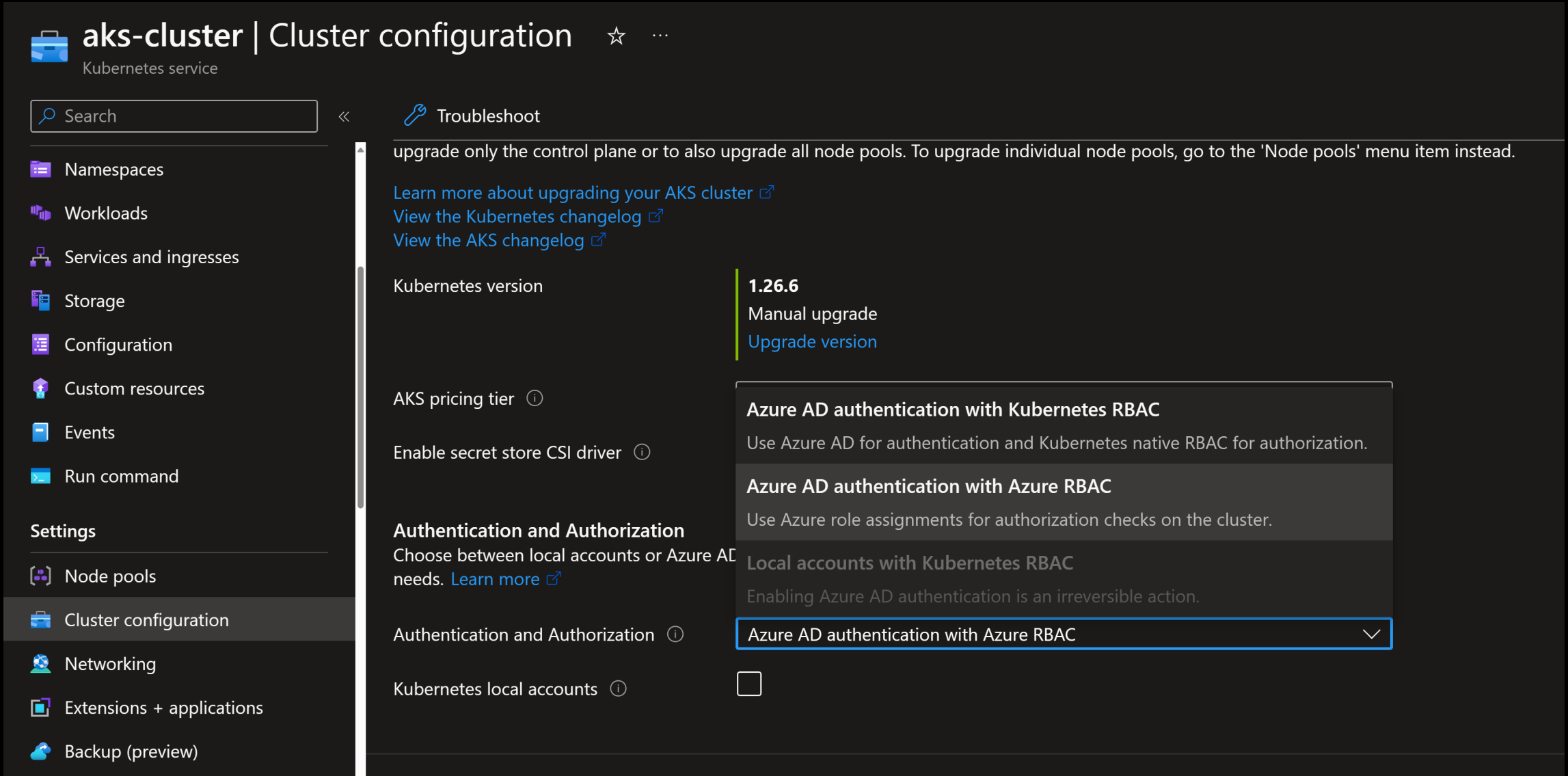
Custom RBAC Role

- Create Custom Azure RBAC role for AKS
- Assign Azure RBAC role to Namespace

AKS authentication & authorization options



Azure RBAC built-in roles for AKS

Azure provides built-in roles for AKS.

Could be applied on cluster level or at namespace level.

Name	Description
Azure Kubernetes Service Cluster Admin Role	List cluster admin credential action.
Azure Kubernetes Service Cluster Monitoring User	List cluster monitoring user credential action.
Azure Kubernetes Service Cluster User Role	List cluster user credential action.
Azure Kubernetes Service Contributor Role	Grants access to read and write Azure Kubernetes Service clusters
Azure Kubernetes Service RBAC Admin	Lets you manage all resources under cluster/namespace, except update or delete resource quotas and namespaces.
Azure Kubernetes Service RBAC Cluster Admin	Lets you manage all resources in the cluster.
Azure Kubernetes Service RBAC Reader	Allows read-only access to see most objects in a namespace. It does not allow viewing roles or role bindings. This role...
Azure Kubernetes Service RBAC Writer	Allows read/write access to most objects in a namespace.This role does not allow viewing or modifying roles or role b...
Kubernetes Agentless Operator	Grants Microsoft Defender for Cloud access to Azure Kubernetes Services

View roles in Portal

Azure Kubernetes Service RBAC Writer

BuiltInRole

Permissions JSON Assignments

Description: Allows read/write access to most objects in a namespace.This role does not allow viewing or modifying roles or role bindings. However, this role allows accessing Secrets and running Pods as any ServiceAccount in the namespace, so it can be used to gain the API access levels of any ServiceAccount in the namespace. Applying this role at cluster scope will give access across all namespaces.

Search permissions

Type : **All**

Actions DataActions

Showing 30 of 30 permissions

Type	Permissions	Description
Microsoft.Authorization		
Read	Get administrator	Reads the administrators for the subscription.
Read	Get administrator operation statuses	Gets the administrator opreation statuses of the subscription.
Read	Get deny assignment	Get information about a deny assignment.
Read	Read the information about diagnostic settings categories	Get the information about diagnostic settings categories
Read	Get information about diagnostics settings	Read the information about diagnostics settings
Read	Get Role eligibility schedule instance	Gets the role eligibility schedule instances at given scope.
Read	Get management locks	Gets locks at the specified scope.
Read	Get operations	Gets the list of operations
Read	List permissions	Lists all the permissions the caller has at a given scope.
Read	Get policy assignment	Get information about a policy assignment.

```
az role definition list --name "Azure Kubernetes Service RBAC Writer"

"roleName": "Azure Kubernetes Service RBAC Writer",
"permissions": [
{
"actions": [
  "Microsoft.Resources/subscriptions/read",
  "Microsoft.Resources/subscriptions/resourceGroups/read"
],
"dataActions": [
  "Microsoft.ContainerService/managedClusters/apps/deployments/*",
  "Microsoft.ContainerService/managedClusters/batch/jobs/*",
  "Microsoft.ContainerService/managedClusters/secrets/*",
  "Microsoft.ContainerService/managedClusters/configmaps/*",
  "Microsoft.ContainerService/managedClusters/extensions/ingresses/*",
  "Microsoft.ContainerService/managedClusters/extensions/networkpolicies/*",
  "Microsoft.ContainerService/managedClusters/networking.k8s.io/
  "Microsoft.ContainerService/managedClusters/pods/*",
],
"notActions": [],
"notDataActions": []
…
```

Azure RBAC roles vs Kubernetes RBAC

```
"roleName": "Azure Kubernetes Service Pod Reader",
"permissions": [
{
"actions": [
  "Microsoft.Resources/subscriptions/read",
],
"dataActions": [
  "Microsoft.ContainerService/managedClusters/pods/*",
],
"notActions": [],
"notDataActions": []
…
```

```yaml
apiVersion: rbac.authorization.k8s.io/v1
kind: Role
metadata:
  name: pod-reader-role
  namespace: my-namespace
rules:
- apiGroups:
  - ""
  resources:
  - pods
  verbs:
  - get
  - list
  - watch
```

Creating and assigning custom RBAC role for AKS

```
az role definition create --role-definition deployment-reader.json
{
    "Name": "AKS Deployment Reader",
    "Description": "Lets you view all deployments in cluster/namespace.",
    "Actions": [],
    "NotActions": [],
    "DataActions": [
        "Microsoft.ContainerService/managedClusters/apps/deployments/read"
    ],
    "NotDataActions": [],
    "assignableScopes": [
        "/subscriptions/82f6d75e-85f4-434a-ab74-xxxxxxx"
    ]
}

az role assignment create --role "AKS Deployment Reader"
   --assignee $USER_ID
   --scope $AKS_ID/namespaces/kube-system
```