

Power BI Monitoring 101





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Professional:

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Twitter - [@RuiRomano](https://twitter.com/RuiRomano)

Open Source - <https://github.com/RuiRomano>

Former Microsoft MVP

Co-Founder of [Power BI Portugal User Group](#)

Personal:

Snowboarding, Swimming, Sports

Cats, Cinema & Popcorn, Xbox

Sun, Beach





Objective:

Talk about all the monitoring options available today for each Persona (Admin, Developer,...)

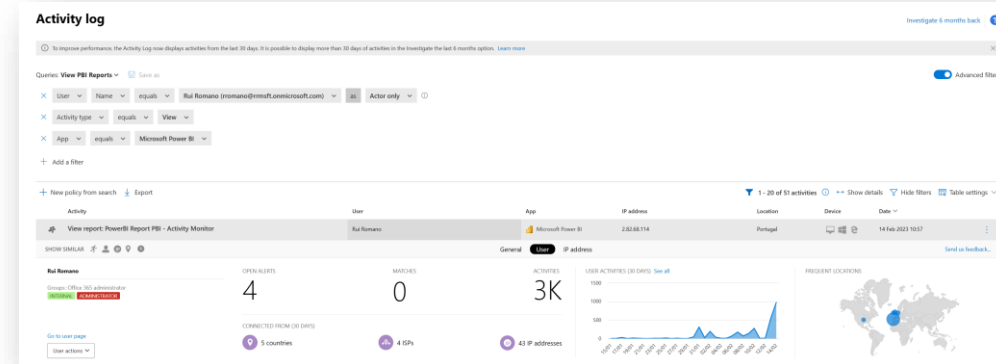


Personas

Persona	What they care about?
Tenant Admin	<ul style="list-style-type: none">• Who is using my tenant? How are they using it?• How many licenses I have? Are they being used?• Is my tenant healthy? How can I view if there is any issue?• Where is data coming from? Which datasources? Who is using them?• Who has access to what?• How many capacities do I have? Are they properly balanced?
Capacity Admin	<ul style="list-style-type: none">• Is my capacity healthy?• Am I reaching my capacity limits?• Who is consuming most of the capacity and where?
Gateway Admin	<ul style="list-style-type: none">• What's the usage of my gateways?• Which queries are running on my gateways to which datasource?• Why are my gateways failing?
Workspace Admin	<ul style="list-style-type: none">• Artifact size and trend?• Usage of artifacts?• Who has access to what?• Are there any errors on my artifacts? Ex: Refresh fail?• Are reports getting slower?• Are refreshes getting slower?
Developer	<ul style="list-style-type: none">• What queries / events are being executed on my artifacts?• Why is my refresh slow?• Why is my query slow?
"The Guy we all Know"	<ul style="list-style-type: none">• All above 😊

Persona: Tenant Admin

- Admin Portal
 - <https://app.powerbi.com/admin-portal>
 - Usage Metrics
 - Capacities, Workspace, Org Visuals
- Microsoft 365 Defender
 - <https://security.microsoft.com/>
 - Audit Log (Power BI & Entire O365 & PowerPlatform)
 - Create alerts/policies over the activity log, ex: [when a tenant setting changes](#) (near realtime)
- [Azure AD Privileged Identity Management](#) (PIM)
 - [Monitor and Control who and when gets Power BI Admin Role](#)
- [Admin APIs](#) – Build your own usage monitoring
 - [PBI Scanner](#) – Sample scripts to use scanner & Activity APIs
 - [PBIMonitor](#) - End to End solution
 - [Permission APIs](#)
 - [Microsoft Graph APIs](#) – User, Groups, License Information



Coming soon...

- [Admin Monitoring](#)

Persona: Capacity Admin

- Capacity Metrics App

- <https://learn.microsoft.com/en-us/power-bi/enterprise/service-premium-metrics-app>
- Build your own reports and export data
- 14 days of data
- Near real-time

- Log Analytics

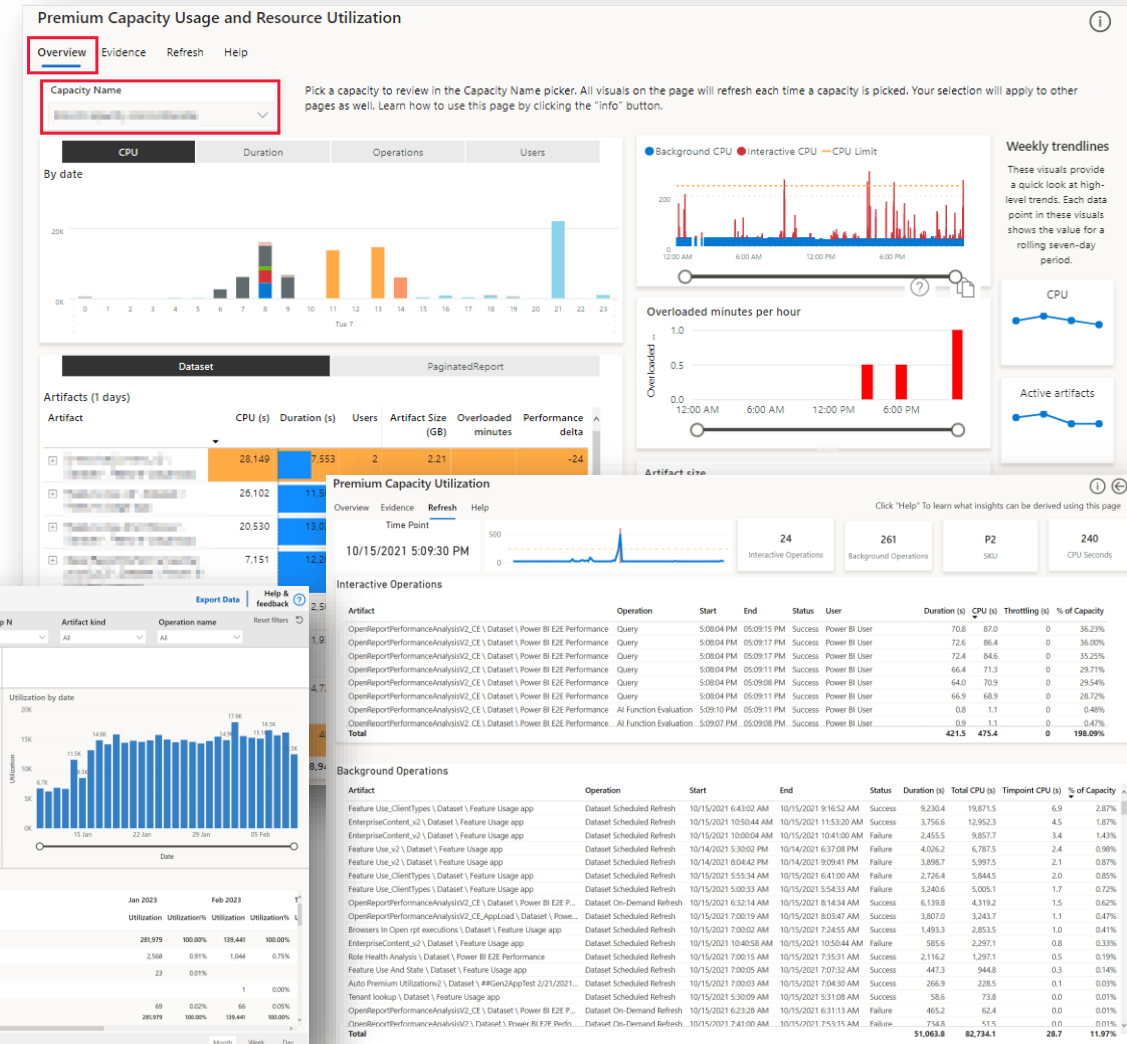
- In depth analysis of dataset performance issues
- Granular Drilldown: dataset -> report -> visual -> query -> CPU
- Useful links: [template](#); [visual mapping](#)

- Chargeback App (Private Preview)

- 30 days of data

- APIs – Build your own

- [Get Capacities](#)
- [Get Refreshables](#)
- [Assign to Capacity](#)
- Query the dataset using XMLA or [REST API](#)



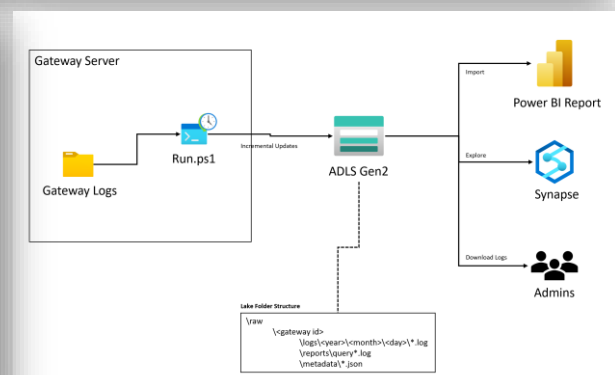
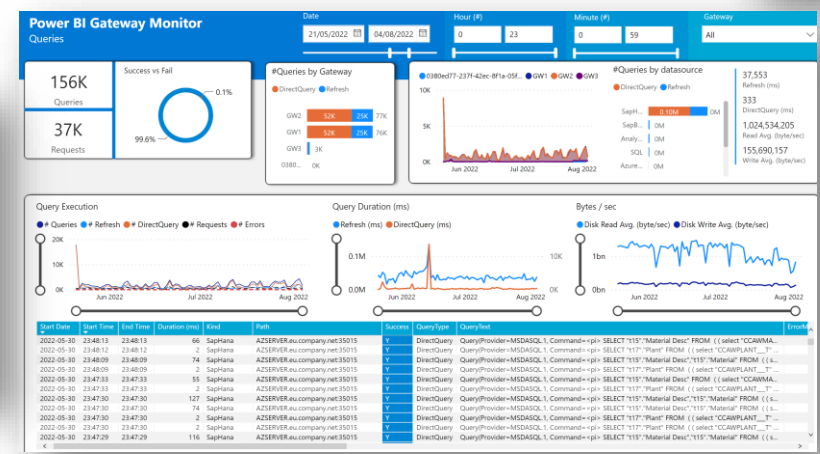
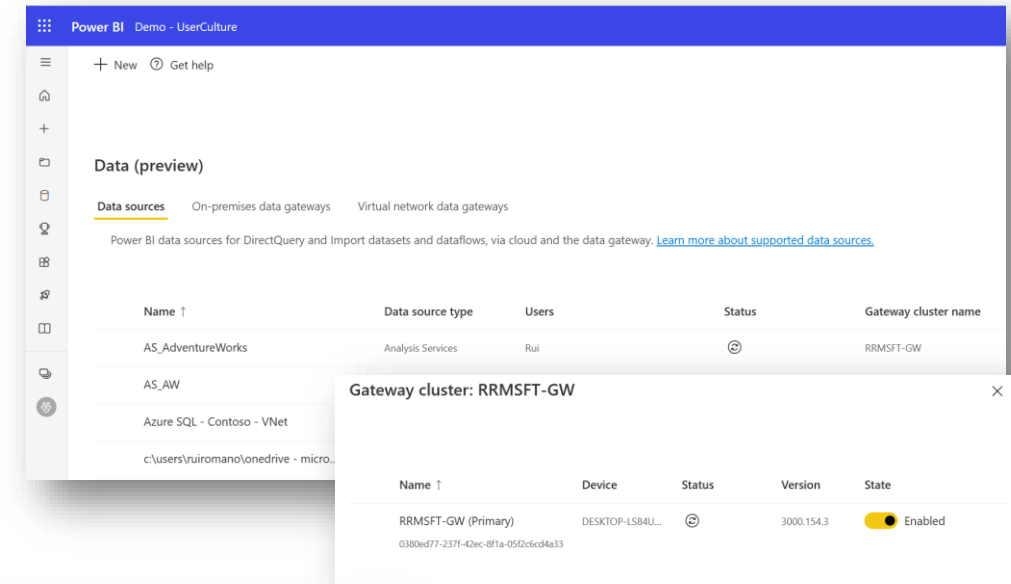
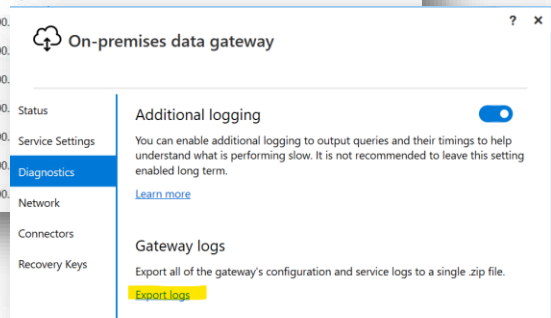
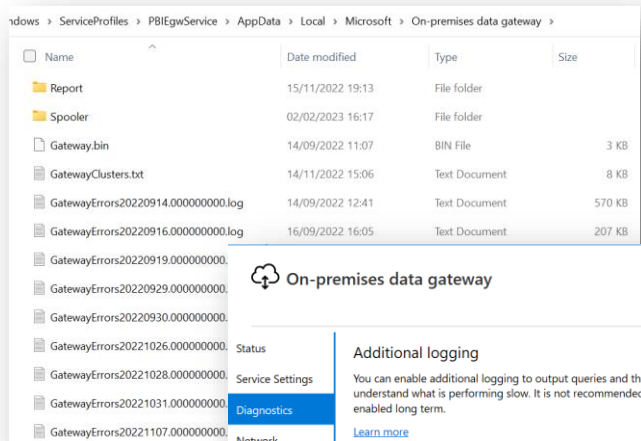
Persona: Gateway Admin

- Gateway Data Source Management

- [New data source and gateway management experience](#)
- View all datasources & gateways
- View & Manage the Gateway Clusters (ex: disable a node)

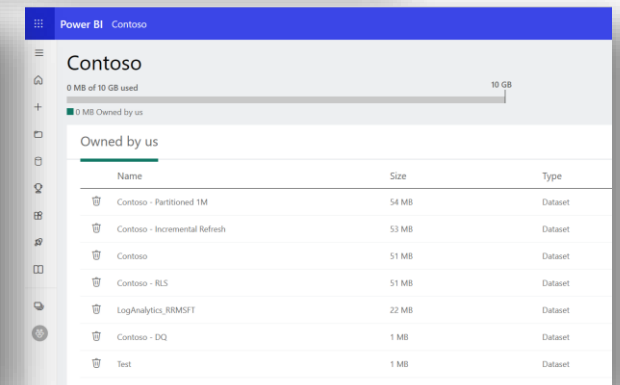
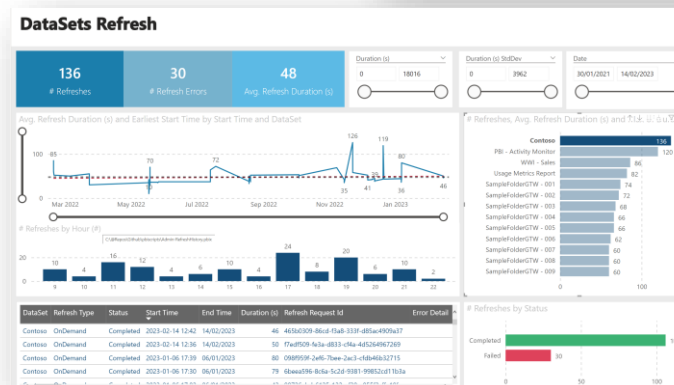
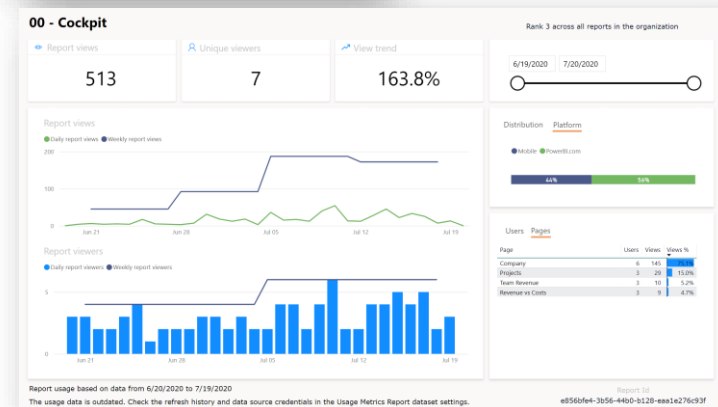
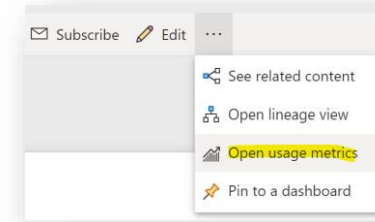
- Gateway Logs

- Stored on each gateway node (rotating logs)
- Get valuable insights directly from logs
- End to end solution: github.com/RuiRomano/pbigtwmonitor; [session](#)



Persona: Workspace Admin

- Usage Metrics
 - <https://learn.microsoft.com/en-us/power-bi/collaborate-share/service-modern-usage-metrics>
 - Workspace level
 - 7 days
 - Page level telemetry (ex: pages viewed)
- [Workspace Storage](#)
- User APIs
 - [Get Refresh History](#) ([sample script](#))
 - All other User APIs available
- If the Tenant Admin builds a Monitoring Dataset its possible to share it with Workspace Admins and leverage RLS



Persona: Developer

- [Log Analytics](#)

- Really helps when your capacity admin tells you "Hey! Your dataset is killing my capacity..., go figure it out!"
- Troubleshoot bad performance queries in production; Refresh throughput

- SSMS & [SQL Profiler](#)

- Why trace a dataset? Ex: To troubleshoot a long refresh or long DAX query; To know in real-time who is querying your dataset

- [DAX Studio](#)

- [All Queries trace](#); Trace the DAX Queries from a Report in the Service

- [PBI Tracer](#)

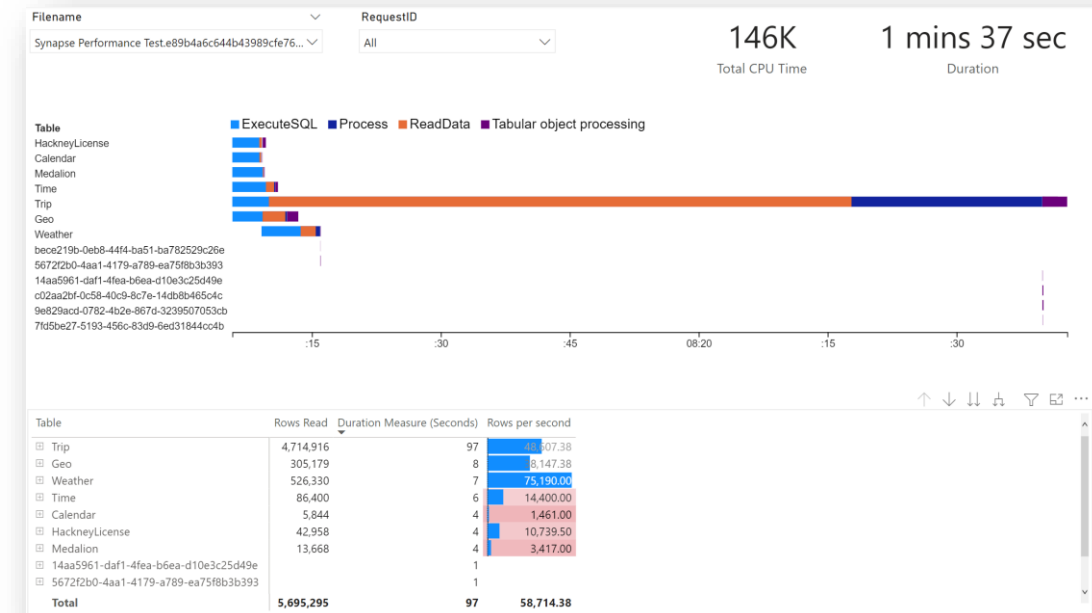
- Dump a trace into files as JSON
- Profile Dataset Refreshes => Focus on what really matters

- DMVs

- [DISCOVER STORAGE TABLE COLUMN SEGMENTS](#) – Which columns are used?

```
C:\@Repos\Github\pbitracer\dist>PBITracer.exe -s "powerbi://api.powerbi.com/v1.0/myorg/Monitoring 101 Session" -d "Sales"
--events ProgressReportEnd JobGraph Error ProgressReportError ProgressReportCurrent QueryEnd -o ".\output\monitoring101"

[14:26:54 INF] PBI Tracer on Server 'powerbi://api.powerbi.com/v1.0/myorg/Monitoring 101 Session' | TraceId: 'PBI_Tracer_Sales'
[14:26:54 INF] Preparing output file: '.\output\monitoring101\Sales.3f96ba9947eb4c51af6bee4849ddfbf0.json'
[14:26:54 INF] Connecting to server powerbi://api.powerbi.com/v1.0/myorg/Monitoring 101 Session
[14:27:12 INF] Preparing the trace configuration
[14:27:12 INF] Trace Stop Time at: '2023-02-14 15:27:12'
[14:27:12 INF] Tracing event: ProgressReportEnd
[14:27:12 INF] Tracing event: JobGraph
[14:27:12 INF] Tracing event: Error
[14:27:12 INF] Tracing event: ProgressReportError
[14:27:12 INF] Tracing event: ProgressReportCurrent
[14:27:12 INF] Tracing event: QueryEnd
[14:27:12 INF] Starting the trace
[14:27:13 INF] Waiting for trace data, CTRL + C to close
```



CLOSING REMARKS

IT'S NOT ABOUT WHAT YOU KNOW.

IT'S ABOUT WHAT YOU KNOW IS POSSIBLE.

Thank You



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