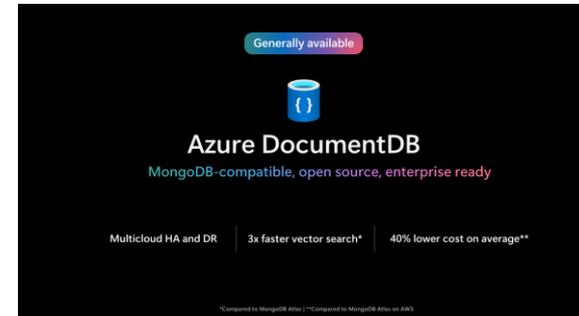


Azure DocumentDB is Now Generally Available

@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>

*Compared to MongoDB Atlas. **Compared to MongoDB Atlas on AWS

Azure DocumentDB is Now Generally Available

An infographic titled "What is DocumentDB?". It features a QR code and the text "Try DocumentDB". Below the title, it says "The open-source MongoDB-compatible database, built for flexibility, scale, and AI" and "Now part of the Linux Foundation". There are three main sections: 1. "MongoDB API" with a blue icon, stating "Use it anywhere: Azure, AWS, GCP on-prem, and more. No vendor lock-in. 99.03% MongoDB Compatibility". 2. "Multi-Cloud by Design" with a blue icon, stating "Like Postgres for relational, DocumentDB brings an open standard to document workloads." 3. "Powers Azure DocumentDB" with a purple icon, stating "Powering our managed service under the hood."

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

Azure DocumentDB is Now Generally Available

- DocumentDB
 - 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>

Azure DocumentDB is Now Generally Available

Azure DocumentDB
Build innovative apps with open-source, MongoDB-compatible document database in any environment, deploy in Azure for the best enterprise experience with hybrid and multi-cloud capabilities

- Open-Source, Multi-Cloud**
 - Built on the open-source, MongoDB-compatible DocumentDB engine backed by the Linux Foundation
 - Develop anywhere and scale seamlessly in Azure or hybrid environments
 - Innovate faster with familiar tools, skills, and drivers
- AI-driven**
 - Built-in, no-cost vector search powered by scalable DISAANA
 - Combine vector and full-text with hybrid search for more accurate insights
 - Build AI apps and agents easily with seamless integration with Azure ecosystem
- Enterprise Ready**
 - Proven, enterprise-grade platform formerly vCore-based Azure Cosmos DB for MongoDB
 - Secure access with Microsoft Entra ID and Customer-Managed Keys
 - Up to 99.995% availability SLA across the full service stack
- Cost effective**
 - Lower total cost with independent compute/storage scaling, 35-day backups, and 24/7 support included
 - Eliminate overprovisioning with automatic, instant scaling
 - Start free with open-source or Azure free tier options

Connect with our team

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

5

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/>

6

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>

7

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?spots=rest-api>

8

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?pivot=rest-api>

9

Basic Operations - Creating databases

- use mydb

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

10

Basic Operations - Creating collections

- db.createCollection("testCollection")

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

11

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> & <https://learn.microsoft.com/en-us/azure/documentdb/vector-search?tabs=diskann> を参考に作成

12

Basic Operations - Querying documents

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

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



13

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> & <https://learn.microsoft.com/en-us/azure/documentdb/vector-search?tabs=diskann> を参考に作成



14

Perform a vector search

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

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



15

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



16