

# Power BI Monitoring 101





# Rui Romano (he/him)

Sr Program Manager | Power BI CAT

---

## *Professional:*

LinkedIn - [/in/ruiromano](#)

Twitter - [@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,...)

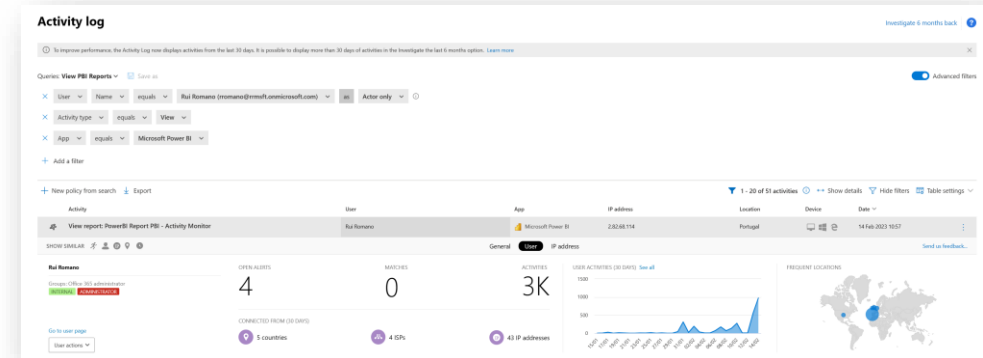


# Personas

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

# Persona: Tenant Admin

- Admin Portal
  - <https://app.powerbi.com/admin-portal>
  - Usage Metrics
  - Capacities, Workspace, Visuals Lists
- 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
  - [Scanner APIs](#)
  - [Activity Events API](#)
  - [Permission APIs](#)
  - [Microsoft Graph APIs](#) – User, Groups, License Information
  - End to End solution - <https://github.com/RuiRomano/pbimonitor>



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

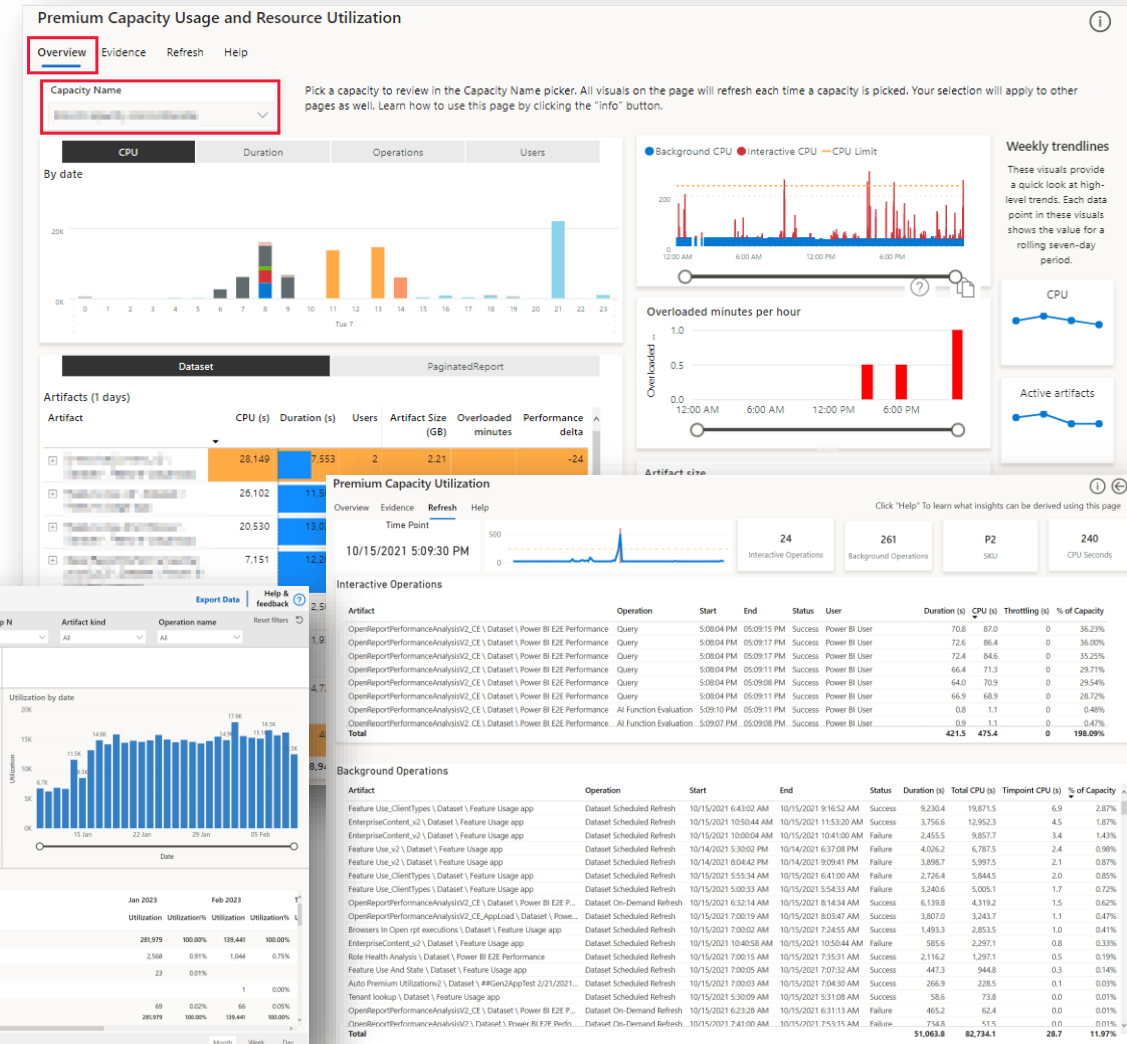
- In depth analysis of dataset performance issues
- Granular Drilldown: dataset -> report -> visual -> query -> CPU
- Useful links: [template](#); [visual mapping](#)

- 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](#)



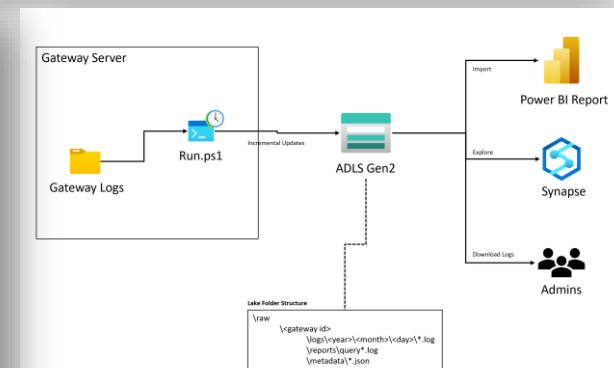
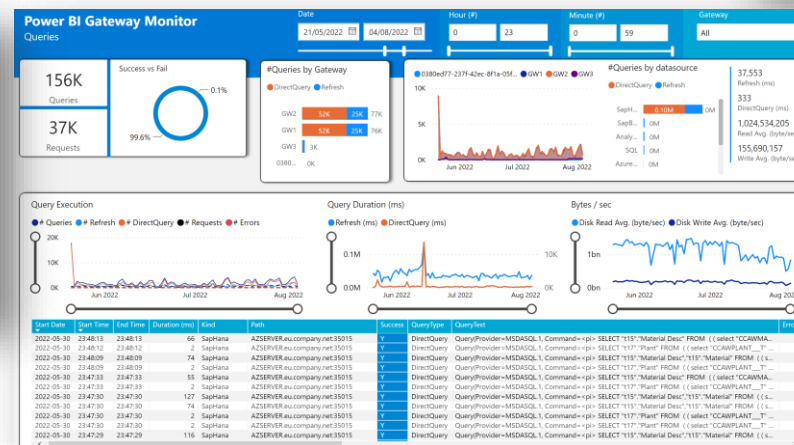
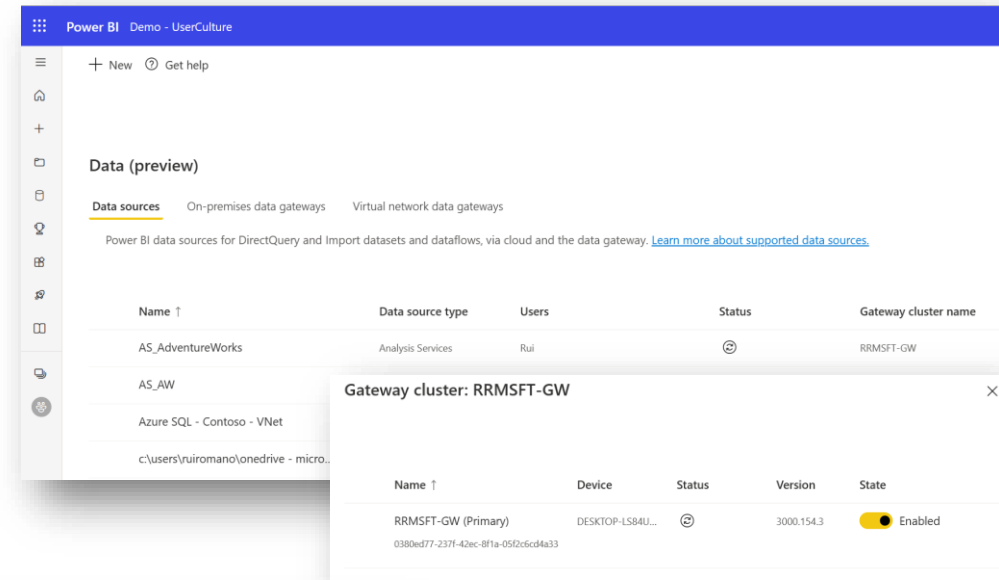
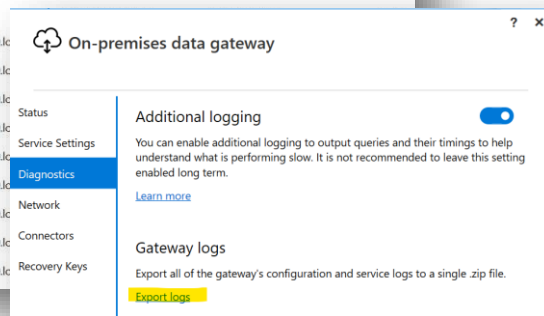
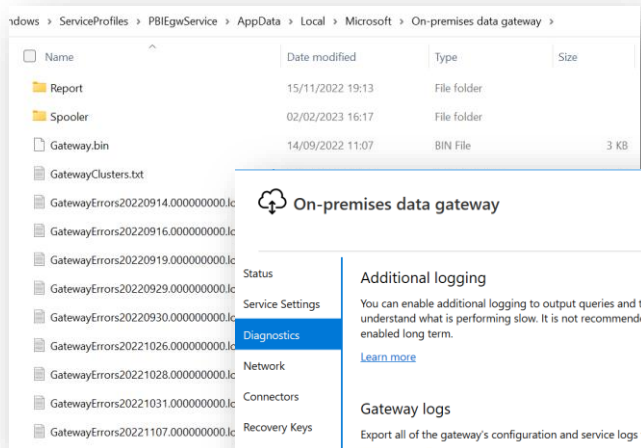
# Persona: Gateway Admin

- Gateway Data Source Management

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

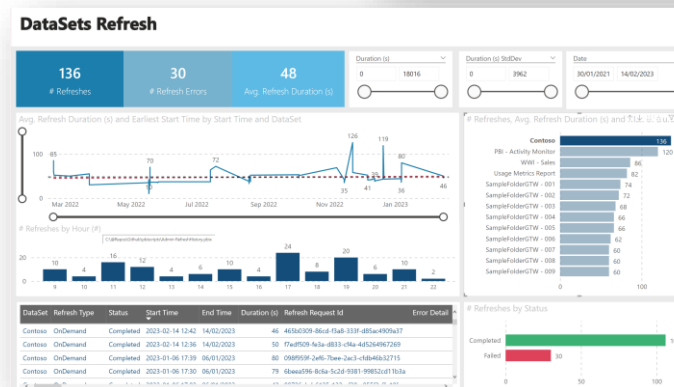
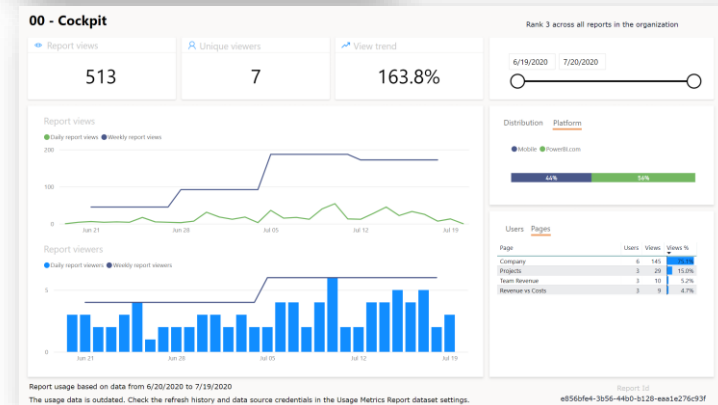
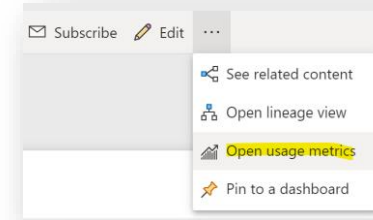
- Gateway Logs

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

A screenshot of the 'Power BI Contoso' workspace storage page. It shows '0 MB of 10 GB used' and '0 MB Owned by us'. Below this is a table titled 'Owned by us' with columns: 'Name', 'Size', and 'Type'. The table lists several datasets: 'Contoso - Partitioned 1M' (54 MB, Dataset), 'Contoso - Incremental Refresh' (53 MB, Dataset), 'Contoso' (51 MB, Dataset), 'Contoso - RLS' (51 MB, Dataset), 'LogAnalytics\_RRMSFT' (22 MB, Dataset), 'Contoso - DQ' (1 MB, Dataset), and 'Test' (1 MB, Dataset).

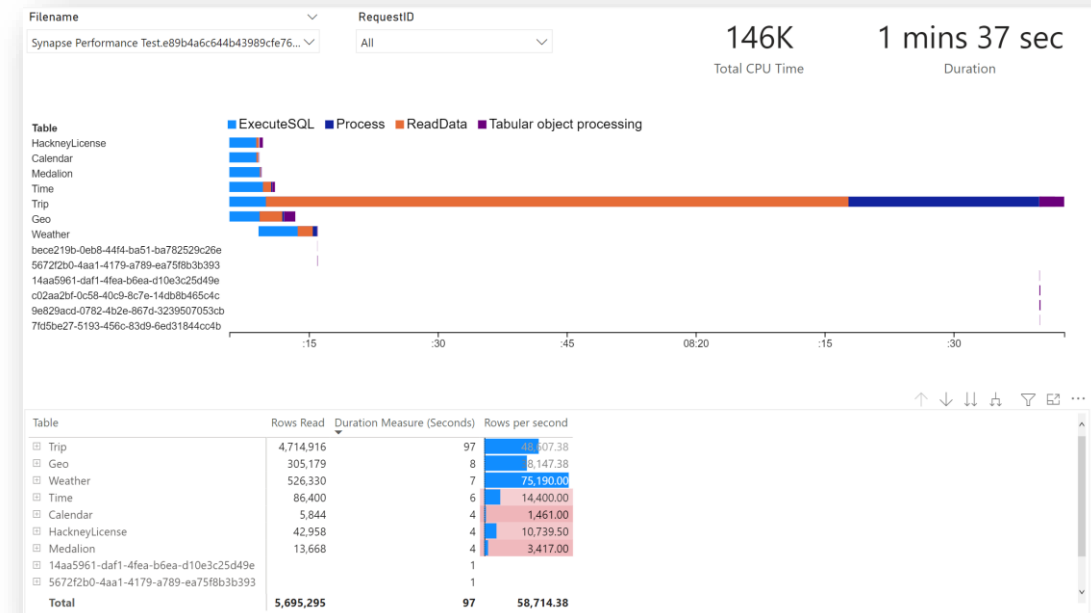


# Persona: Developer

- [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

---



@ruiromano



/in/ruiromano

