MCP SERVER | NO CODE | CLOUD HOSTED

Sleep Debt Tracker MCP

Know your true rest deficit and when you'll recover.

Sleep Debt Tracker quantifies your accumulated sleep deficit, moving beyond simple hourly logs. This MCP calculates key metrics like average duration and long-term trends, helping you understand if your current habits are improving or getting worse. It also analyzes the consistency of your sleep schedule and predicts exactly how many nights of rest you need to get back on track.

A+ Quality Score 100/100

sleep | health-tracking | metrics | wellness | recovery | data-analysis

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vinkius.com/mcp/sleep-debt-tracker

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.

Sleep Debt Tracker MCP

3 tools available
Cloud-hosted on Vinkius

Tired of guessing about your energy levels? This MCP lets you analyze detailed historical sleep data to pinpoint exactly where your rest patterns are failing. Instead of just seeing a list of hours, you get actionable numbers: your total accumulated debt and whether your schedule is erratic or stable. You can determine if improving your sleep needs more consistent effort or just a few extra nights in bed. When you connect this MCP via Vinkius, it acts as a specialized calculation engine that gives you clear answers about recovery timelines. It turns raw data into predictive insights, telling you what changes to make to feel better tomorrow.

Core Capabilities

01 — Calculate Sleep Metrics

Determine your cumulative sleep deficit, average duration, and overall trend from past sleep records.

02 — Analyze Schedule Consistency

Evaluate if your sleep pattern is stable day-to-day or highly variable.

03 — Predict Recovery Time

Estimate the specific number of extra nights required to fully eliminate accumulated sleep debt.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/sleep-debt-tracker** — connect your AI agent in three steps.

01 Provide your AI client with a set of historical sleep data, including dates and hours slept.

02 The MCP runs calculations using the available tools to determine your current deficit, consistency score, and trend lines.

03 You receive clear metrics showing your total sleep debt and a predicted recovery timeline.

The bottom line is that you get quantifiable data on your rest patterns, not just a basic summary of hours slept.

Built For

This MCP helps anyone serious about optimizing their physical performance. It's for the high-achieving knowledge worker who knows poor sleep hurts focus, or the athlete whose recovery time needs precise tracking.

Product Manager

Uses this to correlate project deadlines and intense work sprints with measurable dips in sleep consistency, proving a need for better work-life boundaries.

Software Engineer

Tracks deep work cycles against available rest time. They use the metrics to understand if their current workload is unsustainable.

Health Coach

Runs client data through this MCP to give clients concrete, numerical goals for recovery rather than vague advice.

What Changes When You Connect

01 Pinpoint the source of fatigue. The `calculate_sleep_metrics` tool tells you if your problem is low average duration or simply erratic sleep patterns, giving you a precise target.

02 Stop guessing about recovery. Instead of hoping for better rest, use `estimate_recovery_days` to get a clear timeline showing exactly how many nights you need to feel normal again.

03 Identify schedule instability. The `analyze_sleep_consistency` tool flags if your sleep pattern is wildly inconsistent, telling you that regularity matters more than total hours sometimes.

04 Move beyond simple logging. This MCP groups data points into actionable trends, showing improvement or decline over weeks of usage.

05 Prioritize rest with data. You can use this information to argue for necessary changes in workload or routine, backed by quantifiable sleep deficit numbers.

Real-World Applications

After a crunch time project

A product manager asks their agent: 'I was running 12-hour days for three weeks. How bad is my debt?' The MCP uses `calculate_sleep_metrics` to report a critical deficit, and then runs `estimate_recovery_days` showing they need 15 nights of rest before resuming high intensity work.

Evaluating travel impact

An international consultant enters data from several time zones. The MCP uses `analyze_sleep_consistency` to flag the schedule as highly erratic, indicating that even if they get enough total hours, the pattern itself is damaging their health.

Setting a wellness goal

A user inputs weekly sleep data and asks for an improvement plan. The MCP first uses `calculate_sleep_metrics` to identify the current deficit, then recommends a target that leads to zero debt in 14 days.

Diagnosing poor habits

A user suspects they are constantly running low on energy. The MCP analyzes their data and shows the `analyze_sleep_consistency` metric is low, telling them that fixing sleep regularity—not just adding minutes—is the priority.

Patterns to Avoid

Just logging hours

✗ AVOID

Manually calculating debt by subtracting target hours from actual hours. This ignores pattern stability and trend analysis.

✓ INSTEAD

Use `calculate_sleep_metrics` for the raw number, but also run `analyze_sleep_consistency` to understand *why* the deficit is happening—it might be pattern failure, not just low duration.

Ignoring recovery time

✗ AVOID

Fixing sleep debt without a clear endpoint. This leads to endless data points with no goal.

✓ INSTEAD

Always follow the initial calculation by running `estimate_recovery_days`. That tool provides the necessary finish line, giving you a concrete recovery plan.

Comparing apples to oranges

✗ AVOID

Looking at total hours slept without checking if those hours were consistent or stable. A good night followed by a bad one can skew perception.

✓ INSTEAD

The `analyze_sleep_consistency` tool specifically handles schedule stability, preventing you from overestimating your current sleep health.

The Right Fit

Use this MCP if your goal is quantifiable rest optimization. Specifically, if you need to know *how far* off track you are (use `calculate_sleep_metrics`), or *when* you'll get back on track (use `estimate_recovery_days`). You should also use it if you suspect inconsistency—that's the job of `analyze_sleep_consistency`. Don't use this if you just need to log data; simple spreadsheets work for that. Also, don't rely on it to diagnose medical issues, only patterns. If your goal is simply tracking a single day's sleep quality, a basic logging tool is enough. But if the problem is accumulated deficit or pattern instability across weeks, this MCP gives you the deep analysis you need.

The guesswork of 'feeling rested'

Most people track their sleep by writing down numbers and hoping they're enough. They look at a spreadsheet showing 6 hours, 7 hours, 5 hours—and they assume that means they are fine or maybe mildly tired. It’s guesswork based on surface-level totals.

With this MCP, you move past simply counting minutes. You get numbers that predict outcomes. Instead of just seeing a total deficit, your agent can tell you the exact number of nights you need to recover and whether your sleep pattern is stable enough to even start recovering.

Achieve predictable recovery with Sleep Debt Tracker

The biggest manual step that disappears is the constant recalculation. You don't have to manually check if your debt calculation needs to be re-run every time you change a sleep day; the MCP handles it automatically.

Now, rest feels measurable. It’s not just 'I need more sleep,' it’s 'I need 12 extra hours of consistent rest over the next two weeks.' That precision changes everything.

Sleep Debt Tracker with 3 Tools

These tools allow you to quantify your rest deficit, measure schedule stability, and project how long it will take you to feel fully recovered.

#	TOOL	DESCRIPTION
01	`analyze_sleep_consistency`	Evaluates how stable or erratic your sleep schedule has been over time.
02	`calculate_sleep_metrics`	Calculates comprehensive metrics, including total debt and average duration.
03	`estimate_recovery_days`	Predicts the exact number of nights needed to reach zero sleep debt.

See It in Action

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

U I slept 6 hours, 7 hours, and 5 hours over the last three nights. My target is 8 hours. How much sleep debt do I have?

You have an accumulated sleep debt of 5 hours. Your average sleep duration was 6 hours.

U I have 10 hours of sleep debt and I plan to sleep 1 extra hour per night. How many nights until I recover?

It will take 10 nights to recover from your current sleep debt.

U Analyze my sleep consistency for the last week: [7, 8, 7.5, 6, 9, 7, 8]

Your sleep pattern is classified as consistent.

Frequently Asked Questions

01 **How does Sleep Debt Tracker calculate my cumulative debt?**

The `calculate_sleep_metrics` tool assesses your historical sleep data against a defined target to give you the total accumulated deficit. It accounts for both duration and trend over time.

02 **Can I use Sleep Debt Tracker to predict my recovery?**

Yes, that's one of its core functions. You run `estimate_recovery_days` after calculating your debt, and it outputs a precise timeline for when you expect to reach zero deficit.

03 Does this MCP only track total hours slept?

No. Beyond simple duration, the `analyze_sleep_consistency` tool evaluates the stability of your schedule, which is often more important than the raw number of hours when recovering from a bad streak.

04 What kind of data does Sleep Debt Tracker need?

You must provide historical sleep records, including dates and estimated duration. The quality and consistency of your input data directly impact the accuracy of the resulting metrics.

05 Is this MCP better than a simple fitness app?

Yes, because it's designed for deep analysis. While other apps log raw numbers, this MCP uses `calculate_sleep_metrics` and pattern analysis to give you predictive health guidance.

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 `"sleep-debt-tracker": { "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

Sleep Debt Tracker 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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