



Networking/v1 Ingress Support

Avi Technical Reference (v20.1)

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Overview

AKO version 1.3.1 partially supports networking/v1 ingress, released for general availability starting with Kubernetes version 1.19.

The following networking/v1 ingress specific features are supported in AKO: 1. IngressClass 2. Default IngressClass

AKO automatically detects whether ingress-class api is enabled/available in the cluster it is operating in. If the ingress-class api is enabled, AKO switches to use the IngressClass objects, instead of the previously available alternative of using kubernetes.io /ingress.class annotations in Ingress objects.

Avi IngressClass object

Starting with AKO version 1.3.1, IngressClass corresponding to AKO as the ingress Controller gets deployed as part of helm install/upgrade. Helm autodetects the presence of IngressClass api enabled on the cluster, and if it does, creates the IngressClass object. The IngressClass object should look something like this:

```
apiVersion: networking.k8s.io/v1
kind: IngressClass
metadata:
  name: avi-lb
spec:
  controller: ako.vmware.com/avi-lb
  parameters:
    apiGroup: ako.vmware.com
    kind: IngressParameters
    name: external-lb
```

The IngressClass can be defined using other names. However, it is important that the `.spec.controller` value specified matches `ako.vmware.com/avi-lb`.

As part of the helm install/upgrade, if the `defaultIngressController` is set to `true`, AKO's helm chart would apply the `ingressclass.kubernetes.io/is-default-class` as follows:

```
metadata:
  name: avi-lb
  annotations:
    ingressclass.kubernetes.io/is-default-class: "true"
```

Setting the `ingressclass.kubernetes.io/is-default-class` to `true` enables AKO to implement all Ingresses, even if the `ingressClassName` is not explicitly specified/the value is `None` in the Ingress objects. The `ingressclass`.

`kubernetes.io/is-default-class` annotation comes in handy when upgrading to an IngressClass enabled cluster. This is because while upgrading Ingresses from the ingress class annotation approach to the IngressClass object approach, the upgraded Ingresses would result in having `ingressClassName` set to `None`.

Ingress and Avi IngressClass

To provide a Controller to implement a given ingress, in addition to creating the IngressClass object, the `ingressClassName` should be specified, that matches the IngressClass name. The ingress looks as shown below:

```
apiVersion: networking.k8s.io/v1beta1
kind: Ingress
metadata:
  name: my-ingress
spec:
  ingressClassName: avi-lb
  rules:
    - host: myinsecurehost.avi.internal
      http:
        paths:
          - path: /foo
            backend:
              serviceName: service1
              servicePort: 80
```

Alternatively, if the `ingressClassName` is empty, AKO checks for `ingressclass.kubernetes.io/is-default-class` to be set to `true` on an IngressClass belonging to AKO (with `.spec.controller: ako.vmware.com/avi-lb`).

Note: Removing an Avi IngressClass from the cluster would delete all Ingress associated objects from Avi, therefore it is suggested to handle IngressClass with caution.

Document Revision History

Date	Change Summary
December 18, 2020	Published the article for Networking/v1 Ingress Support