Casos de Uso de Power BI y Analysis Services

Javier Villegas

DBA Manager

MSC

Twitter: @javier_vill

LinkedIn: javiervillegas

Argentina Edition

Junio 23 2020

POWERBI DAYS

Javier Villegas

DBA Manager at Mediterranean Shipping Company

Involved with the Microsoft SQL Server since early version to 2019 (Azure SQL DB & MI)

Specialization in SQL Server Administration, Performance Tuning , High Availability and Disaster Recovery

Responsible of Data Platform

Microsoft MVP Data Platform

MCP and MCTS

Blogger and Forums contributor

Technical Speaker

SQL PASS, 24 HOP, PASS Marathon, SQL Saturdays and PASS Virtual Groups NetConf (vOpen), GroupBy , DataPlatformGeeks and Global AI Tour.

@sqlargentina

@javier_vill

javiervillegas

sql-javier-villegas.blogspot.com.ar

javier.ignacio.villegas@gmail.com

Our Journey to Power BI

Starting Point

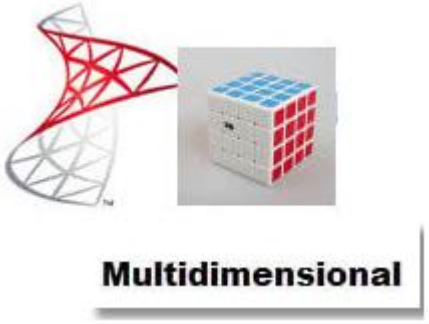
- Distributed Agencies around the world
- Each Agency has its own Active Directory
- Each Agency has its own SQL/SSAS/SSRS , etc.
- Headquaters

Our Journey to Power BI

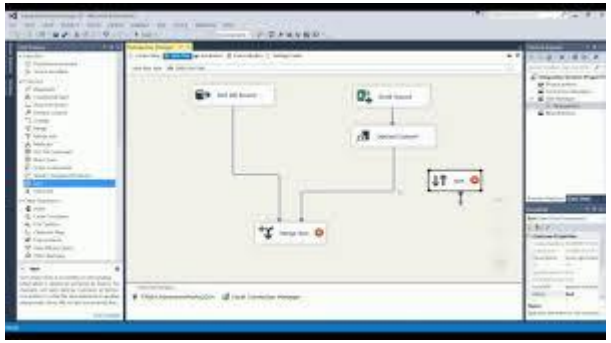
- Analysis Services Multidimensional
- ETL (SSIS) and SQL Warehouse
- Excel / PowerPivot / PowerQuery
- SQL Server Reporting Services

Transactional

Data Warehouse

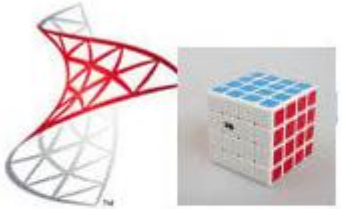


Analysis Services



SSIS

On-Premises



Multidimensional

Analysis Services

Reporting Services

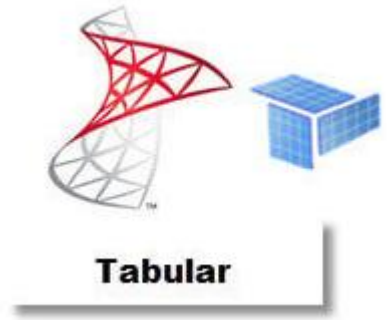
On-Premises

Our Journey to Power BI

- Analysis Services Tabular
- Data Feeds
- Excel / PowerPivot / PowerQuery
- SQL Server Reporting Services

Transactional

Data Feeds

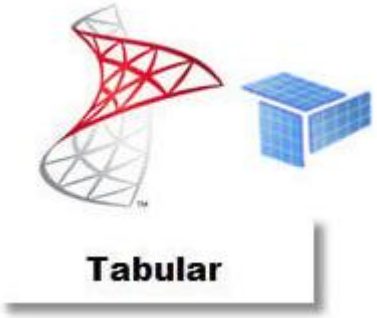


Analysis Services

On-Premises

Our Journey to Power BI

- Cube Processing based on SQL Server Agent Jobs
  - Windows Authentication to connect to SSAS
- Data Feeds
  - SQL Server Table Value Functions (FNTB) to retrieve busines data (denormalized)



Analysis Services

Reporting Services

On-Premises

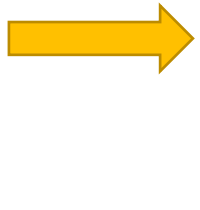
Our Journey to Power BI

- Migration to Office 365
  - Now every user has a @company.com account
- Power BI – Previews
  - TAP Customers – **Early Adopters**
- Azure
  - Single tenant in USA

Our Journey to Power BI

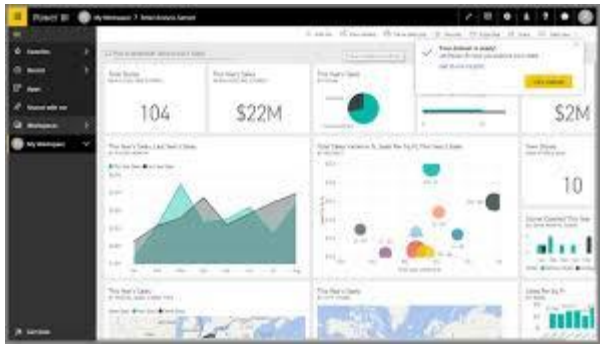
- First Labs – Power BI connected to Analysis Services (On-Premises)
- Initial previews of On-Premise Data Gateway (Personal)

Excel



On-Premise Data Gateway

(Personal)



On-Premises

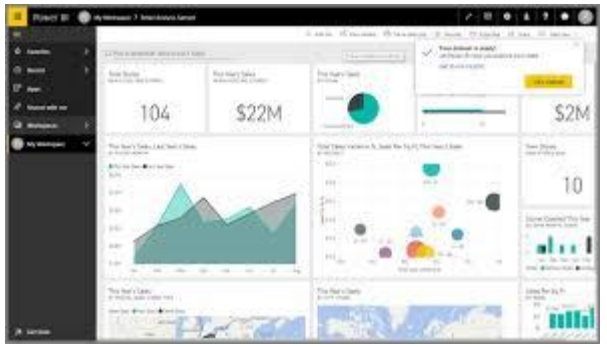
HOUSTON WE HAVE A PROBLEM!

Authentication

Identity

Role Level Security

Power BI



On-Premises

Microsoft Azure

Our Journey to Power BI

Problem

- Authentication !!!!!!!!!!.
  - In Azure we have user1@company.com
  - In local AD we have USA\user1, CHILE\user1, SPAIN\user1, etc.

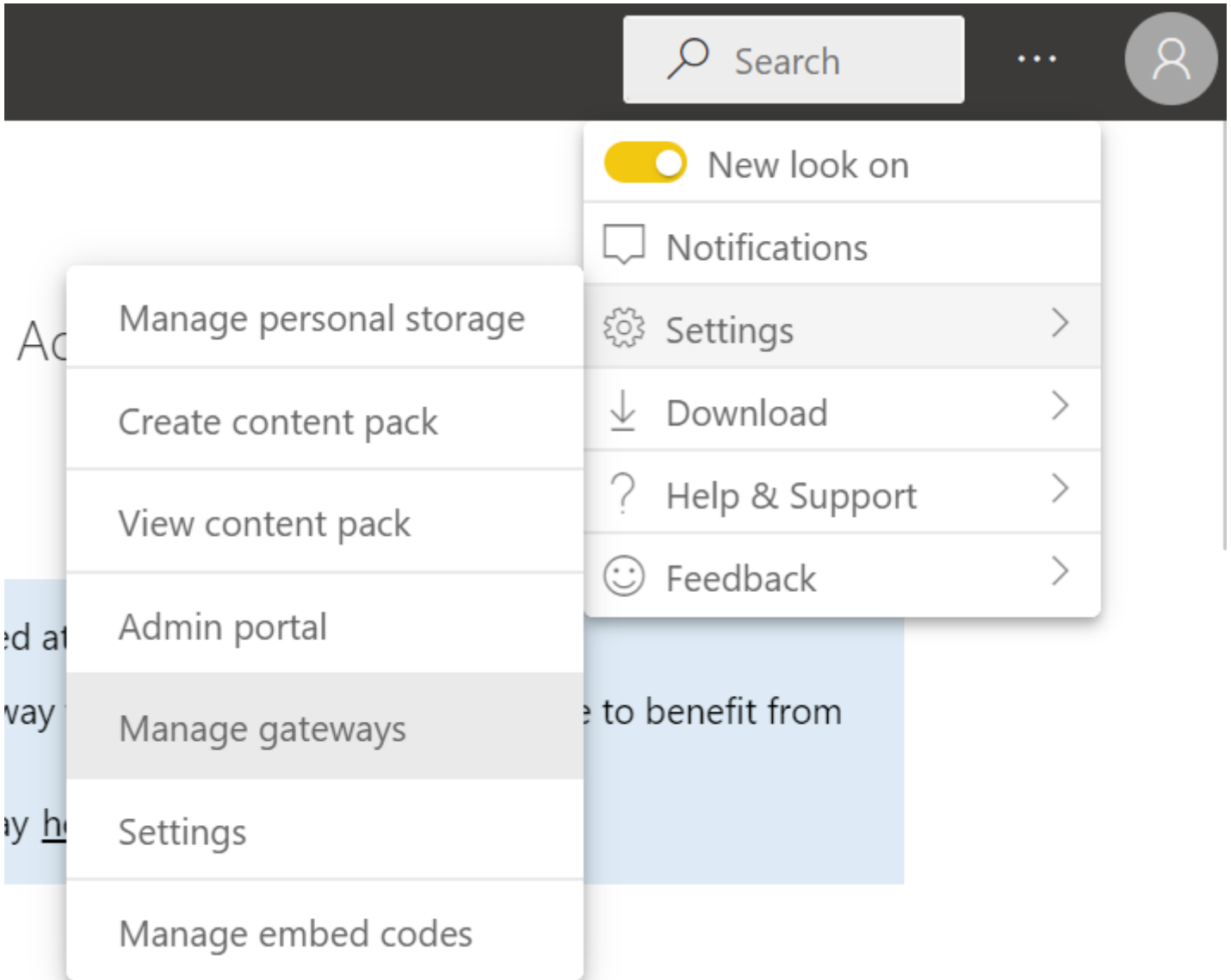
GUY in a CUBE

Our Journey to Power BI

First Solution

- User Mapping in OPDG – at datasource level
  - In Azure we have user1@company.com
  - In local AD we have USA\user1, CHILE\user1, SPAIN\user1, etc.

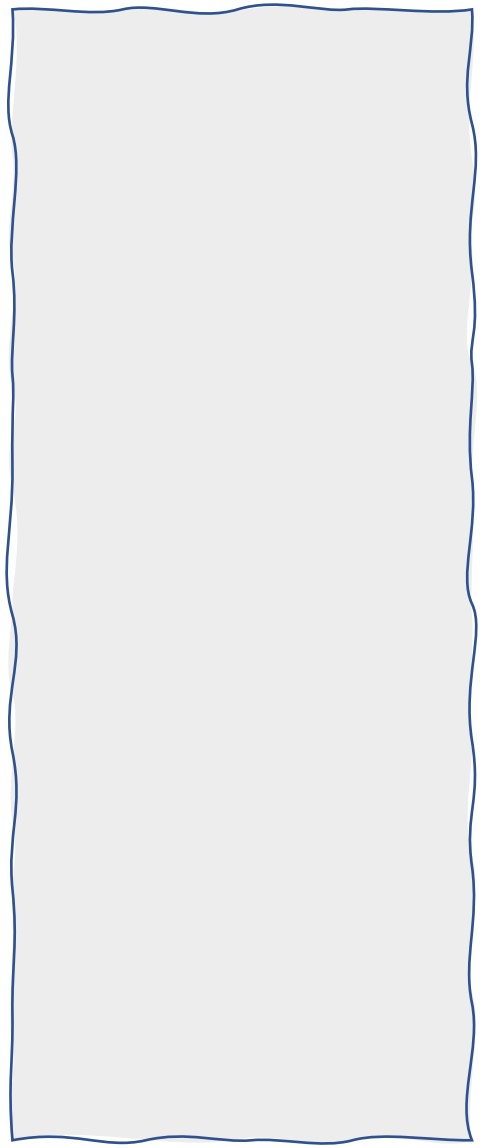
User Mapping !!!!


Search
New look on
Notifications
Settings
Download
Help & Support
Feedback
Manage personal storage
Create content pack
View content pack
Admin portal
Manage gateways
Settings
Manage embed codes
to benefit from

Home
Favorites
Recent
Apps
Shared with me
Deployment pipelines
Learn
Workspaces
My workspace
Get data

ADD DATA SOURCE

GATEWAY CLUSTERS



Data Source Settings | Users

Data Source Name

My SSAS Data Source

Data Source Type

Analysis Services

Server

ONPREMSSAS

Database

CUBE1

The credentials are encrypted using the key stored on-premises on the gateway server. Learn more

Username

USA\localacc

Password

••••••••••••

> Advanced settings

Add | Discard

Data Source Settings Users

People who can publish reports that use this data source

Enter email addresses Add

Peter Parker

Remove Map user names

Map user names

Create rules to map user names to Analysis Services server user names or associate custom data with user names. Learn more

Select the type of rule for this data source

- (•) Effective user names
- ( ) CustomData

	Replace	With
1	peter.parker@company.com	USA\pparker

Add Delete

Enter user name to see how the mapping rule will change it.

Original name

Original name | Test rule

After rule applied

Result of applying mapping rule will appear here

OK Cancel

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First Solut

- User Ma
  - In Azu
  - In loca

, etc.

User Mapping !!!!

Our Journey to Power BI

Second Solution

- User Mapping at Active Directory Level – AD Lookup
  - Identify 2 unused attributes in AD User Account
    - ExAttr1 & ExAttr2
  - Using PowerShell, For every local AD User Account , update EA1 &EA2
    - EA1 = Peter.Parker@company.com
    - EA2 = USA\PParker
  - Configure OPDG to go to AD and read the custom Attributes and do the Mapping

Our Journey to Power BI

Edit **Microsoft.PowerBI.DataMovement.Pipeline.GatewayCore.dll.config** file on each of your On-premises Gateway machines. This is located in the main installation directory, which by default is **C:\Program Files\On-premises data gateway**

In the config file, there are two lines that will needed to be edited. The line that contains the setting for “**ADUserNameReplacementProperty**” and the line that contains the setting for “**ADUserNameLookupProperty**“

Our Journey to Power BI

- High Availability for On Premise Data Gateway
  - Solution
    - Clusters

HOUSTON WE HAVE A PROBLEM!

Our Tenant was located in USA

Need to be moved to EU

No migration tool !!!!!

Our Journey to Power BI

- Azure Analysis Services
  - Benefits
    - Managed Service
    - No need for User Mapping / AD Lookup
    - Authentication / Identity is all @company.com

Microsoft SQL Server

Transactional

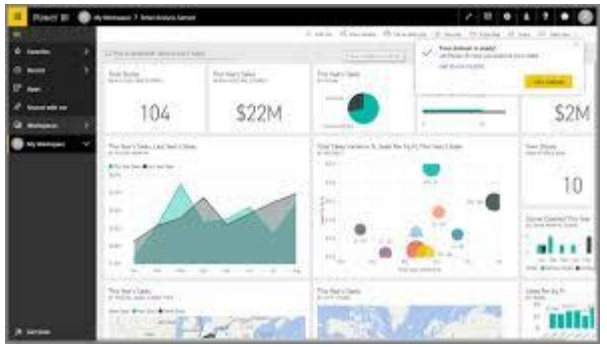
Power BI Desktop

On-Premise Data Gateway

Cluster

Azure Analysis Services

Power BI



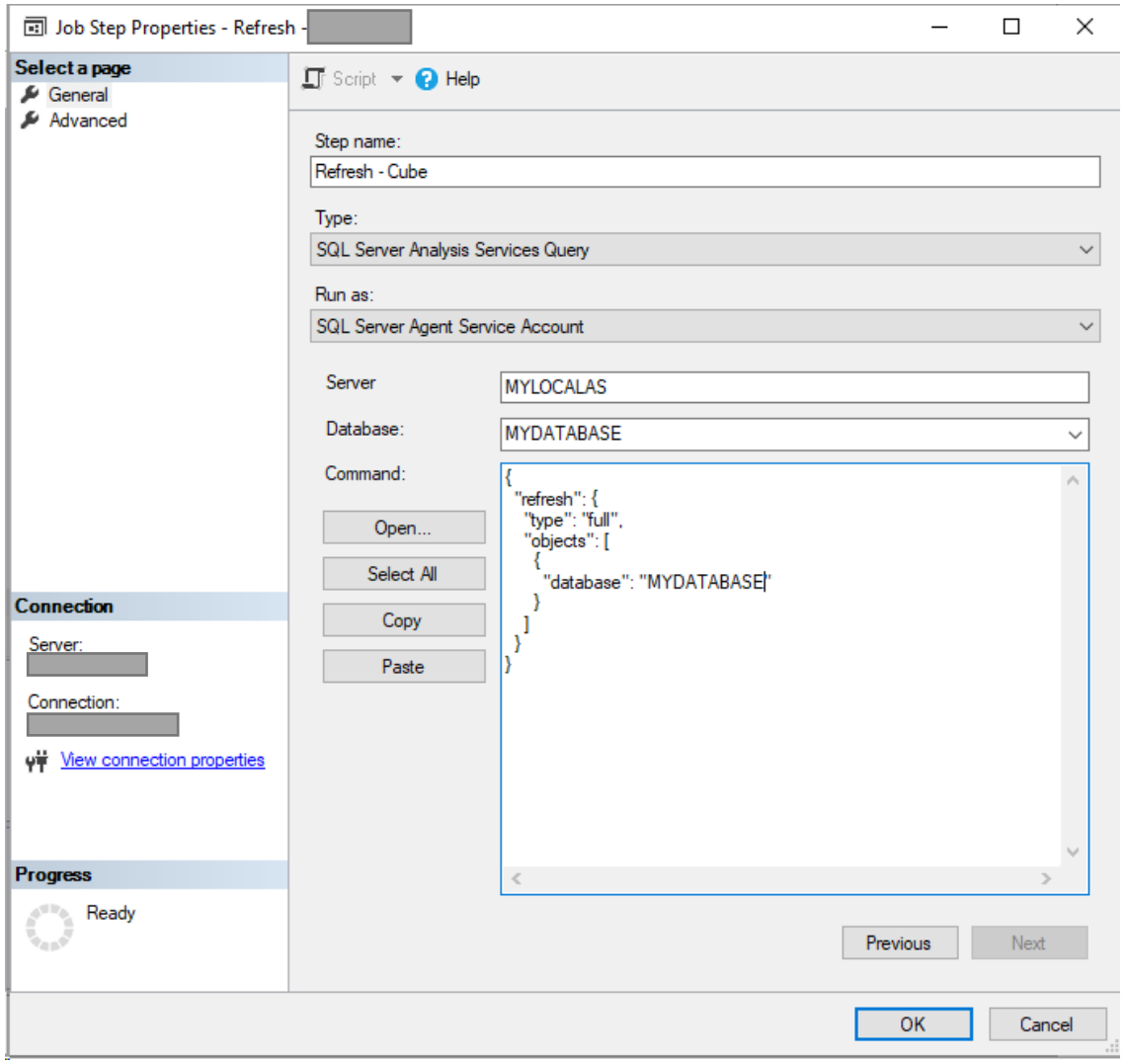
On-Premises

Microsoft Azure

Our Jo

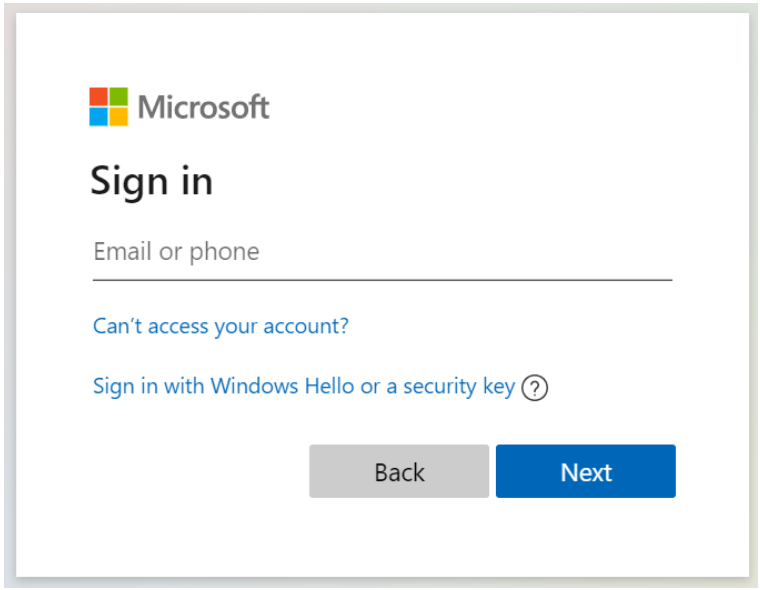
- Azure Ar
  - Proble
    - Ho

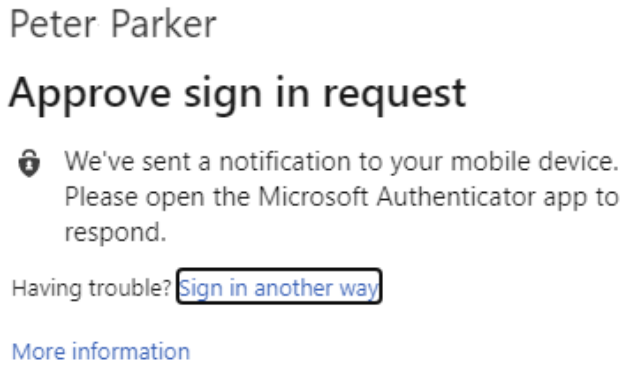
SQL Job Step using XMLA to Refresh – Windows Authentication



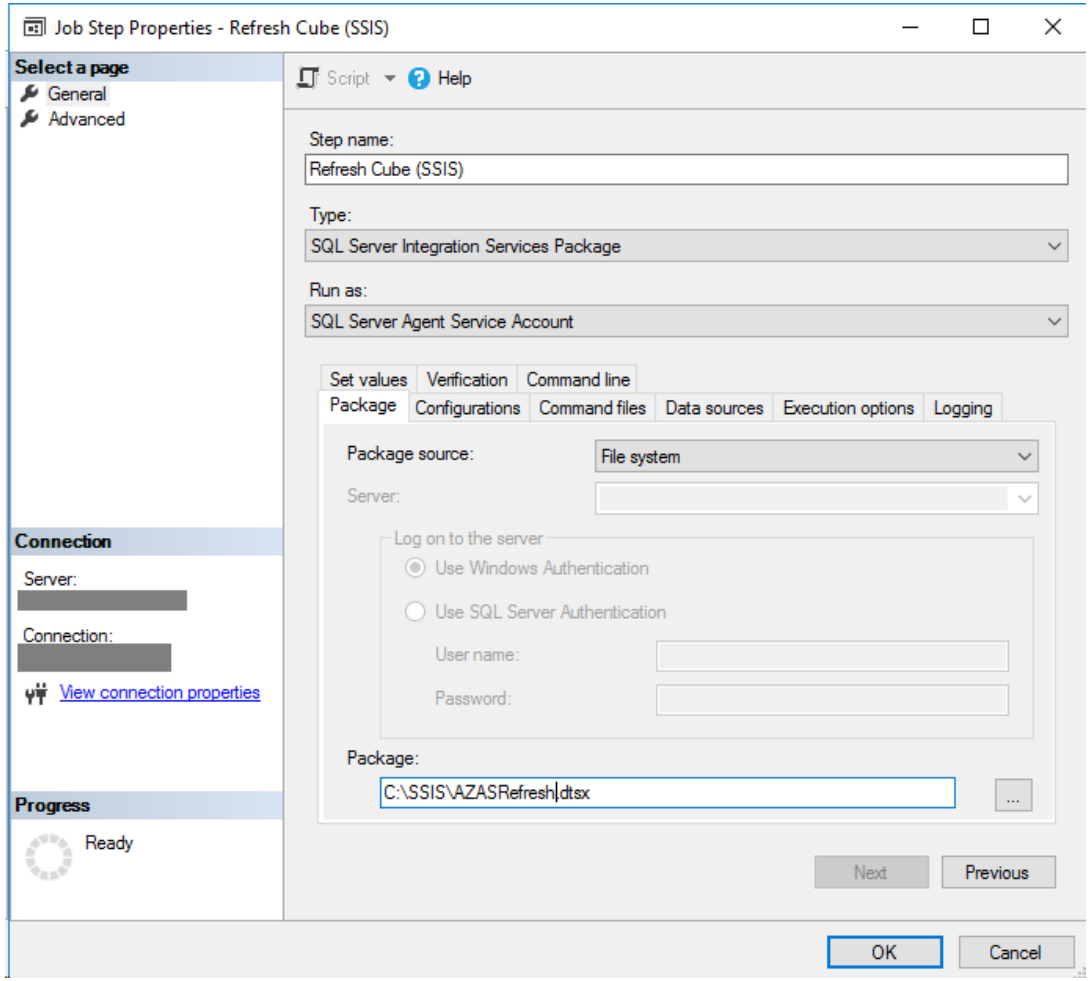
On-Premises

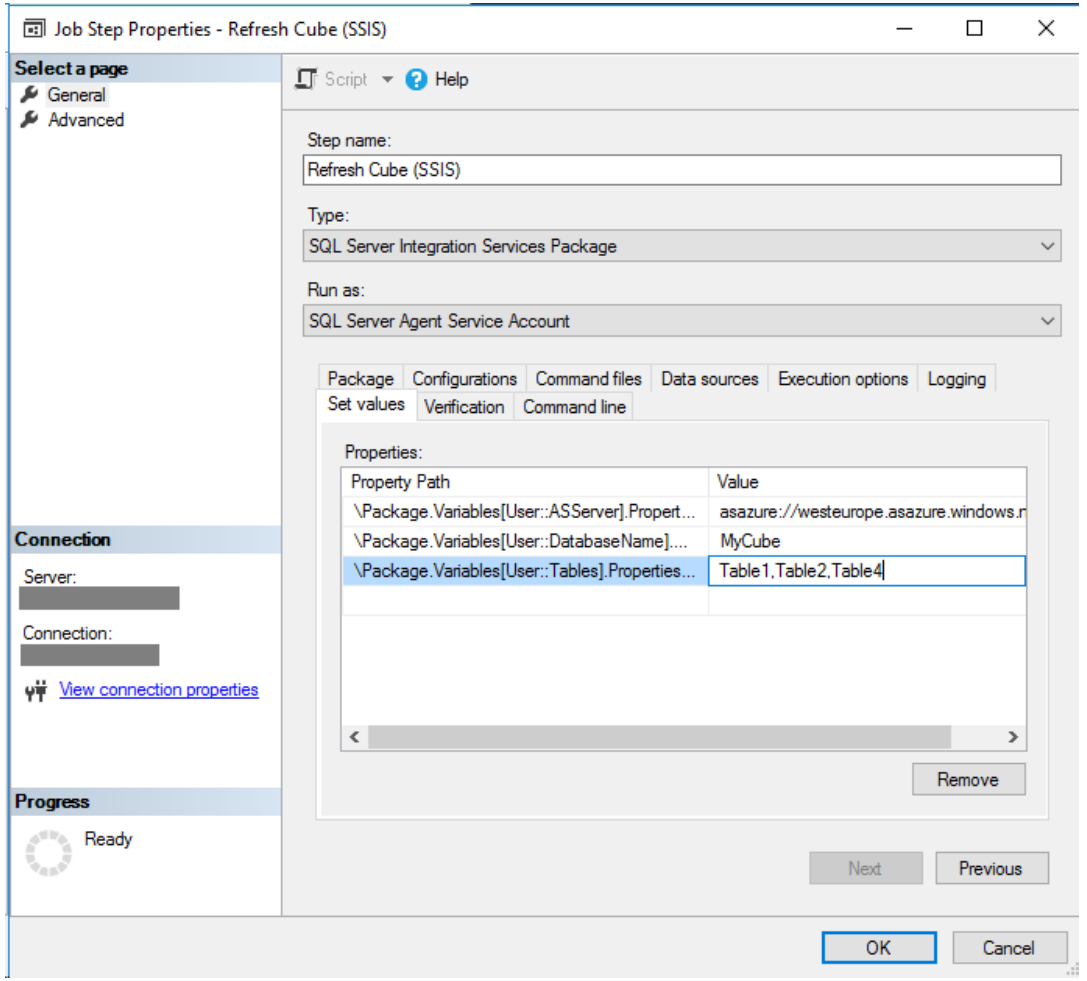
Not possible to connect from On-Prem SQL Server to Azure AS to start processing



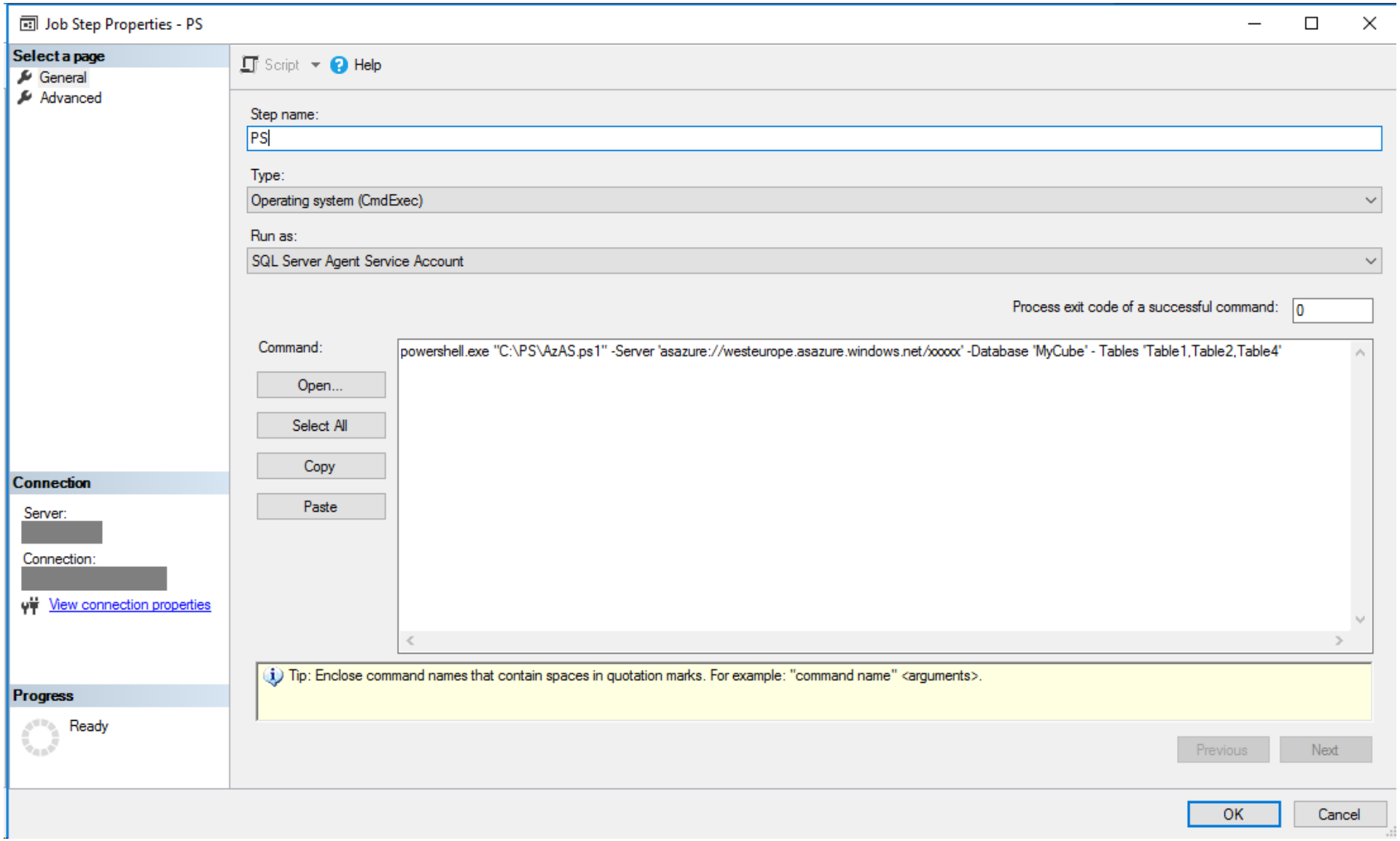


Solution was to use a SSIS package (using C# script) to call the Azure AS Refresh

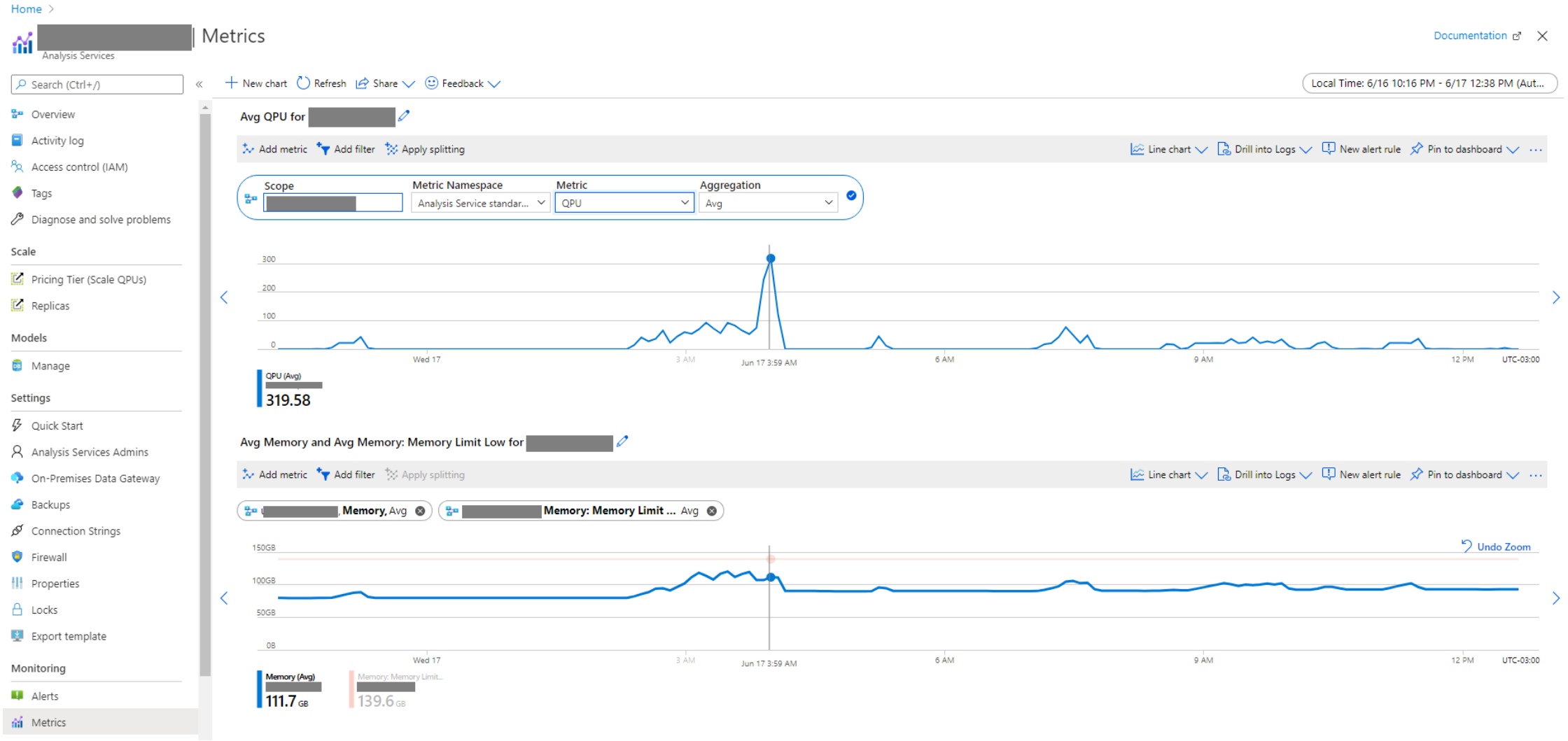




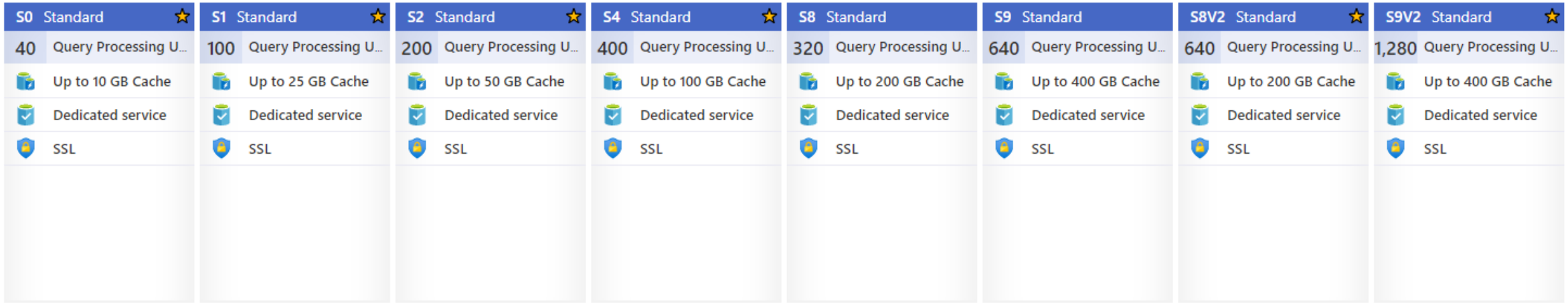
New Solution using PowerShell to call the Azure AS Refresh



Azure Analysis Services



Azure Analysis Services



Questions ?

@javier_vill

https://ar.linkedin.com/in/javiervillegas

http://sql-javier-villegas.blogspot.com.ar

javier.ignacio.villegas@gmail.com

Casos de Uso de Power BI y Analysis Services

Thank you!!

Gracias !!

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@javier_vill javiervillegas