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**Section: A**

**LAB: 11**

**Task 1: Use a template to provision an infrastructure.**

The image shows two screenshots of the Microsoft Azure portal. The top screenshot is titled 'Custom deployment' and shows configuration details for a new resource group named 'zainabRG'. The bottom screenshot is titled 'Overview' for a resource group named 'zainabRG' and displays a list of provisioned resources, all located in Central India.

**Custom deployment Configuration:**

Setting	Value
Subscription	Azure for Students
Resource group	zainabRG
Region	Central India
Admin Username	localadmin
Admin Password	*****
Vm Name Prefix	az104-vm
Pip Name Prefix	az104-pip
Nic Name Prefix	az104-nic
Image Publisher	MicrosoftWindowsServer
Image Offer	WindowsServer
Image SKU	2019-Datacenter
Vm Size	Standard_D2s_v3
Virtual Network Name	az104-vnet
Address Prefix	10.0.0.0/24
Virtual Network Resource Group	az104-rg11

**Resource Group Overview:**

Name	Type	Location
az104-nic0	Network Interface	Central India
az104-nsg01	Network security group	Central India
az104-pip0	Public IP address	Central India
az104-vm0	Virtual machine	Central India
az104-vm0_OsDisk_1_92a615172e214f2c9ebd774e29e06ad9	Disk	Central India
az104-vnet	Virtual network	Central India
az1041hh7d7d64z4si	Storage account	Central India

**Microsoft Azure** Search resources, services, and docs (G+/-) Copilot Home > Monitor | Virtual Machines > Configure monitor | azurevmzainab ...

Capabilities Review + enable

**Infrastructure monitoring**

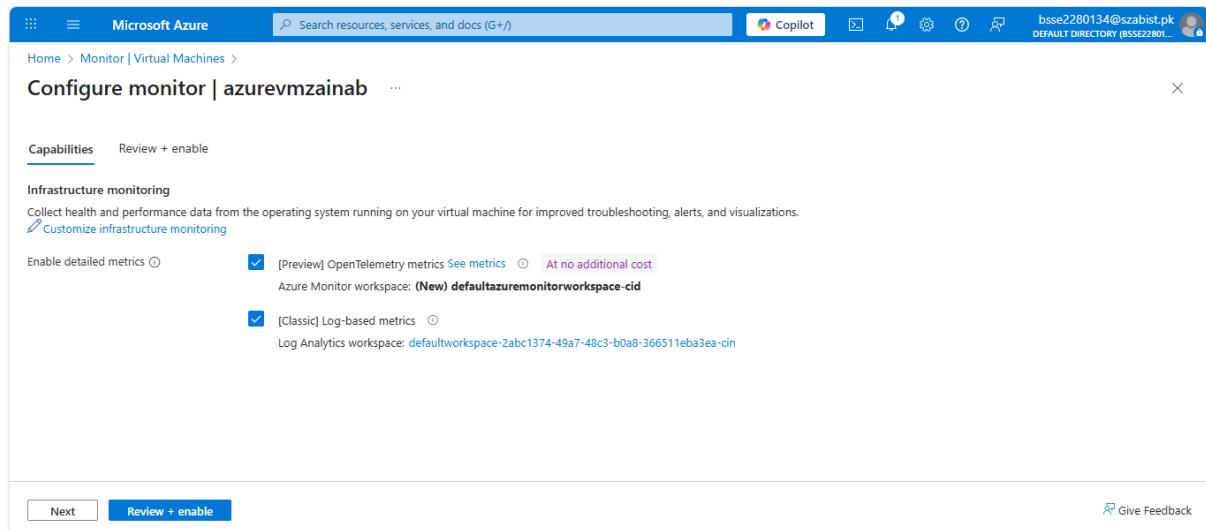
Collect health and performance data from the operating system running on your virtual machine for improved troubleshooting, alerts, and visualizations.

[Customize infrastructure monitoring](#)

Enable detailed metrics  [Preview] OpenTelemetry metrics [See metrics](#)  At no additional cost  
Azure Monitor workspace: (New) defaultazuremonitorworkspace-cid

[Classic] Log-based metrics   
Log Analytics workspace: defaultworkspace-2abc1374-49a7-48c3-b0a8-366511eba3ea-cin

[Next](#) [Review + enable](#) [Give Feedback](#)



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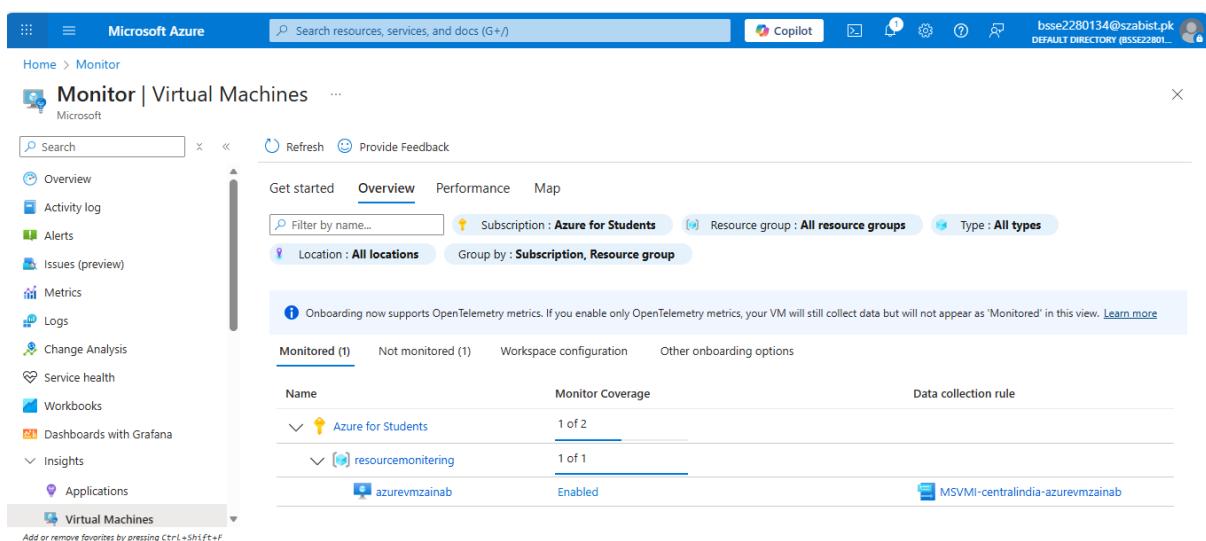
Overview Activity log Alerts Issues (preview) Metrics Logs Change Analysis Service health Workbooks Dashboards with Grafana Insights Applications Virtual Machines Add or remove favorites by pressing Ctrl+Shift+F

Get started Overview Performance Map

Filter by name... Subscription : **Azure for Students** Resource group : All resource groups Type : All types Location : All locations Group by : Subscription, Resource group

Onboarding now supports OpenTelemetry metrics. If you enable only OpenTelemetry metrics, your VM will still collect data but will not appear as 'Monitored' in this view. [Learn more](#)

Monitored (1)	Not monitored (1)	Workspace configuration	Other onboarding options
Name	Monitor Coverage	Data collection rule	
✓ Azure for Students	1 of 2		
✓ resourcemonitoring	1 of 1		
✓ azurevmzainab	Enabled	MSVMI-centralindia-azurevmzainab	



## Task 2: Create an alert.

**Microsoft Azure** Search resources, services, and docs (G+/-) Copilot Home > Monitor | Alerts > Create an alert rule ...

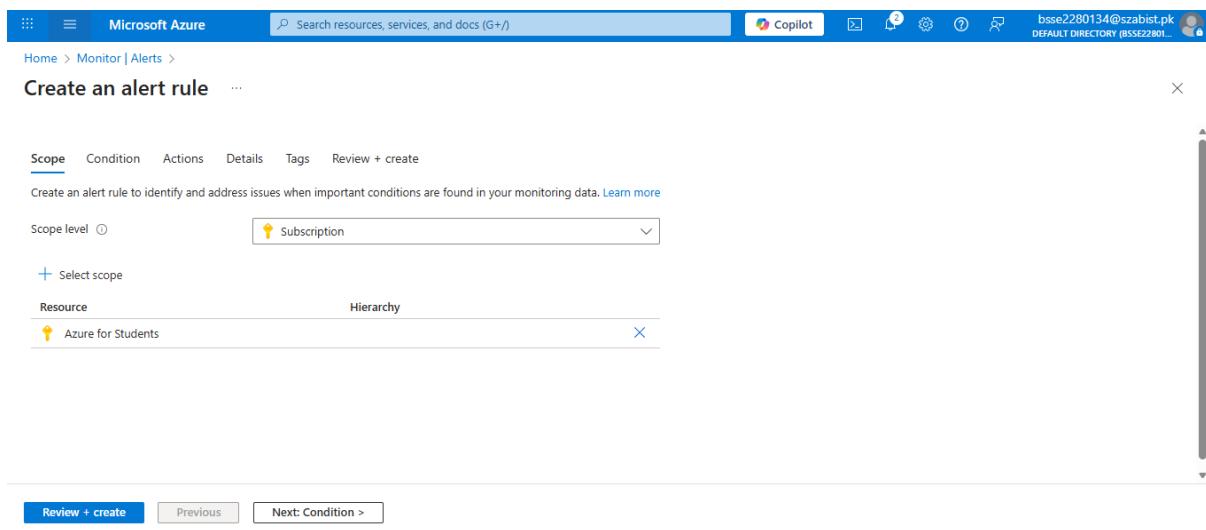
Scope Condition Actions Details Tags Review + create

Create an alert rule to identify and address issues when important conditions are found in your monitoring data. [Learn more](#)

Scope level  Subscription [Select scope](#)

Resource	Hierarchy
✓ Azure for Students	X

[Review + create](#) [Previous](#) [Next: Condition >](#)



**Create an alert rule**

No data available

5 AM

activityLogHistoryBarSeries

View events in Azure Monitor - Activity Log

**Alert logic**

Event Level: All selected

Status: All selected

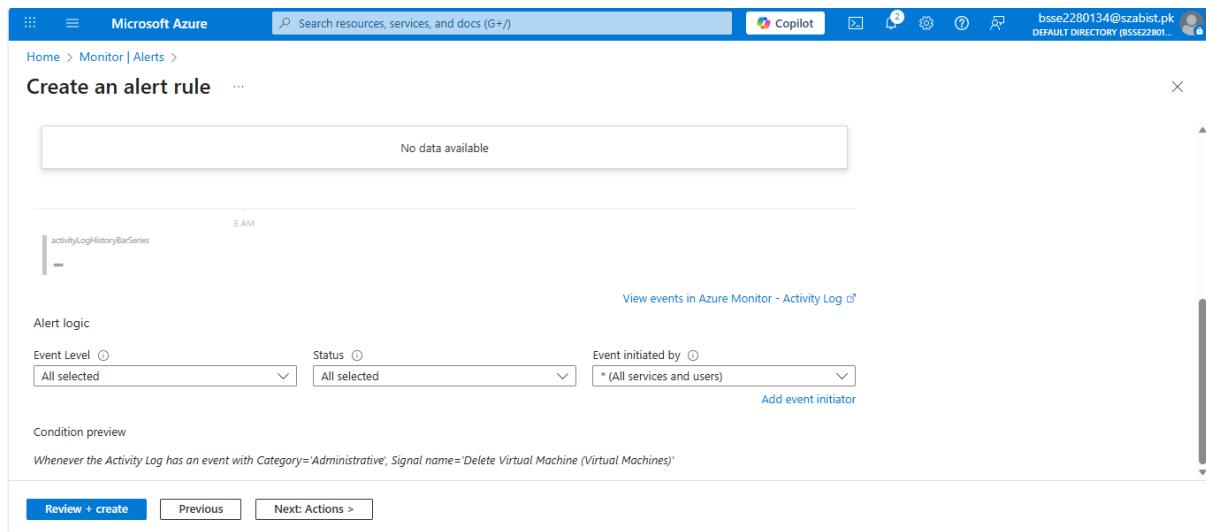
Event initiated by: \* (All services and users)

Add event initiator

**Condition preview**

Whenever the Activity Log has an event with Category='Administrative', Signal name='Delete Virtual Machine (Virtual Machines)'

**Review + create** **Previous** **Next: Actions >**



### Task 3: Configure action group notifications.

**Create action group**

**Review + create**

This is a summary of your action group. Please review to ensure the information is correct and consider [Azure Monitoring Pricing](#) and the [Azure Privacy Statement](#).

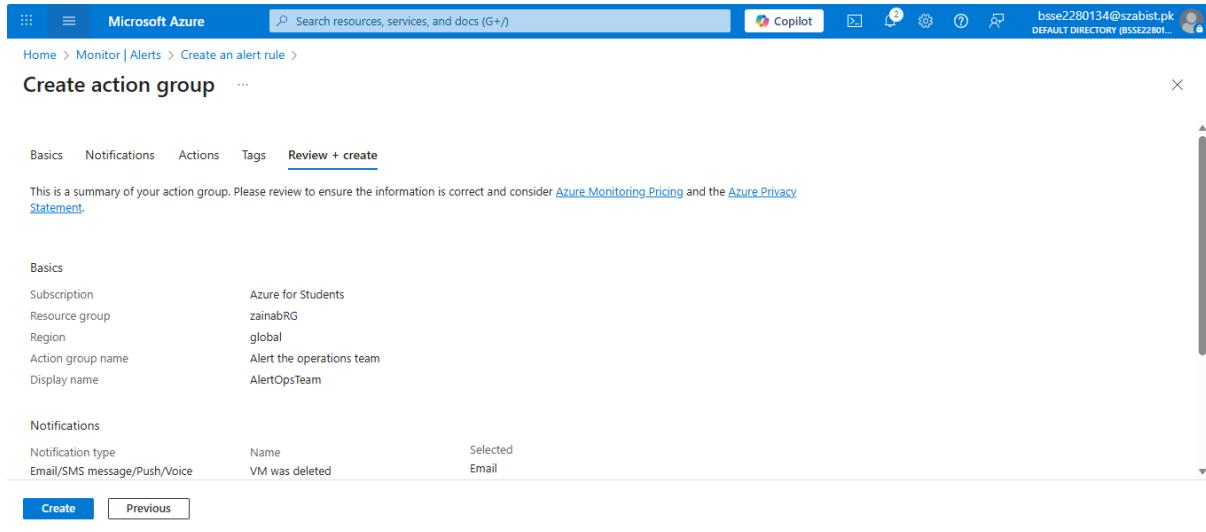
**Basics**

Subscription	Azure for Students
Resource group	zainabRG
Region	global
Action group name	Alert the operations team
Display name	AlertOpsTeam

**Notifications**

Notification type Email/SMS message/Push/Voice	Name VM was deleted	Selected Email
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**Create** **Previous**



**Create an alert rule**

**Review + create**

**Scope**

Scope level: Subscription

Resource: Azure for Students

**Condition**

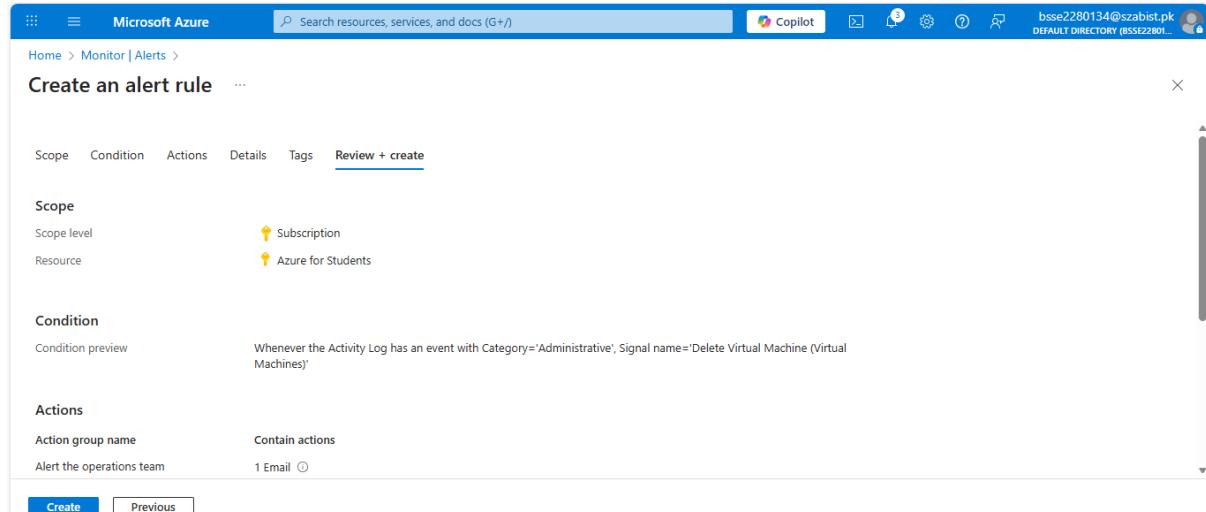
Condition preview: Whenever the Activity Log has an event with Category='Administrative', Signal name='Delete Virtual Machine (Virtual Machines)'

**Actions**

Action group name: Contain actions

Alert the operations team: 1 Email

**Create** **Previous**



The screenshot shows the Microsoft Azure Monitor | Alerts interface. The left sidebar has 'Alerts' selected under 'Issues (preview)'. The main area displays alert statistics: Total alerts (0), Critical (0), Error (0), Warning (0), Informational (0), and Verbose (0). Below this is a table with columns: Name (Name ↑), Severity (Severity ↑↓), Affected resource (Affected resource ↑↓), Alert condition (Alert condition ↑↓), User response (User response ↑↓), and Fire time (Fire time ↑↓). A large 'No alerts found' message with an exclamation mark icon is centered at the bottom.

## Task 4: Trigger an alert and confirm it is working.

The top half of the screenshot shows the Microsoft Azure portal. A virtual machine named 'azurevmzainab' is selected. In the 'Delete' dialog, it asks if you want to permanently delete the VM, which is irreversible. It lists the VM as the 'Resource to be deleted' and 'Virtual machine' as the 'Resource type'. There is a checked checkbox for 'Apply force delete'. Below this, there's a section for 'Associated resource type' with 'OS disk' and 'Network interfaces', both with checkboxes. A note says 'I have read and understand that this virtual machine as well as any selected associated resources listed above will be deleted.' At the bottom are 'Delete' and 'Cancel' buttons.

The bottom half shows a Gmail inbox with one new email. The subject of the email is 'Azure Monitor alert 'VM was deleted' was activated for 'az104-vm0' at December 23, 2025 6:20 UTC'. The email body states: 'You're receiving this notification as a member of the AlertOpsTeam action group because an Azure Monitor alert was activated.' Below this, there is a table with details: Activity log alert (VM was deleted), Time (December 23, 2025 6:20 UTC), Category (Administrative), and Operation name (Microsoft.Compute/virtualMachines/delete).

Microsoft Azure

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Home > Monitor

Monitor | Alerts

Search

View as timeline (preview) | Create | Alert rules | Action groups | Alert processing rules | Prometheus rule groups | ...

Overview | Activity log | Alerts | Issues (preview) | Metrics | Logs | Change Analysis | Service health | Workbooks | Dashboards with Grafana | Insights | Managed Services | Settings

Subscription : 2abc1374-49a7-48c3-b0a8-366511eba3ea | Time range : Past 24 hours | Add filter | More (2)

Total alerts: 3 | Critical: 0 | Error: 0 | Warning: 0 | Informational: 0 | Verbose: 3

Name ↑	Severity ↑	Affected resource ↑	Alert condition ↑	User response ↑	Fire time ↑
VM was deleted	4 - Verbose	az104-vm0	Fired	New	12/23/2025, 11:26 AM
VM was deleted	4 - Verbose	az104-vm0	Fired	New	12/23/2025, 11:26 AM
VM was deleted	4 - Verbose	az104-vm0	Fired	New	12/23/2025, 11:26 AM

Showing 1 - 3 of 3 results.

Give feedback

Microsoft Azure

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Home > Monitor

Monitor | Alerts

Search

View as timeline (preview) | Copy link | Go to alert rule | Investigate (preview)

Overview | Activity log | Alerts | Issues (preview) | Metrics | Logs | Change Analysis | Service health | Workbooks | Dashboards with Grafana | Insights | Managed Services | Settings

Subscription : 2abc1374-49a7-48c3-b0a8-366511eba3ea | Time range : Past 24 hours | Add filter | More (2)

Total alerts: 3 | Critical: 0

Name ↑	Severity ↑	Affected resource ↑	Monitor service ↑	Alert condition ↑	User response ↑
VM was deleted	4 - Verbose	az104-vm0	ActivityLog Adminstrative	Fired	New
VM was deleted	4 - Verbose	az104-vm0	ActivityLog Adminstrative	Fired	New
VM was deleted	4 - Verbose	az104-vm0	ActivityLog Adminstrative	Fired	New

The target resource az104-vm0 has been moved or deleted.

Why did this alert fire?

The following event occurred: Microsoft.Compute/virtualMachines/delete

Event level: Informational | Category: Administrative | Initiated by: bsse2280134@szabist.pk

## Task 5: Configure an alert processing rule.

Microsoft Azure

Search resources, services, and docs (G+)

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Home > Monitor | Alerts > Alert processing rules >

Create an alert processing rule

Rule settings

Rule type: Suppress notifications

Scheduling

Apply the rule: At a specific time

Schedule: From 23/12/2025 at 10:00 am to 24/12/2025 at 7:00 am (UTC+05:00 Islamabad, Karachi)

Details

Subscription: Azure for Students

Resource group: zainabRG

Name: Planned Maintenance

Description: Suppress notifications during planned maintenance

Enable rule upon creation:

Create | Previous

## Task 6: Use Azure Monitor log queries.

The screenshots illustrate the process of using Azure Monitor log queries:

- Screenshot 1: Queries hub**  
Shows the 'Queries hub' with 'Virtual machines' selected. It displays four sample queries: 'Count heartbeats', 'Last heartbeat of each computer', 'Ingestion latency (end-to-end) spikes - ...', and 'Agent latency spikes - Heartbeat table'. A message at the bottom says 'You haven't run any queries yet.'
- Screenshot 2: New Query 1\***  
Shows a new query editor titled 'New Query 1\*'. The results pane shows a table with one row: 'Computer' and 'count\_'. The value for 'azurervmzainab' is 12. The 'Simple mode' dropdown is selected.
- Screenshot 3: New Query 1\***  
Shows the same query editor, but the 'KQL mode' dropdown is selected. The results pane shows a table with three rows of data. The columns are 'TimeGenerated [UTC]' (sorted ascending), 'Computer', and 'avg\_Val'. The data is as follows:

TimeGenerated [UTC]	Computer	avg_Val
12/23/2025, 6:20:00.000 AM	azurervmzainab	0.1928196666666667
12/23/2025, 6:15:00.000 AM	azurervmzainab	0.1680218
12/23/2025, 6:10:00.000 AM	azurervmzainab	0.650234

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Home > Monitor

Monitor | Logs Microsoft

New Query 1\*

Run Time range : Set in query Show : 1000 results KQL mode

1 // Count heartbeats  
2 // Count all computers heartbeats from the last hour.  
3 // Count computers heartbeats in the last hour.  
4 // Normally, agents on VMs generate Heartbeat event every minute.  
5 InsightsMetrics

Results Chart

avg\_val

6:10 AM 6:15 AM 6:20 AM TimeGenerated (UTC)

Chart form

The screenshot shows the Microsoft Azure Monitor Logs interface. On the left, there's a navigation sidebar with options like Overview, Activity log, Alerts, Issues (preview), Metrics, and Logs (which is selected). The main area has a search bar at the top. Below it, a query editor window titled 'New Query 1\*' displays some KQL code. To the right of the query is a chart titled 'avg\_val' showing data over time from 6:10 AM to 6:20 AM UTC. The chart shows a single blue line starting at approximately 0.65 and decreasing to about 0.2, then remaining flat. The chart has a 'Chart form' button on the right.