

Monitoring in Azure

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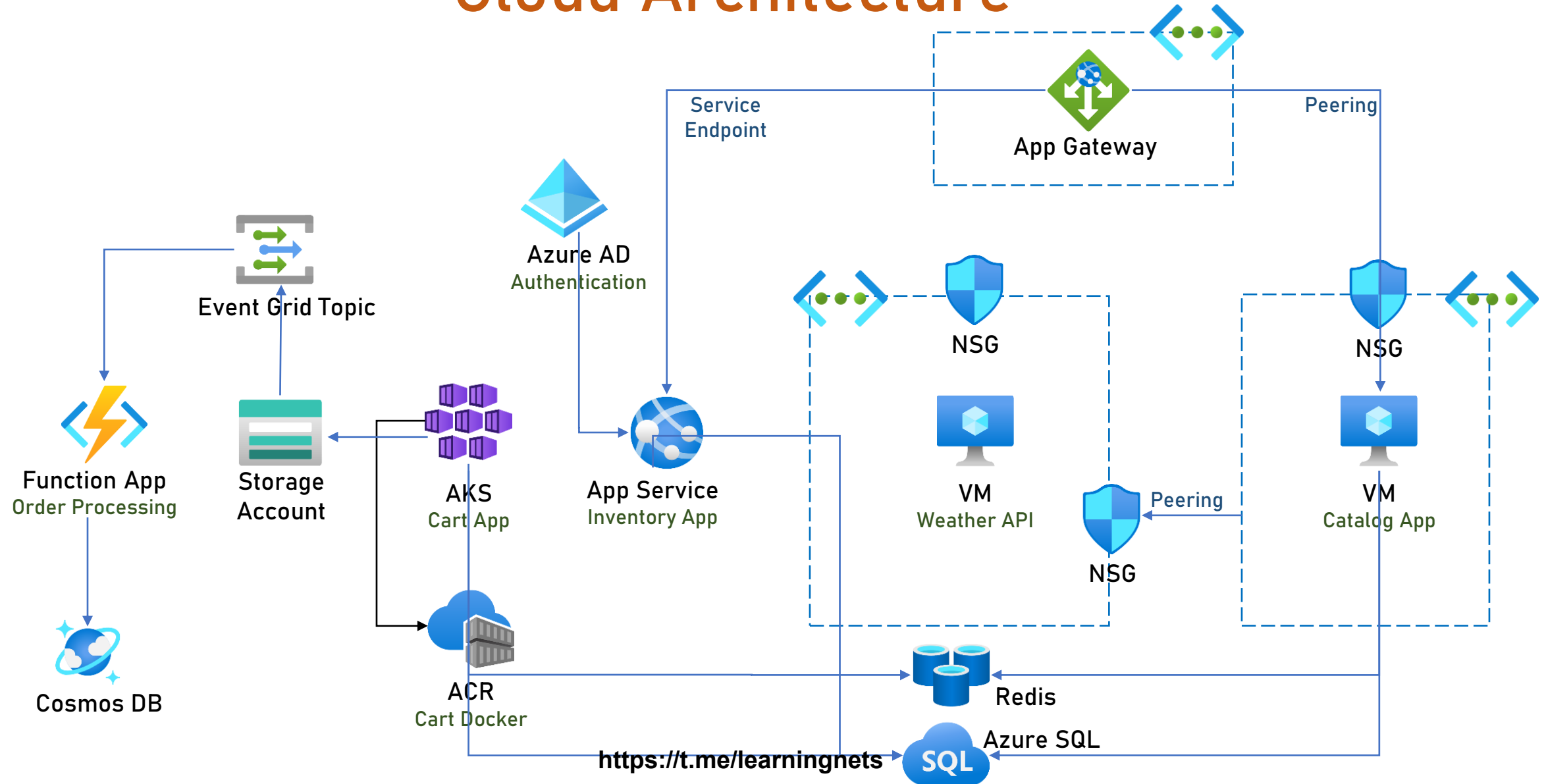


Monitoring

- 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

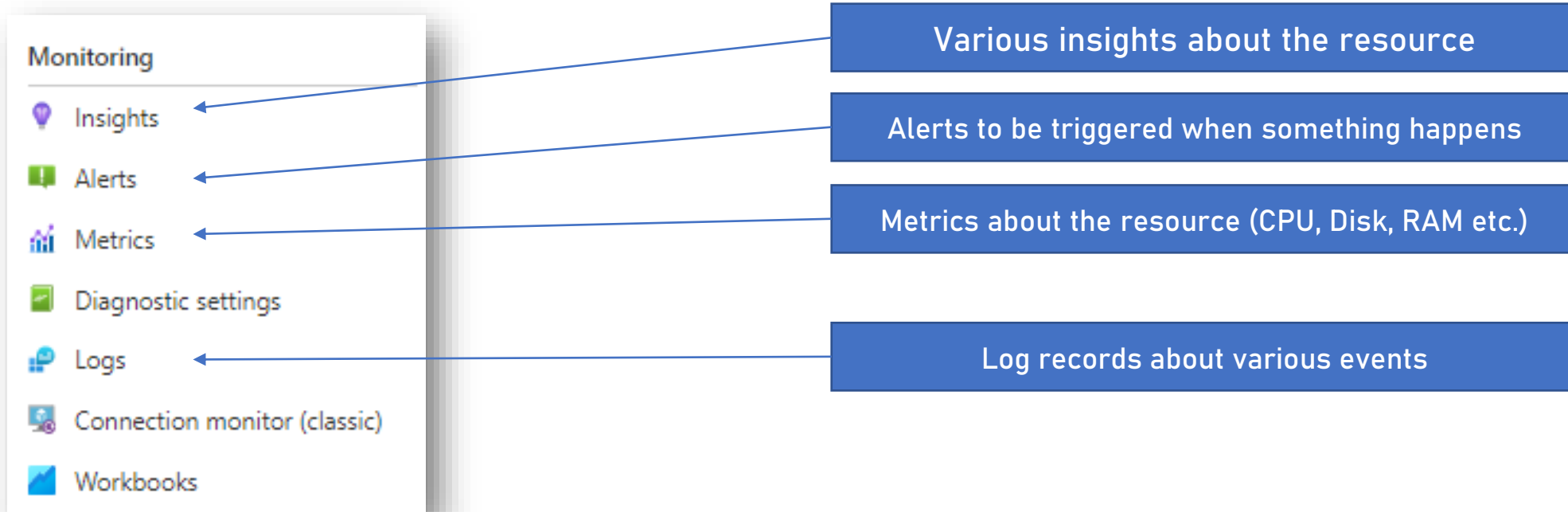
Logs



- 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

- 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

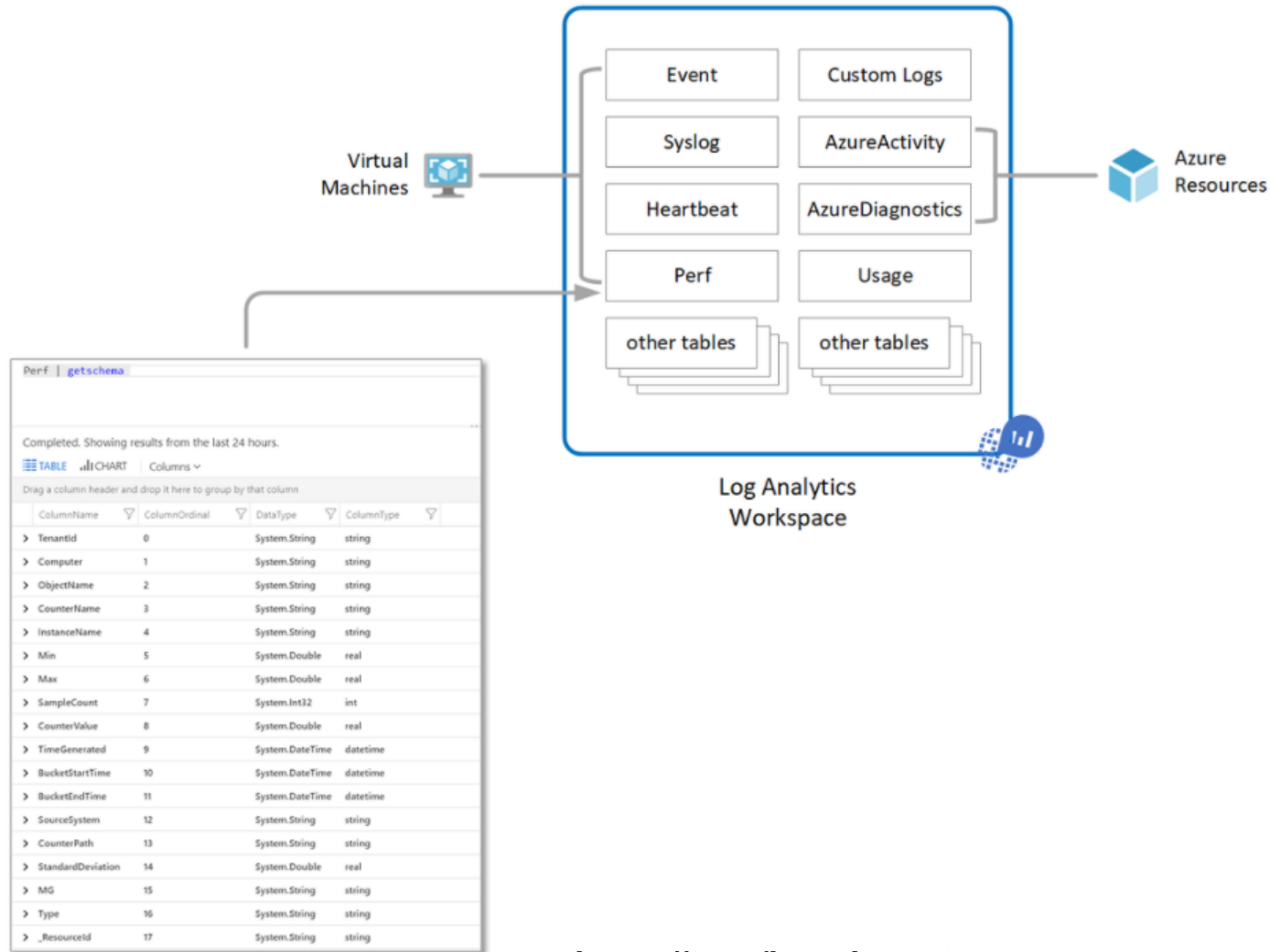
Logs & Analytics Workspace

- 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



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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

- 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

- 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

- 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...

ReadIt!

Cloud Architecture

