# Mulesoft Monitoring - Install DynaTrace

# Requirements

## Firewall

* + - Outbound access from the Mulesoft RTF cluster IP space to 54.198.108.77, 54.227.190.204, 50.17.238.238 IPs on port 443/tcp
    - The FQDN is: gah29713.live.dynatrace.com

## Access to internet on the host you are running the install or a local copy of the files needed from GIT

* + - <https://github.com/Dynatrace/dynatrace-operator/releases/download/v0.10.0/kubernetes.yaml>
    - <https://github.com/Dynatrace/dynatrace-operator/releases/download/v0.10.0/kubernetes-csi.yaml>
    - <https://raw.githubusercontent.com/Dynatrace/dynatrace-operator/v0.10.0/assets/samples/cloudNativeFullStack.yaml> ( you will need to edit this file before the installation)

## Access to the Mulesoft environment

* + - kubectl installed, awsauth etc. you can follow [Setup access to Mulesoft kubernetes environments](https://ltimindtree-my.sharepoint.com/display/SEL/Setup+access+to+Mulesoft+kubernetes+environments)

# Installation of DynaTrace cloudNativeFullStack

* + Checkout the documentation: <https://www.dynatrace.com/support/help/shortlink/full-stack-dto-k8#manual>
  + Create dynatrace namespace

kubectl create namespace dynatrace

* + Install kubernetes DT operatior ( if your system doesn't have access to WWW, like the jumphost, then download the file and rsync it to the jumphost or the host you are operation on ).

kubectl apply -f https://github.com/Dynatrace/dynatrace-operator/releases/download/v0.10.0/kubernetes.yaml

* + Expected output
  + poddisruptionbudget.policy/dynatrace-webhook created
  + serviceaccount/dynatrace-activegate created
  + serviceaccount/dynatrace-kubernetes-monitoring created
  + serviceaccount/dynatrace-dynakube-oneagent-privileged created
  + serviceaccount/dynatrace-dynakube-oneagent-unprivileged created
  + serviceaccount/dynatrace-operator created
  + serviceaccount/dynatrace-webhook created
  + customresourcedefinition.apiextensions.k8s.io/dynakubes.dynatrace.com created
  + clusterrole.rbac.authorization.k8s.io/dynatrace-kubernetes-monitoring created
  + clusterrole.rbac.authorization.k8s.io/dynatrace-operator created
  + clusterrole.rbac.authorization.k8s.io/dynatrace-webhook created
  + clusterrolebinding.rbac.authorization.k8s.io/dynatrace-kubernetes-monitoring created
  + clusterrolebinding.rbac.authorization.k8s.io/dynatrace-operator created
  + clusterrolebinding.rbac.authorization.k8s.io/dynatrace-webhook created
  + role.rbac.authorization.k8s.io/dynatrace-operator created
  + role.rbac.authorization.k8s.io/dynatrace-webhook created
  + rolebinding.rbac.authorization.k8s.io/dynatrace-operator created
  + rolebinding.rbac.authorization.k8s.io/dynatrace-webhook created
  + service/dynatrace-webhook created
  + deployment.apps/dynatrace-operator created
  + deployment.apps/dynatrace-webhook created
  + mutatingwebhookconfiguration.admissionregistration.k8s.io/dynatrace-webhook created

validatingwebhookconfiguration.admissionregistration.k8s.io/dynatrace-webhook created

* + Install kubernetes DT operatior CSI agent ( if your system doesn't have access to WWW, like the jumphost, then download the file and rsync it to the jumphost or the host you are operation on).

kubectl apply -f https://github.com/Dynatrace/dynatrace-operator/releases/download/v0.10.0/kubernetes-csi.yaml

* + Expected output
  + serviceaccount/dynatrace-oneagent-csi-driver created
  + clusterrole.rbac.authorization.k8s.io/dynatrace-oneagent-csi-driver created
  + clusterrolebinding.rbac.authorization.k8s.io/dynatrace-oneagent-csi-driver created
  + role.rbac.authorization.k8s.io/dynatrace-oneagent-csi-driver created
  + rolebinding.rbac.authorization.k8s.io/dynatrace-oneagent-csi-driver created
  + daemonset.apps/dynatrace-oneagent-csi-driver created
  + csidriver.storage.k8s.io/csi.oneagent.dynatrace.com created

priorityclass.scheduling.k8s.io/dynatrace-high-priority created

* + Validate the installation so far

kubectl -n dynatrace wait pod --for=condition=ready --selector=app.kubernetes.io/name=dynatrace-operator,app.kubernetes.io/component=webhook --timeout=300s

* + Expected output ( the trailing hash will be different ).
  + pod/dynatrace-webhook-5c67d77f4c-57rvq condition met

pod/dynatrace-webhook-5c67d77f4c-tscqz condition met

* + Login to DynaTrace UI
    - Manage / DynaTrace Hub
    - TODO - missing the point where the tokens are generated
  + For **cloudNativeFullStack** and applicationMonitoring, create a secret named dynakube holding both the API token and the dataIngestToken, see Tokens and permissions required. Be sure to replace the placeholders (<...>) with your own values.

kubectl -n dynatrace create secret generic dynakube --from-literal="apiToken=<API\_TOKEN>" --from-literal="dataIngestToken=<DATA\_INGEST\_TOKEN>"

* + Download the custom config of DynaKube

wget https://raw.githubusercontent.com/Dynatrace/dynatrace-operator/v0.10.0/assets/samples/cloudNativeFullStack.yaml

* + Edit the downloaded file and adjust the first few lines to look like this, MAKE SURE you give it metadata/name as you wish to appear in Infrastructure/Kubernetes. This will be used as a filter for all workloads/pods etc. Also make sure the tokens: are set to "dynakube"
  + apiVersion: dynatrace.com/v1beta1
  + kind: DynaKube
  + metadata:
  + name: mule-stg-rtf
  + namespace: dynatrace
  + spec:
  + # Dynatrace apiUrl including the `/api` path at the end.
  + # For SaaS, set `YOUR\_ENVIRONMENT\_ID` to your environment ID.
  + # For Managed, change the apiUrl address.
  + # For instructions on how to determine the environment ID and how to configure the apiUrl address, see https://www.dynatrace.com/support/help/reference/dynatrace-concepts/environment-id/.
  + apiUrl: https://gah29713.live.dynatrace.com/api
  + # Optional: Name of the secret holding the credentials required to connect to the Dynatrace tenant
  + # If unset, the name of this custom resource is used
  + #
  + tokens: "dynakube"
  + Install the DynaKube

kubectl apply -f cloudNativeFullStack.yaml

* + Expected output

dynakube.dynatrace.com/mule-stg-rtf created

* + Pull the cluster ID as you will need it to manually connect it in the Dynatrace UI

kubectl get namespace kube-system -o jsonpath='{.metadata.uid}'

* + Login to Dynatrace UI
  + Checkout this documentation <https://www.dynatrace.com/support/help/shortlink/deploy-ag-dynatrace-op#local> , We'll use connect manually method

#### Provide the Kubernetes cluster ID in the Dynatrace web UI

* + - In the [Dynatrace menu](https://www.dynatrace.com/support/help/get-started/navigation), go to **Kubernetes**.
    - Select **Connect manually**.
    - On the Kubernetes cluster monitoring settings page, provide a **Name**, and then turn on **Connect containerized ActiveGate to local Kubernetes API endpoint**.
    - For **Kubernetes cluster ID**, enter the UID obtained earlier.
    - Select **Save changes** to save your configuration. **Note:** You can save your configuration even if the ActiveGate isn't ready to connect, and finish the configuration later. To verify if it's ready, select **Test configuration**.
  + Give it few minutes, when you navigate to Infrastructure/Kubernetes you should see a new entry mule-rtf-stg.
  + Go to settings and enable "Events"