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Section: B

LAB: 11

Task 1: Use a template to provision an infrastructure:

The image shows two screenshots of the Microsoft Azure portal. The top screenshot displays the 'Custom deployment' page, where users can select a template to provision infrastructure. It includes sections for 'Select a template' (with options like 'Create a Linux virtual machine', 'Create a Windows virtual machine', 'Create a web app', 'Create a SQL database', and 'Azure landing zone'), and a 'Build your own template in the editor' section. The bottom screenshot shows the 'Edit template' page, where an ARM template is being viewed and edited. The template code is as follows:

```
$schema": "https://schema.management.azure.com/schemas/2015-01-01/deployment",
"contentVersion": "1.0.0.0",
"parameters": {
    "adminUsername": {
        "type": "string",
        "metadata": {
            "description": "Admin username"
        }
    },
    "adminPassword": {
        "type": "securestring",
        "metadata": {
            "description": "Admin password"
        }
    },
    "vmNamePrefix": {
        "type": "string",
        "metadata": {
            "description": "VM name prefix"
        }
    }
},
```

Microsoft Azure | Upgrade | Search resources, services, and docs (G+) | Copilot | Home > Custom deployment

Custom deployment

Deploy from a custom template

Basics

Subscription	Azure subscription 1
Resource group	az104-rg11
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

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az104-rg11

Resource group

Search | + Create | Manage view | Delete resource group | Refresh | Export to CSV | Open query

Overview

- Activity log
- Access control (IAM)
- Tags
- Resource visualizer
- Events
- Settings
- Cost Management
- Monitoring
- Automation
- Help

Add or remove favorites by pressing **Ctrl+Shift+F**

Name	Type	Location
az104-nic0	Network Interface	Central India
az104-nsg01	Network security gr...	Central India
az104-pip0	Public IP address	Central India
az104-vm0	Virtual machine	Central India
az104-vm0_disk1_9faee9c0b1874c60ad1	Disk	Central India
az104-vnet	Virtual network	Central India
az10411jbe72rrn4xfce	Storage account	Central India

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Monitor | Virtual Machines

Microsoft

Search | Refresh | Provide Feedback

Filter by name... Subscription : Azure subscription 1 Resource group : All resources 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 (0) Not monitored (1) Workspace configuration Other onboarding options

Name	Monitor Coverage	Workspace
Azure subscription 1	1 of 1	
az104-rg11	1 of 1	
az104-vm0	Not enabled	Enable

Microsoft Azure | Monitor | Virtual Machines

Configure monitor | az104-vm0

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: (New) defaultworkspace-b27ea303-a842-43a4-8123-8bdf4aec006b-cid

Next Review + enable Give Feedback

Microsoft Azure | 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
(New) defaultworkspace-b27ea303-a842-43a4-8123-8bdf4aec006b-cid

Log Analytics workspace

Previous Enable Give Feedback

Microsoft Azure | Monitor

Monitor | Virtual Machines

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

Search Refresh Provide Feedback Filter by name... Subscription : Azure subscription 1 Resource group : All resources 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 (0) Workspace configuration Other onboarding options

Name	Monitor Coverage	Data collection rule
az104-rg11	1 of 1	MSVMI-centralindia-az104-vm0
az104-vm0	Enabled	

Sign in with a different account

Task 2: Create an alert:

The screenshot shows the Microsoft Azure portal interface for creating an alert rule. The top navigation bar includes 'Microsoft Azu...', 'Upgrade', 'Search resources, services, and docs (G+)', 'Copilot', and user information for 'muhammadosama0661... DEFAULT DIRECTORY (MUHAMM...)'.

The main content area is titled 'Create an alert rule' and has tabs for 'Scope', 'Condition', 'Actions', 'Details', 'Tags', and 'Review + create'. The 'Scope' tab is selected, showing a dropdown for 'Scope level' set to 'Subscription'. Below it, a table lists a single resource: 'Azure subscription 1'.

At the bottom of the scope section are buttons for 'Review + create', 'Previous', and 'Next: Condition >'. The 'Condition' section is visible above the 'Select a signal' dialog.

The 'Condition' section shows a search bar for 'Delete Virtual Machine', a 'Signal type: All' filter, and a 'Signal source' dropdown. It also includes a 'Signal name' input field and a 'Select a signal' button.

The 'Select a signal' dialog is open, titled 'Select a signal'. It contains a search bar, a 'Signal type: All' filter, and a 'Signal source' dropdown. The 'Activity log' section is expanded, showing a list of actions under 'Delete Virtual Machine':

- Delete Virtual Machine (Virtual Machines)
- Delete Virtual Machine and Virtual Machine scale sets in a Azure Fleet resource (File... Administrative)
- Delete Virtual Machine Associated Network Security Group (Virtual Machine Associa... Administrative)
- Delete Virtual Machine diagnostic run command (Virtual Machine Diagnostic RunCo... Administrative)
- Delete Virtual Machine Extension (Virtual Machine Extensions) Administrative
- Delete Virtual Machine Image (Virtual Machine Image) Administrative

At the bottom of the 'Select a signal' dialog are buttons for 'Review + create', 'Previous', 'Next: Actions >', 'Apply', and 'Cancel'.

Microsoft Azu... [Upgrade](#) Search resources, services, and docs (G+)

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Home > Monitor | Alerts >

Create an alert rule

5 AM

activityLogHistoryBarSeries

Alert logic

Event Level [\(1\)](#)
All selected

Status [\(1\)](#)
All selected

Event initiated by [\(1\)](#)
* (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:

Microsoft Azu... [Upgrade](#) Search resources, services, and docs (G+)

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Home > Monitor | Alerts > Create an alert rule >

Create action group

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 subscription 1
Resource group	az104-rg11
Region	global
Action group name	Alert the operations team
Display name	AlertOpsTeam

Notifications

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

[Create](#) [Previous](#)



Account information

Reply Forward

Microsoft Azure... Upgrade Search resources, services, and docs (G+) Copilot muhammadosama0661... DEFAULT DIRECTORY (MUHAMM...) Sign out

Home > Monitor | Alerts > Create an alert rule ...

Scope Condition Actions Details Tags Review + create

Scope
Scope level Subscription
Resource Azure subscription 1

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

Actions
Action group name Create Previous

Microsoft Azure... Search resources, services, and docs (G+) Copilot muhammadosama0661... DEFAULT DIRECTORY (MUHAMM...) Sign out

Home > Monitor | Alerts Microsoft

! Monitor | Alerts Which alerts require my immediate attention? Help me setup a new alert rule Catch me up on alerts fired th...

Search Overview Activity log Alerts Issues (preview) Metrics Logs Change Analysis Service health Workbooks Dashboards with Grafana

Subscription : b27ea303-a842-43a4-8123-8bdf4aec006b Time range Alert condition : Fired × Severity : all × Add filter

Total alerts Critical Error Warning Informational Verbose

Name ↑↓	Severity ↑↓	Affected resource ↑↓	Alert condition ↑↓	User response ↑↓	Fire time ↑↓
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Task 4: Trigger an alert and confirm it is working:

The screenshot displays two main windows side-by-side.

Microsoft Azure Portal (Left Window):

- URL:** Microsoft Azure | Compute infrastructure | Virtual machines > az104-vm0
- Title:** Delete az104-vm0
- Content:** A confirmation dialog for deleting the virtual machine "az104-vm0". It includes:
 - A checkbox for "Apply force delete".
 - A note: "You can also choose to delete associated resources at the same time. Resources that aren't in use by other resources are not shown here."
 - A section titled "Associated resource type" listing:
 - OS disk (Quantity: 1)
 - Network interfaces (Quantity: 1)
 - Public IP addresses (Quantity: 1)
 - A checkbox for accepting the deletion terms: "I have read and understand that this virtual machine as well as any selected associated resources listed above will be deleted."
 - Buttons: "Delete" (highlighted) and "Cancel".

Gmail (Right Window):

- Subject:** Important notice: Azure Monitor alert VM was deleted was activated
- From:** Microsoft Azure <azure-noreply@microsoft.com>
- Date:** 11:24 AM (0 minutes ago)
- Content:** Azure Monitor alert 'VM was deleted' was activated for 'az104-vm0' at January 11, 2026 6:18 UTC.

You're receiving this notification as a member of the AlertOpsTeam action group because an Azure Monitor alert was activated.
- Actions:** Buttons for Reply, Forward, and Delete.

Microsoft Azure | Monitor | Alerts

Search resources, services, and docs (G+)

Copilot

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Sign out

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View as timeline (preview)

Create

Alert rules

Action groups

Alert processing rules

Subscription : b27ea303-a842-43a4-8123-8bd4aec006b

Time range

Alert condition : Fired

Severity : all

Add filter

Total alerts

Critical

Error

Warning

Informational

Verbose

Name ↑

Severity ↑

Affected resource ↑

Alert condition ↑

User response ↑

Fire time ↑

VM was deleted

4 - Verbose

az104-vm0

Fired

New

1/11/2026, 11:24 AM

VM was deleted

4 - Verbose

az104-vm0

Fired

New

1/11/2026, 11:24 AM

VM was deleted

4 - Verbose

az104-vm0

Fired

New

1/11/2026, 11:24 AM

Show 1 - 3 of 3 results.

No grouping

Give feedback

Microsoft Azure | Monitor | Alerts

Search resources, services, and docs (G+)

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VM was deleted

Activity log alert details

Copy link

Go to alert rule

Summary

History

General details

Severity

Fired time

Affected resource

Monitor service

4 - Verbose

1/11/2026, 11:24 AM

az104-vm0

ActivityLog Administrative

Alert condition

User response

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

Category

Initiated by

Task 5: Configure an alert processing rule:

The screenshot shows the Azure portal interface for creating an alert processing rule. The top navigation bar includes 'Microsoft Azu...', a search bar, 'Copilot', and user information for 'muhammadosama0661...'. The main content area is titled 'Create an alert processing rule' with a 'Scope' section showing 'Resource' and 'Azure subscription 1'. Under 'Rule settings', 'Rule type' is set to 'Suppress notifications'. In the 'Scheduling' section, 'Apply the rule' is set to 'At a specific time' with a schedule from '01/11/2026 at 11:00 AM' to '01/12/2026 at 9:00 AM' (UTC+05:00 Islamabad, Karachi). The 'Details' section contains two buttons: 'Create' (highlighted in blue) and 'Previous'.

Task 6: Use Azure Monitor log queries:

The screenshot shows the Azure portal interface for Azure Monitor Logs. The left sidebar menu is open, with 'Logs' selected. Other options include 'Overview', 'Activity log', 'Alerts', 'Issues (preview)', 'Metrics', 'Change Analysis', 'Service health', 'Workbooks', 'Dashboards with Grafana', and 'Insights'. The main content area is titled 'Queries hub' under 'Virtual machines'. It shows a 'Query packs' section with a 'Select query packs' button, a 'Resource type' dropdown set to 'Virtual machines', and a 'Search' bar. Below this are sections for 'Favorites' (empty), 'All Queries', and 'Virtual machines'. Two queries are listed: 'Count heartbeats' (described as counting all computer heartbeats from the last hour) and 'Last heartbeat of each computer' (described as showing the last heartbeat sent by each computer). Each query has a 'Run' button and an 'Example query' link.

Microsoft Azure | Monitor

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

Copilot

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Home > Monitor

Monitor | Logs

Microsoft

Search

Overview

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Service health

New Query 1*

User Query Time range : Set in query Show : 1000 results Add

Results Chart

Computer count_

> az104-vm0 30

Save Sign out Microsoft muhammadosama... muhammadosama0661@gmail.com My Microsoft account Switch directory ...

Sign in with a different account

Columns

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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
6 | where TimeGenerated > ago(1h)
7 | where Name == "UtilizationPercentage"
8 | summarize avg(Val) by bin(TimeGenerated, 5m), Computer
9 | render timechart
```

Results Chart

TimeGenerated [UTC]	Computer	avg_Val
> 1/11/2026, 6:15:00.000 AM	az104-vm0	0.21432600000000002
> 1/11/2026, 6:10:00.000 AM	az104-vm0	0.23346619999999998

Save Share ... Queries hub Columns

Microsoft Azure | Monitor

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

Copilot

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Insights

Managed Services

+ InsightsMetrics

| where TimeGenerated > ago(1h)

| where Name == "UtilizationPercentage"

| summarize avg(Val) by bin(TimeGenerated, 5m), Computer

| render timechart

Results Chart

The chart displays utilization percentage (avg_Val) on the Y-axis (0 to 15) against TimeGenerated [UTC] on the X-axis (5:45 AM to 6:15 AM). The data shows a peak at 5:50 AM (approx. 10%) followed by a decline to near zero by 6:00 AM.

1s 955ms Display time (UTC+00:00) Query details 7 records Chart formatting