

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

Cognitive Reserve Estimator MCP

Measure your brain's resilience against cognitive decline.

Cognitive Reserve Estimator provides your AI client with the tools to calculate how much mental resilience you have built. It analyzes your education, work history, and lifestyle to generate a reserve score. You can then use these insights to get specific, actionable advice for maintaining and improving your long-term brain health.

A+ Quality Score 100/100

brain-health

cognitive-reserve

neuroscience

lifestyle

wellness



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.

Cognitive Reserve Estimator MCP

4 tools available

Cloud-hosted on Vinkius

You can use this MCP to quantify the mental buffer your brain has built up through your life experiences. It looks at the specific ways you engage with the world, from the complexity of your career to your daily social habits. Instead of guessing how your lifestyle affects your brain, you can get a concrete score that reflects your current cognitive standing.

Your AI client can process your professional history to see how much mental demand your jobs have provided. It also looks at your active engagement, such as social life and mental stimulation, to see if you are actively maintaining your reserve. Once you have a baseline, you can ask your agent for specific lifestyle changes that target your unique needs. It's a practical way to turn neuroscience concepts into a personal roadmap for brain health.

Core Capabilities

01 — Reserve Scoring

Your agent calculates a numerical score representing your brain's resilience.

02 — Work History Analysis

The MCP evaluates how much mental demand your career has provided.

03 — Lifestyle Assessment

Your AI client checks your social and mental activity levels.

04 — Personalized Advice

The tool generates specific lifestyle recommendations based on your data.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/cognitive-reserve-estimator — connect your AI agent in three steps.

- 01
- Connect the MCP to Claude, Cursor, or Windsurf via Vinkius.
- 02
- Provide your education, occupation, and lifestyle details to your AI client.
- 03
- The agent uses the MCP tools to calculate your reserve and analyze drivers.
- 04
- Review the score and the personalized health recommendations provided by your agent.

You connect the MCP to your AI client and provide your personal data to get immediate insights.

Built For

This MCP is for individuals interested in neuroscience-based wellness and professionals tracking cognitive health metrics.

Health Enthusiasts

People who want to use data to guide their lifestyle and brain health choices.

Researchers

Users who need to quickly model cognitive reserve based on specific lifestyle variables.

Wellness Coaches

Professionals who can use these scores to provide data-backed advice to clients.

What Changes When You Connect

- 01
- Quantifies mental resilience through a standardized score.
- 02
- Identifies specific lifestyle drivers that protect your brain.
- 03
- Translates complex neuroscience into actionable lifestyle changes.

04 Evaluates the long-term impact of professional mental demand.

Real-World Applications

Personal Health Tracking

You can monitor how changes in your lifestyle or career affect your cognitive reserve score over time.

Lifestyle Optimization

Get specific suggestions for hobbies or social activities to boost your score.

Career Planning

Use the tool to see how moving into a more complex role might increase your cognitive buffer.

Educational Assessment

See how your years of formal education contribute to your overall brain resilience.

4 Tools Available

#	TOOL	DESCRIPTION
01	analyze_occupational_impact	This tool evaluates how your current or past professional roles contribute to your cognitive buffer. It measures the mental demand of your work history.
02	estimate_cognitive_reserve	This tool calculates your primary cognitive reserve score. It identifies the specific drivers, like education or bilingualism, that protect your brain.
03	evaluate_social_and_cognitive_activity	This tool analyzes your active reserve by looking at your current social engagement and mental stimulation levels.
04	get_health_recommendations	This tool provides personalized lifestyle adjustments. It uses your calculated reserve score to suggest specific changes.

See It in Action

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

U Estimate my cognitive reserve. I have 16 years of education, my job is High complexity, I am bilingual, and my stimulation and social levels are both 7.



Your cognitive reserve score is 78, which is considered High. Your primary drivers are bilingualism and high occupational complexity.

U What are some ways I can improve my brain health based on a score of 45?



To improve your score, focus on increasing social engagement and finding more cognitively stimulating hobbies like learning a new language.

U How much has my 10 years in a High complexity role contributed to my reserve?



Your total occupational contribution is 45, consisting of a 35 point complexity impact and a 10 point longevity bonus.

Frequently Asked Questions

01 What is cognitive reserve?

Cognitive reserve is the brain's ability to improvise and find alternate ways of getting a job done, acting as a buffer against decline.

02 How do I use this MCP with Claude?

You connect to the Vinkius catalog once, and the tools become available for your AI client to use immediately.

03 What factors influence my cognitive reserve score?

The score is calculated based on your education, the complexity of your occupation, and your current social and mental activity levels.

04 Can this MCP suggest specific hobbies?

Yes, the `get_health_recommendations` tool provides personalized suggestions for lifestyle adjustments based on your score.

05 Does my job affect my score?

Yes, the `analyze_occupational_impact` tool specifically evaluates how much your work contributes to your cognitive buffer.

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>"cognitive-reserve-estimator": { "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

Cognitive Reserve Estimator 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

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Server ID	01a0b261-f21a-7283-acd4-f39ec7d73daa
Platform	Vinkius Cloud for AI Agents
Endpoint	https://edge.vinkius.com/{token}/mcp

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