

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

Back-off Set Planner MCP

Balance muscle growth and fatigue with precise training math.

Back-off Set Planner MCP handles the heavy lifting for your strength programming. It calculates weight, reps, and set counts to bridge the gap between heavy top sets and the volume needed for hypertrophy. Your AI client uses these tools to ensure you hit your volume goals without overtraining.

strength-training

hypertrophy

fitness-planner

weightlifting

muscle-growth



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.

Back-off Set Planner MCP

4 tools available

Cloud-hosted on Vinkius

Stop guessing your accessory work. This MCP gives your AI client the math it needs to build effective back-off routines. When you finish a heavy top set, you need a specific volume of work to trigger muscle growth without burning out. This tool calculates exactly how much weight and how many reps you need to hit those targets.

You can tell your agent your top set weight and your target volume, and it will find the perfect set and rep configuration for you. It doesn't just pick random numbers; it respects your fatigue management levels to make sure you can actually recover for your next session. It's a way to turn raw intensity into structured, repeatable hypertrophy volume.

Core Capabilities

01 — Volume Targeting

Your agent calculates the exact weight and reps needed to hit a specific poundage goal.

02 — Fatigue Management

The AI adjusts set and rep counts based on how much fatigue you want to incur.

03 — Scheme Generation

Your client produces complete back-off routines including weight, reps, and set counts.

04 — Compliance Checking

The agent verifies if your planned sets meet your intended training volume.

05 — Efficiency Analysis

Your AI client evaluates the stimulus profile of your training prescription.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/back-off-set-planner — connect your AI agent in three steps.

- 01 Connect your AI client to the Vinkius hosted MCP.
- 02 Provide your top set weight and reps to your agent.
- 03 Tell the agent your target volume and fatigue preference.
- 04 The agent uses the MCP tools to calculate your plan.
- 05 Receive a specific set, rep, and weight prescription.

Connect your client to Vinkius and start running training math through your AI agent.

Built For

This is for anyone serious about strength and hypertrophy programming who wants to move away from guesswork.

Strength Coaches

Hand off volume calculations and fatigue management to the AI to build faster client programs.

Powerlifters

Use the agent to plan back-off sets that support heavy top sets without excessive fatigue.

Bodybuilders

Let the AI ensure you are hitting the necessary hypertrophy volume after your heavy work.

What Changes When You Connect

- 01 Removes the math from training session planning.
- 02 Balances heavy intensity with effective hypertrophy volume.
- 03 Prevents overtraining through explicit fatigue constraints.

04 Ensures volume targets are met with mathematical precision.

Real-World Applications

Post-Heavy Set Planning

Immediately calculate your back-off sets after finishing a heavy top set.

Fatigue-Controlled Programming

Generate routines that specifically respect your desired level of fatigue.

Volume Goal Verification

Check if your planned accessory work actually hits your target poundage.

Hypertrophy Optimization

Find the best set and rep configurations to drive muscle growth.

4 Tools Available

#	TOOL	DESCRIPTION
01	calculate_volume_compliance	Use this to check if your proposed back-off sets actually meet your total volume target.
02	get_backoff_scheme	This tool provides the specific weight, reps, and number of sets for a back-off routine.
03	get_fatigue_stimulus_profile	This tool gives a qualitative look at how efficient your training prescription actually is.
04	optimize_backoff_plan	This tool runs iterations to find the best set and rep count for your specific volume goals and fatigue limits.

See It in Action

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

U I did a top set of 100kg for 5 reps. I want moderate fatigue management. What should my back-off sets look like?



For a 100kg top set with moderate fatigue management, you should perform 3 sets of 8 repetitions at 80kg.

U Help me plan a back-off routine. Top set: 150lbs for 3 reps. Target volume: 2000lbs. I want high fatigue management.



To reach your 2000lbs target with high fatigue management, it is recommended to perform 5 sets of 12 repetitions at 110lbs.

U I did 80kg for 10 reps as my top set. I'm doing 3 sets of 8 at 60kg. Did I hit my 1500lb volume goal?



No, your total volume achieved is 1520lbs, which actually exceeds your 1500lb goal.

Frequently Asked Questions

01 What is a back-off set?

A back-off set is a set performed at a lower weight than your heavy top set to accumulate more volume.

02 How does this MCP help with muscle growth?

It helps you find the right balance between heavy intensity and the volume required for hypertrophy.

03 Can I use this with Claude?

Yes, you can use this MCP with any MCP-compatible client like Claude, Cursor, or Windsurf.

04 Does it account for fatigue?

Yes, you can specify a fatigue management level, and the tool will optimize the plan to respect that constraint.

05 How do I know if I hit my volume goal?

You can use the volume compliance tool to see if your planned sets meet your target.

06 How do I use this to plan my workout?

You can provide your top set weight and reps to the ``get_backoff_scheme`` tool, or use ``optimize_backoff_plan`` to hit a specific volume goal.

07 What is fatigue management?

It is a setting that adjusts the intensity of your back-off sets. High fatigue management uses lower weights to prioritize recovery, while low management keeps intensity higher.

08 Can I check if I met my volume target?

Yes, the ``calculate_volume_compliance`` tool allows you to verify if your planned sets meet your total volume goal.

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>"back-off-set-planner": { "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

Back-off Set Planner 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
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

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