

Role Based Access Control

Adfinis**sy**Group

Be smart. Think open source.

Kubernetes RBAC

Access management for the Kubernetes API

Kubernetes Roles

Roles grant permissions to access the API

- Permissions are additive
- No way to deny permissions

Kubernetes Roles

```
kind: Role
apiVersion: rbac.authorization.k8s.io/v1
metadata:
  namespace: default
  name: pod-reader
rules:
- apiGroups:
  - "" # "" indicates the core API group
  resources:
  - pods
  verbs:
  - get
  - list
```

Kubernetes Roles

The following ClusterRoles are deployed by default

- cluster-admin
- admin
- edit
- view

ClusterRoles are cluster-wide templates, but granted permissions depend on the binding of the role.

RoleBinding

Roles are bound to users or groups via RoleBinding

- RoleBindings are namespaced
- Permissions are granted in this namespace only
- ClusterRoleBindings grant permissions in all namespaces
- Roles can be bound to Users or Groups

RoleBinding

```
kind: RoleBinding
apiVersion: rbac.authorization.k8s.io/v1
metadata:
  name: admin
  namespace: development
subjects:
- kind: User
  name: dashboard
  apiGroup: rbac.authorization.k8s.io
roleRef:
  kind: Role
  name: dashboard-viewer
  apiGroup: rbac.authorization.k8s.io
```


RoleBinding

```
kind: RoleBinding
apiVersion: rbac.authorization.k8s.io/v1
metadata:
  name: admin
  namespace: development # Permissions are only granted in this namespace
subjects:
- kind: User
  name: dave
  apiGroup: rbac.authorization.k8s.io
roleRef:
  kind: ClusterRole
  name: admin
  apiGroup: rbac.authorization.k8s.io
```

ClusterRoleBinding

```
kind: ClusterRoleBinding
apiVersion: rbac.authorization.k8s.io/v1
metadata:
  name: cluster-admin-k8s-ops
subjects:
- kind: Group
  name: k8s-ops
  apiGroup: rbac.authorization.k8s.io
roleRef:
  kind: ClusterRole
  name: cluster-admin
  apiGroup: rbac.authorization.k8s.io
```

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