**Lesson 8 Demo 6**

**Dynamic Volume**

**Objectives:** To createadynamic and a persistent volume with Azure disks in Azure Kubernetes Service (AKS)

**Tools required:** Azure Log Analytics workspace, Azure Kubernetes Service, and Azure Storage Account

**Prerequisites:** Refer to Lesson 8; Demo 1 and 2

**Steps to be followed:**

1. Creating a persistent volume claim using AKS bash

**Step** **1:**  **Creating a persistent volume claim using AKS bash**

1. Use the following command to see the pre-created storage classes. The following example shows the pre-create storage classes available within an AKS cluster:

**A screenshot of a computer

Description automatically generated with medium confidencekubectl get sc**

Graphical user interface, text

Description automatically generated1.2 Create a file named azure-premium.yaml, and copy that into the following manifest. The claim requests a disk named azure-managed-disk that is 5GB in size with ReadWriteOnce access. The managed-premium storage class gets specified as the storage class, then save it:  
**vi azure-premium.yaml  
  
apiVersion: v1**

**kind: PersistentVolumeClaim**

**metadata:**

**name: azure-managed-disk**

**spec:**

**accessModes:**

**- ReadWriteOnce**

**storageClassName: managed-premium**

**resources:**

**requests:**

Text

Description automatically generated **storage: 5Gi**

Graphical user interface, text

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1.3 Create a persistent volume claim using the following command:  
 **kubectl apply -f azure-premium.yaml**1.4 Once the persistent volume claim has been created and the disk is successfully provisioned, a Pod can be created with the access to the disk:  
**Graphical user interface, text

Description automatically generated** **vi azure-pvc-disk.yaml  
  
kind: Pod**

**apiVersion: v1**

**metadata:**

**name: mypod**

**spec:**

**containers:**

**- name: mypod**

**image: mcr.microsoft.com/oss/nginx/nginx:1.15.5-alpine**

**resources:**

**requests:**

**cpu: 100m**

**memory: 128Mi**

**limits:**

**cpu: 250m**

**memory: 256Mi**

**volumeMounts:**

**- mountPath: "/mnt/azure"**

**name: volume**

**volumes:**

**- name: volume**

**persistentVolumeClaim:**

**Text

Description automatically generated claimName: azure-managed-disk**

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Description automatically generated with medium confidence1.5 Create the Pod with the kubectl apply command:  
 **kubectl apply -f azure-pvc-disk.yaml**1.6 Verify pvc and Pod state by using the following command:

**kubectl get pvc**

**A screenshot of a computer

Description automatically generated with medium confidence kubectl get pods**

**Text

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Description automatically generated1.7 To describe Pod attributes, use the command and you can see volumes get attached successfully:  
 **kubectl describe pod mypod**