

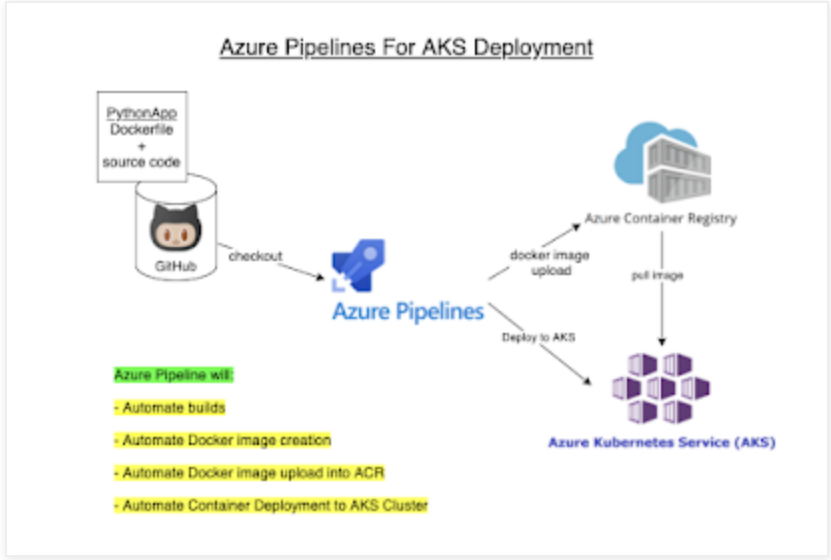
# DevOps + Cloud Computing Coaching

Hands on DevOps Coaching that is provided on AWS and Azure Cloud platforms. Contact me at devops.coaching@gmail.com for more info. You can directly reach out to Coach AK at +1(469) 733-5248

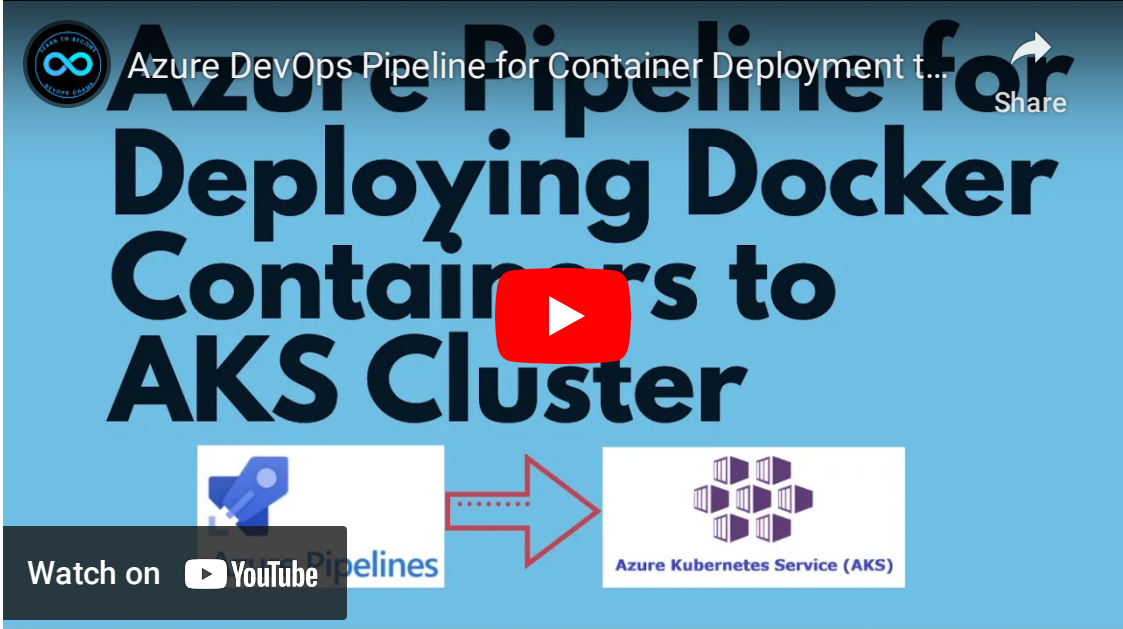
Monday, November 8, 2021

## How to Deploy Docker Containers into AKS cluster using Azure Pipelines | Deploy Docker Image into AKS cluster using Azure Release Pipelines

We are going to learn how to deploy Docker containers into Azure Kubernetes Cluster(AKS) using Azure pipelines. We will take a simple python app, create docker image and deploy docker image into AKS cluster using Azure pipelines.



Watch the steps in YouTube channel:



### Pre-requisites:

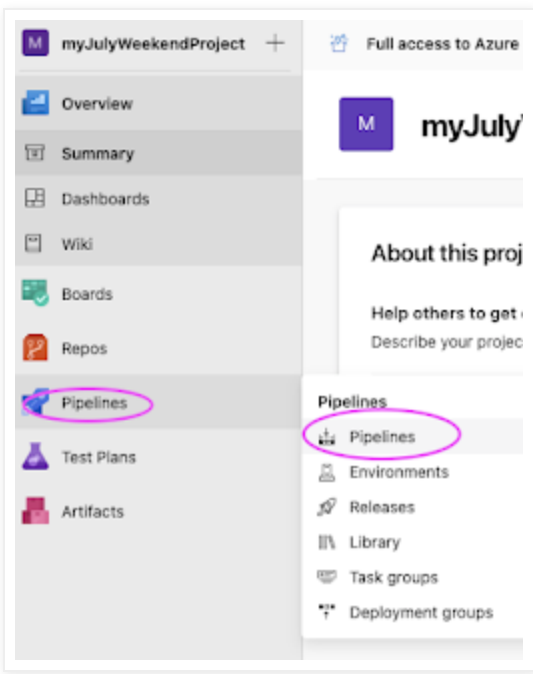
- AKS cluster needs to be up running. You can create AKS cluster using one of the below options:
  - Create AKS cluster in Azure portal directly
  - Create AKS cluster using Azure CLI
  - Create AKS cluster using Terraform
- ACR is also setup in Azure cloud.
- Already created Azure DevOps dashboard in <https://dev.azure.com/>
- Dockerfile created along with the application source code
- Make sure AKS has pull access from ACR

### Implementation Steps

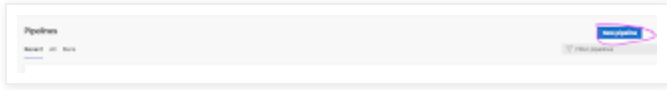
- Step 1** - Create Azure Build pipeline for building Docker images and uploading into ACR
- Step 2** - Create Azure Release pipeline for deploying Docker containers into AKS

#### Step 1 - How to create a Azure Build Pipeline

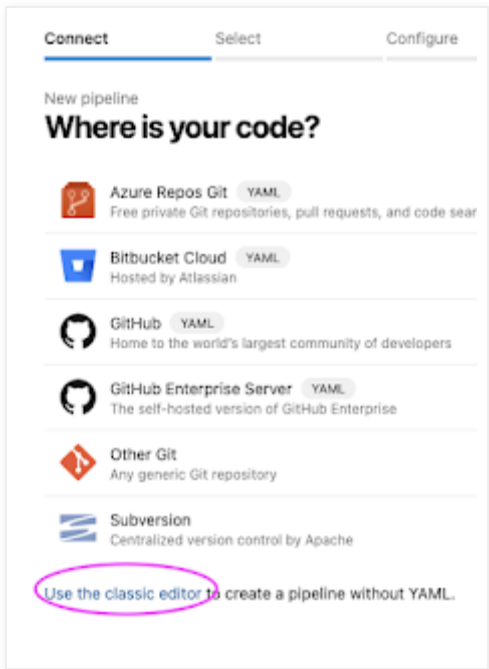
- Login into your Azure DevOps dashboard
- Click on Pipelines.



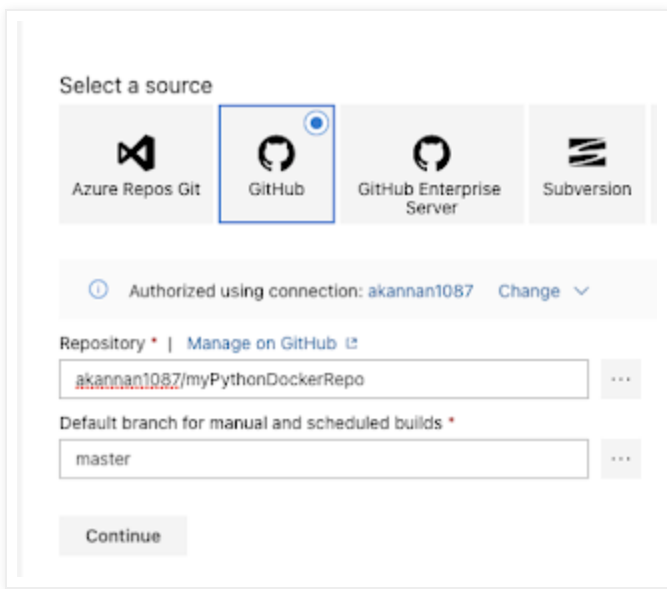
- Click on New Pipeline



- Click on use the classic editor



Enter your repo name and branch name where you have stored your source code along with Dockerfile



Click on Continue. Now choose the template by typing Docker, Select Docker container and Apply.

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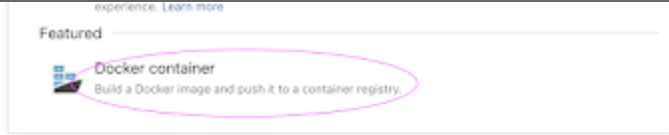
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- Amy
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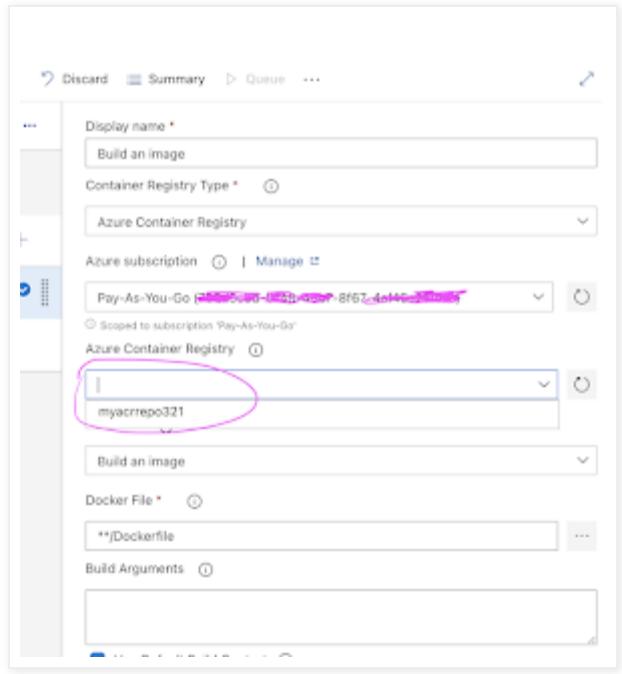
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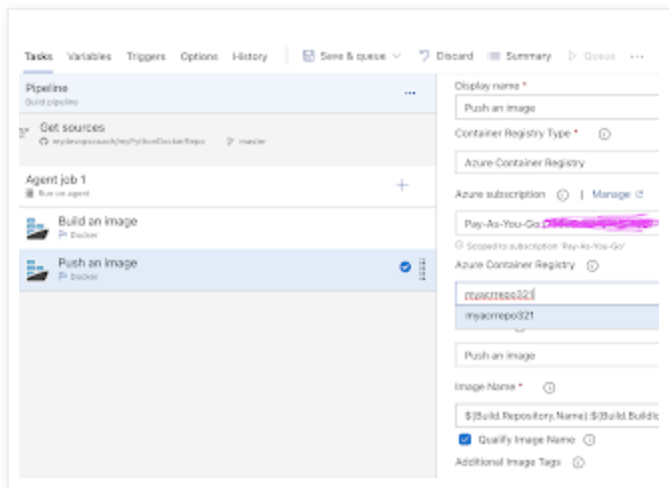


Now pipeline is created with two tasks already. We need to configure it.

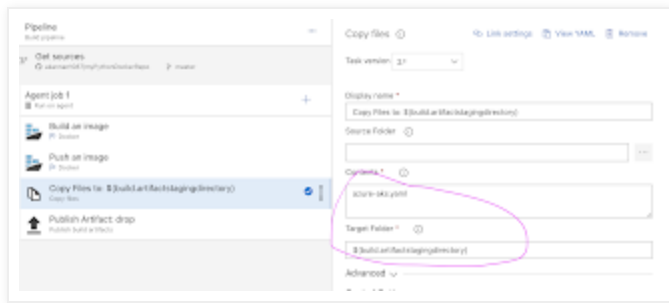
Let's modify Build an image task.



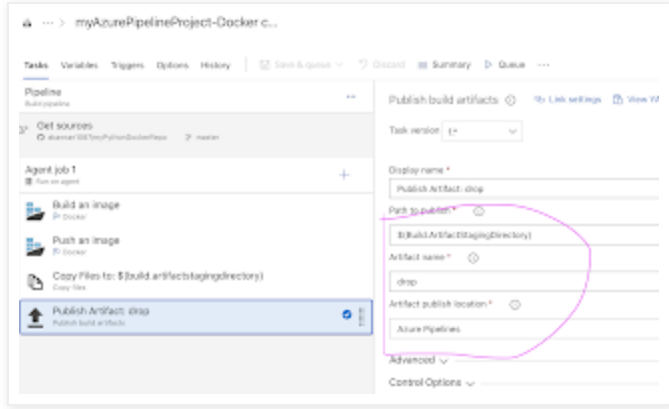
Select Push an image task



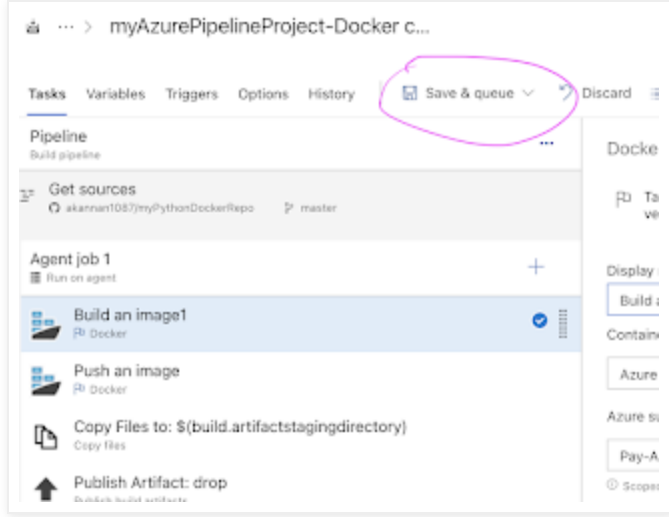
Add a task for Copying YAML file, enter the Kubernetes deployment YAML file



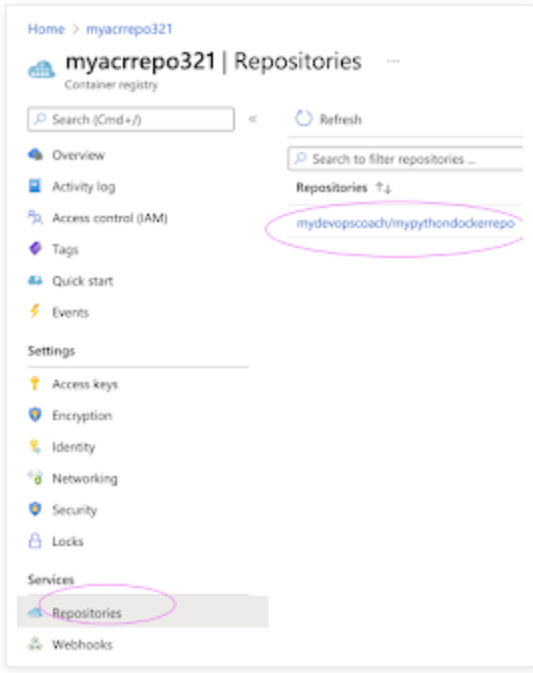
Add Publish artifact task



Now click Save + Queue and run to start Building the pipeline

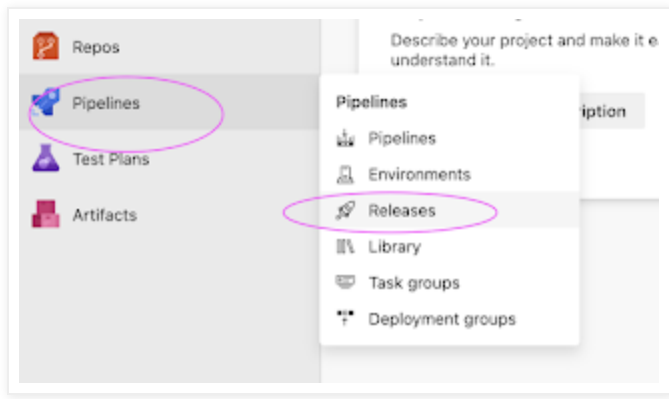


Once the build is completed, you should be able to see the Docker images under Services --> Repositories

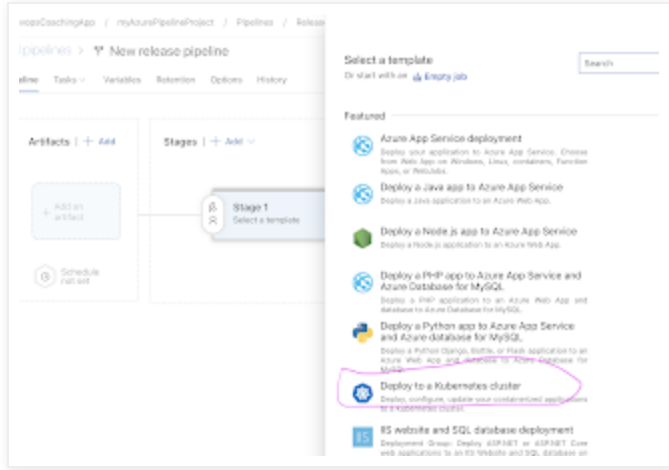


## Step 2 - How to Create Release pipeline for deploying Docker containers into AKS Cluster

Go to Pipelines --> Click on Releases --> New Release pipeline



Click on Stage 1 and choose a template by selecting Deploy to a Kubernetes cluster and click on Apply



Change the stage name to Deploy to AKS

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- install terraform
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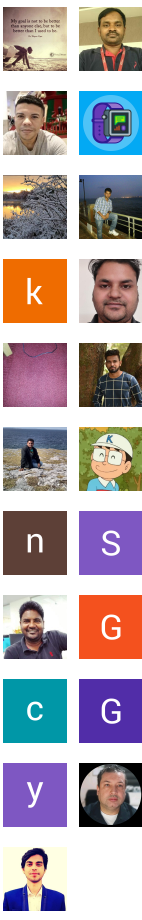
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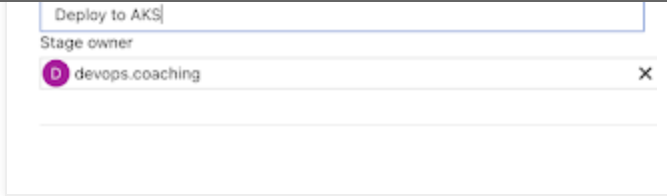
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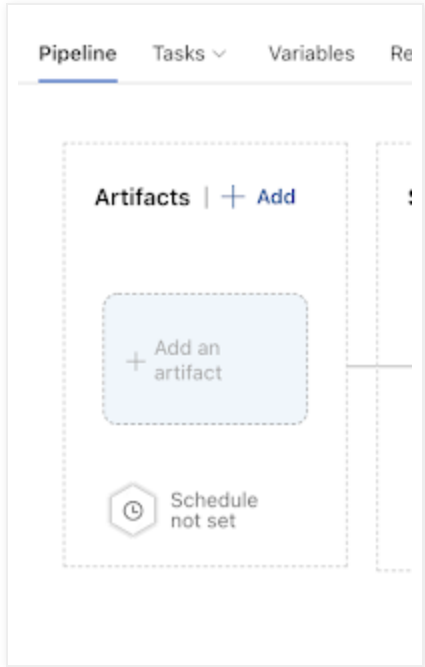
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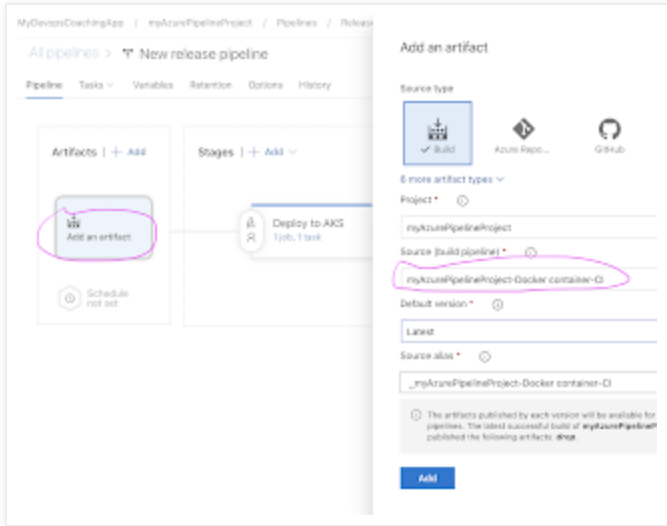




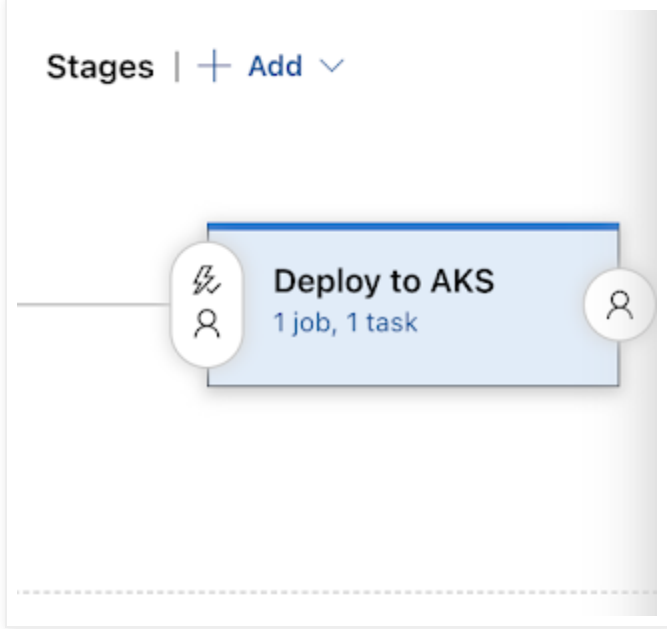
Now click on Add an artifact



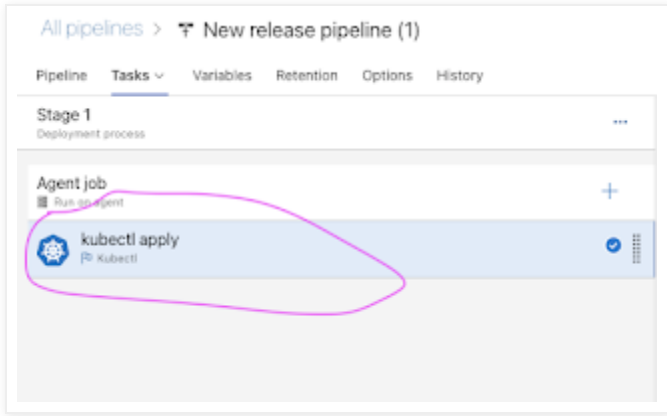
Select the Build pipeline and click on the latest version



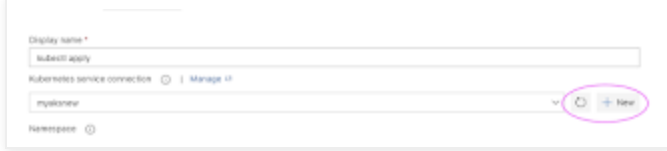
Now click on Deploy to AKS stage



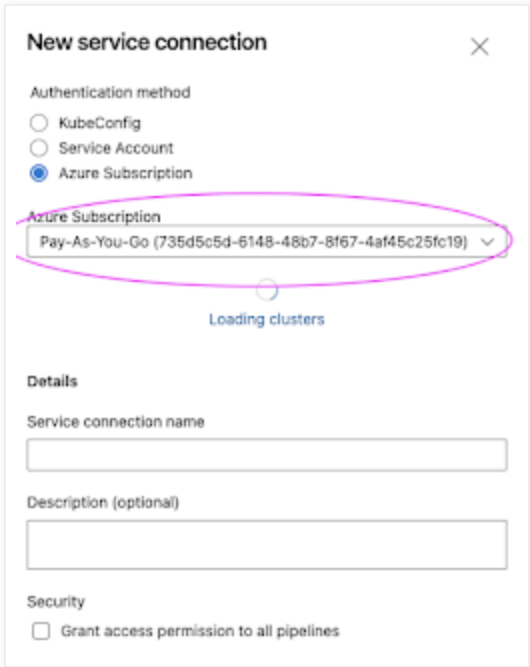
Click on kubectl apply



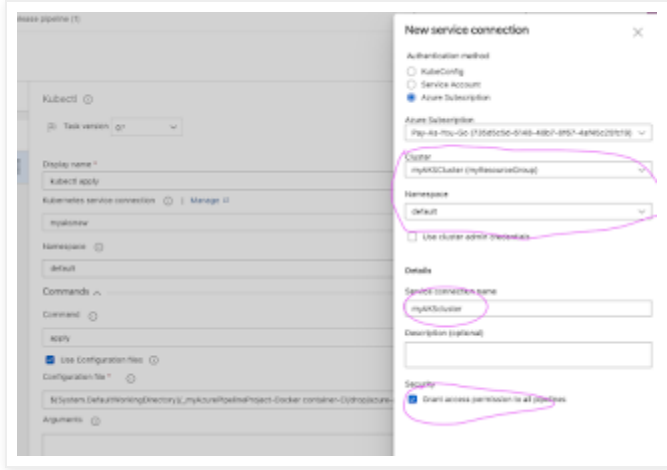
Now Click on New to enter AKS cluster connection info



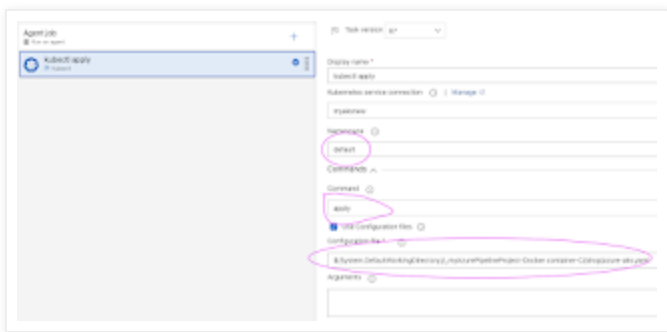
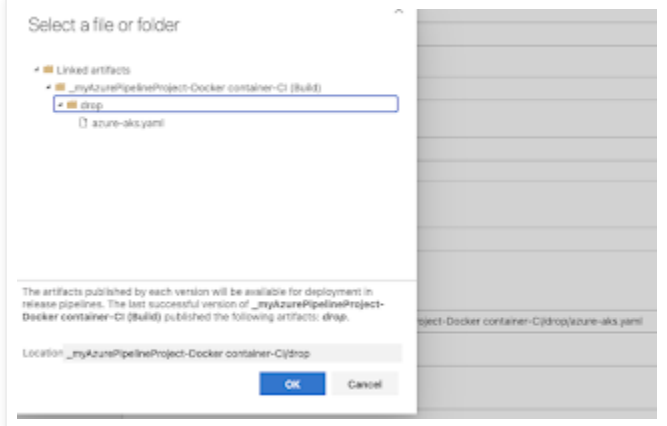
Choose the Azure subscription and enter Microsoft user credentials.



Select AKS cluster from the drop down, choose default namespace



Choose command as apply and select the yaml file from the dropdown from Configuration file



written in the J...



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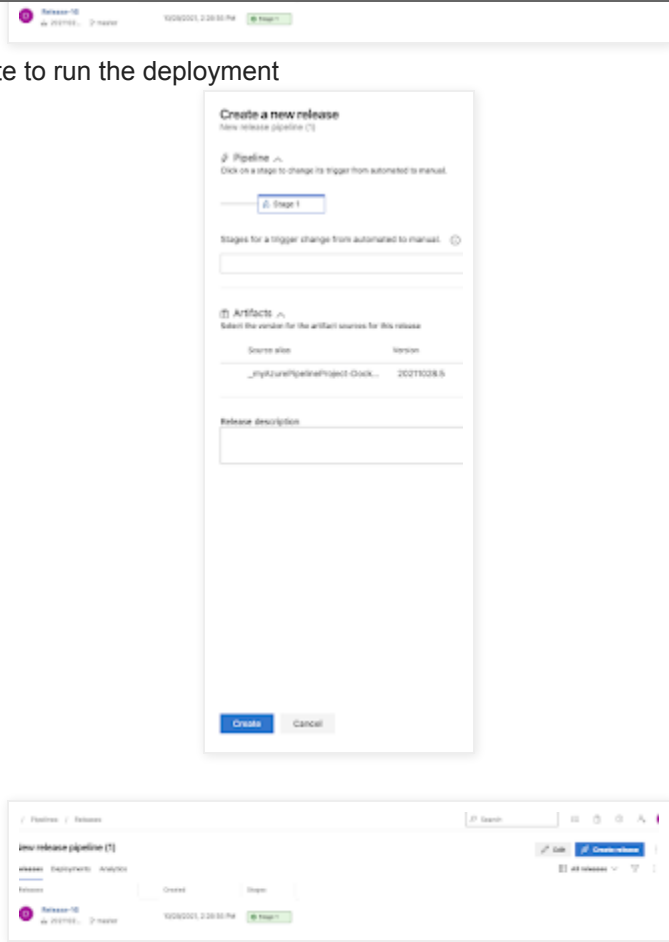
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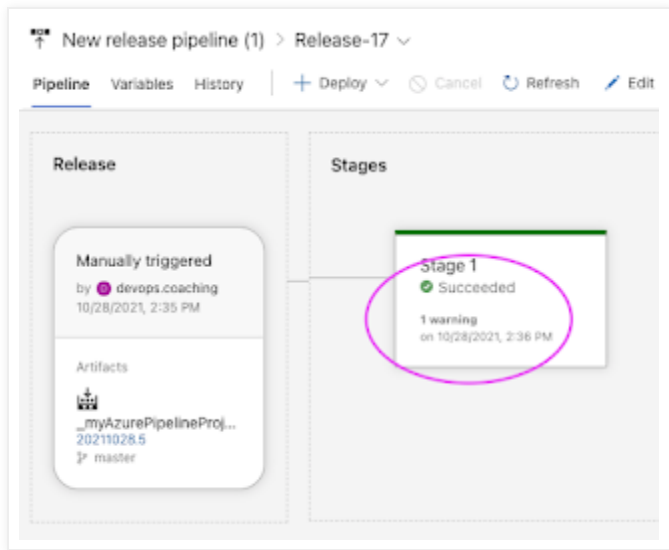
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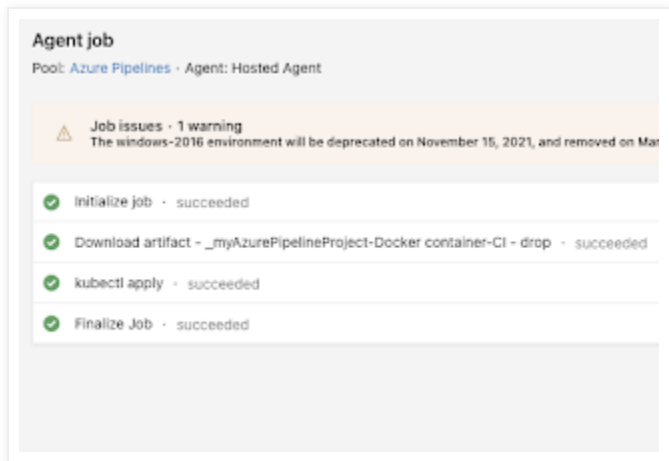
and then click Create to run the deployment



Click on Stage to see the logs



Now you will the following tasks are in green to confirm Deployment was successful.



Let's check if deployment created any pods

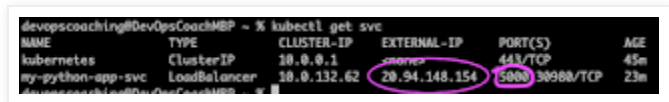
`kubectl get deployments`

`kubectl get pods`

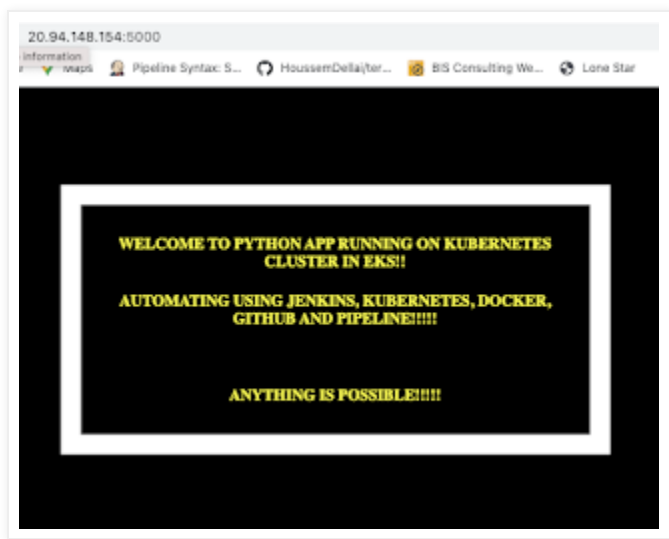
`kubectl get svc`



Now try to access application running inside AKS cluster by using external IP and port number



Go to the browser enter http://external IP:5000



- November 08, 2021

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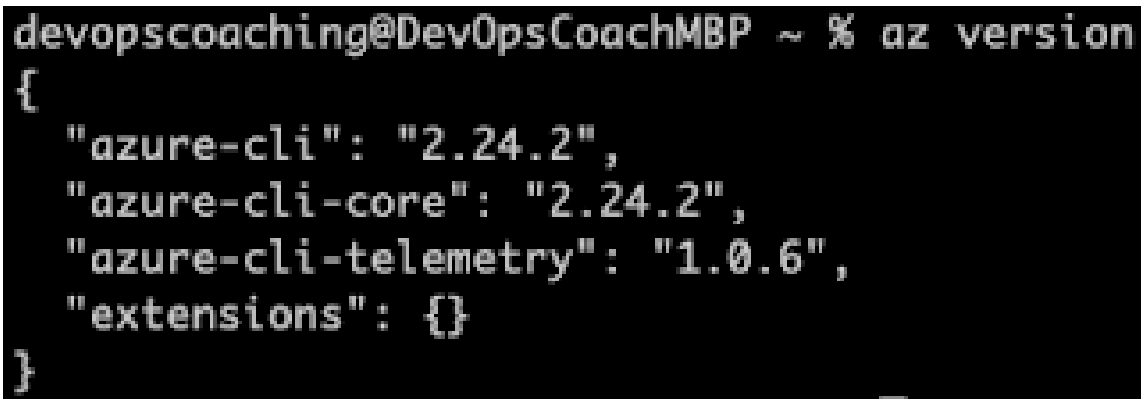
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