TM1950VirtualMachines-026Enable Automatic Instance Repairs

Risk Level: Medium

Rule ID: VirtualMachines-026

Ensure that unhealthy virtual machine instances are automatically deleted from the scale sets and new ones are created, using the latest instance model settings. Automatic Instance Repairs feature relies on health checks performed for individual instances running in a scale set. These virtual machine instances can be configured to emit an application health status using the Azure Application Health extension or a load balancer health probe. If a VM instance is found to be unhealthy, as reported by the Application Health extension or by the associated load balancer health probe, then the scale set performs the repair action by deleting the unhealthy instance and creating a new one to replace it.

Enabling automatic instance repairs for Microsoft Azure virtual machine scale sets helps achieve high availability for your cloud applications by maintaining the scale set instances healthy.

Audit

To determine if automatic repairs policy is enabled for the instances within your Azure virtual machine scale sets, perform the following actions:

Using Azure CLI

01 Run **account list** command (Windows/macOS/Linux) using custom query filters to list the IDs of the subscriptions available in your Azure account:

```
az account list
    --query '[*].id'
```

02 The command output should return the requested subscription identifiers (IDs):

```
[
  "abcd1234-abcd-1234-abcd-abcd1234abcd",
  "abcd1234-abcd-1234-abcd-abcd1234abcd",
]
```

03 Run **vmss list** command (Windows/macOS/Linux) using custom query filters to list the name and the associated resource group of each virtual machine scale set deployed in the selected Azure subscription:

```
az vmss list
    --subscription abcd1234-abcd-1234-abcd-abcd1234abcd
    --output table
    --query '[*].{name:name, resourceGroup:resourceGroup}'
```

04 The command output should return the requested virtual machine scale set identifiers (IDs):

```
Name                    ResourceGroup
--------------------    -----------------------------
cc-web-prod-scale-set   cloud-shell-storage-westeurope
cc-web-test-scale-set   cloud-shell-storage-westeurope
```

05 Run **vmss show** command (Windows/macOS/Linux) using the name of the virtual machine scale set that you want to examine as identifier parameter, to describe the Automatic repairs feature status, available for the selected VM scale set:

```
az vmss show
    --name cc-web-prod-scale-set
    --resource-group cloud-shell-storage-westeurope
    --query '{"AutomaticRepairsPolicyEnabled": automaticRepairsPolicy.enabled}'
```

06 The command output should return the requested feature status:

```
{
  "AutomaticRepairsPolicyEnabled": false
}
```

If the **"AutomaticRepairsPolicyEnabled"** configuration attribute value is set to **null** or **false**, as shown in the output example above, the Automatic repairs feature is not currently enabled for the selected Microsoft Azure virtual machine scale set.

07 Repeat step no. 5 and 6 for each Azure virtual machine scale set provisioned in the selected subscription.

08 Repeat steps no. 3 – 10 for each subscription created in your Microsoft Azure cloud account.

Using Azure Portal

01 Sign in to Azure Management Console.

02 Navigate to **All resources** blade at https://portal.azure.com/#blade/HubsExtension/BrowseAll to access all your Microsoft Azure resources.

03 Choose the Azure subscription that you want to access from the **Subscription** filter box.

04 From the **Type** filter box, select **Virtual machine scale set** to list only the Azure virtual machine scale sets created in the selected subscription.

05 Click on the name of the virtual machine scale set that you want to examine.

06 In the navigation panel, under **Settings**, select **Health and repair** to view the automatic repair policy configured for the selected VM scale set.

07 On the **Health and repair** page, check the **Automatic repairs** configuration attribute value. If the attribute value is set to **Off**, the Automatic repairs feature is not enabled for the selected Microsoft Azure virtual machine scale set.

08 Repeat steps no. 5 – 7 for each Azure virtual machine scale set available in the selected subscription.

09 Repeat steps no. 3 – 8 for each subscription created in your Microsoft Azure cloud account.

Azure Official Documentation

- What are virtual machine scale sets?
- Automatic instance repairs for Azure virtual machine scale sets

   Azure Command Line Interface (CLI) Documentation
- az account list
- az vmss list
- az vmss show
- az vmss update