

Spinnaker- Deployment

29 January 2021 10:20

Setup Pipeline:

Firstly View Existing Applications in Cluster

SPINNAKER Search Projects Applications Pipeline Templates Search					
Applications Search applications Create Application					
Name	Created	Updated	Owner	Account(s)	Description
alertmanager	-	-		my-k8s	
coredns	-	-		my-k8s	
dashboard	-	-		my-k8s	
kube	-	-		my-k8s	
kubernetes	-	-		my-k8s	
metrics	-	-		my-k8s	
minio	-	-		my-k8s	
my	-	-		my-k8s	
nginx	-	-		my-k8s	
prometheus	-	-		my-k8s	
redis	-	-		my-k8s	
spin	-	-		my-k8s	

Create New Application

Click on Create Application button on left side

SPINNAKER Search Projects Applications Pipeline Templates Search					
Applications Search applications Create Application					
Name	Created	Updated	Owner	Account(s)	Description
alertmanager	-	-		my-k8s	
coredns	-	-		my-k8s	
dashboard	-	-		my-k8s	
kube	-	-		my-k8s	
kubernetes	-	-		my-k8s	
metrics	-	-		my-k8s	
minio	-	-		my-k8s	
my	-	-		my-k8s	
nginx	-	-		my-k8s	
prometheus	-	-		my-k8s	
redis	-	-		my-k8s	

Put name of new application and email id. I used "helloworld" name for new application and click on create button

New Application

Name *

helloworld

Owner Email *

xxxx@gmail.com

Repo Type

Select Repo Type

Description

Enter a description

Instance Health

☐ Consider only cloud provider health when executing tasks

☐ Show health override option for each operation

Instance Port

80

Pipeline Behavior

☐ Enable restarting running pipelines

☐ Enable re-run button on active pipelines

* Required

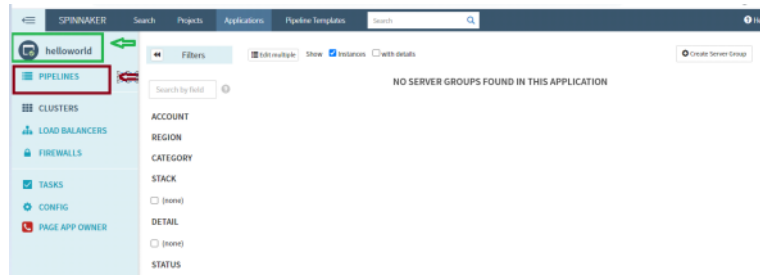
Cancel

Create

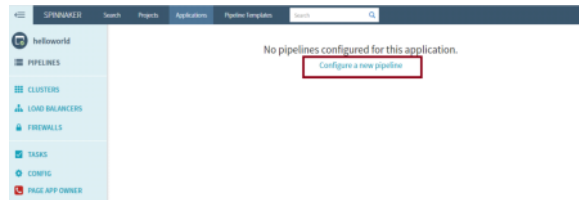
1. Create Pipeline:

Application is created . Now we need to setup pipeline.

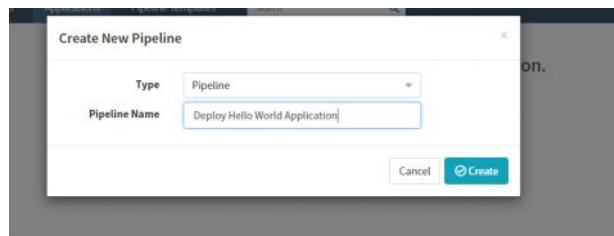
After creation of pipeline, you must be inside helloworld application. Click on **Pipeline** button on left side.



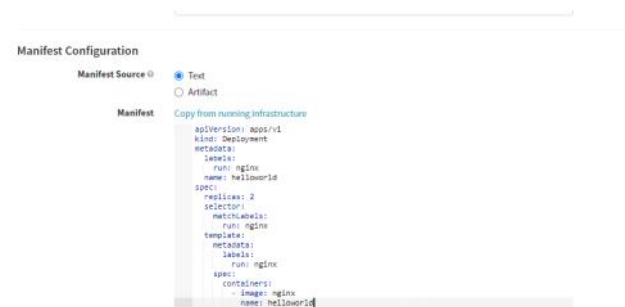
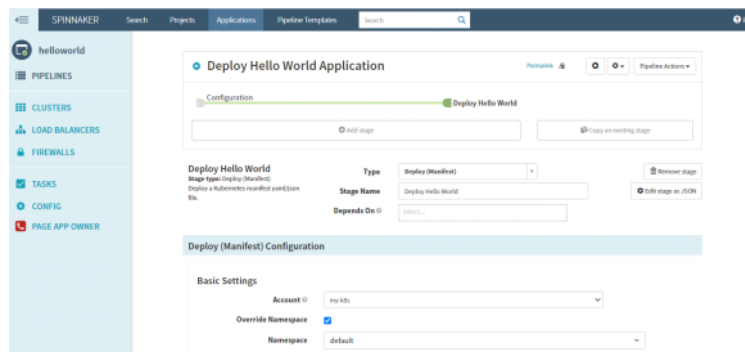
Click on **Configure a new pipeline**.



Inset pipeline name. As a **Pipeline Name** "Deploy Hello World Application" and click on **Create** button



On the next page, click the **Add Stage** button. As the **Type**, select **Deploy (Manifest)**, which is used for deploying Kubernetes manifests you specify. For the **Stage Name**, type in Deploy Hello World. Scroll down, and in the textbox under **Manifest Configuration**, enter the following lines:



Configuration YAML file as below

```

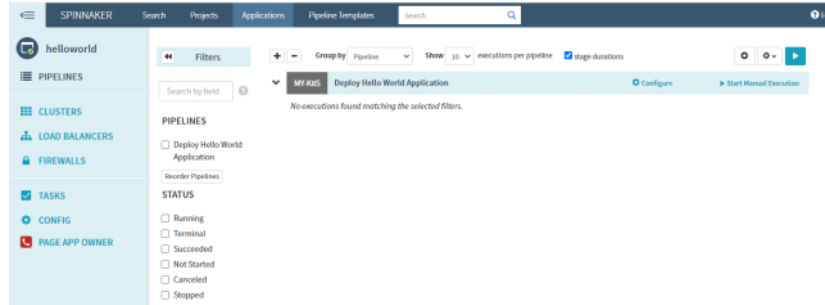
apiVersion: apps/v1
kind: Deployment
metadata:
  labels:
    run: nginx
    name: helloworld
spec:
  replicas: 2
  selector:
  
```

```

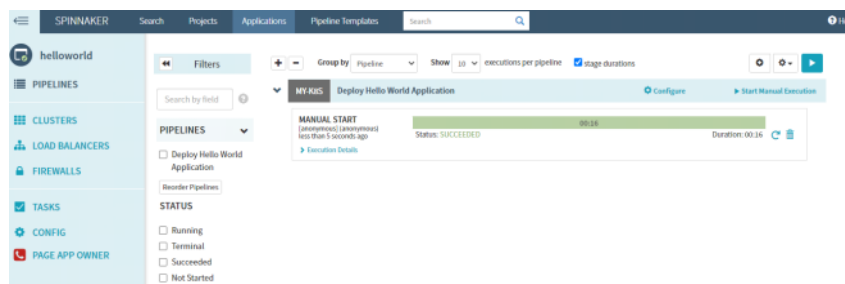
matchLabels:
  run: nginx
template:
  metadata:
    labels:
      run: nginx
  spec:
    containers:
      - image: nginx
        name: helloworld

```

Press **Save Changes** in the bottom right corner of the screen. When it finishes, navigate back to **Pipelines**. On the right side, select the pipeline you just created and press the **Start Manual Execution** link. When asked to confirm, press **Run**.



This pipeline will take a short time to complete. You will see the progress bar complete when it has successfully finished.



Verify on Cluster that Hello world deployment, replicaset and pods are created

```

[root@master ~]# kubectl get all |grep -i hello
pod/helloworld-5c9b557fb6-62r6r 1/1 Running 0 63s
pod/helloworld-5c9b557fb6-nxdvk 1/1 Running 0 63s
deployment.apps/helloworld 2/2 2 63s
replicaset.apps/helloworld-5c9b557fb6 2 2 2 63s

```

2. Create Second Pipeline:

Objective : Create new pipeline of other application and it will be triggered when Hello world pipeline will be execute.

Pre-requisites:

In our cluster, there is one application is already running named "my-nginx" with 2 replicas

```
# $ kubectl create deploy my-nginx --image nginx --replicas 2
```

Notice that we have two pods and we are setting up pipeline to scale it with 5 pods

```

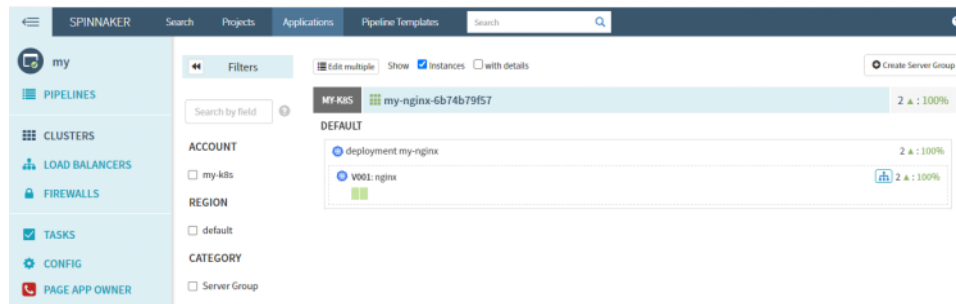
[root@master ~]# kubectl get all |grep my-nginx
pod/my-nginx-6b74b79f57-h4dxk 1/1 Running 0 6d9h
pod/my-nginx-6b74b79f57-qkcjx 1/1 Running 0 6d9h
service/my-nginx NodePort 10.98.123.92 <none> 80:32135/TCP 6d9h
deployment.apps/my-nginx 2/2 2 6d9h
replicaset.apps/my-nginx-6b74b79f57 2 2 2 6d9h

```

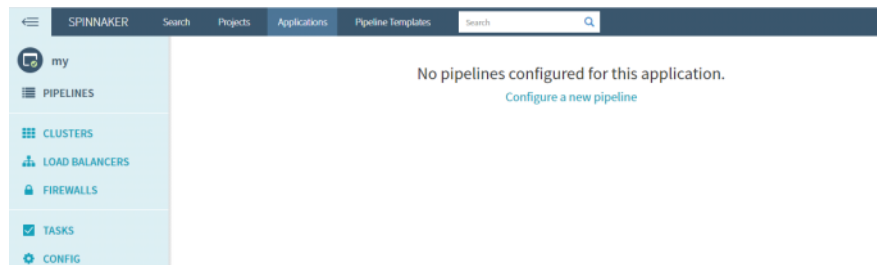
Also check in Application by clicking **Applications** tab

Name	Created	Updated	Owner	Account(s)	Description
helloworld	-	2021-01-22 09:20:34 PST	xxx@x@gmail.com	my-k8s	
alertmanager	-	-		my-k8s	
coredns	-	-		my-k8s	
dashboard	-	-		my-k8s	
kube	-	-		my-k8s	
kubernetes	-	-		my-k8s	
metrics	-	-		my-k8s	
minio	-	-		my-k8s	

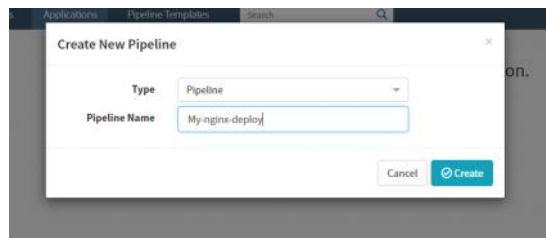
Go to **Applications** tab and select application named "my"



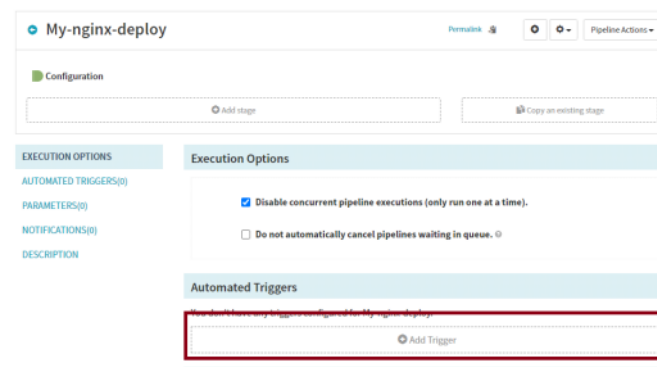
Click on **PIPELINES** in "my" application



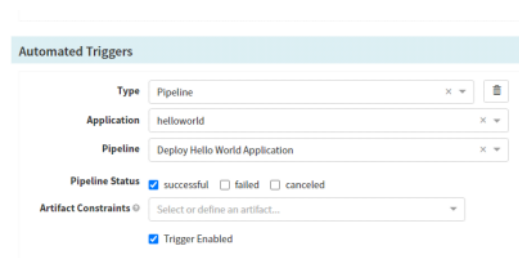
Insert **Pipeline Name** as My-nginx-deploy and click on **Create** button



Click on **Add Trigger**



Configure Trigger that it will listen another pipeline and trigger it when that pipeline will complete
Select **Type** as Pipeline, **Application** as helloworld and **Pipeline** as Deploy Hello World Application. Click on save changes



Click on Add stage button. Inset values are below and save changes

This pipeline will scale exist deployment by 5

My-nginx-deploy Permalink Pipeline Actions

Configuration Deployment Scale

[Add stage](#) [Copy an existing stage](#)

Deployment Scale
 Stage type: Scale (Manifest)
 Scale a Kubernetes object created from a manifest.

Type: Scale (Manifest) [Remove stage](#)

Stage Name: Deployment Scale [Edit stage as JSON](#)

Depends On: Select...

Scale (Manifest) Configuration

Manifest

Account: my-k8s

Namespace: default

Kind: deployment

Selector: Choose a static target

Name: my-nginx

Settings

Replicas: 1

Execution Options

If stage fails: halt the entire pipeline halt this branch of the pipeline

I open two tabs. In One tab open hello world application and in other tab my nginx

Now we will manually execute hello world pipeline and once it will complete it will trigger my-nginx pipeline

But before that let us delete hello world deployment, pods, replicaset Go to Hello world application , click on deployment. A pop up will come on right side . Click on Deployment actions. Click on Delete

SPINNAKER Search Projects Applications Pipeline Templates Search

helloworld

PIPELINES

CLUSTERS

LOAD BALANCERS

FIREWALLS

TASKS

CONFIG

PAGE APP OWNER

Filters

Search by field

ACCOUNT

my-k8s

REGION

default

CATEGORY

Server Group

STACK

(none)

DETAIL

MY-K8S deployment helloworld

DEFAULT

deployment helloworld

V001: nginx

Deployment Actions

Scale

Undo Rollout

Rolling Restart

Edit

Delete

STATUS

Available 21 minutes ago
Deployment has minimum availability.

Progressing 31 minutes ago
ReplicaSet "helloworld-5c9b557fb6" has successfully progressed.

Deleting deployment helloworld in default

✓ Resolve Target Manifest 00:00

✓ Delete Manifest 00:00

✓ Monitor Delete 00:00

✓ Promote Outputs 00:00

Operation succeeded!

You can monitor this task from the Tasks view.

Close

Verify helloworld pods are deleted

```
[root@master ~]# kubectl get all |grep hello
pod/helloworld-5c9b557fb6-62r6r 1/1 Running 0 31m
pod/helloworld-5c9b557fb6-nxdvk 1/1 Running 0 31m
deployment.apps/helloworld 2/2 2 2 31m
replicaset.apps/helloworld-5c9b557fb6 2 2 2 31m
[root@master ~]#
[root@master ~]#
[root@master ~]#
[root@master ~]#
[root@master ~]# kubectl get all |grep hello
[root@master ~]#
```

Now we are manually executing Hello world application. Click on Start Manual Execution

The screenshot shows the K8S UI interface for a pipeline named 'Deploy Hello World Application'. The pipeline is currently in a 'MANUAL START' state, which occurred 36 minutes ago. The status is 'SUCCEEDED' and the duration is 00:16. A 'Start Manual Execution' button is visible next to the pipeline name. The left sidebar shows a list of pipelines, including 'Deploy Hello World Application'.

As soon as Hello world pipeline finishes, it trigger second pipeline of my-nginx-deploy. This will scale pod to 5

The screenshot shows the K8S UI interface for a pipeline named 'My-nginx-deploy'. The pipeline is currently in a 'DEPLOY HELLO WORLD APPLICATION' state, which occurred less than 5 seconds ago. The status is 'RUNNING' and the duration is 00:05. A 'Start Manual Execution' button is visible next to the pipeline name. The left sidebar shows a list of pipelines, including 'My-nginx-deploy'.

Verify that my-nginx pods are scaled to 5.

```
[root@master ~]# kubectl get all |grep my-nginx
pod/my-nginx-6b74b79f57-84jff4 1/1 Running 0 73s
pod/my-nginx-6b74b79f57-h4dxk 1/1 Running 0 6d9h
pod/my-nginx-6b74b79f57-msr55 1/1 Running 0 73s
pod/my-nginx-6b74b79f57-qkcjx 1/1 Running 0 6d9h
pod/my-nginx-6b74b79f57-r48x4 1/1 Running 0 73s
service/my-nginx NodePort 10.98.123.92 <none> 80:32135/TCP 6d9h
deployment.apps/my-nginx 5/5 5 5 6d9h
replicaset.apps/my-nginx-6b74b79f57 5 5 5 6d9h
```