Microsoft

Azure SQL Performance Tuning

Module 6

Learning Units covered in this Module

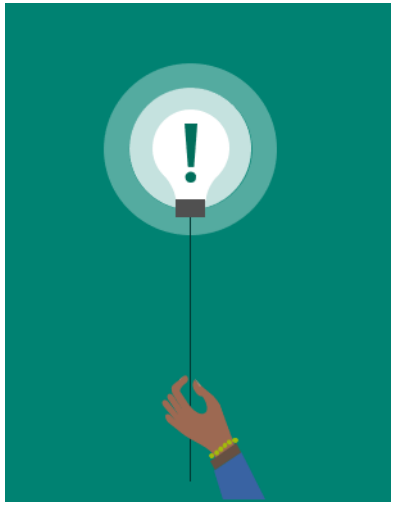
- Lesson 1: Troubleshooting Azure SQL Performance with Query Performance Insights
- Lesson 2: Automatic Tuning in Azure SQL

Lesson 1: Query Performance Insights

Objectives

After completing this learning, you will be able to:

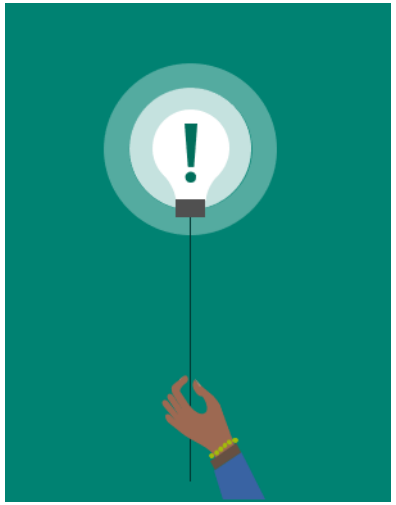
- Install the Query Performance Insights library
- Troubleshoot performance issues with QPI



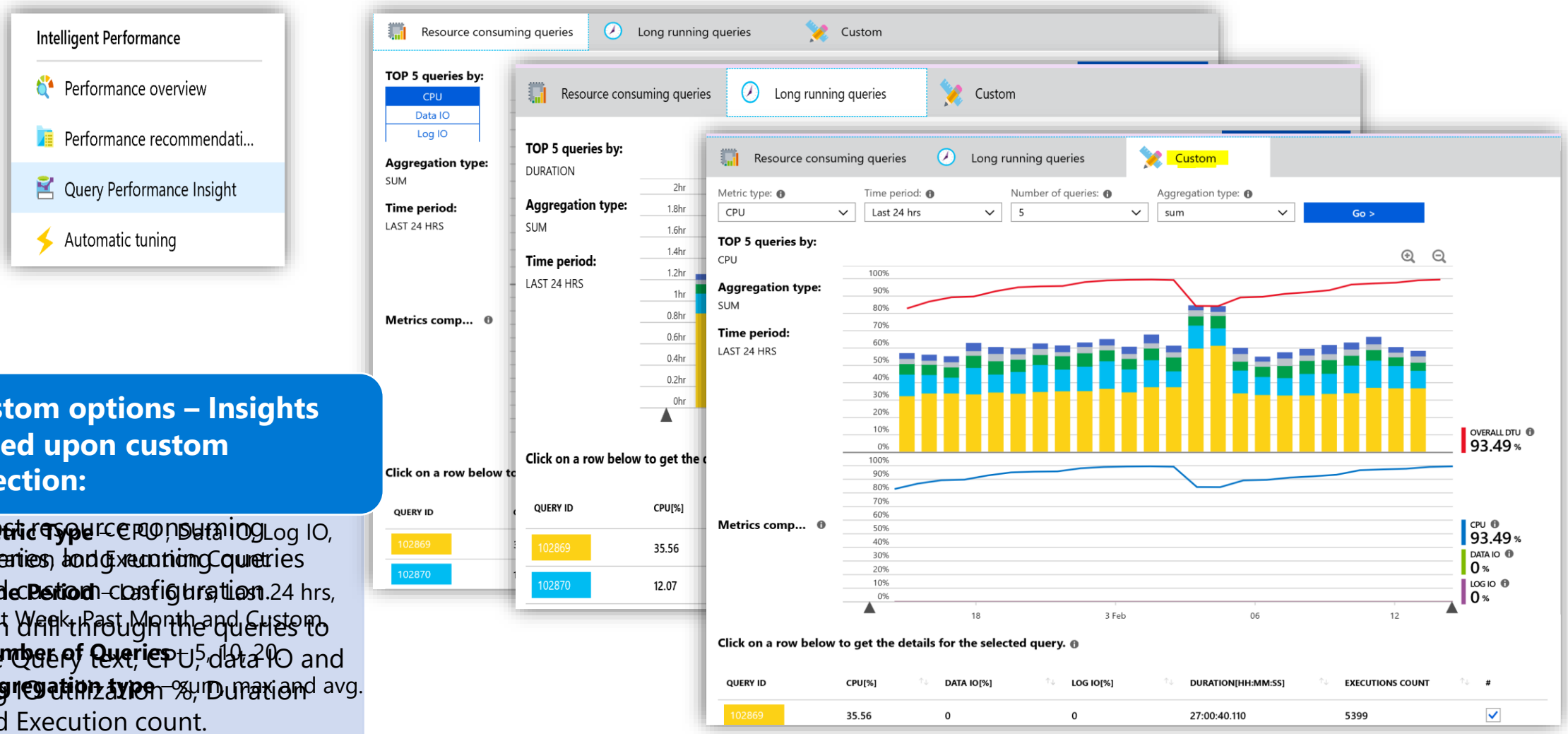
Objectives

After completing this learning, you will be able to:

- Know how to troubleshoot the performance of your queries by using Query Performance Insight.



Query Performance Insight



Custom options – Insights based upon custom selection:

- **Metric Type** – CPU, Data IO, Log IO, Queries and Execution Count
- **Time Period** – Last 6 hrs, Last 24 hrs, Past Week, Past Month and Custom
- **Number of Queries** – 5, 10, 20
- **Aggregation type** – sum, max and avg.

Intelligent Performance – most resource consuming queries and Long running queries

Custom configuration

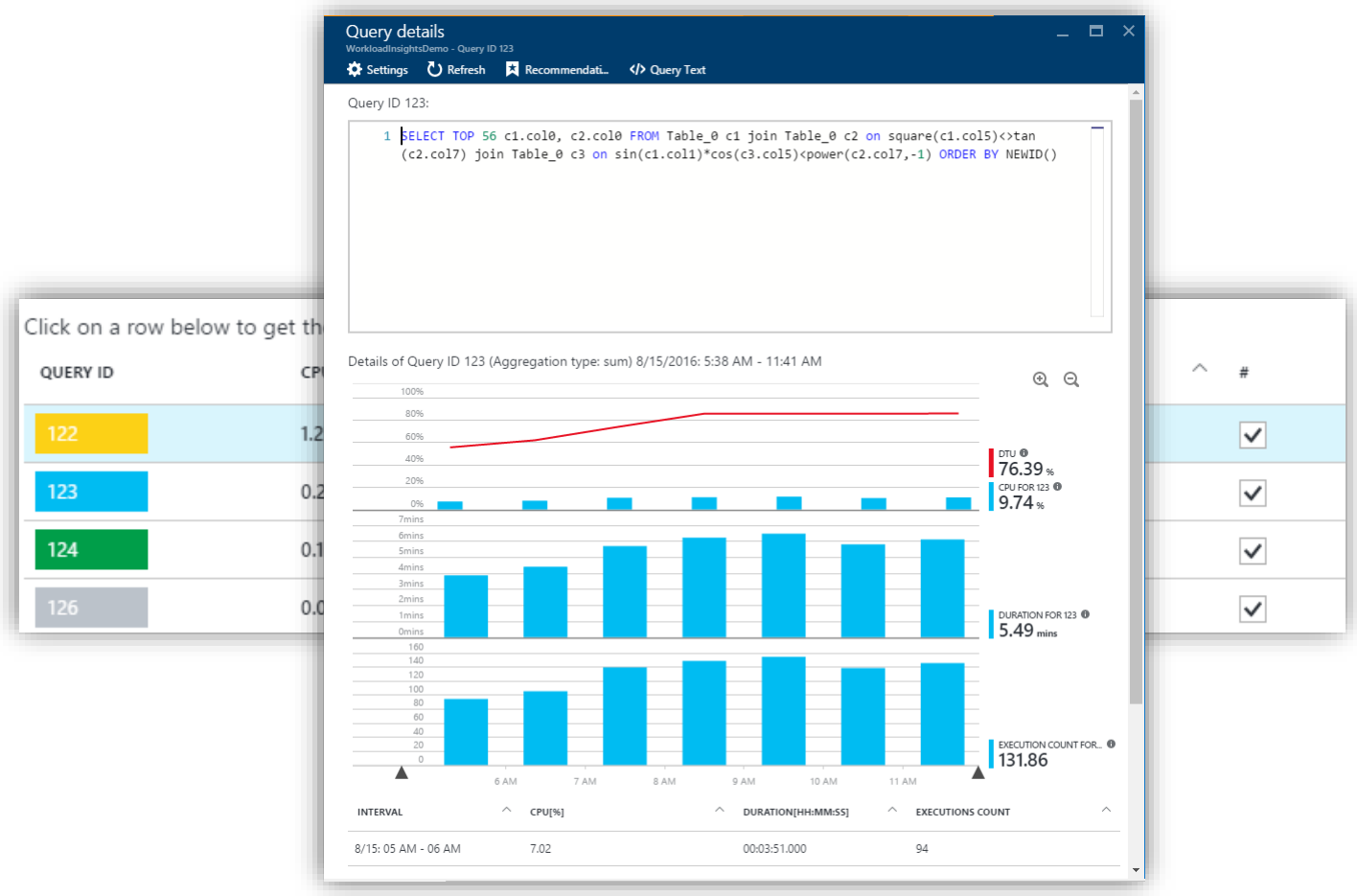
Can drill through the queries to see Query text, CPU, data IO and Log IO utilization %, Duration and Execution count.

Viewing individual query details

Get details for the individual queries

- CPU Consumption
- Duration
- Execution Count

It does not capture DDL queries

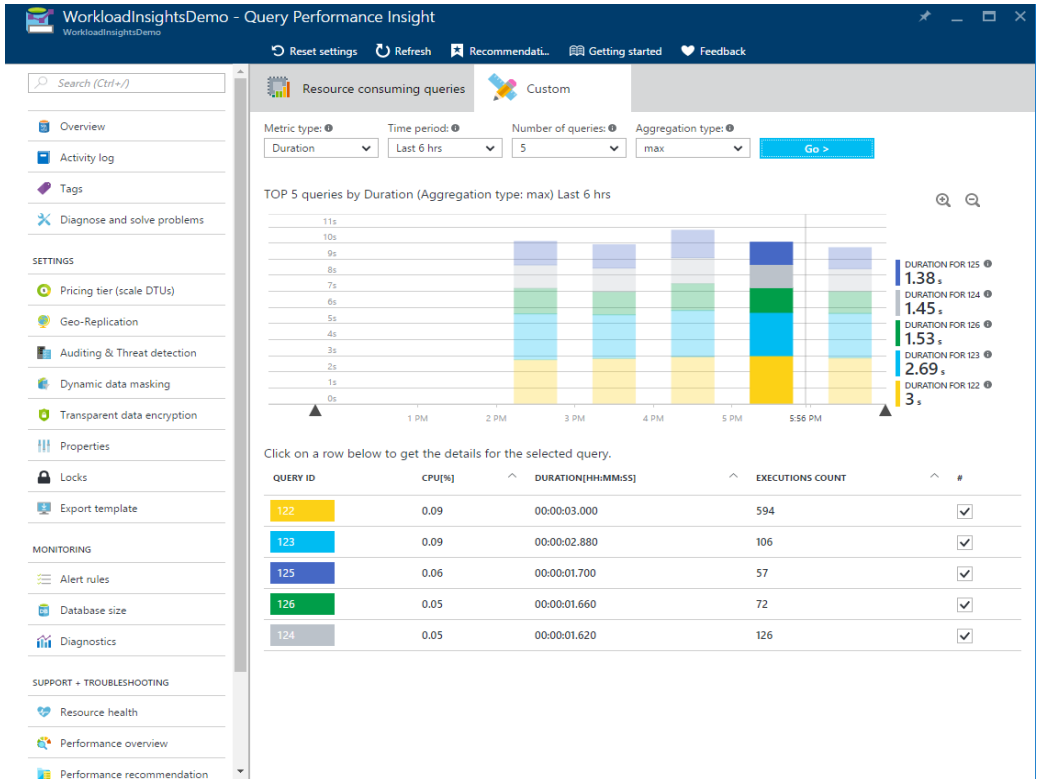


Review top queries per duration

Duration is one of the metrics showing potential bottleneck

Long-running queries has potential for:

- Longer locks
- Blocking other users
- Limiting scalability

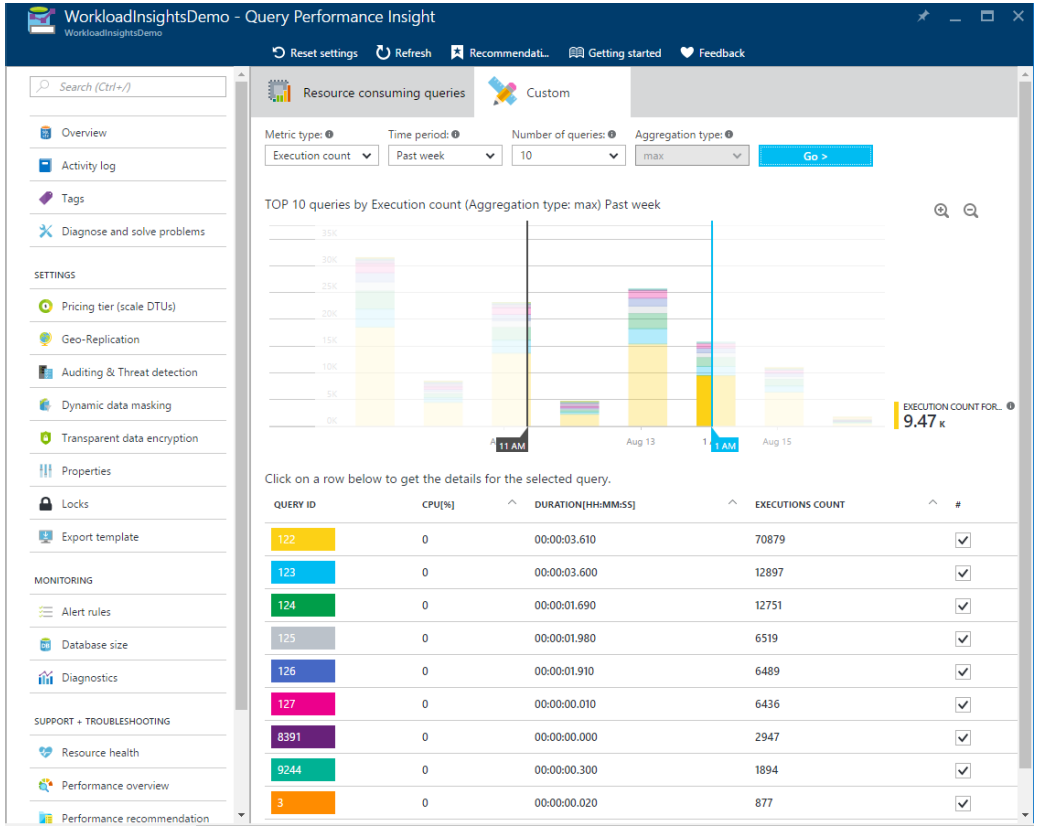


Review top queries per execution count

Execution count is one of the metrics showing potential bottleneck

High number og executions has potential for:

- Database performance
- Network latency
- Downstream server latency



Demonstration

Query Performance Insight

- Analyze the Query Performance Insight output.

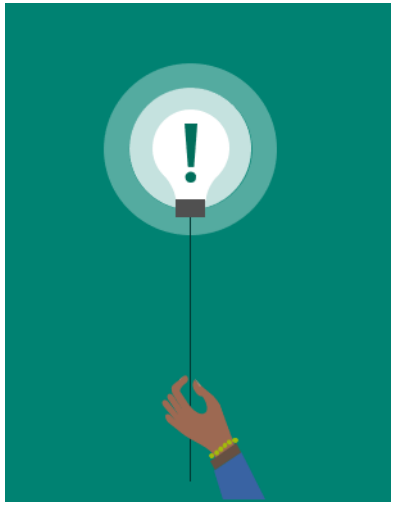
Questions?

Lesson 2: Azure SQL Automatic Tuning

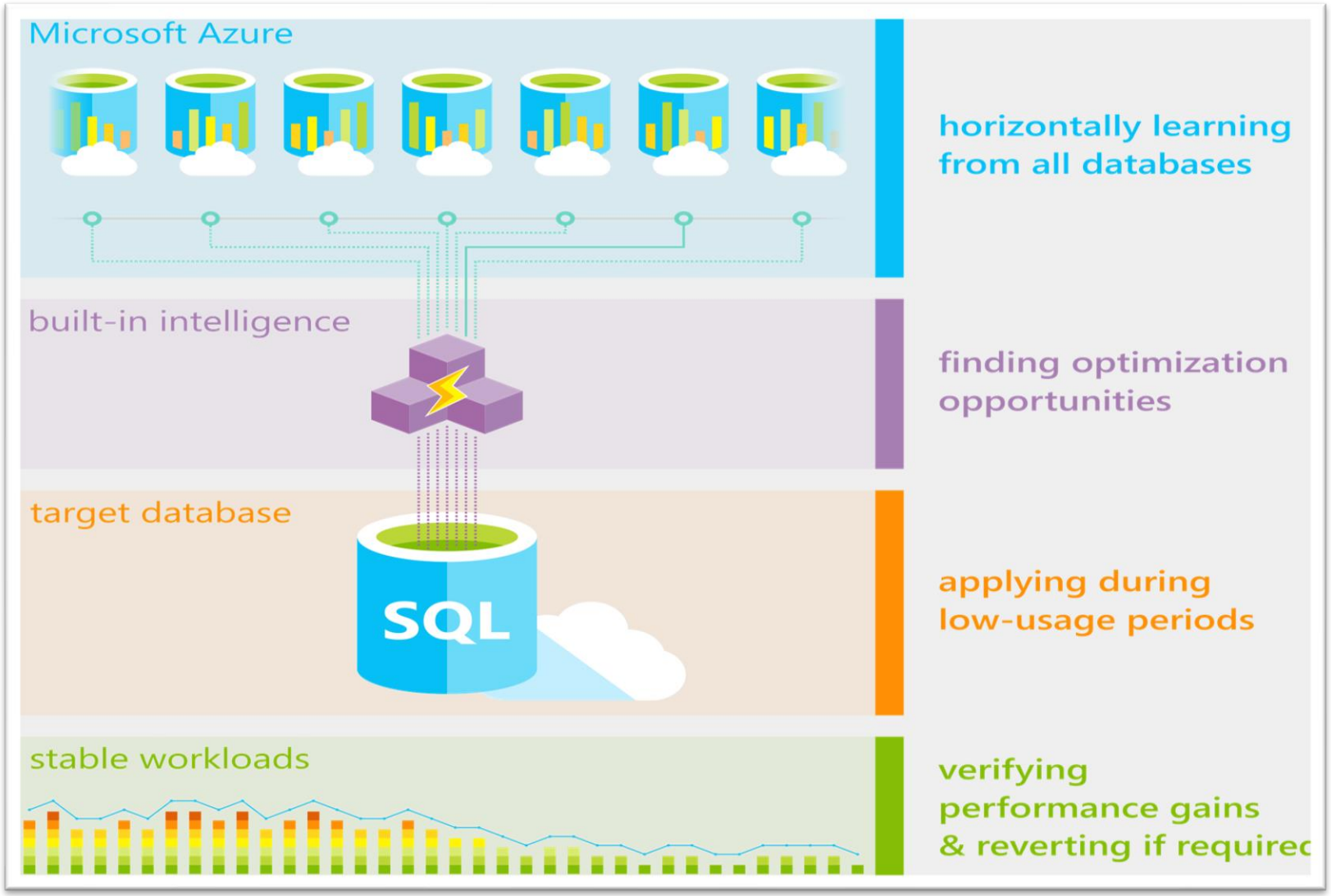
Objectives

After completing this learning, you will be able to:

- Know how Performance Recommendations can help to improve database performance.

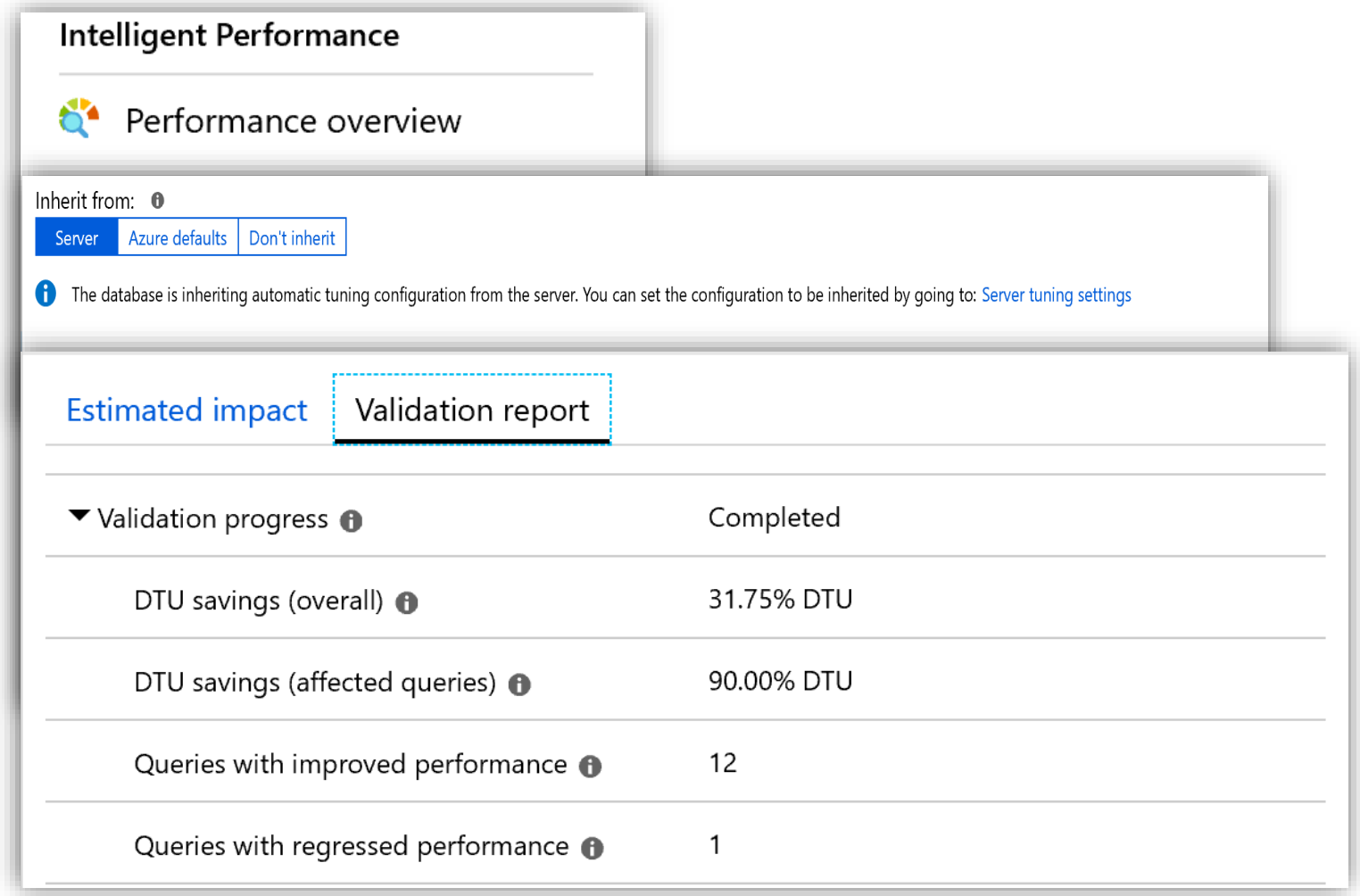


Automatic Tuning



[Performance recommendations for SQL Database]

Intelligent Performance – Automatic Tuning



http://automaticplancorrectiondemo.azurewebsites.net/index.html

Force Last Good Plan:

- Identifies regressed queries due to bad plan and replaces the bad plan with last Good Plan, validates performance improvements and reverts the change if performance does not improve.

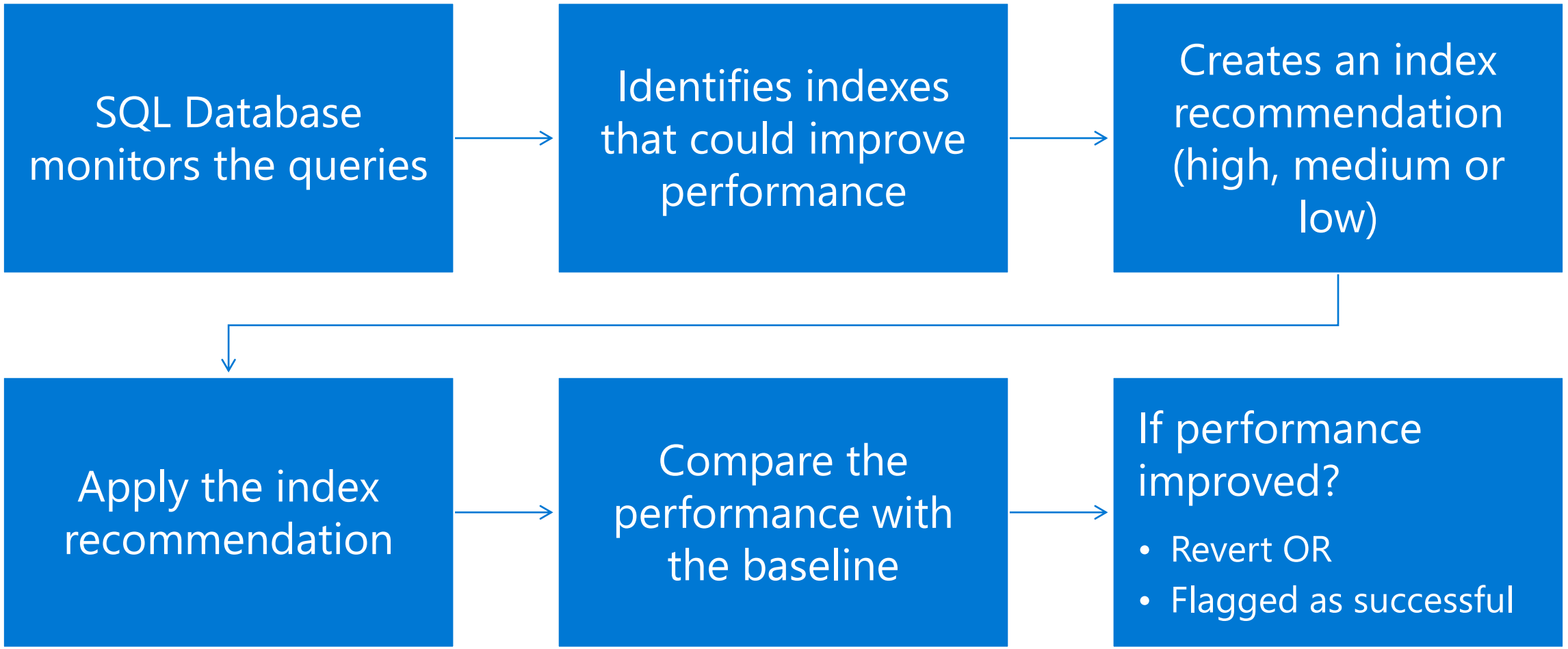
Create Index:

- Identifies and creates Indexes, validates performance improvements and reverts the change if performance degrades.

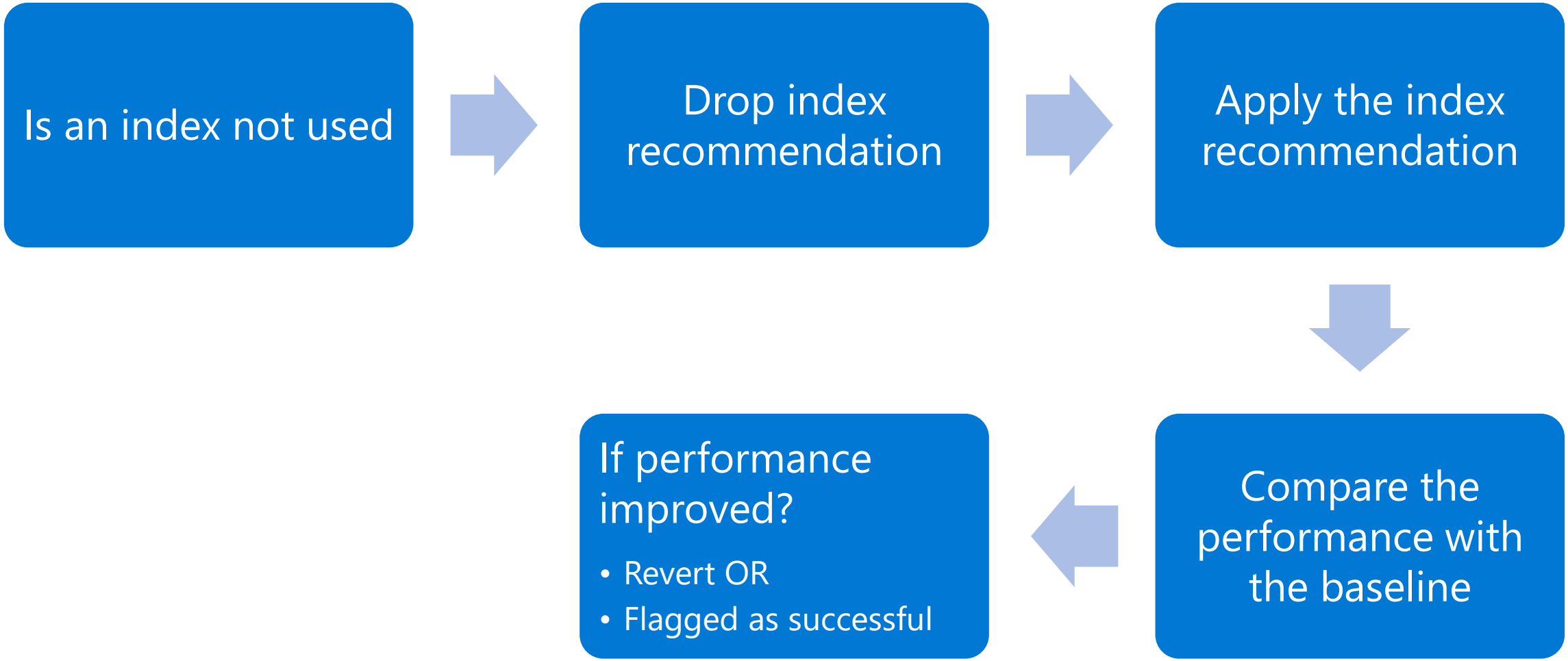
Drop Index:

- Identifies and drops unused Indexes, validates performance improvements and reverts the change if performance degrades.

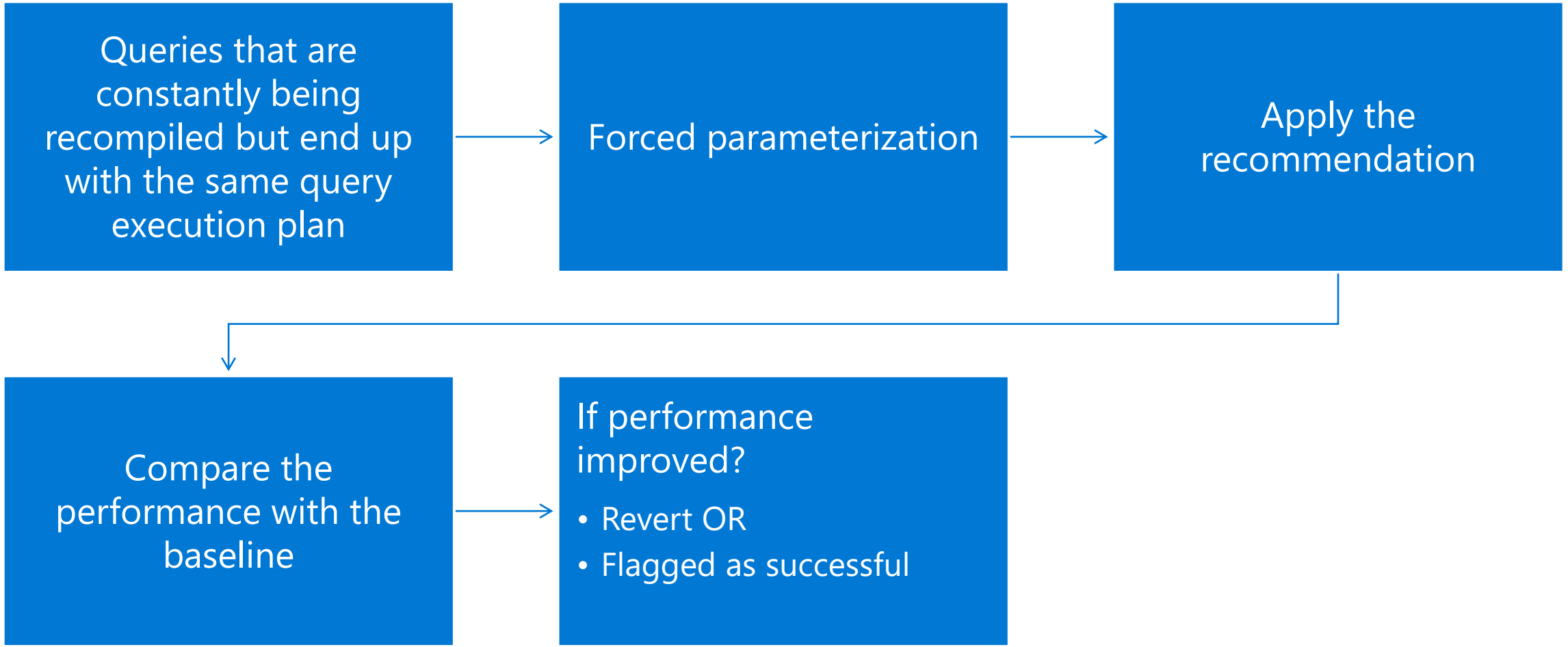
Automatic Tuning – Create Index



Automatic Tuning – Drop Index

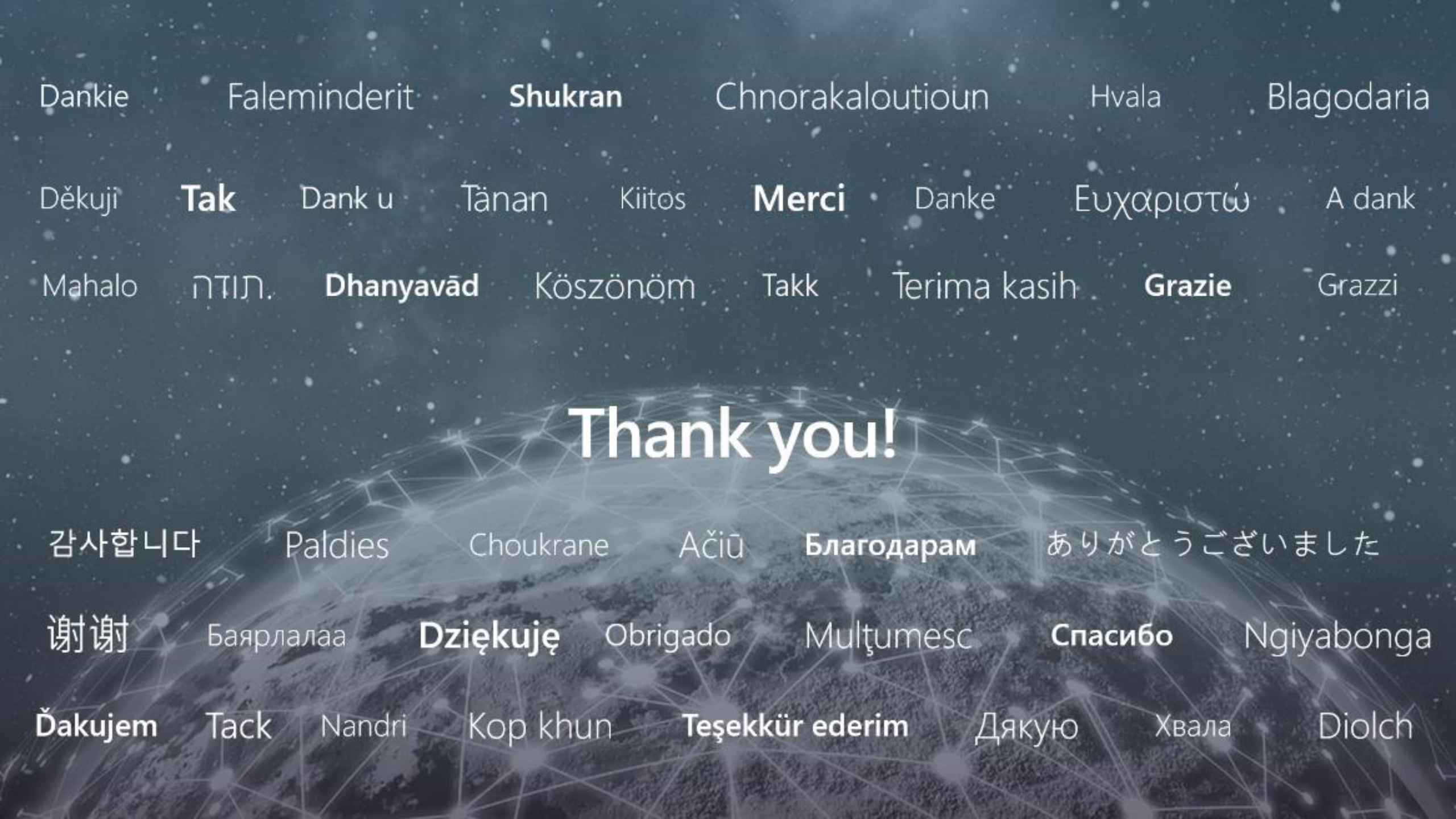


Automatic Tuning – Parameterize Queries



Questions?

Questions?


Dankie
Faleminderit
Shukran
Chnorakaloutioun
Hvala
Blagodaria
Děkuji
Tak
Dank u
Tänan
Kiitos
Merci
Danke
Ευχαριστώ
A dank
Mahalo
תודה.
Dhanyavād
Köszönöm
Takk
Terima kasih
Grazie
Grazzi
Thank you!
감사합니다
Paldies
Choukrane
Ačiū
Благодарам
ありがとうございました
谢谢
Баярлалаа
Dziękuję
Obrigado
Mulţumesc
Спасибо
Ngiyabonga
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Kop khun
Teşekkür ederim
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