



Red Hat Advanced Cluster Management for Kubernetes 2.12

Add-ons

Add-ons

Legal Notice

Copyright © 2024 Red Hat, Inc.

The text of and illustrations in this document are licensed by Red Hat under a Creative Commons Attribution–Share Alike 3.0 Unported license ("CC-BY-SA"). An explanation of CC-BY-SA is available at

<http://creativecommons.org/licenses/by-sa/3.0/>

. In accordance with CC-BY-SA, if you distribute this document or an adaptation of it, you must provide the URL for the original version.

Red Hat, as the licensor of this document, waives the right to enforce, and agrees not to assert, Section 4d of CC-BY-SA to the fullest extent permitted by applicable law.

Red Hat, Red Hat Enterprise Linux, the Shadowman logo, the Red Hat logo, JBoss, OpenShift, Fedora, the Infinity logo, and RHCE are trademarks of Red Hat, Inc., registered in the United States and other countries.

Linux[®] is the registered trademark of Linus Torvalds in the United States and other countries.

Java[®] is a registered trademark of Oracle and/or its affiliates.

XFS[®] is a trademark of Silicon Graphics International Corp. or its subsidiaries in the United States and/or other countries.

MySQL[®] is a registered trademark of MySQL AB in the United States, the European Union and other countries.

Node.js[®] is an official trademark of Joyent. Red Hat is not formally related to or endorsed by the official Joyent Node.js open source or commercial project.

The OpenStack[®] Word Mark and OpenStack logo are either registered trademarks/service marks or trademarks/service marks of the OpenStack Foundation, in the United States and other countries and are used with the OpenStack Foundation's permission. We are not affiliated with, endorsed or sponsored by the OpenStack Foundation, or the OpenStack community.

All other trademarks are the property of their respective owners.

Abstract

Read more to learn how to use add-ons for your cluster.

Table of Contents

CHAPTER 1. MANAGED CLUSTER ADVANCED CONFIGURATION	3
1.1. ENABLING KLUSTERLET ADD-ONS ON CLUSTERS FOR CLUSTER MANAGEMENT	3
1.2. CONFIGURING NODESELECTORS AND TOLERATIONS FOR KLUSTERLET ADD-ONS	4
1.3. ENABLING CLUSTER-WIDE PROXY ON EXISTING CLUSTER ADD-ONS	6

CHAPTER 1. MANAGED CLUSTER ADVANCED CONFIGURATION

With Red Hat Advanced Cluster Management for Kubernetes klusterlet add-ons, you can further configure your managed clusters to improve performance and add functionality to your applications. See the following enablement options:

- [Enabling klusterlet add-ons on clusters for cluster management](#)
- [Configuring nodeSelectors and tolerations for klusterlet add-ons](#)
- [Enabling cluster-wide proxy on existing cluster add-ons](#)

1.1. ENABLING KLUSTERLET ADD-ONS ON CLUSTERS FOR CLUSTER MANAGEMENT

After you install Red Hat Advanced Cluster Management for Kubernetes and then create or import clusters with multicluster engine operator you can enable the klusterlet add-ons for those managed clusters. The klusterlet add-ons are not enabled by default if you created or imported clusters unless you create or import with the Red Hat Advanced Cluster Management console. See the following available klusterlet add-ons:

- application-manager
- cert-policy-controller
- config-policy-controller
- iam-policy-controller
- governance-policy-framework
- search-collector

Complete the following steps to enable the klusterlet add-ons for the managed clusters after Red Hat Advanced Cluster Management is installed:

1. Create a YAML file that is similar to the following **KlusterletAddonConfig**, with the **spec** value that represents the add-ons:

```
apiVersion: agent.open-cluster-management.io/v1
kind: KlusterletAddonConfig
metadata:
  name: <cluster_name>
  namespace: <cluster_name>
spec:
  applicationManager:
    enabled: true
  certPolicyController:
    enabled: true
  iamPolicyController:
    enabled: true
  policyController: 1
```

```
enabled: true
searchCollector:
  enabled: true
```

- 1 The **policy-controller** add-on is divided into two add-ons: The **governance-policy-framework** and the **config-policy-controller**. As a result, the **policyController** controls the **governance-policy-framework** and the **config-policy-controller managedClusterAddons**.

2. Save the file as **klusterlet-addon-config.yaml**.
3. Apply the YAML by running the following command on the hub cluster:

```
oc apply -f klusterlet-addon-config.yaml
```

4. To verify whether the enabled **managedClusterAddons** are created after the **KlusterletAddonConfig** is created, run the following command:

```
oc get managedclusteraddons -n <cluster namespace>
```

1.2. CONFIGURING NODESELECTORS AND TOLERATIONS FOR KLUSTERLET ADD-ONS

In Red Hat Advanced Cluster Management, you can configure nodeSelector and tolerations for the following klusterlet add-ons:

- application-manager
- cert-policy-controller
- cluster-proxy
- config-policy-controller
- governance-policy-framework
- hypershift-addon
- iam-policy-controller
- managed-serviceaccount
- observability-controller
- search-collector
- submariner
- volsync
- work-manager

Complete the following steps:

1. Use the **AddonDeploymentConfig** API to create a configuration to specify the **nodeSelector** and **tolerations** on a certain namespace on the hub cluster.
2. Create a file named **addondeploymentconfig.yaml** that is based on the following template:

```
apiVersion: addon.open-cluster-management.io/v1alpha1
kind: AddOnDeploymentConfig
metadata:
  name: config-name ❶
  namespace: config-name-space ❷
spec:
  nodePlacement:
    nodeSelector: node-selector ❸
    tolerations: tolerations ❹
```

- ❶ Replace **config-name** with the name of the **AddonDeploymentConfig** that you just created.
- ❷ Replace **config-namespace** with the namespace of the **AddonDeploymentConfig** that you just created.
- ❸ Replace **node-selector** with your node selector.
- ❹ Replace **tolerations** with your tolerations.

A completed **AddOnDeployment** file might resemble the following example:

```
apiVersion: addon.open-cluster-management.io/v1alpha1
kind: AddOnDeploymentConfig
metadata:
  name: deploy-config
  namespace: open-cluster-management-hub
spec:
  nodePlacement:
    nodeSelector:
      "node-dedicated": "acm-addon"
  tolerations:
    - effect: NoSchedule
      key: node-dedicated
      value: acm-addon
      operator: Equal
```

3. Run the following command to apply the file that you created:

```
oc apply -f addondeploymentconfig
```

4. Use the configuration that you created as the global default configuration for your add-on by running the following command:

```
oc patch clustermanagementaddons <addon-name> --type=json' -p='[{"op": "add",
"path": "/spec/supportedConfigs", "value": [{"group": "addon.open-cluster-
management.io", "resource": "addondeploymentconfigs", "defaultConfig": {"name": "deploy-
config", "namespace": "open-cluster-management-hub"}}]}]'
```

- Replace **addon-name** with your add-on name.
- Replace **config-name** with the name of the **AddonDeploymentConfig** that you just created.
- Replace **config-namespace** with the namespace of the **AddonDeploymentConfig** that you just created.

The **nodeSelector** and **tolerations** that you specified are applied to all of your add-on on each of the managed clusters.

You can also override the global default **AddonDeploymentConfig** configuration for your add-on on a certain managed cluster by using following steps:

1. Use the **AddonDeploymentConfig** API to create another configuration to specify the **nodeSelector** and **tolerations** on the hub cluster.
2. Link the new configuration that you created to your add-on **ManagedClusterAddon** on a managed cluster.

```
oc -n <managed-cluster> patch managedclusteraddons <addon-name> --type='json' -
p='[{"op": "add", "path": "/spec/configs", "value": [
  {
    "group": "addon.open-cluster-
management.io", "resource": "addondeploymentconfigs", "namespace": "<config-
namespace>", "name": "<config-name>"
  }
]
}]'
```

- Replace **managed-cluster** with your managed cluster name
 - Replace **addon-name** with your add-on name
 - Replace **config-namespace** with the namespace of the **AddonDeploymentConfig** that you just created
 - Replace **config-name** with the name of the **AddonDeploymentConfig** that you just created
- The new configuration that you referenced in the add-on **ManagedClusterAddon** overrides the global default configuration that you previously defined in the **ClusterManagementAddon** add-on.

3. To make sure your content is deployed to the correct nodes, complete the steps in [Optional: Configuring the klusterlet to run on specific nodes](#).

1.3. ENABLING CLUSTER-WIDE PROXY ON EXISTING CLUSTER ADD-ONS

You can configure the **KlusterletAddonConfig** in the cluster namespace to add the proxy environment variables to all the klusterlet add-on pods of the managed Red Hat OpenShift Container Platform clusters. Complete the following steps to configure the **KlusterletAddonConfig** to add the three environment variables to the pods of the klusterlet add-ons:

1. Edit the **KlusterletAddonConfig** file that is in the namespace of the cluster that needs the proxy. You can use the console to find the resource, or you can edit from the terminal with the following command:

■

```
oc -n <my-cluster-name> edit klusterletaddonconfig <my-cluster-name>
```

Note: If you are working with only one cluster, you do not need **<my-cluster-name>** at the end of your command. See the following command:

```
oc -n <my-cluster-name> edit klusterletaddonconfig
```

2. Edit the **.spec.proxyConfig** section of the file so it resembles the following example. The **spec.proxyConfig** is an optional section:

```
spec
  proxyConfig:
    httpProxy: "<proxy_not_secure>" 1
    httpsProxy: "<proxy_secure>" 2
    noProxy: "<no_proxy>" 3
```


- 1 Replace **proxy_not_secure** with the address of the proxy server for **http** requests. For example, use <http://192.168.123.145:3128>.
- 2 Replace **proxy_secure** with the address of the proxy server for **https** requests. For example, use <https://192.168.123.145:3128>.
- 3 Replace **no_proxy** with a comma delimited list of IP addresses, hostnames, and domain names where traffic is not routed through the proxy. For example, use **.cluster.local,.svc,10.128.0.0/14,example.com**.

If the OpenShift Container Platform cluster is created with cluster wide proxy configured on the hub cluster, the cluster wide proxy configuration values are added to the pods of the klusterlet add-ons as environment variables when the following conditions are met:

- The **.spec.policyController.proxyPolicy** in the **addon** section is enabled and set to **OCPGlobalProxy**.
- The **.spec.applicationManager.proxyPolicy** is enabled and set to **CustomProxy**.
Note: The default value of **proxyPolicy** in the **addon** section is **Disabled**.

See the following examples of **proxyPolicy** entries:

```
apiVersion: agent.open-cluster-management.io/v1
kind: KlusterletAddonConfig
metadata:
  name: clusterName
  namespace: clusterName
spec:
  proxyConfig:
    httpProxy: http://pxuser:12345@10.0.81.15:3128
    httpsProxy: http://pxuser:12345@10.0.81.15:3128
    noProxy: .cluster.local,.svc,10.128.0.0/14, example.com
  applicationManager:
    enabled: true
    proxyPolicy: CustomProxy
  policyController:
    enabled: true
    proxyPolicy: OCPGlobalProxy
```



```
searchCollector:  
  enabled: true  
  proxyPolicy: Disabled  
certPolicyController:  
  enabled: true  
  proxyPolicy: Disabled  
iamPolicyController:  
  enabled: true  
  proxyPolicy: Disabled
```

Important: Global proxy settings do not impact alert forwarding. To set up alert forwarding for Red Hat Advanced Cluster Management hub clusters with a cluster-wide proxy, see [Forwarding alerts](#) for more details.