MCP SERVER | NO CODE | CLOUD HOSTED

Nominatim MCP

Map Coordinates and Addresses from OpenStreetMap Data

Nominatim lets your AI client search the world's open-source map data (OpenStreetMap) without needing an API key. You can find places, translate GPS coordinates into street addresses, and pull detailed geographical information simply by talking to your agent.

A+ Quality Score 100/100

geocoding | reverse-geocoding | openstreetmap | location-search | spatial-data

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vinkius.com/mcp/nominatim

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.

Nominatim MCP

5 tools available
Cloud-hosted on Vinkius

Need to understand a location but don't want to pay for mapping services? This MCP connects you directly to OpenStreetMap's massive, community-driven database. Forget the hassle of managing API keys or dealing with service limits. You just talk to your AI client and it handles the complex lookup process.

It lets your agent find physical locations by name—whether it's a school, a restaurant, or a specific street corner. If you only have GPS coordinates, the MCP converts them back into full, readable addresses, giving you context immediately. You can also drill down into geographic details: look up complex object IDs or determine the exact boundaries of a city block. This service is critical for anyone dealing with location data who needs reliable results without proprietary restrictions. Connect it via Vinkius and your agent accesses this entire catalog of global spatial data instantly.

Core Capabilities

01 — Search places by name or type

Your agent can find specific points of interest anywhere in the world, whether you know the street address or just the kind of place (like a hospital).

02 — Convert coordinates to readable addresses

If you get GPS numbers, this MCP translates them into clear, human-readable city and state addresses.

03 — Look up detailed object information by ID

You can query the system using a specific OpenStreetMap ID to pull all known details about that geographical feature.

04 — Determine geographic boundaries

The MCP returns defined bounding boxes for large areas, like whole countries or city districts.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/nominatim** — connect your AI agent in three steps.

01 Subscribe to this MCP on Vinkius.

02 Connect your preferred AI client (like Claude or Cursor) to the catalog.

03 Tell your agent what you need—for example, 'What address is at 40.7128, -74.0060?' and it handles the rest.

The bottom line is that once connected, your AI client treats OpenStreetMap data like a built-in tool you can call with natural language instructions.

Built For

This MCP is for the data analyst who needs to batch process thousands of addresses without paying per query. It's for the field researcher mapping out routes based on open-source maps, and the developer building systems that need reliable location context everywhere.

Data Analyst

Running scripts to geocode large lists of addresses or extract structured data components (like zip codes) from raw text.

Field Researcher

Determining the exact administrative boundaries and types of places at random GPS coordinates during an investigation.

Software Developer

Building prototypes that require location context, like routing or validating address formats, without relying on paid commercial APIs.

What Changes When You Connect

01 Eliminate API costs. You get access to the entire OpenStreetMap database for free, meaning you never have to worry about paid usage limits when running `search` or `reverse_geocode`.

02 Get structured data components instantly. When your agent runs a search, it doesn't just give you a name; it provides detailed address parts like street, postal code, and country, which is perfect for databases.

03 Work with raw IDs. Need to know everything about a specific object? Use `get_details` or `lookup_osm` to pull deep context from the map data that simple searches miss.

04 Understand boundaries. If you need to scope an area—say, all locations within a given city limit—the MCP returns precise geographic bounding boxes for reliable filtering.

05 Handle global scale. The service supports multi-language naming conventions and robust searching across diverse global regions, making it ideal for international projects.

Real-World Applications

Validating a mailing list

A marketing team has a spreadsheet of old addresses. Instead of manually checking each one, they prompt their agent to 'validate these 50 locations.' The agent uses the `search` tool to verify if the address exists and pull standardized components like zip codes.

Mapping archaeological sites

A researcher finds a collection of historical GPS coordinates. They ask their agent to 'translate these points into formal addresses.' The agent uses `reverse_geocode` to give the coordinates immediate, usable context for reporting.

Building a localized content app

A developer needs to list all local amenities (hospitals, schools) near a central point. They prompt their agent to 'find all type=hospital within 1km of X coordinates.' The agent uses `search` with structured filters.

Analyzing regional market reach

A business wants to know the exact boundaries of a state or metropolitan area for sales planning. They ask their agent to 'give me the bounding box for Ohio.' The MCP uses this information to define the precise operational region.

Patterns to Avoid

Assuming all mapping data is uniform

✗ AVOID

Trying to use a generic API call that only returns latitude/longitude and a single, vague address line.

✓ INSTEAD

Always use `reverse_geocode` or the `search` tool. These tools guarantee you get structured components—the city, state, and country separated out—which is necessary for data cleaning.

Relying on a single search result

✗ AVOID

Only using simple text searches that might return the most popular or visible location, ignoring other nearby points of interest.

✓ INSTEAD

Use `lookup_osm` and feed it multiple IDs to pull comprehensive data for several related features at once. This gives you a holistic view of the area.

Stopping when an address is found

✗ AVOID

Getting an address but not knowing if that location has administrative boundaries or parent hierarchies.

✓ INSTEAD

After finding a place, ask your agent to use `get_details` on the object ID. This reveals its full parent hierarchy and links to other data sources.

The Right Fit

Use this MCP if your primary need is open-source geographic context—you are mapping, validating addresses, or building location logic based on OpenStreetMap's global community data. You must use it when you cannot afford paid API calls, or when the specific nature of the location requires detailed, non-commercial object metadata.

Don't use this if your core requirement is accessing highly proprietary or restricted business data (like internal corporate records) that hasn't been mapped to OpenStreetMap. If you only need simple 'point A to point B' routing without needing component validation, a dedicated route planning tool might suffice. However, for any task involving address components, boundaries, or identifying *what* a set of coordinates represents, this Nominatim MCP is the right choice.

Manually cross-referencing location data slows down every project.

Today, if you need to validate an address list or find out what a set of GPS coordinates mean, you're stuck copy-pasting into multiple paid mapping websites. You hit rate limits, pay per thousand lookups, and spend hours stitching together disparate pieces of information just to get a clean dataset.

With this MCP, your agent handles the complexity automatically. You simply ask for the location data, and it uses powerful tools like `search` to pull structured results—giving you everything from city names down to the correct postal code in one go.

Nominatim gives you reliable context with Nominatim MCP.

Instead of opening five different tabs, navigating through paid account dashboards, and waiting for

The result is immediate, reliable location context powered by open data. Your work moves from

API keys to refresh, your agent executes the entire workflow in a single conversation. It can use `reverse_geocode` to confirm an address instantly.

manual lookups to automated discovery.

Nominatim MCP - 5 Tools

These tools allow your agent to search for places by name, convert raw coordinates to human addresses, and pull deep details about any object found on OpenStreetMap.

#	TOOL	DESCRIPTION
01	`get_details`	Pulls comprehensive information about a specific OpenStreetMap feature using its unique ID.
02	`lookup_osm`	Retrieves general data, coordinates, and properties for multiple OpenStreetMap objects based on their IDs.
03	`reverse_geocode`	Converts a set of geographic coordinates into the nearest official address details, including city and state.
04	`search`	Finds places by name or partial address, returning structured results with bounding boxes and address components.
05	`get_status`	Checks the current operational status of the Nominatim service to confirm it's ready for use.

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 the Eiffel Tower.

Found: Eiffel Tower at coordinates 48.8584, 2.2945. Address: Champ de Mars, 5 Avenue Anatole France, 75007 Paris, France. Bounding box: 48.8574-48.8594, 2.2935-2.2955. OSM ID: W5013364 (way).

U What address is at coordinates 40.7128, -74.0060?

Coordinates 40.7128, -74.0060 correspond to: City Hall Park, New York, NY 10007, United States. Borough: Manhattan. County: New York County. State: New York. Country: United States. Place type: park.

U Search for 'Central Park' and show me its bounding box.

Central Park, New York: Bounding box 40.7644 to 40.8006 (lat), -73.9818 to -73.9491 (lon). OSM ID: W326168186 (way). Place type: park. Address: Manhattan, New York County, New York, 10024, United States.

Frequently Asked Questions

01 **Does Nominatim MCP require me to pay for API access?**

No. This MCP connects directly to OpenStreetMap and does not require you to manage or provide any paid API keys. It's completely free, powered by community data.

02 **How do I use the Nominatim MCP in my agent workflow?**

You simply connect your AI client through Vinkius and ask it to perform an action—like 'find a restaurant near 40.7128, -74.0060.' The agent figures out which tool to call.

03 **Can Nominatim MCP find addresses in countries without good mapping coverage?**

Yes, because it uses OpenStreetMap data, its coverage is vast and community-driven, making it useful for regions where commercial map services might fail or charge exorbitant rates.

04 **Which tool should I use to verify an address component?**

The `search` tool is best. It returns results with structured components (street, city, state) and coordinates, allowing you to validate specific parts of the address.

05 **Can Nominatim MCP get me the boundaries for a region?**

Yes, use `get_details` or other lookup tools. They provide bounding boxes, which define the exact minimum and maximum coordinates for a given area.

06 **Do I need an API key?**

No! Nominatim is completely free and requires no authentication. It's powered by the OpenStreetMap community. Just subscribe and start searching. Rate limit is 1 request per second.

07 **How accurate is the geocoding?**

Nominatim uses OpenStreetMap data, which is crowd-sourced and varies by region. Urban areas typically have very accurate results. Use addressdetails=1 to get structured address components and namedetails=1 for multi-language names.

08 **Can I convert coordinates to an address?**

Yes! Use reverse_geocode with latitude and longitude. Returns the nearest address with street name, house number, city, state, postal code and country. Supports different zoom levels for varying detail granularity.

09 **What is an OSM ID and how do I use it?**

OSM IDs are unique identifiers for OpenStreetMap objects: N for nodes (points), W for ways (lines/areas), R for relations (groups). Use lookup_osm with IDs like 'W123456' or 'N987654'. Use get_details for comprehensive info on a single object.

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 `"nominatim": { "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

Nominatim 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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