MCP SERVER | NO CODE | CLOUD HOSTED

Deload Week Inserter MCP for AI Agents

Designing Periodized Strength Training Cycles with Integrated Recovery

Deload Week Inserter automatically structures complete, periodized training blocks for strength athletes. It takes a standard workout routine and inserts planned recovery weeks by scaling weights and volume according to scientific parameters. You don't have to manually calculate the reduction factors or track cycle counts anymore.

A+ Quality Score 100/100

fitness | deload | training-block | recovery | periodization

MAINTAINED BY VINKIUS CLOUD FOR AI AGENTS · JULY 2026
vinkius.com/mcp/deload-week-inserter

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.

Deload Week Inserter MCP

3 tools available
Cloud-hosted on Vinkius

Planning a multi-week fitness block used to mean endless spreadsheet work. You had to check that your recovery phases were correctly spaced, and then you had to recalculate every single weight and volume setting for the deload weeks yourself. This MCP changes that. It helps you build complete training cycles by automatically integrating scientifically sound recovery periods into your routine. When you connect this through Vinkius, your AI agent uses its powerful tools to take your initial workout structure and mathematically adjust it. For example, you can specify an interval for rest and a reduction factor, and the MCP handles scaling down the intensity and volume week by week. It even provides checks to make sure your parameters are solid before you commit to the schedule.

Core Capabilities

01 — Generate Modified Training Schedules

It takes an existing workout plan and outputs a new, adjusted routine that includes planned deload weeks.

02 — Count Planned Recovery Periods

You can determine exactly how many recovery or deload weeks are scheduled within any given training block length.

03 — Validate Training Parameters

This checks your input settings to ensure the reduction factors and intervals you chose for deloading are mathematically sound.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/deload-week-inserter** — connect your AI agent in three steps.

01 Provide your agent with your core training routine, along with specific parameters like the desired recovery interval (e.g., every 4 weeks) and the reduction factor (e.g., 60% weight decrease).

02 The MCP uses this input to run its logic, generating a full, adjusted schedule that scales down weights and volume for the required deload weeks.

03 You get back a complete, periodized training block ready for your records, along with confirmation that all parameters passed validation checks.

The bottom line is, you feed it what you want to train, and it outputs a scientifically balanced schedule that accounts for rest days.

Built For

Strength coaches, physical therapists, and advanced amateur athletes need this. If your job involves designing structured fitness programs or tracking complex training cycles, you'll recognize the pain of manual calculation. This MCP gives your agent a way to handle periodization math instantly.

Strength Coach

They use it when building macro-cycles for clients, letting their AI client automatically adjust weights and volumes across dozens of weeks while ensuring adequate recovery.

Physical Therapist

They rely on it to design phased rehabilitation protocols, using controlled deload logic to safely progress a patient's workload over time.

Athlete/Endurance Trainer

They use this MCP to build long-term training blocks for races or peak performance, managing the fatigue curve by accurately inserting rest periods.

What Changes When You Connect

01 Saves time by automating the complex math of periodization. Instead of calculating every weight reduction manually, you just tell your agent the parameters and let the `apply_deload_logic` tool generate a full, adjusted schedule.

02 Ensures program safety with built-in validation. The `validate_deload_training_config` tool confirms that your chosen recovery intervals are mathematically sound before you start programming.

03 Maintains accurate tracking across long cycles. You can use the `count_recovery_occurrences` tool to predict exactly how many rest weeks will fall into a 12-week or 24-week training block.

04 Focuses on recovery, not just effort. By making deloading systematic, you ensure your athletes hit peak performance without burning out months early.

05 Reduces cognitive load. Your agent handles the complex scaling of weights and volumes (e.g., reducing squat weight from 100 lbs to 60 lbs) so you can focus on program theory.

Real-World Applications

Building a Marathon Training Block

A coach needs to plan a 20-week running cycle. They ask their agent to apply deload logic with a specific interval and reduction factor. The MCP uses `apply_deload_logic` to spit out a full, week-by-week schedule that gradually lowers the volume during recovery periods.

Checking Program Viability

Before committing to a complex year-long plan, a PT needs to know if their proposed rest interval is feasible. They use `validate_deload_training_config` to confirm that the reduction percentage they picked won't result in an impossible training load.

Analyzing Long Cycles

An athlete wants a 12-week program and needs to know exactly how many times recovery is scheduled. They use `count_recovery_occurrences` to get a quick count, saving them the manual math of counting weeks on a calendar.

Patterns to Avoid

Ignoring Parameter Validation

✗ AVOID

Trying to manually calculate deload weights using an invalid reduction factor (like 1.2), leading to physically impossible or counterproductive training loads.

✓ INSTEAD

Always run `validate_deload_training_config` first. This tool confirms that your chosen reduction percentage is mathematically viable, guaranteeing the math behind your program works.

Manually Scaling Weights

✗ AVOID

Spending hours calculating and updating every single weight (e.g., reducing squat from 100 lbs to 60 lbs) across all weeks of a multi-month routine.

✓ INSTEAD

Use the `apply_deload_logic` tool. It automates the entire process, taking your original workout structure and generating the full scaled schedule instantly.

Overcomplicating Cycle Counting

✗ AVOID

Trying to track how many recovery weeks will fall in a 15-week program by marking up a spreadsheet calendar.

✓ INSTEAD

Let `count_recovery_occurrences` do the heavy lifting. It gives you an accurate, instant count of scheduled rest periods for any length block.

The Right Fit

Use this MCP if your core problem is periodization math—when you need to transition a standard training plan into a scientifically structured cycle that accounts for recovery scaling. You'll use it when you need the system to adjust weights and volumes automatically, or count how many rest weeks fit in a block. Don't use it if you just need simple scheduling; for instance, if you only want to add one single rest day next Tuesday, a basic calendar integration is fine. Also, don't rely on this MCP to suggest *which* exercises are

best; it handles the math of scaling what you already know. It requires specific parameters (like reduction factor and interval), so make sure your training theory is solid before connecting.

Deload Week Inserter: Managing Deloading Math in Strength Training Blocks

Right now, building a multi-month strength routine means constant spreadsheet work. You have to manually track every week, calculate the appropriate reduction factor for weights and volume during rest periods, and then update dozens of variables just because you're adding a 'deload' phase. It’s tedious, error-prone, and takes hours.

With this MCP, your agent handles all that math. You input your core routine and tell it the recovery rules; the tool generates the full, scaled schedule instantly. You get back a complete, periodized block ready to implement.

Deload Week Inserter: Predicting Recovery Periods in Periodization

You waste time trying to count recovery periods by visually checking long-term calendars or counting entries across multiple documents. You worry if your 15-week program has enough rest built in.

The MCP's `count_recovery_occurrences` tool solves this. It immediately tells you the exact number of recovery weeks that will occur, letting you plan cycles with confidence.

Deload Week Inserter: 3 Tools for Periodization Math

Use these tools to generate scaled workout schedules, validate parameters, or count recovery periods in your fitness programs.

#	TOOL	DESCRIPTION
01	`apply_deload_logic`	Generates a complete workout schedule that automatically incorporates planned recovery weeks into your training block.
02	`count_recovery_occurrences`	Calculates the precise number of scheduled recovery or deload periods within any given length of training.
03	`validate_deload_training_config`	Checks your input settings to confirm that the reduction percentage and intervals you selected are mathematically viable for a schedule.

See It in Action

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

U I need a 16-week routine starting now, incorporating a deload every 4 weeks at 50% weight. Can you generate the full schedule?

Deload Schedule: Q3/Q4

- **Weeks 1-3:** Normal Load (e.g., Squat 200 lbs x 5)
- **Week 4 (Deload):** Squat **100 lbs** x 3 (50% reduction)
- **Weeks 5-7:** Normal Load
- **Week 8 (Deload):** Squat **100 lbs** x 3

... [Schedule continues through Week 16]*

This structure ensures consistent recovery and measurable weight reduction throughout the block.

U My program is 24 weeks long. If I set a deload every 5 weeks, how many rest periods should I expect?

Based on your parameters (24-week total, 5-week interval), you should plan for **4 recovery weeks**.

This count confirms that the schedule is balanced and allows you to distribute adequate rest across the entire cycle. Always double-check these numbers before starting a new program.

U Is it safe to set my deload interval at 3 weeks with a 70% reduction?

Configuration Validation Check:

- **Interval:** 3 Weeks (Valid)
- **Reduction Factor:** 0.70 (Invalid)
- **Reason:** The configuration is invalid because the reduction factor must be between 0 and 1 to ensure a measurable decrease in workload.

Please adjust your reduction percentage.

Frequently Asked Questions

01 **How does Deload Week Inserter help me plan a long-term training cycle?**

It automatically adjusts weights and volumes for you. Instead of calculating every single number manually, your agent uses the MCP to generate an entire periodized schedule that builds in scientifically sound recovery periods.

02 **Can Deload Week Inserter tell me if my deload plan is mathematically safe?**

Yes. The MCP validates your settings using `validate_deload_training_config`. This ensures the reduction percentage and intervals you choose are sound, so your training load is never accidentally unsafe.

03 **What if I need to know how many deloads will happen in my program?**

You can use the MCP's counting tool. It quickly calculates exactly how many recovery weeks will fall into any block length, saving you time and spreadsheet errors.

04 **Is Deload Week Inserter only for weightlifting routines?**

No. While it handles weights and volume, the underlying logic applies to any structured routine where phased recovery is needed, helping athletes of all types manage fatigue.

05 **I have a plan, but I don't want to calculate the scaling myself; can this MCP do that?**

Absolutely. The core function uses `apply_deload_logic` to take your existing routine and automatically scale down weights and volume for every planned rest week.

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 `"deload-week-inserter": { "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

Deload Week Inserter 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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DOCUMENT INFORMATION

Generated	July 2026
MCP Server	Deload Week Inserter MCP
Server ID	`019f1e47-928a-71e5-a356-92eca5dd7f69`
Platform	Vinkius Cloud for AI Agents
Endpoint	`https://edge.vinkius.com/{token}/mcp`

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