MCP SERVER | NO CODE | CLOUD HOSTED

Mapbox MCP

Calculate routes and optimize complex journeys.

Mapbox (Maps & Geospatial) gives your AI agent world-class control over location data. Use it to find coordinates from addresses, plot multi-stop delivery routes, calculate reachable areas by walking time, and analyze elevation at any point on Earth.

A+ Quality Score 100/100

geospatial-intelligence | routing | reverse-geocoding | location-data | mapping | gps-coordinates

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vinkius.com/mcp/mapbox-maps-geospatial

SCAN TO VIEW

The infrastructure that powers AI agents in the real world.

Vinkius connects AI to the world's software through secure, enterprise-grade infrastructure — enabling real-world execution at scale, built on the Model Context Protocol (MCP).

Your AI Connections Run Through Vinkius Cloud

The world's largest managed MCP catalog

Vinkius is the cloud infrastructure where AI agents connect 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.

Mapbox (Maps & Geospatial) MCP

10 tools available
Cloud-hosted on Vinkius

Need to work with geography? This MCP connects advanced mapping intelligence directly into your AI client. You stop manually opening GIS software or struggling with messy spreadsheets of GPS points. Instead, you talk to your agent—your agent handles the complex math behind location data.

For example, instead of figuring out the best path for a delivery team visiting ten sites, you simply ask the system what the optimal sequence is and how long it'll take. You can calculate all-to-all travel times between dozens of points or determine exactly which areas are reachable within a 15-minute bike ride. It's like having a professional logistics planner available instantly through natural conversation. If you use Vinkius for your catalog, this MCP provides the precise tools to build location-aware applications without ever touching API documentation.

Core Capabilities

01 — Find Coordinates from Text

The system converts text addresses or place names into exact latitude and longitude coordinates.

02 — Calculate Optimal Routes

It figures out the best paths for driving, walking, or cycling between multiple points, factoring in real-time traffic.

03 — Optimize Multi-Stop Trips

The system solves complex routing puzzles (like the Traveling Salesperson Problem) to give you the most time-efficient visit order for a group of locations.

04 — Analyze Reachable Areas

It draws polygons showing what area is reachable from a point within a set travel time, whether by foot or car.

05 — Clean GPS Data Tracks

The system corrects noisy or inaccurate GPS tracking data so it aligns perfectly with actual road networks.

06 — Determine Altitude and Elevation

You can query the precise elevation data for any specific coordinate point on the map.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/mapbox-maps-geospatial** — connect your AI agent in three steps.

01 First, subscribe to this MCP and input your Mapbox Access Token.

02 Next, you direct your AI client to perform a geospatial task using natural language prompts.

03 Finally, the system returns precise coordinates, calculated routes, or visual map data for immediate use.

The bottom line is that it turns complicated mapping tasks into simple conversational commands.

Built For

This MCP targets anyone whose job revolves around physical location, movement, or complex spatial data. If you deal with fleets, field service, urban planning, or detailed logistics, this is for you. It solves the pain of manually stitching together data from multiple GIS tools.

Logistics Manager

Optimizes delivery routes and calculates distance matrices to manage fleet schedules without relying on expensive manual mapping software.

Software Developer

Integrates complex location services, like geocoding or route optimization, directly into AI agents for application development.

Urban Planner / Analyst

Determines service coverage areas by running isochrone analysis and querying high-resolution elevation data for planning projects.

What Changes When You Connect

01 Stop guessing the best route. Use get_distance_matrix to instantly calculate travel times between dozens of locations, giving you a complete logistics matrix for fleet management.

02 Need to know coverage? Run get_isochrones to draw precise polygons showing exactly what areas are within a 15-minute walk or drive from your office location.

03 Clean up messy data. If your GPS tracks are noisy, snap_to_road aligns them perfectly to the actual road network, giving you accurate tracking records for field teams.

04 Solve trip planning instantly. The solve_optimization tool figures out the absolute best order to visit multiple stops, saving hours of manual calculation time.

05 Understand location context. Instead of just having numbers, use reverse_geocode to take coordinates and get the real address or point of interest name attached.

06 Visualize data quickly. generate_static_map lets you create a visual map image right from your agent's response for immediate client review.

Real-World Applications

Optimizing Field Service Calls

A service company needs to schedule five technicians across three different cities. Instead of building complex Excel models, the user asks their agent to solve_optimization using get_distance_matrix to find the minimum travel time sequence for all appointments.

Defining Service Zones

A retailer needs to know its service area radius. The analyst uses get_isochrones, asking what areas are within a 10-minute drive from their main warehouse coordinates, helping them define profitable expansion zones.

Validating GPS Data

A researcher collects raw GPS data from a drone flight. They use snap_to_road to clean the noisy coordinate set, ensuring that every recorded point accurately matches an existing road segment for analysis.

Identifying Key Points of Interest

An agent is given coordinates but doesn't know what they are. The user prompts reverse_geocode, and the system correctly identifies the location as 'Corner Street Diner,' providing instant context.

Patterns to Avoid

Calculating routes manually

✗ AVOID

Trying to map a complex multi-city route using multiple online mapping websites, resulting in mismatched data and wasted time.

✓ INSTEAD

Use get_directions for simple point-to-point travel or use get_distance_matrix when you need the total travel time between many origins and destinations.

Assuming clean GPS input

✗ AVOID

Using raw, noisy coordinates directly in a calculation tool because they 'look close enough' to the road.

✓ INSTEAD

Always run those messy tracks through snap_to_road first. It ensures your data is accurate and aligned with real-world infrastructure.

Ignoring location context

✗ AVOID

Only getting a set of coordinates without knowing what they mean in the real world, making decision-making impossible.

✓ INSTEAD

After finding a coordinate pair, run reverse_geocode to translate it into a readable address or point of interest name.

The Right Fit

Use this MCP if your problem involves distance, time, or location geometry. If you need to know the fastest way between two places, use get_directions. If you have more than three points and need an optimal sequence (like a delivery truck), solve_optimization is your tool. If you are analyzing how far people can travel from a single point in a specific amount of time, then get_isochrones handles that complex geometry for you. Don't use this if you just need general text formatting or data transformation; you'll want a different type of MCP. Also, remember to check the elevation with get_elevation before deciding on infrastructure projects.

Mapping out logistics used to be an absolute headache.

Today, figuring out optimal routes or analyzing service areas means juggling multiple tools. You export raw GPS data into one spreadsheet, then manually input coordinates into a separate mapping platform just to check the distance matrix. If you have dozens of stops, you spend hours trying to figure out the most efficient sequence without even talking to a human.

With this MCP, your agent handles all that complexity behind the scenes. You describe the problem—'We need to visit these 12 sites in the shortest time possible.'—and it returns the optimized order and total travel time instantly.

Mapbox (Maps & Geospatial) MCP gives you geographic intelligence.

You no longer have to write complex code just to validate if a coordinate pair is actually on a road, or calculate the reachable area for city planning. The system handles data cleaning and geometry calculation automatically.

This means your AI agent can move from vague human questions about 'coverage' directly to actionable, geometrically accurate results.

Mapbox (Maps & Geospatial) with 10 Tools

These ten tools let you perform everything from searching for addresses to calculating complex travel matrices, giving your AI client full control over location data.

#	TOOL	DESCRIPTION
01	`get_directions`	Calculates driving, walking, or cycling directions between any two points.
02	`get_elevation`	Retrieves the elevation data for a specific geographical coordinate point.
03	`search_places`	Finds locations, addresses, or points of interest using Mapbox's search functionality.
04	`get_isochrones`	Calculates polygons that show all areas reachable within a set amount of travel time.
05	`snap_to_road`	Cleans up noisy GPS data tracks by aligning them perfectly to the official road network.
06	`get_distance_matrix`	Calculates a comprehensive table of travel times and distances between multiple origins and destinations.
07	`solve_optimization`	Determines the most efficient order to visit a set of locations, minimizing overall travel time for multi-stop trips.
08	`reverse_geocode`	Identifies specific place names or addresses based on given coordinates.
09	`geocoding_session`	Performs autocomplete searches for addresses while maintaining a continuous session context.
10	`generate_static_map`	Creates a static image URL of a map centered on specific coordinates.

See It in Action

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

U Find the coordinates for 'Golden Gate Bridge' in San Francisco

Resolving place... I've found the Golden Gate Bridge at latitude 37.8199 and longitude -122.4783. It is classified as a POI (Point of Interest). Would you like me to find driving directions to this location?

U Get driving directions from New York to Philadelphia with traffic-aware ETA

Calculating route... The optimal path via I-95 S is approximately 152 km. With current traffic conditions, the estimated travel time is 1 hour and 45 minutes. I can provide the detailed turn-by-turn navigation data if you'd like.

U What areas are within a 5-minute walk from '-73.9857,40.7484'?

Computing isochrone... I've generated a 5-minute walking polygon centered near the Empire State Building. This area covers approximately 0.8 square kilometers. Would you like me to provide the GeoJSON coordinates for this reachable zone?

Frequently Asked Questions

01 **How do I find the coordinates for an address using Mapbox (Maps & Geospatial)?**

You use search_places. Simply ask your agent to find the location name or address, and it returns precise latitude and longitude coordinates.

02 **Can I calculate travel time between multiple stops with Mapbox (Maps & Geospatial)?**

Yes, you should use get_distance_matrix. This tool computes a full matrix of travel times and distances for all origins and destinations simultaneously.

03 **What is the best way to optimize a delivery route using Mapbox (Maps & Geospatial)?**

For finding the absolute most efficient visiting order, use solve_optimization. It solves the complex Traveling Salesperson Problem for you.

04 **How does get_isochrones work with Mapbox (Maps & Geospatial)?**

It calculates reachable areas by time. For example, it draws a polygon showing every place accessible within a 15-minute walk from your starting point.

05 **Does Mapbox (Maps & Geospatial) help me clean my own GPS data?**

Yes, use snap_to_road. This tool cleans up noisy or inaccurate GPS traces by forcing them to align perfectly onto the actual road network.

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 `"mapbox-maps-geospatial": { "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

Mapbox (Maps & Geospatial) 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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