

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

Fatigue & Performance Analyzer MCP

Track physiological fatigue and prevent training injuries.

Fatigue & Performance Analyzer MCP uses physiological modeling to help you manage training loads. It calculates how much your performance is dropping and identifies when you are hitting high-risk zones for injury. You can use it to evaluate rest quality, find safe training limits, and plan ideal training volumes based on your current fitness and hydration levels.

athlete

physiology

training

recovery

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.

Fatigue & Performance Analyzer MCP

4 tools available

Cloud-hosted on Vinkius

You can stop guessing if you are overtraining. This MCP gives your AI client the ability to model your physiological state based on your actual training data. Instead of just looking at mileage or weight lifted, you can see how your fatigue levels are impacting your actual performance.

By feeding your training volume and recovery data into your agent, you can get a clear picture of your current physiological status. It helps you identify the exact point where your training load becomes dangerous, allowing you to adjust your volume before an injury happens. You can also use it to see if your rest periods are actually working or if your recovery efficiency is dropping. It turns raw training numbers into actionable physiological insights that help you stay in the zone without crossing the line into overtraining.

Core Capabilities

01 — Fatigue Modeling

Your agent uses this to calculate how training volume impacts your physiological state.

02 — Injury Risk Prediction

The AI uses this to find the specific load limits that keep you out of high-risk zones.

03 — Recovery Assessment

Your agent uses this to check if your rest periods are actually improving your fitness.

04 — Load Optimization

The AI uses this to suggest specific training volumes based on your hydration and fitness.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/fatigue-performance-analyzer — connect your AI agent in three steps.

- 01 Connect the MCP to Claude, Cursor, or Windsurf via Vinkius.
- 02 Provide your training volume, fitness level, and recovery data to your AI client.
- 03 Ask your agent to analyze your fatigue or predict injury risks.
- 04 Receive specific training recommendations or physiological snapshots.

You connect the MCP to your AI client and start feeding it your training data.

Built For

This MCP is built for people who need to manage high-intensity physical training through data-driven physiological modeling.

Athletes

They use the AI to monitor their own fatigue and adjust daily training volumes.

Coaches

They hand off training data to the AI to identify which athletes are approaching injury thresholds.

Sports Scientists

They use the modeling tools to evaluate recovery efficiency and performance degradation.

What Changes When You Connect

- 01 Identifies specific training limits to prevent injury.
- 02 Calculates performance decline based on training volume.
- 03 Evaluates how well rest periods improve fitness.

- 04** Suggests training volumes tailored to hydration and fitness levels.
-

Real-World Applications

Preventing Overtraining

Use the injury threshold tool to see if your current training volume is pushing you into a danger zone.

Evaluating Rest Quality

Check your recovery efficiency to see if your current rest schedule is actually working.

Planning Weekly Volume

Ask your agent to recommend an ideal training load for your specific fitness level.

Daily Readiness Checks

Get a snapshot of your physiological status after a heavy training session.

4 Tools Available

#	TOOL	DESCRIPTION
01	analyze_recovery_efficiency	This tool determines how effectively you are using your rest periods relative to your current fitness level.
02	calculate_performance_status	This tool provides a snapshot of your current physiological state.
03	optimize_training_load	This tool recommends the ideal training volume to maximize your performance while keeping injury risk low.
04	predict_injury_threshold	This tool identifies the specific training load that will push you into a high-risk injury zone.

See It in Action

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

U What is my current physiological status after 5 runs and 2000 vertical meters with 10 hours of rest and a fitness level of 0.8?



Your current performance decline is 12%, your injury risk has increased by 5%, and you need approximately 8 hours of additional rest to reach a safe threshold.

U How much more vertical meters can I climb before I hit a high injury risk with my current fatigue of 45 and fitness of 0.7?



You can safely complete an additional 350 vertical meters before reaching the high-risk injury threshold.

U Recommend a training load for a fitness level of 0.9 to achieve a performance score of 0.85 with optimal hydration.



To reach your target, it is recommended to complete 4 runs with a total of 1200 vertical meters, which maintains a predicted risk increase within safe limits.

Frequently Asked Questions

01 How does this MCP help prevent injuries?

It uses the `predict_injury_threshold` tool to identify the exact training load where your risk of injury becomes high.

02 Can I use this with Claude or Cursor?

Yes, you can connect this MCP to any MCP-compatible client including Claude, Cursor, and Windsurf.

03 What data do I need to provide?

You typically provide training volume, vertical meters, rest hours, fitness levels, and hydration status.

04 Does this replace a coach?

It provides physiological modeling and data-driven recommendations that can support a coach's decisions.

05 How does it handle recovery?

The `analyze_recovery_efficiency` tool evaluates how effectively you use rest periods based on your fitness.

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>"fatigue-performance-analyzer": { "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

Fatigue & Performance Analyzer 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 Fatigue & Performance Analyzer. 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	Fatigue & Performance Analyzer MCP
Server ID	01a0a260-a313-73dd-b4e8-55358c231116
Platform	Vinkius Cloud for AI Agents
Endpoint	https://edge.vinkius.com/{token}/mcp

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/fatigue-performance-analyzer.