

MongoDB Atlas on Microsoft Azure: Powering Intelligent Applications

Choosing the right database is crucial for building AI solutions today and preparing for the agentic systems of tomorrow.

Unlike traditional machine learning, which relies on passive automation, AI agents are designed for self-directed decision-making. They learn from interactions, adapt in real time, and continuously refine their responses as new data emerges.

MongoDB's document model is designed from the ground up for scalability and versatility, providing the perfect foundation for the AI-driven applications of today and the agentic systems of the future.

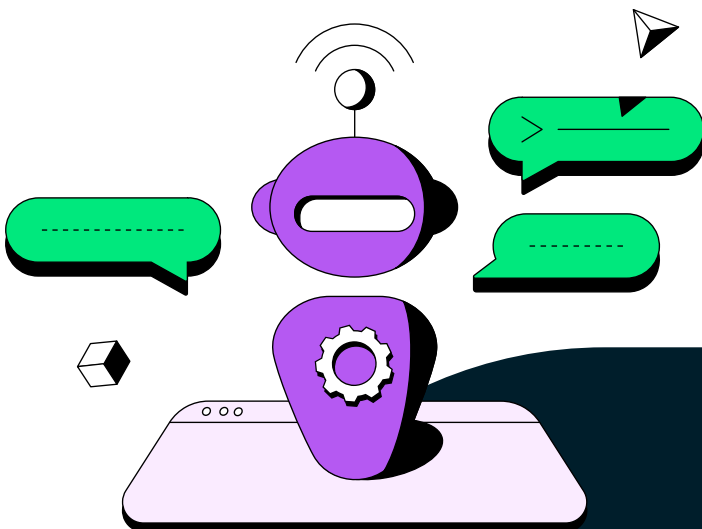
MongoDB Atlas is also deeply integrated into the Microsoft Intelligent Data Platform.

As a result, with MongoDB Atlas on Azure, enterprises can unify all their operational and AI-related data in a single database, then use it to quickly launch apps powered by Microsoft Azure's AI, security, infrastructure, and development services.

Using MongoDB Atlas on Azure, customers can build intelligent applications with:

- **Flexibility That Scales.** The MongoDB Atlas document model has the flexibility to handle even the most diverse and changing data types. Because the document model and its inherent flexibility supports dynamic schemas, developers can adapt data models on the fly without costly schema changes, data migrations, or application downtime. This flexibility complements Azure's broad range of services, enabling the development of sophisticated, enterprise-ready applications.
- **Pre-Built Connectors.** MongoDB Atlas easily and securely integrates with Azure AI services such as Azure AI Foundry and Azure OpenAI. Developers also get a direct connection to Microsoft Fabric via OneLake, which facilitates data transfer to analytics tools such as Power BI, Analytics, or Data Factory. When combined, these tools can analyze historical data and provide real-time intelligence, essential for powering machine learning and building the agentic services of tomorrow.

With MongoDB Atlas on Azure, developers can focus on innovation and shipping products while reducing technical debt and operational overhead.



Developer-Centric Integrations

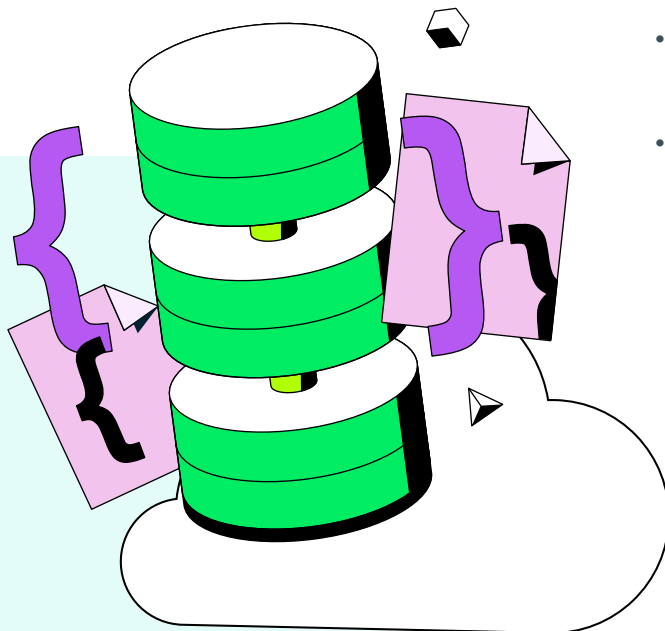
Building Innovative Solutions with MongoDB on Azure

Several recent integrations between MongoDB Atlas and Microsoft Azure offer a myriad of practical benefits for developers.

1. MongoDB Atlas with Azure AI Foundry. With this integration, developers can leverage their MongoDB data effectively in conjunction with Azure AI Foundry to create more powerful and insightful AI applications.

Key benefits include:

- **Enhanced Retrieval-Augmented Generation (RAG).** Build AI applications that provide more accurate, relevant, and contextually rich responses grounded in enterprise data.
- **Reduced Architectural Complexity and Cost.** Store vector data alongside operational data in MongoDB Atlas to minimize architectural complexity and costs.
- **Improved Performance and Scalability.** MongoDB Atlas native vector search ensures efficient and scalable performance without impacting operational workloads.
- **Enhanced Security and Reliability.** Microsoft Azure's enterprise-grade security and MongoDB Atlas's robust design keep generative AI applications safe and stable.



2. Microsoft Fabric Mirroring with MongoDB Atlas.

With mirrored data, developers can easily build data-driven applications with real-time insights within the Microsoft Fabric environment.

Developers will also have access to:

- **Near Real-Time Data Sync.** Changes in MongoDB Atlas are reflected in Microsoft Fabric's OneLake in near real-time, enabling up-to-date insights and analysis.
- **Simplified ETL.** Mirroring automatically handles data format conversion and schema changes, eliminating the need for complex Extract, Transform, and Load (ETL) processes.
- **Spark, SQL, and AI/ML Integration.** Utilize Fabric's tools such as Spark, SQL, SynapseML, and KQL for advanced analytics, AI/ML model training, and real-time intelligence on the mirrored data.
- **Easy Setup.** A simple Python script or ARM template automate the setup and deployment of the mirroring solution.

3. MongoDB Enterprise Advanced on Azure Marketplace for Azure Arc.

With this integration, developers can deploy and manage MongoDB in any environment (on-premise, multi-cloud, or edge) using Azure Arc-enabled Kubernetes. This provides greater flexibility and control for managing MongoDB deployments with:

- **Simplified AI integration** for easier access to powerful AI tools and LLMs.
- **Streamlined data analysis** and efficient data workflows between MongoDB and Microsoft Fabric.
- **Flexible deployment options** for more control over where and how MongoDB is deployed.

Additional Integrations to Simplify Development

In addition to the above, MongoDB Atlas features a wide variety of integrations across App Development, Development Frameworks, Developer Tooling, Data & Analytics, and security and governance services, to use the best of MongoDB and Microsoft together, including:

Application Development. Build scalable, intelligent apps more easily and faster with developer-friendly services, including Azure Functions and Azure App Services.

Development Frameworks. Semantic Kernel and Entity Framework Core Provider.

Developer Tooling. Simplify writing code for MongoDB-based apps with modern tools and gen AI technologies such as VS Code Extension.

Data & Analytics. Integrate seamlessly with analytical services to improve data-driven decision-making, including Power BI and Azure Data Studio.

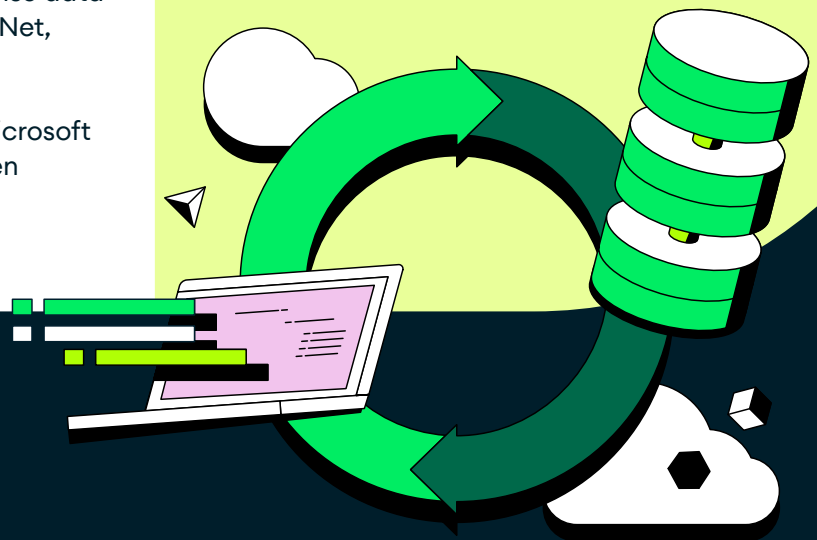
Security & Governance. Easily combine enterprise data security tools from MongoDB Atlas with Azure VNet, Private Link, Key Vault, and Microsoft Entra ID.

By combining the strengths of MongoDB and Microsoft Azure, developers can build modern, data-driven applications without the headache of complex data pipelines.

Experience the MongoDB Atlas Difference on Azure

Unlike other complex and siloed solutions, MongoDB Atlas is:

-  **Developer-Friendly:** A flexible document model database with a comprehensive suite of tools and services streamline application development and management.
-  **AI and Analytics Ready:** Native support for vector search, seamless integration with Azure's AI and analytics services, and real-time data analysis capabilities make actionable insights a reality.
-  **Scalable and Performant:** MongoDB's distributed architecture, combined with Azure's robust infrastructure, ensures high availability, durability, scalability, and security, even for demanding workloads.



A Truly Seamless Solution

Developers can build comprehensive AI-ready solutions by leveraging the scalability and flexibility of MongoDB Atlas' document model, combined with Microsoft Azure's robust security and governance services. The streamlined integration between MongoDB Atlas and Microsoft Azure simplifies the development of modern, data-driven applications and minimizes the complexities of data pipelines. This unified solution accelerates AI initiatives and unlocks new possibilities for developers, with full support from both MongoDB Atlas and Microsoft Azure.

Ready to harness the power of MongoDB Atlas on Microsoft Azure? [Learn more here.](#)