

## Module 15 - Lab 2: Implementing Azure Monitor

### Lab Overview

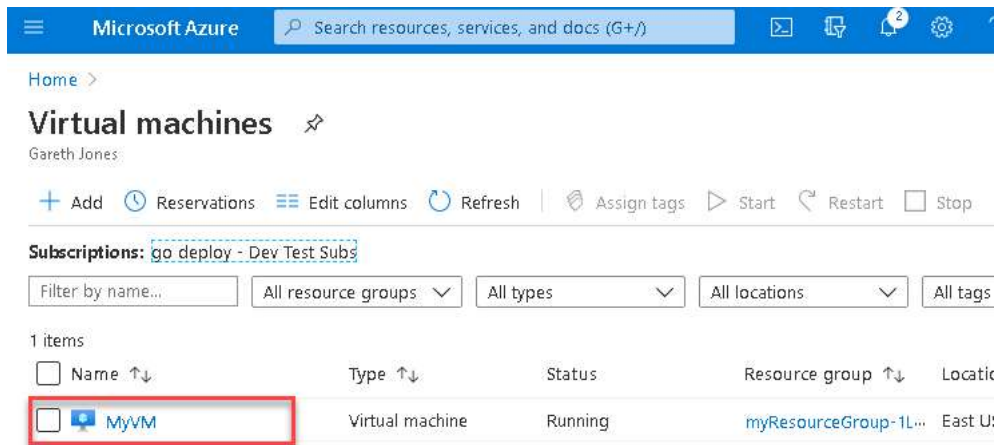
In this lab, you will be deploying a test Virtual Machine and configuring Azure Monitor on that Virtual Machine by applying some condition and action items. If the Virtual Machine reaches the defined condition thresholds, Azure Monitor will generate alerts.

### Learning Objectives

- Deploy a test Virtual Machine
- Configure Azure Monitor
- Test the Alerts triggered by Azure Monitor

### Exercise 1: Configure Azure Monitor

1. Login to the **Azure Portal** <https://portal.azure.com> using the username [sheikhnasirPS6HG@gdcs4.com](mailto:sheikhnasirPS6HG@gdcs4.com) and password [851VSFh8Q0Q0susw](#)
2. In the **Azure Portal** navigate to **Virtual Machines** and select **MyVM**.



3. Select **Diagnostic settings** under the Monitoring section.
4. Click **Enable guest level monitoring**.

Microsoft Azure

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Home > Virtual machines >

## MyVM | Diagnostic settings

Virtual machine

Search (Ctrl+/)

Save Discard

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Configuration management (P...

Policies

Run command

Monitoring

Insights

Alerts

Metrics

**Diagnostic settings**

Logs

Connection monitor

Support + troubleshooting

Resource health

Boot diagnostics

Overview Performance counters Logs Crash dumps Sinks Agent

Azure Monitoring collects host-level metrics – like CPU ut usage – for all virtual machines without any additional sof into this virtual machine, you can collect guest-level metri diagnostic data using the Azure Diagnostics agent. You c data to other services like Application Insights. [Learn mor](#)

To get started now, choose a storage account below whe sent and then click the button labeled 'Enable guest-level

Diagnostics storage account \*

(new) myresourcegroupmp... ▾

[Create new](#)

**Enable guest-level monitoring**

☐ 5. In the Azure Portal, search for and select **Monitor**

☐ 6. This page brings together all your monitoring settings and data into one consolidated view. It first opens to the **Overview** section. The Overview shows you a rollup of all monitoring alerts, errors, and service health advisories that relate to resources in your subscription.

Home >

## Monitor | Overview

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**Alerts**

Metrics

Logs

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Documentation

### Monitor your applications and infrastructure

Get full stack visibility, find and fix problems, optimize your performance, and understand customer behavior all in one place. [Learn more](#)

#### Monitor & Visualize Metrics

Metrics are numerical values available from Azure Resources helping you understand the health, operation & performance of your systems.

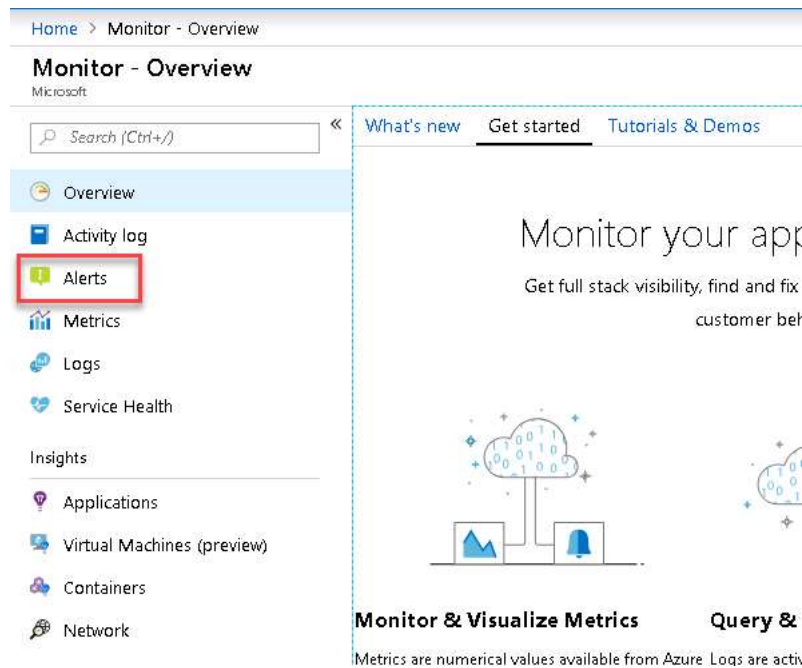
[Explore Met...](#)

#### Query & Analyze Logs

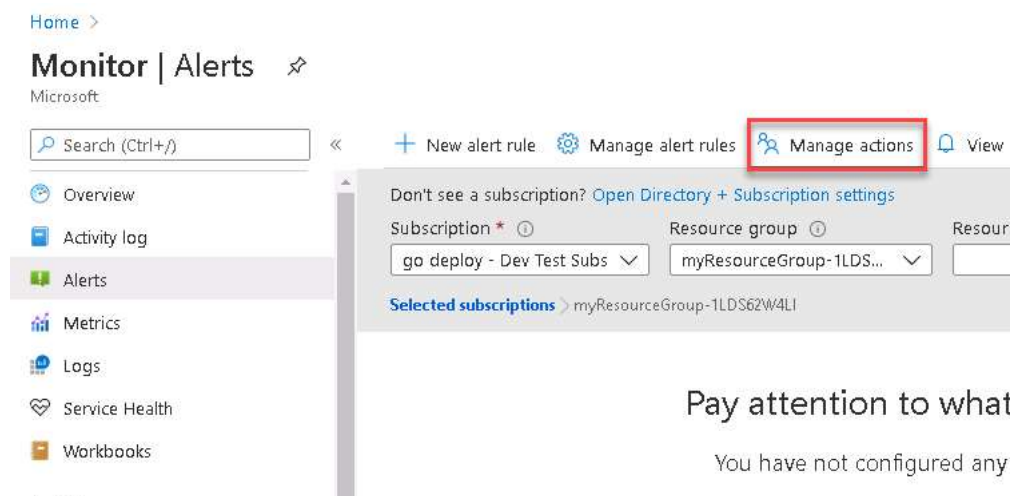
Logs are activity logs, diagnostic logs and telemetry from monitoring solutions; Analytics queries help with troubleshooting & visualizations.

[Search Logs](#)

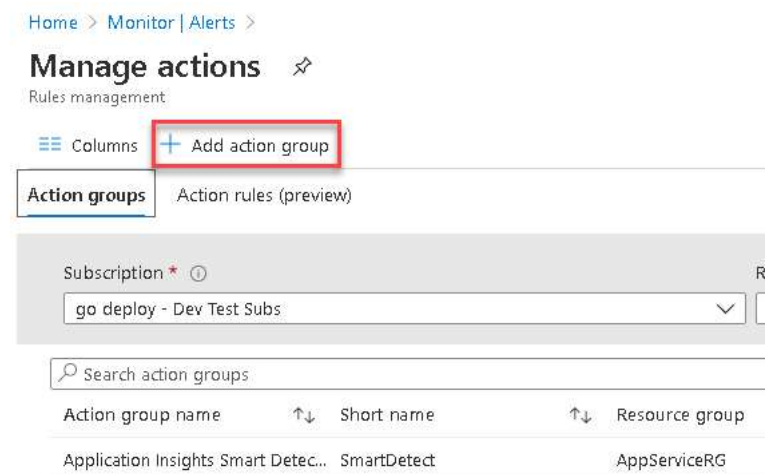
☐ 7. Click **Alerts** on the left.



- ☐ 8. Click **Manage Actions**





- ☐ 9. Click + **Add Action Group**

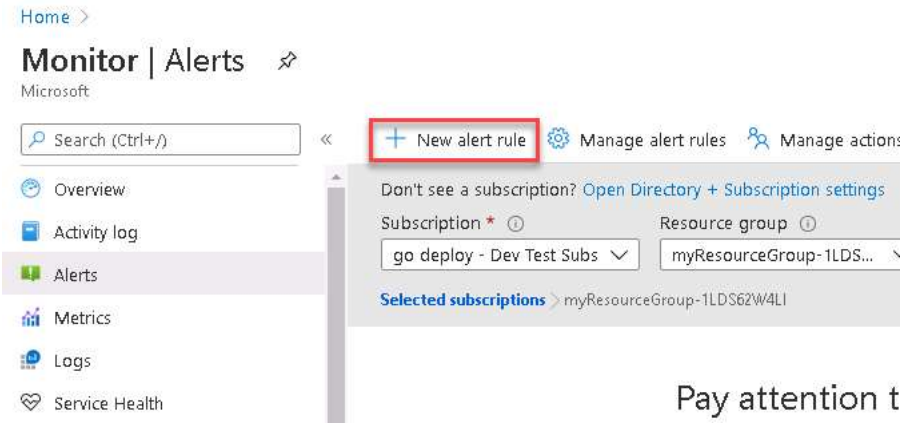


- ☐ 10. In the **Add action group** blade, use the following values:

- Action group name: **RestartVM**
- Short name: **Restart**
- Subscription: **Select you subscription**

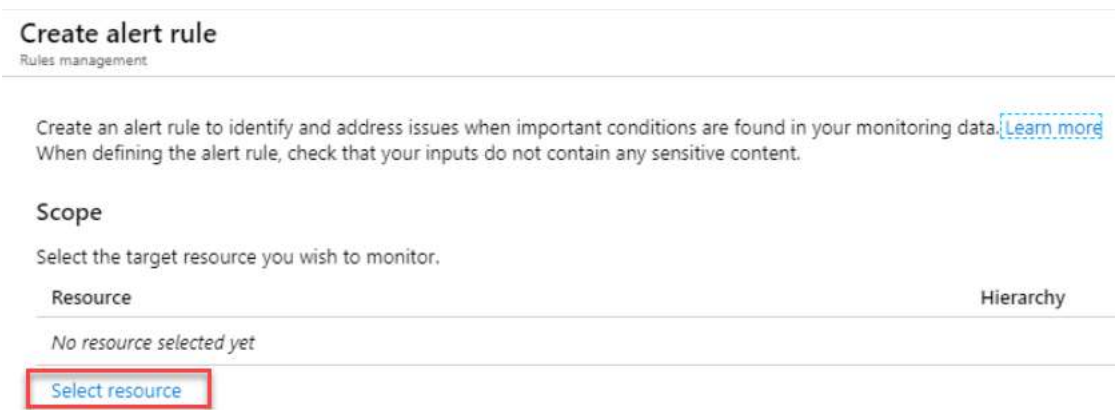
- Resource group: **myResourceGroup-7PCQ9EMYV7**
- ☐ 11. In the **Notifications** section, add an action with the following configuration:
  - Action name:  **Email123**
  - Notification Type:  **Email/SMS/Push/Voice**
- ☐ 12. In the details pane for **Email/SMS/Push/Voice** that appears on the right, check the box for **Email** and enter a valid email address. Check the box for **SMS** and enter a valid phone number where you would to receive text notifications.
 

If you have the Azure App installed on your phone, check the box for **Azure App Notifications** and enter the email address associated with the Azure app. Finally, check the box for **Voice** and enter a phone number where you would like to receive a call notifying you when your alert is triggered.
- ☐ 13. Click **OK** when you are done then click **Review + Create** then **Create**.
- ☐ 14. Return to the **Monitor-Alerts** service page.
- ☐ 15. Click **+ New Alert rule**.



Pay attention t

- ☐ 16. In the **Create rule** blade, click **Select resource** under the **Scope** section.



- ☐ 17. On the **Select a resource page** in the **Filter by resource type** dropdown, choose Virtual machines. Then select **myVM** and click **Done**.

Microsoft Azure Search resources, services, and docs (G+/)

Home > Monitor | Alerts

## Create alert rule

Rules management

Create an alert rule to monitor your resources. When defining the alert rule, you must select a resource to monitor.

**Scope**

Select the target resource(s) you want to monitor. Available signal types for your selection will show.

Filter by subscription \* ⓘ Filter by resource type ⓘ

go deploy - Dev Test Subs Virtual machines

Search to filter items...

Resource	Resource type
<input type="checkbox"/> go deploy - Dev Test Subs	Subscription
<input type="checkbox"/> myresourcegroup-1lds62w4li	Resource group
<input checked="" type="checkbox"/> MyVM	Virtual machine

Select resource

18. Click **Add condition** in the Conditions section to open the **Configure signal logic** blade on the right.

### Condition

Configure when the alert rule should trigger by selecting a signal and defining its logic.

Condition name

No condition selected yet

Select condition

19. In the **Configure signal logic** blade, search for and select the signal type **Restart Virtual Machine (Microsoft.Compute/virtualMachines)** in the **Administrative** Monitor service then click **Done**.

### Configure signal logic

Choose a signal below and configure the logic on the next screen to define the alert condition.

Signal type ⓘ Monitor service ⓘ

All All

Displaying 1 - 1 signals out of total 1 search results

restart

Signal name	Signal type	Monitor service
Restart Virtual Machine (Microsoft.Compute/virtualMachines)	Activity Log	Administrative

**Note:** Do not enter a value in the **Event initiated by** field.

20. In the **Action group** section, click **Add action group** and select the **RestartVM** action group you created earlier in the exercise. Then click **Select**.
21. In the **Alert Details** section, enter the following values then make sure **Enable rule upon creation** is set to **Yes** and click **Create alert rule** to finally create the rule.
- Alert rule name: **Restart VM**
  - Description: **Restarting VM alerts**
  - Save alert to resource group : **myResourceGroup**

### Alert rule details

Provide details on your alert rule so that you can identify and manage it later.

Alert rule name *	Restart VM ✓
Description	Restarting VM alerts ✓
Save alert rule to resource group *	myResourceGroup-1LDS62W4LI ✓
Enable alert rule upon creation	<input checked="" type="checkbox"/>

#### ✓ Summary

You have successfully configured Azure Monitor to alert you when the MyVM virtual machine is restarted.

### Exercise 2: Test the Alert

- ☐ 1. In the Azure Portal navigate to **Virtual Machines** and select **MyVM**.

The screenshot shows the Azure Portal interface for Virtual Machines. The top navigation bar includes the Microsoft Azure logo and a search bar. Below the navigation bar, the 'Virtual machines' section is displayed, showing a list of virtual machines. The 'MyVM' entry is highlighted with a red box. The table columns are Name, Type, Status, Resource group, and Location. The 'MyVM' entry shows it is a Virtual machine, Running, in the myResourceGroup-1LDS62W4LI resource group, located in East US.

- ☐ 2. In the **myVM** blade, click **Restart** and click **Yes** in the confirmation dialog.

The screenshot shows the 'MyVM' blade in the Azure Portal. The 'Restart' button is highlighted with a red box. A confirmation dialog is displayed, asking 'Do you want to restart 'MyVM'?'. The 'Yes' button is highlighted with a red box. The dialog also shows the subscription 'go deploy - Dev Test Subs' and the collocation 'N/A'.

- ☐ 3. You should receive an SMS text message, email, phone call, and an Azure app push notification (if configured) regarding the restart of the virtual machine within about 5 minutes. Here is an example of an email alert:

## Azure Monitor alert 'Restart VM' was activated for 'MyVM' at June 28, 2020 16:40 UTC

You're receiving this notification as a member of the restart action group because an Azure Monitor alert was activated.

Activity log alert	Restart VM`
Time	June 28, 2020 16:40 UTC
Category	Administrative
Operation name	Microsoft.Compute/virtualMachines/restart/action
Correlation ID	98383f93-8be6-4665-806a-97ca749265f2
Level	Informational
Resource ID	/subscriptions/[REDACTED] 9/resourceGroups/myResourceGroup-1LDS62W4LI/providers/Microsoft.Compute/virtualMachines/MyVM
Caller	[REDACTED]

- ☐ 4. On the portal's left navigation, click **Monitor** then click **Alerts**.
- ☐ 5. You should see that the alert rule you created earlier has fired multiple times, once for each notification method you configured earlier.

Total alerts		Smart groups (Preview) ⓘ	Total alert rules		Learn Mon About Aler
3		0	1		
Since 2/12/2019, 4:53:11 PM		0% Reduction	Enabled 1		
SEVERITY	TOTAL ALERTS		NEW	ACKNOWLEDGED	CLOSED
Sev 0	0		0	0	0
Sev 1	0		0	0	0
Sev 2	0		0	0	0
Sev 3	0		0	0	0
Sev 4	3		3	0	0

### ✓ Summary

You have successfully tested alerting in Azure Monitor by creating an alert rule with custom targets, conditional logic, and delivery mechanisms for the alert itself.