Bpa-provana-kubernetes deployment manual

Bpa-backend

main components in bpabackend

- bpabackend api - deployed using helm chart

- bpa_importuser - deployed using helm chart

- bpa_report - deployed using helm chart

- bpa_consumer- deployed using helm chart

- bpa_publisher - deployed using helm chart

Deployment branch in azure devops repo is **bpabackend_kube-release**

on merging the pull request into **bpabackend_kube-release** branch automatically the deployment for backend main component i.e(bpabackend-api) will be triggered (i.e new build and release will be scheduled)

How to trigger the deployment for other supportive workers concerned to bpanackend ?

- navigate to bpa-provana azure devops (SAAS) and click on pipelines and then on to view all folders in that folders click on **BPA_Backend**
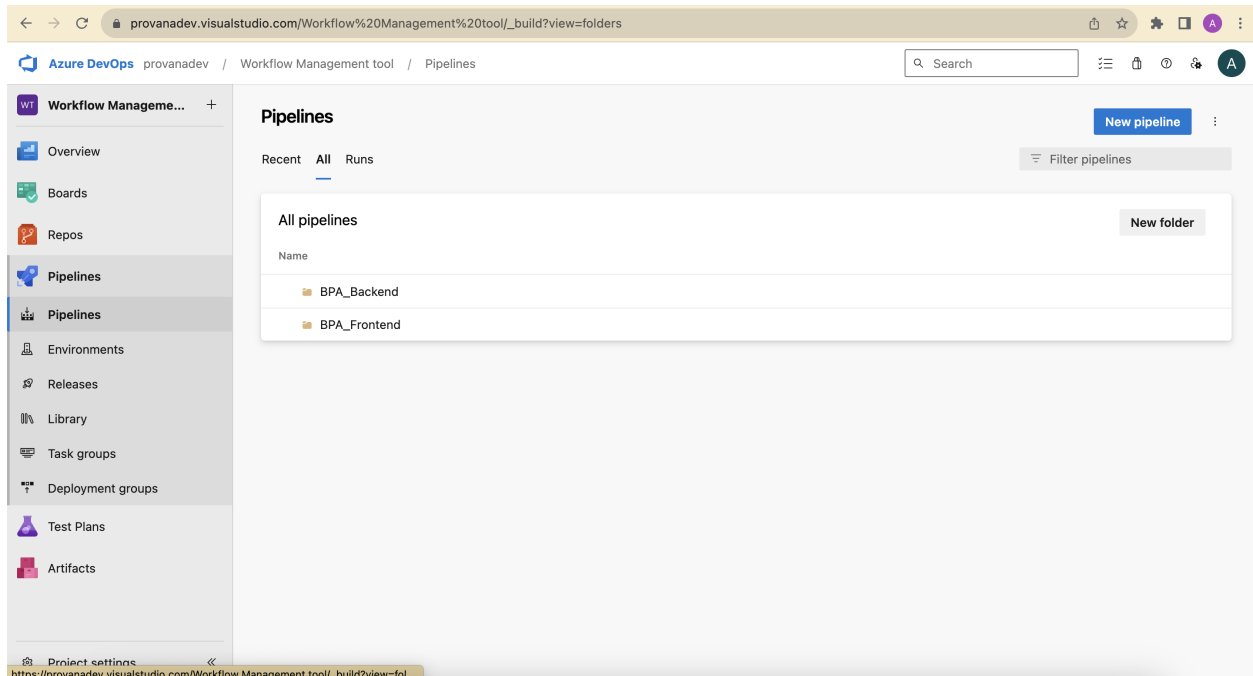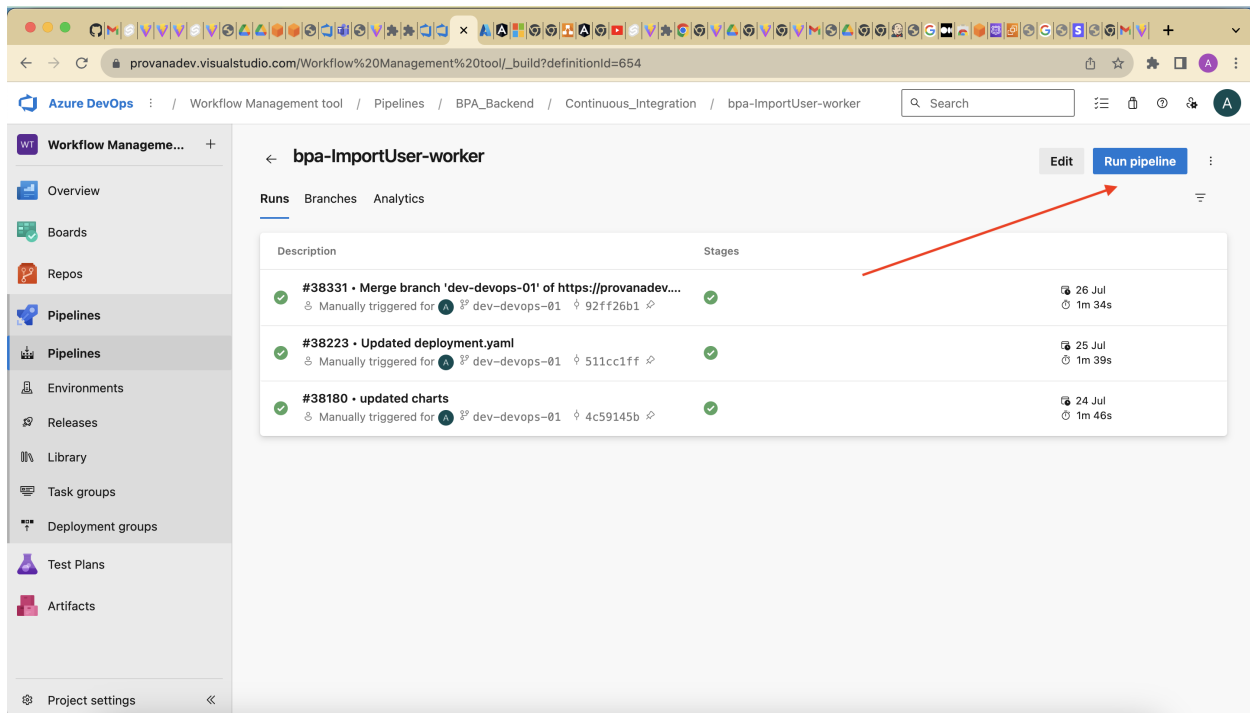
- and then inside folder continuous integration ypu can view all pipeline jobs
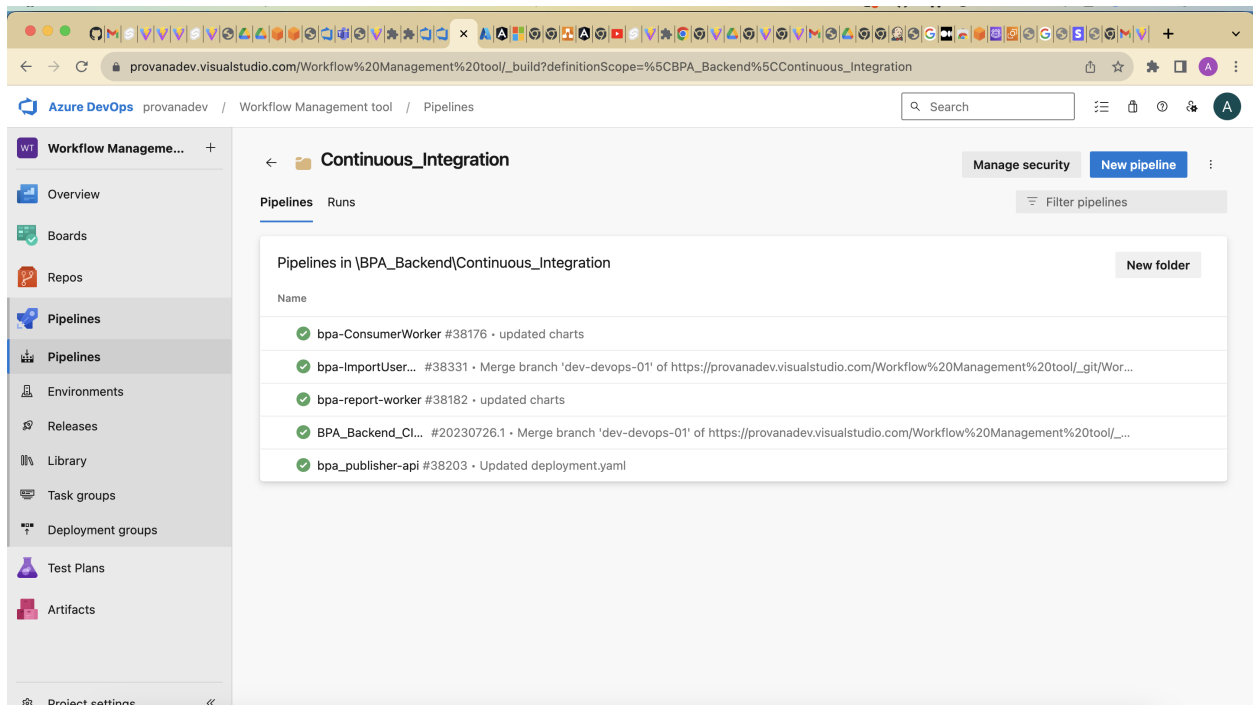
select the component you want to deploy

ex: bpa-importuser

- and click on run pipeline

Continuous Integration and Continuous deployment :

component name	azure devops branch	components that will be deployed
bpafrontend	bpabackend_kube-release	**bpabackend,bpa-ConsumerWokrer**,bpa-importuserworker,bpa-report, bpapublisher,bpa_unlockjob
bpabackend	Bpa-Frontend-Kube-Release	**bpafrontend**

Deployment [Kubernetes]

host: aks [azure kubernetes service]

cluster name : [BPA-AKS]

UAT namespace : staging

```
Last login: Sun Sep 10 10:48:52 on console
❯ kubectl get pods -n staging
NAME                                                      READY   STATUS          RESTARTS          AGE
bpa-backend-5844d485f7-sh7zd                              1/1     Running         0                 20d
bpa-frontend-5d8d949f-nbbtx                               1/1     Running         0                 20d
bpa-provana-consumer-bpaconsumer-worker-55676d4577-868zh  0/1     CrashLoopBackOff  6 (2m34s ago)   11m
bpa-provana-publisher-publisher-chart-7cddf7d97b-9nqvb    1/1     Running         0                 20d
bpa-unlock-job-66d56f5578-mfmjb                           1/1     Running         4667 (5m32s ago)  19d
bpa-worker-importuser-importuser-chart-567dbbcd5d-kdp92   1/1     Running         0                 48d
bpa-worker-report-report-chart-69cb5467cd-pwxgv           1/1     Running         0                 10d
dev-rabbitmqcluster-server-0                              0/1     Running         3 (27h ago)       4d20h
dev-rabbitmqcluster-server-1                              0/1     Running         33 (5h39m ago)    27d
mariadb-deployment-665b55c9f4-fqd82                       1/1     Running         0                 37d
```

once the deployment is completed you can the pod status and cluster details by command

```
kubectl get pods -n staging
```

To check the deployment configuration:

```
kubectl get deployment -n staging
```

```
〉 kubectl get deployment -n staging
NAME                                     READY   UP-TO-DATE   AVAILABLE   AGE
bpa-backend                              1/1     1            1           51d
bpa-frontend                             1/1     1            1           111d
bpa-provana-consumer-bpaconsumer-worker  0/1     1            0           27d
bpa-provana-publisher-publisher-chart    1/1     1            1           50d
bpa-unlock-job                           0/1     1            0           47d
bpa-worker-importuser-importuser-chart   1/1     1            1           51d
bpa-worker-report-report-chart           1/1     1            1           51d
mariadb-deployment                       1/1     1            1           103d
```

to view the deployment configs

```
kubectl get deployment -n staging bpa-backend
```

```
〉 kubectl describe deployment -n staging bpa-backend
Name:                   bpa-backend
Namespace:              staging
CreationTimestamp:      Sat, 22 Jul 2023 17:36:03 +0530
Labels:                 app.kubernetes.io/instance=bpa-backend
                        app.kubernetes.io/managed-by=Helm
                        app.kubernetes.io/name=bpa-backend
                        app.kubernetes.io/version=1.16.0
                        helm.sh/chart=bpa-backend-39912
Annotations:            deployment.kubernetes.io/revision: 13
                        meta.helm.sh/release-name: bpa-backend
                        meta.helm.sh/release-namespace: staging
Selector:               app.kubernetes.io/instance=bpa-backend,app.kubernetes.io/name=bpa-backend
Replicas:               1 desired | 1 updated | 1 total | 1 available | 0 unavailable
StrategyType:           RollingUpdate
MinReadySeconds:        0
RollingUpdateStrategy:  25% max unavailable, 25% max surge
Pod Template:
  Labels:           app.kubernetes.io/instance=bpa-backend
                    app.kubernetes.io/name=bpa-backend
  Service Account:  bpa-backend
  Containers:
   bpa-backend:
    Image:       bpabackend.azurecr.io/bpabackend:39912
    Port:        80/TCP
    Host Port:   0/TCP
    Liveness:    http-get http://:http/swagger/index.html delay=0s timeout=1s period=10s #success=1 #failure=3
    Readiness:   http-get http://:http/swagger/index.html delay=0s timeout=1s period=10s #success=1 #failure=3
    Environment: <none>
    Mounts:      <none>
  Volumes:       <none>
Conditions:
  Type           Status  Reason
  ----           ------  ------
  Available      True    MinimumReplicasAvailable
  Progressing    True    NewReplicaSetAvailable
OldReplicaSets:  <none>
NewReplicaSet:   bpa-backend-5844d485f7 (1/1 replicas created)
Events:          <none>
```

to see the network and pod communication service details

```
kubectl get service -n staging
```



```
> kubectl get service -n staging
NAME                                        TYPE           CLUSTER-IP     EXTERNAL-IP     PORT(S)                                           AGE
bpa-backend                                 LoadBalancer   10.0.181.48    52.154.242.118  80:30096/TCP                                      51d
bpa-frontend                                LoadBalancer   10.0.65.134    40.89.251.207   80:32594/TCP                                      111d
bpa-provana-consumer-bpaconsumer-worker     ClusterIP      10.0.228.12    <none>          81/TCP                                            27d
bpa-provana-publisher-publisher-chart       LoadBalancer   10.0.54.165    52.185.30.207   80:32546/TCP                                      50d
bpa-unlock-job                              ClusterIP      10.0.38.185    <none>          80/TCP                                            47d
bpa-worker-importuser-importuser-chart      ClusterIP      10.0.20.132    <none>          80/TCP                                            51d
bpa-worker-report-report-chart              ClusterIP      10.0.157.20    <none>          80/TCP                                            51d
dev-rabbitmqcluster                         LoadBalancer   10.0.173.49    20.221.36.78    5672:30350/TCP,15672:32757/TCP,15692:30525/TCP   51d
dev-rabbitmqcluster-nodes                   ClusterIP      None           <none>          4369/TCP,25672/TCP                                51d
mariadb-service                             LoadBalancer   10.0.180.9     20.221.35.100   3306:31625/TCP                                    103d
```

Bpa-frontend

pipeline location :
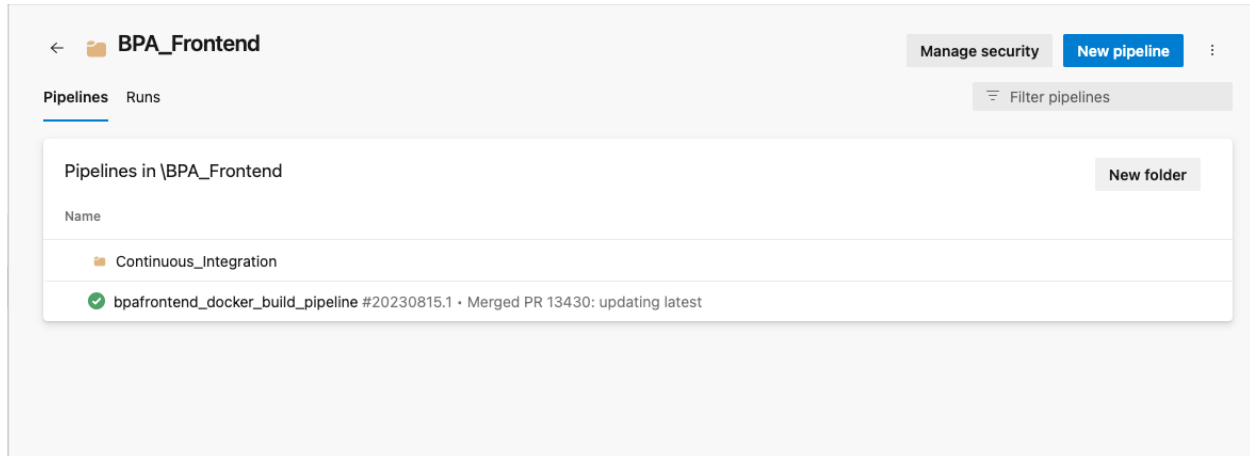
Continuous Integration : *enabled*

Continuous Integration branch : **Bpa-Frontend-Kube-Release**

once you commit on the above mentioned branch the entire build and deploy process will be scheduled

Note: I have Integrated for CI /CD for all components once the changes are merged on the branch **bpabackend_kube-release** , all components deployment will be scheduled andd also the same for bpa frontend (for frontend the branch name is **Bpa-Frontend-kube-Release**