MCP SERVER | NO CODE | CLOUD HOSTED

# Twelve Data MCP

## Analyze market trends, indicators, and history instantly.

Twelve Data connects real financial market data to your AI agent. Get instant access to current stock quotes, crypto prices, forex rates, and professional technical indicators like RSI, MACD, and Bollinger Bands through natural language conversation.

A+ Quality Score 100/100

market-data | stock-quotes | forex | cryptocurrency | technical-indicators

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vinkius.com/mcp/twelve-data

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.

# Twelve Data MCP

16 tools available
Cloud-hosted on Vinkius

Need to analyze what's happening in the markets? This MCP lets you ask your agent questions about stocks, crypto, or foreign exchange using plain English. You don't have to jump between charting software and data providers anymore. Your AI client pulls real-time quotes and historical candle data right into your workflow. Need to compare a stock against its 200-day average? Just ask for the Simple Moving Average (SMA). Want to know if an asset is overbought or oversold? You can run indicators like RSI, MACD, or Bollinger Bands instantly. It's designed to make financial analysis part of your conversation. Connecting this MCP via Vinkius means you get access to a massive catalog of tools, so once you're analyzing market data, you don't have to switch services. It simply adds the full depth of global market metrics and fundamental company profiles into your existing AI agent.

## Core Capabilities

**01 — Get Real-Time Pricing**

Retrieve current prices for stocks, crypto pairs, and forex instruments.

**02 — Calculate Technical Indicators**

Compute complex metrics like RSI, MACD, EMA, and Bollinger Bands based on price history.

**03 — Analyze Price History**

Pull detailed OHLCV candlestick data for any time period, from minutes to months.

**04 — Manage Currencies**

Convert amounts between different currencies and fetch real-time exchange rates.

**05 — Research Companies**

Access fundamental data, including market capitalization and P/E ratios, for specific companies.

## One Click on Vinkius — From Prompt to Execution

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

01 Subscribe to the Twelve Data MCP and provide your unique API key.

02 Tell your agent what you need—for example, 'What is the RSI for TSLA on a daily chart?'

03 Your AI client executes the necessary function calls and returns the calculated data or quote directly.

The bottom line is you get professional-grade financial analysis results without leaving your conversational workflow.

## Built For

Quantitative analysts, investment researchers, and portfolio managers. This MCP helps those who are tired of opening multiple dashboards just to cross-reference a stock's current price against its historical performance or calculated technical indicators.

**Financial Analyst**

Calculating complex metrics like the Exponential Moving Average (EMA) and checking fundamental data for company profiles during due diligence.

**Quantitative Researcher**

Developing trading signals by pulling historical OHLCV candlestick data and running indicators like MACD to test hypotheses on different assets.

**Portfolio Manager**

Checking real-time quotes across multiple asset classes, from stocks to crypto, and converting amounts between currencies quickly.

## What Changes When You Connect

01 You don't have to manually calculate technical metrics. Use functions like `get_rsi` or `get_macd` to instantly determine if an asset is overbought or oversold based on its current price action.

02 Get a full picture of market health by combining fundamental data with pricing tools. You can use `get_company_profile` alongside real-time quotes from `get_quote` for comprehensive analysis.

03 Stop tracking prices in multiple formats. The MCP handles everything, giving you historical OHLCV candle data via `get_time_series`, supporting intervals from 1 minute up to a full month.

04 Manage global finances without leaving your agent chat. Easily convert currencies using `convert_currency` and find the exact exchange rate with `get_exchange_rate` for any pair.

05 Speed matters in trading. If you only need a quick price check, use `get_real_time_price` instead of pulling full quote data to keep your prompts fast and concise.

## Real-World Applications

**Assessing crypto momentum**

A trader asks their agent: 'Show me the Bollinger Bands and RSI for Bitcoin right now.' The agent calls `get_bollinger_bands` and `get_rsi`, providing a single, immediate assessment of whether BTC is in an overbought or oversold condition.

**Comparing stocks across timeframes**

A researcher needs to compare Tesla's performance. They ask the agent to pull data for three different periods: 'Get me 1-month historical OHLCV data, then calculate the Simple Moving Average (SMA) and EMA.' This uses `get_time_series`, `get_sma`, and `get_ema` sequentially.

**Budgeting international projects**

A project manager needs to know the cost of goods in Euros. They ask: 'How many USD is 5,000 EUR worth right now?' The agent calls `get_exchange_rate` and presents the instant conversion using `convert_currency`.

**Due diligence on a public company**

A financial analyst asks: 'What is Apple's current market cap, P/E ratio, and what was its real-time price today?' The agent uses `get_company_profile` for fundamentals and `get_quote` for the live metrics.

# Patterns to Avoid

### Assuming current data is enough

✗ AVOID

The user only asks, 'What's the price of AAPL?' They get a single number and assume it represents the trend or value.

✓ INSTEAD

To understand context, you must ask for historical data. Use `get_time_series` to pull OHLCV candle data first, then run indicators like `get_rsi` to determine if that price is historically normal or extreme.

### Confusing currency conversion with exchange rates

✗ AVOID

The user asks for the rate and also tries to calculate a specific amount simultaneously in one prompt, leading to ambiguity.

✓ INSTEAD

Break it down. First, use `get_exchange_rate` to confirm the current market rate. Then, run `convert_currency` with that confirmed rate to get the final dollar amount.

### Ignoring asset class boundaries

✗ AVOID

The user tries to calculate an SMA on a crypto pair using stock-only tools or vice versa.

✓ INSTEAD

Always start by searching for symbols. Use `search_symbols` and specify the instrument type (crypto, forex, stock) first before calling any indicator function.

# The Right Fit

Use this MCP if your core task involves deriving actionable insights from complex, structured financial data—things like calculating a specific moving average, tracking historical volatility, or comparing fundamental ratios. You need the mechanism of indicators; you can't just ask for 'market feeling.'

Don't use this if you are simply messaging colleagues about market events or managing simple tasks outside finance. For those situations, an MCP focused on communication tools is better. If you only need a list of symbols and no calculations, a dedicated symbol lookup tool might suffice. But when the data needs mathematical processing (e.g., EMA, MACD), this connector is necessary.

## Dealing with Market Data Today Is an Exercise in Context Switching

Right now, analyzing a stock's true value requires opening your brokerage platform for the live quote. Then you have to open charting software to run indicators like RSI and MACD. You might need to jump to a separate API portal just to get fundamental data, like market cap or P/E ratio. It's copy-paste hell, and by the time you gather all three pieces, the market has probably moved.

With this MCP, your agent handles it all in one conversation. You ask for 'the full picture,' and the system pulls real-time quotes, historical candles, AND the calculated indicators—all without you leaving your chat window. It's instant data assembly.

## Get Instant Financial Analysis with Twelve Data

You eliminate the need to manually cross-reference three separate reports: the price action report, the fundamental company dossier, and the technical indicator sheet. No more downloading CSVs just to run a simple SMA calculation.

The result is direct analysis. Instead of receiving raw numbers you have to interpret, your agent gives you a synthesized answer based on what tools like `get_bollinger_bands` and `get_rsi` tell it.

# Twelve Data: 16 Financial Tools for Your Agent

These tools let you perform specialized financial calculations, ranging from currency conversion to complex technical indicator modeling.

| # | TOOL | DESCRIPTION |
|---|---|---|
| 01 | convert_currency | Converts a specific amount of money from one currency to another. |
| 02 | get_bollinger_bands | Calculates Bollinger Bands, which help identify if prices are moving too far above or below their average range. |
| 03 | get_company_profile | Retrieves key fundamental data and general profile information for a listed company. |
| 04 | get_crypto_list | Lists available cryptocurrency pairs, allowing you to filter by the specific exchange. |
| 05 | get_ema | Calculates the Exponential Moving Average (EMA), giving more weight to recent price movements than simpler averages. |
| 06 | get_exchange_rate | Gets the current, real-time exchange rate between two specified currencies. |
| 07 | get_forex_list | Lists all available foreign exchange pairs for currency analysis. |
| 08 | get_macd | Calculates the Moving Average Convergence Divergence (MACD) to track momentum and potential trend changes. |
| 09 | get_quote | Retrieves a comprehensive, real-time quote including open, high, low, volume, and current price for any stock. |
| 10 | get_rsi | Calculates the Relative Strength Index (RSI), which shows if an asset is currently overbought or oversold. |
| 11 | get_real_time_price | Fetches only the current trading price for a stock, offering a quick check without full quote data. |
| 12 | get_sma | Calculates the Simple Moving Average (SMA) over common periods like 20 or 50 days. |
| 13 | get_stochastic | Computes the Stochastic Oscillator, helping determine if an asset is potentially reaching extreme value levels. |
| 14 | get_stock_list | Lists available stocks and allows filtering by exchange or partial symbol match. |

| # | TOOL | DESCRIPTION |
|---|---|---|
| 15 | get_time_series | Gets historical candlestick data (OHLCV) spanning time intervals from one minute up to one month. |
| 16 | search_symbols | Searches for financial instruments using criteria like instrument type and exchange name. |

# See It in Action

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

**U** What's the current price of Apple stock?

AAPL is currently trading at $192.45, up 1.23% (+$2.34) from yesterday's close. Open: $190.50, High: $193.10, Low: $189.80. Volume: 52.3M shares.

**U** Show me the RSI for Tesla on the daily chart.

TSLA RSI (14-period) on daily chart: 58.3 — neutral territory. Not overbought (>70) or oversold (<30). The RSI has been trending upward over the past 5 sessions.

**U** Convert 1000 USD to EUR.

1,000 USD = 921.50 EUR at the current exchange rate of 0.9215. Rate updated in real-time.

# Frequently Asked Questions

01 **How do I use Twelve Data MCP to find the current price of Apple stock?**

You can get a quick check using the `get_real_time_price` tool. For more detail, run `get_quote`. The quote provides volume, open, high, and low alongside the current price.

02 **Can Twelve Data MCP help me with currency conversions?**

Yes, you use the `convert_currency` tool. You just specify the amount and the two currencies, and it performs the conversion instantly using real-time rates from `get_exchange_rate`.

03 **What is the best way to check historical data with Twelve Data MCP?**

Use `get_time_series`. This tool lets you pull OHLCV candlestick data and supports a wide range of intervals, from 1-minute candles up through monthly summaries.

04 **How does the MACD work with Twelve Data MCP?**

The `get_macd` function calculates the Moving Average Convergence Divergence. It's used by your agent to help identify potential shifts in momentum and trends in an asset's price.

05 **Do I need a specific tool for every indicator with Twelve Data MCP?**

No, you just ask the question. The MCP routes it through the correct function call, whether it’s `get_rsi`, `get_sma`, or `get_macd`. You don't have to remember which one does what.

# 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 `"twelve-data": { "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

# Twelve Data 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

## INDEPENDENT PLATFORM DISCLAIMER

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