

Administering Microsoft abric

Paul Andrew

Technical Strategist





Cloud Formations

Paul Andrew



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- Mentor | Author
- Speaker | Podcast Host
- Event Organiser

SQL Server 2000



Paul Andrew – Accidental DBA (Repeat Offender)

Founder & Director

Chief Technology Officer







2018 Be My Azure DBA https://www.youtube.com/wat

2024



https://www.cloudformations.org/p ost/administering-microsoft-fabricconsidering-data-products-vsdomains-vs-workspaces





Paul Andrew – Accidental DBA (Repeat Offender)

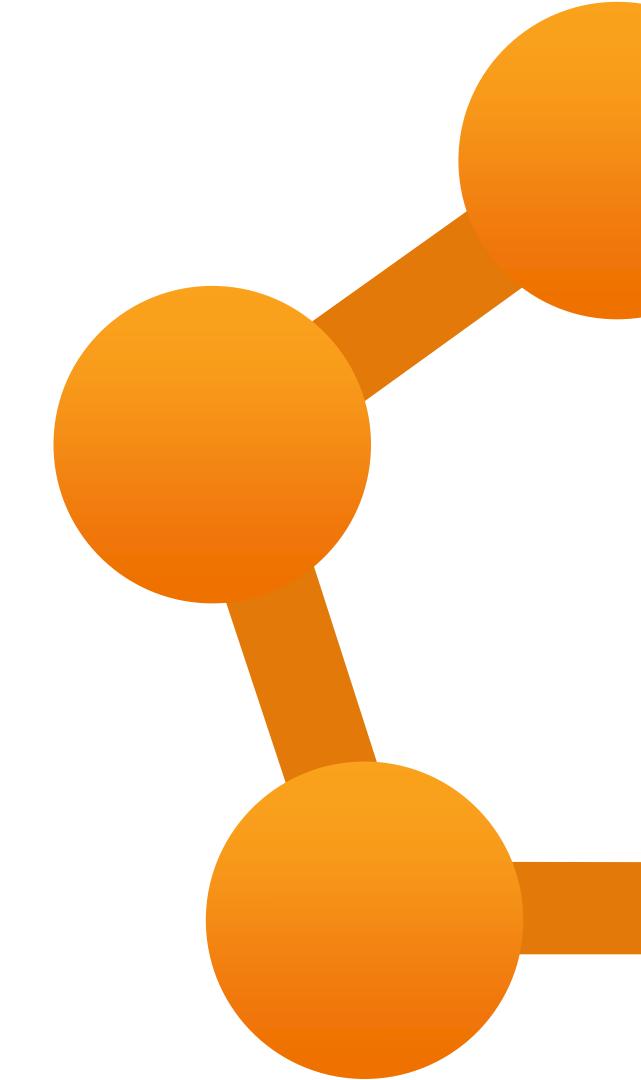


2024

Administering Microsoft Fabric

https://www.cloudformations.org/post/administering-microsoft-fabric-considering-data-products-vs-domains-vs-workspaces

Problem(s)

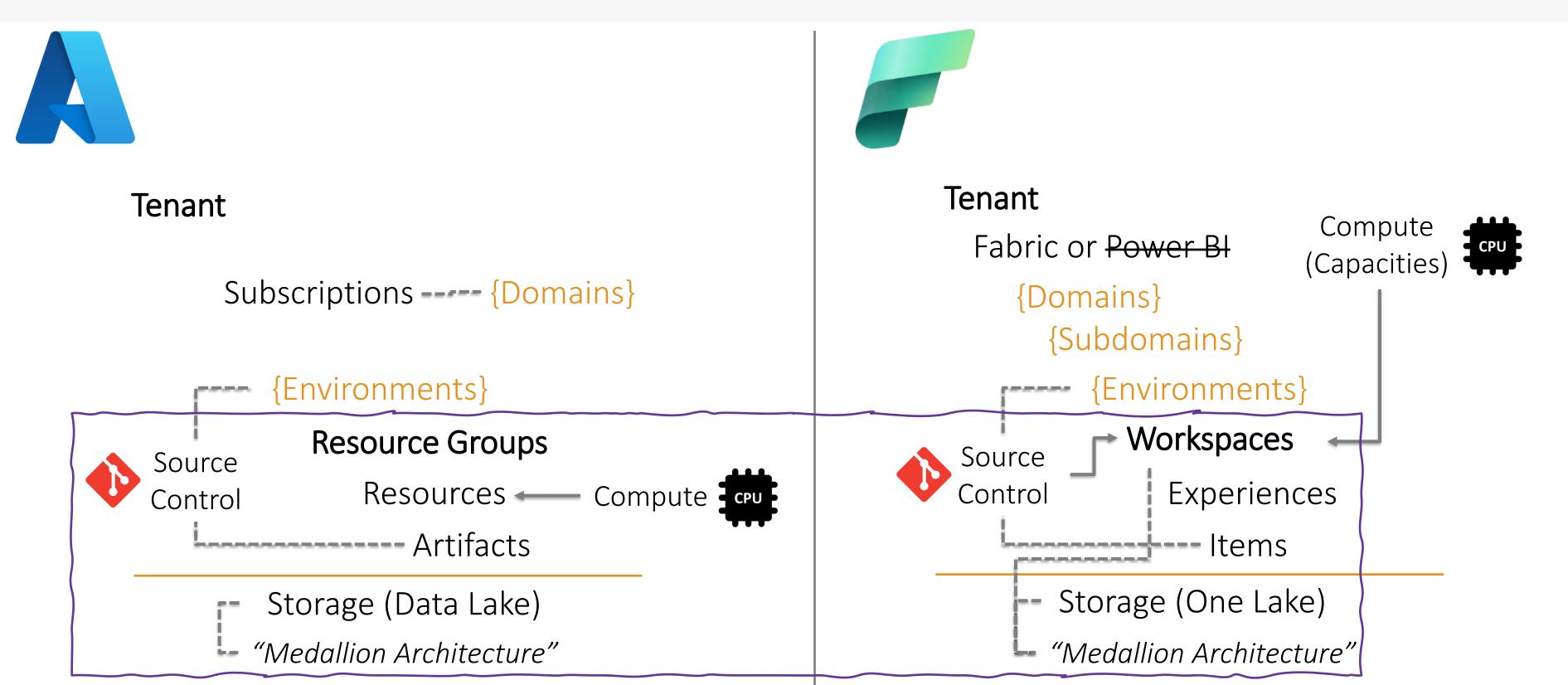


Cloud Formations

Blog Post Questions

- 1. Should we separate our environments (dev, test, prod) using a set of Microsoft Fabric Workspaces, one Workspace per Environment?
- 2. Should the data product be defined as everything across all environments to deliver a given use case or solution in Microsoft Fabric, is this natural?
- 3. Should we further separate our Microsoft Fabric Workspaces based on the "medallion architecture" methodology, with alignment to the respective bronze, silver, gold storage containers?
- 4. Should only our development environment Workspace be connected to source control?
- 5. Should we have all Workspaces connected to the same source control repository for all environments and use a complex code branching strategy vs environments, meaning branch merging becomes our method of deployment?
- 6. Should a business domain encompass all data products and all environments?
- 7. Should we use sub domains to separate production and non-production environments, or some other classification?
- 8. Should Capacities (compute) be aligned to environments, data products, sub domains or business domains, or something else? Maybe the whole tenant?
- 9. Should we use trial capacities for our development environment, creating new trials as required?
- 10. Should a role-based access model be implemented at every level in this hypothetical hierarchy and if so, what roles? Experience reader, Workspace contributor, One Lake reader.
- 11. Should data plane and control plane personas be separated for the production environments?
- 12. Should we organise our folders in a Workspace based on the type of Experience Items created?
- 13. Should we have one big capacity covering all parts of the solution, with dev and prod workloads sharing compute?





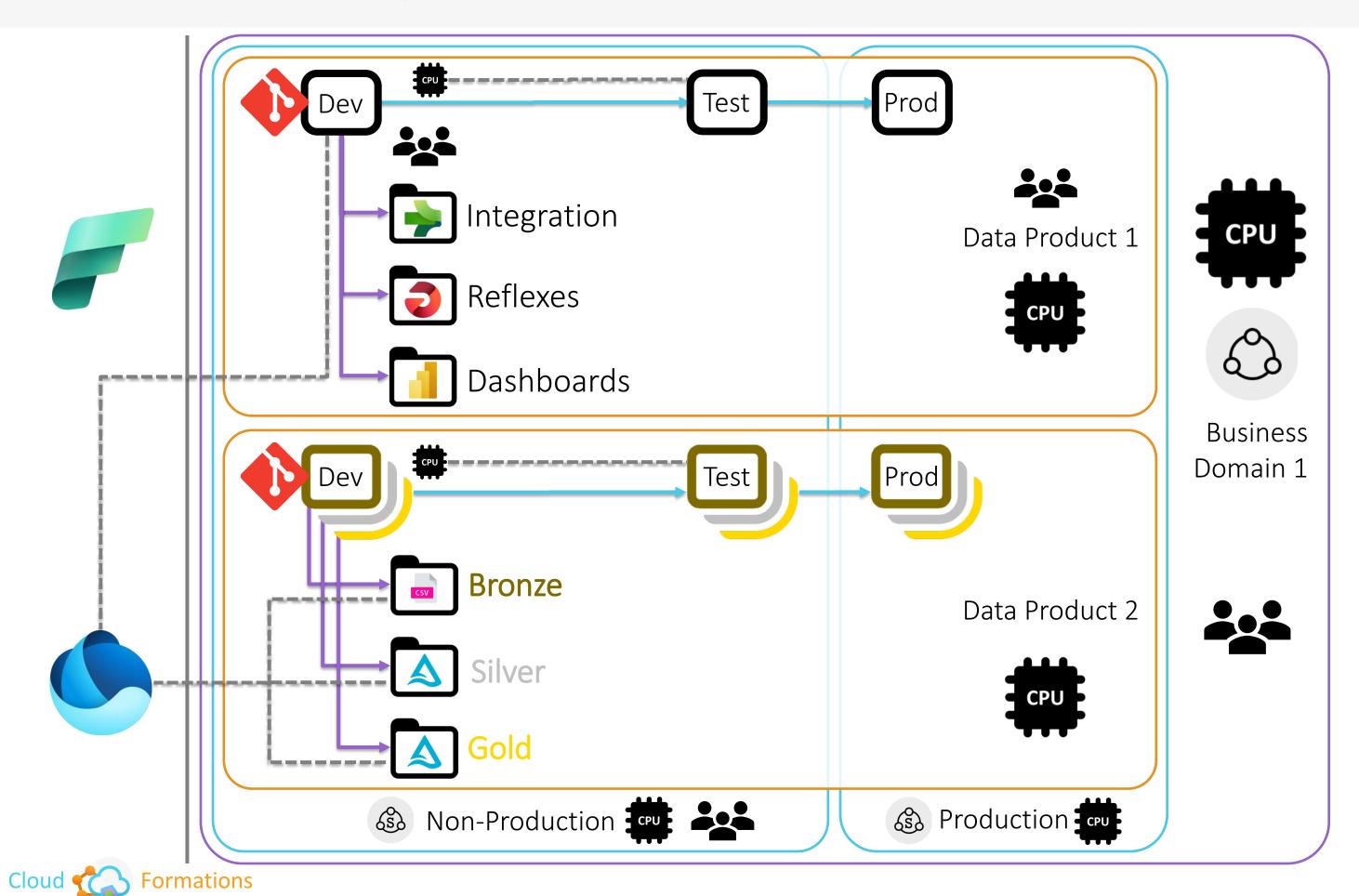
Remit of the data engineer?



Administering Microsoft Fabric



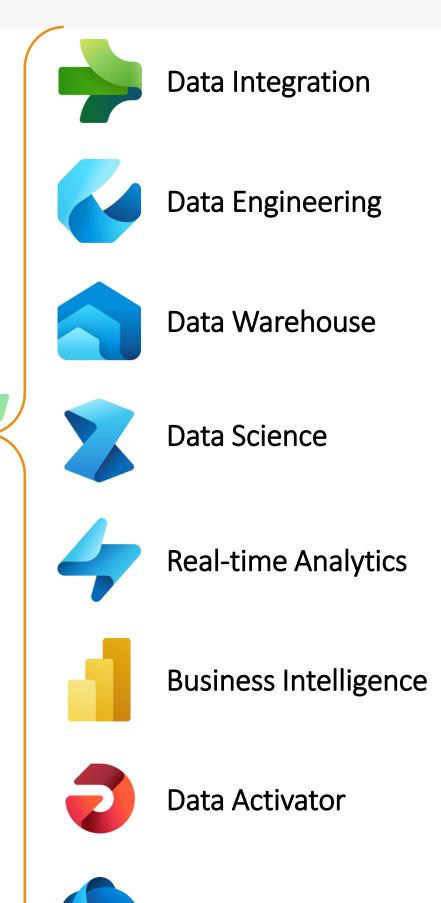




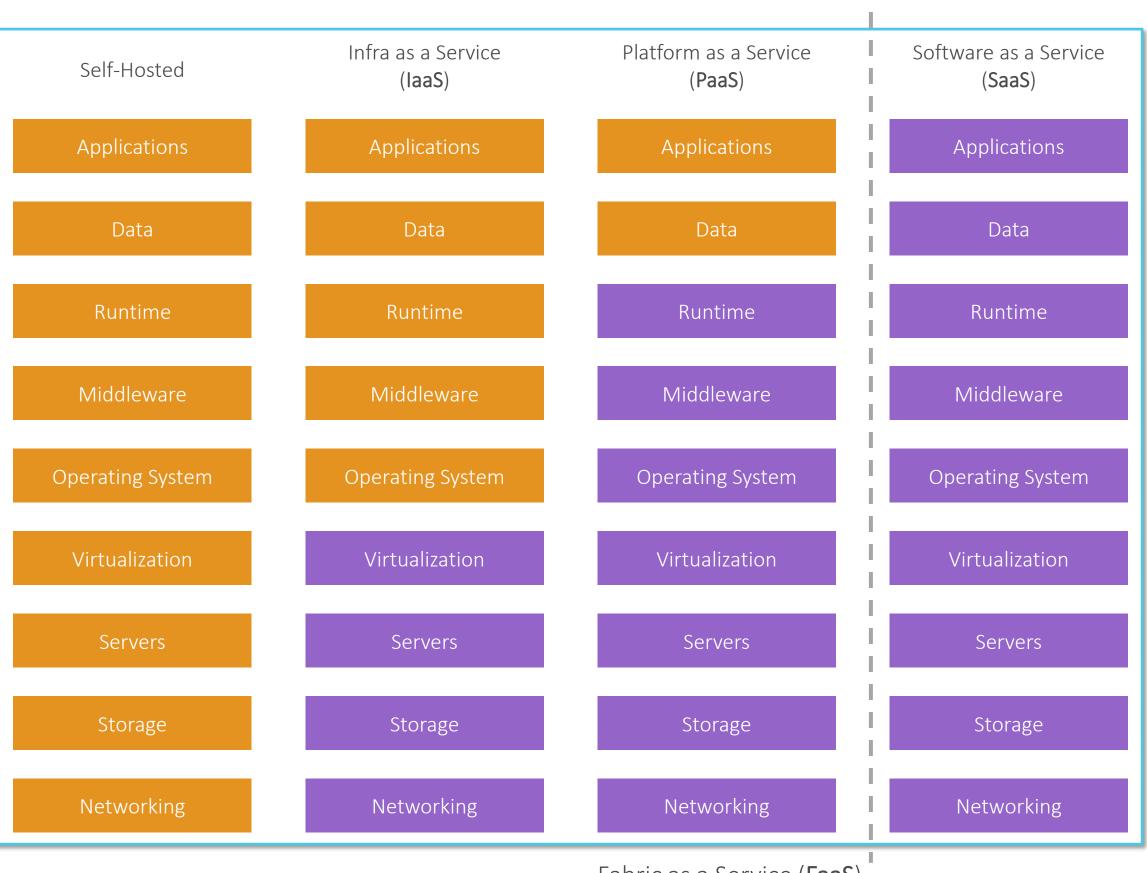
Administering Microsoft Fabric







One Lake



Fabric as a Service (FaaS)

Mesh as a Service (MaaS) © 2024 Cloud Formations Ltd. Confidential



Data Integration



Data Engineering



Data Warehouse





Data Science



Real-time Analytics



Business Intelligence



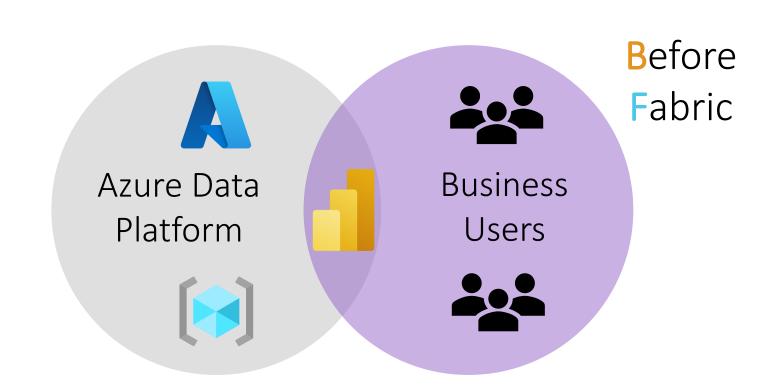
Data Activator

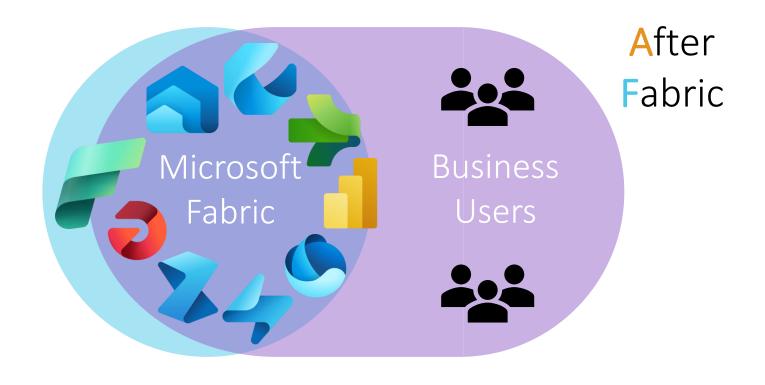


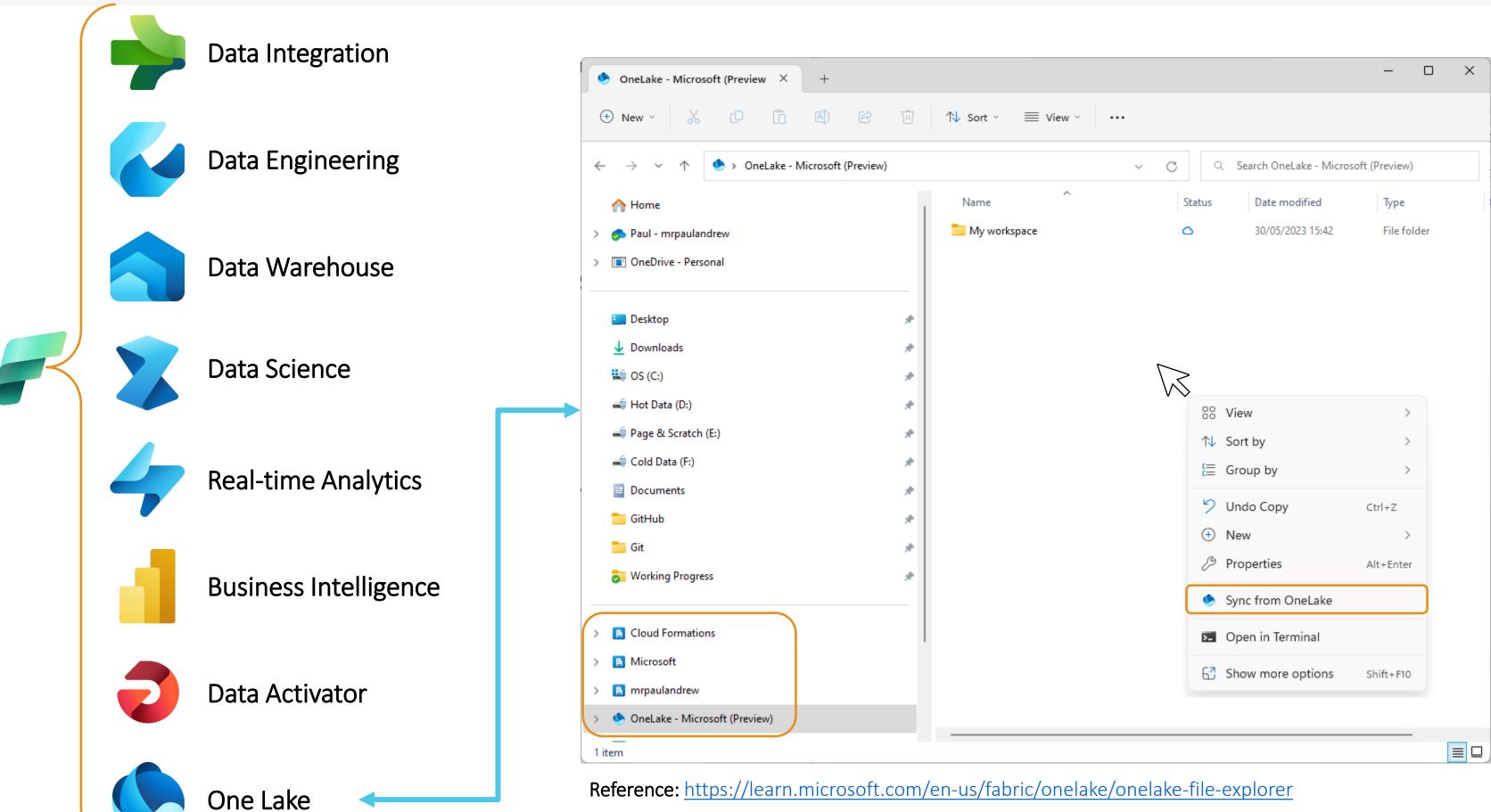
One Lake



Workspaces

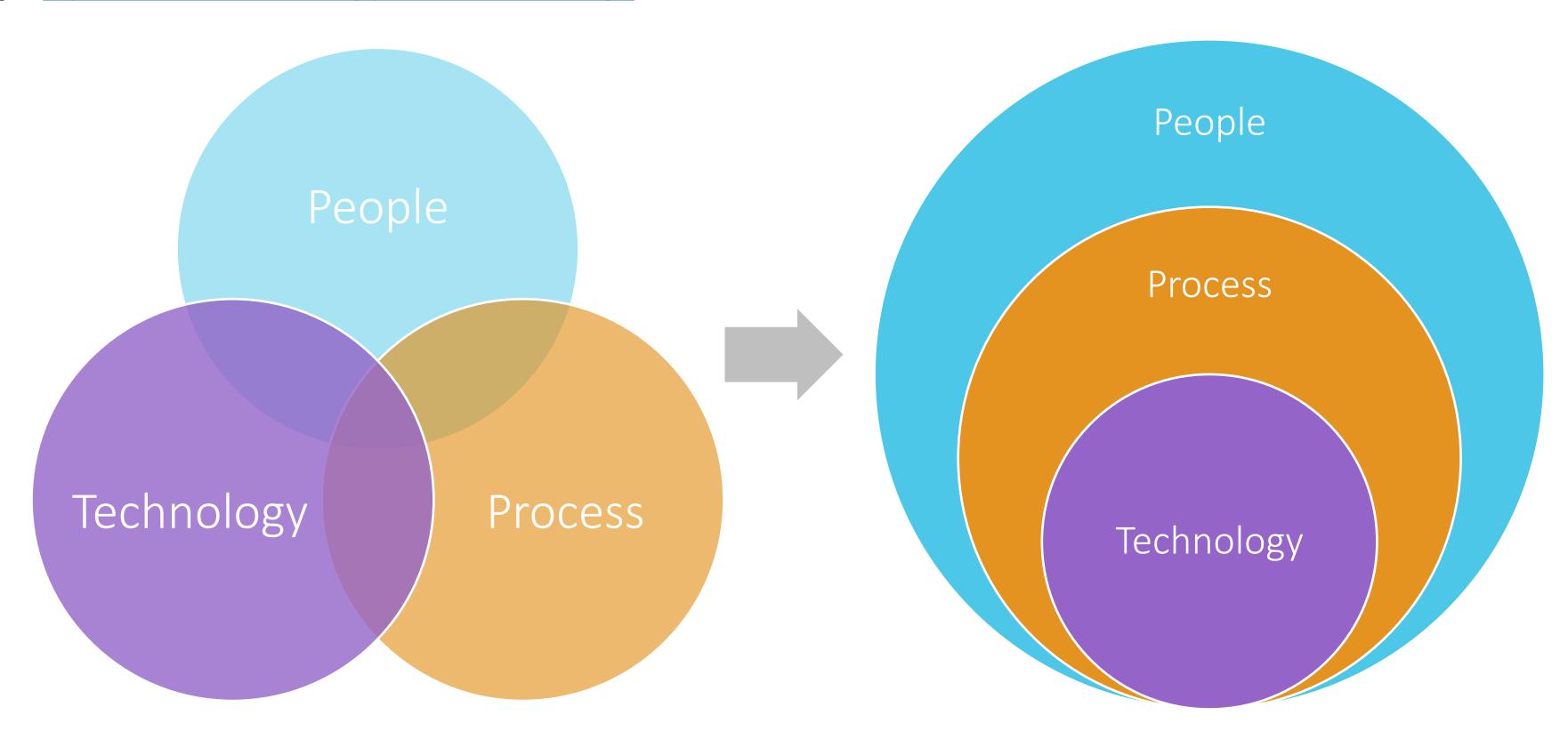




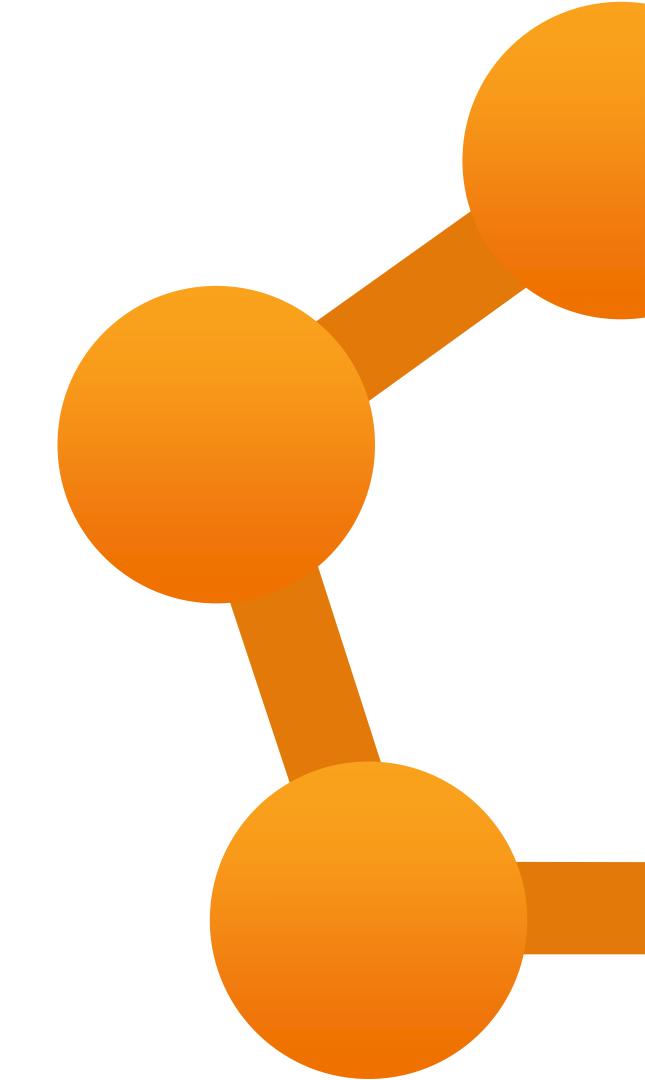


A Shift In Challenges Faced

Blogged: https://www.cloudformations.org/post/shift-in-the-challenges



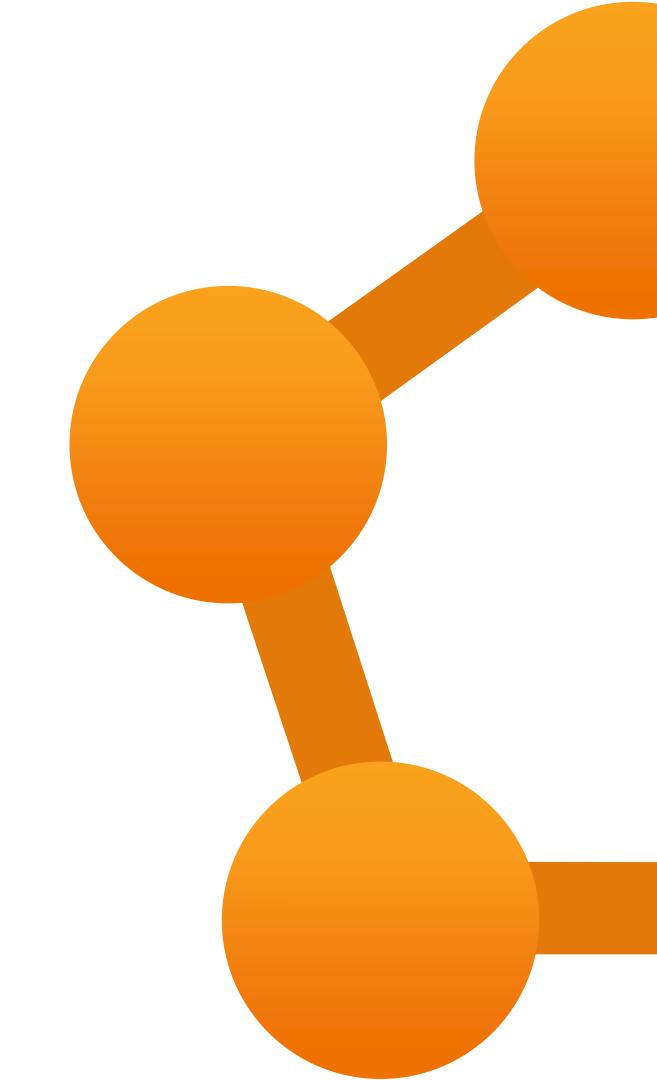
Solution(s)



Cloud Formations

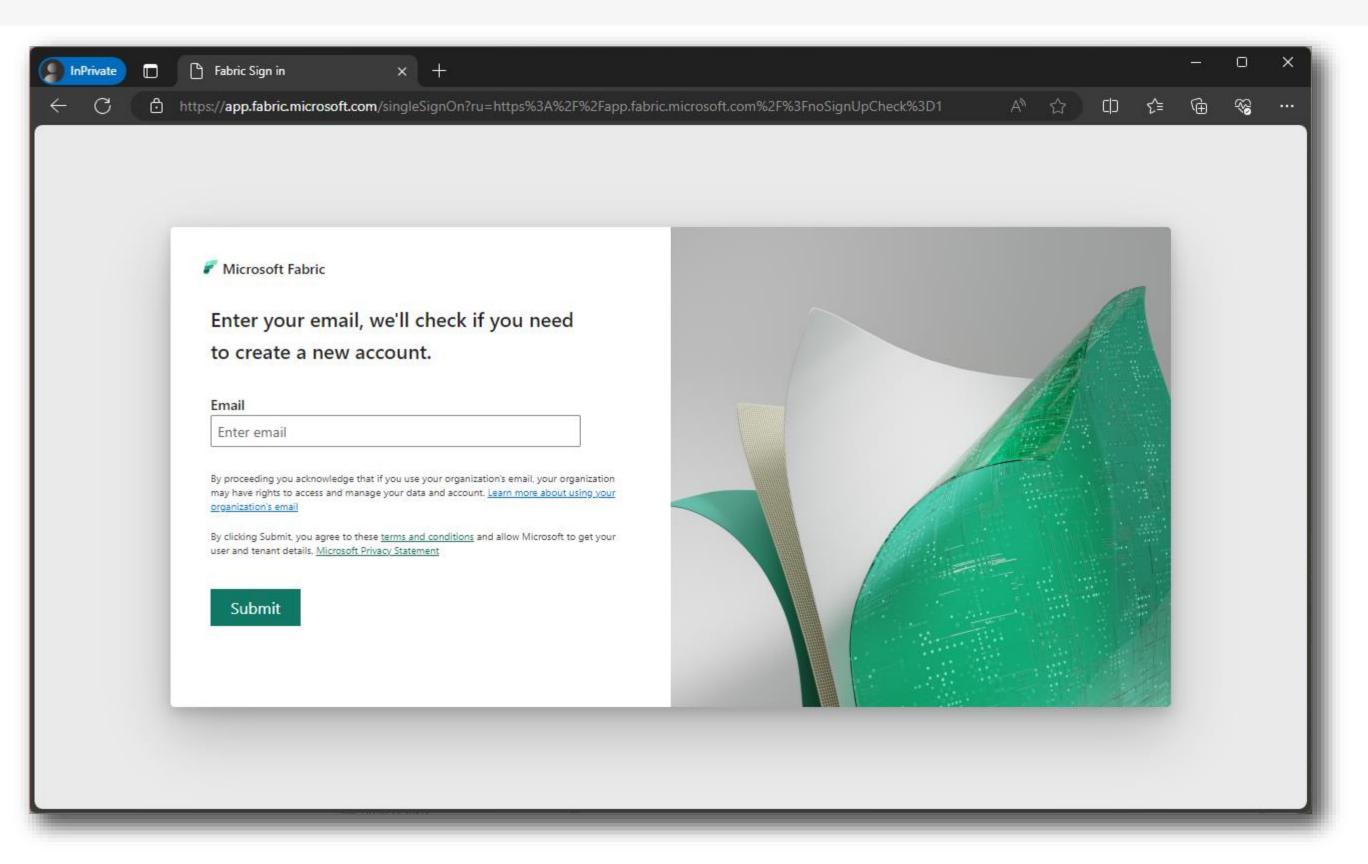
Solution(s)

Initial Steps



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Step 1 – Connect With A Work Account



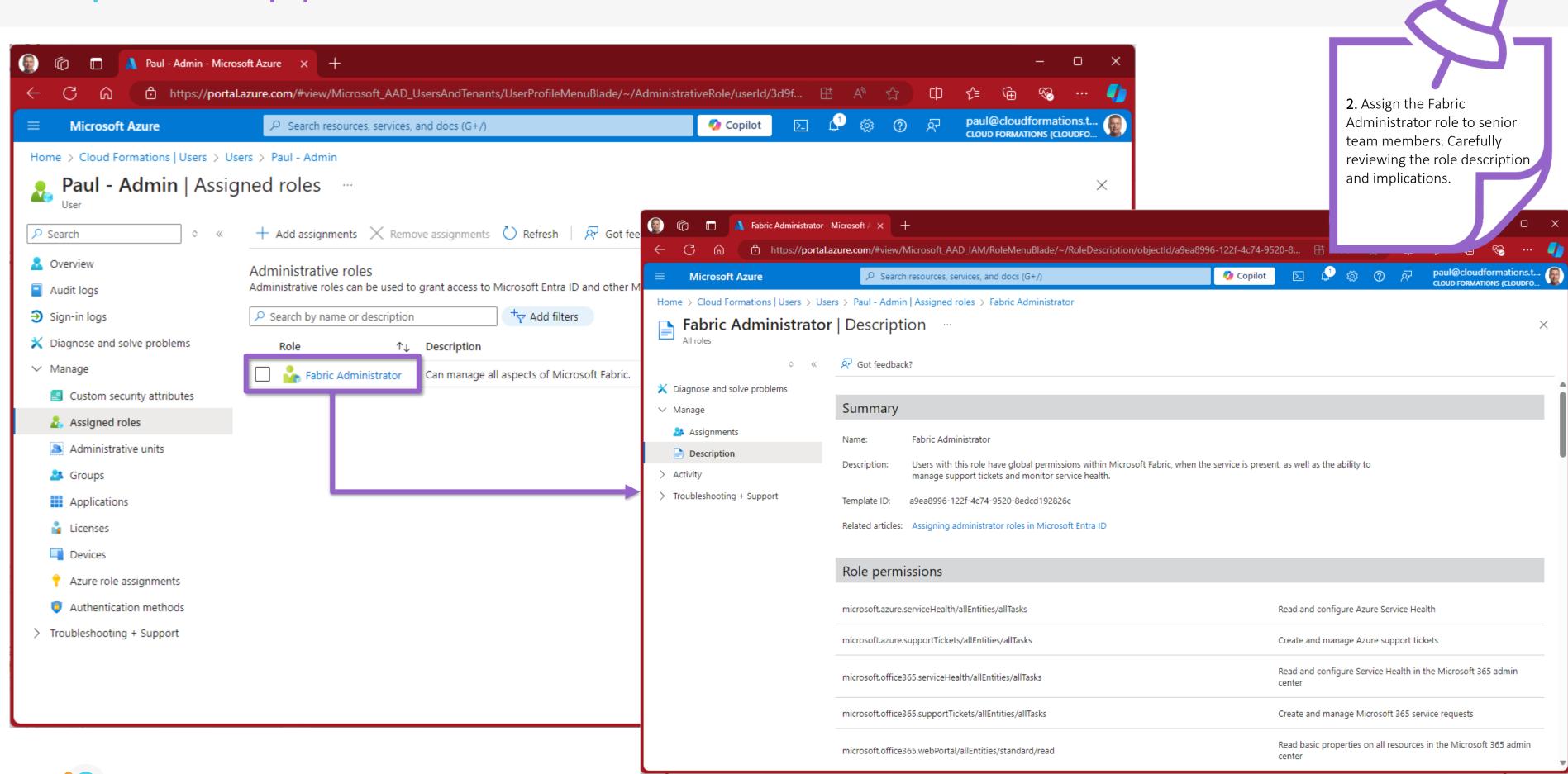


In Private

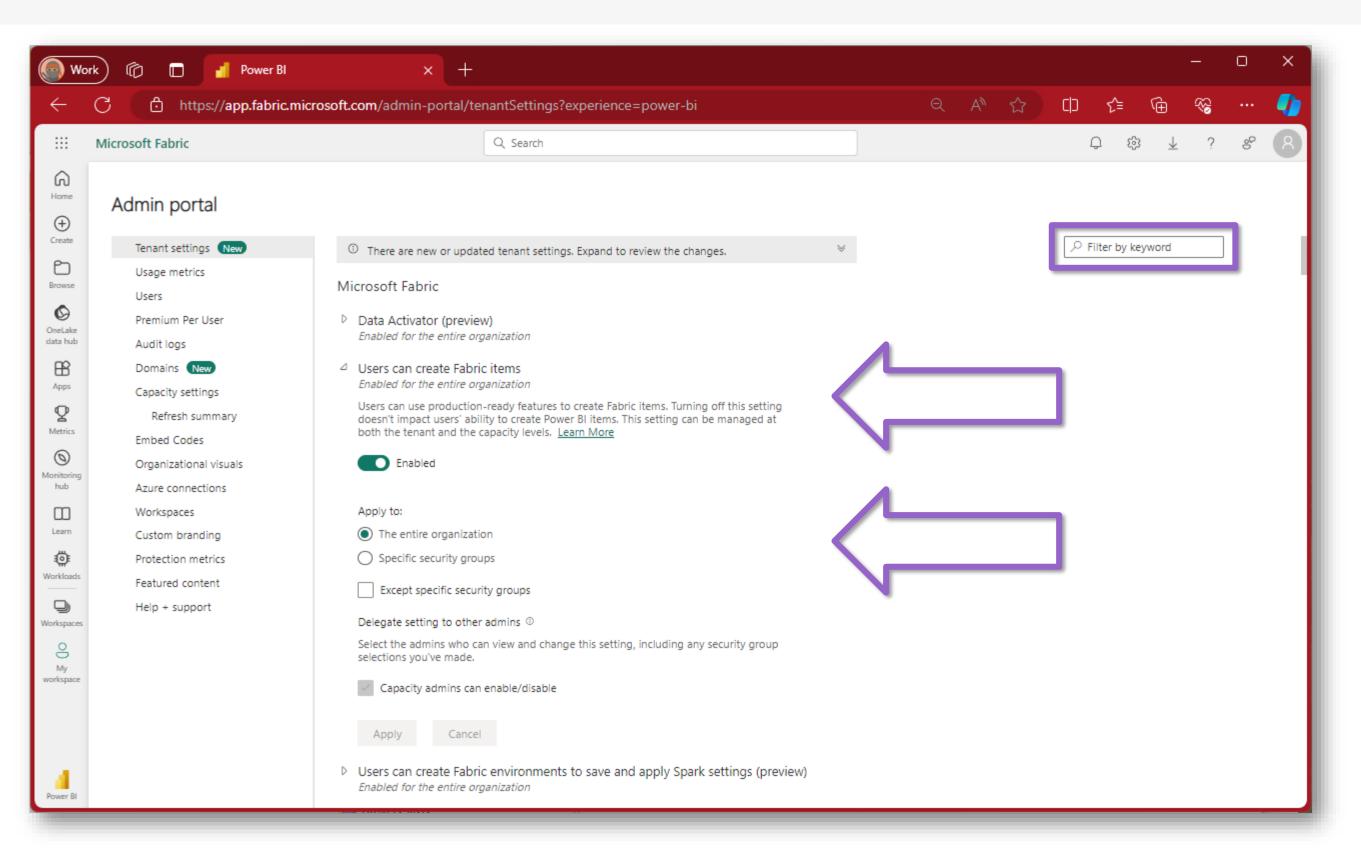
Admin

User

Step 2 – Appoint Your Fabric Admins

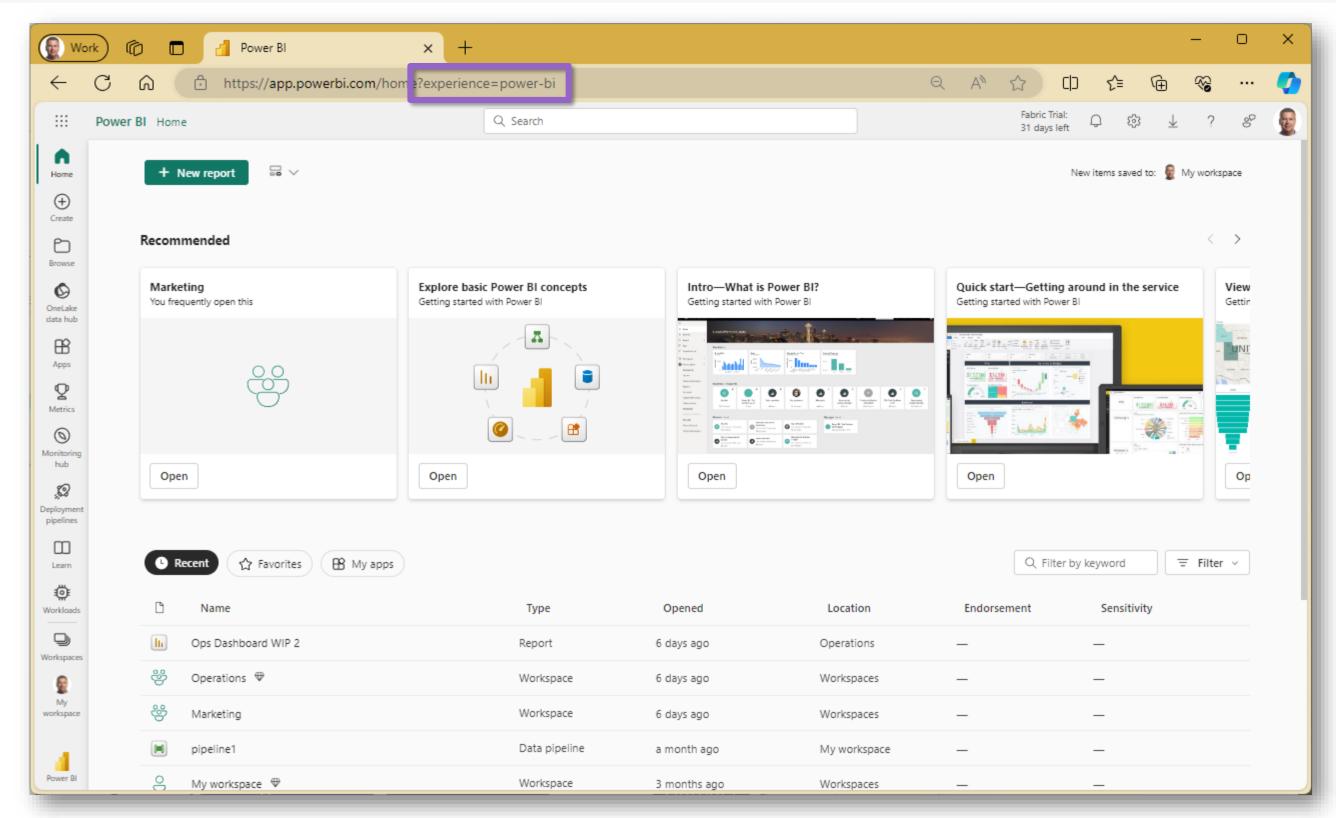


Step 3 – Turn On Fabric Items





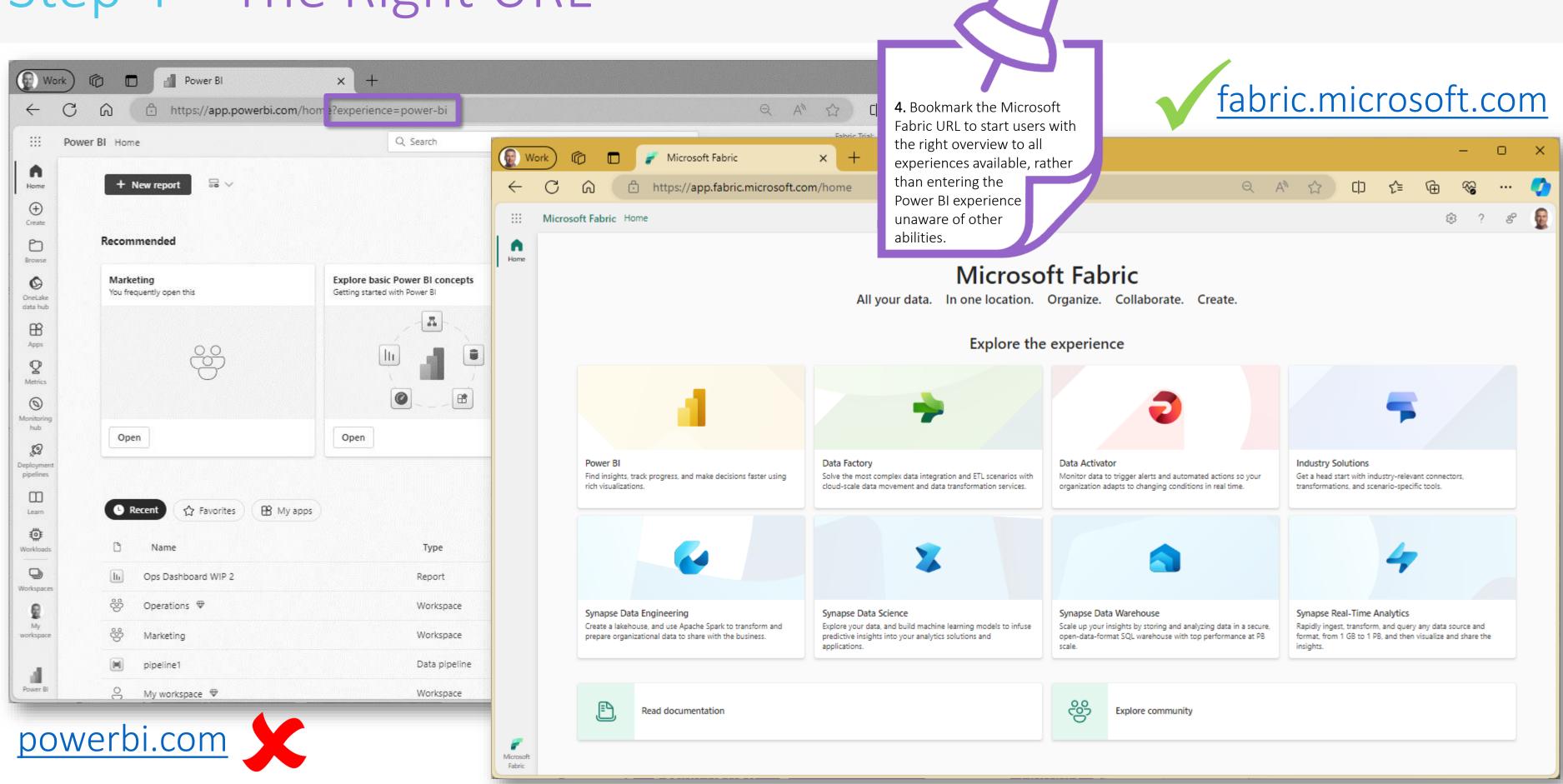
Step 4 – The Right URL



powerbi.com

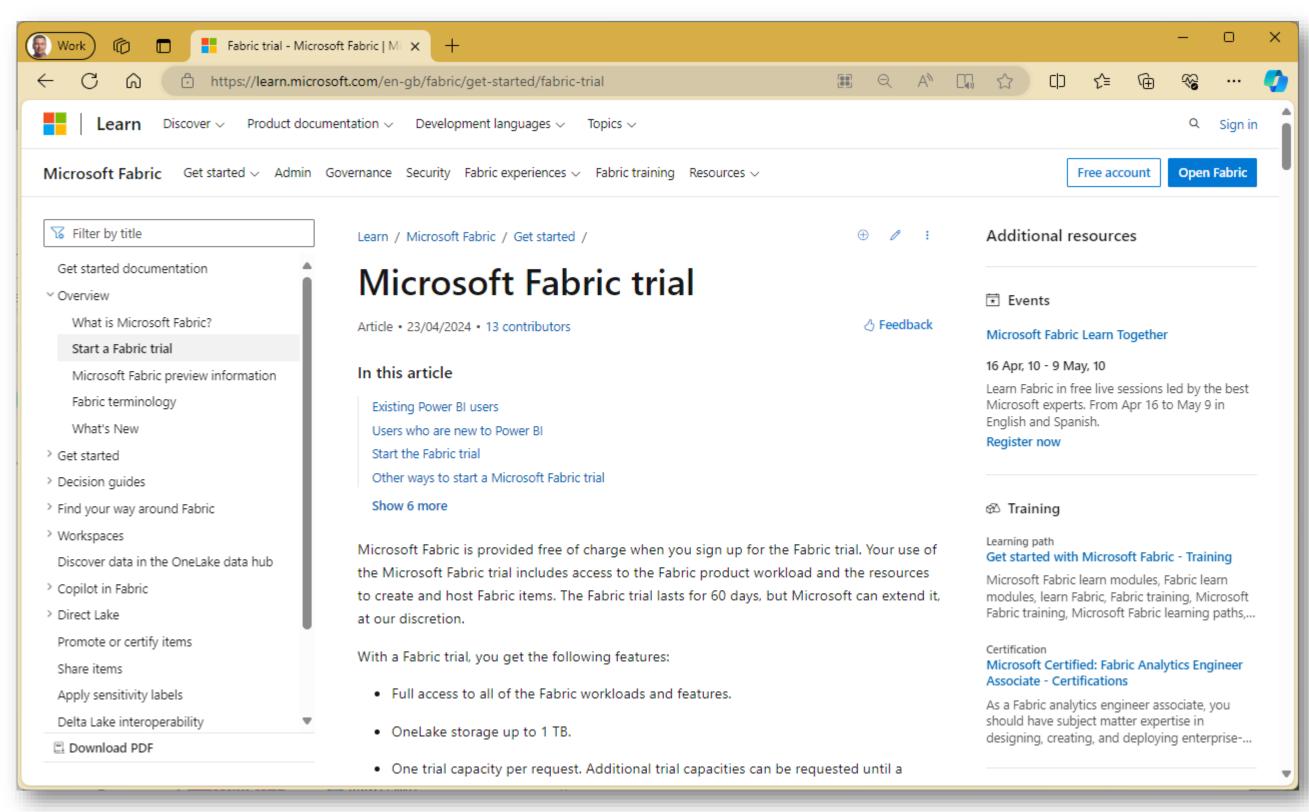


Step 4 – The Right URL





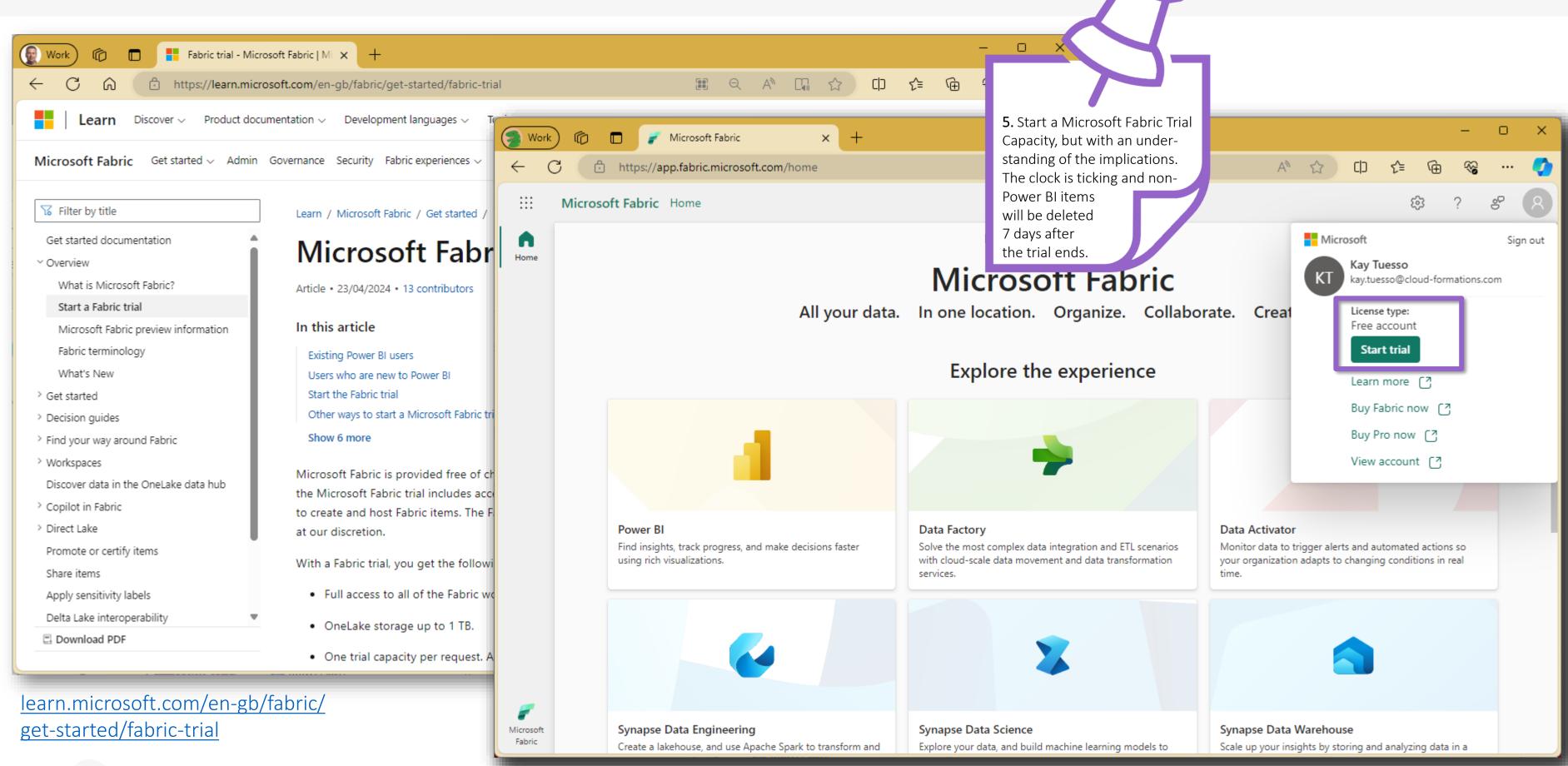
Step 5 – Get A Trial Capacity



<u>learn.microsoft.com/en-gb/fabric/get-started/fabric-trial</u>

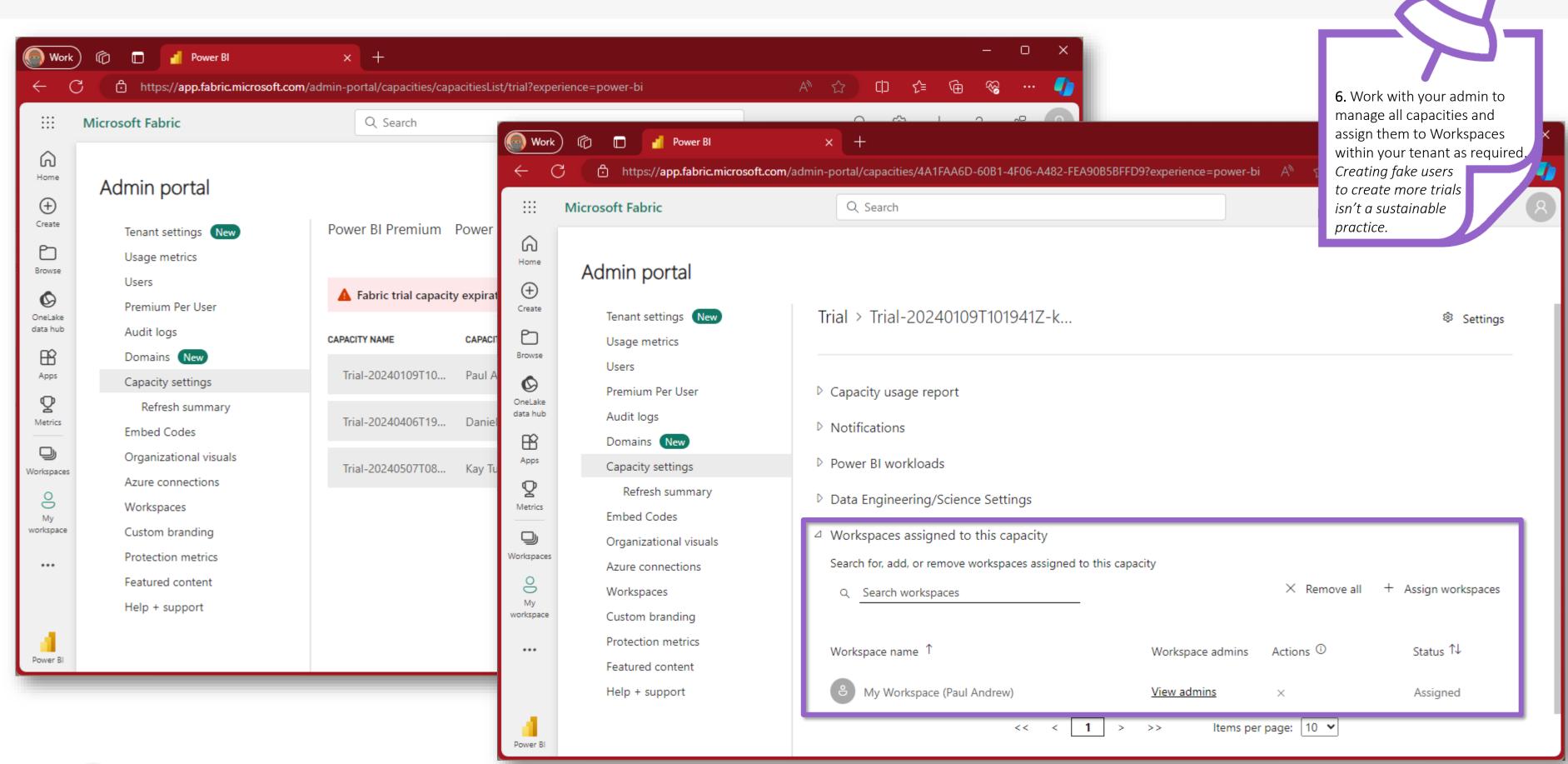


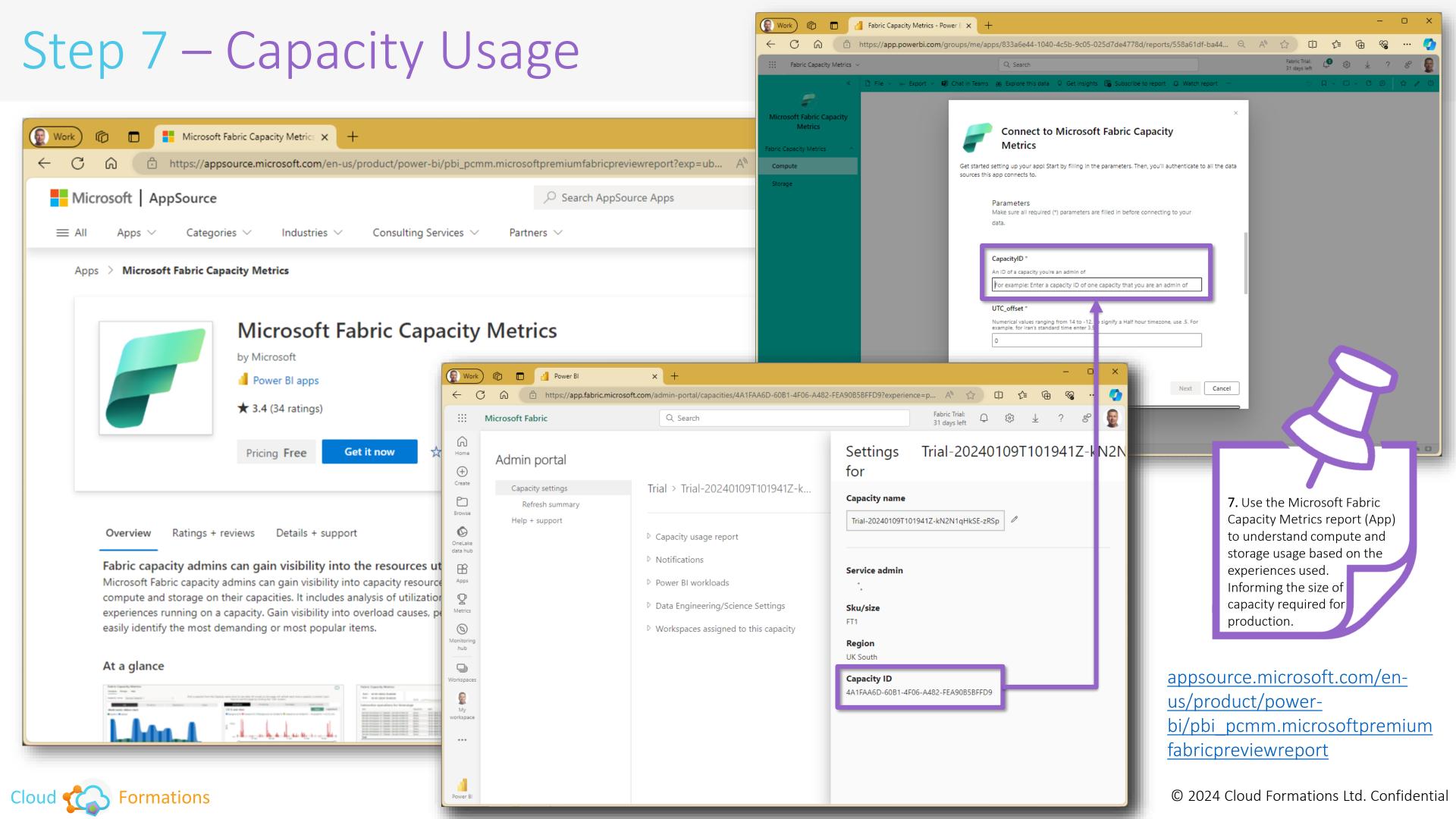
Step 5 – Starting A Trial Capacity



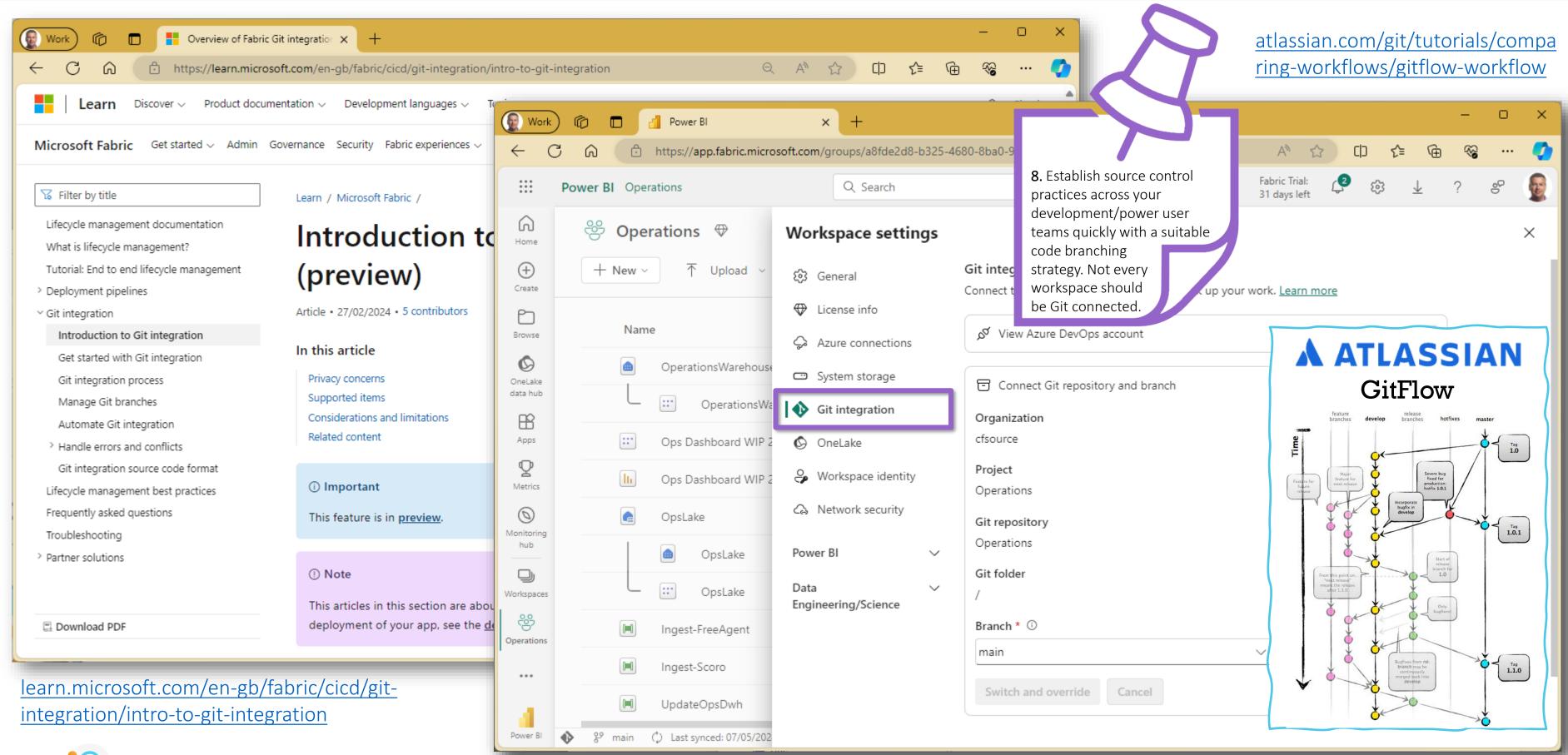


Step 6 – Managing Capacities

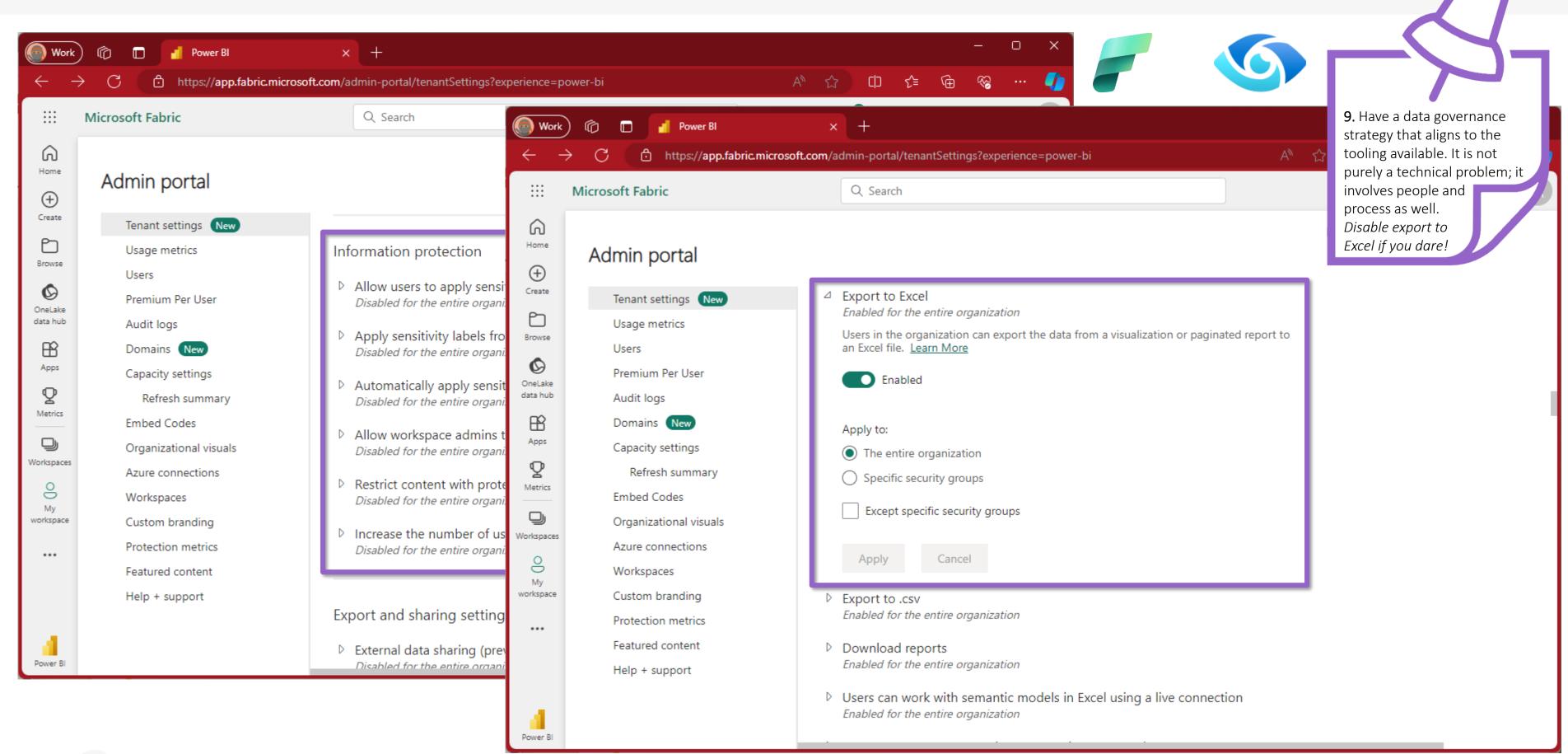




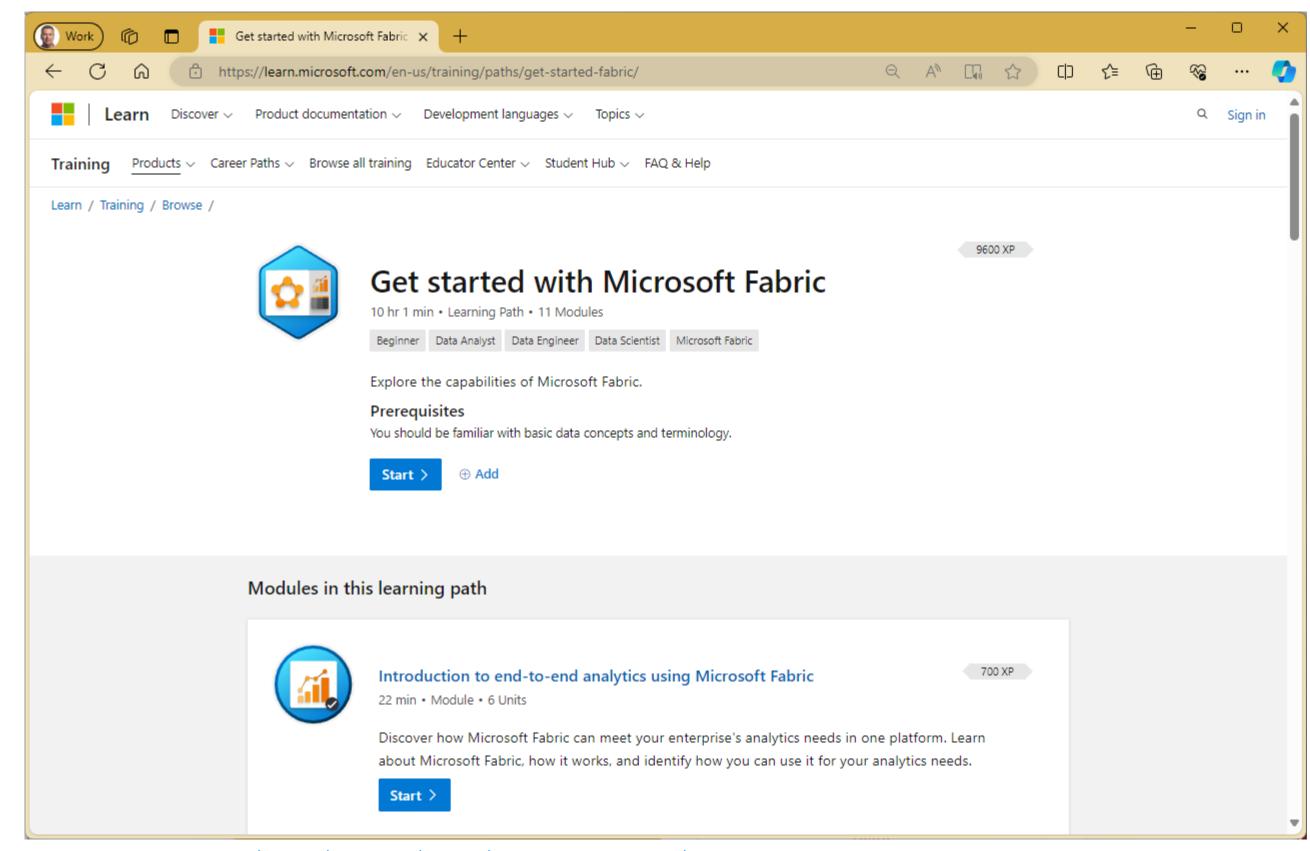
Step 8 – Connect Source Control & Setup Branching



Step 9 – Information Protection & Export



Step 10 – Upskilling





<u>learn.microsoft.com/en-us/training/paths/get-started-fabric/</u>



Steps Summary

1. Authenticate with the correct work account to gain access to your Microsoft Fabric tenant.

Personal accounts cannot and should not be used.



and implications.

3. Enable Microsoft Fabric items via the admin portal. Limit this ability to a subset of users within or excluding specific Microsoft Entra security groups.

4. Bookmark the Microsoft
Fabric URL to start users with
the right overview to all
experiences available, rather
than entering the
Power BI experience
unaware of other
abilities.

5. Start a Microsoft Fabric Trial Capacity, but with an understanding of the implications. The clock is ticking and non-Power BI items will be deleted 7 days after the trial ends.

9-

6. Work with your admin to manage all capacities and assign them to Workspaces within your tenant as required. Creating fake users to create more trials isn't a sustainable practice.

7. Use the Microsoft Fabric Capacity Metrics report (App) to understand compute and storage usage based on the experiences used. Informing the size of capacity required for production.

8. Establish source control practices across your development/power user teams quickly with a suitable code branching strategy. Not every workspace should be Git connected.

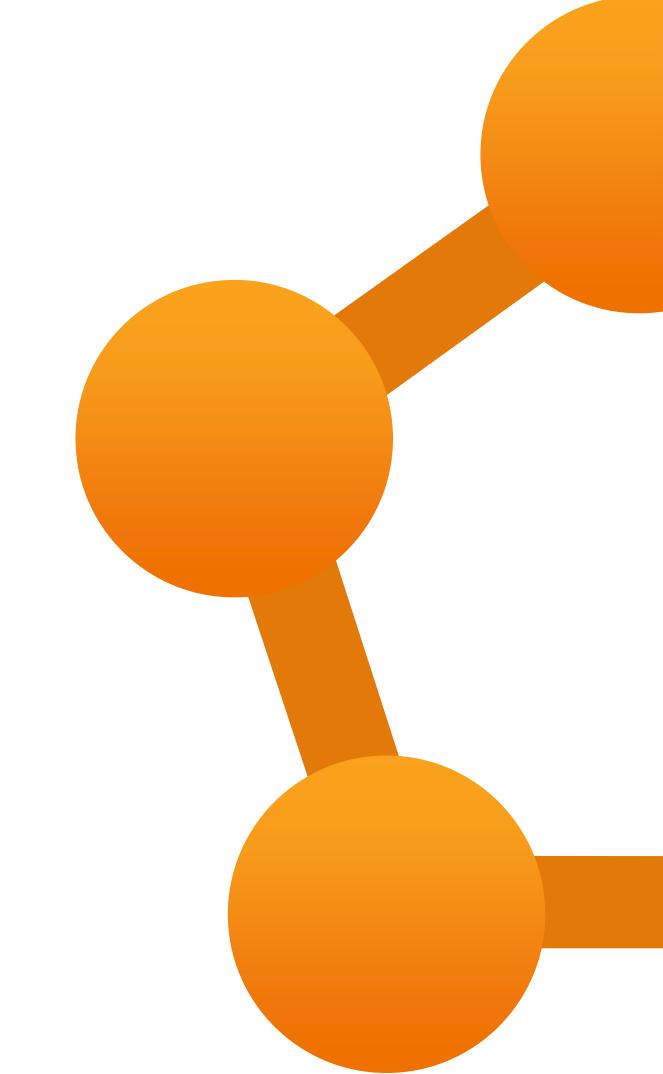
9. Have a data governance strategy that aligns to the tooling available. It is not purely a technical problem; it involves people and process as well.

Disable export to Excel if you dare!

10. Check out all the great Microsoft Learn content available. Including the new DP-600 certification: Implementing Analytics Solutions Using Microsoft Fabric.



Capacity Usage



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Data Integration



Data Engineering



Data Warehouse



Data

Data Science



Real-time Analytics



Business Intelligence



Data Activator

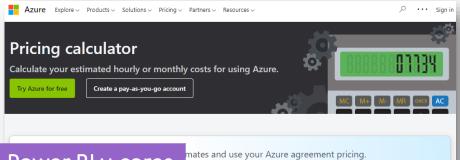


One Lake



Compute





mates and use your Az	Power BI v-cores	Power BI SKU	Capacity Units	SKU
nates FAQs	0.25	-	2	F2
	0.5	-	4	F4
ux Durable, highly aval massively scalable of storage	1	EM/A1	8	F8
	2	EM2/A2	16	F16
J Azure Cosm ud Fast NoSQL databa open APIs for any s	4	EM3/A3	32	F32
Azure Cogni Services Deploy high-quality as APIs	8	P1/A4	64	F64
	16	P2/A5	128	F128
	32	P3/A6	256	F256
	64	P4/A7	512	F512
	128	P5/A8	1024	F1024
	256	-	2048	F2048

Reference:

https://blog.fabric.microsoft.com/en-us/blog/capacity-metrics-in-microsoft-fabric

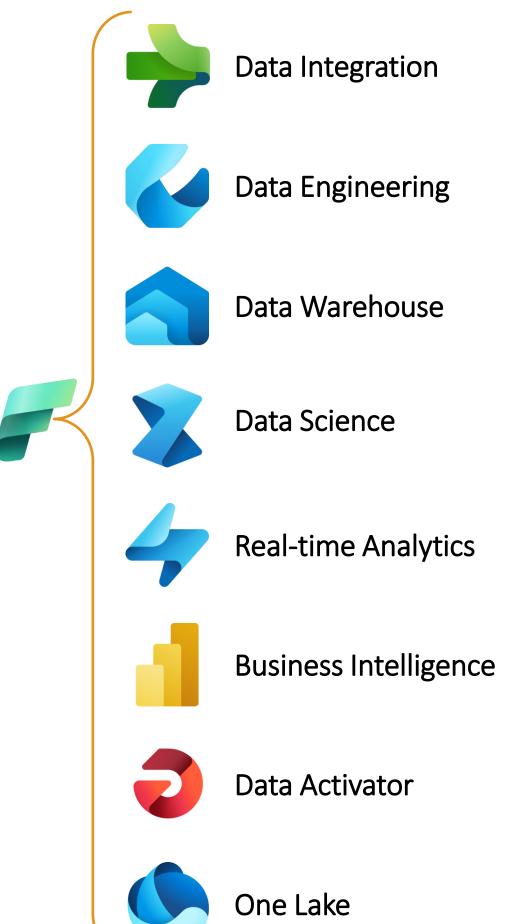
https://learn.microsoft.com/en-us/fabric/enterprise/licenses

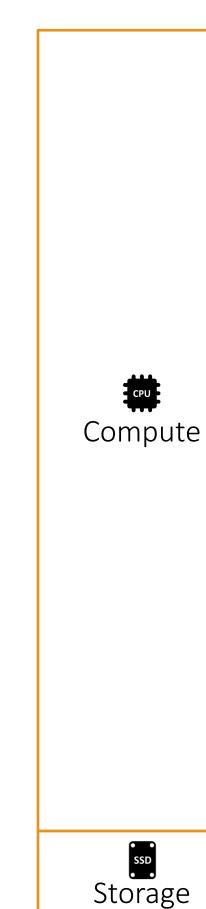
https://learn.microsoft.com/en-us/power-bi/enterprise/service-premium-smoothing

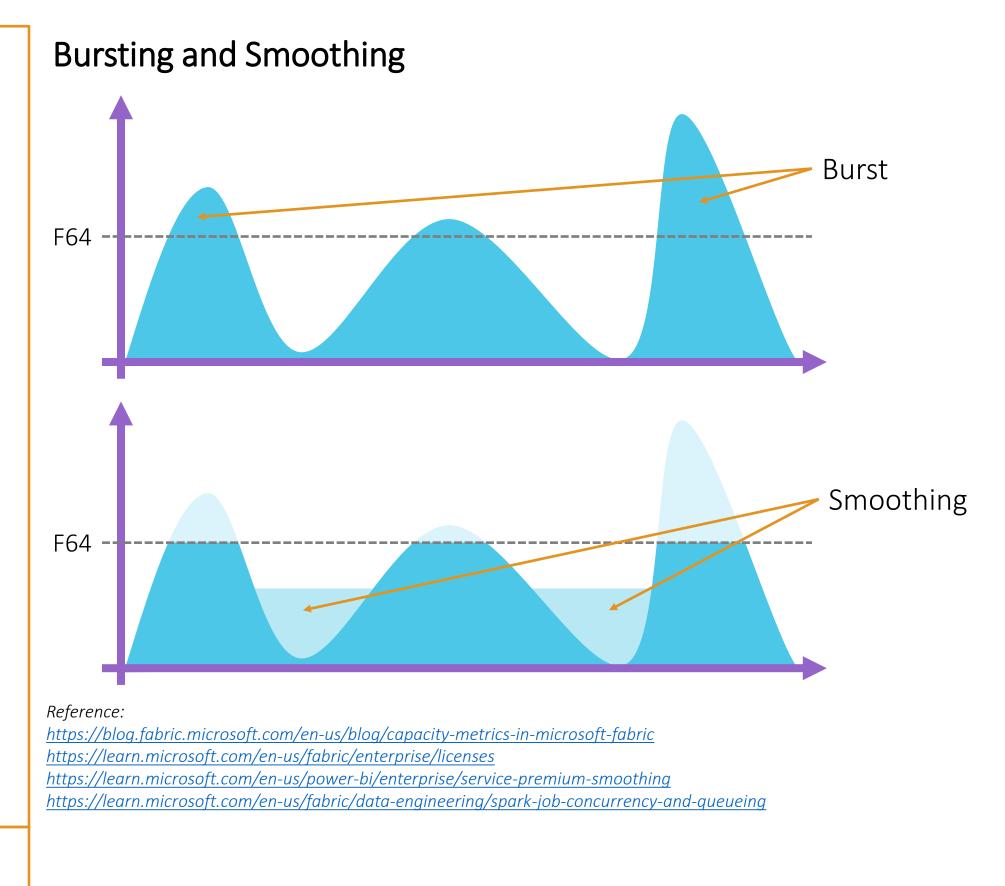
https://learn.microsoft.com/en-us/fabric/data-engineering/spark-job-concurrency-and-queueing















Data Integration



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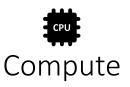
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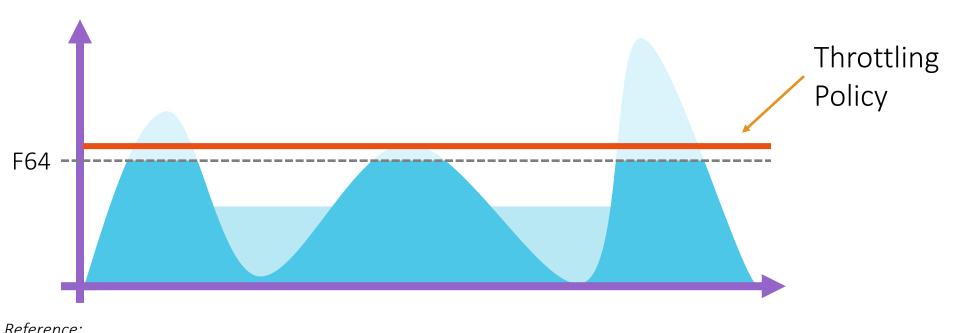


One Lake



"Throttling occurs when a tenant's capacity consumes more capacity resources than it has purchased. Too much throttling can result in a degraded end-user experience. A Microsoft Fabric tenant can create multiple capacities and assign workspaces to a specific capacity for billing and sizing."





https://learn.microsoft.com/en-us/fabric/enterprise/throttling







Data Integration



Data Engineering



Data Warehouse



Data Science



Real-time Analytics



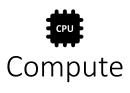
Business Intelligence



Data Activator



One Lake

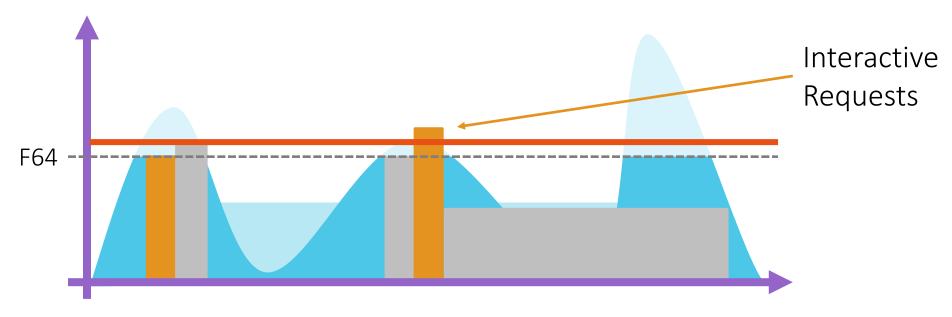


Storage

Operation Types

Interactive – On-demand requests and operations that can be triggered by user interactions with the UI, such as data model queries generated by report visuals, are classified as interactive operations.

Background – Longer running operations such as semantic model or dataflow refreshes are classified as background operations. They can be triggered manually by a user, or automatically without user interaction.



Reference.

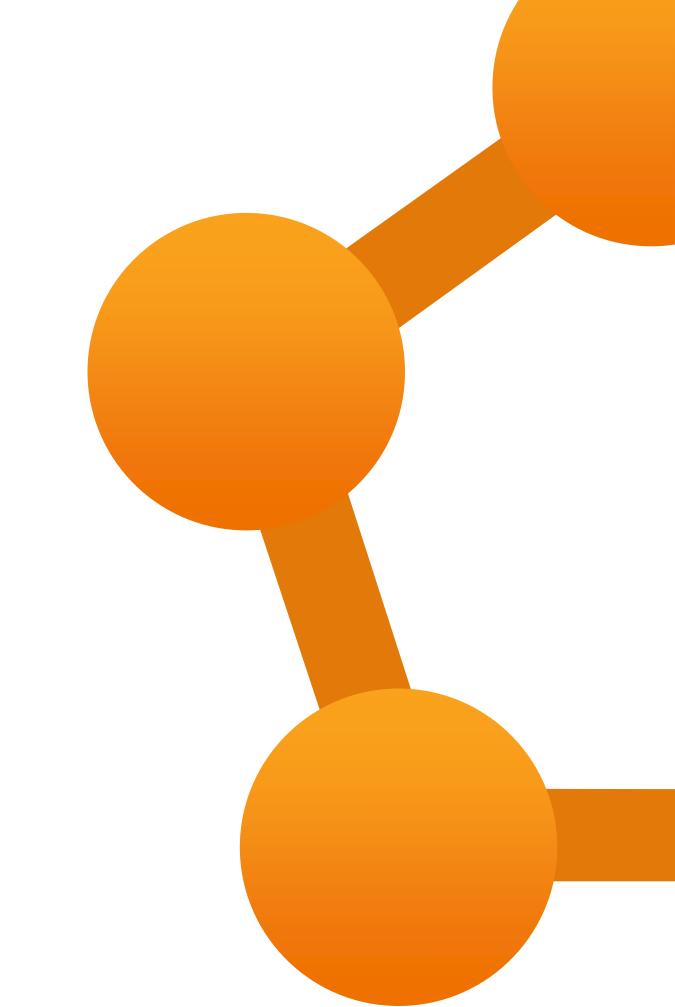
https://learn.microsoft.com/en-us/fabric/enterprise/fabric-operations



Copilot is a <u>background</u> operation.

"Compute cost associated with input prompts and output completion"

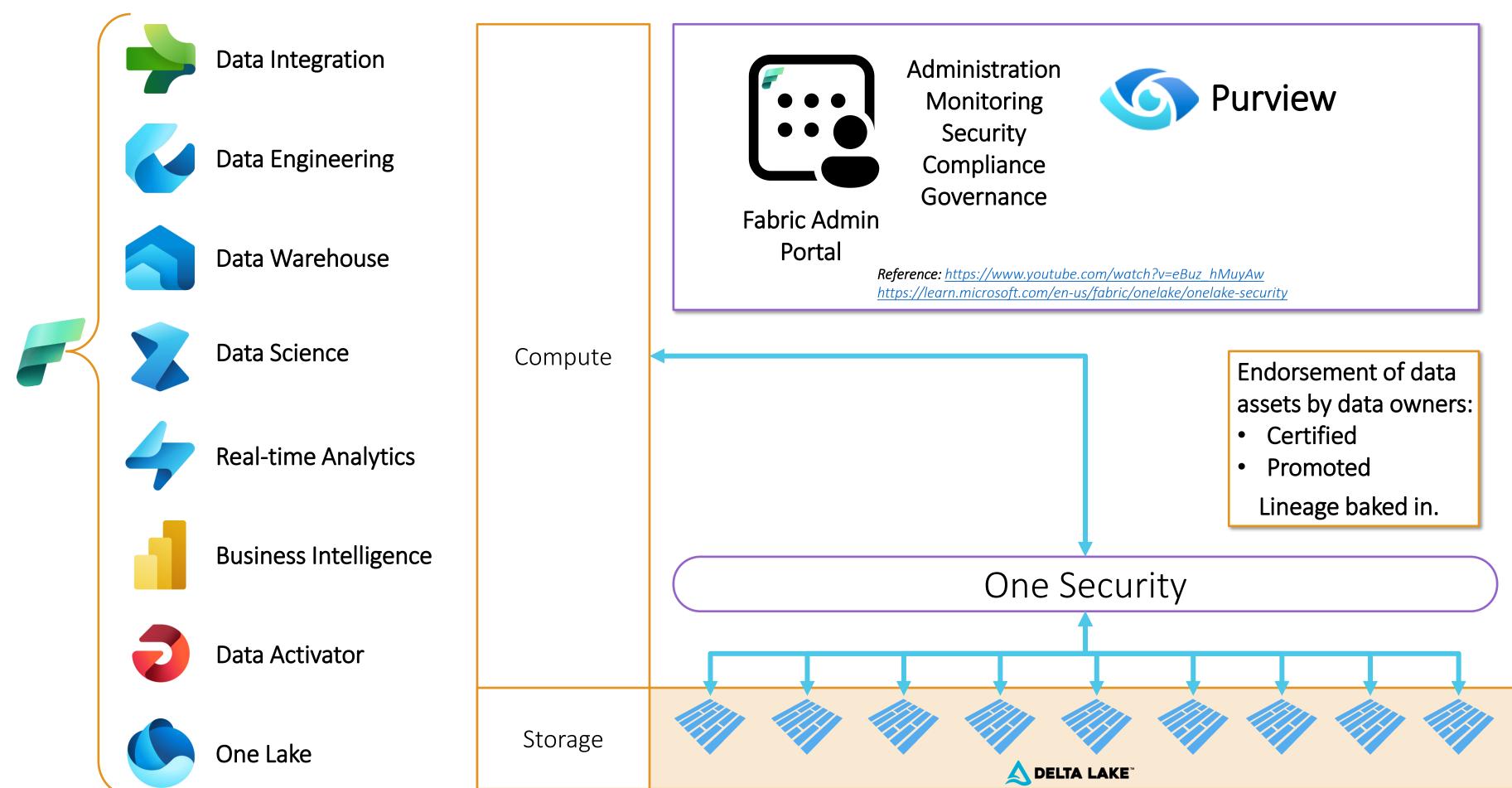
Governance — The Story So Far



Cloud Formations

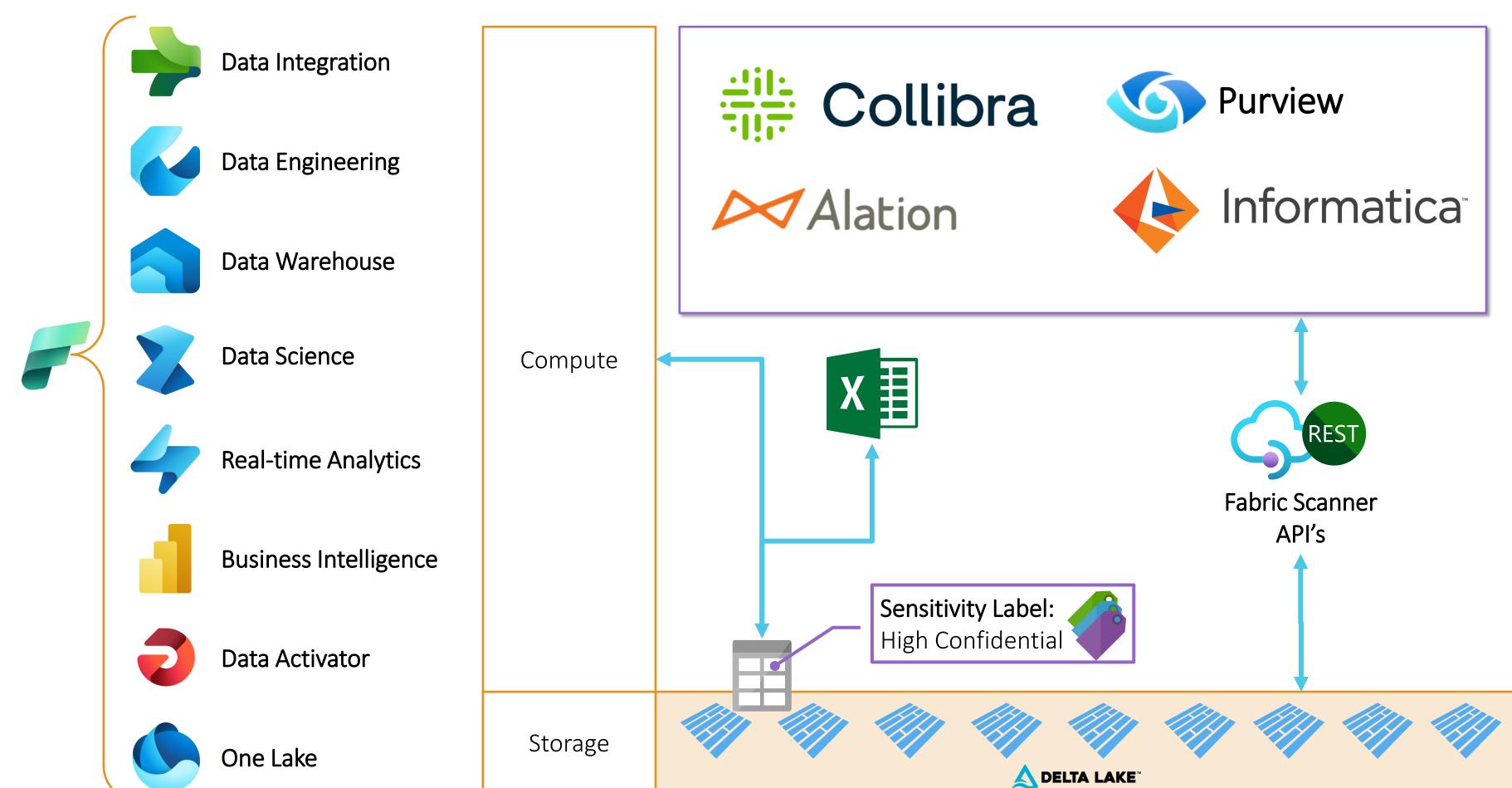
Improving Governance – One Security & Admin



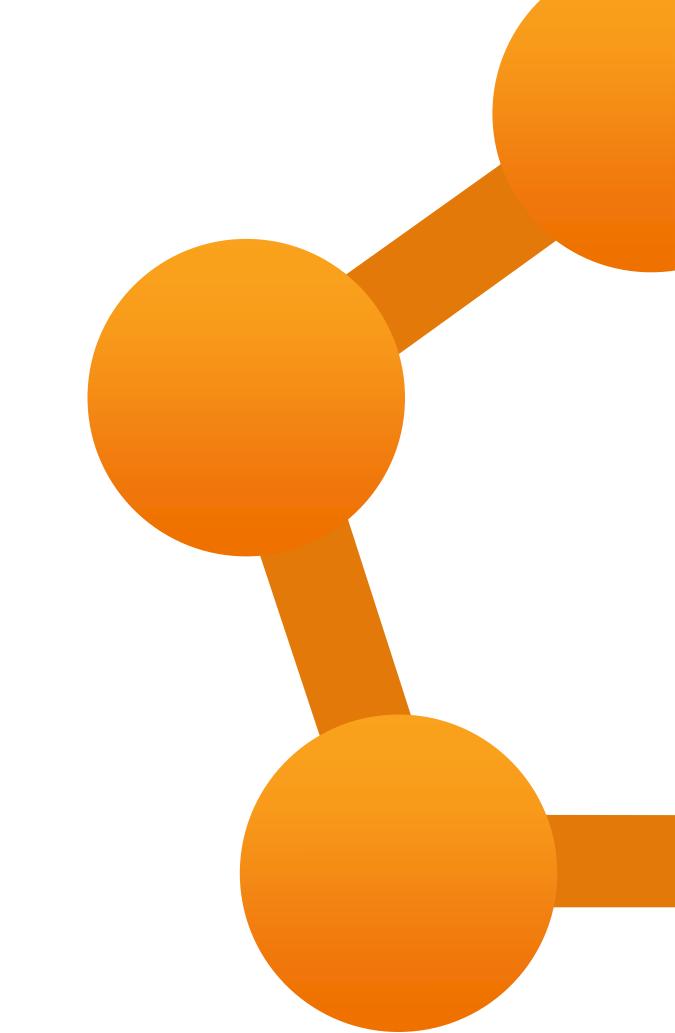


Improving Governance – Sensitivity & Tooling

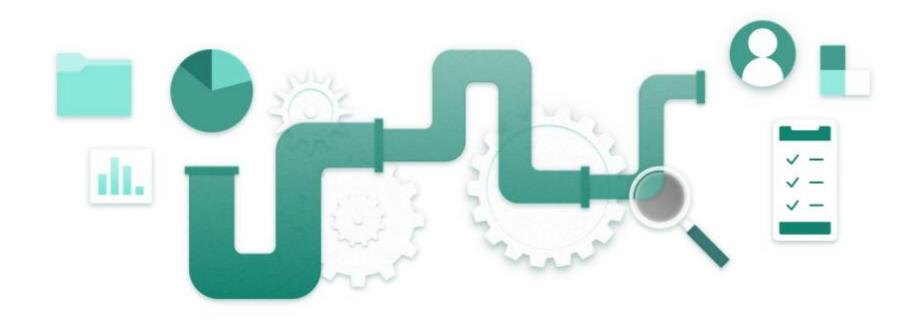




- The Story So Far



Source Control & Deployments – Things I Like



We have a nice graphic in the UI.



Most items still only preview support, or not at all.

https://learn.microsoft.com/en-us/fabric/cicd/git-integration/intro-to-git-integration



Very simple change comparisons. No dynamic pipelines.

Unable to deploy items built in 'My Workspace'.

https://learn.microsoft.com/en-us/fabric/cicd/deployment-pipelines/intro-to-deployment-pipelines



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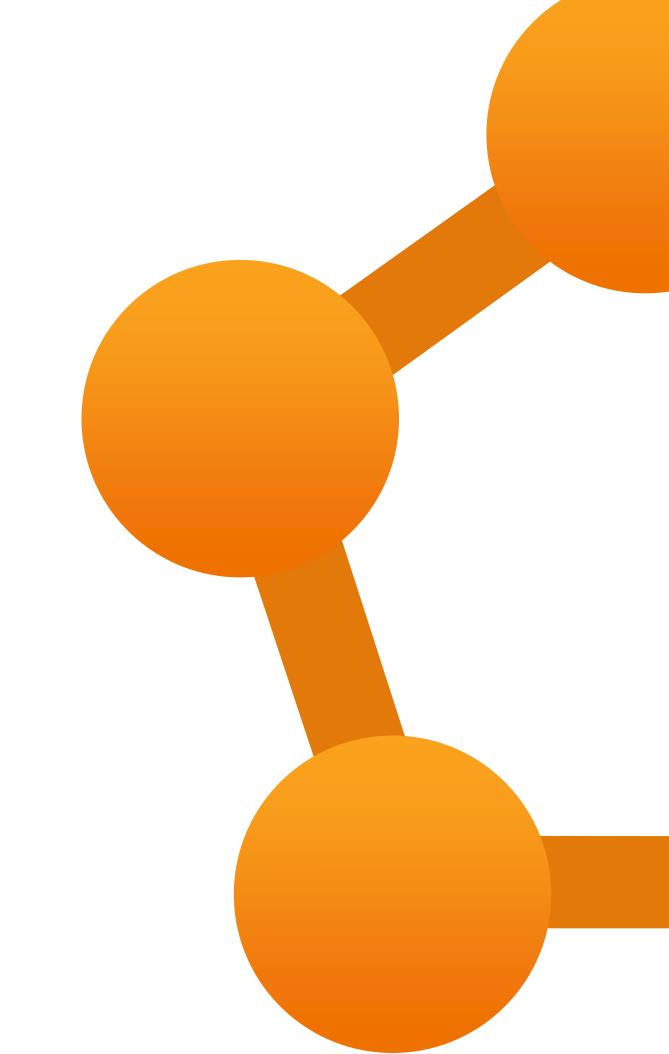
Fall back to the Fabric APIs

https://learn.microsoft.com/en-us/fabric/cicd/deployment-pipelines/intro-to-deployment-pipelines



POWER BI **SENTINEL**

Implementation Options
& <u>Current</u> Conclusions



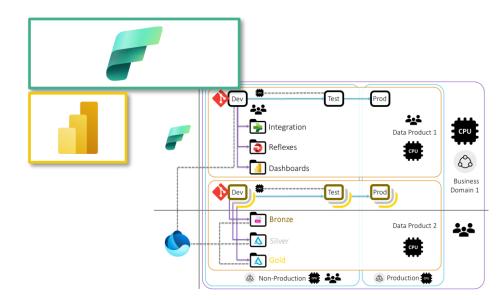
Option 1 – Create an *extended* proof of concept solution.

Scope

Target a subset of use cases aligned to two/three experiences or 'Happy Path' patterns within the Microsoft Fabric product. Keeping the development effort small.

Objective

Deliver business value from the use cases on the data plane. Establish development team practices, change manage and access models as a secondary exercise.









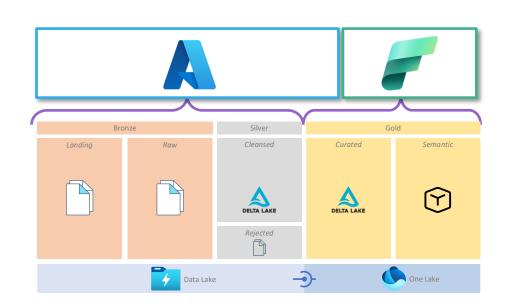
Option 2 – Mount existing data products from Azure into Fabric for serving and exploration.

Scope

Using Delta Lake open-standards to expose Data Lake entities from a curated data layer into Microsoft Fabric with mounting capabilities. Serve data as a parallel process.

Objective

Explore the Fabric ecosystem using existing data product outputs. Gain environment understanding and upskill delivery teams without affecting data delivery.





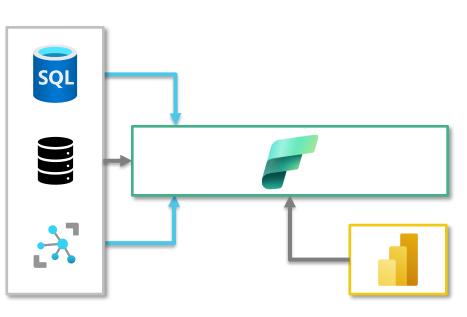
Option 3 – Migration of existing solutions either on premises or in Azure into Fabric.

Scope

Exploit the innovations in Microsoft Fabric from a data ingestion and serving perspective as replacements to current ETL/ELT workloads. Rehost, refactor, rearchitect, rebuild, replace.

Objective

Simply data product total cost of ownership with advantages of Fabric, reducing licencing costs and existing infrastructure maintenance.



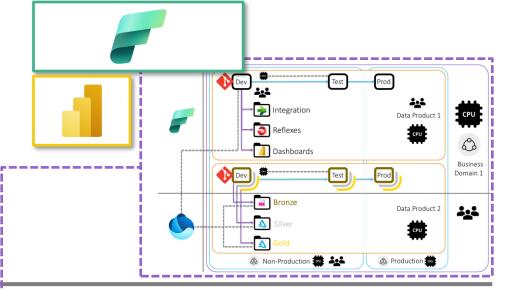
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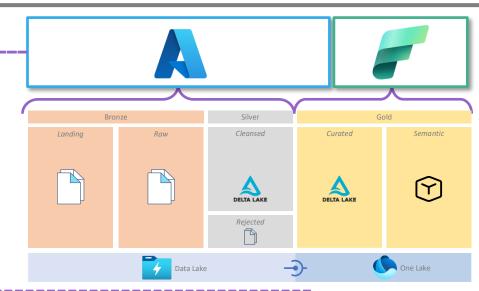
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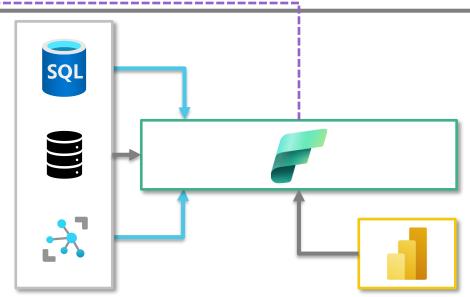
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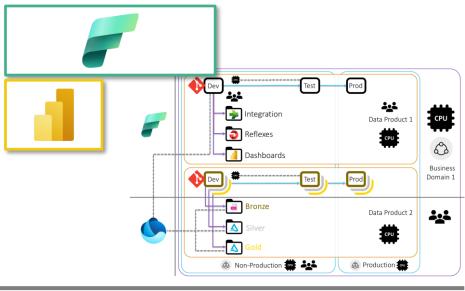
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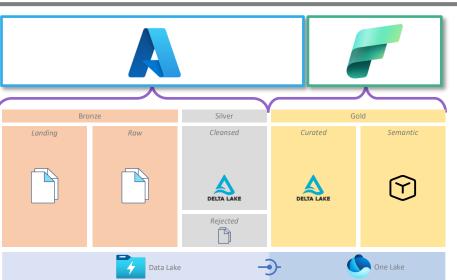
Implementation Options – Consider a Wider Technical Strategy

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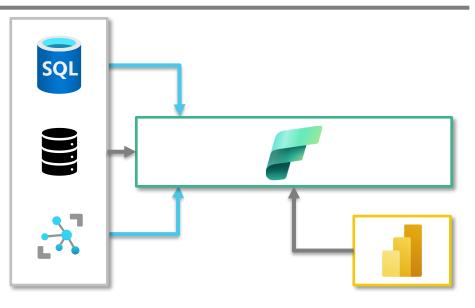




Option 2 – Mount existing data products from Azure into Fabric for serving and exploration.



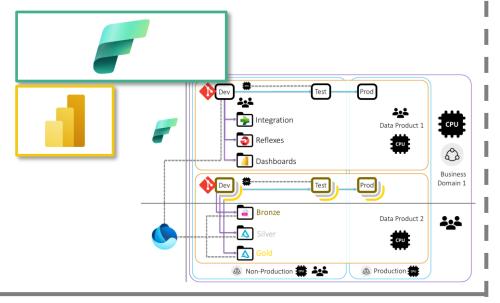
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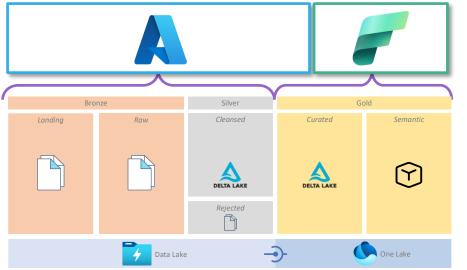


Implementation Options – Consider a Wider Technical Strategy

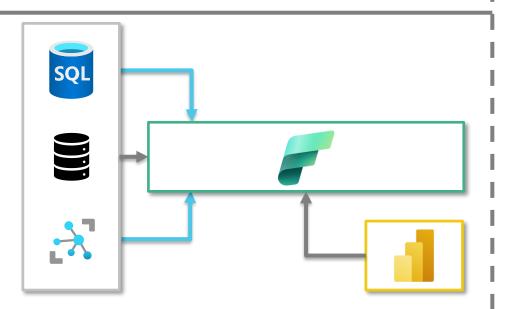
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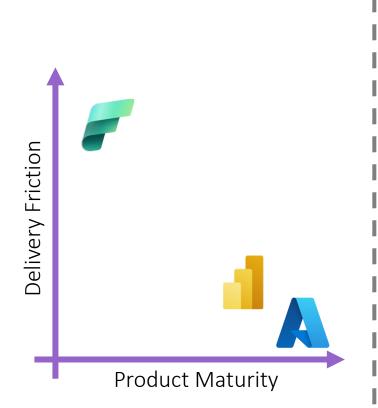


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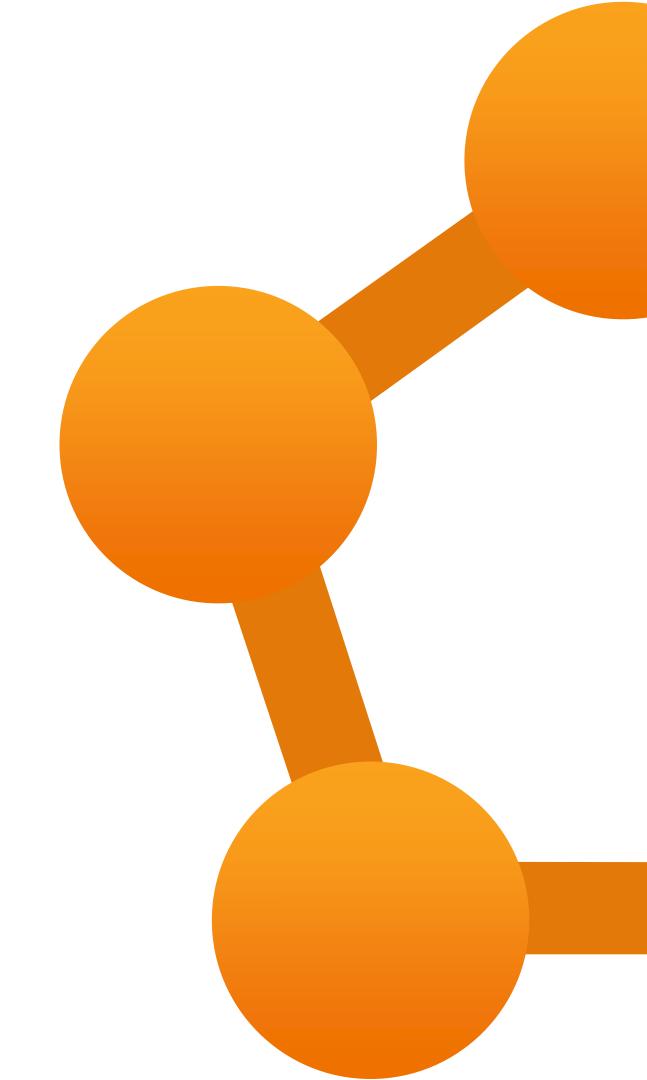






An evolution of implementation efforts and learnings to date. Giving us solid foundations to create a complete Microsoft Fabric solution.

Wrap Up



Training Catalogue











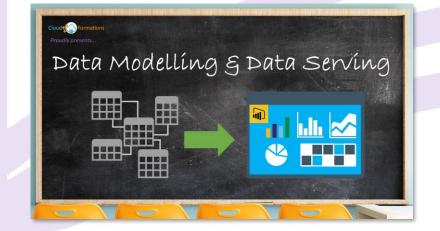






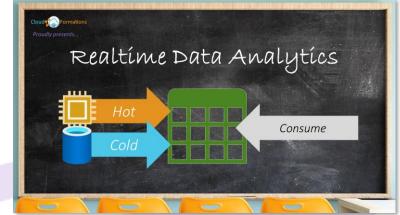










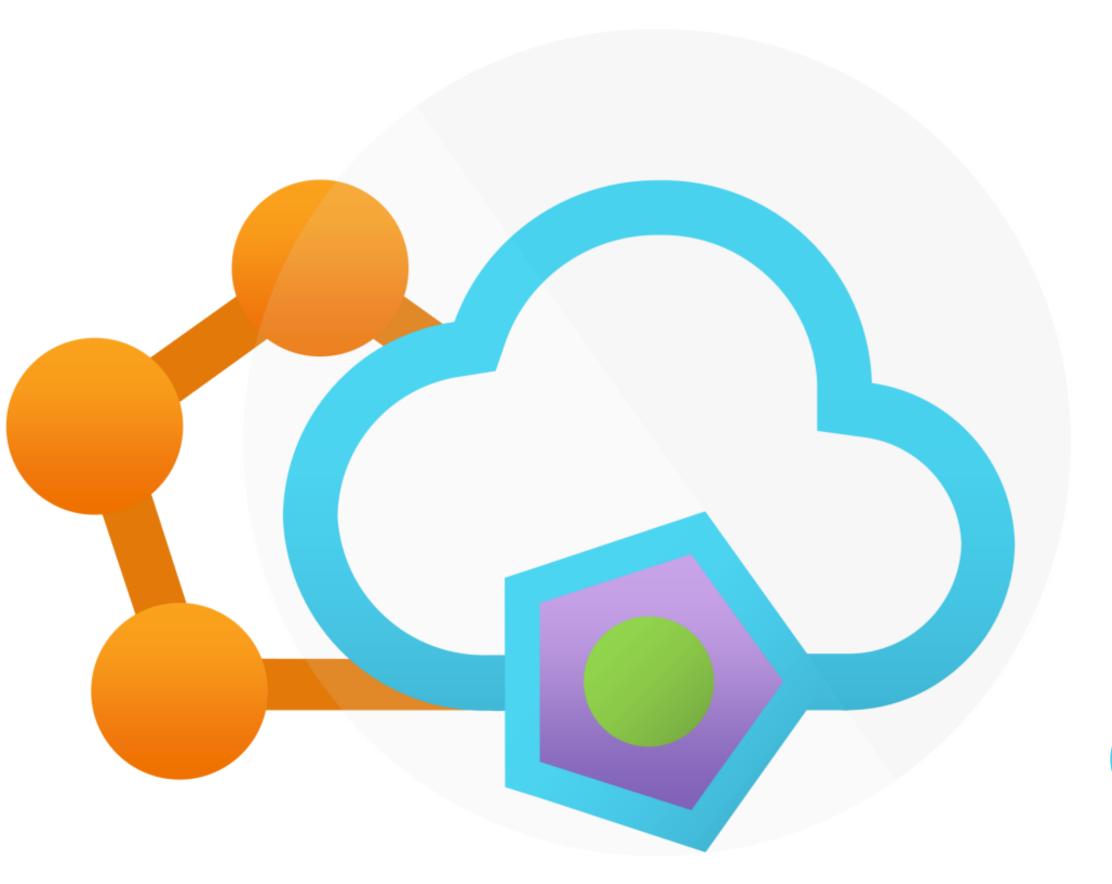


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training-courses

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Thank You



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