MCP SERVER | NO CODE | CLOUD HOSTED

Oracle Vector DB MCP

Run sophisticated vector searches right from your agent.

Oracle Vector DB MCP connects your AI agent directly to Oracle Database 23ai's native vector capabilities. You can execute complex VECTOR_DISTANCE similarity searches, inspect schema details, and manage indexes—all from natural conversation. It lets ML engineers test RAG pipelines and data teams run advanced analytics without context switching.

A+ Quality Score 100/100

vector-database | sql | rag | machine-learning | database-administration | similarity-search

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vinkius.com/mcp/oracle-vector-db

SCAN TO VIEW

The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

> *The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.*
>
> — Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT

```
https://edge.vinkius.com/{token}/mcp
```

Claude · Cursor · VS Code · Windsurf · Grok · Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

06 — Honeytoken Trap System

Phantom credentials are injected into isolated environments. If a honeytoken is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1) Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

> Get started at **cloud.vinkius.com** — connect your AI agent in under 60 seconds.

Oracle Vector DB MCP

7 tools available
Cloud-hosted on Vinkius

This MCP brings deep database functionality into your AI agent workflow. Your agent can run native Oracle 23ai VECTOR_DISTANCE queries using cosine or Euclidean metrics against any table containing vector columns. Need to know what's in the schema? You can list all tables and describe column types, making sure to spot those key VECTOR-enabled columns for embedding storage. If you need raw data, execute arbitrary SQL queries through ORDS for ad-hoc analysis. Beyond querying, your agent handles index management, allowing it to list specialized AI vector indexes (HNSW or IVF) and check overall table statistics. It's all integrated via Vinkius, giving you full control over complex database operations without writing a single line of boilerplate code.

Core Capabilities

01 — Run Vector Similarity Searches

Execute native Oracle 23ai VECTOR_DISTANCE queries using cosine or Euclidean metrics against specified vector columns.

02 — Inspect Database Schema

List accessible tables and describe column types, identifying which ones store vector embeddings.

03 — Execute Arbitrary SQL Queries

Run custom SQL queries against the Oracle runtime environment for general data retrieval and analysis.

04 — Manage Vector Indexes

List all instantiated AI vector search indexes, such as HNSW or IVF, across your database tables.

05 — Retrieve Database Statistics

Get table cardinality and optimizer statistics to plan for capacity and tune query performance.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/oracle-vector-db** — connect your AI agent in three steps.

01 Subscribe the MCP using your Oracle ORDS URL, Schema, Username, and Password credentials.

02 Connect your preferred AI client (like Cursor or Claude) to this MCP via Vinkius.

03 Instruct your agent to perform a task, such as 'Find documents similar to X' or 'List all tables with vector columns.' The tool executes the necessary database call.

The bottom line is that you speak naturally to your AI client, and it translates those requests into complex, secure Oracle database actions.

Built For

ML engineers who need to test RAG pipelines on production data; DBAs who want conversational ways to inspect vector indexes; or data scientists running ad-hoc analyses against structured records.

Machine Learning Engineer

Testing embedding queries and similarity searches using the `vector_search` tool during RAG pipeline development.

Database Administrator (DBA)

Using tools like `list_tables` and `table_stats` to inspect vector indexes, schema configurations, and overall table health through conversation.

Data Scientist

Running complex ad-hoc reports using `execute_sql_query`, or finding related knowledge by running a similarity search.

What Changes When You Connect

01 You get to run advanced, native VECTOR_DISTANCE queries directly through your AI client. This means you can test complex retrieval-augmented generation (RAG) patterns without writing code or switching tools.

02 Instead of manually checking SQL Developer, you simply ask the MCP to list tables and describe columns. It's instant visibility into which data sets are ready for embedding storage.

03 Complex database operations—like running arbitrary queries using `execute_sql_query`—are handled conversationally. You just tell your agent what data you need, and it gets it.

04 The MCP manages index overhead by letting you list specialized AI vector indexes (`list_vector_indexes`). This gives ML engineers clear visibility into the performance infrastructure.

05 You can plan for growth using `table_stats`. Instead of guessing if a table is large enough, your agent checks its actual cardinality and optimizer statistics.

Real-World Applications

Finding related documents in an enterprise knowledge base

A data scientist needs to find documentation related to 'API Rate Limits' from a massive set of records. They ask their agent, which uses `vector_search` with cosine distance, and immediately gets the top 5 most relevant document IDs and snippets.

Auditing vector index setup on a new database

A DBA wants to verify if all necessary indexes are in place for a project. They instruct their agent to run `list_vector_indexes` and check the schema using `describe_table`, confirming both the structure and the indexing status.

Running ad-hoc financial reports

A business analyst needs to quickly count records for a specific quarter that aren't covered by standard dashboards. They use the agent to run an `execute_sql_query` on the raw transaction table, getting immediate counts and aggregates.

Verifying database feature compatibility

An ML engineer is setting up a new RAG pipeline and needs confidence that the target Oracle instance supports the latest features. They ask the agent to run `get_database_version` and check for vector support.

Patterns to Avoid

Trying to write complex SQL manually

✗ AVOID

Opening a separate terminal or IDE, writing out the full query syntax, handling quoting issues, and then running it piece by piece.

✓ INSTEAD

Just tell your agent what you need. Use `execute_sql_query` in natural language; the MCP handles translating that into precise, runnable SQL.

Ignoring index status

✗ AVOID

Assuming a table has proper vector indexing simply because it contains VECTOR columns, leading to slow or failed searches.

✓ INSTEAD

Always run `list_vector_indexes` first. This confirms if the necessary HNSW or IVF indexes are actually instantiated on your tables.

Forgetting context details

✗ AVOID

Asking the agent to search a table without knowing its structure, resulting in an error because it doesn't know which columns exist.

✓ INSTEAD

Start by running `describe_table` on that dataset. You can then use this schema information when constructing your `vector_search` query.

The Right Fit

Use this MCP if you need to treat your Oracle Database 23ai as a live, actionable data source for your AI agent. This is ideal for ML engineers building RAG systems or DBAs needing conversational oversight of vector assets. Don't use it if all you need is simple key-value lookups that don't involve complex structured data analysis or similarity search; then perhaps an external document storage tool suffices. You must use this MCP when your process requires running `VECTOR_DISTANCE` queries, managing HNSW indexes, or executing general SQL against the source of truth.

Database access used to mean leaving your AI workspace

Today, if you want your agent to query a production database, you're out of luck. You have to copy the data into memory or use complex connectors that force context switching, breaking your flow between analysis and writing.

Now, this MCP keeps the connection live. Your AI client talks directly to Oracle via these tools. It lets you run advanced operations like `vector_search` without ever leaving your agent's chat window.

Accessing Data Structures with Oracle Vector DB MCP

Manual data exploration requires logging into a separate tool, running `list_tables`, then opening another tab to run schema details via `describe_table`, and finally writing the SQL query manually.

With this MCP, you simply ask your agent. It handles the full sequence—listing, describing, executing, or searching—and returns the final answer in plain text.

Oracle Vector DB: 7 Tools Available

These tools allow you to query the database schema, run complex SQL queries, and execute advanced vector distance calculations natively within your AI client.

#	TOOL	DESCRIPTION
01	`list_tables`	Lists every table available in the current Oracle schema for immediate reference.
02	`describe_table`	Provides a detailed breakdown of a specific table's columns and their explicit data types, including VECTOR fields.
03	`execute_sql_query`	Allows you to run any arbitrary SQL query against the Oracle runtime environment via ORDS.
04	`vector_search`	Performs a vector similarity search using native Oracle 23ai VECTOR_DISTANCE on designated columns.
05	`list_vector_indexes`	Retrieves a list of specialized AI vector indexes (HNSW, IVF) that have been created across your tables.
06	`table_stats`	Gathers crucial data on table cardinality and optimizer statistics for performance planning.
07	`get_database_version`	Returns the exact Oracle DB Runtime version banner, verifying compatibility with 23ai features.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U Show me all tables in my schema that have VECTOR columns.

Found 3 tables with VECTOR columns. 1) DOCUMENTS — columns: ID (NUMBER), CONTENT (CLOB), EMBEDDING (VECTOR(1536)), 82,400 rows. 2) PRODUCTS — columns: ID, NAME, FEATURES_VECTOR (VECTOR(768)), 5,200 rows. 3) FAQ_ENTRIES — columns: ID, QUESTION, ANSWER_EMBEDDING (VECTOR(384)), 1,100 rows. Want me to search one?

U Find the 5 most similar documents to this embedding using cosine distance.

Top 5 results from DOCUMENTS table (cosine): 1) Doc #4521 — 'API Rate Limits Overview', distance: 0.034. 2) Doc #1892 — 'Authentication Flow Guide', distance: 0.089. 3) Doc #7301 — 'Error Handling Reference', distance: 0.112. 4) Doc #2244 — 'SDK Quickstart', distance: 0.145. 5) Doc #9010 — 'Webhook Setup', distance: 0.178.

U What version of Oracle is running and does it support vectors?

Oracle Database 23ai (23.4.0.24.05) — Free tier. Vector features: fully supported. VECTOR data type: available. VECTOR_DISTANCE function: available. HNSW index support: yes. Your instance is ready for vector similarity search operations.

Frequently Asked Questions

01 **Does Oracle Vector DB MCP support all kinds of vector searches?**

Yes, it supports native Oracle 23ai VECTOR_DISTANCE queries using either cosine or Euclidean metrics for similarity searching. The `vector_search` tool handles this.

02 **What if I only need to see the column names in my database?**

You can use `list_tables` to get a list of all accessible tables, or run `describe_table` on a specific table name to get full details.

03 **How do I check if my Oracle instance is ready for vector data?**

You should first use the `get_database_version` tool. This verifies your runtime version and confirms compatibility with 23ai features like VECTOR_DISTANCE.

04 **Can I run queries that aren't related to vectors?**

Absolutely. The `execute_sql_query` tool lets you run any standard SQL query against the Oracle runtime, regardless of whether it involves vector data.

05 **Does listing indexes cost money or resources?**

The MCP only reads metadata when you call `list_vector_indexes`. It reports on existing HNSW and IVF indices without performing any write operations.

Go Live in 60 Seconds

Get your connection token from **cloud.vinkius.com**, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

```
https://edge.vinkius.com/[TOKEN]/mcp
```

CLIENT	WHERE TO CONFIGURE
Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add `"oracle-vector-db": { "url": "…" }`
Windsurf	MCP Settings → `mcp_settings.json` → Add endpoint URL
ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

- Ask ChatGPT
- Ask Claude
- Ask Perplexity
- Ask Gemini
- Ask Grok

READY TO CONNECT

Oracle Vector DB is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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