

# Monitoring in Azure

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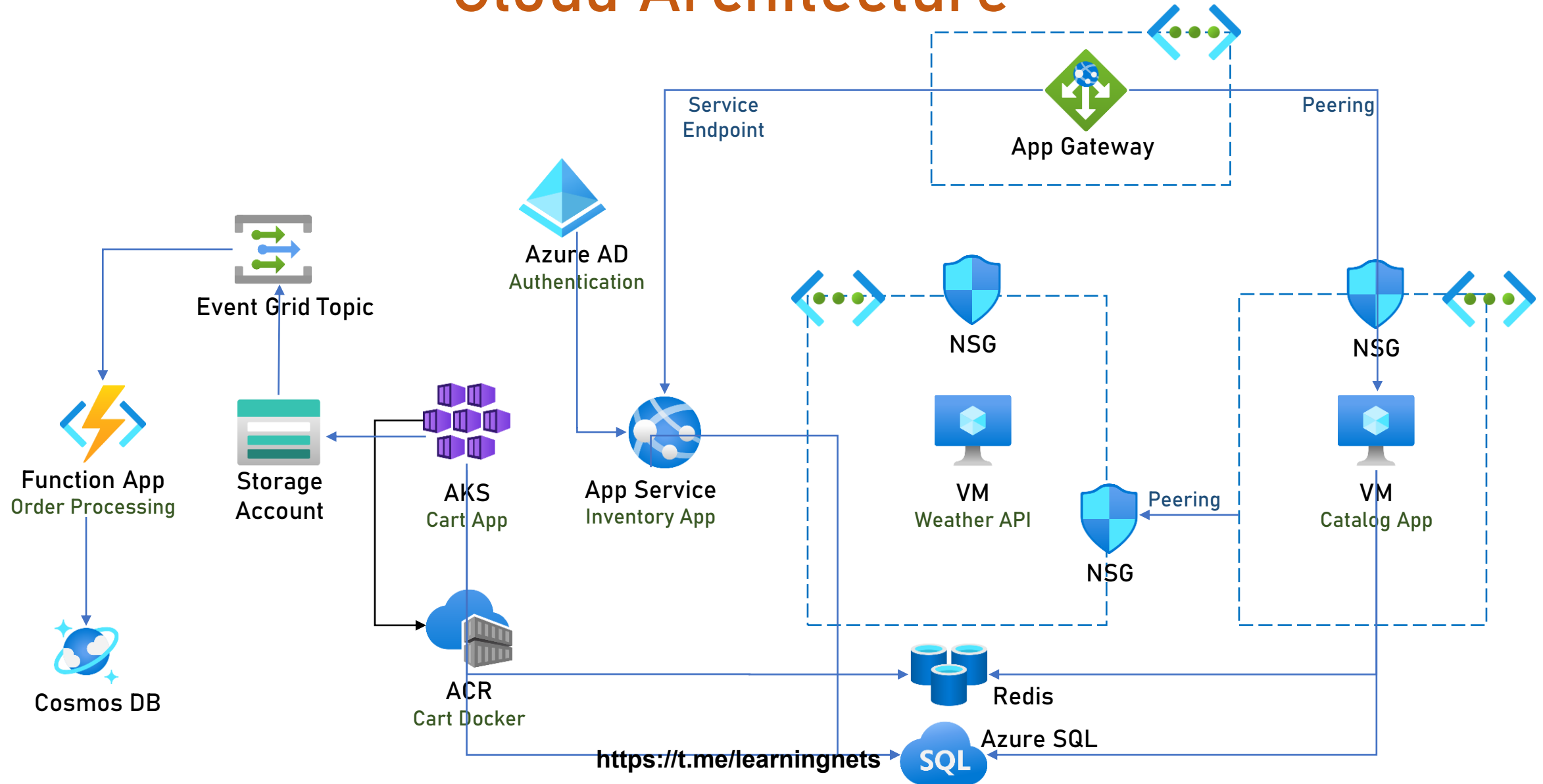
# Monitoring

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- A working app is not enough
- We must know its status, how it performs, and when it has problems
- This is done via monitoring

*ReadIt!*

# Cloud Architecture



# Monitoring in Azure

- Azure offers a lot of built in monitoring mechanisms
- It's a good idea to be familiar with as many as possible
- Also – a centralized monitoring hub where all monitoring data is streamed, and can be queried, or used for triggers
- Extremely cost effective

# Monitoring in Azure

- Monitoring is based on two types of data:

## Metrics



- Numeric values describing resource's aspect at a specific point in time
- Examples: CPU, Disk, Response Time

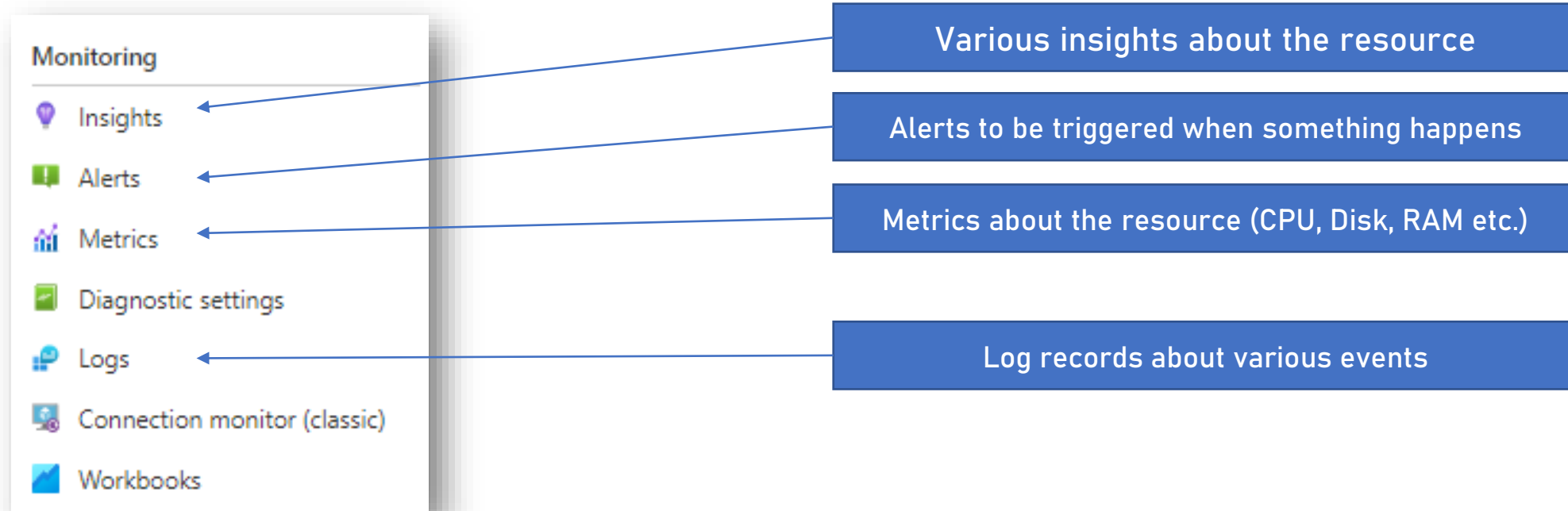
## Logs



- Events that occurred in the system
- Textual & numeric
- Examples: System started, Error occurred

# Resource Monitoring

- Almost every resource in Azure has a “Monitoring” section



# Alerts

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- Get notifications about events in your resources
- Examples:
  - VM's CPU goes above 90%
  - More than 20% of requests fails
  - Server error occurs in the last hour

# Alerts Components

Condition



When to trigger the alert (ie. CPU goes above 90%)

Actions



What to do? Usually – send notifications.  
Notifications are sent to **Action Groups**.

Details



Contents of notification

# Alerts Pricing

- Per metrics measured (0.10\$ / metric)
- Per notification type
  - 1K email, 1K push notifications, 100K web hooks, 100 SMS in the US are included for free each month
- All in all – quite cost effective

# Logs & Analytics Workspace

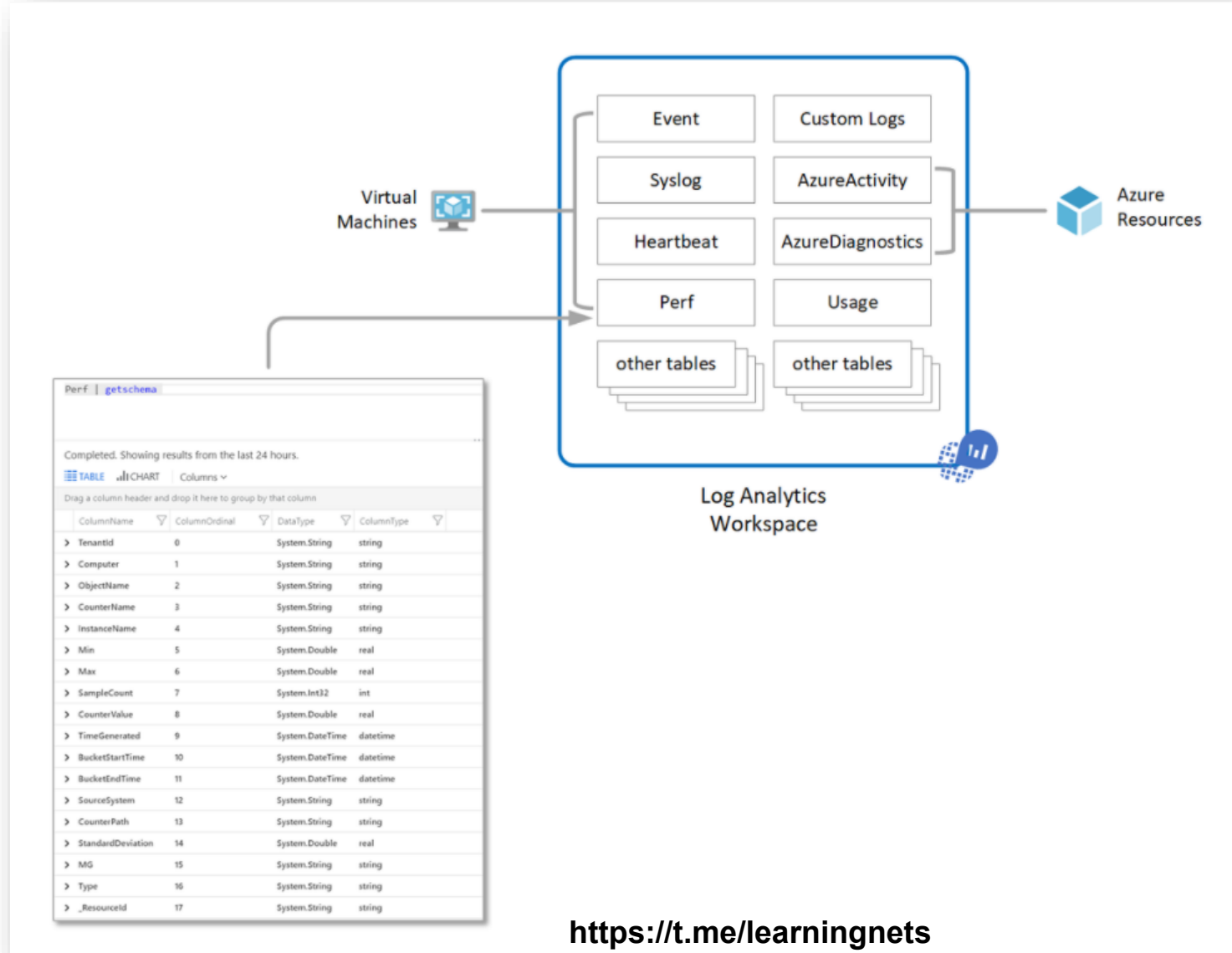
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- Almost every Azure resource generate logs
- Might contain data about performance, events, errors etc.
- Logs records need central repository to be stored and viewed
- This is the Log Analytics Workspace

# Log Analytics Workspace

- A central location for storing, organizing and analyzing logs
- Aggregates logs from all connected, monitored resources
- Uses specialized query language to query logs
- Located in a designated region
- Better be the same region of the resources to save costs

# Log Analytics Workspace



# Insights

- A collection of metrics, statistics and insights about the resource
- Specific to resource type
- Generated automatically
- Code-based services (App Services, apps on VMs) can integrate Application Insights into the code and gain a lot of data about app usage, performance, etc.

# Azure Monitor

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- A central location for all the monitoring aspects of Azure's resources
- Provides access to metrics, logs, insights and more
- Has additional capabilities not found in the individual resources

# Resource Tags

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- Resources are organized into Resource Groups
- Sometimes we want more information about resources:
  - Which environment? Test? Production?
  - To which app it belongs?
  - Which group is responsible for it?

# Resource Tags

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- For this we have Resource Tags
- Tags help organize resources using name-value pairs
- Examples:
  - Environment: Test
  - App: readit
  - Group: the-A-team

# Resource Tags

- Can be set during creation of resource or after that
- Useful for many scenarios:
  - Resource querying (show all resource of the A team)
  - Cost analysis (how much did the test environment cost last month?)
  - And more...

