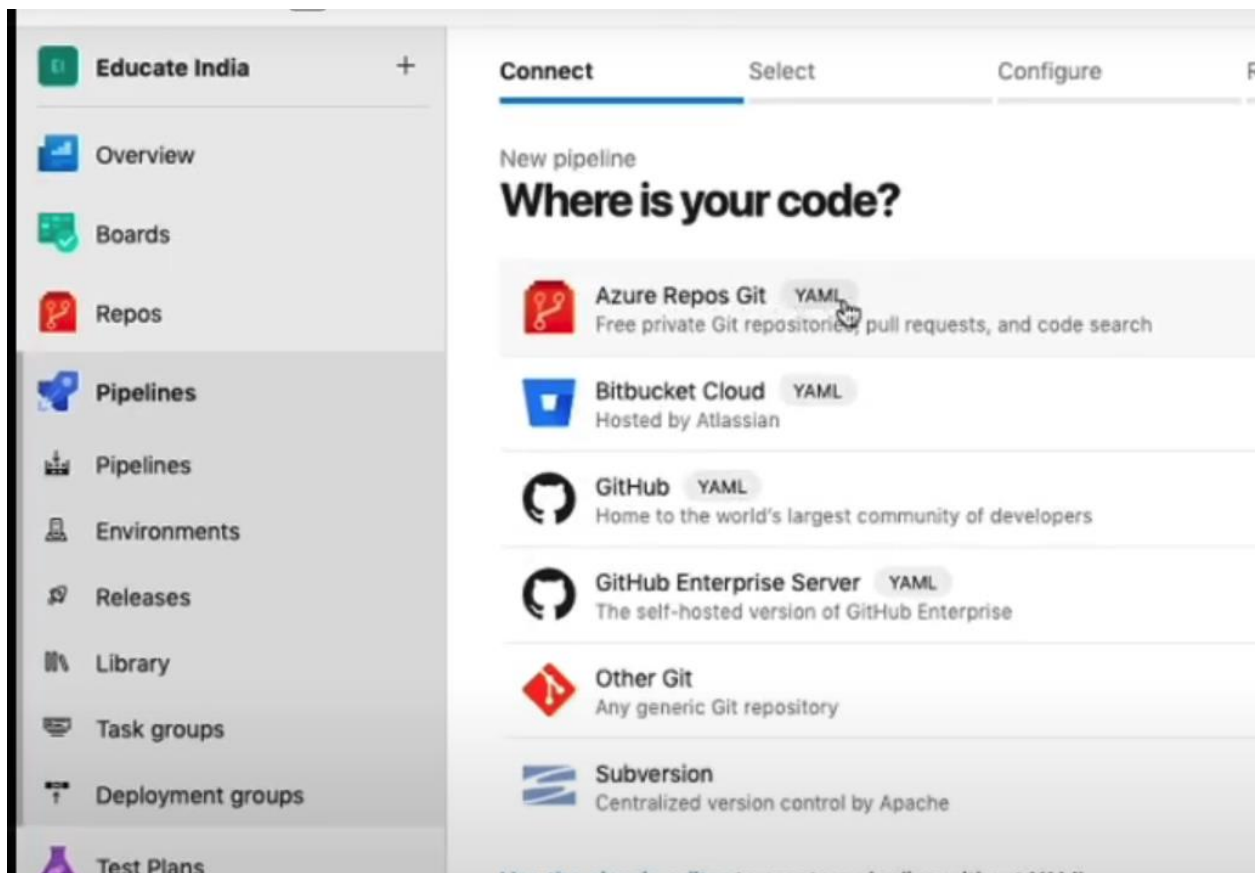
main / nginx

nginx

Contents History

Name ↑	Last change	Commits
charts	13h ago	9bf99fea test
templates	13h ago	9bf99fea test
.helmignore	13h ago	9bf99fea test
Chart.lock	13h ago	9bf99fea test
Chart.yaml	2h ago	1508b284 testir
README.md	13h ago	9bf99fea test
values-dev.yaml	13h ago	9bf99fea test
values-prod.yaml	13h ago	a38f3613 testir
values.schema.json	13h ago	9bf99fea test

Go to pipelines and go to Azure repos git:



Select Kubernetes repo and starter pipeline

✓ Connect

✓ Select

✓ Configure

Review

New pipeline

Review your pipeline YAML

kubernetes / azure-pipelines.yml *

```

1  # Starter pipeline
2  # Start with a minimal pipeline that you can customize to build and deploy your code.
3  # Add steps that build, run tests, deploy, and more:
4  # https://aka.ms/yaml
5
6  trigger:
7  - main
8
9  pool:
10 - vmImage: ubuntu-latest
11
12 steps:
13 - script: echo Hello, world!
14   displayName: 'Run a one-line script'
15
16 - script: |

```

You can add tasks like helm installer:

New pipeline

Review your pipeline YAML

Variables

Save a

kubernetes / azure-pipelines.yml *

```

1  # Starter pipeline
2  # Start with a minimal pipeline that you can customize to build and deploy your code
3  # Add steps that build, run tests, deploy, and more:
4  # https://aka.ms/yaml
5
6  trigger:
7  - main
8
9  pool:
10 - task: HelmInstaller@0
11   inputs:
12     helmVersion: '2.14.1'
13     installKubectl: true
14     vmImage: ubuntu-latest
15
16 steps:

```

Tasks

Search tasks

.NET Core

Build, test, package, or publish a

Android signing

Sign and align Android APK files

Ant

Build with Apache Ant

App Center distribute

Distribute app builds to testers a

App Center test

Test app packages with Visual S

Copy the code and paste it in the pipeline:

```

1 # Starter pipeline
2
3 # Start with a minimal pipeline that you can customize to build and deploy your code.
4 # Add steps that build, run tests, deploy, and more:
5 # https://aka.ms/yaml
6
7 trigger:
8 - main
9
10 pool:
11   vmImage: ubuntu-latest
12
13 stages:
14   - stage: Dev
15     jobs:
16     - deployment: Helm Deployment Dev
17       environment: dev
18       variables:
19         env: dev
20       strategy:
21         runOnce:

```

New pipeline

Review your pipeline YAML

kubernetes / azure-pipelines.yml *

```

7 trigger:
8   - main
9
10 pool:
11   vmImage: ubuntu-latest
12
13 stages:
14   - stage: Dev
15     jobs:
16     - deployment: Helm Deployment Dev
17       environment: dev
18       variables:
19         env: dev
20       strategy:
21         runOnce:

```

← **Package and deploy Helm charts** ⓘ

Kubernetes Cluster ^

Connection Type * ⓘ

Kubernetes Service Connection ▾

Kubernetes Service Connection * ⓘ

aks-npr ▾

Namespace ⓘ


Commands ^

Command * ⓘ

login ▾

```
script: |
- task: HelmDeploy@0
  inputs:
    connectionType: 'Kubernetes Service Connection'
    kubernetesServiceConnection: 'aks-npr'
    command: 'login'
    helm upgrade --install test nginx -f $(Agent.BuildDi
- stage: Prod
jobs:
```

Create env dev and prod:



Create your first environment

Manage deployments, view resource status and traceability

Create environment

New environment


Name ⓘ


dev


Description ⓘ

Describe the environment

Resource

☒  **None**
You can add resources later

☐  **Kubernetes**
Add Kubernetes namespace

☐  **Virtual machines**
Manage virtual machines

Environments

Environment	Status
dev	Never deployed


Name ⓘ


prod


Description ⓘ

Describe the environment

Resource

☐  **None**
You can add resources later

☒  **Kubernetes**
Add Kubernetes namespace

☐  **Virtual machines**
Manage virtual machines

```
helm upgrade --install test nginx -f $(Agent

- stage: Prod
  jobs:
    - deployment: Helm_Deployment_Prod
      environment: prod
      variables:
        env: prod
      strategy:
        runOnce:
          deploy:
            steps:
              - checkout: self
                clean: true
                submodules: true | recursive
                path: helm
                displayName: Checkout

Settings
```

← Jobs in run #20230720.1
kubernetes (1)

Dev

- ✓ Helm_Deployment_Dev 6s
 - Initialize job 1s
 - Pre-job: Login <1s
 - ✓ Checkout kubernetes... 1s
 - Helm dependency upd... 1s
 - Login
 - Helm Upgrade
 - Post-job: Login
 - Post-job: Checkout kube...
- Helm_Deployment_Prod

Prod

Helm dependency update

```
1 Starting: Helm dependency update
2 =====
3 Task      : Bash
4 Description : Run a Bash script on macOS, Linux, or Windows
5 Version    : 3.225.1
6 Author     : Microsoft Corporation
7 Help       : https://docs.microsoft.com/azure/devops/pipelines/tasks/utility/bash
8 =====
9 Generating script.

===== Starting Command Output =====
12 README.md
13 azure-pipelines.yml
14 nginx
15 NAME    VERSION REPOSITORY                                STATUS
16 common  2.x.x   oci://registry-1.docker.io/bitnamicharts  unpacked
```

Tesrelease is here:

Kubernetes services
Default Directory (appstudyingmail.onmicrosoft.c...)

+ Create Manage view ...

Filter for any field...

Name ↑

- educate-india-aks-npr
- educate-india-aks-prd

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Microsoft Defender for Cloud

Kubernetes resources

- Namespaces
- Workloads
- Services and ingresses
- Storage
- Configuration
- Custom resources

Settings

educate-india-aks-npr | Workloads

Kubernetes service

+ Create Delete Refresh Show labels Give feedback

Search

Deployments Pods Replica sets Stateful sets Daemon sets Jobs Cron jobs

Filter by deployment name Enter the full deployment name

Filter by namespace All namespaces Add label filter

<input type="checkbox"/>	Name	Namespace	Ready	Up-to-date	Available
<input type="checkbox"/>	coredns	kube-system	2/2	2	2
<input type="checkbox"/>	coredns-autoscaler	kube-system	1/1	1	1
<input type="checkbox"/>	connectivity-agent	kube-system	2/2	2	2
<input type="checkbox"/>	metrics-server	kube-system	2/2	2	2
<input type="checkbox"/>	testrelease-nginx	default	1/1	1	1

kubernetes

- nginx
 - charts
 - templates
 - .helmignore
 - Chart.lock
 - Chart.yaml
 - README.md
 - values-dev.yaml
 - values-prod.yaml
 - values.schema.json
 - azure-pipelines.yml
 - README.md

main / nginx

nginx

Contents History

Name ↑	Last change	Commits
charts	15h ago	9bf99fea test Chandan G
templates	15h ago	9bf99fea test Chandan G
.helmignore	15h ago	9bf99fea test Chandan G
Chart.lock	15h ago	9bf99fea test Chandan G
Chart.yaml	3h ago	1508b284 testing Chandar
README.md	15h ago	9bf99fea test Chandan G
values-dev.yaml	15h ago	9bf99fea test Chandan G
values-prod.yaml	14h ago	a38f3613 testing Chandar
values.schema.json	15h ago	9bf99fea test Chandan G

So that's how we can manage the Helm chart within Azure repos and create a simple yaml that will fetch the chart and it will create the release and later manage that particular env by creating different values for that different stages