MCP SERVER | NO CODE | CLOUD HOSTED

HRV Biofeedback Trainer MCP

Design precise breathing sessions to regulate your autonomic nervous system.

HRV Biofeedback Trainer MCP gives your AI client the ability to build custom physiological training programs. It handles everything from validating your target HRV metrics to calculating specific breathing rhythms and progression loads. You can use it to turn raw physiological data into actionable, structured resonance breathing sessions.

A+ Quality Score 100/100

hrv | biofeedback | wellness | health | autonomic

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vinkius.com/en/ai-agent-connect/hrv-biofeedback-trainer

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.

HRV Biofeedback Trainer MCP

4 tools available
Cloud-hosted on Vinkius

You can use this MCP to bridge the gap between raw physiological data and structured biofeedback training. Instead of manually calculating breathing rates or session structures, you let your AI agent handle the math and the logic. It uses resonance breathing techniques to help you reach specific physiological targets.

Your agent can check if your goals are realistic using validate_physiological_targets, ensuring you don't set impossible HRV targets. Once your goals are set, it builds a full roadmap with get_session_plan. It even tells you exactly how to breathe with get_breathing_guidance, providing specific timing for inhales and exhales. To keep you moving forward without burning out, it uses calculate_progression_metrics to adjust your training load over time. It's a complete toolkit for anyone managing autonomic regulation through HRV-based breathing exercises.

Core Capabilities

01 — Session Planning

Your agent creates structured training roadmaps based on your specific physiological goals.

02 — Breathing Instruction

The MCP provides exact inhale and exhale timings for resonance breathing.

03 — Target Validation

Your agent verifies that your HRV and coherence targets are physically possible.

04 — Load Management

The tool calculates how to increase training intensity to reach your HRV goals.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/en/ai-agent-connect/hrv-biofeedback-trainer** — connect your AI agent in three steps.

01 Connect the MCP to Claude, Cursor, or Windsurf via Vinkius.

02 Provide your current HRV and target metrics to your AI client.

03 The agent validates your targets to ensure they are realistic.

04 The agent generates a structured session plan and breathing instructions.

05 Use the calculated progression metrics to adjust future sessions.

Connect the MCP to your preferred AI client to start generating physiological training plans.

Built For

This MCP is for individuals and professionals focused on autonomic nervous system regulation through biofeedback.

Wellness Practitioners

They hand off the math of breathing rates and session structuring to the AI.

Biofeedback Researchers

They use the tool to validate physiological targets and manage progression metrics.

Health Enthusiasts

They use the agent to generate personalized daily breathing routines.

What Changes When You Connect

01 Removes manual calculation of breathing rhythms.

02 Prevents unrealistic goal setting through target validation.

03 Automates the scaling of training loads over time.

04 Provides structured session roadmaps instantly.

Real-World Applications

Personalized Training

Generate a custom 10-minute breathing session based on your current HRV levels.

Goal Verification

Check if a target HRV increase is achievable before starting a new training cycle.

Breathing Guidance

Get exact second-by-second timing for inhalation and exhalation during a session.

Progress Tracking

Calculate how much to increase your training load to hit your next HRV milestone.

Patterns to Avoid

Setting impossible physiological goals

AVOID

You tell your agent to double your HRV coherence in a single day. This leads to frustration when the targets aren't met.

✓ INSTEAD

Use validate_physiological_targets first. It ensures your goals are actually plausible before you start training.

Manual breathing rhythm calculation

AVOID

You try to count seconds in your head to maintain a specific breathing rate during a session.

✓ INSTEAD

Let the MCP handle the timing. Use get_breathing_guidance to get exact inhale and exhale instructions.

Guessing your next training load

AVOID

You increase your training intensity based on how you feel rather than your actual physiological progress.

✓ INSTEAD

Use calculate_progression_metrics to determine the right increase in load to hit your next milestone.

The Right Fit

Connect this MCP if you need to automate the math of autonomic nervous system regulation. If you prefer manually calculating breathing rates or don't use physiological data to guide your training, you don't need this. The decision comes down to whether you want your agent to manage your training logic for you.

HRV Biofeedback Trainer Tools for Physiological Regulation

These tools handle the math and logic behind resonance breathing. They turn raw physiological data into actionable training plans and breathing instructions.

#	TOOL	DESCRIPTION
01	`calculate_progression_metrics`	This tool determines the necessary increase in training load to reach your target HRV. It helps your agent manage how much you push your physiological limits over time.
02	`get_breathing_guidance`	This tool provides specific inhalation and exhalation timings. It generates instructions based on your calculated target breathing rate.
03	`get_session_plan`	This tool generates a complete training roadmap. It builds the structure of your session based on your specific physiological targets.
04	`validate_physiological_targets`	This tool checks that your HRV and coherence metrics are logically consistent and physiologically plausible. It prevents your agent from suggesting unrealistic training goals.

See It in Action

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

U Create a 10-minute training session plan for a user with a current HRV of 45 and a goal HRV of 60, targeting a coherence level of 0.8.

Your 10-minute session plan is ready. The optimal breathing rate is 5.5 breaths per minute. The session includes a 2-minute warm-up, 6 minutes of active practice, and a 2-minute cool-down.

U What are the breathing instructions for a target rate of 6 breaths per minute?

For a rate of 6 breaths per minute, you should inhale for 5 seconds and exhale for 5 seconds for a total of 60 cycles.

U Check if my physiological targets are valid: current HRV 50, goal HRV 40.

The targets are invalid because the goal HRV must be higher than the current HRV for a progressive training model.

Frequently Asked Questions

01 **How do I use this MCP with my AI client?**

You connect to the MCP through the Vinkius platform. Once connected, you can use it directly within Claude, Cursor, Windsurf, or any other MCP-compatible client.

02 **Can the MCP help with breathing exercises?**

Yes. It provides specific breathing guidance, including exact inhalation and exhalation timings based on your target breathing rate.

03 **What happens if I set an impossible HRV goal?**

The validate_physiological_targets tool will catch this. It ensures your goals are logically consistent and physiologically plausible.

04 **Does this MCP manage my training progress?**

Yes. It uses the calculate_progression_metrics tool to determine how much to increase your training load to reach your HRV goals.

05 **What is resonance breathing?**

It is a technique used in this MCP to help users reach target physiological states through specific breathing rhythms.

06 **What is HRV biofeedback?**

It is a technique that uses Heart Rate Variability (HRV) to help users regulate their autonomic nervous system through controlled breathing patterns.

07 **How do I use the session planning tool?**

You can use `get_session_plan` by providing your current HRV, your goal HRV, the desired coherence target, and the total session duration.

08 **Can I adjust my training intensity?**

Yes, you can use `calculate_progression_metrics` to determine the recommended duration increase or breathing rate adjustment for your next session.

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 `"hrv-biofeedback-trainer": { "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

HRV Biofeedback Trainer 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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Platform	Vinkius Cloud for AI Agents
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