

Shaheed Zulfikar Ali Bhutto Institute of Science and Technology

Department of Software Engineering

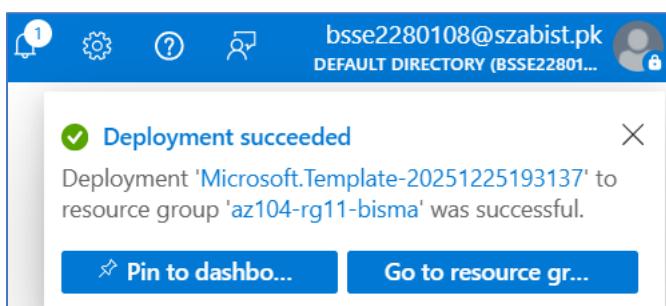
Bisma Saeed – 2280108

BSSE – 7A

Lab: 11

Implement Monitoring

Task 1: Use a template to provision an infrastructure



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_5d5de3c462d2449b85a221329bd7da96	Disk	Central India
az104-vnet	Virtual network	Central India
az10411nardhnstzicvi	Storage account	Central India

Microsoft Azure Search resources, services, and docs (G+) Copilot DEFAULT DIRECTORY (BSSE22801...)

Home > Monitor | Virtual Machines > Configure monitor | az104-vm0 ...

Capabilities Review + enable

Infrastructure monitoring

Enable detailed metrics	Yes
OpenTelemetry metrics (preview)	Enabled (New) defaultazuremonitorworkspace-cid
Azure Monitor workspace	Metrics collected: filesystem usage, disk usage, disk operation time, disk operations, memory usage, network io, cpu time, network dropped, network errors, system uptime
Performance counters	
Log-based metrics (classic)	Enabled
Log Analytics workspace	(New) defaultworkspace-56e803bd-09a5-4d9d-8f86-770890614786-cid

Previous Enable Give Feedback

Copilot Notifications Dismiss all More events in the activity log → a few seconds ago

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Notifications

Onboarding successful X

Your environment is now onboarded.

View configuration

Task 2: Create an alert

The screenshot shows the 'Create an alert rule' wizard in the Microsoft Azure portal. The current step is 'Review + create'. The configuration includes:

- Scope:** Set to 'Subscription' under 'Scope level'.
- Condition:** Set to 'Whenever the Activity Log has an event with Category='Administrative', Signal name='Delete Virtual Machine (Virtual Machines)''.
 - Condition preview: Whenever the Activity Log has an event with Category='Administrative', Signal name='Delete Virtual Machine (Virtual Machines)'
- Actions:** Set to 'Contain actions' under 'Action group name'.
- Details:** Set to 'Alert the operations team' under 'Alert the operations team'.

At the bottom, there are 'Create' and 'Previous' buttons.

The screenshot shows the 'Notifications' panel in the Microsoft Azure portal. A notification is displayed:

Alert rule created
Alert rule VM-Deletion-Alert successfully created. It might take a few minutes for changes to be shown.
8 minutes ago

The screenshot shows the 'Monitor | Virtual Machines' overview page in the Microsoft Azure portal. The left sidebar includes links for Overview, Activity log, Alerts, Issues (preview), Metrics, Logs, Change Analysis, Service health, Workbooks, Dashboards with Grafana, Insights, Applications, and Virtual Machines. The main area displays monitoring details for the 'Azure for Students' subscription, including:

- Monitored (1) Not monitored (0)
- Workspace configuration Other onboarding options
- Name: Azure for Students, Monitor Coverage: 1 of 1
- Name: az104-rg11-bisma, Monitor Coverage: 1 of 1
- Name: az104-vm0, Monitor Coverage: Enabled, Data collection rule: MSVMI-centralindia-az104-vm0

Task 3: Configure action group notifications

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

Home > Edit alert rule

Scope Condition Actions Details Tags Review + save

An action group is a set of actions that can be applied to an alert rule. [Learn more](#)

+ Select action groups + Create action group

Action group name	Contains a
Alert the operations team	1 Email

Select up to five action groups to attach to this rule.

Subscription [?](#)

Azure for Students

Search

Action group name ↑	Resource group ↑	Contains actions	Location ↑↓
<input checked="" type="checkbox"/> Alert the operations team	az104-rg11	1 Email	Global

Review + save Previous Next: Details > Select

Task 4: Trigger an alert and confirm it is working

The screenshot shows the Copilot interface with the title 'Notifications'. It displays a message: 'Executed delete command on 1 selected items' with a success count of 'Succeeded: 1, Failed: 0, Canceled: 0.' The message was sent 'a few seconds ago'.

Copilot

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Notifications

More events in the activity log → Dismiss all

Executed delete command on 1 selected items

Succeeded: 1, Failed: 0, Canceled: 0.

a few seconds ago

You're now in the AlertOpsTeam action group [Inbox](#)

Microsoft Azure 19:03

to me ▾

Microsoft Azure

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: 56EB03BD-09A5-4D9D-8F86-770890614786

Resource group name: az104-rg11

Action group name: Alert the operations team

To unsubscribe from this action group, [click here](#).

f x **In**

Print Statement

Microsoft Corporation, One Microsoft Way Redmond, WA 98052

Microsoft

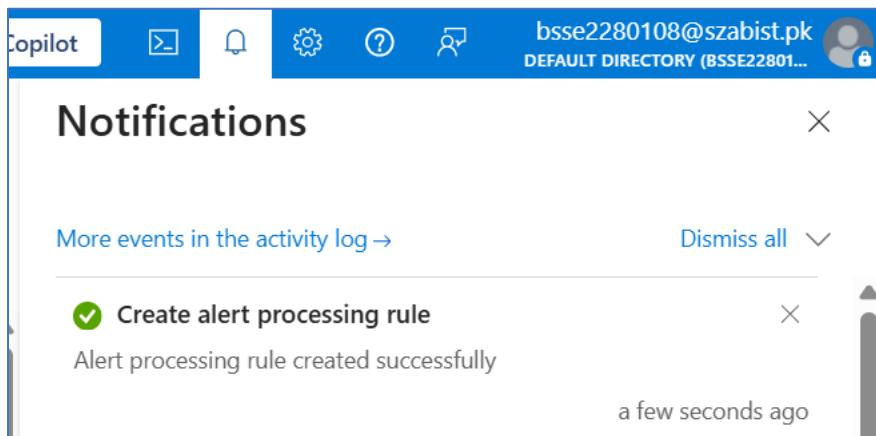
Reply **Forward** **Compose**

The screenshot shows the Microsoft Azure Monitor Alerts interface. The left sidebar includes links for Home, Monitor, Overview, Activity log, Alerts (selected), Issues (preview), Metrics, Logs, Change Analysis, Service health, Workbooks, Dashboards with Grafana, Insights, Applications, and more. The main area displays a summary of total alerts (6) and their severity counts: Critical (0), Error (0), Warning (0), Informational (0), and Verbose (6). Below this is a table of individual alert details:

Name	Severity	Affected resource	Alert condition	User response	Fire time
VM was deleted	4 - Verbose	az104-vm0	Fired	New	12/25/2025, 8:25 PM
VM was deleted	4 - Verbose	az104-vm0	Fired	New	12/25/2025, 8:25 PM
VM was deleted	4 - Verbose	az104-vm0	Fired	New	12/25/2025, 8:25 PM
VM-Deletion-Alert	4 - Verbose	az104-vm0	Fired	New	12/25/2025, 8:25 PM
VM-Deletion-Alert	4 - Verbose	az104-vm0	Fired	New	12/25/2025, 8:25 PM
VM-Deletion-Alert	4 - Verbose	az104-vm0	Fired	New	12/25/2025, 8:25 PM

At the bottom right, there are buttons for 'View in Azure portal' and 'Investigate'. The status bar at the bottom right shows the date as December 25, 2025, and the time as 15:20 UTC.

Task 5: Configure an alert processing rule



Task 6: Use Azure Monitor log queries

A screenshot of the Microsoft Azure portal's 'Monitor | Logs' section. The left sidebar shows 'Logs' selected. The main area shows a search bar, three query tabs ('New Query 1*', 'New Query 2*', 'New Query 3*'), and a results table. The table has one row: 'Computer | count_ > az104-vm0 7'. The results tab is selected.

A screenshot of the Microsoft Azure portal's 'Monitor | Logs' section, similar to the previous one but with a different query. The left sidebar shows 'Logs' selected. The main area shows a search bar, three query tabs ('Run', 'Time range : Set in query', 'Show : 1000 results'), and a code editor with KQL code. The code is:

```
1 InsightsMetrics
2 where TimeGenerated > ago(1h)
3 where Name == "UtilizationPercentage"
4 summarize avg(Val) by bin(TimeGenerated, 5m), Computer
5 render timechart
```

The results table shows a single data point: 'avg(Val)' for 'az104-vm0' at 3:10 PM with a value of 0.18. A chart below shows the average utilization percentage over time, starting at 0.18 at 3:10 PM and slightly decreasing to approximately 0.17 at 3:15 PM. The chart has 'avg(Val)' on the y-axis and 'TimeGenerated [UTC]' on the x-axis.