Lab 7 Report

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Title

Azure Monitor: Configuring Alerts, Action Groups, and Log Queries

Introduction or Purpose

The purpose of this lab is to explore Azure's monitoring capabilities, specifically **Azure Monitor** and **Log Analytics**, to gain insight into the performance and configuration of Azure resources. The objectives include:

- Deploying a virtual machine using an ARM template.
- Configuring Azure Monitor to track resource performance.
- Creating alerts and configuring action group notifications.
- Testing alert triggers and validating notifications.
- Using Log Analytics to query performance metrics.

Steps Covered in the Lab

Task 1: Use a Template to Provision an Infrastructure

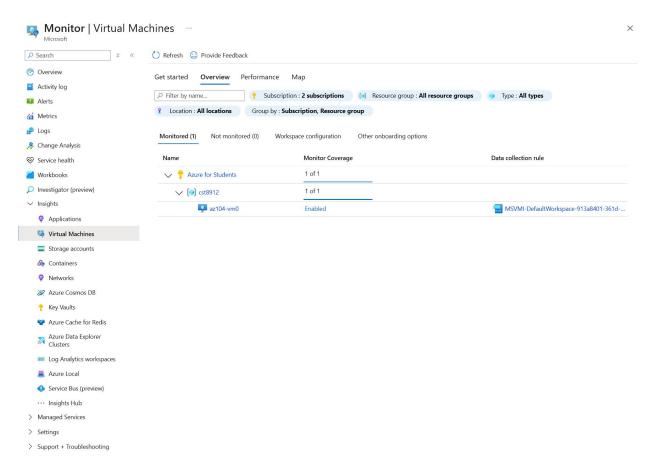
- 1. Downloaded the lab file az104-11-vm-template.json.
- 2. Logged into the Azure Portal (https://portal.azure.com).
- 3. Navigated to **Deploy a custom template** and selected **Build your own template in the editor**.
- 4. Loaded the az104-11-vm-template.json file and saved it.
- 5. Entered deployment details:

Resource Group: CST8912
 Region: Canada Central
 Username: localadmin
 Password: 200530Zz!

- 6. Clicked **Review + Create**, then **Create**.
- 7. Verified that the deployment created:
 - o One virtual network.
 - o One virtual machine.

1. Configured Azure Monitor for Virtual Machines:

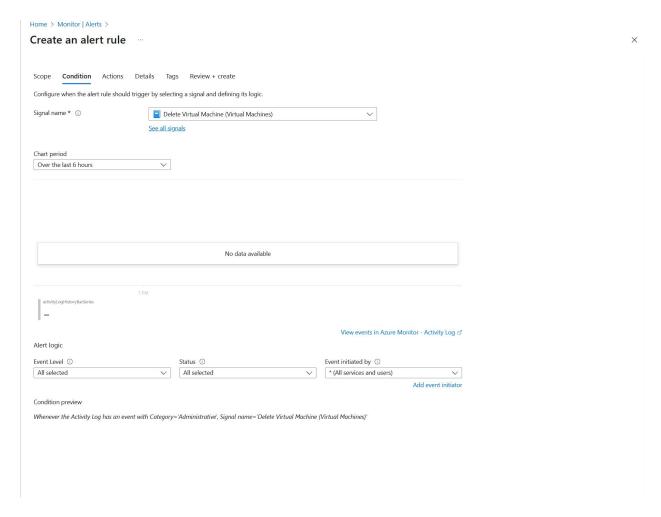
- Opened Monitor from the Azure Portal.
- Selected View in the VM Insights.
- o Enabled monitoring for the deployed virtual machine.
- Used default subscription and data collection rules.



Task 2: Create an Alert

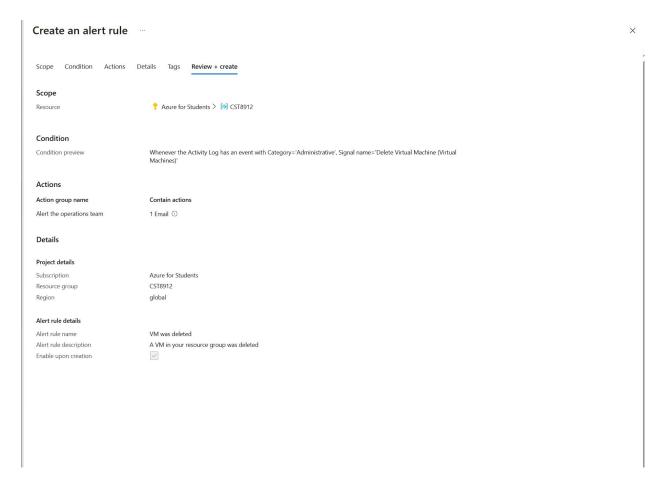
- 1. Opened Monitor > Alerts.
- 2. Clicked Create + and selected Alert rule.
- 3. Selected the resource group CST8912 and applied the setting.
- 4. Configured the condition:

- o Clicked See all signals.
- o Selected Delete Virtual Machine (Virtual Machines).
- o Applied default settings for event level and status.



Task 3: Configure Action Group Notifications

- 1. Continued setting up the alert.
- 2. Clicked Next: Actions, then Create action group.
- 3. Configured the action group:
 - o Action Group Name: Alert the operations team
 - o **Display Name:** AlertOpsTeam
 - o **Notification Type:** Email
 - o Notification Name: VM was deleted
 - o Email Address: (provided email)
- 4. Clicked **Review** + **Create**, then **Create**.



Task 4: Trigger an Alert and Confirm Notification

- 1. Navigated to Virtual Machines.
- 2. Selected az104-vm0, clicked **Delete**.
- 3. Checked **Apply force delete**, typed "delete" to confirm.
- 4. Verified deletion in **Notifications**.
- 5. Checked email for an alert from Azure Monitor.



You've been added to an Azure Monitor action group

You are now in the AlertOpsTeam action group and will receive notifications sent to the group.

View details on Azure Monitor action groups >

Account information

Subscription ID: 913A8401-361D-4F42-8D7D-E2FF44F75DA2

Resource group name: CST8912

Action group name: Alert the operations team

To unsubscribe from this action group, click here.

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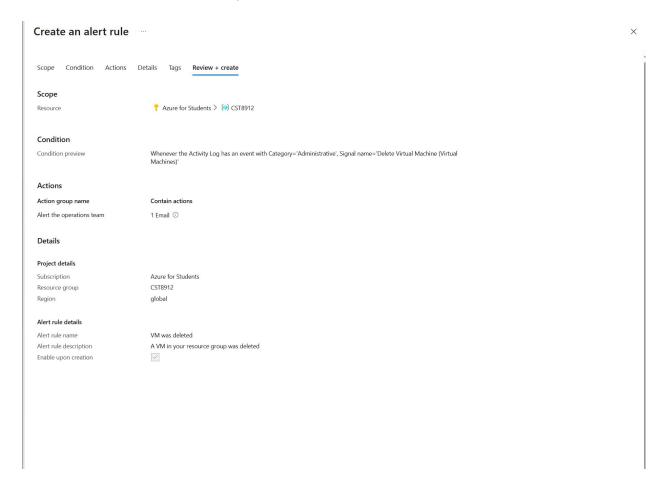
Task 5: Configure an Alert Processing Rule

- 1. Opened Monitor > Alerts > Alert Processing Rules.
- 2. Clicked + Create.
- 3. Selected the resource group CST8912.
- 4. Chose **Suppress notifications**.
- 5. Scheduled maintenance period:

Start: Today at 10 PMEnd: Tomorrow at 7 AM

Time **Zone**: Local

6. Clicked Review + Create, then Create.



Task 6: Use Azure Monitor Log Queries

- 1. Opened **Monitor** > **Logs**.
- 2. Selected the scope as CST8912 Resource Group.
- 3. Ran Count heartbeats query:

Heartbeat

| summarize count() by Computer

- Verified VM heartbeat was detected.
- 1. Replaced the query with:

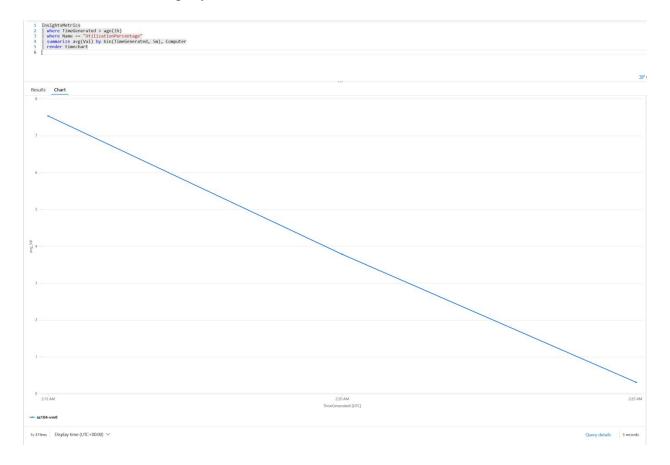
InsightsMetrics

| where TimeGenerated > ago(1h)

```
| where Name == "UtilizationPercentage"
| summarize avg(Val) by bin(TimeGenerated, 5m), Computer
| render timechart
```

2.

o Ran the query and observed the CPU utilization chart.



Results

The lab successfully demonstrated:

- Deploying a virtual machine using an ARM template.
- Enabling Azure Monitor to track VM performance.
- Setting up alerts for VM deletion.
- Configuring an action group to send email notifications.
- Testing alert functionality by deleting a VM.
- Using Azure Monitor logs to analyze system metrics.

References

- Microsoft Azure Documentation https://docs.microsoft.com/en-us/azure/
 Algonquin College Cloud Architecture Course Material