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APIsec application installation doc on Kubernetes cluster

1 Introduction

1.1 Purpose

The objective of this document is to setup APIsec applications on a plane Kubernetes cluster

1.2 Scope:

This document is intended for the purpose of executing a "***fx-k8s-installer.sh***" script which will deploy APIsec application in a high availability mode on a plane on-prem Kubernetes cluster.

2 Installation Manual

2.1 Pre-requisites

List of install prerequisites must be fulfilled before running the installer script

Prerequisites are:

- A running Kubernetes cluster with version 1.21 or later.
- Kubectl command line tool
- Docker run time with version 20.10.12 or later
- Helm v3
- Open ports 80, 443,5671
- Provisioning a storage class for stateful applications.
- Domain name
- SSL certificate

2.2 Pre-installation Tasks

This task needs to be completed before the installation script got executed

*2.2.1*storage class

create a storage class with name "***fx-k8s-storage-class"***

```
apiVersion: storage.k8s.io/v1
kind: StorageClass
metadata:
  name: CLASS_NAME
provisioner: CSI_DRIVER_NAME
volumeBindingMode: WaitForFirstConsumer
parameters:
  ...
```

Replace the following:

- CSI_DRIVER_NAME with the name of the CSI driver—for example,csi.example.com
- CLASS_NAME with the name of the StorageClass— "***fx-k8s-storage-class"***

Configure the sub-fields under parameters according to your CSI driver.

2.2.1 TLS / SSL termination

Create a secret with name ***"fx-tls-secret"*** which holds your certificate and key.

```
kubectl create secret tls FIRST_SECRET_NAME \
    --cert FIRST_CERT_FILE --key FIRST_KEY_FILE
```

Replace the following:

- FIRST_SECRET_NAME: the name of the Secret ***"fx-tls-secret"***.
- FIRST_CERT_FILE: the path to your first certificate file.
- FIRST_KEY_FILE: the path to the key file that goes with your first certificate.

*2.2.2 Edit file **"fx-k8s-cp-ingress-ssl.yaml"** and do following changes.*

```yaml
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: fx-control-plane-ingress
  annotations:
    kubernetes.io/ingress.class: "nginx"
    nginx.ingress.kubernetes.io/proxy-body-size: 100m
spec:
  tls:
  - secretName: fx-k8s-tls-secret
  rules:
  - host: #ADD YOUR DOMAIN NAME#
    http:
      paths:
      - backend:
          service:
            name: fx-control-plane
            port:
              number: 8080
        path: /
        pathType: Prefix
```

2.3. Installation Procedure

after all prerequisites checks and prerequisites task are finished the execution of script can be initiated.

- Change the permissions of "***fx-k8s-installer.sh***" if required
  $ chmod a+x ***fx-k8s-installer.sh***
- Execute the script
  $ bash ***fx-k8s-installer.sh***

2.4 Post-Installation

- Once the script execution and the deployment are finished run below 'kubectl' commands to check deployement status.
- $ kubectl get all
- $ kubectl get pods
- $ kubectl get services
- $ kubectl get pv,pvc

2.4.1 Technical Tests

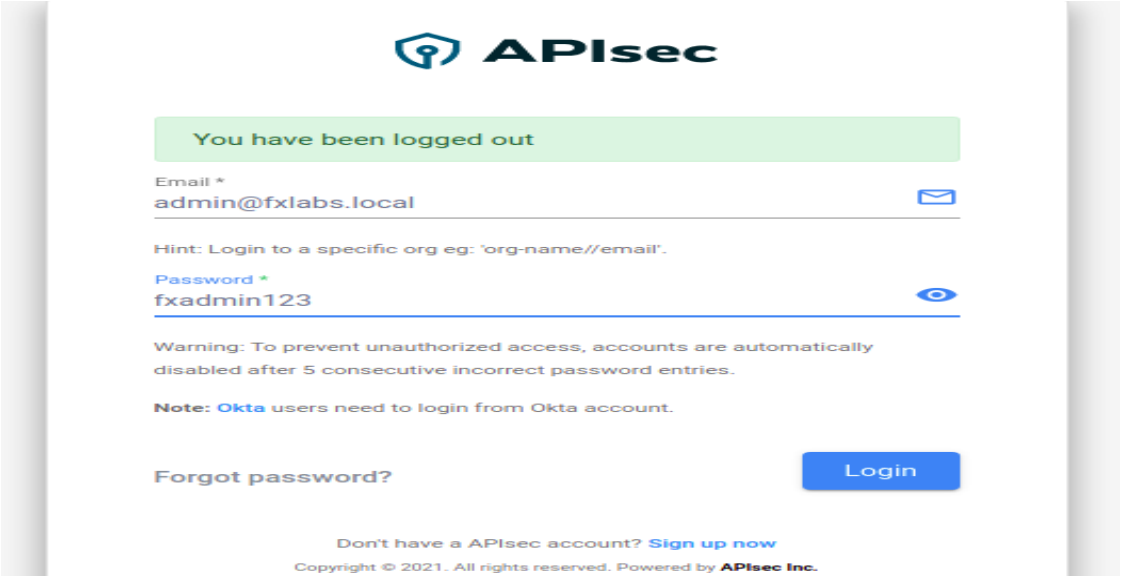
- now access the APIsec frontend web app with your domain name
- get your domain name by executing the following command

$ kubectl get ingress

```
NAME                CLASS    HOSTS              ADDRESS          PORTS     AGE
fx-control-plane    <none>   stg.apisec.ai      [redacted]       80, 443   33d
```

- Access APIsec front end web application.
- Hit the browser with domain name and login with below default credentials.

Email: admin@fxlabs.local
Password: fxadmin123



3 Additional Information

3.1 Reference Documents.

Title	Description

APIsec Kubernetes on-prem requirement	Kubernetes cluster infra requirement
APIsec Product documentation	https://apisec-inc.github.io/documentation/