

M C P S E R V E R

N O C O D E

C L O U D H O S T E D

Cool-down Effectiveness Engine for physiological analysis.

Get precise data on how your recovery protocols actually work.

Cool-down Effectiveness Engine provides the physiological data needed to judge post-exercise recovery. It lets your AI client calculate recovery metrics, predict heart rate stabilization, and estimate how quickly your body clears metabolic byproducts like lactate. Instead of guessing if a cool-down worked, you get hard numbers on muscle elasticity and cardiovascular readiness.

A+ Quality Score 100/100

physiology

recovery

athlete

fitness-tracking

sports-performance



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.

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.

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.

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

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

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.

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.

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.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot 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.

FinOps

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

Firewall & DLP

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

Agent Activity

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

Tool Health

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

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.

Cool-down Effectiveness Engine MCP

4 tools available

Cloud-hosted on Vinkius

You shouldn't have to guess if your post-workout routine is actually helping you recover. This MCP gives your AI client the ability to run physiological models that evaluate the quality of your cool-down protocols. Whether you are an athlete trying to prep for a second session or a coach managing a team's readiness, you can now turn raw physiological data into actionable insights.

Your agent can use these tools to determine if a specific stretching routine improved muscle elasticity or if an active recovery session successfully lowered metabolic byproduct levels. It moves recovery from subjective feeling to objective measurement. You can check how quickly your heart rate returns to baseline or get a single score that summarizes the entire effectiveness of a protocol. It's about knowing exactly how ready you are for the next bout of exertion.

Core Capabilities

01 — Recovery Scoring

Your agent calculates a unified metric to judge the success of a cool-down.

02 — Cardiovascular Prediction

The AI estimates heart rate stabilization times based on your recovery actions.

03 — Metabolic Assessment

Your client predicts the efficiency of lactate removal from your system.

04 — Flexibility Analysis

The tool evaluates how much a protocol helps with muscle relaxation and range of motion.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/cool-down-effectiveness-engine — connect your AI agent in three steps.

- 01 Connect your AI client to the MCP via Vinkius.
- 02 Provide your workout and recovery data to your AI agent.
- 03 The agent calls the specific tool needed for your question.
- 04 Receive a concrete physiological prediction or score.

Get physiological insights by connecting your AI client to the Vinkius-hosted MCP.

Built For

This MCP is built for professionals who need to quantify physiological readiness and recovery efficiency.

Athletes

Use the data to adjust personal recovery routines between training sessions.

Coaches

Hand off physiological metrics to your AI to monitor athlete readiness levels.

Sports Scientists

Apply these tools to validate the effectiveness of specific recovery protocols.

What Changes When You Connect

- 01 Replaces subjective feelings with objective physiological metrics.
- 02 Quantifies the metabolic impact of different recovery methods.
- 03 Provides predictable timelines for cardiovascular stabilization.

04 Assesses muscle elasticity gains from specific stretching protocols.

Real-World Applications

Multi-session Training

Determine if a cool-down is sufficient to prepare for a second workout in the same day.

Readiness Monitoring

Use heart rate recovery data to decide if an athlete is ready for high-intensity work.

Protocol Validation

Compare different active recovery methods to see which clears lactate faster.

Flexibility Tracking

Evaluate if a specific stretching routine is actually improving muscle elasticity.

4 Tools Available

#	TOOL	DESCRIPTION
01	calculate_effectiveness_score	This tool provides a single, unified metric to show how successful a cool-down protocol was.
02	estimate_lactate_clearance	This tool predicts how efficiently your body removes metabolic byproducts like lactate.
03	evaluate_flexibility_benefits	This tool assesses potential gains in muscle elasticity and range of motion.
04	predict_heart_rate_recovery	Use this to estimate how fast your heart rate returns to resting levels after a specific cool-down.

See It in Action

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

U I just finished a high-intensity workout for 10 minutes and I have 2 hours before my next session. How effective was my cool-down?



Your cool-down effectiveness score is 75, which is rated as Adequate for your current recovery window.

U Predict my heart rate recovery after a maximal intensity session with a 5-minute cool-down and a resting heart rate of 60.



Your predicted heart rate drop is 25 bpm, with an estimated recovery time of 8 minutes.

U Estimate my lactate clearance after a 15-minute active recovery following a high-intensity session.



Your estimated lactate clearance is 65%, indicating a healthy metabolic state.

Frequently Asked Questions

01 What can this MCP do for my training?

It provides physiological analysis to evaluate how well your cool-down protocols work, covering heart rate, lactate, and flexibility.

02 Which AI clients can I use with this MCP?

You can use any MCP-compatible client, including Claude, Cursor, Windsurf, and VS Code.

03 How do I get a recovery score?

You ask your AI agent to use the `calculate_effectiveness_score` tool after providing your workout details.

04 Can it predict how fast my heart rate will drop?

Yes, the `predict_heart_rate_recovery` tool estimates how quickly your heart rate returns to resting levels.

05 Do I need to host this myself?

No, Vinkius hosts and manages the MCP for you, so it is ready to use immediately after connection.

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 <code>"cool-down-effectiveness-engine": { "url": "..." }</code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → 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

Cool-down Effectiveness Engine 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

INDEPENDENT PLATFORM DISCLAIMER

Vinkius is an independent platform and is not affiliated with, endorsed by, sponsored by, verified by, or otherwise authorized by Cool-down Effectiveness Engine. All third-party trademarks, logos, and brand names are the property of their respective owners. Their use in this document is strictly for informational purposes to identify service compatibility and interoperability.

DOCUMENT INFORMATION

Generated	September 2026
MCP Server	Cool-down Effectiveness Engine MCP
Server ID	01a0b410-578d-7274-b8e6-015ec7bb72bf
Platform	Vinkius Cloud for AI Agents
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

LICENSE & USAGE

This document is generated automatically by the Vinkius PDF Engine. Content reflects the MCP server configuration at the time of generation and may change as updates are deployed. For the most current information, visit vinkius.com/en/ai-agent-connect/cool-down-effectiveness-engine.