

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

Bread Loaf Calculator MCP

Turn dough weights into accurate production plans.

Bread Loaf Calculator MCP handles the math for your bakery production. It calculates how many loaves you can get from a specific dough weight, accounts for dough loss during processing, and checks if your current supply meets your target order volume. You can run different production scenarios to see how varying wastage levels affect your final yield.

A+

Quality Score 100/100

bakery

production

dough

yield

planning



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.

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.

Bread Loaf Calculator MCP

4 tools available

Cloud-hosted on Vinkius

Running a bakery means constant math. You need to know if a batch of dough will actually cover your morning orders or if you'll run short because of dough sticking to the mixer or bowls. This MCP takes that guesswork out of your production planning. Instead of manual calculations, you tell your AI client how much dough you have and what size loaves you're aiming for. It handles the heavy lifting of calculating capacity and checking if your goals are realistic. You can also factor in expected wastage to get a much more honest look at your actual yield. It's built to help you plan batches based on real-world conditions, not just perfect theoretical numbers. Whether you're scaling up a recipe or trying to hit a specific number of loaves for a wholesale client, this tool gives you the numbers you need to make decisions on the fly.

Core Capabilities

01 — Yield Estimation

Your agent calculates usable dough after accounting for loss.

02 — Capacity Planning

The AI determines the total number of loaves possible from a dough weight.

03 — Goal Verification

Your agent checks if your dough supply meets a specific order quantity.

04 — Wastage Modeling

The tool provides different production scenarios based on varying waste levels.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/bread-loaf-calculator — connect your AI agent in three steps.

- 01
- Connect the MCP to Claude, Cursor, or Windsurf via Vinkius.
- 02
- Provide your dough weight and desired loaf size to your AI client.
- 03
- The AI uses the specific tools to run the math.
- 04
- Receive immediate answers on loaf counts, wastage, or feasibility.

You connect the MCP to your AI client and start asking questions about your dough.

Built For

This MCP is designed for professional bakers and production managers who need to turn raw dough weights into actionable production schedules.

Head Baker

Uses the tool to verify if a batch is large enough to meet daily bread quotas.

Bakery Production Manager

Relies on yield calculations to plan ingredient orders and labor.

Small Business Owner

Checks batch feasibility to ensure they don't over-promise on wholesale orders.

What Changes When You Connect

- 01
- Accounts for real-world dough loss in every calculation.
- 02
- Prevents under-production by checking batch feasibility against targets.
- 03
- Provides clear loaf counts based on specific dough weights.

- 04 Allows for scenario planning with different wastage percentages.

Real-World Applications

Wholesale Order Verification

Check if your current dough supply can fulfill a specific large order for a local cafe.

Wastage Impact Analysis

See how much your loaf count drops if your dough loss increases from 2% to 5%.

Batch Scaling

Determine exactly how much dough is needed to hit a specific number of loaves.

Daily Production Planning

Calculate total capacity for the morning shift based on the dough prepared overnight.

Patterns to Avoid

Ignoring dough loss

❌ AVOID

You assume every gram of dough in the mixer ends up in a loaf. You tell a wholesale client you have enough for 50 loaves when you actually only have enough for 46.

✓ INSTEAD

Always account for stickiness and bowl loss. Use ``calculate_yield_with_wastage`` to get a realistic number that includes your expected waste percentage.

Overpromising on batch size

❌ AVOID

You see a large pile of dough and assume it covers your morning orders. You realize halfway through shaping that you're short on volume.

✓ INSTEAD

Verify your supply before committing to orders. Run ``check_batch_feasibility`` to confirm your current dough weight can actually hit your target loaf count.

The Right Fit

Professional bakers and production managers should connect this MCP if they need to turn raw dough weights into reliable production

schedules. Small business owners who manage wholesale orders should use it to avoid over-promising. If you only bake for personal use or don't care about precise yield, you don't need this.

Bread Loaf Calculator: 4 Production Planning Tools

These tools convert raw dough weights into realistic loaf counts by accounting for real-world wastage and production limits.

#	TOOL	DESCRIPTION
01	calculate_yield_with_wastage	This tool estimates your final loaf count by subtracting expected dough loss from your total weight.
02	check_batch_feasibility	Use this to see if your current dough supply can actually meet a specific number of loaves.
03	get_production_capacity	This tool calculates the maximum number of full loaves you can produce from a specific dough weight.
04	get_production_tiers	This tool provides a breakdown of potential yield across different levels of dough wastage.

See It in Action

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

U How many 500g loaves can I make from 10kg of dough?



You can make 20 full loaves, with 0g of dough remaining.

U If I have 5000g of dough and expect 5% wastage, how many 400g loaves can I produce?



After 5% wastage, you will have 4750g of usable dough, allowing for 11 full loaves.

U Do I have enough dough for 50 loaves of 800g each if I have 45kg of dough?



Yes, you have enough dough. You will have a surplus of 5000g.

Frequently Asked Questions

01 How does this MCP handle dough loss?

It uses the `calculate_yield_with_wastage` tool to subtract expected loss from your total dough weight before calculating the final loaf count.

02 Can I use this with Claude or Cursor?

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

03 What if I don't know my exact wastage percentage?

You can use the `get_production_tiers` tool to see how different levels of wastage will affect your total yield.

04 Does this help with ordering ingredients?

While it doesn't order ingredients, it helps you understand how much dough you can produce, which informs your ingredient needs.

05 Can I check if a specific order is possible?

Yes, the `check_batch_feasibility` tool tells you if your current dough supply can meet a specific number of loaves.

06 How does the tool handle dough wastage?

The `calculate_yield_with_wastage` tool subtracts a specified percentage from the total dough weight before calculating the number of loaves, simulating real-world loss.

07 Can I check if I have enough dough for a specific order?

Yes, use `check_batch_feasibility` to determine if your current dough supply can meet your required number of loaves.

08 What happens to the leftover dough?

The `get_production_capacity` tool returns both the total number of full loaves and the `remainingDough` mass that was insufficient for a full loaf.

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>"bread-loaf-calculator": { "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

Bread Loaf Calculator 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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Platform	Vinkius Cloud for AI Agents
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

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