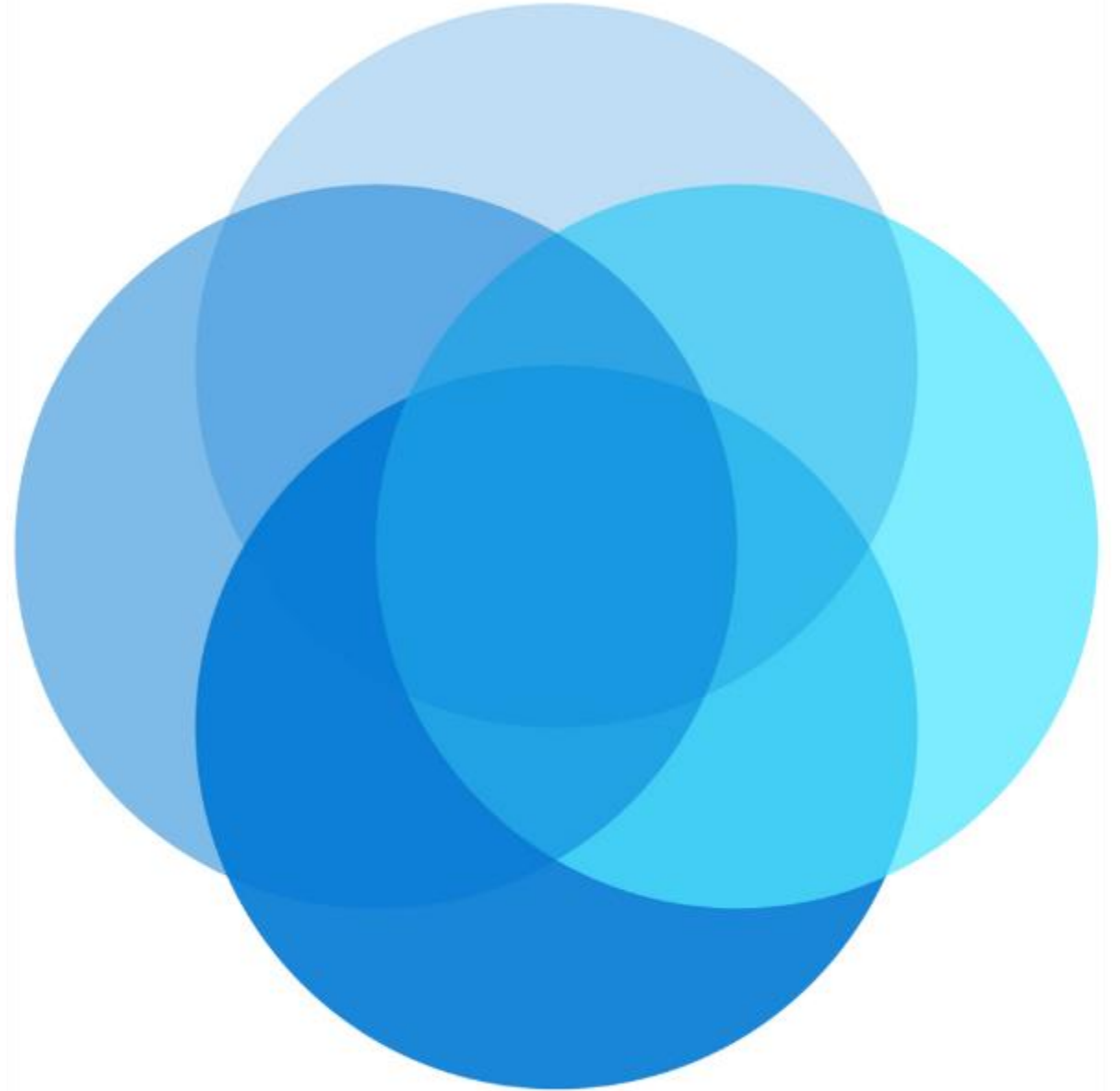


# AZ-104

## Administer Monitoring

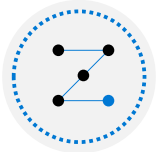


# About this course: Course Outline



01: Administer Identity

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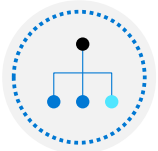
02: Administer Governance and Compliance

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03: Administer Azure Resources

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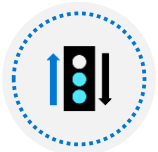
04: Administer Virtual Networking

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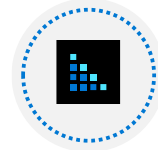


05: Administer Intersite Connectivity

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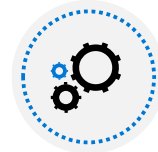


06: Administer Network Traffic Management



07: Administer Azure Storage

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08: Administer Azure Virtual Machines

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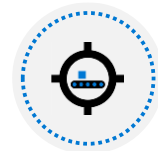
09: Administer PaaS Compute Options

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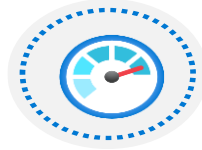
10: Administer Data Protection

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11: Administer Monitoring

# Administer Monitoring Introduction



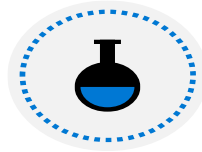
[Configure Azure Monitor](#)



[Configure Azure Alerts](#)



[Configure Log Analytics](#)



[Lab 11 – Implement Monitoring](#)

# Configure Azure Monitor



# 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](#)



## Query & Analyze Logs

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

[Search Logs](#)



## Setup Alert & Actions

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

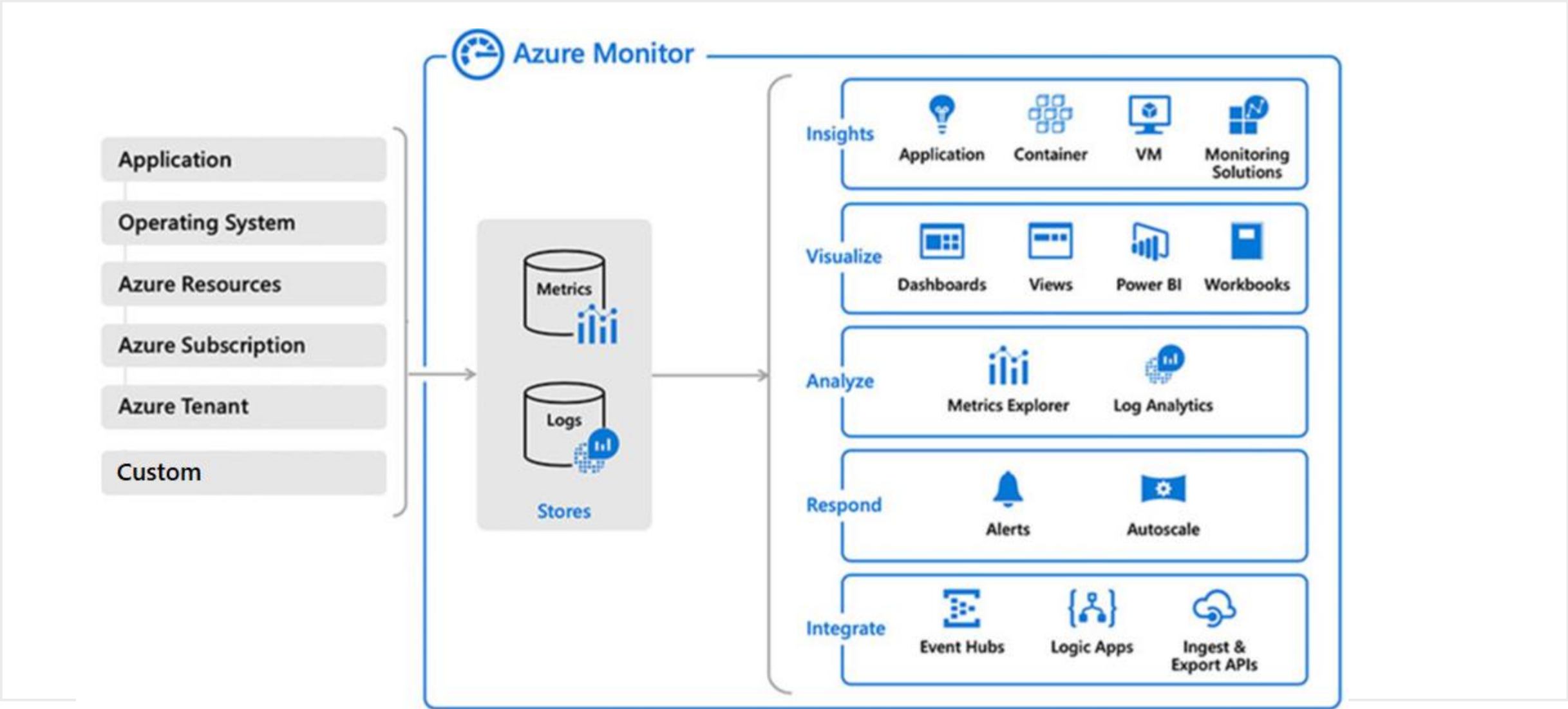
[Create Alert](#)

Core monitoring for  
Azure services

Collects metrics, activity  
logs, and diagnostic logs

Use for time critical alerts  
and notifications

# Understand Azure Monitor Components



# 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

# Identify Data Types



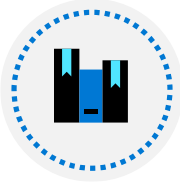
**Application monitoring data** – Performance and functionality of the code you have written, regardless of its platform

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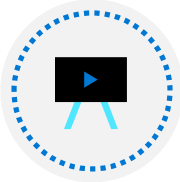
**Guest OS monitoring** – Azure, another cloud, or on-premises

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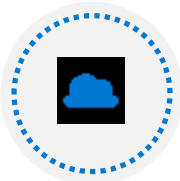
**Azure resource monitoring**

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**Azure subscription monitoring** – Operation and management of an Azure subscription, as well as data about the health and operation of Azure itself

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**Azure tenant monitoring** – Operation of tenant-level Azure services, such as Azure Active Directory



# Describe Activity Log Events

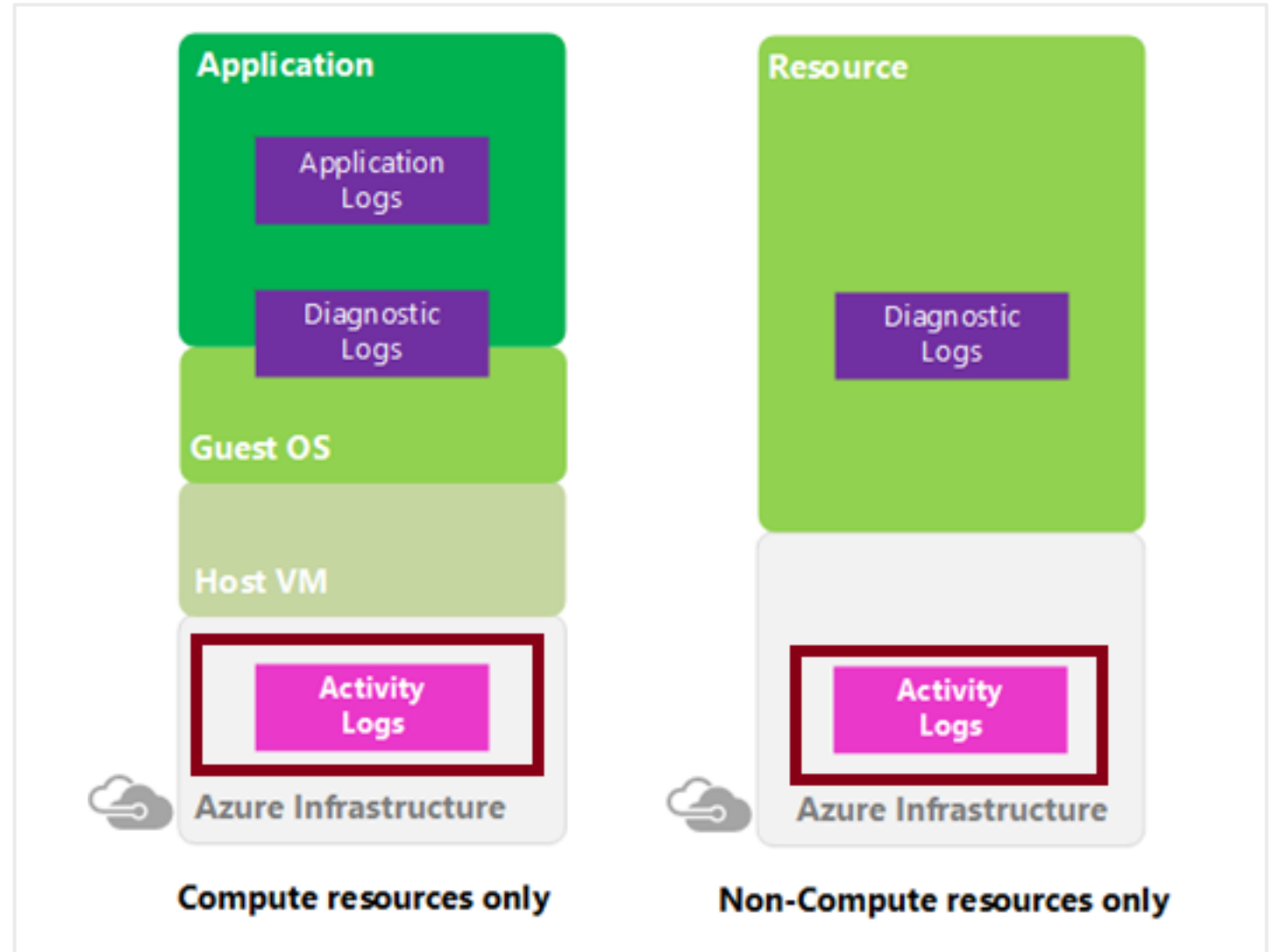
Send data to Log Analytics for advanced search and alerts

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 ...	<a href="#">ASC DEMO</a>
>  Write GuestConfigurationAssignments	Succeeded	17 minutes ...	Thu Mar 12 ...	<a href="#">ASC DEMO</a>
>  Gets workflow recommend operation groups	Succeeded	29 minutes ...	Thu Mar 12 ...	<a href="#">ASC DEMO</a>

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

# Configure Azure Alerts



# Manage Azure Monitor Alerts

Alerts

+ New alert rule

Manage alert rules

Manage actions

View classic alerts

Refresh

Provide feedback

Total alerts

1179

Since 2/11/2020, 11:07:58 AM

Smart groups (Preview) ⓘ

3

99.75% Reduction

Total alert rules

9

Enabled 7

Action rules (preview) ⓘ

0

Enabled 0

Severity	Total Alerts	New	Acknowledged	Closed
<div><div></div>Sev 0</div>	0	0	0	0
<div><div></div>Sev 1</div>	0	0	0	0
<div><div></div>Sev 2</div>	0	0	0	0
<div><div></div>Sev 3</div>	1178 <div></div>	1178	0	0
<div><div></div>Sev 4</div>	1 <div></div>	1	0	0

Unified authoring experience

Displayed by severity

Categorized by New, Acknowledged, and Closed

# Create Alert Rules

**Scope:** Target selection, Alert criteria, and Alert logic

**Alert rule details:** name, description, and severity (0 to 4)

**Action group:** Notify your team via email and text messages or automate actions using webhooks and runbooks

[Home](#) > [Alerts](#) >

## Create alert rule

Rules management

Create an alert rule to identify and address issues when important conditions are found in your monitoring data. When defining the alert rule, check that your inputs do not contain any sensitive content.

### Scope

Select the target resource you wish to monitor.

Resource

No resource selected yet

[Select resource](#)

### Condition

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

Condition name

No condition selected yet

### Action group

Send notifications or invoke actions when the alert rule triggers, by selecting or creating a new action group

Action group name

No action group selected yet

# Create Action Groups

Configure the method in which users will be notified when the action group triggers

Configure the method in which actions are performed when the action group triggers

### 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 ⓘ
<div><div></div><div>Email Azure Resource Manager Role</div><div>Email/SMS message/Push/Voice</div></div>	<input type="text"/>	

### 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 ⓘ
<div><div></div><div>Automation Runbook</div><div>Azure Function</div><div>ITSM</div><div>Logic App</div><div>Secure Webhook</div><div>Webhook</div></div>	<input type="text"/>	

# Configure Log Analytics

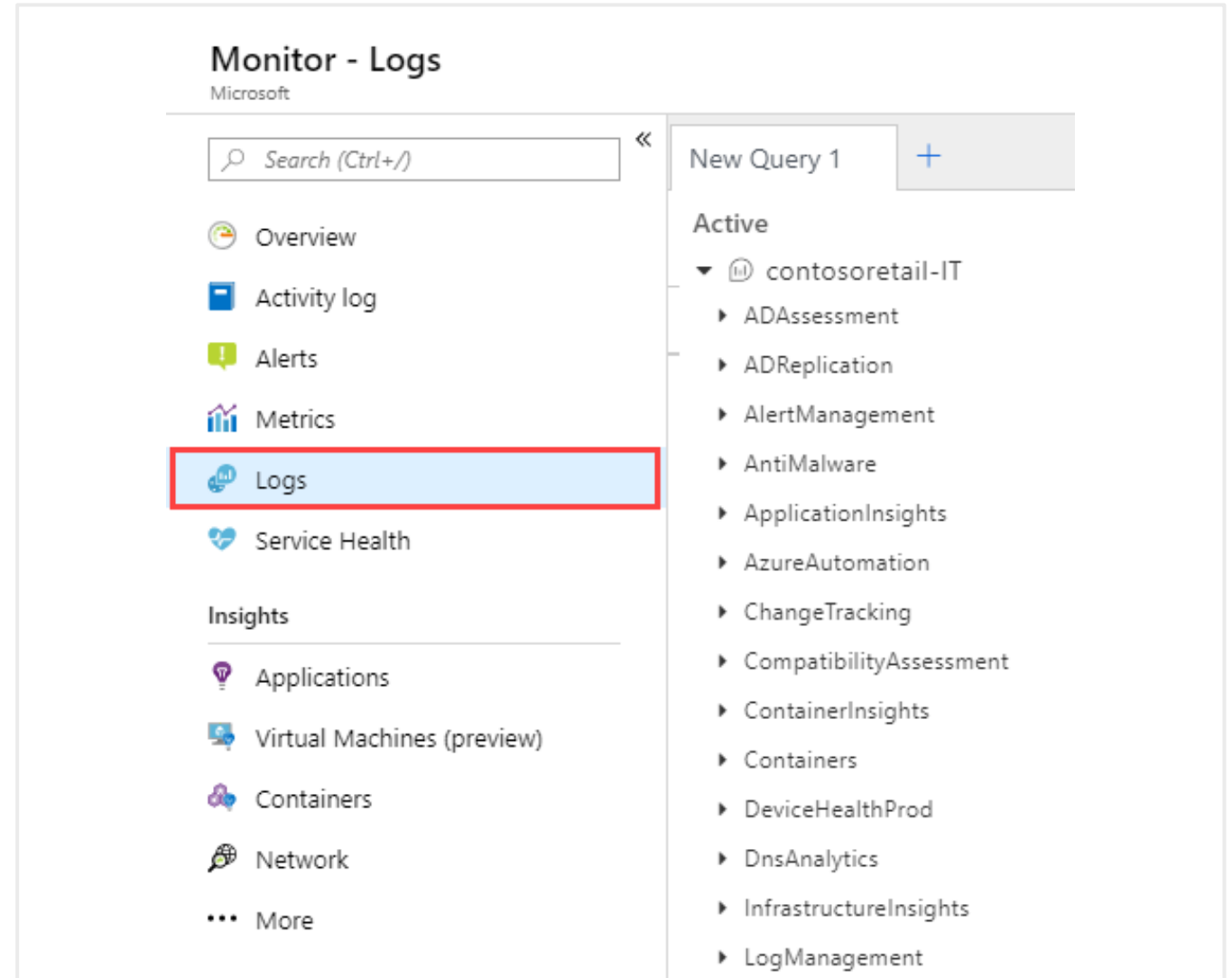


# Determine Log Analytics Uses

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. 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 \* ⓘ

Resource group \* ⓘ

[Create new](#)

**Instance details**

Name \* ⓘ

Region \* ⓘ

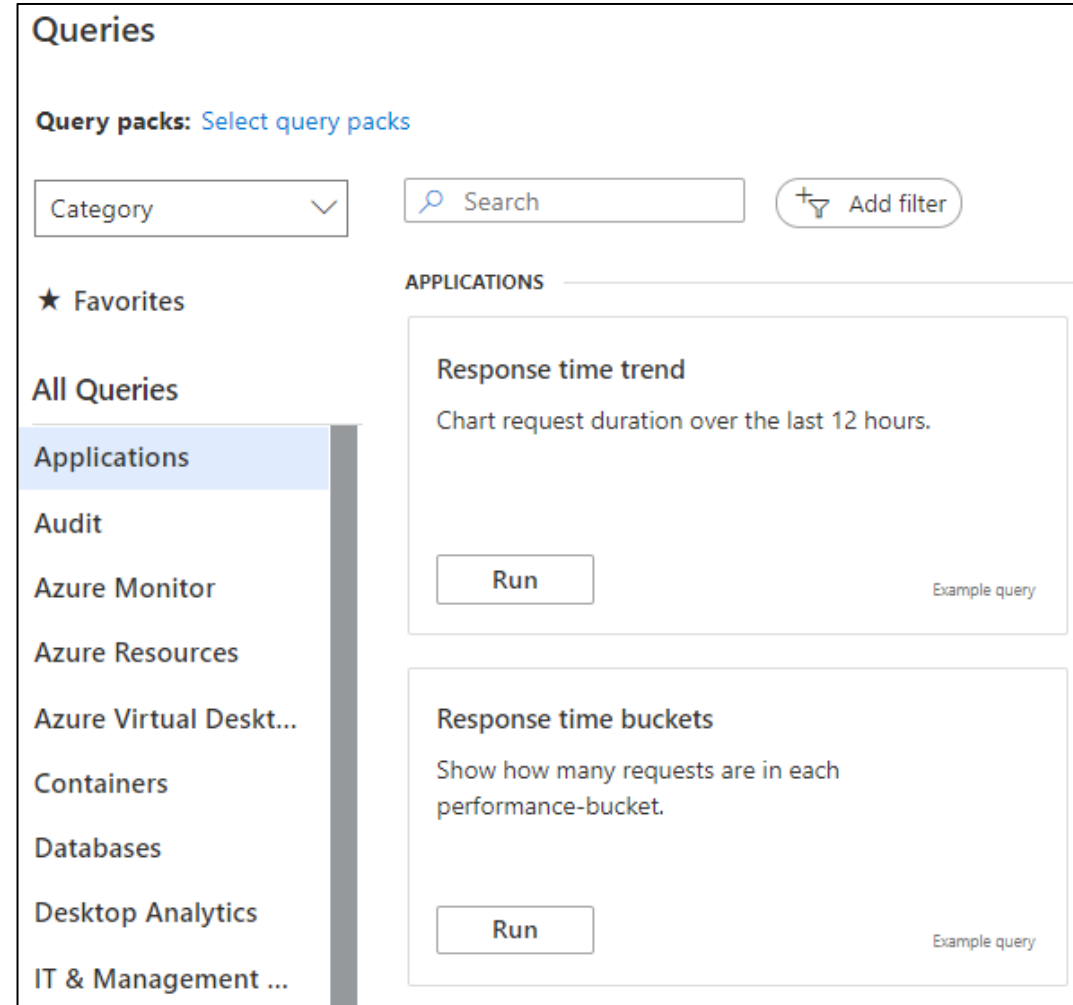
# Query Log Analytics Data

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

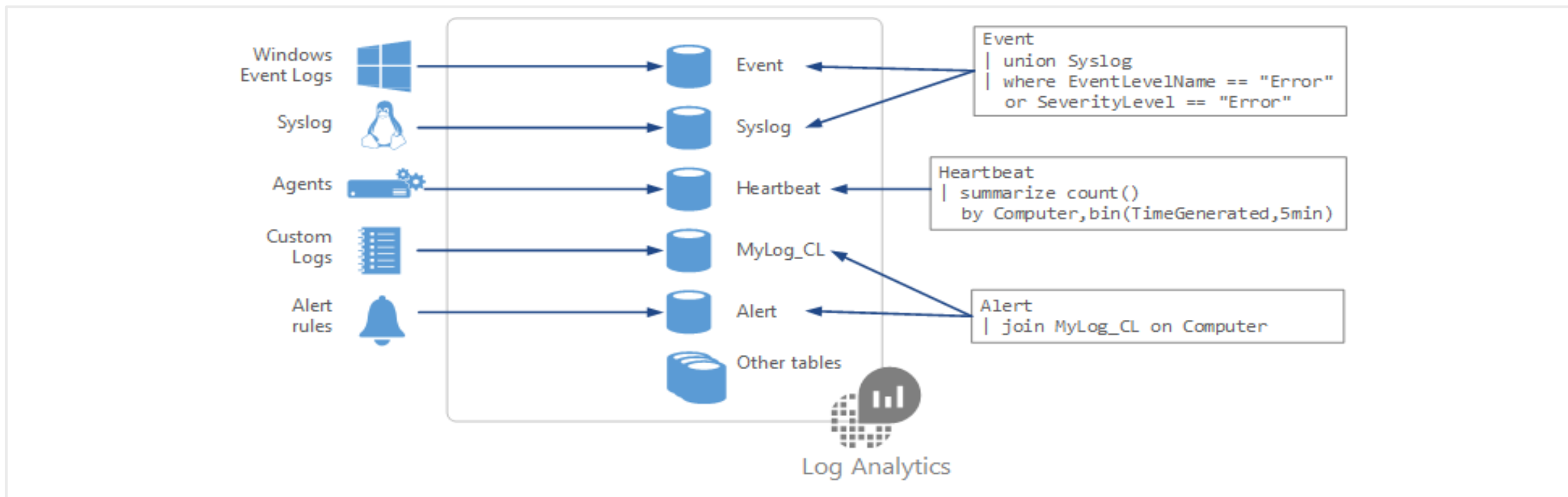
Quickly retrieve and consolidate data in the repository

Save or have log searches run automatically to create an alert

Export the data to Power BI or Excel

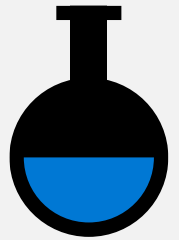


# Structure Log Analytics Queries



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

# Lab 11 – Implement Monitoring



# Lab 11 – Implement monitoring

## Lab scenario

You need to evaluate Azure functionality that would provide insight into performance and configuration of Azure resources, focusing on Azure virtual machines. To accomplish this, you intend to examine the capabilities of Azure Monitor, including Log Analytics

## Objectives

### Task 1:

Provision the lab environment

### Task 2:

Create and configure an Azure Log Analytics workspace and Azure Automation-based solutions

### Task 3:

Review default monitoring settings of Azure virtual machines

### Task 4:

Configure Azure virtual machine diagnostic settings

### Task 5:

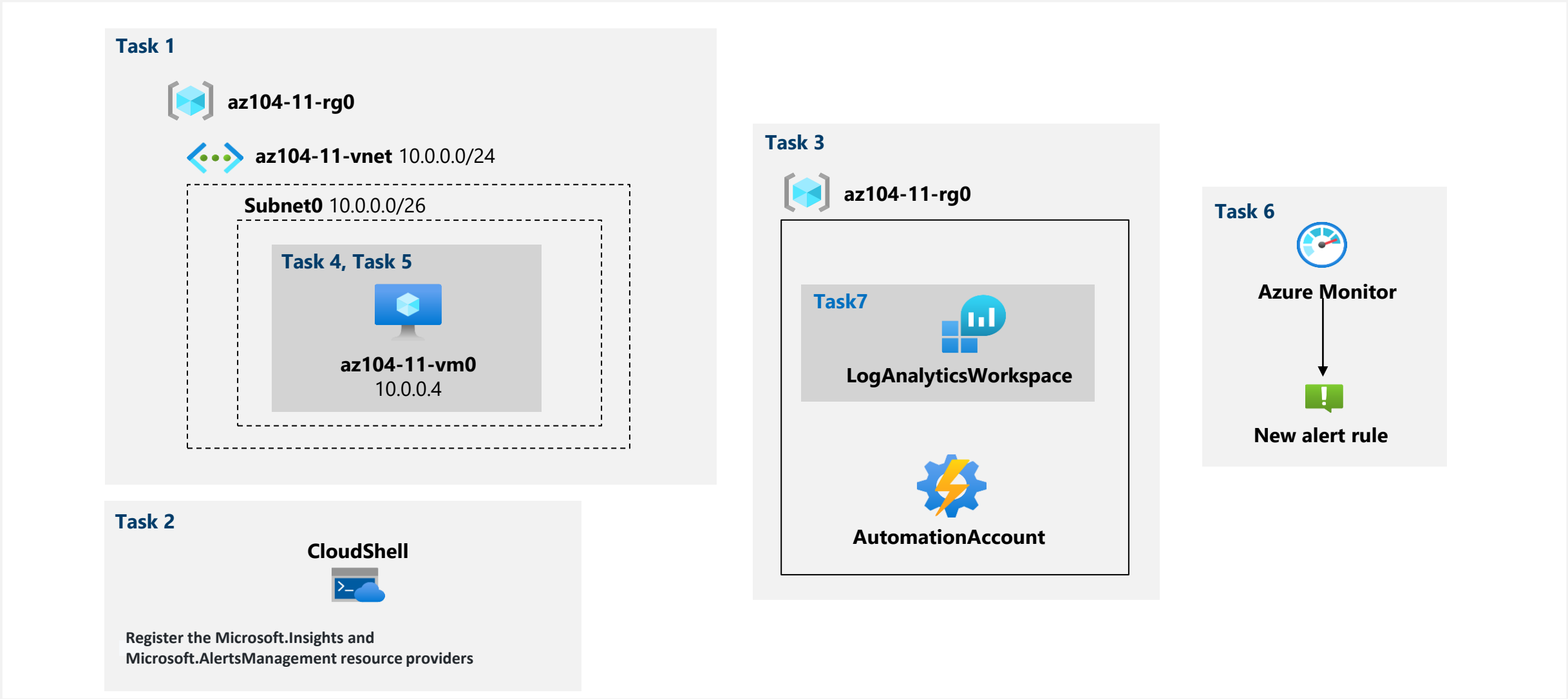
Review Azure Monitor functionality

### Task 6:

Review Azure Log Analytics functionality

Next slide for an architecture diagram 

# Lab 11 – Architecture diagram



# End of presentation

