



AZ-104

Administer Monitoring



AZ-104 Agenda

- 01: Administer Identity
- 02: Administer Governance and Compliance
- 03: Administer Azure Resources
- 04: Administer Virtual Networking
- 05: Administer Intersite Connectivity
- 06: Administer Network Traffic Management
- 07: Administer Azure Storage
- 08: Administer Azure Virtual Machines
- 09: Administer PaaS Compute Options
- 10: Administer Data Protection
- 11: Administer Monitoring

Learning Objectives - Administer Monitoring

- Introduction to Azure Monitor
- Improve incident response with alerting on Azure
- Analyze your infrastructure using Azure Monitor logs
- Lab 11 – Implement Monitoring

Introduction to Azure Monitor



Learning Objectives – Introduction to Azure Monitor

- Describe Azure Monitor Key Capabilities
- Describe Azure Monitor Components
- Define Metrics and Logs
- Identify Data Types
- Describe Activity Log Events
- Learning Recap

Monitor and maintain Azure resources (10–15%): Monitor resources in Azure

- Interpret metrics in Azure Monitor
- Configure log settings in Azure Monitor
- Configure and interpret monitoring of virtual machines, storage accounts, and networks by using Azure Monitor Insights

Describe Azure Monitor Key Capabilities



Monitor & Visualize Metrics

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

[Explore Metrics](#)

Core monitoring for Azure services



Query & Analyze Logs

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

[Search Logs](#)

Collects metrics, activity logs, and diagnostic logs



Setup Alert & Actions

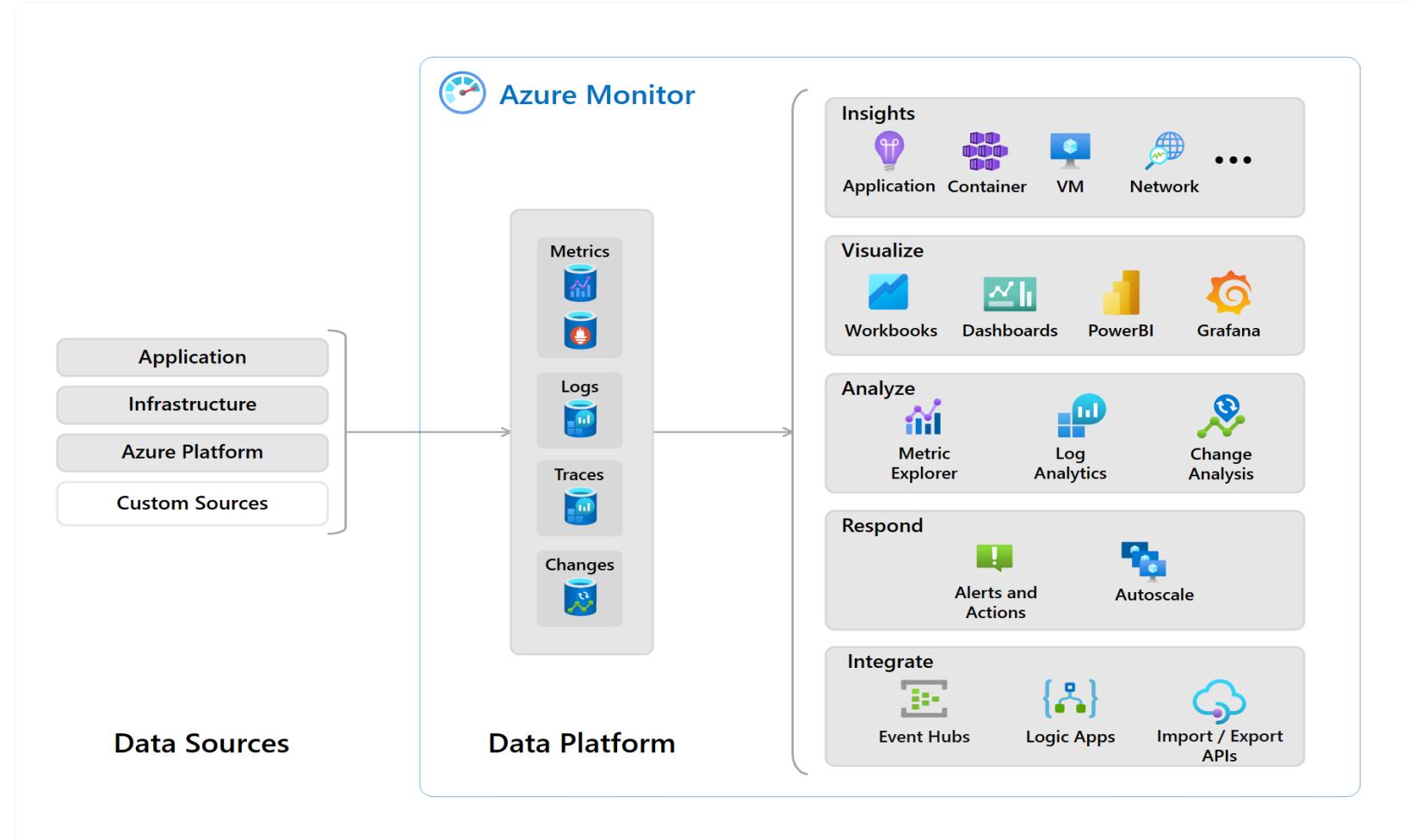
Alerts notify you of critical conditions and potentially take corrective automated actions based on triggers from metrics or logs.

[Create Alert](#)

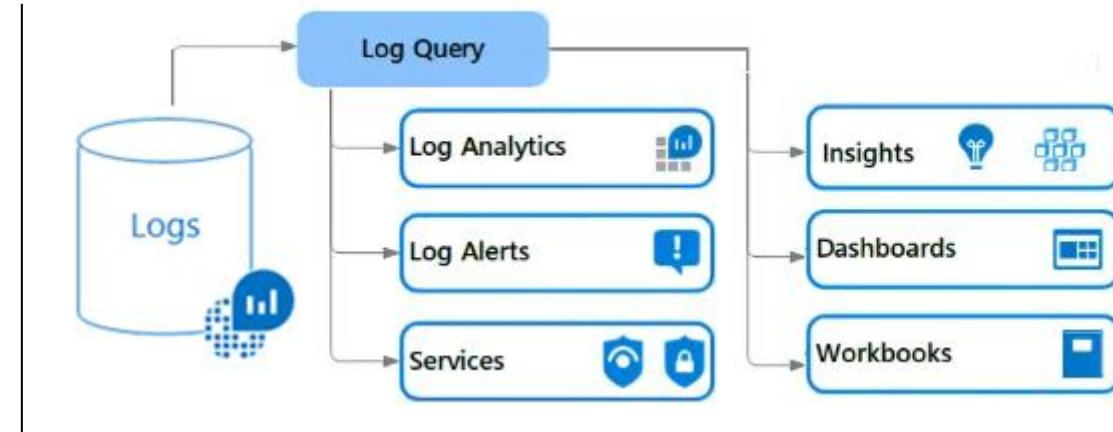
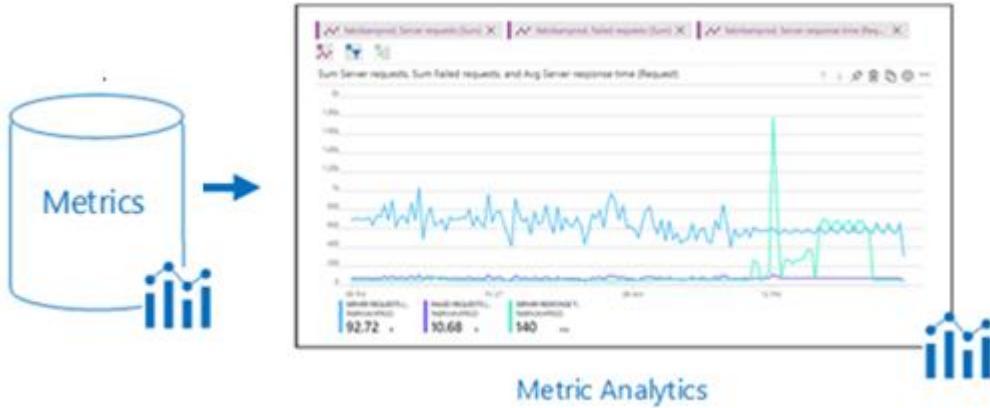
Use for time critical alerts and notifications

Understand Azure Monitor Components

- Application monitoring data
- Guest OS monitoring
- Azure resource monitoring
- Azure subscription monitoring
- Azure tenant monitoring



Define Metrics and Logs



- Metrics are numerical values that describe some aspect of a system at a point in time
- They are lightweight and capable of supporting near real-time scenarios

- Logs contain different kinds of data organized into records with different sets of properties for each type
- Telemetry (events, traces) and performance data can be combined for analysis

Describe Activity Log Events

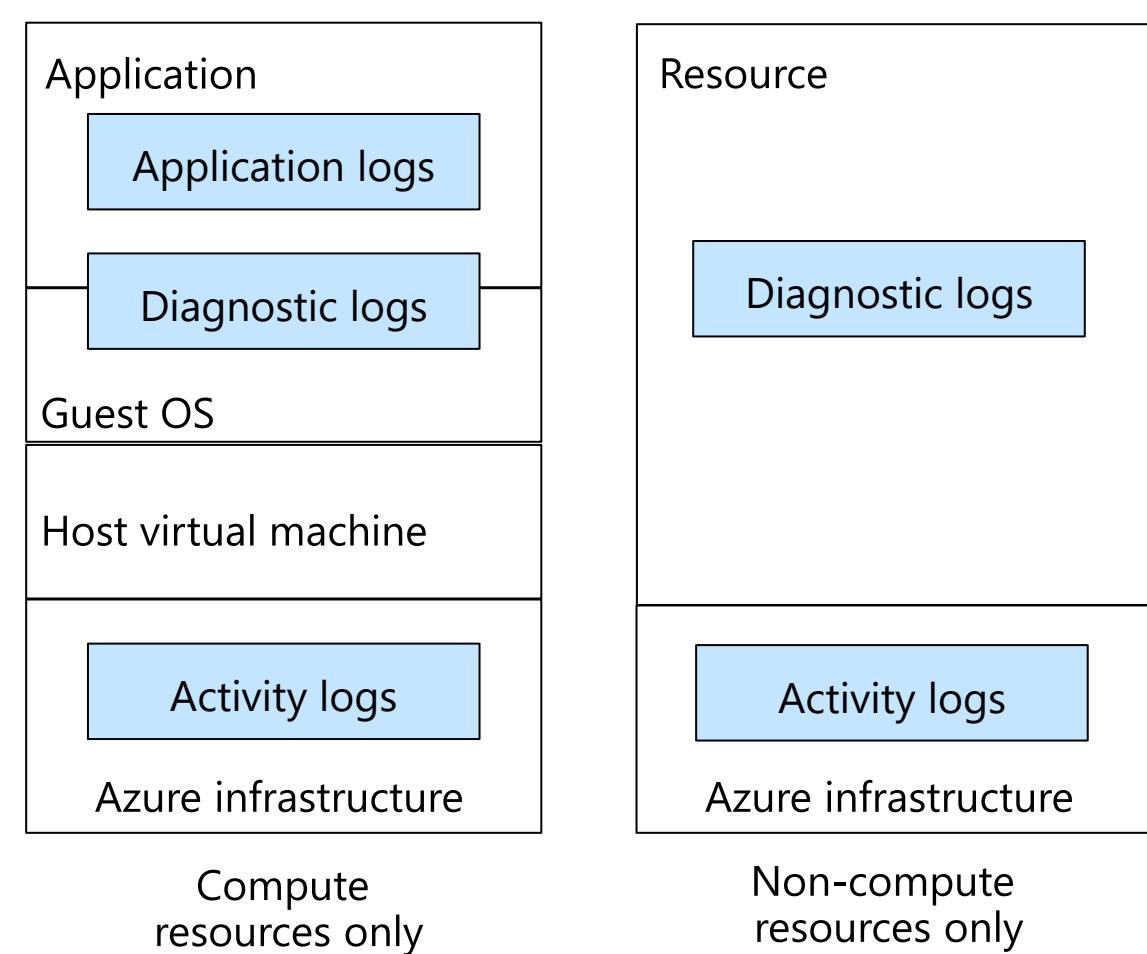
Send data to Log Analytics for advanced search and alerts

Query or manage events in the Portal, PowerShell, CLI, and REST API

Stream information to Event Hub

Archive data to a storage account

Analyze data with Power BI



Query the Activity Log

Activity log

Edit columns Refresh Diagnostics settings Download as CSV Logs | Pin current filters

Search

Quick Insights

Add Filter

Management Group : **None**

Subscription : **2 selected**

Timespan : **Last 6 hours**

Event severity : **All**

Operation name	Status	Time	Time stamp	Subscription
> Create or Update Virtual Network Subnet	Failed	a minute ago	Thu Mar 12 ...	ASC DEMO
> Write GuestConfigurationAssignments	Succeeded	17 minutes ...	Thu Mar 12 ...	ASC DEMO
> Gets workflow recommend operation groups	Succeeded	29 minutes ...	Thu Mar 12 ...	ASC DEMO

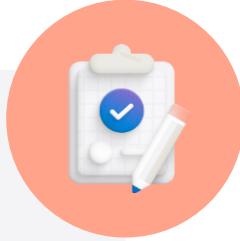
Filter by Management group,
Subscription, Timespan, and Event
Severity

Add a filter, like Event Category
(Security, Recommendations,
Alerts)

Pin current filters and download
as CSV

Learning Recap – Configure Azure Monitor

Check your knowledge questions and additional study



Reference modules

- [Introduction to Azure Monitor](#)
- [Monitor your Azure virtual machines with Azure Monitor](#)

Improve incident response with alerting on Azure

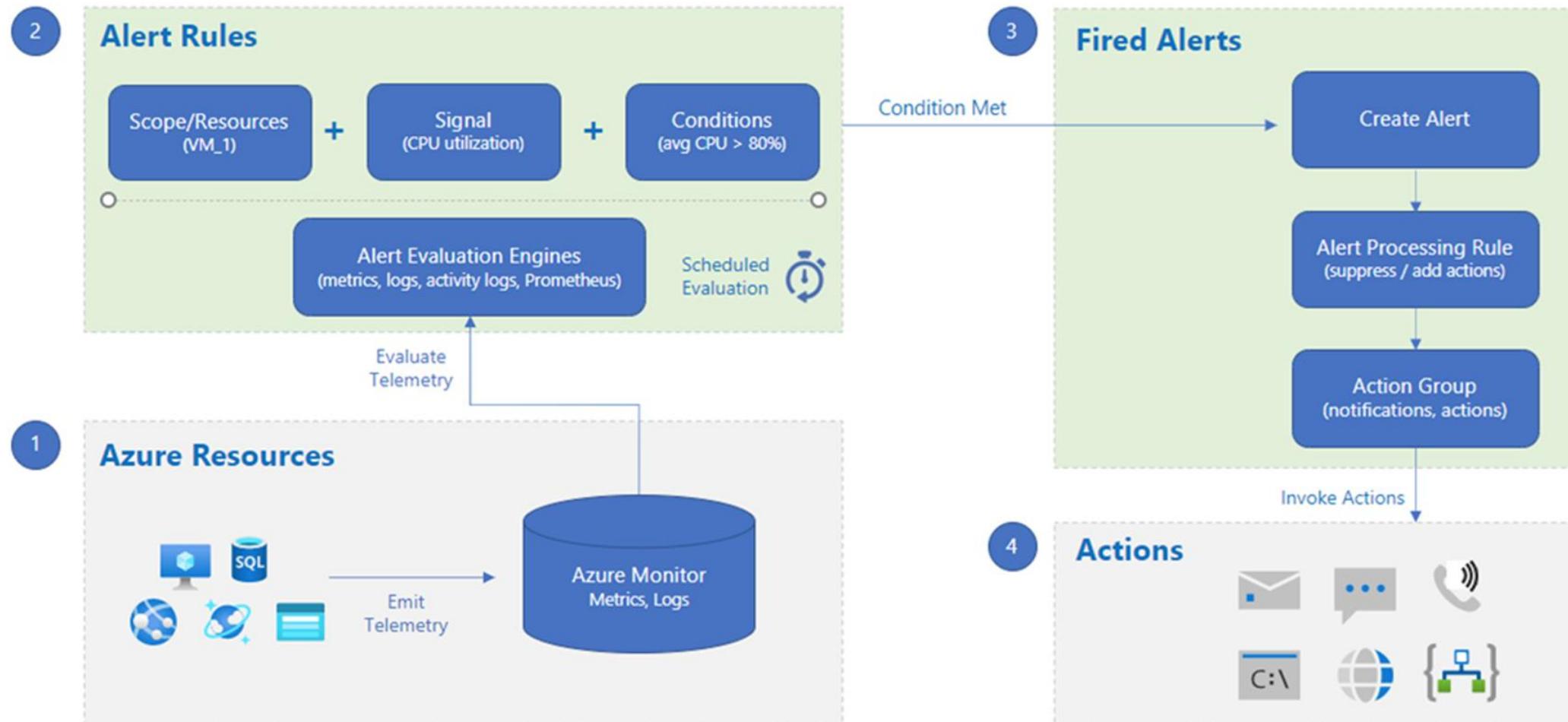
Improve incident response with alerting on Azure - Overview

- Manage Azure Monitor Alerts
- Create Alert Rules
- Create Action Groups
- Demonstration – Alerts
- Learning Recap

Monitor and maintain Azure resources (10–15%): Monitor resources in Azure

- Set up alert rules, action groups, and alert processing rules in Azure Monitor

Manage Azure Monitor Alerts



Create Alert Rules

Home > Monitor | Alerts >

Alert rules

...

Name ↑↓	Condition	Severity ↑↓	Target scope	Target resource type	Signal type ↑↓	Status ↑↓
<input type="checkbox"/> AzureSecurityCenter	Table rows > 1	4 - Verbose	export2LogA	Log Analytics workspace	Log search	 Enabled
<input type="checkbox"/> CPU Usage Percentage	node_cpu_usage_percentage > 80	3 - Informational	Demo	Kubernetes service	Metrics	 Enabled
<input type="checkbox"/> Failure Anomalies - HumanResources	Failure Anomalies detected	3 - Informational	humanresources	Application Insights	Smart detector	 Enabled

- Alert rules combine the resources to be monitored, the signal or data from the resource, and the conditions.
- You can enable recommended out-of-the-box alert rules in the Azure portal.

Create Action Groups

Defines a set of notifications and/or actions when an alert is triggered

You can add up to five action groups to an alert rule. Multiple alert rules can use the same action group.

Notifications

Configure the method in which users will be notified when the action group triggers. Select notification types, provide receiver details and add a unique description. This step is optional.

Notification type ⓘ

Name ⓘ

Selected ⓘ

- Email Azure Resource Manager Role
- Email/SMS message/Push/Voice

Actions

Configure the method in which actions are performed when the action group triggers. Select action types, fill out associated details, and add a unique description. This step is optional.

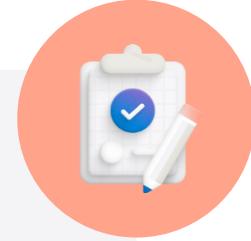
Action type ⓘ

Name ⓘ

Selected ⓘ

- Automation Runbook
- Azure Function
- Event Hub
- ITSM
- Logic App
- Secure Webhook
- Webhook

Learning Recap – Improve incident response with alerting on Azure



Check your knowledge questions and additional study

Reference modules

- [Configure for alerts and detections in Microsoft Defender for Endpoint](#)
- [Remediate security alerts using Microsoft Defender for Cloud](#)

Analyze your infrastructure using Azure Monitor logs

Learning Objectives - Analyze your infrastructure using Azure Monitor logs

- Determine Log Analytics Uses
- Create a Workspace
- Query Log Analytics Data
- Structure Log Analytics Queries
- Demonstration – Log Analytics
- Learning Recap

Monitor and maintain Azure resources (10–15%): Monitor resources in Azure

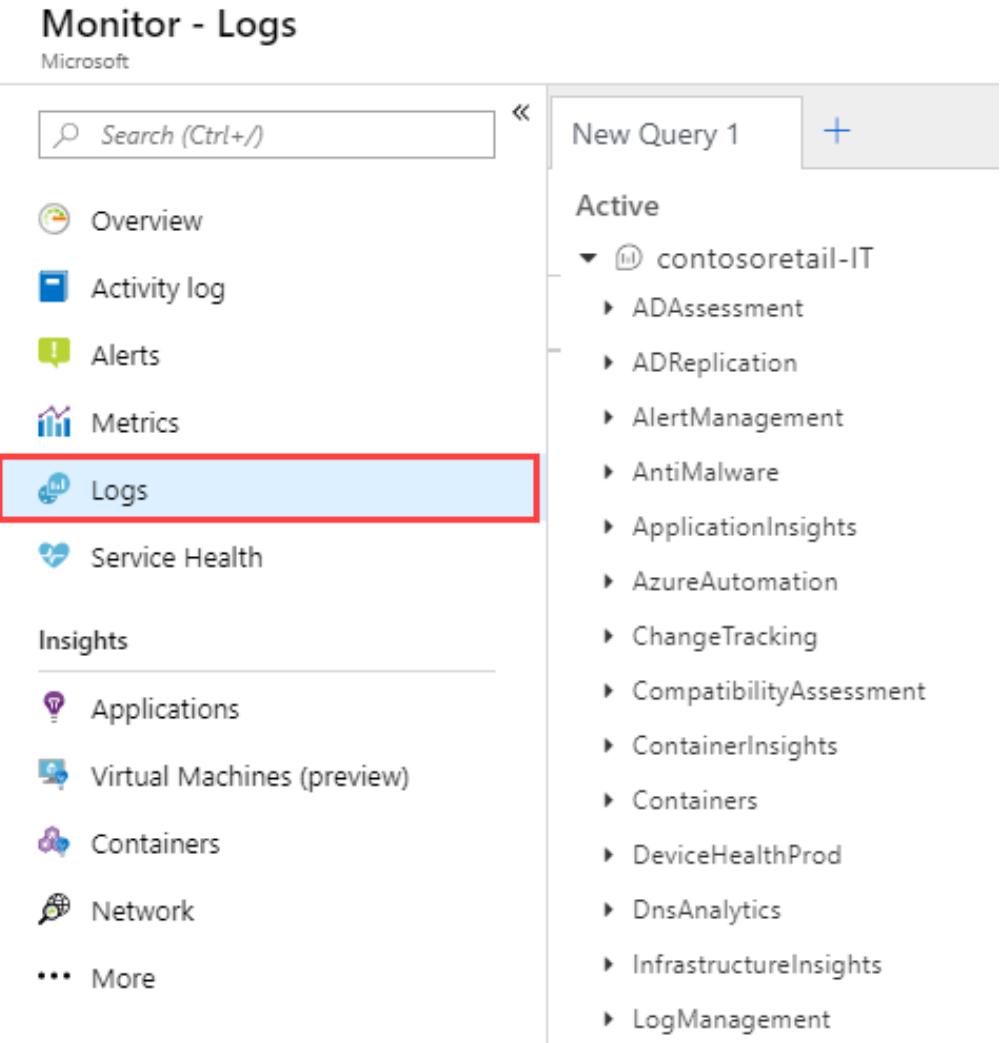
- Query and analyze logs in Azure Monitor

Determine Log Analytics Uses

A service that helps you collect and analyze data generated by resources in your cloud and on-premises environments

Write log queries and interactively analyze their results

Examples include assessing system updates and troubleshooting operational incidents



Create a Workspace

A workspace is an Azure resource and is a container where data is collected, aggregated, analyzed, and presented

You can have multiple workspaces per Azure subscription, and you can have access to more than one workspace

A workspace provides a geographic location, data isolation, and scope

[Home](#) > [Log Analytics workspaces](#) >

Create Log Analytics workspace

Basics Tags Review + Create

i A Log Analytics workspace is the basic management unit of Azure Monitor Logs. X
There are specific considerations you should take when creating a new Log Analytics workspace.

With Azure Monitor Logs you can easily store, retain, and query data collected from your monitored resources in Azure and other environments for valuable insights. A Log Analytics workspace is the logical storage unit where your log data is collected and stored.

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

ASC DEMO

Resource group * ⓘ

[Create new](#)

Instance details

Name * ⓘ

Region * ⓘ

East US 2

Query Log Analytics Data

Common queries and a query language (KQL) for custom searches

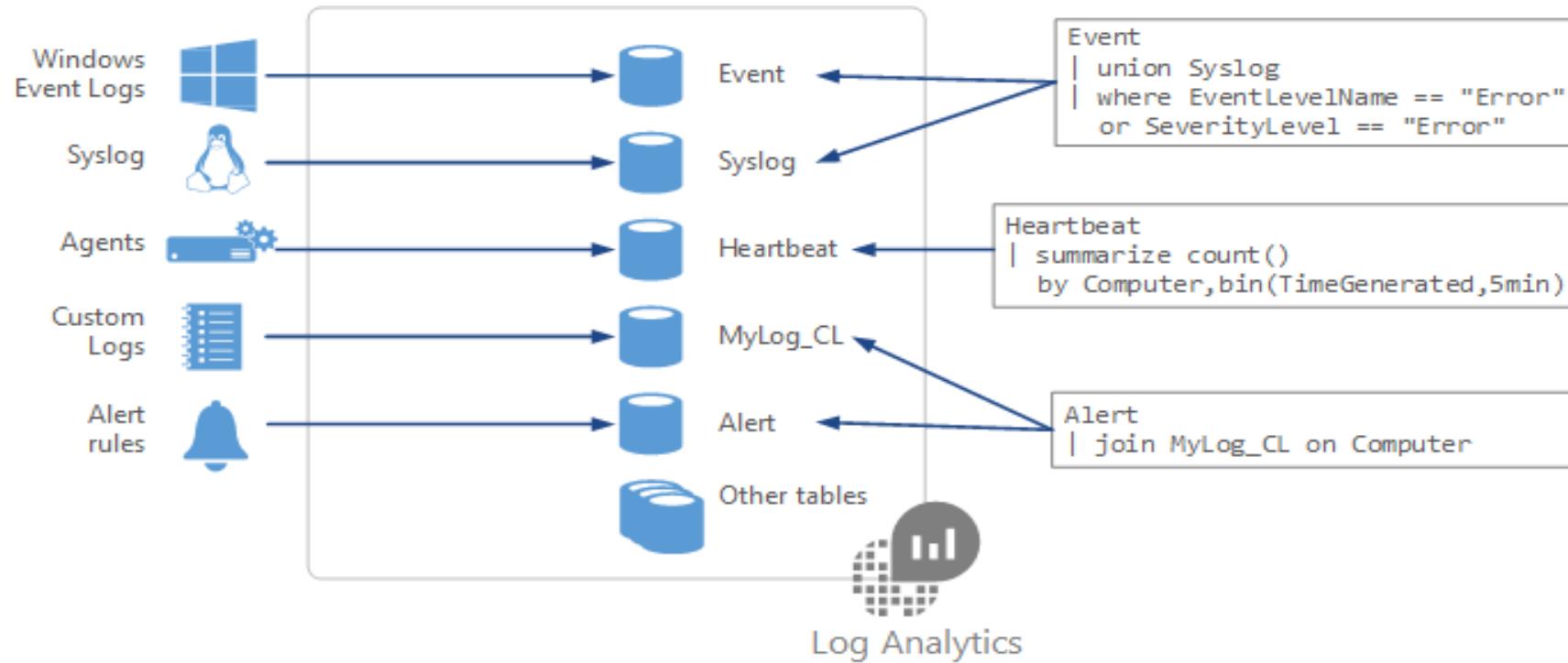
Quickly retrieve and consolidate data in the repository

Save or have log searches run automatically to create an alert

Export the data to Power BI or Excel

The screenshot shows the Azure Log Analytics workspace interface. On the left, a sidebar lists categories: Favorites, All Queries, Applications (which is selected and highlighted in blue), Audit, Azure Monitor, Azure Resources, Azure Virtual Deskt..., Containers, Databases, Desktop Analytics, and IT & Management Above the sidebar, there are filters for Category, Search, and Add filter. The main area is titled 'Queries' and contains two cards under the 'APPLICATIONS' section. The first card is for 'Response time trend', which charts request duration over the last 12 hours. It includes a 'Run' button and an 'Example query'. The second card is for 'Response time buckets', which shows how many requests are in each performance-bucket. It also includes a 'Run' button and an 'Example query'.

Structure Log Analytics Queries



Event

```
| where (EventLevelName == "Error")  
| where (TimeGenerated > ago(1days))  
| summarize ErrorCount = count() by Computer  
| top 10 by ErrorCount desc
```

Learning Recap – Analyze your infrastructure using Azure Monitor logs



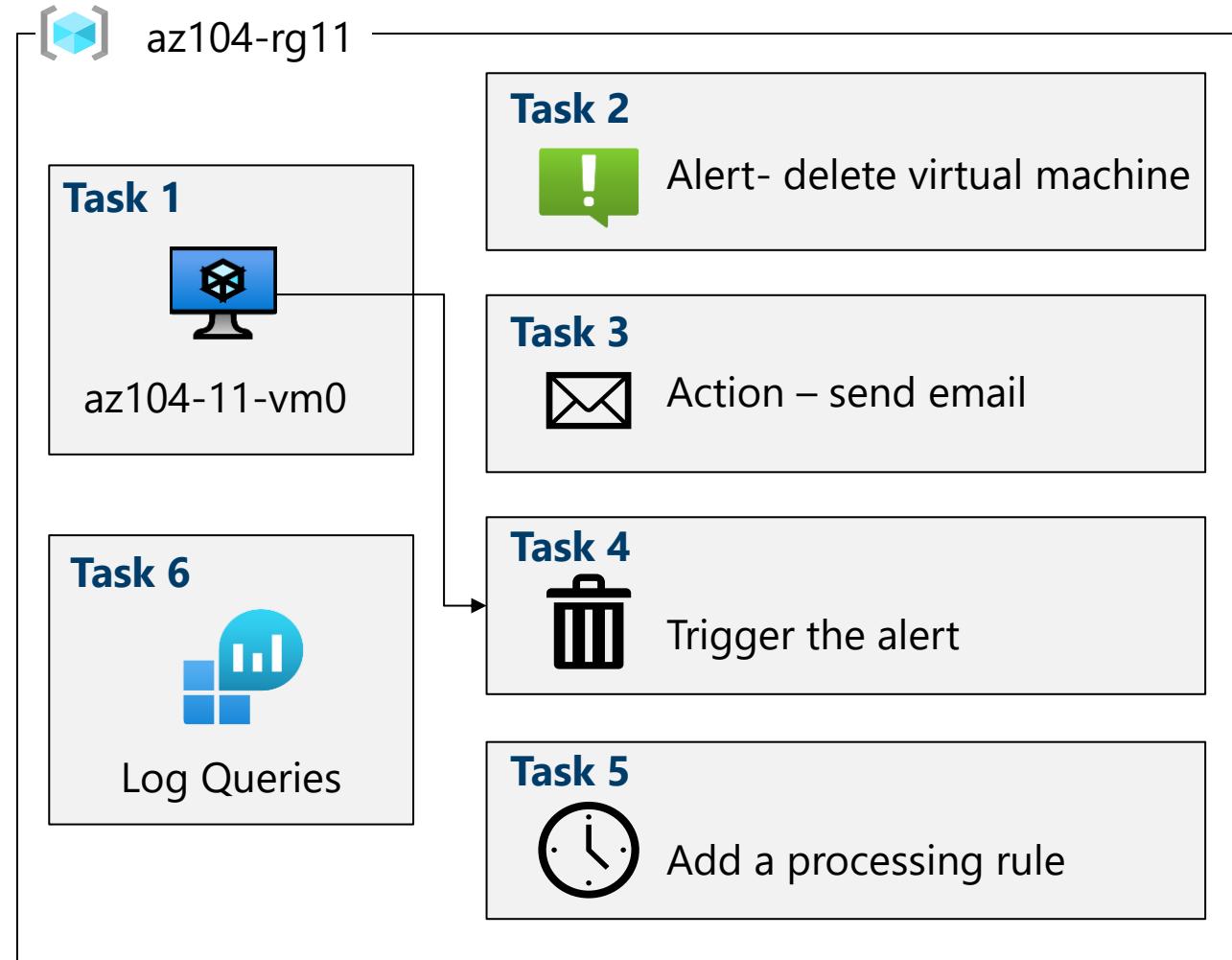
Reference modules

- [Create and configure a Log Analytics workspace](#)

Check your knowledge questions and additional study

Lab – Implement Monitoring

Lab 11 – Architecture diagram



End of presentation