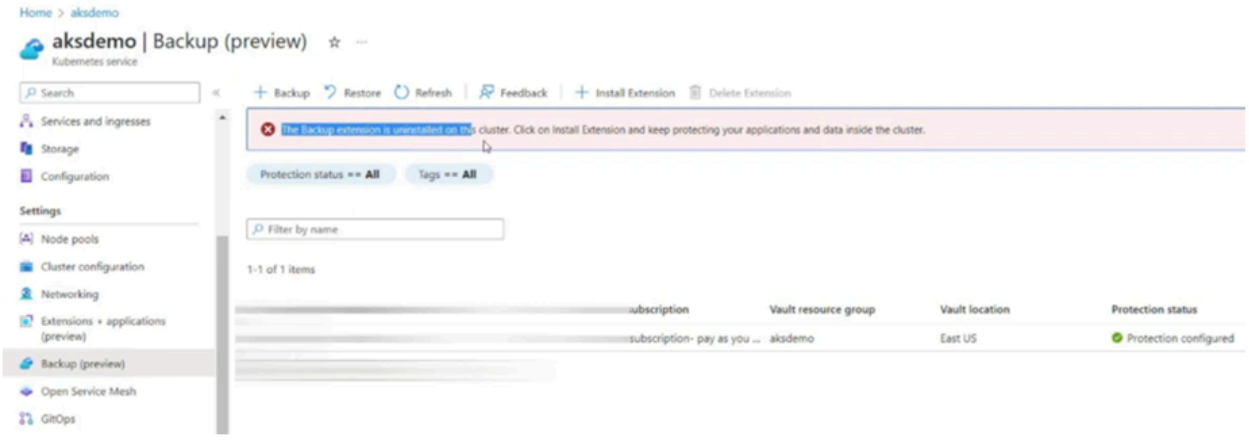
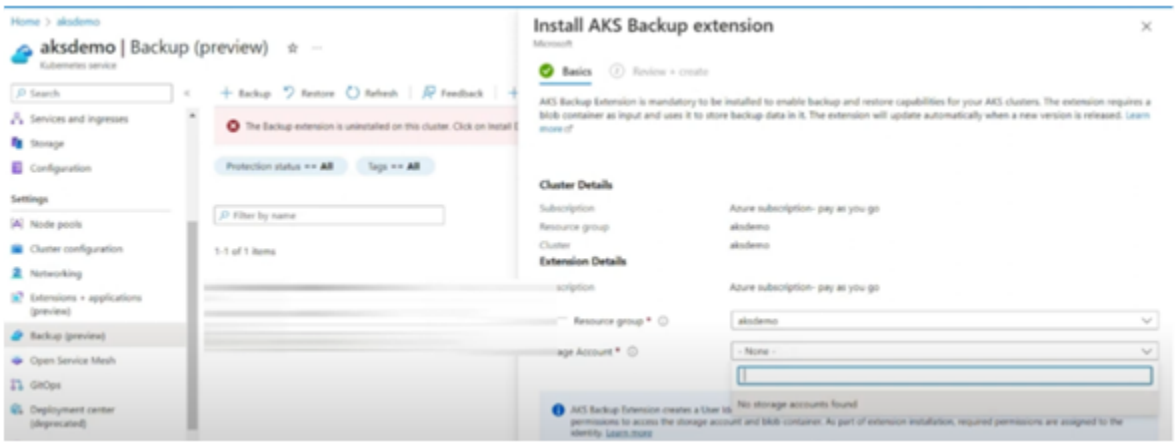
🚀 Backing Up AKS Cluster – Step-by-Step Guide! 💾☁️

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

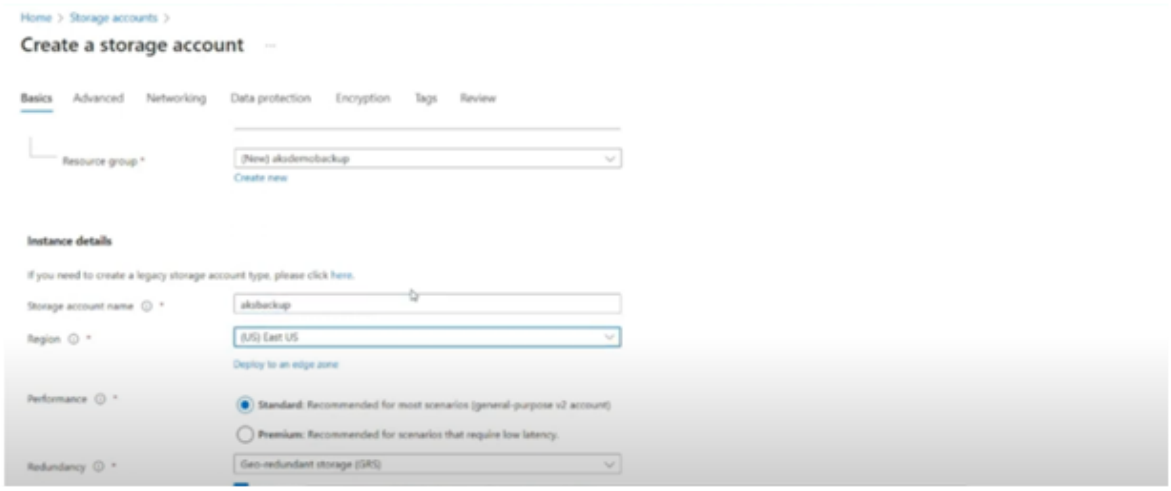
- Head over to AKS cluster in the Azure Portal
- Under *Settings*, click on **Backup**
- Install the **AKS Backup Extension**

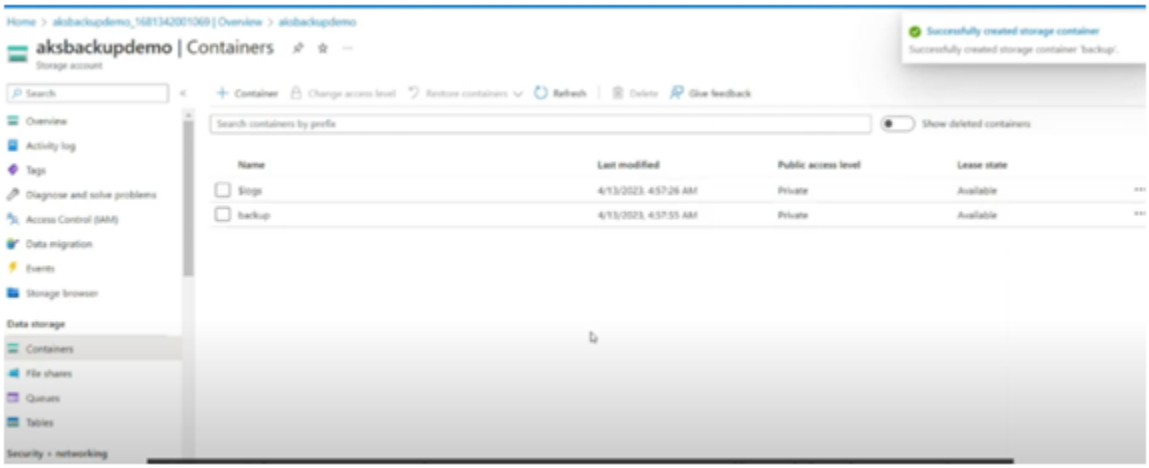




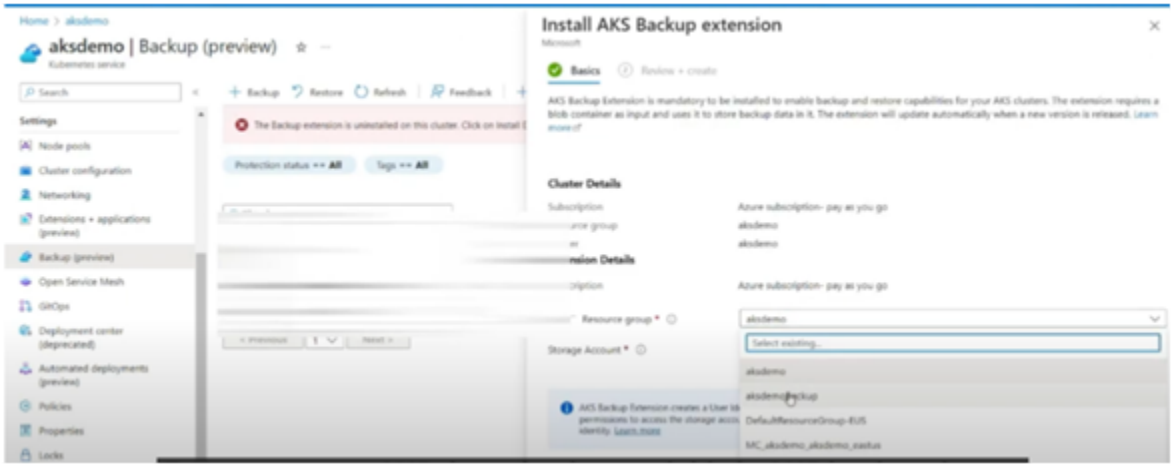
🔹 Step 2: Set Up Storage

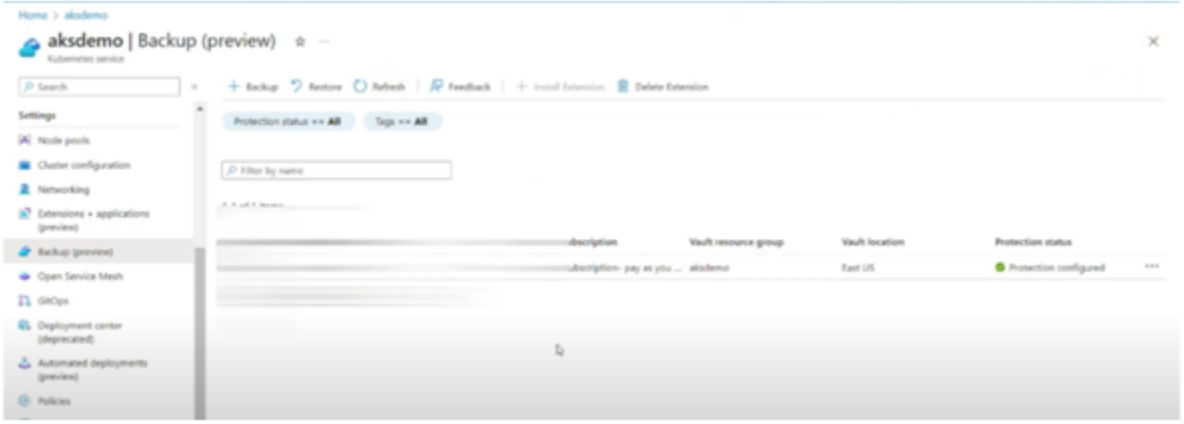
- Create a **Storage Account**
- Inside the storage account, create a **Blob Container**





- **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
Settings
Node pools
Cluster configuration
Networking
Extensions + applications (preview)
Backup (preview)
Open Service Mesh
GitOps
Deployment center (deprecated)
Automated deployments (preview)
Policies
Properties
Locks
Backup
Restore
Refresh
Feedback
Protection status == All
Tags == All
Install AKS Backup extension
Microsoft
Basics
Review + create
AKS Backup Extension is mandatory to be installed to enable backup and restore capabilities for your AKS clusters. The extension requires a blob container as input and uses it to store backup data in it. The extension will update automatically when a new version is released. Learn more
Cluster Details
Subscription
Azure subscription- pay as you go
aksdemo
aksdemo
Azure subscription- pay as you go
Resource group *
aksdemo
Storage Account *
Select existing...
aksdemo
aksdemobackup
DefaultResourceGroup-EUS
MC_aksdemo_aksdemo_eastus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Kubernetes service
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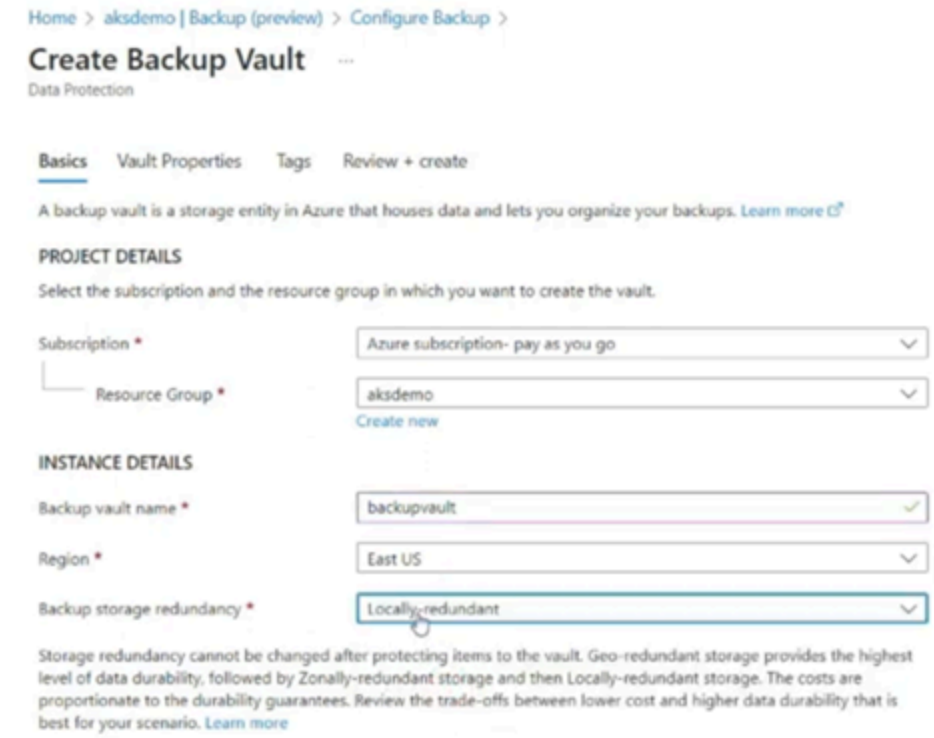
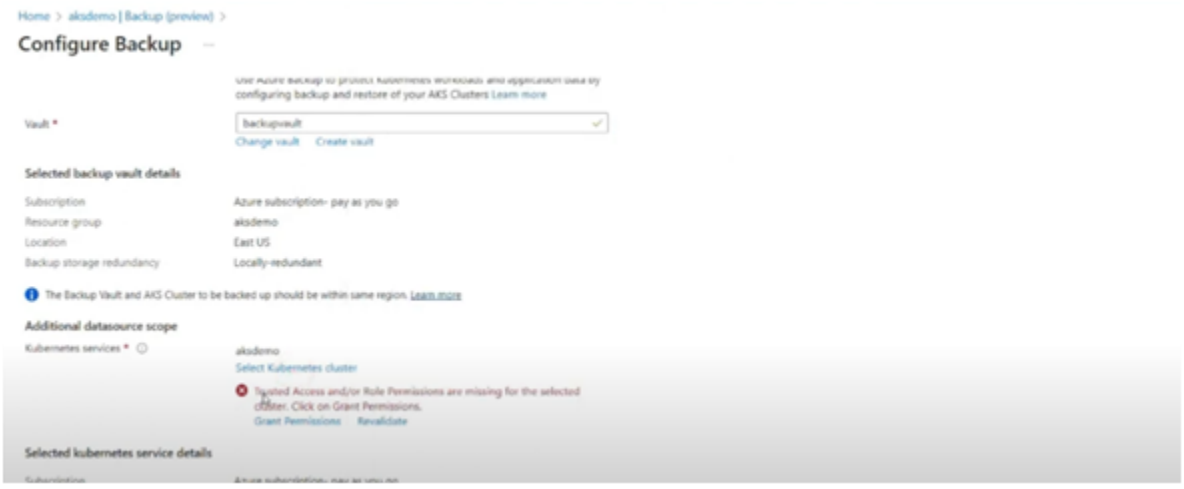
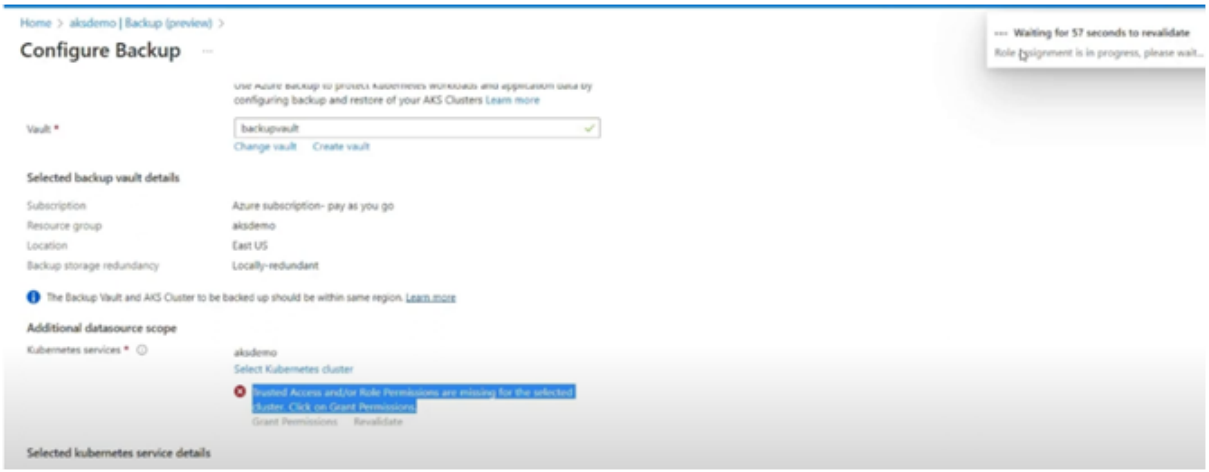
Extensions + applications (preview)
Backup (preview)
Open Service Mesh
GitOps
Deployment center (deprecated)
Automated deployments (preview)
Policies
Backup
Restore
Refresh
Feedback
Install Extension
Delete Extension
Protection status == All
Tags == All
Filter by name
Vault resource group
Vault location
Protection status
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
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
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


Home > aksdemo | Backup (preview) >
Configure Backup
Waiting for 57 seconds to revalidate
Role assignment is in progress, please wait...
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
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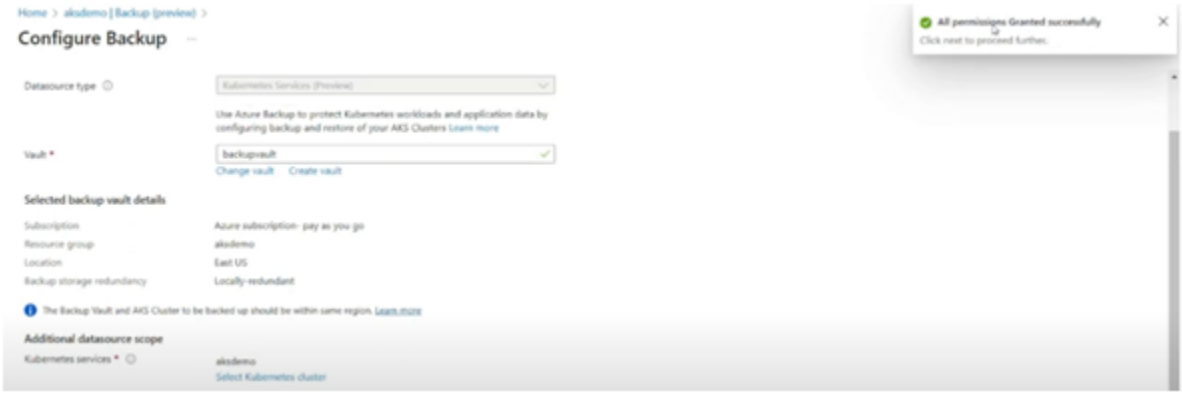
Home > aksdemo | Backup (preview) >
Configure Backup
All permissions Granted successfully
Click next to proceed further.
Datasource type
Kubernetes Services (Preview)
Use Azure Backup to protect Kubernetes workloads and application data by configuring backup and restore of your AKS Clusters Learn more
Vault *
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Change vault Create vault
Selected backup vault details
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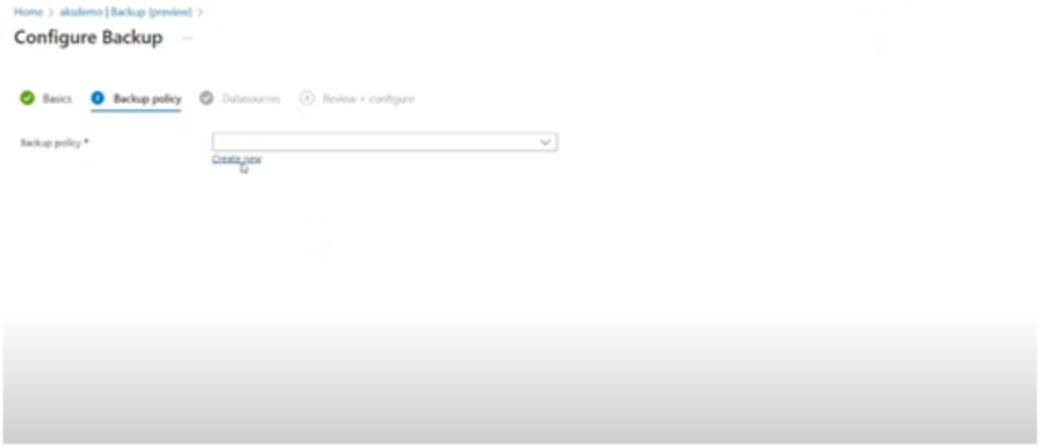
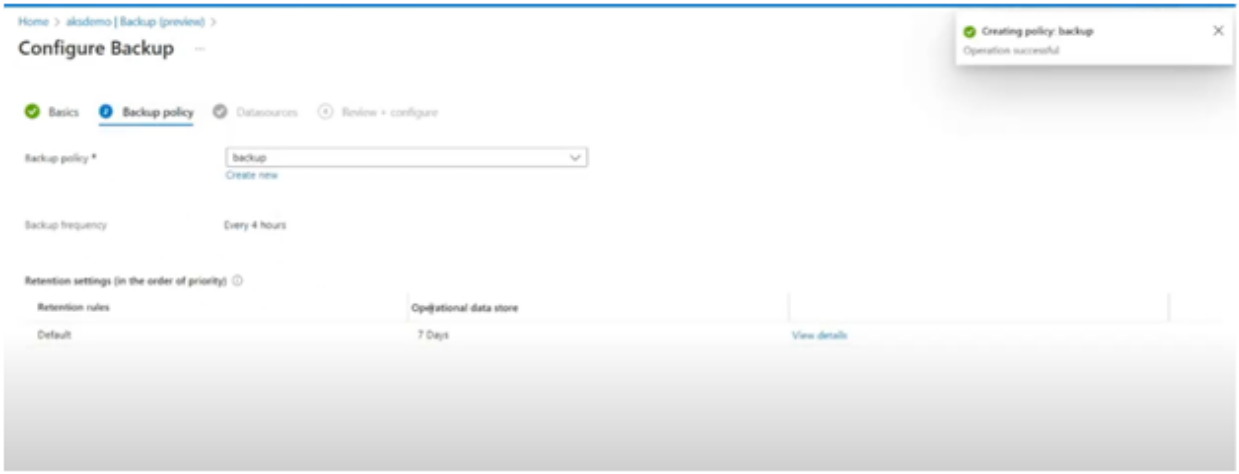
Select Kubernetes cluster


Home > aksdemo | Backup (preview) >
Configure Backup
Basics
2 Backup policy
Datasources
4 Review + configure
Backup policy *
Create new

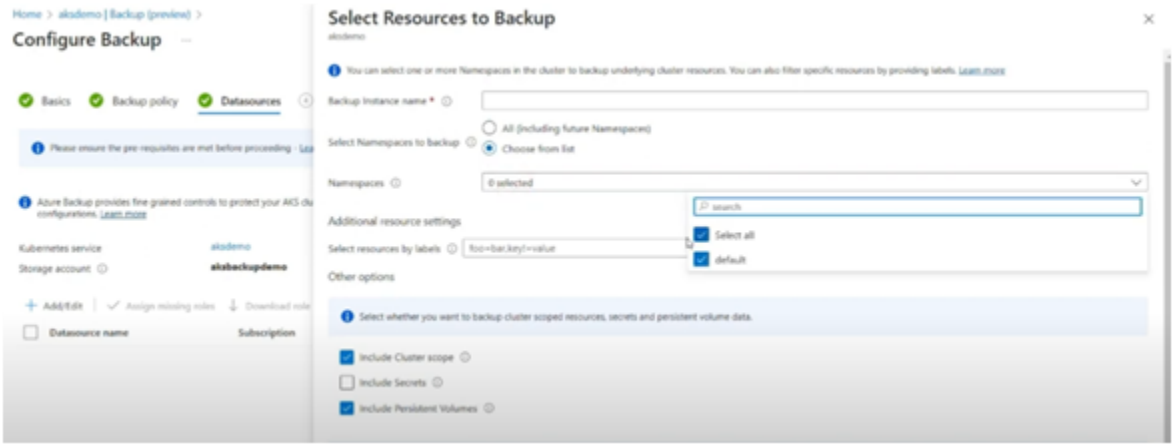


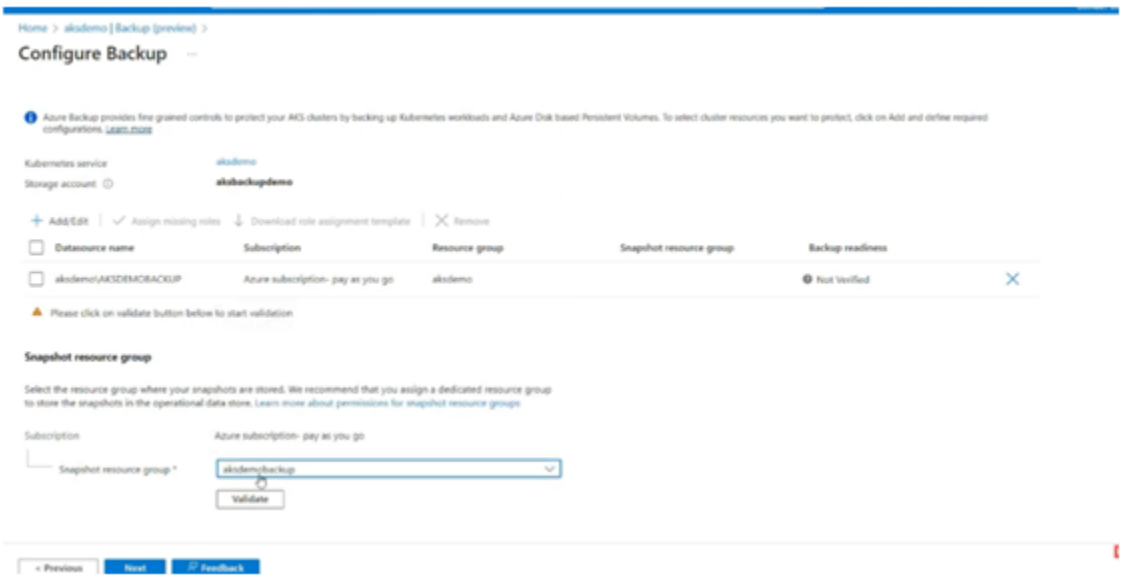
🎯 **You can choose to back up:**

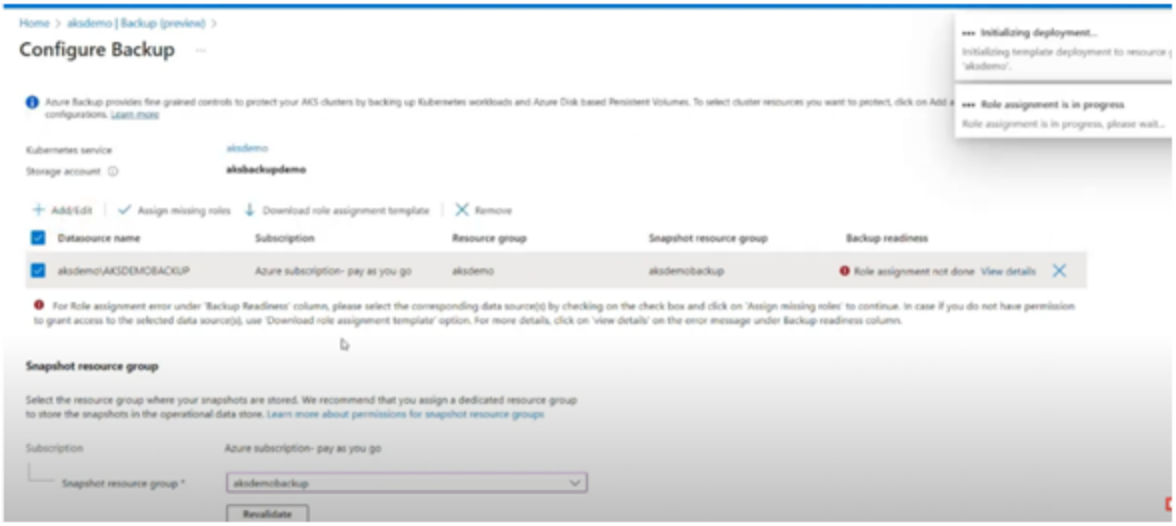
- The entire cluster (including future namespaces)
- Specific namespaces
- Resources selected via **labels**

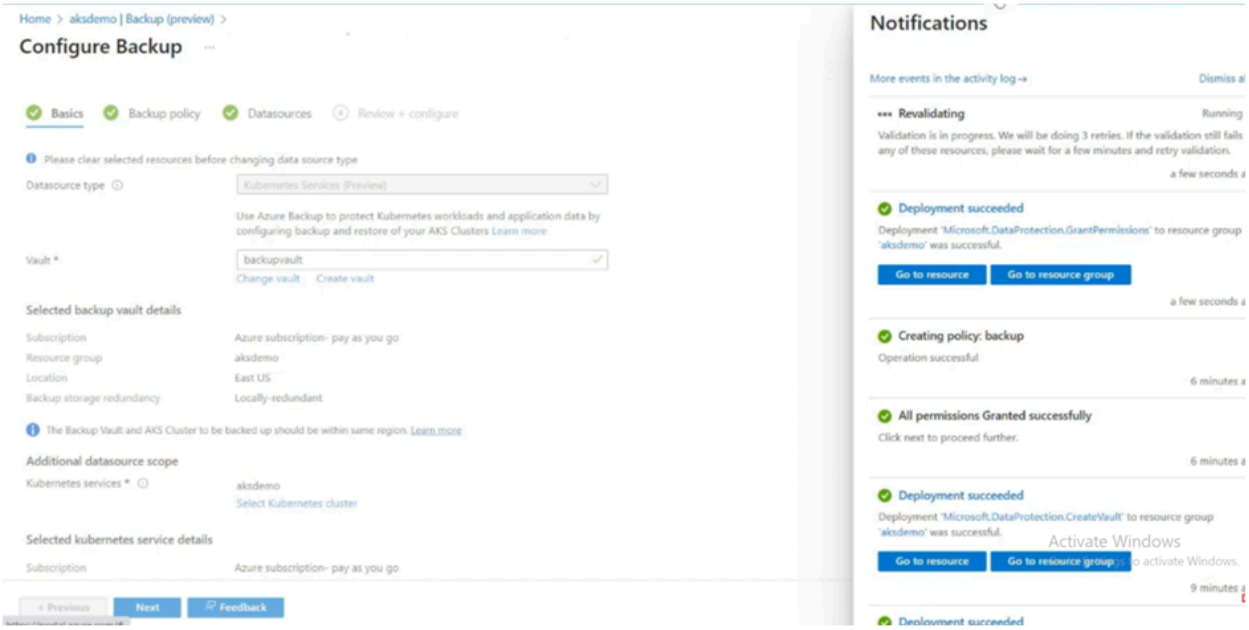
🛡️ **Backup Options Include:**

- Secrets 🔐
- Persistent Volumes 📦
- Cluster-scoped resources 🌐






Home > aksdemo | Backup (preview) >
Configure Backup
Initializing deployment...
Role assignment is in progress
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
aksdemobackup
Role assignment not done View details
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 *
aksdemobackup
Revalidate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Basics
Backup policy
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Review + configure
Please clear selected resources before changing data source type
Datasource type
Kubernetes Services (Preview)
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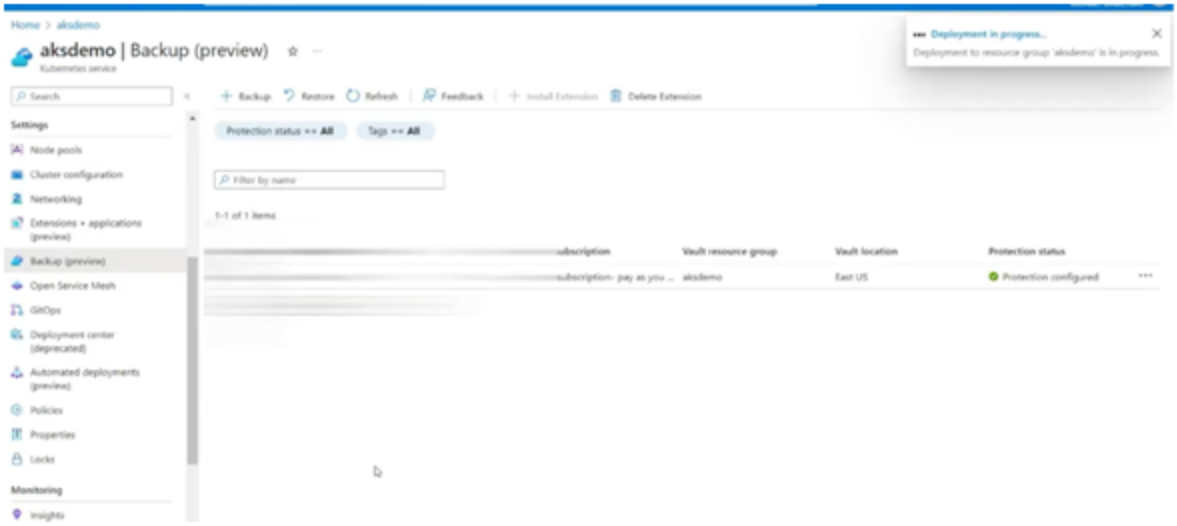
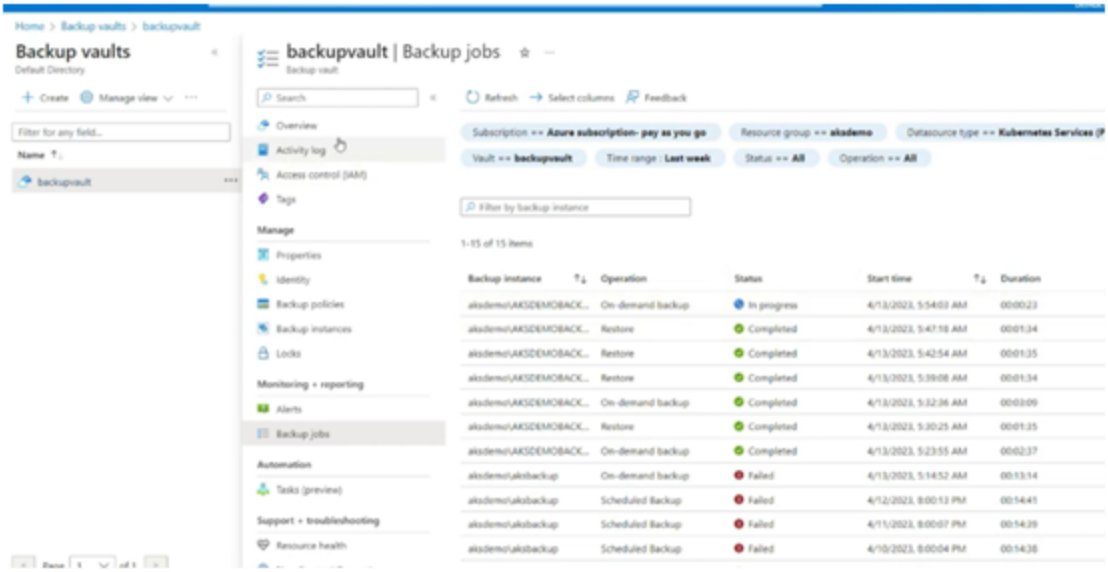
Additional datasource scope
Kubernetes services *
aksdemo
Select Kubernetes cluster
Selected kubernetes service details
Subscription
Azure subscription- pay as you go
Previous
Next
Feedback
Notifications
More events in the activity log →
Dismiss a
Revalidating
Running
Validation is in progress. We will 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 a
Deployment succeeded
Deployment 'Microsoft.DataProtection.GrantPermissions' to resource group 'aksdemo' was successful.
Go to resource
Go to resource group
a few seconds a
Creating policy: backup
Operation successful
6 minutes a
All permissions Granted successfully
Click next to proceed further.
6 minutes a
Deployment succeeded
Deployment 'Microsoft.DataProtection.CreateVault' to resource group 'aksdemo' was successful.
Go to resource
Go to resource group
9 minutes a
Deployment succeeded



⚙️ **Remember to assign missing roles and validate.**
Installing the AKS backup extension also creates a namespace: `dataprotection-microsoft`

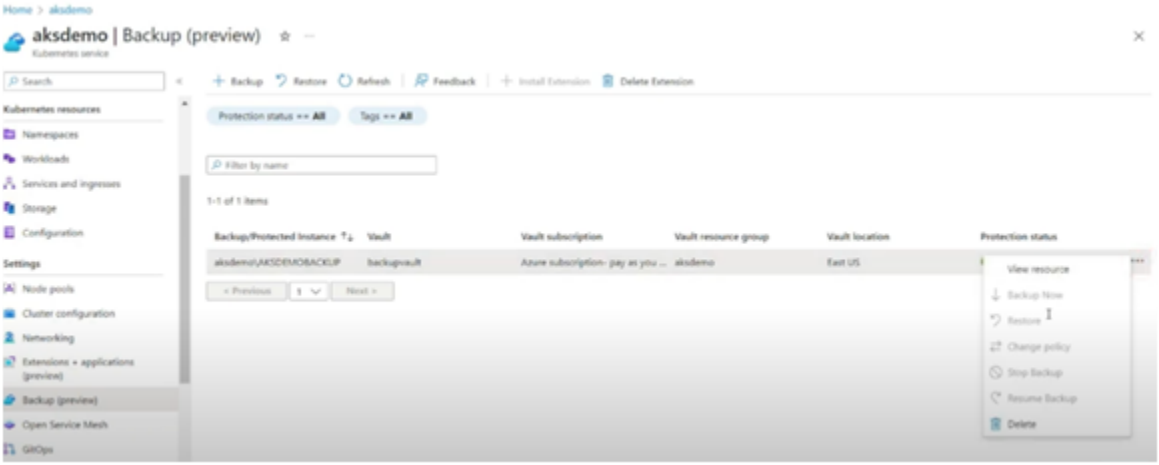
📊 **Monitoring:**

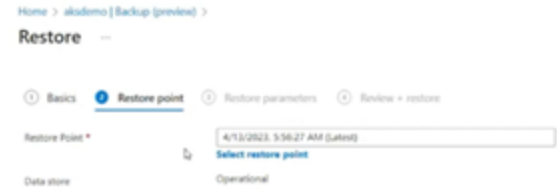
- Go to **Backup Vault**
- Click on **Backup Jobs** to track backup status

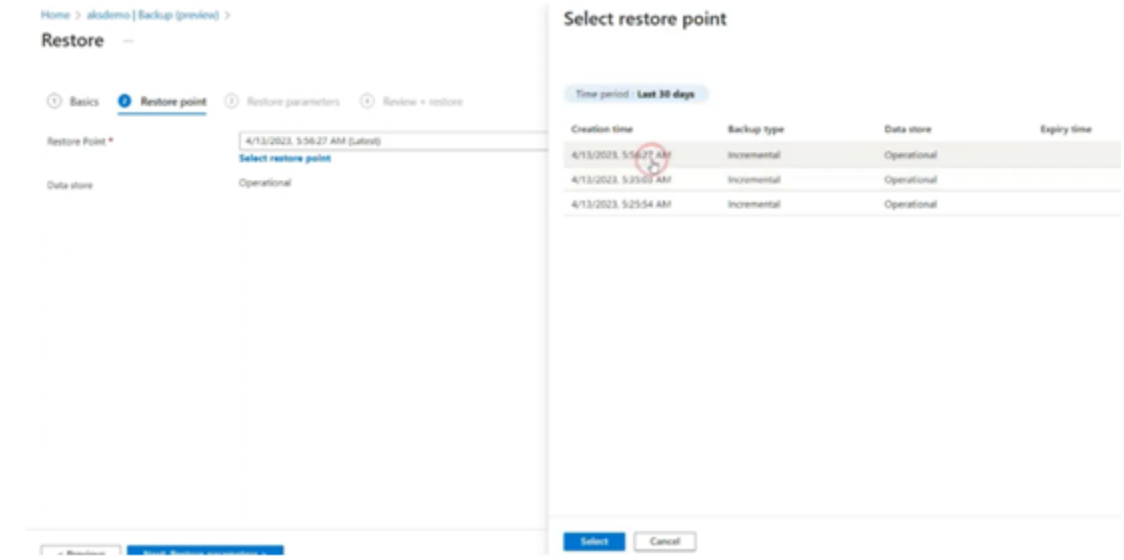


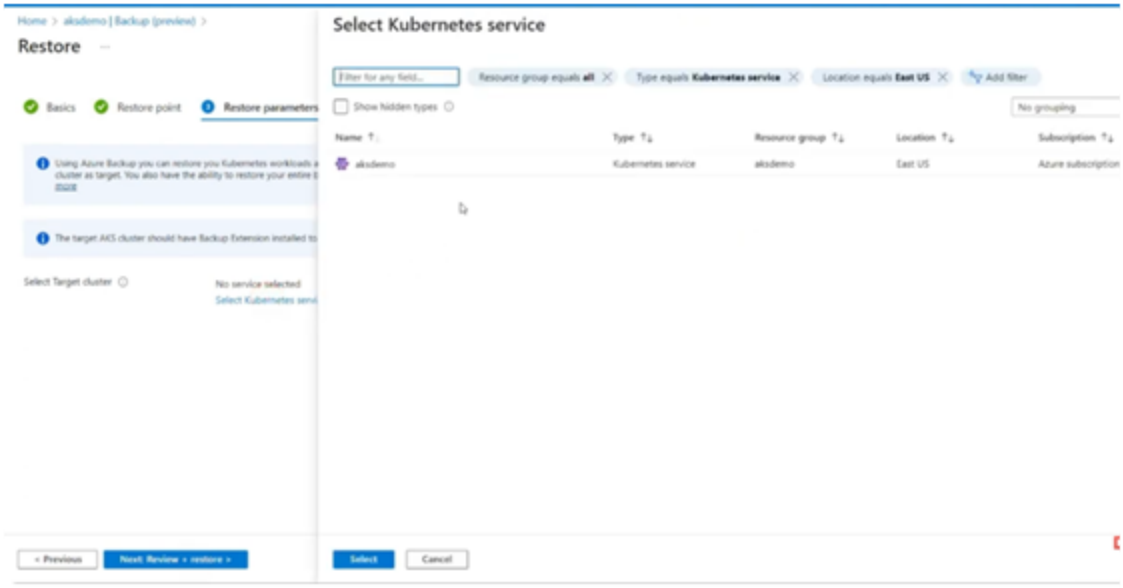
🧪 Restore Time!

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




Home > akdemo | Backup (preview) >
Restore
Basics
Restore point
Restore parameters
Review + restore
Restore Point *
4/13/2023, 5:56:27 AM (Latest)
Select restore point
Data store
Operational


Home > akdemo | Backup (preview) >
Restore
Basics
Restore point
Restore parameters
Review + restore
Restore Point *
4/13/2023, 5:56:27 AM (Latest)
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, 5:33:03 AM
Incremental
Operational
4/13/2023, 5:25:54 AM
Incremental
Operational
Select
Cancel


Home > aksdemo | Backup (preview) >
Restore
Basics
Restore point
Restore parameters
Using Azure Backup you can restore you Kubernetes workloads a
cluster as target. You also have the ability to restore your entire
more
The target AKS cluster should have Backup Extension installed to
Select Target cluster
No service selected
Select Kubernetes servi
< Previous
Next: Review + restore >
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
aksdemo
Kubernetes service
aksdemo
East US
Azure subscription
Select
Cancel