
Analysis Services

Monitoring Overview

About Alan

Alan Faulkner

Principal Consultant

- 20+ years technical experience
- 6 years at Pragmatic Works
- SSAS Maestro



@FalconTekNic



www.linkedin.com/in/alandfaulkner



<http://falconteksolutionscentral.com>

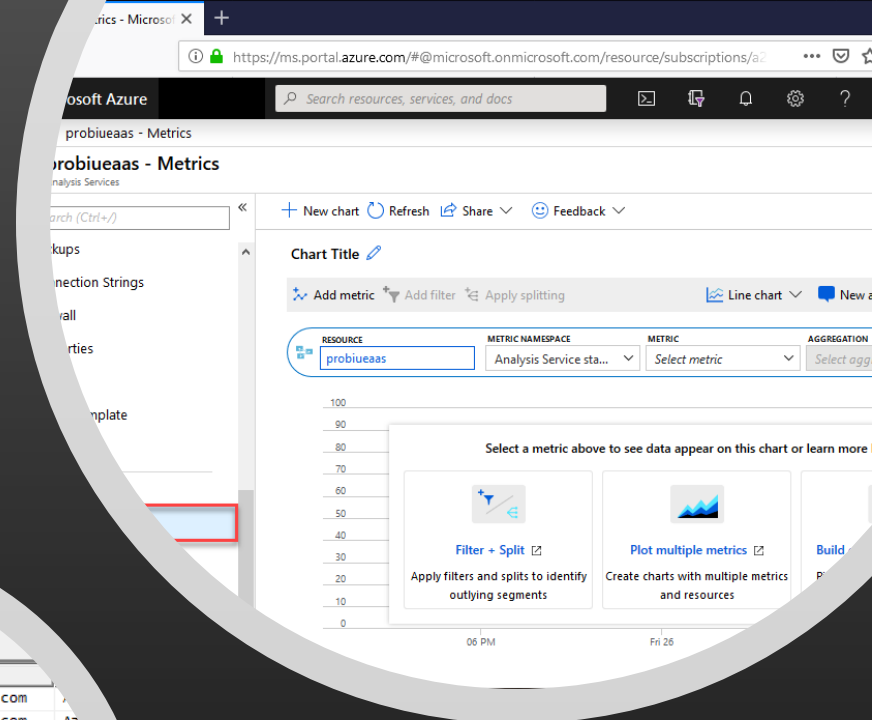
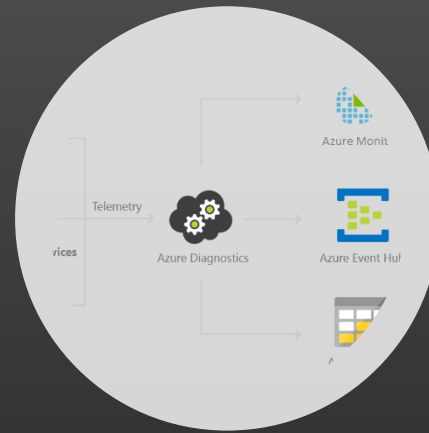


afaulkner@pragmaticworks.com



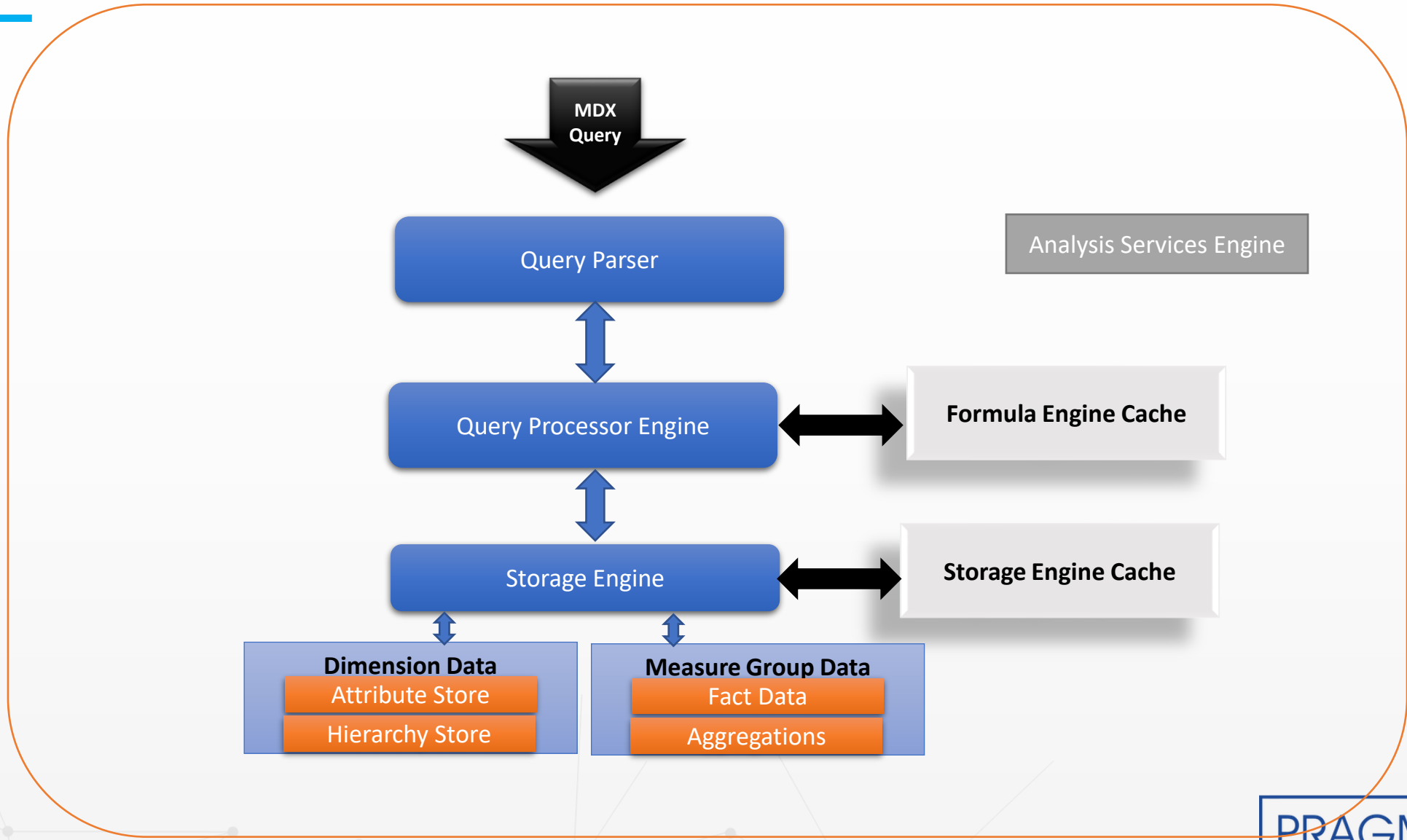
Monitoring Tools

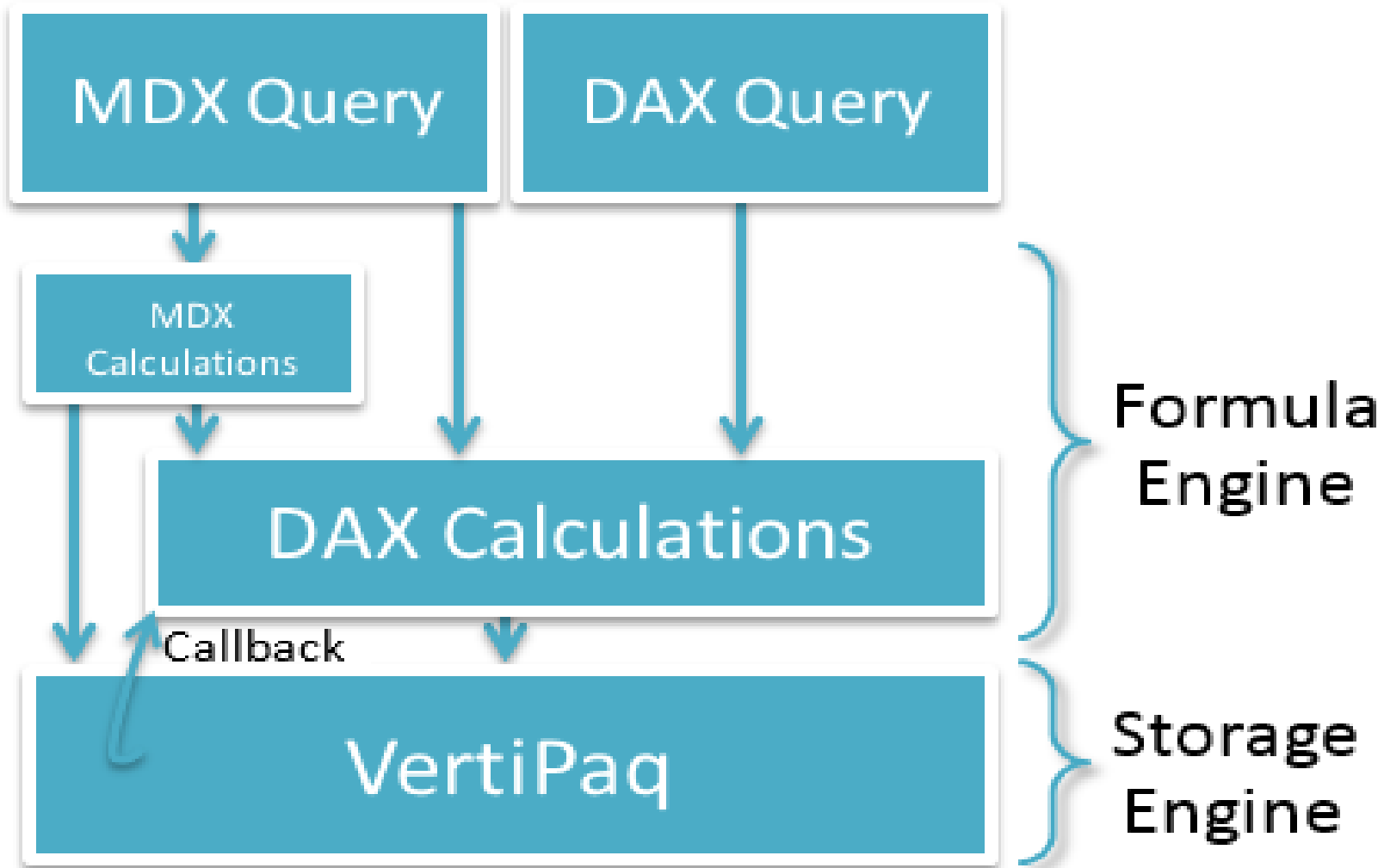
- Azure Metrics Explorer
- Azure Diagnostics
- SQL Server Profiler
- Extended Events
- Trace Events
- Dynamic Management Views (DMVs)
- Performance Counters *
- Log Operations *



EventSubclass	NTCanonicalUserName
1 - DMXQuery	afaulkner@pragmaticworks.com
1 - DMXQuery	afaulkner@pragmaticworks.com
1 - DMXQuery	afaulkner@pragmaticworks.com
1 - DMXQuery	afaulkner@pragmaticworks.com
3 - DAXQuery	afaulkner@pragmaticworks.com
3 - DAXQuery	afaulkner@pragmaticworks.com
3 - DAXQuery	afaulkner@pragmaticworks.com
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3 - DAXQuery	afaulkner@pragmaticworks.com
1 - DMXQuery	afaulkner@pragmaticworks.com
1 - DMXQuery	afaulkner@pragmaticworks.com
1 - DMXQuery	afaulkner@pragmaticworks.com
1 - DMXQuery	afaulkner@pragmaticworks.com
1 - DMXQuery	afaulkner@pragmaticworks.com
1 - DMXQuery	afaulkner@pragmaticworks.com

EventSubclass	TextData	ConnectionID	NTUserName	ApplicationName
Command Events				
Command Begin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Command End	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Discover Events				
Discover Begin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Discover End	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Discover Server State Events				
Server State Discover Begin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Server State Discover End	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Errors and Warnings				
Error	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Modification Events				
Notification Events				
Collection of notification events.				
ApplicationName (1 filter(s) applied)				
Name of the client application that created the connection to the server. This column is populated with the values passed by the application rather than the displayed name of the program.				





Monitoring Analysis Services - SQL Server Profiler Trace

- Installed with SQL Server Management Studio (SSMS)
- Tracks engine process events
- Can capture profiler data to a SQL Table or File for later analysis
- Can be used on:
 - SQL Server Analysis Services (Tabular & Multidimensional)
 - Azure Analysis Services
 - Power BI Premium

windows.net/adtaasj

ClientProcessID	ConnectionID	CurrentTime	DatabaseName	EventSubclass	NTCanonicalUserName	NTDomainName	NTUserName	RequestID	RequestParameter
7180	7	2020-02-21 14:50:59...	adventureworks	1 - DMXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.com	4DB6D9...	
7180	7	2020-02-21 14:50:59...	adventureworks	1 - DMXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.com	4DB6D9...	
7180	7	2020-02-21 14:50:59...	adventureworks	1 - DMXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.com	AC4C47...	
7180	7	2020-02-21 14:50:59...	adventureworks	1 - DMXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.com	AC4C47...	
7180	7	2020-02-21 14:51:32...	adventureworks	3 - DAXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.com	7707DC...	
7180	7	2020-02-21 14:51:32...	adventureworks	3 - DAXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.com	7707DC...	
7180	7	2020-02-21 14:51:49...	adventureworks	3 - DAXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.com	C3FCAF...	
7180	7	2020-02-21 14:51:49...	adventureworks	3 - DAXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.com	C3FCAF...	
7180	7	2020-02-21 14:52:03...	adventureworks	3 - DAXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.com	60A6A8...	
7180	7	2020-02-21 14:52:03...	adventureworks	3 - DAXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.com	60A6A8...	
7180	9	2020-02-21 15:26:04...	adventureworks	3 - DAXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.co...	E37F24...	
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7180	9	2020-02-21 15:26:17...	adventureworks	3 - DAXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.co...	6AAA3E...	
7180	9	2020-02-21 15:26:17...	adventureworks	3 - DAXQuery	afaulkner@pragmaticworks.com	AzureAD	afaulkner@pragmaticworks.co...	6AAA3E...	
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Monitoring Analysis Services - SQL Server Profiler Trace

Use SQL Server Profiler To:

- Monitor the performance of an Analysis Services instance.
- Debug queries
- Poorly performing queries
- Testing query statements
- Troubleshoot problems
- Audit activity
- Display data on captured events

Permissions

- AAS/ SSAS
- Power BI Premium

Monitoring Analysis Services - SQL Server Profiler Trace

When using SQL Profiler, things to remember:

- Power BI Premium – DB events available for the Workspace
- Multiple Traces can occur simultaneously
- Multiple connections can be tracked in the same trace.
- Passwords are not revealed (replaced by ****)
- Optimal Performance – Focus on events most interested in

Monitoring Analysis Services – Trace Events Overview

Trace Events:

- Generated by AAS/SSAS instance
- Each Trace Event has:
 - Event ID – ID that identifies event type
 - Event Name – Name given in client applications
 - Event Description – Description of the event
- Grouped to easily find related trace events

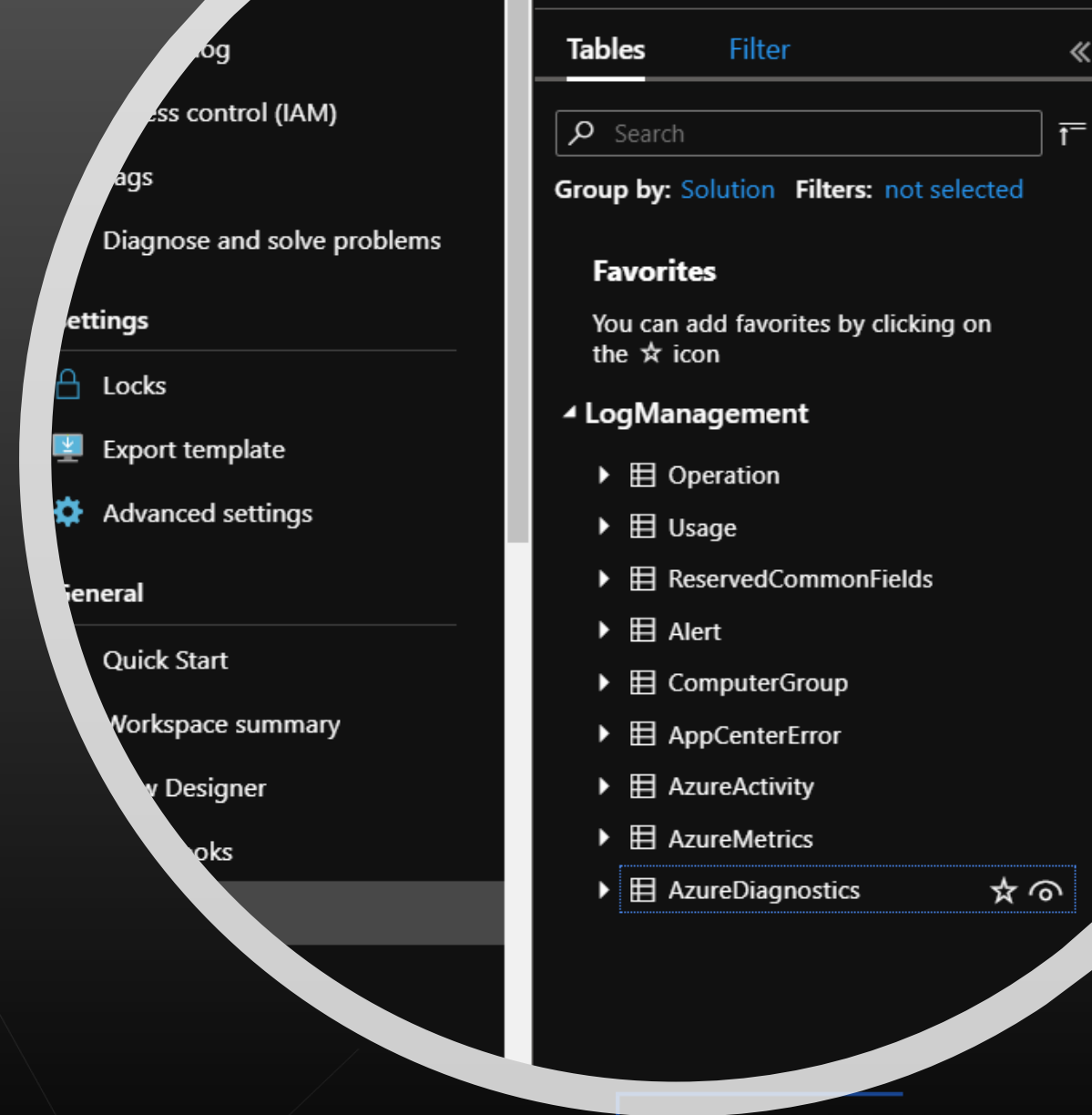
Trace Events	
Command Events (2 event classes)	Lock Events (5 event classes)
Discover Events (2 event classes)	Notification Events (2 event classes)
Discover Server State (3 event classes)	Progress Reports (4 event classes)
Errors and Warnings (1 event class)	Queries (2 event classes)
File Load and Save (8 event classes)	Query Processing (22 event classes)
Security Audit (5 event classes)	Session Events (3 event classes)

DEMO - Monitoring Analysis Services SQL Server Profiler Trace

- SSAS Tabular & Azure Analysis Services Profiler Trace
 - Configure SSAS Tabular (on-prem) & AAS Trace
 - Save Trace Events to SQL Server Table
 - Use Excel to query SSAS Tabular (on-prem) instance
 - Use Power BI to query AAS instance
 - Observe Trace Events
 - Show Results of Trace
 - Use Power BI to Evaluate Trace Data

Monitoring Azure Analysis Services – Log Analytics Queries

- Schema – Collection of Tables – Grouped by Logical Category
- Log Management Category
- Tables – columns with datatypes shown



DEMO - Monitoring Azure Analysis Services – Log Analytics

- Pre-Reqs (work performed prior to demo)
 - Setup logging
 - Log Analytics
 - Log Analytics Workspace
- Azure Analysis Services Log Analytics
 - Various Kusto Queries

Have Any Questions?

Thank You for Attending

