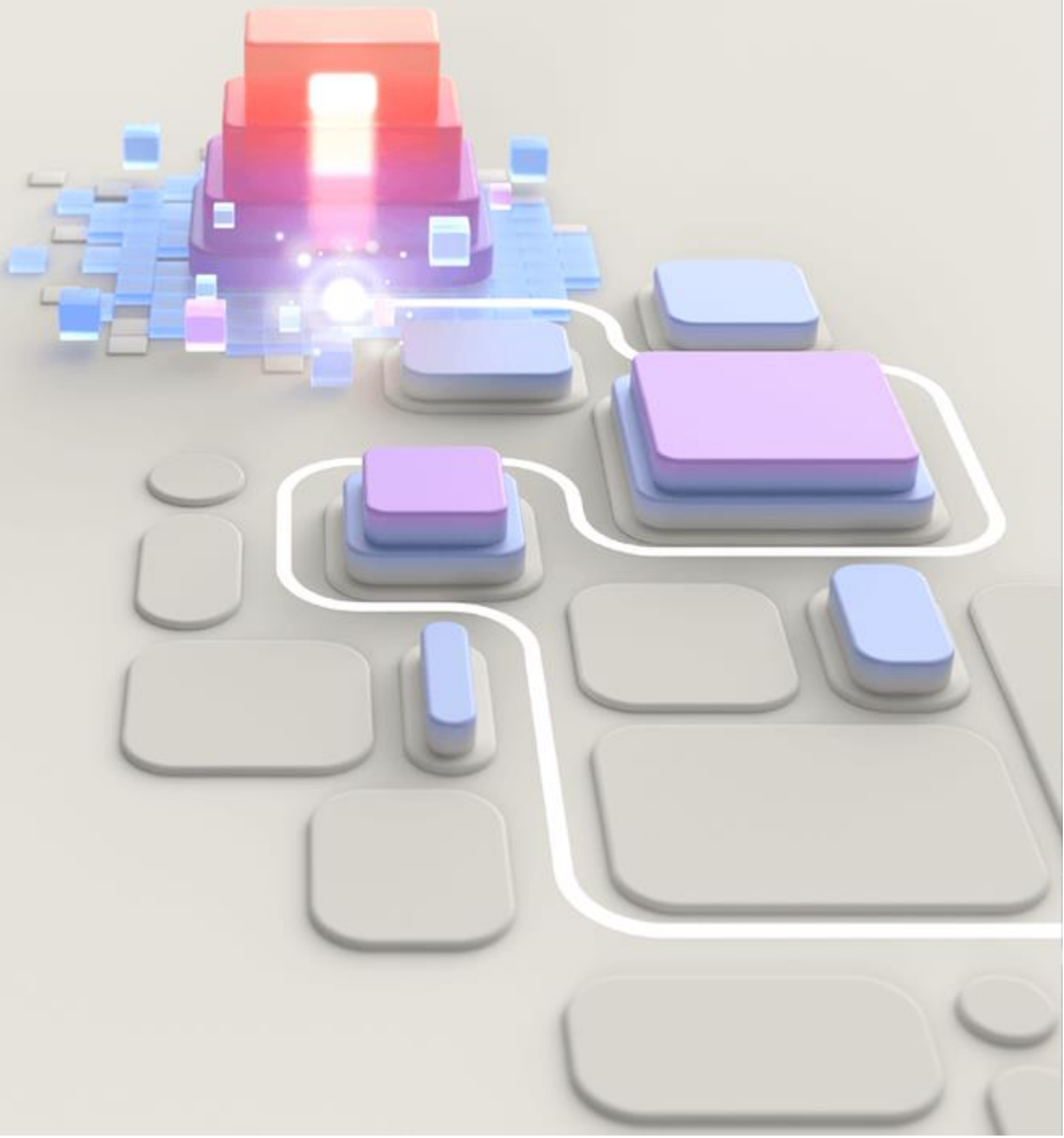
Microsoft

AZ-104

Administer Monitoring



AZ-104 Course Outline

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

- Configure Azure Monitor
- Configure Azure Alerts
- Configure Log Analytics
- Lab 11 – Implement Monitoring

VM

Agent

old MMA

new AMA

Workspaces = Blob

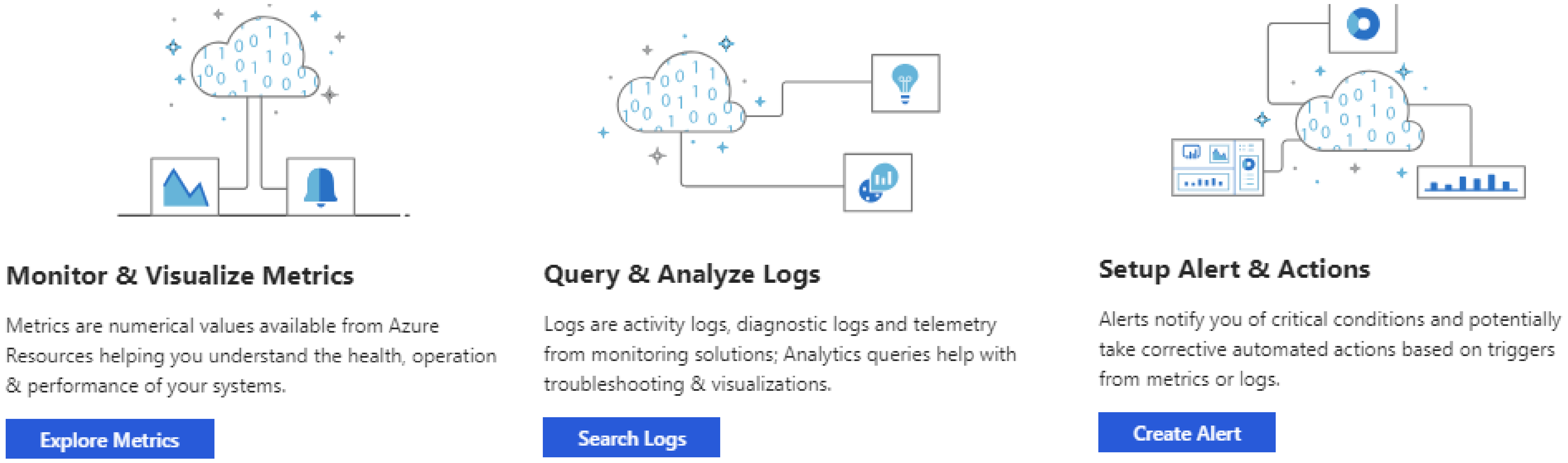
Data Lake

Table Perf

Kusto QL

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.

Query & Analyze Logs

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

Setup Alert & Actions

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

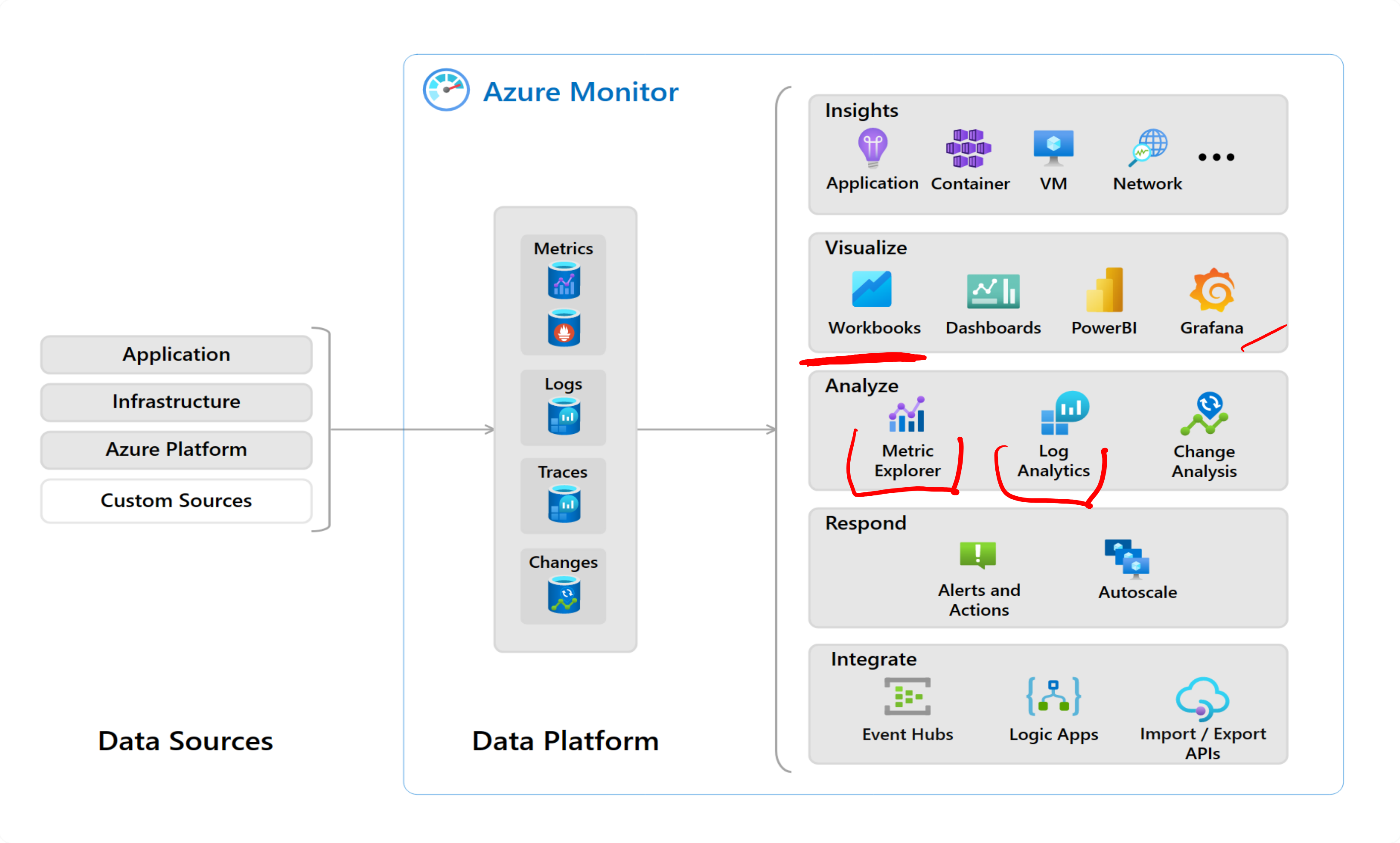
Core monitoring for Azure services

Collects metrics, activity logs, and diagnostic logs

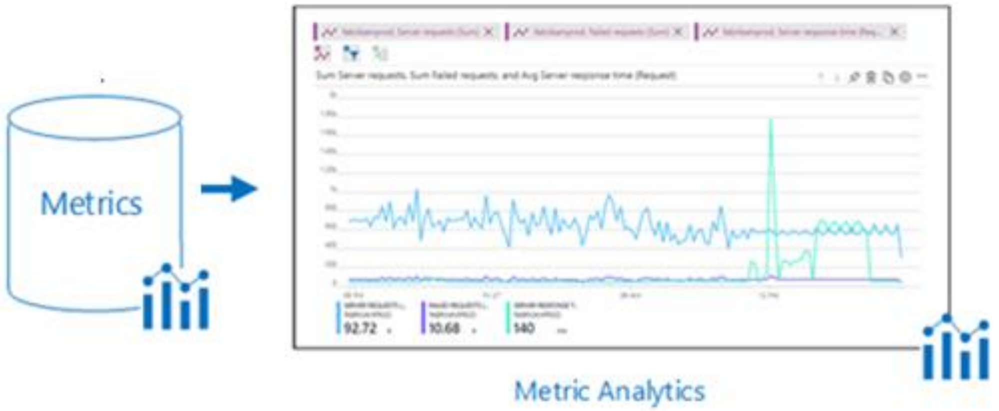
Use for time critical alerts and notifications

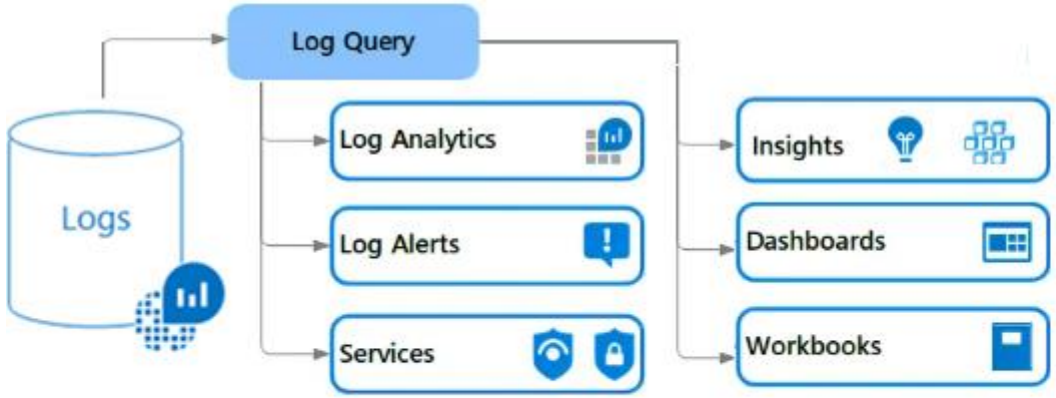
Understand Azure Monitor Components

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



Define Metrics and Logs



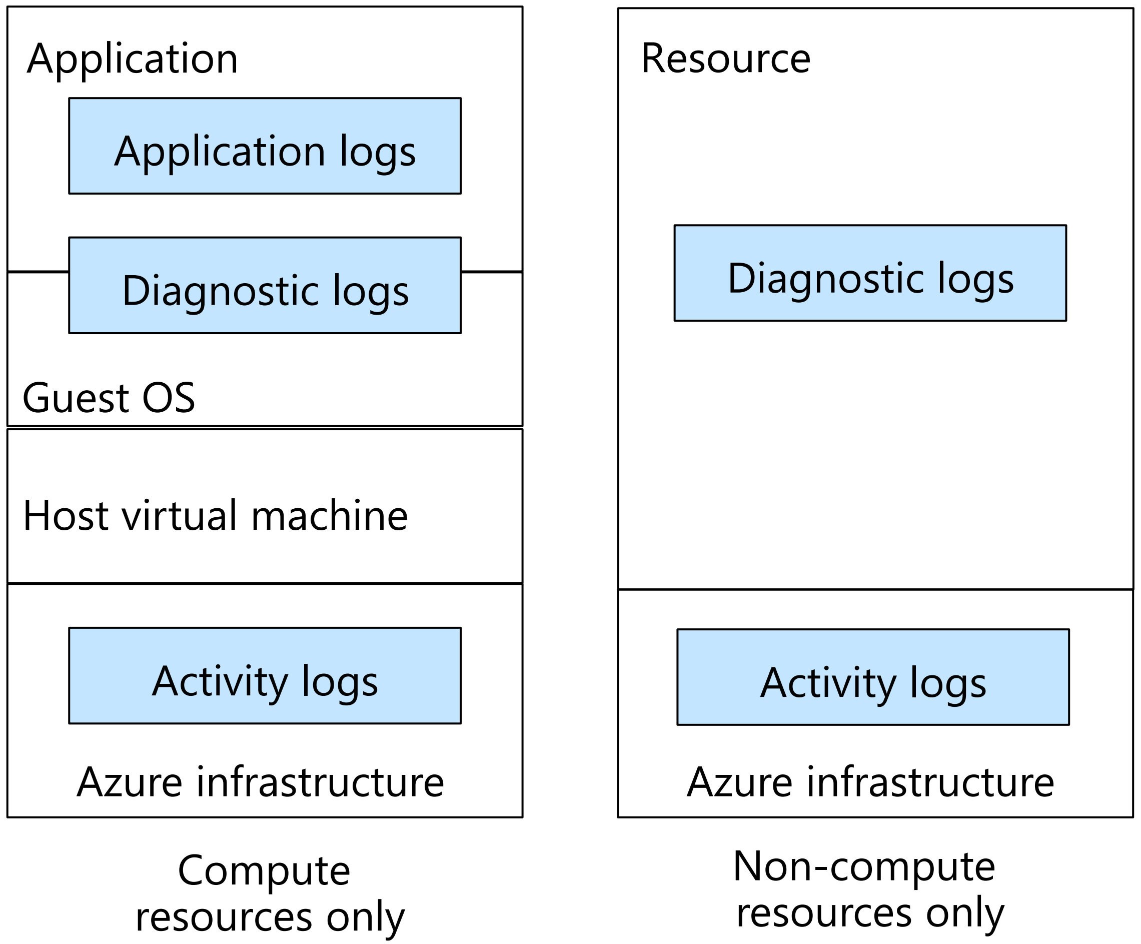


- Metrics are numerical values that describe some aspect of a system at a point in time
- They are lightweight and capable of supporting near real-time scenarios

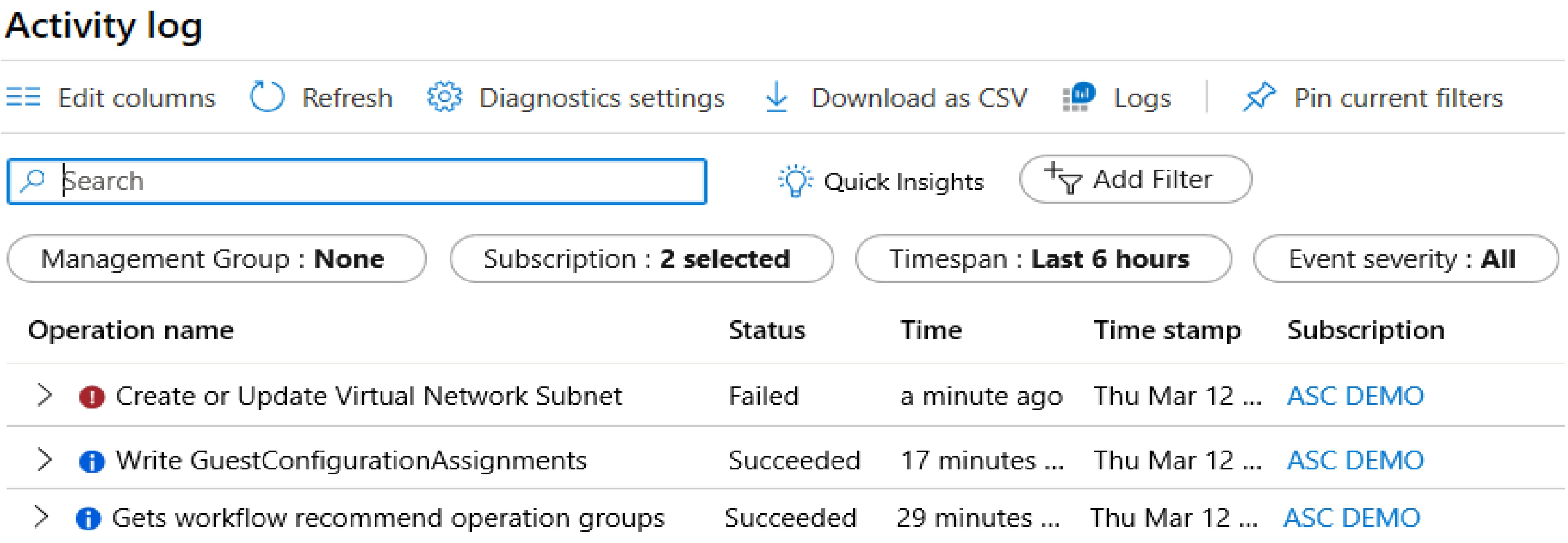
- Logs contain different kinds of data organized into records with different sets of properties for each type
- Telemetry (events, traces) and performance data can be combined for analysis

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



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

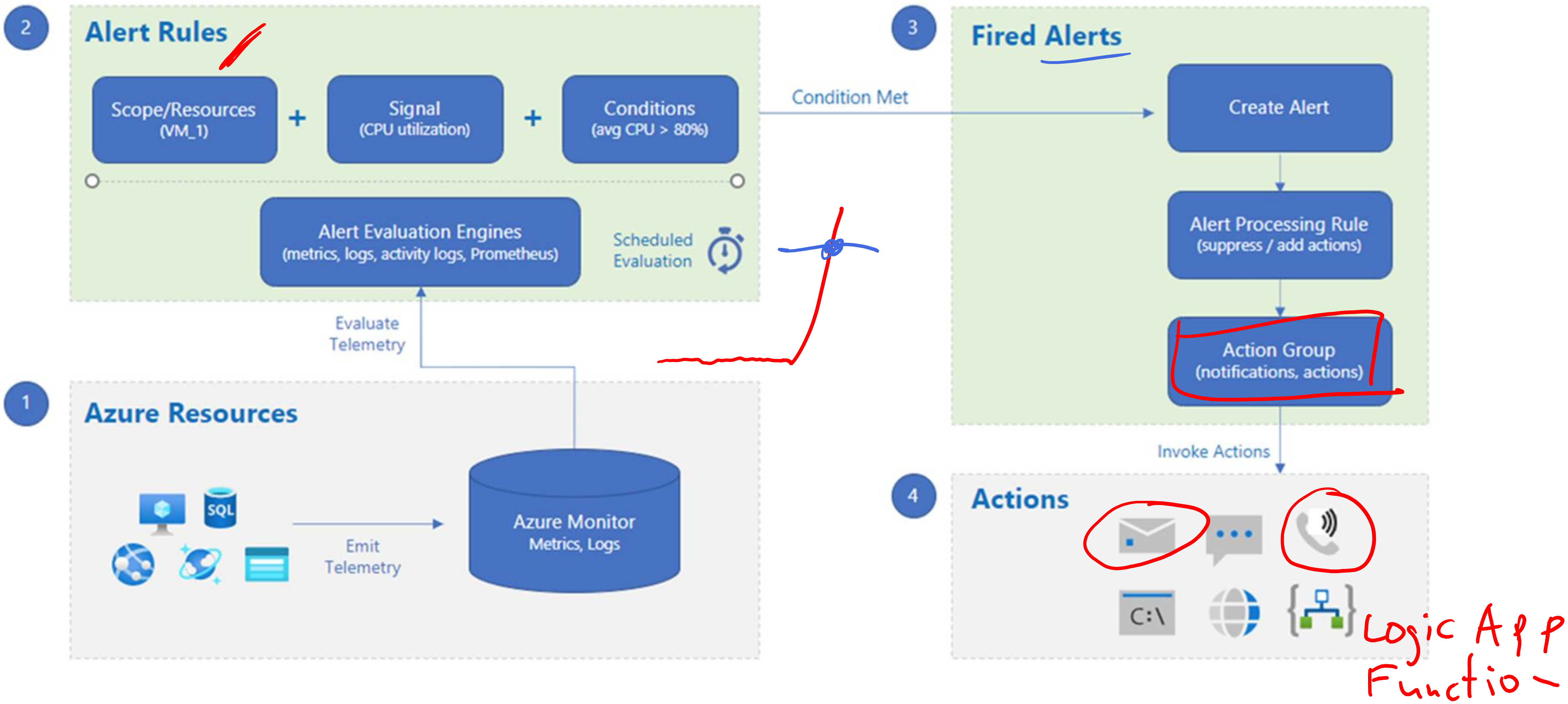
Filter by Management group, Subscription, Timespan, and Event Severity

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

Pin current filters and download as CSV

Configure Azure Alerts

Manage Azure Monitor Alerts

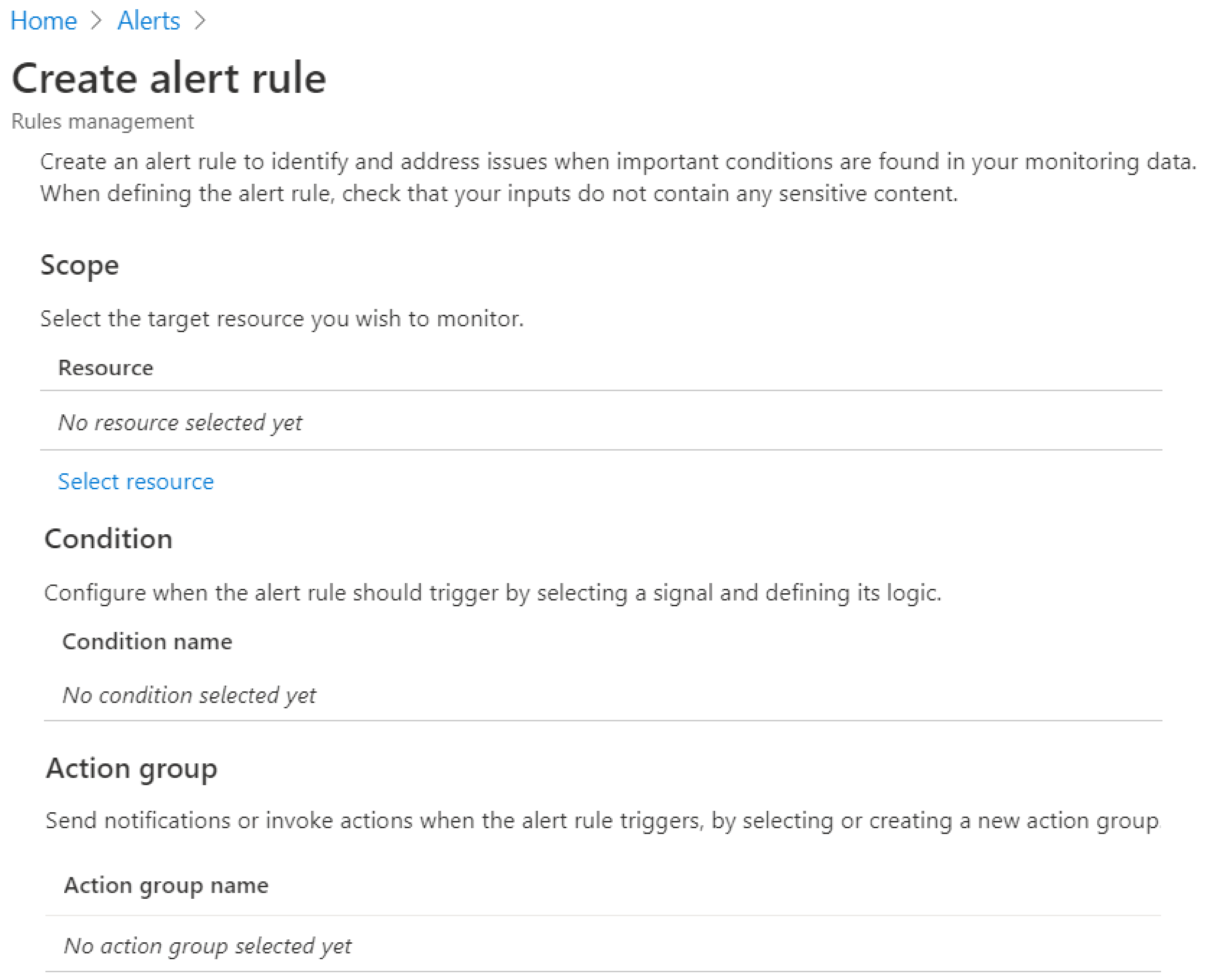


Create Alert Rules

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



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

Condition

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

Condition name
No condition selected yet

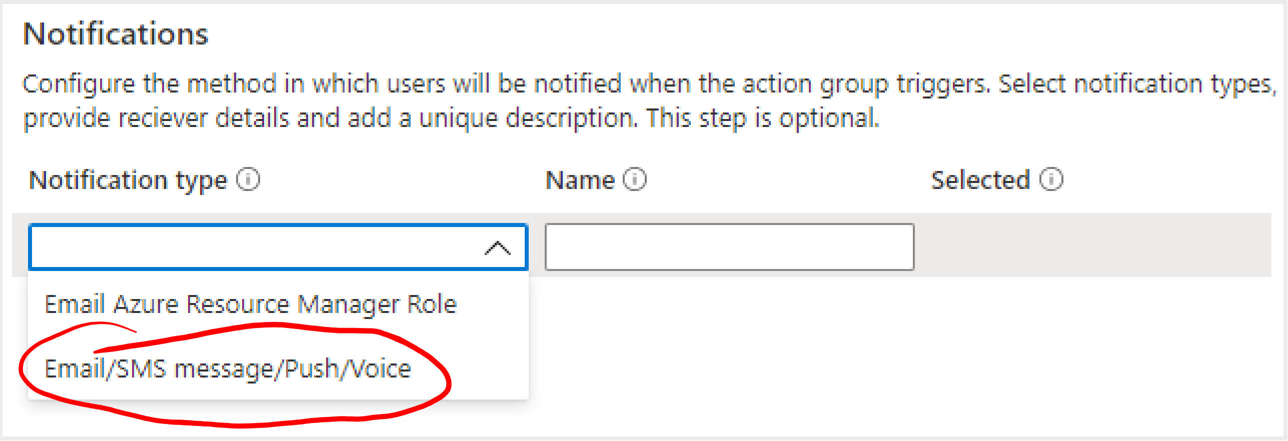
Action group

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

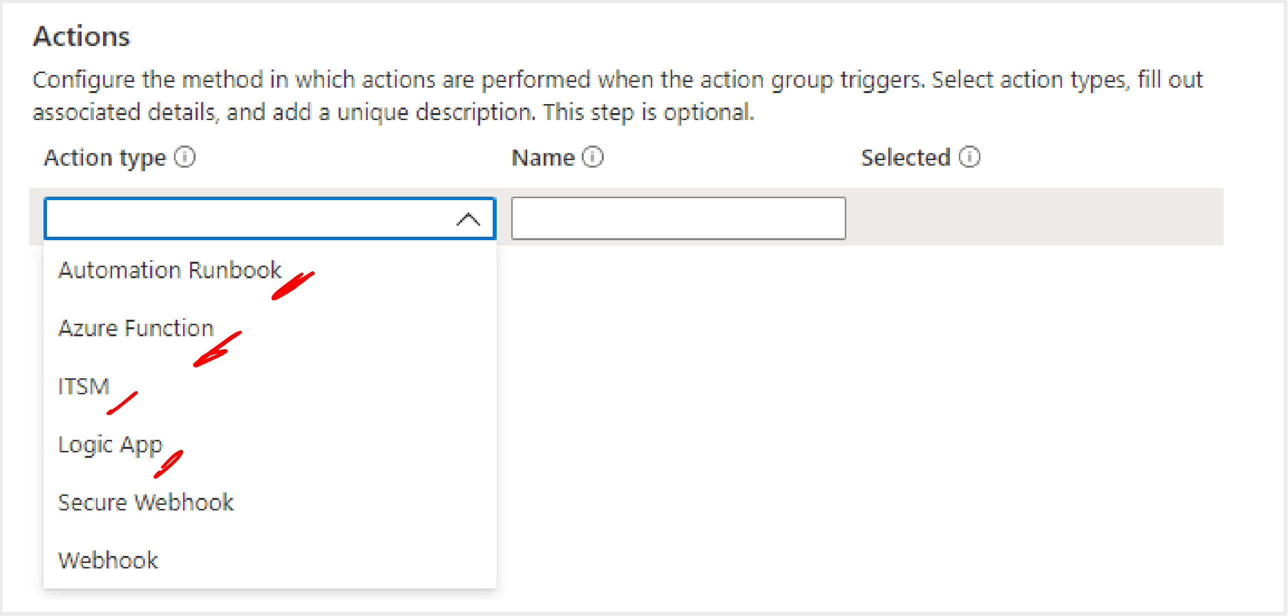


Notifications

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

Notification type ⓘ
Name ⓘ
Selected ⓘ
Email Azure Resource Manager Role
[✓ Email/SMS message/Push/Voice]

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



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.

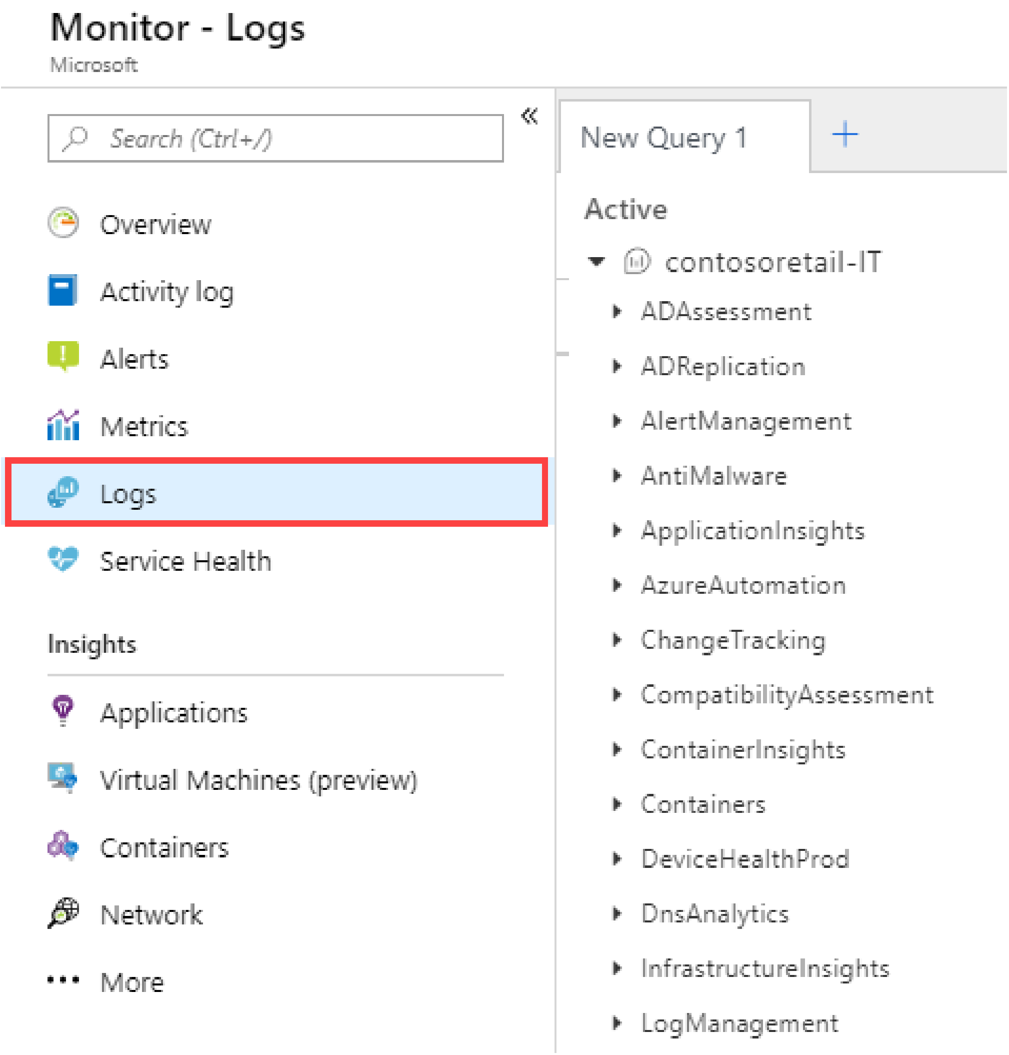
Configure Log Analytics

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

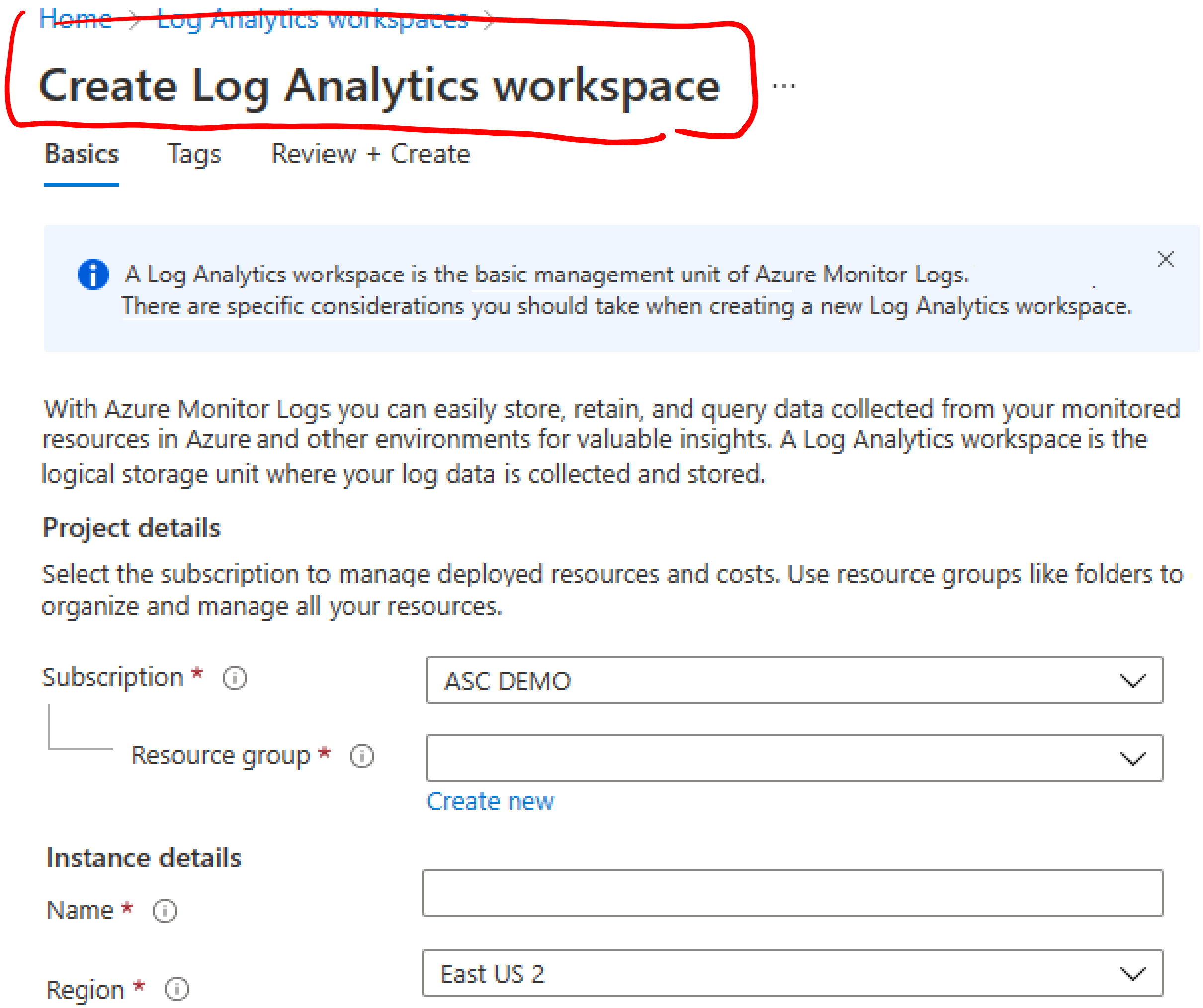


Create a Workspace

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 ...

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 * : ASC DEMO

Resource group * :

Create new

Instance details

Name * :

Region * : East US 2

Kusto Query Lang

Microsof Sentinel SIEM

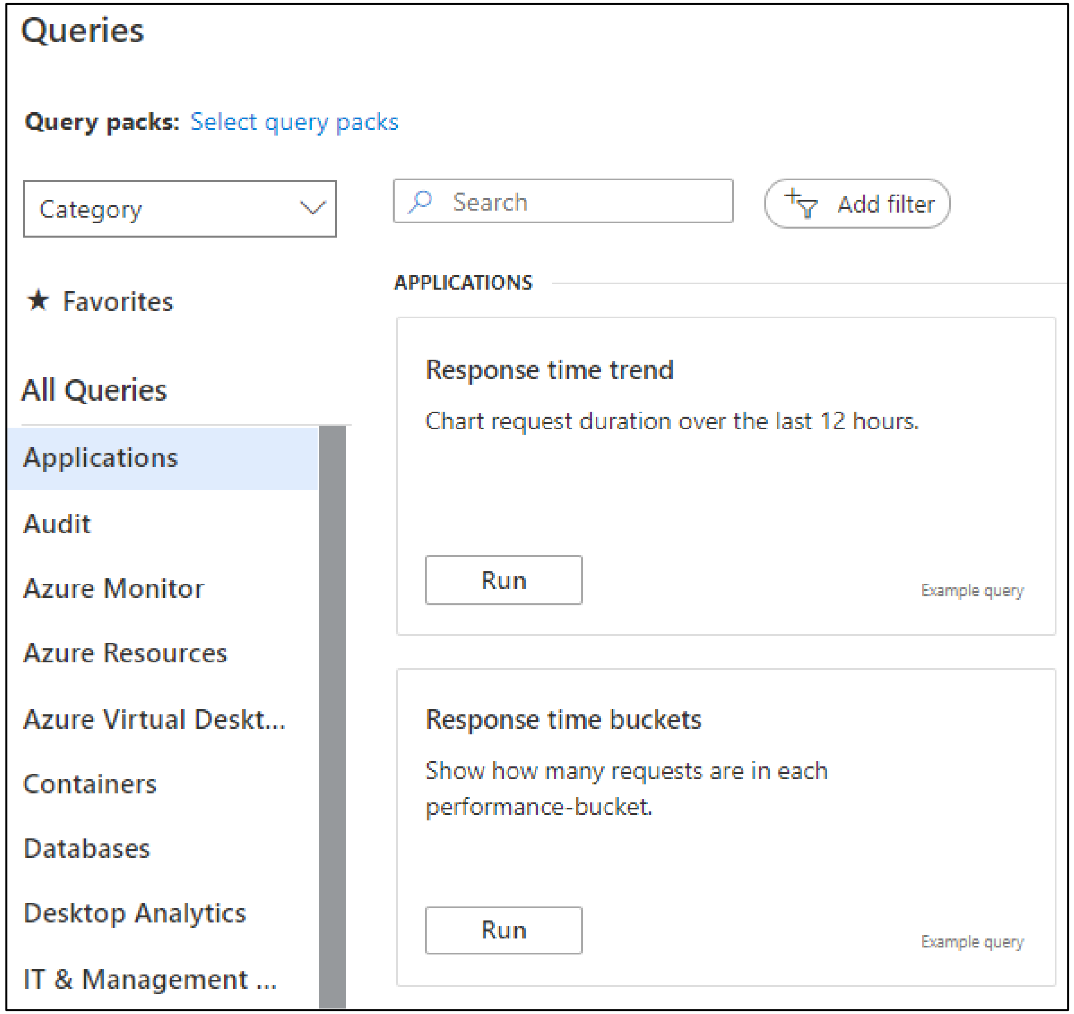
Query Log Analytics Data

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


Queries

Query packs: Select query packs

Response time trend

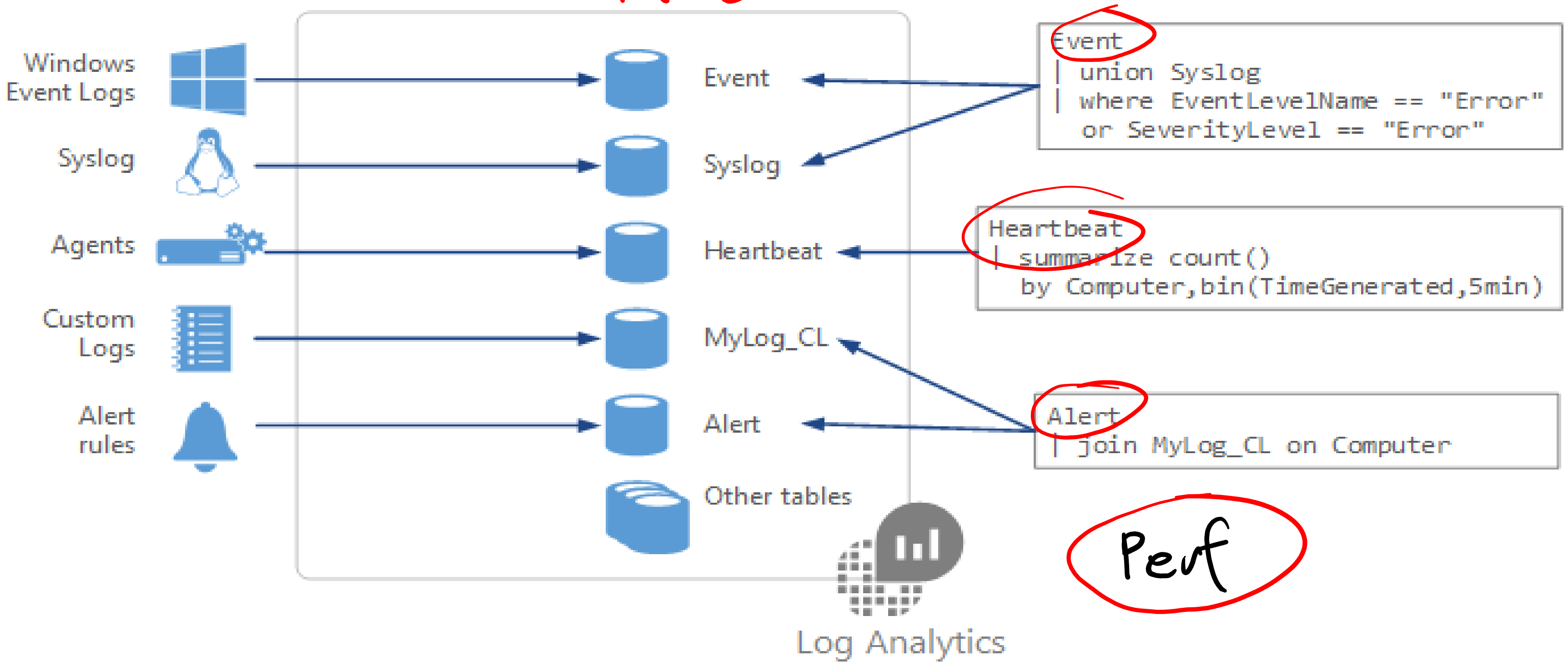
Chart request duration over the last 12 hours.

Response time buckets

Show how many requests are in each performance-bucket.

Structure Log Analytics Queries

Table



```
Event
| union Syslog
| where EventLevelName == "Error"
  or SeverityLevel == "Error"
```

```
Heartbeat
| summarize count()
  by Computer,bin(TimeGenerated,5min)
```

```
Alert
| join MyLog_CL on Computer
```

Perf

Table

```
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

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

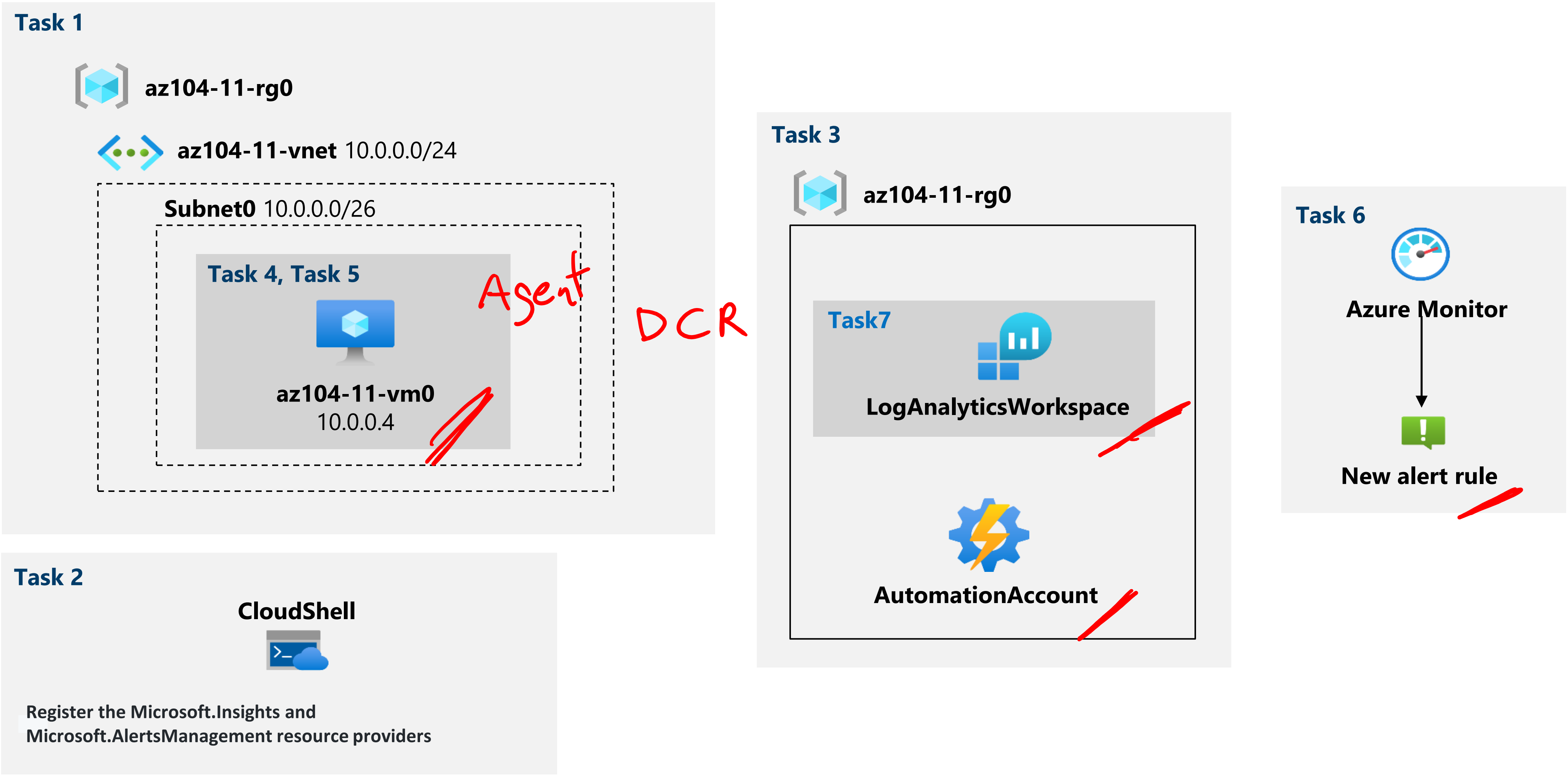
Task 4: Configure Azure virtual machine diagnostic settings

Task 5: Review Azure Monitor functionality

Task 6: Review Azure Log Analytics functionality

Next slide for an architecture diagram →

Lab 11 – Architecture diagram



Register the Microsoft.Insights and Microsoft.AlertsManagement resource providers

End of presentation