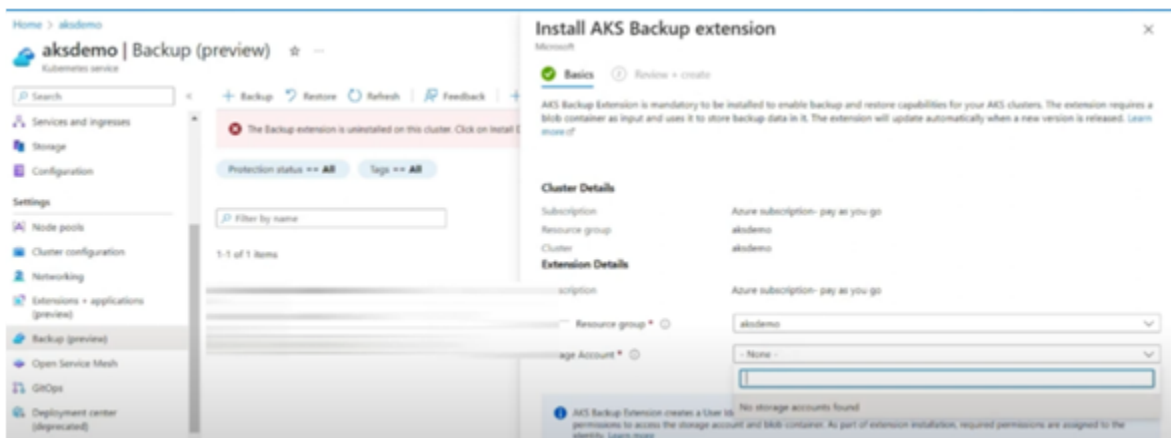
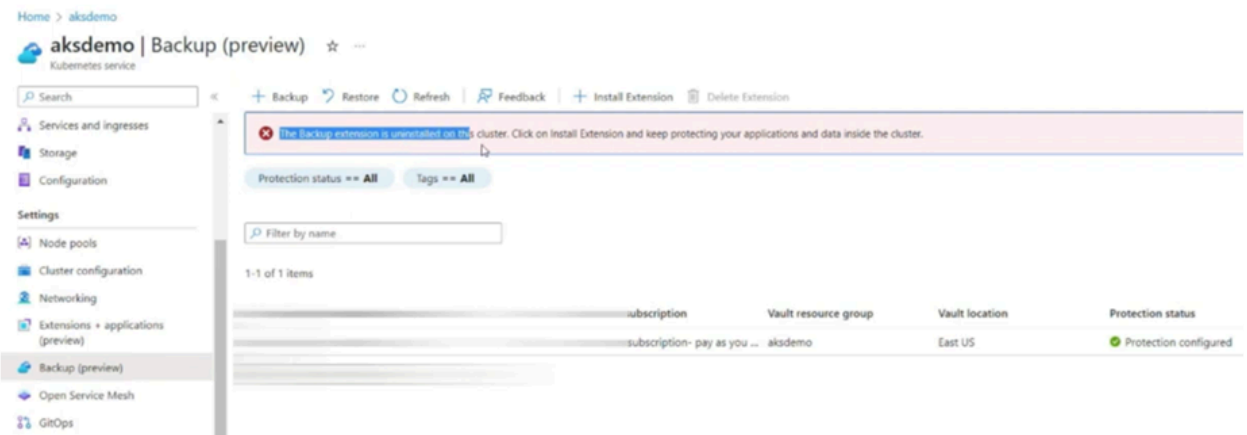


🚀 Backing Up AKS Cluster – Step-by-Step Guide! 📁☁️

Ensuring Azure Kubernetes Service (AKS) workloads are safe and recoverable is crucial. Here's a quick and effective way to enable and manage backups for AKS cluster using Azure Backup:

♦ Step 1: Prepare Environment

- Head over to AKS cluster in the Azure Portal
- Under *Settings*, click on **Backup**
- Install the **AKS Backup Extension**



♦ Step 2: Set Up Storage

- Create a **Storage Account**
- Inside the storage account, create a **Blob Container**

Home > Storage accounts >

Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review

Resource group * (New) akodemobackup [Create new](#)

Instance details

If you need to create a legacy storage account type, please click [here](#).

Storage account name * akibackup

Region * (US) East US [Deploy to an edge zone](#)

Performance * ☒ Standard: Recommended for most scenarios (general-purpose v2 account)
☐ Premium: Recommended for scenarios that require low latency

Redundancy * Geo-redundant storage (GRS)

Home > akibackupdemo_7681342007069 | Overview > akibackupdemo

aksbackupdemo | Containers [Refresh](#) [Delete](#) [Give feedback](#)

Storage account

Search containers by prefix ☐ Show deleted containers

Name	Last modified	Public access level	Lease state
<input type="checkbox"/> Storage	4/13/2023, 4:57:26 AM	Private	Available
<input type="checkbox"/> backup	4/13/2023, 4:57:55 AM	Private	Available

Navigation: Overview, Activity log, Tags, Diagnose and solve problems, Access Control (IAM), Data migration, Events, Storage browser, Data storage, Containers, File shares, Quotas, Tables, Security + networking

Notification: Successfully created storage container 'backup'. Successfully created storage container 'backup'.

◆ Step 3: Configure Backup

- Back in the AKS cluster, under Backup, install the extension if not already done
- Create a **Backup Vault**
- Click **Grant Permission** and wait ~60 seconds
- Proceed to create a **Backup Policy**

Home > aksdemo

aksdemo | Backup (preview) ☆

Kubernetes service

Search

Backup Restore Refresh Feedback

Settings

- Node pools
- Cluster configuration
- Networking
- Extensions + applications (preview)
- Backup (preview)
- Open Service Mesh
- GitOps
- Deployment center (deprecated)
- Automated deployments (preview)
- Policies
- Properties
- Links

The Backup extension is uninstalled on this cluster. Click on Install.

Protection status == All Tags == All

Cluster Details

Subscription: aksdemo

Resource group: aksdemo

Storage Account: aksdemo-aksbackup

AKS Backup Extension creates a User Managed Identity (UMI) to access the storage account. Learn more.

Home > aksdemo

aksdemo | Backup (preview) ☆

Kubernetes service

Search

Backup Restore Refresh Feedback Install Extension Delete Extension

Settings

- Node pools
- Cluster configuration
- Networking
- Extensions + applications (preview)
- Backup (preview)
- Open Service Mesh
- GitOps
- Deployment center (deprecated)
- Automated deployments (preview)
- Policies

Filter by name

Subscription	Vault resource group	Vault location	Protection status
Subscription - pay as you go	aksdemo	East US	Protection configured

Home > aksdemo | Backup (preview) > Configure Backup >

Create Backup Vault

Data Protection

Basics Vault Properties Tags Review + create

A backup vault is a storage entity in Azure that houses data and lets you organize your backups. [Learn more](#)

PROJECT DETAILS

Select the subscription and the resource group in which you want to create the vault.

Subscription *	Azure subscription- pay as you go
Resource Group *	aksdemo
	Create new

INSTANCE DETAILS

Backup vault name *	backupvault
Region *	East US
Backup storage redundancy *	Locally-redundant

Storage redundancy cannot be changed after protecting items to the vault. Geo-redundant storage provides the highest level of data durability, followed by Zonally-redundant storage and then Locally-redundant storage. The costs are proportionate to the durability guarantees. Review the trade-offs between lower cost and higher data durability that is best for your scenario. [Learn more](#)

Home > aksdemo | Backup (preview) >

Configure Backup

Use Azure Backup to protect Kubernetes workloads and application data by configuring backup and restore of your AKS Clusters. [Learn more](#)

Vault *	backupvault
	Change vault Create vault

Selected backup vault details

Subscription	Azure subscription- pay as you go
Resource group	aksdemo
Location	East US
Backup storage redundancy	Locally-redundant

i The Backup Vault and AKS Cluster to be backed up should be within same region. [Learn more](#)

Additional datasource scope

Kubernetes services *	aksdemo
	Select Kubernetes cluster
	⚠ Trusted Access and/or Role Permissions are missing for the selected cluster. Click on Grant Permissions.
	Grant Permissions Revalidate

Selected kubernetes service details

Subscription	Azure subscription- pay as you go
--------------	-----------------------------------

Configure Backup

Use Azure Backup to protect Kubernetes workloads and application data by configuring backup and restore of your AKS Clusters [Learn more](#)

Vault *

backupvault 

[Change vault](#) [Create vault](#)

Selected backup vault details


Subscription: Azure subscription- pay as you go
Resource group: akademo
Location: East US
Backup storage redundancy: Locally-redundant

 The Backup Vault and AKS Cluster to be backed up should be within same region. [Learn more](#)

Additional datasource scope

Kubernetes services *

akademo
[Select Kubernetes cluster](#)


 **Insufficient Access and/or Role Permissions are missing for the selected cluster. Click on Grant Permissions**
[Grant Permissions](#) [Revalidate](#)

Selected kubernetes service details

--- Waiting for 57 seconds to revalidate
Role assignment is in progress, please wait...

Configure Backup

Datasource type *

Kubernetes Services (preview) 

Use Azure Backup to protect Kubernetes workloads and application data by configuring backup and restore of your AKS Clusters [Learn more](#)

Vault *

backupvault 

[Change vault](#) [Create vault](#)

Selected backup vault details

Subscription: Azure subscription- pay as you go
Resource group: akademo
Location: East US
Backup storage redundancy: Locally-redundant

 The Backup Vault and AKS Cluster to be backed up should be within same region. [Learn more](#)

Additional datasource scope

Kubernetes services *

akademo
[Select Kubernetes cluster](#)

 All permissions Granted successfully
Click next to proceed further.

Configure Backup

 Basics  **Backup policy**  Datasources  Review + configure

Backup policy *



[Create new](#)
12

Home > aksdemo | Backup (preview) > Configure Backup >

Create Backup Policy

Backup vault

① Basics ② Schedule + retention ③ Review + create

Basics

Policy name	backup
Data source type	Kubernetes Services (Preview)
Subscription	Azure subscription- pay as you go
Location	eastus
Vault	backupvault

Schedule and Retention

Backup schedule [Go to + Select](#)

Retention settings (in the order of priority) ⓘ

Retention rules	Operational data store
Default	7 Days View details

Home > aksdemo | Backup (preview) >

Configure Backup

Creating policy: backup
Operation successful

✅ Basics ① Backup policy ② Data sources ③ Review + configure

Backup policy * [Create new](#)

Backup frequency




Retention settings (in the order of priority) ⓘ

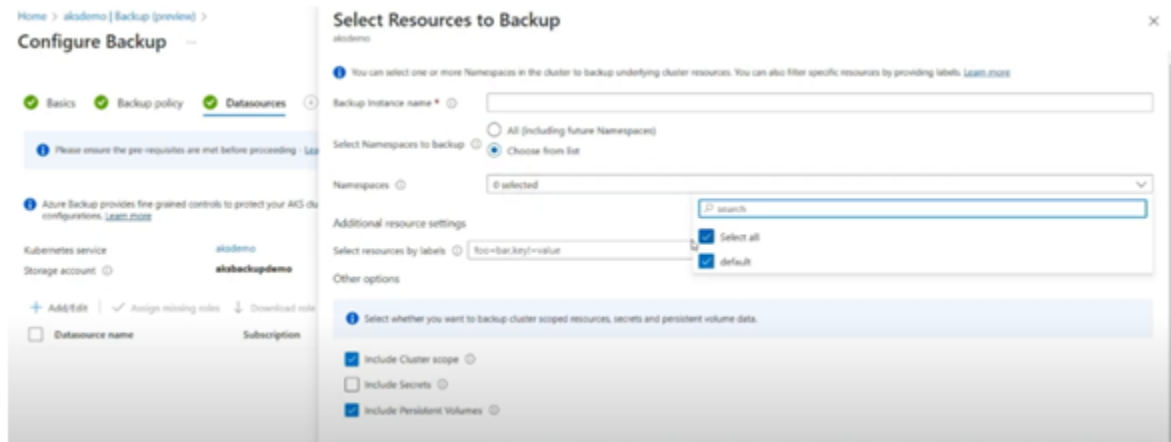
Retention rules	Operational data store
Default	7 Days View details

🎯 You can choose to back up:

- The entire cluster (including future namespaces)
- Specific namespaces
- Resources selected via **labels**

Backup Options Include:

- Secrets 
- Persistent Volumes 
- Cluster-scoped resources 



Home > aksdemo [Backup (preview)] >

Configure Backup

Basics Backup policy Datasources

Please ensure the pre-requisites are met before proceeding. [Learn more](#)

Azure Backup provides fine-grained controls to protect your AKS clusters by backing up Kubernetes workloads and Azure Disk based Persistent Volumes. To select cluster resources you want to protect, click on Add and define required configurations. [Learn more](#)

Kubernetes service: aksdemo
Storage account: aksbackupdemo

+ Add/Edit | ✓ Assign missing roles | Download role assignment template

Datasource name Subscription

Select Resources to Backup

aksdemo

You can select one or more Namespaces in the cluster to backup underlying cluster resources. You can also filter specific resources by providing labels. [Learn more](#)

Backup Instance name *

Select Namespaces to backup: ☐ All (including future Namespaces) ☒ Choose from list

Namespaces: 0 selected

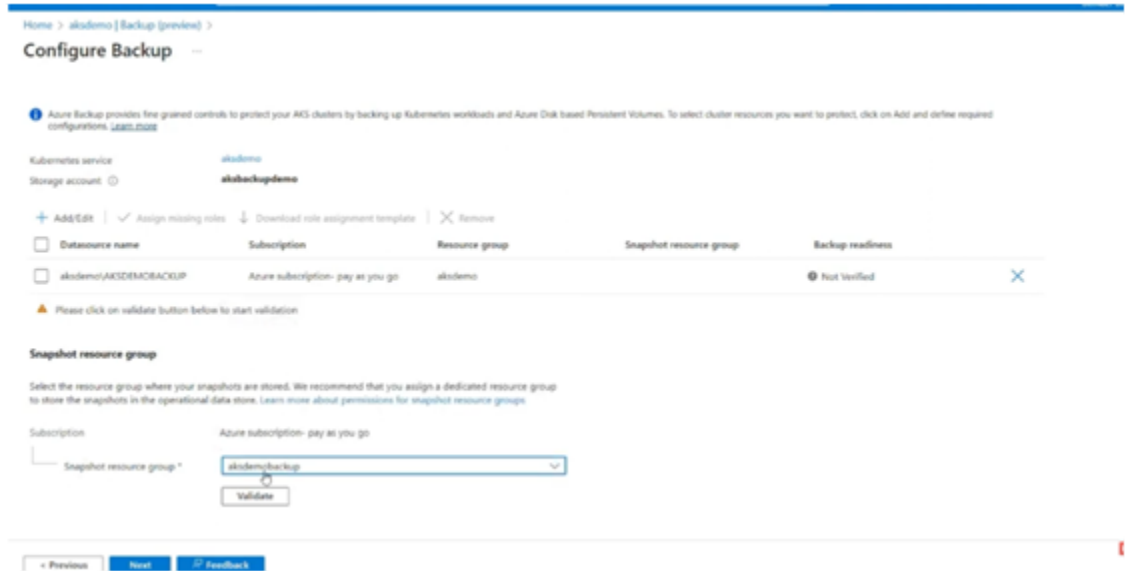
Additional resource settings

Select resources by labels: foo=bar, key=value

Other options

Select whether you want to backup cluster scoped resources, secrets and persistent volume data.

☒ Include Cluster scope ☐ Include Secrets ☒ Include Persistent Volumes



Home > aksdemo [Backup (preview)] >

Configure Backup

Azure Backup provides fine-grained controls to protect your AKS clusters by backing up Kubernetes workloads and Azure Disk based Persistent Volumes. To select cluster resources you want to protect, click on Add and define required configurations. [Learn more](#)

Kubernetes service: aksdemo
Storage account: aksbackupdemo

+ Add/Edit | ✓ Assign missing roles | Download role assignment template | ✕ Remove

Datasource name	Subscription	Resource group	Snapshot resource group	Backup readiness
aksdemo/AKSDemoBACKUP	Azure subscription- pay as you go	aksdemo		Not Verified

Please click on validate button below to start validation

Snapshot resource group

Select the resource group where your snapshots are stored. We recommend that you assign a dedicated resource group to store the snapshots in the operational data store. [Learn more about permissions for snapshot resource groups](#)

Subscription: Azure subscription- pay as you go

Snapshot resource group *: aksdemo/backup

Validate

< Previous Next > Feedback

Home > aksdemo | Backup (preview) >

Configure Backup

1

Azure Backup provides fine-grained controls to protect your AKS clusters by backing up Kubernetes workloads and Azure Disk based Persistent Volumes. To select cluster resources you want to protect, click on Add > configurations. [Learn more](#)

Kubernetes service

aksdemo

Storage account

akshbackupdemo

+ Add/Edit

✓ Assign missing roles

↓ Download role assignment template

✕ Remove

Datasource name	Subscription	Resource group	Snapshot resource group	Backup readiness
aksdemo\AKSDemoBACKUP	Azure subscription- pay as you go	aksdemo	akshdemobackup	<div>Role assignment not done</div> View details✕

For Role assignment error under 'Backup readiness' column, please select the corresponding data source(s) by checking on the check box and click on 'Assign missing roles' to continue. In case if you do not have permission to grant access to the selected data source(s), use 'Download role assignment template' option. For more details, click on 'view details' on the error message under Backup readiness column.

Snapshot resource group

Select the resource group where your snapshots are stored. We recommend that you assign a dedicated resource group to store the snapshots in the operational data store. [Learn more about permissions for snapshot resource group](#)

Subscription

Azure subscription- pay as you go

Snapshot resource group *

akshdemobackup

Revalidate

*** Initializing deployment...

Initializing template deployment to resource group 'aksdemo'.

*** Role assignment is in progress

Role assignment is in progress, please wait...

Home > aksdemo | Backup (preview) >

Configure Backup

✓ Basics

✓ Backup policy

✓ Datasources

⚙ Review + configure

1

Please clear selected resources before changing data source type

Datasource type

Kubernetes Services (Preview)

Vault *

backupvault

Change vault

Create vault

Selected backup vault details

Subscription

Azure subscription- pay as you go

Resource group

aksdemo

Location

East US

Backup storage redundancy

Locally-redundant

1

The Backup Vault and AKS Cluster to be backed up should be within same region. [Learn more](#)

Additional datasource scope

Kubernetes services *

aksdemo

Select Kubernetes cluster

Selected kubernetes service details

Subscription

Azure subscription- pay as you go

< Previous

Next

Feedback

Notifications

More events in the activity log →

Dismiss all

*** Revalidating

Running

Validation is in progress. We will be doing 3 retries. If the validation still fails any of these resources, please wait for a few minutes and retry validation.

a few seconds ago

✓ Deployment succeeded

Deployment 'Microsoft.DataProtection.GrantPermissions' to resource group 'aksdemo' was successful.

Go to resource

Go to resource group

a few seconds ago

✓ Creating policy: backup

Operation successful.

6 minutes ago

✓ All permissions Granted successfully

Click next to proceed further.

6 minutes ago

✓ Deployment succeeded

Deployment 'Microsoft.DataProtection.CreateVault' to resource group 'aksdemo' was successful.

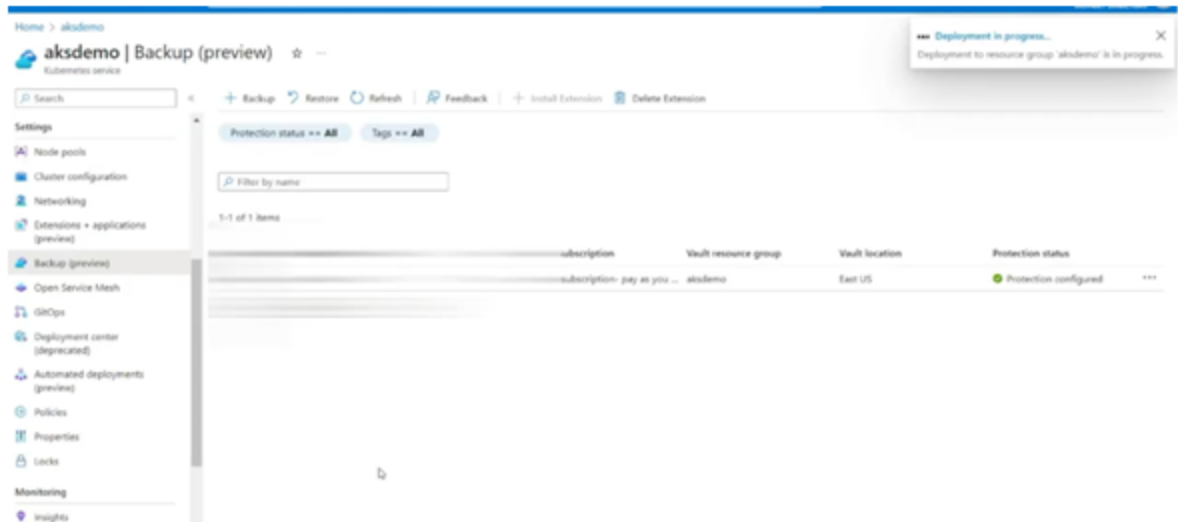
Go to resource

Go to resource group

to activate Windows.

9 minutes ago

✓ Deployment succeeded



⚙️ Remember to assign missing roles and validate.

Installing the AKS backup extension also creates a namespace:

`dataprotection-microsoft`

📊 Monitoring:

- Go to **Backup Vault**
- Click on **Backup Jobs** to track backup status

Home > Backup vaults > backupvault

Backup vaults

Default Directory

+ Create Manage view

Filter for any field...

Name ↑

backupvault

Search

Refresh Select columns Feedback

Subscription == Azure subscription- pay as you go Resource group == aksdemo Data source type == Kubernetes Services (P)

Vault == backupvault Time range == Last week Status == All Operation == All

Filter by backup instance

1-15 of 15 items

Backup instance	T ₂	Operation	Status	Start time	T ₂	Duration
aksdemo/AKSDEMOBACK...		On-demand backup	In progress	4/13/2023, 5:54:03 AM		00:00:23
aksdemo/AKSDEMOBACK...		Restore	Completed	4/13/2023, 5:47:18 AM		00:01:34
aksdemo/AKSDEMOBACK...		Restore	Completed	4/13/2023, 5:42:54 AM		00:01:35
aksdemo/AKSDEMOBACK...		Restore	Completed	4/13/2023, 5:39:08 AM		00:01:34
aksdemo/AKSDEMOBACK...		On-demand backup	Completed	4/13/2023, 5:32:36 AM		00:03:09
aksdemo/AKSDEMOBACK...		Restore	Completed	4/13/2023, 5:30:25 AM		00:01:35
aksdemo/AKSDEMOBACK...		On-demand backup	Completed	4/13/2023, 5:23:55 AM		00:02:37
aksdemo/aksbackup		On-demand backup	Failed	4/13/2023, 5:14:52 AM		00:13:14
aksdemo/aksbackup		Scheduled Backup	Failed	4/12/2023, 8:00:13 PM		00:14:41
aksdemo/aksbackup		Scheduled Backup	Failed	4/11/2023, 8:00:07 PM		00:14:39
aksdemo/aksbackup		Scheduled Backup	Failed	4/10/2023, 8:00:04 PM		00:14:38

Restore Time!

- Delete test resources and perform a **restore** from the backup
- Navigate to: AKS Cluster → Backup → Restore
- Select the Kubernetes service, validate, and proceed

Home > aksdemo

aksdemo | Backup (preview)

Kubernetes service

Search

+ Backup Restore Refresh Feedback + Install Extension Delete Extension

Protection status == All Tags == All

Filter by name

1-1 of 1 items

Backup/Protected Instance	Vault	Vault subscription	Vault resource group	Vault location	Protection status
aksdemo/AKSDEMOBACKUP	backupvault	Azure subscription- pay as you ...	aksdemo	East US	View resource

< Previous 1 Next >

- View resource
- Backup Now
- Restore
- Change policy
- Stop Backup
- Resume Backup
- Delete

Restore

① Basics ② **Restore point** ③ Restore parameters ④ Review + restore

Restore Point *
[Select restore point](#)

Data store Operational



Restore

① Basics ② **Restore point** ③ Restore parameters ④ Review + restore

Restore Point *
[Select restore point](#)

Data store Operational

Select restore point

Time period: Last 30 days

Creation time	Backup type	Data store	Expiry time
4/13/2023, 5:56:27 AM	Incremental	Operational	
4/13/2023, 5:33:02 AM	Incremental	Operational	
4/13/2023, 5:25:54 AM	Incremental	Operational	

Select

Cancel

Home > akodemo [Backup (preview)] >

Restore

Basics

Restore point

Restore parameters

Using Azure Backup you can restore your Kubernetes workloads a cluster as target. You also have the ability to restore your entire cluster.

The target AKS cluster should have Backup Extension installed to

Select Target cluster

No service selected
Select Kubernetes service

Select Kubernetes service

Filter for any field...

Resource group equals all

Type equals Kubernetes service

Location equals East US

Add filter

Show hidden types

No grouping

Name ↑	Type ↑	Resource group ↑	Location ↑	Subscription ↑
akodemo	Kubernetes service	akodemo	East US	Azure subscription

Previous

Next Review < restore >

Select

Cancel