SQL KONFERENZ 2026



REST APIs, AI and Vectors in SQL Server 2025

Ben Weissman (he/him)

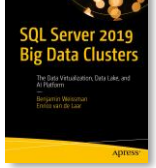
Who am I?

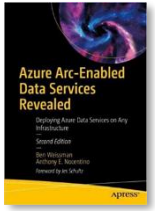
Ben Weissman (he/him)

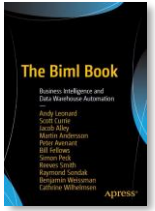
- b.weissman@solisyon.de
- @bweissman.bsky.social
- /in/weissmanben
- bweissman

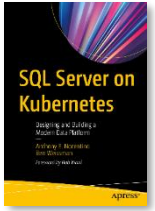


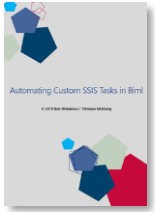


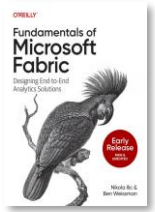












Please Talk Data To Me

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DataMinutes

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Who am I?

Ben Weissman (he/him)



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NEW STARS OF DATA

FindingData Friends

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All ways to share your thoughts, communicate, and learn are welcome!

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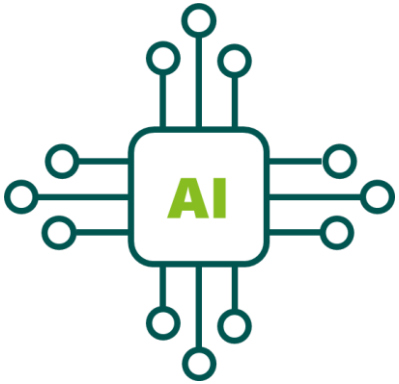


Created by DALL-E, inspired by Lisa Hoving
and https://www.facebook.com/lilpenguinstudios/

Agenda



Rest APIs



Talking to
AI Models



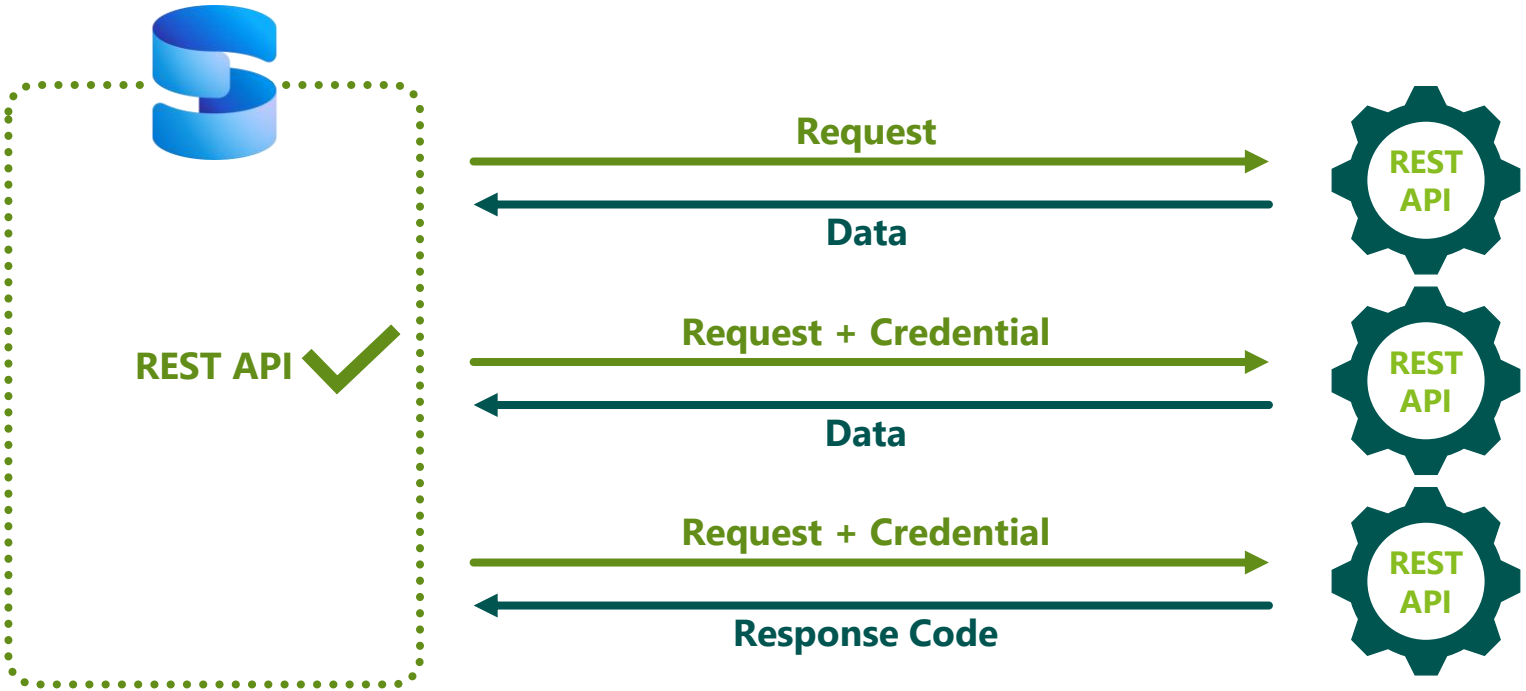
Using AI Models
to query your data

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REST APIs in SQL Server 2025

REST APIs in SQL Server 2025

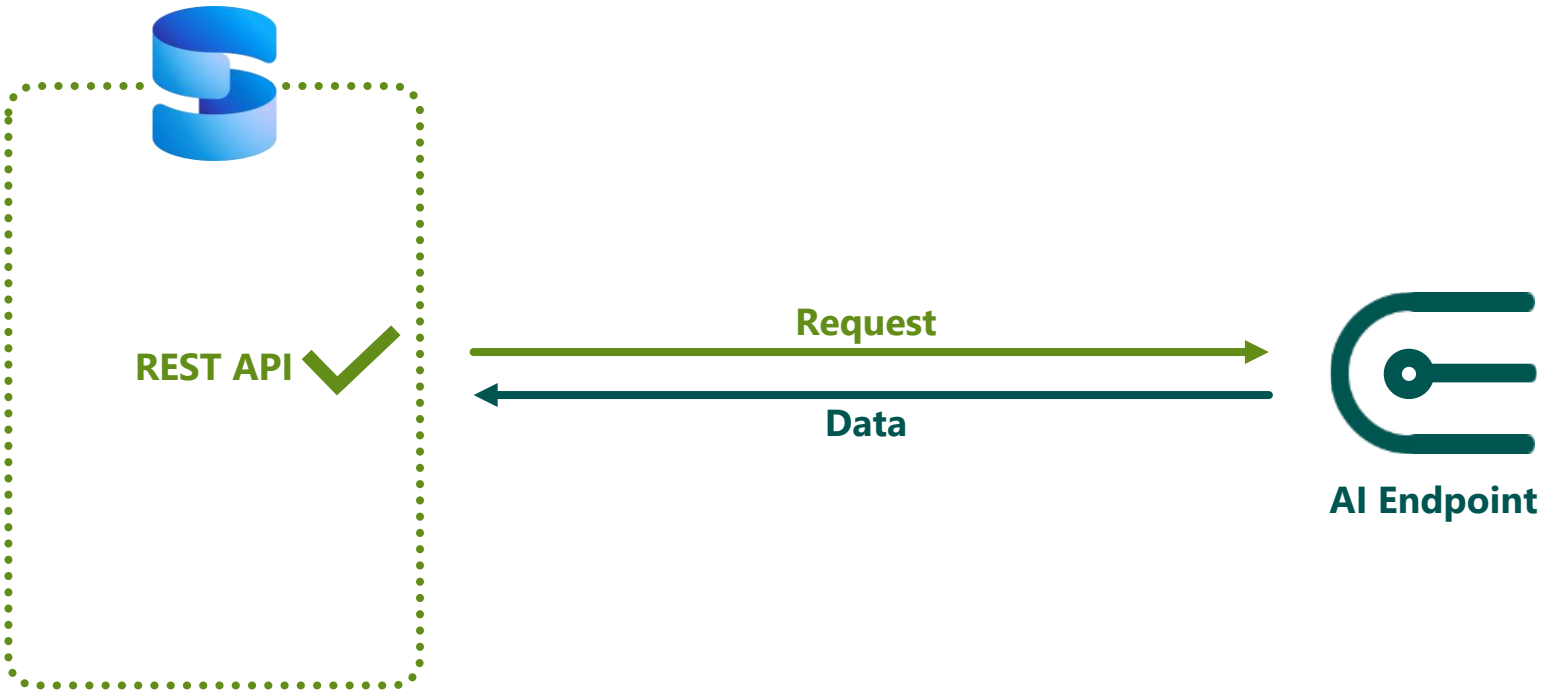


REST APIs in SQL Server 2025




```
EXEC @returnValue = sp_invoke_external_rest_endpoint
  [ @url = ] N'url'
  [ , [ @payload = ] N'request_payload' ]
  [ , [ @headers = ] N'http_headers_as_json_array' ]
  [ , [ @method = ] 'GET' | 'POST' | 'PUT' | 'PATCH' | 'DELETE' | 'HEAD' ]
  [ , [ @timeout = ] seconds ]
  [ , [ @credential = ] credential ]
  [ , @response OUTPUT ]
```

AI Integration



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Demo

REST APIs
& Talking to AI

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Vectors/ Embeddings

What's an Embedding?

A vector embedding is a way to represent data - like words, images, or documents - as numerical vectors in a multi-dimensional space, capturing their meaning or characteristics.

Similar items have embeddings that are close together, enabling tasks like search, clustering, or recommendation.

(Source: ChatGPT)



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What's an Embedding?



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What's an Embedding Vector?

Vector embedding in JSON format
(representing the word "cat" as a 5-dimensional vector)

```
{
  "item": "cat",
  "embedding": [0.12, -0.85, 0.33, 0.44, -0.27]
}
```



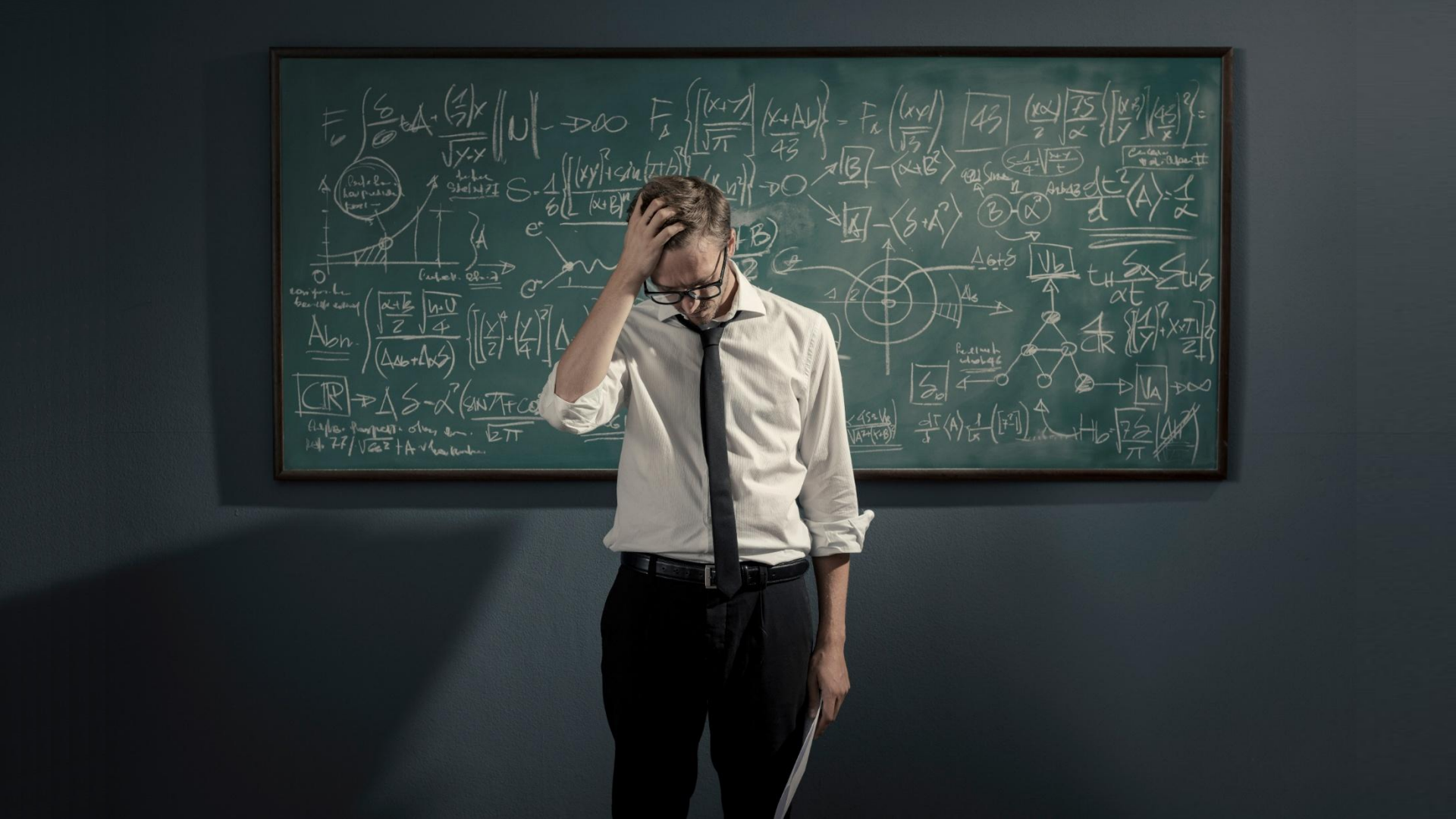
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What's an Embedding Vector?



Again, similar contexts get similar vectors

```
[
  {
    "item": "cat",
    "embedding": [0.12, -0.85, 0.33, 0.44, -0.27]
  },
  {
    "item": "dog",
    "embedding": [0.08, -0.80, 0.30, 0.50, -0.25]
  },
  {
    "item": "house",
    "embedding": [-0.45, 0.60, -0.10, 0.05, 0.90]
  }
]
```



How does that help me?



Similar content results in similar (=close) vectors.
You can find what you are looking for through context.

"I want a not so expensive bike."

vs.

```
SELECT * FROM PRODUCTS where type = 'bike' and description like '%cheap%'
```

How do I get there?



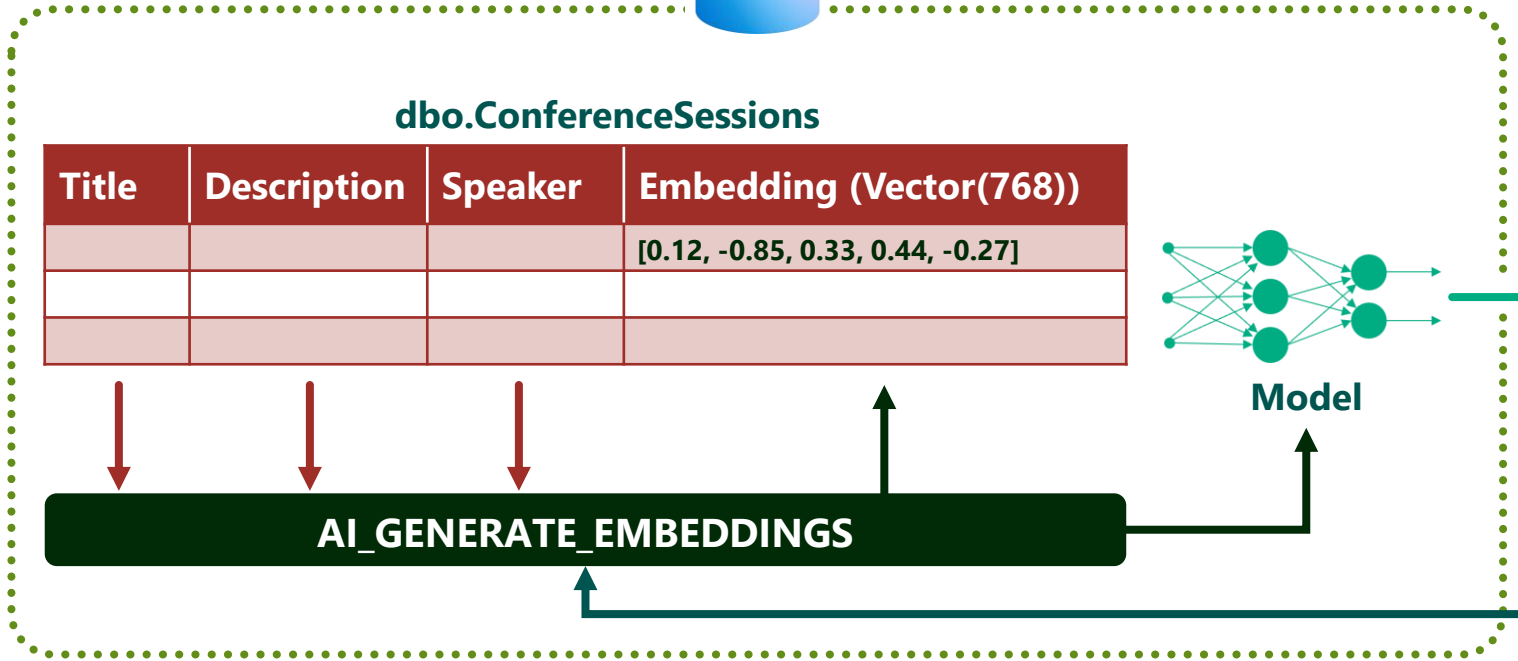
dbo.ConferenceSessions

Title	Description	Speaker

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How do I get there?





How do I query that?



"I look for a session on Embeddings?"



AI_GENERATE_EMBEDDINGS → Model → [0.12, -0.85, 0.33, 0.44, ...]

Vector

VECTOR_DISTANCE



dbo.ConferenceSessions → Search Result

Caveats and Gotchas

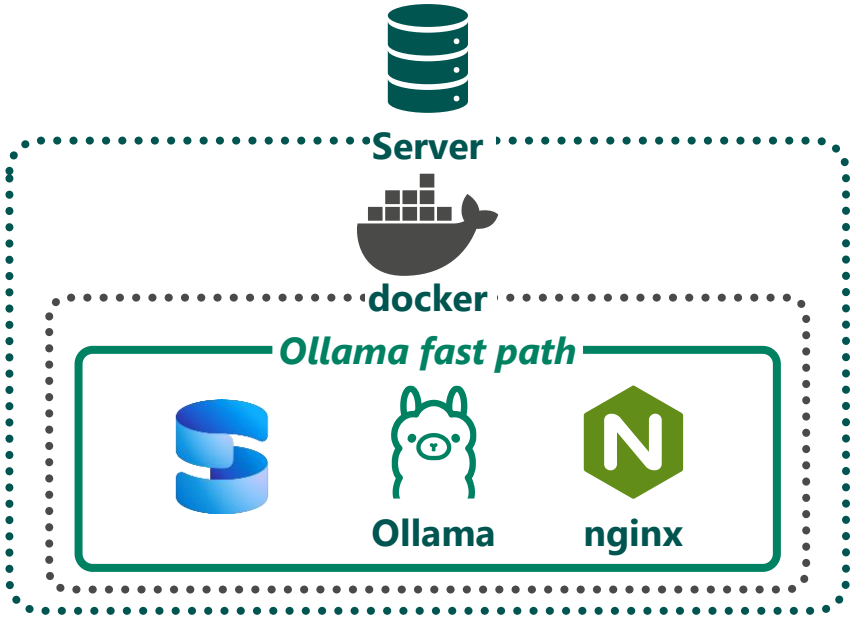


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- Embeddings take time – use GPUs
  (GPUs are “all or nothing”!)
- Be clear what goes into your embedding for context
  (Name + Bio vs. Name only)

  → consider multiple embeddings
- Same input results in same embedding
  (with same model)
- Take the time to find the right model

Installation



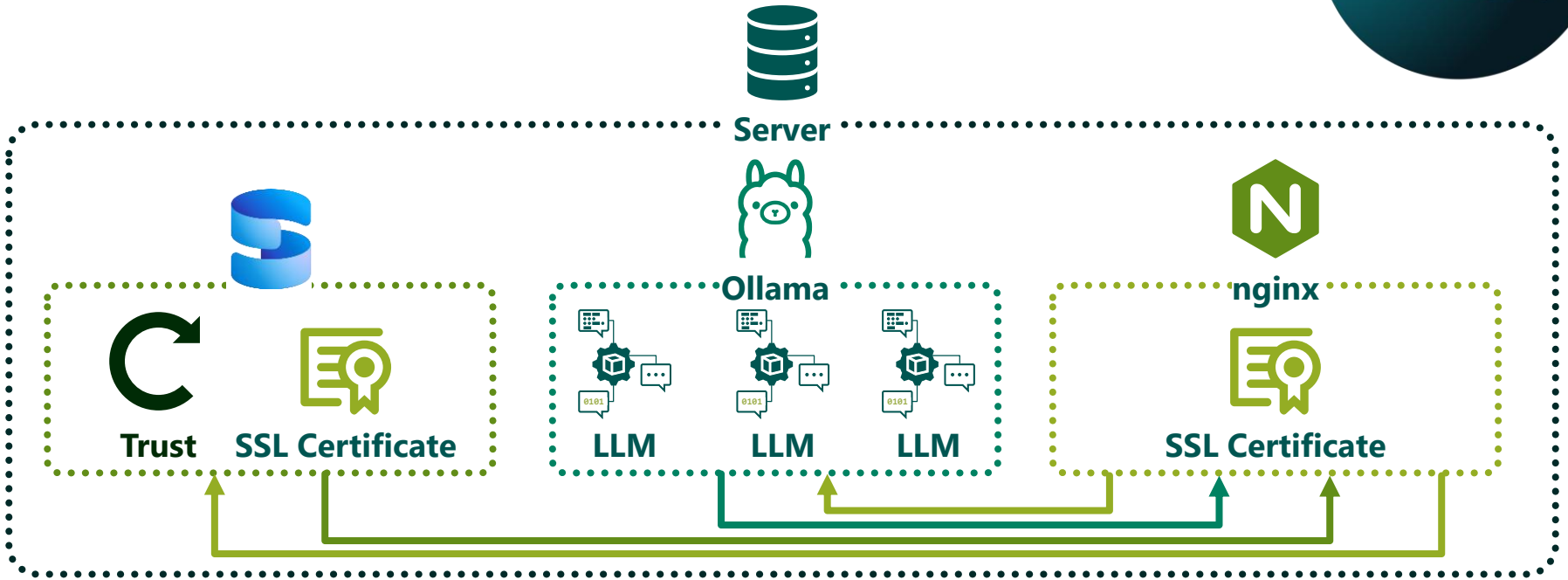
https://github.com/nocentino/ollama-sql-faststart/



https://bookmark.ws/sql25

GPUs don't work with Docker except on WSL2.

Installation



You can use alternative tools & solutions.

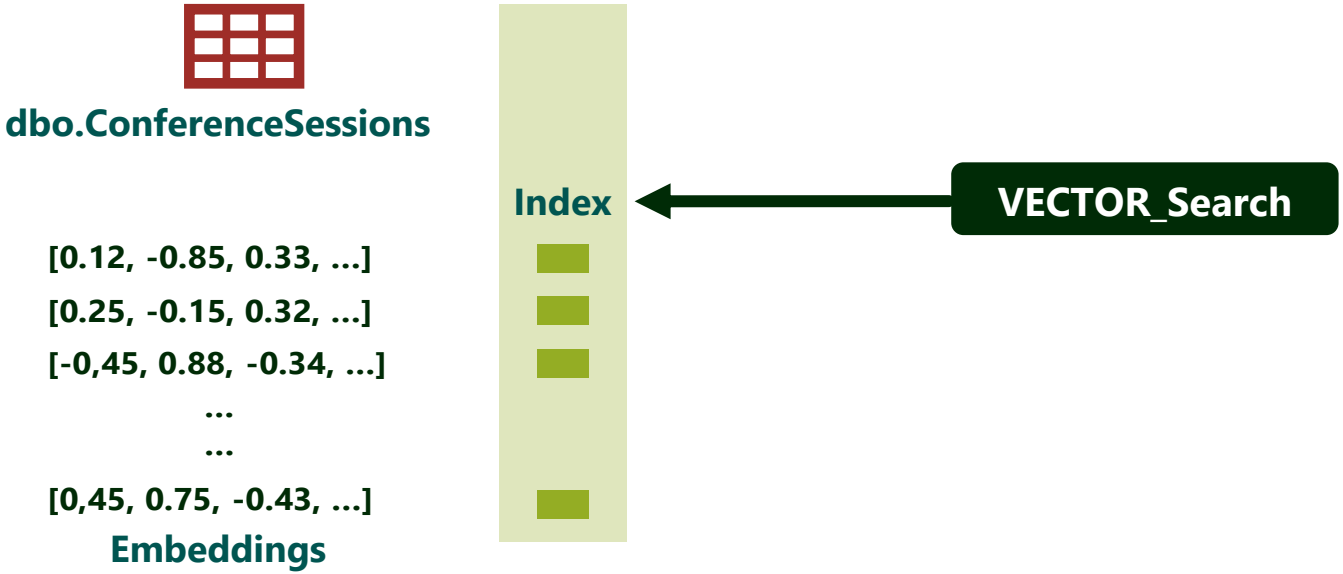
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Demo

Deploying an LLM Query using Vector Distances



Vector Indexes – ANN vs. ENN



Vector indexes make your table read only!

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Demo

Vector Search



Your feedback is welcome!

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Thank you!

Questions?



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