



Red Hat OpenShift GitOps 1.12

Argo CD application sets

Managing the application set resources in non-control plane namespaces.

Red Hat OpenShift GitOps 1.12 Argo CD application sets

Managing the application set resources in non-control plane namespaces.

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

This document provides information about how to enable and manage the application set resources in non-control plane namespaces.

Table of Contents

CHAPTER 1. MANAGING THE APPLICATION SET RESOURCES IN NON-CONTROL PLANE NAMESPACES	3
1.1. PREREQUISITES	3
1.2. ENABLING THE APPLICATION SET RESOURCES IN NON-CONTROL PLANE NAMESPACES	3
1.3. ALLOWING SOURCE CODE MANAGER PROVIDERS	4
1.4. ADDITIONAL RESOURCES	5

CHAPTER 1. MANAGING THE APPLICATION SET RESOURCES IN NON-CONTROL PLANE NAMESPACES



IMPORTANT

Argo CD application sets in non-control plane namespaces is a Technology Preview feature only. Technology Preview features are not supported with Red Hat production service level agreements (SLAs) and might not be functionally complete. Red Hat does not recommend using them in production. These features provide early access to upcoming product features, enabling customers to test functionality and provide feedback during the development process.

For more information about the support scope of Red Hat Technology Preview features, see [Technology Preview Features Support Scope](#).

By using application sets, you can automate and manage the deployments of multiple Argo CD applications declaratively from a single mono-repository to many clusters at once with greater flexibility.

With Red Hat OpenShift GitOps 1.12 and later, you can manage the **ApplicationSet** resources in non-control plane namespaces by explicitly enabling and configuring the **ArgoCD** and **ApplicationSet** custom resources (CRs) as per your requirements. This functionality is particularly useful in multitenancy environments when you want to manage deployments of Argo CD applications for your isolated teams.



NOTE

The generated Argo CD applications can create resources in any non-control plane namespace. However, the application itself will be in the same namespace as the application set resources.

1.1. PREREQUISITES

- You have a [cluster-scoped Argo CD instance](#).
- You have [explicitly enabled and configured](#) the target namespaces in the **ArgoCD** CR to manage application resources in non-control plane namespaces.

1.2. ENABLING THE APPLICATION SET RESOURCES IN NON-CONTROL PLANE NAMESPACES

As an Argo CD administrator, you can define a certain set of non-control plane namespaces wherein users can create, update, and reconcile **ApplicationSet** resources. You must explicitly enable and configure the **ArgoCD** and **ApplicationSet** custom resources (CRs) as per your requirements.

Procedure

1. Set the **sourceNamespaces** parameter for the **applicationSet** spec to include the non-control plane namespaces:

Example Argo CD custom resource

```
apiVersion: argoproj.io/v1beta1
kind: ArgoCD
```

```

metadata:
  name: example-argocd
spec:
  applicationSet:
    sourceNamespaces: 1
      - dev 2

```

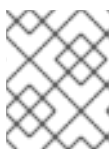
- 1** List of non-control plane namespaces for creating and managing **ApplicationSet** resources
- 2** Name of the target namespace for the Argo CD server to create and manage **ApplicationSet** resources

**NOTE**

At the moment, the use of wildcards (*) is not supported in the `.spec.applicationSet.sourceNamespaces` field.

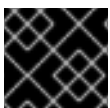
2. Verify that the following role-based access control (RBAC) resources are either created or modified by the GitOps Operator:

Name	Kind	Purpose
<code><argocd_name>-<argocd_namespace>-argocd-applicationset-controller</code>	ClusterRole and ClusterRoleBinding	For the Argo CD ApplicationSet Controller to watch and list ApplicationSet resources at cluster-level
<code><argocd_name>-<argocd_namespace>-applicationset</code>	Role and RoleBinding	For the Argo CD ApplicationSet Controller to manage ApplicationSet resources in target namespace
<code><argocd_name>-<target_namespace></code>	Role and RoleBinding	For the Argo CD server to manage ApplicationSet resources in target namespace through UI, API, or CLI

**NOTE**

The Operator adds the `argocd.argoproj.io/applicationset-managed-by-cluster-argocd` label to the target namespace.

1.3. ALLOWING SOURCE CODE MANAGER PROVIDERS

**IMPORTANT**

Please read this section carefully. Misconfiguration could lead to potential security issues.

Allowing **ApplicationSet** resources in non-control plane namespaces can result in the exfiltration of secrets through malicious API endpoints in Source Code Manager (SCM) Provider or Pull Request (PR) generators. To prevent unauthorized access to sensitive information, the Operator disables the SCM Provider and PR generators by default as a precautionary measure.

Procedure

- To use the SCM Provider and PR generators, explicitly define a list of allowed SCM Providers:

Example Argo CD custom resource

```
apiVersion: argoproj.io/v1beta1
kind: ArgoCD
metadata:
  name: example-argocd
spec:
  applicationSet:
    sourceNamespaces:
      - dev
    scmProviders: 1
      - https://git.mydomain.com/
      - https://gitlab.mydomain.com/
```

- 1** The list of URLs of the allowed SCM Providers.



NOTE

If you use a URL that is not in the list of allowed SCM Providers, the Argo CD ApplicationSet Controller will reject it.

1.4. ADDITIONAL RESOURCES

- [The **ApplicationSet** resource](#)
- [ApplicationSet in any namespace](#)
- [Argo CD custom resource and component properties](#)
- [SCM Provider Generator](#)
- [Pull Request Generator](#)