MCP SERVER | NO CODE | CLOUD HOSTED

Portfolio Rebalancing Engine MCP

Keep asset weights aligned with targets automatically.

Portfolio Rebalancing Engine identifies when your current holdings drift from their target asset weights and generates precise buy/sell orders to fix it. This MCP helps you maintain consistent risk profiles across automated or manual trading workflows.

A+ Quality Score 100/100

portfolio | rebalancing | trading | asset-management | finance-tools

MAINTAINED BY VINKIUS CLOUD FOR AI AGENTS · JUNE 2026
vinkius.com/mcp/portfolio-rebalancing-engine

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.

Portfolio Rebalancing Engine MCP

3 tools available
Cloud-hosted on Vinkius

This connection lets your agent keep your investments aligned with your original strategy. When market movements cause one asset class to become too large or too small, the engine detects that drift immediately. You can use a tool to analyze how far off your current portfolio is from its ideal setup. Next, it generates exact instructions—the specific buy and sell orders needed to get everything back on track. It even calculates the total cost of these trades, letting you know the true net impact. Because this MCP handles complex financial calculations, Vinkius hosts it as part of a comprehensive catalog of tools for advanced portfolio management.

Core Capabilities

01 — Detecting Portfolio Drift

The system analyzes your current asset weights against predefined targets to pinpoint exactly where the drift has occurred.

02 — Generating Trade Instructions

It computes precise buy and sell orders needed to return asset allocations to their intended weights.

03 — Calculating Transaction Costs

The engine estimates all associated transaction fees and the resulting net change in your overall portfolio value.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/portfolio-rebalancing-engine** — connect your AI agent in three steps.

01 First, you prompt your agent to analyze your current holdings against your target allocation using the drift analysis tool.

02 Second, the system uses the results from the drift analysis to compute a set of specific buy and sell instructions needed for correction.

03 Third, it runs these proposed orders through the cost estimation tool, giving you the final transaction fees and net portfolio value before execution.

The bottom line is that this MCP takes complex financial data and outputs clear, actionable trade lists with calculated costs.

Built For

Quantitative traders, wealth managers, and sophisticated portfolio analysts need this. These are people who get frustrated when market volatility throws their carefully constructed risk models off track at the worst time.

Portfolio Manager

They use this MCP to ensure client portfolios remain compliant with mandated target allocations, generating detailed reports on any detected drift.

Quantitative Trader

A quant uses these tools in automated workflows to quickly identify necessary adjustments and compute the optimal set of trades needed for immediate execution.

What Changes When You Connect

01 Stops guesswork. Instead of manually checking if your stocks are too high, the analyze_portfolio_drift tool flags exactly which assets have drifted past a set threshold.

02 Saves time and capital. By using compute_rebalancing_orders first, you get precise buy/sell instructions right away, eliminating wasted research on manual trade calculations.

03 Know your true cost. The estimate_rebalance_costs tool calculates transaction fees and net impact upfront, so nothing surprises your bottom line when the trades execute.

04 Maintains risk parity. It ensures that even during volatile market swings, your overall portfolio structure stays within its designed risk parameters.

05 Accelerates compliance workflows. You can build automated checks into your agent to verify adherence to regulatory asset weight limits instantly.

Real-World Applications

Catching a sudden tech bubble spike

A portfolio manager notices the tech sector has spiked, causing their overall allocation to drift significantly. They use analyze_portfolio_drift to confirm the percentage deviation and then run compute_rebalancing_orders to sell enough excess stock to bring the weight back down.

Preparing for automated quarterly adjustments

A quant trader needs to prep trades before a market window closes. They first use analyze_portfolio_drift, then pass the results to compute_rebalancing_orders, and finally run estimate_rebalance_costs on the resulting list to ensure they know the net impact.

Verifying compliance after a large trade

A wealth manager executes several manual trades. Before submitting the final report, they use analyze_portfolio_drift and compute_rebalancing_orders to prove that even with the recent activity, their assets are still within compliant weight limits.

Stress-testing a new investment model

An analyst feeds historical volatility data into your agent. They use analyze_portfolio_drift repeatedly across different market scenarios and then estimate_rebalance_costs to see which models create the fewest unnecessary transaction fees.

Patterns to Avoid

Checking weights manually

✗ AVOID

Manually logging into three separate brokerage dashboards, comparing current percentages against a spreadsheet, and calculating potential trades by hand.

✓ INSTEAD

Instead, use analyze_portfolio_drift to flag the deviation. Then, let compute_rebalancing_orders generate the full list of instructions needed in one step.

Forgetting about fees

✗ AVOID

Generating a list of required trades and executing them without knowing the total cost, leading to unexpected losses.

✓ INSTEAD

Always run estimate_rebalance_costs on any proposed trade set. This guarantees you know the net impact before committing capital.

Over-correcting based on gut feel

✗ AVOID

Making arbitrary trades just because a weight looks slightly off, without knowing if it's truly outside the acceptable risk band.

✓ INSTEAD

Let analyze_portfolio_drift define the threshold. It only flags drift when assets pass a specific, quantifiable boundary.

The Right Fit

Use this MCP if your primary need is structural portfolio maintenance—that means correcting deviations from target allocations due to market shifts or time decay. You should use it whenever you need to know the optimal buy/sell mix and its associated total cost.

Don't use this if you are simply doing general market research, like

comparing sectors that aren't tied back to a specific, existing portfolio structure. For pure comparison, use standard data APIs for raw price feeds. If your goal is just to model *what if* scenarios without generating actionable trade lists, consider a simple spreadsheet calculation instead of running compute_rebalancing_orders; this MCP's strength lies in the execution-ready instructions it provides.

Dealing with portfolio drift used to feel like a full-time job.

Today, managing asset weights is tedious. You have to jump between your target allocation spreadsheet, three different brokerage dashboards, and then run complex calculations to see if the market shift means you're over or underweighted somewhere. It takes hours of copy-pasting data just to figure out which assets need attention.

With this MCP, that whole manual process vanishes. Your agent checks your portfolio against its targets instantly using analyze_portfolio_drift. You get a clean report telling you exactly what shifted and how far it moved—no dashboards to juggle.

Compute Rebalancing Orders: Getting actionable trades in seconds.

The biggest time sink is moving from 'Problem Identified' to 'Solution Defined.' You used the analysis tool, but now you still have to manually write out the exact dollar amounts and whether they are buys or sells. It's a massive compliance headache every time.

Now, running compute_rebalancing_orders turns that fuzzy problem into crystal-clear instructions. The output is an immediate list of actionable trades—the definitive next steps needed to restore your intended weights.

Portfolio Rebalancing Engine: 3 Tools

These tools allow you to check for asset weight deviations, calculate the required trades, and estimate the total cost of rebalancing your entire portfolio.

#	TOOL	DESCRIPTION
01	`analyze_portfolio_drift`	Checks if your current asset weights have moved beyond their intended target percentages.
02	`estimate_rebalancing_costs`	Calculates the total transaction fees and net value impact of a proposed set of trades.
03	`compute_rebalancing_orders`	Generates specific, quantified buy or sell instructions to restore your portfolio to its target balance.

See It in Action

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

U My tech stock weight has drifted to 15% from a target of 10%. How much do I need to sell?

To return your tech stock to the 10% target, you should execute a SELL order for the excess value relative to your total portfolio size.

U Check if my current holdings are drifting from my target allocation.

The analysis shows that your 'Equities' asset is currently at 65% weight, while the target is 60%, indicating a drift of 5%.

U What will be my total transaction cost if I execute these rebalancing orders with a 0.1% fee?

Based on the provided orders, the estimated total transaction cost is $45.50, leaving you with a net portfolio value of $99,954.50.

Frequently Asked Questions

01 **How does the Portfolio Rebalancing Engine handle multiple asset classes?**

It treats all assets together, calculating drift across the entire portfolio. It doesn't just look at one stock; it analyzes how all your holdings relate to each other and their defined targets.

02 **Does compute_rebalancing_orders only give me buy orders?**

No, it generates both BUY and SELL instructions. It figures out the full mix of trades required—the ones you need to buy and the excess ones you must sell.

03 **What is the difference between analyze_portfolio_drift and compute_rebalancing_orders?**

Drift analysis *tells* you a problem exists (e.g., 'too much tech stock'). Compute rebalancing orders provide the solution—the exact trades needed to fix that specific imbalance.

04 **Can I use estimate_rebalance_costs for multiple transactions?**

Yes. You feed it a list of proposed orders, and it aggregates all associated fees (like commissions) to give you one total cost figure.

05 **Is this MCP suitable for non-traditional assets like crypto?**

The engine is designed for asset weight management. As long as your client has defined target weights and the necessary data feeds, it can compute rebalancing orders for those assets.

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 `"portfolio-rebalancing-engine": { "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

Portfolio Rebalancing Engine 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	June 2026
MCP Server	Portfolio Rebalancing Engine MCP
Server ID	`019efaf7-3c87-7296-9227-10e5891e0cfc`
Platform	Vinkius Cloud for AI Agents
Endpoint	`https://edge.vinkius.com/{token}/mcp`

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