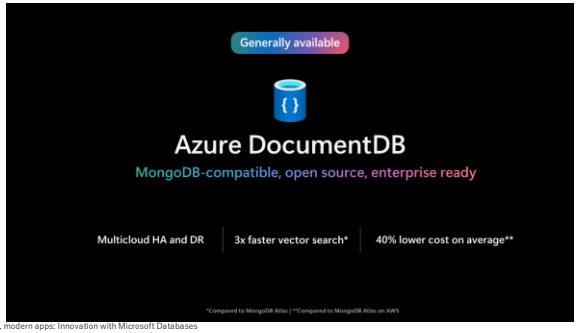
Azure DocumentDB is Now Generally Available

@第57回 Tokyo Jazug Night

Azure DocumentDB is Now Generally Available



Modern data, modern apps: Innovation with Microsoft Databases
https://ignite.microsoft.com/en-US/sessions/BRK134

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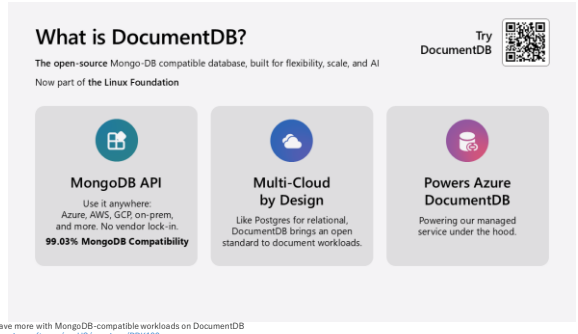

Move fast, save more with MongoDB-compatible workloads on DocumentDB
https://ignite.microsoft.com/en-US/sessions/BRK132

Azure DocumentDB is Now Generally Available

- DocumenDB
  - MongoDB 互換のドキュメントデータベース
  - 2025/01/23
    vCore-based Azure Cosmos DB の engine を OSS 化して公開
  - 2025/08/25
    Linux Foundation への参加を発表

DocumentDB: Open-Source Announcement
https://opensource.microsoft.com/blog/2025/01/23/documentdb-open-source-announcement
DocumentDB joins the Linux Foundation
https://opensource.microsoft.com/blog/2025/08/25/documentdb-joins-the-linux-foundation

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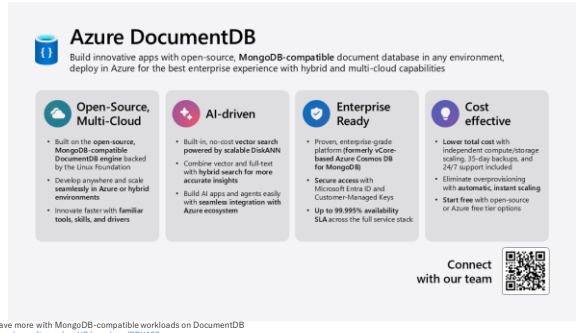

Move fast, save more with MongoDB-compatible workloads on DocumentDB
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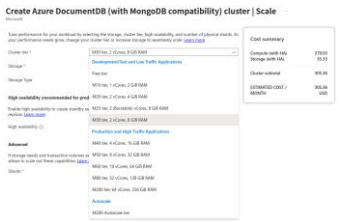
Azure DocumentDB is Now Generally Available

- Azure Updates
  - Generally Available: Azure DocumentDB - an open-source, MongoDB-compatible document database service for hybrid and multicloud
    https://azure.microsoft.com/en-us/updates/?id=523735
- Microsoft Developer Blogs
  - Azure DocumentDB is Now Generally Available
    https://devblogs.microsoft.com/cosmosdb/azure-documentdb-is-now-generally-available/

Create Azure DocumentDB cluster

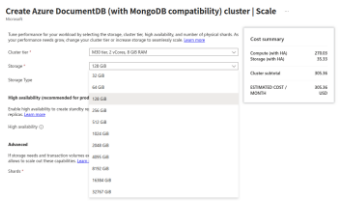
- Cluster tier
  - Free tier
  - ⋮
  - M200 tier 64 vCores, 256 GiB RAM
  - M200-Autoscale tier
- DiskANN の使用には
  M30 tier 以上が推奨



https://learn.microsoft.com/en-us/azure/documentdb/compute-storage
https://learn.microsoft.com/en-us/azure/documentdb/autoscale

Create Azure DocumentDB cluster

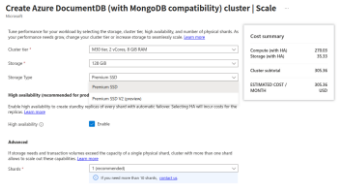
- Storage
  - 32 GiB
  - ⋮
  - 32767 GiB



https://learn.microsoft.com/en-us/azure/documentdb/compute-storage
https://learn.microsoft.com/en-us/azure/documentdb/high-performance-storage?pivots=rest-api

Create Azure DocumentDB cluster

- Storage Type
  - Premium SSD
  - Premium SSD V2 (preview)



https://learn.microsoft.com/en-us/azure/documentdb/compute-storage
https://learn.microsoft.com/en-us/azure/documentdb/high-performance-storage?pivots=rest-api

Basic Operations - Creating databases

- use mydb

https://documentdb.io/docs と https://learn.microsoft.com/en-us/azure/documentdb/vector-search?tabs=diskann を参考に作成

Basic Operations - Creating collections

- db.createCollection("testCollection")

https://documentdb.io/docs と https://learn.microsoft.com/en-us/azure/documentdb/vector-search?tabs=diskann を参考に作成

Basic Operations - Inserting documents

- db.testCollection.insertMany([

  { name: "Eugenia Lopez", bio: "CEO of AdventureWorks", is_open: 1, location: [-118.9865, 34.0145], contentVector: [0.52, 0.20, 0.23] },

  { name: "Cameron Baker", bio: "CFO of AdventureWorks", is_open: 1, location: [-0.1278, 51.5074], contentVector: [0.55, 0.89, 0.44] },

  { name: "Jessie Irwin", bio: "Director of Our Planet initiative", is_open: 0, location: [-118.9865, 33.9855], contentVector: [0.13, 0.92, 0.85] },

  { name: "Rory Nguyen", bio: "President of Our Planet initiative", is_open: 1, location: [-119.0000, 33.9855], contentVector: [0.91, 0.76, 0.83] },

])

https://documentdb.io/docs と https://learn.microsoft.com/en-us/azure/documentdb/vector-search?tabs=diskann を参考に作成

Basic Operations - Querying documents

- // Find all documents
  db.testCollection.find()

- // Find with criteria
  db.testCollection.find({ name: "Eugenia Lopez" })

https://documentdb.io/docs と https://learn.microsoft.com/en-us/azure/documentdb/vector-search?tabs=diskann を参考に作成

Create a DiskANN vector index

```
db.runCommand({
    createIndexes: "testCollection",
    indexes: [
        {
            name: "DiskANNVectorIndex",
            key: {
                contentVector: "cosmosSearch",
            },
            cosmosSearchOptions: {
                kind: "vector-diskann",
                dimensions: 3,
                similarity: "COS",
                maxDegree: 32,
                lBuild: 64,
            },
        },
    ],
})
```

https://documentdb.io/docs と https://learn.microsoft.com/en-us/azure/documentdb/vector-search?tabs=diskann を参考に作成

Perform a vector search

```
db.testCollection.aggregate([
    {
        $search: {
            cosmosSearch: {
                path: "contentVector",
                vector: [0.52, 0.28, 0.12],
                k: 5,
            },
        },
    },
])
```

https://documentdb.io/docs と https://learn.microsoft.com/en-us/azure/documentdb/vector-search?tabs=diskann を参考に作成

まとめ

- Azure DocumentDB is Now Generally Available

- Azure DocumentDB について
  基本的なクエリと
  DiskANN を使用した Vector-Search を実行