## Create Applications to monitor Pl Analysis Service

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### What are we going to do?

Live Coding against PI Analysis Service!



#### What does it mean?

No laptop needed, just follow along

Discussion form – please feel free to ask questions



### What problem are we going to solve?

Identify couple of common challenges

Explore new ways to overcome those



# "All my analyses are running, how do I know the analyses evaluate good values?"

Everything is "green", but what's actually going on?





# "All my analyses are running, but some outputs don't have current values"

When did those analyses trigger last time? Are some of them lagging behind?



## "Are there any analyses that skip evaluations?"

How can I easily find which ones? How often do those analyses trigger?



"I have some analyses in error – which is OK – but how do I know that all the errors are the expected ones?"

How to find analyses by their runtime error text?

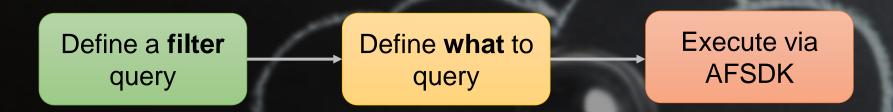


Getting answers to those, and similar questions has been quite a challenge... until now!

2018 SP2 release of PI Server makes it possible to query analyses *runtime* information via AFSDK

Let's explore what it means!





"Include **running** analyses with 'Wind Farm' in the path with average Lag > 10 s"

"Execute programmatically, determine offending analyses"

"I want to know the analyses elements, last lag, average lag, and how long it took to evaluate the last trigger."







#### Live coding exercise #1

Write an AFSDK program in C# to explore running analyses fields

Consider different ways to consume the data



#### Live coding exercise #1 recap

New AFAnalysisService methods:

- RuntimeInformationFields
- QueryRuntimeInformation

Retrieved running analyses information in 3 ways:

- 1) As RuntimeFieldValue objects
- 2) As user-defined objects
- 3) dynamic/JSON objects



### Live coding investigation exercise #2

Explore the running analyses in a database and see if there are any problems



### Live investigation exercise #2 recap

Explored a database to find analyses that...

- 1) evaluate 'Calc Failed', using lastEvaluationStatus and lastEvaluationDetail
- 2) are lagging, using lastLag, averageTrigger averageElapsed, skipCount
- 3) Have unexpected configuration error, using statusDetail



#### Live coding exercise #3

Write an application to monitor whether any analysis is falling behind or skipping evaluations



#### Live coding exercise #3 recap

Wrote a simple program that queries PI Analysis Service to determine if any analysis appears to be lagging or skipping.

The used fields: lastLag, skipCount, lastTriggerTime



#### Performance tip!

Always exclude 'Stopped' analyses if not needed.



#### **Speakers**



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#### Questions?

Please wait for the **microphone** 

State your name & company

#### Please remember





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